

December 17, 2021

Hillside Middle School Remodeling & Site Improvements

Hillside Middle School 1941 Alamo Avenue Kalamazoo, MI, 49006

#### TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated December 6, 2021, by TowerPinkster. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Page ADD 1-1, consisting of one (1) page, TowerPinkster Addendum No. 1, dated December 14, 2021, consisting of 2 pages, Issued Specification Section: 03 30 00, and Reissued Drawing: S 201.

#### A. <u>SPECIFICATION SECTION 00 02 00 – NOTICE TO BIDDERS</u>

1. Revise bid security amount to five percent (5%).

#### B. <u>SPECIFICATION SECTION 01 12 00b – MULTIPLE CONTRACT SUMMARY</u>

Part 3.03 Bid Categories

#### A. <u>BID CATEGORY NO. 1 - GENERAL TRADES</u>

1. Add the following Specification Section: 03 30 00 Cast-in-Place-Concrete

End of Addendum



### **ADDENDUM NO. 1**

DATE OF ISSUANCE:	December 14, 2021
PROJECT:	Hillside Middle School Remodeling and Site Improvements 1941 Alamo Ave Kalamazoo, MI 49006
OWNER:	Kalamazoo Public Schools
ARCHITECT'S PROJECT NO.:	18-521.00
ORIGINAL BID ISSUE DATE:	December 6, 2021

#### SCOPE OF WORK

This Addendum includes changes to, or clarifications of, the original Bidding Documents and any previously issued addenda, and shall be included in the Bid. All of these Addendum items form a part of the Contract Documents. The Bidder shall acknowledge receipt of this Addendum in the appropriate space provided on the Bid Form. Failure to do so may result in disqualification of the Bid.

#### DOCUMENTS INCLUDED IN THIS ADDENDUM

This Addendum includes Two [2] pages of text and the following documents:

- Bidding Documents: None •
- Contract Conditions: None
- Specification Sections: 03 3000 Cast-In-Place Concrete
- Sketches: None
- Drawings: **S 201** •

#### **CHANGES TO PREVIOULSY ISSUED ADDENDA**

None.

#### **CHANGES TO BIDDING REQUIREMENTS**

None.

#### CHANGES TO CONTRACT CONDITIONS

None.

# **TowerPinkster**

Addendum No. 1 - Hillside 18521.00

#### **CHANGES TO SPECIFICATION**

ADD-1 Item No. S-1 - 28 2000 Video Surveillance

Eliminate specification section 28 2000.

#### ADD-1 Item No. S-2 - 23 4000 Antimicrobial Systems for HVAC

Eliminate specification section 23 4000.

#### ADD-1 Item No. S-3 - Add Specification Section

Specification section 03 3000 Cast-In-Pace Concrete has been added to the project.

#### **CHANGES TO DRAWINGS**

#### ADD-1 Item No. D-1 - Addition of Supplemental Framing for Food Service Equipment

Refer to Reissued Sheet S 201; Added supplemental framing to support new food service makeup air units and exhaust hoods.

END OF ADDENDUM.

#### SECTION 03 3000 - CAST-IN-PLACE CONCRETE

- PART 1 GENERAL
- 1.1 SUMMARY
  - A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- 1.2 ACTION SUBMITTALS
  - A. Product Data: For each type of product.
  - B. Design Mixtures: For each concrete mixture.
- 1.3 INFORMATIONAL SUBMITTALS
  - A. Material test reports.
  - B. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
- 1.4 QUALITY ASSURANCE
  - A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
    - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
  - B. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

#### 1.5 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.

#### 1.6 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1.
  - 1. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M).

PART 2 - PRODUCTS

- 2.1 CONCRETE, GENERAL
  - A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
    - 1. ACI 301 (ACI 301M).
    - 2. ACI 117 (ACI 117M).

#### 2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.
- E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."

#### 2.3 CONCRETE MATERIALS

- A. Cementitious Materials:
  - Portland Cement: ASTM C 150/C 150M, Type I.
     a. Where stained concrete is indicated, provide white portland cement.
  - 2. Fly Ash: ASTM C 618, Class F.
  - 3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33/C 33M, graded.
  - 1. Maximum Coarse-Aggregate Size: 1 inch (25 mm) nominal.
  - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
  - 3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50(0.3 mm) sieve, and less than 8 percent may be retained on sieves finer than No. 50(0.3 mm).
- C. Air-Entraining Admixture: ASTM C 260/C 260M.
- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

- 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
- 2. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
- E. Water: ASTM C 94/C 94M and potable.

