



Integrated Design Solutions

1441 W. Long Lake, Ste. 200
Troy, MI 48098
tel 248.823.2100
fax 248.823.2200

www.ids-troy.com

ADDENDUM NO. 1

Issue Date: March 28, 2013

Project Name: Linden Community Schools
2013 Sinking Fund Projects
Linden, Michigan

ids Project No.: 13101-1000

This Addendum is issued prior to receipt of bids in order to modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections. Bidders are to indicate receipt of this Addendum in the space provided on the Bid Form.

NEW OR REVISED DOCUMENTS ISSUED WITH THIS ADDENDUM

Project Manual Documents: 00410, 01230, 02222, 09310

Drawings: A1.1HS, A1.3HS, A2.2CE, A3.1LE, A3.2LE, A3.3LE,
AM1.1HS, AM1.1LE, E1.1HS

Sketches: None

PROJECT MANUAL DOCUMENTS DELETED OR REVISED BUT NOT ISSUED

None

DRAWINGS DELETED OR REVISED BUT NOT ISSUED

None

cc:

ec: File

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SECTION 00410 - BID FORM

PROJECT: Linden Community Schools
2013 Sinking Fund Projects
Linden, Michigan 48451

ARCHITECT: Integrated Design Solutions, LLC
Architecture, Engineering, Interiors & Technology
1441 W. Long Lake Road, Suite 200
Troy, Michigan 48098
(248) 823-2100
(248) 823-2200 fax

NAME OF BIDDER: _____

ADDRESS: _____

TELEPHONE & FAX: _____

BID

Pursuant to and in compliance with your Advertisement for Bids, Instructions to Bidders and other documents relating thereto, the undersigned proposes and agrees to furnish equipment, materials, and labor and perform all work necessary to complete the Contract for the Linden Community Schools, Linden Elementary Roof Replacement Project in accordance with the Drawings and Specifications prepared by Integrated Design Solutions, LLC and agrees to accept payment as herein provided.

NOTE: All amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

BASE BID NO. 1: HIGH SCHOOL

Lump sum bid for all work specified and shown on the Drawings for High School locker replacements, toilet room renovations, new offices, and new barrier free toilet as indicated for base bid:

_____ Dollars (\$_____).

BASE BID NO. 2: CENTRAL ELEMENTARY LOCKER REPLACEMENT

Lump sum bid for all work specified and shown on the Drawings for Central Elementary locker replacements as indicated for base bid:

_____ Dollars (\$_____).

BASE BID NO. 3: CENTRAL ELEMENTARY WINDOW AND STOREFRONT RENOVATION

Lump sum bid for all work specified and shown on the Drawings for Central Elementary windows and storefront renovations as indicated for base bid:

_____ Dollars (\$_____).

BASE BID NO. 4: LINDEN ELEMENTARY STORAGE RENOVATION

Lump sum bid for all work specified and shown on the Drawings for Linden Elementary casework and storage renovations as indicated for base bid:

Dollars (\$_____).

BASE BID NO. 5: COMBINED WORK OF BASE BIDS NO. 1 THRU NO. 4

Lump sum bid for all work specified and shown on the Drawings for all work at all buildings as indicated for base bid:

Dollars (\$_____).

ALTERNATES

The foregoing Base Bids may be increased or decreased by the amounts herein quoted for Alternates specified in Section 01230. The following alternate prices shall include all charges for labor, material, and equipment, bonds, overhead and profit, general conditions, supervision, insurance, taxes, and incidental expenses.

Alternate No. 1 (Affects Base Bid No. 1) : Tile Mud Beds

Womens Toilet 313 - Add/Deduct _____
Dollars (\$_____).

Mens Toilet 314 - Add/Deduct _____
Dollars (\$_____).

Womens Toilet 533 Add/Deduct _____
Dollars (\$_____).

Mens Toilet 534 - Add/Deduct _____
Dollars (\$_____).

Mens Toilet 619 - Add/Deduct _____
Dollars (\$_____).

Womens Toilet 620 - Add/Deduct _____
Dollars (\$_____).

Alternate No. 2 (Affects Base Bid No. 2) : Locker Colors

Add/Deduct _____
Dollars (\$_____).

