

MOBILE SPD TRAILER FOR

ARROWHEAD REGIONAL MEDICAL CENTER

400 N. PEPPER AVE. COLTON CA. 92324
SAN BERNARDINO COUNTY, CALIFORNIA
WBSE# 10.10.1142

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SYMBOL LEGEND

	COLUMN LINES, GRID LINES LETTERS IN ONE DIRECTION NUMBERS IN OTHER DIRECTION
	MATCH LINE SHADED PORTION IS THE SIDE SHOWN SHEET WHERE UNSHOWN PORTION IS DRAWN
	SECTION/ELEVATION SECTION/ELEVATION IDENTIFICATION SHEET WHERE SECTION/ELEVATION IS DRAWN
	DETAIL IDENTIFICATION SHEET WHERE DETAIL IS DRAWN
	DOOR SYMBOL
	GLAZING SYMBOL
	REVISION CLOUD AROUND REVISED AREA REVISION NUMBER
	ROOM IDENTIFICATION INTERIOR ELEVATION
	ROOM NAME ELEVATION IDENTIFICATION ROOM NUMBER
	WORK POINT, CONTROL POINT OR DATUM POINT

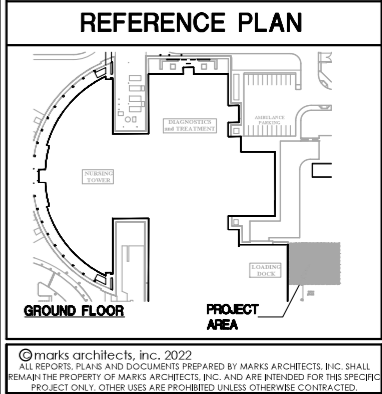
PROJECT TITLE
MOBILE SPD TRAILER FOR THE ARROWHEAD REGIONAL MEDICAL CENTER
400 N. PEPPER AVE.
COLTON, CA. 92324
WBSE #10.10.1142 - CIP #21-154 - CAFM #COL003

Department of Health Care Access and Information
HCAI # S222348-36-00

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, COR

APPROVED

Department of Health Care Access & Information
Office of Statewide Hospital Planning & Development
7/12/2023, 11:51:03 AM
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Allen Cheng



marks architects
73121 fred waring drive suite 200
palm desert, ca 92240
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TITLE SHEET - INDEX TO DRAWINGS

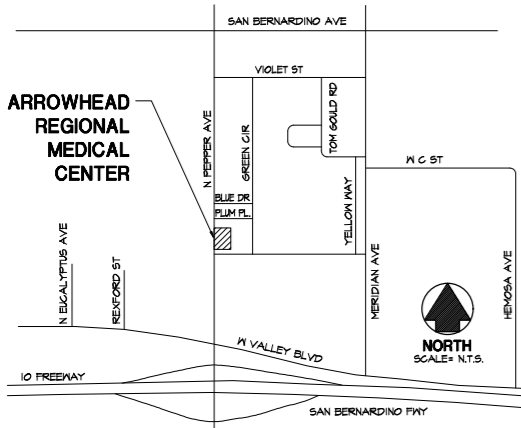
DATE: DECEMBER 28, 2022

REVISIONS

Δ	HCAI PLAN CHECK 2/13/2023
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PROJECT NUMBER: 302210
DRAWING NUMBER: T1.1

VICINITY MAP



PROJECT DATA

APPLICABLE CODES: PER 2019 CBC CHAPTER 35
2019 CALIFORNIA ADMINISTRATIVE CODE (CAC)
PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
CALIFORNIA BUILDING CODE (CBC)
PART 2, TITLE 24, CCR
BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC)
CALIFORNIA ELECTRICAL CODE (CEC)
PART 3, TITLE 24, CCR
BASED ON THE 2017 NATIONAL ELECTRICAL CODE (NEC)
CALIFORNIA MECHANICAL CODE (CMC)
PART 4, TITLE 24, CCR
BASED ON THE 2018 UNIFORM MECHANICAL CODE (UMC)
CALIFORNIA PLUMBING CODE (CPC)
PART 5, TITLE 24, CCR
BASED ON THE 2018 UNIFORM PLUMBING CODE (UPC)
CALIFORNIA ENERGY CODE (CEC)
PART 6, TITLE 24, CCR
CALIFORNIA HISTORICAL BUILDING CODE (CHBC)
PART 8, TITLE 24, CCR
CALIFORNIA FIRE CODE (CFC)
PART 9, TITLE 24, CCR
BASED ON THE 2018 INTERNATIONAL FIRE CODE (IFC)
CALIFORNIA EXISTING BUILDING CODE (CEBC)
PART 10, TITLE 24, CCR
BASED ON THE 2018 INTERNATIONAL BUILDING CODE (CALGREEN)
CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)
PART 11, TITLE 24, CCR
CALIFORNIA REFERENCED STANDARDS CODE (CRSC)
PART 12, TITLE 24, CCR
2018 NFPA 99 HEALTHCARE FACILITIES CODE
2018 NFPA 101 LIFE SAFETY CODE
THE JOINT COMMISSION REQUIRES REFERENCE TO THE FOLLOWING CODES:
2018 NFPA 12
2012 NFPA 99 HEALTHCARE FACILITIES CODE
2012 NFPA 101 LIFE SAFETY CODE

NEW AND EXISTING CONSTRUCTION:
THE PROPOSED CONSTRUCTION IS A TEMPORARY PLATFORM TO ACCESS A MOBILE SPD TRAILER UNDER THE PROVISIONS OF 2019 CBC SECTION 3103 AND CAN 2-108.

BUILDING HEIGHT:
ONE STORY BUILDING - 12'-6" ROOF HEIGHT

CONSTRUCTION TYPE: TYPE V-B

FULLY SPRINKLERED	NO
EXTERIOR BEARING WALLS (NONE)	N/A
INTERIOR BEARING WALLS (NONE)	N/A
STRUCTURAL FRAME (WELDED STEEL COLUMNS AND BEAMS w/ WOOD BEAMS)	0 HR.
INTERIOR NON-LOAD BEARING PARTITIONS (NONE)	0 HR.
SHAFT ENCLOSURES (NONE)	0 HR.
FLOORS (FIRE RETARDANT-TREATED WOOD)	0 HR.
ROOFS (FIRE RETARDANT-TREATED WOOD DECK; CLASS A METAL ROOFING)	0 HR.

SB 1953 STATUS:
SPC: N/A
NPC: N/A

OCCUPANCY CLASSIFICATION: (BLD-00077 LOADING DOCK)
GROUP S-2 (LOW HAZARD STORAGE)/NFPA 13 CLASSIFICATION: OH2 (TRANSIENT STORAGE)
MOBILE SPD TRAILER PLATFORM TO BE A TEMPORARY ACCESSORY USE OF THE LOADING DOCK.

DEFERRED APPROVALS: (THE FOLLOWING ARE DEFERRED APPROVALS THAT REQUIRE HCAI REVIEW AND APPROVAL PRIOR TO THEIR FABRICATION AND/OR INSTALLATION)
• NONE

CERTIFICATION OF EQUIPMENT AND NONSTRUCTURAL COMPONENTS:
IN ACCORDANCE WITH 2019 CBC, SECTION 1705.13.2, "SEISMIC CERTIFICATION OF NONSTRUCTURAL COMPONENTS", - THE FOLLOWING ARE COMPONENTS THAT REQUIRE SPECIAL SEISMIC CERTIFICATION:
• NONE

AREA:
PROJECT AREA IS EXTERIOR IN THE NORTHERLY MOST LOADING DOCK BAY AREA (428 S.F.)

DESCRIPTION OF WORK:
INSTALLATION OF INFRASTRUCTURE, PLUMBING, ELECTRICAL, & STRUCTURAL, INCLUDING A TEMPORARY COVERED/PROTECTED ACCESS PLATFORM, TO ACCOMMODATE A TEMPORARY MOBILE STERILE PROCESSING UNIT TRAILER.
(THE TRAILER WILL SERVE AS TEMPORARY SPD DURING RENOVATIONS OF THE FACILITY STERILE PROCESSING UNIT AS DESCRIBED IN HCAI PROJECT #5222347-36-00 "STERILIZATION INSTALLATION" AND #5222316-36-00, "SONIC IRRIGATION REPLACEMENTS," THE PLUMBING, ELECTRICAL, & SEISMIC TIEDOWNS INFRASTRUCTURE WILL REMAIN IN PLACE FOR FUTURE USE. THE COVERED/PROTECTED ACCESS PLATFORM WILL BE REMOVED WHEN THE TRAILER IS REMOVED.)

THE MOBILE SPD TRAILER PROJECT S222348-36-00 SHALL BE COMPLETED AND LICENSED BY CDPH BEFORE THE CURRENT PROJECT S222347-36 CAN START CONSTRUCTION.

GENERAL NOTES

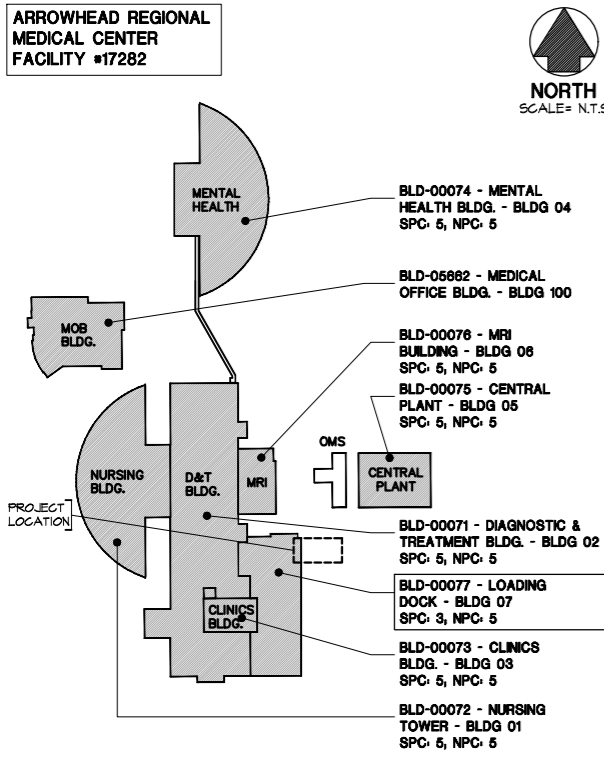
- A. EQUIPMENT ANCHORAGE:**
ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY 2019 CBC SECTION 1601.1.5, SECTION 131.7.1, FURNITURE (EXCEPT STORAGE CABINETS AS NOTED IN TABLE 13.5.1 OF ASCE 7), SECTION 131.7.2, TEMPORARY OR MOVABLE EQUIPMENT.
EXCEPTIONS:
a) EQUIPMENT SHALL BE ANCHORED IF IT IS PERMANENTLY ATTACHED TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER FOR THE PURPOSES OF THIS REQUIREMENT. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 120/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
b) MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET (1.22 M) OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE COMPONENT, SHALL BE RESTRAINED IN A MANNER APPROVED BY THE ENFORCEMENT AGENCY. MOBILE EQUIPMENT SHALL BE RESTRAINED WHEN NOT IN USE AND IS STORED, UNLESS THE EQUIPMENT IS STORED IN A STORAGE ROOM THAT DOES NOT HOUSE HAZARDOUS MATERIALS OR ANY FACILITY SYSTEMS OR FIXED EQUIPMENT THAT CAN BE AFFECTED BY MOBILE EQUIPMENT LACKING RESTRAINT.
c) [HCAI (I)] MOBILE EQUIPMENT SHALL BE ANCHORED BY DETACHABLE ANCHORS OR RESTRAINTS IN A MANNER APPROVED BY THE ENFORCEMENT AGENCY, WHEN UTILITIES AND SERVICES AT THE EQUIPMENT HAVE FLEXIBLE CONNECTIONS TO ALLOW FOR NECESSARY MOVEMENT.
d) [HCAI (I)] MOBILE EQUIPMENT HEAVIER THAN 400 POUNDS THAT HAS A CENTER OF MASS LOCATED 4 FEET (1.22 M) OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE EQUIPMENT SHALL BE RESTRAINED IN A MANNER APPROVED BY THE ENFORCEMENT AGENCY WHEN NOT IN USE AND IS STORED, UNLESS THE EQUIPMENT IS STORED IN AN EQUIPMENT STORAGE ROOM.
3. DISCRETE ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND FIXED EQUIPMENT IN SEISMIC DESIGN CATEGORY D, E OR F THAT ARE POSITIVELY ATTACHED TO THE STRUCTURE AND ANCHORAGE IS DETAILED ON THE PLANS PROVIDED THAT EITHER:
a) THE COMPONENT WEIGHS 400 POUNDS (180 N) OR LESS, THE CENTER OF MASS IS LOCATED 4 FEET (1.22 M) OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE COMPONENT, AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.
EXCEPTION: SPECIAL SEISMIC CERTIFICATION REQUIREMENTS OF THIS CODE IN ACCORDANCE WITH SECTION 1705A.13.3 SHALL BE APPLICABLE.
OR
b) THE COMPONENT WEIGHS 20 POUNDS (89 N) OR LESS OR, IN THE CASE OF A DISTRIBUTED SYSTEM, 5 LB/FT (73 N/M) OR LESS.
EXCEPTION: THE ENFORCEMENT AGENCY SHALL BE PERMITTED TO REQUIRE ATTACHMENTS FOR EQUIPMENT WITH HAZARDOUS CONTENTS TO BE SHOWN ON CONSTRUCTION DOCUMENTS IRRESPECTIVE OF WEIGHT.
- C. INSTALLATION OF POST INSTALLED ANCHORS:**
1. 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 PRE-STRESSED CONCRETE (PRE- OR POST-TENSIONED) LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE 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.
- D. FIRE SPRINKLERS:**
1. SPACING AND DETAILS OF THE SUPPORT AND BRACING OF FIRE SPRINKLER PIPING SHALL COMPLY WITH THE 2019 EDITION OF NFPA 13 AND CHAPTER 13 OF ASCE 7 AS MODIFIED BY THE CBC 2019, SECTION 1617A AND STATE FIRE MARSHAL AMENDMENTS.
- E. LATERAL FORCE DESIGN CRITERIA:**
1. PER 2019 CBC SECTION 1603A.1.5, THE FOLLOWING INFORMATION RELATED TO SEISMIC LOADS FOR EQUIPMENT ANCHORAGE DESIGN SHALL BE AS SPECIFIED ON SHEET S000.
- F. INFECTON CONTROL:**
PROVIDE AND INSTALL BARRICADES OF THE SAME MATERIAL AND RATED ASSEMBLIES (SELF CLOSING AND POSITIVE LATCHING DOORS) AS REQUIRED FOR THE PERMANENT INSTALLATION (HARD BARRICADE). WHERE NO RATING IS REQUIRED BARRICADES MAY BE CONSTRUCTED OF FIRE RESISTANT 4 MIL PLASTIC SHEETS, VISQUEEN (SOFT BARRICADE) MADE AIR TIGHT. THE PLASTIC SHEETS SHALL BE CLEARLY MARKED "FIRE RETARDANT" BY THE MANUFACTURER.
BARRICADES ARE TO PREVENT UNAUTHORIZED ENTRY INTO THE CONSTRUCTION AREA AND TO PERMIT THE OWNER THE CONTINUED USE OF THE ADJACENT AREAS. BARRICADES SHALL BE AIR TIGHT SO AS NO DUST, CONTAMINATED AIR, FUMES, GASES, AND ODORS WILL BE ALLOWED IN CORRIDORS OR ANY OTHER OWNER OCCUPIED AREAS.
PROVIDE CONTAMINATION CONTROL FLOOR MATS (STICKY MATS) AT THE ACCESS TO THE CONSTRUCTION AREA TO PREVENT THE TRACKING OF CONSTRUCTION DUST.
3. MAINTAIN NEGATIVE AIR PRESSURE (A MAGNETIC GAUGE READING OF -10) CONTINUOUSLY AND UNINTERRUPTED FOR THE DURATION OF THE CONSTRUCTION. THE NEGATIVE AIR PRESSURE MAY BE ACHIEVED BY PORTABLE FANS WITH HEPA FILTERS, OR OTHER FAN UNITS TO FACILITATE THE VENTILATION OF THE ENCLOSED CONSTRUCTION AREA. UNITS SHALL BE SET UP TO EXHAUST DIRECTLY TO THE OUTSIDE WHERE IT IS NOT POSSIBLE TO EXHAUST TO THE OUTSIDE, FILTERED AIR MAY BE RE-CIRCULATED WITHIN THE CONSTRUCTION AREA.
PROVIDE VISQUEEN BARRICADES PRIOR TO THE ERECTION OF HARD BARRICADES AND PRIOR TO REMOVING THEM. VACUUM AREA WITH HEPA VACUUM AFTER REMOVING THE HARD BARRICADE AND PRIOR TO REMOVING THE SOFT BARRICADE. CARE SHOULD BE TAKEN NOT TO TRANSMIT DUST ON THE VISQUEEN INTO ADJACENT AREAS.
5.

POLICY INTENT NOTICE:
"THE INTENT OF THE CONSTRUCTION DRAWINGS IS TO RECONSTRUCT THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2019 CALIFORNIA BUILDING STANDARDS CODE (CBC). SHOULD ANY CONDITION DEVELOP OR NOT COVERED BY THE APPROVED CONSTRUCTION DOCUMENTS, WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE 2019 CBC, AMENDED CONSTRUCTION DOCUMENTS DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY HCAI BEFORE PROCEEDING WITH THE WORK."

DESIGN PROFESSIONALS OF RECORD

AOR	MEOR	EEOR	SEOR
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KEY MAP



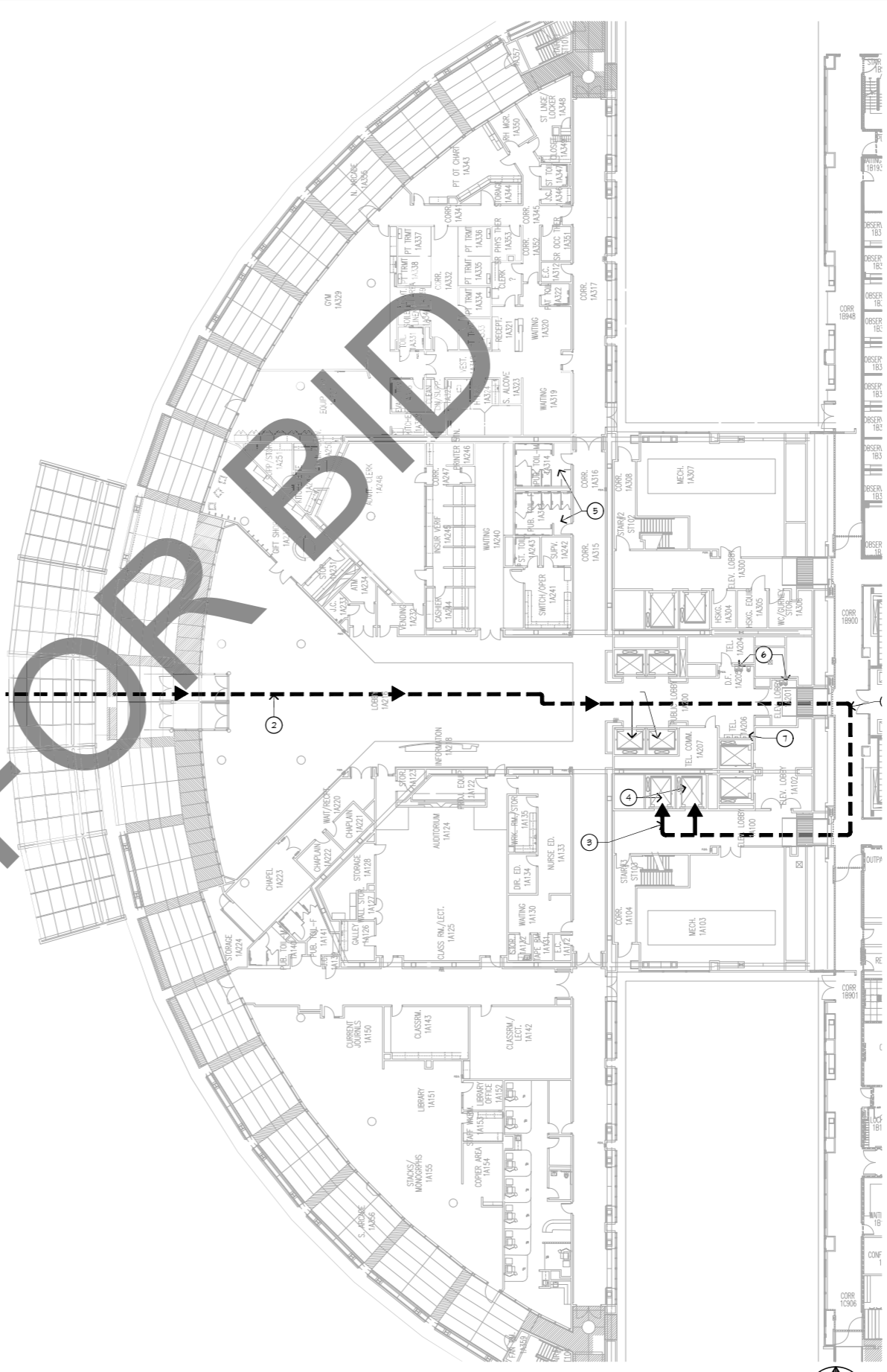
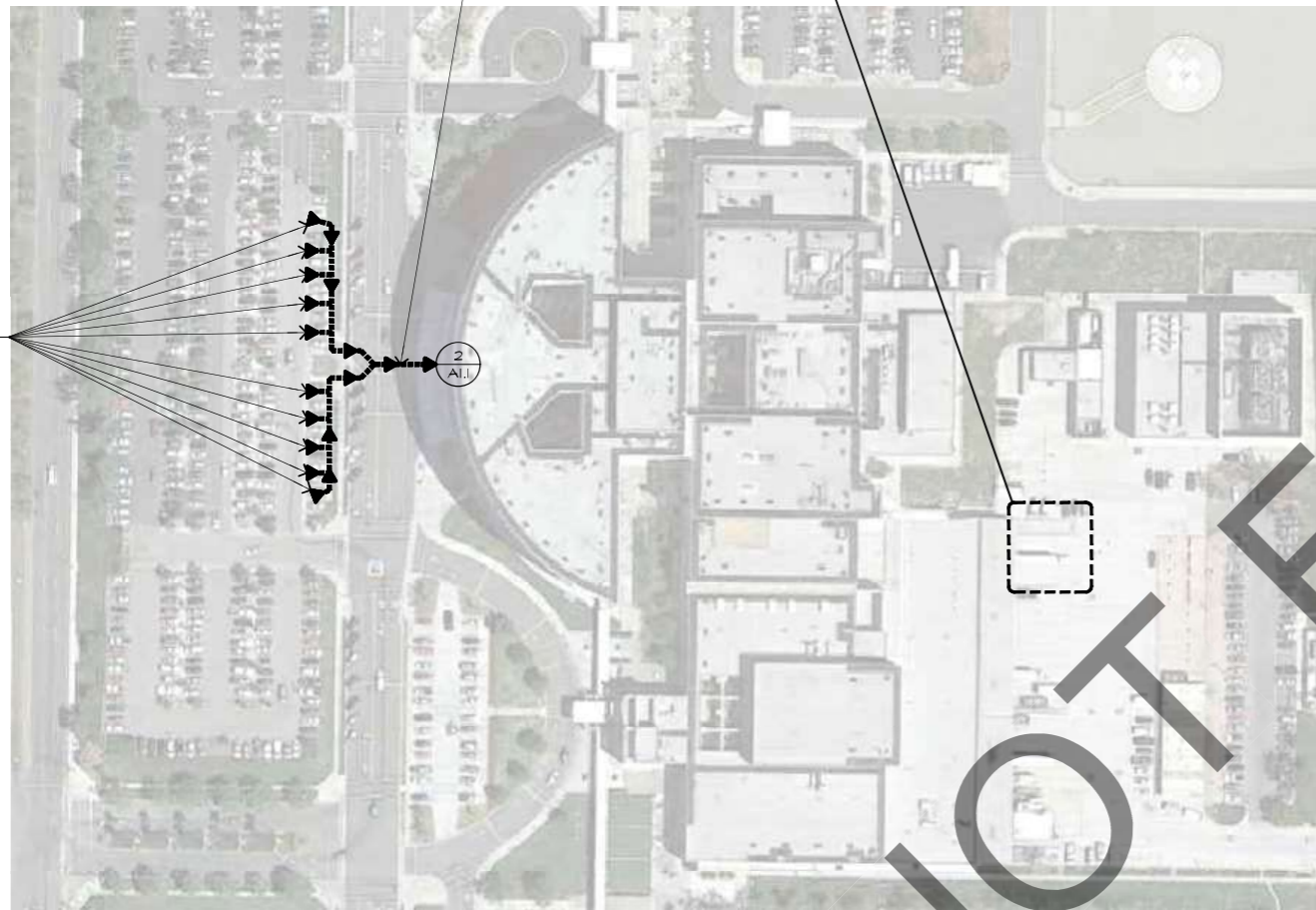
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- 1 EXISTING ACCESSIBLE PARKING SPACES.
- 2 EXISTING ACCESSIBLE PATH OF TRAVEL TO ACCESSIBLE BUILDING ENTRANCE.
- 3 EXISTING ACCESSIBLE PRIMARY PATH OF TRAVEL.
- 4 EXISTING ACCESSIBLE ELEVATOR.
- 5 EXISTING ACCESSIBLE PUBLIC TOILET ROOM.
- 6 EXISTING ACCESSIBLE DRINKING FOUNTAIN
- 7 EXISTING ACCESSIBLE PUBLIC TELEPHONES
- 8 EXISTING ACCESSIBLE STAFF TOILET.

