

420 S 8th Street Louisville, KY 40203

ADDENDUM NO. 2

SANITARY SEWER MODIFICATIONS 760 SOUTH HANCOCK STREET PROPOSAL # 1485

To: All Plan Holders

From: Norma Ward Director, Capital Improvements Department Louisville Metro Housing Authority 420 South Eighth Street Louisville, Kentucky 40203

Date: June 3, 2019

The purpose of this Addendum is to clarify the requirements of the specifications and plans.

The bidders are governed by the information in this Addendum as if included in the original bid documents.

This Addendum does hereby become a part of the Contract Documents.

Each bidder shall acknowledge receipt of this Addendum in the space provided in the Bid Form.

This Addendum consists of two (2) pages (8 ¹/₂" x 11") and seven (7) drawings (24" x 36").

This Addendum is posted on the Louisville Metro Housing Authority's Electronic Procurement System.

A. Plans:

- 1. Addendum #2 Plans are attached. They are:
 - a. Cover dated 6/1/19
 - b. Plumbing dated 5/31/19
 - c. Electrical 5/5/19
 - d. Civil dated 5/16/19.

B. Specifications:

- 1. SECTION 01 1000, SUMMARY:
 - a. Clause 1.1.D.3: Change the last sentence to read; "Backfill and compact excavation from installation of new lines. Cover excavation with steel plate. Subsequent contractor will repave.

- b. Clause 1.2.B: Change "On-site Work Hours" to be 8:00 a.m. to 4:00 p.m. Monday thru Friday for all exterior work and work in the interior common areas; and during normal operating hours inside the "Smoketown Family Wellness Center".
- c. Add Article 1.3 DIRECTIONS Contractor is only to acknowledge instructions or directives from Civil Authorities, the Louisville Metro Housing Authority, or Luckett & Associates.

C. General - all bidders are REMINDED of the following:

1. The **BID OPENING DATE has been changed to TUESDAY JUNE 18, 2019 at** 10:00 a.m.

- The cut-off for *questions* to Ms. Ward, Mr. Stepteau, and Mr. Luckett is Monday, June 10, 2019 at 2:00 p.m. After this date, ALL questions must be addressed to Mr. Webb at <u>Webb@LMHA1.org</u>.
- 3. Responses to questions will be issued on June 11, 2018 (last addendum).

END OF ADDENDUM #2

SANITARY SEWER MODIFICATIONS 760 SOUTH HANCOCK STREET

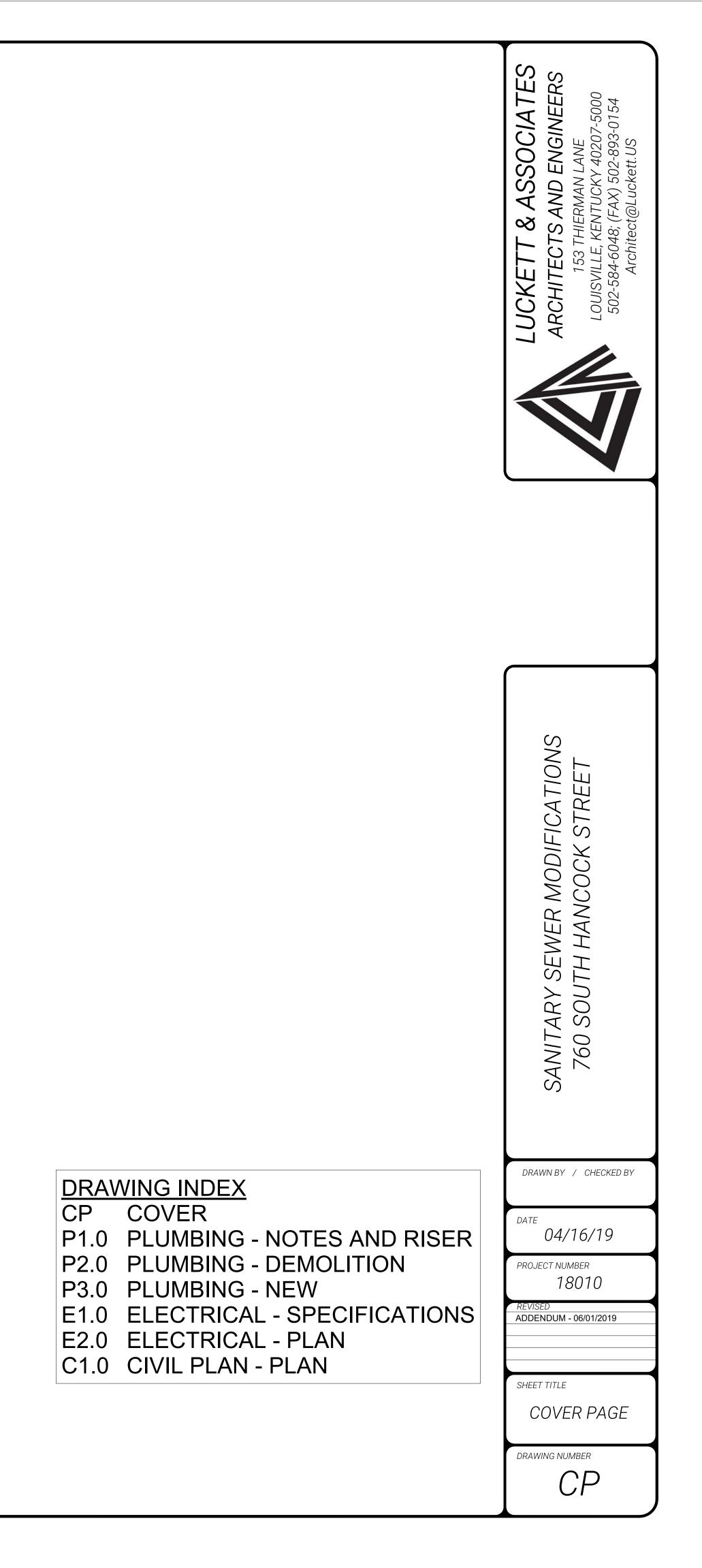


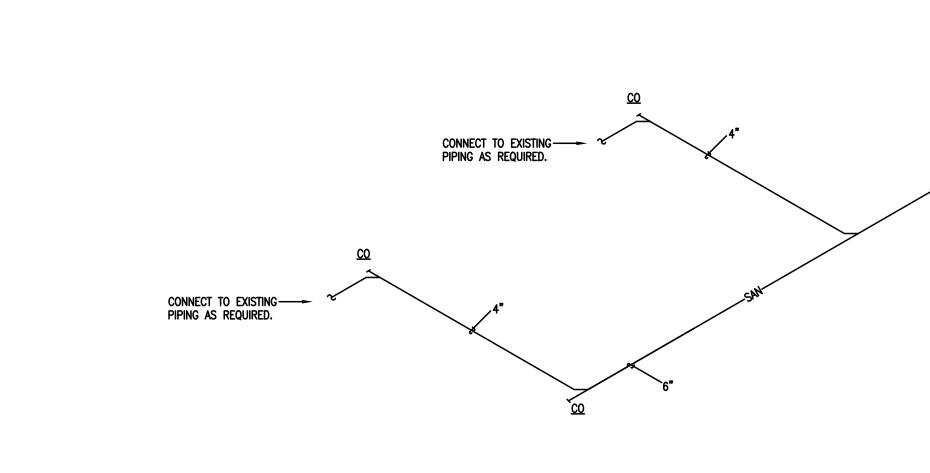
PROPOSAL 1485



LOUISVILLE METRO HOUSING AUTHORITY 420 SOUTH EIGHTH STREET LOUISVILLE, KENTUCKY 40203 (502) 569-3400

> LUCKETT & ASSOCIATES ARCHITECTS AND ENGINEERS 153 THIERMAN LANE LOUISVILLE, KY 40207-5000 502-584-6048 | (FAX) 5023-893-0154 Architect@Luckett.US





PLUMBING SPECIFICATIONS <u>GENERAL</u>

. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS. UTILITIES SHALL ALSO BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

- . THE DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE THE GENERAL ARRANGEMENT OF THE SYSTEMS AND ARE TO BE FOLLOWED AS FAR AS POSSIBLE. IF DEVIATIONS FROM THE LAYOUTS ARE NECESSITATED BY FIELD CONDITIONS, DETAILED LAYOUTS OF THE PROPOSED DEPARTURES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACT DRAWINGS ARE NOT INTENDED TO SHOW EVERY VERTICAL OR HORIZONTAL OFFSET WHICH MAY BE NECESSARY TO COMPLETE THE SYSTEMS. CONTRACTORS SHALL, HOWEVER, ANTICIPATE THAT ADDITIONAL OFFSETS MAY BE REQUIRED AND SUBMIT THEIR BID ACCORDINGLY.
- THE CONTRACTOR SHALL INFORM HIMSELF OF ALL OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE SITE OF THE WORK, THE STRUCTURE OF THE GROUND. THE OBSTACLES THAT MAY BE ENCOUNTERED, THE AVAILABILITY AND LOCATION OF NECESSARY FACILITIES AND ALL RELEVANT MATTERS CONCERNING THE WORK. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND DETERMINE THE KIND AND TYPE OF MATERIALS TO BE USED THROUGHOUT THE PROJECT AND WHICH MAY. IN ANY WAY, AFFECT THE EXECUTION OF HIS WORK. THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS AS TO INGRESS AND EGRESS, DISTANCE OF HAUL FROM SUPPLY POINTS, ROUTES FOR TRANSPORTATION OF MATERIALS, FACILITIES AND SERVICES, AVAILABILITY OF UTILITIES, ETC. HIS PROPOSAL SHALL COVER ALL EXPENSES OF DISBURSEMENTS IN CONNECTION WITH SUCH MATTERS AND CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL WORK SHOWN ON THE DRAWINGS AND CONDITIONS AT THE SITE, AND SHALL REPORT IMMEDIATELY TO THE ENGINEER FIVE DAYS (5) PRIOR TO BIDDING, ANY DISCREPANCIES WHICH MAY APPEAR IN ORDER THAT MISUNDERSTANDING AT A LATER DATE MAY BE PREVENTED. NO ALLOWANCE IS TO BE MADE FOR LACK OF KNOWLEDGE CONCERNING SUCH CONDITIONS AFTER BIDS ARE ACCEPTED.
- THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, APPARATUS, MATERIALS, AND WORKMANSHIP ENTERING INTO THIS CONTRACT TO BE THE BEST OF ITS RESPECTIVE KIND AND SHALL REPLACE ALL PARTS AT HIS OWN EXPENSE, WHICH ARE PROVEN DEFECTIVE WITHIN ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE ENGINEER. THE EFFECTIVE DATE OF COMPLETION OF THE WORK SHALL BE THE DATE OF THE ENGINEER'S STATEMENT OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PRESENT THE ENGINEER WITH SUCH WARRANTIES AND GUARANTEES AT THE TIME OF FINAL ACCEPTANCE OF THE WORK. THE ENGINEER SHALL THEN SUBMIT THESE WARRANTIES, ETC., TO THE OWNER. THE OWNER RESERVES THE RIGHT TO USE EQUIPMENT INSTALLED BY THE CONTRACTOR PRIOR TO DATE OF FINAL ACCEPTANCE. SUCH USE OF EQUIPMENT SHALL, IN NO WAY, INVALIDATE THE GUARANTEE EXCEPT THAT THE OWNER SHALL BE LIABLE FOR ANY DAMAGE TO EQUIPMENT DURING THIS PERIOD, DUE TO NEGLIGENCE OF THE OPERATOR OR OTHER EMPLOYEES.
- THE CONTRACTOR SHALL PROVIDE AND LOCATE ALL SLEEVES AND INSERTS REQUIRED FOR HIS WORK OR SHALL BE RESPONSIBLE FOR THE COST OF CUTTING AND PATCHING REQUIRED FOR PIPES WHERE SLEEVES AND INSERTS WERE NOT INSTALLED, OR WHERE INCORRECTLY LOCATED. THE CONTRACTOR SHALL DO ALL DRILLING REQUIRED FOR THE INSTALLATION OF HIS HANGERS. TERMINATE SLEEVES FLUSH WITH WALLS.
- PATCHING AND REPAIRING MADE NECESSARY BY WORK PERFORMED UNDER THIS CONTRACT SHALL BE INCLUDED AS A PART OF THE WORK AND SHALL BE DONE BY SKILLED MECHANICS F THE TRADE OR TRADES FOR WORK CUT OR DAMAGED. ALL WORK SHALL MATCH ADJACENT SURFACES IN A MANNER ACCEPTABLE TO THE ENGINEER.
- G. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER WITHIN THIRTY (30) DAYS AFTER THE DATE OF THE CONTRACT, A MINIMUM OF FIVE (5) COPIES OF ALL SHOP DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS, INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS, SAMPLES, WIRING DIAGRAMS, ETC. ON ALL ITEMS OF EQUIPMENT SPECIFIED HEREINAFTER.
- . THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN AND PAY FOR ALL PERMITS. GOVERNMENT SALES TAXES, FEES, INSPECTIONS AND OTHER COSTS, INCLUDING ALL UTILITY CONNECTIONS, ETC., IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL DEPARTMENTS AND, OR THE APPROPRIATE MUNICIPALITY OR UTILITY COMPANY HAVING JURISDICTION, WHETHER INDICATED OR SPECIFIED OR NOT. HE SHALL ALSO OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ENGINEERS BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. IGNORANCE OF CODES, RULES, REGULATIONS, LAWS, ETC., SHALL NOT RENDER THE CONTRACTOR IRRESPONSIBLE FOR COMPLIANCE.
- ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, WITH THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

