

SECTION 123213 - MANUFACTURED WOOD CASEWORK GENERAL

- 1.1 RELATED DOCUMENTS
- A. Provisions established in the General Contract between Subcontractor and Contractor, Division 1 - General Requirements, and the Contract Documents are collectively applicable to this Section.
  - B. Related Sections include the following:
    - 1. Section 06200 "Interior Finish Carpentry" for casework and trim.
    - 2. Section 06410 "Custom Casework" for residential unit cabinets.
    - 3. Section 123640 "Stone Countertops & Vanities" for countertop requirements.
    - 4. Reference interior Design Package.
- 1.2 WORK INCLUDED
- A. Production manufactured wood cabinets including hardware and all attached trim as specified.
  - B. Prefinished surfaces.
  - C. Custom panels and face fronts.
- 1.3 SUBMITTALS
- A. Submit product data, shop drawings, and samples under provisions of Section 01330 or Exhibit B of the General Contract.
  - B. Include component dimensions, profiles, finishes, and hardware. Show large scale elevations and sections of each type cabinet indicated on the Contract Documents.
  - C. Submit 2 samples illustrating finishes, colors, trim and 1 door sample mounted on face frame, complete with hardware and all associated trim.
  - D. NGBS Submittals:
    - 1. Product Data: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
    - 2. Certificates: Chain-of-custody certificates indicating that interior architectural woodwork complies with forest certification requirements. Include documentation that manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.
    - 3. Product Data: For installation adhesives, documentation including printed statement of VOC content.
    - 4. Product Data: For composite wood products and adhesives, documentation indicating that product contains no urea formaldehyde.
    - 5. Laboratory Test Reports: For adhesives, composite wood products and finishing materials, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
    - 6. Recycled Content Materials- Provide a submittal demonstrating that the materials contains recycled content for major and minor building components.
    - 7. Biobased Materials- Provide a submittal for each material demonstrating that it contains bio-based materials. Provide the materials cost.
    - 8. Wood-based products. Provide submittals for each wood-based materials demonstrating certification by the American Tree Farm Systems (ATS),

- Canadian Standard Association (CAS), Forest Stewardship Council (FSC), Program for Endorsement of Forest Certification Systems (PEFC), Sustainable Forestry Initiative (SFI), or other recognized by PEFC.
9. Manufacturing Energy- Provide documentation that major building components were manufactured with at least 33% renewable energy.
  10. Resource Efficient materials. Provide documentation that the proposed materials reduce materials in their manufacture by 25% in core or with a 3" depth (masonry) or thorough 35% for engineered production. Provide the material cost.
  11. Indigenous Materials. Provide documentation demonstrating that a major or minor building component's materials are manufactured or processed and harvested within 500 miles of the jobsite.
  12. Environmental Certification. Provide documentation that a product manufacturer is certified with the ISO 14001. Provide the material cost.
  13. Wood Materials. Provide documentation that panel product comply with the US Department of Commerce Product Standard PS1 and/or PS2. Compliance should indicate that the product is free from added urea formaldehyde.
  14. Site applied architectural coatings. Provide documentation demonstrating that site applied architectural coatings are low VOC and are compliant with the CDPH 01350, SCS Indoor Advantage Gold Certification, or GreenGuard Certification for Children and Schools.
  15. Site applied adhesives and sealants. Provide product documentation demonstrating compliance with CDPH -1350 or Green Seal-36 Standard for Commercial Adhesives, SCS Indoor Advantage Gold Certification, or GreenGuard Certification for Children and Schools.
  16. Kitchen, Bath & Vanity cabinets. Provide documentation demonstrating compliance with KNMA's Environmental Stewardship Program (ESP), CARB, No added urea formaldehyde, or GreenGuard's GGPS.EC.010.RO and ASTM D 6670.
  17. Recycling- When implementation include kitchen millwork, include a recycling area in the cabinetry that will contain recycling containers.

1.4 QUALITY CONTROL

- A. Comply with quality standards as approved by Contractor for dimensional tolerances, sizes, and other criteria. Construct cabinets to achieve design intent.
- B. Double doors required after all cabinets beginning at 24-inch wide, in lieu of a single door.

