INVITATION TO BID

FAILURE TO SIGN WILL DISQUALIFY BID

Bid No.: BUS-BLDG-FLOOR
ADDENDUM NO. 1

Due Date: 10/29/15 at 3:00 P.M.

Show bid opening and bid invitation number in lower left hand corner of sealed bid envelope and return sealed bids to:

Stephen F. Austin State University
P. O. Box 13030, SFA Station
2124 Wilson Drive
Nacogdoches, Texas 75962-3030
Phone (936) 468-2206
FAX (936) 468-4282

Printed Name __________
VENDOR NAME AND ADDRESS

Name of Firm
Mailing Address

City State Zip

PHONE/FAX
Phone
FAX
EMAIL

See Instruction 2.10 on Back for Vendor ID Number
Is Vendor a State of Texas certified HUB? Yes

Delivery in ______ Days Cash Disc. __________ % _______ Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

__ Products of persons with mental or physical disabilities
__ Products made of recycled, remanufactured, or environmentally sensitive materials
__ Energy efficient products
__ Rubberized asphalt paving material
__ Recycled motor oil and lubricants
__ Products and services from economically depressed or blighted areas
__ Supplies, materials or equipment: produced in TX/offered by TX bidders*
__ Agricultural products grown in TX
__ Agricultural products offered by TX bidders*
__ USA produced supplies, materials or equipment
__ Products produced at facilities located on formerly contaminated property

*By signing this bid, bidder certifies that if a Texas address is shown as the address of the bidder, bidder qualifies as a Texas resident Bidder as defined in Rule 34 TAC 20.38.

IF QUOTING OTHER THAN THE REFERENCED ITEM(S) BELOW, BROCHURE AND/OR SPECIFICATIONS SHOULD BE ENCLOSED.

ALL BIDS WILL BE CONSIDERED F.O.B. DESTINATION UNLESS OTHERWISE NOTED.

AWARD NOTICE: Stephen F. Austin State University (SFASU) reserves the right to make an award on the basis of low line item bid, low total of line items, or in any other combination that will serve the best interest of SFASU and to reject any and all bid items in the sole discretion of SFASU.

Item No. Description Qty. & Unit Unit Price Extension

Quote price on quantity and unit of measure, extend and show total. If error in extension, unit price shall govern.

Items for state use are exempt from state sales and federal excise tax. Do not include tax in your bid.

**ADDENDUM NO. 1**

THIS ADDENDUM MUST BE ACKNOWLEDGED IN ORDER FOR THE RESPONSE TO RECEIVE CONSIDERATION. FAILURE TO ACKNOWLEDGE THE ADDENDUM WILL RESULT IN DISQUALIFICATION OF THE RESPONSE.

PRE-BID MEETING/SITE VISIT SIGN-IN SHEETS
The sign-in sheets from the mandatory pre-bid meeting/site visit held 10/19/15 are attached.

CLARIFICATIONS
1. Please follow directions on the tile in the hallway for sealing and refinishing.
2. Be sure to verify the tile depth
3. Contractor must provide protection for the new walls, corners, etc., all of which are newly installed, painted, etc. If the contractor damages anything existing, the contractor will be responsible to repair or replace.
4. Cove base is not part of this project; the renovation contractor will install the cove base.
QUESTIONS
Q: Are we responsible for leveling?
A: Yes; After shot blasting you are to put down leveling compound. You will have to shot blast the lobby about 3/8” and the hallways about ½”; these measurements are estimates; the contractor is responsible to verify the tile depth.

Q: What about repainting door frames?
A: If there is damage to the door frames you will be expected to repaint them.

Q: Please explain the time-frame. Can we start any earlier?
A: Graduation is on December 13th, but faculty are in the building the following week posting grades.

Q: Is the product polished or matte finish?
A: Matte finish

Q: Can we email our bid?
A: Yes; you will need to follow up with an original bid bond in the mail
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Busters</td>
<td></td>
</tr>
<tr>
<td>Sammy East Texas Carpets</td>
<td><a href="mailto:easttexascarpets@gmail.com">easttexascarpets@gmail.com</a></td>
</tr>
<tr>
<td>Timberline Constructors</td>
<td><a href="mailto:josh@timberlineconstructors.com">josh@timberlineconstructors.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isaiah Moreno</td>
<td>210-967-0414</td>
<td></td>
</tr>
<tr>
<td>Sammy Clifton</td>
<td>936-564-6742</td>
<td>936-564-5105</td>
</tr>
<tr>
<td>Josh Fullerston</td>
<td>637-2666</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>City</th>
<th>St/Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td>1527 Ridge Circle</td>
<td>San Antonio</td>
<td>78233</td>
</tr>
<tr>
<td>1115 N University</td>
<td>Nac.</td>
<td>75961</td>
</tr>
<tr>
<td>3195 N. HWY 69</td>
<td>Lufkin</td>
<td>TX 75904</td>
</tr>
</tbody>
</table>