KEYNOTES

PROJECT LOCATION
GROUND FLOOR
LOADING DOCK



NOT FOR BID



NORTH



NORTH

SITE PLAN - PATH OF TRAVEL

1"=80'-0" 1

PARTIAL 1st FLOOR PLAN - NURSES TOWER

1"=20'-0" 2

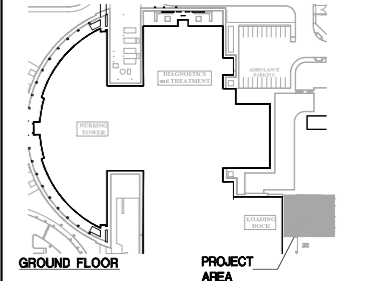
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FOR THE
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400 N. PEPPER AVE.
COLTON, CA. 92324
WBSE #10.10.1142 - CIP #21-154 - CAFM #COL003

Department of Health Care Access and Information
HCAI # S222348-36-00



REFERENCE PLAN



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**SITE PLAN & PARTIAL
FIRST FLOOR PLAN
PATH OF TRAVEL**

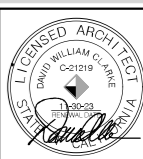


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DECEMBER 28, 2022

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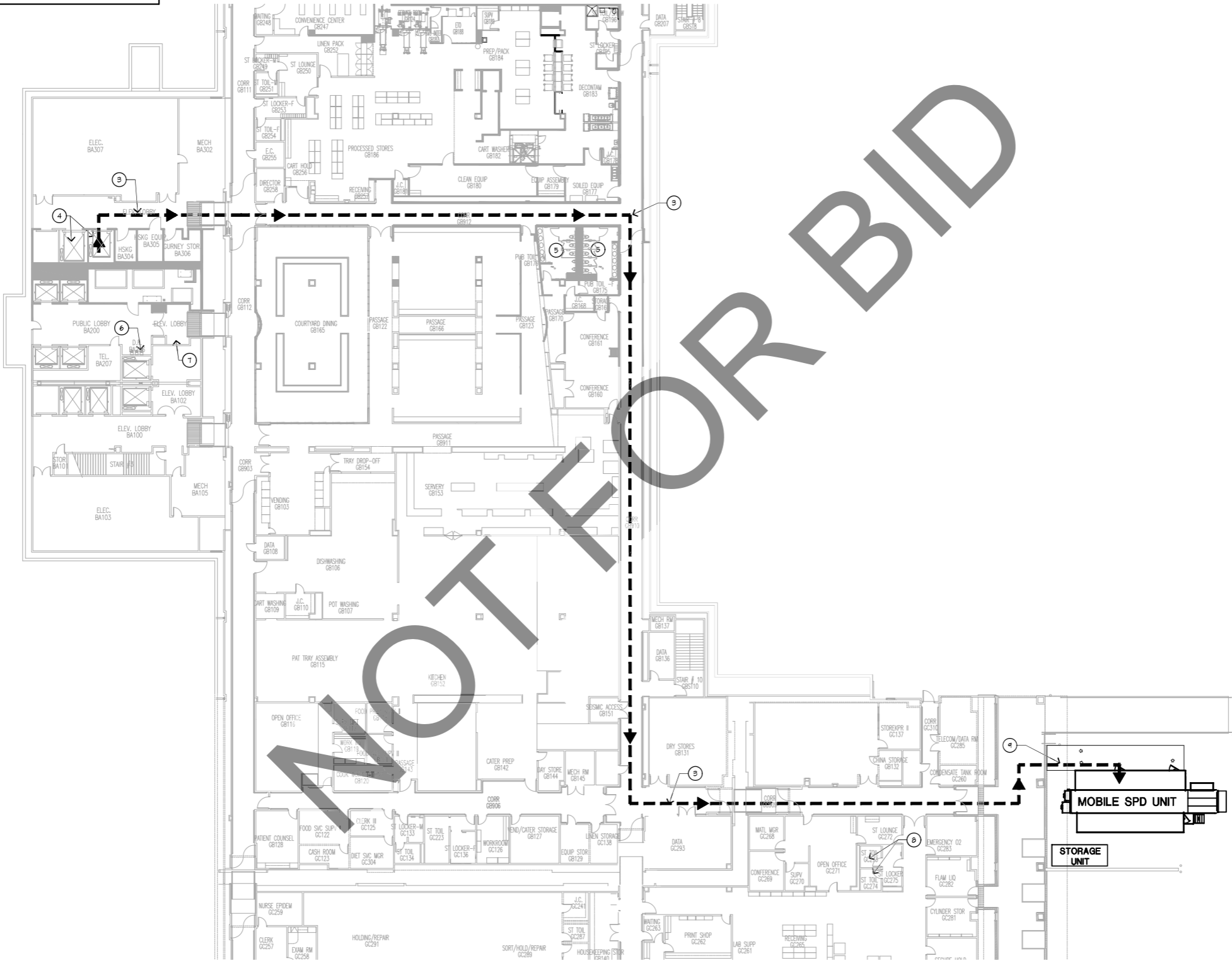
PROJECT NUMBER
3022010

DRAWING NUMBER
A1.1

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- 1 EXISTING ACCESSIBLE PARKING SPACES.
- 2 EXISTING ACCESSIBLE PATH OF TRAVEL TO ACCESSIBLE BUILDING ENTRANCE. TEMPORARY PATH OF TRAVEL TO BE USED DURING CONSTRUCTION. SEE KEYNOTE 4.
- 3 EXISTING ACCESSIBLE PRIMARY PATH OF TRAVEL INSIDE BUILDING
- 4 EXISTING ACCESSIBLE ELEVATOR.
- 5 EXISTING ACCESSIBLE PUBLIC TOILET ROOM.
- 6 EXISTING DRINKING FOUNTAIN
- 7 EXISTING ACCESSIBLE PUBLIC TELEPHONES
- 8 EXISTING ACCESSIBLE STAFF TOILET.
- 9 TEMPORARY ACCESSIBLE PATH OF TRAVEL TO ACCESSIBLE BUILDING ENTRANCE. SEE TEMPORARY SITE IMPROVEMENTS PLAN.

KEYNOTES



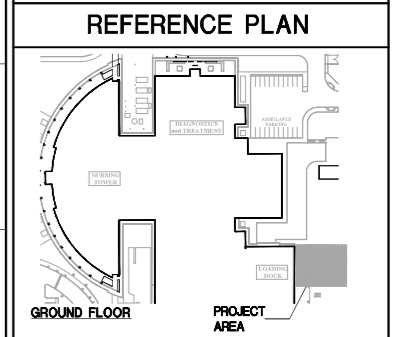
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**GROUND FLOOR PLAN
 PATH OF TRAVEL &
 SPD OPERATIONS PATH OF
 TRAVEL**

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DRAWING TITLE

DATE: **DECEMBER 28, 2022**

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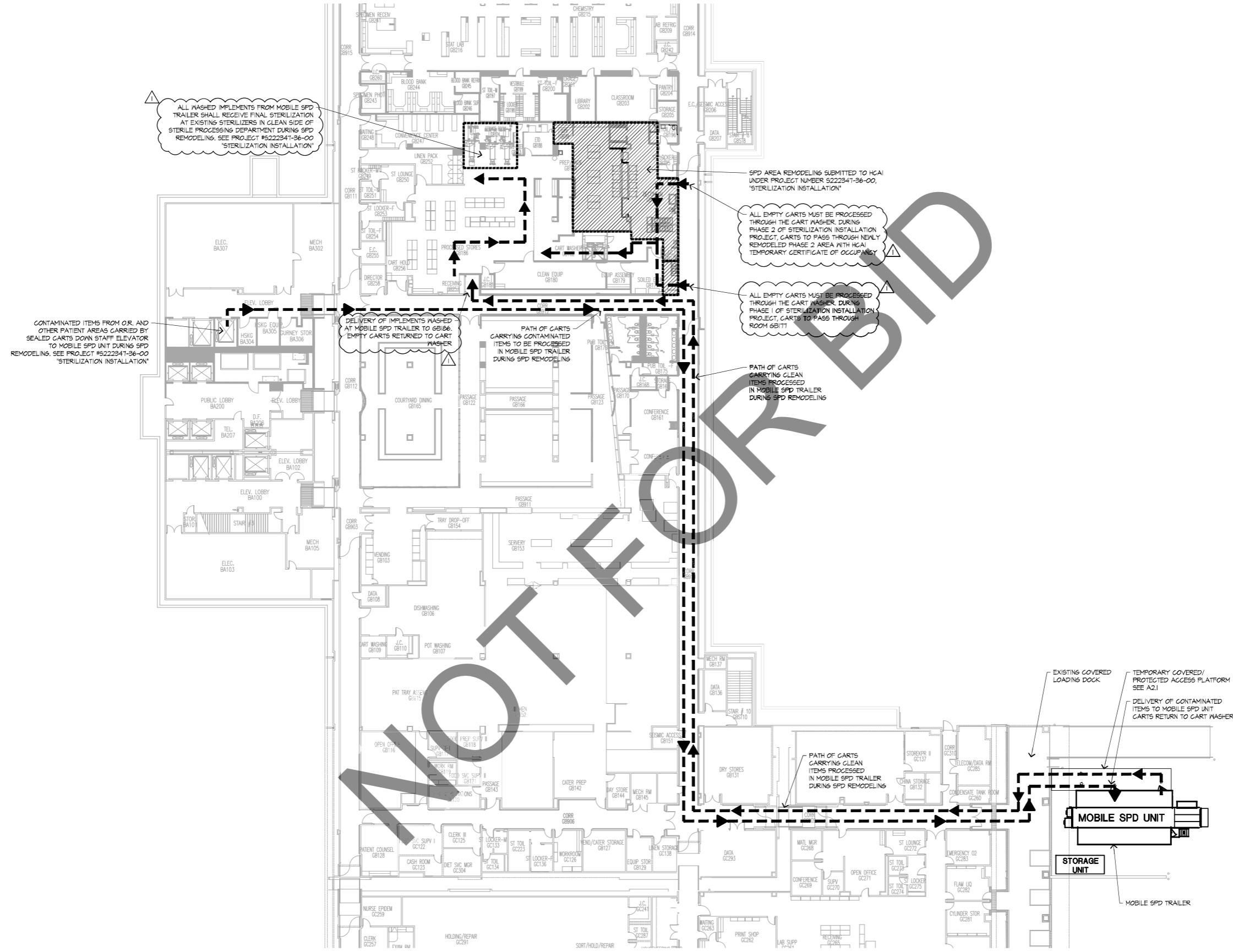
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PROJECT NUMBER: **3022010**

DRAWING NUMBER: **A1.2**

GROUND FLOOR PLAN - ACCESSIBILITY PLAN / PATH OF TRAVEL 1" = 20'-0" 1

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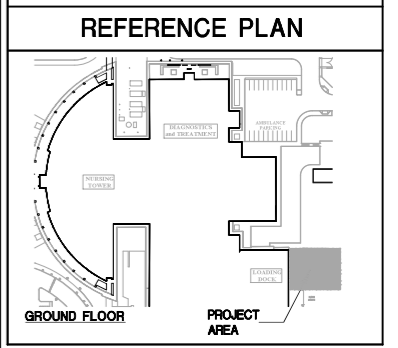
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GROUND FLOOR PLAN
TEMPORARY SPD OPERATIONS
PLAN DURING USE OF MOBILE
SPD TRAILER

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PROJECT NUMBER: **3022010**
 DRAWING NUMBER: **A1.3**

GROUND FLOOR PLAN - TEMPORARY SPD OPERATIONS PLAN DURING USE OF MOBILE SPD TRAILER 1" = 20'-0" 1

GENERAL

- 1. ALL WORK SHALL COMPLY WITH TITLE 24 OF THE CALIFORNIA CODE OF CALIFORNIA BUILDING CODE (CBC) AND ALL OTHER LOCAL OR STATE AGENCIES HAVING JURISDICTION ON THIS PROJECT.
2. NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINEER, NOR THE PRESENCE OF THE ENGINEER OR THEIR EMPLOYEES AND SUBCONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES, THE ENGINEER AND THEIR PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOBSITE SAFETY, THE ENGINEER AND THE ENGINEER'S CONSULTANTS SHALL BE MADE ADDITIONAL INSUREDS UNDER THE CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
3. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED, ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.
4. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO CONSTRUCTION, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS, IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.
5. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF NEW WORK.
6. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS, CONTRACTOR SHALL SO CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL AND ELECTRICAL DESIGN.
7. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS, IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. DO NOT SCALE DRAWINGS, PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE OVER SMALL-SCALE DRAWINGS, CONTRACTOR TO DETERMINE FINAL DIMENSION WITH ARCHITECT.
9. TYPICAL DETAILS SHALL APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED, WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
10. THE CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKMEN DURING CONSTRUCTION, SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC., OBSERVATION VISITS TO THE SITE BY THE ARCHITECT OR STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OR APPROVAL OF THE ABOVE ITEMS AND DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE.
11. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR DETAILS, CONDITIONS, PITS, TRENCHES, PADS, DEPRESSIONS, ROOF/FLOOR OPENINGS, STAIRS, SLEEVES, ITEMS TO BE EMBEDDED OR ATTACHED TO STRUCTURAL ELEMENTS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS.
12. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS, OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPE, INSERTS AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
13. NO HOLES, NOTCHES, BLOCKOUTS, ETC., ARE ALLOWED IN STRUCTURAL ELEMENTS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
14. BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, EACH BIDDER SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPE OF EQUIPMENT, ETC., THE BID SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK WITHIN THE EXISTING CONDITIONS.
15. SHOP DRAWINGS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT, EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THIS IS COMPLETE, WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE ARCHITECT/STRUCTURAL ENGINEER.
16. SHOP DRAWINGS SHALL BE REVIEWED BY THE ARCHITECT/STRUCTURAL ENGINEER FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY, NOTATIONS MADE BY THE ARCHITECT/STRUCTURAL ENGINEER ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

EARTHWORK

- 1. FOUNDATION DESIGN BASED ON THE TITLE 24 OF THE CALIFORNIA BUILDING CODE 2019, CHAPTER 18A.
2. SOIL PROPERTIES PER TABLE 1806A.2: ALLOWABLE NET SOIL BEARING PRESSURE: FOOTINGS 2000 PSF, PASSIVE PRESSURE 150 PSF/FT OF DEPTH, COEFF. OF FRICTION 0.25
3. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED, DO NOT PLACE BACKFILL BEHIND RETAINING/BASEMENT WALLS BEFORE CONCRETE HAS ATTAINED SPECIFIED COMPRESSIVE STRENGTH, CONTRACTOR SHALL GRADE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL SUPPORTING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED 7-DAY STRENGTH MINIMUM, BACKFILLING IS NOT PERMITTED FOR FOUNDATION WALLS UNTIL SUPPORTED SLAB TOP AND BOTTOM IS IN PLACE OR THE WALL IS ADEQUATELY BRACED TO RESIST LATERAL LOADS, CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OR SHORING AND/OR SHEETING.
4. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER OR SEEPAGE, FREE GROUND WATER WAS NOT ENCOUNTERED IN THE BORINGS, DETAILS OF GROUND WATER INFORMATION CAN BE OBTAINED FROM THE ABOVE MENTIONED GEOTECHNICAL REPORT, IF GROUND WATER SHOULD OCCUR DURING EXCAVATION, SPECIAL PROCEDURES SHALL BE IMPLEMENTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OF RECORD.
5. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING SHEETING AND SHORING REQUIRED TO SAFELY RETAIN EARTH BANKS AS REQUIRED.
6. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS AND FOUNDATIONS, IF ANY SUCH MATERIAL OR STRUCTURES ARE FOUND, ARCHITECT SHALL BE NOTIFIED IMMEDIATELY, ALL ABANDONED FOOTINGS, UTILITIES AND OTHER STRUCTURES THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
7. EXTREME CARE SHALL BE EXERCISED WHEN EXCAVATING OR GRADING ADJACENT TO EXISTING STRUCTURES OR IMPROVEMENTS TO NOT DAMAGE OR UNDERMINE FOUNDATIONS, WALLS, SLABS, UTILITIES, ETC.
8. ALL FOOTINGS SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL, REMOVING ANY EXISTING FILL OR UNSUITABLE SOILS, AS RECOMMENDED BY THE GEOTECHNICAL REPORT, EXCAVATIONS FOR FOOTINGS SHALL BE INSPECTED AND APPROVED BY THE INSPECTION AGENCY PRIOR TO PLACING CONCRETE, CONTRACTOR SHALL NOTIFY INSPECTION AGENCY WHEN EXCAVATION IS READY FOR TESTING, INSPECTION AGENCY TO SUBMIT LETTER OF COMPLIANCE TO THE OWNER.
9. FOOTING ELEVATIONS SHOWN DESIGNATE A MINIMUM DEPTH WHERE AN ADEQUATE SOIL BEARING PRESSURE IS EXPECTED, FOOTINGS, PIERS AND/OR WALLS SHALL BE LOWERED OR EXTENDED AS REQUIRED TO REACH SOIL MEETING THE DESIGN BEARING PRESSURE.
10. THE MOISTURE CONTENT OF ON-SITE CLAYEY SOILS AT THE TIME OF COMPACTION SHALL BE BETWEEN 2-3% ABOVE OPTIMUM MOISTURE CONTENT.
11. ALL UNACCEPTED AND/OR DAMAGED MATERIAL SHALL BE REMOVED FROM BELOW ALL PROPOSED SLABS-ON-GRADE, THE EXPOSED NATURAL SOIL SHALL BE PROOF-ROLLED AND THE COMPACTION VERIFIED BY AN INSPECTION AGENCY PRIOR TO PLACING FILL, AREAS EXHIBITING WEAKNESS SHALL BE REMOVED AND REPLACED BY ACCEPTABLE COMPACTED FILL.
12. ALL SITE WORK SHALL BE PERFORMED UNDER THE INSPECTION OF THE SPECIAL INSPECTION AGENCY, VARIATIONS IN SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/STRUCTURAL ENGINEER FOR CLARIFICATIONS PRIOR TO PROCEEDING.
13. WHERE DEEP EXCAVATION IS REQUIRED, AND THE NECESSARY SPACE IS AVAILABLE, TEMPORARY UNSURCHARGED EXCAVATIONS MAY BE SLOPED BACK IN LIEU OF SHORING, EXCAVATIONS SHALL NOT BE STEEPER THAN 1 VERTICAL TO 1 HORIZONTAL, THE TOP OF EXCAVATIONS SHALL BE PROTECTED BY BARRICADES, ETC., TO PREVENT SURCHARGING AND BERMED TO PREVENT WATER RUN-OFF FROM ENTERING AND ERODING THE EXCAVATION, ADJACENT TO EXISTING BUILDINGS OR IMPROVEMENT, THE EXCAVATION SHALL BE RESTRICTED TO 1.5:1 (HORIZONTAL TO VERTICAL) DOWNWARD FROM THE TOE OF THE EXISTING FOOTING, ETC., UNLESS SPECIAL PROCEDURES ARE IMPLEMENTED AND APPROVED BY THE ARCHITECT, ALL APPLICABLE REQUIREMENTS OF THE CALIFORNIA CONSTRUCTION AND GENERAL INDUSTRY SAFETY ORDERS, THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND THE CONSTRUCTION SAFETY ACT SHALL BE MET, IF AMPLE SPACE IS NOT AVAILABLE FOR THE REQUIRED EXCAVATION SLOPE, OR AS A CONSTRUCTION OPTION, SHORING MAY BE A POSSIBLE ALTERNATE.
14. ADEQUATE DRAINAGE SHALL BE PROVIDED BY MEANS OF EITHER WEEP HOLES WITH PERMEABLE MATERIAL INSTALLED BEHIND THE WALL OR BY MEANS OF A SYSTEM OF SUBDRAINS, FOR THE SUBDRAIN SYSTEM, THE TOP OF THE PERFORATED PIPE SHOULD BE BELOW THE BOTTOM OF THE ADJACENT SLAB OR GRADE AT THE TOE OF THE WALL, DRAINS SHOULD CONSIST OF A DRAIN ROCK LAYER AT LEAST 12 INCHES THICK THAT EXTENDS TO WITHIN 2 FEET OF THE GROUND SURFACE, FOUR-INCH-DIAMETER PERFORATED PLASTIC PIPE SHOULD BE INSTALLED WITH PERFORATIONS DOWN, ALONG THE BASE OF THE WALL ON A 4-INCH-THICK BED OF DRAIN ROCK, THE PIPE SHOULD BE SLOPED TO DRAIN BY GRAVITY TO A SUITABLE DRAINAGE FACILITY, DRAIN ROCK SHOULD CONFORM TO CALTRANS SPECIFICATIONS FOR CLASS 2 PERMEABLE MATERIAL, A MORE OPEN-GRADED MATERIAL, SUCH AS 3/4" CRUSHED ROCK, COULD BE USED PROVIDED THE ROCK IS WRAPPED IN A GEOTEXTILE FILTER FABRIC (MIRAFIX 140 IN OR EQUIVALENT) TO REDUCE THE MIGRATION OF FINE-GRADED SOILS INTO THE DRAIN ROCK, PAVING OR A TWO-FOOT-THICK CAP OF CLAYEY SOIL SHOULD BE PLACED OVER THE DRAIN ROCK TO INHIBIT SURFACE WATER INFILTRATION, DRAINPIPES SHOULD OUTLET TO AN APPROPRIATE DRAINAGE FACILITY, ALTERNATIVELY, WALL BACK-DRAINAGE CAN BE PROVIDED BY PERFORATED DRAINAGE MATERIAL, SUCH AS MIRADRAIN 8000 OR AN APPROVED EQUIVALENT, THE DRAINAGE MATERIAL CAN BE INSTALLED ON THE SOIL FACE OF THE BASEMENT WALL AND SHOULD TERMINATE AT A 4-INCH-DIAMETER PERFORATED PLASTIC PIPE SURROUNDED BY AT LEAST 6 INCHES OF DRAIN ROCK AS DEFINED ABOVE.
15. FOR TRENCHES OR EXCAVATIONS FIVE FEET OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, THE CONTRACTOR IS TO OBTAIN THE NECESSARY PERMITS FROM THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY, PRIOR TO THE START OF EXCAVATION.