PIPE, FITTINGS AND PIPE SUPPORT

- A. THE PIPING INDICATED SHALL BE INSTALLED COMPLETE AND SHALL BE OF THE SIZES INDICATED. WHEN A PIPE SIZE IS NOT INDICATED, THE AFFECTED CONTRACTOR SHALL REQUEST THE PIPE SIZE FROM THE ENGINEERS. ALL PIPING SHALL BE INSTALLED STRAIGHT AND TRUE, PARALLEL OR PERPENDICULAR TO THE BUILDING CONSTRUCTION. PIPING SHALL BE INSTALLED SO AS TO ALLOW FOR EXPANSION WITHOUT DAMAGE TO THE BUILDING FINISHES, STRUCTURE, PIPE, EQUIPMENT, ETC., USE OFFSETS AS REQUIRED. NO MITERED JOINTS OR FIELD FABRICATED PIPE BENDS SHALL BE ACCEPTED.
- B. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED FIVE FEET OF ALL PIPING. INSULATED PIPING SHALL BE SUPPORTED ON RIGID INSULATION BLOCK AT EACH HANGER SO AS TO PREVENT CRUSHING OF INSULATION BY HANGERS. HANGERS SHALL PASS COMPLETELY AROUND THE INSULATION JACKET AND A STEEL PROTECTIVE SADDLE SHALL BE APPLIED TO PREVENT COMPRESSION OF THE INSULATION.
- C. PIPING MATERIALS SHALL BE AS FOLLOWS:

SANITARY PIPING SERVICE WEIGHT HUBLESS CAST IRON PIPE WITH MANUFACTURER'S APPROVED BANDSOR SCHEDULE 40 PVC PIPE WITH DRAINAGE PATTERN FITTINGS AND SOLVENT CEMENT JOINTS MADE IN ACCORDANCE WITH THE PLUMBING CODE (ASTM - D2665 & D1784). REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

SLEEVING, CUTTING, PATCHING, REPAIRING AND FIRESTOPPING

1.1 The Contractor's attention is directed to the General and Special Conditions and to all other Contract Documents as they apply to this branch of the work. Attention is also directed to all other sections of the Contract Documents which affect the work of this section and which are hereby made a part of the work specified in this section.

1.2 The Contractor shall be responsible for all openings, sleeves, trenches, etc., that may be required in fi roofs, ceilings, walls, etc., and shall coordinate all such work with the General Contractor and all other trades Coordinate with the General Contractor, any openings which they are to provide before submitting a bid propo in order to avoid conflict and disagreement during construction. Improperly located openings shall be rework at the expense of the Contractor.

1.3 The Contractor shall plan their work ahead and shall place sleeves, frames or forms through all walls, floors and ceilings during the initial construction, where it is necessary for piping, ductwork, conduit, etc., to route through; however, when this is not coordinated, the Contractor shall then do all cutting and patching required for the installation of their work, or pay other trades for doing this work when so directed by the Engineer. Any damage caused to the building by this Contractor shall be corrected or rectified at their expe

1.4 The Contractor shall notify other trades in due time where they will require openings or chases in new concrete, masonry, etc. Set all concrete inserts and sleeves for their work. Failing to coordinate, Contracto shall cut openings for the work and patch same as required at their expense with qualified tradesman.

1.5 The Contractor shall be responsible for properly shoring, bracing, supporting, etc., any existing and/or construction to guard against cracking, settling, collapsing, displacing or weakening while openings are being made. Any damage occurring to the existing and/or new structures, due to failure to exercise proper precautions or due to action of the elements shall be promptly and properly corrected to the satisfaction of Engineer.

1.6 All work improperly performed or not performed as required in this section, shall be corrected by the General Contractor at the responsible Contractor's expense.

PART 2 - SLEEVES:

2.1 Cast iron or Schedule 40 steel sleeves shall be installed through all walls where pipe enters the building below grade. Sleeves shall be flush with each face of the wall and shall be sufficiently larger than the ente pipe to permit thorough caulking between pipe and sleeve for water proofing. Horizontal sleeves passing thro exterior walls or where there is a possibility of water leakage and damage shall be caulked watertight. Utilize "Link-Seal" at these locations.

2.2 In all cases, sleeves shall be at least two pipe sizes larger than nominal pipe diameter plus insulation. Sleeves through walls and floors shall be cut off flush with inside surface unless otherwise indicated.

2.3 Vertical sleeves in roofs shall be flashed and counterflashed with lead (4 lb.) or 16 oz. copper and w or soldered to piping, lapped over sleeve and properly weather sealed. Where sleeves pass through roof construction, sleeves shall extend minimum of 12" above the roof. PART 3 - CUTTING:

3.1 All openings in plaster, gypsum board or similar materials, shall be framed by means of plaster frames casing beads, or angle members as required. The intent of this requirement is to provide smooth, even termination of wall, floor and ceiling finishes as well as to provide a fastening means for devices, etc.

3.2 The Mechanical Contractor shall coordinate all openings in masonry walls with the General Contractor; unless otherwise indicated in the Contract Documents, shall provide lintels for all openings required for the mechanical work such as louvers, exhaust fans, etc. Prime paint all lintels. Lintels shall be sized as follow Unless noted otherwise in the Structural Drawings.

3.2.1 New Openings under 48" in width: Provide one 3½"x3½"x3/8" steel angle for each 4" of masonry wid Lintel shall have 8" bearing on each end.

3.2.2 New Openings over 48" in width: Consult with Structural Engineer. 3.3 No cutting shall be performed at location that will weaken the structure and unnecessary cutting must avoided. If in doubt, contact the Engineer.

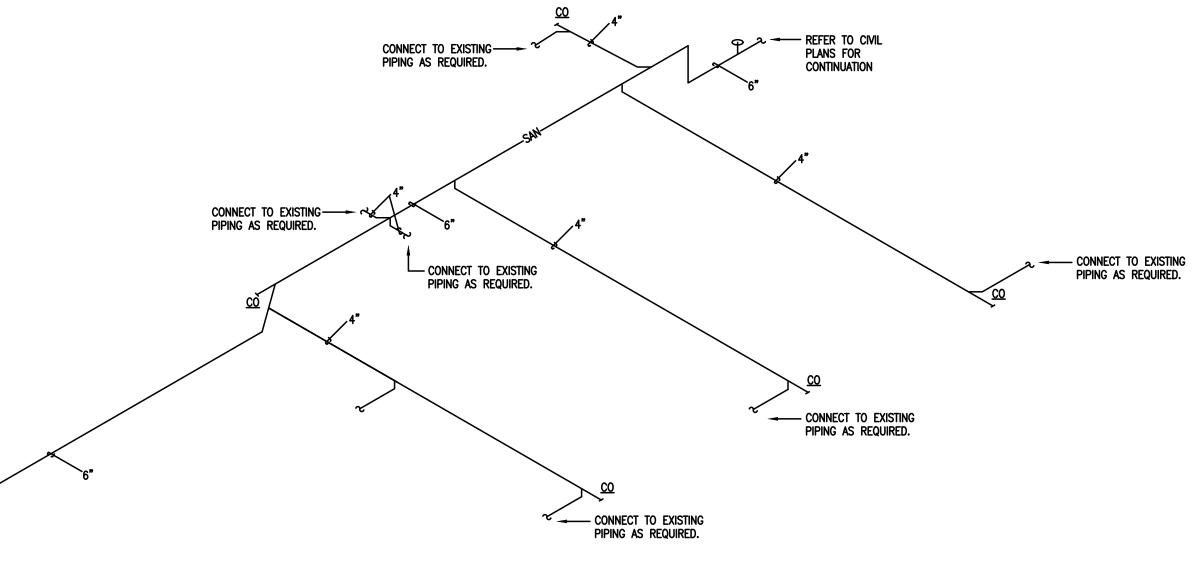
3.4 Pipe openings in slabs and walls shall be cut with core drill. Hammer devices will not be permitted. Edges of trenches and large openings shall be scribe-cut with a masonry saw. PART 4 - PATCHING, REPAIRING AND FINISHING:

4.1 Patching and repairing made necessary by work performed under this Division shall be included as a of the work and shall be done by skilled workers of the trade. The work shall be performed in strict accordance with the provisions herein before specified to match adjacent surfaces and in a manner acceptal the Engineer.

4.2 Where portions of existing sites, lawns, shrubs, paving, etc. are disturbed for installation of work of thi Division, such items shall be repaired and/or replaced back to original or better condition to the satisfaction the Engineer.

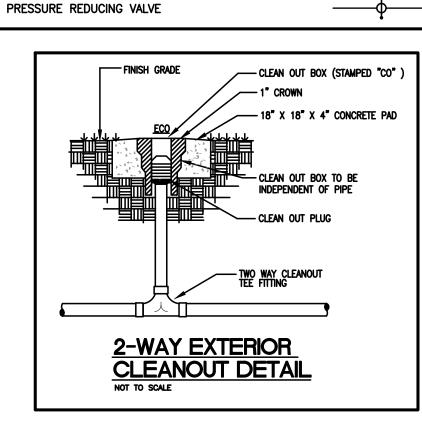
4.3 Piping and ductwork passing through floors, ceilings and walls in finished areas shall be fitted with chro plated brass escutcheon trim pieces of sufficient outside diameter to amply cover the sleeved openings and o inside diameter to closely fit the pipe/duct around which it is installed.