**Please Print Legibly**
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gomez Flooring</td>
<td></td>
</tr>
<tr>
<td>J. E. Kingham Construction</td>
<td><a href="mailto:jsmith@jeckcc.com">jsmith@jeckcc.com</a></td>
</tr>
<tr>
<td>Goodwin-Lasiter-Strong</td>
<td><a href="mailto:mstrang@glstexas.com">mstrang@glstexas.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative Name</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rick Dunham</td>
<td></td>
<td>214 905 1923</td>
</tr>
<tr>
<td>Jack Smith</td>
<td>936-564-3329</td>
<td>569-7544</td>
</tr>
<tr>
<td>Mark Strong</td>
<td>(936) 637-4900</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>City</th>
<th>St/Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td>1130 Ennwood Rd.</td>
<td>Dallas, Texas</td>
<td></td>
</tr>
<tr>
<td>312 Old Tyler Rd.</td>
<td>Nacogdoches</td>
<td>Tx 75904</td>
</tr>
<tr>
<td>1000 S. Chatham</td>
<td>Loftin</td>
<td>Tx 75904</td>
</tr>
</tbody>
</table>
INVITATION TO BID #BUS-BLDG-FLOOR

PRE-BID MEETING HELD 10/19/15 10:00AM

SIGN IN SHEET

Company Name: Larry's Interiors  Email: Dustin@LarysInteriors.com
Representative Name: Dustin Adam  Phone: 903-913-3466  Fax: 903-984-2661
Address: 5717 Old Hwy 135 N  City: Kilgare  St/Zip: TX 75662

CONTACT FOR HUB PAPERWORK (name, phone, email):

Company Name:  Email:
Representative Name:  Phone:  Fax:
Address:  City:  St/Zip:

CONTACT FOR HUB PAPERWORK (name, phone, email):

Company Name:  Email:
Representative Name:  Phone:  Fax:
Address:  City:  St/Zip:

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Printed Name

VENDOR NAME AND ADDRESS

PHONE/FAX

Name of Firm

Phone

Mailing Address

FAX

City State Zip

EMAIL

See Instruction 2.11 on Back for Vendor ID Number

Is Vendor a State of Texas certified HUB? ☐ Yes

Delivery in _____ Days Cash Disc. _______ % _______Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

☐ Supplies, materials or equipment: produced in TX/offered by TX bidders*

☐ Agricultural products grown in TX

☐ Agricultural products offered by TX bidders*

☐ USA produced supplies, materials or equipment

☐ Products produced at facilities located on formerly contaminated property

☐ Projects of persons with mental or physical disabilities

☐ Products made of recycled, remanufactured, or environmentally sensitive materials

☐ Energy efficient products

☐ Rubberized asphalt paving material

☐ Recycled motor oil and lubricants

☐ Products and services from economically depressed or blighted areas

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<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Qty. &amp; Unit</th>
<th>Unit Price</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Provide all labor, tools, new materials, equipment and related services to shot blast existing floor pavers and install new flooring according to specifications and architect’s approval. All materials shall be in accordance with attached specifications with no substitutions. It is the contractor’s responsibility to protect all existing surfaces and areas from damage and provide dust control in all aspects. The center commons area is not to be used; installing plastic curtain each side and covering furniture shall be by the contractor with the exception where new tile and carpet transitions.</td>
<td>1 LOT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MANDATORY PRE-BID CONFERENCE AND SITE VISIT

A MANDATORY pre-bid conference and site visit is scheduled for 10:00am, Monday, October 19, 2015, in the McGee Business Building, East Lobby, 1908 Raguet St. N, Nacogdoches, Texas on the campus of Stephen F. Austin State University.

Failure to attend the pre-bid conference and site visit will forfeit consideration of the Respondent’s bid.
BID BOND
A bid bond or bid security in the form of a cashier's check or money order made payable to Stephen F. Austin State University in the amount of 5% of the greatest amount bid is to be submitted with the bid. Failure to submit the bid bond or bid security will cause the bid to be disqualified from further consideration.

Responses submitted without a bid bond or bid security will not be considered.

MEASUREMENTS
Contractor shall be responsible for all measurements and material quantities and submits bids based on measurements taken during the site visit. SFA shall not be responsible for any extra charges for labor or materials due to inaccurate measurements.

TIME OF PERFORMANCE
The University requires that the job be performed beginning December 20, 2015 and must be completed on or before January 11, 2016. All work is to be coordinated with Bruce Lanham, Manager of Construction Services.

Stephen F. Austin State University will be closed for Christmas Holidays 12/23/15 through 01/01/16. The contractor can continue to work during this time.

GENERAL TERMS AND CONDITIONS
All work is to be performed in a neat and workmanlike manner, site kept clean at all times, protection provided to avoid damage to landscaping and all adjoining property, including improvements, performed as quickly as possible consistent with best industry construction practices, and guaranteed for one (1) full year from date of completion against all defects.

Contractor shall comply with all local, state, and Federal orders, ordinances, laws, rules, and regulations of duly constituted authorities having jurisdiction over this work.

All work is to be completed on or before January 11, 2016. Failure to complete work (including clean-up) by January 11, 2016 shall be deemed as a breach of contract. Liquidated damages in the amount of $500.00 per calendar day will be assessed, not as a penalty, but as liquidated damages for such breach of contract.