DESIGN CRITERIA AND LOADS

- 1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH CALIFORNIA BUILDING CODE AND SUPPLEMENTS 2019, PART 2, TITLE 24 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC) PART 10, TITLE 24 ASCE/SEI 7-16 ACI 318-14 AISC 360-16 AISC 341-16, INCLUDING SUPPLEMENTS AWS D1.1
2. OCCUPANCY RISK CATEGORY IV
3. SEISMIC SEISMIC DESIGN CATEGORY IMPORTANCE FACTOR SOIL CLASSIFICATION PER ATC HAZARDS Ss 2,045g Ss 0,811g Ss 1,636g
4. WIND = 107 MPH (3 - SECOND GUST), EXPOSURE C

STEEL

- 1. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW: WIDE FLANGE SHAPES ASTM A992 Fy = 50 KSI OTHER ROLLED SHAPES ASTM A36 Fy = 36 KSI PIPE SECTIONS ASTM A53, GR B Fy = 35 KSI HSS SECTIONS, ROUND ASTM A500, GR C Fy = 46 KSI HSS SECTIONS, SQUARE ASTM A500, GR B Fy = 46 KSI BASE AND CONNECTION PLATES ASTM A36 A572, Fy = 36 50 KSI ANCHOR RODS ASTM F1554, GR 36 55 Fy = 36 55 KSI HIGH STRENGTH BOLTS ASTM F3125, GR A490 Fy = 150 KSI HIGH STRENGTH BOLTS ASTM F3125, GR F1852 Fy = 120 KSI HIGH STRENGTH TWIST-OFF BOLTS ASTM F3125, GR F2280 Fy = 150 KSI HEAVY HEX NUTS ASTM A563 WASHERS ASTM F436 HEADED STUDS ASTM A108, TYPE B ELECTRODES FOR ARC WELDING AWS 5.1, E70XX
2. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC 'SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS', REFER TO DETAILS FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.
3. USE TENSION-CONTROL 'TWIST-OFF' BOLTS FOR ALL HIGH STRENGTH BOLTS REQUIRING FULL TENSION AS INDICATED ON THE DRAWINGS.
4. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325N, UNO, FOR ALL DRAG STRUT BOLTS, HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125, GRADE A490SC.
5. STANDARD BOLT HOLES IN STEEL SHALL BE 1/16 INCH LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNO.
6. BOLTS IN SLOTTED HOLES SHALL BE LOCATED IN THE CENTER OF THE HOLE AFTER FIELD ASSEMBLY IS COMPLETE, UNLESS DETAIL OTHERWISE.
7. WELD LENGTHS INDICATED ON THE DRAWINGS ARE THE NET EFFECTIVE LENGTH REQUIRED, WHERE FILLET WELD SYMBOLS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360, SECTION J2.4 AND CHAPTER 22A OF THE CALIFORNIA BUILDING CODE.
8. FIELD CONNECTIONS SHALL BE WELDED OR BOLTED, SHOP CONNECTIONS SHALL BE WELDED, UNO, WELDS INDICATED WITH A SHOP WELD SYMBOL MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE STRUCTURAL ENGINEER, LOCATIONS OF ALL FIELD WELDS SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS, WELDS SHALL BE DESIGNED TO BE FULLY EQUIVALENT IN STRENGTH TO BOLTED CONNECTIONS DETAILED TO MINIMIZE BENDING IN THE CONNECTION.
9. HEADED STUDS: A. STUDS SHALL BE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE PLATE, THERE SHOULD BE NO POROSITY OR EVIDENCE OF LACK OF FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE, THE STUD SHALL DECREASE IN LENGTH DURING WELDING APPROXIMATELY 1/8" FOR 5/8" AND SMALLER AND 3/16" FOR LARGER THAN 5/8", WELDING SHALL BE DONE ONLY BY QUALIFIED WELDERS APPROVED BY THE INSPECTION AGENCY.
10. REFER TO DRAWINGS FOR DETAIL OF DECK OPENINGS, REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS, ETC., FOR EXACT SIZE, LOCATION, AND COUNT OF REQUIRED OPENINGS.
11. CUTS, HOLES, OPENINGS, ETC., REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS, BURNING OF HOLES AND CUTS IN THE FIELD SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER, NO HOLES SHALL BE CUT IN STRUCTURAL STEEL BY OTHER TRADES UNLESS SHOWN ON STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

ANCHOR BOLTS

- 1. ALL FIELD INSTALLED CONCRETE ANCHORS SHALL BE APPROVED FOR THE TYPE AND INSTALLATION, FOR ITS APPLICATION, AND MATERIALS, ALL BOLTS SHALL HAVE AN APPROVED ICC RESEARCH REPORT NUMBER.
2. TEST ACCEPTANCE CRITERIA, (CBC 2019 SECTION 1910A.5.5) ACCEPTANCE CRITERIA FOR POST-INSTALLED ANCHORS SHALL BE BASED ON APPROVED TEST REPORT USING CRITERIA ADOPTED IN THIS CODE, FIELD TEST SHALL SATISFY FOLLOWING MINIMUM REQUIREMENTS.
A. HYDRAULIC RAM METHOD: ANCHORS TESTED WITH A HYDRAULIC JACK OR SPRING LOADED DEVICES SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM 15 SECONDS AND SHALL EXHIBIT NO DISCREMINABLE MOVEMENT DURING THE TENSION TEST, E.G., AS EVIDENCED BY LOOSENING OF THE WASHER UNDER THE NUT.
FOR ADHESIVE ANCHORS, WHERE OTHER THAN BOND IS BEING TESTED, THE TESTING APPARATUS SUPPORT SHALL NOT BE LOCATED WITHIN 1.5 TIMES THE ANCHOR'S EMBEDMENT DEPTH TO AVOID RESTRICTING THE CONCRETE SHEAR CONE TYPE FAILURE MECHANISM FROM OCCURRING.
B. TORQUE WRENCH METHOD: TORQUE-CONTROLLED POST-INSTALLED ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH SHALL ATTAIN THE SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT, OR ONE-QUARTER (1/4) TURN OF THE NUT FOR A 3/8 INCH SLEEVE ANCHOR ONLY.
3. THE INSPECTION AGENCY SHALL BE ON THE JOBSITE CONTINUOUSLY DURING ANCHOR INSTALLATIONS, UNLESS OTHERWISE NOTED IN THE ICC ESR, TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, HOLE DIMENSIONS, ANCHOR SPACINGS, EDGE DISTANCES, SLAB THICKNESS, ANCHOR EMBEDMENT AND TIGHTENING TORQUE.
4. THE TESTING OF THE EXPANSION ANCHORS SHALL BE DONE IN THE PRESENCE OF THE INSPECTION AGENCY AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY, IF ANY ANCHORS FAIL THE TESTING REQUIREMENTS, THE ADDITIONAL TESTING REQUIREMENTS SHALL BE ACCEPTABLE TO THE ENFORCEMENT AGENCY.
5. TEST FREQUENCY (CBC 1910A.5.3) WHEN POST-INSTALLED ANCHORS ARE USED FOR SILL PLATE BOLTING APPLICATIONS, 10 PERCENT OF THE ANCHORS SHALL BE TESTED, WHEN POST-INSTALLED ANCHORS ARE USED FOR OTHER STRUCTURAL APPLICATIONS, ALL SUCH ANCHORS SHALL BE TESTED, WHEN POST-INSTALLED ANCHORS ARE USED FOR NONSTRUCTURAL COMPONENTS, SUCH AS EQUIPMENT ANCHORAGE, 50 PERCENT OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED, THE TESTING OF THE POST-INSTALLED 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.
6. ANCHORS TO BE TESTED SHALL BE SELECTED AT RANDOM BY THE SPECIAL INSPECTOR / INSPECTOR OF RECORD.
7. UNLESS OTHERWISE NOTED, PROVIDE MINIMUM EMBEDMENT OF ANCHORS AS FOLLOWS:
ANCHOR DIAMETER (IN) WEDGE ANCHOR EMBED (IN)
3/8 (10 mm) 2
1/2 (12 mm) 2
5/8 (16 mm) 2 3/4
3/4 (20 mm) 3 1/4
8. FOR REQUIRED TEST TORQUE VALUES REFER TO ICC-ESR EVOLUTION SERVICE REPORT AND TORQUE VALUES AS FOLLOWS:
ANCHOR DIAMETER (IN) KB-TZZ (PER ESR 4266) TORQUE (S.S.) TORQUE (C.S.) (FT-LBS) (FT-LBS)
3/8 30 30
1/2 40 50
5/8 60 40
3/4 125 110
ALL ANCHORS EXPOSED TO WEATHER SHALL BE STAINLESS STEEL

Table with 2 columns: ANCHOR DIAMETER (IN) and WEDGE ANCHOR EMBED (IN). Rows include 3/8 (10 mm), 1/2 (12 mm), 5/8 (16 mm), and 3/4 (20 mm).

Table with 2 columns: ANCHOR DIAMETER (IN) and TORQUE (S.S.) TORQUE (C.S.) (FT-LBS) (FT-LBS). Rows include 3/8, 1/2, 5/8, and 3/4.

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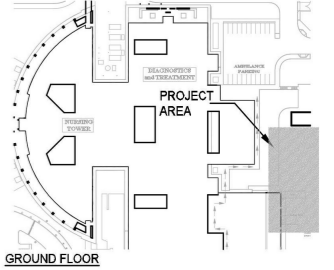
REFERENCE SCALE: 1/8" = 1'-0"



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GENERAL NOTES



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DATE: DECEMBER 28, 2022. REVISIONS: HCAI PLAN CHECK 2/13/2023



PROJECT NUMBER: 3022010. DRAWING NUMBER: S000

STRUCTURAL SHEET INDEX table with columns SHEET NUMBER and SHEET NAME. Rows include S000 GENERAL NOTES, S001 GENERAL NOTES, S201 FIRST FLOOR AND ROOF FRAMING PLANS, S501 STEEL SECTIONS AND DETAILS, S901 MISCELLANEOUS SECTIONS AND DETAILS, GRAND TOTAL: 5.

WOOD

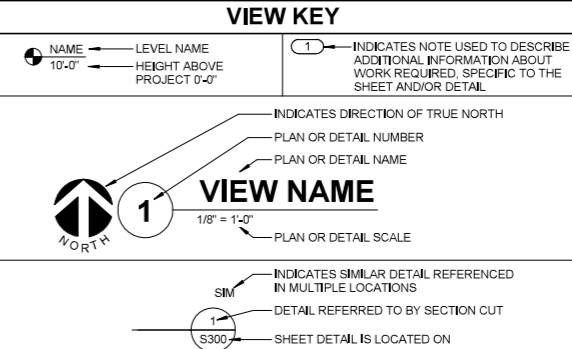
- 1. ALL LUMBER SHALL BE GRADED PER GRADING RULES #17 OF WEST COAST LUMBERMAN'S ASSOCIATION.
2. WOOD SHALL BE GRADE MARKED DOUGLAS FIR LARCH AND AS FOLLOWS:
HORIZONTAL FRAMING NO. 1, U.N.O.
STUDS NO. 1, U.N.O.
SILLS & BLOCKING NO. 1, U.N.O.
POSTS & COLUMNS NO. 1
LINTELS & BEAMS NO. 1
3. ALL PRESSURE TREATED LUMBER SHALL BE MARKED WITH A STAMP PER AWPA U1.
4. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED PER 2019 CBC.
5. PLYWOOD SHEATHING SHALL BE DOUGLAS FIR PLYWOOD, 5 PLY, STRUCTURAL 1, CONFORMING TO PS 1-09, ALL PLYWOOD SHALL BE GRADE C-D MARKED 'D'FPA STRUCTURAL 1, INTERIOR WITH EXTERIOR GLUE.
6. PLYWOOD NAILING SHALL BE APPROVED BY THE JOB INSPECTOR PRIOR TO COVERING UP.
7. FRAMING HARDWARE SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG TIE OR APPROVED EQUAL, FASTENERS TO BE FURNISHED BY THE MANUFACTURER AND ALL FASTENER HOLES TO BE FILLED.
8. MACHINE APPLIED NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER, THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
9. PROVIDE PLATE WASHERS UNDER ALL BOLTS, NUTS AND HEADS.
10. RE-TIGHTEN ALL BOLTS PRIOR TO CLOSING IN.
11. ALL NAILING SHALL CONFORM TO TABLES SET FORTH IN THE TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS EXCEPT SPECIFICALLY DETAILED CONNECTIONS. USE ONLY COMMON NAILS, ASTM F1667.
12. ALL FRAMING MEMBERS SHALL BE ERRECTED WITH NATURAL OR BUILT-IN CAMBER UP UNLESS NOTED OTHERWISE.
13. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

NAILING SCHEDULE - TABLE 2304.10.1

THE CONNECTIONS LISTED ARE THE MINIMUM PERMISSIBLE. USE COMMON WIRE NAILS FOR ALL NAILED CONNECTIONS, WHERE POSSIBLE. NAILS DRIVEN PERPENDICULAR TO THE GRAIN SHALL BE USED INSTEAD OF TOE NAILS. NAILING SHALL COMPLY WITH 2019 CBC TABLE 2304.10.1

Table with 2 columns: Description and Nail Schedule. Includes items like Joist or rafters to sides of studs, Bridging to joist, Sole plate to joist or blocking, Plywood Shear Walls, and a Note about nails driven into pressure treated wood.

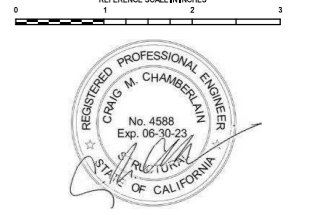
STRUCTURAL ABBREVIATION KEY table with columns: ABBR, DESCRIPTION, ABBR, DESCRIPTION. Lists various structural abbreviations like #, @, L, LL, LLH, LLV, LONG, LSH, LSV, etc.



LINE TYPE KEY table defining line styles for new work, existing work to be removed, and non-structural elements.

MATERIAL LEGEND table showing patterns for concrete, earth, gravel, and steel.

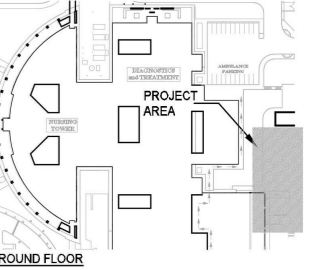
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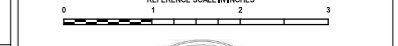
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PROJECT TITLE
MOBILE SPD TRAILER
 FOR THE
ARROWHEAD REGIONAL MEDICAL CENTER

400 N. PEPPER AVE.
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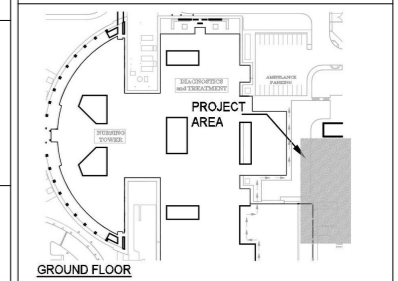
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Department of Health Care Access and Information
HCAI # S222348-36-00



REFERENCE PLAN



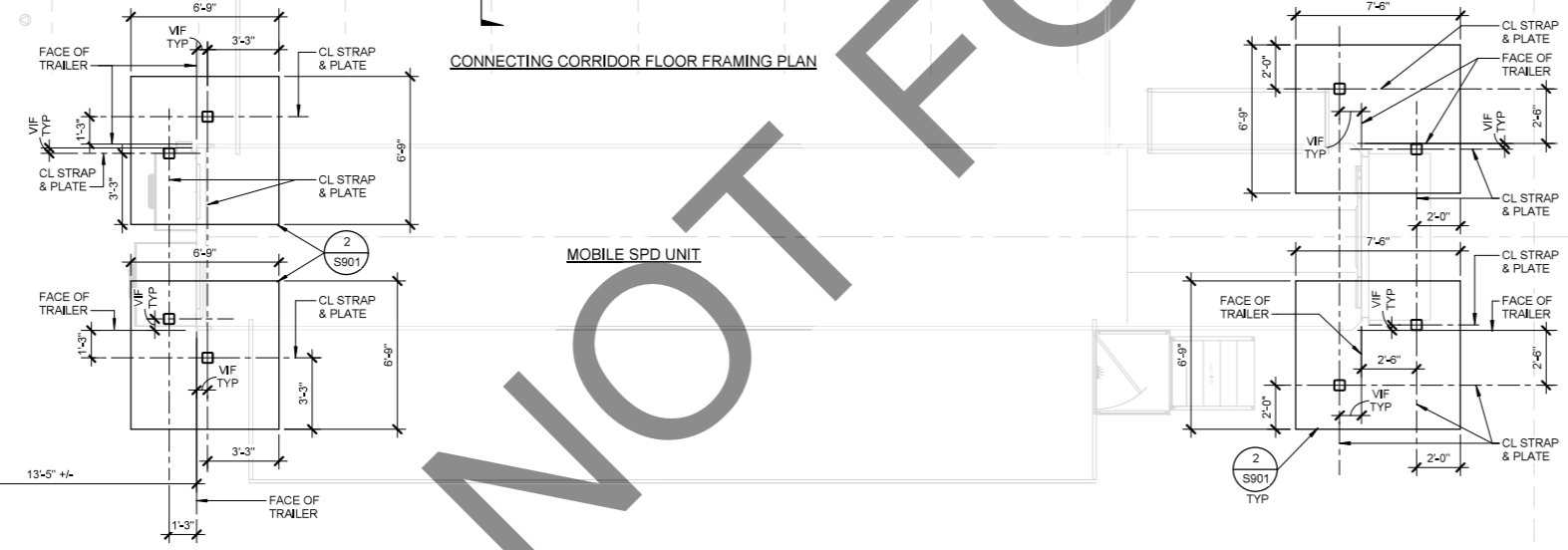
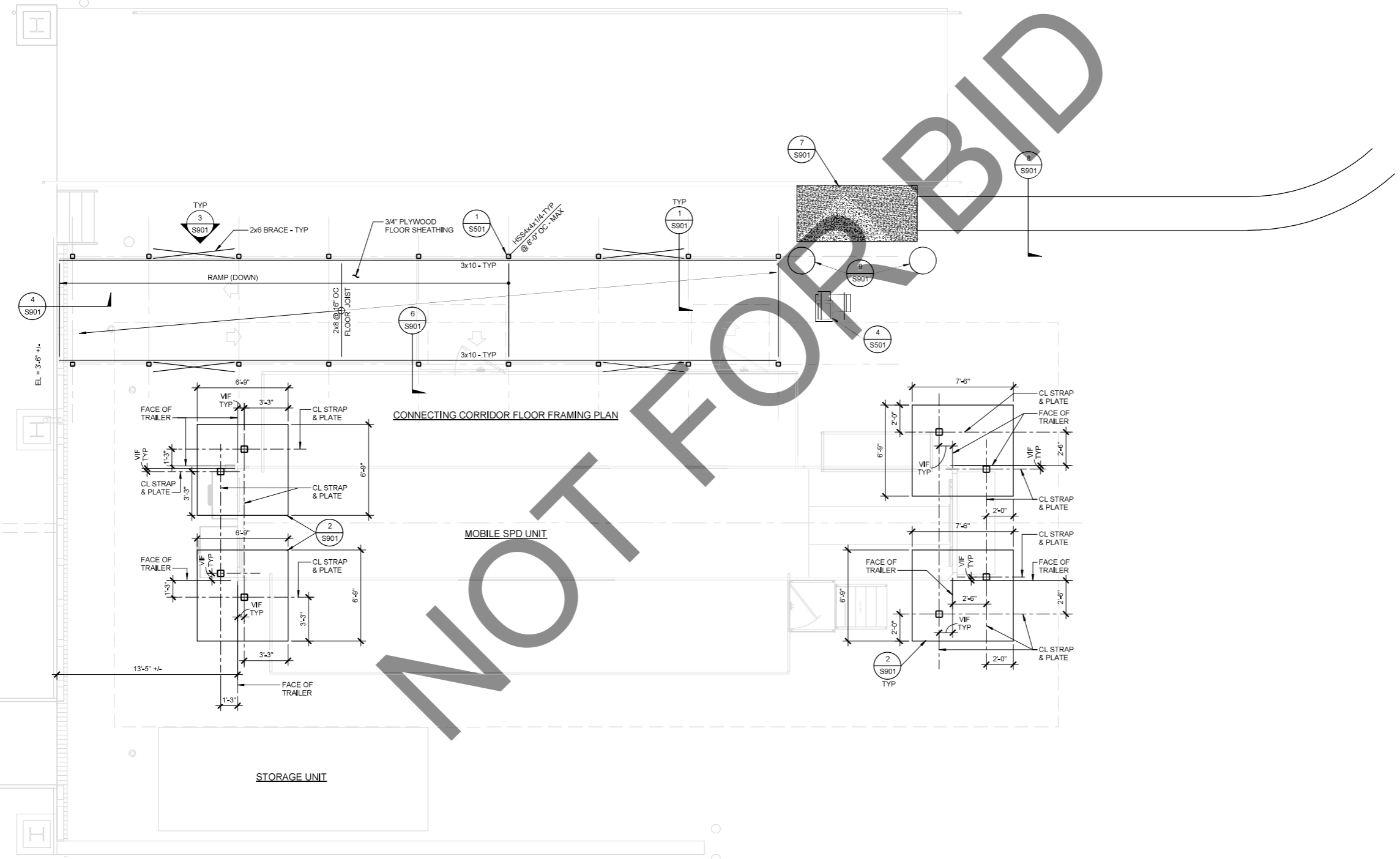
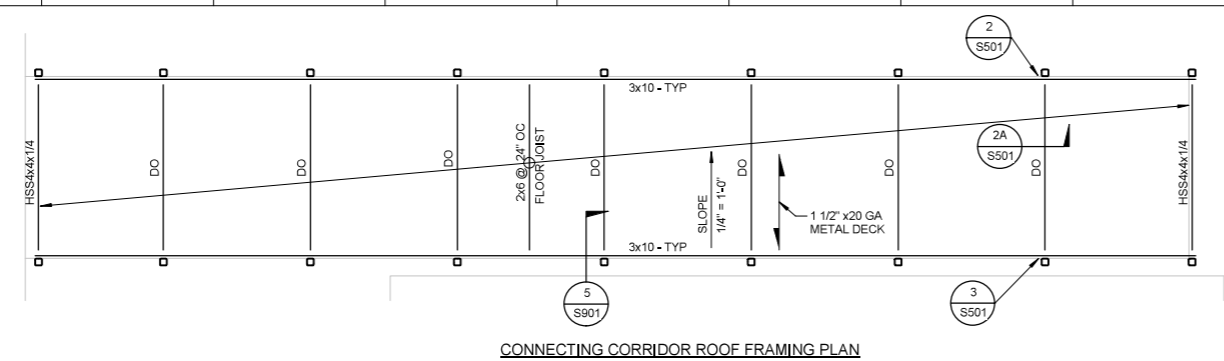
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FIRST FLOOR AND ROOF FRAMING PLANS

marks architects

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 760-327-6800

DATE	DECEMBER 28, 2022
REVISIONS	
PROJECT NUMBER	3022010
DRAWING NUMBER	S201

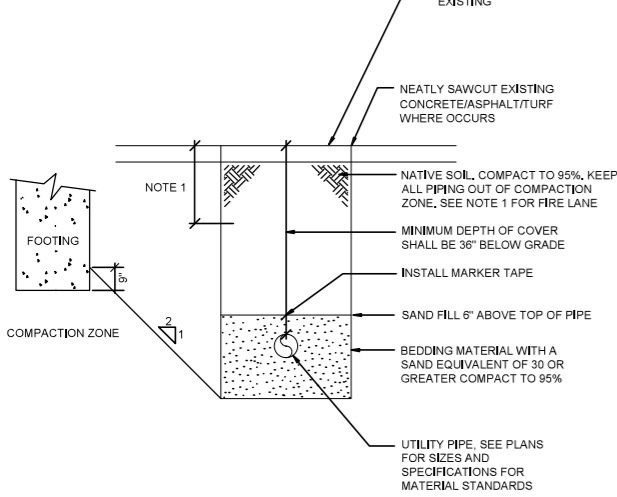


1 FIRST FLOOR AND ROOF FRAMING PLANS
 1/4" = 1'-0"

Project Number 5/11/2023 4:25:40 PM Project Name

NOT FOR BID

- NOTES:
- FOR FIRE LANE PAVEMENT, SECTION SHALL BE 6" ASPHALT CONCRETE OVER 12" OF CRUSHED AGGREGATE BASE.
 - WHERE PATH OF PEDESTRIAN TRAVEL OCCURS, REPAIR PER CBC 11B-302.1 AND 11B-303.



SITE TRENCH DETAIL

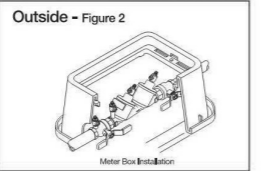
NTS 1

Installation Instructions
Series 719 and LF719 Double Check Valve Assemblies

Indoors - Figure 1
Check local codes for installation requirements. Pipe lines should be thoroughly flushed to remove foreign material before installing the unit. A strainer should be installed as shown, ahead of backflow preventer to prevent disc from unnecessary fouling. Install valves in the line with arrow on valve body pointing in the direction of flow. For indoor installations, it is important that the valve be easily accessible to facilitate testing and servicing. Do not install in a confined location.

CAUTION
Do not install with strainer when backflow preventer is used on seldom-used water lines which are called upon during emergencies, such as fire sprinkler lines, etc. It is important that Series 719 and LF719 be tested periodically in compliance with local codes but at least once a year or more often depending upon system conditions. Regular inspection, testing and cleaning assures maximum life and proper product function.

NOTICE
Fire Protection System Installations
The National Fire Protection Agency (NFPA) Guidelines require a confirming flow test to be conducted whenever a "main line" valve such as the shut-off valves or a backflow assembly have been operated. Certified testers of backflow assemblies must conduct this test. The trim valves of the confirming flow test must be closed during the test. When the test is completed, the trim valves must be returned to a fully open position.



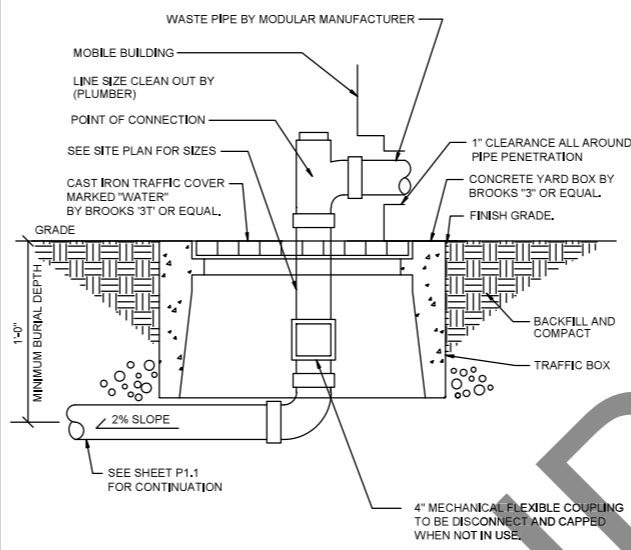
Outside - Figure 2

Parallel - Figure 3
Where approved by code, Watts recommends a custom engineered Watts PVS Series water supply valve station consisting of two or more 719 and LF719 Series valves placed in parallel to serve a larger supply main. This type of installation is employed whenever it is required to maintain water flow to a facility. Typical applications include hospitals, multi-family dwellings, malls and other similar installations. A properly designed Watts PVS valve station provides redundant flow paths, a continuous supply of adequate water, testing and servicing of an individual valve without supply interruption, and long service life. The size, quantity and design of parallel valve installations should be exactly in accordance with the engineer's judgment and the published Best Practice Guide of Watts whenever possible. For a copy of the Watts Best Practice Guide, call Watts at 1-800-917-3274.

