TRI-CITY MEDICAL CENTER
EMERGENCY CENTRAL PLANT IMPROVEMENTS
4002 VISTA WAY
OCEANSIDE, CA 92056
OSHPD SUBMITTAL

Vicinity Map

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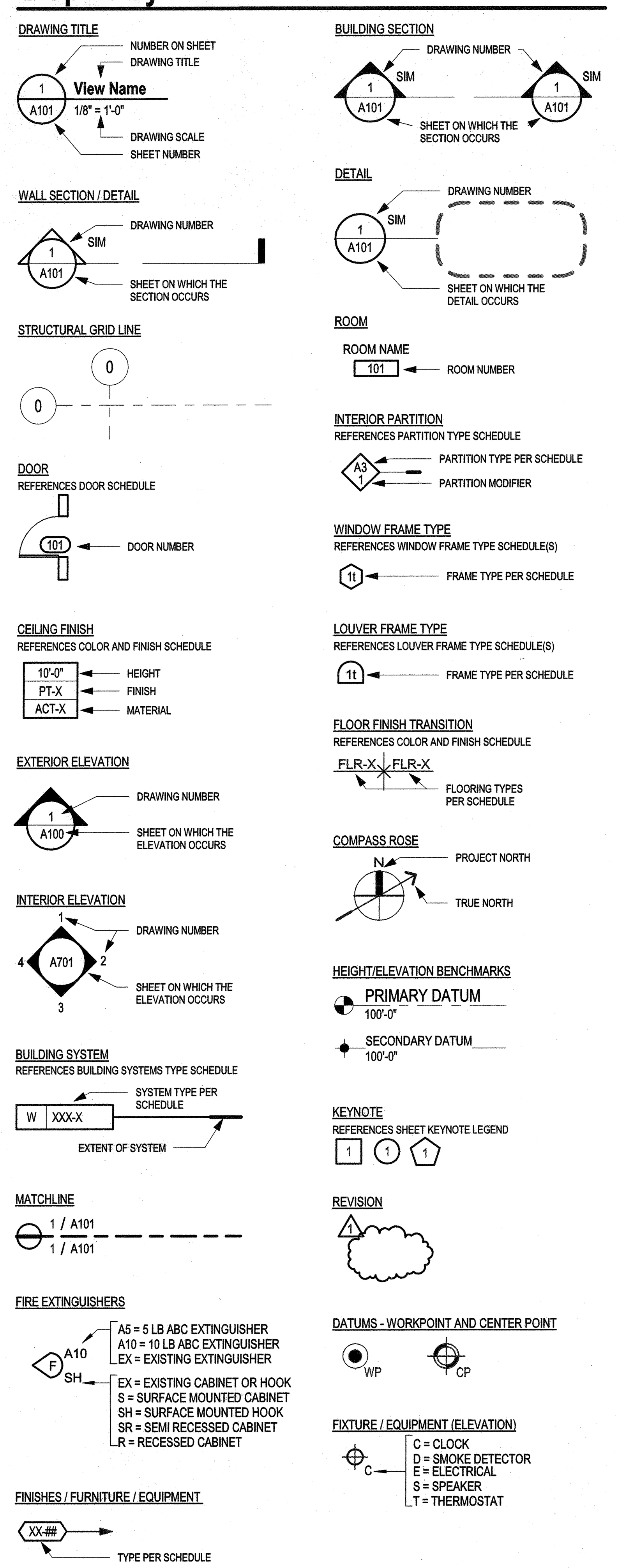
Graphic Symbols



Abbreviations

AB AIR BARRIER
AC ACCESSORY
ACA ACOUSTICAL CEILING ACCESSORY
ACG ACOUSTICAL CEILING GRID
ACP ACOUSTICAL CEILING PANEL
ACR ACRYLIC
ACT ACOUSTICAL CEILING TILE
ADA AMERICANS WITH DISABILITIES ACT
ADH ADHERE
AF ACCESS FLOOR
AFF ABOVE FINISHED FLOOR
ALT ALTERNATIVE / ALTERNATE
ALUM ALUMINUM
ARCH ARCHITECT
ART ARTWORK
AWP ACOUSTICAL WALL PANEL
AWT ACOUSTICAL WALL TREATMENT

BLKG BLOCKING
BO(_) BOTTOM OF: DECK, BEAM, STEEL
BRG BEARING
BRK BRICK

CB CHALK BOARD
CC COLUMN COVER
CCF COLUMN COVER FINISH
CCT CUBLICLE CURTAIN
CF CUSTOM FABRICATION
CF/OI CONTRACTOR FURNISHED / OWNER INSTALLED
CFF CONCRETE FLOOR FINISH
CG CORNER GUARD
CGA CUNINGHAM GROUP ARCHITECTURE, INC.
CJ CONTROL JOINT
CK CORK
CL CENTER LINE
CLR CLEAR(ANCE)
CMP COMPOSITE METAL PANEL
CMU CONCRETE MASONRY UNIT
CONC CONCRETE
CONT CONTINUOUS / CONTINUE
CP COMPOSITE PANEL
CPT CARPET TILE OR BROADLOOM
CPTB CARPET BASE
CT CERAMIC / PORCELAIN TILE
CTB CERAMIC TILE BASE

DEC DECORATIVE CONCRETE
DF DRINKING FOUNTAIN
DIA DIAMETER
DIV DIVISION
DN DOWN
DRP DRAPERY/CURTAINS
DWGS DRAWINGS
DWP DECORATIVE WALL PANEL

(E) / EXIST EXISTING
E-FIXT ELECTRICAL FIXTURE
EJ EXPANSION JOINT
EL ELEVATION
ELEC ELECTRIC(AL)
ELEV ELEVATOR
EQ EQUAL
EWC ELECTRICAL WATER COOLER
EXP EXPOSED
EXT EXTERIOR

FAB FABRIC, NON-UPHOLSTERY
FAF FLUID APPLIED FLOORING
FD FLOOR DRAIN
FE / FEC FIRE EXTINGUISHER (CABINET)
FF / FFE FINISH FLOOR (ELEVATION)
FF&E FIXTURES, FURNISHINGS & EQUIPMENT
FIN FINISH
FLR FLOOR(ING)
FOEW FACE OF EXISTING WALL
FOS FACE OF STUD
FRP FIBERGLASS REINFORCED WALL PANEL

GA GAUGE
GALV GALVANIZED
GB GYPSUM BOARD
GC GENERAL CONTRACTOR
GFRC GLASS FIBER REINFORCED CONCRETE
GFRG GLASS FIBER REINFORCED GYPSUM
GFRP GLASS REINFORCED PLASTIC
GL GLASS, GLAZING
GMU GLAZED MASONRY UNIT
GT GLASS TILE
GYP GYPSUM

HB HOSE BIBB
HDBD HARDBOARD
HDWD HARD WOOD
HDWR HARDWARE
HM HOLLOW METAL
HSS HOLLOW STEEL SECTION

ID INSIDE DIAMETER
INSUL INSULATION
INT INTERIOR

L-FIXT LIGHT FIXTURE
LAV LAVATORY
LLH LONG LEG HORIZONTAL
LLV LONG LEG VERTICLE
LMC LINEAR METAL CEILING
LWC LINEAR WOOD CEILING

MAS MASONRY
MAT CARPET/WALK-OFF MAT
MATL MATERIAL
MAX MAXIMUM
MB MARKER BOARD
MDF MEDIUM DENSITY FIBERBOARD
MECH MECHANICAL
MG METAL GRATE
MIN MINIMUM
MIR MIRROR(ED)
MO MASONRY OPENING
MTD MOUNTED
MTL METAL
MTLT METAL TRIM

NA NOT APPLICABLE
NIC NOT IN CONTRACT
NOM NOMINAL
NTS NOT TO SCALE

OC ON CENTER(S)
OD OUTSIDE DIAMETER
OF/CI OWNER FURNISHED / CONTRACTOR INSTALLED
OF/OI OWNER FURNISHED / OWNER INSTALLED
OFRD OVERFLOW ROOF DRAIN
OFS OVERFLOW SCUPPER
OH OVERHEAD
OPNG OPENING
OZ OUNCE

P-FIXT PLUMBING FIXTURE
PARTBD PARTICLEBOARD
PL PLATE
PLAM PLASTIC LAMINATE
PLS PLASTER
PLY PLYWOOD
PME PATCH TO MATCH EXISTING
PNL PANEL
PREFIN PREFINISHED
PRV POWER ROOF VENTILATOR
PT PAINT(ED)
PT EXT EXTERIOR PAINT
PV PLUMBING VENT

QT QUARRY TILE
QTB QUARRY TILE BASE

QTY QUANTITY

R RISER
RAD RADIUS
RB RESILIENT BASE
RD ROOF DRAIN
REF REFERENCE / REFER TO
REQD REQUIRED
RF RESILIENT FLOORING
RMAT RECESSED MAT
RO ROUGH OPENING
RTU ROOF TOP UNIT

S SEAL
SC SEALED CONCRETE
SCF SPECIAL CONCRETE FINISH
SE SEATING
SF SQUARE FOOT/FEET
SFCS STRETCHED FABRIC CEILING SYSTEM
SFWS STRETCHED FABRIC WALL SYSTEM
SGFT STRUCTURAL GLAZED FACING TILE
SIM SIMILAR
SMCS STRETCHED MEMBRANE CEILING SYSTEM
SP SPECIALTY FINISH
SPF SPRAY POLYURETHANE FOAM
SPT SPECIAL PAINT
SS STAINLESS STEEL
SSF SOLID SURFACE
ST STAIN
STN STONE
STNB STONE BASE
STNF STONE FLOORING
STNT STONE TILE
STNV STONE VENEER
SUSP SUSPENDED
SV SHEET VINYL
SWF SPECIALTY WALL FINISH
SYST SYSTEM

T TREAD
T&G TONGUE AND GROOVE
TB TACKBOARD
TBL TABLE
TERB TERRAZZO BASE
TERR TERRAZZO
TERT TERRAZZO TILE
TFC TEXTURED FINISH CEILING
TO(_) TOP OF: DECK, (CONC)RETE, (P)ARAPET, (S)TEEL, (W)ALL, (C)URB(
TP TOILET PARTITION
TS TRANSITION STRIP
TYP TYPICAL

UNFIN UNFINISHED
UNO UNLESS NOTED OTHERWISE
UPH UPHOLSTERY

VIF VERIFY IN FIELD
VNR VENEER
VP VENEER PLASTER
VR VAPOR RETARDER
VSE VENEER SHELF ELEVATION

WB WEATHER BARRIER
WC WATER CLOSET
WCV WALL COVERING
WD WOOD
WD BLK WOOD BLOCKING
WDB WOOD BASE
WDF WOOD FLOORING
WDT WOOD TRIM
WDV WOOD VENEER
WDW WINDOW
WP WORK POINT
WPT WALL PROTECTION
WT WINDOW TREATMENT

XPS EXTRUDED POLYSTYRENE

NUMBER / POUND
& AND
@ AT

Materials

ALUMINUM
BRICK
CERAMIC TILE / RESILIENT TILE
CONCRETE - CAST-IN-PLACE
CONCRETE - PRECAST
CONCRETE BLOCK
EARTH
EXISTING CONDITIONS
WOOD - FINISHED
GLASS
GRAVEL/STONE FILL
GYPSUM WALL BOARD
INSULATION - BATT
INSULATION - RIGID
PARTICLE BOARD
PLASTER / GROUT
PLYWOOD
ROUGH LUMBER / WOOD FRAMING
WOOD BLOCKING
SAND / GRANULAR FILL
STONE
STEEL / STEEL STUD FRAMING
TERRAZZO

Governing Codes

THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO IMPLEMENT EMERGENCY IMPROVEMENTS TO THE CENTRAL PLAN EQUIPMENT. THE WORK WILL BE PERFORMED IN ACCORDANCE WITH THE 2016 EDITION OF TITLE 19 & 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITION DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 19 & 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY OSHPD BEFORE PROCEEDING WITH THE WORK.

THIS PROJECT SHALL CONFORM TO THE FOLLOWING CODES AND REGULATIONS:

CCR - CALIFORNIA CODE OF REGULATIONS
TITLE 19 - PUBLIC SAFETY CODE
TITLE 24 - CALIFORNIA BUILDING STANDARDS CODE

1. BUILDING CODE: 2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
   2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
2. ELECTRICAL CODES: 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
3. MECHANICAL CODES: 2016 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.
4. PLUMBING CODES: 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
5. FIRE CODE: 2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
   2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
   TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
6. NFPA: NFPA 13, 2016 EDITION FOR INSTALLATION OF SPRINKLER SYSTEM PER 2016 CBC
   NFPA 14 STANDPIPE 2016 EDITION
   NFPA 17A WET CHEMICAL SYSTEM 2002 EDITION
   NFPA 24 PRIVATE FIRE MAIN 2016 EDITION
   NFPA 72 NATIONAL FIRE ALARM 2016 EDITION
   NFPA 99 HEALTH CARE FACILITIES 2015 EDITION
7. CODE ENFORCEMENT: OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
   OFFICE OF THE STATE FIRE MARSHAL (OSFM)

NOTE:
ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE STANDARDS AND ALL APPLICABLE LOCAL ORDINANCES. WHERE CODES CONFLICT, THE MORE RESTRICTIVE SHALL APPLY AS DETERMINED BY THE CODE ENFORCING AUTHORITY.

Project Information

OWNER	TRI-CITY MEDICAL CENTER
OSHPD FACILITY NUMBER:	12372
BUILDING #	02878
FACILITY CLASSIFICATION:	OSHPD 1 - GENERAL ACUTE CARE
PRIMARY OCCUPANCY TYPE:	B
CONSTRUCTION TYPE:	II B (FULLY SPRINKLERED)
NEW CONSTRUCTION (SF):	0 SF (MAINTENANCE PROJECT)
TOTAL AREA REMODELING (SF):	(0 SF) REMODELING 4,780 SF AREA OF SCOPE OF WORK
NUMBER OF (E) STORIES:	2
OVERALL TOTAL (E) BUILDING AREA:	16,607 SF BLDG 19,925 SF TOTAL SLAB AREA, (INCLUDING NON-ROOF AREA)
NUMBER OF LICENSED BED BEFORE REMODEL:	(0) WITHIN SCOPE OF WORK
NUMBER OF LICENSED BED AFTER REMODEL:	(0) WITHIN SCOPE OF WORK

Scope of Work

EMERGENCY IMPROVEMENTS TO THE CENTRAL PLAN MECHANICAL EQUIPMENT CONSISTING OF THE INSTALLATION OF NEW MECHANICAL EQUIPMENT AND REMOVAL OF EXISTING EQUIPMENT BEING REPLACED.. ELECTRICAL, STRUCTURAL (NEW PADS AND PAD REINFORCEMENT), AS WELL AS LIMITED SITE DEMOLITION AND NEW SITE WORK WILL BE PERFORMED AS PART OF THE IMPROVEMENTS.

Fire Resistance Rating Requirements

1. EXTERIOR WALLS
   a. BEARING: NOT RATED
   b. NON-BEARING: (EXISTING) 1-HR FR WHERE PROTECTION REQUIRED PER CBC TABLE 602
2. INTERIOR WALLS
   a. BEARING: N/A
   b. NON-BEARING: 2 HR FR FOR CHILLER ROOM
3. STRUCTURAL FRAME: (EXISTING) 2-HR FR (REINFORCED CONCRETE)
4. SHAFTS: N/A
5. ROOF: (EXISTING) 1 HR FR
6. FLOOR: (EXISTING) 2-HR FR
7. STAIRWAY CONSTRUCTION: (EXISTING) 2 HOURS (REINFORCED CONCRETE)
8. EXTERIOR DOORS AND WINDOWS: (EXISTING) 3/4 HOUR WHERE PROTECTION ON OPENINGS ARE REQUIRED

Special Seismic Certification Requirements

THE FOLLOWING NEW EQUIPMENT AND COMPONENTS IN THIS PROJECT'S SCOPE OF WORK REQUIRE SPECIAL SEISMIC CERTIFICATION IN ACCORDANCE WITH 2013 CBC SECTION 1705A.12.4 AND ASCE 7 SECTION 13.2.2:

1.- CHILLER
2.- COOLING TOWER

Sheet Index

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Deferred Approval Items

DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER TO WHOM RESPONSIBILITY HAS BEEN DELEGATED FOR PREPARATION OF DRAWINGS AND SPECIFICATIONS, AS LISTED ON THE APPLICATION FOR REVIEW PRIOR TO SUBMITTAL TO OSHPD. PART 1, TITLE 24 SECTION 7-153 C.C.R. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A REGISTERED ENGINEER OR ARCHITECT TO PREPARE AND SEAL THE DRAWINGS. THE ARCHITECT OR ENGINEER OF RECORD WILL NOT SEAL THE DRAWINGS BUT WILL REVIEW THEM FOR CONFORMANCE WITH THE DESIGN OF THE BUILDING OR PROJECT PRIOR TO SUBMITTING TO OSHPD FOR APPROVAL.

THE INSTALLATION OF THE FOLLOWING ITEMS SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS AND ENGINEERING CALCULATIONS HAVE BEEN APPROVED BY THE OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT (OSHPD) DIVISION OF FACILITIES DEVELOPMENT.

-SEISMIC PIPING BRACING LAYOUT AND CORRESPONDING SUPPORT ANCHORAGE DETAILS
-FIRE ALARM
-DDC CONTROL SYSTEM

Special Note

THE ESSENTIAL HOSPITAL FUNCTION(S) AND PATIENT CARE SYSTEM(S) MUST BE OPERATIONAL DURING THE PERIOD OF CONSTRUCTION, AND THE CONSTRUCTION MUST NOT CAUSE AN EXISTING PATIENT CARE SYSTEM(S) AND ESSENTIAL HOSPITAL SYSTEM(S) TO BECOME UNSAFE AND NOT IN COMPLIANCE WITH THE APPLICABLE CODE REQUIREMENTS.

IF THE CONSTRUCTION IS IN PROGRESS, THERE PROPOSALS MUST BE REVIEWED WITH THE OSHPD FIELD STAFF PRIOR TO THE START OF CONSTRUCTION. CBC 1224 BASIC SERVICE AND CAN 2-108

Consultant

Revisions
No. Date Description

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
NOV 28 2017
Office of Statewide Health Planning & Development
FACILITIES DEVELOPMENT DIVISION

LICENSED ARCHITECT
GERALD W. HUNTER
NO. C24405
REN. 1-31-19
STATE OF CALIFORNIA

Document Phase:	OSHPD SUBMITTAL
Date:	NOV 8TH 2017
PIC / AIC:	PS/GWH
Drawn By:	EQ
Checked By:	
Comm. No.:	PR17-0475

Project Title
TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title
GENERAL INFORMATION

OSHPD/FDD-Field Review Tracking
Project: S172470-37-00
PAD
ACO 11/8/17
Architectural A AC D X Refer
Mechanical A AC D X Refer
Electrical A AC D X Refer
DSE
Structural A AC D X Refer
FLSO 11/8/17
Fire Life Safety A AC D X Refer

Sheet Number
G001

General Notes

1. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THE CODES AND ALL APPLICABLE LOCAL ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED SUCH REQUIREMENTS, WITHOUT VIOLATING SUCH CODES, REGULATIONS AND ORDINANCES, CONTRACT DOCUMENTS TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT SHALL APPLY.

2. DURING THE CONSTRUCTION PERIOD, IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN CONDITIONS AT THE PROJECT SITE, TO MEET THE REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). THIS PROVISION SHALL COVER THE CONTRACTOR'S EMPLOYEES AND ALL OTHER PERSONS WORKING UPON OR VISITING THE SITE. THE CONTRACTOR SHALL BECOME FULLY INFORMED OF ALL APPLICABLE STANDARDS AND REGULATIONS AND INFORM ALL PERSONS AND REPRESENTATIVES RESPONSIBLE FOR WORK UNDER THIS CONTRACT.

3. CONFIRM ALL NEW AND EXISTING CONDITIONS WITH THE CONTRACT DOCUMENTS. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ALL DISCREPANCIES OR CONFLICTS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY ARCHITECT. IF THE CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM ARCHITECT, IT SHALL BE AT CONTRACTORS RISK, AND CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORRECTIVE ACTION.

4. REVIEW THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF SYSTEMS SHOWN ON CONSULTING ENGINEERS DOCUMENTS. DISCREPANCIES BETWEEN THE ARCHITECTURAL AND CONSULTING ENGINEER'S DOCUMENTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION FOR DIRECTION. CONSTRUCTION INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT NO EXPENSE TO THE OWNER.

5. DO NOT SCALE THE CONSTRUCTION DOCUMENTS. ALL DRAWINGS ARE FOR ILLUSTRATION ONLY. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED GRAPHICS. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ALL ADDITIONAL REQUIRED DIMENSIONS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY ARCHITECT. IF THE CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM ARCHITECT, IT SHALL BE AT CONTRACTORS RISK, AND CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORRECTIVE ACTION.

6. CORRECT ALL WORK INSTALLED IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS BY CONTRACTOR AS DIRECTED BY ARCHITECT AND AT NO ADDITIONAL EXPENSE TO THE OWNER.

7. GENERAL CONTRACTOR TO VISIT JOB SITE PRIOR TO BEGINNING WORK AND VERIFY ALL DIMENSIONS. INFORMATION SHOWN ON THESE DRAWINGS WERE TAKEN FROM RECORD DRAWINGS PROVIDED TO THE ARCHITECT BY THE OWNER. EXHAUSTIVE FIELD MEASUREMENTS HAVE NOT BEEN, NOR WILL BE PERFORMED BY THE ARCHITECT OR HIS CONSULTANTS. EXISTING INFORMATION IS BEING PROVIDED SOLELY FOR THE CONTRACTOR'S USE AND BENEFIT IN ESTABLISHING AND VERIFYING EXISTING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF DEMOLITION AND/OR CONSTRUCTION.

8. REQUEST ALL INSPECTIONS REQUIRED BY LOCAL GOVERNMENTAL AGENCIES AND COORDINATE THE WORK ACCORDINGLY. OWNER TO SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES AND LICENSES REQUIRED FOR PROPER COMPLETION OF THE WORK.

9. WHERE WORK OR EQUIPMENT IS INDICATED "N.I.C." (NOT IN CONTRACT) ON THE DRAWINGS, SUCH WORK AND/OR EQUIPMENT SHALL BE PROVIDED BY OTHERS. CONTRACTOR SHALL COORDINATE AND COOPERATE TO EFFECT SUCH INSTALLATION.

10. ALL PLAN DIMENSIONS SHOWN AT CENTER OF WALL REPRESENT CENTER LINE OF STUD OR STRUCTURAL ELEMENT UNLESS NOTED OTHERWISE.

11. ALL PLAN DIMENSIONS FOR MASONRY AND CONCRETE REPRESENT FACE OF MATERIAL AND OPENING UNLESS NOTED OTHERWISE.

12. ALL PLAN DIMENSIONS FOR STUD WALLS REPRESENT FACE OF STUD UNLESS NOTED OTHERWISE.

13. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE REVIEW OF ARCHITECT UNLESS NOTED (+/-) OR "VERIFY". DIMENSIONS NOTED "HOLD" AND "CLEAR" SHALL BE CONSIDERED AS ABSOLUTE AND USED FOR LAY-OUT CONTROL UNLESS OTHERWISE DIRECTED BY ARCHITECT.

14. ALL HEIGHTS ARE DIMENSIONED FROM TOP OF SLAB UNLESS NOTED "AFF" (ABOVE FINISH FLOOR).

15. "TYPICAL" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED. WHEN A DETAIL OR NOTE IS IDENTIFIED AS "TYPICAL", CONTRACTOR SHALL APPLY THIS DETAIL OR NOTE TO EVERY LIKE CONDITION, WHETHER OR NOT THE REFERENCE IS REPEATED IN EVERY INSTANCE. VERIFY DIMENSIONS AND ORIENTATION ON PLANS.

16. PROVIDE WORK NOT SPECIFICALLY DETAILED OR SPECIFIED IN ACCORDANCE WITH DETAILS OR SIZES COVERING SIMILAR WORK.

17. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED VERIFY DIMENSIONS AND ORIENTATION ON PLANS.

18. ABBREVIATIONS THROUGHOUT THE DOCUMENTS COMPLY WITH DOCUMENT ABBREVIATION LIST OR ARE THOSE IN COMMON USE. ARCHITECT WILL DEFINE THE INTENT OF ANY IN QUESTION.

19. REFER TO THE PROJECT MANUAL FOR GENERAL CONDITIONS, SUPPLEMENTARY AND SPECIAL CONDITIONS, AND OTHER REQUIREMENTS.

20. PROVIDE BARRICADES AND PROTECTIVE DEVICES SEPARATING CONSTRUCTION AREAS. PROVIDE TEMPORARY PASSAGES AS REQUIRED. PRIOR TO DELIVERY OF MATERIALS TO CONSTRUCTION ZONE AND REMOVAL OF WASTE FROM SITE, CHECK WITH OWNER FOR ACCEPTABLE ACCESS ROUTE AND TIME. UNDER NO CIRCUMSTANCES USE AREA OUTSIDE THE CONSTRUCTION ZONE WITHOUT PRIOR CLEARANCE FROM THE OWNER. COMPLY WITH REQUIREMENTS AS SPECIFIED IN PROJECT MANUAL.

21. PROVIDE FOR THE PROPER SEQUENCE OF CONSTRUCTION, LOCATION AND SIZE OF OPENINGS. COORDINATE ALL CONSTRUCTION AS INDICATED BY THE CONTRACT DOCUMENTS, INCLUDING SHOP DRAWINGS REVIEWED BY ARCHITECT.

22. REMOVE ALL TRASH AND DEBRIS DAILY. DO NOT STORE BUILDING MATERIALS IN CORRIDORS AT ANY TIME. COMPLY WITH REQUIREMENTS AS SPECIFIED IN PROJECT MANUAL.

23. VERIFY POINTS OF CONNECTION, INCLUDING SIZES AND LOCATIONS, AND ALL OTHER REQUIRED OPERATING CRITERIA WITH EQUIPMENT MANUFACTURER.

24. COORDINATE THE LOCATION AND TYPE OF ALL ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL, PLUMBING, ELECTRICAL AND OTHER BUILDING SYSTEMS WITH ARCHITECT.

25. CONTRACTOR SHALL STIPULATE THAT ALL PROPOSED SUBSTITUTIONS ARE EQUAL IN PERFORMANCE AND COMPLY WITH APPLICABLE CODES AND ARE EQUAL IN PERFORMANCE AND COMPLY WITH APPLICABLE CODES AND REGULATIONS. CONTRACTOR'S SUBSTITUTION OF ALTERNATE MATERIALS OR SYSTEMS SHALL BE AT NO ADDITIONAL COST TO OWNER.

26. CONTRACTOR SHALL INSURE ALL CONSTRUCTION SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL APPROVED BY THE INSPECTOR OF RECORD. WORK SHALL NOT BE DONE BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING APPROVAL OF THE BUILDING OFFICIAL (OSHPD). FOR CONTINUOUS INSPECTION, TESTING, AND OBSERVATION REQUIREMENTS, REFER TO THE TESTING AND OBSERVATION PROGRAM.

27.DO NOT PROCEED WITH WORK UNLESS PERMITS HAVE BEEN APPROVED BY THE OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT (OSHPD) DIVISION OF FACILITIES DEVELOPMENT.

28.DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL DETAILED PLANS AND SPECIFICATIONS AND ENGINEERING CALCULATIONS HAVE BEEN APPROVED BY THE OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT (OSHPD) DIVISION OF FACILITIES DEVELOPMENT.

29.ONE SET OF APPROVED PLANS, SPECIFICATIONS, AND OTHER APPLICATION DOCUMENTS SHALL BE KEPT ON THE SITE OF THE BUILDING OR WORK AT ALL TIMES DURING WHICH THE WORK AUTHORIZED THEREBY IS IN PROGRESS.

30. THE ARCHITECTR'S SCOPE OF SERVICES DO NOT INCLUDE ANY SERVICE RELATED TO ASBESTOS OR ANY OTHER HAZARDOUS OR TOXIC MATERIAL. THE ARCHITECT IS NOT LIABLE FOR ANY DAMAGE OR COST RELATED TO THE ABOVE MATERIALS. THE ARCHITECT SHALL NOT BE RESPONSIBLE IN ANY WAY FOR SAFETY PRECAUTIONS, INCLUDING MEASURES FOR PROTECTION OF THE CONTRACTOR, SUB-CONTRACTOR OR THE PUBLIC.

31. ANCHORAGE OF EQUIPMENT WEIGHING LESS THAN 400 POUNDS AND SUPPORTED DIRECTLY ON THE FLOOR OR ROOF STRUCTURE NEED NOT BE DETAILED ON THE PLANS. HOWEVER, SUCH EQUIPMENT SHALL BE ANCHORED AND THE ANCHORAGE SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

32. FLOOR AREAS AND ROOMS IN WHICH FLAMMABLE ANESTHEIC AGENTS ARE STORED OR ADMINISTERED SHALL COMPLY WITH NFPA 99.

33. ROOM NUMBER ASSIGNMENTS: ROOM NUMBERS AND NAMES SHOWN ON DRAWINGS HAVE BEEN VERIFIED BY AS-BUILTS DRAWINGS OR ACTUAL HOSPITAL NUMBERS OR ASSIGNED BY DESIGN TEAM PER ORIENTATION PURPOSES ONLY FOR THIS PROJECT.

34. ALL WORK NOT SPECIFICALLY COVERED IN THE CONTRACT DOCUMENTS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH CONSTRUCTION INDUSTRY STANDARDS.

Construction Notes

1. ALL PIPES, DUCTS, AND CONDUITS SHALL BE SUPPORTED AND BRACED AS SHOWN IN STRICT ACCORDANCE WITH ENGINEERED SEISMIC BRACING OF SUSPENDED UTILITIES DETAILS AS APPROVED BY OSHPD PRE APPROVALS:

SEE NOTE 1 ON SHEET M001 FOR SEISMIC BRACING APPLICABLE STANDARDS FOR MEP AND FIRE SPRINKLER SYSTEMS

FOR NEW CONSTRUCTION AND ALTERATION OF EXISTING CONSTRUCTION WITHIN THE SCOPE OF WORK, THE EXACT LOCATION OF ALL PIPES, DUCTS, AND CONDUITS SHALL BE ESTABLISHED BY THE CONTRACTOR AND SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW OF THE ADEQUACY OF THE ORIGINAL DESIGN. SHOP DRAWINGS OF THE SUPPORT AND BRACING SYSTEMS TO BE INSTALLED PER OSHPD PRE-APPROVAL SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD FOR REVIEW TO VERIFY THAT THE DETAILS ARE IN CONFORMANCE WITH ALL CODE REQUIREMENTS. THE STRUCTURAL ENGINEER SHALL VERIFY THAT THE BUILDING STRUCTURE IS ADEQUATE FOR THE LOADS IMPOSED ON IT BY THE SUPPORTS AND BRACES INSTALLED PER THIS PRE-APPROVAL IN ADDITION TO ALL OTHER LOADS. THE SHOP DRAWINGS WITH AN INDICATION THAT THE PLANS HAVE BEEN REVIEWED BY THE ENGINEER OF RECORD SHALL BE SUBMITTED TO OSHPD FOR APPROVAL. LAYOUT OF ALL APPLICABLE ANCHORAGE DETAILS SHALL BE INCLUDED IN THE SHOP DRAWINGS.

2. WHEN INSTALLING DRILLED-IN ANCHORS AND / OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POSTTENSIONED) LOCATE THE PRESTRESSED TENDONS BY USING A NONDESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND / OR PIN.

3. ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED, AS PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY 2013 CBC SECTION 1616A.1.18. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE IOR SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED

4. DRAWINGS HAVE BEEN DETAILED IN COMPLIANCE WITH UNDERWRITERS LABORATORIES DESIGN LISTINGS FOR THE MATERIALS AND ASSEMBLIES SPECIFIED HEREIN. SHOULD MATERIALS BE ACCEPTED AS A SUBSTITUTION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR WHATEVER CONSTRUCTION MODIFICATION, APPROVAL, AND ADDITIONAL COSTS ARE REQUIRED BY REASON OF SUCH ACCEPTANCE.

5. MECHANICAL AND ELECTRICAL DRAWINGS ARE SUPPLEMENTAL TO THE ARCHITECTURAL DRAWINGS. COORDINATE ALL WORK PRIOR TO INSTALLATION OF MECHANICAL AND ELECTRICAL EQUIPMENT. DISCREPANCIES BETWEEN ARCHITECTURAL, MECHANICAL, AND ELECTRICAL WORK AS DEPICTED SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR CLARIFICATION.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION AND SIZING OF OPENINGS FOR ALL TRADES AND SHALL COORDINATE ALL CONSTRUCTION AS INDICATED BY THESE CONTRACT DOCUMENTS.

7. PERFORM ALL CUTTING, PATCHING, AND FINISHING OF ALL EXISTING PORTIONS OF THE BUILDING AFFECTED BY THE WORK NECESSARY TO RESTORE THE ORIGINAL CONDITION OF THE BUILDING TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

8. ALL PENETRATIONS THROUGH FIRE-RESISTIVE OCCUPANCY SEPARATIONS, SHAFTS, AND CORRIDOR AND SMOKE PARTITIONS INCLUDING CONDUITS AND PIPING SHALL BE TIGHTLY SEALED WITH AN APPROVED U.L. LISTED FIRESTOP SEALANT SYSTEM.

9. ALL PENETRATIONS INTO SOUND RATED PARTITIONS, INSULATED PARTITIONS OR CEILING ASSEMBLIES SHALL BE SEALED WITH APPROVED PERMANENT RESILIENT SEALANT. ELECTRICAL DEVICES SHALL BE SEALED, LINED INSULATED, OR OTHERWISE TREATED TO MAINTAIN INTEGRITY OF THE ACOUSTICAL ASSEMBLY.

10. INTERIOR FINISHES SHALL CONFORM TO THE REQUIREMENTS OF CBC CHAPTER 8 AND TABLE 1224.4.11. SAMPLES SHALL BE SUBMITTED TO THE OSHPD AREA COMPLIANCE OFFICER (ACO) FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

11. ALL EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. PANIC HARDWARE AT EXITS SHALL BE PROVIDED AS REQUIRED BY THE BUILDING CODE.

12. OBTAIN HAZARDOUS MATERIALS PERMIT FROM LOCAL FIRE DEPARTMENT FOR MEDICAL GAS INSTALLATION.

13. SEE STRUCTURAL SHEETS S001, S002 FOR OTHER REQUIREMENTS.

14. COPY OF THE OSHPD PRE-APPROVED DOCUMENTS MUST BE MADE AVAILABLE AT THE JOBSITE AT ALL TIMES. INSTALLATION OF PRE-APPROVED ITEMS MUST BE DONE IN STRICT ACCORDANCE WITH THE PRE-APPROVED DOCUMENTS. IDENTIFY MANUFACTURER NAME AND MODEL NUMBER IF APPLICABLE.

15. THE SPACING AND DETAILS OF THE SUPPORT AND BRACING OF FIRE SPRINKLER PIPING SHALL COMPLY WITH THE 2013 EDITION OF NFPA 13 AND CHAPTER 13 OF ASCE 7 AS MODIFIED BY THE CBC 2013 SECTION 1615A AND SFM AMENDMENTS. THE ALLOWABLE VALUES FOR ANCHORS AND BRACING FROM NFPA 13 SHALL NOT BE USED. SHOP DRAWINGS PREPARED AND SEALED BY A STATE OF CALIFORNIA REGISTERED ENGINEER (NOT FIRE PROTECTION ENGINEER OR CONTRACTOR) SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO OSHPD WITH A NOTATION INDICATING THE SHOP DRAWINGS HAVE BEEN REVIEWED AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING OR PROJECT. THE INSTALLATION OF FIRE PROTECTION SYSTEM SHALL NOT COMMENCE UNTIL THE SHOP DRAWINGS ARE APPROVED BY OSHPD.

16.MAINTAIN EXISTING FACILITY'S EXITING SYSTEM, STRUCTURAL SYSTEM, FIRE SUPPRESSION AND ALARM SYSTEMS IN A SAFE AND OPERATIONAL CONDITION AT ALL TIMES DURING CONSTRUCTION.

Miscellaneous Finish Notes

EMENTS UNLESS SPECIFICALLY
) FIELD STAFF

1. ALL CEILING HEIGHT DIMENSIONS MEASURED TO FINISH SURFACES UNLESS NOTED OTHERWISE.

2. EXTEND BASE MATERIAL BEHIND ALL MOVABLE EQUIPMENT AND INTO ALL ALCOVES, KNEESPACES AND SIMILAR AREAS, UNLESS NOTED OTHERWISE.

3. WHEN COUNTERTOP SPLASH IS REQUIRED, EXTEND SPLASH ON SIDES WHERE COUNTER JOINS ADJACENT WALL SURFACE UNLESS NOTED OTHERWISE.

4. PROVIDE BACKING PLATES OR BLOCKING BEHIND ALL WALL MOUNTED EQUIPMENT, CASEWORK, AND ACCESSORIES AS REQUIRED FOR POSITIVE ATTACHMENT TO STRUCTURE. SEE FRAMING DETAILS.

5. SEAL ALL PENETRATIONS OF SOUND RATED PARTITIONS, FLOORS OR CEILING ASSEMBLIES , INCLUDING ELECTRICAL DEVICES, CABINETS AND OTHER ELEMENTS WITH APPROVED RESILIENT SEALANT. SEE SPEC SECTION 07840 FOR STANDARDS AND REGULATORY CRITERIA FOR FIRESTOPPING SYSTEMS IN FIRE RATED AND SOUND RATED ASSEMBLIES.

6. ALL GYPSUM WALL BOARD CORNER BEADS TO BE SQUARE NOSE, UNLESS NOTED OTHERWISE.

7. DO NOT CUT, DRILL, NOTCH, DAMAGE OR ALTER STRUCTURAL ELEMENTS UNLESS SPECIFICALLY DETAILED ON APPROVED PLANS OR ACCEPTED BY SEOR AND OSHPD FIELD STAFF.

Fire & Life Safety Notes

1. ALL INTERIOR FINISHES SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 8, PART 2, TITLE 24, CCR. ALL FINISHES SHALL HAVE A FLAME SPREAD RATING OF 75 OR LESS AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723, and SHALL HAVE A CLASS A OR B FLAME SPREAD CLASSIFICATION PER CBC TABLE 803.9.

2. ALL INSULATION MATERIALS INSTALLED WITHIN ROOF - CEILING ASSEMBLIES, ATTICS, OR WALLS SHALL HAVE A FLAME - SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723.

3. ALL RATED DOORS SHALL BE POSITIVE LATCHING.

4. ALL FIRE RATED DOOR ASSEMBLIES SHALL BE PROVIDED WITH APPROVED GASKETING MATERIAL INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND ACROSS THE TOP.

5. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE FOR ALL RATED OPENING ASSEMBLIES.

6. PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF ASTM-E-814 AND UBC STANDARD 7-5 AND IN COMPLIANCE WITH THE PROJECT MANUAL.

7. ALL ELECTRICAL, MECHANICAL, AND PLUMBING PENETRATIONS, INCLUDING CONDUITS AND PIPING, THROUGH FIRE RATED WALL, FLOOR AND CEILING ASSEMBLIES SHALL BE TIGHTLY AND SOLIDLY SEALED WITH FIRESTOPPING COMPLYING WITH UBC STANDARD 7-5 AND THE PROJECT MANUAL. WHERE ITEM PENETRATES AN AREA SEPARATION WALL, THE SECTION PASSING THROUGH THE WALL SURFACE AND THE FIXTURE CONNECTIONS THERETO SHALL BE ONLY OF METAL.

8. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A-10BC WITHIN A 75 FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR.

9. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 1-BC FOR ELECTRICAL ROOMS, MECHANICAL ROOMS, ELEVATOR MACHINE ROOMS AND TRASH ROOMS.

10. PROVIDE AN APPROPRIATE NUMBER OF PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 4A-60BC FOR PROTECTION DURING CONSTRUCTION.

11. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY PEDESTRIAN PROTECTION AS REQUIRED BY LOCAL CODE AND SPECIFICATION.

12. DO NOT BLOCK EXITS AT ANY TIME.

13. PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS OF FIRE RATED WALLS, FLOORS, SHAFTS AND CEILINGS. COMBINATION FIRE/SMOKE DAMPERS SHALL BE USED AT DUCT PENETRATIONS OF RATED CORRIDOR WALLS.

14. FIRE DAMPER DETAILS SHOWN FOR REFERENCE ONLY. FIRE DAMPERS SHALL BE APPROVED AND LISTED BY STATE FIRE MARSHAL. INSTALL STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS AND LISTING APPROVAL. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.

15. DUCT INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDINGS SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED.

16. THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE, STANDARDS AS DEFINED IN CHAPTER 35 CALIFORNIA BUILDING CODE AND APPLICABLE NFPA STANDARDS.

17. THE CONTRACTOR SHALL PROVIDE PROTECTION COMPLYING WITH TITLE 8, CCR, DURING WELDING. FURTHER PROTECTION SHALL BE PROVIDED TO ANY OCCUPANTS AND THE PUBLIC WITH PORTABLE SOLID VISION BARRICADES AROUND LOCATION WHERE WELDING IS BEING PERFORMED. PROVIDE SIGNS WARNING AGAINST LOOKING AT WELDING WITHOUT PROPER EYE PROTECTION OR EQUIVALENT.

18. THE EXISTING BUILDING IS PROTECTED THROUGHOUT BY AN APPROVED, SUPERVISED AUTOMATIC SPRINKLER SYSTEM. NEW SPRINKLER SYSTEM TO BE DESIGNED IN ACCORDANCE WITH NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.

Demolition Notes

1. ALL ELECTRICAL FIXTURES AND CONTROLS SHALL BE REMOVED AND DISCONNECTED. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.