4.4 Flanged metal collars shall be provided around all ducts, flues, pipes, etc. at all wall penetrations; both sides. Penetrations through any wall will require the installation of flanged collars. Openings shall not be ar larger than 2" in any direction than the piping/duct passing through the wall. Openings larger than this requirement shall also be infilled to match adjacent construction. Fill void with insulation for sound reduction

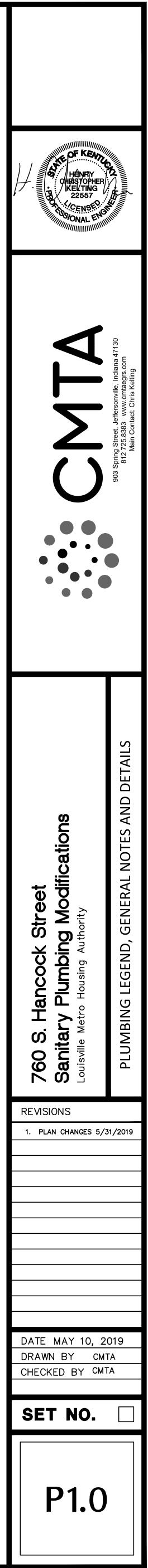


WASTE RISER DIAGREM

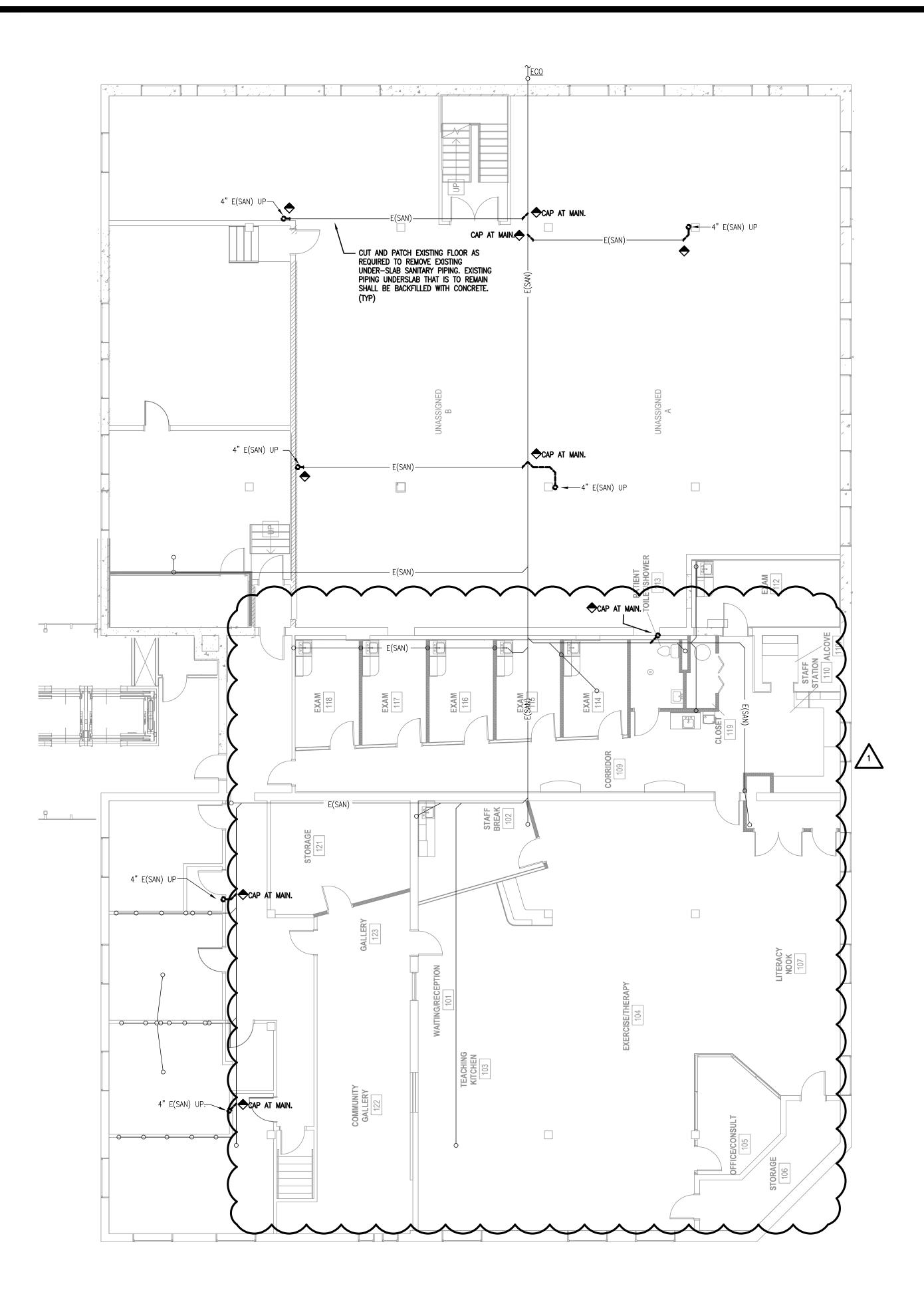
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PLUMBING LEGEND		<u>GENERAL NOTES (APPLICABLE TO ALL DRAWINGS):</u> 1. EACH CONTRACTOR, SUPPLIER AND OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH	
ABOVE FINISHED FLOOR BELOW FINISHED FLOOR	AFF BFF	SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS AND AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.	
CAST IRON CLEANOUT	CI CO	2. All offsets, turns, fittings, trim, detail, etc., may not be indicated, but shall be provided as required. Additional allowances shall be included for same at each proposers' discretion.	
COLD WATER	CW	3. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC., IN A LOCATION OR IN A MANNER WHICH WILL ALLOW	
DOMESTIC WATER CIRCULATING PUMP ELECTRICAL CONTRACTOR	DP EC	FREEZING AND/OR THE COLLECTION OF CONDENSATION THEREON.	
EXPANSION TANK EXTERIOR CLEANOUT	ET ECO	4. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).	
FLOOR DRAIN FLOOR SINK	FD FS	5. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.	
FREEZE PROOF WALL HYDRANT FREEZE PROOF ROOF HYDRANT	FPWH FPRH	WORK NOT DONE SO SHALL BE REMOVED AND REINSTALLED SATISFACTORILY.	
GENERAL CONTRACTOR	GC	6. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.	
GREASE INTERCEPTOR HOSE BIBB HOT WATER	GI HB HW	 7. DO NOT SCALE FROM DRAWINGS, PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR. 	
INVERT ELEVATION MECHANICAL CONTRACTOR MIXING VALVE	IE MC MV	8. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL MATCH EXISTING ADJACENT SURFACES AND BE IN ACCORD WITH	
NEUTRALIZATION TANK OWNER FURNISHED CONTRACTOR INSTALLED	NT OFCI	FACILITY STANDARDS FOR SUCH WORK. 9. THESE DRAWINGS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE, HOWEVER LOCATIONS, DEPTHS,	
OPEN RECEPTACLE OPEN RECEPTACLE	OR OR	9. THESE DRAWINGS ARE ACCORATE TO THE BEST OF OUR KNOWLEDGE, HOWEVER EDUCATIONS, DEPTHS, ELEVATIONS AND SIZES WERE TAKEN FROM DIFFERENT SOURCES AND ARE SUBJECT TO DEVIATION. THE CONTRACTOR SHALL ASSUME SOME DEVIATIONS AND INCLUDE OFFSETS, ADDITIONAL PIPING, ETC AT THE TIME OF BID.	
PLUMBING CONTRACTOR POLYVINYL CHLORIDE ROOF DRAIN	PC PVC RD	10. ADVISE THE ENGINEERS OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID	
SUMP PUMP TRAP PRIMER	SP TP	DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM. 11. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS	
TRENCH DRAIN TYPICAL	td Typ	AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE. 12. THE PURPOSE AND INTENT OF ALL THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A	
VENT THROUGH ROOF WATER HAMMER ARRESTOR	VTR WHA	COMPLETE, FUNCTIONAL, SAFE, NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.	
WATER HEATER WATER SOFTENER	WH WS	13. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORD WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION.	
EXISTING SANITARY PIPING	——————————————————————————————————————	14. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING	
EXISTING STORM PIPING	————E(SS)———	STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING. DO NOT SUPPORT	
EXISTING OVERFLOW STORM PIPING EXISTING SANITARY VENT PIPING	——E(OSS)—— ———E(V)———	EQUIPMENT FROM WALLS OR PARTITIONS	
EXISTING DOMESTIC COLD WATER PIPING	——————————————————————————————————————	15. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO	
EXISTING DOMESTIC HOT WATER PIPING	——————————————————————————————————————	ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.	
EXISTING DOMESTIC HOT WATER RETURN PIPING	————E(HWR)———	16. THE GENERAL CONTRACTOR FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS,	
EXISTING NATURAL GAS PIPING	——————————————————————————————————————	INSTALLERS, ETC. EACH TRADE SHALL COORDINATE THEIR WORK WITH OTHER TRADES AND THE GENERAL CONTRACTOR.	
iemo sanitary piping Iemo storm piping	E(SAN) E(SS)	17. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM SHALL NOT BE LOCATED ABOVE A	
MO OVERFLOW STORM PIPING	E(OSS)	HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT.	
EMO SANITARY VENT PIPING	E(V)	18. ENSURE PROPER COORDINATION BETWEEN ALL TRADES SUCH THAT CONDUITS, PIPING, DUCTWORK, ETC. DO NOT BLOCK ACCESS TO VALVES, EQUIPMENT, DUCT ACCESS DOORS, ETC. ITEMS THAT HAVE BEEN	
DEMO DOMESTIC COLD WATER PIPING	E(CW)	INSTALLED WHERE ACCESS IS COMPROMISED SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.	
DEMO DOMESTIC HOT WATER PIPING DEMO DOMESTIC HOT WATER RETURN PIPING	E(HW) E(HWR)	19. IN AREAS WITH WORK ABOVE AN EXISTING CEILING (LAY-IN, DRYWALL, SPLINE, ETC.), THE CONTRACTOR SHALL CUT AND PATCH THE CEILING AND GRID AS REQUIRED TO PERFORM THE WORK. ANY EXISTING	
DEMO DOMESTIC HOT WATER RETORN PIPING	E(GAS)	LAY-IN CEILING OR GRID DAMAGED OR BROKEN SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.	
SANITARY PIPING		20. INACCESSIBLE PIPING BURIED IN EXISTING WALLS REMAINING AND CONCRETE SLABS MAY BE ABANDONED IN PLACE. CAP ABANDONED PIPING AND DUCTWORK.	
STORM PIPING	SS	21. ALL NEW SANITARY, STORM AND WATER PIPING SHALL BE CLOSELY COORDINATED WITH NEW STRUCTURE,	
OVERFLOW STORM PIPING	OSS	HVAC DUCTWORK AND PIPING, AND ELECTRICAL.	
GREASE WASTE PIPING	GL	22. ALL SANITARY, STORM AND VENT PIPING SHALL BE ROUTED IN BETWEEN BEAMS, AND HELD HIGH AS POSSIBLE.	
OIL WASTE PIPING SANITARY VENT PIPING	VIL	23. ALL SYSTEM SHUTDOWN PLANS SHALL BE SUBMITTED FOR REVIEW A MINIMUM OF 72 HOURS IN ADVANCE. ALL COORDINATION SHOULD BE ACCOMPLISHED PRIOR TO SUBMISSION.	
DOMESTIC COLD WATER PIPING		24. THE CONTRACTOR SHALL CLEAN UP CONSTRUCTION DEBRIS DAILY BEFORE LEAVING THE WORKSPACE.	
DOMESTIC HOT WATER PIPING (120° F)		24. THE CONTRACTOR SHALL CLEAN OF CONSTRUCTION DEBRIS DAILT BEFORE LEAVING THE WORKSPACE. 25. THE WORK AREA NEEDS TO BE SEALED WITH A DUST BARRIER SYSTEM SUCH AS A "ZIP WALL" SYSTEM.	
DOMESTIC HOT WATER RETURN PIPING (120° F)		26. ALL DUCTWORK VENTS IN THE AREA IF CONSTUCTION ARE TO BE SEALED AIRTIGHT.	
DOMESTIC HOT WATER PIPING (140° F)			
DOMESTIC HOT WATER RETURN PIPING (140° F) FILTERED COLD WATER	140R FCW		
DEIONIZED WATER	——————————————————————————————————————		
TRAP PRIMER PIPING	TP		
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PRESSURE RELIEF VALVE	ş		
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DIAL THERMOMETER	©		
PRESSURE GAUGE GATE VALVE			
BALANCING VALVE			
SOLENOID VALVE	——————————————————————————————————————		
GAS SHUT-OFF VALVE	₹		
CHECK VALVE	Ñ		
DOUBLE CHECK VALVE ASSEMBLY	55		
BALL VALVE IN DIGED			
BALL VALVE IN RISER	 		
PIPING ELBOW (TURNED UP/DOWN) PIPING TEE (TURNED UP/DOWN)			
REDUCED PRESSURE BACKFLOW PREVENTER	X		
RESSURE REDUCING VALVE	ф		