2

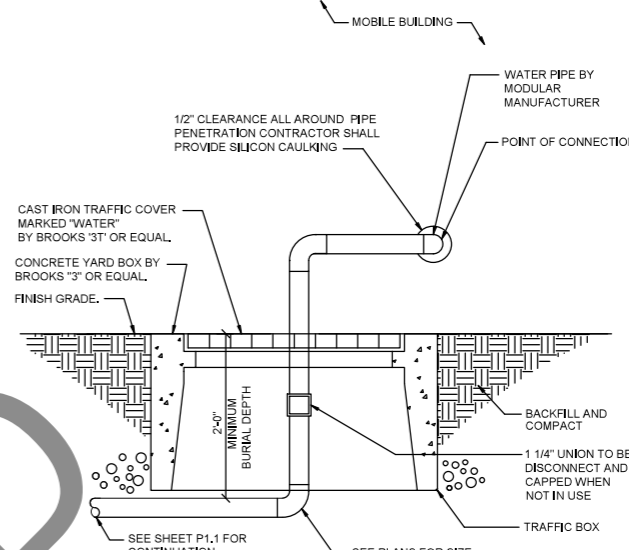
DOUBLE CHECK VALVE ASSEMBLIES

NTS 2



MOBILE WASTE CONNECTION

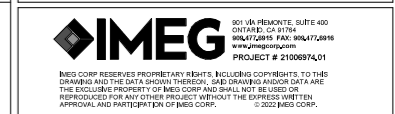
NTS 3



MOBILE WATER CONNECTION

NTS 4

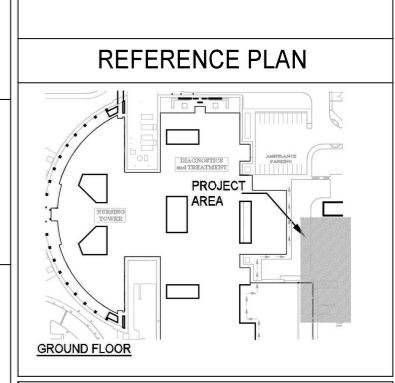
PROJECT TITLE
MOBILE SPD TRAILER
FOR THE
ARROWHEAD REGIONAL MEDICAL CENTER
400 N. PEPPER AVE.
COLTON, CA. 92324
WBSE # 10.10.1142
CIP # 21-154
CAF# # COL003



REFERENCE SCALE IN INCHES
1 2 3



Department of Health Care Access and Information
HCAI # S222348-36-00



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DETAILS

DATE: 12/28/2022

REVISIONS

PROJECT NUMBER: 3022010

DRAWING NUMBER: **P3.1**

21006974.01 5/11/2023 4:18:04 PM Project Name

GENERAL NOTES

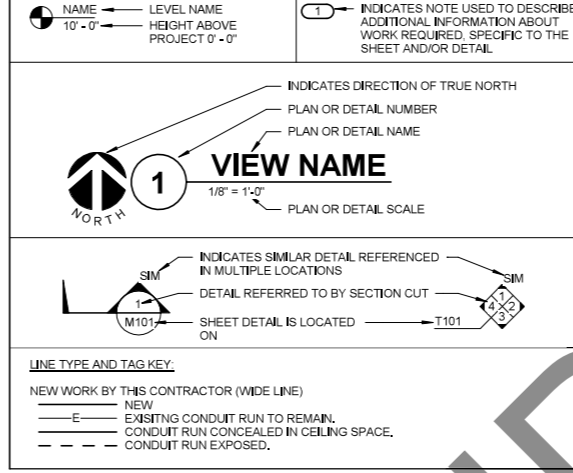
- ALL ELECTRICAL MATERIALS AND EQUIPMENT INDICATED ON THE CONTRACT DOCUMENTS SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITERS' LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:
 AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
 INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
 NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
 AMERICAN STANDARD ASSOCIATION (ASA)
 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
 CALIFORNIA ELECTRICAL CODE (CEC) - 2019 EDITION
 INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
 ALL LOCAL CODES HAVING JURISDICTION.
 WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT CODE SHALL APPLY.
- THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS, AND BY SUBMITTING HIS BID ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS AND APPENDIX. HE SHALL CHECK THE CONTRACT DOCUMENTS OF THE OTHER TRADES AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ALL WORK, INCLUDING ALL COUNTY AND LOCAL GOVERNMENTAL AGENCIES, CHARGES BY STATE.
- THE CONTRACTOR SHALL PROVIDE AND KEEP UP-TO-DATE A COMPLETE RECORD SET OF DRAWINGS. THESE PRINTS SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. THIS SET OF DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE USED ONLY AS A RECORD SET, UPON COMPLETION OF THE WORK. A SET OF REPRODUCIBLE CONTRACT DRAWINGS SHALL BE OBTAINED FROM THE ENGINEER ALL CHANGES AS NOTED ON THE RECORD SET OF DRAWINGS SHALL BE INCORPORATED THEREON WITH BLACK INK IN A NEAT, LEGIBLE, UNDERSTANDABLE AND PROFESSIONAL MANNER.
- IN SOME INSTANCES, IT MAY BE NECESSARY TO DEFER WORK IN CERTAIN AREAS AND LOCATIONS UNTIL SUCH TIME AS EXISTING FACILITIES CAN BE TEMPORARILY OR PERMANENTLY REARRANGED BY THE OWNER, THEREFORE, WHENEVER IT BECOMES NECESSARY FOR THE CONTRACTOR TO PERFORM WORK UNDER THIS CONTRACT IN EXISTING AREAS IN WHICH THE OWNER'S WORK IS BEING PERFORMED, THE CONTRACTOR SHALL ADVISE AND THE OWNER RELATIVE TO THIS REQUIREMENT AND SHALL FOLLOW CLOSELY THE DIRECTIVE ISSUED BY THE ARCHITECT INSOFAR AS TIME AND PROCEDURE ARE CONCERNED. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL PREMIUM TIME TO WHICH HE MAY BE SUBJECT FOR PERFORMING WORK IN SUCH PROCEDURE AND AT SUCH TIMES AS MAY BE NECESSARY TO CAUSE THE LEAST INTERFERENCE WITH THE OPERATIONS OF THE OWNER.
- ALL INTERRUPTIONS OF ELECTRICAL, SIGNAL AND COMMUNICATION SYSTEMS SHALL BE KEPT TO A MINIMUM. WHEN AN INTERRUPTION IS NECESSARY THE SHUTDOWN SHALL BE COORDINATED WITH THE OWNER 14 CALENDAR DAYS PRIOR TO THE OUTAGE, ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANELBOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.
- SHOP DRAWINGS SHALL BE SUBMITTED WITHIN TEN DAYS AFTER AWARD OF THE CONTRACT. THE CONTRACTOR SHALL SUBMIT EIGHT COPIES OF A COMPLETE LIST OF ALL MATERIALS AND EQUIPMENT INCLUDING MANUFACTURER AND MODEL NUMBER PROPOSED FOR THE JOB. SHOP DRAWINGS SHALL INCLUDE JOB DESCRIPTION, ARCHITECT AND ENGINEER IDENTIFICATION, AND ALL DATA WITH CAPACITIES, SIZES, DIMENSIONS, CATALOG NUMBERS AND MANUFACTURERS' BROCHURES.
- AFTER ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
- THE CONTRACTOR SHALL FURNISH A ONE YEAR WRITTEN GUARANTEE OF MATERIALS AND WORKMANSHIP FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING, ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.
- THE CONTRACTOR SHALL LOCATE ELECTRICAL EQUIPMENT AND BOXES IN ACCESSIBLE CEILING SPACE OR PROVIDE AN ACCESS PANEL FOR INACCESSIBLE CEILING SYSTEMS. ACCESS DOORS SHALL BE A MINIMUM DIMENSION OF 24"x26". ACCESS DOORS LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
- WHENEVER A DISCREPANCY ARISES ON THE CONTRACT DOCUMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIAL AND SERVICES TO THE STRICTER CONDITION OR HIGHER QUALITY OR QUANTITY.
- ALL RECESSED POWER, LIGHTING, AND SIGNAL EQUIPMENT MOUNTED IN FIRE RATED CEILINGS OR WALLS SHALL BE ENCLOSED WITH AN APPROVED UL LISTED ENCLOSURE CARRYING THE SAME FIRE RATINGS.
- STRAIGHT FEEDER, BRANCH CIRCUIT, AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE UNLESS NOTED OTHERWISE. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.
- MAXIMUM NUMBER OF CONDUCTORS IN OUTLET OR JUNCTION BOXES SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE, ARTICLE 314-16, BUT IN NO CASE SHALL CONTAIN MORE THAN THE FOLLOWING NUMBER OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED, THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1-1/2" DEEP.

4" SQ. BY 1-1/2" D	= 9 CONDUCTORS
4" SQ. BY 2-1/8" D	= 13 CONDUCTORS
4 1/16" SQ. BY 1-1/2" D	= 11 CONDUCTORS
4 1/16" SQ. BY 2-1/8" D	= 18 CONDUCTORS

 ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED, TWO DEVICES DOUBLE GANGED, MINIMUM.
- THE EXACT LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TO INSTALLATION. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED IN WALLS UNLESS NOTED OTHERWISE. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN. MOUNT ELECTRICAL DEVICES AT THE FOLLOWING HEIGHTS UNLESS NOTED OTHERWISE:

WALL SWITCH	+4'-0"	SET VERTICALLY TO TOP OF BOX
CONVENIENCE RECEPTACLE	+1'-6"	SET VERTICALLY TO BOTTOM OF BOX
TELEPHONE/DATA OUTLETS	+1'-6"	SET VERTICALLY TO BOTTOM OF BOX
OUTLETS AND ALL SWITCHES AT COUNTERS	+6"	ABOVE COUNTERS WITHOUT SPLASHES OR CENTERED IN SPLASH SET HORIZONTALLY
- DRAWINGS ARE DIAGRAMMATIC ONLY. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS NOTED OTHERWISE AND SHALL BE COORDINATED WITH OTHER SECTIONS, DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL ITEMS OR FEATURES.
- THE EQUIPMENT GROUNDING CONDUCTOR SHOWN ON CONDUIT RUNS SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SO THAT IF DEVICE IS REMOVED, GROUND WILL NOT BE INTERRUPTED. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS - ALTERNATE METHODS OF IDENTIFICATION SHALL NOT BE USED.
- ALL CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM SIZE. TYPE THHN/THWN THERMOPLASTIC 90VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY AND UL LISTED UNLESS NOTED OTHERWISE. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #10 AWG AND LARGER SHALL BE STRANDED.
- RECEPTACLES SHALL BE HOSPITAL GRADE, 20 AMP, NEMA 5-20R GROUNDING TYPE HUBBELL OR EQUAL, COLOR, EMERGENCY RECEPTACLES SHALL BE RED IN COLOR.
- SWITCHES SHALL BE 20 AMP, 120/277 VOLT RATED SILENT TYPE SPECIFICATION GRADE HUBBELL OR EQUAL, BY PASS & SEYMOUR OR GENERAL ELECTRIC. COLOR TO MATCH EXISTING TYPE EMERGENCY SWITCHES SHALL BE RED IN COLOR.
- DEVICE PLATES SHALL BE STAINLESS STEEL FOR THE NUMBER OF GANGS AND TYPE OF OPENINGS NECESSARY. HUBBELL OR EQUAL BY PASS & SEYMOUR OR GENERAL ELECTRIC. COLOR SHALL BE SELECTED BY ARCHITECT. EMERGENCY RECEPTACLE PLATES SHALL BE RED IN COLOR. NORMAL AND EMERGENCY DEVICES PLATES SHALL BE ENGRAVED WITH PANEL AND CIRCUIT NUMBER.
- RIGID GALVANIZED STEEL CONDUIT SHALL BE USED FOR ALL EXPOSED INSTALLATION AND SHALL BE FULL WEIGHT THREADED TYPE ALUMINUM OR STEEL. ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED IN WALLS OR CEILING SPACES WHERE NOT SUBJECT TO MECHANICAL DAMAGE. PVC COATED RIGID GALVANIZED CONDUIT SHALL BE USED FOR POWER IN OR BELOW CONDUCTOR SLAB. PVC SCH 40 CONDUIT SHALL BE USED FOR LOW VOLTAGE IN OR BELOW CONDUIT SLAB. FLEXIBLE STEEL CONDUIT SHALL BE USED AT FIXTURE AND OUTLET CONNECTIONS WITH NO RUNS LONGER THAN SIX FEET. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED IN ALL CONDUIT RUNS.
- RIGID GALVANIZED STEEL CONDUIT FITTINGS SHALL BE THREADED AND THOROUGHLY GALVANIZED. ELECTRICAL METALLIC TUBING (EMT) CONDUIT FITTINGS SHALL BE STEEL RAIN TIGHT THREADLESS COMPRESSION TYPE, DIE CAST, SET SCREW OR INDENTER TYPES ARE NOT ACCEPTABLE. FLEXIBLE STEEL CONDUIT FITTINGS SHALL BE MALLEABLE IRON CLAMP, SQUEEZE TYPE OR STEEL TWIST-IN TYPE WITH INSULATED THROAT, SET SCREW TYPE IS NOT ACCEPTABLE.
- FURNISH AND INSTALL POWER PANELBOARDS AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL COMPLY WITH NEMA STANDARD FOR PANELBOARDS AND FEDERAL SPECIFICATION W-P-115A. PANELBOARDS SHALL BE COMPLETE WITH COPPER BUS BARS AND 40 DEGREE CELSIUS THERMAL MAGNETIC BOLT-ON TYPE CIRCUIT BREAKERS AND OSP CERTIFICATION AS INDICATED ON DRAWINGS. PANELBOARDS SHALL BE EATON, SQUARED OR EQUAL BY SIEMENS. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH MASON OPM #0043-13 PRE-APPROVED ANCHORAGE AND BRACING SYSTEM.
- WHERE MULTIHOMERUNS ARE INDICATED ON DRAWINGS INDICATION THE SAME PANELBOARD CIRCUIT NUMBER, PROVIDE JUNCTION BOX ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO CIRCUIT BREAKERS.
- ALL PANEL BOARD CIRCUIT DIRECTORIES ARE TO TYPE WRITTEN AND UPDATED PER THE NEW WORK.
- RUN ALL CONDUITS CONCEALED IN WALL AND CEILING UNLESS NOTED OTHERWISE, CUT/PATCH/PAINT EXISTING WALL AND CEILING AS REQUIRED.
- ALL BRANCH CIRCUITS SERVING PATIENT CARE AREAS SHALL BE PROVIDED WITH AN EFFECTIVE GROUND-FAULT CURRENT PATH BY PROVIDING GREEN INSULATED GROUND CONDUCTOR IN ALL METAL CONDUIT RUNS. THE GROUND TERMINALS OF ALL RECEPTACLES AND ALL NON-CURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRICAL EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT, OPERATING AT OVER 100 VOLTS, SHALL BE CONNECTED TO AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.122 AND INSTALLED IN METAL RACEWAY WITH THE BRANCH CIRCUIT CONDUCTORS SUPPLYING THESE RECEPTACLES OR FIXED EQUIPMENT PER CEC 517.13 (A) & (B).
- UTILITY PENETRATIONS OF ANY KIND IN FIRE AND SMOKE PARTITIONS AND CEILING ASSEMBLIES, SHALL BE FIRESTOPPED AND SEALED WITH AN APPROVED MATERIAL SECURELY INSTALLED.
 STEEL ELECTRICAL OUTLET BOXES WHICH DO NOT EXCEED 16 SQUARE INCHES IN AREA, NEED NOT BE PROTECTED IN ONE HOUR OR TWO HOUR FIRE RATED WALLS, PARTITIONS, CEILINGS, OR AREA SEPARATION UNLESS THEY:
 OCCUR ON OPPOSITE SIDES OF THE WALL WITHIN 24 INCH HORIZONTAL DISTANCE OF ONE ANOTHER. IN THIS CASE, ONLY ONE OUTLET BOX NEED TO BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL OR DETAIL TO CORRECT THIS CONDITION.
 OCCUR IN COMBINATION WITH OUTLET BOXES OF ANY SIZE SUCH THAT THE AGGREGATE AREA OF UNPROTECTED OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. IN THIS CASE, ONLY A SUFFICIENT NUMBER OF OUTLET BOXES NEED BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO DECREASE THE AGGREGATE AREA OF UNPROTECTED UTILITY BOXES TO LESS THAN 100 SQUARE INCHES IN ANY 100 SQUARE FEET
 STEEL ELECTRICAL OUTLET BOXES WHICH EXCEED 16 SQUARE INCHES IN AREA, AND ALL OTHER STEEL UTILITY OUTLET BOXES REGARDLESS OF SIZE, SHALL BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL AS LISTED OR EQUAL.
 FIRESTOPPING MATERIAL: MPP-1 MOLDABLE PUTTY PADS 3M CONTRACTOR PRODUCTS MINNEAPOLIS, MN 3M TEST REPORT NO. 1167 DATED AUGUST 24, 1987
 OF WALL: FSP FIRESTOP PUTTY PADS HEV-DUTY NELSON PRODUCTS TULSA, OK FLAMESAF FSP 1077 FIRESTOP PADS INTERNATIONAL PROTECTIVE COATINGS OAKHURST, NJ
 STEEL UTILITY BOXES WHICH EXCEED 100 SQUARE INCHES IN AREA SHALL BE PROTECTED BY ENCASMENT.
 UTILITY AND ELECTRICAL OUTLETS OR BOXES SHALL BE SECURELY FASTENED TO THE STUD OF FRAMING OF THE WALL, PARTITION OR CEILING ASSEMBLY. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT SO THAT THE CLEARANCE BETWEEN THE BOX AND THE GYPSUM BOARD DOES NOT EXCEED 1/8 INCH. IN SMOKE WALLS OR PARTITIONS THE 1/8 INCH CLEARANCE SHALL BE FILLED WITH AN APPROVED FIRE-RATED SEALANT.

VIEW KEY



ELECTRICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
GFI	GROUND FAULT INTERRUPTER
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
SV	SOLENOID VALVE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

APPLICABLE CODES

- 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC)
- PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
- 2019 CALIFORNIA BUILDING CODE (CBC)
- PART 2, TITLE 24, CRC
- BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC)
- PART 3, TITLE 24, (CCR)
- BASED ON THE 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2019 CALIFORNIA MECHANICAL CODE (CMC)
- PART 4, TITLE 24, (CCR)
- BASED ON THE 2018 UNIFORM MECHANICAL CODE (UMC)
- 2019 CALIFORNIA PLUMBING CODE (CPC)
- PART 5, TITLE 24, (CCR)
- BASED ON THE 2018 UNIFORM PLUMBING CODE (UPC)
- 2019 CALIFORNIA ENERGY CODE (CEC)
- PART 6, TITLE 24, (CCR)
- 2019 CALIFORNIA HISTORICAL BUILDING CODE (CHBC)
- PART 8, TITLE 24, (CCR)
- 2019 CALIFORNIA FIRE CODE (CFC)
- PART 9, TITLE 24, (CCR)
- BASED ON THE 2017 NATIONAL FIRE CODE (NFC)
- 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC)
- PART 10, TITLE 24, (CCR)
- BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC)
- 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN)
- PART 11, TITLE 24, (CCR)
- 2019 CALIFORNIA REFERENCED STANDARDS CODE (CRSC)
- PART 12, TITLE 24, (CCR)
- 2016 NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE
- 2016 NFPA 101 LIFE SAFETY CODE

ELECTRICAL SHEET INDEX

NO.	DESCRIPTION
E0.1	ELECTRICAL COVERSHEET
E0.2	SINGLE LINE DIAGRAM
E1.1	ELECTRICAL SITE PLAN - ARMIC MOBILE SPD TRAILER
E1.2	CENTRAL PLAN FIRST FLOOR PLAN - ELECTRICAL
E1.3	ENLARGED MECHANICAL AND ELECTRICAL PLAN - TEMPORARY COVERED PLATFORM
E1.4	DETAILS
E1.5	SPECIFICATIONS
GRAND TOTAL	7

ELECTRICAL SYMBOL LIST

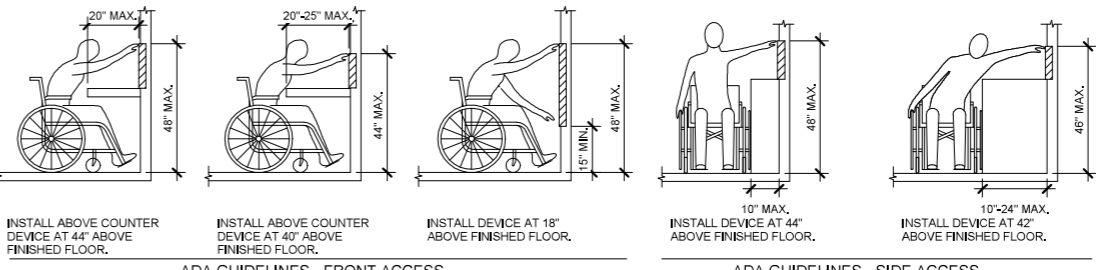
SYMBOL:	DESCRIPTION:
	JUNCTION BOX
	FLOOR BOX - DUPLEX RECEPTACLE
	SURFACE MOUNTED PANEL
	EXISTING EQUIPMENT TO REMAIN.
	CIRCUIT BREAKER
	CONDUIT HOME RUN TO PANEL, PROVIDE DEDICATED NEUTRAL FOR EACH 120V CIRCUIT, ALL CONDUITS RUN SHALL CONTAIN GROUND WIRE.

ELECTRICAL SYMBOL LIST

SYMBOL:	DESCRIPTION:
	HOSPITAL GRADE DUPLEX RECEPTACLE CONNECTED TO EMERGENCY POWER
	HOSPITAL GRADE QUAD RECEPTACLE CONNECTED TO EMERGENCY POWER
	30A/125V/2P/3W SINGLE GROUNDING TYPE NEMA LS-30R RECEPTACLE WITH STAINLESS STEEL ENGRAVED COVER PLATE CONNECTED TO EMERGENCY POWER RECEPTACLE FOR APC SMART 3000VA UPS RECEPTACLE, TYPE TO MATCH UPS PLUG.
	BYPASS ISOLATION TYPE AUTOMATIC TRANSFER SWITCH
	DRY TYPE TRANSFORMER
	ENCLOSED CIRCUIT BREAKER
	KEYNOTE

ELECTRICAL INSTALLATION NOTES:

- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN, REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION.
- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- EMERGENCY POWER BRANCH WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY, JUNCTION BOXES, PULL BOXES, AND CABINETS, WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL BRANCH.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS.
- CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS, ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- CONTRACTOR SHALL REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.