2. ALL MECHANICAL DUCTING AND EQUIPMENT SHALL BE REMOVED, INCLUDING CONTROLS.

3. ALL PLUMBING FIXTURES SHALL BE REMOVED AND CAPPED.

4. ALL INFECTION CONTROL CONSTRUCTION PROCEDURES SHALL BE VERIFIED WITH OWNERS SAFETY COMMITTEE OFFICER PRIOR TO CONSTRUCTION (PER SPEC 01 74 19).

5. TEMPORARY BARRIERS SHALL MAINTAIN 6 FEET WIDE CLEARANCE FOR EXITING DURING CONSTRUCTION.

6. SEE PLUMBING PLANS FOR EXTENT OF PLUMBING DEMOLITION.

7. REMOVE PORTIONS/ALL OF CEILINGS AS REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW ABOVE CEILING UTILITIES. CLEAN, PATCH, AND PREPARE SURFACES OF ALL CEILINGS AND SOFFITS TO REMAIN FOR APPLICATION OF NEW FINISHES. PATCH CLOSED ALL OPENED AREAS TO MATCH EXISTING CONDITIONS. NEW AND EXISTING PENETRATIONS SHALL MAINTAIN ALL SOUND AND FIRE SEPARATION RATINGS AS INDICATED ON THE DRAWINGS AND TO MATCH AND MAINTAIN EXISTING CONDITIONS.

8. SEE THE MECHANICAL, PLUMBING, ELECTRICAL, AND STRUCTURAL DRAWINGS FOR AREAS OF WORK NOT SHOWN OR REFERENCED ON THE ARCHITECTURAL DRAWINGS AND FOR EXTENT OF NEW SYSTEM RUNS THROUGH CORRIDORS AND OVER EXIST. ROOMS NOT SHOWN.

9. IT IS KNOWN THAT THE CONTRACTOR WILL BE REQUIRED TO OBTAIN ACCESS TO ADJACENT OCCUPIED CEILING SPACES TO ACCOMMODATE THE INSTALLATION OF MECHANICAL, PLUMBING, AND ELECTRICAL SERVICES. ACCESS TO THESE AREAS IS REQUIRED TO OCCUR IN EVENINGS OR WEEKENDS, AND SHALL BE DETERMINED BY THE OWNER. ADDITIONAL CHARGES FOR THESE INSTALLATION TIME REQUIREMENTS WILL NOT BE CONSIDERED.

10. SHOULD A CONDITION ARISE WHICH IS IN CONFLICT WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.

11. REMOVE ALL PARTITIONS SHOWN DASHED ON PLAN, COMPLETE WITH ALL CONDUIT AND PIPING, REROUTE, RECIRCUIT, TERMINATE OR ABANDON ALL EXISTING SERVICES AS INDICATED ON THE MECHANICAL, PLUMBING AND/OR ELECTRICAL DRAWINGS.

12. PATCH AND REPAIR PORTIONS OF EXISTING FIREPROOFING DAMAGED DURING CONSTRUCTION. THICKNESS AND TYPE SHALL MATCH EXISTING.

13. CONTRACTOR SHALL TAKE MEASURES TO ACCOMPLISH THE WORK WITH THE MINIMUM OF INTERRUPTION TO NORMAL BUILDING PROCEDURES. NOTIFY THE AREA MANAGER 14 DAYS IN ADVANCE OF NECESSARY HVAC, ELECTRICAL OR PLUMBING SHUT-OFFS.

14. NOISE AND DUST SHALL BE KEPT TO AN ABSOLUTE MINIMUM AS THE PATIENTS IN THE AREAS ARE EXTREMELY SENSITIVE TO SOUND. THE CONTRACTOR SHALL PROVIDE ADEQUATE BARRICADES AND PROTECTIVE DEVICES SEPARATING CONSTRUCTION AREAS. TEMPORARY PASSAGES SHALL BE PROVIDED AS REQUIRED. THE CORRIDORS AND OTHER AREAS SHALL BE SEPARATED FROM THE CONSTRUCTION ZONE BY A NON-COMBUSTIBLE BARRIER FASTENED SECURELY TOP AND BOTTOM AND AT EACH END. FIRE RATED CONSTRUCTION BARRIERS MUST BE INSTALLED PRIOR TO THE REMOVAL OF EXISTING RATED WALLS TO MAINTAIN INTEGRITY OF EXIT SYSTEM AS REQUIRED BY OSHPD CAN 9-3301.

15. PRIOR TO DELIVERY OF MATERIALS TO CONSTRUCTION ZONE AND REMOVAL OF WASTE FROM SITE, THE CONTRACTOR SHALL CHECK WITH THE RESIDENT INSPECTOR FOR AN ACCEPTABLE ACCESS ROUTE AND TIME. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR, HIS SUBCONTRACTORS, OR ANY OF THEIR EMPLOYEES USE THE BUILDING AREA OUTSIDE THE CONSTRUCTION ZONE WITHOUT PRIOR CLEARANCE FROM THE RESIDENT INSPECTOR.

16. IN ALL PEDESTRIAN CORRIDORS, TRASH SHALL BE REMOVED DAILY. BUILDING MATERIALS SHALL NOT BE STORED IN THE CORRIDORS AT ANY TIME.

17. THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM WASTE AND DEBRIS CAUSED BY HIS OPERATIONS. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE AND DEBRIS AT AN APPROVED DISPOSAL SITE.

18. ANY OPENINGS IN FIRE-RATED WALLS THAT RESULT FROM DEMOLITION WORK MUST BE SEALED WITH U.L.- APPROVED FIRE-RATED MATERIALS.

Accessibility Notes

BUILDING ACCESS

1. PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (1133B.8.2) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM THE WALL AND ABOVE 27" AND LESS THAN 80" (1133B.8.6.). CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT, AND PATH OF TRAVEL COMPLIES WITH CBC 1133B.

2. PROVIDE WALKS WITH LEVEL LANDINGS AT ALL EXTERIOR EXIT DOORS COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR., WITH NOT LESS THAN 60 INCHES X 60 INCHES IN DIMENSION AND WITH MAXIMUM 2 PERCENT SLOPE.

3. PROVIDE ACCESSIBLE BUILDING ENTRANCES COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR., UNLESS SHOWN OTHERWISE.

4. REGARDLESS OF THE OCCUPANCY LOAD, THERE SHALL BE A FLOOR OR LANDING ON EACH SIDE OF A DOOR, AND SHALL NOT BE MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. THE FLOOR OR LANDING ON EACH SIDE OF AN EXIT DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AREA SHALL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF A LEAST 60 INCHES AND THE LENGTH OPPOSITE THE DIRECTION OF THE DOOR SWING OF 44 INCHES AS MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION. THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24 INCHES PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18 INCHES PAST THE STRIKE EDGE FOR INTERIOR DOORS. THE WIDTH OF THE AREA ON THE SIDE OPPOSITE THE SWING SHALL EXTEND 12 INCHES PAST THE STRIKE EDGE OF THE DOOR WHEN THE DOOR IS EQUIPPED WITH BOTH A CLOSER AND A LATCHSET.

5. DOOR CONSTRUCTION AND HARDWARE

PROVIDE THE BOTTOM 10 INCHES OF ALL DOORS (EXCEPT AUTOMATIC AND SLIDING DOORS) WITH A SMOOTH UNINTERRUPTED SURFACE PERMITTING THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

LIMIT DOOR OPERATING FORCE IN COMPLIANCE WITH CHAPTER 11B, PART 2, TITLE 24, CCR. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:

* 8.5 POUNDS FOR EXTERIOR DOORS
* 5 POUNDS FOR INTERIOR DOORS.
* 15 POUNDS FOR DOORS WITH FIRE RATED LABELS.

PROVIDE DOOR OPENING HARDWARE COMPLYING WITH CHAPTERS 10 AND 11B, PART 2, TITLE 24, CCR. CENTER HAND-ACTIVATED DOOR OPENING HARDWARE BETWEEN 30 INCHES AND 44 INCHES ABOVE THE FLOOR. HAND ACTIVATED LATCHING AND LOCKING DOORS, LOCATED IN THE PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, BY PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. LOCKED EXIT DOORS SHALL BE ACCESSIBLE AS SPECIFIED IN DIRECTION OF EGRESS.

MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS ARE NOT ALLOWED. WHEN EXIT DOORS ARE USED IN PAIRS AND APPROVED FLUSH BOLTS ARE USED, THE DOOR LEAF HAVING THE AUTOMATIC FLUSH BOLTS SHALL HAVE NO DOOR KNOB OR SURFACE-MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION.

PROVIDE THRESHOLDS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR, WITH MAXIMUM TOTAL HEIGHT OF 1/2 INCHES.

6. ACCESSIBLE WATER CLOSET COMPARTMENTS AND FIXTURES

PROVIDE ACCESSIBLE WATER CLOSETS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR. PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR. EXCEPT FOR DOOR OPENING WIDTHS AND DOOR SWINGS, PROVIDE A MINIMUM 44 INCH WIDE CLEAR AND UNOBSTRUCTED ACCESS PATH TO ACCESSIBLE WATER CLOSET COMPARTMENTS. PROVIDE MINIMUM 48 INCH CLEAR SPACE IMMEDIATELY IN FRONT OF WATER CLOSET WHEN DOOR IS AT END OF COMPARTMENT. PROVIDE MINIMUM 60 INCH CLEAR SPACE IMMEDIATELY IN FRONT OF WATER CLOSET WHEN DOOR IS AT SIDE OF COMPARTMENT. PROVIDE ACCESSIBLE WATER CLOSETS WITH SEAT HEIGHTS A MINIMUM OF 17 INCHES AND A MAXIMUM OF 19 INCHES AFF, MEASURED TO THE TOP OF THE TOILET SEAT. PROVIDE FLUSH CONTROLS OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF FIVE POUNDS, REMOTE LOW VOLTAGE BUTTON OR OTHER APPROVED CONTROL DEVICE. LOCATE HANDLE OR CONTROL TO BE OPERABLE WITHOUT REQUIRING EXCESSIVE BODY MOVEMENT. PROVIDE WATER CLOSET COMPARTMENT doors WITH AN AUTOMATIC CLOSING DEVICE, PROVIDE COMPARTMENT DOORS WITH A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32 INCHES WHEN LOCATED AT THE END AND 34 INCHES WHEN LOCATED AT THE SIDE, MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

7. ACCESSIBLE LAVATORIES

PROVIDE LAVATORIES COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR. PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR. PROVIDE LAVATORIES WITH MINIMUM 29 INCHES CLEARANCE FROM FINISH FLOOR TO APRON. PROVIDE KNEE CLEARANCE UNDER FRONT APRON MINIMUM 30 INCHES WIDE, MINIMUM 27 INCHES HIGH MEASURED 8 INCHES BACK FROM APRON FRONT EDGE. PROVIDE TOE CLEARANCE MINIMUM 9 INCHES HIGH, 30 INCHES WIDE, EXTENDING MINIMUM 17 INCHES IN DEPTH FROM THE FRONT OF LAVATORY.INSULATE OR OTHERWISE COVER HOT WATER AND DRAIN PIPES UNDER LAVATORY. SHARP OR ABRASIVE SURFACES UNDER LAVATORIES ARE NOT PERMITTED. PROVIDE FAUCET CONTROLS AND OPERATING MECHANISMS OPERABLE WITH ONE HAND AND NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. LIMIT FORCE REQUIRED TO ACTIVATE CONTROLS TO MAXIMUM 5 POUNDS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

8. ACCESSIBLE SINKS

PROVIDE SINKS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR CHAPTER 11B. PROVIDE ACCESSIBLE CONTROLS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND CHAPTER 15, PART 5, TITLE 24, CCR. PROVIDE KNEE CLEARANCE UNDER SINKS MINIMUM 30 INCHES WIDE AND MINIMUM 27 INCHES HIGH, MEASURED FROM FINISH FLOOR TO BOTTOM OF SINK, AND EXTENDING A MINIMUM OF 19 INCHES FROM APRON FRONT EDGE. PROVIDE SINKS WITH MAXIMUM DEPTH OF 6-1/2 INCHES. INSULATE OR OTHERWISE COVER HOT WATER AND DRAIN PIPES UNDER SINK. SHARP OR ABRASIVE SURFACES UNDER SINKS ARE NOT PERMITTED. PROVIDE FAUCET CONTROLS AND OPERATING MECHANISMS OPERABLE WITH ONE HAND AND NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. LIMIT FORCE REQUIRED TO ACTIVATE CONTROLS TO MAXIMUM 5 POUNDS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

9. GRAB BARS

PROVIDE GRAB BARS COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND SHEET G4.1. SHARP OR ABRASIVE SURFACES ADJACENT TO GRAB BARS ARE NOT PERMITTED. LOCATE GRAB BARS ON ONE SIDE AND THE BACK OF THE WATER CLOSET, 33 INCHES ABOVE AND PARALLEL TO THE FLOOR. PROVIDE SIDE GRAB BARS AT LEAST 48 INCHES LONG, WITH THE FRONT END POSITIONED 24 INCHES IN FRONT OF THE WATER CLOSET. LOCATE SIDE MOUNTED GRAB BAR MAXIMUM 12 INCHES FROM REAR WALL. PROVIDE REAR GRAB BARS AT LEAST 36 INCHES LONG, MOUNTED WITH CLOSEST END A MAXIMUM OF 6 INCHES FROM SIDE WALL.. PROVIDE GRAB BARS WITH GRIPPING SURFACE DIAMETER OR WIDTH LIMITED TO 1-1/4 INCHES TO 1-1/2 INCHES OR EQUIVALENT GRIPPING SURFACE. PROVIDE MINIMUM 1/8 INCH RADIUS AT ALL GRAB BAR EDGES. WHERE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2 INCHES. GRAB BARS SHALL NOT ROTATE IN THEIR FITTINGS.

10. ACCESSIBLE TOILET ACCESSORIES

PROVIDE ACCESSORIES COMPLYING WITH CHAPTER 11B, PART 2, TITLE 24, CCR AND SHEET G4.1. WHERE TOWEL, SOAP AND SIMILAR DISPENSING AND DISPOSAL FIXTURES ARE PROVIDED, PROVIDE AT LEAST ONE OF EACH TYPE WITH ALL OPERABLE PARTS, INCLUDING COIN SLOTS, LOCATED MAXIMUM 40 INCHES AFF. MOUNT MIRRORS WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE MAXIMUM 40 INCHES AFF. LOCATE TOILET TISSUE DISPENSERS WITHIN 12 INCHES OF THE FRONT EDGE OF THE TOILET SEAT.

11. ACCESSIBILITY SIGNAGE

PROVIDE TOILET ROOM ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR AND DETAILS 3/G4.1. PROVIDE PERMANENT ROOM ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR. PROVIDE DIRECTIONAL AND INFORMATIONAL ACCESSIBILITY SIGNAGE COMPLYING WITH CHAPTER 11B, DIVISION I, PART 2, TITLE 24, CCR. PROVIDE 1/4" THICK IDENTIFICATION SYMBOLS ON DOORS TO SANITARY FACILITIES, CONSISTING OF A 12 INCH TRIANGLE FOR MEN AND 12 INCH DIAMETER CIRCLE FOR WOMEN.

12. REACH RANGES

SIDE REACH MOUNTING HEIGHTS: IF THE CLEAR FLOOR SPACE ALLOWS PARALLEL APPROACH BY A PERSON IN A WHEELCHAIR, THE MAXIMUM HEIGHT FOR HIGH SIDE REACH SHALL BE 48 INCHES AND THE LOW SIDE REACH SHALL BE 15 INCHES ABOVE THE FINISHED FLOOR.

FORWARD REACH MOUNTING HEIGHTS: IF THE CLEAR SPACE ONLY ALLOWS FORWARD APPROACH BY A PERSON IN A WHEELCHAIR, THE MAXIMUM HEIGHT FOR HIGH SIDE REACH SHALL BE 48 INCHES AND THE LOW SIDE REACH SHALL BE 15 INCHES ABOVE THE FINISHED FLOOR.

Existing Conditions Construction Parameters

MEMO OF UNDERSTANDING: OSHPA PROJECT SPECIFIC REQUIREMENTS

SUMMARY INTERPRETATION OF CAN 2-102.6 (FORMERLY CAN 2-3403A) REMODEL

OSHPD FIELD OFFICIALS AGREED WITH ALL INTERPRETATIONS EXCEPT 9, 16 AND 17. OSHPD CLARIFICATIONS ON THESE THREE ITEMS ARE NOTED BELOW IN ITALICIZED.

ISSUE: DESCRIPTION / INTERPRETATION

1. ACT REPLACEMENT
THE EXISTING ACOUSTICAL CEILING TILES IN THE CORRIDORS WILL BE REPLACED. THIS WILL NOT TRIGGER AN UPGRADE OF THE UTILITIES ABOVE THE CEILING.

2. ACT GRID REPAIR: N/A

3. EXISTING CEILING SUPPORTS: N/A

4. EXISTING IV TRACK SUPPORTED BY CEILING: N/A

5. EXISTING CEILING SUPPORT WIRE: N/A

6. CEILING MOUNTED APPLIANCES: N/A

7. REFINISH CORRIDOR DOORS: N/A

8. CORRIDOR DOOR HARDWARE REPLACEMENT : N/A

9. EXISTING CORRIDOR DOOR FRAMES: N/A

10.CORRIDOR WIDTH DIMENSION: N/A

11.N/A

12.N/A

13.RATED PARTITION PENETRATION
ALL NEW PENETRATIONS IN RATED PARTITIONS SHALL BE FIREPROOFED. ALL EXISTING PIPING, CONDUIT AND WIRING PENETRATIONS SHALL BE FIREPROOFING IF DISCOVERED DURING RENOVATION.

14.FIRE PROOFING OVERSPRAY
THE EXISTING FIREPROOFING OVERSPRAY ABOVE THE CEILING SHALL REMAIN AS IS.

15.EXISTING FIRE DAMPERS
N/A

16.SPRINKLER HEAD REPLACEMENT
REPLACEMENT OF EXISTING SPRINKLER HEADS SHALL NOT TRIGGER AN UPGRADE OR RECALCULATION OF THE SPRINKLER SYSTEM.
ALL NEW WORK SHALL COMPLY WITH CURRENT CODE UP TO THE CONNECTION POINT TO THE EXISTING SYSTEM AND MAINTAIN THE SPRINKLER HEAD COVERAGE.
THE FLSO SUGGESTED THAT IF THE SPRINKLER HEADS ARE REPLACED WITH QUICK RESPONSE HEADS THERE NEEDS TO BE THE SAME COVERAGE AS THE EXISTING, THE FUNCTION OF THE ROOM MUST REMAIN IN THE SAME HAZARD CATEGORY (LIGHT HAZARD), THE ORIFICE SIZE OF THE HEAD MUST BE IDENTICAL TO THE EXISTING HEAD (SAME K FACTOR) AND THERE MAY NEED TO BE ADDITIONAL HEADS ADDED TO CLEAR LIGHT FIXTURES. A PIPE SCHEDULE IN LIEU OF HYDRAULIC CALCULATIONS MAY BE USED IF HEADS WITH SAME SIZE ORIFICE ARE UTILIZED AND NO MORE THAN 5 ADDITIONAL HEADS ARE ADDED TO THE SYSTEM.

17.SPRINKLER PIPING SUPPORTS
EXISTING SPRINKLER SUPPORTS SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING SPRINKLER PIPING.
PENDING ANY CONFLICT WITH OTHER SYSTEMS IN THE AREAS OF WORK, ONLY SPRINKLER LINES MAY NEED TO BE SUPPORTED OR SEISMICALLY BRACED IN CRITICAL CARE AREAS IF OWNER CHOOSES TO CLAIM CREDIT FOR NPC 3 PER TABLE 11.1, CHAPTER 6, PART 1, TITLE 24 CCR.

18.EXISTING FLEX DUCT
N/A

19.DUCTWORK INSULATION
ALL EXISTING DUCTWORK INSULATION SHALL REMAIN AS IS UNLESS WORK IS REQUIRED ON THE EXISTING DUCT. NEW INSULATION SHALL BE INSTALLED AT THE AREA OF THE NEW WORK ONLY.

20.DUCTWORK SUPPORT
EXISTING DUCTWORK SUPPORTS SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING DUCTWORK.

21.CAV BOX PIPING NOT INSULATED
CAV BOX PIPING SHALL REMAIN AS IS UNLESS WORK IS REQUIRED ON THE EXISTING PIPING. NEW INSULATION SHALL BE INSTALLED AT THE AREA OF THE NEW WORK ONLY.

22.PIPING SUPPORT
EXISTING PIPING SUPPORTS SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING PIPING.

23.EXISTING ELECTRICAL FLEX CONDUIT
EXISTING ELECTRICAL FLEX CONDUIT SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING FLEX CONDUIT.

24.LOW VOLTAGE WIRING & SUPPORT
EXISTING LOW VOLTAGE WIRING SUPPORTS SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING LOW VOLTAGE WIRING.

25.EXISTING ELECTRICAL GROUND
THE EXISTING BUILDING DOES NOT HAVE A DEDICATED GROUND CONDUCTOR FOR EXISTING PANELS AND OUTLETS. EXISTING ELECTRICAL WIRING SHALL REMAIN AS IS. NO ADDITIONAL GROUND CONDUCTOR IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING WIRING.

26.FIRE ALARM WIRING
ALL EXISTING AND NEW FIRE ALARM WIRING SHALL BE SUPPORTED ACCORDING TO CURRENT CODE.

27.NEW CORRIDOR LIGHTS
N/A

28.NEW PATIENT ROOM LIGHTS
N/A

29.NO SLACK WIRE ON EXISTING LIGHTS
EXISTING LIGHT FIXTURES SUPPORTS SYSTEMS SHALL REMAIN AS IS. NO ADDITIONAL SUPPORT IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING LIGHT FIXTURES.

30.PIPING LABELS (CURRENTLY UNLABELED)
EXISTING PIPING AND CONDUIT SHALL REMAIN AS IS REGARDLESS IF IT IS LABELED OR NOT. NO ADDITIONAL LABELING IS REQUIRED IF THE NEW WORK DOES NOT TOUCH THE EXISTING PIPING OR CONDUIT. ALL NEW WORK SHALL HAVE LABELS.

SUMMARY OF INTERPRETATION OF CAN 2-3403A FOR REMODEL OF THIS PROJECT AS PRESENTED TO OSHPD BY SANTEC ARCHITECT INC. HAS BEEN REVIEWED ON 4/28/10. IT APPEARS TO BE IN GENERAL CONFORMANCE WITH THE INTENT OF THE CODE APPLICATION NOTICE. THESE NOTES MAY BE INCORPORATED AS PART OF CONSTRUCTION DOCUMENTS FOR CLARIFICATION.

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Revisions

No.	Date	Description

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
NOV 28 2017
Office of Statewide Health Planning & Development
FACILITIES DEVELOPMENT DIVISION

LICENSED ARCHITECT
GERALD W. HUNTER
NO. C24405
REN. 1-31-19
STATE OF CALIFORNIA

Document Phase:	OSHPD SUBMITTAL
Date:	NOV 8TH 2017
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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

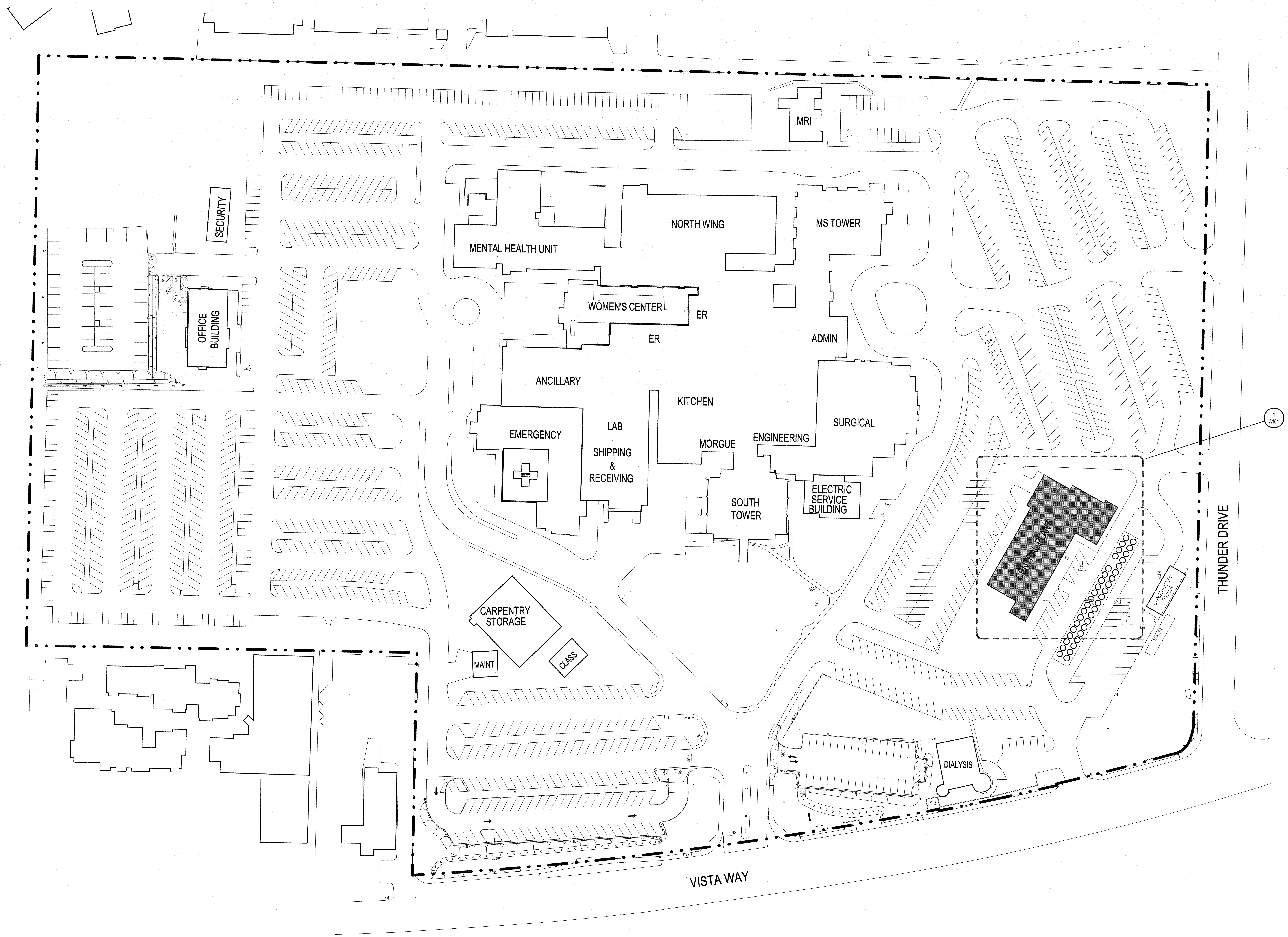
OSHPD#:S172470-37-00

Sheet Title

PROJECT REQUIREMENTS

Sheet Number

G002



Site Plan
1" = 50'-0"

CUNINGHAM
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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

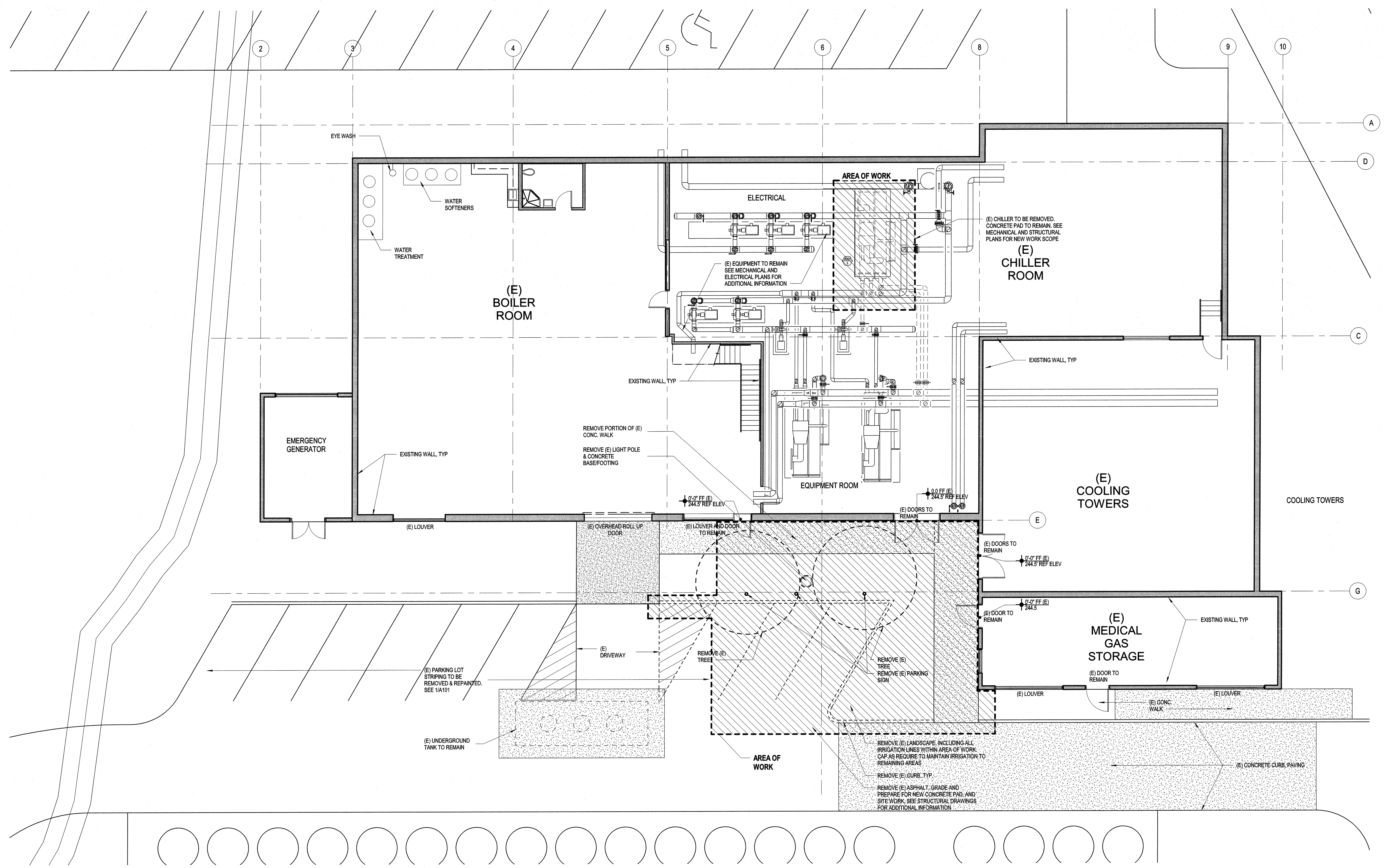
OSHPD#:S172470-37-00

Sheet Title

SITE PLAN

Sheet Number

A001



1 / A100 LEVEL 1 - DEMOLITION PLAN
1/8" = 1'-0"

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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

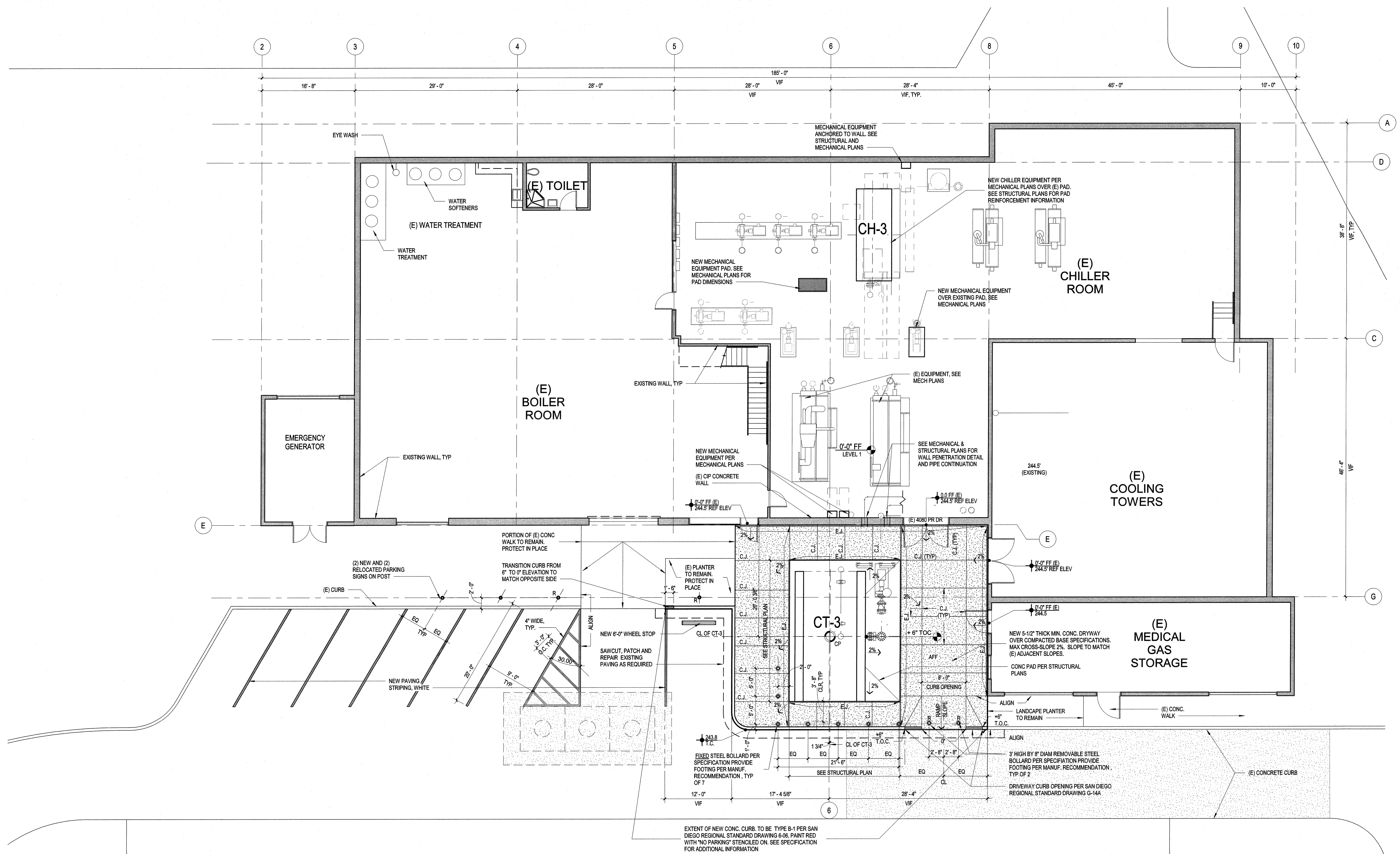
LEVEL 1 - EXISTING/ DEMOLITION PLAN

Sheet Number

A100

General Notes

1. SEE SHEET G002 FOR GENERAL CONSTRUCTION NOTES, DEMOLITION NOTES, ETC.
2. ALL ELEVATIONS SHOWN ON THIS PLAN FOR EXISTING CONDITIONS HAVE BEEN TAKEN FROM THE AS-BUILTS PRECISE GRADING PLAN SHEET 1 AND 2 PROJECT # 1372
3. ALL SITE WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS
4. ALL SURFACE SLOPES SHALL BE 2% MIN. UNLESS OTHERWISE NOTED
5. SEE MECHANICAL AND PLUMBING PLANS FOR NEW EQUIPMENT AND POINT OF CONNECTIONS



1 LEVEL 1 - FLOOR PLAN AND RELATED SITE WORK
A101 1/8" = 1'-0"

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LICENSED ARCHITECT GERALD W. HUMPER NO. C24405 REN. 1-31-19 STATE OF CALIFORNIA

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

LEVEL 1 - FLOOR PLAN AND RELATED SITE WORK

Sheet Number

A101

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 2016 CALIFORNIA BUILDING CODE, PART 2, VOL. 2, TITLE 24, CCR (CBC) WITH OSHPD AMENDMENTS.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

3. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. CONTRACTOR AT HIS OWN EXPENSE SHALL ENGAGE PROPERLY QUALIFIED PERSONS TO DESIGN BRACING, SHORING, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.

4. DO NOT SCALE DRAWINGS.

5. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES.

6. ANY SPECIFIC REFERENCE TO CODES, RULES, REGULATIONS, STANDARDS, MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS OF REGULATORY AGENCIES SHALL MEAN THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE DATE OF SUBMISSION OF BID UNLESS THE DOCUMENT DATE IS SHOWN.

7. DEMOLITION: SAFETY OF PERSONNEL AND PROPERTY DURING ANY DEMOLITION WORK IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. BEFORE DEMOLITION BEGINS, THE CONTRACTOR SHALL INSPECT EXISTING CONSTRUCTION TO IDENTIFY DEFECTS AND STRUCTURAL WEAKNESSES WHICH MAY AFFECT THE SAFETY OF HIS WORK. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ASSURE THAT THESE DEFECTS AND WEAKNESSES ARE REMEDIED PRIOR TO PROCEEDING WITH THE DEMOLITION.

8. THE CONTRACT DOCUMENTS DO NOT INCLUDE WORK FOR THE ABATEMENT OF HAZARDOUS MATERIALS. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, NOTIFY THE OWNER IMMEDIATELY. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ASSURE THE SAFETY OF ALL PERSONNEL AND PROPERTY.

9. A COPY OF ALL REFERENCED OSHPD PRE-APPROVED DOCUMENTS MUST BE MADE AVAILABLE AT THE JOB SITE AT ALL TIMES. INSTALLATION OF ITEMS PER AN OSHPD PRE-APPROVED DOCUMENT MUST BE COMPLETED IN STRICT ACCORDANCE WITH THE PRE-APPROVED DOCUMENTS U.O.N.

10. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.

11. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.

12. SHOP DRAWINGS REQUIRED BY THE SECTIONS BELOW SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. A SCHEDULE FOR THE RELEASE OF SHOP DRAWING SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER PRIOR TO THE START OF FABRICATION OR CONSTRUCTION. THIS SUBMITTAL SCHEDULE SHALL PROPORTION THE NUMBER OF SHOP DRAWINGS TO BE REVIEWED IN EACH SUBMITTAL TO ALLOW SUFFICIENT TIME AS DEEMED REASONABLE IN THE PROFESSIONAL JUDGEMENT OF THE ENGINEER TO PERMIT ADEQUATE REVIEW. SHOP DRAWINGS SHALL REFERENCE THE LATEST REVISION OF EACH STRUCTURAL DESIGN DRAWING FROM WHICH THE SHOP DRAWING IS PREPARED. SUBMITTALS THAT DO NOT IDENTIFY THE LATEST REVISION OF THE STRUCTURAL DRAWINGS SHALL BE RETURNED WITHOUT REVIEW FOR THE DETAILER TO UPDATE AND RESUBMIT. THE DETAILING ON EACH SHOP DRAWING SHALL BE COMPLETE BEFORE RELEASING FOR REVIEW THE SUBMITTAL CONTAINING THAT SHOP DRAWING. IF THE SUBMITTAL MUST BE REVISED, IT SHALL IDENTIFY EACH REVISION AND/OR ADDITION TO EACH SHOP DRAWING BY CLOUDING OR OTHER MEANS TO ENSURE THEIR IDENTIFICATION FOR REVIEW.

STRUCTURAL STEEL & MISCELLANEOUS STEEL

1. ALL PHASES OF WORK PERTAINING TO STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE 2016 CALIFORNIA BUILDING CODE, VOLUME 2, CHAPTER 22A AND AISC "SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS". WELDED CONNECTIONS TO CONFORM TO AWS D1.1.

2. STRUCTURAL STEEL TO CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:

SECTIONS	TYPE
ROLLED SHAPES WIDE FLANGES CHANNELS, ANGLES, & OTHER	 ASTM A992 ASTM A36
PLATES BEAM SHEAR CONNECTION PLATES BEAM STIFFENER PLATES OTHER	 ASTM A36 ASTM A36 ASTM A572, GR 50
BOLTS	ASTM A325X
MACHINED BOLTS	ASTM A307
ANCHOR RODS	ASTM F1554, GR55
NUTS FOR BOLTS AND MACHINE BOLTS	ASTM A563
UNHARDENED FLAT WASHERS	ASTM F844, ANSI B18.22.1
BEVELED WASHERS	ANSI B18.23.1

3. STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS AND MILL CERTIFICATES TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

4. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLTS USED, UNLESS NOTED OTHERWISE.

5. ALL METAL ITEMS, INCLUDING CONNECTORS, EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

6. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.

7. OPENINGS SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED.

8. WELDING SHALL BE PERFORMED USING LOW HYDROGEN E70XXX ELECTRODES BY A QUALIFIED AND CERTIFIED WELDER WITH CONTINUOUS SPECIAL INSPECTION. THE CONTRACTOR MUST SUBMIT A WELDING PROCEDURE SPECIFICATION TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

9. WELDERS SHALL BE QUALIFIED FOR THE WORK IN ACCORDANCE WITH AWS D1.1 AND THE FOLLOWING:

   A. WELDERS WHO HAVE NOT PERFORMED WELDING FOR A PERIOD OF SIX OR MORE MONTHS SHALL BE REQUALIFIED. WELDERS WHOSE WORK FAILS TO PASS INSPECTION SHALL BE REQUALIFIED BEFORE PERFORMING FUTURE WELDING. ALL COSTS FOR WELDER REQUALIFICATION SHALL BE PAID BY THE CONTRACTOR.

   B. ALL WELDERS EMPLOYED ON THE PROJECT SHALL UNDERSTAND ALL THE REQUIREMENTS OF THIS WELDING SPECIFICATION BEFORE WELDING ON THE PROJECT.

   C. ALL WELDERS ON THE PROJECT SHALL UNDERSTAND AND FOLLOW THE REQUIREMENTS OF THE WRITTEN WPS.

   D. ALL WELDERS SHALL HAVE THE APPLICABLE WPS DOCUMENT AND DRAWINGS FOR EACH CONNECTION OR WELD, JOINT AND ASSEMBLY AT THEIR STATION.