#### 2.4 VAPOR RETARDERS

- A. Sheet Vapor Retarder: ASTM E 1745, Class A, except with maximum water-vapor permeance of 0.02 U.S. perms, minimum 15 mils(0.38 mm) thick monolithic polyolefin sheet. Include manufacturer's recommended adhesive or pressure-sensitive tape.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Fortifiber Building Systems Group; Moistop Ultra 15.
    - b. Insulation Solutions, Inc.; Viper VaporCheck II 15-mil.
    - c. Poly-America, L.P.; Husky Yellow Guard Vapor Barrier 15 Mil ASTM E-1745 Class A.
    - d. Reef Industries, Inc; Griffolyn 15 mil Green.
    - e. Stego Industries, LLC; Stego Wrap 15 mil Class A.

#### 2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. ChemMasters, Inc; Spray-Film.
    - b. Dayton Superior; AquaFilm Concentrate J74.
    - c. Euclid Chemical Company (The); an RPM company; Eucobar.
    - d. L&M Construction Chemicals, Inc; E-CON.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
  - 1. Products: Subject to compliance with requirements, provide one of the following: a. Anti-Hydro International, Inc; A-H Curing Compound #2 DR WB.
  - 2. ChemMasters, Inc; Safe-Cure Clear DR.
  - 3. Dayton Superior; Clear Resin Cure J11W.
  - 4. Euclid Chemical Company (The); an RPM company; Kurez DR VOX.
    - a. Kaufman Products, Inc; Thinfilm 420.
  - 5. L&M Construction Chemicals, Inc; L&M CURE R.
    - a. Lambert Corporation; AQUA KURE CLEAR.
    - b. Nox-Crete Products Group; Resin Cure E.
    - c. Right Pointe; Clear Water Resin.
    - d. SpecChem; PaveCure Rez.

- e. TK Products; TK-2519 DC WB.
- f. Vexcon Chemicals Inc.; Certi-Vex Enviocure 100.
- g. W.R. Meadows, Inc; 1100-CLEAR SERIES.

#### 2.6 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- C. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch (0.85 mm) thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

#### 2.7 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M).
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  - 1. 20 percent fly ash or 30 percent ground blast furnace slag.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
   1. Use porosity-reducing admixture in slabs.

#### 2.8 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Slabs-on-Grade: Normal-weight concrete.
  - 1. Minimum Compressive Strength: As indicated at 28 days.
  - 2. Maximum W/C Ratio: 0.50.
  - 3. Minimum Cementitious Materials Content: 470 lb/cu. yd. (279 kg/cu. m).
  - 4. Slump Limit: 5 inches (125 mm), plus or minus 1 inch (25 mm).
  - 5. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

#### 2.9 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

#### 2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

#### PART 3 - EXECUTION

#### 3.1 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
- C. Chamfer exterior corners and edges of permanently exposed concrete.

#### 3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

#### 3.3 VAPOR-RETARDER INSTALLATION

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
  - 1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.

#### 3.4 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
  - 2. Reinforcement, including dowels between concrete and masonry, shall be accurately placed and adequately supported before placement of concrete. "Wet sticking" of dowels is not permitted.

#### 3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
  - 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

#### 3.6 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
  - 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).

#### 3.7 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
  - 1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
  - 1. Apply to concrete surfaces exposed to public view,.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

#### 3.8 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in one direction.
  - 1. Apply scratch finish to surfaces to receive concrete floor toppings.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
  - 1. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or powerdriven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  - 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
  - Finish and measure surface, so gap at any point between concrete surface and an unleveled, freestanding, 10-ft.- (3.05-m-) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).
- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom.
  - 1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
  - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

#### 3.9 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 (ACI 301M) for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing

operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

- C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
  - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
    - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.

#### 3.10 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
  - 1. Steel reinforcement placement.
  - 2. Steel reinforcement welding.
  - 3. Headed bolts and studs.
  - 4. Verification of use of required design mixture.
  - 5. Concrete placement, including conveying and depositing.
  - 6. Curing procedures and maintenance of curing temperature.
  - 7. Verification of concrete strength before removal of shores and forms from beams and slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
  - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
  - 2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  - 3. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  - 4. Air Content: ASTM C 231/C 231M, pressure method, for normal-weight concrete;one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

- 5. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
- 6. Compression Test Specimens: ASTM C 31/C 31M.
  - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
  - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
- 7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
  - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
  - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
- 8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
- 10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- 11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- 12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

#### END OF SECTION 03 3000

## TYPICAL ROOF OPENING AND EQUIPMENT SUPPORT SCALE: NONE

- 3. COORDINATE LOCATION & SIZE OF OPENINGS WITH MECHANICAL CONTRACTOR.
- 100# INDICATES ROOF TOP UNIT AS SHOWN ON PLAN.
- 2. TYPICAL EQUIPMENT SUPPORT;
- 1. TYPICAL ROOF OPENING GREATER THAN 18", INCLUDING ALL ROOF DRAINS; INDICATES ROOF OPENING AS SHOWN ON PLAN.