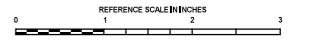


ADA STANDARDS FOR ACCESSIBLE DESIGN

PROJECT TITLE
MOBILE SPD TRAILER
 FOR THE
ARROWHEAD REGIONAL MEDICAL CENTER
 400 N. PEPPER AVE.
 COLTON, CA. 92324
 WBSE # 10.10.1142
 CIP # 21-154
 CAFM # COL003



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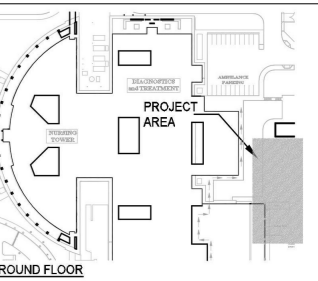
Department of Health Care Access and Information
HCAI # S222348-36-00

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, COR

APPROVED

Department of Health Care Access & Information
 Office of Statewide Hospital Planning & Development
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REFERENCE PLAN



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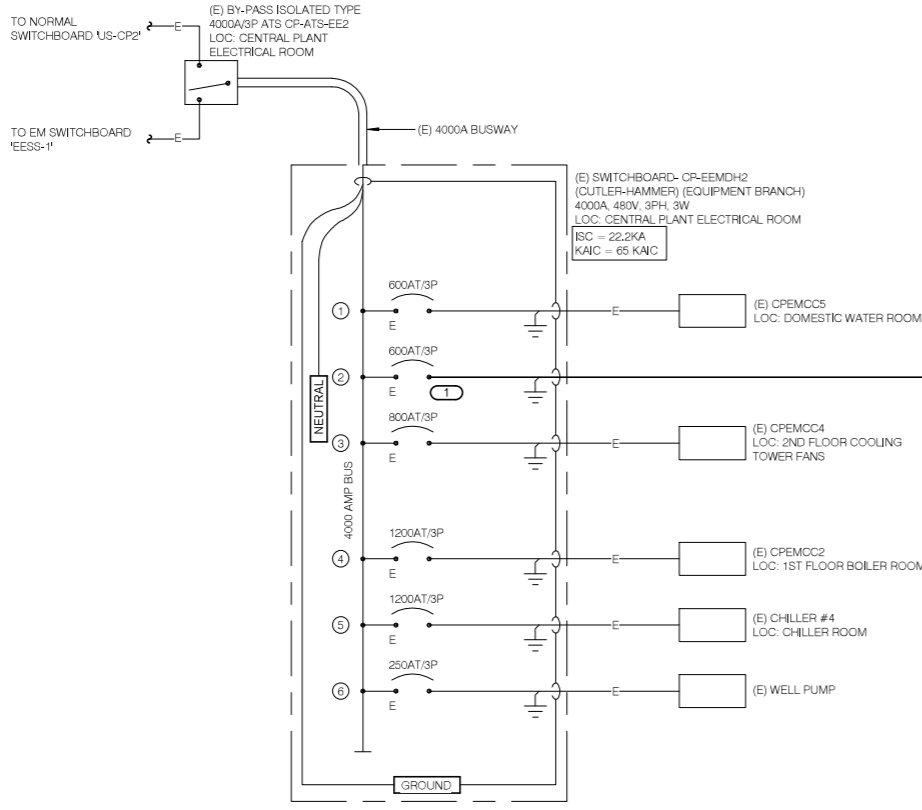
DRAWING TITLE
ELECTRICAL COVERSHEET

DATE
 12/28/2022

REVISIONS
 HCAI PLAN CHECK 2/13/2023

PROJECT NUMBER
 3022010

DRAWING NUMBER
E0.1



LOAD SUMMARY FOR (E) PANEL-C-WG-ELH1

EXISTING CONNECTED LOAD: (X 1.25)	= 23252 VA
NEW ADDED LOAD	= 88 VA
TOTAL CONNECTED LOAD	= 23340 VA
EXISTING PANEL RATING	= 70 A

LOAD SUMMARY FOR (E) DISTRIBUTION PANEL-C-WG-ELDH1

FEEDERS AND FEEDER OVERCURRENT PROTECTIVE DEVICE HAVE BEEN CHECKED AND HAVE SUFFICIENT LOAD CAPACITY AT THIS POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM. (PER OSHPD PIN 38)

Pankaj Patel
PANKAJ PATEL

- KEYNOTES: #**
- CONNECT TO (E) SPARE BREAKER, PROVIDE MATCHING ENGRAVED NAME PLATE.
 - RUN 1" C-1#1/0 GND, TO (2) 3/4" DIA X 10' L COPPER CLAD STEEL GROUND RODS, TO RE-BAR IN CONCRETE AND TO METALLIC COLD WATER PIPE.
 - PROVIDE TERMINAL LUGS (L1, L2, L3, G) FOR TERMINATION OF SHORELINE CABLES.
 - SWITCHBOARD MUST HAVE HCAI OSP CERTIFICATION.
 - 1" C, 1#1/0 INSULATED GROUND WIRE.
 - PROVIDE GROUND BOX WITH 12' LONG GROUND WIRE WITH MATCHING TERMINAL LUGS FOR CONNECTION TO MOBILE SPD TRAILER GROUNDING TERMINAL.
 - PROVIDE BREAKER WITH SPECIAL LUGS AND CORD STRAIN RELIEF FOR CABLES TERMINATION.
 - PROVIDE 4" DIA X 4' LONG CONDUIT WITH WATER TIGHT CAP AND INSULATED BUSHING OR MYERS HUB ON SIDE OF SWITCHBOARD TO RUN CABLES.
 - PROVIDE GROUND LUG INSIDE FOR TERMINATION OF SPD TRAILER GROUND CONDUCTOR.
 - NEMA-3R 5KVA, 485-120/240V, 1PH, 3W MINI-POWER-ZONE WITH 20A/2P PRIMARY MAIN BREAKER, 30A/2P SECONDARY MAIN BREAKER AND (10) 20A/1P BRANCH BREAKER, SQUARE-D #MP25540F25K OR EQUAL, MOUNT ON SIDE OF DISTRIBUTION BOARD WITH (2) P1000 UNSTRUTS.
 - 3/4" C-1#8 GND TO 3/4" DIA X 10' L GROUND ROD.
 - PROVIDE LISTED BUILT-IN SURGE PROTECTIVE DEVICE (SPD).
 - PROVIDE LISTED NEMA-3R EXTERNAL SURGE PROTECTIVE DEVICE (SPD) AND CONNECT TO MINI-POWER ZONE-MPZ.

LOAD SUMMARY FOR (E) SWITCHBOARD CP-EEMDH2

EXISTING MAXIMUM DEMAND LOAD: (30 HRS LOAD READING 1/10/22)	= 1135 A
EXISTING CONNECTED LOAD: (X 1.25)	= 1419 A
NEW ADDED LOAD	= 412 A
TOTAL CONNECTED LOAD	= 1831 A
EXISTING SWITCHBOARD RATING	= 4000 A

LOAD SUMMARY FOR (E) SWITCHBOARD US-CP2

FEEDERS AND FEEDER OVERCURRENT PROTECTIVE DEVICE HAVE BEEN CHECKED AND HAVE SUFFICIENT LOAD CAPACITY AT THIS POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM. (PER OSHPD PIN 38)

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LOAD SUMMARY FOR (E) SWITCHBOARD EESS-1

FEEDERS AND FEEDER OVERCURRENT PROTECTIVE DEVICE HAVE BEEN CHECKED AND HAVE SUFFICIENT LOAD CAPACITY AT THIS POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM. (PER OSHPD PIN 38)

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(E) PANEL-C-WG-ELH1

MOUNTING: SURFACE
ENCLOSURE: NEMA PB 1
FED FROM: 150A/3P @ C-WG-ELDH1
LOCATION: ELECTRICAL ROOM

SOLID NEUTRAL GROUND BUS (LIFE SAFETY)

MAN: 70 A MCB
VOLTS: 480/277 Vwye
PHASE: 3
WIRE: 4
SCCR: 24 kA
ISC: 17,60 kA

KEY	CKT NO.	LOAD DESCRIPTION	OC PD AMPS	P	WIRE SIZE	N	H	G	VD %	A	B	C	VD %	WIRE SIZE	N	H	P	OC PD AMPS	LOAD DESCRIPTION	CKT NO.	KEY
2	1	E-N LTG CORRIDOR-SPD TRAILER	20 A	1	-	-	-	-	2.16	0.1							1	20 A	(E) RELAY PANEL-QRRLP1	2	1
1	3	(E) LIGHTING CORRIDOR	20 A	1	-	-	-	-		1.06	0						1	20 A	SPARE	4	
1	5	(E) LIGHTING CORRIDOR	20 A	1	-	-	-	-			1.7	0					1	20 A	SPARE	5	
7		SPARE	20 A	1	-	-	-	-	0	0									SPARE	6	
9		SPARE	20 A	1	-	-	-	-		0	0								SPARE	10	
11		(E) PANEL-C-WG-ELH1	30 A	3	-	-	-	-	5.5	0		6.1	0				3	70 A	(E) MAIN CB	12	
13										5.9	0									14	
15																				15	
			Total Load:		7.76	kVA			7.86	kVA		7.80	kVA								
			Total Amps:		28.01				28.40			28.18									

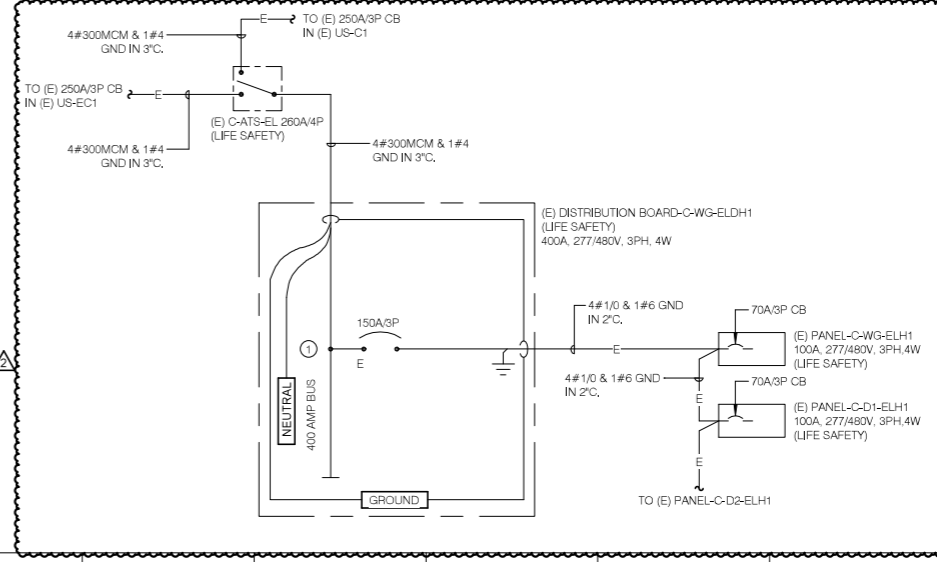
LOAD SUMMARY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*
Spare	23,42 kVA	80,00%	18,736 kVA	TOTAL CONNECTED LOAD: 23,42 kVA
				TOTAL ESTIMATED DEMAND LOAD: 18,736 kVA
				TOTAL CONNECTED AMPS: 28,17 A
				TOTAL ESTIMATED DEMAND AMPS: 22,5 A

*TOTAL DEMAND CALC'S SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS, THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: 1. EXISTING CIRCUIT & LOAD. 2. EXISTING CIRCUIT WITH REVISED LOAD FOR NEW ADDED LIGHT FIXTURES.

1 SINGLE LINE DIAGRAM
12" = 1'-0"



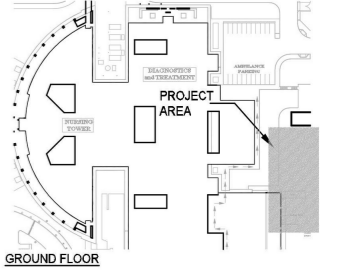
PROJECT TITLE: **MOBILE SPD TRAILER FOR THE ARROWHEAD REGIONAL MEDICAL CENTER**
400 N. PEPPER AVE.
COLTON, CA. 92324
WBSE #: 10.10.1142
CIP #: 21-154
CAF#: COL003



Department of Health Care Access and Information
HCAI # S222348-36-00



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SINGLE LINE DIAGRAM

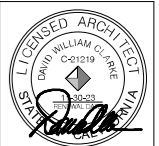


73121 fred waring drive suite 200
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DATE: 12/28/2022

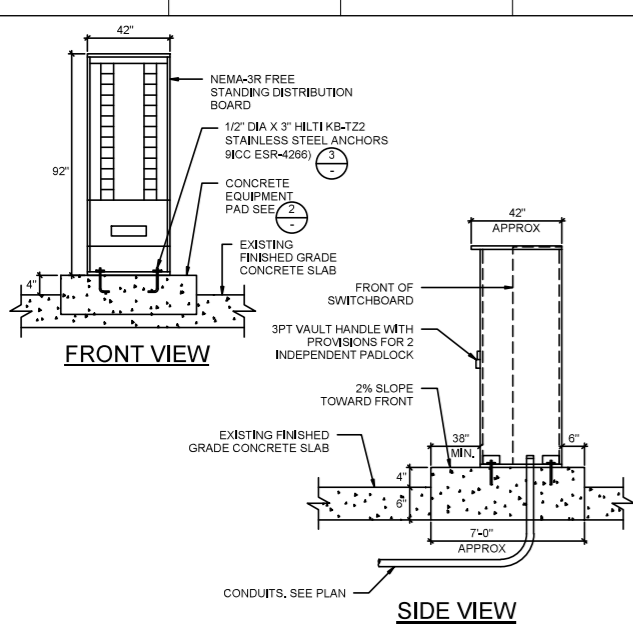
REVISIONS:

▲	HCAI PLAN CHECK 2/13/2023
▲	HCAI PLAN CHECK 8/12/2023

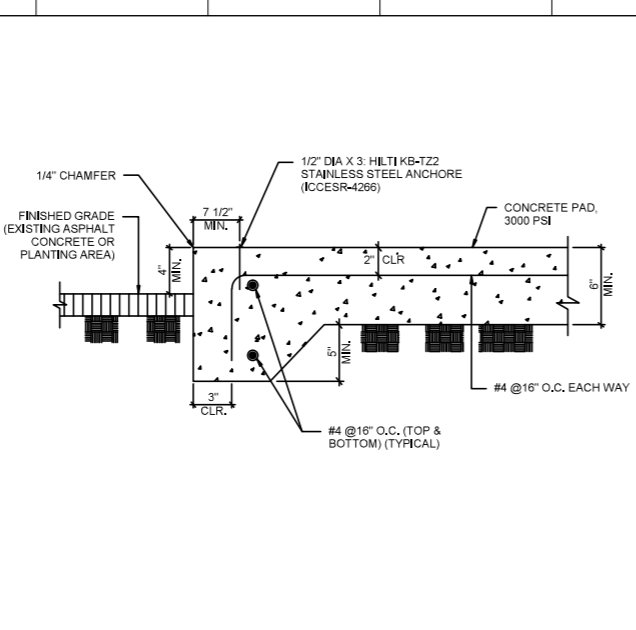


PROJECT NUMBER: 3022010

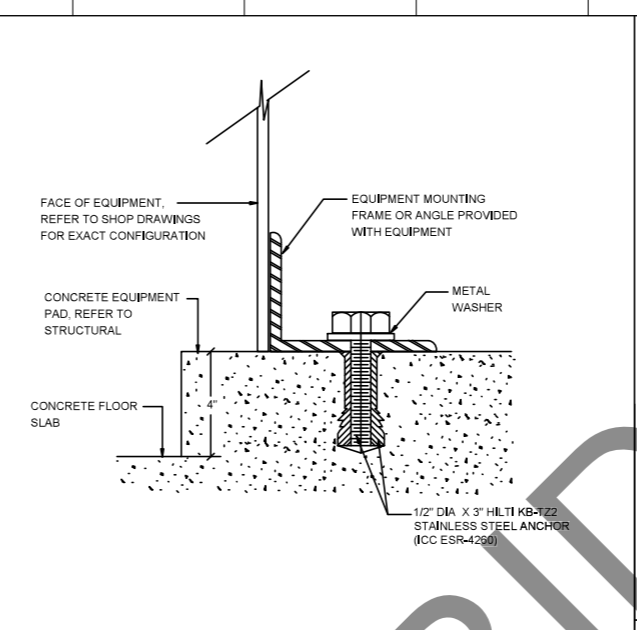
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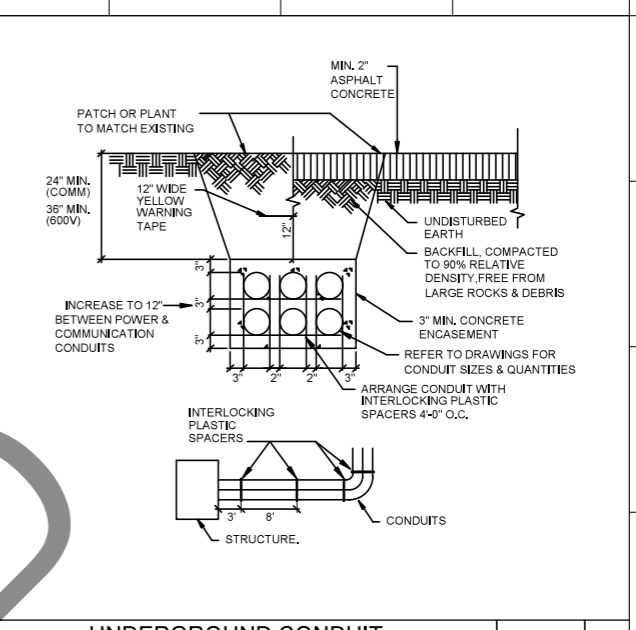
DISTRIBUTION BOARD MOUNTING DETAIL NTS 1



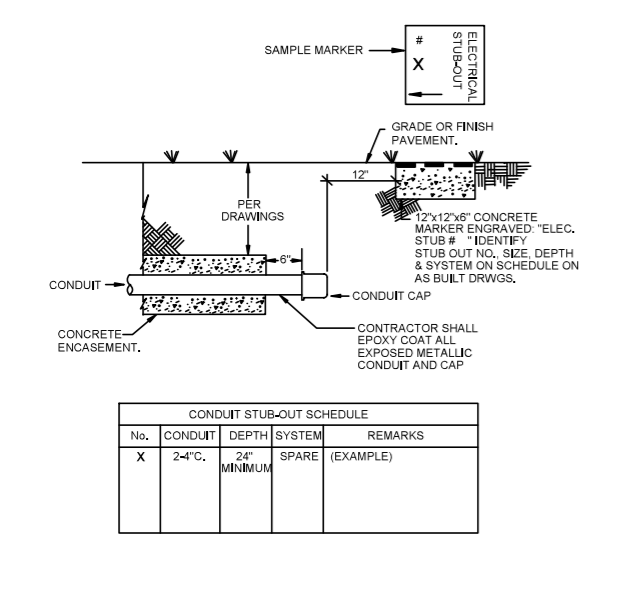
CONCRETE EQUIPMENT PAD DETAIL NTS 2



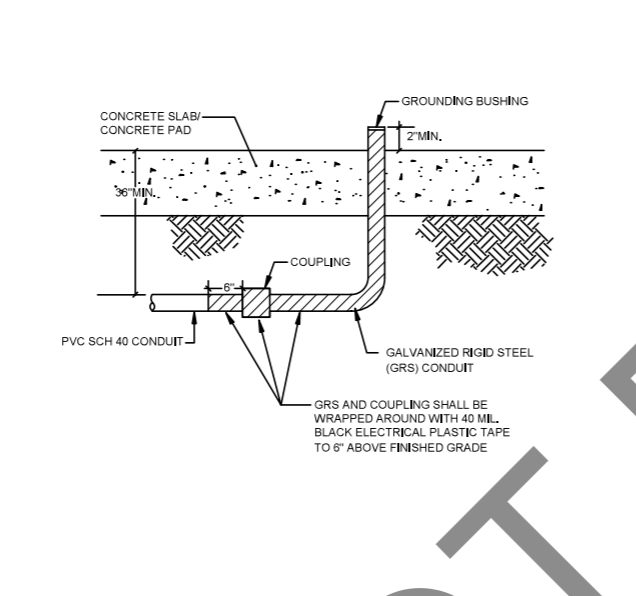
EQUIPMENT ANCHORING DETAIL NTS 3



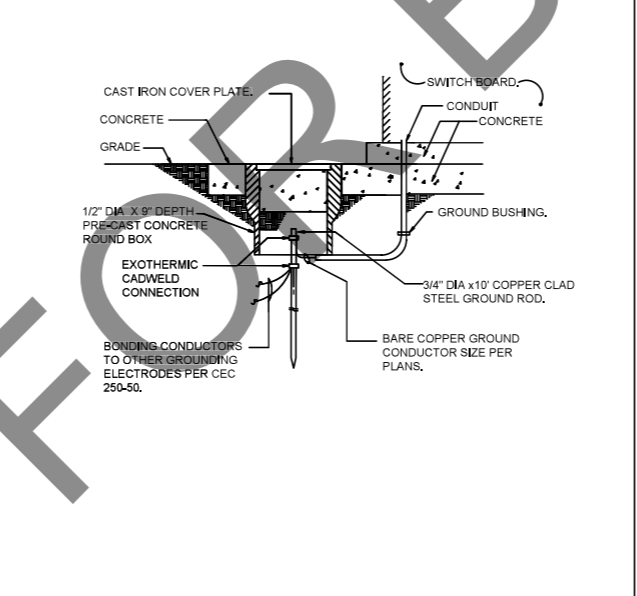
UNDERGROUND CONDUIT PLACEMENT DETAIL NTS 4



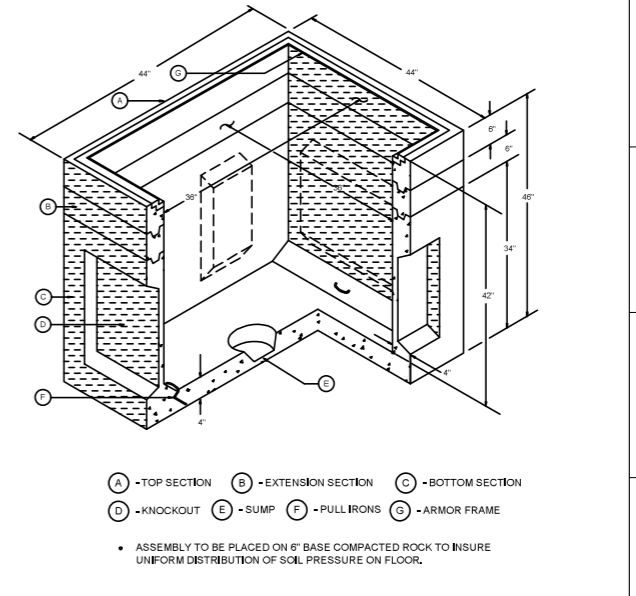
CONDUIT BELOW GRADE STUB-OUT DETAIL NTS 5



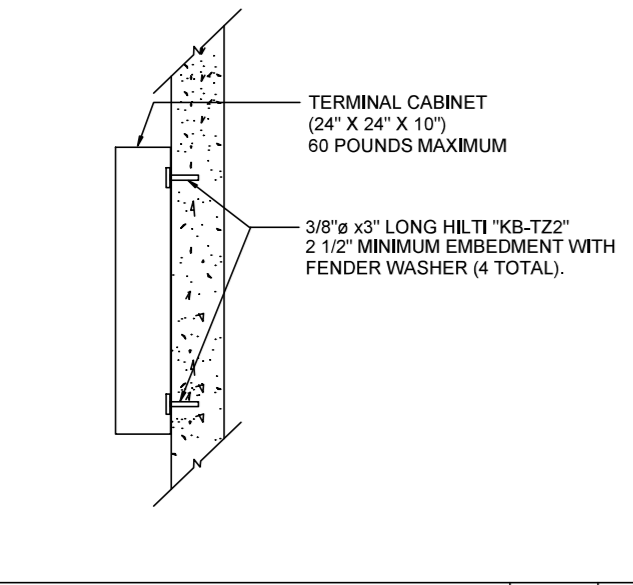
CONDUIT DETAIL NTS 6



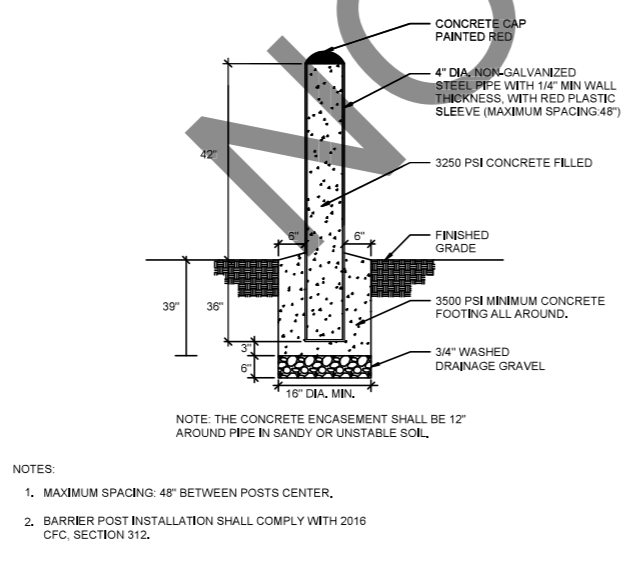
GROUND ROD DETAIL NTS 7



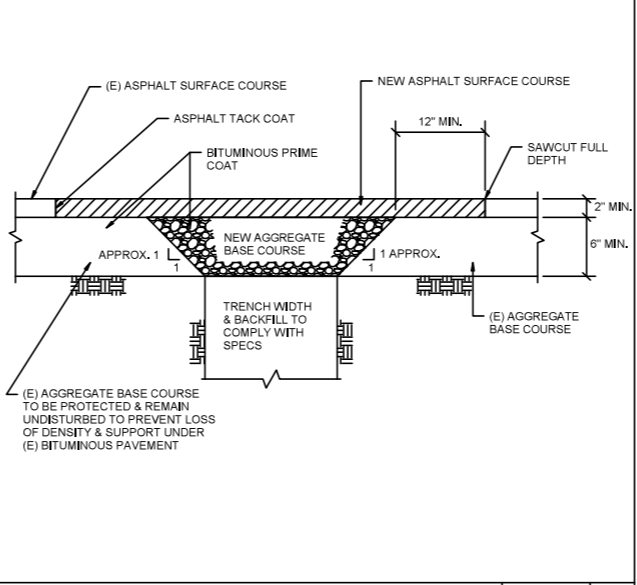
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SURFACE MOUNTED TERMINAL CABINET DETAIL NTS 9



NON-REMOVABLE BARRIER POST DETAIL NTS 10



ASPHALT PAVEMENT REPAIR DETAIL FOR UTILITY TRENCHES NTS 11

NOT USED NTS 12

PROJECT TITLE
MOBILE SPD TRAILER
 FOR THE
ARROWHEAD REGIONAL MEDICAL CENTER
 400 N. PEPPER AVE.
 COLTON, CA. 92324
 WBSE # 10.10.1142
 CIP # 21-154
 CAFM # COL003

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 PROJECT # 2100874.01

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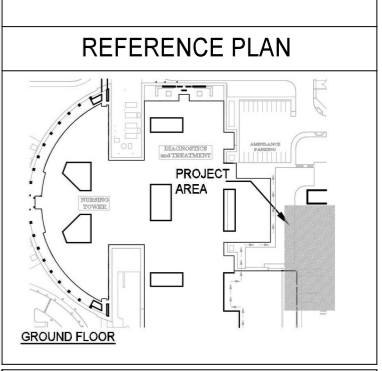
REGISTERED PROFESSIONAL ENGINEER
 PANKAJ PATIL
 Lic. E16245
 Exp. 12-31-2024
 STATE OF CALIFORNIA

Department of Health Care Access and Information
HCAI # S222348-36-00

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DETAILS

DATE: 12/28/2022

REVISIONS

LICENSED ARCHITECT
 DANIEL WILLIAM GIBRE
 C-21219
 STATE OF CALIFORNIA

PROJECT NUMBER
3022010

DRAWING NUMBER
E3.1

21006974.01 5/11/2023 4:25:40 PM Project Name

22.05.00 BASIC PLUMBING REQUIREMENTS

SCOPE OF WORK
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NEW MATERIALS AS INDICATED ON THE DRAWINGS, AND/OR IN THESE SPECIFICATIONS, AND ALL ITEMS REQUIRED TO MAKE ASSOCIATED PORTION OF THE MECHANICAL WORK A FINISHED AND WORKING SYSTEM.