   13. WELDERS' CERTIFICATES SHALL BE MADE AVAILABLE TO THE ARCHITECT AND THE OWNER'S TESTING LABORATORY PRIOR TO WELDING.

   14. WELDING SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY.

   15. NON-SHRINK GROUT, 7000 PSI: USE MASTER BUILDERS' "MASTERFLOW 928" IN COMPLIANCE WITH ASTM C1107, GRADE B WITH MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS, AND 7000 PSI IN 28 DAYS AS TESTED IN ACCORDANCE WITH CRD-C621, CORPS OF ENGINEERS SPECIFICATION FOR NON-SHRINK GROUT.

REINFORCING STEEL

1. REINFORCING TO CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED:

LOCATIONS	TYPE
REINFORCING STEEL	ASTM A615, 60 KSI

2. ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT FROM DISPLACING DUE TO FORMWORK, CONSTRUCTION, OR CONCRETE PLACEMENT OPERATIONS. LOCATE AND SUPPORT REINFORCING BY METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS AT A MAXIMUM 3-FOOT SPACING.

3. PROVIDE REINFORCING SHOWN OR NOTED CONTINUOUS IN LENGTHS AS LONG AS PRACTICAL.

CAST-IN-PLACE CONCRETE

1. CONCRETE IS REINFORCED AND CAST-IN-PLACE UNLESS OTHERWISE NOTED.
2. CONCRETE TYPES.

CLASS	28 DAY F'c (PSI)	TYPE	W/C (MAX.)	SLUMP (MAX.)
A	4000	NORMAL WEIGHT	0.5	4" ±1"

3. SUBMIT MIX DESIGN PREPARED, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

3. CONCRETE CLEAR COVER TO REINFORCING BARS IS AS FOLLOWS, UNLESS OTHERWISE NOTED:

LOCATIONS	CLEAR COVER
CONCRETE PLACED AGAINST EARTH	3 INCHES
FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH: #5 & SMALLER #6 & LARGER	 1 1/2 INCHES 2 INCHES
SLABS ON GRADE (TOP CLEARANCE)	1 1/2 INCHES
WALL OR SLAB SURFACES NOT EXPOSED TO WEATHER OR EARTH: #5 & SMALLER #6 & #7 #8, #9, #10, #11 #14 & #18	 3/4 INCH 1 INCH 1 1/2 INCHES 2 1/2 INCHES

MECHANICAL ANCHORS IN HARDENED CONCRETE

1. EXPANSION ANCHOR SYSTEMS:

   A. CONCRETE: HILTI KWIK BOLT TZ (ICC-ES ESR-1917), HILTI HSL-3 (ICC-ES ESR-1545). USE ONLY EXPANSION ANCHOR SYSTEMS THAT HAVE BEEN PRE-QUALIFIED IN ACCORDANCE WITH THE PROVISIONS OF ICC-ES AC193, APPROVED FOR USE IN CRACKED CONCRETE. ANCHOR SYSTEMS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE ICC-ES EVALUATION SERVICES REPORT FOR THE SPECIFIC ANCHOR, OR AS REQUIRED BY THE MANUFACTURER.

2. WHERE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR APPLICABLE ICC-ESR CALL FOR THE APPLICATION OF AN INSTALLATION TORQUE, THE SPECIFIED TORQUE SHALL BE APPLIED WITH A CALIBRATED TORQUE WRENCH. FOLLOWING ATTAINMENT OF 10% OF THE SPECIFIED TORQUE, 100% OF THE SPECIFIED TORQUE SHALL BE REACHED WITHIN 7 OR FEWER COMPLETE TURNS OF THE NUT. THE SPECIFIED INSTALLATION TORQUE SHALL NOT BE EXCEEDED.

3. USE OF ZINC-COATED CARBON STEEL ANCHORS IS LIMITED TO DRY, INTERIOR LOCATIONS, UNLESS OTHERWISE NOTED. PROVIDE STAINLESS STEEL ANCHORS FOR APPLICATIONS EXPOSED TO EXTERIOR WEATHER CONDITIONS.

4. EXPANSION ANCHORS FOR NON-VIBRATION ISOLATED MECHANICAL EQUIPMENT RATED OVER 10 HP ARE NOT PERMITTED BY ASCE 7-10 SECTION 13.6.5.5, AND SHALL BE QUALIFIED IN ACCORDANCE WITH ACI 355.2.

5. WHERE MECHANICAL ANCHORS ARE USED IN A STANDOFF CONFIGURATION (I.E., WHERE THE ATTACHMENT IS SEPARATED FROM THE CONCRETE IN WHICH THE ANCHOR IS INSTALLED), A NUT AND WASHER SHALL BE PROVIDED AT THE CONCRETE SURFACE TO FACILITATE SETTING OF THE ANCHOR AND TO TRANSMIT AXIAL COMPRESSION LOADS INTO THE CONCRETE.

6. THE SPECIAL INSPECTOR SHALL BE ON THE JOBSITE CONTINUOUSLY DURING ANCHOR INSTALLATIONS, UNLESS OTHERWISE NOTED IN ICC-ES ESR, TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCES, SLAB THICKNESS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE.

7. THE TENSION TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY. IF ANY ANCHORS FAIL THE TENSION-TESTING REQUIREMENTS, THE ADDITIONAL TESTING REQUIREMENTS SHALL BE ACCEPTABLE TO OSHPD.

8. TEST QUANTITY OF ANCHORS AS NOTED BELOW:

APPLICATION	QUANTITY
STRUCTURAL	100% OF BOLTS
NON-STRUCTURAL	50% OF BOLTS

9. ANCHORS TO BE TESTED SHALL BE SELECTED AT RANDOM BY THE SPECIAL INSPECTOR.

10. ALL TESTING SHALL BE PERFORMED A MINIMUM OF 24 HOURS AFTER INSTALLATION OF THE SUBJECT ANCHORS.

11. WHERE THE DESIGN TENSION ON ANCHORS IS LESS THAN 75 POUNDS AND THOSE ANCHORS ARE CLEARLY IDENTIFIED ON THE CONTRACT DOCUMENTS, ONLY 10 PERCENT OF THOSE ANCHORS NEED BE TESTED, UNLESS OTHERWISE NOTED BY OSHPD OR THE STRUCTURAL ENGINEER OF RECORD.

12. THE TEST LOAD MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY TRANSMIT A MEASURABLE TENSION LOAD TO THE ANCHOR. ACCEPTABLE METHODS INCLUDE:

   A. USE OF A HYDRAULIC JACK, WHEREBY EITHER UNCONFINED OR CONFINED TESTING SHALL BE ACCEPTABLE;

   B. USE OF CALIBRATED SPRING LOADED DEVICES; OR

   C. USE OF A CALIBRATED TORQUE WRENCH FOR TORQUE-CONTROLLED EXPANSION ANCHORS.

13. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:

   A. HYDRAULIC RAM METHOD: THE ANCHOR SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. FOR EXPANSION ANCHORS, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.

   B. TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN ONE-HALF (1/2) TURN OF THE NUT.

14. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE, INSTALLED BY THE SAME TRADE, NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TEST FREQUENCY.

15. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR.

16. IF REBAR IS ENCOUNTERED DURING THE DRILLING, THE CONTRACTOR SHALL IMMEDIATELY TERMINATE DRILLING AND CONTACT THE ENGINEER OF RECORD. THE ENGINEER OF RECORD WILL AUTHORIZE USING ONE OF THE FOLLOWING PROCEDURES:

   A. IF THE ANCHOR MAY BE SHIFTED, FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. THE MINIMUM SPACING BETWEEN AN ABANDONED HOLE AND A DRILLED HOLE USED FOR A POST INSTALLED ANCHOR SHALL NOT BE LESS THAN 1-1/2 ANCHOR DIAMETERS UNLESS OTHERWISE APPROVED BY OSHPD OR THE STRUCTURAL ENGINEER OF RECORD.

   B. IF THE ANCHOR LOCATION MAY NOT BE SHIFTED, THE ENGINEER OF RECORD WILL PROVIDE AN ALTERNATE SOLUTION.

17. IF THE CONCRETE CRACKS DURING THE INSTALLATION OF THE ANCHOR, THE ANCHOR SHALL BE REMOVED OR ABANDONED.

18. REQUIRED TEST LOADS SHALL BE DETERMINED AS THE LESSER OF TWICE THE MAXIMUM ALLOWABLE TENSION LOAD PROVIDED IN THE ICC-ESR FOR THE SPECIFIC ANCHOR, 1.25 TIMES THE MAXIMUM DESIGN STRENGTH, OR 80% OF THE NOMINAL YIELD STRENGTH OF THE ANCHOR ELEMENT, AS SUMMARIZED IN THE TABLES BELOW.

TENSION TEST LOADS (POUNDS)
HILTI KWIK BOLT TZ (ICC-ES ESR-1917)
CRACKED CONCRETE, SEISMIC, CONDITION B

NOMINAL ANCHOR DIA. (IN.)	EMBEDMENT DEPTH, Hef (IN.)	INSTALLATION TORQUE (FT-LB)	NORMAL-WEIGHT CONCRETE f'c = 3000 PSI
3/8	2	25	1515
1/2	3 1/4	40	1919
5/8	4	60	3405
3/4	4 3/4	110	3983

TENSION TEST LOADS (POUNDS)
HILTI HSL-3 (ICC-ES ESR-1545)
CRACKED CONCRETE, SEISMIC, CONDITION B

NOMINAL ANCHOR DIA. (IN.)	EMBEDMENT DEPTH, Hef (IN.)	INSTALLATION TORQUE (FT-LB)	NORMAL-WEIGHT CONCRETE f'c = 3000 PSI
1.26	5.91	250	9559

19. TESTING OF ANCHORS AND DOWELS TO COMPLY WITH CBC 1910A.5 AND AS NOTED.

DESIGN CRITERIA

1. APPLICABLE CODE: 2016 CALIFORNIA BLDG. CODE WITH OSHPD AMENDMENTS.
2. GRAVITY LOADS: AS NOTED
3. SEISMIC DESIGN FOR NONSTRUCTURAL COMPONENTS:
   A. ANALYSIS PROCEDURE:
      LINEAR STATIC ANALYSIS FOR NON STRUCTURAL COMPONENTS PER ASCE 7-10 CHAPTER 13.
   B. LATERAL SEISMIC DESIGN FORCES:
      a) $F_p = 0.4\, a_p S_{DS} W_p \dfrac{}{R_p/I_p} (1+2\ z/h)$
      b) $F_{pMIN.} = 0.3\, S_{DS} I_p\, W_p$
      c) $F_{pMAX.} = 1.6\, S_{DS} I_p\, W_p$
   C. OCCUPANCY CATEGORY = IV
   D. IMPORTANCE FACTOR = 1.5
   E. SOIL SITE CLASS = D (ASSUMED)
   F. PRESUMTIVE LOAD-BEARING VALUES (TABLE 1806A.2, CBC 2016):
      a) VERTICAL FOUNDATION PRESSURE: 1,500 psf
      b) LATERAL BEARING PRESSURE: 100 psf/ft
   G. SEISMIC DESIGN CATEGORY = D
   H. SEISMIC GROUND MOTION VALUES
      a) $S_S = 1.058g$
      b) $S_1 = 0.411g$
      c) $S_{DS} = 0.76g$
      d) $S_{D1} = 0.435g$
   I. LATERAL SYSTEM DESIGN FACTORS:

	NONSTRUCTURAL COMPONENTS		
	CHILLER	VFD	COOLING TOWER
a_p	1.0	2.5	2.5
R_p	2.5	6.0	3.0
z/hr	0.0 (ON GRADE)	0.0 (ON GRADE)	0.0 (ON GRADE)
Ω	2.5	2.5	2.5

   J. SEISMIC RESPONSE COEFFICIENT
      a) NONSTRUCTURAL COMPONENTS:
         a.1) CHILLER: Fp = 0.34 Wp
         a.2) VFD: Fp = 0.34 Wp
         a.3) COOLING TOWER: Fp = 0.38 Wp

MISC. NOTES

1. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY THE 2016 CBC SECTION 1616A.1.18.

   EQUIPMENT SUPPORTS AND ATTACHMENTS SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD (RDP) AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSTPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

2. SHOP DRAWINGS OF THE SUPPORTS AND BRACING SYSTEMS TO BE INSTALLED PER PRE-APPROVAL(S) SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD FOR REVIEW TO VERIFY THAT THE DETAILS ARE IN CONFORMANCE WITH ALL CODE REQUIREMENTS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THAT THE BUILDING'S STRUCTURE IS ADEQUATE FOR THE LOADS IMPOSED ON IT BY THE SUPPORTS AND BRACES INSTALLED PER PRE-APPROVAL(S) IN ADDITION TO ALL OTHER LOADS.

3. COPY OF THE PRE-APPROVED OPM DOCUMENTS MUST BE MADE AVAILABLE AT THE JOB SITE AT ALL TIMES. INSTALLATION OF THIS ITEM MUST BE DONE IN STRICT ACCORDANCE WITH THE PRE-APPROVED DOCUMENTS.

STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

1. AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS WILL BE RETAINED BY THE OWNER TO PERFORM TESTS AND INSPECTIONS IN ACCORDANCE WITH THE APPROVED OSHPD TESTING, INSPECTION AND OBSERVATION PROGRAM. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED.

2. IF INITIAL TESTS OR INSPECTIONS MADE BY THE OWNER'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TESTS, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.

ADHESIVE ANCHORS AND DOWELS

1. ANCHORS AND DOWELS INSTALLED INTO CONCRETE: HILTI HY-200 (ICC-ESR-3187), HILTI HIT RE-500 V3 (ICC ESR-3814), SIMPSON STRONG-TIE SET-XP (ICC-ESR-2508) OR POWERS PURE 110+ (ICC ESR 3298). ALL EMBEDMENT DEPTHS NOTED ON DRAWINGS ARE EFFECTIVE EMBEDMENT PER MANUFACTURER.

2. THE TESTING LABORATORY IS TO PERFORM TENSION TESTS ON 100% OF ANCHORS AND DOWELS, TEST LOAD PER PLAN.

3. REBAR DOWELS: ASTM A615 GRADE 60 REINFORCING STEEL.

4. INSTALL ANCHORS IN ACCORDANCE WITH LATEST ICC-ESR REPORT AND MANUFACTURER INSTRUCTIONS.

5. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.

ABBREVIATIONS:

(E)	EXISTING	L	ANGLE
(N)	NEW	Ld	DEVELOPMENT LENGTH
&	AND	Ldb	HOOK DEVELOPMENT LENGTH
@	AT		
A.A.	ADHESIVE ANCHOR	LEV.	LEVEL
A.B.	ANCHOR BOLT	LLBB	LONG LEG BACK TO BACK
ABV	ABOVE	LLH	LONG LEG HORIZONTAL
ADDL	ADDITIONAL	LLV	LONG LEG VERTICAL
ADJ.	ADJACENT	LOC.	LOCATION
AGGR.	AGGREGATE	LONGIT.	LONGITUDINAL
AL.	ALUMINUM	Ls	LAP SPLICE LENGTH
ALT.	ALTERNATE	LT	LIGHT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LWC	LIGHTWEIGHT CONCRETE
APPROX.	APPROXIMATE	MAX.	MAXIMUM
ARCH.	ARCHITECTURAL	M.B.	MACHINE BOLT
ASTM	AMERICAN SOCIETY for TESTING and MATERIALS	MECH.	MECHANICAL
		M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING DOCUMENTS
BET.	BETWEEN	MTL	METAL
BLDG	BUILDING	MFR	MANUFACTURER
BM, BMS	BEAM, BEAMS	MIN.	MINIMUM
BOT.	BOTTOM	MISC.	MISCELLANEOUS
BRG	BEARING	MTD.	MOUNTED
B.S.	BOTH SIDES	N	NORTH
CL	CENTERLINE	N.F.	NEAR FACE
C.I.P.	CAST IN PLACE	N.I.C.	NOT IN CONTRACT
C.J.	CONTROL JOINT	N.S.	NEAR SIDE
CLG	CEILING	N.T.S.	NOT TO SCALE
CLR	CLEAR	NO. or #	NUMBER
CMU	CONCRETE MASONRY UNIT	NOM.	NOMINAL (DIAMETER)
COL.	COLUMN	NWC	NORMAL WEIGHT CONCRETE
CONC.	CONCRETE	O.C.	ON CENTER
CONN.	CONNECTION	O.D.	OUTSIDE DIAMETER (DIM)
CONSTR.	CONSTRUCTION	O.H.	OPPOSITE HAND
CONT.	CONTINUOUS	OPNG	OPENING
CSK	COUNTERSINK	OPP.	OPPOSITE
CP	COMPLETE PENETRATION	PL	PLATE
CTR	CENTER	PC., PCS.	PIECE, PIECES
d	PENNY (NAIL SIZE)	PERP.	PERPENDICULAR
DEMO.	DEMOLITION	PT	POINT
DET., DETS	DETAIL, DETAILS	R or RAD.	RADIUS
DIAG.	DIAGONAL	REBAR	REINFORCING BAR
DIA. or Ø	DIAMETER	REF.	REFERENCE
DIM., DIMS	DIMENSION, DIMENSIONS	REINF.	REINFORCED or REINFORCING
DIST.	DISTANCE	REQD	REQUIRED
DN	DOWN	REV.	REVISE or REVISION
DWL, DWLS	DOWEL, DOWELS	S.A.D.	SEE ARCH. DOCUMENTS
DWG, DWGS	DRAWING, DRAWINGS	S.M.D.	SEE MECH. DOCUMENTS
EA.	EACH	SCHED.	SCHEDULE
E.A.	EXPANSION ANCHOR	SECT.	SECTION
E.F.	EACH FACE	SIM.	SIMILAR
E.S.	EACH SIDE	SMS	SHEET METAL SCREW
E.W.	EACH WAY	S.O.G.	SLAB ON GRADE
ELEC.	ELECTRICAL	SPEC., SPECS	SPECIFICATION, SPECIFICATIONS
EL.	ELEVATION		
ELEV.	ELEVATOR	SQ.	SQUARE
EMBED.	EMBEDMENT	SS	STAINLESS STEEL
EQ.	EQUAL	STD	STANDARD
EQUIP.	EQUIPMENT	STIFF.	STIFFENER
E.J.	EXPANSION JOINT	STL	STEEL
EXP.	EXPANSION	STRUC.	STRUCTURAL
EXT.	EXTERIOR	SUSP.	SUSPENDED
FLR, FLRS	FLOOR, FLOORS	SYM.	SYMMETRICAL
F.N.	FIELD NAILING	T&B	TOP AND BOTTOM
F.O.	FACE OF	THK	THICK
F.O.C.	FACE OF CONCRETE	THRD	THREADED
F.S.	FAR SIDE	THRU	THROUGH
FT	FOOT or FEET	T.O.	TOP OF
GA.	GAUGE	T.O.CONC.	TOP OF CONCRETE
GALV.	GALVANIZED	T.O.STL	TOP OF STEEL
GRND	GROUND	T.O.SLAB	TOP OF STRUCTURAL SLAB
GR.	GRADE	TYP.	TYPICAL
H.D.G.	HOT DIPPED GALVANIZED	U.O.N.	UNLESS OTHERWISE NOTED
H.P.	HIGH POINT	URM	UNREINFORCED MASONRY
HSB	HIGH STRENGTH BOLTS	VERT., (V)	VERTICAL
HT	HEIGHT	V.I.F.	VERIFY IN FIELD
H.D.	HOLD-DOWN	W or WF	WIDE FLANGE
HSS	HOLLOW STRUCTURAL STEEL	W/	WITH
		W/O	WITHOUT
HK, HKS	HOOK, HOOKS	W.P.	WORK POINT
HORIZ., (H)	HORIZONTAL	WT	WEIGHT
I.D.	INSIDE DIAMETER		
INFO.	INFORMATION		

REFERENCE SYMBOLS

DETAIL/SECTION
1 / S3.1 — SECTION NUMBER; DRAWING SHEET NUMBER, HYPHEN INDICATES SAME SHEET; LINE OF SECTION CUT; DIRECTION OF VIEW

DETAIL
1 / S5.2 — DETAIL NUMBER; DRAWING SHEET NUMBER, HYPHEN INDICATES SAME SHEET; LINE OF SECTION CUT; DIRECTION OF VIEW

2 / S6.3 — AREA OF DETAIL

SINGLE ELEVATION
DIRECTION OF VIEW; ELEVATION NUMBER; DRAWING SHEET NUMBER, HYPHEN INDICATES SAME SHEET

GRID LINES
1 / A

REVISION
REVISION NUMBER - SEE REVISION HISTORY ON TITLE BLOCK OF EACH SHEET

SHEET INDEX

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REGISTERED PROFESSIONAL ENGINEER — No. S 5580 — Exp. 12-31-17 — STRUCTURAL — STATE OF CALIFORNIA

Revisions

No.	Date	Description

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NOV 28 2017
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LICENSED ARCHITECT — GERALD W. HUNTER — NO. C24405 — REN. 1-31-19 — STATE OF CALIFORNIA

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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

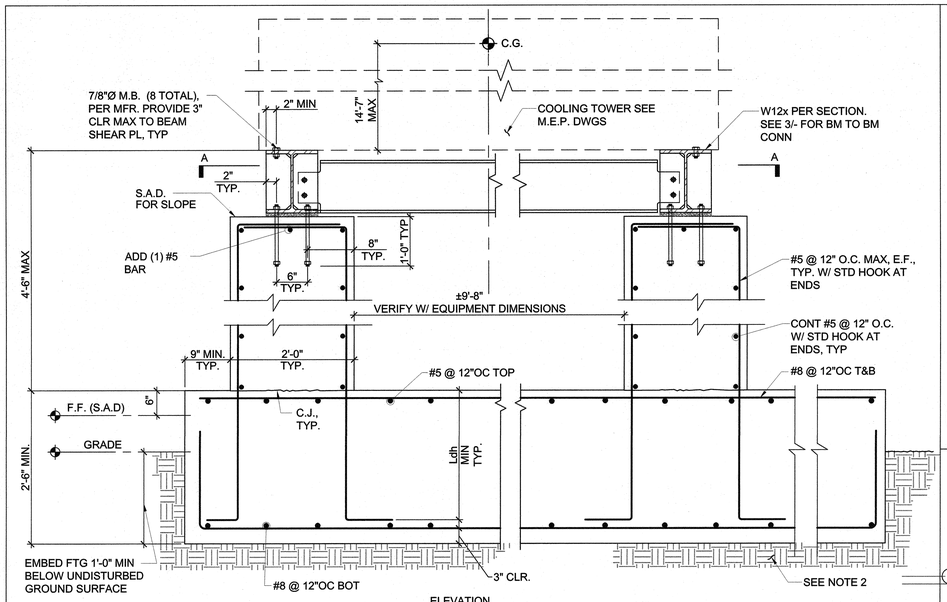
OSHPD#:S172-470-37-00

Sheet Title

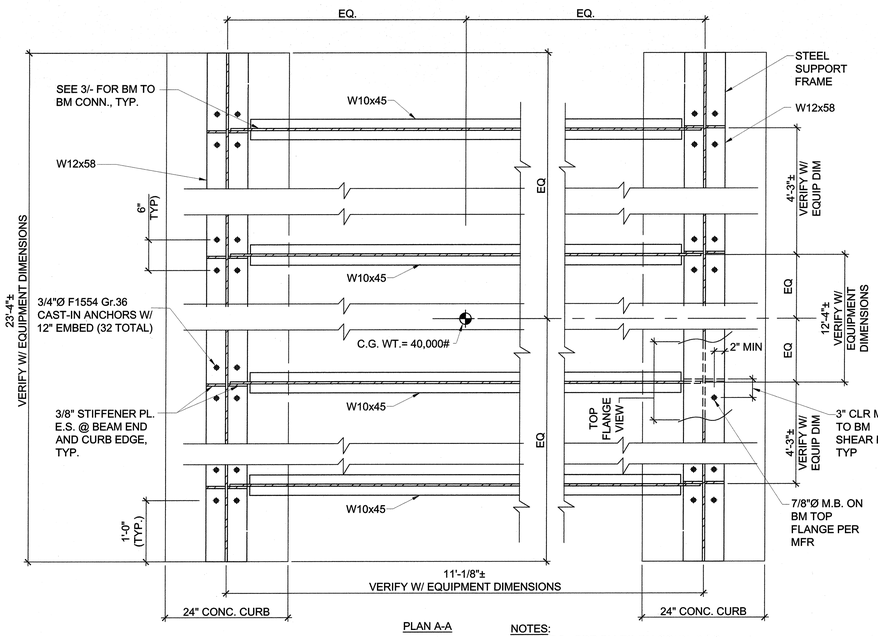
GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

Sheet Number

S001



ELEVATION

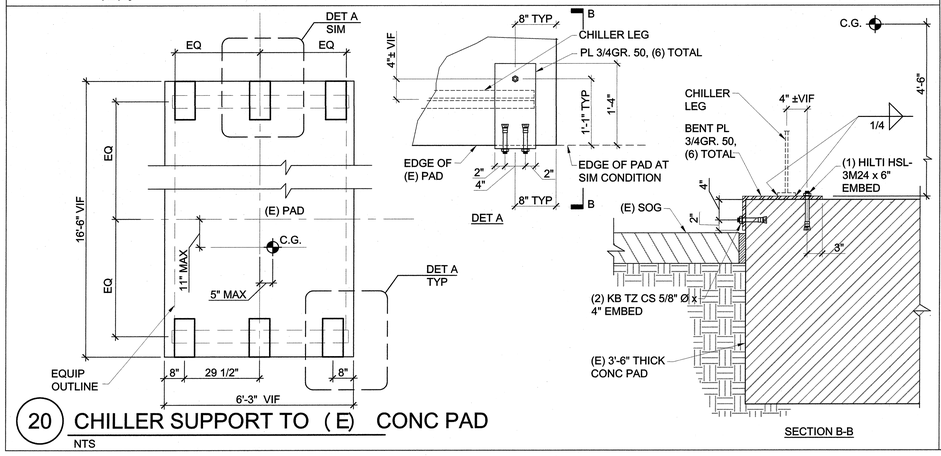


PLAN A-A

NOTES:
1. SEE 3/- FOR BM-TO-BM CONN. INFO.
2. COOLING TOWER FOOTING TO BE PLACED ON NATIVE SOIL. MECHANICALLY COMPACT EXCAVATION; PROVIDE THE MINIMUM COMPACTION IN ACCORDANCE WITH THE ASTM D1557 TEST METHOD: 90% MAXIMAUM DRY DENSITY.

19 COOLING TOWER SUPPORT BASE

1"=1'-0"



SECTION B-B

20 CHILLER SUPPORT TO (E) CONC PAD

NTS

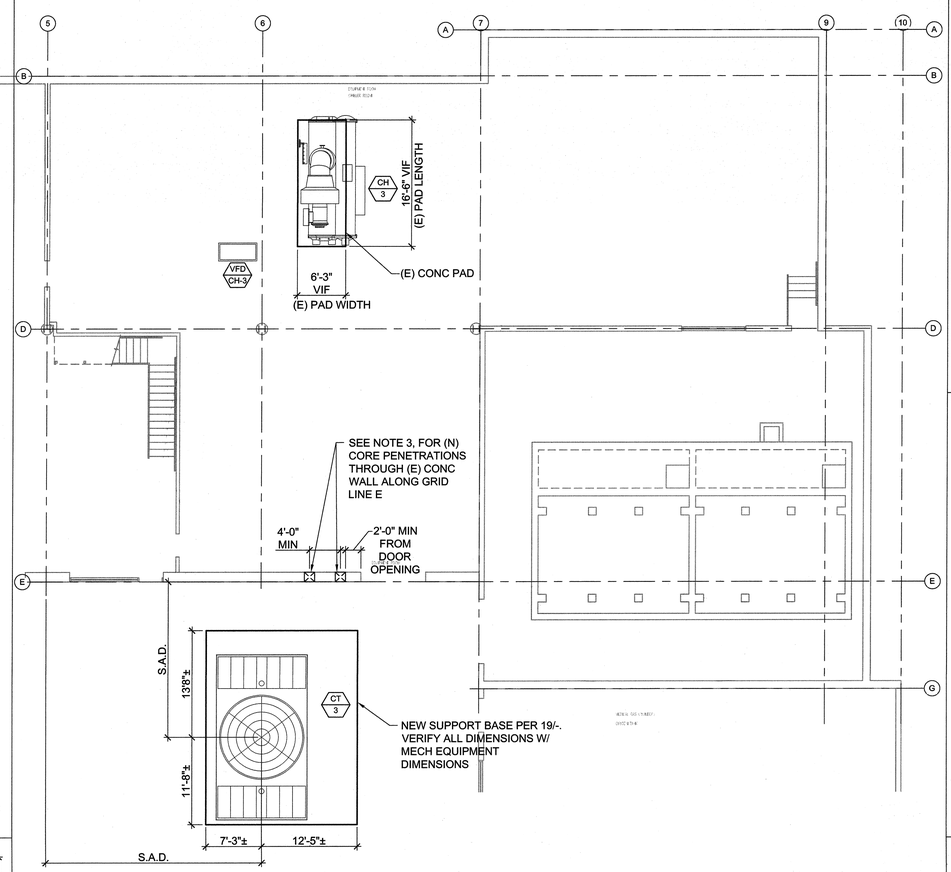
CONCRETE REINFORCING DEVELOPMENT & SPLICE LENGTHS

BAR LOCATION	CONCRETE TYPE	CONCRETE STRENGTH	BAR SIZE #3 ℓd	ℓs	ℓdh	#4 ℓd	ℓs	ℓdh	#5 ℓd	ℓs	ℓdh	#6 ℓd	ℓs	ℓdh	#7 ℓd	ℓs	ℓdh	#8 ℓd	ℓs	ℓdh	#9 ℓd	ℓs	ℓdh	#10 ℓd	ℓs	ℓdh	#11 ℓd	ℓs	ℓdh
VERT. WALL BARS	NWC	f'c ≥ 4ksi	12	16	8	12	16	10	15	19	12	18	23	15	25	33	17	29	37	19	36	46	22	44	57	25	53	68	27
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	f'c ≥ 4ksi	14	19	9	19	25	12	24	31	15	28	37	18	41	53	21	47	61	24	58	75	27	71	93	31	85	111	34
FOOTING BOTTOM BARS	NWC	f'c ≥ 4ksi	12	16	8	12	16	10	15	19	12	18	23	15	25	33	17	29	37	19	33	42	22	39	50	25	48	62	27
SLAB ON GRADE	NWC	f'c ≥ 4ksi	12	16	8	12	16	10	15	19	12	18	23	15	29	37	17	36	47	19	44	58	22	54	70	25	65	84	27

NOTES:
1. ℓd = DEVELOPMENT LENGTH
   ℓs = LAP SPLICE LENGTH
   ℓdh = HOOK DEVELOPMENT LENGTH
2. WHEN SPLICING BARS OF DIFFERENT SIZE, USE LAP SPLICE LENGTH OF LARGER BAR, U.O.N.
3. STAGGER SPLICES AS INDICATED ON DRAWINGS.
4. MULTIPLY THE ABOVE LENGTHS BY 1.5 FOR EPOXY COATED REINF.

9 REINFORCING DEVELOPMENT & SPLICE LENGTHS

N.T.S.



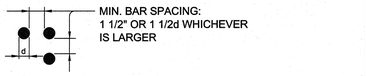
EQUIPMENT SCHEDULE

EQUIP. NO.	DESCRIPTION	MAX WEIGHT (LBS)	EQUIPMENT SIZE H (in)	W (in)	D (in)	ANCHOR TYPE	DETAIL	COMMENTS
CH-3	CHILLER	30,000	117	76	180	PAD MOUNTED	20/-	-
VFD-CH3	VFD	1,531	89	55	24	MOUNTED ON (N) HOUSEKEEPING PAD	4/-	SEE ANCHORAGE DETAILS ON MEP DRAWINGS
CT-3	COOLING TOWER	40,000	261	259	142	SUPPORT FRAME	19/-	-

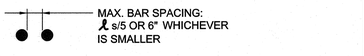
NOTES:
1. SEE ARCH OR MEP DRAWINGS FOR LOCATIONS OF EQUIPMENT.
2. ALL (E) CONC MEMBER'S STRENGTH IS f'c = 3,000 PSI.
3. ADD (2) 16" MAX. DIAMETER CORES AT WALL ALONG GRID LINE E AS FOLLOWS: BEFORE CORING WALL, SCAN WALL AND LOCATE WALL VERT AND HORIZ REBAR, AT BOTH WALL FACES; HORIZONTALLY, CENTER CORES WITH RESPECT TO ONE VERTICAL WALL BAR, CENTER-TO-CENTER HORIZ DISTANCE BETWEEN CORES TO BE 4'-0" MIN; CLR DISTANCE BETWEEN CORES AND (E) WALL OPENINGS TO BE 2'-0" MIN; CLR DISTANCE BETWEEN CORES AND WALL REBAR TO BE 2" MIN; PLACE CORES HORIZONTALLY SO THAT ONLY ONE (1) VERT REBAR IS CUT PER CORE, PER WALL FACE; PLACE CORES VERTICALLY AT THE SAME ELEVATION SO THAT ONLY ONE (1) HORIZ REBAR IS CUT, AT EA WALL FACE. PROVIDE 8" CLR MIN VERTICAL DIMENSION BETWEEN CORES AND BOTTOM FLANGE OF STEEL BEAMS FRAMING INTO WALL.

12 CENTRAL PLANT FIRST FLOOR PARTIAL PLAN

SCALE = 1/8" = 1'-0"



A BAR SPACING FOR NON-SPLICED BARS



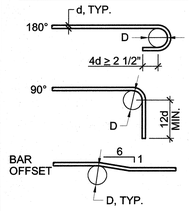
NOTE: PROVIDE LOCATIONS FOR NON-CONTACT SPLICES TO SEOR FOR APPROVAL

B BAR SPACING FOR BARS SPLICED WITH A NON-CONTACT LAP

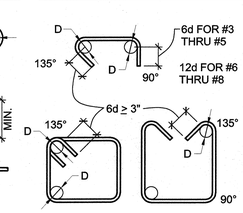
1 BAR SPACING IN CONCRETE

N.T.S.

STD HOOKS & BENDS



STIRRUPS, TIES & HOOPS

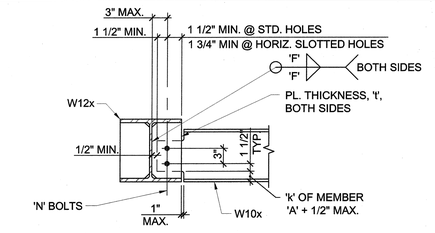


NOTE:
1. DO NOT FIELD BEND REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE.

BEND DIAMETER, D		
BAR SIZE	STD HOOKS & BENDS	STIRRUPS, TIES & HOOPS
#3 THRU #5	6d	4d
#6 THRU #8	6d	6d
#9 THRU #11	8d	NA
#14 THRU #18	10d	NA

2 HOOKS & BENDS

N.T.S.



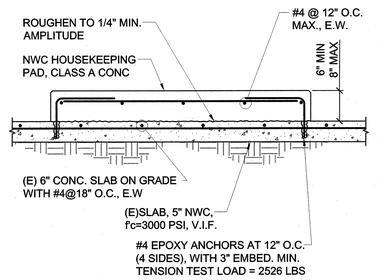
BEAM CONNECTION SCHEDULE

NOMINAL MEMBER DEPTH	SHEAR PL. THICKNESS ('t')	FASTENERS A325-X U.O.N. ('N')	WELD SIZE ('F')	REMARKS
10"	3/8"	(2) 7/8"Ø	5/16"	

NOTES:
1. BOLT HOLES TO BE STD. HOLES 1/16" GREATER THAN BOLT DIAMETER.
2. BOLTS TO BE FULLY PRETENSIONED W/ HARDENED WASHERS, U.O.N.
3. SHORT SLOTTED HOLES IN SHEAR PLATE MAY BE USED.

3 BEAM TO BEAM CONNECTION

N.T.S.



NOTES:
1. SEE ARCH. AND MECH. DWGS FOR HEIGHT, SIZE, CHAMFERS & LOCATION OF CONCRETE PADS.
2. COORDINATE (E) REINF. LOCATIONS TO AVOID INTERFERENCE WITH ANCHORS.

4 HOUSEKEEPING PAD

1"=1'-0"

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proj. B5646024.00

Consultant

LICENSED PROFESSIONAL ENGINEER STRUCTURAL No. S 5590 Exp. 12-31-17 STATE OF CALIFORNIA

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FACILITIES DEVELOPMENT DIVISION

LICENSED ARCHITECT WAYNE D. N. HUNTER NO. C24405 REN. 1-31-19 STATE OF CALIFORNIA

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172-470-37-00

Sheet Title

PLANS AND TYPICAL DETAILS

Sheet Number

S002

SHEET INDEX

MECHANICAL DEMOLITION NOTES

1. FIELD VERIFY SIZES OF ALL EXISTING PIPING SHOWN TO REMAIN AND BE REUSED. IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

2. PATCH, INFILL AND REPAIR WITH LIKE MATERIALS TO NEW CONDITION ALL EXISTING MECHANICAL EQUIPMENT, CHILLED AND HOT WATER PIPING, DUCTWORK, PNEUMATIC TUBING AND CONDENSATE PIPING PENETRATIONS WHICH ARE NOT BEING REUSED OR WHICH HAVE BEEN DEMOLISHED. WHERE MECHANICAL CURBS & PLATFORMS HAVE BEEN DEMOLISHED, THE CONTRACTOR SHALL REPAIR, REFINISH, AND RESTORE ALL SURFACES & ADJOINING SURFACES TO A LEVEL, FLUSH AND UNIFORM APPEARANCE.

SEISMIC BRACING NOTES

ANCHORAGE AND SEISMIC BRACING NOTES

1. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DETAILED ON THE CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY THE 2016 CBC, SECTION 1616A.1.18.

2. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD (RDP) AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

3. SEISMIC BRACING OF PIPES, DUCTS AND CONDUITS: CONTRACTOR SHALL PROVIDE SUPPORTS, ATTACHMENTS AND BRACING FOR PIPES, DUCTS AND CONDUITS IN ACCORDANCE WITH ONE OF THE FOLLOWING SYSTEMS POSSESSING A CURRENT OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM):

A. MASON INDUSTRIES, INC. (OPM-0043-13)
B. ERICO INTERNATIONAL CORP, FIRE SPRINKLERS ONLY (OPM-0062-13)

LAYOUT DRAWINGS OF THE SUPPORTS, ATTACHMENTS, AND BRACING SYSTEMS IN ACCORDANCE WITH THE PREAPPROVAL SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL (RDP) IN RESPONSIBLE CHARGE OF THE PROJECT FOR REVIEW TO VERIFY THAT THE DETAILS ARE IN CONFORMANCE WITH THE CODE REQUIREMENTS. THE LAYOUT DRAWINGS SHALL AS A MINIMUM SATISFY THE REQUIREMENTS OF ASCE 7 SECTION 13.6 AS MODIFIED BY THE 2016 CBC SECTION 1616A.

A. THE STRUCTURAL ENGINEER OF RECORD (SEOR) SHALL VERIFY THAT THE SUPPORTING STRUCTURE IS ADEQUATE FOR THE FORCES IMPOSED ON IT THE SUPPORTS, ATTACHMENTS, AND BRACES INSTALLED IN ACCORDANCE WITH THE PREAPPROVAL IN ADDITION TO ALL OTHER LOADS.

B. THE SEOR SHALL FORWARD THE SUPPORTS, ATTACHMENTS, AND BRACING DRAWINGS (INCLUDING APPROVED AMENDED CONSTRUCTION DOCUMENTS FOR SUPPLEMENTARY FRAMING, WHERE REQUIRED) TO THE DISCIPLINE IN RESPONSIBLE CHARGE WITH A NOTATION INDICATING THAT THE DRAWINGS HAVE BEEN REVIEWED AND ARE IN GENERAL CONFORMANCE WITH THE PREAPPROVAL AND THE DESIGN OF THE PROJECT.

C. A "SHOP DRAWING STAMP" MAY BE USED TO INDICATE COMPLIANCE WITH THIS REQUIREMENT.

D. THE REGISTERED DESIGN PROFESSIONAL (RDP), OTHER THAN SEOR, MAY PROVIDE THE SHOP DRAWING STAMP FOR SMALL PROJECTS AT THE DISCRETION OF THE OSHPD DISTRICT STRUCTURAL ENGINEER.

THE SEOR SHALL DESIGN ANY SUPPLEMENTARY FRAMING THAT IS NEEDED TO RESIST THE LOADS, MAINTAIN STABILITY, AND/OR TO SATISFY THE INSTALLATION REQUIREMENTS OF THE PRE-APPROVED SYSTEM. THE SUPPLEMENTARY FRAMING SHALL BE SUBMITTED TO OSHPD AS AN AMENDED CONSTRUCTION DOCUMENT (ACD). THE LAYOUT DRAWINGS WITH THE SHOP DRAWINGS STAMP SHALL BE SUBMITTED TO THE OSHPD DISTRICT STRUCTURAL ENGINEER FOR REVIEW OF THE FOLLOWING:

E. STRUCTURE SUPPORTING THE DISTRIBUTION SYSTEM HAS ADEQUATE STRUCTURAL CAPACITY.

F. SEISMIC DESIGN FORCES (Fp) ARE IN ACCORDANCE WITH THE 2016 CBC

G. VERIFICATION THAT SUBMITTAL IS WITHIN THE SCOPE OF THE OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM), INCLUDING:
- SIZE OF DISTRIBUTION SYSTEM COMPONENTS
- SPACING OF BRACING AND FLEX JOINTS
- SUBSTRATE FOR ATTACHMENTS

THE LAYOUT DRAWINGS WITH THE SHOP DRAWING STAMP SHALL BE KEPT ON THE JOBSITE AT ALL TIMES AND SHALL BE USED FOR INSTALLATION OF THE SUPPORT AND BRACING. THE OSHPD FIELD STAFF WILL REVIEW THE INSTALLATION. A COPY OF THE CHOSEN BRACING SYSTEM(S) INSTALLATION GUIDE/ MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING THE INSTALLATION OF HANGERS AND/ OR BRACES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF EACH OPM AND FURNISH THE IOR WITH ONE COPY OF EACH. COMPONENTS OF TWO OR MORE PRE-APPROVED BRACING SYSTEMS SHALL NOT BE MIXED. ONLY ONE PRE-APPROVED BRACING SYSTEM MAY BE USED FOR A RUN OF PIPE, DUCT OR CONDUIT. ANY SUBSTITUTION OF COMPONENT OF A PRE-APPROVED BRACING SYSTEM SHALL REQUIRE OSHPD REVIEW AND APPROVAL.

