ADDENDUM NO. 01

September 18, 2024

ZHS Chiller Plant Piping
100 Mulberry St.
Zionsville, IN, 46077

TO: ALL BIDDERS OF RECORD

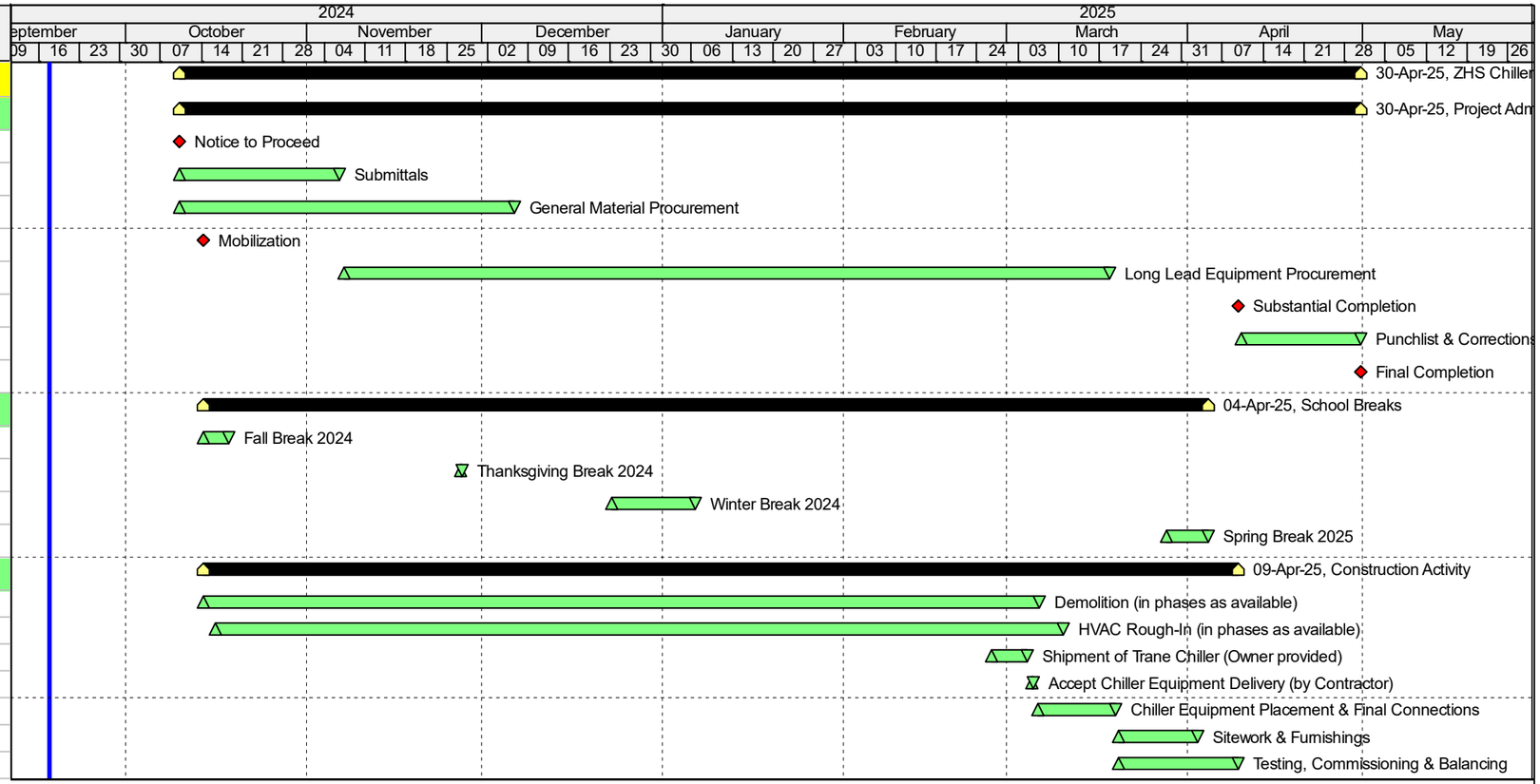
This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated August 15, 2024, by Fanning/Howey Associates, Inc. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1-1 and attached Fanning/Howey Associates, Inc. Addendum No. 01, dated September 16, 2024, consisting of 1-page and one drawing.