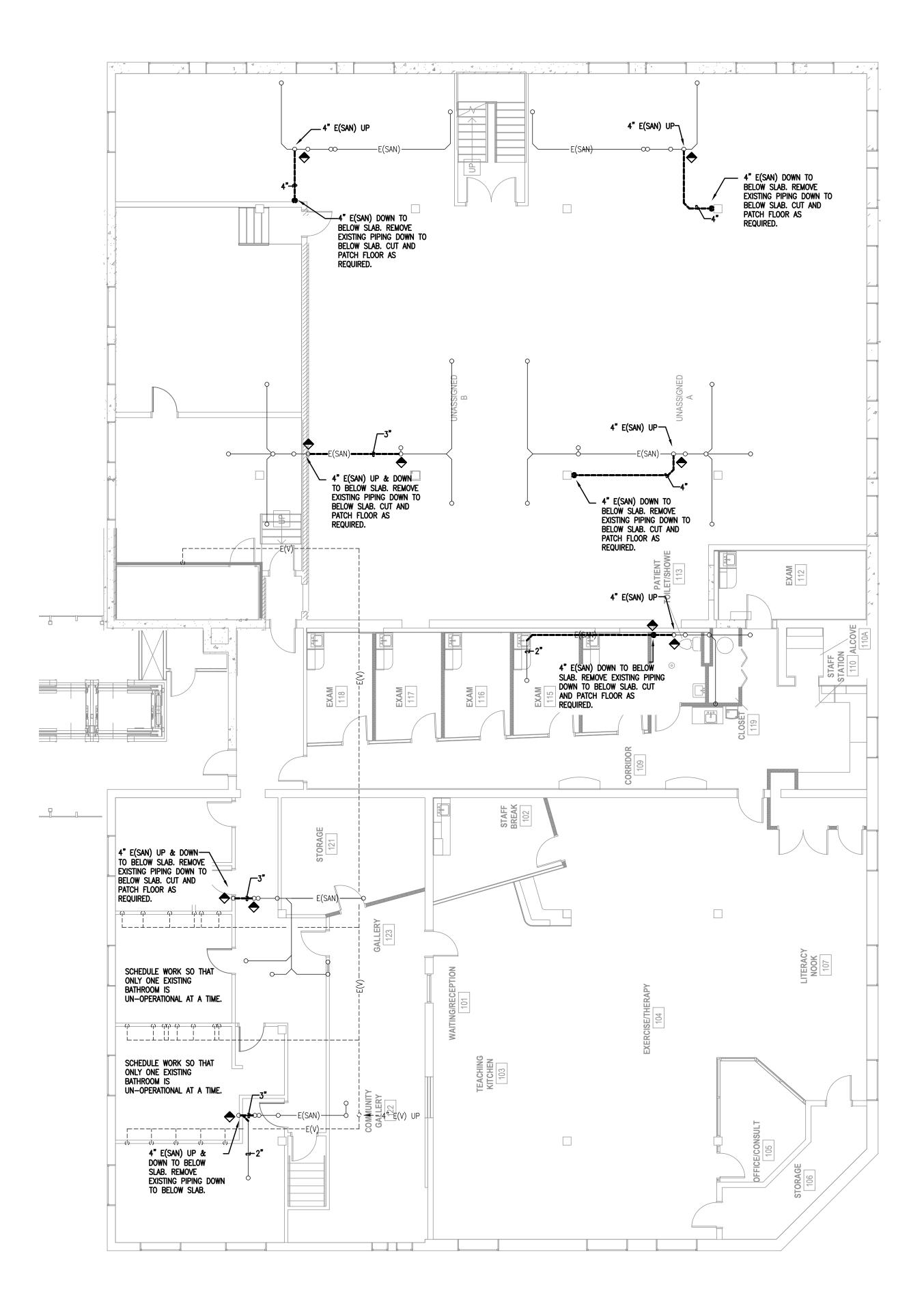
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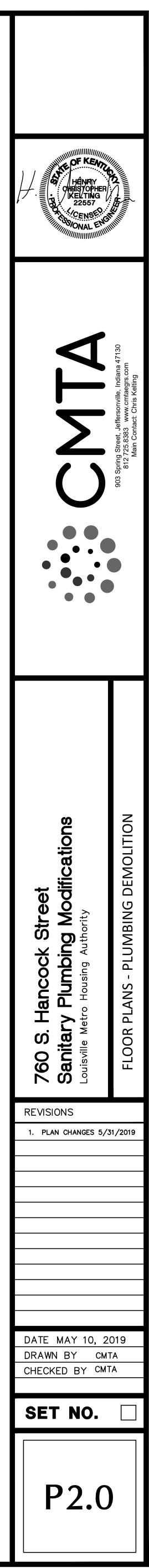
CONSTRUCTION DOCUMENTS



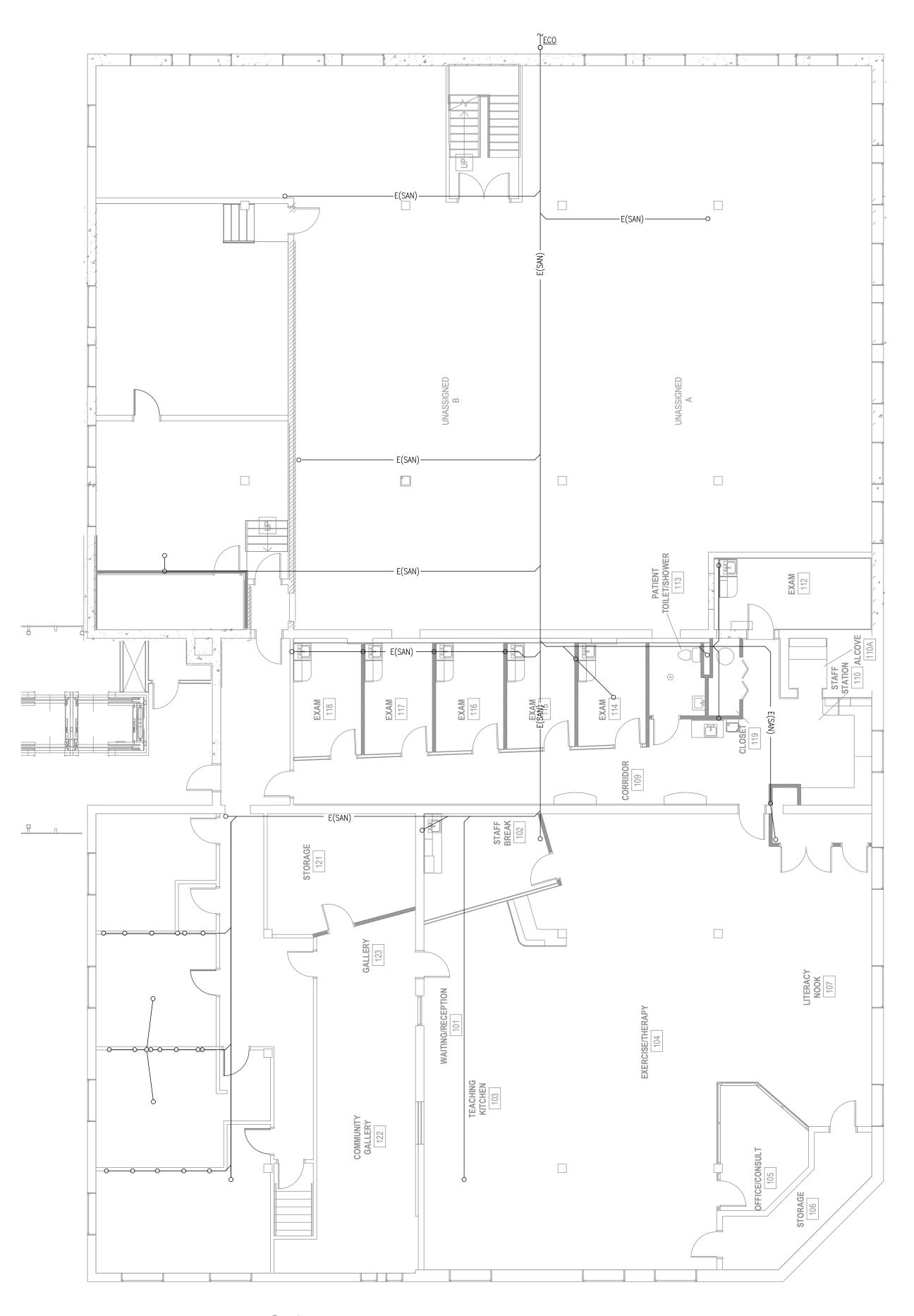
 $01_{\text{SCALE: } \frac{1}{8} = 1' - 0''} \text{BASEMENT PLAN - UNDER-SLAB PLUMBING DEMOLITION}$ 