ALL WORK THAT WILL PRODUCE EXCESSIVE NOISE OR INTERFERENCE WITH NORMAL BUILDING OPERATIONS, AS DETERMINED BY THE OWNER/LANDLORD, SHALL BE SCHEDULED WITH THE OWNER/LANDLORD. IT MAY BE NECESSARY TO SCHEDULE SUCH WORK DURING UNOCCUPIED HOURS. THE OWNER/LANDLORD RESERVES THE RIGHT TO DETERMINE WHEN RESTRICTED CONSTRUCTION HOURS WILL BE REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE LANDLORD DURING THE BIDDING PROCESS.

ALL CONTRACTORS SHALL ESTABLISH UTILITY ELEVATIONS PRIOR TO FABRICATION AND SHALL COORDINATE THEIR MATERIAL AND EQUIPMENT WITH OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRING NOT SHOWN ON ELECTRICAL DRAWINGS BUT REQUIRED FOR MECHANICAL SYSTEMS.

QUALITY ASSURANCE
THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING COMPLETE AND OPERATING SYSTEMS. THE CONTRACTOR ACKNOWLEDGES AND UNDERSTANDS THAT THE CONTRACT DOCUMENTS ARE A TWO-DIMENSIONAL REPRESENTATION OF A THREE-DIMENSIONAL OBJECT. SUBJECT TO HUMAN INTERPRETATION, THIS REPRESENTATION MAY INCLUDE IMPERFECT DATA, INTERPRETED CODES, UTILITY GUIDELINES, THREE-DIMENSIONAL CONFLICTS, AND REQUIRED FIELD COORDINATION ITEMS. SUCH DEFICIENCIES CAN BE CORRECTED WHEN IDENTIFIED PRIOR TO ORDERING MATERIAL AND STARTING INSTALLATION. THE CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING TO THE DESIGN TEAM ANY DEFICIENCIES THE CONTRACTOR MAY DISCOVER. THE CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND REPORT AT ONCE ANY DEFICIENCIES DISCOVERED.

THE CONTRACTOR SHALL RESOLVE ALL REPORTED DEFICIENCIES WITH THE ARCHITECT/ENGINEER PRIOR TO AWARDED ANY SUBCONTRACTS. ORDERING MATERIAL OR STARTING ANY WORK WITH THE CONTRACTOR'S OWN EMPLOYEES. ANY WORK PERFORMED PRIOR TO RECEIPT OF INSTRUCTIONS FROM THE DESIGN TEAM WILL BE DONE AT THE CONTRACTOR'S RISK.

ONLY PRODUCTS OF REPUTABLE MANUFACTURERS ARE ACCEPTABLE.

ALL CONTRACTORS AND SUBCONTRACTORS SHALL EMPLOY ONLY WORKERS SKILLED IN THEIR TRADES.

CONSTRUCTION DRAWINGS FOR THIS PROJECT HAVE BEEN PREPARED UTILIZING AUTOCAD MEP. CONTRACTORS AND SUBCONTRACTORS MAY REQUEST ELECTRONIC MEDIA FILES OF THE CONTRACT DRAWINGS. THE ELECTRONIC CONTRACT DOCUMENTS CAN BE USED FOR PREPARATION OF SHOP DRAWINGS AND AS-BUILT DRAWINGS ONLY. THE INFORMATION MAY NOT BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT.

CODES AND STANDARDS
CONFORM TO ALL REQUIREMENTS OF THE HCAI, LOCAL CODES, LAWS, ORDINANCES AND OTHER REGULATIONS HAVING JURISDICTION.
CONFORM TO ALL STATE CODES.

IF THE CONTRACTOR NOTES, AT THE TIME OF BIDDING, THAT ANY PARTS OF THE DRAWINGS OR SPECIFICATIONS DO NOT COMPLY WITH THE CODES OR REGULATIONS, CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER IN WRITING, REQUESTING A CLARIFICATION. IF THERE IS INSUFFICIENT TIME FOR THIS PROCEDURE, CONTRACTOR SHALL SUBMIT WITH THE PROPOSAL A SEPARATE PRICE TO MAKE THE SYSTEM COMPLY WITH THE CODES AND REGULATIONS.

ALL CHANGES TO THE SYSTEM MADE AFTER LETTING OF THE CONTRACT, TO COMPLY WITH CODES OR REQUIREMENTS OF INSPECTORS, SHALL BE MADE BY THE CONTRACTOR WITHOUT COST TO THE OWNER.

IF THERE IS A DISCREPANCY BETWEEN MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDATIONS SHALL GOVERN.

ALL ROTATING SHAFTS AND/OR EQUIPMENT SHALL BE COMPLETELY GUARDED FROM ALL CONTACT. PARTIAL GUARDS AND/OR GUARDS THAT DO NOT MEET ALL APPLICABLE OSHA STANDARDS ARE NOT ACCEPTABLE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THIS GUARDING IF IT IS NOT PROVIDED WITH THE EQUIPMENT SUPPLIED.

PERMITS AND FEES
PROCURE ALL APPLICABLE PERMITS AND LICENSES, ABIDE BY LOCAL AND STATE LAWS, REGULATIONS, AND ORDINANCES, PAY ALL CHARGES FOR PERMITS OR LICENSES, PAY ALL FEES AND TAXES IMPOSED BY STATE, MUNICIPAL, AND OTHER REGULATORY BODIES, PAY ALL CHARGES ARISING OUT OF REQUIRED INSPECTIONS BY AN AUTHORIZED BODY, PAY ALL CHARGES ARISING OUT OF REQUIRED CONTRACT DOCUMENT REVIEWS ASSOCIATED WITH THE PROJECT AND AS INITIATED BY THE OWNER OR AUTHORIZED AGENCY/CONSULTANT.

WHERE APPLICABLE, ALL FIXTURES, EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC. AND APPROVED BY FM GLOBAL.

SUBMITTALS
SUBMITTALS SHALL BE REQUIRED WHERE REQUIRED IN THE SPECIFICATIONS OR ON THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF EACH SHOP DRAWING FOR REVIEW BY THE ARCHITECT/ENGINEER BEFORE RELEASING ANY EQUIPMENT FOR MANUFACTURE OR SHIPMENT.

THE CONTRACTOR SHALL THOROUGHLY REVIEW AND APPROVE ALL SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER. CONTRACTOR SHALL CLEARLY MARK ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS ON ALL SUBMITTALS, ASSEMBLE ALL SUBMITTALS IN SETS BASED ON APPLICABLE SPECIFICATION SECTION. ALL SETS SHALL BE IDENTICAL AND CONTAIN AN INDEX OF THE ITEMS ENCLOSED WITH GENERAL TOPIC DESCRIPTION ON THE COVER, WHERE MORE THAN ONE MODEL IS SHOWN ON A MANUFACTURER'S SHEET, CLEARLY INDICATE EXACTLY WHICH ITEM AND WHICH DATA IS RELEVANT TO THE WORK, REFER TO SUBSECTIONS FOR SPECIFIC SUBMITTAL REQUIREMENTS.

PRODUCT DELIVERY, STORAGE AND HANDLING
EXERCISE CARE IN TRANSPORTING AND HANDLING TO AVOID DAMAGE TO MATERIALS. STORE MATERIALS ON THE SITE TO PREVENT DAMAGE. KEEP MATERIALS CLEAN, DRY AND FREE FROM HARMFUL CONDITIONS. IMMEDIATELY REMOVE ANY MATERIALS THAT BECOME WET OR THAT ARE SUSPECTED OF BECOMING CONTAMINATED WITH MOLD OR OTHER ORGANISMS.

KEEP ALL BEARINGS PROPERLY LUBRICATED AND ALL BELTS PROPERLY TENSIONED AND ALIGNED.

COORDINATE THE INSTALLATION OF HEAVY AND LARGE EQUIPMENT WITH THE GENERAL CONTRACTOR AND/OR OWNER. IF THE MECHANICAL CONTRACTOR DOES NOT HAVE PRIOR DOCUMENTED EXPERIENCE IN RIGGING AND LIFTING SIMILAR EQUIPMENT, HE/SHE SHALL CONTRACT WITH A QUALIFIED LIFTING AND RIGGING SERVICE THAT HAS SIMILAR DOCUMENTED EXPERIENCE. FOLLOW ALL EQUIPMENT LIFTING AND SUPPORT GUIDELINES FOR HANDLING AND MOVING.

CONTRACTOR IS RESPONSIBLE FOR MOVING EQUIPMENT INTO THE BUILDING AND/OR SITE. CONTRACTOR SHALL REVIEW SITE PRIOR TO BID FOR PATH LOCATION AND ANY REQUIRED BUILDING MODIFICATIONS TO ALLOW MOVEMENT OF EQUIPMENT. CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER TRADES.

WARRANTY
PROVIDE MINIMUM ONE-YEAR WARRANTY COMMENCING ON DATE OF FINAL ACCEPTANCE FOR ALL FIXTURES, EQUIPMENT, MATERIALS, AND WORKMANSHIP. WARRANTY REQUIREMENTS SHALL EXTEND TO CORRECTION, WITHOUT COST TO OWNER, OF ALL WORK FOUND TO BE DEFECTIVE OR NONCONFORMING TO THE CONTRACT DOCUMENTS. REFER TO SUBSECTIONS FOR ADDITIONAL WARRANTY REQUIREMENTS.

MATERIAL SUBSTITUTION
WHERE SEVERAL MANUFACTURERS' NAMES ARE GIVEN, THE MANUFACTURER FOR WHICH A CATALOG NUMBER IS GIVEN IS THE BASIS OF DESIGN AND ESTABLISHES THE QUALITY REQUIRED. EQUIVALENT EQUIPMENT MANUFACTURED BY THE OTHER NAMED MANUFACTURERS MAY BE USED, CONTRACTOR SHALL ENSURE THAT ALL ITEMS SUBMITTED BY THESE OTHER MANUFACTURERS MEET ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND FIT IN THE ALLOCATED SPACE. THE ARCHITECT/ENGINEER SHALL MAKE THE FINAL DETERMINATION OF WHETHER A PRODUCT IS EQUIVALENT.

ANY MATERIAL, ARTICLE OR EQUIPMENT OF OTHER UNNAMED MANUFACTURERS WHICH WILL ADEQUATELY PERFORM THE SERVICES AND DUTIES IMPOSED BY THE DESIGN AND IS OF A QUALITY EQUAL TO OR BETTER THAN THE EQUIPMENT IDENTIFIED BY THE DRAWINGS MAY BE USED IF APPROVAL IS SECURED IN WRITING FROM THE ARCHITECT/ENGINEER VIA ADDENDUM.

EXCAVATION, FILL, BACKFILL, COMPACTION
UNDERGROUND PIPE SHALL BE Laid IN DRY TRENCHES MAINTAINED FREE OF ACCUMULATED WATER ON A BED OF C&G FILL. PROVIDE AND OPERATE SUFFICIENT PUMPING EQUIPMENT TO MAINTAIN EXCAVATIONS, TRENCHES AND PITS FREE OF WATER, DISPOSE OF PUMPED WATER SO OPERATION AREAS AND OTHER FACILITIES ARE NOT FLOODED. PIPE LAYING SHALL FOLLOW EXCAVATING AS CLOSELY AS POSSIBLE.

OBSERVATION OF WORK
THE CONTRACTOR SHALL PROVIDE SEVEN (7) CALENDAR DAYS' NOTICE TO THE ARCHITECT/ENGINEER PRIOR TO COVERING INTERIOR PARTITIONS AND CHASES AND INSTALLING HARD OR SUSPENDED CEILING AND SOFFITS.

ALL WORK ABOVE THE CEILINGS MUST BE COMPLETE PRIOR TO THE ARCHITECT/ENGINEER'S REVIEW.

IN ORDER TO PREVENT THE FINAL JOBSITE OBSERVATION FROM OCCURRING TOO EARLY, THE CONTRACTOR SHALL REVIEW THE COMPLETION STATUS OF THE PROJECT AND CERTIFY IN WRITING THAT THE JOB IS READY FOR THE FINAL JOBSITE OBSERVATION.

PROJECT CLOSEOUT
SUBMIT THE FOLLOWING: OPERATION AND MAINTENANCE MANUALS INCLUDING BOUND COPIES OF CONTRACTOR'S AS-BUILT SHOP DRAWINGS, RECORD DOCUMENTS INCLUDING REPRODUCIBLE DRAWINGS COMPLETED IN AUTOCAD, SPARE PARTS AND EXTRA MATERIALS IN QUANTITIES SPECIFIED IN THESE SPECIFICATIONS

OPERATION AND MAINTENANCE MANUALS
SUBMIT AN ELECTRONIC COPY OF THE O&M MANUALS TO THE OWNER. OPERATION AND MAINTENANCE DATA SHALL CONSIST OF WRITTEN INSTRUCTIONS FOR THE CARE, MAINTENANCE, AND OPERATION OF THE EQUIPMENT AND SYSTEMS, INSTRUCTION BOOKS, CARDS, MANUALS FURNISHED WITH THE EQUIPMENT SHALL BE INCLUDED.

ALL TEXT SHALL BE SEARCHABLE AND BOOKMARKS SHALL BE USED, DIVIDING INFORMATION BY SPECIFICATION SECTION.

RECORD DOCUMENTS
SUBMIT AT THE JOB SITE A SEPARATE AND COMPLETE SET OF MECHANICAL DRAWINGS AND SPECIFICATIONS WITH ALL CHANGES MADE TO THE SYSTEMS CLEARLY AND PERMANENTLY MARKED IN COMPLETE DETAIL. MARK DRAWINGS TO INDICATE APPROVED SUBSTITUTIONS, CHANGE ORDERS, AND ACTUAL EQUIPMENT AND MATERIALS USED. ALL CHANGE ORDERS, RFIs, RESPONSES, CLARIFICATIONS AND OTHER SUPPLEMENTAL INSTRUCTIONS SHALL BE MARKED ON THE DOCUMENTS, RECORD DOCUMENTS THAT MERELY REPEAT THE EXISTENCE OF THE ABOVE ITEMS ARE NOT ACCEPTABLE. RECORDING CHANGES DAILY AND KEEP THE MARKED DRAWINGS AVAILABLE FOR THE ARCHITECT/ENGINEER'S EXAMINATION AT ANY NORMAL WORK TIME.

UPON COMPLETING THE JOB, AND BEFORE FINAL PAYMENT IS MADE, PROVIDE REPRODUCIBLE DRAWINGS COMPLETED IN AUTOCAD TO THE ARCHITECT/ENGINEER.

CLEANING
THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS PRIOR TO THE OWNER'S FINAL ACCEPTANCE OF THE PROJECT. CLEAN ALL FOREIGN PAINT, GREASE, OIL, DIRT, LABELS, STICKERS, ETC. FROM ALL EQUIPMENT. REMOVE ALL RUBBISH, DEBRIS, ETC., ACCUMULATED DURING CONSTRUCTION FROM THE PREMISES.

22.05.05 PLUMBING DEMOLITION FOR REMODELING

THE DRAWINGS ARE INTENDED TO INDICATE THE GENERAL SCOPE OF WORK AND DO NOT SHOW EVERY PIPE, DUCT, OR PIECE OF EQUIPMENT THAT MUST BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY CONDITIONS PRIOR TO SUBMITTING A BID.

VERIFY THAT ABANDONED UTILITIES SERVE ONLY ABANDONED EQUIPMENT OR FACILITIES, EXTEND SERVICES TO FACILITIES OR EQUIPMENT THAT SHALL REMAIN IN OPERATION FOLLOWING DEMOLITION.

COORDINATE WORK WITH ALL OTHER CONTRACTORS AND THE LANDLORD/DOWNER, SCHEDULE REMOVAL OF EQUIPMENT TO AVOID CONFLICTS.

THIS CONTRACTOR SHALL VERIFY ALL EXISTING EQUIPMENT SIZES AND CAPACITIES WHERE EQUIPMENT IS SCHEDULED TO BE REMOVED OR MODIFIED.

BID SUBMITTAL SHALL MEAN THE CONTRACTOR HAS VISITED THE PROJECT SITE AND VERIFIED EXISTING CONDITIONS AND SCOPE OF WORK.

PREPARATION
DISCONNECT MECHANICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.

PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON OPERATING EQUIPMENT, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.

MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR SERVICE. DRAIN SYSTEM TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM THE OWNER AT LEAST 48 HOURS BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MINIMIZE OUTAGE DURATION.

CUTTING AND PATCHING
EACH CONTRACTOR IS RESPONSIBLE FOR ALL PENETRATIONS OF EXISTING CONSTRUCTION REQUIRED TO COMPLETE THE WORK OF THIS PROJECT. PENETRATIONS IN EXISTING CONSTRUCTION SHOULD BE REVIEWED CAREFULLY PRIOR TO PROCEEDING WITH ANY WORK.

PENETRATIONS SHALL BE NEAT AND CLEAN WITH SMOOTH AND/OR FINISHED EDGES. CORE DRILL WHERE POSSIBLE FOR CLEAN OPENING.

REPAIR EXISTING CONSTRUCTION AS REQUIRED AFTER PENETRATION IS COMPLETE TO RESTORE TO ORIGINAL CONDITION. USE SIMILAR MATERIALS AND MATCH ADJACENT CONSTRUCTION UNLESS OTHERWISE NOTED OR AGREED TO BY THE ARCHITECT/ENGINEER PRIOR TO START OF WORK. FLOOR SLABS MAY CONTAIN CONDUIT SYSTEMS. THIS CONTRACTOR IS RESPONSIBLE FOR TAKING ANY MEASURES REQUIRED TO ENSURE NO CONDUITS OR OTHER SERVICES ARE DAMAGED. THIS INCLUDES X-RAY OR SIMILAR NON-DESTRUCTIVE MEANS.

THIS CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCURRED IN REPAIR, RELOCATIONS, OR REPLACEMENT OF ANY CABLES, CONDUITS, OR OTHER SERVICES IF DAMAGED WITHOUT PROPER INVESTIGATION.

CLEANING AND REPAIR
CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT WHICH REMAIN OR ARE TO BE REUSED. CLEAN ALL SYSTEMS ADJACENT TO PROJECT WHICH ARE AFFECTED BY THE DUST AND DEBRIS CAUSED BY THIS CONSTRUCTION.

MECHANICAL ITEMS REMOVED AND NOT RELOCATED REMAIN THE PROPERTY OF THE LANDLORD/OWNER. CONTRACTOR SHALL PLACE ITEMS RETAINED BY THE LANDLORD/OWNER IN A LOCATION COORDINATED WITH THE LANDLORD/OWNER. THE CONTRACTOR SHALL DISPOSE OF MATERIAL THE LANDLORD/OWNER DOES NOT WANT TO REUSE OR RETAIN FOR MAINTENANCE PURPOSES.

SPECIAL REQUIREMENTS
REVIEW LOCATIONS OF ALL NEW PENETRATIONS IN EXISTING FLOOR SLABS OR WALLS. DETERMINE CONSTRUCTION TYPE AND REVIEW FOR POSSIBLE INTERFERENCES. BRING ALL CONCERNS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING.

22.05.20 SUPPORTS AND ANCHORS

SECTION INCLUDES
FLASHING AND SEALING OF EQUIPMENT AND PIPE STACKS
CUTTING OF OPENINGS

SUPPORTS
PROVIDE SUFFICIENT CLIPS, INSERTS, HANGERS, RACKS, RODS, AND AUXILIARY STEEL TO SECURELY SUPPORT ALL SUSPENDED MATERIAL, EQUIPMENT AND CONDUIT WITHOUT SAG.

HANG HEAVY EQUIPMENT FROM CONCRETE FLOORS OR CEILINGS WITH ARCHITECT/ENGINEER APPROVED CONCRETE INSERTS, FURNISHED AND INSTALLED BY THE CONTRACTOR WHOSE WORK REQUIRES THEM, EXCEPT WHERE INDICATED OTHERWISE.

OPENINGS IN FLOORS, WALLS AND CEILINGS
EXACT LOCATIONS OF ALL OPENINGS FOR THE INSTALLATION OF MATERIALS SHALL BE DETERMINED BY THE CONTRACTOR AND GIVEN TO THE GENERAL CONTRACTOR FOR INSTALLATION OR CONSTRUCTION AS THE STRUCTURE IS BUILT.

COORDINATE ALL OPENINGS WITH OTHER CONTRACTORS.

HIRE THE PROPER TRADESMAN AND FURNISH ALL LABOR, MATERIAL AND EQUIPMENT TO CUT OPENINGS IN OR THROUGH EXISTING STRUCTURES, OR OPENINGS IN NEW STRUCTURES THAT WERE NOT INSTALLED, OR ADDITIONAL OPENINGS, REPAIR ALL SPALLING AND DAMAGE TO THE SATISFACTION OF THE ARCHITECT/ENGINEER. MAKE SAW CUTS BEFORE BREAKING OUT CONCRETE TO ENSURE EVEN AND UNIFORM OPENING EDGES.

SAID CUTTING SHALL BE AT THE COMPLETE EXPENSE OF EACH CONTRACTOR. FAILURE TO COORDINATE OPENINGS WITH OTHER CONTRACTORS SHALL NOT EXEMPT THE CONTRACTOR FROM PROVIDING OPENINGS AT CONTRACTORS EXPENSE.

DO NOT CUT STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL OF THE ARCHITECT OR STRUCTURAL ENGINEER.

PIPE PENETRATIONS
SEAL ALL PIPE PENETRATIONS. SEAL NON-RATED WALLS AND FLOOR PENETRATIONS WITH GROUT OR CAULK. BACKING MATERIAL MAY BE USED.

SEAL FIRE RATED WALL AND FLOOR PENETRATIONS WITH FIRE SEAL SYSTEM AS SPECIFIED.

PIPE REQUIREMENTS
SUPPORT ALL PIPING AND EQUIPMENT, INCLUDING VALVES, STRAINERS, TRAPS AND OTHER SPECIALTIES AND ACCESSORIES TO AVOID OBJECTIONABLE OR EXCESSIVE STRESS, DEFLECTION, SWAYING, SAGGING OR VIBRATION IN THE PIPING OR BUILDING STRUCTURE DURING ERECTION, CLEANING, TESTING AND NORMAL OPERATION OF THE SYSTEMS.

DO NOT, HOWEVER, RESTRAIN PIPING TO CAUSE IT TO SNAKE OR BUCKLE BETWEEN SUPPORTS OR TO PREVENT PROPER MOVEMENT DUE TO EXPANSION AND CONTRACTION.

SUPPORT PIPING AT EQUIPMENT AND VALVES SO THEY CAN BE DISCONNECTED AND REMOVED WITHOUT FURTHER SUPPORTING THE PIPING.

PIPING SHALL NOT INTRODUCE STRAINS OR DISTORTION TO CONNECTED EQUIPMENT.

PARALLEL HORIZONTAL PIPES MAY BE SUPPORTED ON TRAPEZE HANGERS MADE OF STRUCTURAL SHAPES AND HANGER RODS; OTHERWISE, PIPES SHALL BE SUPPORTED WITH INDIVIDUAL HANGERS.

PROVIDE ADDITIONAL SUPPORTS WHERE PIPE CHANGES DIRECTION, ADJACENT TO FLANGED VALVES AND STRAINERS, AT EQUIPMENT CONNECTIONS AND HEAVY FITTINGS.

DO NOT EXCEED 25 LBS, PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL NEED TO BE ADDED.

DO NOT EXCEED THE MANUFACTURER'S RECOMMENDED MAXIMUM LOAD FOR ANY HANGER OR SUPPORT.

22.07.19 PLUMBING PIPING INSULATION

SECTION INCLUDES
PIPING INSULATION
INSULATION JACKETS

QUALITY ASSURANCE
APPLICATOR: COMPANY SPECIALIZING IN PIPING INSULATION APPLICATION WITH FIVE YEARS MINIMUM EXPERIENCE.

MATERIALS: FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50 IN ACCORDANCE WITH ASTM E84, NFPA 255, OR UL 723 (WHERE REQUIRED).

SUBMITTALS
SUBMIT SHOP DRAWINGS PER SECTION 22.05.00. INCLUDE PRODUCT DESCRIPTION, LIST OF MATERIALS AND THICKNESS FOR EACH SERVICE, AND LOCATIONS.

PREPARATION
INSTALL INSULATION AFTER PIPING HAS BEEN TESTED. PIPE SHALL BE CLEAN, DRY AND FREE OF RUST BEFORE APPLYING INSULATION.

GENERAL INSTALLATION REQUIREMENTS
INSTALL MATERIALS PER MANUFACTURER'S INSTRUCTIONS, BUILDING CODES AND INDUSTRY STANDARDS.

CONTINUE INSULATION WITH VAPOR BARRIER THROUGH PENETRATIONS. THIS APPLIES TO ALL INSULATED PIPING, MAINTAIN FIRE RATING OF ALL PENETRATIONS.

NEATLY FINISH INSULATION AT SUPPORTS, PROTRUSIONS, AND INTERRUPTIONS.

22.10.00 PLUMBING PIPING

SECTION INCLUDES
PIPE AND PIPE FITTINGS
VALVES
DOMESTIC WATER PIPING SYSTEM
SANITARY DRAINAGE

QUALITY ASSURANCE
VALVES: MANUFACTURER'S NAME AND PRESSURE RATING MARKED ON VALVE BODY. REMANUFACTURED VALVES ARE NOT ACCEPTABLE.