A. 01 32 00 – Schedules and Reports

1. Guideline Schedule is issued as part of this Addendum 01 for reference by all parties.

Activity Name	Original Duration	Start	Finish
ZHS Chiller Plant Piping	141	10-Oct-24	30-Apr-25
Project Administration	141	10-Oct-24	30-Apr-25
Notice to Proceed	0	10-Oct-24*	
Submittals	20	10-Oct-24	06-Nov-24
General Material Procurement	40	10-Oct-24	06-Dec-24
Mobilization	0	14-Oct-24*	
Long Lead Equipment Procurement	90	07-Nov-24	18-Mar-25
Substantial Completion	0		09-Apr-25
Punchlist & Corrections	15	10-Apr-25	30-Apr-25
Final Completion	0		30-Apr-25
School Breaks	121	14-Oct-24	04-Apr-25
Fall Break 2024	5	14-Oct-24*	18-Oct-24
Thanksgiving Break 2024	1	27-Nov-24*	27-Nov-24
Winter Break 2024	9	23-Dec-24*	06-Jan-25
Spring Break 2025	6	28-Mar-25*	04-Apr-25
Construction Activity	124	14-Oct-24	09-Apr-25
Demolition (in phases as available)	100	14-Oct-24	06-Mar-25
HVAC Rough-In (in phases as available)	100	16-Oct-24	10-Mar-25
Shipment of Trane Chiller (Owner provided)	5	26-Feb-25*	04-Mar-25
Accept Chiller Equipment Delivery (by Contractor)	1	05-Mar-25	05-Mar-25
Chiller Equipment Placement & Final Connections	10	06-Mar-25	19-Mar-25
Sitework & Furnishings	10	20-Mar-25	02-Apr-25
Testing, Commissioning & Balancing	15	20-Mar-25	09-Apr-25



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

ZHS Chiller Plant Piping

Guideline Schedule

SKILLMAN

A D D E N D U M N O. 1

Zionsville Community High School Chiller Plant Consolidation

Zionsville Community Schools
Zionsville, Indiana

Project No. 223175.00

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Addendum No. 1, 1 item, 1 page
New Drawing Sheet: S1.01 – Chiller Foundation Plan

Date: September 16, 2024

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 1 to Drawings and Project Manual, dated August 28, 2024, for Zionsville Community Schools, 900 Mulberry Street, Zionsville, Indiana; as prepared by Fanning/Howey Associates, Inc., Indianapolis, Indiana. This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. NEW DRAWING SHEETS

A. New Drawing Sheet No.: S1.01 – Chiller Foundation Plan is included with and hereby made a part of this Addendum.

END OF ADDENDUM

GENERAL NOTES

DESIGN DATA:

1. CODES AND STANDARDS: (ALL WORK SHALL CONFORM WITH THE FOLLOWING BUILDING CODES AND STANDARDS)
   - A.) GENERAL DESIGN: INTERNATIONAL BUILDING CODE, 2012 EDITION (IBC), IN ACCORDANCE WITH INDIANA 2014 BUILDING CODE WITH AMENDMENTS.
   - B.) DESIGN LOADS: ASCE'S " MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE/SEI 7-10).
   - C.) REINFORCED CONCRETE DESIGN: ACI'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-11).
2. SOIL INFORMATION:
   - ALLOWABLE NET BEARING PRESSURE, ASSUMED _____ 1500 PSF
   - SUB-GRADE REACTION [K30], ASSUMED _____ 100 PCI

   GC SHALL ENGAGE A GEOTECHNICAL OR SOIL TESTING ENGINEER TO CONFIRM THAT SUBSTRATE IS ADEQUATE FOR SUPPORT OF NEW CHILLER FOUNDATION.
3. RISK CATEGORY (IBC TABLE 1604.5) _____ CATEGORY III
4. LIVE LOADS:
   - CHILLER OPERATING WEIGHT _____ 13,234 LB
5. WIND LOADS: (IBC SECTION 1609 AND ASCE 7)
   - BASIC WIND SPEED / ULTIMATE DESIGN WIND SPEED _____ 120 MPH
   - NOMINAL DESIGN WIND SPEED (ASD) _____ 93 MPH
   - EXPOSURE _____ C
   - DESIGN WIND LOAD ON EQUIPMENT AND OTHER STRUCTURES
     - ULTIMATE DESIGN WIND PRESSURE _____ 32 PSF
6. SEISMIC LOADS: FOR PRIMARY SYSTEMS (IBC SECTION 1613 AND ASCE 7)
   - IMPORTANCE FACTOR (DETERMINED FROM RISK CATEGORY) _____ 1.25
   - SITE CLASS (ASSUMED) _____ D
   - DESIGN SPECTRAL RESPONSE ACCELERATIONS
     - SHORT PERIOD, S_{DS} _____ 0.162
     - 1-SECOND PERIOD, S_{D1} _____ 0.133
   - DESIGN SPECTRAL RESPONSE COEFFICIENTS, S_1 _____ 0.152
   - DESIGN SPECTRAL RESPONSE COEFFICIENTS, S_1 _____ 0.083