4. MECHANICAL COMPONENTS THAT ARE INSTALLED IN-LINE WITH THE DUCT SYSTEM AND HAVE AN OPERATING WEIGHT GREATER THAN 75 LBS SHALL BE SUPPORTED AND LATERALLY BRACED INDEPENDENT OF THE DUCT SYSTEM (ASCE 7 SECTION 13.6.7).

5. APPURTENANCES SUCH AS DAMPERS, LOUVERS AND DIFFUSERS SHALL BE POSITIVELY ATTACHED WITH MECHANICAL FASTENERS (ASCE 7 SECTION 13.6.7).

6. SEISMIC RESTRAINTS FOR DUCTS, PIPING AND CONDUITS MAY BE OMITTED FOR ANY OF THE FOLLOWING CONDITIONS:

A. CONDUITS, CABLE TRAYS, AND OTHER ELECTRICAL DISTRIBUTION SYSTEMS (RACEWAYS) OR HVAC DUCTS SUSPENDED FROM HANGERS WHERE EACH HANGER IN THE DUCT RUN IS 12 INCHES OR LESS IN LENGTH. WHERE ROD HANGERS WITH A DIAMETER GREATER THAN 3/8-INCH ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD. (CBC 1616A.1.24 & 1616A.1.25).

B. HVAC DUCTS WITH A CROSS-SECTIONAL AREA LESS THAN 6 SQUARE FEET WHERE PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR MECHANICAL COMPONENTS, OR PROVISIONS ARE MADE TO PROTECT THE DUCTS IN THE EVENT OF SUCH AN IMPACT (CBC 1616A.1.25).

C. HVAC DUCTS WITH A WEIGHT OF 10 LBS/FT OR LESS WHERE PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR MECHANICAL COMPONENTS, OR PROVISIONS ARE MADE TO PROTECT THE DUCTS IN THE EVENT OF SUCH AN IMPACT (CBC 1616A.1.25).

D. TRAPEZE ASSEMBLIES USED TO SUPPORT RACEWAYS, DUCTWORK OR PIPING WHERE THE TOTAL WEIGHT OF THE UTILITIES SUPPORTED BY TRAPEZE ASSEMBLIES IS LESS THAN 10 LBS/FT AND THE MAXIMUM NOMINAL SIZE OF ANY SUPPORTED PIPE DOES NOT EXCEED 1 INCH (CBC 1616A.1.24, 1616A.1.25 & 1616A.1.26).

E. PIPING SUPPORTED BY ROD HANGERS WHERE EACH HANGER IN THE PIPE RUN IS 12 INCHESOR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON TRAPEZES, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 INCHES OR LESS. WHERE ROD HANGERS WITH A DIAMETER GREATER THAN 3/8-INCH ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD. (CBC 1616A.1.26).

F. PIPING SATISFYING ALL OF THE FOLLOWING CONDITIONS: HAVING A NOMINAL DIAMETER OF 1 INCH OR LESS; CONFORMING TO ASME B31 OR CONSTRUCTED OF HIGH OR LIMITED DEFORMABILITY MATERIALS; HAVING JOINTS MADE BY WELDING, BRAZING, THREADING, BONDING, COMPRESSION COUPLINGS, OR GROOVED COUPLINGS; PROVISIONS ARE MADE TO AVOID IMPACT WITH OTHER STRUCTURAL OR NONSTRUCTURAL COMPONENTS, OR TO PROTECT THE PIPING IN THE EVENT OF SUCH IMPACT (CBC 1616A.1.26).

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2016 CBC, 2016 CALIFORNIA FIRE CODE, 2016 CMC, NFPA 13, 2016 CEC, OSHPD REGULATIONS AND ALL OTHER APPLICABLE CODES.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND PROVIDE REPAIR OF ADJACENT EXISTING SURFACES, EQUIPMENT, AREAS, AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF ANY DEMOLITION AND/OR NEW WORK.

3. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION, AND SERVICES NECESSARY FOR THE COMPLETION OF THE WORK. ALL MATERIALS & WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND GOVERNING REGULATIONS AND SHALL MEET WITH THE APPROVAL OF THE CITY AND STATE FIRE MARSHAL.

4. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO ANY CONSTRUCTION, INCLUDING ARCHITECTURAL, STRUCTURAL, AIR CONDITIONING, PLUMBING, AND ELECTRICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION MAY BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE OWNER.

5. DO NOT SCALE DRAWINGS - ALL DIMENSIONS AND JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO BID SUBMITTAL, START OF CONSTRUCTION AND / OR FABRICATION OF MATERIALS. ANY DESCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS WHICH PREVENTS THE INSTALLATION OF EQUIPMENT, DUCTWORK AND PIPING AS SHOWN SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION.

6. CONTRACTOR SHALL COORDINATE ALL DUCT, PIPE AND EQUIPMENT LOCATIONS WITH PLUMBING, ELECTRICAL, STRUCTURAL, AND ALL OTHER TRADES. ENSURE THAT ALL CONTROL DEVICES, MANUAL VOLUME DAMPERS, SHUT-OFF VALVES, FILTERS ETC. ARE ACCESSIBLE FOR MAINTENANCE.

7. DUCTWORK SHALL BE CONSTRUCTED, ERECTED & TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE A.S.H.R.A.E. HANDBOOK OF FUNDAMENTALS OR THE APPLICABLE STANDARDS ADOPTED BY S.M.A.C.N.A. PROVIDE RECTANGULAR DUCTS OF GALVANIZED STEEL & PREFABRICATED SPIRAL LOCKSEAM DUCTS AND FITTINGS.

8. DUCT MATERIALS SHALL COMPLY WITH ANSI/SMACNA 006-2006 HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, 3RD EDITION.

9. ALL DUCTWORK AND PIPING SHALL BE INSULATED CONSISTENTLY WITH THE REQUIREMENTS OF SECTIONS 110.8, 120.3, AND 120.4 OF 2016 ENERGY EFFICIENCY STANDARDS (E.E.S.) AND TABLES 6-6A AND 6-6B OF 2016 C.M.C.

10. INSULATION MATERIAL SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 110.8 OF THE E.E.S.

11. MATERIAL EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH SECTION 602.2 OF 2016 C.M.C.

12. COLD AIR DUCTS SHALL BE INSULATED TO PREVENT CONDENSATION PROBLEMS. REFER TO DUCT INSULATION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

13. THERMAL OR ACOUSTICAL LINING MATERIALS SHALL NOT BE INSTALLED WITHIN DUCTS, TERMINAL BOXES, SOUND TRAPS AND OTHER IN-DUCT SYSTEMS SERVING AREAS SUCH AS OPERATING ROOMS, CATHETERIZATION LABORATORIES, DELIVERY AND RECOVERY ROOMS, NURSERIES, INTENSIVE CARE UNITS AND NEGATIVE PRESSURE ISOLATION ROOMS UNLESS TERMINAL FILTERS WITH 90 PERCENT EFFICIENCY ARE INSTALLED DOWNSTREAM OF THE DUCT LINING PER SECTION 603.3 OF THE 2016 C.M.C.

14. MINIMUM OUTDOOR AIR REQUIREMENTS SHALL BE TO SATISFY THE OUTSIDE AIRCHANGE RATE REQUIRED PER 2016 CMC TABLE 4-A.

15. AIRCRAFT CABLE SHALL BE PRE-STRETCHED.

16. H.V.A.C. SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTIONS 110.2 AND 120.2 OF THE 2016 E.E.S.

17. H.V.A.C. EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS PER SECTIONS 110.1-110.3, 110.5 AND 120.0-120.4 OF 2016 E.E.S.

18. H.V.A.C. EQUIPMENT AND SYSTEMS SHALL MEET THE ACCEPTANCE REQUIREMENTS PER SECTION 125 OF E.E.S.

19. SEALANTS SHALL COMPLY WITH UL 181, UL 181A, OR UL 181B, AND BE NONTOXIC AND WATER RESISTANT PER THE 2013 E.E.S. CHAPTER 3, SEC 120.4 & CHAP 7, SEC 150.0.

20. SEALANTS FOR EXTERIOR APPLICATIONS SHALL PASS ASTM TESTS C 731, C 732, AND D 2202. SEALANTS AND MESHES SHALL BE RATED FOR EXTERIOR USE. PER E.E.S. SECTION 120.4.

DESIGN COMMENTS/NOTES

Plant original/current design capacity unchanged from original construction of last major project, 1250 tons plus Ice Output. Confirmed 2 of 3 Secondary Pumps, cooling tower capacity, plant currently designed for 1250 tons output capacity. Ice Plant presently operating at best 80% capacity which is maximum 400 tons. Absorber max output 450 tons. 2/3 secondary pumps rated at delivery 1,250 tons.

Based on Ice Machines in need of compressor replacements, ice storage leaking and approximately 80% capacity, Chiller 3 has ben offline in need of replacement for months, Chillers 1 and 2 existing are same age as 3 and near failure, machine replacements are phased to match master plan expansion.

Planned expansions, which chiller sizing is based on, see table below, Phase 1 150,000 SF General Patient tower (250 SF/ton) presently in planning. Phase 2 10-15 year outlook, (250SF/ton). Total Final State, 460k existing. 150k expansion 1, 150k expansion 2, total 760k expansion. Loads presently estimated at 225-250 SF/ ton total buildout, 2,700 tons.

Existing Chiller 3 (300 Tons Dead) Used for location of replacement Chiller 3 (800 Tons)

Ice Chillers 4/5 and Ice banks are all in need of removal. Plant all Electric.

Absorption Chiller 6 is in need of re-tubing and is not planned for repair or future base operation in all electrical plant.

Emergency Phase provides 800 Tons Cooling.

Phase 1 and Phase 2 identify new vs. old equipment end of Phase 1, all existing chillers, pumps, towers are removed.

End of Phase 1, all existing chillers, ice systems, pumps, towers are removed.

Phase 2 adds remaining 800 tower and cooling tower cell.

CHILLERS

				Emergency Repairs (This Project)	Phase 1 Design Submittal 2016	Phase 2 Work Future Expansion
Loads				1500	2100	2700
		Tons Nominal	Current Operation			
Chiller	1 Existing	500	500	500	0	0
Chiller	2 Existing	300	0	0	0	0
Chiller	3 Dead	300	0	0	0	0
Ice Chiller	4 E	168	0	0	0	0
Ice Chiller	5 E	168	0	0	0	0
Absorber	6 E	500	450	450	0	0
ICE Output	ICE	500	400	500	0	0
Future Chillers	3 N/Replace	800		800	800	800
	4 New	800			800	800
	5 New	800			800	800
	6 New	800			800	800
	7 New	400				400
			1350	2250	3200	3600
Less Redundancy (No Ice or Absorber)				-950	-800	-800
Safe Output Capacity				1300	2400	2800

COOLING TOWERS

Towers - Demolished Phase 1	1 Existing	684	650	650		
	2 Existing	684	650	650		
Future Towers	3 New	800		800	800	800
	4 New	800			800	800
	5 New	800			800	800
	6 New	800			800	800
	7 New	800				800
			1300	2100	3200	4000
Less Redundancy or loss of old tower				-650	-800	-800

MECHANICAL LEGEND

SYMBOL	ABBREV.	DESCRIPTION
10 x 6	10 x 6	DUCTWORK (1ST NUMBER INDICATES SIDE SHOWN, DOUBLE OR SINGLE LINE)
	M.V.D.	MANUAL VOLUME DAMPER
	M.O.D.	MOTOR OPERATED DAMPER
	F.S.D.	COMBINATION FIRE AND SMOKE DAMPER AUTOMATIC FIRE AND SMOKE DAMPER
	F.C.	FLEXIBLE CONNECTION (DUCTWORK)
		LINED DUCTWORK (OR PLENUM)
		STAINLESS STEEL DUCTWORK (OR PLENUM)
		RECTANGULAR DUCT UP
		RECTANGULAR DUCT DOWN
		DUCT TRANSITION (RECTANGULAR TO ROUND)
		FLEXIBLE DUCTWORK
	S.A.	SUPPLY AIR DUCT
	R.A./O.A.	RETURN AIR DUCT/OUTSIDE AIR DUCT
	E.A.	EXHAUST AIR DUCT
		PIPE DOWN
		PIPE UP
CO_2		CARBON DIOXIDE SENSOR
(T) AC-1	T'STAT	THERMOSTAT (NUMBER INDICATES EQUIPMENT OR ZONE SERVED)
(H) AC-1	H'STAT	HUMIDISTAT (NUMBER INDICATES EQUIPMENT OR ZONE SERVED)
SD	S.D.	SMOKE DETECTOR (DUCT MOUNTED)
CHWR	C.H.W.R.	CHILLED WATER RETURN
CHWS	C.H.W.S.	CHILLED WATER SUPPLY
CDWR	C.D.W.R.	CONDENSER WATER RETURN
CDWS	C.D.W.S.	CONDENSER WATER SUPPLY
RV	R.V.	REFRIGERANT VENT
	A.V.	AUTOMATIC AIR VENT
	S.A.	SOUND ATTENUATOR
	F.S.	FLOW SWITCH
	E.R.	ECCENTRIC REDUCER
	C.R.	CONCENTRIC REDUCER
	BL.V.	BALANCING VALVE
	B.V.	BALL VALVE
	BF.V.	BUTTERFLY VALVE
	CH.V.	CHECK VALVE
	C.V. (2W)	CONTROL VALVE (2-WAY)
	C.V. (3W)	CONTROL VALVE (3-WAY)
	F.M.	ELECTROMAGNETIC FLOW METER
	A.F.C.V.	AUTOMATIC FLOW CONTROL VALVE
	F.C.V.	FLOW CONTROL VALVE
	P.R.V.	PRESSURE REDUCING VALVE
	P.I.C.V. (2W)	PRESSURE INDEPENDENT CONTROL VALVE (2-WAY)
	P.S.V.	PRESSURE SUSTAINING VALVE
	G.V.	GATE VALVE
	GL.V.	GLOBE VALVE
	T.D.V.	TRIPLE DUTY VALVE (COMB. SHUT-OFF, CHECK & BALANCING)
	P.R.V.	PRESSURE RELIEF VALVE
	P.G.	PRESSURE GAUGE WITH GAUGE COCK
	STR.	STRAINER W/ DRAIN VALVE & 3/4" HOSE END & CAP
	B.F.	BLIND FLANGE
	TH.	THERMOMETER
	T.W.	TEST WELL (PETE'S PLUG - PRESSURE AND/OR TEMPERATURE)
	U.	UNION
	A.L.	ACOUSTICAL DUCT LINER
	A.F.F.	ABOVE FINISH FLOOR
	C.F.M.	CUBIC FEET PER MINUTE
	CONC.	CONCRETE
	CONTR.	CONTRACTOR
	D.L.	ACOUSTICAL DUCT LINER
	DN.	DOWN
	EXH.	EXHAUST
	FLR.	FLOOR
	FT.	FEET OR FOOT
	H.O.A.	HANDS - OFF - AUTOMATIC
	ISO.	ISOLATION
	L.O.D.	LIMIT OF DEMOLITION
	O.A.	OUTSIDE AIR
	P.O.C.	POINT OF CONNECTION
	QTY.	QUANTITY
	REQ'D.	REQUIRED
	RET.	RETURN
	SHT.	SHEET
	TYP.	TYPICAL
	U.N.O.	UNLESS NOTED OTHERWISE
	U.T.R.	UP THRU ROOF
	V.F.D.	VARIABLE FREQUENCY DRIVE
	V.T.R.	VENT THRU ROOF
	W/	WITH

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Revisions

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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

MECHANICAL LEGEND & GENERAL NOTES

Sheet Number

M001

CENTRIFUGAL CHILLER SCHEDULE

UNIT NO.	MANUFACTURER	MODEL NO.	LOCATION	CAPACITY (TONS)	REFRIGER ANT	REFRIG. CAPACITY (LBS)	EVAPORATOR DATA					CONDENSER DATA					PERFORMANCE	ELECTRICAL				OPER. WT. (LBS)	REMARKS
							FLOW GPM	MAX P.D.	E.W.T. (°F)	L.W.T. (°F)	NO. OF PASSES	G.P.M.	P.D. (ft hd.)	E.W.T.	L.W.T.	NO. OF PASSES	KW/TON (100% LOAD)	V. / PH. / HZ.	kW	R.L.A.	M.C.A.		
CH 3	TRANE	CVHF0760	CENTRAL PLANT	800	HCFC-123	1,300	1,195	16.3	58	42	2	2,000	18.1	80	91.1	2	0.531	460/3/60	424.2	608	758	28,896	1, 2, 3, 4, 5, 6, 7

(1) VARIABLE SPEED CENTRIFUGAL CHILLER RIGIDLY MOUNTED. OSP-0168-10. (2) PROVIDE WITH REMOTE MOUNTED VFD OSP-0168-10. (3) REFER TO STRUCTURAL SHEETS FOR EQUIPMENT ANCHORAGE TO CONCRETE PAD. (4) PROVIDE WITH FLEXIBLE PIPE CONNECTORS AT CONNECTION TO EQUIPMENT. (5) REFRIGERANT SHIPPED LOOSE IN CONTAINERS AND CHARGED ONSITE BY CONTRACTOR.

(6) CHILLER COMPRESSOR TO BE REMOVED FROM CHILLER IN FIELD TO AID WITH INSTALLATION AND RE-INSTALLED AFTER CHILLER IS ANCHORED TO PAD. OSP CERTIFICATION TO BE MAINTAINED. (7) SINGLE POINT OF POWER (460V/3/60) TO CHILLER VFD. ELECTRICAL TO PROVIDE MULTIPLE POWER FEEDS FROM VFD TO CHILLER. REFER TO CHILLER WIRING DIAGRAM AND ELECTRICAL SHEETS FOR MORE DETAILS.

(8) FOR ANCHORAGE OF CHILLER REFER TO DETAIL 20/S002. FOR ANCHORAGE OF CHILLER VFD REFER TO DETAIL 8M/401

COOLING TOWER SCHEDULE

UNIT NO.	MANUFACTURER	MODEL NO.	LOCATION	SERVICE	TYPE	FAN DATA				WATER DATA			AMBIENT WET BULB TEMP. (°F)	OPER. WT. (LBS)	REMARKS
						C.F.M.	R.P.M.	ELECTRICAL		G.P.M.	E.W.T.	L.W.T.			
								H.P.	V. / PH. / HZ.						
CT 3	BALTIMORE AIR COIL	S3E-1222-14P	PLANT EXTERIOR	CONDENSER WATER	INDUCED DRAFT CROSSFLOW	203,050	1,750	40	460/3/60	2,200	91 °F	80 °F	73	40,545	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

(1) VARIABLE SPEED CROSSFLOW COOLING TOWER RIGIDLY MOUNTED. OSP-0368-10. (2) TOWER CONSTRUCTION SHALL INCLUDE STRUCTURAL UPGRADE. (3) UNIT DIMENSIONS: 11' 9-3/4"L x 21' 6-1/2"W x 21' 9-1/4"H. (4) PROVIDE WITH ELECTRONIC WATER LEVEL CONTROL PACKAGE W/ HIGH & LOW LEVEL ALARM.

(5) REMOTE MOUNTED VFD WITHIN PLANT INTERIOR. ELECTRICAL TO PROVIDE LOCAL DISCONNECT AT TOWER BASE. (6) COOLING TOWER RIGIDLY ANCHORED TO STRUCTURAL PLATFORM. REFER TO STRUCTURAL SHEETS FOR SUPPORT AND ANCHORING DETAILS.

(7) PROVIDE WITH INVERTER DUTY MOTOR WITH AEGIS SHAFT GROUNDING RING. (8) 304 STAINLESS STEEL BASIN CONSTRUCTION. 301 SERIES SHALL NOT BE ACCEPTABLE. (9) PROVIDE WITH MECHANICAL VIBRATION CUTOUT SWITCH, EXTENDED BEARING LUBRICATION LINES, HOT WATER BASIN WEIR DAMS & ALUMINUM LADDERS.

(10) PROVIDE WITH BOTH FACE AND BOTTOM OUTLET CONNECTIONS, GROOVED FOR MECHANICAL COUPLING. FACE CONNECTION SHALL BE USED FOR PIPING CONNECTION, CONTRACTOR SHALL CAP BOTTOM CONNECTION WITH 2" BLOWDOWN VALVE.

CENTRIFUGAL PUMP SCHEDULE

UNIT NO.	MANUFACTURER	MODEL	SERVICE	TYPE	G.P.M.	FT. HD.	EFF. (%)	IMPELLER DIAM. (IN.)	SPEED (RPM)	MOTOR H.P.	V/PH/Hz	WEIGHT (LBS.)	REMARKS
P 30	Bell & Gossett	8 GB	CT-1	BASE MOUNTED END SUCTION	2,000	65	73.2	9 3/4"	1780	50	460/3/60	1,500	1, 2, 3, 4, 5, 6
P 31	Bell & Gossett	6 BD	CH-3	BASE MOUNTED END SUCTION	1,250	40	74.7	7 1/2"	1780	20	460/3/60	700	1, 2, 3, 4, 5, 7

(1) PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR WITH AEGIS SHAFT GROUNDING RING. (2) PROVIDE STRAIGHTENING VANE FLEXIBLE PIPE CONNECTOR @ SUCTION INLET CONNECTION. (3) PROVIDE STANDARD STEEL BASE RAIL. TO BE MOUNTED WITH NEOPRENE ISOLATION PADS AND ANCHORED TO STRUCTURAL PAD.

(4) PROVIDE WITH VFD PER MECHANICAL SCHEDULES, LOCATED WITHIN PLANT INTERIOR. ELECTRICAL TO PROVIDE LOCAL DISCONNECT AT PUMP. (5) REFER TO STRUCTURAL SHEETS FOR HOUSKEEPING PAD DETAILS. (6) FOR ANCHORAGE REFER TO DETAIL 2/M401 (7) FOR ANCHORAGE REFER TO DETAIL 3/M401

VARIABLE FREQUENCY DRIVE SCHEDULE

UNIT NO.	MANUFACTURER	MODEL	EQUIPMENT SERVED	LOCATION	ENCLSOURE	MOTOR H.P.	ELECTRICAL			WEIGHT	REMARKS
							V/PH/Hz	M.C.A.	M.O.C.P.		
VFD CT-3	ABB, Inc.	ACH550-BCR-059A-4+B055	CT-3	CENTRAL PLANT INTERIOR	UL Type 12 - NEMA 12	40.0 hp	460/3/60			138.00 lb	1, 2, 3, 4
VFD P-30	ABB, Inc.	ACH550-BCR-072A-4+B055	P-30	CENTRAL PLANT INTERIOR	UL Type 12 - NEMA 12	50.0 hp	460/3/60			138.00 lb	1, 2, 3, 4
VFD P-31	ABB, Inc.	ACH550-BCR-031A-4+B055	P-31	CENTRAL PLANT INTERIOR	UL Type 12 - NEMA 12	20.0 hp	460/3/60			120.00 lb	1, 2, 3, 4

(1) VARIABLE FREQUENCY DRIVE OSP-0083-10. (2) PROVIDE WITH ECLIPSE BYPASS AND CIRCUIT BREAKER. (3) PROVIDE WITH BACNET PROTOCOL CONTROL COMMUNICATION. (4) FOR ANCHORAGE REFER TO DETAIL 6/M401

ELECTRIC ACTUATED CONTROL VALVE SCHEDULE

UNIT NO.	MANUFACTURER	VALVE							ELECTRIC ACTUATOR			REMARKS
		MODEL	SIZE	SERIES	DISC	BODY	SEAT	STEM	MODEL	POWER	TYPE	
CV 01-16	BRAY CONTROLS	NYL2 - 120	12"	SERIES 31	NYLON COATED	CAST IRON	EPDM	416 S.S.	70-0501	24V	OPEN/CLOSE	RESILIENT SEATED BUTTERFLY VALVE.
CV 02-16	BRAY CONTROLS	NYL2 - 120	12"	SERIES 31	NYLON COATED	CAST IRON	EPDM	416 S.S.	70-0501-SVH	24V	MODULATING	RESILIENT SEATED BUTTERFLY VALVE.
CV 06	BRAY CONTROLS	NYL2 - 100	10"	SERIES 31	NYLON COATED	CAST IRON	EPDM	416 S.S.	70-0301-SVH	24V	MODULATING	RESILIENT SEATED BUTTERFLY VALVE
CV 19	BRAY CONTROLS	NYL2 - 100	10"	SERIES 31	NYLON COATED	CAST IRON	EPDM	416 S.S.	70-0301-SVH	24V	MODULATING	RESILIENT SEATED BUTTERFLY VALVE

FLOW METER SCHEDULE

UNIT NO.	DESCRIPTION	PIPE SIZE (IN)	MANUFACTURER	MODEL	VOLTAGE (DC)	DESIGN FLOW RATE (GPM)	REMARKS
FM 01	CH 3 CHW FLOW	10"	ONICON	F-3500	24 V	1195	COORDINATE CONTROL SIGNAL TYPE WITH SEIMENS.
FM 02	CH 3 CW FLOW	12"	ONICON	F-3500	24 V	2000	COORDINATE CONTROL SIGNAL TYPE WITH SEIMENS.

BACKDRAFT DAMPER SCHEDULE

Unit No.	MFR	MODEL	WIDTH	HEIGHT	REMARKS
BD 1	GREENHECK	ES-32	8' - 4"	5' - 0"	COUNTER WEIGHTED
BD 2	GREENHECK	ES-32	8' - 4"	1' - 6"	COUNTER WEIGHTED

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

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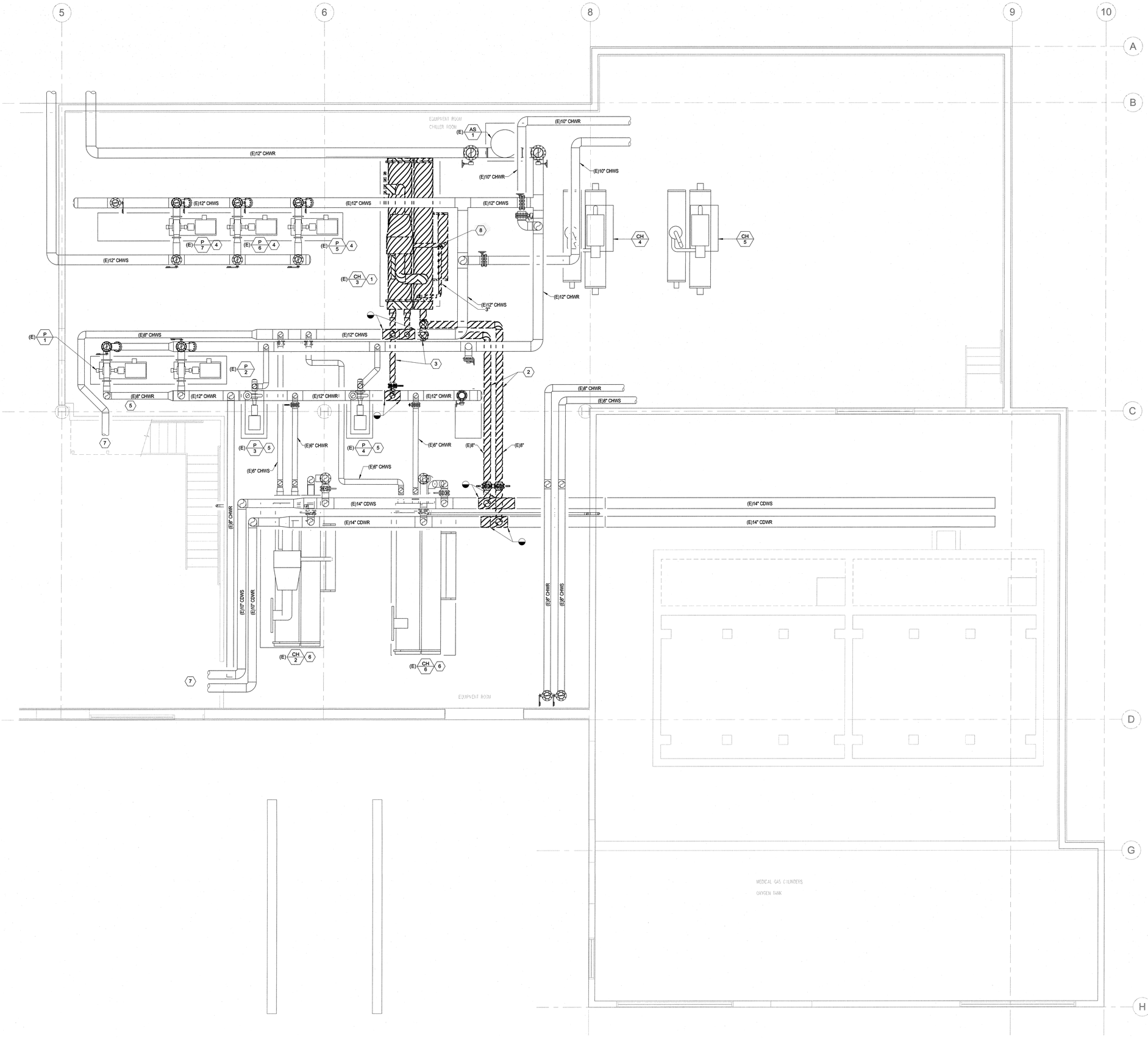
Sheet Title

MECHANICAL SCHEDULES

Sheet Number

M002



1 MECHANICAL DEMOLITION CENTRAL PLANT PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. ALL STRUCTURAL ATTACHMENTS AND ANCHORAGE NOT REFERENCED TO STRUCTURAL PLANS TO BE BY DELEGATED DESIGN BY CONTRACTOR

KEY NOTES:

1. EXISTING CHILLER 3 TO BE REMOVED. RECLAIM REFRIGERANT AND TURN OVER TO OWNER IN APPROVED CONTAINERS.
2. EXISTING 8" CDWS/R REMOVED BACK TO MAIN. SEE NEW WORK PLAN FOR CONNECTION OF 12" CDWS/R TO EXISTING 14" CDWS/R MAIN.
3. EXISTING 6" CHWS/R REMOVED TO HEADER. SEE NEW WORK PLAN FOR CONNECTION OF 8" CHWS/R TO 12" CHWS/R HEADER.
4. EXISTING SECONDARY CHILLED WATER PUMPS TO REMAIN.
5. EXISTING CHILLER PRIMARY PUMPS TO REMAIN.
6. EXISTING CHILLERS TO REMAIN.
7. TO EXISTING STEAM CHILLER.
8. (E) 3" REFRIGERANT VENT REMOVED TO UNDERSIDE OF SLAB ABOVE. CAP AND SEAL VENT AT ROOF LINE.

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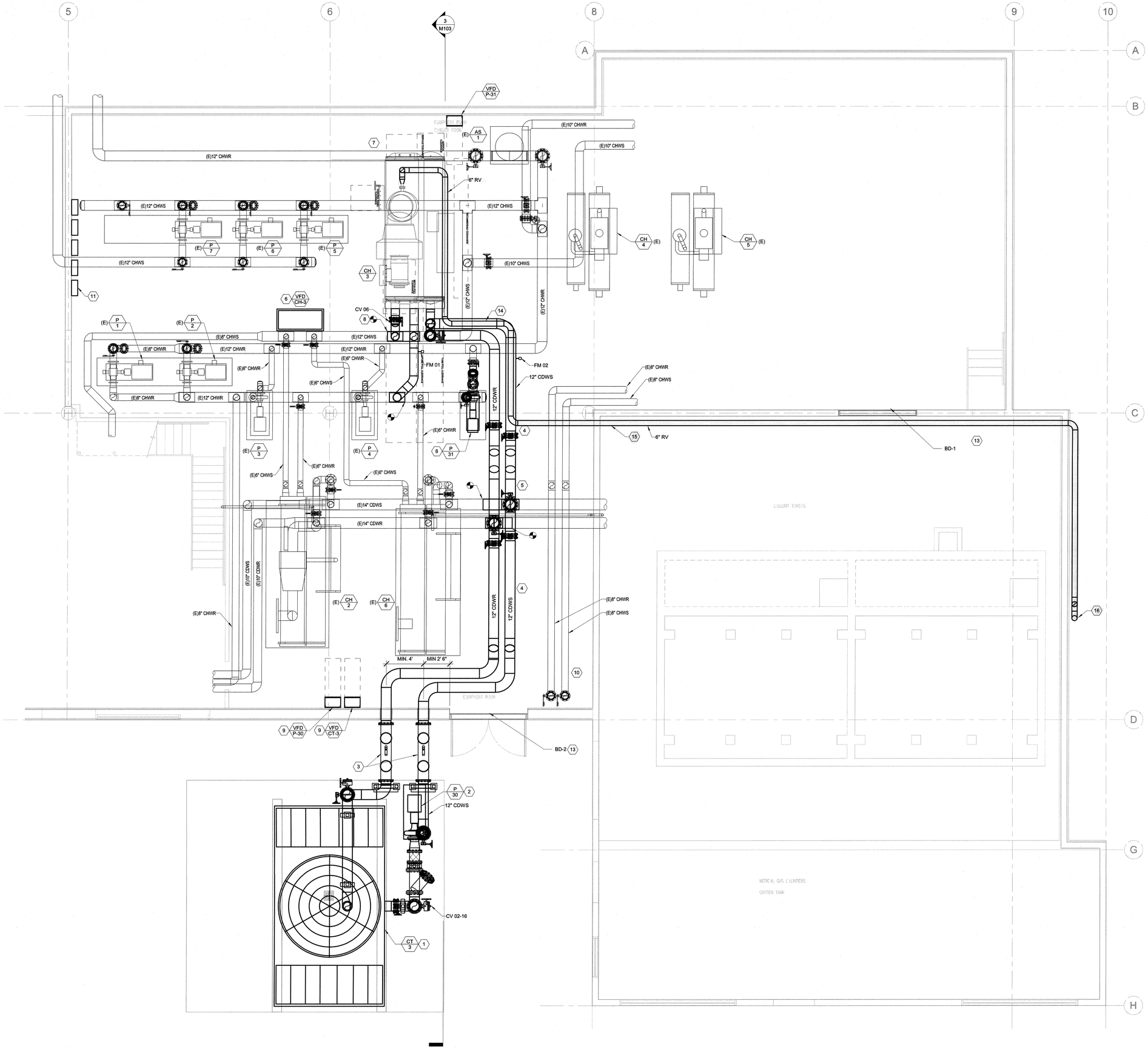
Sheet Title

MECHANICAL DEMOLITION CENTRAL PLANT PLAN

Sheet Number

M101



1 MECHANICAL CENTRAL PLANT PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. ALL STRUCTURAL ATTACHMENTS AND ANCHORAGE NOT REFERENCED TO STRUCTURAL PLANS TO BE BY DELEGATED DESIGN BY CONTRACTOR

KEY NOTES:

1. SEE DETAIL 19/S002 FOR MOUNTING COOLING TOWER SUPPORT FRAME.
2. SEE DETAIL 4/S002 FOR (N) CONCRETE HOUSEKEEPING PAD.
3. CDWS&R METRAFLEX MLF31200 +/- 1.5" MOVEMENT SEISMIC JOINT.
4. HORIZONTAL PIPE SUPPORT SYSTEM SHALL BE OPM 43 ONLY AS ALLOWED BY OSHPD FOR ENGINEERED SUPPORT SYSTEM. SEE DEFERED LISTING G001.
5. CONNECTION OF NEW 12 " CDWS/R TO EXISTING 14" CDWS/R SHALL BE THROUGH TEE CONNECTION INTO TOP OF 14" MAINS.
6. CH-3 VFD SHALL BE MOUNTED IN ACCORDANCE WITH DETAIL 8/M401.
7. CH-3 SHALL BE MOUNTED TO PAD PER DETAIL 20/S002.
8. NEW 8" CHWS/R CONNECTED TO EXISTING 12 "CHWS/R HEADERS. COORDINATE SHORT TERM SERVICE OUTAGE WITH OWNER.
9. MOUNT VFD'S TO WALL UTILIZING UNISTRUT STRUCTURE/ANCHORAGE PER DETAIL 6/M401.
10. EXISTING CHILLED WATER MAINS TO ICE STORAGE SYSTEMS, TO REMAIN.
11. EXISTING SIEMENS DDC PANELS. ADEQUATE SPACE FOR EXPANSION. CONFIRM WITH SIEMENS SCOPE OF WORK RELATED TO NEW CONDUIT AND SYSTMS CONTROLLER ADDITION TO EXISTING PANELS.
12. NEW 6" REFRIGERANT VENT.
13. BACKDRAFT DAMPER SIZED TO MATCH (E) LOUVER DIMENSIONS.
14. UTILIZE CONDENSER WATER PIPE SUPPORTS TO HANG 6" REFRIGERANT VENT LINE.
15. MOUNT REFRIGERANT VENT PIPE TO WALL, SEE DETAIL 4/M401.
16. TERMINATE REFRIGERANT VENT AT LEAST 15' ABOVE THE ADJOINING GROUND LEVEL PER 2016 CMC SECTION 1112.10.2(1); TERMINATE WITH GOOSENECK, VENT DOWNWARD.

