



PERMANENT CHILLER COVER SHEET

Issue for Bid - Worcester, MA - 11/19/2025

PACKAGE CODES:	
■	NOT ISSUED
□	FOR REFERENCE
●	FOR CONSTRUCTION

SHEET INDEX			
NO	NAME	SCHEMATIC DESIGN	90% CONSTRUCTION DOCUMENTS
GENERAL			
X-0	COVER SHEET	■	■
STRUCTURAL			
S0-001	GENERAL NOTES	□	□
S0-002	GENERAL NOTES	□	□
S1-101	PARTIAL FRAMING PLAN & DETAILS	□	□
ARCHITECTURE			
A1-1	CHILLER ROOM REFERENCE PLAN	□	□
A3-1	ENLARGED CHILLER ROOM PLAN - LEVEL 1	□	□
A3-2	ENLARGED CHILLER ROOM PLAN - LEVEL 2	□	□
A3-2A	ENLARGED CHILLER ROOM PLAN - LEVEL 2 MEZZANINE	□	□
A3-3	ENLARGED CHILLER ROOM PLAN - LEVEL 3	□	□
A5-1	EXTERIOR ELEVATIONS	□	□
A7-1	BUILDING SECTIONS	■	■
ELECTRICAL			
E-001	ELECTRICAL LEGEND SHEET	□	□
E-301	ELEC POWER - CHILLER ROOM - PART PLAN SHEET	□	□
E-500	ELECTRICAL PARTIAL RISER DIAGRAM	□	□
MECHANICAL			
M-001	HVAC LEGEND 1	□	□
M-002	HVAC LEGEND 2	□	□
M-003	HVAC LEGEND 3	□	□
M-202	HVAC - MAIN CONCOURSE LEVEL 2	□	□
M-203	HVAC - LEVEL 2 MEZZANINE	□	□
M-501	HVAC DETAIL	□	□
M-601	HVAC SCHEDULE	□	□
M-801	HVAC CONTROLS	□	□
M-802	HVAC CONTROLS	□	□
M-803	HVAC CONTROLS	■	■

POPULOUS

Project Number: 23.5724

architect
Populous
294 Washington Street, Suite 706
Boston, MA 02108
657.415.3642

structural engineer
Thornton Tomasetti
101 Arch Street, Suite 1600
Boston, MA 02110
617.250.4100

MEPFP engineer
Vanderweil
274 Summer Street
Boston, MA 02210
617.423.7423

X-0

- Civil
- Landscape
- Structural
- Life Safety
- Architecture

- Plumbing
- Mechanical
- Electrical
- Fire Alarm
- Fire Protection

- Technology
- Audio Visual
- Food Service MEP
- Food Service
- Graphics & Signage

PU PURPOSE OF ISSUANCE

PU-1 THESE DRAWINGS IDENTIFIED AS ISSUE FOR BID SET DATED 11/19/25 ARE ISSUED FOR COST ESTIMATING PURPOSES, THEY ARE NOT ISSUED FOR CONSTRUCTION.