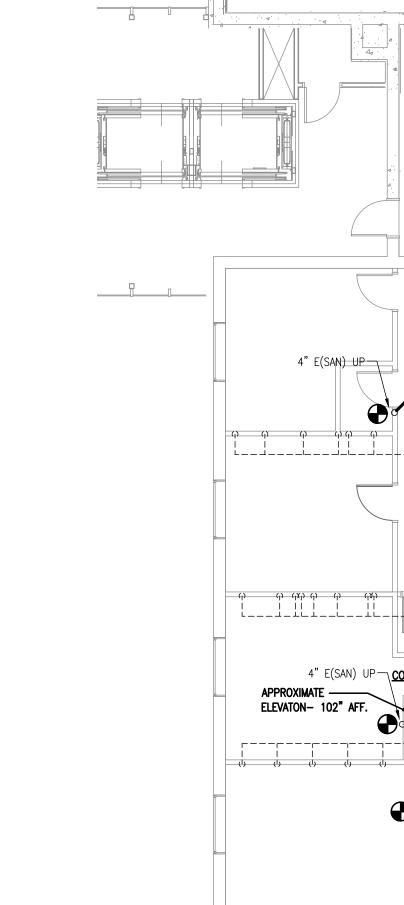
02 BASEMENT PLAN - PLUMBING DEMOLITION

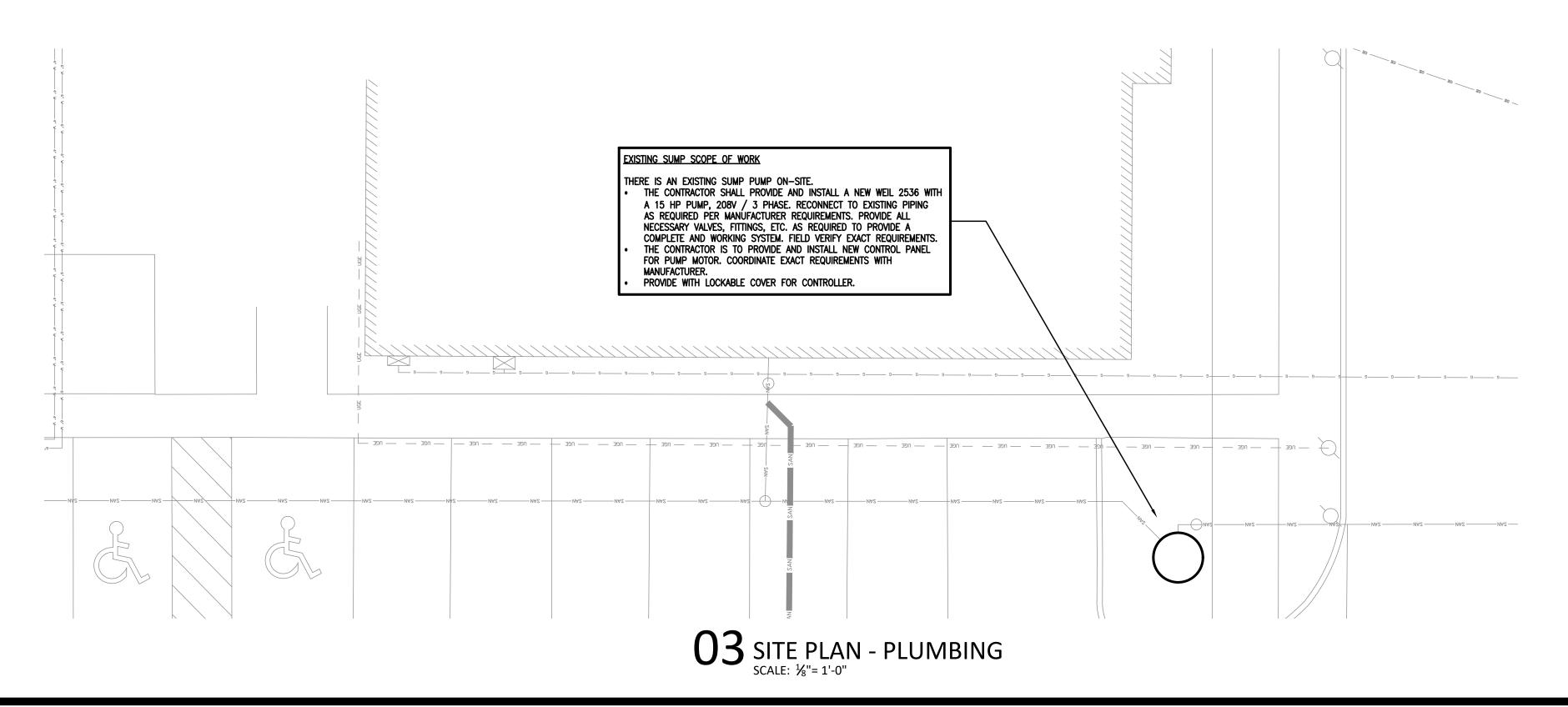


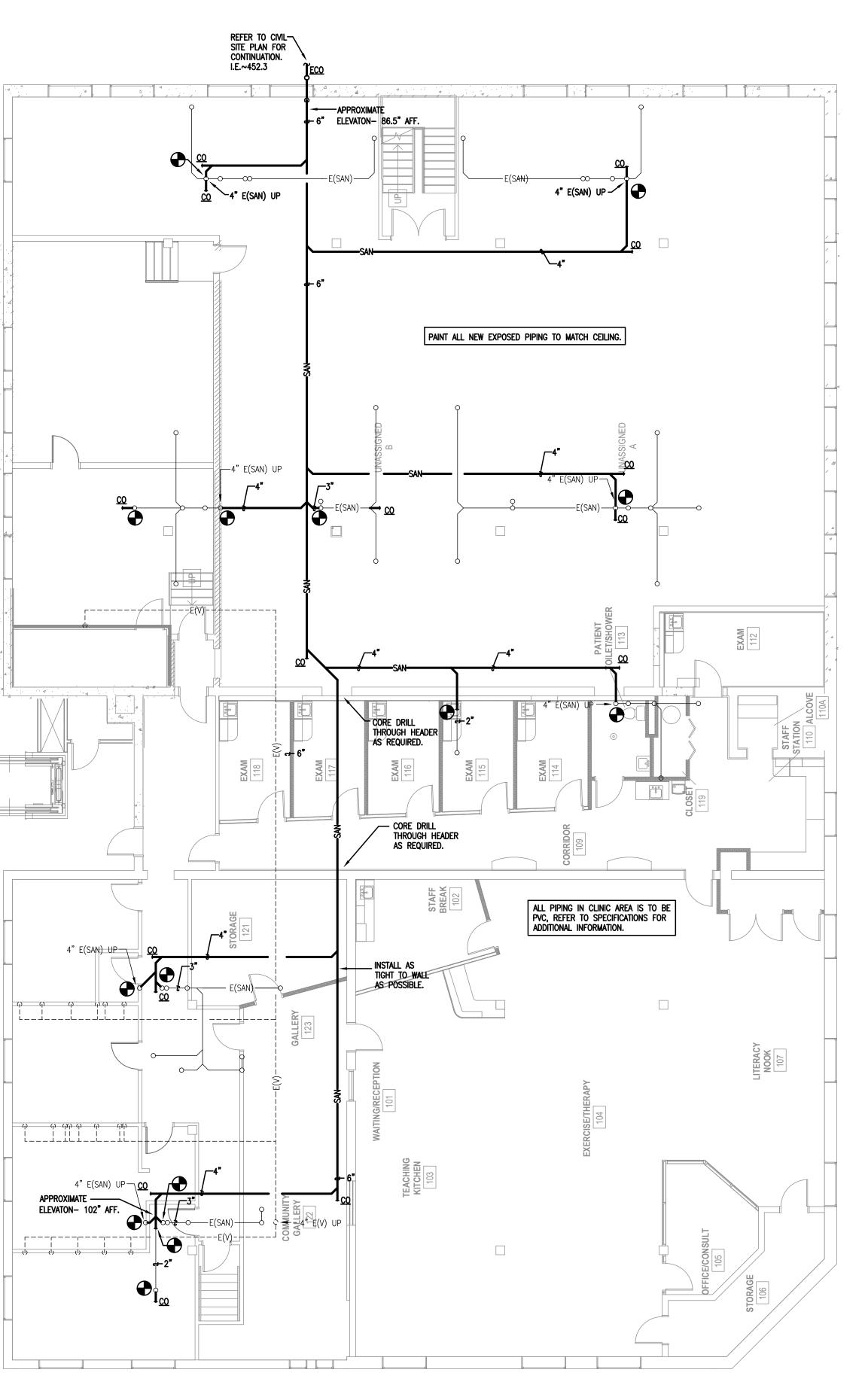
CONSTRUCTION DOCUMENTS



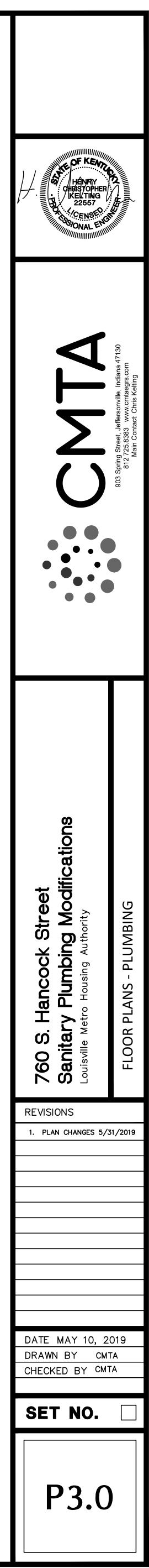
 $01_{\text{SCALE: } \frac{1}{3} = 1'-0''} \text{BASEMENT PLAN - UNDER-SLAB PLUMBING}$ 







02 BASEMENT PLAN - PLUMBING



CONSTRUCTION DOCUMENTS

# ELECTRICAL SPECIFICATIONS

# 1.GENERAL

- A. IN GENERAL, AND TO THE EXTENT POSSIBLE, ALL WORK SHALL BE ACCOMPLISHED WITHOUT INTERRUPTION OF THE EXISTING FACILITIES' OPERATIONS. THE CONTRACTOR SHALL ADVISE THE OWNERS AT LEAST FORTY-EIGHT HOURS PRIOR TO THE INTERRUPTION OF ANY SERVICES. THE OWNERS SHALL BE ADVISED OF THE EXACT TIME THAT INTERRUPTION WILL OCCUR AND THE LENGTH OF TIME THE INTERRUPTION WILL OCCUR. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN COMPLETE WORK STOPPAGE BY THE CONTRACTOR INVOLVED. WORK TO RESTORE SERVICE SHALL BE CONTINUOUS. MAXIMUM DOWN TIME SHALL NOT EXCEED 2 HOURS
- B. DRAWINGS SHALL NOT BE SCALED FOR FINAL DIMENSIONS. THE CONTRACTOR SHALL OBTAIN ALL DIMENSIONS FROM FIELD MEASUREMENTS.
- C. ALL MATERIALS SHALL BE NEW, BE LISTED FOR THE INTENDED USE AND DISPLAY THE U.L. LABEL, WHEREVER POSSIBLE. ALL EQUIPMENT SHALL BE CONSTRUCTED TO NEMA STANDARDS.
- D. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. OBTAINING SLEEVES. TEMPLATES. INSTALLATION GUIDES. NAMEPLATE DATA, ETC., SUFFICIENTLY IN ADVANCE TO AVOID CONFLICTS AND WORK INSTALLED IN ERROR OR IN SPACES REQUIRED BY OTHERS. VERIFY ALL ROUGH-IN LOCATIONS, MOUNTING HEIGHTS, POWER REQUIREMENTS, ETC., WITH SHOP DRAWINGS TO AVOID CONFLICTS. FAILURE TO OBSERVE THESE REQUIREMENTS WILL NOT BE GROUNDS TO REQUEST AN EXTRA TO THE CONTRACT, IN MONEY OR TIME EXTENSION.
- E. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, FOR EXACT LOCATIONS OF ALL CEILING-MOUNTED DEVICES AND EQUIPMENT.
- F. WHERE WORKING IN OR AROUND OR TYING INTO EXISTING CIRCUITS. EQUIPMENT, FIXTURES, DEVICES, ETC., THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND ASCERTAIN FOR HIMSELF THE SUITABILITY OF ANY INSTALLATION PRIOR TO BIDDING THE WORK. FAILURE TO OBSERVE THIS REQUIREMENT SHALL NOT BE GROUNDS FOR REQUESTING AN EXTRA TO THE CONTRACT IN FUNDS OR TIME OF COMPLETION.
- G. REFER TO ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ALL TRADES OF WORK FOR ADDITIONAL INFORMATION. ALL CONTRACT DOCUMENTS ARE INTENDED TO BE COMPLIMENTARY, ONE OF ANOTHER. SEPARATION OF DOCUMENTS INTO VARIOUS DISCIPLINES IS FOR CONVENIENCE ONLY, AND DOES NOT IMPLY ANY SPECIFIC ASSIGNMENTS.