PART 2 - PRODUCTS

2.1 ACCEPTABLE PRODUCTS AND MANUFACTURERS

- A. Leedo Manufacturing.
- B. KraftMaid Cabinetry, Inc. (GA), KCI.
- C. Substitutions: Submit samples for approval by Contractor.
- D. Cabinet style, in general, as follows: all exposed members to be hardwood (either solid or veneer); all interior members to be particle board wrapped with vinyl to match wood species; concealed hinges.
- E. Design Standard: Refer to the finish Schedule on the Drawings.
- F. Wood Species: Refer to the finish Schedule on the Drawings.

- G. Style: Refer to the finish Schedule on the Drawings

2.2 MATERIALS

A. Sheet Materials

1. Frame Construction: 3/4-inch thick hardwood for all stiles and rails.
2. Toe Kicks, Shelves and Cabinet bottoms: 1/2-inch thick, 45 pound per cubic foot industrial grade particleboard; vinyl surfaced to match face frame.
3. Backs and Drawer Bottoms: 1/8-inch thick hardboard (vinyl surfaced) to match face frames.
4. Doors, drawer fronts, exposed end panels, face fronts, & exposed frame areas to be 3/4 inch stained hardwood, or veneer hardwood panel overlays made of specified wood.
  - a. Where indicated, upper cabinet door infill panels to be omitted for fluted glass inserts. Glass stops to be shipped for field installation.
5. Laminate Surfacing:
  - a. Concealed Cabinet Surfaces: Vinyl laminate.

B. Hardware: As indicated below, unless indicated otherwise on the Drawings. Hardware to be selected by Owner.

1. Hinges: Self closing, adjustable, concealed, manufacturer's standard.
2. Drawer Guides: Side mounted, epoxy coated, 75 pound capacity.
3. KITCHEN:
  - a. Door Pulls: G203, 7-inch, satin nickel; GME.
  - b. Drawer Pulls: Madison 3910 SN; Hardware Resources
4. BATHROOM:
  - a. Door Pulls: Madison 3910 SN; Hardware Resources
  - b. Drawer Pulls: Madison 3910 SN; Hardware Resources

2.3 FABRICATION

- A. Fabricate casework to ensure durable and rigid unit and to permit plumb and level site installation.
- B. Align adjoining units for site assembly modules, to achieve tight hairline joints.
- C. Prepare units with anchor devices to permit ease of site assembly.
- D. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, and other fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal contact surfaces of cut edges.
- E. Fabricate wall cabinet shelves adjustable and base cabinet shelves fixed.

2.4 FINISHES

- A. Hardwood panels or veneer for all exposed material; Manufacturer's standard melamine plastic laminate for all interior items, including shelves, cabinet frame, interior surfaces, and drawer interiors.
- B. Colors as indicated in Finish Legend.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set and secure casework in place rigid, plumb, and level.
- B. Use purpose designed fixture attachments for wall mounted components.
- C. Permanently fix cabinets and counter bases to floor using appropriate materials and anchorages.
- D. Carefully scribe casework which abuts other building materials, leaving gaps of 1/32 inch maximum. Use additional overlay trim for this purpose, if approved by Contractor.

END OF SECTION

## SECTION 123640 - STONE COUNTERTOPS

### PART 1 - GENERAL

#### 0.1 RELATED DOCUMENTS

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

#### 0.2 SUMMARY

- A. This Section includes stone countertops for kitchen and vanities in bathrooms.

#### 0.3 ACTION SUBMITTALS

- A. Product Data: For the following:
  - 1. Each variety of stone.
  - 2. Stone accessories and other manufactured products.
- B. NGBS Submittals:
  - 1. Product Data: For adhesives and sealants, documentation including printed statement of VOC content.
  - 2. Laboratory Test Reports: For adhesives and sealants, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
  - 3. Site applied adhesives and sealants. Provide product documentation demonstrating compliance with CDPH -1350 or Green Seal-36 Standard for Commercial Adhesives, SCS Indoor Advantage Gold Certification, or GreenGuard Certification for Children and Schools.
- C. Shop Drawings: Include plans, sections, details, and attachments to other work.
- D. Samples for Verification:
  - 1. For each stone type indicated, in sets of Samples not less than 12 inches (300 mm) square. Include three or more Samples in each set and show the full range of variations in appearance characteristics expected in completed Work.