GR GENERAL REQUIREMENTS

- GR-1 AS USED IN THESE GENERAL NOTES:
"DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, UON.
"SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, UON.
"CONTRACT DOCUMENTS" IS DEFINED AS THE DESIGN DRAWINGS AND THE SPECIFICATIONS
"SER" IS DEFINED AS THE STRUCTURAL ENGINEER OF RECORD FOR THE STRUCTURE IN ITS FINAL CONDITION.
"DESIGN PROFESSIONALS" IS DEFINED AS THE OWNER'S ARCHITECT AND SER.
"MEP" INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION.
"CONTRACTOR" IS DEFINED TO INCLUDE ANY OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGER AND THEIR SUBCONTRACTORS, STRUCTURAL STEEL FABRICATOR OR STRUCTURAL STEEL ERECTOR.
"BASE BUILDING STRUCTURE" IS DEFINED AS THE EXISTING STRUCTURAL FRAME DESIGNED BY LEMESSURIER.
"STRUCTURE IN ITS FINAL CONDITION" MEANS ALL STRUCTURAL ELEMENTS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS ARE INSTALLED AND COMPLETELY CONNECTED AND INSPECTED WITH NO OUTSTANDING NON-COMPLIANCE ISSUES.
"DELEGATED DESIGN" MEANS A SCOPE OF WORK THAT MEETS PERFORMANCE CRITERIA ESTABLISHED IN THE CONTRACT DOCUMENTS AND IS TO BE COMPLETED BY THE CONTRACTOR'S LICENSED ENGINEER.
"SERVICE LEVEL" LOADS ARE DEFINED AS NOMINAL OR UNFACTORED LOADS TO BE COMBINED USING ALLOWABLE STRESS LOAD COMBINATIONS
"STRENGTH LEVEL" LOADS ARE DEFINED AS FACTORED LOADS TO BE COMBINED USING STRENGTH DESIGN LOAD COMBINATIONS
GR-2 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL AND MEP CONTRACT DOCUMENTS, AS WELL AS ANY OTHER APPLICABLE TRADES.
GR-3 THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE UNTIL THE CONSTRUCTION OF THE STRUCTURE REACHES ITS FINAL CONDITION.
GR-4 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS, FOR NEW AND EXISTING STRUCTURES, AS NECESSARY TO COMPLETE THE PROJECT. NO PORTION OF THE PROJECT WHILE UNDER CONSTRUCTION IS INTENDED TO BE STABLE IN THE ABSENCE OF THE CONTRACTOR'S TEMPORARY SUPPORTS AND BRACES. CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS.
GR-5 THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS.
GR-6 THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE STRUCTURAL DRAWINGS, ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER CONSULTANTS, PROJECT SHOP DRAWINGS AND FIELD CONDITIONS.
GR-7 IN CASES OF CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
GR-8 APPLY DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
GR-9 ONLY USE DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS.
GR-10 ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS, IF NOT INDICATED ON DRAWINGS.
GR-11 CENTERLINES OF COLUMNS COINCIDE WITH GRID LINE INTERSECTIONS, UON.
GR-12 CENTERLINES OF WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS, UON.
GR-13 CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES, UON.
GR-14 THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES FROM DAMAGE.
GR-15 THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.
GR-16 THE CONTRACTOR SHALL VERIFY ALL OPENING SIZES AND LOCATIONS WITH OTHER DISCIPLINES. THE DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR THE CRITERIA INDICATED ON THE DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE SER.
GR-17 ELEVATIONS INDICATED ON STRUCTURAL DRAWINGS ARE BASED ON A PROJECT DATUM INDICATED ON THE ARCHITECTURAL DRAWINGS.
GR-18 SEE ARCHITECTURAL AND MEP CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS INCLUDING, BUT NOT LIMITED TO:

ARCHITECTURAL:
PLAN DIMENSIONS AND PROJECT DATUM
FINISH ELEVATIONS
WATERPROOFING AND DAMP-PROOFING DETAILS
EXACT OPENING SIZES FOR PIPES, DUCTS, ETC.
CONCRETE HOUSEKEEPING PADS
FIRE RATINGS

MEP:
PIPE AND DUCT SIZES FOR OPENING AND SLEEVE COORDINATION
EQUIPMENT CURBS AND HOUSEKEEPING PADS
INERTIA BASE FOR PUMPS
CONDUITS AND EMBEDMENTS IN WALLS AND SLABS

SI SPECIAL INSPECTIONS

SI-1 REFER TO SPECIFICATION SECTION 014500 FOR STRUCTURAL TESTING AND INSPECTION REQUIREMENTS.

DI DELEGATED DESIGN ITEMS

DI-1 THE CONTRACTOR SHALL EMPLOY OR RETAIN A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THIS PROJECT IS LOCATED TO DESIGN AND DETAIL DELEGATED DESIGN ITEMS TO MEET THE PERFORMANCE AND DESIGN CRITERIA ESTABLISHED AS PART OF THE BASE BUILDING STRUCTURE INDICATED IN THE CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO:
ANCHORAGE AND SUPPORT FOR MEP EQUIPMENT