## <u>INTENT</u> 2.

- A. IT IS THE INTENTION OF THESE SPECIFICATIONS AND ALL ASSOCIATED DRAWINGS TO CALL FOR FINISHED WORK, TESTED, AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE."
- B. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION, SHALL BE INCLUDED IN THE WORK, THE SAME AS IF HEREIN SPECIFIED OR SHOWN.
- 3. <u>DRAWINGS AND SPECIFICATIONS</u>
- A. THE DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE THE GENERAL ARRANGEMENT OF THE SYSTEMS AND ARE TO BE FOLLOWED INSOFAR AS POSSIBLE. IF DEVIATIONS FROM THE LAYOUTS ARE NECESSITATED BY FIELD CONDITIONS. DETAILED LAYOUTS OF THE PROPOSED DEPARTURES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACT DRAWINGS ARE NOT INTENDED TO SHOW EVERY VERTICAL OR HORIZONTAL OFFSET WHICH MAY BE NECESSARY TO COMPLETE THE SYSTEMS. CONTRACTORS SHALL ANTICIPATE THAT ADDITIONAL OFFSETS MAY BE REQUIRED AND SUBMIT THEIR BID ACCORDINGLY.
- B. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. NO CONTRACTOR OR SUPPLIER SHALL TAKE ADVANTAGE OF CONFLICT BETWEEN THEM, OR BETWEEN PARTS OF EITHER, BUT SHOULD THIS CONDITION EXIST, THE CONTRACTOR OR SUPPLIER SHALL REQUEST A CLARIFICATION OF THE CONDITION AT LEAST TEN (10) DAYS PRIOR TO THE SUBMISSION OF BIDS SO THAT THE CONDITION MAY BE CLARIFIED BY ADDENDUM. IN THE EVENT THAT SUCH A CONDITION ARISES AFTER WORK IS STARTED. THE INTERPRETATION OF THE ENGINEER SHALL BE THE DETERMINING FACTOR. AND THE CONTRACT TO ACCOMPLISH THE WORK SHALL BE BINDING ON THE CONTRACTOR.
- C. THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED TO BE COOPERATIVE AND ANYTHING APPEARING IN THE SPECIFICATIONS WHICH MAY NOT BE INDICATED ON THE DRAWINGS OR CONVERSELY, SHALL BE CONSIDERED AS PART OF THE CONTRACT AND MUST BE EXECUTED THE SAME AS THOUGH INDICATED BY BOTH.
- D. SHOULD OVERLAP OF WORK BETWEEN THE VARIOUS TRADES BECOME EVIDENT. THIS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. IN SUCH EVENT NEITHER TRADE SHALL ASSUME THAT HE IS TO BE RELIEVED OF THE WORK WHICH IS SPECIFIED UNDER HIS BRANCH UNTIL INSTRUCTIONS IN WRITING ARE RECEIVED FROM THE ENGINEER.
- E. LOCATION, MATERIAL TYPES, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES, NONE OF WHICH WERE INDICATED "AS-BUILT." AND ALL ARE SUBJECT TO EXTENSIVE VARIATION AS TO LOCATIONS, SIZE, MATERIALS, ETC. ALSO, CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED. CONSEQUENTLY, ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS. UTILITIES SHALL ALSO BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
- F. WHERE THE INSTALLATION OF CONDUIT, AND DUCTS IN WALLS, FLOORS, OR PARTITIONS REQUIRE THE REMOVAL OF ANY FIRESTOPPING OR PENETRATIONS OF SMOKE OR FIRE RATED WALLS, CEILINGS, FLOORS, ETC., THE SPACE AROUND SUCH CONDUIT, DUCTS AND PIPING SHALL BE TREATED WITH A U.L. LISTED FIRESTOP SYSTEM IN ORDER TO MAINTAIN THE INTEGRITY OF THE FIRE RATING.
- G. THE CONTRACTOR SHALL INFORM HIMSELF OF ALL OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE SITE OF THE WORK, THE STRUCTURE OF THE GROUND, THE OBSTACLES THAT MAY BE ENCOUNTERED, THE AVAILABILITY AND LOCATION OF NECESSARY FACILITIES AND ALL RELEVANT MATTERS CONCERNING THE WORK. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND DETERMINE THE KIND AND TYPE OF MATERIALS TO BE USED THROUGHOUT THE PROJECT AND WHICH MAY, IN ANY WAY, AFFECT THE EXECUTION OF HIS WORK. THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS AS TO INGRESS AND EGRESS, DISTANCE OF HAUL FROM SUPPLY POINTS, ROUTES FOR TRANSPORTATION OF MATERIALS. FACILITIES AND SERVICES. AVAILABILITY OF UTILITIES. ETC. HIS PROPOSAL SHALL COVER ALL EXPENSES OR DISBURSEMENTS IN CONNECTION WITH SUCH MATTERS AND CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL WORK SHOWN ON THE DRAWINGS AND CONDITIONS AT THE SITE, AND SHALL REPORT IMMEDIATELY TO THE ENGINEER TEN DAYS (10) PRIOR TO BIDDING, ANY DISCREPANCIES WHICH MAY APPEAR IN ORDER THAT MISUNDERSTANDING AT A LATER DATE MAY BE PREVENTED. NO ALLOWANCE IS TO BE MADE FOR LACK OF KNOWLEDGE CONCERNING SUCH CONDITIONS AFTER BIDS ARE ACCEPTED.
- H. THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT. APPARATUS. MATERIALS, AND WORKMANSHIP ENTERING INTO THIS CONTRACT TO THE BEST OF ITS RESPECTIVE KIND AND SHALL REPLACE ALL PARTS AT HIS OWN EXPENSE, WHICH ARE PROVEN DEFECTIVE WITHIN ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE ENGINEER. THE EFFECTIVE DATE OF COMPLETION OF THE WORK SHALL BE THE DATE OF THE ENGINEER'S STATEMENT OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PRESENT THE ENGINEER WITH SUCH WARRANTIES AND GUARANTEES AT THE TIME OF FINAL ACCEPTANCE OF THE WORK. THE ENGINEER SHALL THEN SUBMIT THESE WARRANTIES, ETC. TO THE OWNER. THE OWNER RESERVES THE RIGHT TO USE EQUIPMENT INSTALLED BY THE CONTRACTOR PRIOR TO DATE OF FINAL ACCEPTANCE. SUCH USE OF EQUIPMENT SHALL, IN NO WAY. INVALIDATE THE GUARANTEE EXCEPT THAT OWNER SHALL BE LIABLE FOR ANY DAMAGE TO EQUIPMENT DURING THIS PERIOD, DUE TO NEGLIGENCE OF THE OPERATOR OR OTHER EMPLOYEES.
- I. PATCHING AND REPAIRING MADE NECESSARY BY WORK PERFORMED UNDER THIS CONTRACT SHALL BE INCLUDED AS A PART OF THE WORK AND SHALL BE DONE BY SKILLED MECHANICS OF THE TRADE OR TRADES FOR WORK CUT OR DAMAGED. ALL WORK SHALL MATCH ADJACENT SURFACES IN A MANNER ACCEPTABLE TO THE ENGINEER.

- CODES, RULES, PERMITS, FEES, REGULATIONS, ETC.
- A. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN AND PAY FOR ALL PERMITS, GOVERNMENT SALES TAXES, FEES, AND OTHER COSTS INCLUDING UTILITY CONNECTIONS OR EXTENSIONS, IN CONNECTION WITH HIS WORK: FILE ALL NECESSARY PLANS. PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION: OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ENGINEER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. IGNORANCE OF CODES, RULES, REGULATIONS, LAWS, ETC., SHALL NOT RENDER THE ELECTRICAL CONTRACTOR IRRESPONSIBLE FOR COMPLIANCE.
- B. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES. NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
- C. ALL WORK IS TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS WHICH HAVE BEEN APPROVED IN THEIR ENTIRETY AND/OR REFLECT ANY CHANGES REQUESTED BY THE STATE FIRE MARSHAL. WORK SHALL NOT COMMENCE UNTIL SUCH PLANS ARE IN THE HANDS OF THE CONTRACTOR.
- D. THE CONTRACTOR SHALL INSURE THAT HIS WORK IS ACCOMPLISHED IN ACCORD WITH OSHA STANDARDS.
- E. WHERE CONFLICT ARISES BETWEEN ANY CODE AND THE PLANS AND/OR SPECIFICATIONS, THE CODE SHALL APPLY EXCEPT IN THE INSTANCE WHERE THE PLANS AND SPECIFICATIONS EXCEED THE REQUIREMENTS OF THE CODE. ANY CHANGES REQUIRED AS A RESULT OF THESE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO BID DATE. OTHERWISE THE CONTRACTOR SHALL MAKE THE REQUIRED CHANGES AT HIS OWN EXPENSE. THE PROVISIONS OF THE CODES CONSTITUTE MINIMUM STANDARDS FOR WIRING METHODS, MATERIALS, EQUIPMENT AND CONSTRUCTION AND COMPLIANCE THEREWITH WILL B REQUIRED FOR ALL ELECTRICAL WORK. EXCEPT WHERE THE DRAWINGS AND SPECIFICATIONS REQUIRE BETTER MATERIALS, EQUIPMENT, AND CONSTRUCTION THAN THESE MINIMUM STANDARDS, IN WHICH CASE THE DRAWINGS AND SPECIFICATIONS SHALL BE THE MINIMUM STANDARDS.

# 5. MATERIALS AND WORKMANSHIP

- A. ALL CONDUIT AND/OR CONDUCTORS SHALL BE CONCEALED IN WALLS, CEILINGS OR FLOORS UNLESS OTHERWISE NOTED. ALL FIXTURES AND WIRING COVERED IN THIS SECTION SHALL BE INSTALLED TO MAKE UP COMPLETE SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HFRFIN
- B. ALL MATERIALS, WHERE APPLICABLE, SHALL BEAR UNDERWRITERS' LABORATORIES LABEL WHERE SUCH A STANDARD HAS BEEN ESTABLISHED.
- C. EACH LENGTH OF CONDUIT, WIREWAY, DUCT, CONDUCTOR, CABLE, FITTING, FIXTURE AND DEVICE USED IN THE ELECTRICAL SYSTEMS SHALL BE STAMPED OR INDELIBLY MARKED WITH THE MANUFACTURER'S MARK OR NAME.
- D. ALL EQUIPMENT SHALL BEAR THE MANUFACTURER'S NAME AND ADDRESS AND SHALL INDICATE ITS ELECTRICAL CAPACITY AND CHARACTERISTICS.
- E. ALL MATERIALS, EQUIPMENT AND APPLIANCES SHALL CONFORM TO THE LATEST STANDARDS OF THE NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA) AND THE NATIONAL BOARD OF FIRE UNDERWRITERS (NBFU) AND SHALL BE APPROVED BY THE OWNER'S INSURING AGENCY IF SO REQUIRED.
- 7. FINAL CONNECTIONS TO EQUIPMENT A. THE ROUGHING-IN AND FINAL CONNECTIONS TO ALL ELECTRICALLY OPERATED EQUIPMENT FURNISHED UNDER THIS AND ALL OTHER SECTIONS OF THESE SPECIFICATIONS, OR BY OTHERS, SHALL BE INCLUDED IN THE CONTRACT AND CONSISTS OF FURNISHING ALL LABOR AND MATERIALS FOR CONNECTION.
- 8. <u>CLEANING</u>
- A. THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE AREA OF HIS WORK PRESENTABLE TO THE PUBLIC AND CLEAN OF RUBBISH CAUSED BY HIS OPERATIONS: AND AT THE COMPLETION OF THE WORK, SHALL REMOVE ALL RUBBISH, ALL OF HIS TOOLS, EQUIPMENT, TEMPORARY WORK AND SURPLUS MATERIALS, FROM AND ABOUT THE PREMISES, AND SHALL LEAVE THE WORK CLEAN AND READY FOR USE. IF THE CONTRACTOR DOES NOT ATTEND TO SUCH CLEANING IMMEDIATELY UPON REQUEST, THE ENGINEER MAY CAUSE CLEANING TO BE DONE BY OTHERS AND CHARGE THE COST OF SAME TO THE RESPONSIBLE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE OR ALL DAMAGE FROM FIRE WHICH ORIGINATES IN, OR IS PROPOGATED BY, ACCUMULATIONS OF HIS RUBBISH OR DEBRIS.
- 10. IDENTIFICATIONS
- A. PROVIDE PANELS, DISCONNECTS, DISTRIBUTION EQUIPMENT, MOTOR STARTERS, ETC. WITH ENGRAVED LAMACOID PLATE INDICATING EQUIPMENT NAME, PANEL AND CIRCUIT SERVED FROM, LOCATION OF PANEL SERVED FROM, WIRE AND CIRCUIT BREAKER SIZE FOR CIRCUIT SERVED FROM, VOLTAGE AND PHASE, BRANCH OF EMERGENCY POWER IF APPLICABLE. PLATE TO BE RED FOR EMERGENCY, BLACK FOR NORMAL POWER, 1/2" WHITE LETTERING.
- B. MARK INSIDES OF WALL AND CEILING BOXES WITH PANEL AND CIRCUIT NUMBER.
- C. PROVIDE NEW TYPE WRITTEN PANEL SCHEDULE IN PLASTIC SLEEVE FOR ALL NEW AND EXISTING PANELS AFFECTED. SCHEDULES MUST INDICATED EXACT AREAS AND EQUIPMENT SERVED USING OWNER'S ACTUAL ROOM NUMBERS/NAMES, NOT NUMBERS/NAMES ON PLANS.
- D. ALL IDENTIFICATIONS SHALL BE CONSISTENT WITH THE OWNER'S STANDARD PRACTICES, ESPECIALLY WITHIN EXISTING FACILITIES. WHERE THE REQUIREMENTS HERE-IN ARE IN CONFLICT WITH SUCH STANDARD PRACTICES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO ORDERING ANY MATERIAL FOR CLARIFICATION.
- 11. <u>WARRANTIES</u>
- A. THE CONTRACTOR SHALL GUARANTEE HIS WORK UNCONDITIONALLY IN WRITING TO THE OWNER FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE ARCHITECT AND/OR THE ENGINEER. 12. <u>COORDINATION WITH OWNER</u>
- A. THE CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH THE OWNER WHERE ROUTING CONDUIT OR WIRE THRU THE EXISTING BUILDING OR TYING INTO EXISTING DISTRIBUTION EQUIPMENT. PROVIDE 48 HOUR NOTICE TO OWNER IN ADVANCE OF INTERRUPTING ANY SERVICES -WORK CONTINUOUSLY TO RESTORE SERVICE AFTER INTERRUPTION OCCURS.
- 13. INDEMNIFICATION
- A. THE CONTRACTOR SHALL HOLD HARMLESS AND INDEMNIFY THE ENGINEER, EMPLOYEES, OFFICERS, AGENTS AND CONSULTANTS FROM ALL CLAIMS, LOSS, DAMAGE, ACTIONS, CAUSES OF ACTIONS, EXPENSE AND/OR LIABILITY RESULTING FROM, BROUGHT FOR, OR ON ACCOUNT OF ANY PERSONAL INJURY OR PROPERTY DAMAGE RECEIVED OR SUSTAINED BY ANY PERSON, PERSONS, (INCLUDING THIRD PARTIES), OR ANY PROPERTY GROWING OUT OF, OCCURRING, OR ATTRIBUTABLE TO ANY WORK PERFORMED UNDER OR RELATED TO THIS CONTRACT, RESULTING IN WHOLE OR IN PART FROM THE NEGLIGENCE OF THE CONTRACTOR, ANY SUBCONTRACTOR, ANY EMPLOYEE, AGENT OR REPRESENTATIVE.
- 15. METHODS AND MATERIALS
- A. <u>Grounding</u> A.A. ALL METALLIC CONDUIT, CABINETS, EQUIPMENT AND SERVICES SHALL BE BONDED/GROUNDED IN ACCORDANCE WITH THE LATEST ISSUE OF THE N.E.C., AND/OR AS SPECIFIED HEREIN. PROVIDE SEPARATE GREEN EQUIPMENT GROUND FOR EACH CIRCUIT. BOND SYSTEMS TOGETHER AND WITH BUILDING GROUND AS NEEDED, AND IN ACCORD WITH N.E.C.