Safe working conditions must be maintained on and around work site at all times. Barricades and other protective devices are to be used as necessary to prevent injury to persons or property. All reasonable precautions are to be taken.

Payment will be made lump-sum upon completion or as otherwise mutually agreed between Contractor and the University.
INSURANCE REQUIREMENTS

The Contractor shall not commence work under this Contract until he has obtained all the insurance required hereunder and certificates of such insurance have been filed with and reviewed by SFASU. Acceptance of the insurance certificates by SFASU shall not relieve or decrease the liability of the Contractor.

If policies are not written for the amounts specified below (except Worker’s Compensation and Employer’s Liability), Contractor shall carry Excess Liability insurance for any difference in amounts specified. If Excess Liability insurance is provided, it shall follow the form of primary policy.

This insurance shall not be canceled, limited in scope of coverage, or non-renewed until after thirty (30) days prior written notice, or ten (10) days for non-payment of premium, has been given to the University.

Contractor’s insurance shall be deemed primary with respect to any insurance carried by Stephen F. Austin State University for liability arising out of operations under this Contract.

Stephen F. Austin State University, its officials, directors, employees, representatives and volunteers shall be named as additional insured. This is not applicable to the workers’ compensation policy.

The workers’ compensation and employers’ liability policy will provide a waiver of subrogation in favor of the University.

The workers’ compensation insurance coverage must include the responsibility of the Contractor to provide coverage for every worker either under the Contractor’s policy or under the policy provided by a subcontractor. The Contractor's policy shall provide that, in the event that a subcontractor’s policy fails to provide worker’s compensation coverage of a worker, that such insurance coverage is provided by the Contractor’s policy.

Unless otherwise provided for herein, the Contractor shall provide and maintain, until the Work covered in this Contract is completed and accepted by SFASU, the minimum insurance coverage as follows:

**TYPE OF COVERAGE/LIMITS OF LIABILITY**

1. **Workers’ Compensation Coverage OR**
   Employer’s Liability with $1,000,000 each occur/aggregate

2. Comprehensive General Liability
   a. $1,000,000 each occur
   b. $2,000,000 general aggregate
   c. $2,000,000 products/

3. Comprehensive Automobile Liability
   $1,000,000 combined single limit
PARKING ON CAMPUS

All vehicles parked on the University campus must properly display a valid parking permit and comply with all University parking rules. The Parking and Traffic Office supervises and coordinates all parking transportation and traffic related functions on the campus. Permits expire each August 31.

Contractor shall be responsible for obtaining parking permits from the Parking and Traffic Office and for resolving, should they arise, any parking regulation disputes and violations. The Parking and Traffic Office telephone number is 936-468-7275.
1. **BIDDER AFFIRMATIONS:** Signing this bid with a false statement is a material breach of contract and shall void the submitted bid or any resulting contracts. By signature hereon affixed, the bidder hereby certifies that:

1.1 The bidder has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted bid.

1.2 Pursuant to 15 U.S.C. Sec. 1, et seq. And Tex. Bus. & Comm. Code Sec 15.01, et seq. neither the bidder or the firm, corporation, partnership, or institution represented by the bidder is for such firm, corporation, or institution has violated the antitrust laws of this State or the Federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.

1.3 Pursuant to Texas Government Code, Title 10, Subtitle D, Section 2155.004(a), the bidder has not received compensation for participation in the preparation of the specifications for this solicitation.

1.4 If applicable, pursuant to Texas Family Code, Section 231.006(d), regarding child support, the bidder certifies that the individual or business entity named in this bid is not eligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. Furthermore, any bidder subject to Section 231.006 must provide prior to award the names and Social Security numbers of each person with at least 25% ownership of the business entity submitting the bid. This information must be provided prior to award.

1.5 Pursuant to Texas Government Code, Title 10, Subtitle D, Section 2155.004(b), the vendor certifies that the individual or business entity named in this bid or contract is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.

1.6 Bidder agrees that pursuant to Section 403.002, Government Code, any payments due under this contract will be applied towards any debt, including but not limited to delinquent taxes and child support, that is owed to the State of Texas or any agency of the State of Texas, until such debt or delinquent taxes are paid in full.

1.7 Bidder certifies that they are in compliance with Texas Government Code, Title 6, Subtitle B, Section 669.003, relating to contracting with executive head of a State agency. If Section 669.003 applies, the bidder will complete the following information in order for the bid to be evaluated:

   Name of former Executive:

   Name of State Agency:

   Date of separation from State Agency:

   Position with bidder:

   Date of employment with bidder:

1.8 Bidder agrees to comply with Texas Government Code, Title 23, Section 444, relating to the use of service contracts for products produced in the State of Texas.

1.9 By signature hereon, the Respondent hereby certifies that he/she is not currently delinquent in the payment of any franchise taxes owed the State of Texas.

2. **BIDDING REQUIREMENTS:**

2.1 Bids should be submitted on this form. Each bid shall be placed in a separate envelope completely and properly identified. When sending bids via overnight delivery, bidder is advised to confirm whether SFA delivery location is a guaranteed AM delivery.