CD CODES AND DESIGN CRITERIA

- CD-1 PERFORM ALL CONSTRUCTION IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON:
INTERNATIONAL BUILDING CODE, 2021 EDITION
MASSACHUSETTS STATE BUILDING CODE, 10th EDITION, 2024.
STRUCTURAL CONCRETE:
"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
THE AMERICAN CONCRETE INSTITUTE (ACI 318-19)
STRUCTURAL STEEL:
"SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", (AISC 360) CONFORMING TO THE PROVISIONS OF LOAD RESISTANCE FACTOR DESIGN, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC-LRFD)
CD-2 ALL EXISTING STRUCTURE SHOWN IS BASED ON THE EXISTING STRUCTURAL DRAWINGS ISSUED BY LEMESSURIER DATED 10/17/12.
CD-3 LIVE LOADS (SERVICE LEVEL); MECHANICAL EQUIPMENT ROOM 210 PSF (OR NEW CHILLER WEIGHT)
CD-4 SUPERIMPOSED DEAD LOADS (SERVICE LEVEL); MECHANICAL EQUIPMENT ROOM 15 PSF
CD-5 IN CASES WHERE THE CONTRACTOR DETERMINES THAT SUSPENDED OR FLOOR MOUNTED EQUIPMENT LOADS EXIST WHICH EXCEED DESIGN LOADS INDICATED ON CONTRACT DOCUMENTS, CONTRACTOR SHALL SUBMIT LOAD DATA TO DESIGN PROFESSIONALS FOR REVIEW PRIOR TO PROCEEDING WITH WORK.
CD-6 DISTRIBUTE THE MAXIMUM LOAD HUNG FROM ANY STRUCTURAL MEMBER FOR DUCTWORK, PIPING ETC OVER THE MEMBER'S TRIBUTARY AREA IN A WAY THAT THE MEP DESIGN SUPERIMPOSED DEAD LOADS LISTED IN CONTRACT DOCUMENTS ARE NOT EXCEEDED. THE CONTRACTOR SHALL COORDINATE THE LOADS OF ALL TRADES AND PROVIDE ADDITIONAL SUPPORT OR DISTRIBUTION FRAMING AS REQUIRED TO ACHIEVE THE ALLOWABLE LOAD DISTRIBUTION.
CD-7 STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS.
CD-8 CONNECTIONS OF SYSTEMS DESIGNED BY CONTRACTOR'S ENGINEER SUCH AS, BUT NOT LIMITED TO, MEP LOADS ARE ASSUMED TO IMPOSE VERTICAL AND/OR HORIZONTAL LOADS ON THE BASE BUILDING STRUCTURAL MEMBERS WITHOUT GENERATING TORSION IN THE SUPPORTING STRUCTURAL MEMBERS. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL SUPPLEMENTARY BRACING MEMBERS AS REQUIRED TO PREVENT TORSION ON THE BASE BUILDING STRUCTURE.