# GENERAL NOTES (LEGEND):

# B. <u>CONDUIT</u>

B.A. ALL CONDUIT SHALL BE 3/4" MINIMUM UNLESS OTHERWISE NOTED OR REQUIRED BY THE NATIONAL ELECTRICAL CODE

- B.B. TYPES OF CONDUITS REQUIRED ARE AS FOLLOWS: B.C. STEEL ELECTRICAL METALLIC TUBING. (E.M.T.)
- B.D. RIGID STEEL CONDUIT. (G.R.S.) B.E. RIGID NONMETALLIC CONDUIT. (P.V.C.)
- B.F. FLEXIBLE METAL CONDUIT
- B.G. STEEL ELECTRICAL METALLIC TUBING (EMT) OF CORROSION-RESISTANT STEEL CONSTRUCTION SHALL BE PERMITTED FOR CONCEALED OR EXPOSED INSTALLATION IN DRY INTERIOR LOCATIONS. ELECTRICAL METALLIC TUBING SHALL NOT BE USED IN CONCRETE SLABS OR WHERE SUBJECT TO PHYSICAL DAMAGE.
- B.H. RIGID GALVANIZED STEEL CONDUIT SHALL BE USED WHERE SUBJECT TO PHYSICAL DAMAGE, WHERE EXPOSED ON THE EXTERIOR OR FOR OVER 600V WIRING.
- B.I. RIGID NON-METALLIC CONDUIT SHALL BE CONSTRUCTED OF P.V.C., NOMINALLY SCHEDULE 40 SHALL BE USED AS REQUIRED FOR EXTERIOR UNDERGROUND WORK AND FOR INTERIOR UNDER-SLAB CONDUITS. IT MAY NOT BE USED FOR FEEDERS OR BRANCH CIRCUITS IN HEALTHCARE FACILITIES.
- B.J. FLEXIBLE METAL CONDUIT SHALL BE STEEL, 3/4" MINIMUM, NOT USED IN LENGTHS OVER SIX FEET AND USED ONLY FOR LIGHT FIXTURES WHIPS AND CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION.

# C. <u>Conduit Fittings</u>

CLEAN.

- C.A. RIGID CONDUIT FITTINGS SHALL BE OF GRAY IRON, MALLEABLE IRON OR CAST ALUMINUM. ALL COVER PLATES SHALL BE GASKETED WITH NEOPRENE, RATED FOR THE ENVIRONMENT.
- C.B. EMT CONDUIT FITTINGS SHALL BE OF THE COMPRESSION TYPE. ALL EMT CONNECTORS AND COUPLINGS SHALL BE OF FORMED STEEL CONSTRUCTION.
- C.C. RIGID CONDUIT FITTINGS SHALL BE GALVANIZED, TAPERED THREADS WITH ALL BURRS REMOVED, ENDS REAMED AND CUTTING OIL WIPED
- C.D. CONDUIT BODIES, JUNCTION BOXES AND FITTINGS SHALL BE DUST TIGHT AND THREADED FOR DUSTY AREAS. WEATHERPROOF FOR EXTERIOR LOCATIONS, VAPOR TIGHT FOR DAMP AREAS. CONDUIT FITTINGS SHALL BE AS MANUFACTURED BY C-H, APPLETON, KILLARK OR APPROVED EQUIVALENT. ALL SURFACE MOUNTED CONDUIT FITTINGS (AS WITH "FS", "FD", "GUB". TYPES) SHALL BE PROVIDED WITH MOUNTING HUBS.

# D. <u>CONDUCTORS</u>

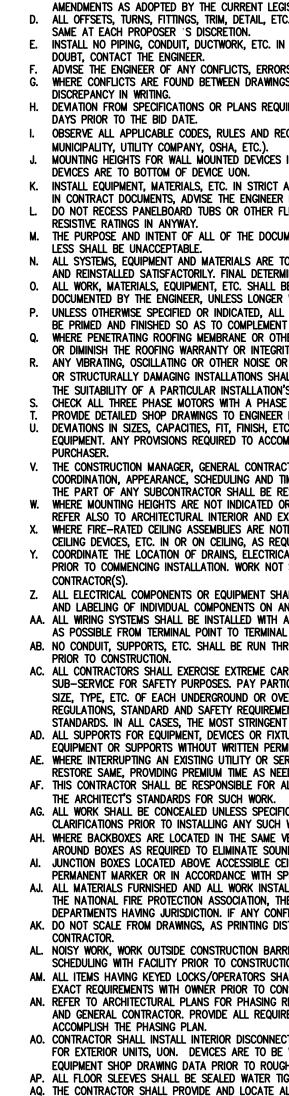
- D.A. CONDUCTORS SHALL BE COPPER WITH THWN 600 VOLT INSULATION. ALL CONDUCTORS SHALL BE AWG MINIMUM #12 UNLESS OTHERWISE NOTED. ALL CONDUCTORS SHALL BE U.L. LISTED. AND MANUFACTURED BY ROME, CABELEC, G.E., GENERAL CABLE, OR EQUIVALENT. OBSERVE MINIMUM BENDING RADII IN INSTALLATION. ALL CONDUCTORS SHALL BE ENCLOSED IN METAL CONDUIT.
- D.B. CONDUCTORS #10 A.W.G. AND SMALLER SHALL BE SOLID #8 A.W.G. AND LARGER SHALL BE STRANDED. ALL WIRING SHALL BE COLOR - CODED PER THE NATIONAL ELECTRIC CODE. USE MECHANICAL CONNECTORS SUCH AS "SCOTCH LOK," T&B, IDEAL OR EQUIVALENT, SIZED FOR THE USE INTENDED.

# D.C. MC CABLE WILL NOT BE ALLOWED. E. <u>DISCONNECT SWITCHES AND FUSES</u>

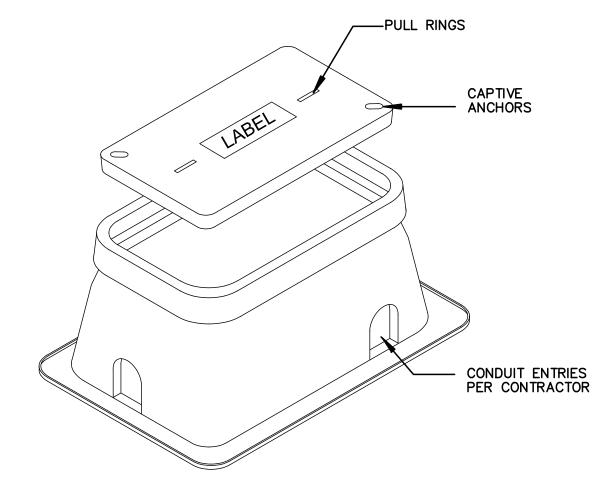
- E.A. DISCONNECT SWITCHES SHALL BE NEMA RATED FOR THE ENVIRONMENT, QUICK-MAKE, QUICK-BREAK, HEAVY DUTY OR BETTER. FUSED OR UNFUSED AS NOTED ON THE DRAWINGS. ALL SWITCHES SHALL BE FURNISHED WITH PAD LOCKING PROVISIONS. SUPPORT SWITCHES FROM STRUCTURE AS REQUIRED, AND MAINTAIN CODE REQUIRED CLEARANCES. PROVIDE CORROSION-RESISTANT FRAMING TO MOUNT AS NEEDED. USE 600V RATING FOR 480 VOLT SERVICES.
- E.B. ALL FUSES SHALL BE CURRENT LIMITING, DUAL ELEMENT AND SHALL BE U.L. CLASS RK1 FOR CIRCUIT BREAKER PANELBOARD PROTECTION.
- F. <u>CIRCUIT BREAKERS</u> F.A. ALL EQUIPMENT SHALL BE RATED FOR ACTUAL AVAILABLE FAULT CURRENTS. NEW BREAKERS IN EXISTING EQUIPMENT SHALL MATCH EXISTING EQUIPMENT AIC RATING.

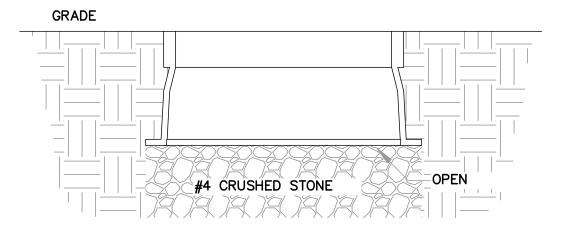
# 16. <u>DEMOLITION AND SALVAGE</u>

- L. IT IS THE INTENT OF THIS SECTION TO COMPLETELY REMOVE ALL COMPONENTS OF ANY EXISTING ELECTRICAL SYSTEM THAT WILL BE OPEN TO VIEW IN, OR WILL INTERFERE WITH THE OPERATIONS OF THE COMPLETED BUILDING, OR WHICH WILL, IN ANY WAY, INTERFERE WITH PROJECT CONSTRUCTION. COMPONENTS OF THE EXISTING ELECTRICAL SYSTEMS WHICH DO NOT MEET THE ABOVE CRITERIA, MAY BE ABANDONED IN PLACE IN A SAFE, WORKMANLIKE, CODE APPROVED MANNER. COMPONENTS OF ELECTRICAL SYSTEMS TO REMAIN ARE IDENTIFIED ON THE PLANS.
- L.A. CAREFULLY PROTECT ALL OCCUPIED OR IN-USE AREAS DURING ELECTRICAL DEMOLITION WORK. MAINTAIN ALL DOWNSTREAM POWER OR COMMUNICATIONS CIRCUITS TO OCCUPIED AREAS IN OPERATION BY TEMPORARY OR PERMANENT WIRING, INSTALLED AS NEEDED TO KEEP CIRCUITS OPERATIONAL. FIELD VERIFY ALL SUCH CIRCUITS, EQUIPMENT, LIGHTING, ETC.
- L.B. THIS CONTRACTOR SHALL REPAIR OR REPLACE ANY SURFACES, STRUCTURE, FINISHES, CEILING GRIDS, ETC., THAT MAY BE DAMAGED BY HIS DEMOLITION OPERATIONS.
- L.C. LIMIT EXTENT OF DEMOLITION WORK TO MINIMIZE PATCHING AND REPAIR WORK NEEDED.
- M. IT IS THE INTENT OF THIS SECTION TO DELIVER TO THE OWNER ALL COMPONENTS OF ANY ELECTRICAL SYSTEM WHICH MAY BE ECONOMICALLY REUSED BY HIM. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO REMOVE REUSABLE COMPONENTS WITHOUT DAMAGE.
- M.A. COMPONENTS TO BE DELIVERED TO THE OWNER SHALL BE SPECIFICALLY IDENTIFIED BY THE OWNERS REPRESENTATIVE PRIOR TO BEGINNING THE DEMOLITION. OTHER ITEMS BECOME THE PROPERTY OF THE CONTRACTOR.