UNIT PRICES

The Bidder proposes unit prices in accordance with the following schedule and as specified in Section 01270. Said unit prices shall include all charges for labor, materials and equipment, overhead and profit, general conditions, supervision, insurance, taxes and incidental expenses.

Said unit prices shall be applicable to the pricing of additions to, or deletions from, the work indicated in the Contract Documents, unless otherwise indicated.

Unit Price No. 1:

Sectional Mobile Cubbies.

\$_____/each installed.

Unit Price No. 2:

25 Tray Mobile Cubbies.

\$_____/each installed.

Unit Price No.3:

10 Tray Mobile Storage.

\$_____/each installed.

Unit Price No. 4:

Paper Rack.

\$_____/each installed.

Unit Price No. 5:

Supply Cabinet.

\$_____/each installed.

VOLUNTARY ALTERNATES

The undersigned offers the following voluntary alternates to the products/manufacturers/systems specified. Provide a complete description of each Voluntary Alternate and indicate the Price to be added to or deducted from the Base Bid for each item. Attach additional pages if required to explain each Voluntary Alternate. The Owner is under no obligation to accept any voluntary alternates.

VOLUNTARY ALTERNATE NO. 1 _____

Add/Deduct _____ Dollars (\$_____).

TAXES

The Bidder shall include in his Bid and shall pay all applicable Federal, State and local taxes of whatever character and description.

BID SECURITY

Accompanying this Bid is a certified check, cashier's check, money order or bid bond (cross out those not applicable) made payable to Linden Community Schools in the amount of five percent (5%), of Base Bid, which shall be retained by the Owner as liquidated damages, if the undersigned fails to execute the contract within ten (10) days of award of the Contract.

ADDENDA

The undersigned acknowledges the receipt of the following addenda:

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

TIME OF COMPLETION

The undersigned agrees to substantially complete the Project by August 16, 2013.

Access to the site for actual construction will not be allowed until June 17, 2013.

WITHDRAWAL OF BIDS

The undersigned agrees that his Bid shall not be withdrawn for a period of thirty (30) days after the date set for receipt of Bids.

SIGNATURE AND LEGAL STATUS OF BIDDER

Signed and sealed this _____ day of _____, 20____.

(Individual, Partnership, Corporation)

State of Incorporation

Affix Corporate Seal

By: _____
(Authorized Signature of Bidder)

(Print or Type Name of Bidder)

Title

Business Address

NOTE: Please submit one original and one copy of this form and retain one copy for your file

END OF BID FORM

SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1 – Tile Mud Beds:

1. Refer to the following toilet rooms at the High School:
 - a. Womens Toilet 313
 - b. Mens Toilet 314
 - c. Womens Toilet 533
 - d. Mens Toilet 534
 - e. Mens Toilet 619
 - f. Womens Toilet 620
2. For each toilet room floor, provide separate alternate pricing to completely remove any existing mud bed encountered during selective demolition and install new thick set mud bed tile installation as specified in Section 09310 "Tiling" in lieu of thin-set tile installation as specified in Section 09310 "Tiling."

B. Alternate No. 2 – Locker Colors:

1. In lieu of two-color lockers at Central Elementary as specified in Section 10505 "Metal Lockers," provide one standard color as selected by Architect for both the locker body and door.

END OF SECTION 01230

SECTION 02222 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Patching and repairs to adjacent construction caused by demolition operations and installation of new work.
- B. Related Sections include the following:
 - 1. Section 04810 "Unit Masonry Assemblies" for salvaging face brick.
 - 2. Division 15 Sections for demolishing, cutting, patching, or relocating mechanical items.
 - 3. Division 16 Sections for demolishing, cutting, patching, or relocating electrical items.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 SUBMITTALS

- A. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- B. Predemolition Photographs or Videotapes: It shall be the Contractor's responsibility to document and show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations.
- C. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.6 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.7 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

~~D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.~~

~~1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Construction Manager, Architect and Owner.~~

D. Hazardous Materials:

1. Hazardous materials are present in construction to be selectively demolished. A report on the presence of hazardous materials can be provided by Owner for review and use.

a. All hazardous material remediation shall be done by Owner under a separate Contract before demolition work of this Contract begins. After remediation is complete, it is not expected that hazardous materials will be encountered in the Work

b. If additional materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or videotapes.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather and security protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage, unauthorized entry and damage to structure and interior areas.
 - a. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.