DE DEMOLITION

- DE-1 THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE MEANS AND METHODS OF DEMOLITION AND THE INTEGRITY AND STABILITY OF THE EXISTING STRUCTURE DURING DEMOLITION UNTIL THE WORK IS COMPLETED. THE CONTRACTOR SHALL PROVIDE SHORING IN REQUIRED LOCATIONS WHERE EXISTING CONSTRUCTION TO REMAIN WILL BE AFFECTED BY DEMOLITION. CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO DESIGN SHORING.
DE-2 THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY STRUCTURAL ELEMENTS WHICH ARE TO REMAIN AND THAT HAVE BEEN DAMAGED DURING THE DEMOLITION PROCESS TO THE COMPLETE SATISFACTION OF THE OWNER. THE REPAIRS SHALL BE AT NO EXPENSE TO THE OWNER. ALL REPAIR WORK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND SUBMITTED TO THE SER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING REPAIR WORK.
DE-3 ALL EXISTING FRAMING IS INDICATED FOR REFERENCE ONLY AND IS TO BE FIELD VERIFIED BY THE CONTRACTOR. VERIFY THE EXACT EXTENT OF DEMOLITION AT THE SITE. DETERMINE THE NATURE AND EXTENT OF DEMOLITION THAT WILL BE NECESSARY BY COMPARING THE CONTRACT DOCUMENTS WITH THE EXISTING CONSTRUCTION. IMMEDIATELY NOTIFY THE DESIGN PROFESSIONALS OF ANY INCONSISTENCIES.
DE-4 THE CONTRACTOR SHALL USE THE STRUCTURAL CONTRACT DOCUMENTS IN CONJUNCTION WITH THE ARCHITECTURAL AND MEP DEMOLITION CONTRACT DOCUMENTS. IN THE EVENT OF CONFLICTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN PROFESSIONALS.
DE-5 THE CONTRACTOR SHALL USE QUALIFIED, EXPERIENCED PERSONNEL FOR DEMOLITION AND REMOVAL OPERATIONS. PERFORM DEMOLITION AND REMOVAL OPERATIONS IN A CAREFUL AND ORDERLY MANNER TO PREVENT HAZARDS TO PERSONS, DAMAGE TO PROPERTY, AND THE SPREADING OF DUST AND DEBRIS.
DE-6 DO NOT PERMIT PORTIONS OF THE STRUCTURE TO FALL NOR DEBRIS TO DROP EXCEPT BY METHODS WHICH WILL INSURE INTEGRITY OF THE STRUCTURE.
DE-7 PRIOR TO THE START OF WORK, VERIFY THAT THE SCOPE OF DEMOLITION INDICATED ON THE CONTRACT DOCUMENTS SHALL NOT DAMAGE, CUT OR DISRUPT SERVICE OF ANY MECHANICAL SYSTEM, ELECTRICAL SYSTEM OR UTILITY EMBEDDED IN THE EXISTING STRUCTURE.
DE-8 DO NOT REMOVE MORE OF THE EXISTING STRUCTURE THAN INDICATED ON CONTRACT DOCUMENTS. DO NOT DAMAGE, MAR, CUT OR DEFACE THE REMAINING STRUCTURE OR MATERIALS TO BE REUSED.
DE-9 THE CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF REMOVING DEMOLISHED MATERIALS FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS.
DE-10 WHERE NEW OPENINGS IN EXISTING CONCRETE SLABS OR WALLS ARE TO BE CREATED, THE DEMOLITION CONTRACTOR SHALL CORE HOLES AT THE OUTSIDE CORNERS OF THE NEW OPENING PRIOR TO DEMOLITION. SAW-CUT AND DEMOLISH SLAB OR WALL ONLY AFTER THE INSTALLATION OF ALL REQUIRED NEW STRUCTURAL FRAMING AND/OR REINFORCEMENT IN PLAN OR SECTION, UON. SAW CUTTING SHALL BE STRAIGHT AND SHALL NOT EXTEND INTO EXISTING SLAB OR WALL TO REMAIN NOR BEYOND THE HOLES CORED AT THE CORNERS OF THE NEW OPENING.

SU SUBMITTALS

- SU-1 THE CONTRACTOR SHALL PROVIDE THE REQUIRED SUBMITTALS FOR STRUCTURAL REVIEW AS OUTLINED IN THE SPECIFICATIONS. THIS INCLUDES BOTH ITEMS FULLY DESIGNED ON THE CONTRACT DOCUMENTS AND ITEMS LISTED AS DELEGATED DESIGN. ITEMS INCLUDE BUT ARE NOT LIMITED TO:
032000 CONCRETE REINFORCEMENT AND EMBEDDED ASSEMBLIES
033000 CAST-IN-PLACE CONCRETE
051200 STRUCTURAL STEEL
SU-2 SUBMIT LOADS IMPOSED ONTO BASE BUILDING STRUCTURE BY THE FOLLOWING CONTRACTOR DESIGNED SYSTEMS:
MEP EQUIPMENT
INERTIA BASE FOR MEP EQUIPMENT
RIGGING FOR MEP EQUIPMENT
WHERE CONTRACTOR LOADS IMPOSED DO NOT EXCEED AND/OR CONNECTION CONDITIONS DO NOT DIFFER FROM WHAT IS INDICATED IN THE STRUCTURAL DRAWINGS, SUBMIT FOR RECORD A LETTER SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED STATING THE FOLLOWING:
"THE CONTRACTOR DESIGNED SYSTEM HAS BEEN DESIGNED TO IMPOSE LOADS ON THE BASE BUILDING STRUCTURE THAT ARE WITHIN THE LOAD LIMITS AND AT THE LOCATIONS INDICATED ON THE STRUCTURAL DRAWINGS."
WHERE CONTRACTOR LOADS IMPOSED FOR THE ITEMS LISTED ABOVE EXCEED AND/OR CONNECTION CONDITIONS DIFFER FROM WHAT IS SHOWN IN THE STRUCTURAL DRAWINGS, SUBMIT FOR APPROVAL TO SER LOADS IMPOSED ON THE PRIMARY STRUCTURAL FRAME DUE TO THE DEAD AND LIVE LOADS INDICATED ON THE CONTRACT DOCUMENTS.
SUBMITTAL SHALL LIST THE DESIGN LOADS USED AND BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. SUBMITTAL SHALL INCLUDE LOCATION, MAGNITUDE AND DIRECTION OF UNFACTORED IMPOSED LOADS, GRAPHICALLY REPRESENTED IN THEIR APPROPRIATE LOCATIONS ON A COPY OF THE CONTRACT DOCUMENT STRUCTURAL FRAMING PLANS OR ELEVATIONS AS APPROPRIATE. DETAIL REFERENCES IN THE CONNECTIONS APPLICABLE AT EACH LOCATION SHALL BE NOTED ON THE SUBMITTAL DRAWINGS.
FOR MEP SYSTEMS, THE LOADS IMPOSED SUBMITTAL SHALL BE COMPREHENSIVE INDICATING THE LOADS IMPOSED ON THE BASE BUILDING STRUCTURE AND SHALL INCLUDE THE REACTIONS BASED ON THE ACTUAL LOADS OF THE ENTIRE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEM, INCLUDING BUT NOT LIMITED TO PIPING, DUCTS, ELECTRICAL RACEWAYS, AND EQUIPMENT WEIGHTS.
A SUBSTITUTION REQUEST MAY BE REQUIRED WHERE CONTRACTOR LOADS IMPOSED EXCEED AND/OR CONNECTION CONDITIONS DIFFER FROM THE BASIS OF DESIGN.