#### 0.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and fabricator.

- B. Sealant Compatibility Test Report: From sealant manufacturer, complying with requirements in Division 07 Section "Joint Sealants" and indicating that sealants will not stain or damage stone.

#### 0.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For stone countertops to include in maintenance manuals. Include Product Data for stone-care products used or recommended by Installer, and names, addresses, and telephone numbers of local sources for products.

#### 0.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate stone countertops similar to that indicated for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Fabricator of products.
- C. Source Limitations for Stone: Obtain each variety of stone from a single quarry with resources to provide materials of consistent quality in appearance and physical properties.
  - 1. Obtain each variety of stone from a single quarry, whether specified in this Section or in another Section of the Specifications.
  - 2. Make stone slabs available for Architect to examine for appearance characteristics.
    - a. Architect will select aesthetically acceptable slabs and will indicate aesthetically unacceptable portions of slabs.
    - b. Segregate slabs selected for use on Project and mark backs indicating approval.
    - c. Mark and photograph aesthetically unacceptable portions of slabs as directed by Architect.
- D. Mockup: Build mockup to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Build mockup of typical countertop as shown on Drawings.
  - 2. Approved mockup may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 0.7 DELIVERY, STORAGE, AND HANDLING

- A. Lift stone with wide-belt slings; do not use wire rope or ropes that might cause staining. Move stone, if required, using dollies with cushioned wood supports.
- B. Store stone on wood A-frames or pallets with nonstaining separators and nonstaining, waterproof covers. Ventilate under covers to prevent condensation.

#### 0.8 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions of construction to receive stone countertops by field measurements before fabrication and indicate measurements on Shop Drawings.

## PART 2 - PRODUCTS

### 0.1 STONE

- A. Varieties and Sources: Subject to compliance with requirements, provide stone of varieties and from sources complying with Division 04 Section "Exterior Stone Cladding."

### 0.2 GRANITE

- A. Granite: Comply with ASTM C 615.
- B. Thickness: Toilet Vanities 2 cm. Kitchen Countertops 3 cm.
- C. Color: Refer to Finish Schedule in Drawings.
- D. Finish: Polished. Match Architect's sample.
- E. Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.

### 0.3 ADHESIVES, GROUT, SEALANTS, AND STONE ACCESSORIES

- A. General: Use only adhesives formulated for stone and ceramic tile and recommended by their manufacturer for the application indicated.
- B. Water-Cleanable Epoxy Adhesive: ANSI A118.3 with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
  - 1. Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Bonsal, W. R. Company.
    - b. Bonstone Materials Corporation.
    - c. C-Cure.
    - d. Custom Building Products.
    - e. Laticrete International, Inc.
    - f. MAPEI Corp.

- C. Water-Cleanable Epoxy Grout: ANSI A118.3, chemical-resistant, water-cleanable, tile-setting and -grouting epoxy.
1. Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Boiardi Products Corporation.
    - b. W. R. Bonsal Company.
    - c. Bostik Findley Inc.
    - d. C-Cure.
    - e. Custom Building Products.
    - f. Laticrete International, Inc.
    - g. MAPEI Corp.
- D. Stone Adhesive: Two-part epoxy adhesive, formulated specifically for bonding stone to stone, with an initial set time of not more than two hours at 70 deg F (21 deg C), and with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).], and that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
1. Color: Match stone.
  2. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  3. Products: Subject to compliance with requirements, provide one of the following:
    - a. Epoxy Adhesive: Akemi North America; Akepox.
    - b. Epoxy Adhesive: Axson North America, Inc., Wood & Stone Company; Akabond Epoxy.
    - c. Epoxy Adhesive: Bonstone Materials Corporation; Touchstone Ratio Pac Clear Gel Epoxy.
    - d. Epoxy Adhesive: Bonstone Materials Corporation; Touchstone Last Patch.
- E. Stone Cleaner: Cleaner specifically formulated for stone types, finishes, and applications indicated, as recommended by stone producer and, if a sealer is specified, by sealer manufacturer. Do not use cleaning compounds containing acids, caustics, harsh fillers, or abrasives.