- C. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate occupied areas from construction areas.
1. 1 Hour Rated Dustproof Partitions: Construct partitions to separate areas of construction from occupied areas or means of egress of not less than nominal 4-inch wood or metal studs, 5/8-inch gypsum wallboard with joints taped on occupied side, and 5/8-inch gypsum wallboard on the demolition side.
 2. Non-rated Dustproof Partitions: Construct partitions to separate areas of construction from non-occupied areas of not less than nominal 4-inch wood or metal studs and fire-retardant polyethylene sheeting.
 3. Provide walk-off dust mats each side of doors in temporary dustproof partitions.
 4. Insulate partition to provide noise protection to occupied areas.
 5. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 6. Protect air-handling equipment.
 7. Weatherstrip openings.

3.3 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 7. Dispose of demolished items and materials promptly.
- B. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area on-site.
 5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 POLLUTION CONTROLS

- A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt.
 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
 2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.
- B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- D. Remove all miscellaneous fasteners, anchors, brackets, not required for the structural integrity of the wall or ceiling surfaces.
- E. Remove all existing joint sealants remaining after removal door frames, window frames or storefront framing.
- F. Remove all existing mortar remaining on existing masonry walls after removal of an intersecting masonry wall.

3.6 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by demolition operations.
- B. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

1. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.
- C. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.
- D. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02222

SECTION 09310 - TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wall tile.
 - 2. Mosaic tile.
 - 3. Paver tile.
 - 4. Stone thresholds installed as part of tile installations.
 - 5. Waterproof/crack suppression membrane for thin-set tile installations.
- B. Related Sections include the following:
 - 1. Section 02222 "Selective Demolition" for removing existing finishes.
 - 2. Section 03300 "Cast-in-Place Concrete" for monolithic slab finishes specified for tile substrates.
 - 3. Section 09060 "Room Finish Schedule."

1.3 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:
 - 1. Level Surfaces: Minimum 0.6.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification:
 - 1. Full-size units of each type and composition of tile and for each color and finish required.
 - 2. Assembled samples with grouted joints for each type and composition of tile and for each color and finish required, at least 12 inches square and mounted on rigid panel. Use grout of type and in color or colors approved for completed work.
 - 3. Stone thresholds in 6-inch lengths.

1.5 QUALITY ASSURANCE

- A. Source Limitations for Tile: Obtain all tile of same type and color or finish from one source or producer.
 - 1. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.

- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product:
 - 1. Stone thresholds.
 - 2. Waterproofing/crack suppression membranes.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement in ANSI A137.1 for labeling sealed tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store waterproofing/crack suppression membranes in unopened containers and protected from freezing.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Tile and Trim Units: Furnish 1 box for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting and Grouting Materials" Article.
- C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:
 - 1. As indicated by manufacturer's designations in Room Finish Schedule.

- D. Factory Blending: For tile exhibiting color variations within ranges selected during Sample submittals, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- E. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer, unless otherwise indicated.

2.2 TILE PRODUCTS

- A. Wall Tile – W1: Flat tile as follows:
 - 1. Composition: Ceramic.
 - 2. Facial Dimensions: 4-1/4 by 4-1/4 inches nominal.
 - 3. Thickness: 5/16 inch.
 - 4. Face: Plain with square or cushion edges.
 - 5. Finish: Matte glazed.
 - 6. Products:
 - a. Matte Wall Tile; American Olean
- B. Mosaic Tile – W2, W3, W4, W5: Factory-mounted flat tile as follows:
 - 1. Composition: Porcelain.
 - 2. Facial Dimensions: 1 by 1 inch nominal.
 - 3. Thickness: 1/4 inch.
 - 4. Face: Plain with square or cushion edges.
 - 5. Finish: Unglazed.
 - 6. Products:
 - a. Unglazed Mosaics; American Olean
- C. Unglazed Paver Tile – F1: Flat tile as follows:
 - 1. Composition: Porcelain.
 - 2. Facial Dimensions: 12 by 12 inches nominal,
 - 3. Thickness: 3/8 inch.
 - 4. Face: Plain with square or cushion edges.
 - 5. Finish: Cross-Sheen.
 - 6. Products:
 - a. Main Street; Crossville, Inc.