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

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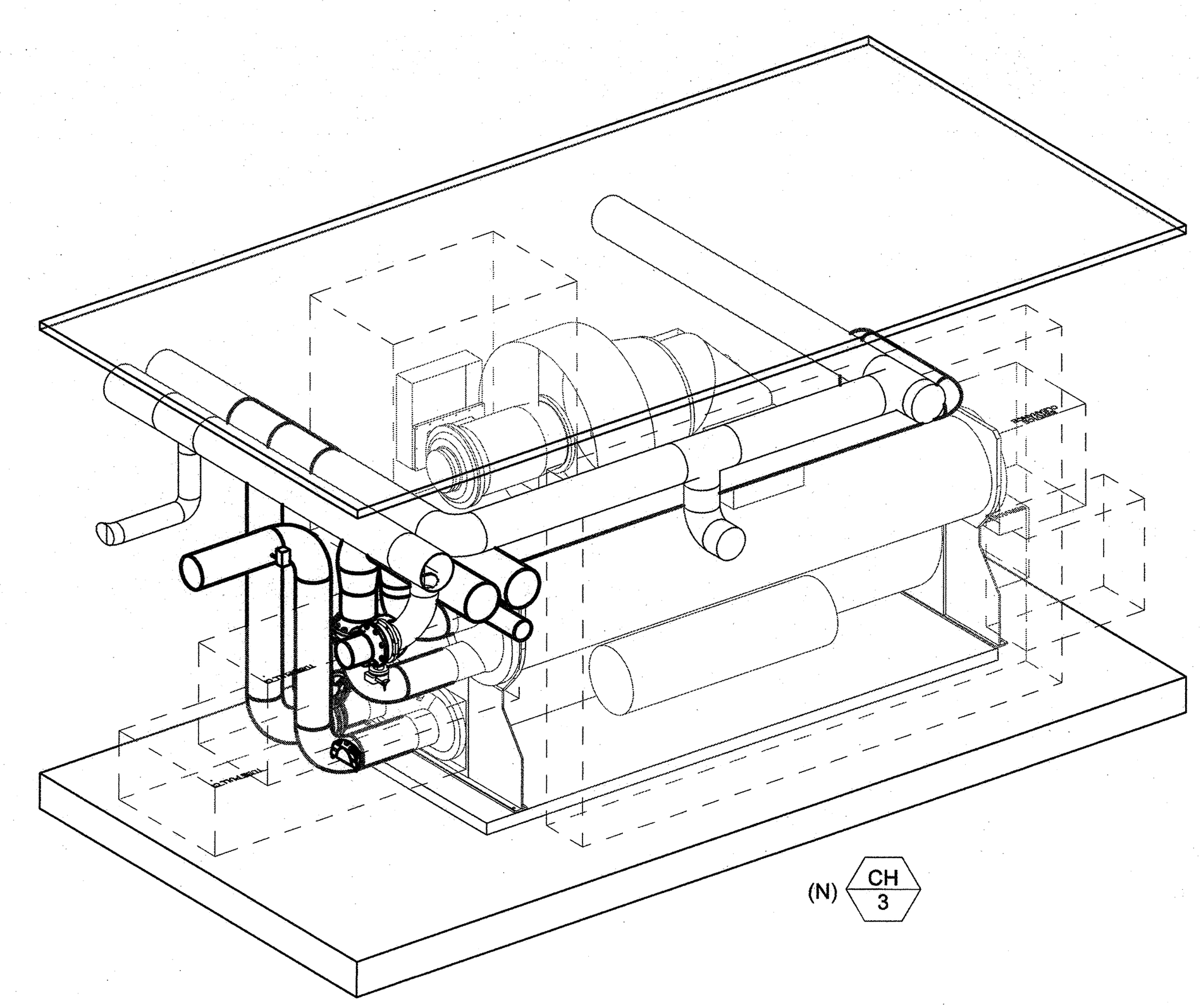
Sheet Title

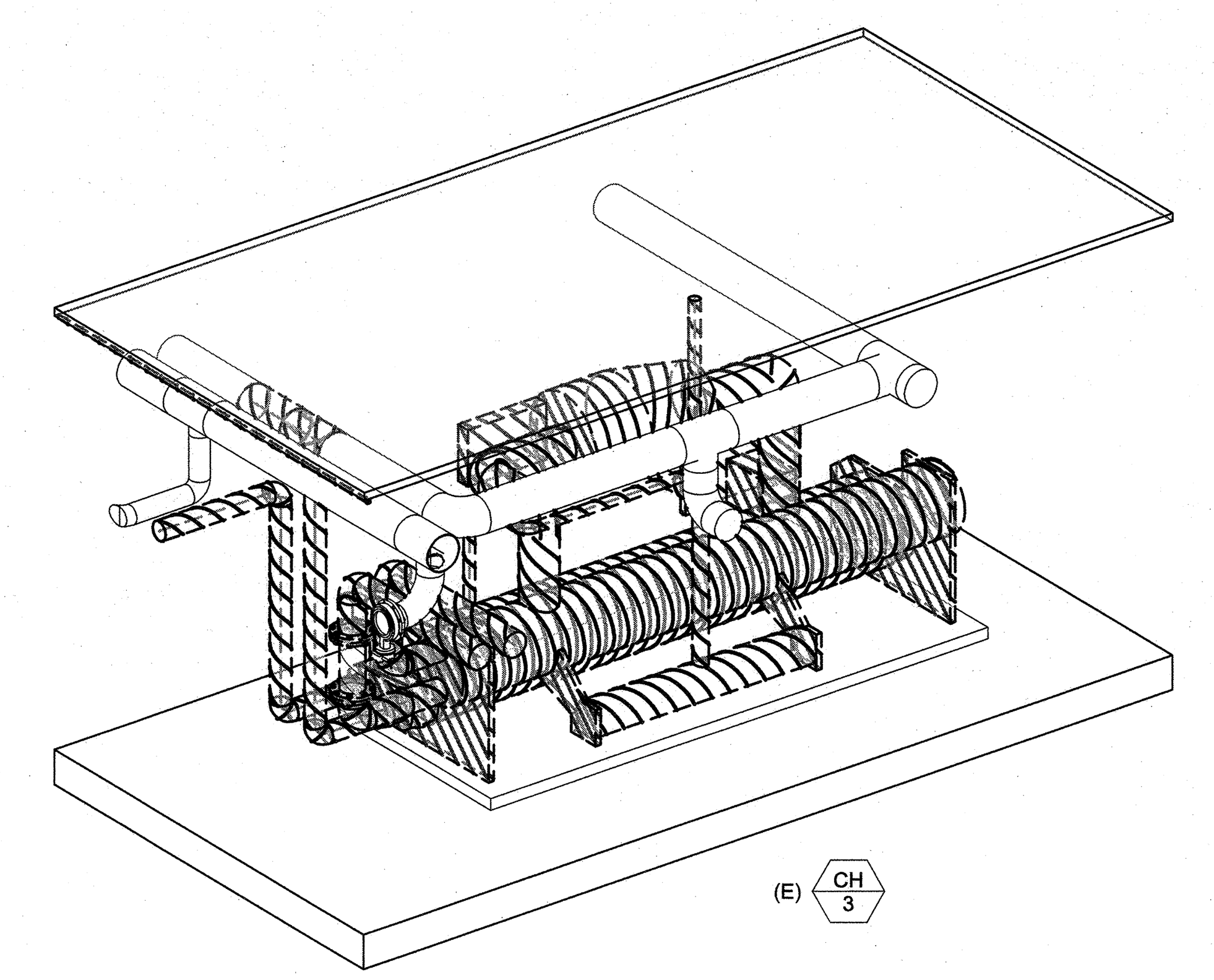
MECHANICAL CENTRAL PLANT PLAN

Sheet Number

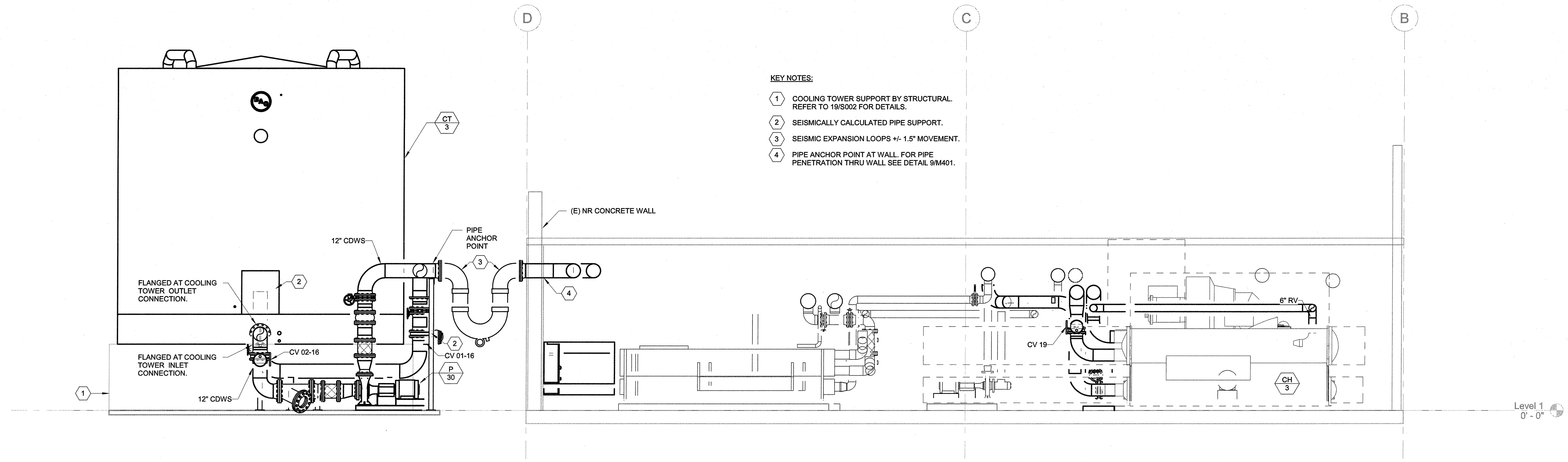
M102



2 NEW CHILLER



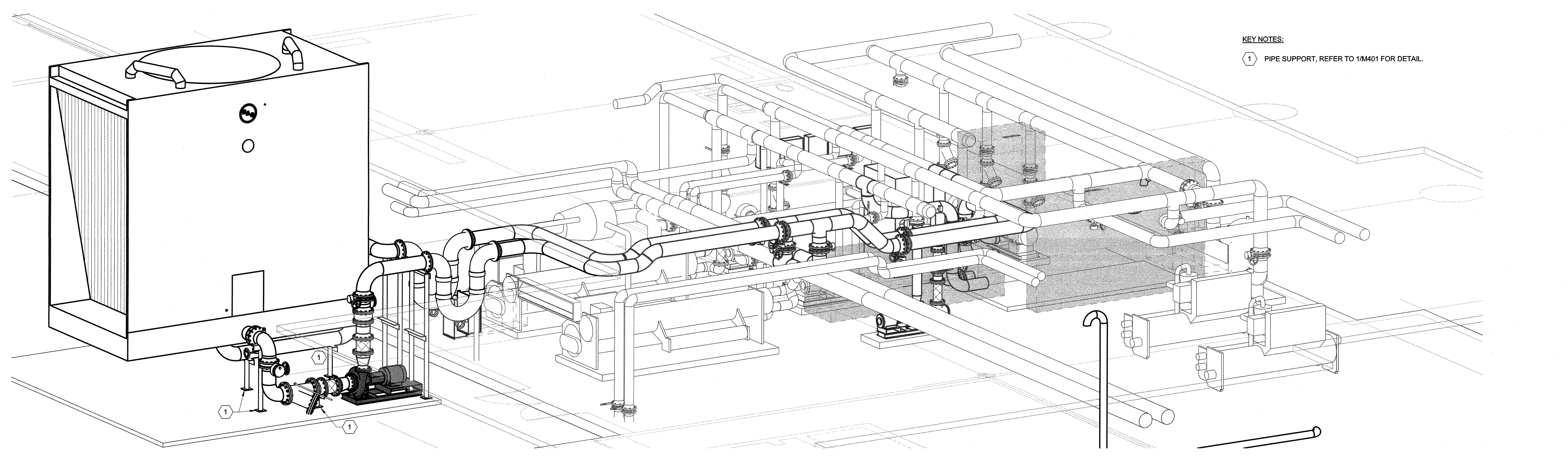
1 DEMO CHILLER



KEY NOTES:

1. COOLING TOWER SUPPORT BY STRUCTURAL. REFER TO 19/S002 FOR DETAILS.
2. SEISMICALLY CALCULATED PIPE SUPPORT.
3. SEISMIC EXPANSION LOOPS +/- 1.5" MOVEMENT.
4. PIPE ANCHOR POINT AT WALL. FOR PIPE PENETRATION THRU WALL SEE DETAIL 9/M401.

3 MECHANICAL SECTION - COOLING TOWER
1/4" = 1'-0"



KEY NOTES:

1. PIPE SUPPORT, REFER TO 1/M401 FOR DETAIL.

4 MECHANICAL 3D PLAN

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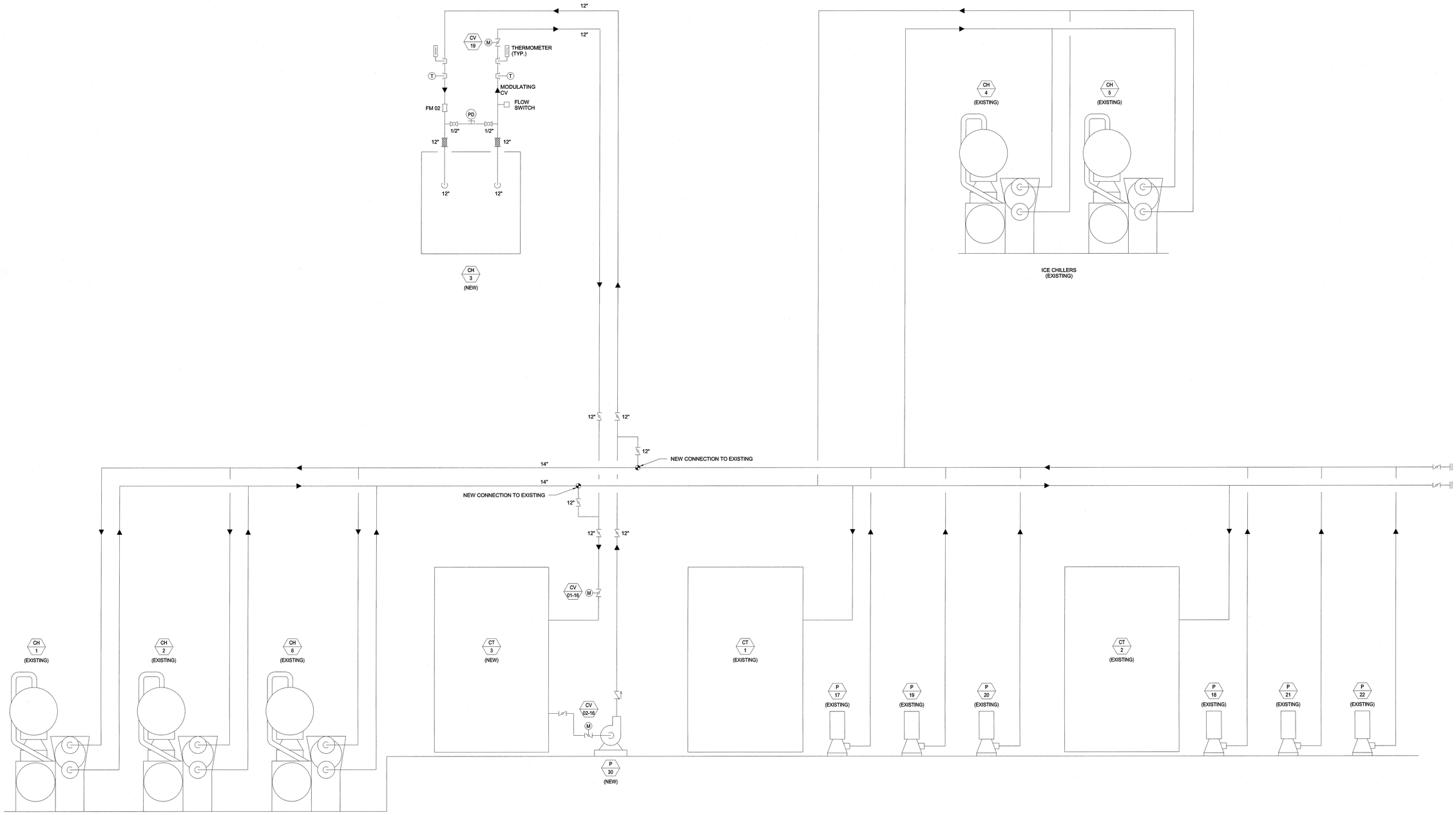
Sheet Title

MECHANICAL 3D PLANS AND SECTION

Sheet Number

M103



1 MECHANICAL CONDENSER WATER PIPING DIAGRAM

SCALE: NONE

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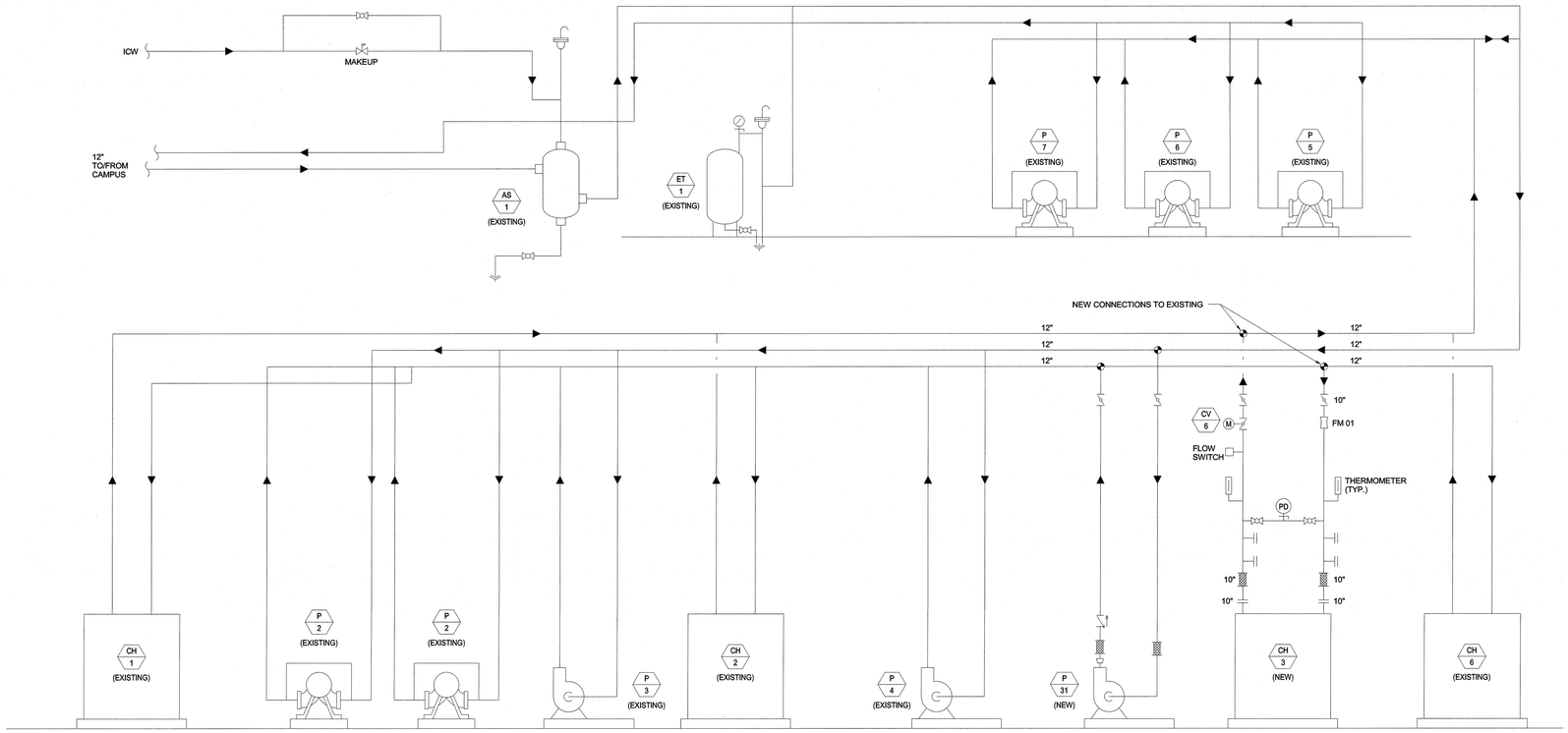
Sheet Title

MECHANICAL CONDENSER WATER PIPING DIAGRAM

Sheet Number

M301



1 MECHANICAL CHILLED WATER PIPING DIAGRAM

SCALE: NONE

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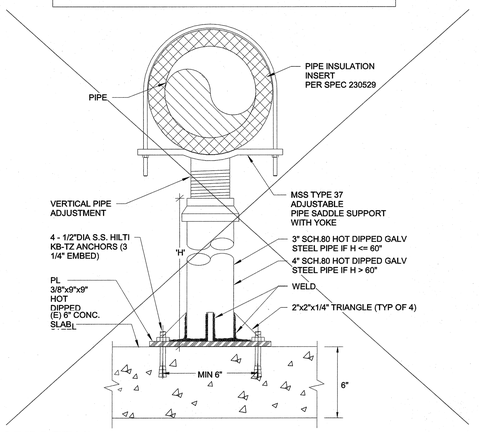
Sheet Title

MECHANICAL CHILLED WATER PIPING DIAGRAM

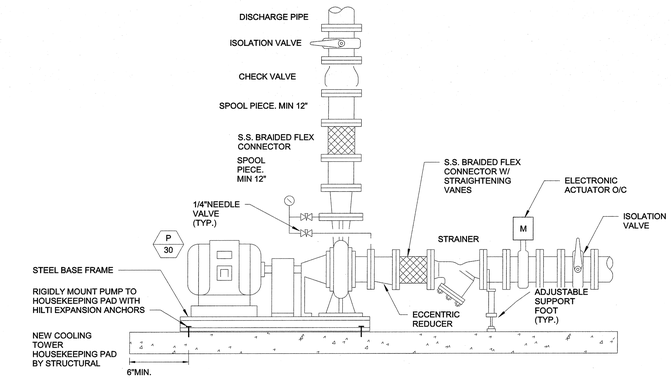
Sheet Number

M302

NOT USED

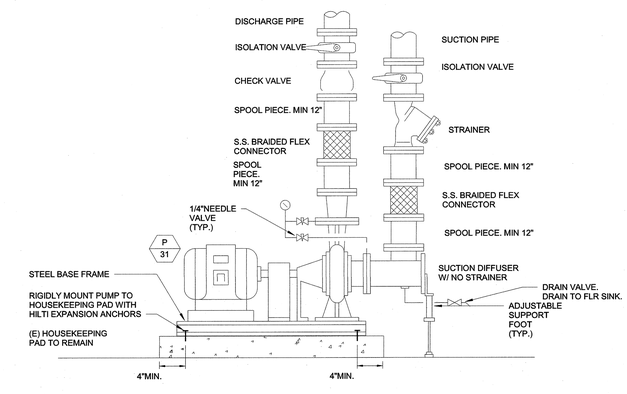


1 PIPE SUPPORT DETAIL
NO SCALE



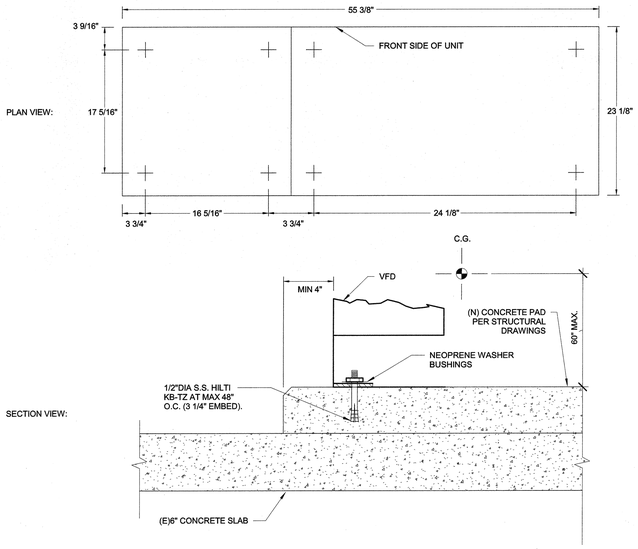
NOTES:
1. ANCHOR PUMP BASE NEW CONCRETE PAD.
2. FLEXIBLE CONNECTORS W/ FLANGE. CONNECTOR SHALL BE BRAIDED STAINLESS STEEL.
3. NO PIPING SHALL BE SUPPORTED BY PUMP.
4. USE ECCENTRIC PIPE REDUCER AT PUMP SUCTION.
5. PROVIDE A MIN. OF (4)-3/8" HILTI KB TZ EXPANSION ANCHORS, (1) AT EA. CORNER OF EQUIPMENT BASE, WITH 2" EMBED. MIN. INTO (N) CONCRETE PAD. PROVIDE A MIN. OF 4" ANCHOR EDGE DISTANCE TO PAD EDGE.

2 P-30 END SUCTION PUMP DETAIL
NO SCALE



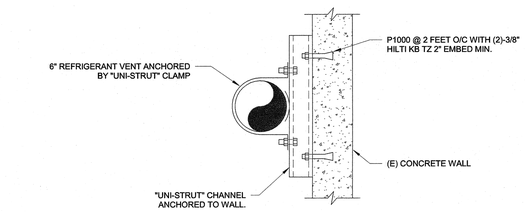
NOTES:
1. ANCHOR PUMP BASE TO BASE FRAME. ANCHOR RESTRAINED ISOLATORS TO HOUSEKEEPING PAD.
2. FLEXIBLE CONNECTORS W/ FLANGE. CONNECTOR SHALL BE BRAIDED STAINLESS STEEL.
3. NO PIPING SHALL BE SUPPORTED BY PUMP.
4. USE ECCENTRIC PIPE REDUCERS WHEN NEEDED.
5. PROVIDE A MIN. OF (4)-3/8" HILTI KB TZ EXPANSION ANCHORS, (1) AT EA. CORNER OF EQUIPMENT BASE, WITH 2" EMBED. MIN. INTO (N) CONCRETE PAD. PROVIDE A MIN. OF 4" ANCHOR EDGE DISTANCE TO PAD EDGE.

3 P-31 END SUCTION PUMP DETAIL
NO SCALE



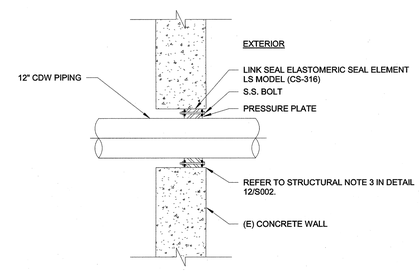
NOTES:
1. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND DETAILS.
2. PLACE NEOPRENE PAD O.C. WITH ANCHOR LOCATION. CONTRACTOR SHALL CALCULATE SIZE OF PAD NECESSARY FOR EACH ANCHOR LOCATION BASED ON POINT LOAD.

8 CHILLER VFD ANCHORAGE DETAIL
NO SCALE



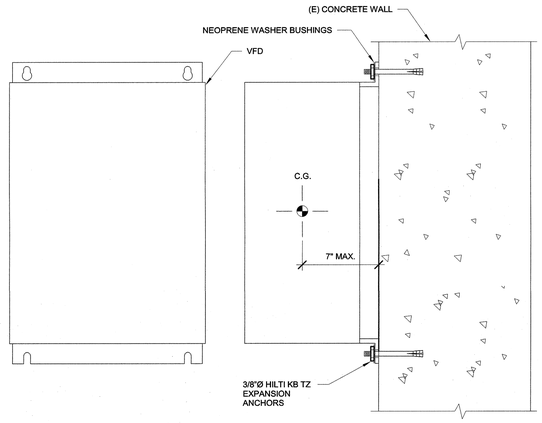
NOTE: NPS 6 CARBON STEEL SCH. 40 PIPE: 19 LB/FT
MAX UNSUPPORTED PIPE SPAN: 15 FT.

4 REFRIGERANT VENT PIPE SUPPORT DETAIL
SCALE: NONE



NOTES:
1. CONFIRM EXACT LOCATION WITH STRUCTURAL STEEL.

9 PIPE PENETRATION THROUGH EXTERIOR WALL
NO SCALE



NOTES:

1. 3/8" HILTI KB TZ EXPANSION ANCHORS W/ 2" EMBEDMENT INTO EXISTING CONCRETE WALL. PROVIDE A MIN. EDGE DISTANCE OF 4" TO EDGE OF WALL OR OPENINGS.

6 VFD ANCHORAGE DETAIL
NO SCALE

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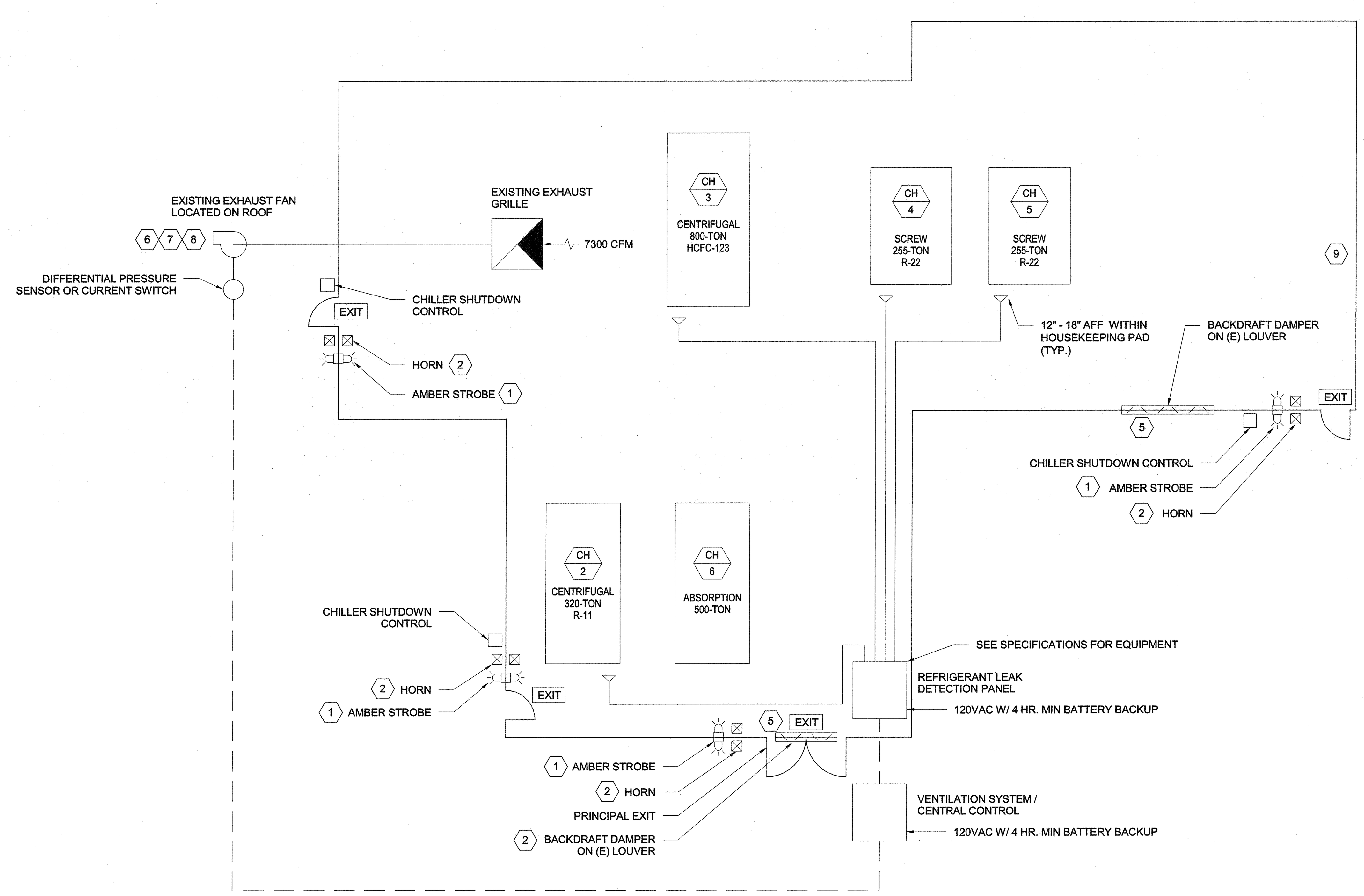
Sheet Title

MECHANICAL DETAILS

Sheet Number

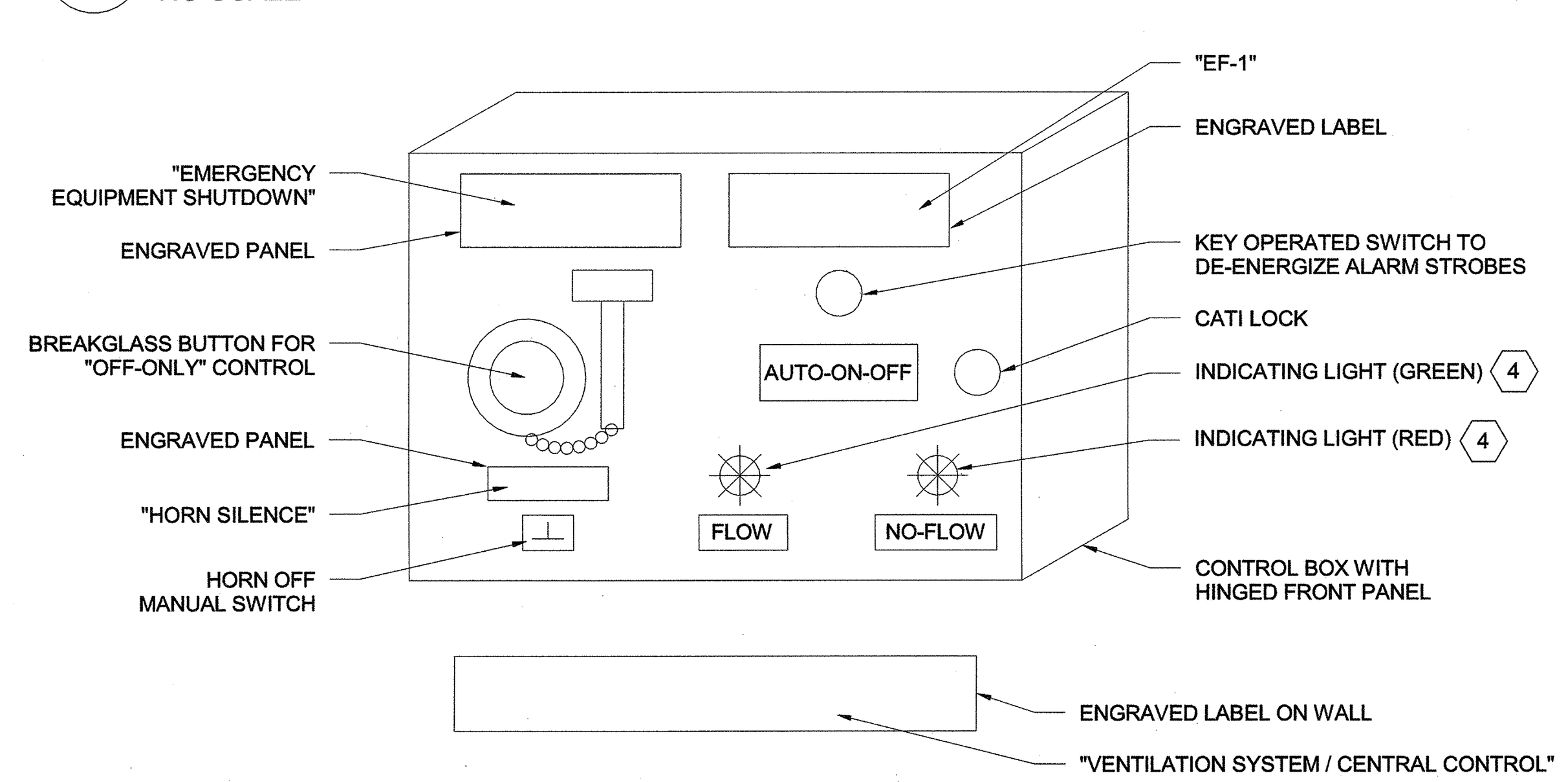
M401

CENTRAL PLANT CHILLER ROOM



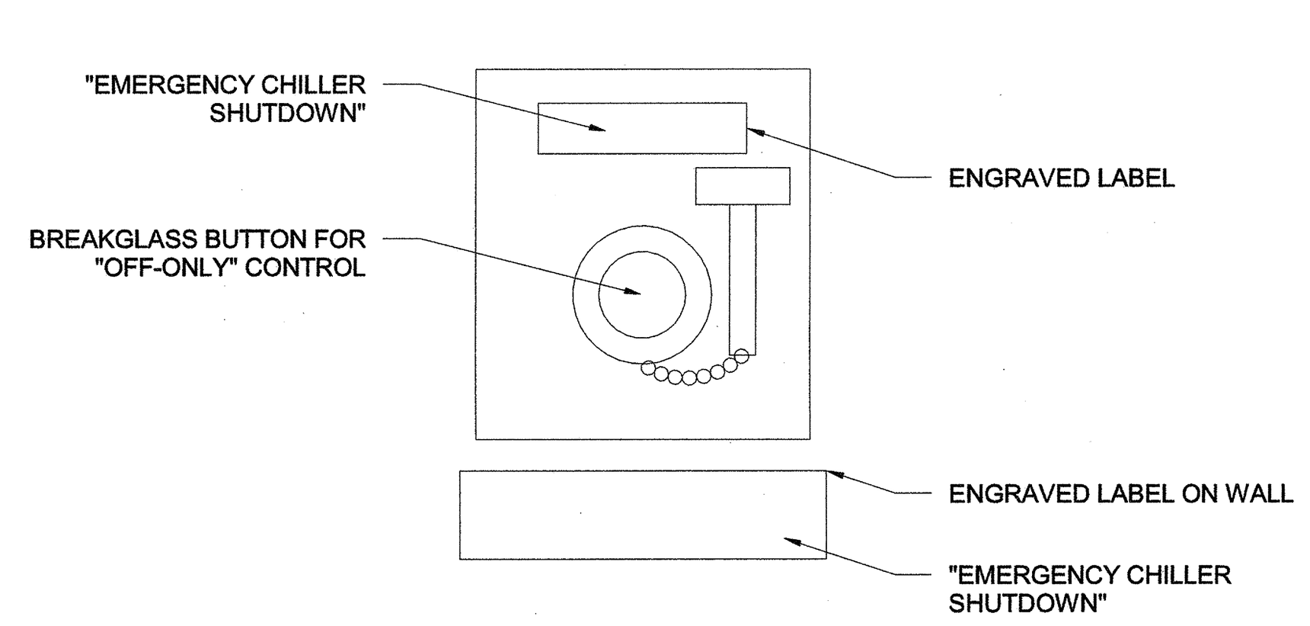
1 REFRIGERANT MONITORING AND CONTROL DIAGRAM

NO SCALE



2 VENTILATION SYSTEM / CENTRAL CONTROL

NO SCALE



3 CHILLER SHUTDOWN CONTROL

NO SCALE

AIRFLOW CALCULATIONS

ASSUMPTIONS -
*FREE AREA OF EXISTING LOUVERS IS 50% OF TOTAL AREA
*VELOCITIES UNIFORM THROUGH FREE AREA OF LOUVERS
*BACKDRAFT DAMPER GREENHECK ES-32 WITH WEIGHTS OR SIMILAR
*LOUVER GREENHECK EDD-401 OR SIMILAR

VELOCITY THROUGH LOUVERS

TOTAL FREE AREA = 20SF+6.25SF = 26.25SF
VELOCITY = 7300CFM / 26.25SF = 278 F/M

PRESSURE LOSS

ΔP THRU LOUVERS = <0.02 IN. WG.
ΔP THRU BACKDRAFT DAMPERS = 0.02 IN. WG.
ΔP THRU FIRE DAMPER = NEGLIGIBLE, BELOW CHARTED VALUES FOR AMCA STANDARD 500
ΔP THRU EXHAUST DUCT = 0.015 IN. WG.
TOTAL ΔP = 0.055 IN. WG.

EXHAUST SYSTEM CALCULATIONS

ASSUMPTIONS -
*VFD LOSS = 3%
*TOTAL HEAT REJECTION = 123649.41 BTUH
-PUMPS
P-1,2,3,4: 4 * 15HP * 8% MOTOR LOSS * 2544.41 BTUH/HP = 12213.26 BTUH
P-5,6/7: 2 * 75HP * (5.9% MOTOR LOSS + 3% VFD LOSS) * 2544.43 BTUH/HP = 33968.14 BTUH
P-31: 20HP * (9% MOTOR LOSS + 3% VFD LOSS) * 2544.43 BTUH/HP = 6106.63
P-30: 50HP * 3% VFD LOSS * 2544.43 BTUH/HP = 3816.65
CT-3 FAN: 40HP * 3% VFD LOSS * 2544.43 BTUH/HP = 3053.32
-CHILLERS
CH-3: 7.25 MBH UNIT LOSS + 44.48 MBH VFD LOSS = 51730 BTUH
CH-2,6: 2 * 187 KW * 1% UNIT LOSS * 3412.142 BTUH/KW = 12761.41 BTUH
*AMBIENT AIR = 86°F
*LARGEST REF. CIRC., G = 1,300 LBS (CH-3)

MAXIMUM TEMPERATURE RISE (2013 CMC, EQUATION 1108.2(1) TO MEET 2016 CMC 1107.10)

Q = Σq / (1.08 x ΔT)

Q = (123,649.41) / [1.08 x (104-86)] = 6,361 CFM

EMERGENCY PURGE (2016 CMC, EQUATION 1107.2)

Q = 100 x (G) ^ 1/2

Q = 100 x (1,300) ^ 1/2 = 3,606 CFM

CONCLUSION

THE LARGER REQUIRED AIRFLOW, 6,361 CFM REQUIRED BY 2013 CMC SECTION 1108.2(1), IS THE DESIGN CRITERION. MINIMUM CFM FOR EXHAUST PURGE MET BY EXISTING 1.5 HP 7,300 CFM ALWAYS-ON EXHAUST FAN.

RELIEF VENT CALCULATIONS

MANUFACTURER SPECIFIED VARIABLES
*RELIEF CAPACITY OF RUPTURE DISK, Cr = 2827 SCFM = 2827 x 0.0764(2016 CMC, SECTION 1112.11.4) = 216.27 LB/MIN
*MAX ALLOWABLE BACKPRESSURE, P0 = 11.25 PSIG = 25.95 PSIA

ASSUMPTIONS -
*VENT IS NPS 6 CARBON STEEL SCH 40, ID = 6.065"
*CARBON STEEL SURFACE ROUGHNESS, K = 0.0018"
*DYNAMIC VISCOSITY, μ = 0.0000073916 LB/SxFT
*DENSITY, ρ = 0.403 LB/FT^3
*CROSS SECTIONAL AREA OF PIPE, A = 28.89 IN^2 = 0.2006 FT^2

VELOCITY, U

U = Cr / (A x ρ)
U = 216.27 / (0.2006 x 0.403) * (1 M / 60 S)
U = 44.25 FT/S

KINEMATIC VISCOSITY, V

V = μ / ρ
V = 7.3916E-6 / 0.403
V = 1.834E-5 FT^2/S

REYNOLDS NUMBER, Re

Re = U x D / V
Re = 44.25 x (6.065/12) / 1.834E-5
Re = 1,219,496

RELATIVE ROUGHNESS, RR

RELATIVE ROUGHNESS, RR = K / D
RR = 0.0018 / 6.065
RR = 0.0002968

FRICTION FACTOR (FROM MOODY DIAGRAM)

F(RR, Re) = F
F(0.0002968, 1219496) = 0.018

MAXIMUM LENGTH OF DISCHARGE PIPING PERMITTED (2016 CMC, EQUATION 1118.1(1))

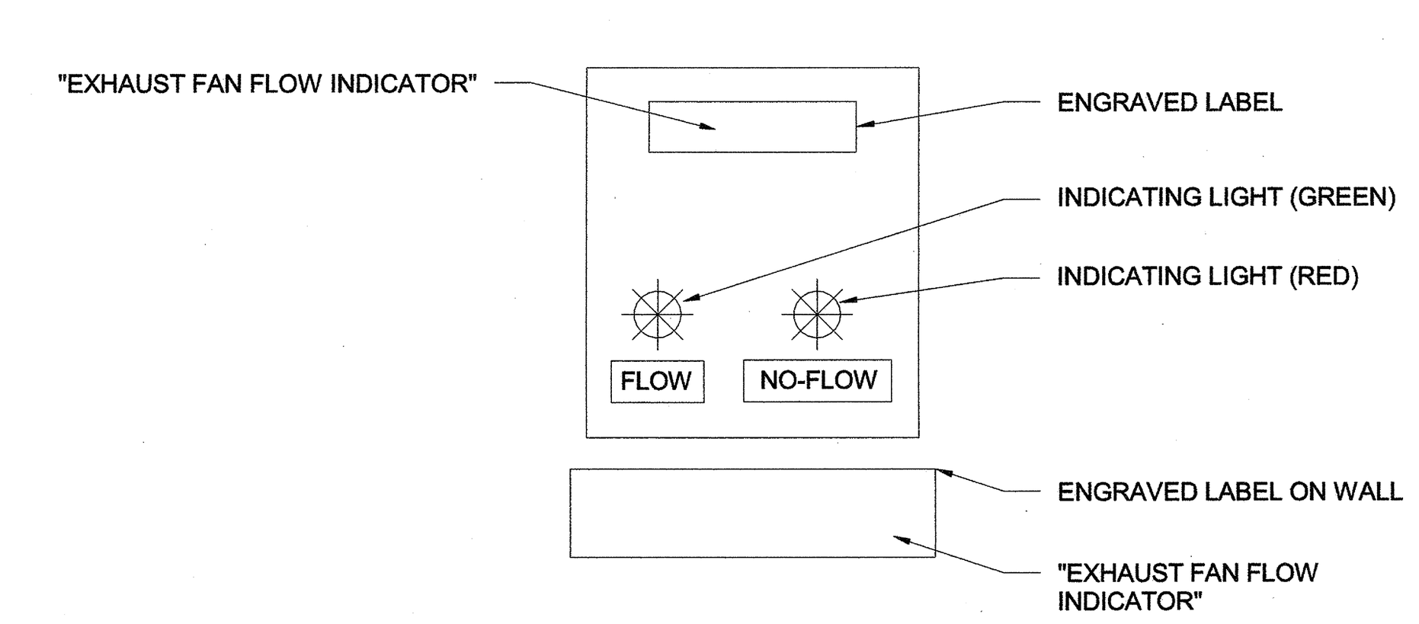
$$L = \frac{0.2146 \times D^5 \times (P0^2 - P2^2)}{f \times C^2} - \frac{D \times \ln(P0 / P2)}{6 \times f}$$

$$L = \frac{0.2146 \times 6.065^5 \times (25.95^2 - 14.7^2)}{0.018 \times 215.98^2} - \frac{6.065 \times \ln(25.95 / 14.7)}{6 \times 0.018}$$

L = 927.26 FT

NOTE TO PLAN REVIEWER:

FANS ALWAYS ON, PROVE CONTINUOUS FLOW VIA INDICATOR LIGHTS, NO CONTROL.