SU-3 THE SER'S REVIEW OF SUBMITTALS SHALL BE FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT. NO WORK SHALL BE STARTED WITHOUT SUCH REVIEW.

CM CONCRETE MATERIALS

- CM-1 CONCRETE COMPRESSIVE STRENGTH (f'c) SHALL BE AT 28-DAY AGE, UON:
CONCRETE ELEMENT f'c / AGE EXPOSURE CATEGORY
CONCRETE HOUSEKEEPING PADS 4,000 PSI / 28-DAY F0-S0-W0-C0
NON-SHRINK GROUT 8,000 PSI / 28-DAY N/A
CONCRETE EARLY COMPRESSIVE STRENGTH REQUIREMENTS FOR CONSTRUCTION SHALL BE ESTABLISHED AND COORDINATED BY THE CONTRACTOR AND SUBMITTED TO THE SER FOR REVIEW.
CM-2 PROVIDE NORMALWEIGHT CONCRETE WITH CURED DENSITY OF 145 +/- 5 PCF, AND AGGREGATE CONFORMING TO ASTM C33, UON.
CM-3 THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED. THE USE OF RECYCLED CONCRETE IS PROHIBITED. PLACEMENT WITHIN AND CONTACT BETWEEN ALUMINUM ITEMS, INCLUDING ALUMINUM CONDUIT, AND CONCRETE IS PROHIBITED.
CM-4 ALL CAST-IN-PLACE CONCRETE WILL EXPERIENCE DIFFERING VARIATIONS OF CRACKING. ANY ELEMENT EXPOSED TO DIRECT WEATHER AND/OR TEMPERATURE VARIATIONS DURING CONSTRUCTION OR IN THE FINAL CONDITION IS TO BE TREATED AND REGULARLY MAINTAINED TO PREVENT PROPAGATION OF CRACKS AND WATER PENETRATION. THE CONTRACTOR SHALL DEVELOP A REGULAR MAINTENANCE PROGRAM AND SUBMIT IT TO THE OWNER.