MATERIALS:

1. CONCRETE:
   - PORTLAND CEMENT (GRAY) _____ ASTM C150 TYPE I OR III
   - WATER _____ CLEAN AND POTABLE
   - COARSE AGGREGATE _____ CRUSHED STONE, OR GRAVEL INDOT SIZE #8, ASTM C33
   - FINE AGGREGATE _____ SAND, INDOT SIZE #23, ASTM C33
   - AIR ENTRAINING ADMIXTURE _____ ASTM C260
   - HIGH RANGE WATER REDUCING ADMIXTURE _____ ASTM C494, TYPE F OR G
2. REINFORCING STEEL:
   - STIRRUPS, TIES, AND MAIN REINFORCING BARS _____ ASTM A615, GRADE 60, Fy = 60 KSI
   - WELDED WIRE FABRIC _____ ASTM A1064
6. POST INSTALLED ANCHORS:
   - A.) ALTERNATE ANCHORS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.
   - B.) ADHESIVE:
     - 1.) HILTI HIT-HY 200 FOR CONCRETE
     - 2.) HILTI HIT-HY 270 FOR MASONRY
   - C.) THREADED RODS:
     - 1.) HILTI HAS-E
     - 2.) HILTI HIT-Z
     - 3.) ASTM A193, GRADE B7
     - 4.) ASTM F1554, GRADE 55
   - D.) MECHANICAL ANCHORS:
     - 1.) HILTI KWIK BOLT 1 OR KB-TZ2
     - 2.) HILTI KWIK BOLT HUS-EZ
     - 3.) HILTI HDA UNDERCUT ANCHOR

SPECIAL NOTES:

1. WHERE DISCREPANCY MAY OCCUR BETWEEN THE DRAWINGS AND A GENERAL NOTE OR TYPICAL DETAIL THE DRAWINGS SHALL PREVAIL.
2. THE CONTRACTOR SHALL VERIFY RESPONSIBILITY FOR CONTRACTING TESTING AND INSPECTION SERVICES AS DEFINED IN THESE NOTES.
3. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCES TO ENSURE STABILITY AND SAFETY DURING CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO, THE ADDITION OF SHEETING, SHORING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING NECESSARY TO PROTECT EXISTING AND ADJACENT STRUCTURES.
4. STRUCTURAL DOCUMENTS SHALL BE USED WITH OTHER CONSTRUCTION DOCUMENTS, INCLUDING ARCHITECTURAL, MEP, AND SITE DOCUMENTS. COORDINATE WITH THESE DOCUMENTS, ALL OPENINGS, DEPRESSIONS, AND SLOPES, ETC. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT / ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LIMITING CONSTRUCTION LOADS SUCH THAT THESE LOADS DO NOT EXCEED THE DESIGN LOADS NOTED ABOVE. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AS REQUIRED DURING CONSTRUCTION TO SUPPORT CONSTRUCTION LOADS UNTIL SUCH TIME THAT THE STRUCTURE IS ABLE TO SUPPORT THE DESIGN LIVE LOADS NOTED.

EXISTING CONDITIONS:

1. VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS BEFORE PROCEEDING WITH NEW CONSTRUCTION. NOTIFY THE ARCHITECT / ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK IN THE AREA UNDER QUESTION.
2. PREVENT UNDERMINING OF EXISTING ROADWAYS AND THE FOUNDATIONS OF EXISTING STRUCTURES. TAKE PROTECTIVE MEASURES TO PREVENT DAMAGE TO THE EXISTING FACILITIES. DO NOT EXCAVATE BELOW THE BOTTOM OF EXISTING FOUNDATIONS WITHOUT FIRST UNDERPINNING THEM.
3. UNDERPIN WHERE NECESSARY IN ALTERNATING INCREMENTS SMALL ENOUGH TO ALLOW THE EXISTING FOUNDATIONS TO BRIDGE THE GAPS CREATED BY THE REQUIRED EXCAVATION.
4. CAREFULLY MONITOR THE EXISTING BUILDING ADJACENT TO THE UNDERPINNING OPERATION FOR SETTLEMENT.
5. SUBMIT TO THE ARCHITECT / ENGINEER THE UNDERPINNING DESIGN, PREPARED BY A REGISTERED PROFESSIONAL ENGINEER FOR REVIEW PRIOR TO STARTING WORK. INCLUDE AND OUTLINE PROCEDURE AND PERTINENT DETAILS FOR THE UNDERPINNING OPERATION.