2.2 SFA offers facsimile or email service as a convenience only. The only telephone number for FAX submission of bids is 936-468-4282. The only email for submission of bids is bids@sfasu.edu. The University shall not be responsible for bids or portions of bids received late, illegible, incomplete, or otherwise non-responsive due to failure of electronic equipment, technology error, or operator error. Confirmation of facsimile or email bids is not required.

2.3 Bids must be time stamped in the SFA Procurement & Property Services Office on or before the hour and date specified for the bid opening. Late bids will not be considered under any circumstances. Late bids properly identified will be returned to the bidder unopened.

2.4 Bids are requested to be firm for acceptance for a minimum of 30 days from opening date. Bid cannot be altered or amended after opening time. No bid can be withdrawn after opening time without the approval of the University based on a written acceptable reason.

2.5 Telephone quotations are not acceptable when in response to this Invitation To Bid.

2.6 Bidder has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted bid.

2.7 All electrical items must meet all applicable OSHA standards and regulations, and bear the appropriate listing from US, FMRC or NEMA.

2.8 All items shall be new, in first class condition, with containers suitable for shipment and storage. New shall not be construed as excluding recycled or remanufactured products.

2.9 Any catalog, brand name or manufacturer's reference used in this bid is descriptive (not restrictive).

2.10 Stephen F. Austin State University will not be bound by any oral or written representation contrary to the written specifications of this ITB and any associated addenda.

2.11 Bids should give Payee ID Number, full firm name and address of bidder. The Payee ID Number is the taxpayer number assigned and used by the Comptroller of Public Accounts of Texas. If this number is not known, complete the following:

   Enter Federal Employer's Identification Number

   Sole Owner should also enter SSN# below

3. **TIE BIDS - Awards will be made in accordance with Rule 34 TAC 20.36 (b) (3) and 20.38 (preferences).**

4. **PATENTS OR COPYRIGHTS - The Contractor agrees to protect Stephen F. Austin State University from claims involving infringement of patents or copyrights.**

5. **PAYMENT - Vendor shall submit an itemized invoice showing Purchase Order Number. Payment will be made Net 30 from date of receipt of goods/services or invoice, whichever is later. Late fees will be incurred in accordance with Texas Government Code 2251.**

6. **DELIVERY:**

6.1 Bids should show the number of days required to place material in designated location under normal conditions. Failure to state delivery time obligates bidder to complete delivery in 14 calendar days. A five day difference in delivery promise may break tie bids. Unrealistic short or long delivery promises may cause the bid to be disregarded.

6.2 Delivery shall be made during normal working hours only, unless prior approval for early or late delivery has been obtained.

6.3 If delay is foreseen, contractor shall give written notice. The University has the right to extend delivery date if reasons appear valid. Contractor must keep the University advised at all times of status of order. Default in promised delivery (without accepted reasons) or failure to meet specifications, authorizes the University to purchase elsewhere and charge full increase, if any, in cost and handling to defaulting contractor.

6.4 No substitutions or cancellations are permitted without prior written approval.

7. **ALTERNATE DISPUTE RESOLUTION:**

Pursuant to Chapter 2260 of the Texas Government Code, any contract arising under a contract for goods and services for which this chapter applies must be resolved under the provisions of this chapter.

8. **PUBLIC INFORMATION ACT:**

Information, documentation, and other material in connection with this solicitation or any resulting contract may be subject to public disclosure pursuant to Chapter 552 of the Texas Government Code (the “Public Information Act”).

9. **NOTE TO BIDDERS:**

9.1 Any terms and conditions attached to a solicitation will not be considered unless specifically referred to on this solicitation and may result in disqualification.

9.2 In the event the Contractor shall defend, indemnify and hold harmless the State of Texas, all of its officers, agents and employees from and against all claims, actions, suits, demands, proceedings, costs, damages, and liabilities, arising out of, connected with, or resulting from any acts or omissions of contractor or any agent, employee, subcontractor, or supplier in the execution or performance of this contract.

9.3 Contractor understands that acceptance of funds under this contract acts as acceptance of the authority of the State Auditor’s Office or any successor agency, or Stephen F. Austin’s Internal Audit Services, to conduct an audit or investigation in connection with those funds. Contractor further agrees to cooperate fully with the State Auditor’s Office or its successor, or Stephen F. Austin’s Internal Audit Services in the conduct of the audit or investigation, including providing all records requested. Contractor will ensure that this clause is included in all subcontract agreements. Contractor also agrees to cooperate in any any subcontract awards.
SPECIFICATIONS

and

FLOOR PLAN OF MATERIAL LOCATIONS
SECTION 09314
CERAMIC TILE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section includes floor tile, wall tile, ceiling tile, tile base, treads and trim, tile-setting accessories, waterproofing and uncoupling membranes.

B. RELATED SECTIONS

1. Section 03311 – Concrete structures.
2. Section 07910 – Joint Sealers
3. Section 09260 -- Gypsum Board: Gypsum board and tile backer boards.
4. Section 15440 – Plumbing Fixtures and Equipment: Floor drains.