#### 0.4 STONE FABRICATION, GENERAL

- A. Select stone for intended use to prevent fabricated units from containing cracks, seams, and starts that could impair structural integrity or function.
1. Repairs that are characteristic of the varieties specified are acceptable provided they do not impair structural integrity or function and are not aesthetically unpleasing, as judged by Architect.

- B. Grade and mark stone for final locations to produce assembled countertop units with an overall uniform appearance.
- C. Fabricate stone countertops in sizes and shapes required to comply with requirements indicated, including details on Drawings and Shop Drawings.
  - 1. For granite, comply with recommendations in MIA's "Dimension Stone--Design Manual."
  - 2. Clean sawed backs of stones to remove rust stains and iron particles.
  - 3. Dress joints straight and at right angle to face, unless otherwise indicated.
  - 4. Cut and drill sinkages and holes in stone for anchors, supports, and attachments.
  - 5. Provide openings, reveals, and similar features as needed to accommodate adjacent work.
  - 6. Fabricate molded edges with machines having abrasive shaping wheels made to reverse contour of edge profile to produce uniform shape throughout entire length of edge and with precisely formed arris slightly eased to prevent snipping, and matched at joints between units. Form corners of molded edges as indicated with outside corners slightly eased, unless otherwise indicated.
  - 7. Finish exposed faces of stone to comply with requirements indicated for finish of each type of stone required and to match approved Samples and mockups. Provide matching finish on exposed edges of countertops, splashes, and cutouts.
- D. Carefully inspect finished stone units at fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units.

#### 0.5 STONE COUNTERTOPS

- A. General: Comply with recommendations in MIA's "Dimension Stone - Design Manual."
- B. Nominal Thickness: Provide thickness indicated, but not less than (Toilet Vanities 2 cm. Kitchen Countertops 3 cm). Gage backs to provide units of identical thickness.
- C. Edge Detail: Straight, slightly eased at top, or As indicated.
- D. Splashes: Provide ~~3/4-inch-~~ (20-mm-) thick backsplashes (only at vanity), unless otherwise indicated.
  - 1. Height: ~~4 inches~~ (100 mm) or As indicated.
  - 2. Top-Edge Detail: Straight, slightly eased at corner, or As indicated.
- E. Joints: Fabricate countertops without joints.
- F. Joints: Fabricate countertops in sections for joining in field, with joints at locations indicated and as follows:
  - 1. Bonded Joints: ~~1/32 inch~~ (0.8 mm) or less in width.
  - 2. Grouted Joints: ~~1/16 inch~~ (1.5 mm) in width.
  - 3. Sealant-Filled Joints: ~~1/16 inch~~ (1.5 mm) in width.
  - 4. Splined Joints: Accurately cut kerfs in edges at joints for insertion of metal splines to maintain alignment of surfaces at joints. Make width of cuts slightly more than thickness of splines to provide snug fit. Provide at least three splines in each joint.

G. Cutouts and Holes:

1. Undercounter Fixtures: Make cutouts for undercounter fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.
  - a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting **3/16 inch (5 mm)** into fixture opening.
  - b. Provide vertical edges, rounded to **3/8-inch (10-mm)** radius at juncture of cutout edges with top surface of countertop, slightly eased at bottom, and projecting **3/16 inch (5 mm)** into fixture opening.
  - c. Provide **3/4-inch (20-mm)** full bullnose edges projecting **3/8 inch (10 mm)** into fixture opening.
2. Counter-Mounted Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.
3. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

PART 3 - EXECUTION

0.1 EXAMINATION

- A. Examine substrates indicated to receive stone countertops and conditions under which stone countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
  1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of stone countertops.
  2. Proceed with installation only after unsatisfactory conditions have been corrected.