COORDINATE WITH OTHER TRADES:

1. THE GENERAL CONTRACTOR SHALL COORDINATE AND CHECK ALL DIMENSIONS RELATING TO ARCHITECTURAL FINISHES, MECHANICAL OPENINGS, EQUIPMENT, ETC. THE ARCHITECT / ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK IN THE AREA UNDER QUESTION.
2. PROVIDE SUPPORT FRAMING FOR ALL MECHANICAL UNITS HANGING FROM THE STEEL FRAMING (INCLUDING ANY NOT SHOWN ON THE STRUCTURAL DRAWINGS) AS INDICATED ON THE TYPICAL DETAIL FOR HANGING MECHANICAL UNITS.
3. THE MECHANICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT / ENGINEER OF ANY PIPING OR MECHANICAL UNIT SUPPORTED BY THE STRUCTURE PER THE FOLLOWING:
   - A.) ANY UNIT WHOSE ACTUAL WEIGHT IS GREATER THAN THE WEIGHT SHOWN ON THE PLANS.
   - B.) ANY UNIT NOT SHOWN ON THE STRUCTURAL PLANS WHOSE WEIGHT IS GREATER THAN 300 LBS.
4. THE MECHANICAL CONTRACTOR SHALL VERIFY THAT ALL MECHANICAL UNITS SUPPORTED BY THE STEEL FRAMING ARE CAPABLE OF SPANNING THE DISTANCE BETWEEN THE SUPPORT FRAMING PROVIDED FOR BY THE STRUCTURAL DRAWINGS. THE MECHANICAL CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORT FRAMING AS NEEDED.
5. PROVIDE SUPPORT FRAMING FOR ALL MECHANICAL OPENINGS THROUGH ROOF AREAS SUPPORTED BY STEEL FRAMING (INCLUDING ANY NOT SHOWN ON THE STRUCTURAL DRAWINGS) AS INDICATED ON THE TYPICAL ROOF OPENING FRAMING DETAIL.
6. THERE SHALL BE NO VERTICAL OR HORIZONTAL SLEEVES SET, OR HOLES CUT OR DRILLED IN ANY JOIST, BEAM OR COLUMN UNLESS IT IS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ARCHITECT / ENGINEER IN WRITING.
7. MECHANICAL OPENINGS THROUGH CONCRETE SLABS AND WALLS LARGER THAN 8" IN DIAMETER, NOT SHOWN ON THE STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE ARCHITECT / ENGINEER. ALL OPENINGS 8" IN DIAMETER OR LESS SHALL HAVE AT LEAST 1'-0" CLEAR BETWEEN THE OPENINGS UNLESS APPROVED BY THE ARCHITECT / ENGINEER.
8. DO NOT SUSPEND PIPING, CONDUIT, DUCTWORK, LIGHTING, OR OTHER LOADS DIRECTLY FROM STEEL DECK.
9. DO NOT INSTALL ELECTRICAL CONDUIT IN ELEVATED SLABS, OR SLAB-ON-GRADE UNLESS APPROVED BY THE ENGINEER.

FOUNDATIONS AND EARTHWORK:

1. PREPARE ALL AREAS OF THE SITE SUPPORTING STRUCTURE BY REMOVING ALL PAVEMENT, EXISTING FILL, ORGANIC MATERIAL OR FROZEN WET, SOFT, LOOSE OR OTHERWISE UNSUITABLE MATERIALS.
2. PROOF ROLL THE EXPOSED SUB-GRADE BELOW DRIVES, WALLS, AND FOUNDATION SLABS WITH A LOADED DUMP TRUCK TO DETERMINE IF ANY POCKETS OF SOFT, UNSUITABLE MATERIAL EXIST BENEATH THE EXPOSED SUB-GRADE. REMOVE ANY UNSUITABLE MATERIAL ENCOUNTERED AND REPLACE WITH PROPERLY COMPACTED GRANULAR FILL MATERIAL. COMPACT SUB-GRADE TO 95% MODIFIED MAXIMUM DRY DENSITY (ASTM D1557).
3. COMPACT ALL FILL MATERIALS BENEATH FOUNDATION SLAB, SIDEWALKS AND PAVEMENT OR OVER FOOTINGS TO 95% MODIFIED MAXIMUM DRY DENSITY (ASTM D1557). INCREASE THE COMPACTION REQUIREMENTS FOR ENGINEERED FILL SUPPORTING FOOTINGS TO 97% MODIFIED MAXIMUM DRY DENSITY (ASTM D1557). COMPACT ALL BACKFILL NOT SUPPORTING SLAB, PAVEMENT OR FOOTING TO 90% MODIFIED MAXIMUM DRY DENSITY (ASTM D1557). PLACEMENT, COMPACTION AND MATERIAL USED FOR FILL SHALL BE APPROVED AND OVERSEEN BY THE TESTING AGENCY.
4. COMPACTION FOR ALL FOOTINGS, SLABS AND PAVEMENTS CAN ALTERNATELY BE ALLOWED TO MEET 98% STANDARD PROCTOR. MAXIMUM DRY DENSITY IF SUBSTANTIATED BY THE PROJECT SOIL REPORT PROVIDED.
5. PLACE ALL FILL MATERIALS IN LAYERS NOT EXCEEDING 6" IN LOOSE THICKNESS AND NOT MORE THAN 4" IN LOOSE THICKNESS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS. MECHANICALLY COMPACT EACH LAYER TO AT LEAST THE REQUIRED MINIMUM DRY DENSITY. FIELD DENSITY TESTS WILL BE PERFORMED ON EACH LIFT AS REQUIRED TO ENSURE ADEQUATE MOISTURE LEVELS AND COMPACTION ARE ACHIEVED. PLACEMENT, COMPACTION AND MATERIAL USED FOR FILL SHALL BE APPROVED AND OVERSEEN BY THE TESTING AGENCY.
6. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED MATERIAL. IF UNSUITABLE MATERIAL IS ENCOUNTERED, RE-ESTABLISH THE BEARING ELEVATION OF THE FOOTING BY LOCALIZED UNDER-CUTTING AND FILLING WITH SUITABLE ENGINEERED FILL OR CONCRETE AS RECOMMENDED BY THE TESTING AGENCY.
7. A TESTING AGENCY SHALL VERIFY THAT THE SOIL BEARING CAPACITY IS ACCEPTABLE AT 8'-0" INTERVALS ALONG BELOW FOUNDATION SLAB AT THE INDICATED BEARING ELEVATIONS.
8. PLACE FOUNDATIONS THE SAME DAY EXCAVATIONS ARE OPENED. IF THIS IS NOT POSSIBLE, ADEQUATELY PROTECT THE EXPOSED MATERIAL IN THE BASES OF THE FOOTING EXCAVATIONS FROM ANY DETRIMENTAL CHANGE IN CONDITION SUCH AS FROM DISTURBANCE, RAIN, OR FREEZING. SURFACE RUNOFF SHALL NOT BE ALLOWED TO ENTER EXCAVATIONS.
9. PLACE ALL FOUNDATIONS IN WOOD FORMS (UNLESS SPECIFIC APPROVAL IS RECEIVED FROM THE ENGINEER OF RECORD).
10. PLACE SLAB-ON-GRADE ON 6" OF PROPERLY COMPACTED, DRAINAGE FILL MATERIAL.
11. ENGINEERED FILL SHALL BE CLEAN, WELL GRADED AND FREE DRAINING IN ITS COMPACTED STATE. THE MATERIAL SHALL BE APPROVED BY THE TESTING AGENCY. IN LIEU OF TESTING AGENCY RECOMMENDATIONS, PROVIDE ONE OF THE FOLLOWING MATERIALS FOR ENGINEERED FILL:
    - A.) CLASS 'A' CONCRETE.
    - B.) WELL GRADED MIXTURE OF GRAVEL OR CRUSHED STONE AND NATURAL OR CRUSHED SAND, ASTM D2940, WITH 100% PASSING 1 1/2" SIEVE AND NOT MORE THAN 10% PASSING A NO. 200 SIEVE.
12. DRAINAGE FILL SHALL BE COARSE GRADED CRUSHED STONE OR PIT RUN GRAVEL. MATERIAL MUST HAVE 100% PASSING A 1" SIEVE AND A MAXIMUM OF 5% PASSING THE NO.8 SIEVE (INDOT #8 COARSE AGGREGATE).
13. IF CONSTRUCTION OCCURS DURING THE COOLER, WETTER MONTHS, IT SHOULD BE ANTICIPATED THAT A COMBINATION OF SOIL AND SEASONAL WEATHER CONDITIONS WILL BE PRESENT DURING CONSTRUCTION THAT WILL RESULT IN SUB-GRADE THAT IS EXCESSIVELY WET, SOFT OR YIELDING. THIS CONDITION MAY BE MITIGATED BY SCARIFYING AND DRYING OR USING CHEMICAL STABILIZATION WITH A SUITABLE LIME BY-PRODUCT.
    - A.) THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER OR NOT TO EMPLOY SOIL STABILIZATION MEASURES, AND IF SO, FOR DETERMINING WHICH MEASURES ARE MOST APPROPRIATE FOR THIS PROJECT.
    - B.) THE COST OF ANY STABILIZATION MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR.
14. POSITIVE DRAINAGE OF SURFACE WATER, INCLUDING EXISTING AND NEW BUILDING DOWNSPOUT DISCHARGE, SHALL BE MAINTAINED AWAY FROM STRUCTURE FOUNDATIONS TO AVOID WETTING AND WEAKENING OF FOUNDATION SOILS BOTH DURING CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF ANY APPROPRIATE DEWATERING NEEDED.
15. COORDINATE WITH THE PROJECT MANUAL FOR INSTALLATION OF ALL REQUIRED SLEEVES, INSERTS, ETC.
16. ALL PIPES BURIED IN THE SOIL THAT CROSS FOOTINGS/FOUNDATIONS SHALL PASS THROUGH THE FOUNDATION WALL OR BELOW FOOTING (NOT THROUGH FOOTING). WHERE PIPE ELEVATION CONFLICTS WITH FOOTING, STEP FOOTING DOWN AT 1:2 SLOPE EACH SIDE OF PIPE.