C. REFERENCES

1. ANSI A108.1-1999: Installation of Ceramic Tile
2. ANSI A137.1-1988: Ceramic Tile

1.2 SUBMITTALS

A. Submit samples to requirements of Section 01001.
B. Samples: Full nominal size for each tile, type and color.
C. Submit four copies of TCA recommendations for maintenance of ceramic tile surfaces for inclusion in the operations and maintenance manual prepared and submitted in Section 01700. Give specific warning of any maintenance practice or materials that may damage or disfigure the finished work.
D. Submit product data sheets for floor sealer products.
E. Where more than one manufacturer’s products are part of a single tile assembly, arrange for each manufacturer to submit a written statement of compatibility with respect to the other manufacturer’s materials.

1.3 WARRANTY

A. Submit a written warranty, executed by the Contractor, Installer, and Manufacturer, agreeing to repair or replace tile that fails in materials or workmanship within one year after installation is complete.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
2.2 MATERIALS - TILE

A. As selected by Interior Designer

2.2 MATERIALS - TILE

A. Type CT1: Color Body Porcelain
   1. Size: 12”x24”x 5/16”
   2. DalTile Imagica IG97 Haze.

2.3 MORTAR, ADHESIVE AND GROUT MATERIALS

A. Use manufacturers’ recommended grout joint thickness for each type of tile specified.
B. Acceptable grout manufacturers:
   1. Laticrete
   2. Custom Building Products
   3. Tex Rite
   4. Mapei
E. Epoxy Adhesive and Grout: to ANSI A108.1

2.4 ACCESSORIES

A. Reinforcing Mesh: 2” x 2” mesh size, fabricated from 16 ga. thick galvanized steel wire; welded fabric design.
C. Tape: 2 inch wide fiber mesh tape, as recommended by tile-backer board manufacturer.
D. Water: Potable, clean and free of chemicals and contaminants detrimental to mortar or grout mixes.
E. Sealer: As recommended by tile manufacturer.

2.5 FINISHING AND EDGE PROTECTION FOR CERAMIC TILE FLOORS

A. Acceptable Manufacturer: Schlüter Systems, L.P., 194 Pleasant Ridge Road,
   Plattsburgh, NY 12901-5841. Tel: (800) 472-4588. Fax (800) 477-9783. E-mail:
B. Provide extruded aluminum trim at flooring transitions (ceramic tile to terrazzo tile).
   1. Description: sloped profile, integrated trapezoid-perforated anchoring leg, and
      integrated grout joint space
   2. Height: As required for tile thickness
   3. Acceptable Product: Schlüter® - RENO-4
   4. Material and Finish: Satin Anodized Aluminum -AE

PART 3 – EXECUTION

3.1 INSTALLATION

A. EXAMINATION

   1. Verify existing conditions are ready to receive work.
   2. Ensure substrate surfaces are clean, dimensionally stable, cured and free of
      contaminants such as oil, sealers and curing compounds.
   3. Ensure that any new concrete has been allowed to cure for a minimum of 28 days.
   4. Ensure concrete floors have not been treated with proprietary curing compounds.
5. Ensure any new concrete floors scheduled to receive thin-set applied tile or cleavage membranes are still trowelled to a fine broom finish. Ensure sub floors have been finished with a maximum permissible variation of 1/4 inch in 10 feet from the required plane and not more than 3/32 inch in 12 inches when measured from high points in the surface.

6. Ensure concrete floors scheduled to receive tile applied over a bonded mortar bed have been screed finished. Verify substrate surface variation does not exceed 1/4 inch in 10 feet.

7. Notify Architect or Interior Designer in writing of unacceptable substrate conditions. Beginning of installation implies acceptance of existing conditions. Subfloor should meet all the requirements of the tile manufacturer.

B. PREPARATION

1. Existing brick pavers should be shot blast down to 3/8" to account for thickness of the ceramic tile. Verify tile thickness.

2. Protect surrounding work from damage or disfiguration.

3. Thoroughly clean existing surfaces which are to receive the finish to ensure the removal of all grease, oil or dust film.

4. Apply a latex modified cementitious leveling coat approved by the tile manufacturer, wherever a slight substrate irregularity exists. Substrate variations not to exceed 1/8 inch in 8 feet, and 1/16 inch in 3 feet. Limit leveling coat thickness to less than 5/16 inch where thin-set tile methods are to be used. Install a leveling coat in excess of 5/16 inch when setting tile with a mortar bed method.

5. Waterproofing Membrane – Required at any wet locations, only - Contractor’s Option: Bonding system recommended by Laticrete International, Inc., in lieu of membrane and setting systems specified below.
   a. Fully adhere waterproof membrane to substrate with tile setting adhesive, with no air pockets.
   b. Overlap and seal membrane seams a minimum 2 inches.
   c. Provide waterproofing strips where required to span expansion joints or terminate waterproofing into movement-joint type tile-setting accessories, as detailed per manufacturer’s instructions.
   d. Adhere waterproofing membrane to fixtures, joints around pipes, door and window frames, etc. with transparent waterproof sealant.
   e. Provide floor drains in locations indicated in accordance with manufacturer’s instructions and as specified in Section 15400.