RE CONCRETE REINFORCEMENT

- RE-1 ALL CONCRETE SHALL INCLUDE REINFORCEMENT. IF REINFORCEMENT IS NOT SPECIFICALLY INDICATED ON THE DRAWINGS VERIFY WITH THE SER.
RE-2 REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES UON:
DEFORMED BARS: ASTM A615 GRADE 60
WELDED WIRE REINFORCEMENT ASTM A1064
RE-3 DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318 AND ACI-315, UON.
RE-4 WHERE A 90-DEG, 135-DEG OR 180-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOKS UON.
RE-5 DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT UON.
RE-6 REINFORCEMENT SHALL HAVE CONCRETE PROTECTION (CLEAR COVER) PER ACI 318 UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
RE-7 LAP REINFORCEMENT ONLY AT LOCATIONS AS SPECIFICALLY DETAILED ON THE DRAWINGS EXCEPT REINFORCEMENT MARKED AS CONTINUOUS CAN BE SPLICED AT LOCATIONS DETERMINED BY CONTRACTOR USING TENSION LAP SPLICES (LTS), SEE LAP SPLICE AND EMBEDMENT SCHEDULE.
RE-8 UNLESS OTHERWISE NOTED ALL LAP SPLICES ARE TO BE TENSION LAP SPLICES PER LAP SPLICE AND EMBEDMENT SCHEDULE.
RE-9 LAP WELDED WIRE REINFORCEMENT TWO PANEL SPACINGS, UON.
RE-10 ADHESIVE FOR REBAR DOWELS INTO EXISTING CONCRETE SHALL BE HILTI HIT-HY 200 V3.

SS STRUCTURAL STEEL

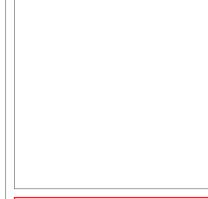
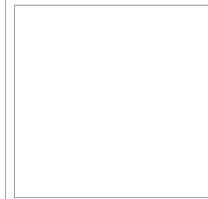
- SS-1 STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS.
ASTM A6 ROLLED W SHAPES AND CHANNELS: ASTM A572 OR A992, MINIMUM YIELD STRENGTH 50 KSI
MISCELLANEOUS ANGLES: ASTM A36, MINIMUM YIELD STRENGTH 36 KSI
PLATES: ASTM A572, MINIMUM YIELD STRENGTH 50 KSI
SS-2 CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS OR AS NEEDED FOR CONNECTION DESIGN:
ANGLES: ASTM A572, MINIMUM YIELD STRENGTH 50 KSI UON
PLATES: ASTM A572, MINIMUM YIELD STRENGTH 50 KSI UON
BOLTS: ASTM F3125 GRADES A325 AND F1852 OR A490 AND F2280 OR AS INDICATED IN DETAILS
NUTS: ASTM A563
WASHERS: ASTM F436
WELD ELECTRODES: MINIMUM TENSILE STRENGTH 70 KSI AT 50 KSI STEEL MATERIALS
SS-3 SHOW ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES ON THE SHOP DRAWINGS FOR APPROVAL BY THE DESIGN PROFESSIONALS.
SS-4 FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN PROFESSIONALS.

SC STRUCTURAL STEEL CONNECTIONS

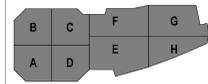
- SC-1 ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC-LOAD AND RESISTANCE FACTOR DESIGN.
SC-2 ALL CONNECTIONS INDICATED ON STRUCTURAL DRAWINGS HAVE BEEN COMPLETELY DESIGNED.
SC-3 DETAILS INDICATED ON DRAWINGS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.
SC-4 ALTERNATE CONNECTIONS TO THOSE SHOWN ON DRAWINGS WILL BE CONSIDERED AS A SUBSTITUTION REQUEST. SEE PROJECT SPECIFICATIONS.

PERMANENT CHILLER INSTALLATION - SHEET LIST
SHEET NO SHEET NAME
S0-001 GENERAL NOTES
S0-002 GENERAL NOTES
S1-101 PARTIAL FRAMING PLANS & DETAILS

architect
Populous
294 Washington Street, Suite 706
Boston, MA 02108
857.415.3642
structural engineer
Theodore Tomaszewski
101 Arch Street, Suite 1600
Boston, MA 02110
617.255.4100
MEPFF engineer
Vanderweil
234 Summer Street
Boston, MA 02210
617.423.7423



REVISIONS
NO DATE DESCRIPTION



PROJECT NAME
PERMANENT CHILLER

50 Foster Street
Worcester, MA 01608-1398

ISSUED NAME
ISSUE FOR BID

ISSUED DATE 11/19/25
ISSUED BY POPULOUS
PROJECT NUMBER 23.5724
PAPER SIZE E1

SHEET NAME
GENERAL NOTES

SHEET NUMBER
S0-001