- D. Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing of adjoining flat tile where applicable. Provide shapes as follows, selected from manufacturer's standard shapes:

1. Cove Base – B1: Module size 4-1/4 by 4-1/4 inches nominal.

- a. Composition: Ceramic.
- b. Thickness: 5/16 inch.
- c. Finish: Matte glazed.
- d. Products:

- 1) Matte Wall Tile; American Olean

2.3 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch or less, and finish bevel to match face of threshold.

- B. Marble Thresholds: ASTM C 503 with a minimum abrasion resistance of 12 per ASTM C 1353 or ASTM C 241 and with honed finish.

1. Description: Provide the following:

- a. Marble threshold to match Architect's sample as indicated in Room Finish Schedule.

2.4 WATERPROOFING/CRACK SUPPRESSION MEMBRANES

- A. General: Manufacturer's standard product that complies with ANSI A118.10, selected from the following.

- B. Fabric-Reinforced, Fluid-Applied Product: System consisting of liquid-latex rubber and fabric reinforcement.

1. Products: Waterproofing and Anti-Fracture Membranes as follows

- a. Bostik; Black-Top 90210
- b. Custom Building Products; Custom 9240 Waterproofing and Anti-Fracture Membrane.
- c. LATICRETE International Inc.; Laticrete 9235.
- d. Mapei Corp; Mapelastic HPG.
- e. TEC/H.B. Fuller Construction Products Inc.; Hydraflex.

- C. Unreinforced, Fluid-Applied Product: Self-curing liquid rubber polymer in a consistency suitable for brush or roller application and intended for use as waterproofing/anti-fracture membrane.

1. Products:

- a. Custom Building Products; RedGard Waterproofing and Crack Prevention Membrane.
- b. LATICRETE International Inc.; Laticrete Hydro Ban.

2.5 SETTING AND GROUTING MATERIALS

- A. Prepackaged Dry Set Portland Cement Mortar Containing Polymer Admixture (ANSI 118.4 and ANSI 118.11):

1. Products:

- a. Bostik; Hydroment Single Flex Premium Multi-Purpose Latex Modified Thin Set Mortar.
- b. Custom Building Products; FlexBond Fortified Thin Set Mortar.
- c. Laticrete International Inc.; Laticrete 254 Platinum Multipurpose Thin-Set Mortar.
- d. Mapei Corp.; Ultraflex 3 Polymer Modified Thin Set Mortar.
- e. TEC/H.B. Fuller Construction Products Inc.; Full Flex Latex Modified Thin Set Mortar.

- B. Mud Bed/Thick Set: Prepackaged Portland Cement Mortar Containing or Mixed With Polymer Admixtures (ANSI A108.1B).**

1. Products:

a. Bostik:

- 1) Mud Bed: Mud-in-a-Bag**
- 2) Polymer Admixture: 425 Multi-Purpose Acrylic Latex Admixture.**

b. Custom Building Products:

- 1) Mud Bed: Thick Bed Bedding Mortar**
- 2) Polymer Admixture: CustomCrete Latex Mortar Admix.**

c. Laticrete International Inc.

- 1) Mud Bed Containing Polymer Admixture: 3701 Fortified Mortar Bed.**

d. Mapei Corp.:

- 1) Mud Bed: 4 to 1 Mud Bed Mix**
- 2) Polymer Admixture: Planicrete AC admixture.**

- B-C. Water-Cleanable Epoxies and Urethane Grouts (ANSI A118.3):**

1. Products:

- a. Bostik; Hydroment Tru-Color Pre-Mixed Grout.

- b. Custom Building Products; Fusion Pro Grout.
- c. Laticrete International Inc.; SpectraLock Pro Grout.
- d. Mapei Corp.; Opticolor Stain Free Grout.
- e. TEC/H.B. Fuller Construction Products Inc.; Accucolor EFX Epoxy Grout.