C. APPLICATION

1. Install materials to requirements of TCA Handbook for Ceramic Tile Installation as scheduled below:

2. Apply tile in latex-Portland cement mortar beds or thin set in accordance with ANSI A108.1. Thin-set system shall be limited to smooth, dry surfaces, bond coat 3/32" minimum.

3. Fit tile units around corners, fitments, fixtures, drains and other built-in objects to maintain uniform joint appearance.

4. Make cut edges smooth, even and free from chipping. Do not split tile.

5. Lay out tiles according to drawings and patterns so that perimeter and all cut tiles are no less than half size.

6. Set tiles in place while bond coat is wet and tacky, prior to skinning over. Slide tile back and forth to ensure a proper bond and level surface. Avoid lipage.

7. Clean backs of tiles and back butter tiles to ensure a 95 percent bond coverage.

8. Clean excess mortar from surface prior to final set.
9. Sound tiles after setting materials have cured and replace hollow sounding tile before grouting.
10. For tiles exceeding 12" x 12" size, exterior surfaces and wet area using the thin-set method, notch the adhesive in straight lines, back butter tile and set on freshly trowelled thin-set mortar. Move tile back and forth perpendicular to notches.
11. Keep two-thirds of the depth of grout joints free of setting material.

D. MOVEMENT JOINTS

<table>
<thead>
<tr>
<th>Environment</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Joint Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior</td>
<td>(16 ft)</td>
<td>(20 ft)</td>
<td>(1/4 inch) minimum</td>
</tr>
<tr>
<td>Interior/Sunlight</td>
<td>(12 ft)</td>
<td>(16 ft)</td>
<td>(1/4 inch) minimum</td>
</tr>
</tbody>
</table>

1. Install site-fabricated movement joints in tile work in accordance with TCA installation schedule. Substitute sealant in place of grout at locations of expected movement such as the following: Expansion and control joints; around piping penetrations; against door frames and similar items.
2. Keep movement joints free of setting materials.

E. TILE-SETTING ACCESSORIES INSTALLATION

1. Install tile-setting accessories in continuous lengths, to level straight lines by pressing the perforated anchoring leg of the accessory solidly into the tile setting adhesive.
2. Butt ends of units tightly together with hairline joint. Trowel an additional layer of tile setting material over the anchored leg of the accessory prior to placement of tiles.
3. Unless specified otherwise, solidly embed tiles over anchoring leg of installed trim with surface of tile flush with top of tile-setting accessories.
4. Leave 1/8 inch joint between tile and tile-setting accessories for filling with grout.
5. Install pre-formed end-caps and trim at all outside corners, 3-way corners, and ends.
6. Manufactured Tile Expansion and Control Joints:
   a. Apply expansion and control joint profiles where recommended by the manufacturer.
   b. Set adjacent field flush against profile. Ensure solid coverage.
   c. Apply tile adhesive with notched trowel to the areas where the perforated anchoring legs will be placed. Ensure that adhesive is suitable for substrate.
   d. Press profile securely into adhesive bed and align. Ensure profile aligns directly with expansion and movement joints in substrate below.
   e. Trowel additional tile adhesive over the anchoring legs to ensure full coverage and to support tile edges.
   f. Apply tile adhesive to vertical profile section at an angle.
   g. Solidly embed tiles so that the tiled surface is flush with the top of the profile. Do not allow top of profile to extend above tile surface, or be more than 11/32 inch lower than tiled surface.
   h. Ensure profile is solidly embedded in setting material and that all cavities are filled to prevent the collection of alkaline water.
   i. Always lay uncut portion of tile against the profile.
   j. Maintain a 1/16 – 1/8 inch wide joint between the tile edge and the profile. Fill joint completely with grout.

7. Remove mortar or grout residue immediately from visible surfaces.
F. GROUTING

1. Allow proper setting time prior to grouting.
2. Pre-seal tiles requiring protection from grout staining.
5. Remove excess and polish with clean cloths.

G. ALUMINUM EDGE PROTECTION

1. Consult Schlüter Systems' current technical literature for proper design and installation instructions.
2. Solidly embed the tiles so that the tiled surface is flush with the top of the profile; the profile should not be higher than the tiled surface, but rather up to approx. 1/32" (1 mm) lower.

3.2 FIELD QUALITY CONTROL

A. Inspect completed work and replace broken, cracked, or damaged tile.

3.3 ADJUSTING AND CLEANING

A. Level tiles to conform to a 1/16 inch tolerance over a 1/8 inch joint.
B. Apply floor sealer in accordance with manufacturer's instructions.