CONCRETE:

1. ALL CONCRETE MATERIALS AND THE MIXING, HANDLING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE CURRENT BUILDING CODE REQUIREMENTS AND ACI 301, 305, 306 AND 318.
2. DO NOT PLACE DURING RAIN, SLEET OR SNOW WITHOUT ADEQUATE PROTECTION.
3. SUBMIT A MIX DESIGN FOR EACH CLASS OF CONCRETE SPECIFIED.
4. PROVIDE ADEQUATE TESTING AND REPORTS FOR ALL CLASSES OF CONCRETE FROM AN APPROVED TESTING LABORATORY.
5. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CORNERS OF CONCRETE EXCEPT THOSE ABUTTING MASONRY.
6. ALL CONCRETE EXPOSED TO WEATHER, PERMANENT OR TEMPORARY, SHALL BE AIR ENTRAINED EXCEPT SLABS WITH A TROWEL FINISH.
7. THE INDEPENDENT TESTING LABORATORY SHALL VERIFY AND REPORT THE PLACEMENT OF REINFORCING STEEL IN ALL CONCRETE STRUCTURES TO INCLUDE BAR SIZE AND GRADE, MEASURED LAP, SPACING AND CONCRETE COVER.

REINFORCING STEEL:

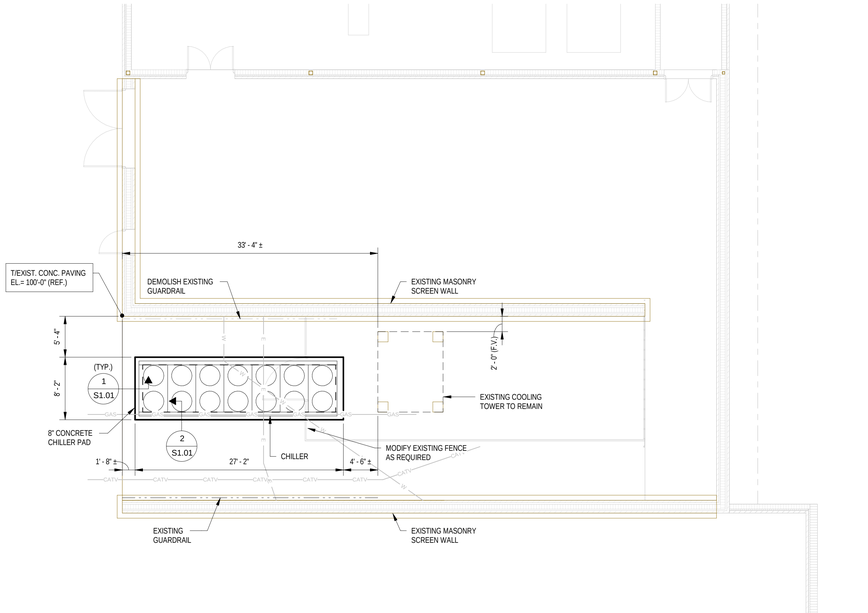
1. ALL REINFORCING STEEL BENDS, HOOKS, LAP SPLICES AND MINIMUM CONCRETE COVER SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL REINFORCED CONCRETE" (ACI 318) UNLESS OTHERWISE INDICATED.
2. SLAB BOLSTERS, HIGH CHAIRS, BEAM BOLSTERS AND ALL OTHER ACCESSORIES IN CONTACT WITH THE FORMS FOR EXPOSED CONCRETE, BOTH INTERIOR AND EXTERIOR, SHALL BE PLASTIC TIPPED. SUCH ACCESSORIES SHALL HAVE TURNED UP LEGS.
3. ALL DETAILS OF REINFORCING STEEL FABRICATION AND PLACEMENT SHALL CONFORM TO ACI "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315) AND "MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES" (ACI 315R) UNLESS OTHERWISE INDICATED. ALL REINFORCING STEEL SHALL BE SUPPORTED AND SECURED AGAINST DISPLACEMENT IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE'S "MANUAL OF STANDARD PRACTICE".