2.6 ELASTOMERIC SEALANTS

- A. General: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer and characteristics indicated that comply with applicable requirements in Division 7 Section "Joint Sealants."
 - 1. Use sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints,
- C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
 - 1. Products:
 - a. Laticrete International inc.; Latasil
 - b. Mapei Corp.; Mapesil
 - c. TEC/H.B. Fuller Construction Products Inc.; TEC 155 AccuColor 100 - 100% Silicone Sealant.

2.7 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

C. Metal Edge Strips:

- 1. Metal Edge Strip: Angle profile provides edging for tile, color-coated aluminum, Bright White.
 - a. Product: JOLLY Series; Schluter Systems LP.

2.8 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.

- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
 - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
 - 3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.
- B. Provide concrete substrates for tile floors installed with thin-set mortar that comply with flatness tolerances specified in referenced ANSI A108 Series of tile installation standards.
 - 1. Fill cracks, holes, and depressions with trowelable leveling and patching compound according to tile-setting material manufacturer's written instructions. Use product specifically recommended by tile-setting material manufacturer.
 - 2. Remove protrusions, bumps, and ridges by sanding or grinding.
- C. Blending: For tile exhibiting color variations within ranges selected during Sample submittals, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples.

3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
 - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- F. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Locate joints in tile surfaces directly above joints in concrete substrates.
 - 2. Prepare joints and apply sealants to comply with requirements in Section 07920 "Joint Sealants."
- G. Grout tile to comply with requirements of the following tile installation standards:
 - 1. For epoxy and urethane grouts, comply with ANSI A108.6.

H. Metal Edge Strips: Install at locations indicated or at terminating exposed edges of tile.

3.4 WATERPROOFING/CRACK-SUPPRESSION MEMBRANE INSTALLATION

- A. Install waterproofing/crack suppression membrane to comply with ANSI A108.13 and waterproofing/crack suppression manufacturer's written instructions to produce waterproof/crack suppression membrane of uniform thickness bonded securely to substrate.
 - 1. Install waterproofing/crack suppression membrane under all tile floors.

3.5 FLOOR TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Floor Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 Series of tile installation standards.
 - 1. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.
 - a. Tile floors composed of tiles 8 by 8 inches or larger.
- B. Joint Widths: Install tile on floors with the following joint widths:
 - 1. Paver Tile: 3/16 inch.

- C. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.
 - 1. Set thresholds in latex-portland cement mortar for locations where mortar bed would otherwise be exposed above adjacent nontile floor finish.

3.6 WALL TILE INSTALLATION

- A. Install types of tile designated for wall installations to comply with requirements in the Wall Tile Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.
- B. Joint Widths: Install tile on walls with the following joint widths:
 - 1. Mosaic Tile: 1/8 inch.
 - 2. Wall Tile: 1/16 inch.

3.7 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove latex-portland cement mortar residue and epoxy or urethane grout residue from tile as soon as possible.
 - 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions. Use only cleaners recommended by tile and mortar/grout manufacturers. Flush surfaces with clean water before and after cleaning.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.8 FLOOR TILE INSTALLATION SCHEDULE

- A. Tile Installation: Interior floor installation on waterproof/crack-suppression membrane over concrete; thin-set mortar; TCA F122 and ANSI A108.5.
 - 1. Tile Type: Unglazed paver tile.
 - 2. Thin-Set Mortar: Latex-portland cement thin-set mortar.
 - 3. Grout: Epoxy or urethane grout.
- B. **Tile Installation – Mud Bed/Thick Set: Interior floor installation on waterproof/crack-suppression membrane over cement mortar bed (thickset) on concrete; tile set with thin-set mortar; TCA F112 and ANSI A108.1B.**
 - 1. **Tile Type: Unglazed paver tile.**
 - 2. **Mortar Bed: Latex-portland cement mortar.**
 - 3. **Thin-Set Mortar: Latex-portland cement mortar.**
 - 4. **Grout: Epoxy or urethane grout.**

3.9 WALL TILE INSTALLATION SCHEDULE

- A. Tile Installation: Interior wall installation over concrete masonry units; thin-set mortar; TCA W202I and ANSI A108.5.
1. Tile Type: Wall tile and mosaic tile.
 2. Thin-Set Mortar: Latex- portland cement mortar.
 3. Grout: Epoxy or urethane grout.

END OF SECTION 09310