3.4 PROTECTION

A. Protect finished areas from traffic until setting materials have sufficiently cured. Refer to TCA Handbook for Ceramic Tile Installation.
B. Protect grouted areas from traffic for 24 hours after grouting.
C. Provide protective covering until Substantial Performance of the Work.
D. Protect wall tiles and bases from impact, vibration, heavy hammering on adjacent and opposite walls for at least 14 days after installation.
SECTION 09656
RESILIENT TERRAZZO TILE

PART 1 -- GENERAL

1.1 SECTION INCLUDES
A. Marble terrazzo tile and accessories.

1.2 RELATED SECTIONS
A. Section 09650 - Resilient Flooring.

1.3 SYSTEM DESCRIPTION
A. Performance Requirements of Terrazzo Tiles:
   1. Abrasion Resistance: Maximum 0.0196 cubic centimeters volume loss, when tested in accordance with ASTM F 510, Taber abrader, S-39 wheels, at 500 cycles with 1000 gram load.
   2. Compressive Strength: Between 2900 and 5000 psi (20 and 34.5 MPa), when tested in accordance with ASTM C 109/C 109M or ASTM D 695.
   3. Static Load Limit: 0.0007 inch (0.012 mm) maximum indentation, when tested in accordance with ASTM F 970 at 125 pounds (57 kg).
   4. Hardness: When tested in accordance with ASTM D 2240:
      b. Aggregate: Between Barcol 55 and 100.
   5. Coefficient of Friction: Greater than 0.7, average 0.74, when tested in accordance with ASTM D 2047.
   6. Flame Spread Index: 15, maximum, when tested in accordance with ASTM E 84.
   7. Smoke Density: Specific optical density, when tested in accordance with ASTM E 662, of 231.76 (smoldering) and 292.05 (flaming).
   8. Critical Radiant Flux: Minimum of 0.93 watt/cubic centimeter (Class 1) when tested in accordance with ASTM E 648.
   9. Chemical Resistance: No change or surface attack, color change, or swelling, when tested in accordance with ASTM F 925.
   10. Oil Resistance: Complying with MIL D-3134.
   13. Squareness: 0.003 inch (0.076 mm) out of square, maximum, when measured in accordance with ASTM F 540.
   14. Acoustical Testing:
      -ASTM E492-09/ASTM E989-06 (IIC) = 43dB
      -ASTM E90-09/ASTM E413-10 (STC) = 54 dB

1.4 SUBMITTALS
A. Submit in accordance with Section 01001.
B. Submit manufacturer's specifications and technical data for precast terrazzo tile and accessories; including manufacturer's printed installation instructions and maintenance manuals for each material specified.
C. Samples for Selection: Submit manufacturer's samples of actual sections of tile and accessories; include manufacturer's full range of color and patterns available.
D. Samples for Verification Prior to Installation: Submit full size samples of all types, colors, and patterns selected, indicating full range of patterning and color variations.
E. Test Reports: Submit test reports for bond and moisture tests of substrates.
F. Certificates: Submit certificates from manufacturer stating compliance with applicable requirements for materials specified.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has at least three years of experience with the installation of precast terrazzo tile and has successfully completed installations of a similar size and scope.
B. Regulatory Requirements: Comply with requirements of local building codes and applicable regulations of other government authorities.
C. Pre-Installation Meeting: Meet with tile manufacturer's representative prior to preparation of substrate and installation of tile, to review manufacturer's instructions and requirements to ensure the tile is installed properly.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original, unopened packages, containers or bundles bearing brand name and identification of manufacturer.
B. Store materials inside, under cover in a manner to keep them dry, protected from the weather, direct sunlight, surface contamination, corrosion, and damage from construction traffic and other causes.

1.7 PROJECT CONDITIONS

A. Maintain minimum temperature of 70 degrees F (21 degrees C) in spaces to receive terrazzo tile, for at least 48 hours before, during and after installation. Store materials in space where they will be installed for at least 48 hours or as required ensuring that the materials have reached 70 degrees F (21 degrees C) before staring installation.
B. Install terrazzo tile and accessories after other finishing operations, including painting, have been completed.
C. Do not install terrazzo tile on concrete slabs until they have been cured and are sufficiently dry to achieve bond with adhesives, as determined by the tile manufacturer's recommended bond and moisture test. Allow sufficient time for the slab to dry out before installation is started.
D. Provide adequate lighting to allow for proper installation.
E. Do not use portable or temporary heat.

1.8 WARRANTY

A. Submit 20 year wear warranty written material warranty from tile manufacturer warranting that tile is free from defects in workmanship and material.
   1. Products must be installed so as not to void the manufacturer's warranty for wear.
   2. Warranty shall be in form acceptable to Owner.

1.9 MAINTENANCE

A. Extra Materials: Furnish one box of tile for each fifty boxes or fraction thereof, for each type, color, pattern and size of the tile installed, from same manufactured lot as materials installed.
   1. Deliver extra tile to Owner after completion of work.
   2. Furnish tiles in protective packaging with identifying labels.

PART 2--PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturer: Fritz Tile by Expanko Inc., which is located at: 180 Gordon Dr. Suite 113; Exton, PA 19341; Toll Free Tel: 800-345-6202; Email: rgillespie@expanko.com; Web: www.fritztile.com

B. Obtain all materials including terrazzo tile and recommended adhesives from a single manufacturer.

2.2 MATERIALS

A. Terrazzo Tile: Marble or granite chips embedded in flexible thermoset polyester resin matrix, with random distribution of chips and smooth factory applied urethane coating cured by ultra violet exposure process.
   1. Color/Pattern/Thickness: Fritztile #C521504 Antique.
   2. Size: 12 by 12 inches (305 by 305 mm), nominal.
   3. Color Match: Obtain all tile materials from same production run.