4. THE SHOP DRAWINGS FOR REINFORCING STEEL INCLUDE 1/4" SCALE ELEVATIONS OF CONCRETE WHERE APPLICABLE AND ALL SECTIONS REQUIRED TO MAKE CLEAR THE LOCATION OF THE REINFORCING STEEL. SHOW SLAB BAR SUPPORTS ON SHOP DRAWINGS. USE ONLY #5 BARS WITH INDIVIDUAL HIGH CHAIRS FOR SUPPORT OF THE TOP SLAB BARS. ANCHOR ALL TOP BARS BY STANDARD EMBEDMENT OR 90° HOOK UNLESS OTHERWISE DETAILED. OVERHANGING TAILS SHALL BE SUPPORTED POSITIVELY.
5. ALL CONCRETE REINFORCEMENT MATERIALS SHALL BE NEW, FREE FROM RUST AND ANY SUBSTANCE THAT WOULD PREVENT BONDING OF THE CONCRETE TO THE STEEL.
6. CONCRETE REINFORCING SHALL HAVE THE FOLLOWING MINIMUM PROTECTION (U.O.N.):
   - A.) CONCRETE PLACED AGAINST AND PERMANENTLY EXPOSED TO EARTH _____ 3"
   - B.) CONCRETE PLACED IN FORMS BUT EXPOSED TO EARTH OR WEATHER
     - 1.) #5 BARS AND SMALLER _____ 1 1/2"
     - 2.) #6 BARS AND LARGER _____ 2"
   - C.) CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
     - 1.) SLABS, WALLS AND JOISTS
       - a.) #11 BARS AND SMALLER _____ 3/4"
       - b.) #14 AND #18 BARS _____ 1 1/2"
     - 2.) BEAMS, COLUMNS PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS _____ 1 1/2"
7. SET DOWELS, COLUMNS OR PIER MAIN BARS AND ANCHOR RODS WITH WOOD POSITIONING TEMPLATES AT TOP OF FOOTING AND AT FLOOR LEVELS AND BRACE AGAINST DISPLACEMENT.
8. PROVIDE CLASS 'B' TENSION LAP SPLICES FOR ALL REINFORCEMENT UNLESS OTHERWISE NOTED.

CLASS 'B' TENSION LAP SPLICE SCHEDULE	
BAR SIZE	LAP LENGTH
#3 BAR	19"
#4 BAR	25"
#5 BAR	31"
#6 BAR	37"
#7 BAR	54"
#8 BAR	62"
#9 BAR	70"
#10 BAR	79"

NOTES:

1. PROVIDE SCHEDULED LAP LENGTH UNLESS OTHERWISE NOTED ON DRAWINGS.
2. ALL LAPS ARE FOR 4000 PSI CONCRETE OR STRONGER INCREASE LAPS BY 15% FOR 3000 PSI CONCRETE.
3. INCREASE LAPS BY 30% FOR HORIZONTAL LAP SPLICES WITH MORE THAN 1'-0" OF FRESH CONCRETE PLACED BELOW THE LAPPED BARS.
4. INCREASE LAPS BY 50% FOR EPOXY COATED BARS.
5. INCREASE LAPS BY 33% FOR LIGHTWEIGHT CONCRETE
6. INCREASE LAPS BY 50% WHERE CLEAR SPACING BETWEEN BARS IS LESS THAN (2)-BAR DIAMETERS OR CLEAR COVER IS LESS THAN (1)-BAR DIAMETER.