4 EXHAUST FAN FLOW INDICATOR

NO SCALE

GENERAL NOTES:

1. ALL STRUCTURAL ATTACHMENTS AND ANCHORAGE NOT REFERENCED TO STRUCTURAL PLANS TO BE BY DELEGATED DESIGN BY CONTRACTOR

2. WHENEVER EQUIPMENT "OFF-ONLY" SWITCH AT EXIT IS ACTIVATED, "OFF" INDICATING LAMP SHALL BE ENERGIZED AND ALL ELECTRICALLY DRIVEN EQUIPMENT WITHIN THE CHILLER ROOM SHALL BE SHUT DOWN THROUGH BAS.

3. HCFC-123 IS NONFLAMABLE SO LFL CONSIDERATIONS ARE IGNORED.

KEY NOTES:

1. PER CMC 2016 SECTIONS 1106.4 AND 1106.5 AND CFC 2013 SECTION 606.8, REFRIGERANT ALARMS MUST BE A DISTINCT AUDIBLE AND VISUAL ALARM.
2. PER CMC 2016 SECTION 1106.4, HORN SHALL BE A MINIMUM OF 15 DBA ABOVE CHILLER ROOM OPERATING DBA LEVEL
3. TWO EXISTING 1'6" X 4'2" LOUVERS. APPROXIMATE FREE AREA = 6.25 SQ FT.
4. PER CMC 2016 SECTION 1107.6, TWO DISTINCT INDICATOR LAMPS SHALL RESPOND TO DIFFERENTIAL PRESSURE ACROSS THE FAN AND INDICATE FLOW AND NO FLOW.
5. PER CMC 2016 SECTION 1107.9, MAKEUP AIR SHALL BE PROVIDED FROM DIRECTLY OUTSIDE THE BUILDING.
6. PER CMC 2016 SECTION 1107.2, CHILLER ROOM SHALL BE PROVIDED WITH A DEDICATED MECHANICAL EXHAUST SYSTEM.
7. PER CMC 2016 SECTION 1105.5.2, MECHANICAL EXHAUST SYSTEM SHALL MAINTAIN A MINIMUM OF 3 AIR CHANGES PER HOUR.
8. CONTRACTOR TO VERIFY AIRFLOW OF EXHAUST FAN IS AT LEAST 6,361 CFM.
9. EXISING 8'4" X 5' LOUVER. APPROXIMATE FREE AREA = 20 SQ FT.

SEQUENCE OF OPERATION:

MACHINE ROOM EMERGENCY SHUTDOWN:

EMERGENCY SHUTDOWN OF CHILLERS CH-2, CH-3, CH-4, CH-5, AND CH-6 IN THE CHILLER ROOM MAY BE ACCOMPLISHED THROUGH THE USE OF EQUIPMENT SHUTDOWN BREAKGLASS SWITCHES LOCATED OUTSIDE EACH CHILLER ROOM DOOR OR AUTOMATICALLY BY THE REFRIGERANT LEAK DETECTION PANEL.

MACHINE ROOM EMERGENCY REFRIGERANT PURGE:

THE EXHAUST FAN UTILIZED FOR THE EMERGENCY PURGE SHALL ALWAYS BE ON.

REFRIGERANT MONITORING

LEVEL 1: CONCENTRATION ≥ 1 PPM

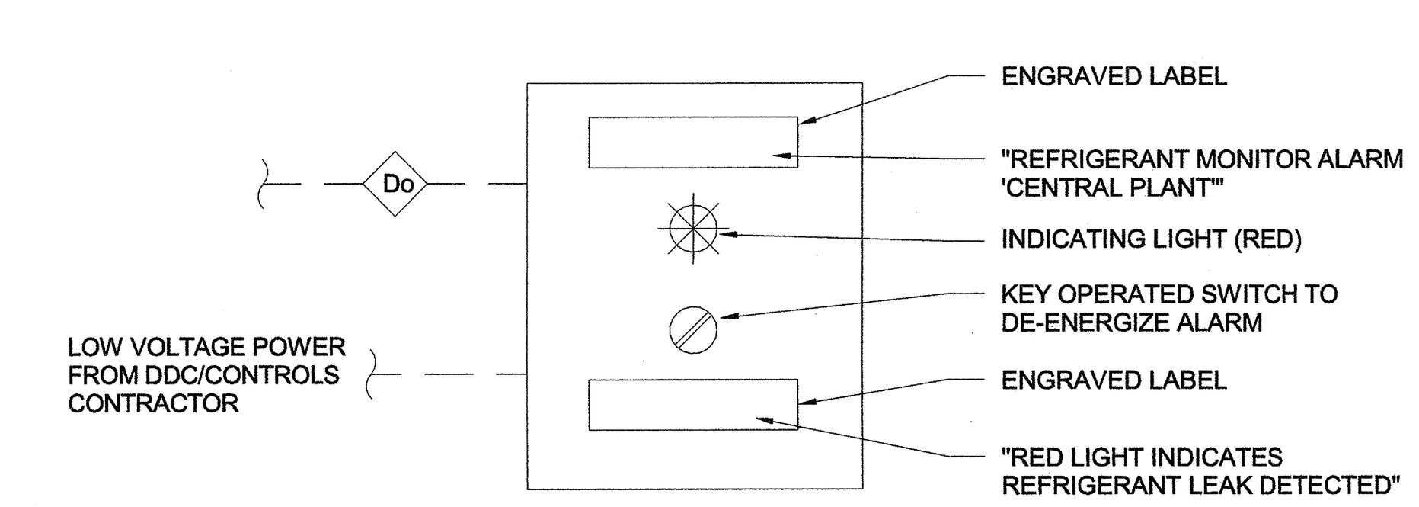
THE REFRIGERANT LEAK DETECTION PANEL NOTIFIES THE OPERATOR THAT A MINOR LEAK HAS OCCURRED.

LEVEL 2: CONCENTRATION ≥ 10 PPM

THE REFRIGERANT LEAK DETECTION PANEL ENERGIZES THE ALARM LIGHTS AND HORN. A MANUAL SWITCH IS PROVIDED OUTSIDE THE CHILLER DOOR TO SILENCE THE HORN. THE LIGHTS WILL REMAIN ON UNTIL THE ALARM CONDITIONS NO LONGER EXIST AND THE REFRIGERANT PANEL IS MANUALLY RESET.

LEVEL 3: CONCENTRATION ≥ 50 PPM

THE REFRIGERANT LEAK DETECTION PANEL WILL AUTOMATICALLY TERMINATE THE OPERATION OF CHILLERS CH-2, CH-3, CH-4, CH-5, AND CH-6.



5 PBX ALARM MONITOR

NO SCALE

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

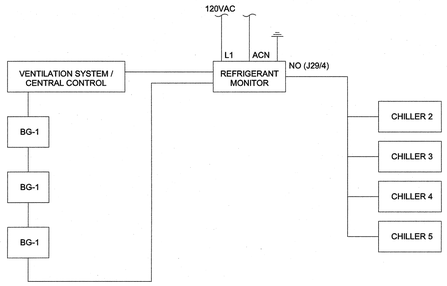
OSHPD#:S172470-37-00

Sheet Title

REFRIGERANT MONITORING SYSTEM

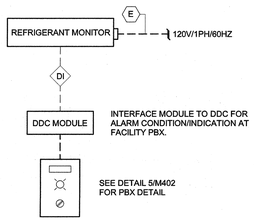
Sheet Number

M402



5 CHILLER SHUTOFF CONTROL

SCALE: NONE



6 REFRIGERANT ALARM WIRING

SCALE: NONE

Ai	ANALOG INPUT	E	FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR
Ao	ANALOG OUTPUT	M	FURNISHED & INSTALLED BY MECHANICAL CONTRACTOR
Di	DIGITAL INPUT		
Do	DIGITAL OUTPUT		

E ---------- WIRING BY ELECTRICAL CONTRACTOR

M ---------- LOW-VOLTAGE CONTROL WIRING BY MECHANICAL CONTRACTOR

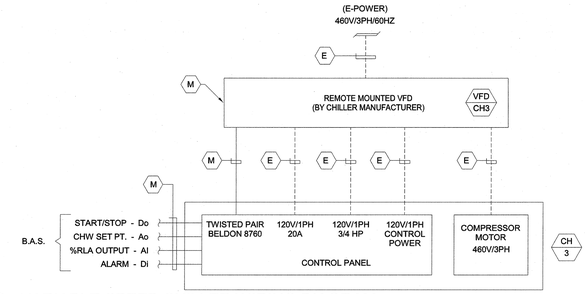
GENERAL CONTROL NOTES:

1. CONTRACTOR TO VERIFY THE ACTUAL NUMBER OF WIRES & CONDUIT REQUIRED.

2. ALL CONTROL WIRES & CONDUIT BY MECHANICAL CONTRACTOR UNLESS SPECIFICALLY INDICATED OTHERWISE.

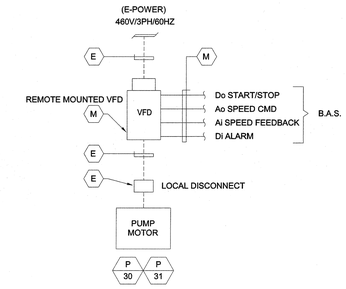
7 WIRING AND CONTROL LEGEND

SCALE: NONE



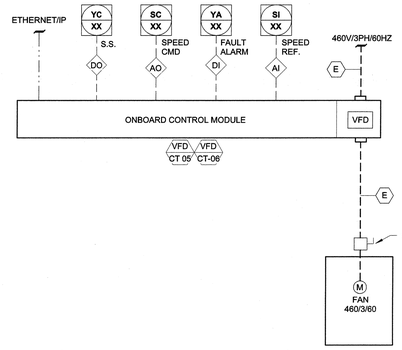
1 VARIABLE SPEED CHILLER WIRING DIAGRAM

NO SCALE



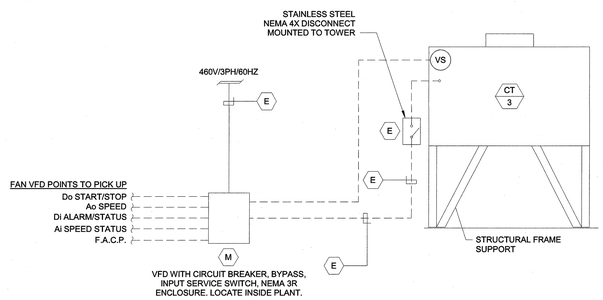
2 VARIABLE SPEED PUMP WIRING DIAGRAM

NO SCALE



3 FAN WIRING & CONTROL DIAGRAM

SCALE: NONE



4 COOLING TOWER WIRING DIAGRAM

SCALE: NONE

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TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

MECHANICAL CONTROLS AND WIRING DIAGRAM

Sheet Number

M403

SHEET INDEX

SHEET INDEX

SYMBOLS AND ABBREVIATIONS

PANELBOARDS

- 208V SYSTEM PANELBOARD
- 480V SYSTEM PANELBOARD

ELECTRIC HEAT

- BASEBOARD HEATER CONNECTION (KW INDICATED), LENGTH TO SCALE
- UNIT HEATER CONNECTION
- CH — CABINET HEATER CONNECTION

ELECTRICAL RISER

- FEEDER SIZE IDENTIFICATION
- AVAILABLE FAULT CURRENT IDENTIFICATION
- ARRESTOR, SURGE
- ARRESTOR, LIGHTNING
- AUTOMATIC TRANSFER SWITCH
- SPACE — BUS SPACE
- BUS DUCT
- BUSWAY END TAP BOX
- CABLE TO BUS CONNECTION
- CAPACITOR
- CONTACT, NORMALLY OPEN AND NORMALLY CLOSED
- CIRCUIT BREAKER
- CIRCUIT BREAKER, DRAWOUT
- CIRCUIT BREAKER, DRAWOUT, MEDIUM VOLTAGE
- GF — CIRCUIT BREAKER, GFI
- GF — CIRCUIT BREAKER, GFI WITH DRAWOUT
- CIRCUIT BREAKER, MAGNETIC OVERLOAD
- CIRCUIT BREAKER, NETWORK PROTECTOR
- CIRCUIT BREAKER, THERMAL OVERLOAD
- FUSE OR CURRENT LIMITER
- FUSE (ISOLATING)
- FUSED SWITCH
- GROUND
- PUSHBUTTON
- SPLICE
- STRESS RELIEF, MEDIUM VOLTAGE
- SWITCH, 2-POLE
- H, A, O — SWITCH, 3-POLE
- THERMAL ELEMENT
- TRANSFORMER
- TRANSFORMER, CURRENT
- TRANSFORMER, ELECTROSTATICALLY SHIELDED, MAGNETIC CORE SHOWN
- TRANSFORMER, MAGNETIC CORE SHOWN
- TRANSFORMER, SHIELDED, MAGNETIC CORE SHOWN
- A — AMMETER
- C — CONTACTOR
- G — ENGINE-GENERATOR
- K — KEY INTERLOCK
- M — METER
- PM — POWER METER
- R — RELAY
- G — RELAY, GFI
- SPD — SURGE PROTECTIVE DEVICE
- V — VOLTMETER
- WHM — WATT HOUR METER

CIRCUITS

- RACEWAY CONCEALED IN CEILING OR WALL. HASH MARKS INDICATE NUMBER OF WIRES. #12 AWG WIRE UNLESS OTHERWISE NOTED. EXPOSED RACEWAY IS ALLOWED ONLY WHERE NOTED.
- HOT (SHORT HASH MARK)
- NEUTRAL (LONG HASH MARK)
- GROUND WIRE (JOGGED HASH MARK)
- EXISTING RACEWAY (IF HASH MARKS ARE SHOWN, PULL NEW CONDUCTORS)
- RACEWAY BELOW SLAB OR UNDERGROUND
- RACEWAY UP
- RACEWAY DOWN
- RACEWAY STUB-OUT WITH BUSHING
- CIRCUIT CONTINUATION
- HOME RUN TO PANEL OR LOCATION NOTED
- J J — JUNCTION BOX
- PB — PULL BOX

RECEPTACLES

CIRCUITS: EMERGENCY / NORMAL

- DUPLEX RECEPTACLE 120V
- DOUBLE DUPLEX RECEPTACLE 120V

RECEPTACLE TYPES

- AC — MOUNTED 3" ABOVE COUNTER BACKSPLASH
- D — DEDICATED CIRCUIT
- G — GROUND FAULT CIRCUIT INTERRUPTER
- GT — GROUND FAULT CIRCUIT INTERRUPTER AND TAMPER RESISTANT
- I — ISOLATED GROUND
- T — TAMPER RESISTANT
- WP — GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHER PROOF COVER

CONTROLS

- FUSED DISCONNECT SWITCH (FUSE RATING INDICATED)
- DISCONNECT SWITCH
- MOTOR STARTER
- MANUAL MOTOR STARTER
- COMBINATION MOTOR STARTER FUSED DISCONNECT SWITCH
- ENCLOSED CIRCUIT BREAKER
- CONTACTOR
- PUSH BUTTON CONTROL STATION
- AUTO DOOR PUSHPLATE
- EMERGENCY SHUTDOWN
- $M — MOTOR RATED TOGGLE SWITCH
- B — BUSWAY PLUG
- DDC — DIRECT DIGITAL CONTROL PANEL
- R — RELAY, CONTROL TYPE
- T — THERMOSTAT
- TC — TIME CLOCK
- VFD — VARIABLE FREQUENCY DRIVE

EQUIPMENT

- EQUIPMENT CABINET
- E — EQUIPMENT CONNECTION, E = EMERGENCY POWER
- GROUND BAR, LENGTH TO SCALE
- MOTOR CONNECTION, SINGLE PHASE
- MOTOR CONNECTION, 3 PHASE
- POWER BUSWAY
- SPD — SURGE PROTECTIVE DEVICE
- T — TRANSFORMER, <30KVA, NOT TO SCALE
- TRANSFORMER, 30KVA OR GREATER, DRAWN TO SCALE

WORK DEFINITION

- # — FLAG NOTE
- # — REVISION IDENTIFICATION
- # — EQUIPMENT IDENTIFICATION
- # — EQUIPMENT IDENTIFICATION
- Det# / Sheet# — DETAIL REFERENCE
- Det# / PlanSheet# / DetSheet# — DETAIL REFERENCE W/ORIGINATING SHEET REFERENCE
- Sec# / Sheet# — SECTION REFERENCE
- Sec# / PlanSheet# / DetSheet# — SECTION REFERENCE W/ORIGINATING SHEET REFERENCE
- 1 / Elev# / Sheet# — ELEVATION REFERENCE
- PROJECT NORTH REFERENCE
- True North — PROJECT NORTH REFERENCE W/TRUE NORTH REFERENCE
- NEW WORK
- EXISTING
- FUTURE
- xxxx — REMOVE EXISTING ELECTRICAL EQUIPMENT

GENERAL NOTES

1. COMPLY WITH THE CALIFORNIA ELECTRICAL CODE AS ADOPTED AND AMENDED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
2. THE LOCATIONS OF ELECTRICAL DEVICES OR LIGHTING FIXTURES INDICATED ON ARCHITECTURAL PLANS ELEVATIONS OR SECTIONS TAKE PRECEDENCE OVER LOCATIONS INDICATED ON THE ELECTRICAL DRAWINGS.
3. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LIGHTING FIXTURE LOCATIONS.
4. FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT-OFF CONTROLS, OCCUPANCY SENSORS, OR AUTOMATIC TIME SWITCHES THE LIGHTING CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED, ADJUSTED, AND OPERATE IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS. SEQUENCE OF OPERATION SHALL ALSO BE FUNCTIONALLY TESTED TO ENSURE IT IS OPERATING IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER.

ABBREVIATIONS

ABV	ABOVE	MCC	MOTOR CONTROL CENTER
AC	3" ABOVE COUNTER BACKSPLASH	MDF	MAIN DISTRIBUTION FRAME/FACILITY
ACH	ABOVE COUNTER HEIGHT	MH	MANHOLE
AFF	ABOVE FINISHED FLOOR	MM	MULTIMODE
AG	ABOVE GRADE	MTD	MOUNTED
A,AMP	AMPERE	MW	MICROWAVE
A/V	AUDIO/VISUAL	N	NEUTRAL
ATS	AUTOMATIC TRANSFER SWITCH	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAUGE	OPER	OPERATER/OPERABLE
CATV	COMMUNITY ACCESS TELEVISION	OPOI	OWNER PROVIDED OWNER INSTALLED
CB	CIRCUIT BREAKER	PB	PULLBOX
CCTV	CLOSED CIRCUIT TELEVISION	PNL	PANEL, PANELBOARD
CKT	CIRCUIT	POS	POSITION/POINT OF SALE
CLG	CEILING	PR	PAIR
CM	CEILING MOUNTED	PTS	PNEUMATIC TUBE STATION
COMM	COMMUNICATIONS	R	RACEWAY
C	CONDUIT	RO	RACEWAY ONLY
CO	CONDUIT ONLY	RECEPT	RECEPTACLE
CTRL	CONTROL	REF	REFRIGERATOR
CU	COPPER	SLV	SLEEVE
D	DATA	SM	SINGLEMODE
DED	DEDICATED	SPECS	SPECIFICATIONS
DEV	DEVICE	SW	SWITCH
DN	DOWN	SWBD	SWITCHBOARD
DW	DISHWASHER	TELECOM	TELECOMMUNICATIONS
EWC	ELECTRIC WATER COOLER	TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
FA	FIRE ALARM		
FB	FLOOR BOX	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
FBOIC	FURNISHED BY OTHERS, INSTALLED BY CONTRACTOR	TSER	TELECOMMUNICATIONS SERVICE ENTRANCE ROOM
FI	FILM ILLUMINATOR		
FO	FIBER OPTIC(AL)	TV	TELEVISION
FOC	FACE OF COLUMN	TYP	TYPICAL
G,GND	GROUND	UF	UNDER FLOOR
GD	GARBAGE DISPOSAL	UG	UNDER GROUND
GFI,GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
		UTP	UNSHIELDED TWISTED PAIR
HH	HAND HOLE	V	VOLT OR VOICE
HP	HORSEPOWER	VEL	VERIFY EXACT LOCATION
IDF	INTERMEDIATE DISTRIBUTION FRAME/FACILITY	W	WIRE, WATT, OR WALLPHONE
		WAP	WIRELESS ACCESS POINT
IH	INSTA-HOT WATER DISPENSER	WP	WEATHERPROOF
J-BOX	JUNCTION BOX	XFMR	TRANSFORMER
MAG	MAGNETIC	ø	PHASE

OUTLET MOUNTING HEIGHTS

SPECIAL OUTLET HEIGHTS ARE SHOWN ON THE ELECTRICAL DRAWINGS OR ON THE ARCHITECTURAL DRAWINGS. IF SPECIAL OUTLET HEIGHTS ARE NOT SHOWN OR REQUIRED, THEN LOCATE OUTLETS AS NOTED BELOW. OUTLET HEIGHTS ARE MEASURED FROM THE FINISHED FLOOR TO THE CENTERLINE OF THE OUTLET UNLESS OTHERWISE NOTED.

RECEPTACLES	18 INCHES (460 mm) VERTICALLY MOUNTED
SWITCHES	43 INCHES (1095 mm) VERTICALLY MOUNTED
PANELBOARDS	72 INCHES (1830 mm) TO TOP OF PANELBOARD IF BOX < 68 INCHES (1730 mm) HIGH, OTHERWISE PER NEC 404.8

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TRI CITY MEDICAL CENTER-EMERGENCY CENTRAL PLANT IMPROVEMENTS

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Sheet Title

SYMBOLS & ABBREVIATIONS

Sheet Number

E001

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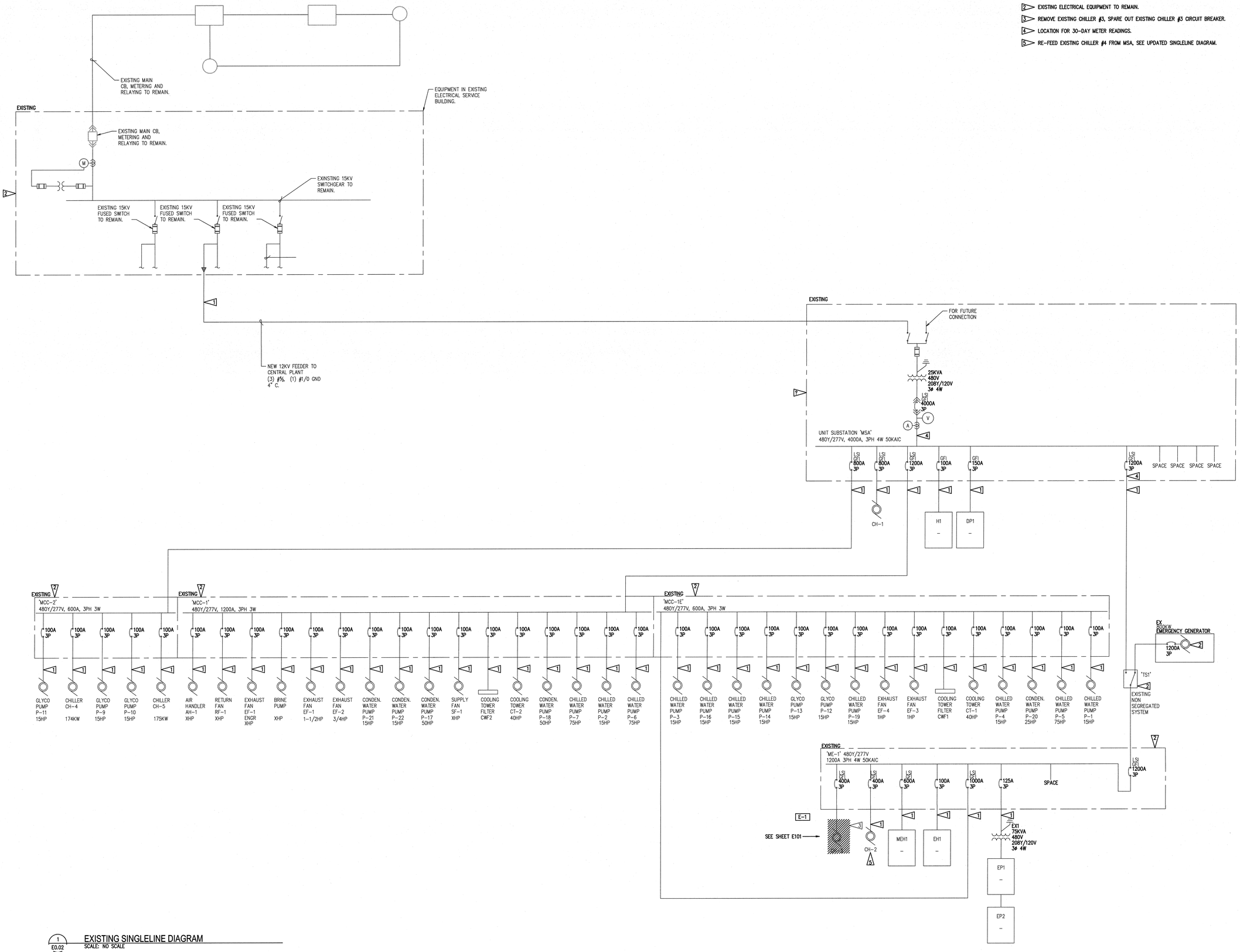
GENERAL NOTES:

1. ALL EQUIPMENT SHOWN IS EXISTING UNLESS OTHERWISE NOTED.

FLAG NOTES:

1. EXISTING FEEDERS TO REMAIN.
2. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
3. REMOVE EXISTING CHILLER #3, SPARE OUT EXISTING CHILLER #3 CIRCUIT BREAKER.
4. LOCATION FOR 30-DAY METER READINGS.
5. RE-FEED EXISTING CHILLER #4 FROM MSA, SEE UPDATED SINGLELINE DIAGRAM.



1 E0.02 EXISTING SINGLELINE DIAGRAM
SCALE: NO SCALE

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TRI CITY MEDICAL CENTER-
EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

EXISTING
SINGLE LINE DIAGRAM

Sheet Number

E002

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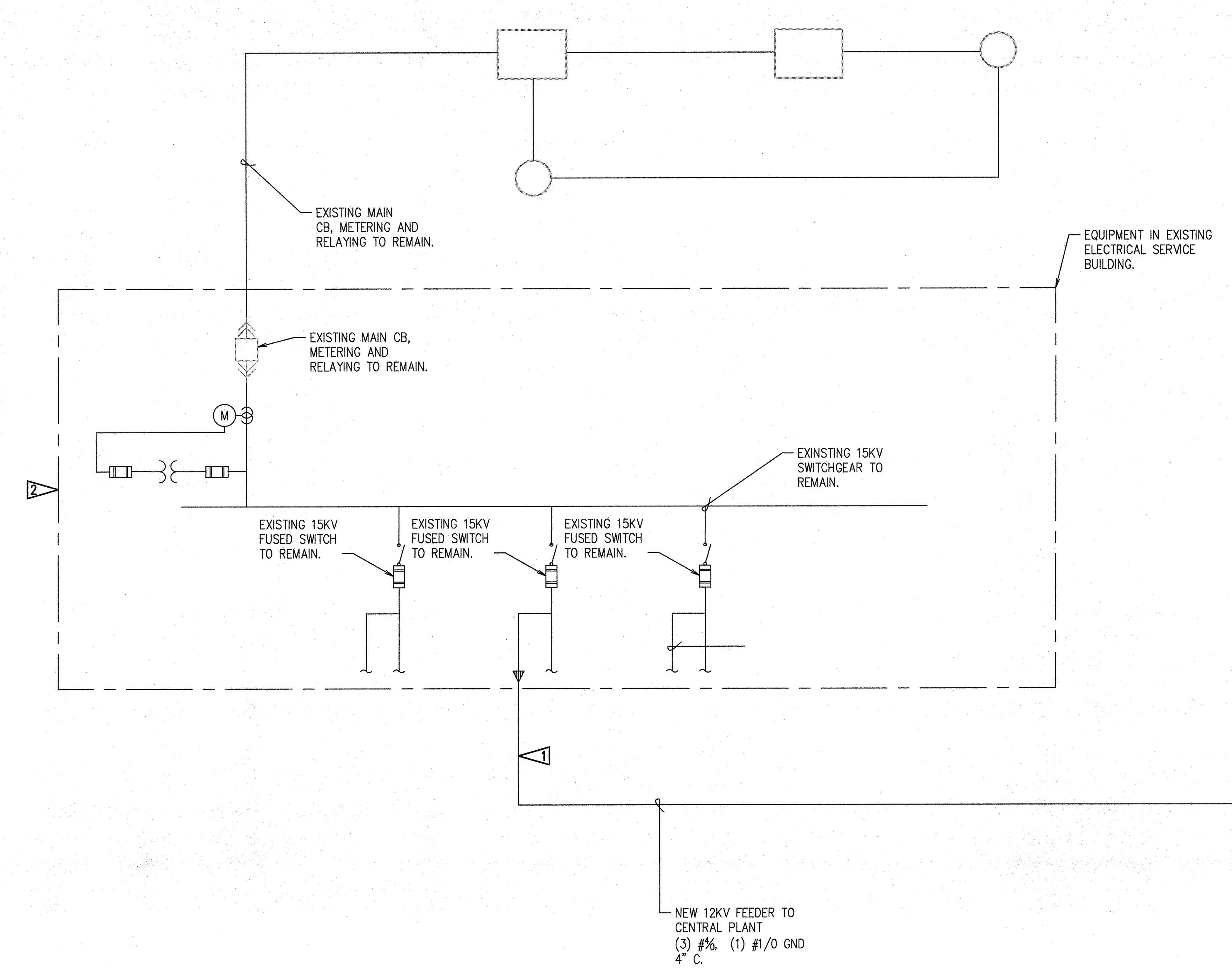

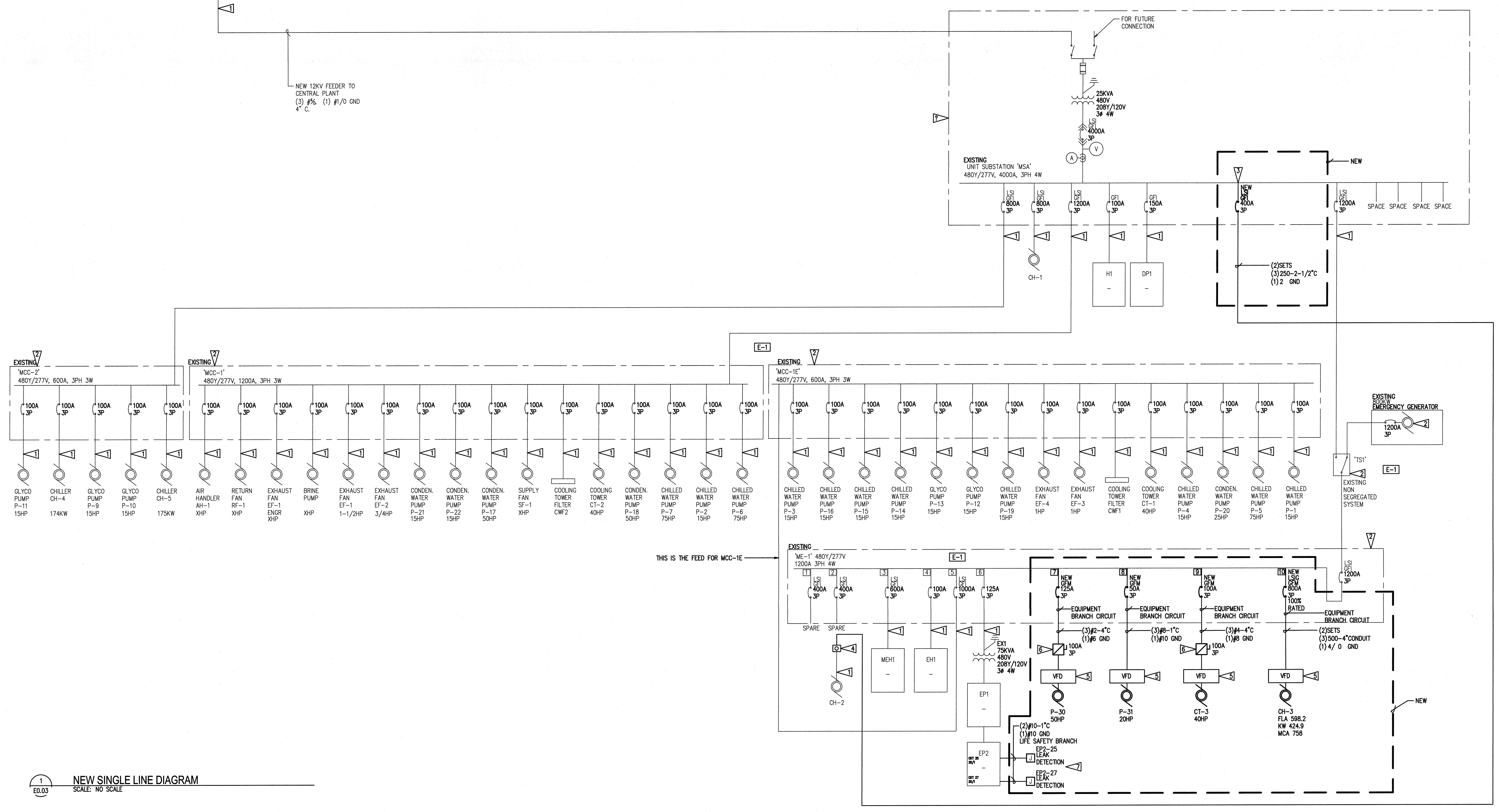

1 E0.03 NEW SINGLE LINE DIAGRAM
SCALE: NO SCALE

GENERAL NOTES:

1. ALL EQUIPMENT SHOWN IS EXISTING UNLESS OTHERWISE NOTED.

OSHPD CAN 2-102.6

15. Load or Circuits Exceed Non-Segregated EES Panel/Equipment Capacity

The non-segregated EES panel to which load is being added, its feeder, and its feeder overcurrent protection device must undergo load capacity verification per the requirements of OSHPD PIN 38. If load capacity verification per OSHPD PIN 38 indicates an overload condition, then the panel, its feeder and its feeder overcurrent protective device must be brought into conformance with current code requirements as described in Narrative #17. The next panel electrically upstream towards the source, its feeder, and its feeder overcurrent protective device must also undergo load capacity verification per the requirements of OSHPD PIN 38. If there is also an overload condition, then the panel, its feeder and its feeder overcurrent protective device must also be brought into conformance with current code requirements as described in Narrative #17. It is not the intent of this paragraph to relieve the Electrical Engineer from the responsibility of performing load capacity verification calculations on affected feeders all the way back to the main service entrance or to the terminals of a separately derived system as required by CEC Article 220.

Non-segregated EES panels which are not overloaded do not need to be upgraded but the new load(s) added to the panel must be segregated at the branch circuit level. That is, new loads must be connected to an existing or new branch circuit so that all loads on that circuit are either life safety branch loads, critical branch loads, or equipment system loads. If the new load(s) cannot be added in the segregated fashion described above, then the load(s) cannot be added to non-segregated EES panel and the EES will be required to be upgraded as described in Narrative #17.

FLAG NOTES:

1. EXISTING FEEDERS TO REMAIN.
2. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
3. NEW CIRCUIT BREAKER LOCATION FOR CHILLER #4.
4. INTERCEPT AND EXTEND EXISTING FEEDER.
5. VFD BY OTHERS PROVIDED WITH INTEGRAL DISCONNECT.
6. PROVIDE NEMA 3R FUSED DISCONNECT WITH EARLY BREAK AUXILIARY CONTACT IN CONTROL CIRCUIT TO LET THE DRIVE KNOW TO SHUT DOWN WHEN THE DISCONNECT IS OPEN.
7. CIRCUIT 25 PANEL EP2 IS STRICTLY A LIFE SAFETY CIRCUIT, DO NOT SHARE THE CIRCUIT WITH OTHER DEVICES.
8. CIRCUITS #7,#8,#9,#10 ARE ALL EQUIPMENT BRANCH CIRCUITS, DO NOT SHARE THE CIRCUIT WITH OTHER DEVICES.
9. ALL EXISTING OVER CURRENT PROTECTION DEVICES WHERE COORDINATED WHEN INSTALLED, NO NEW MAINS ADDED FOR ANY EXISTING SWITCHGEAR.

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TRI CITY MEDICAL CENTER- EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

NEW SINGLE LINE DIAGRAM

Sheet Number

E003

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LOAD READINGS FOR PANELS EP1 EP2
RECORDING TIME FRAME (4.21.16 – 4.26.16)

EP1 200AMP 208/120V PANEL = HIGHEST READINGS ARE 46.8 AMPS
EXISTING LOAD 46.8 AMPS = 16894.8 KW

EP2 100AMP 208/120V PANEL = HIGHEST READINGS ARE 10.6 AMPS
EXISTING LOAD 10.6 AMPS = 3826.6 KW
ADDED LOAD TO PANEL EP2 IS 1000VA

TOTAL LOAD ON PANEL EP2 IS 3826.6 + 1000 = 4826.6/361 = 13.3 AMPS

13.3 + 25% = 16.625 AMPS, THE PANEL EP2 HAS ADEQUATE CAPACITY TO FOR THE ADDED LOAD.