B. Leveling Compound: Fritztile recommends only Ardex leveling compound products. Refer to Ardex for recommendations and installation methods. www.Ardex.com

C. Patching Compound: Fritztile recommends only Ardex patching compound products. Refer to Ardex for recommendations and installation methods. www.Ardex.com

D. Floor Adhesive:
   1. Fritz FA88 Powdered Multipurpose Adhesive
   2. Fritz FA1100 Pre-Mixed Wet Set Adhesive

E. Sealer and Finish: Two coats of Fritz FCP102 protective sealer and two coats of Fritz Duro-Gloss Finish FCP300, applied as recommended by manufacturer.

F. Sealant: Silicone of type approved by tile manufacturer.

PART 3 -- EXECUTION

3.1 EXAMINATION

A. Brick Paver Subfloor:
   1. Existing Brick Pavers should be shot blast down to 1/8” to account for thickness of the terrazzo tile. Verify thickness of terrazzo tile.
   2. Inspect subfloor to verify that it is clean, flat, smooth, level and free from cracks, holes, ridges, coatings preventing adhesion, and other defects impairing performance or appearance. Install leveling compound by Ardex over shot blast brick pavers as recommended by the manufacturer.
   3. Notify Architect of conditions that would adversely affect flooring installation; do not proceed until defective conditions have been corrected.
   4. Perform bond and moisture tests on subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing, sealing, hardening or any other compounds.
      a. Perform bond test in accordance with tile manufacturer’s warranty requirements.
      b. ASTM F 1869-11. Moisture Vapor Emission test using Anhydrous Calcium Chloride. Maximum Allowable Readings: FA88= 10 pounds per 1000 square feet in 24 hours, FA1100=7 pounds per 1000 square feet in 24 hours
      c. ASTM F2170-11, Relative Humidity (RH) test using situ probes. Maximum Allowable Readings: FA88=90%RH, FA1100=87%RH
      d. Submit test results and obtain Architect’s acceptance prior to beginning installation.
   5. Do not proceed until substrate preparation is complete and satisfactory, bond and moisture tests are completed and test reports submitted which indicate that bond and moisture values meet specified requirements.
B. Coordinate work with that of other installers prior to installation so that tile work fits properly with doors, frames, saddles, floor drains, and other adjacent work.
C. Start of work constitutes acceptance that conditions are satisfactory.
D. Close the space and areas where flooring is being installed to traffic and other installers until flooring has set and sealing and finish of tiles are complete.

3.2 PREPARATION
A. Shot blast brick pavers down to 1/8" to receive terrazzo tile. Verify tile thickness.
B. Fill small cracks, holes and depressions in subfloors using leveling and patching compounds recommended by tile manufacturer.
C. Remove deleterious coatings from subfloor surfaces that would prevent a positive adhesive bond; such as curing compounds incompatible with adhesives, paints, oils, adhesives, waxes and sealers.
D. Completely remove existing solvent-based adhesives to prevent bleed through and staining.
E. Remove existing floor covering and condition subfloor to provide smooth, clean continuous surface; level subfloor with self-leveling compound in compliance with tile manufacturer's specifications and installation instructions.

3.3 INSTALLATION
A. Comply with manufacturer's instructions for terrazzo tile installation.
B. Scribe, cut and fit tile to permanent fixtures, built-in furniture, cabinets, pipes, outlets and permanent columns, wall, and partitions using tile cutting procedures recommended by tile manufacturer.
C. Maintain reference markers indicated on subfloor for future cutting, by repeating on finished terrazzo tile floor.
D. Lay tile from center marks established with principal walls discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than one half tile at perimeters. Lay tile square to room axis, unless otherwise indicated.
E. Adhere tile flooring to substrate using full spread of adhesive.
F. Lay tile using conventional procedures for laying resilient tile, placing tile carefully and firmly in position and as level as possible. Butt tile cleanly, evenly and snugly against adjacent tile.
G. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged, if cartons are so numbered. Do not install broken, cracked or chipped tiles.
H. Roll and cross roll floor with 150 pound sectional roller continuously while tile is being laid. Use hand roller in areas that cannot be reached with large roller. Cease rolling when rolling has no more effect.
I. Do not subject floors to traffic until adhesive is dry and hard and sealers and finishes are applied.
J. Remove and replace tiles that are not flat, including lipped, cupped, curved, or poorly adhered tile. Remove rejected tile from site.

3.4 FIELD QUALITY CONTROL
A. Manufacturer's Field Services: Provide on-site services of tile manufacturer or authorized distributor for technical assistance during preparation and installation.

3.5 CLEANING AND PROTECTION
A. Upon completion of installation and curing of adhesive, apply sealant to entire perimeter
and around columns, door frames, and other joints and penetrations to prevent water penetration into the adhesive layer due to accidental or maintenance (mopping) water accumulation.

B. Remove excess adhesives, dirt, stain and other foreign material. Clean floors in accordance with tile manufacturer's instructions.

C. Protect finished installation at all times. Repair or replace flooring damaged prior to final acceptance of installation by Owner.
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