WELDING MATERIALS AND PROCEDURES: CONFORM TO ASME CODE AND APPLICABLE STATE LABOR REGULATIONS.

WELDERS CERTIFICATION: IN ACCORDANCE WITH ANSI/ASME SEC 9 OR ANSIAWS D1.1.

PIPING, FITTINGS, VALVES AND FLUX FOR POTABLE WATER SYSTEMS: ALL COMPONENTS SHALL BE LEAD FREE PER FEDERAL ACT S. 3874, REDUCTION OF LEAD IN DRINKING WATER ACT.

SUBMITTALS
SUBMIT PRODUCT DATA UNDER PROVISIONS OF SECTION 22.05.00.

COLD WATER - POTABLE AND NON-POTABLE
DESIGN PRESSURE: 175 PSI
MAXIMUM DESIGN TEMPERATURE: 200F.

PIPING ALL SIZES:
1. TUBING: TYPE L HARD DRAWN SEAMLESS COPPER TUBE, ASTM B88. BELOW GRADE PIPING SHALL BE TYPE K COPPER.
2. JOINTS: SOLDER WITH 100% LEAD-FREE SOLDER AND FLUX, ASTM B32.
3. FITTINGS: WROUGHT COPPER SOLDER JOINT, ANSI B16.22.

DOMESTIC WATER BALL VALVES:
3" AND UNDER, 150 PSI SATURATED STEAM, 600 PSI CWP, FULL PORT, SCREWED OR SOLDER ENDS (ACCEPTABLE ONLY IF RATED FOR SOLDERING IN LINE WITH 470F MELTING POINT OF LEAD-FREE SOLDER). BRONZE BODY OF A COPPER ALLOY CONTAINING LESS THAN 15% ZINC, STAINLESS STEEL BALL AND TRIM, TEFLON SEATS AND SEALS.

DOMESTIC WATER CHECK VALVES:
2" AND UNDER: 125# STEAM @ 406F, 200# CWP @ 150F, SCREWED, BRONZE, HORIZONTAL SWING.
2-1/2" THRU 12": 200# CWP, DOUBLE DISC WATER TYPE, BRONZE OR IRON BODY, BRONZE TRIM, METAL-TO-METAL OR VITON SEAT, 316 SS SHAFT, INCONEL 600 SPRINGS, M

DOMESTIC WATER STRAINERS:
BRONZE BODY, SCREWED ENDS, SCREWED COVER, 150# PSI S @ 350F, 200 PSI CWP @ 150F.

2-1/2" THRU 8": BRONZE BODY, FLANGED ENDS, FLANGED COVER, 150# STEAM, 225# CWP, MUELLER STEAM SPECIALTY CO, #851.

SANITARY DRAINAGE (BELOW GROUND)
DESIGN PRESSURE: GRAVITY
MAXIMUM DESIGN TEMPERATURE: 180F.

PIPING ALL SIZES:
1. PIPE AND FITTINGS: STANDARD WEIGHT NO-HUB CAST IRON SOIL PIPE, CORROSIVE PROTECTIVE COATING INSIDE AND OUT, ASTM A74, CSPI TRADEMARK.
2. JOINTS: HEAVY DUTY, NEOPRENE SLEEVE GASKET, ASTM C-564, 300 SERIES STAINLESS STEEL SHIELD, CLAMP, AND SCREWS WITH AT LEAST FOUR SCREW TYPE CLAMPS, FM 1680 OR ASTM C1540.
3. ADAPTERS: TRANSITIONS FROM CAST IRON SOIL PIPE TO OTHER PIPE MATERIALS WITH MANUFACTURED ADAPTERS, HEAVY DUTY NEOPRENE SLEEVE GASKET, ASTM C-564, 300 SERIES STAINLESS STEEL SHIELD, CLAMP, AND SCREWS WITH NOT LESS THAN FOUR SCREW TYPE CLAMPS, FM 1680 OR ASTM C1540.

UNIONS
COPPER PIPE WROUGHT COPPER FITTING GROUND JOINT, BLACK STEEL (SCHEDULE 40) PIPE MALLEABLE IRON, GROUND JOINT, 150 PSI, BRONZE TO BRONZE SEAT.

STRAINERS
UNLESS OTHERWISE INDICATED, STRAINERS SHALL BE Y-PATTERN AND HAVE STAINLESS STEEL SCREENS WITH PERFORATIONS AS FOLLOWS:

PIPE SIZE	1/4" - 2"	2-1/2" - 10"	12" - 18"
AR	1/32"	3/64"	1/16"
WATER	3/64"	1/16"	1/8"
LUBE, HYDRAULIC, NO. 6 FUEL AND WASTE OILS	3/16"	3/16"	3/16"

FURNISH PIPE NIPPLE WITH SHUTOFF VALVE TO BLOW DOWN ALL STRAINER SCREENS. USE BRONZE BODY STRAINERS IN COPPER PIPING AND IRON BODY STRAINERS IN FERROUS PIPING.

CONNECTIONS BETWEEN DISSIMILAR METALS
CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE INSULATING DIELECTRIC TYPES THAT PROVIDE A WATER GAP BETWEEN THE CONNECTED METALS, AND THAT EITHER ALLOW NO METAL PATH FOR ELECTRON TRANSFER OR THAT PROVIDE A WIDE WATER GAP LINED WITH A NON-CONDUCTIVE MATERIAL TO IMPEDE ELECTRON TRANSFER THROUGH THE WATER PATH.

JOINTS SHALL BE RATED FOR THE TEMPERATURE, PRESSURE, AND OTHER CHARACTERISTICS OF THE SERVICE IN WHICH THEY ARE USED, INCLUDING TESTING PROCEDURE.

ALUMINUM, IRON, STEEL, BRASS, COPPER, BRONZE, AND STAINLESS STEEL ARE COMMONLY USED AND REQUIRE ISOLATION FROM EACH OTHER WITH THE FOLLOWING EXCEPTIONS:
1. IRON, STEEL, AND STAINLESS STEEL CONNECTED TO EACH OTHER.
2. BRASS, COPPER, AND BRONZE CONNECTED TO EACH OTHER.
3. BRASS OR BRONZE VALVES AND SPECIALTIES CONNECTED TO STEEL, IRON, OR STAINLESS STEEL IN CLOSED SYSTEMS, WHERE TWO OR MORE BRASS OR BRONZE ITEMS OCCUR TOGETHER, THEY SHALL BE CONNECTED WITH BRASS NIPPLES.
DIELECTRIC PROTECTION IS REQUIRED AT CONNECTIONS TO EQUIPMENT OF A MATERIAL DIFFERENT THAN THE PIPING.

SCREWED JOINTS (ACCEPTABLE UP TO 2" SIZE):
1. DIELECTRIC WATERWAY RATED FOR 300 PSI CWP AND 225F.
2. ACCEPTABLE MANUFACTURERS: ELSTER GROUP CLEARFLOW FITTINGS, VICTAULIC SERIES 47, GRINNELL SERIES 407, MATCO-NORCA.

FLANGED JOINTS (ANY SIZE):
1. USE 1/8" MINIMUM THICKNESS, NON-CONDUCTIVE, FULL-FACE GASKETS.
2. EMPLOY ONE-PIECE MOLDED SLEEVE-WASHER COMBINATIONS TO BREAK THE ELECTRICAL PATH THROUGH THE BOLTS.
3. SLEEVE-WASHERS ARE REQUIRED ON ONE SIDE ONLY, WITH SLEEVES MINIMUM 1/32" THICK AND WASHERS MINIMUM 1/8" THICK.
4. INSTALL STEEL WASHERS ON BOTH SIDES OF FLANGES TO PREVENT DAMAGE TO THE SLEEVE-WASHER.
5. SLEEVE-WASHERS AND WASHERS MAY BE USED ONLY IF THE SLEEVES ARE MANUFACTURED TO EXACT LENGTHS AND INSTALLED CAREFULLY SO THE SLEEVES MUST EXTEND PARTIALLY PAST EACH STEEL WASHER WHEN TIGHTENED.
6. ACCEPTABLE MANUFACTURERS: EPCCO, CENTRAL PLASTICS, PIPELINE SEAL AND INSULATOR, F. H. MALONEY, OR CALPICO.

LOCK OUT/TRIM
PROVIDE LOCK OUT TRIM FOR ALL QUARTER TURN SHUTOFF VALVES OPENING TO ATMOSPHERE AND INSTALLED IN DOMESTIC WATER PIPING OVER 120F. IN COMPRESSED AIR PIPING, AND AS INDICATED ON THE DRAWINGS.

VALVE CONNECTIONS
PROVIDE ALL CONNECTIONS TO MATCH PIPE JOINTS. VALVES SHALL BE SAME SIZE AS PIPE UNLESS NOTED OTHERWISE.

INSTALLATION PREPARATION
INSTALL ALL PRODUCTS PER MANUFACTURER'S RECOMMENDATIONS, REAM PIPE AND TUBE ENDS, REMOVE BURRS, BEVEL FLANGE END FERROUS PIPE, REMOVE SCALE AND DIRT, ON INSIDE AND OUTSIDE. BEFORE ASSEMBLY, CONNECT TO EQUIPMENT WITH FLANGES OR UNIONS, USE ONLY PIPING MATERIALS RATED FOR THE MAXIMUM TEMPERATURE OF THE APPLICATION, E.G., DO NOT USE PVC FOR DISHWASHER DRAINAGE OR PIPING THAT RECEIVES BOILER BLOWDOWN.

EXISTING BUILDING SEWERS OR BUILDING DRAINS WHICH ARE SHOWN ON THE DOCUMENTS TO BE REUSED SHALL BE INSPECTED AND RECORDED BY CLOSED CIRCUIT TELEVISION FOR THEIR CONDITION, REPORT FINDINGS BACK TO THE ARCHITECT, ENGINEER, AND OWNER BEFORE PROCEEDING WITH WORK SO ANY NECESSARY REWORK CAN TAKE PLACE IF NEEDED.

TESTING PIPING
SANITARY DRAINAGE:
1. TEST ALL PIPING AS REQUIRED IN 2019 CPC

COLD WATER - POTABLE AND NON-POTABLE SERVICE WATER:
1. TEST ALL PIPING AS REQUIRED IN 2019 CPC

CLEANING PIPING
BEFORE ASSEMBLING PIPE SYSTEMS, REMOVE ALL LOOSE DIRT, SCALE, OIL AND OTHER FOREIGN MATTER ON INTERNAL OR EXTERNAL SURFACES BY MEANS CONSISTENT WITH GOOD PIPING PRACTICE SUBJECT TO APPROVAL OF THE ARCHITECT/ENGINEER'S REPRESENTATIVE. BLOW CHIPS AND BURRS FROM MACHINERY OR THREAD CUTTING OPERATION OUT OF PIPE BEFORE ASSEMBLY. WIPE CUTTING OIL FROM INTERNAL AND EXTERNAL SURFACES.

DURING FABRICATION AND ASSEMBLY, REMOVE SLAG AND WELD SPATTER FROM BOTH INTERNAL AND EXTERNAL JOINTS BY PEENING, CHIPPING AND WIRE BRUSHING.

PRIOR TO BLOWING OR FLUSHING ERECTED PIPING SYSTEMS, DISCONNECT ALL INSTRUMENTATION AND EQUIPMENT, OPEN WIDE ALL VALVES, AND BE CERTAIN ALL STRAINER SCREENS ARE IN PLACE.

ALL WATER PIPING:
1. FLUSH ALL PIPING USING FAUCETS, FLUSH VALVES, ETC. UNTIL THE FLOW IS CLEAN.
2. AFTER FLUSHING, THOROUGHLY CLEAN ALL INLET STRAINERS, AERATORS, AND OTHER SUCH DEVICES.
3. IF NECESSARY, REMOVE VALVES TO CLEAN OUT ALL FOREIGN MATERIAL.

GENERAL INSTALLATION REQUIREMENTS
PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR METALS. ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT. INSTALL TO CONSERVE BUILDING SPACE. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR EQUIPMENT. SLOPE WATER PIPING AND ARRANGE TO DRAIN AT LOW POINTS.

WHERE PIPE SUPPORTS ARE WELDED TO STRUCTURAL BUILDING FRAMING, SCRAPE, BRUSH CLEAN, AND APPLY ONE COAT OF ZINC RICH PRIMER TO WELDS, SEAL PIPES PASSING THROUGH EXTERIOR WALLS WITH A WALL SEAL PER SECTION 22.05.29. PROVIDE SCHEDULE 40 GALVANIZED SLEEVE AT LEAST 2" PIPE SIZES LARGER THAN THE PIPE.

ALL NON-POTABLE OUTLETS SHALL BE CLEARLY MARKED WITH A PERMANENTLY AFFIXED LAMINATED SIGN WITH 3/8" HIGH LETTERING SAYING "NON-POTABLE WATER NOT FOR HUMAN CONSUMPTION". SIGN SHALL HAVE BLACK LETTERING ON A YELLOW BACKGROUND.

ALL VERTICAL PIPE DROPS TO SINKS OR OTHER EQUIPMENT INSTALLED BELOW THE CEILING SHALL BE ROUTED WITHIN A WALL CAVITY, UNLESS SPECIFICALLY NOTED OTHERWISE TO BE SURFACE MOUNTED. FOR RENOVATION PROJECTS, THIS CONTRACTOR IS RESPONSIBLE FOR OPENING AND PATCHING EXISTING WALLS FOR INSTALLATION OF PIPING. WALL PATCHING SHALL MATCH EXISTING CONDITION.

VALVES/FITTINGS AND ACCESSORIES:
1. INSTALL SHUTOFF VALVES THAT PERMIT THE ISOLATION OF EQUIPMENT/FIXTURES IN EACH ROOM WITHOUT ISOLATING ANY OTHER ROOM OR PORTION OF THE BUILDING. INDIVIDUAL FIXTURE ANGLE STOPS DO NOT MEET THIS REQUIREMENT, EXCEPTION: BACK-TO-BACK ROOMS IN NO MORE THAN TWO ADJACENT ROOMS.
2. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
3. PROVIDE ACCESS DOORS FOR CONCEALED VALVES AND FITTINGS.
4. INSTALL VALVE STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
5. PROVIDE ONE PLUG VALVE WRENCH FOR EVERY TEN PLUG VALVES 2" AND SMALLER, MINIMUM OF ONE, PROVIDE EACH PLUG VALVE 2-1/2" AND LARGER WITH A WRENCH WITH SET SCREW.
6. INSTALL BALANCING VALVES WITH STRAIGHT, UNOBSTRUCTED PIPE SECTION BOTH UPSTREAM AND DOWNSTREAM AS REQUIRED, PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

UNDERGROUND PIPING:
SANITARY PIPING:
INSTALL ALL SANITARY PIPING INSIDE THE BUILDING WITH A SLOPE OF AT LEAST THE FOLLOWING:
PIPE SIZE **MINIMUM SLOPE**
3" AND UNDER -0.25" PER FOOT
4" AND OVER -0.125" PER FOOT

SLOPE SANITARY PIPING OUTSIDE THE BUILDING TO MEET THE INVERT ELEVATIONS SHOWN ON THE DRAWINGS AND TO MAINTAIN A MINIMUM VELOCITY OF 3 FEET PER SECOND.

ALL SANITARY PIPING SHALL HAVE AT LEAST 24" OF COVER WHEN LEAVING THE BUILDING.

INSTALL HORIZONTAL OFFSET AT ALL CONNECTIONS TO ROOF DRAINS TO ALLOW FOR PIPE EXPANSION.

26 05 00 BASIC ELECTRICAL REQUIREMENTS

SCOPE OF WORK
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NEW MATERIALS AS INDICATED ON THE DRAWINGS, AND/OR IN THESE SPECIFICATIONS, AND ALL ITEMS REQUIRED TO MAKE ASSOCIATED PORTION OF THE ELECTRICAL WORK A FINISHED AND WORKING SYSTEM.

TELECOMMUNICATIONS CABLING WILL BE BY OTHERS. IN RACEWAYS AND CONDUITS FURNISHED AND INSTALLED AS PART OF THE ELECTRICAL WORK.

TEMPERATURE CONTROL WIRING FOR PLUMBING AND HVAC EQUIPMENT WILL BE BY OTHER CONTRACTORS.

ALL WORK THAT WILL PRODUCE EXCESSIVE NOISE OR INTERFERENCE WITH NORMAL BUILDING OPERATIONS, AS DETERMINED BY THE OWNER, SHALL BE SCHEDULED WITH THE OWNER. IT MAY BE NECESSARY TO SCHEDULE SUCH WORK DURING UNOCCUPIED HOURS, SCHEDULE OVERTIME HOURS FOR THE WORK.

CODES AND STANDARDS
CONFORM TO ALL REQUIREMENTS OF THE CALIFORNIA ELECTRICAL CODES, LAWS, ORDINANCES, AND OTHER REGULATIONS HAVING JURISDICTION OVER THIS INSTALLATION.

IF THE CONTRACTOR NOTES, AT THE TIME OF BIDDING, THAT ANY PARTS OF THE DRAWINGS OR SPECIFICATIONS DO NOT COMPLY WITH THE CODES OR REGULATIONS, CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER IN WRITING, REQUESTING A CLARIFICATION.

DRAWINGS
THE DRAWINGS FOR THE ELECTRICAL WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF THE WORK AND TO INDICATE THE GENERAL ARRANGEMENTS AND LOCATIONS OF EQUIPMENT, OUTLETS, ETC., AND THE APPROXIMATE SIZES OF EQUIPMENT.

CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF EQUIPMENT AND ROUGH-INS, AND THE EXACT ROUTING OF RACEWAYS SO AS TO BEST FIT THE LAYOUT OF THE JOB, CONDUIT ENTRY POINTS FOR ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, PANELBOARDS, SWITCHBOARDS, SWITCHGEAR AND UNIT SUBSTATIONS, SHALL BE DETERMINED BY THE CONTRACTOR UNLESS NOTED IN THE CONTRACT DOCUMENTS.

VERIFY ALL PERTINENT DIMENSIONS AT THE JOB SITE BEFORE ORDERING ANY CONDUIT, CONDUCTORS, WIREWAYS, BUS DUCT, FITTINGS, ETC.

SUBMITTALS
SUBMITTALS SHALL BE REQUIRED WHERE REQUIRED IN THE SPECIFICATIONS OR ON THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF EACH SHOP DRAWING FOR REVIEW BY THE ARCHITECT/ENGINEER BEFORE RELEASING ANY EQUIPMENT FOR MANUFACTURE OR SHIPMENT.

THE CONTRACTOR SHALL THOROUGHLY REVIEW AND APPROVE ALL SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER. CONTRACTOR SHALL CLEARLY MARK ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS ON ALL SUBMITTALS, ASSEMBLE ALL SUBMITTALS IN SETS, SUCH AS PANELBOARDS, FIRE ALARM, LIGHTING, OR MOTOR CONTROL, ALL SETS SHALL BE IDENTICAL AND CONTAIN AN INDEX OF THE ITEMS ENCLOSED WITH A GENERAL TOPIC DESCRIPTION ON THE COVER, WHERE MORE THAN ONE MODEL IS SHOWN ON A MANUFACTURER'S SHEET, CLEARLY INDICATE EXACTLY WHICH ITEM AND WHICH DATA IS RELEVANT TO THE WORK, REFER TO SUBSECTIONS FOR SPECIFIC SUBMITTAL REQUIREMENTS.

WARRANTY
PROVIDE MINIMUM ONE-YEAR WARRANTY FOR ALL FIXTURES, EQUIPMENT, MATERIALS, AND WORKMANSHIP. REFER TO SUBSECTIONS FOR ADDITIONAL WARRANTY REQUIREMENTS.

MATERIAL SUBSTITUTION
WHERE SEVERAL MANUFACTURERS' NAMES ARE GIVEN, THE MANUFACTURER FOR WHICH A CATALOG NUMBER IS GIVEN IS THE BASIS OF DESIGN AND ESTABLISHES THE QUALITY REQUIRED. EQUIVALENT EQUIPMENT MANUFACTURED BY THE OTHER NAMED MANUFACTURERS MAY BE USED, CONTRACTOR SHALL ENSURE THAT ALL ITEMS SUBMITTED BY THESE OTHER MANUFACTURERS MEET ALL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND FIT IN THE ALLOCATED SPACE. THE ARCHITECT/ENGINEER SHALL MAKE THE FINAL DETERMINATION OF WHETHER A PRODUCT IS EQUIVALENT.

ANY MATERIAL, ARTICLE, OR EQUIPMENT OF OTHER UNNAMED MANUFACTURERS WHICH WILL ADEQUATELY PERFORM THE SERVICES AND DUTIES IMPOSED BY THE DESIGN AND IS OF A QUALITY EQUAL TO OR BETTER THAN THE EQUIPMENT IDENTIFIED BY THE DRAWINGS MAY BE USED IF APPROVAL IS SECURED IN WRITING FROM THE ARCHITECT/ENGINEER VIA ADDENDUM.

OBSERVATION OF WORK
THE CONTRACTOR SHALL PROVIDE SEVEN (7) CALENDAR DAYS' NOTICE TO THE ARCHITECT/ENGINEER PRIOR TO COVERING INTERIOR PARTITIONS AND CHASES AND INSTALLING HARD OR SUSPENDED CEILINGS AND SOFFITS.

ALL WORK ABOVE THE CEILINGS MUST BE COMPLETE PRIOR TO THE ARCHITECT/ENGINEER'S REVIEW. THIS INCLUDES, BUT IS NOT LIMITED TO: ALL JUNCTION BOXES ARE CLOSED AND IDENTIFIED (CONDUIT INCLUDED) IN ACCORDANCE WITH ELECTRICAL IDENTIFICATION. FIRE ALARM JUNCTION BOXES ARE PAINTED RED. LUMINAIRES INCLUDING EXIT AND EMERGENCY FIXTURES ARE INSTALLED AND OPERATIONAL. FLEXIBLE CONDUIT IS SUPPORTED ABOVE AND INDEPENDENTLY OF THE CEILING, AND ALL WALL PENETRATIONS ARE SEALED.

IN ORDER TO PREVENT THE FINAL JOBSITE OBSERVATION FROM OCCURRING TOO EARLY, THE CONTRACTOR SHALL REVIEW THE COMPLETION STATUS OF THE PROJECT AND CERTIFY IN WRITING THAT THE JOB IS READY FOR THE FINAL JOBSITE OBSERVATION.

PROJECT CLOSEOUT
SUBMIT THE FOLLOWING: OPERATION AND MAINTENANCE MANUALS INCLUDING BOUND COPIES OF APPROVED SHOP DRAWINGS, RECORD DOCUMENTS INCLUDING REPRODUCIBLE DRAWINGS COMPLETED IN AUTOCAD, SEPARATE PARTS AND EXTRA MATERIALS IN QUANTITIES SPECIFIED IN THESE SPECIFICATIONS, INSPECTION AND TESTING REPORT BY THE FIRE ALARM SYSTEM MANUFACTURER.

PROVIDE CUSTOM UPDATED/NEW TYPED CIRCUIT DIRECTORY FOR EACH EXISTING/NEW BRANCH CIRCUIT PANELBOARD INCLUDED IN THE SCOPE OF WORK. LABEL SHALL INCLUDE EQUIPMENT NAME OR FINAL APPROVED ROOM NAME, ROOM NUMBER, AND LOAD TYPE FOR EACH CIRCUIT (EXAMPLES: SLUMP PUMP SP-1 OR ROOM 101 RECEIPT). PRINTED COPIES OF THE BID DOCUMENT PANEL SCHEDULES ARE NOT ACCEPTABLE AS CIRCUIT DIRECTORIES.

OPERATION AND MAINTENANCE INSTRUCTIONS
OPERATION AND MAINTENANCE DATA SHALL CONSIST OF WRITTEN INSTRUCTIONS FOR THE CARE, MAINTENANCE, AND OPERATION OF THE EQUIPMENT AND SYSTEMS. INSTRUCTION BOOKS, CARDS, AND MANUALS FURNISHED WITH THE EQUIPMENT SHALL BE INCLUDED.

PROVIDE BOUND MANUALS WITH COPIES OF APPROVED SHOP DRAWINGS WITH TITLE PAGE AND INDEX SYSTEM SIMILAR TO OPERATION AND MAINTENANCE MANUAL.

RECORD DOCUMENTS
MAINTAIN AT THE JOB SITE A SEPARATE AND COMPLETE SET OF ELECTRICAL DRAWINGS AND SPECIFICATIONS WITH ALL CHANGES MADE TO THE SYSTEMS CLEARLY AND PERMANENTLY MARKED IN COMPLETE DETAIL. MARK DRAWINGS TO INDICATE APPROVED SUBSTITUTIONS, CHANGE ORDERS, AND ACTUAL EQUIPMENT AND MATERIALS USED. ALL CHANGE ORDERS, RESPONSES, CLARIFICATIONS, AND OTHER SUPPLEMENTAL INSTRUCTIONS SHALL BE MARKED ON THE DOCUMENTS. RECORD DOCUMENTS THAT MERELY REFER TO THE EXISTENCE OF THE ABOVE ITEMS ARE NOT ACCEPTABLE. RECORD CHANGES DAILY AND KEEP THE MARKED DRAWINGS AVAILABLE FOR THE ARCHITECT/ENGINEER'S EXAMINATION AT ANY NORMAL WORK TIME.