9. SPREAD REINFORCING STEEL AROUND SMALL OPENINGS AND SLEEVES IN SLABS AND WALLS WHERE POSSIBLE AND WHERE BAR SPACING WILL NOT EXCEED 1.5 TIMES THE NORMAL SPACING. DISCONTINUE BARS AT OPENINGS WHERE NECESSARY AND PROVIDE AN AREA OF REINFORCEMENT EQUAL TO THE INTERRUPTED REINFORCEMENT, IN FULL LENGTH BARS, DISTRIBUTING ONE-HALF EACH SIDE OF THE OPENING. WHERE TEMPERATURE REINFORCING IS INTERRUPTED, ADD (2)-#5 BARS x OPENING DIMENSION + 4'-0" IN THE BOTTOM ON EACH SIDE OF THE OPENING. PROVIDE (2)-#5 DIAGONAL BARS x 4'-0" IN BOTH FACES AT EACH CORNER OF OPENINGS LARGER THAN 12" IN ANY DIRECTION.
10. PROVIDE #4 TOP BARS AT 12" SPACING IN SOLID SLABS OVER SUPPORTS UNLESS OTHERWISE SIMILARLY REINFORCED. EXTEND THESE BARS 2'-0" BEYOND EACH SUPPORT FACE, PROVIDING 90° HOOKS AT SPANDREL CONDITIONS.

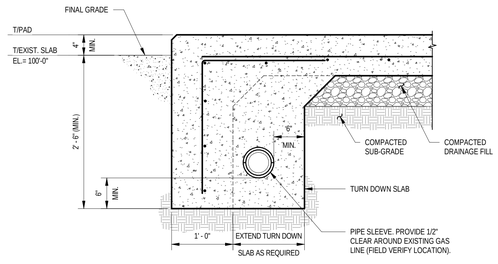


CHILLER FOUNDATION PLAN

1/8" = 1'-0"

PLAN NOTES:

1. REFERENCE ELEVATION = TOP OF EXISTING CONCRETE PAVING = 100'-0".

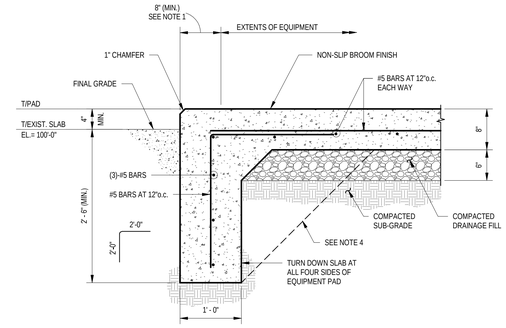


NOTES:

1. SEE 1/S1.01 FOR ADDITIONAL INFORMATION.

2 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL

SCALE: 1" = 1'-0"



NOTES:

1. COORDINATE EQUIPMENT PAD SIZE WITH SUPPORTED EQUIPMENT. EXTEND PAD AT MAINTENANCE ACCESS PANELS AND WHERE PIPING, CONDUIT, DUCTWORK, OR PANELS MAY NEED TO BE SUPPORTED.
2. COORDINATE LOCATION OF AND INSTALL ANY UNDERGROUND UTILITIES CONNECTING TO THE BOTTOM OF SUPPORTED EQUIPMENT PRIOR TO POURING CONCRETE.
3. ANCHOR EQUIPMENT TO PAD IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
4. TURN DOWN SLAB EDGE MAY BE BANK POURED. ADJUST SLOPE TO MATCH EXISTING SOIL CONDITIONS.

1 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL

SCALE: 1" = 1'-0"

ZIONSVILLE CS - HIGH SCHOOL CHILLER REPLACEMENT

1000 MULBERRY STREET
ZIONSVILLE, IN 56077

ZIONSVILLE COMMUNITY SCHOOLS

ARCHITECT

FANNING HOWEY

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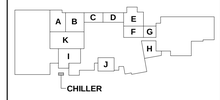
Fax: 317-334-1552
TLF Job No: 2024-104



KEY PLAN

100% CD's

PROJECT MANAGER: TAC
DRAWN BY: JDR
PROJECT NUMBER: 223175.00
PROJECT ISSUE DATE: 08/28/2024

REV. NO.	DESCRIPTION	DATE

CHILLER FOUNDATION PLAN, DETAILS AND GENERAL NOTES

S1.01

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