Stantec — Panel

Name EP2 — 120/208V — 3 PH 4W — 100A Main lugs only — Type: Panelboard
Location — Surface Mounted — 0 AIC
Serves: — Single Lugs

#	Description	Load	CB	*	A	B	C	CB	*	Load	Description	#
1	Misc EXISTING LOAD	0.00	0/1		X			0/1		0.00	Misc EXISTING LOAD	2
3	Misc EXISTING LOAD	0.00	0/1			X		0/1		0.00	Misc EXISTING LOAD	4
5	Misc EXISTING LOAD	0.00	0/1				X	0/1		0.00	Misc EXISTING LOAD	6
7	Misc EXISTING LOAD	0.00	0/1		X			0/1		0.00	Misc EXISTING LOAD	8
9	Misc EXISTING LOAD	0.00	0/1			X		0/1		0.00	Spare OFF	10
11	Misc EXISTING LOAD	0.00	0/1				X	0/1		0.00	Spare OFF	12
13	Spare OFF	0.00	0/1		X			0/1		0.00	Spare OFF	14
15	Spare OFF	0.00	0/1			X		0/1		0.00	Spare OFF	16
17	Spare OFF	0.00	0/1				X	0/1		0.00	Spare OFF	18
19	Spare OFF	0.00	0/1		X			0/1		0.00	Spare OFF	20
21	Spare OFF	0.00	0/1			X		0/1		0.00	Spare OFF	22
23	Spare OFF	0.00	0/1				X	0/1		0.00	Spare OFF	24
25	Misc LEAK DETECTION LIFESAFETY BRA	0.50	0/1		X			0/1		0.00	Spare OFF	26
27	Misc CENTRAL CONTROL PANEL LIFE SA	0.50	0/1			X		0/1		0.00	Space	28
29	Space	0.00	0/1				X	0/1		0.00	Space	30

LIFE SAFETY CIRCUIT FOR LEAK DETECTION SYSTEM →
LIFE SAFETY CIRCUIT FOR CENTRAL CONTROL SYTEM →

Rev:		PH A	PH B	PH C
Revised Ckts Marked *	Existing Ckts Marked #	Connected KVA	0.50	0.50	0.00

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* Circuit Breaker Code
G = GFCI — H = HID Rated
S = Shunt Trip — C = HACR Rated
D = Switching Duty — # = See Note
A = AFCI

Notes:

Load Type	Conn KVA	NEC Demand Factor	Dem. KVA	Dem. Amp	NEC Feed %	NEC Feed Amps
Misc	1.00	x 100%	1.00	3	x 100%	3
	1.00	3 Amps	1.00	3		3

SWTICHBOARD MSA 4000AMPS NORMAL

BREAKER			AMPS	
MCC-2	800A	EXIST	543	
CHILLER-1	800A	EXIST	460	
MCC-1	1200A	EXIST	589.4	
PANEL H-1	100A	EXIST	63	
PANEL DP-1	150A	EXIST	66	
ATS-1	1200A	EXIST	1000	
CHILLER 2	400A	ADD	116	
			2721.4	TOTAL
30 day load reading	01.16.16-02.17.16		615	
			731	TOTAL

30 DAY LOAD READING →

this board has adequate capacity for the added relocated chiller #2

SWTICHBOARD ME-1 1200AMPS EMERGENCY

			AMPS	
30 DAY LOAD READING →	LOAD READINGS FROM 1.16.16 - 2.17.16	complete	360	
	PANEL EH-1	exist	32	
	LOAD READINGS FROM 2.01.16 - 3.02.16			
30 DAY LOAD READING →	PANEL MEH-1	exist	95	
	LOAD READINGS FROM 2.01.16 - 3.02.16			
30 DAY LOAD READING →	MCC-1E	exist	117	
	LOAD READINGS FROM 2.01.16 - 3.02.16			
	CHILLER 2 REMOVED LOAD	removed	116	TOTAL AMPS REMOVED
	CHILLER 3 REMOVED off line for 1 yr		0	
	NEW EQUIPMENT			
	P-30	add	65	
	P-31	add	27	
	CT-3	add	52	
	CH-3	add	511	
	TOTAL AMPS CONNECTED %		899	TOTAL
	899 X 1.25		1123.75	FUTURE

This distribution board has adequate capacity for the added equipment

UPDATED LOAD SUMMARYS WITH 30-DAY READINGS
SCALE: AS INDICATED

MCC-2

PUMP EQUIPMENT

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	VA TOTAL	VA/PHASE
P-11	15	21	480/3PH		NO				17451	5817
P-9	15	21	480/3PH		NO				17451	5817
P-10	15	21	480/3PH		NO				17451	5817

CHILLERS

Name	FLA	MCA	MOCP	VOLT/PH	E PWR	Disconnect Provided By	Special Notes	MOB	VA TOTAL	VA/PHASE
CH-4	240		400	480/3PH	YES	VFD			199440	FALSE
CH-5	240		400	480/3PH	YES	VFD			199440	FALSE

MCC-2 800AMP MAIN

17451 WATTS
17451 WATTS
17451 WATTS
199440 WATTS
199440 WATTS
451233 WATTS
543 AMPS 800AMP MAIN

MCC-1E

PUMP EQUIPMENT

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	VA TOTAL	VA/PHASE
BRINE PUMP	15	21	480/3PH		NO				17451	5817
P-21	15	21	480/3PH		NO				17451	5817
P-22	15	21	480/3PH		NO				17451	5817
P-17	50	65	480/3PH		NO				54015	18005
P-18	50	65	480/3PH		NO				54015	18005
P-7	75	96	480/3PH		NO				79776	26592
P-2	15	21	480/3PH		NO				17451	5817
P-6	75	96	480/3PH		NO				79776	26592

AIR HANDLER EQUIPMENT

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	Duct Detector	VA TOTAL	VA/PHASE
AH -1	40	52	480/3PH		NO	VFD BY DIV 15		(6) 20HP	YES	43212	14404

EXHAUST/ RETURN FANS

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	Control Type	VA TOTAL	VA/PHASE
RF-1	5	7.6	480/3PH		NO					6315.6	2105.2
EF-1 ENG	5	7.6	480/3PH		NO					6315.6	2105.2
EF-1	1 1/2	3	480/3PH		YES					2493	831
EF-2	3/4	1.6	480/3PH		YES					1329.6	443.2
SF-1	5	7.6	480/3PH		NO					6315.6	2105.2

COOLING TOWERS

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	VA TOTAL	VA/PHASE
CF - 2	40	52	480/3PH						43212	14404
CTF - 2	40	52	480/3PH						43212	14404

MCC-1E 1200 AMP MAIN

17451 WATTS
17451 WATTS
17451 WATTS
54015 WATTS
54015 WATTS
79776 WATTS
17451 WATTS
79776 WATTS
43212 WATTS
43212 WATTS
489791 WATTS
589.4 AMPS 1200 AMP MAIN

MCC-1

PUMP EQUIPMENT

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	VA TOTAL	VA/PHASE
P-3	15	21	480/3PH		NO				17451	5817
P-16	15	21	480/3PH		NO				17451	5817
P-15	15	21	480/3PH		NO				17451	5817
P-14	15	21	480/3PH		NO				17451	5817
P-13	15	21	480/3PH		NO				17451	5817
P-12	15	21	480/3PH		NO				17451	5817
P-19	15	21	480/3PH		NO				17451	5817
P-4	15	21	480/3PH		NO				17451	5817
P-20	25	34	480/3PH		NO				28254	9418
P-5	75	96	480/3PH		NO				79776	26592
P-1	15	21	480/3PH		NO				17451	5817

EXHAUST/ RETURN FANS

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	Control Type	VA TOTAL	VA/PHASE
EF-4	1	2.1	480/3PH		NO					1745.1	581.7
EF-5	1	2.1	480/3PH		NO					1745.1	581.7

COOLING TOWERS

Name	HP	FLA	Volt/PH	Circuit	E PWR	Starter Type/Provided By	Qty. Leads	Special Notes	VA TOTAL	VA/PHASE
CT - 1	40	52	480/3PH						43212	14404
CTF - 1	5	7.6	480/3PH						6315.6	2105.2

MCC-1 800 AMP MAIN

17451 WATTS
17451 WATTS
17451 WATTS
17451 WATTS
17451 WATTS
17451 WATTS
17451 WATTS
17451 WATTS
28254 WATTS
79776 WATTS
17451 WATTS
1745.1 WATTS
1745.1 WATTS
43212 WATTS
6315.6 WATTS
318107 WATTS
382.8 AMPS 800 AMP MAIN

ME-1

SWTICHBOARD ME-1 1200AMPS EMERGENCY

	BREAKER	KW	AMPS
CHILLER-3	400A	187	225
CHILLER-2	400A	187	225
PANEL MEH-1	600A		167
MCC-1E	600A		382.8
PANEL EH-1	100A		43
XFMR EX-1	125A		33
			1075.8 TOTAL

MSA

SWTICHBOARD MSA 4000AMPS NORMAL

	BREAKER	KW	AMPS
MCC-2	800A		543
CHILLER-1	800A		460
MCC-1	1200A		589.4
PANEL H-1	100A		63
PANEL DP-1	150A		66
ATS-1	1200A		1000
			2721.4 TOTAL

EXISTING LOAD SUMMARYS
SCALE: AS INDICATED

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FACILITIES DEVELOPMENT DIVISION

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TRI CITY MEDICAL CENTER- EMERGENCY CENTRAL PLANT IMPROVEMENTS

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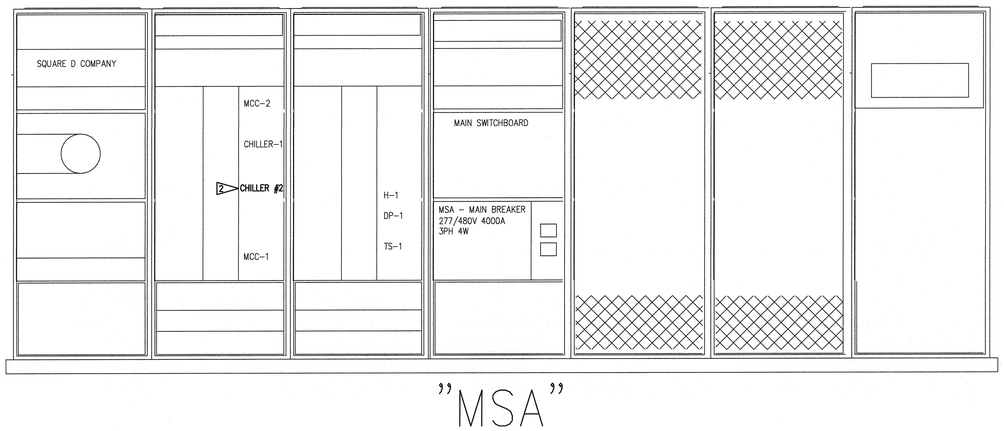
Sheet Title

PANEL SCHEDULES & ELECTRICAL CALCULATIONS

Sheet Number

E004



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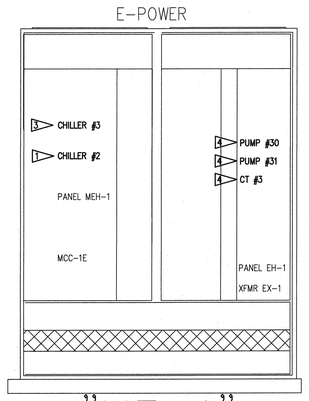


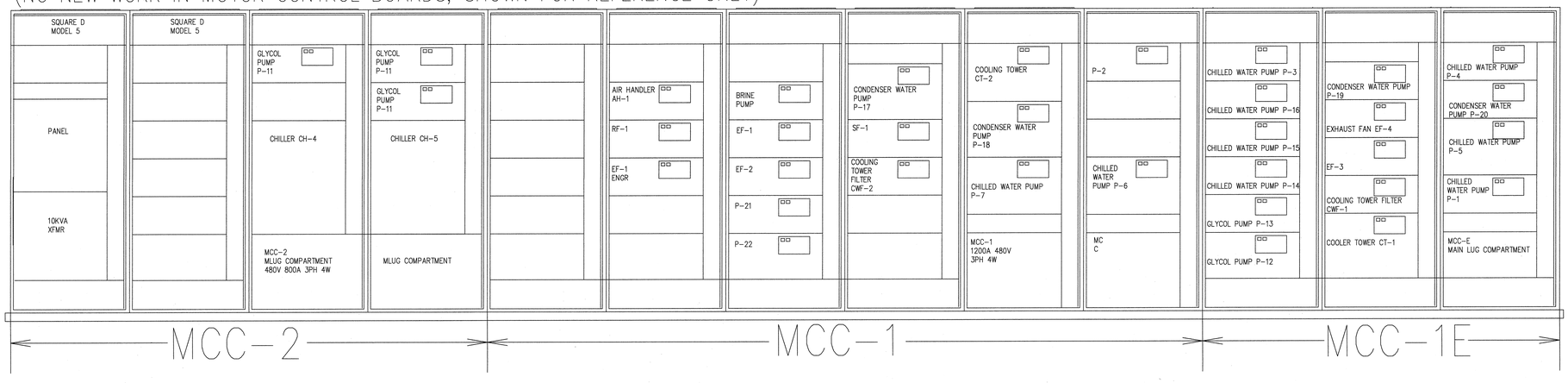
"ME-1"

FLAG NOTES:

1. REMOVE CHILLER #2, SEE NEW LOCATION ON MSA.
2. LOCATION FOR RELOCATED CHILLER #2.
3. EXISTING CHILLER #3 BEING REPLACED WITH NEW CHILLER#3, FED FROM SAME SWITCHBOARD.
4. LOCATION OF NEW PUMP-30, PUMP 31 AND CT-3.

S-1

(NO NEW WORK IN MOTOR CONTROL BOARDS, SHOWN FOR REFERENCE ONLY)



MCC-2 MCC-1 MCC-1E

ELECTRICAL SWITCHBOARD CALCULATIONS

SCALE: AS INDICATED

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Sheet Title

ELECTRICAL SWITCHBOARD ELEVATIONS

Sheet Number

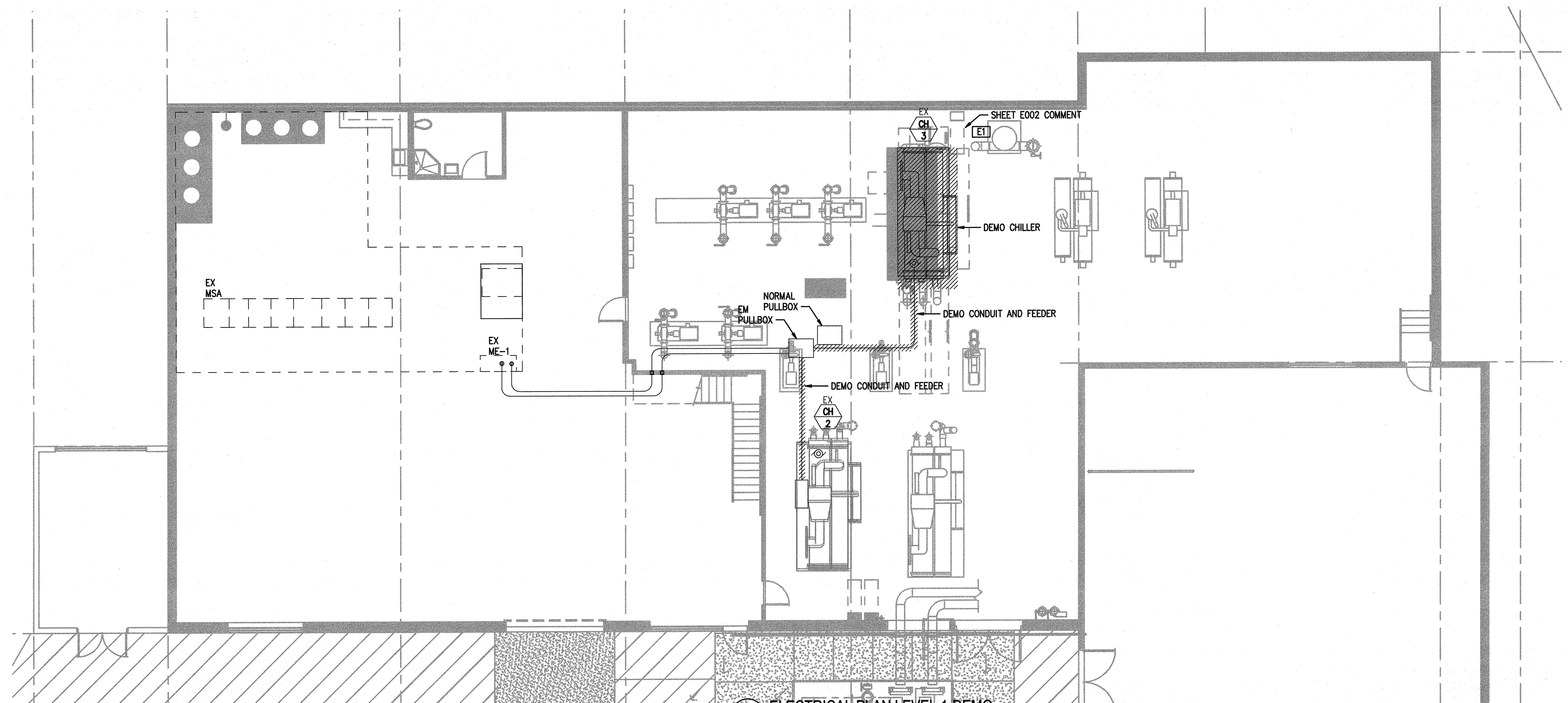
E005

GENERAL NOTES:

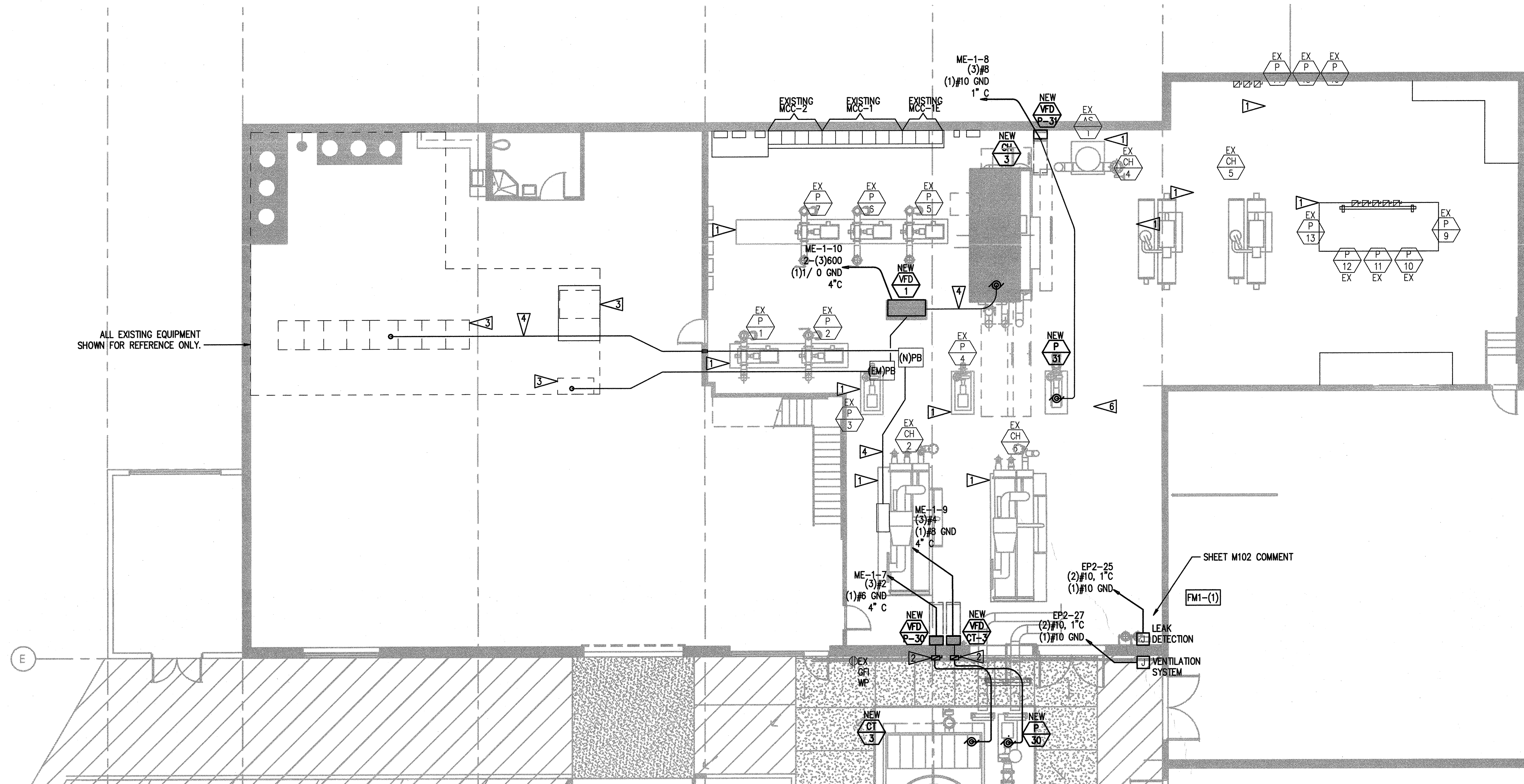
1. ALL EQUIPMENT SHOWN IS EXISTING UNLESS OTHERWISE NOTED.
2. ALL STRUCTURAL ATTACHMENTS AND ANCHORAGE NOT REFERENCED TO STRUCTURAL PLANS TO BE DELEGATED DESIGN BY CONTRACTOR.

FLAG NOTES:

1. EXITING ELECTRICAL EQUIPMENT NOT IN SCOPE.
2. PROVIDE NEMA 3R FUSED DISCONNECT WITH EARLY BREAK AUXILIARY CONTACT IN CONTROL CIRCUIT TO LET THE DRIVE KNOW TO SHUT DOWN WHEN THE DISCONNECT IS OPEN.
3. LOCATION OF MEH-1 DISTRIBUTION BOARD, ATS-1 AND MSA LOCATED ON 2ND LEVEL, FOR REFERENCE.
4. NEW FEEDER AND CONDUIT TO CHILLER #2, SEE UPDATED SINGLELINE DIAGRAM.
5. REFER TO DETAIL 4/M403 FOR CT VIBRATION SWITCH CONTROL.
6. REFER TO DETAIL 5/M403 FOR CHILLER SHUT OFF CONTROL.



2 ELECTRICAL PLAN LEVEL 1-DEMO
E101 SCALE: 1/8" = 1'-0"



1 ELECTRICAL PLAN LEVEL 1
E101 SCALE: 1/8" = 1'-0"

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TRI CITY MEDICAL CENTER- EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

ELECTRICAL PLAN LEVEL 1

Sheet Number

E101

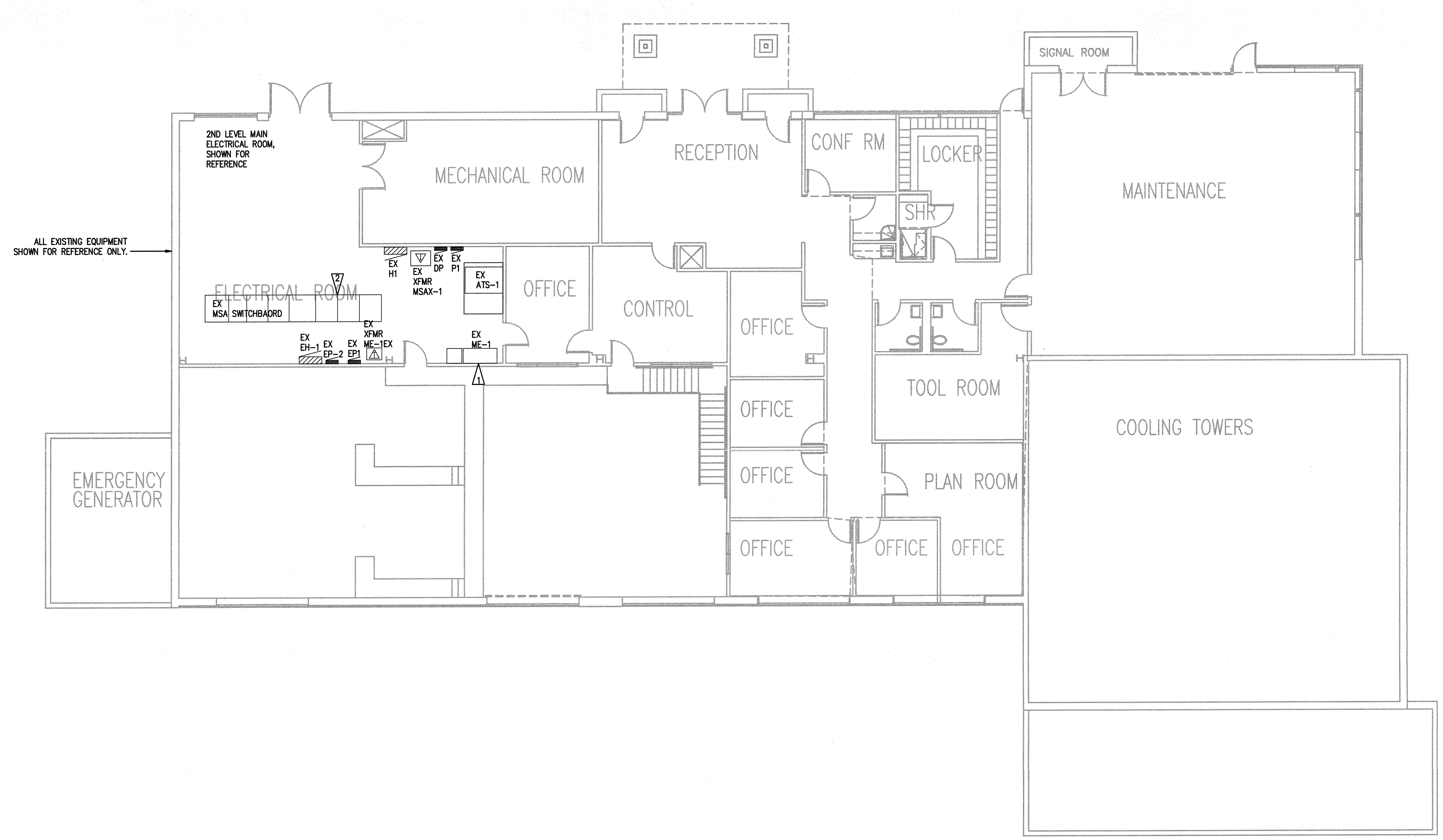
GENERAL NOTES:

1. ALL EQUIPMENT SHOWN IS EXISTING UNLESS OTHERWISE NOTED.

FLAG NOTES:

1 CIRCUIT BREAKER LOCATIONS FOR NEW EQUIPMENT.

2 CIRCUIT BREAKER LOCATION FOR RELOCATED CHILLER 2.



1 E201 ELECTRICAL PLAN LEVEL 2
SCALE: 1/8" = 1'-0"

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TRI CITY MEDICAL CENTER-EMERGENCY CENTRAL PLANT IMPROVEMENTS

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Sheet Title

ELECTRICAL PLAN LEVEL 2

Sheet Number

E102

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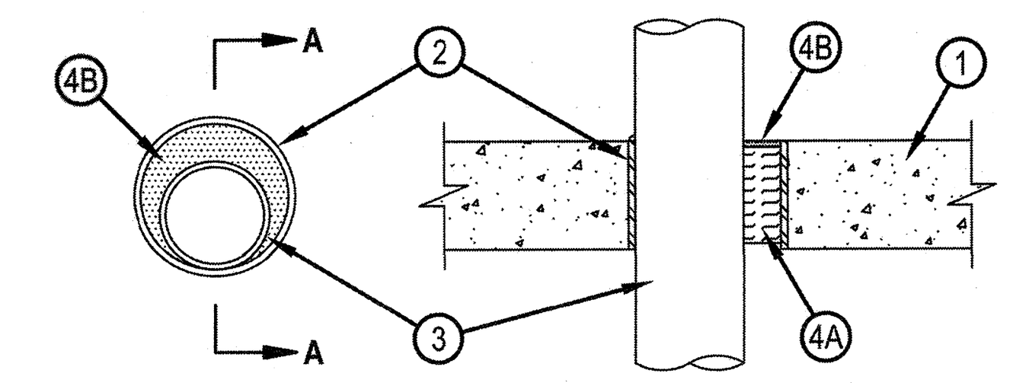
System No. C-AJ-1421

CAJ 1421

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 or 3 Hr	F Ratings — 2 or 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings — 2 or 3 Hr
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Metallic Sleeve — (Optional) Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through-Penetrant — One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, tube or conduit and periphery of opening shall be min 0 in. (point contact) to max 5-3/8 in. (137 mm). Pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* - Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. For 3 Hr rated assemblies, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete/pipe interface at the point contact location on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-S SIL GG, CFS-S SIL SL, FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP604 Self-Leveling Firestop Sealant. CP604 and CFS-S SIL SL shall be used in floor applications only.
   When CP604, CFS-S SIL GG or CFS-S SIL SL (floors only) is used, F Rating is 2 Hr.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

HILTI
Hilti Firestop Systems

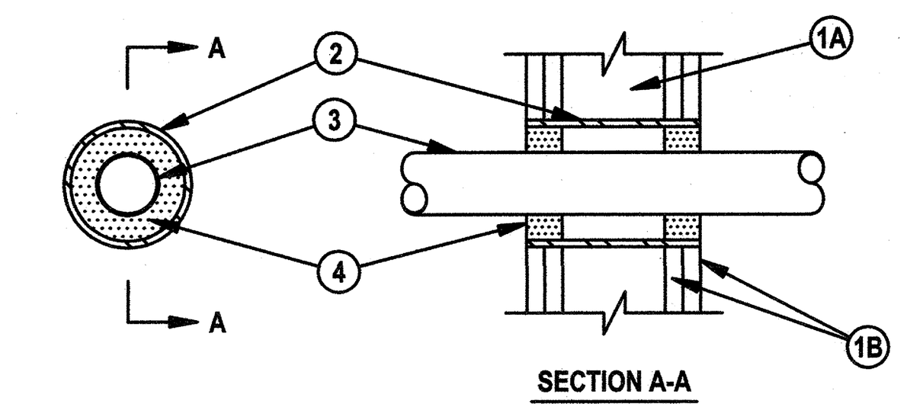
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 28, 2015

1 / E301 FIRE RATED CONDUIT PENETRATION (FLOOR)

SCALE: NOT TO SCALE

System No. W-L-2075

F Ratings - 1 & 2 Hr (See Item 4)
T Ratings - 0 and 2 Hr (see Item 4)
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft



SECTION A-A

1. FLOOR OR WALL ASSEMBLY -- THE FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS -- WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC.
B. GYPSUM BOARD* -- NOM 5/8 IN. THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIAM OF OPENING IS 4 IN.
2. METALLIC SLEEVE -- (OPTIONAL) -- NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR THINNER) STEEL PIPE CAST INTO WALL ASSEMBLY WITH JOINT COMPOUND AND INSTALLED FLUSH WITH WALL SURFACES.
3. ELECTRICAL NONMETALLIC TUBING+ -- NOM 2 IN. DIAM (OR SMALLER) CORRUGATED WALL ELECTRICAL NONMETALLIC TUBING (ENT) CONSTRUCTED OF POLYVINYL CHLORIDE (PVC). TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. A NOM ANNULAR SPACE OF 3/4 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM.
SEE ELECTRICAL NONMETALLIC TUBING (FKHU) CATEGORY IN THE ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS.
4. FILL, VOID OR CAVITY MATERIAL* -- SEALANT -- INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH EACH END OF THE STEEL SLEEVE AT THE THICKNESS SHOWN IN THE TABLE BELOW:

F Rating Hr	T Rating Hr	Fill Mtl Depth In.
1	0	5/8
2	2	1-1/4

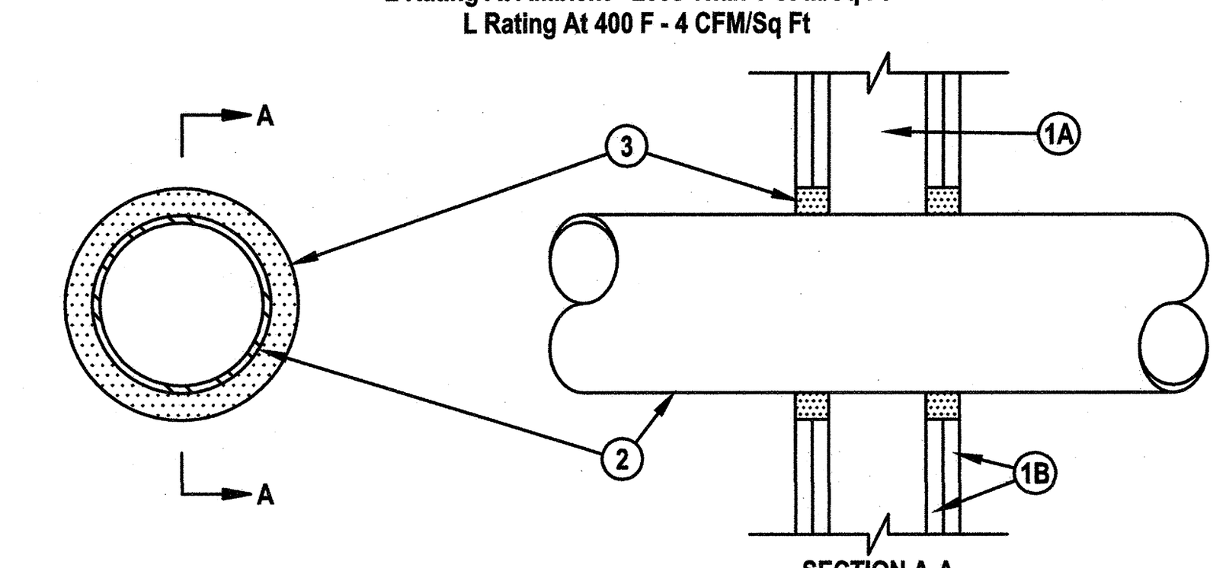
+BEARING THE UL LISTING MARK
*BEARING THE UL CLASSIFICATION MARKING

2 / E301 FIRE RATED CONDUIT PENETRATION (WALL)

SCALE: NOT TO SCALE

System No. W-L-1054

F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft

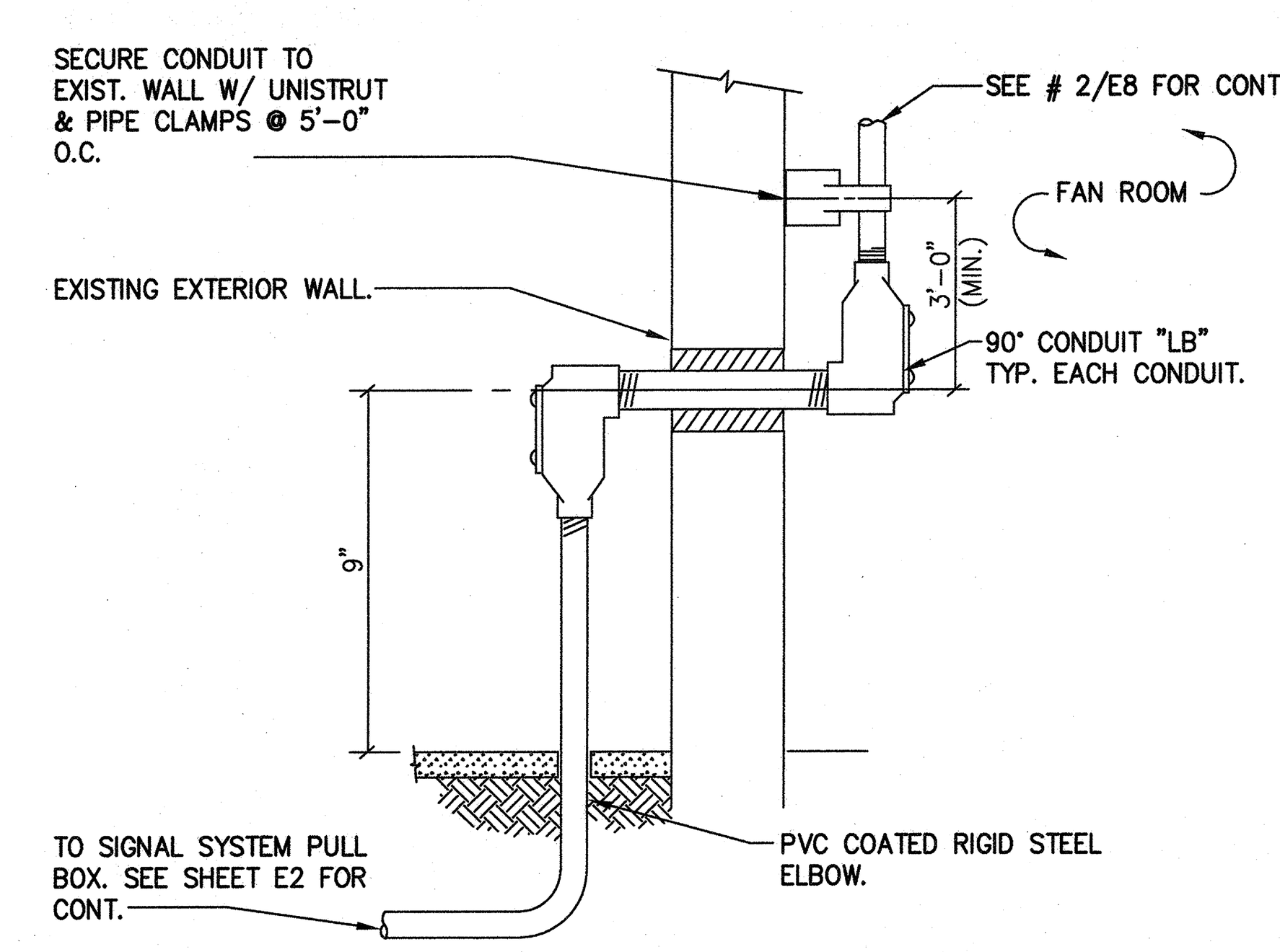


SECTION A-A

1. WALL ASSEMBLY -- THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS -- WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC. WHEN STEEL STUDS ARE USED AND THE DIAM OF OPENING EXCEEDS THE WIDTH OF STUD CAVITY, THE OPENING SHALL BE FRAMED ON ALL SIDES USING LENGTHS OF STEEL STUD INSTALLED BETWEEN THE VERTICAL STUDS AND SCREW-ATTACHED TO THE STEEL STUDS AT EACH END. THE FRAMED OPENING IN THE WALL SHALL BE 4 TO 6 IN. WIDER AND 4 TO 6 IN. HIGHER THAN THE DIAM OF THE PENETRATING ITEM SUCH THAT, WHEN THE PENETRATING ITEM IS INSTALLED IN THE OPENING, A 2 TO 3 IN. CLEARANCE IS PRESENT BETWEEN THE PENETRATING ITEM AND THE FRAMING ON ALL FOUR SIDES.
B. GYPSUM BOARD* -- 5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 32-1/4 IN. FOR STEEL STUD WALLS. MAX DIAM OF OPENING IS 14-1/2 IN. FOR WOOD STUD WALLS. THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE FIRE RATING OF THE WALL ASSEMBLY.
2. THROUGH-PENETRANTS -- ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 0 IN. TO MAX 2-1/4 IN. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT CONTACT. PIPE, CONDUIT OR TUBING MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45 DEGREES FROM PERPENDICULAR. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
A. STEEL PIPE -- NOM 30 IN DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
B. IRON PIPE -- NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
C. CONDUIT -- NOM 4 IN DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. DIAM STEEL CONDUIT.
D. COPPER TUBING -- NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
E. COPPER PIPE -- NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
3. FILL, VOID OR CAVITY MATERIAL* -- SEALANT -- MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT OR CONTINUOUS CONTACT LOCATIONS BETWEEN PIPE AND WALL, A MIN 1/2 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE WALL INTERFACE ON BOTH SURFACES OF WALL .
FS-ONE SEALANT
*BEARING THE UL CLASSIFICATION MARK

3 / E301 FIRE RATED CONDUIT PENETRATION (WALL)

SCALE: NOT TO SCALE



4 / E301 CONDUIT PENETRATION DETAIL

SCALE: NOT TO SCALE

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11.08.17

Revisions

No.	Date	Description

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
NOV 28 2017
Office of Statewide Health Planning & Development
FACILITIES DEVELOPMENT DIVISION

LICENSED ARCHITECT GERALD W. HUNTER NO. C24405 REN. 1-31-17 STATE OF CALIFORNIA

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Project Title

TRI CITY MEDICAL CENTER-EMERGENCY CENTRAL PLANT IMPROVEMENTS

OSHPD#:S172470-37-00

Sheet Title

DETAIL SHEET 1

Sheet Number

E201

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GENERAL NOTES

1. ALL PIPES, EQUIPMENT AND CONDUIT SHALL BE SUPPORTED AND BRACED SMACNA GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS.

2. ALL ATTACHMENTS TO THE STRUCTURE FOR SUPPORT OF EQUIPMENT, PIPING AND DUCTWORK NOT SPECIFICALLY DETAILED SHALL BE IN ACCORDANCE WITH SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS.

3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURES INSTRUCTIONS AND ENSURE ALL EQUIPMENT HAS ADEQUATE CLEARANCE AS REQUIRED FOR PROPER SERVICE AND MAINTENANCE. PROVIDE ALL PIPING AND DUCTWORK ACCESSORIES AS REQUIRED FOR COMPLETE AND WORKABLE SYSTEMS.

4. COORDINATE INSTALLATION OF ALL EQUIPMENT, PIPING AND DUCTWORK WITH OTHER TRADES PRIOR TO INSTALLATION. ENSURE THAT ALL CONTROL DEVICES, MANUAL VOLUME DAMPERS, SHUT-OFF VALVES, FILTERS ETC. ARE ACCESSIBLE FOR MAINTENANCE.

5. CONTRACTOR SHALL COMPLETELY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS PRIOR TO START OF WORK ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS WHICH PREVENTS THE INSTALLATION OF EQUIPMENT, DUCTWORK AND PIPING AS SHOWN SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION.

6. ANY EXISTING STRUCTURAL FIREPROOFING DAMAGED DURING CONSTRUCTION SHALL BE PREPARED OR REPLACED AT NO COST TO THE OWNER.

7. PLUMBING VENTS SHALL BE LOCATED MINIMUM 25 FEET FROM OUTSIDE AIR INTAKES, COMBUSTION EQUIPMENT AND OTHER SOURCES OF CONTAMINATION.

8. ANCHORAGE OF EQUIPMENT WEIGHING LESS THAN 400 POUNDS AND SUPPORTED DIRECTLY ON THE FLOOR OR ROOF STRUCTURE, FURNITURE OR TEMPORARY OR MOVABLE EQUIPMENT AND EQUIPMENT WEIGHTING LESS THAN 20# THAT IS SUPPORTED BY VIBRATION ISOLATION DEVICES SUSPENDED FROM THE ROOF, WALL OR FLOOR NEED NOT BE DETAILED ON THE PLANS. (CBC TITLE 24 PART 2 SECTION
1613A) HOWEVER, SUCH EQUIPMENT MUST BE SUPPORTED AND ANCHORED TO RESIST THE FORCES PRESCRIBED BY SECTION 1630B.2 AND THE ANCHORAGE SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD AS A PART OF FIELD REVIEWS/ INSPECTIONS. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

9. CONTRACTOR SHALL VERIFY ALL EQUIPMENT MODEL NUMBERS, CAPACITIES, SIZES, VOLTAGES, AND ALL OTHER SCHEDULED INFORMATION WITH OTHER APPLICABLE TRADES AND WITH THE MANUFACTURER PRIOR TO INSTALLATION.

10. CONTRACTOR SHALL VERIFY ALL LOCATIONS, SIZES, P.O.C'S, INVERT ELEVATIONS, AND AVAILABILITY OF ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF ANY MATERIAL OR EQUIPMENT.

11. THESE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ARE NOT INTENDED TO INDICATE ALL DETAILS AND NECESSARY OFFSETS OF PIPING. THE CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT IN A MANNER AS TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. ALL INSTALLATIONS SHALL BE CONSISTENT WITH NORMALLY ACCEPTABLE INDUSTRY STANDARDS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS THAT WOULD EFFECT THE SYSTEM PERFORMANCE OR INCUR ADDITIONAL COSTS. THIS NOTIFICATION SHALL BE SUBMITTED PRIOR TO INSTALLATION OF THE ITEMS CONCERNED.

12. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES. NOTHING SHOWN ON THE PLANS OR STATED IN THE SPECIFICATIONS IS INTENDED TO INDICATE THAT THE INSTALLATIONS OR CONNECTIONS OF ANY ITEM OR DEVICE SHOULD BE DONE CONTRARY TO MANUFACTURERS INSTRUCTIONS AND ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT THE INSTALLATIONS AND CONNECTIONS OF ALL ITEMS AND DEVICES CONFORMS TO MANUFACTURERS INSTRUCTIONS AND TO ALL APPLICABLE CODES AND REGULATIONS.