UPON COMPLETING THE JOB AND BEFORE FINAL PAYMENT IS MADE, PROVIDE REPRODUCIBLE DRAWINGS COMPLETED IN AUTOCAD TO THE ARCHITECT/ENGINEER.

CLEANING
THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS PRIOR TO THE OWNER'S FINAL ACCEPTANCE OF THE PROJECT. CLEAN ALL FOREIGN PAINT, GREASE, OIL, DIRT, LABELS, STICKERS, ETC. FROM ALL EQUIPMENT. REMOVE ALL RUBBISH, DEBRIS, ETC., ACCUMULATED DURING CONSTRUCTION FROM THE PREMISES.

26 05 13 WIRE AND CABLE

FEEDERS AND BRANCH CIRCUITS 8 AWG AND LARGER SHALL BE COPPER, STRANDED, 600 VOLT INSULATION, THHN.

FEEDERS AND BRANCH CIRCUITS 10 AWG AND SMALLER, COPPER, SOLID OR STRANDED, 600 VOLT INSULATION, THHN/THWN, NOTED ON THE DRAWINGS. MINIMUM SIZE #12 AWG.

ALUMINUM CONDUCTORS ARE NOT TO BE USED.

CONTROL CABLE FOR CLASS 1, CLASS 2, AND CLASS 3 CIRCUITS SHALL BE COPPER, 600 VOLT INSULATION, RATED 60°C, INDIVIDUAL CONDUCTORS TWISTED TOGETHER, SHIELDED, AND COVERED WITH PVC, MINIMUM SIZE #14 AWG.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DERATING AND SIZING CONDUCTORS AND CONDUITS TO EQUAL OR EXCEED THE AMPACITY OF NEC TABLE 3.10.15(B)(2)(7) CBC TABLE 18-27-310.77, IF METHODS OR MATERIALS OTHER THAN THE BASIS OF DESIGN ARE USED.

USE # 10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 75 FEET, AND FOR 20 AMPERE, 277 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 200 FEET.

ALL WIRES IN OUTLET BOXES NOT CONNECTED TO FIXTURES OR OTHER DEVICES SHALL BE ROLLED UP, SPLICED IF CONTINUITY OF CIRCUIT IS REQUIRED, AND INSULATED.

USE SOLDERLESS, TIN-PLATED COPPER LUGS APPLIED WITH CIRCUMFERENTIAL CRIMP FOR COPPER TERMINATIONS #8 AWG AND LARGER, USE INDENTER CRIMP # 10 AWG AND SMALLER.

TEST WIRE AND CABLE INSULATION WITH DEVICE SUCH AS A 'MEGGER', USING NOT LESS THAN 500 VOLTS D.C. TEST POTENTIAL.

26 05 26 GROUNDING AND BONDING

COMPLY WITH UL 467 GROUNDING AND BONDING EQUIPMENT.

CONDUCTORS SHALL BE COPPER IN ACCORDANCE WITH 26 05 13.

CONNECTORS SHALL BE HYDRAULIC COMPRESSION TYPE.

PROVIDE GROUNDING AND BONDING AT UTILITY COMPANY'S METERING EQUIPMENT AND TRANSFORMERS PER UTILITY REQUIREMENTS.

EQUIPMENT GROUNDING
INSTALL EQUIPMENT GROUNDING CONDUCTORS IN ALL FEEDERS AND CIRCUITS. EQUIPMENT GROUNDING CONDUCTORS: INSULATED WITH GREEN-COLORED INSULATION.

ISOLATE GROUND CONDUCTORS SHALL BE INSULATED WITH GREEN-COLORED INSULATION WITH YELLOW STRIPE.

BONDING
BONDING CONDUCTORS SHALL BE NO. 6 AWG, STRANDED COPPER CONDUCTOR, BONDING JUMPER SHALL BE BARE COPPER TAPE, TERMINATED WITH COPPER FERRULES.

BOND TO COLUMNS OR BEAMS AT BUILDING EXPANSION JOINTS.

ISOLATE DESIGNATED EQUIPMENT ENCLOSURES VIA BONDING JUMPER.

BOND TO METALLIC WATER PIPE USING A SUITABLE GROUND CLAMP AT STREET SIDE OF FLANGE AND PROVIDE BONDING JUMPER AROUND WATER METER.

FOR TELEPHONE, ALARM, VOICE AND DATA, AND OTHER COMMUNICATION SYSTEMS, PROVIDE NO. 6 AWG INSULATED BONDING CONDUCTOR IN RACEWAY FROM GROUNDING ELECTRODE SYSTEM TO EACH SERVICE AND CENTRAL EQUIPMENT LOCATION.

GROUNDING ELECTRODES
GROUNDING ELECTRODE CONDUCTORS SHALL BE STRANDED CABLE.

GROUNDING CONDUCTORS UNDERGROUND SHALL BE BARE, TINNED, STRANDED.

GROUND RODS SHALL BE COPPER-CLAD STEEL, 3/4" IN DIAMETER 10' LENGTH.

CONCRETE-ENCASED GROUNDING ELECTRODE (UFER): MINIMUM 20 FEET BARE NO. 4 AWG.

MAKE ALUMINUM-TO-STEEL CONNECTIONS WITH STAINLESS-STEEL SEPARATORS AND MECHANICAL CLAMPS. MAKE ALUMINUM-TO-GALVANIZED STEEL CONNECTIONS WITH TIN-PLATED COPPER JUMPERS AND MECHANICAL CLAMPS.

FIELD QUALITY CONTROL
MEASURE GROUND RESISTANCE FROM SYSTEM NEUTRAL CONNECTION AT SERVICE ENTRANCE TO CONVENIENT GROUND REFERENCE POINTS USING SUITABLE GROUND TESTING EQUIPMENT. RESISTANCE SHALL NOT EXCEED 5 OHMS. NOTIFY ARCHITECT/ENGINEER PROMPTLY AND INCLUDE RECOMMENDATIONS TO REDUCE GROUND RESISTANCE.

PROVIDE GROUND TESTING IN ACCORDANCE WITH IEEE STANDARDS.

26 05 33 CONDUIT AND BOXES

CONDUIT
ACCEPTABLE CONDUIT MANUFACTURERS: ALLIED, LTV, STEELDUCT, WHEATLAND TUBE CO, O-Z GEDNEY.

ACCEPTABLE FITTINGS MANUFACTURERS: APPLETON ELECTRIC, O-Z GEDNEY, ELECTROLINE, RACO, BRIDGEPORT, MIDWEST, REGAL, THOMAS & BETTS, CROUSE-HINDS, KILKRAK

ELECTRICAL METALLIC TUBING (EMT), MINIMUM 3/4", SHALL BE USED IN FINISHED SPACES FOR ALL BRANCH CIRCUITS, TELECOMMUNICATIONS SYSTEMS.

INTERMEDIATE METALLIC CONDUIT (IMC), MINIMUM 3/4", SHALL BE USED FOR EXPOSED MECHANICAL AND PUMP FEEDERS, AND ELECTRICAL DISTRIBUTION EQUIPMENT.

RIGID METALLIC CONDUIT (RMC) SHALL BE USED IN WET OR DAMP LOCATIONS.

POLYVINYL CHLORIDE (PVC), SCHEDULE 40, SHALL BE USED IN UNDERGROUND CONCRETE ENCASED WHERE SUBJECT TO VEHICULAR TRAFFIC FOR LOW VOLTAGE SERVICE SYSTEMS.

FLEXIBLE METALLIC CONDUIT (FMC) SHALL BE USED FOR CONNECTIONS TO MOTORS AND LIGHT FIXTURES. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC) WITH WATER-TIGHT FITTINGS SHALL BE USED IN EXTERIOR OR WET/DAMP LOCATIONS. LENGTH OF CONDUIT SHALL NOT EXCEED 6'.

EMT AND IMC CONDUIT FITTINGS SHALL BE COMPRESSION TYPE.

CONDUIT AND CONDUCTOR SIZING SHALL BE COORDINATED TO LIMIT CONDUCTOR FILL TO LESS THAN 40%, MAINTAIN CONDUCTOR AMPERE CAPACITY AS REQUIRED BY THE NATIONAL ELECTRICAL CODE

CONDUIT SHALL NOT CONTAIN MORE FOUR (4) QUARTER BENDS (90°) BETWEEN PULL BOX POINTS, TELECOMMUNICATIONS CONDUITS SHALL HAVE NO MORE THAN TWO (2) 90° BENDS BETWEEN PULL BOX POINTS AND CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 100 FEET.

ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS, WHERE CONDUIT PENETRATES FIREWALLS AND FLOORS, SEAL WITH A UL LISTED SEALANT. SEAL INTERIOR OF CONDUIT AT EXTERIOR ENTRIES.

EACH A POLYPROPYLENE PULL CORD WITH 2000 LBS. TENSILE STRENGTH IN EVERY EMPTY CONDUIT.

EXPOSED CONDUIT ON EXTERIOR WALLS OR ABOVE ROOF WILL NOT BE ALLOWED.

BOXES
OUTLET BOXES FOR LUMINAIRES TO BE MINIMUM 1-1/2" DEEP.

LIGHT CONTROL SWITCHES, DIMMERS AND OCCUPANCY SENSOR BOXES SHALL BE 4 INCHES SQUARE BY 2-1/8 INCHES DEEP.

MULTIPLE GANG SWITCH OUTLETS SHALL CONSIST OF THE REQUIRED NUMBER OF GANG BOXES APPROPRIATE TO THE QUANTITY OF SWITCHES COMPRISING THE GANG. PROVIDE PLASTER RINGS AND COVERS AS NEEDED.

RECEPTACLE OUTLET BOXES SHALL BE 4 INCHES SQUARE WITH RAISED COVER TO FIT FLUSH WITH FINISHED WALL LINE.

GALVANIZED STEEL BOXES MAY BE USED IN CONCEALED OR EXPOSED INTERIOR LOCATIONS, ABOVE CEILINGS, AND MIN RECESSED STUDDED PARTITIONS.

CAST BOXES SHALL BE USED IN EXTERIOR LOCATIONS, HAZARDOUS LOCATIONS, WET LOCATIONS, CONCRETE SLAB ON GRADE.

ELECTRICAL CONNECTION TO EQUIPMENT AND MOTORS, SIZED PER CBC, PULL AND JUNCTION BOXES, GALVANIZED STEEL, SIZED PER CEC.

26 05 53 ELECTRICAL IDENTIFICATION

COLOR-ADHESIVE MARKING TAPE FOR BANDING RACEWAYS, WIRES, AND CABLES: 3 MILS THICK BY 2" WIDTH.

PRETENSIONED FLEXIBLE WRAPAROUND COLORED PLASTIC SLEEVES FOR CABLE IDENTIFICATION.

WIRE/CABLE DESIGNATION TAPE MARKERS: VINYL OR VINYL-CLOTH, SELF-ADHESIVE, WRAPAROUND, WITH PREPRINTED NUMBERS AND LETTERS.

CABLE TIES: NYLON, 0.18" WIDTH, 50-LB MINIMUM TENSILE STRENGTH.

UNDERGROUND PLASTIC MARKERS: BRIGHT COLORED CONTINUOUSLY PRINTED PLASTIC RIBBON TAPE, 6" WIDE BY 4 MILS THICK.

ALUMINUM WRAPAROUND MARKER BANDS: 1" WIDTH, 0.014 INCH THICK ALUMINUM BANDS WITH STAMPED OR EMBOSSED LEGEND, AND FITTED WITH SLOTS OR EARS FOR PERMANENTLY SECURING AROUND WIRE OR CABLE JACKET OR AROUND GROUPS OF CONDUCTORS.

ENGRAVED, PLASTIC-LAMINATED LABELS, SIGNS AND INSTRUCTION PLATES: BLACK LETTERS ON WHITE FACE FOR NORMAL POWER

SAFETY SIGNS: COMPLY WITH 29 CFR, CHAPTER XVII, PART 1910.145.

JUNCTION, PULL AND CONNECTION BOXES: 3/8-INCH KROY TAPE OR BROTHER SELF-LAMINATING VINYL LABEL.

APPLY DESIGNATION LABELS OF ENGRAVED PLASTIC LAMINATE FOR PUSHBUTTONS, PILOT LIGHTS, ALARM/SIGNAL COMPONENTS, AND SIMILAR ITEMS, EXCEPT WHERE LABELING IS SPECIFIED ELSEWHERE.

INSTALL ARC FLASH WARNING SIGNS ON ALL SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, AND MOTOR CONTROL CENTERS.

UNDERGROUND ELECTRICAL LINES: CONTINUOUS UNDERGROUND PLASTIC LINE MARKER LOCATED DIRECTLY ABOVE LINE AT 16 TO 24 INCHES BELOW GRADE.

COVER PLATES FOR RECEPTACLES AND SWITCHES: INDICATE SOURCE AND CIRCUIT NUMBER SERVING THE DEVICE. 3/8-INCH KROY TAPE OR BROTHER SELF-LAMINATING VINYL LABEL WITH BLACK LETTERS.

CONDUIT IDENTIFICATION: SELF-ADHESIVE VINYL LABELS AT 10 FOOT INTERVALS TO IDENTIFY ALL CONDUITS EXPOSED OR LOCATED ABOVE ACCESSIBLE CEILINGS.

WHERE CONDUIT LEAVES A SWITCHBOARD OR PANELBOARD, IDENTIFY EACH CONDUIT INDICATING LOAD SERVED.

CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

- 208Y/120 VOLT 4 WIRE
A PHASE - BLACK
B PHASE - RED
C PHASE - BLUE
NEUTRAL - WHITE
GROUND BOND - GREEN
- 480Y/277 VOLT 4 WIRE
A PHASE - BROWN
B PHASE - ORANGE
C PHASE - YELLOW
NEUTRAL - GRAY
GROUND BOND - GREEN

FURNISH AND INSTALL FRAMED 8'X10' CHARTS OF THE COLOR IDENTIFICATION SCHEME IN ALL ELECTRICAL ROOMS AND NEXT TO THE FIRE ALARM CONTROL PANEL.

PROVIDE ENGRAVED IDENTIFICATION ON THE FRONT OF ALL POWER DISTRIBUTION AND CONTROL EQUIPMENT, SUCH AS PANELBOARDS, SWITCHBOARDS, TRANSFORMERS, VFD'S, STARTERS, DISCONNECTS, ETC., LABELING SHALL INCLUDE: EQUIPMENT DESIGNATION, VOLTAGE, UPSTREAM SOURCE OF ORIGIN, RATING, AND TYPE OF THE OVERCURRENT PROTECTION DEVICE SERVING THE EQUIPMENT.

A SEPARATE NAMEPLATE FOR THE SERVICE ENTRANCE EQUIPMENT SHALL BE LABELED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AND DATE OF CALCULATION GIVEN ON THE ONE-LINE DIAGRAM.

BRANCH PANELBOARDS SHALL BE PROVIDED WITH TYPED PANEL SCHEDULES UPON COMPLETION OF THE PROJECT. EXISTING PANELBOARDS SHALL HAVE THEIR EXISTING PANEL SCHEDULES TYPED, WITH ALL CIRCUIT CHANGES, ADDITIONS, OR DELETIONS ALSO TYPED ON THE PANEL SCHEDULES. HANDWRITTEN MARKINGS SHALL NOT BE ACCEPTABLE.

UPSTREAM DEVICES OF SERIES RATED COMPONENTS SHALL BE IDENTIFIED "CAUTION: SERIES RATED SYSTEM - IDENTICAL COMPONENT REPLACEMENT REQUIRED". DOWNSTREAM DEVICES OF SERIES RATED COMPONENTS SHALL BE IDENTIFIED "CAUTION: SERIES RATED SYSTEM - ADDITIONAL SERIES COMBINATION RATING: XX.XXX RMS SYMMETRICAL AMPERES" WHERE XX.XXX SHALL BE THE SERIES COMBINATION RATINGS.

26 24 16 PANEL BOARDS

SUBMIT SHOP DRAWINGS INCLUDING OUTLINE AND SUPPORT POINT DIMENSIONS, VOLTAGE, MAIN BUS AMPACITY, INTEGRATED SHORT CIRCUIT AMPERE RATING, CIRCUIT BREAKER OR FUSIBLE SWITCH ARRANGEMENT AND SIZES.

PANELBOARDS FOR THIS PROJECT SHALL BE FULLY SERIES RATED.

MAIN AND DISTRIBUTION PANELBOARDS
CONCEALED TRIM CLAMPS AND HINGED TRIM ON DOOR TO ALLOW ACCESS TO WIRING GUTTERS WITHOUT REMOVAL OF TRIM. FLUSH LOCK, COPPER BUS, SQUARE D QMB, KLINGE, GENERAL ELECTRIC SPECTRA ADS, SIEMENS FZ, P4, CUTLER HAMMER PRL4, PRL5.

ALL SPACES SHOWN ON THE ONE-LINE DIAGRAM SHALL BE FULLY PREPARED SPACES FOR FUTURE BREAKERS.

FUSIBLE SWITCH ASSEMBLIES INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION, LOCKABLE IN OFF POSITION.

MOLDED CASE CIRCUIT BREAKERS WITH INTEGRAL THERMAL AND INSTANTANEOUS MAGNETIC TRIP IN EACH POLE.

SOLID STATE MOLDED CASE CIRCUIT BREAKERS: ELECTRONIC SENSING, TIMING, AND TRIPPING CIRCUITS FOR FULLY ADJUSTABLE TIME CURRENT CHARACTERISTIC SETTINGS INCLUDING GROUND FAULT TRIP, INSTANTANEOUS TRIP, LONG TIME TRIP, LONG TIME DELAY, SHORT TIME TRIP, AND SHORT TIME DELAY. TRIP SETTING SHALL BE FIELD PROGRAMMABLE WITH A SEALABLE CLEAR COVER.

PROVIDE AN ARC ENERGY REDUCTION AER SYSTEM FOR OVERCURRENT PROTECTION DEVICES RATED 1,200 AMPS OR LARGER. PROVIDE AN ENGRAVED LABEL FOR THE AER SYSTEM ON THE APPLICABLE EQUIPMENT.

SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.

BRANCH CIRCUIT PANELBOARDS
DOOR-IN-DOOR CONSTRUCTION, HINGED TRIM TO ALLOW ACCESS TO WIRING GUTTERS WITHOUT REMOVAL OF TRIM. COPPER BUS, SQUARE D / NQ / NF, GENERAL ELECTRIC AQ / AE, SIEMENS P1, CUTLER HAMMER PRL1, PRL2.

MOLDED CASE BOLT-ON TYPE CIRCUIT BREAKERS WITH THERMAL MAGNETIC TRIP, TYPE SWD FOR LIGHTING CIRCUITS. DO NOT USE TANDEM CIRCUIT BREAKERS.

INSTALLATION
ARRANGE CIRCUITS IN PANELBOARDS TO BALANCE THE PHASE LOADS WITHIN 20 PERCENT. MAINTAIN PROPER PHASING FOR MULTI-WIRE BRANCH CIRCUITS.

INSTALL PANELBOARDS PLUMB AS INDICATED ON THE DRAWINGS IN CONFORMANCE WITH NEMA PB 1.1, HEIGHT: 6 FEET TO HANDLE OF HIGHEST DEVICE.

PROVIDE FILLER PLATES FOR UNUSED SPACES IN PANELBOARDS.

PROVIDE CUSTOM UPDATED/NEW TYPED CIRCUIT DIRECTORY FOR EACH EXISTING/NEW BRANCH CIRCUIT PANELBOARD INCLUDED IN THE SCOPE OF WORK. LABEL SHALL INCLUDE EQUIPMENT NAME OR FINAL APPROVED ROOM NAME, ROOM NUMBER, AND LOAD TYPE FOR EACH CIRCUIT (EXAMPLES: SLUMP PUMP SP-1 OR ROOM 101 RECEIPT). PRINTED COPIES OF THE BID DOCUMENT PANEL SCHEDULES ARE NOT ACCEPTABLE AS CIRCUIT DIRECTORIES.

STUB FIVE (5) EMPTY ONE-INCH CONDUITS TO ACCESSIBLE LOCATION ABOVE CEILING OUT OF EACH RECESSED PANELBOARD.

INSTALL FUSES IN FUSIBLE SWITCH ASSEMBLIES.

VISUAL AND MECHANICAL INSPECTION: INSPECT FOR PHYSICAL DAMAGE, PROPER ALIGNMENT, ANCHORAGE, AND GROUNDING, CHECK PROPER INSTALLATION AND TIGHTNESS OF CONNECTIONS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES, AND FUSES.

26 26 13 FUSES

SUBMIT SHOP DRAWINGS INCLUDING PRODUCT DATA, CLASS, CURRENT RATING, ETC.

FURNISH SPARE PARTS TO OWNER INCLUDING TWO (2) FUSE PULLERS AND THREE (3) OF EACH SIZE AND TYPE OF FUSE INSTALLED.

ACCEPTABLE MANUFACTURERS: COOPER BUSSMAN, EAGLE ELECTRIC, MERSEN, TRACOR, LITTELFUSE SUBSIDIARY.

CLASS L (TIME DELAY): FUSES WITH RATINGS LARGER THAN 600 AMPERES.

CLASS RK-1 (TIME DELAY): FUSES WITH RATINGS LARGER THAN 200 AMPERES BUT EQUAL TO OR LESS THAN 600 AMPERES.

CLASS RK-5: FUSES WITH RATINGS LESS THAN OR EQUAL TO 200 AMPERES.

CLASS CC (TIME DELAY): CONTROL TRANSFORMER FUSES.

CLASS S (PLUG TYPE): FUSES WITH RATINGS LESS THAN OR EQUAL TO 30 AMPERES AND 125 VOLTS IN ACCORDANCE WITH THE CHICAGO ELECTRICAL CODE.

CLASS R (TIME DELAY): FUSES WITH RATINGS LARGER THAN 600 AMPERES.

CLASS RK-1 (TIME DELAY): FUSES WITH RATINGS LARGER THAN 200 AMPERES BUT EQUAL TO OR LESS THAN 600 AMPERES.

CLASS CC (TIME DELAY): CONTROL TRANSFORMER FUSES.

CLASS S (PLUG TYPE): FUSES WITH RATINGS LESS THAN OR EQUAL TO 30 AMPERES AND 125 VOLTS IN ACCORDANCE WITH THE CHICAGO ELECTRICAL CODE.

FUSIBLE SWITCH ASSEMBLIES: HEAVY DUTY TYPE, QUICK-MAKE, QUICK-BREAK, LOAD INTERRUPTER ENCLOSED KNIFE SWITCH, HANDLE LOCKABLE IN OFF POSITION, CLASS 'R' FUSE.

NON-FUSIBLE SWITCH ASSEMBLIES: HEAVY DUTY TYPE, QUICK-MAKE, QUICK-BREAK, LOAD INTERRUPTER ENCLOSED KNIFE SWITCH, HANDLE LOCKABLE IN OFF POSITION.

MOLDED CASE CIRCUIT BREAKERS
ACCEPTABLE MANUFACTURERS: SQUARE D 3110 SERIES, EATON DH SERIES, ABB TH SERIES, SIEMENS HNF / HF SERIES

MOLDED CASE CIRCUIT BREAKER, INTERRUPTING CAPACITY TO MEET AVAILABLE FAULT CURRENTS.

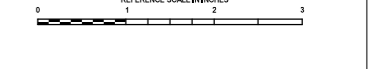
THERMAL MAGNETIC CIRCUIT BREAKERS SHALL HAVE INVERSE TIME-CURRENT ELEMENT FOR LOW-LEVEL OVERLOADS AND INSTANTANEOUS MAGNETIC TRIP ELEMENT FOR SHORT CIRCUITS, PROVIDE ADJUSTABLE MAGNETIC TRIP SETTING FOR CIRCUIT-BREAKER FRAME SIZES 250 A AND LARGER.

ADJUSTABLE INSTANTANEOUS TRIP CIRCUIT BREAKERS: MAGNETIC TRIP ELEMENT WITH FRONT-MOUNTED, FIELD-ADJUSTABLE TRIP SETTINGS.

ELECTRONIC TRIP UNIT CIRCUIT BREAKERS: RMS SENSING, FIELD-REPLACEABLE RATING PLUG, WITH THE FOLLOWING FIELD-ADJUSTABLE SETTINGS: INSTANTANEOUS TRIP, LONG- AND SHORT-TIME PICKUP LEVELS, LONG- AND SHORT-TIME ADJUSTMENTS, GROUND-FAULT PICKUP LEVEL, TIME DELAY, AND I2T RESPONSES.

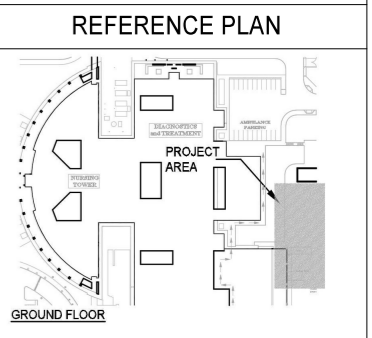
PROJECT TITLE
MOBILE SPD TRAILER
FOR THE
ARROWHEAD REGIONAL MEDICAL CENTER
400 N. PEPPER AVE.
COLTON, CA. 92324
WBSE # 10.10.1142
CIP # 21-154
CAF# # COL003

IMEG
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Exp. 12-31-2024
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Department of Health Care Access and Information
HCAI # S222348-36-00

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APPROVED
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Allen Cheng



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