0.2 PREPARATION

- A. Advise installers of other work about specific requirements for placement of inserts and similar items to be used by stone countertop Installer for anchoring stone countertops. Furnish installers of other work with Drawings or templates showing locations of these items.
- B. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives. Allow stone to dry before installing.

0.3 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed **1/16 inch in 48 inches (1.5 mm in 1200 mm)**.
- B. Variation from Level: Do not exceed **1/8 inch in 96 inches (3 mm in 2400 mm)**, **1/4 inch (6 mm)** maximum.
- C. Variation in Joint Width: Do not vary joint thickness more than 1/4 of nominal joint width.
- D. Variation in Plane at Joints (Lipping): Do not exceed **1/64-inch (0.4-mm)** difference between planes of adjacent units.
- E. Variation in Line of Edge at Joints (Lipping): Do not exceed **1/64-inch (0.4-mm)** difference between edges of adjacent units, where edge line continues across joint.

0.4 INSTALLATION OF COUNTERTOPS

- A. General: Install countertops by adhering to supports with water-cleanable epoxy adhesive.
- B. Do not cut stone in field, unless otherwise indicated. If stone countertops or splashes require additional fabrication not specified to be performed at Project site, return to fabrication shop for adjustment.
- C. Do necessary field cutting as stone is set. Use power saws with diamond blades to cut stone. Cut lines straight, true, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.
- D. Set stone to comply with requirements indicated on Drawings and Shop Drawings. Shim and adjust stone to locations indicated, with uniform joints of widths indicated and with edges and faces aligned according to established relationships and indicated tolerances. Install anchors and other attachments indicated or necessary to secure stone countertops in place.
- E. Bond joints with stone adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.
- F. Space joints with **1/16-inch (1.5-mm)** gap for filling with sealant. Use temporary shims to ensure uniform spacing.
  - 1. Install metal splines in kerfs in stone edges at joints. Fill kerfs with stone adhesive before inserting splines and remove excess immediately after adjoining units are drawn into position.
  - 2. Clamp units to temporary bracing, supports, or each other to ensure that countertops are properly aligned and joints are of specified width.
- G. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Use power saws with diamond blades to cut stone. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

- H. Install backsplash and end splash by adhering to wall with water-cleanable epoxy adhesive and to countertops with stone adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
- I. Install backsplash and end splash by adhering to countertops with stone adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Leave **1/16-inch (1.5-mm)** gap between splash and wall for filling with sealant. Use temporary shims to ensure uniform spacing.
- J. Install backsplash and end splash by adhering to wall with water-cleanable epoxy adhesive. Leave **1/16-inch (1.5-mm)** gap between countertop and splash for filling with sealant. Use temporary shims to ensure uniform spacing.
- K. Grout joints to comply with ANSI A108.10. Remove temporary shims before grouting. Tool grout uniformly and smoothly with plastic tool.
- L. Apply sealant to joints; comply with Division 07 Section "Joint Sealants." Remove temporary shims before applying sealant.

#### 0.5 ADJUSTING AND CLEANING

- A. In-Progress Cleaning: Clean countertops as work progresses. Remove adhesive, grout, mortar, and sealant smears immediately.
- B. Remove and replace stone countertops of the following description:
  - 1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
  - 2. Defective countertops.
  - 3. Defective joints, including misaligned joints.
  - 4. Interior stone countertops and joints not matching approved Samples and mockups.
  - 5. Interior stone countertops not complying with other requirements indicated.
- C. Replace in a manner that results in stone countertops matching approved Samples and mockups, complying with other requirements, and showing no evidence of replacement.
- D. Clean stone countertops not less than six days after completion of sealant installation, using clean water and soft rags. Do not use wire brushes, acid-type cleaning agents, cleaning compounds with caustic or harsh fillers, or other materials or methods that could damage stone.
- E. Sealer Application: Apply stone sealer to comply with stone producer's and sealer manufacturer's written instructions.

END OF SECTION 123640