13. ALL PLUMBING EQUIPMENT, MATERIAL, AND ALL CONNECTIONS THERETO SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL SYSTEM.

14. ALL PLUMBING PIPING SOLDER SHALL BE LEAD FREE.

15. WHERE NON-METALLIC PIPING PENETRATES AREA SEPARATION, 1 HOUR, OR 2 HOUR WALLS, THE PIPE SECTION PASSING THROUGH THE WALLS AND EXTENDING A DISTANCE OF 5 FEET ON EITHER SIDE THERE-OF SHALL BE OF METAL ONLY.

16. NO GATE VALVES SHALL BE INSTALLED ON THIS PROJECT.

17. IDENTIFICATION OF POTABLE AND NON-POTABLE WATER PIPES AND OUTLETS SHALL COMPLY WITH SECTION 614.0 OF THE CPC.

18. ALL WASTE PIPING TO BE SLOPED AT 2%

SEISMIC BRACING NOTES

ANCHORAGE AND SEISMIC BRACING NOTES

1. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DETAILED ON THE CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY THE 2016 CBC, SECTION 1616A.1.18.

2. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD (RDP) AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

3. SEISMIC BRACING OF PIPES, DUCTS AND CONDUITS: CONTRACTOR SHALL PROVIDE SUPPORTS, ATTACHMENTS AND BRACING FOR PIPES, DUCTS AND CONDUITS IN ACCORDANCE WITH ONE OF THE FOLLOWING SYSTEMS POSSESSING A CURRENT OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM):

A. MASON INDUSTRIES, INC. (OPM-0043-13)
B. ERICO INTERNATIONAL CORP, FIRE SPRINKLERS ONLY (OPM-0062-13)

LAYOUT DRAWINGS OF THE SUPPORTS, ATTACHMENTS, AND BRACING SYSTEMS IN ACCORDANCE WITH THE PREAPPROVAL SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL (RDP) IN RESPONSIBLE CHARGE OF THE PROJECT FOR REVIEW TO VERIFY THAT THE DETAILS ARE IN CONFORMANCE WITH THE CODE REQUIREMENTS. THE LAYOUT DRAWINGS SHALL AS A MINIMUM SATISFY THE REQUIREMENTS OF ASCE 7 SECTION 13.6 AS MODIFIED BY THE 2016 CBC SECTION 1616A.

A. THE STRUCTURAL ENGINEER OF RECORD (SEOR) SHALL VERIFY THAT THE SUPPORTING STRUCTURE IS ADEQUATE FOR THE FORCES IMPOSED ON IT THE SUPPORTS, ATTACHMENTS, AND BRACES INSTALLED IN ACCORDANCE WITH THE PREAPPROVAL IN ADDITION TO ALL OTHER LOADS.

B. THE SEOR SHALL FORWARD THE SUPPORTS, ATTACHMENTS, AND BRACING DRAWINGS (INCLUDING APPROVED AMENDED CONSTRUCTION DOCUMENTS FOR SUPPLEMENTARY FRAMING, WHERE REQUIRED) TO THE DISCIPLINE IN RESPONSIBLE CHARGE WITH A NOTATION INDICATING THAT THE DRAWINGS HAVE BEEN REVIEWED AND ARE IN GENERAL CONFORMANCE WITH THE PREAPPROVAL AND THE DESIGN OF THE PROJECT.

C. A "SHOP DRAWING STAMP" MAY BE USED TO INDICATE COMPLIANCE WITH THIS REQUIREMENT.

D. THE REGISTERED DESIGN PROFESSIONAL (RDP), OTHER THAN SEOR, MAY PROVIDE THE SHOP DRAWING STAMP FOR SMALL PROJECTS AT THE DISCRETION OF THE OSHPD DISTRICT STRUCTURAL ENGINEER.

THE SEOR SHALL DESIGN ANY SUPPLEMENTARY FRAMING THAT IS NEEDED TO RESIST THE LOADS, MAINTAIN STABILITY, AND/OR TO SATISFY THE INSTALLATION REQUIREMENTS OF THE PRE-APPROVED SYSTEM. THE SUPPLEMENTARY FRAMING SHALL BE SUBMITTED TO OSHPD AS AN AMENDED CONSTRUCTION DOCUMENT (ACD). THE LAYOUT DRAWINGS WITH THE SHOP DRAWINGS STAMP SHALL BE SUBMITTED TO THE OSHPD DISTRICT STRUCTURAL ENGINEER FOR REVIEW OF THE FOLLOWING:

E. STRUCTURE SUPPORTING THE DISTRIBUTION SYSTEM HAS ADEQUATE STRUCTURAL CAPACITY.

F. SEISMIC DESIGN FORCES (Fp) ARE IN ACCORDANCE WITH THE 2016 CBC

G. VERIFICATION THAT SUBMITTAL IS WITHIN THE SCOPE OF THE OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM), INCLUDING:
SIZE OF DISTRIBUTION SYSTEM COMPONENTS
SPACING OF BRACING AND FLEX JOINTS
SUBSTRATE FOR ATTACHMENTS

THE LAYOUT DRAWINGS WITH THE SHOP DRAWING STAMP SHALL BE KEPT ON THE JOBSITE AT ALL TIMES AND SHALL BE USED FOR INSTALLATION OF THE SUPPORT AND BRACING. THE OSHPD FIELD STAFF WILL REVIEW THE INSTALLATION. A COPY OF THE CHOSEN BRACING SYSTEM(S) INSTALLATION GUIDE/ MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING THE INSTALLATION OF HANGERS AND/ OR BRACES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF EACH OPM AND FURNISH THE IOR WITH ONE COPY OF EACH. COMPONENTS OF TWO OR MORE PRE-APPROVED BRACING SYSTEMS SHALL NOT BE MIXED. ONLY ONE PRE-APPROVED BRACING SYSTEM MAY BE USED FOR A RUN OF PIPE, DUCT OR CONDUIT. ANY SUBSTITUTION OF COMPONENT OF A PRE-APPROVED BRACING SYSTEM SHALL REQUIRE OSHPD REVIEW AND APPROVAL.

4. MECHANICAL COMPONENTS THAT ARE INSTALLED IN-LINE WITH THE DUCT SYSTEM AND HAVE AN OPERATING WEIGHT GREATER THAN 75 LBS SHALL BE SUPPORTED AND LATERALLY BRACED INDEPENDENT OF THE DUCT SYSTEM (ASCE 7 SECTION 13.6.7).

5. APPURTENANCES SUCH AS DAMPERS, LOUVERS AND DIFFUSERS SHALL BE POSITIVELY ATTACHED WITH MECHANICAL FASTENERS (ASCE 7 SECTION 13.6.7).

6. SEISMIC RESTRAINTS FOR DUCTS, PIPING AND CONDUITS MAY BE OMITTED FOR ANY OF THE FOLLOWING CONDITIONS:

A. CONDUITS, CABLE TRAYS, AND OTHER ELECTRICAL DISTRIBUTION SYSTEMS (RACEWAYS) OR HVAC DUCTS SUSPENDED FROM HANGERS WHERE EACH HANGER IN THE DUCT RUN IS 12 INCHES OR LESS IN LENGTH. WHERE ROD HANGERS WITH A DIAMETER GREATER THAN 3/8-INCH ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD. (CBC 1616A.1.24 & 1616A.1.25).

B. HVAC DUCTS WITH A CROSS-SECTIONAL AREA LESS THAN 6 SQUARE FEET WHERE PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR MECHANICAL COMPONENTS, OR PROVISIONS ARE MADE TO PROTECT THE DUCTS IN THE EVENT OF SUCH AN IMPACT (CBC 1616A.1.25).

C. HVAC DUCTS WITH A WEIGHT OF 10 LBS/FT OR LESS WHERE PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER DUCTS OR MECHANICAL COMPONENTS, OR PROVISIONS ARE MADE TO PROTECT THE DUCTS IN THE EVENT OF SUCH AN IMPACT (CBC 1616A.1.25).

D. TRAPEZE ASSEMBLIES USED TO SUPPORT RACEWAYS, DUCTWORK OR PIPING WHERE THE TOTAL WEIGHT OF THE UTILITIES SUPPORTED BY TRAPEZE ASSEMBLIES IS LESS THAN 10 LBS/FT AND THE MAXIMUM NOMINAL SIZE OF ANY SUPPORTED PIPE DOES NOT EXCEED 1 INCH (CBC 1616A.1.24, 1616A.1.25 & 1616A.1.26).

E. PIPING SUPPORTED BY ROD HANGERS WHERE EACH HANGER IN THE PIPE RUN IS 12 INCHESOR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON TRAPEZES, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 INCHES OR LESS. WHERE ROD HANGERS WITH A DIAMETER GREATER THAN 3/8-INCH ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD. (CBC 1616A.1.26).

F. PIPING SATISFYING ALL OF THE FOLLOWING CONDITIONS: HAVING A NOMINAL DIAMETER OF 1 INCH OR LESS; CONFORMING TO ASME B31 OR CONSTRUCTED OF HIGH OR LIMITED DEFORMABILITY MATERIALS; HAVING JOINTS MADE BY WELDING, BRAZING, THREADING, BONDING, COMPRESSION COUPLINGS, OR GROOVED COUPLINGS; PROVISIONS ARE MADE TO AVOID IMPACT WITH OTHER STRUCTURAL OR NONSTRUCTURAL COMPONENTS, OR TO PROTECT THE PIPING IN THE EVENT OF SUCH IMPACT (CBC 1616A.1.26).

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
CAP		PIPE CAP
WC		NEW FIXTURE ABOVE
FCO		FLOOR CLEANOUT
		PIPE DOWN
		PIPE UP
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
	V	VENT
	S	SOIL
	W	WASTE
O		OXYGEN GAS
NO		NITROUS OXIDE
N		NITROGEN GAS
GW		GREASE WASTE
SD		STORM DRAINAGE
OSD		STORM DRAINAGE (OVERFLOW)
CD		CONDENSATE DRAIN
		REDUCER
		DIRECTION OF FLOW
0.5		CIRCUIT SETTER (GPM)
	WHA	WATER HAMMER ARRESTOR
	WHA	WATER HAMMER ARRESTOR (IN VERTICAL)
	CH.V.	CHECK VALVE
	N.O.	SHUT OFF VALVE (NORMALLY OPEN)
	N.C.	SHUT OFF VALVE (NORMALLY CLOSED)
		PIPE CONTINUATION
		DIRECTION OF FLOW
	FD	FLOOR DRAIN
	F.C.	FLEXIBLE CONNECTION (PIPE)
	P.G.	PRESSURE GAUGE W/ GAUGE COCK
	TH.	THERMOMETER
	H.B.	HOSE BIBB
	T.P.	TRAP PRIMER
	LAV / L-*	LAVATORY
	WC	WATER CLOSET
	SH	SHOWER
	SK / S-*	SINK
	ST-*	STORAGE TANK
	A.F.F.	ABOVE FINISH FLOOR
	CONTR.	CONTRACTOR
	DN.	DOWN
	FLR.	FLOOR
	FT.	FEET OR FOOT
	QTY.	QUANTITY
	REQ'D.	REQUIRED
	TYP.	TYPICAL
	V.T.R.	VENT THRU ROOF
	W/	WITH
- / -		EQUIPMENT TAG

SHEET INDEX

PLUMBING PLAN CHECK NOTES

A. A MAINTENANCE LABEL SHALL BE AFFIXED TO ALL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE. THE LABEL SHALL INDICATE ROUTINE MAINTENANCE REQUIRED OR SHALL REFERENCE BY NUMBER WHICH OPERATING MANUALS EXPLAIN MAINTENANCE REQUIREMENTS IN GREATER DETAIL.

B. SEE PLUMBING SPECIFICATIONS FOR MATERIALS.

PROTECTION OF PIPING, MATERIALS AND STRUCTURES

A. ALL PIPING PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM BREAKAGE.

B. ALL PIPING PASSING THROUGH OR UNDER CINDERS OF OTHER CORROSIVE MATERIALS SHALL BE PROTECTED FROM EXTERNAL CORROSION IN AN APPROVED MANNER.

C. VOIDS AROUND PIPING PASSING THROUGH CONCRETE FLOORS ON THE GROUND SHALL BE APPROPRIATELY SEALED.

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CUNINGHAM GROUP

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LICENSED ARCHITECT
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Project Title

TRI CITY MEDICAL CENTER - EMERGENCY CENTRAL PLAN IMPROVEMENTS

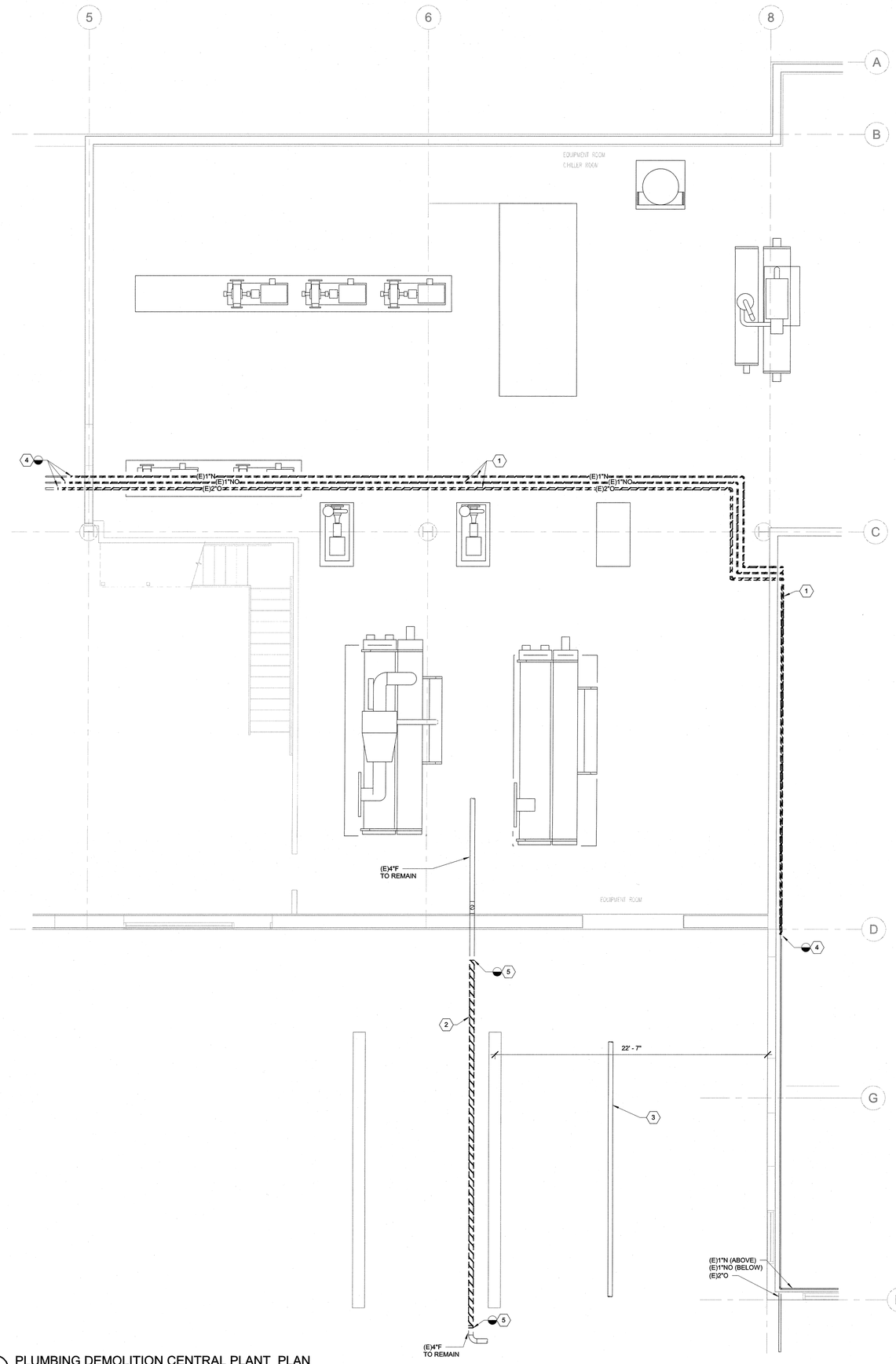
OSHPD#:S172470-37-00

Sheet Title

PLUMBING LEGEND & GENERAL NOTES

Sheet Number

P001



KEY NOTES:

1. 1"N, 1"NO & 2"O TO BE REMOVED, SEE PLUMBING NEW WORK PLAN.
2. (E)4"F BELOW GRADE TO BE REMOVED.
3. (E) 4" W. BELOW FLOOR TO REMAIN. (CONTRACTOR FIELD VERIFY EXACT DEPTH AND LOCATION).
4. POINT OF DISCONNECT. CUT AND CAP EXISTING 1"N, 1"NO, AND 2" O, ALONG WALL. INCLUDING ALL ASSOCIATED BRACES FITTING AND VALVES.
5. POINT OF DISCONNECT, CUT AND CAP EXISTING 4" FIRE LINE.

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	MAKE AND MODEL	PIPE ROUGH IN SCHEDULE				REMARKS
			WASTE	VENT	CW	HW	
FS-1	FLOOR SINK	JOSAM MODEL# 49364A-LF-4-Z	4"	2"	-	-	CAST IRON 9-1/2" DEEP

PLUMBING SYSTEMS OUTAGE AND IMPACT WORK

Keynote	Service	Impact	Work plan	Comments	OUTAGE DURATION AND IMPACTS
1	NITROGEN	NITROGEN SERVICE TO CAMPUS/PRIMARY SURGERY CENTER	UTILIZE EMERGENCY SHUTOFF VALVES AT MAIN CAMPUS ENTRANCE AT END OF TUNNEL. UTILIZE ZONE VALVES AT OR CENTER FOR GAS BACKFEED DURING WORK IN PLANT. BACKFEED OF APPROVED PRESSURIZED GAS PER NFPA DURING RE-WORK. EXISTING MAINS AND SYSTEMS FROM EMERGENCY SHUT OFFS AT MAIN CAMPUS ENTRANCE, TO STORAGE SYSTEMS AT PLANT REQUIRE COMPLETE CERTIFICATION. CONTRACTOR TO DEVELOP COMPLETE WRITTEN PLAN OF WORK FOR APPROVAL BY OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK.	OUTAGE AND MONITORING OF SYSTEMS BY CONTRACTOR FOR ENTIRE DURATION OF WORK. CERTIFICATIONS MUST BE APPROVED BY IOR/ACO AND MEOR PRIOR TO RE-ENGAGING PIPING SYSTEMS TO CAMPUS.	WORK AT PLANT TO BE INSTALLED AND APPROVED, PRIOR TO CUT-OVER AND DEMOLITION OF EXISTING MAINS. WORK SHALL BE CONSTRUCTED, AND CONVERTED TO NEW SYSTEM "AROUND" REFRIGERATION ROOM TO PROVIDE AND COMPLETE WORK IN UNDER 7 DAYS TO MAINTAIN WORK AS "TEMPORARY" PER OSHPD DEFINITIONS AND COMPLY WITH MATERIALS, ETC. AS ALLOWED. REFERENCE OSHPD CAN 2-108 AS REQUIRED.
2	NITROUS OXIDE	NITROUS OXIDE SERVICE TO CAMPUS/PRIMARY SURGERY CENTER	UTILIZE EMERGENCY SHUTOFF VALVES AT MAIN CAMPUS ENTRANCE AT END OF TUNNEL. UTILIZE ZONE VALVES AT OR CENTER FOR GAS BACKFEED DURING WORK IN PLANT. BACKFEED OF APPROVED PRESSURIZED GAS PER NFPA DURING RE-WORK. EXISTING MAINS AND SYSTEMS FROM EMERGENCY SHUT OFFS AT MAIN CAMPUS ENTRANCE, TO STORAGE SYSTEMS AT PLANT REQUIRE COMPLETE CERTIFICATION. CONTRACTOR TO DEVELOP COMPLETE WRITTEN PLAN OF WORK FOR APPROVAL BY OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK.	OUTAGE AND MONITORING OF SYSTEMS BY CONTRACTOR FOR ENTIRE DURATION OF WORK. CERTIFICATIONS MUST BE APPROVED BY IOR/ACO AND MEOR PRIOR TO RE-ENGAGING PIPING SYSTEMS TO CAMPUS.	WORK AT PLANT TO BE INSTALLED AND APPROVED, PRIOR TO CUT-OVER AND DEMOLITION OF EXISTING MAINS. WORK SHALL BE CONSTRUCTED, AND CONVERTED TO NEW SYSTEM "AROUND" REFRIGERATION ROOM TO PROVIDE AND COMPLETE WORK IN UNDER 7 DAYS TO MAINTAIN WORK AS "TEMPORARY" PER OSHPD DEFINITIONS AND COMPLY WITH MATERIALS, ETC. AS ALLOWED. REFERENCE OSHPD CAN 2-108 AS REQUIRED.
3	OXYGEN	OXYGEN SERVICE TO CAMPUS.	UTILIZE EMERGENCY SHUTOFF VALVES AT MAIN CAMPUS ENTRANCE AT END OF TUNNEL. UTILIZE ZONE VALVES AT OR CENTER FOR GAS BACKFEED DURING WORK IN PLANT. BACKFEED OF APPROVED PRESSURIZED GAS PER NFPA DURING RE-WORK. EXISTING MAINS AND SYSTEMS FROM EMERGENCY SHUT OFFS AT MAIN CAMPUS ENTRANCE, TO STORAGE SYSTEMS AT PLANT REQUIRE COMPLETE CERTIFICATION. CONTRACTOR TO DEVELOP COMPLETE WRITTEN PLAN OF WORK FOR APPROVAL BY OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK.	OUTAGE AND MONITORING OF SYSTEMS BY CONTRACTOR FOR ENTIRE DURATION OF WORK. CERTIFICATIONS MUST BE APPROVED BY IOR/ACO AND MEOR PRIOR TO RE-ENGAGING PIPING SYSTEMS TO CAMPUS.	WORK AT PLANT TO BE INSTALLED AND APPROVED, PRIOR TO CUT-OVER AND DEMOLITION OF EXISTING MAINS. WORK SHALL BE CONSTRUCTED, AND CONVERTED TO NEW SYSTEM "AROUND" REFRIGERATION ROOM TO PROVIDE AND COMPLETE WORK IN UNDER 7 DAYS TO MAINTAIN WORK AS "TEMPORARY" PER OSHPD DEFINITIONS AND COMPLY WITH MATERIALS, ETC. AS ALLOWED. REFERENCE OSHPD CAN 2-108 AS REQUIRED.
4	FIRE SERVICE - CENTRAL PLANT.	FIRE SERVICE - CENTRAL PLANT.	EXISTING FIRE MAIN TO BE RE-ROUTED FROM UNDER COOLING TOWER FOOTING. CONTRACTOR TO INSTALL ALL NEW WORK AND PREPARE FOR TRANSITION TO RE-ROUTED MAIN, RECEIVING ALL APPROVALS, PRIOR TO CUT OVER, PRESSURE TESTS, UNDERGROUND PIPING, ETC. AT END OF NEW WORK INSTALLATION, CONTRACTOR SHALL UTILIZE EXISTING SHUT OFF VALVE IMMEDIATELY INSIDE PLANT AND POST INDICATING VALVE IMMEDIATELY ADJACENT TO TOWER YARD TO ISOLATE SYSTEMS.	OUTAGE AND FIRE WATCH MONITORING TO BE PROVIDED BY CONTRACTOR UNDER APPROVAL FROM FIRE MARSHALL AND IOR/ACO, PRIOR TO COMMENCING WITH WORK.	WORK AT PLANT TO BE INSTALLED AND APPROVED, PRIOR TO CUT-OVER AND DEMOLITION OF EXISTING MAINS. WORK SHALL BE CONSTRUCTED, AND CONVERTED TO NEW SYSTEM "AROUND" COOLING TOWER FOOTINGS. PLAN OUTAGES OF SERVICE FOR DISCONNECT AND RE-CONNECT, PURGE, CLEAN, ETC. IN UNDER 7 DAYS TO MAINTAIN WORK AS "TEMPORARY" PER OSHPD DEFINITIONS AND COMPLY WITH MATERIALS, ETC. AS ALLOWED. REFERENCE OSHPD CAN 2-108 AS REQUIRED.

2 IMPACT NOTES
SCALE: NONE

1 PLUMBING DEMOLITION CENTRAL PLANT PLAN
1/4" = 1'-0"

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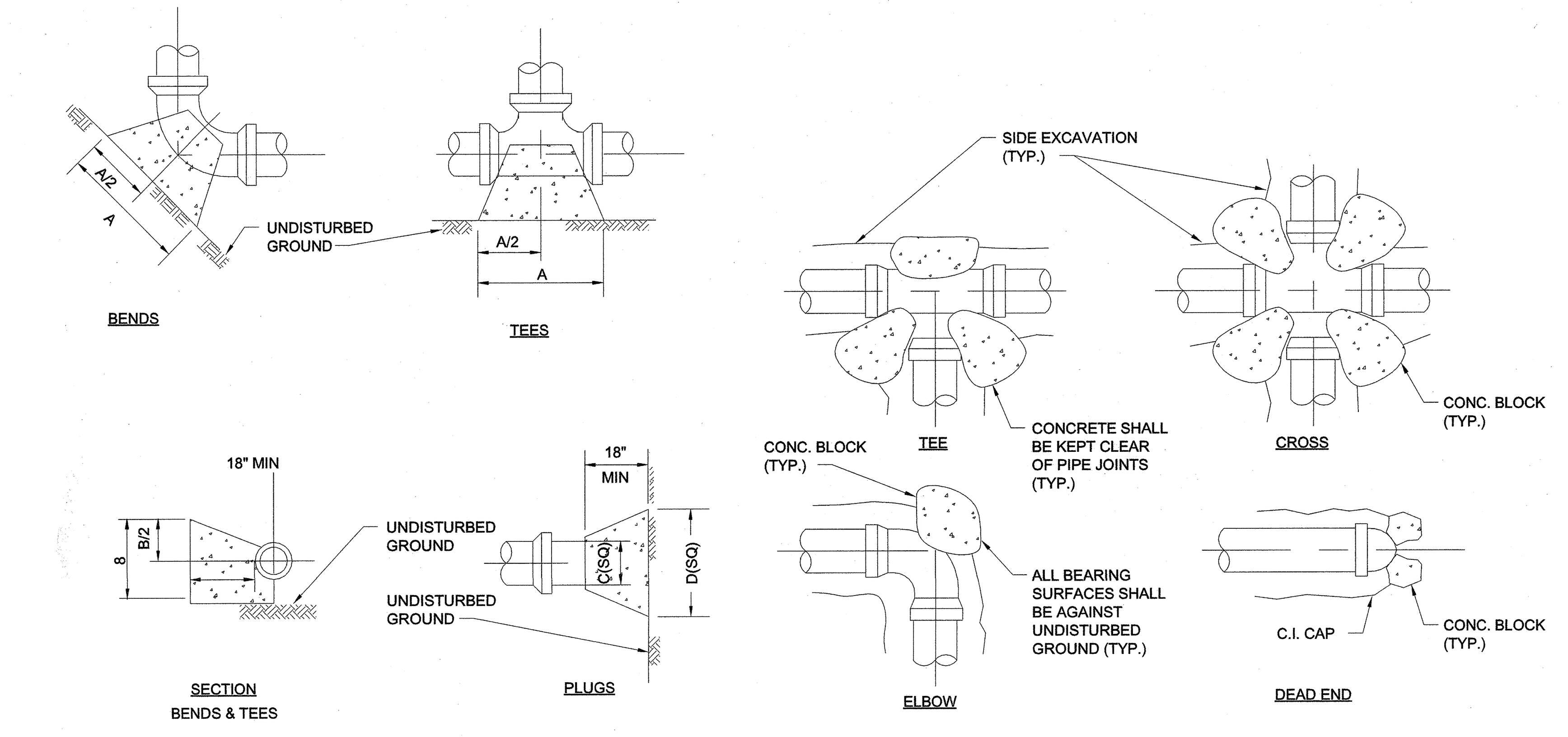
Sheet Title

PLUMBING DEMOLITION CENTRAL PLANT PLAN

Sheet Number

P101

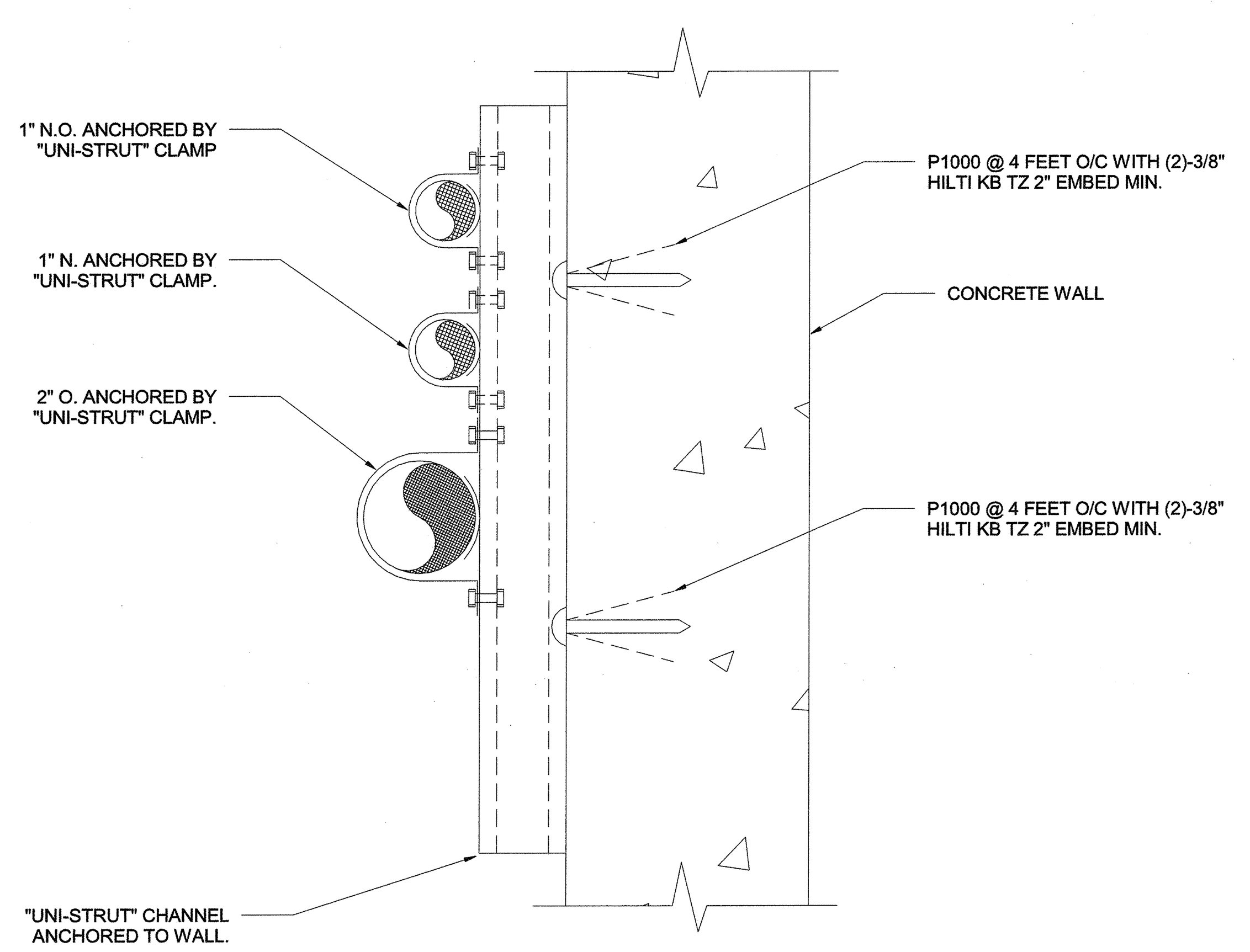


TYPICAL THRUST BLOCK SIZES BASED ON 150 PSI WORKING PRESSURE AND 2000 PSF SOIL BEARING

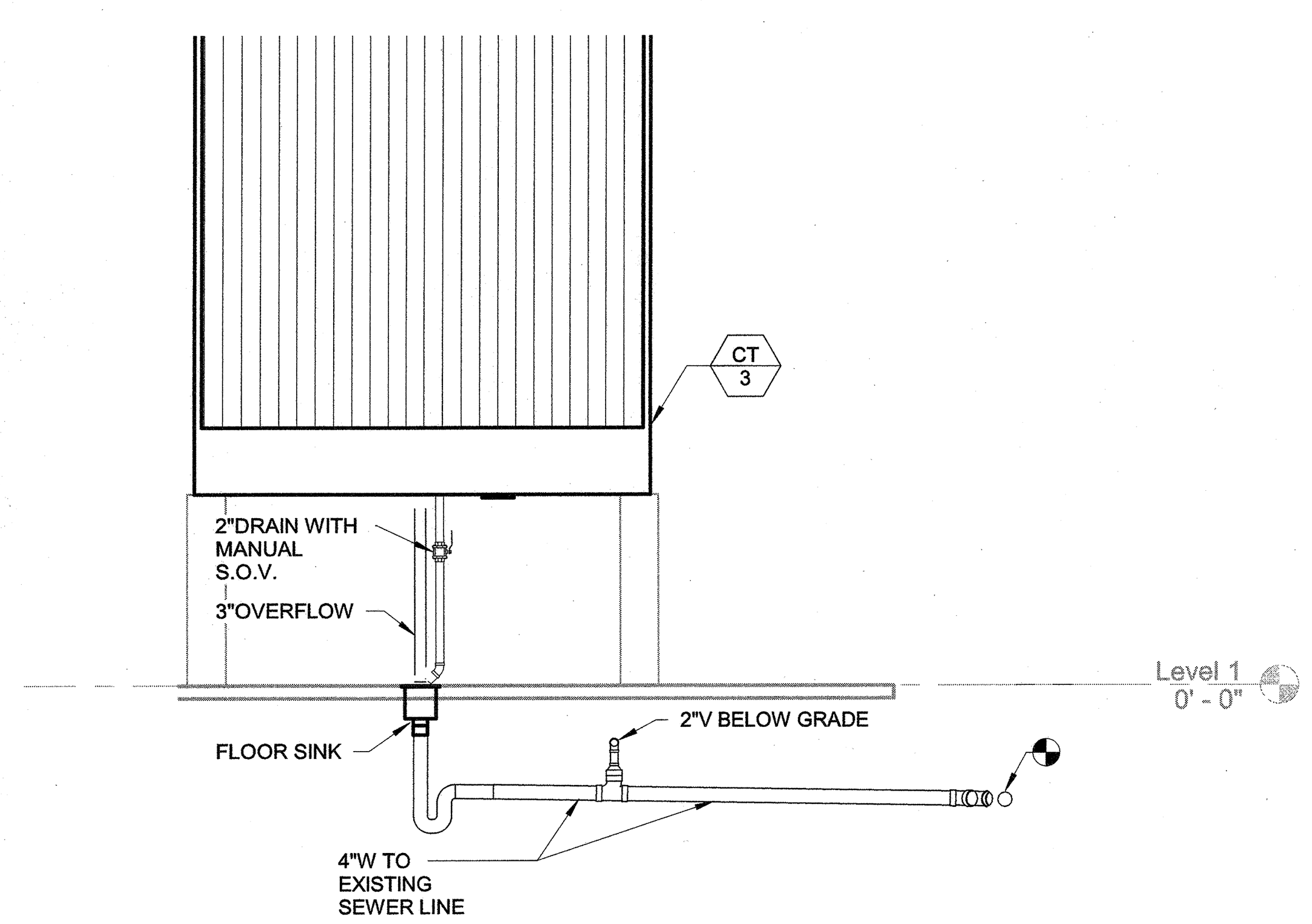
SIZE	90°		45°		22.5°		11.25°		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
6"	24"	24"	18"	18"	13"	12"	12"	12"	20"	20"	8"	20"

BEARING AREA EACH DIRECTION OF THRUST IN SQUARE FEET					
PIPE SIZES	TEES AND CROSSES	90° ELBOWS	45° ELBOWS	22-1/2° ELBOWS	DEAD ENDS
6"	4.0	5.5	3.0	2.0	4.0

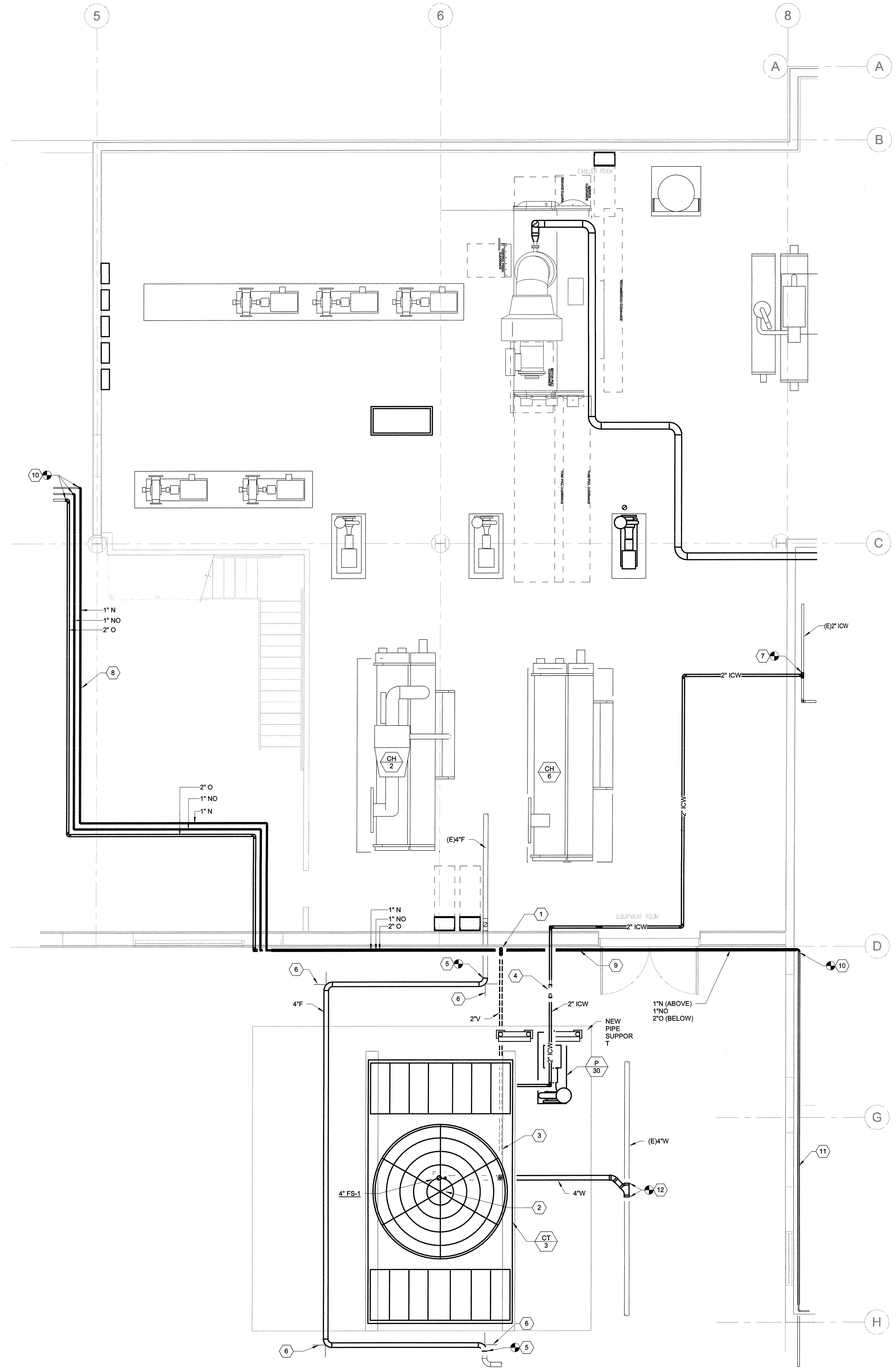
2 THRUST BLOCK DETAIL
SCALE: NONE



3 PIPE SUPPORT DETAIL
SCALE: NONE



4 COOLING TOWER DRAIN & OVERFLOW SECTION
1/4" = 1'-0"



1 PLUMBING CENTRAL PLANT PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. ALL STRUCTURAL ATTACHMENTS AND ANCHORAGE NOT REFERENCED TO STRUCTURAL PLANS TO BE BY DELEGATED DESIGN BY CONTRACTOR

KEY NOTES:

1. 2" VENT BELOW GRADE FROM FLOOR SINK. MOUNT TO OUTSIDE OF BUILDING.
2. 2"D & 3"OF DRAIN LINES FROM COOLING TOWER ROUTED DN. TO FLOOR SINK REFER TO DETAIL 4/P102.
3. 2"VENT BELOW GRADE SLOPE BACK TO FIXTURE @ 1%.
4. MAKEUP WATER METRAFLEX MLS30200 +/- 1.5" MOVEMENT SEISMIC JOINT
5. POINT OF CONNECTION TO EXISTING 4" FIRE MAIN. (CONTRACTOR FIELD VERIFY EXACT LOCATION)/
6. NEW THRUST BLOCK, SEE DETAIL 2/P102
7. POINT OF CONNECTION TO EXISTING, 2" ICW (CONTRACTOR FIELD VERIFY EXACT LOCATION).
8. OPM 43 OSHPD SUPPORTS.
9. FOR OPM DELEGATED DESIGN WALL SUPPORT SEE DETAIL 3/P102.
10. POINT OF CONNECTION TO EXISTING 1"N, 1" NO, AND 2" O. (CONTRACTOR FIELD VERIFY EXACT LOCATION).
11. EXISTING 1"N, 1" NO, AND 2"O TO REMAIN.
12. POINT OF CONNECTION TO EXISITNG 4" SEWER BELOW GRADE. (CONTRACTOR FIELD VERIFY EXACT DEPTH AND LOCATION).

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PLUMBING CENTRAL PLANT PLAN

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P102