JOIST SPACING LOAD		SUPPORTING MEMBER	CONNECTING MEMBER	
MAX 6'-0"	MAX 300#	L3x3x1/4	L3x3x1/4x0'-6"	
MAX 6'-0"	GREATER THAN 300#	L5x3x1/4 LLV	L5x3x1/4 LLV x 6"	
GREATER THAN 6'-O"	MAX 1000#	L5x3x1/4 LLV	L5x3x1/4 LLV x 6"	
GREATER THAN 6'-0"	GREATER THAN 1000# BUT MAX 2200#	C6x8,2	BENT PLATE &x3x1/4 (LLV) x &"	

NOTE: ALL WELDING TO JOIST SHALL BE DONE WITH CARE SO AS NOT TO IMPAIR JOIST.





CONCENTRIC TO THE CHORD.





# KITCHEN AREA - ROOF FRAMING PLAN 3/16" = 1'-0"







<u>Plan view</u>

# TYPICAL JOIST MODIFICATION AT CONCENTRATED LOADS

ANGLE SIZE

L2x2x3/16

26" TO 48"

52" TO 72"

L1 1/2x1 1/2x3/16

L2 1/2x2 1/2x1/4

	PLAN NOTES - FLOOR AND ROOF		0 X 5 0
	1. FIELD VERIFY ALL DIEMENSIONS PRIOR TO FABRICATION OF ANY JOIST OR STEEL COMPONENT.         Image: Component in the image of the	TowerPinkstel	Architecture · Engineering · Interiors         Architecture · Engineering · Interiors         4 East Fulton Street, Suite 200         242 East Kalamazoo Avenue, Suite 10         Grand Rapids, Michigan 49503         FAX         616.456.3934 FAX         Colspan= 49503         Kalamazoo, Michigan 49007-5828         Grand Rapids, Michigan 49503         FAX         Colspan= 49503         Colspan= 49503         Grand Rapids, Michigan 49503         FAX         Colspan= 49503         Colspan= 49503         FAX         Grand Rapids, Michigan 49503         FAX         Colspan= 49503         FAX         Colspan= 49007-5828         FAX         F
		ADDENDUM No. 7	I DECEMBER 14, 2021
			DATE
		PROJECT TITLE HILLSIDE MIDDLE SCHOOL REMODELING AND SITE	IMPROVEMENTS
RIBS. SPAN TO NEXT J (MINIMUM 2 SPANS) SPLICE ONLY OVER THE TING JOIST/BEAM. DUGH DECK TE TYPICAL DETAIL		OWNER KALAMAZOO PUBLIC SCHOOLS	Kalamazoo, Michigan
TYPICAL DETAIL IF AT A TOP CHORD	NOTES: 1. SEE ARCHITECTURAL FOR BLOCKING AND FLASHING REQUIREMENTS AT RTU CURB.		
ED URB J	<ol> <li>COORDINATE MCGx12 LOCATIONS WITH MECHANICAL CONTRACTOR.</li> <li>COORDINATE SIZE AND LOCATION OF ROOF OPENING FRAMES WITH MECHANICAL CONTRACTOR. OPENING QUANTITY, SIZES, AND LOCATIONS SHOWN IN THIS DETAIL ARE NOT REPRESENTATIVE OF ACTUAL OPENINGS REQUIRED.</li> <li>IN THE CASE THAT THE RTU IS ORIENTED WITH THE LONG DIMENSION PARALLEL TO JOISTS/BEAMS, PROVIDE MCGx12 BENEATH EACH END OF THE RTU AND @4'-0" MAX SPACING BETWEEN ENDS (COORDINATE PLACEMENT WITH OPENING LOCATIONS). MCGx12 SHALL SPAN TO NEXT JOIST BEYOND SIDES OF RTU.</li> <li>WHERE RTU CURB LOCATION RELATIVE TO ROOF DECK RIBS IS SUCH THAT A SINGLE MCGx12 NESTED IN THE DECK RIBS DOES NOT FULLY SUPPORT THE RTU CURB OR DOES NOT PROVIDE AN ADQUATE SUPPORT FULLY SUPPORT THE RTU</li> </ol>		MBER 6, 2021
NING , TYP	<ul> <li>RTU CURB, PROVIDE DOUBLE MC6x12 AT NO ADDITIONAL COST. COORDINATE WITH MECHANICAL CONTRACTOR.</li> <li>6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS OF ROOFTOP EQUIPMENT TO CURBS AND CURBS TO THE SUPPORTING STRUCTURE. DESIGN OF CONNECTIONS SHALL CONSIDER ALL APPLICABLE LOADS IN ACCORDANCE WITH THE BUILDING CODE, INCLUDING WIND AND SEISMIC LOADS</li> </ul>	NG PLAN	DECE
PICAL RTU S	<u>UPPORT</u>	SHEET TITLE ROOF FRAMIN	SHEET NUMBER S 201 18-521.00