BUILT. CORING OF ANY ELEVATED DECK SHALL N TO LACK OF COORDINATION SHALL BE BORNE BY THE PIPE OR CONDUIT AND THE SLEEVES SHALL BE MADE COMPLETELY AND PERMANENTLY WATER TIGHT. AR. ALL EXPOSED JUNCTION, OUTLET AND PULLBOXES LEFT EMPTY SHALL BE REMOVED. WALL/CEILING SHALL BE REPAIRED/PATCHED TO LIKE NEW CONDITION.





NOTES:

ENTRIES. PROVIDE EXTENSIONS WHERE REQUIRED. 2. BOX AND LID TO BE CONSTRUCTED OF POLYMER CONCRETE. LID TIER RATING PER INSTALLED LOCATION.

> OUTDOOR PULL-BOX DETAIL NO SCALE

		Mounting Height (to Center of Device)
IERAL NOTES (LEGEND):	DESCRIPTION	8번원님
	POWER OUTLETS	
DITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL ANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.	SIMPLEX RECEPTACLE	1'-6"
NRK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, TERNATIONAL BUILDING CODES, ETC.	DUPLEX RECEPTACLE-SAFETY TYPE, TAMPER-RESISTANT	1'-6"
IENNATIONAL BUILDING CODES, ETC. Intractor shall follow seismic restraint and design requirements contained in latest adopted state and international building codes, with all Mendments as adopted by the current legislation. Refer to electrical and structural specifications for additional information. I offsets, Turns, Fittings, TRIM, detail, etc. May not be indicated, but shall be provided as required. Additional allowances shall be included for	SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 2" ABOVE BACKSPLASH, OR AT 48" WHERE NO COUNTER IS PRESENT	4'-0"
ME AT EACH PROPOSER 'S DISCRETION.	FILLED CENTER BAR INDICATES INTEGRAL GROUND FAULT	1'-6"
TALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN JBT. CONTACT THE ENGINEER.	PROTECTION (GFCI), SAFETY TYPE, TAMPER-RESISTANT DEAD FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY	
/ISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM. ERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF CREPANCY IN WRITING.	ACCESSIBLE LOCATION FILLED OUTER BARS INDICATES INTEGRAL INTEGRAL USB OUTLETS IN ADDITION TO POWER RECEPTACLES, SAFETY	1'-6"
IATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN 'S PRIOR TO THE BID DATE.	TYPE, TAMPER-RESISTANT	
ERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL,	GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	4'-0"
NCIPALITY, UTILITY COMPANY, OSHA, ETC.). INTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UON. MOUNTING HEIGHTS TO CEILING SUSPENDED	DUPLEX RECEPTACLE, CEILING MOUNTED	CLG
ICES ARE TO BOTTOM OF DEVICE UON. TALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.	QUADRUPLEX RECEPTACLE, SAFETY TYPE, TAMPER- RESISTANT	1'-6"
NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE	JUNCTION BOX, CEILING OR WALL	
SISTIVE RATINGS IN ANYWAY. E PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE—NEW FACILITY. ANYTHING	VOLTAGE/1PH RECEPTACLE, AS NOTED	AS NOTED
S SHALL BE UNACCEPTABLE. SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED	VOLTAGE/3PH RECEPTACLE, AS NOTED	1'-6"
d reinstalled satisfactorily. Final determination of the acceptability of the quality of work resides with the engineer	"DOG-HOUSE" TYPE TWN DUPLEX RECEPTACLE WITH	ON CNTR.
. WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS CUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.	ONE DUPLEX RECEPTACLE ON BOTH SIDES	
LESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.	SS INDICATES SURGE SUPPRESSION TYPE OUTLET(S)	
ERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT. Y VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY	GROUND FAULT PROTECTED DUPLEX WITH WEATHER- PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"
STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER. CK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.	MISCELLANEOUS	-1
OVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT VIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT UIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE RCHASER.	CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS. DASHED LINE INDICATES CONDUIT BELOW FLOOR.	
E CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE ORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON	DISCONNECT SWITCH	5'-0"
E PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.	MAGNETIC STARTER	5'-0"
ERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. TER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.	MAGNETIC COMBINATION STARTER	5'-0"
ERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, ING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.	VARIABLE FREQUENCY DRIVE	5'-0"
DRDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC.	ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"
OR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE NTRACTOR(S). . ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL	CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB	
D LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING. WRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR	FLEXIBLE CONDUIT	
POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT. CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES	PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY	6'-6" TO TOP
ior to construction. _ contractors shall exercise extreme care in the course of their work so as to ensure that they do not interrupt any existing service or B—service for safety purposes. Pay particular attention to this precaution relative to natural gas and electrical lines. Verify the location,	TRANSFORMER	AS NOTED
E, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, GULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY	EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE	
ANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. L SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES	TAGGED NOTE	
JIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING	REVISION TAG	
ERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO STORE SAME, PROVIDING PREMIUM TIME AS NEEDED.	EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)	
S CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH ARCHITECT'S STANDARDS FOR SUCH WORK.	MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE	
L WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR	INDICATES MOUNTING ABOVE COUNTER-TOP, 2"	
ARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK. ERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY	ABOVE BACKSPLASH, NO HIGHER THAN 48"	
ound boxes as required to eliminate sound transmission from room to room. Notion boxes located above accessible ceilings shall be located no more than 36 "above ceiling level. Label each box in area of work with a	WREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED	
RMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT. . MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF E NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR PARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.	WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.	
NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE	THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL PROVIDE BACK-BOX	
NTRACTOR. SY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT IEDULING WITH FACILITY PRIOR TO CONSTRUCTION.	CONDUIT STUB-UP, REFER TO MECHANICAL DRAWINGS FOR LOCATIONS	
. ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY—WAYS. COORDINATE ACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.	ABBREVIATIONS	
ER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. WORK SHALL BE COMPLETED IN PHASES PER THE PHASING PLAN AND AS COORDINATED WITH OWNER	UNLESS OTHERWISE NOTED	
D GENERAL CONTRACTOR. PROVIDE ALL REQUIRED INCREMENTAL INSPECTIONS, CERTIFICATIONS, ETC. AND ALL TEMPORARY SERVICES AS REQUIRED BY OWNER TO COMPLISH THE PHASING PLAN.	OWNER FURNISHED, CONTRACTOR INSTALLED	
NTRACTOR SHALL INSTALL INTERIOR DISCONNECT SWITCHES, MOTOR RATED SWITCHES, STARTERS, ETC. IN A NEMA 1 ENCLOSURE AND IN A NEMA 3R ENCLOSURE R EXTERIOR UNITS, UON. DEVICES ARE TO BE WITHIN SIGHT OF THE UNIT SERVING, IN A MAINTENANCE ACCESSIBLE LOCATION. COORDINATE ALL SIZES WITH FINAL	OWNER FURNISHED, OWNER INSTALLED CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	
UIPMENT SHOP DRAWING DATA PRIOR TO ROUGH-IN AND/OR START OF WORK.	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	+
. FLOOR SLEEVES SHALL BE SEALED WATER TIGHT. E CONTRACTOR SHALL PROVIDE AND LOCATE ALL SLEEVES AND INSERTS REQUIRED FOR HIS WORK BEFORE THE FLOORS AND SURFACE BEING PENETRATED ARE	REFER TO SPECIFICATIONS 260501 FOR ADDITIONAL	
JILT. CORING OF ANY ELEVATED DECK SHALL NOT BE ACCEPTED. ALL METAL DECK PENETRATIONS SHALL BE COORDINATED AND SLEEVED. ANY COSTS INCURRED DUE D LACK OF COORDINATION SHALL BE BORNE BY THIS CONTRACTOR. WHERE SLEEVES ARE PLACED IN EXTERIOR WALLS OR IN SLABS ON GRADES, THE SPACE BETWEEN HE PIPE OR CONDUIT AND THE SLEEVES SHALL BE MADE COMPLETELY AND PERMANENTLY WATER TIGHT.	ABBREVIATIONS	

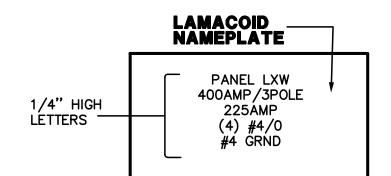
BEFORE YOU DIG

THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL CONTACT LOCAL ORGANIZATION CAPABLE OF OBTAINING UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY CONSTRUCTION. ANY CONTRACTOR OR SUBCONTRACTOR PERFORMING ANY TYPE OF EXCAVATION ON THIS PROJECT SHALL HAVE THIS PROCEDURE DONE TO OBTAIN AN AUTHORIZATION NUMBER.

PHONE NUMBER: 800-752-6007 OR 811

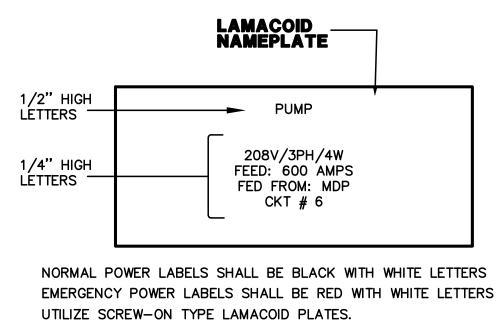
1. BOXES TO BE SIZED PER NEC 314.28 BASED UPON FIELD CONFIGURATION OF CONDUIT 3. REFER TO SPECIFICATIONS FOR RELATED INFORMATION.



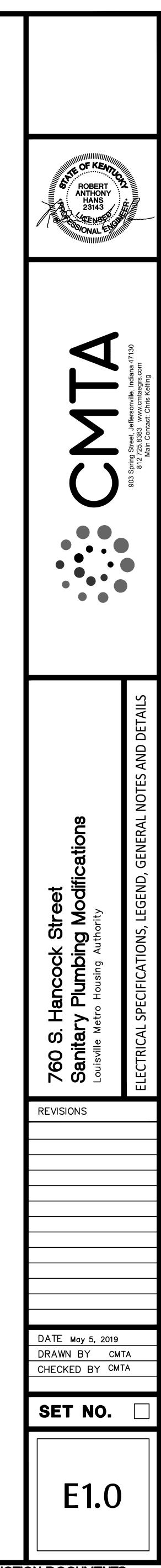


NORMAL POWER LABELS SHALL BE BLACK WITH WHITE LETTERS EMERGENCY POWER LABELS SHALL BE RED WITH WHITE LETTERS UTILIZE SCREW-ON TYPE LAMACOID PLATES.

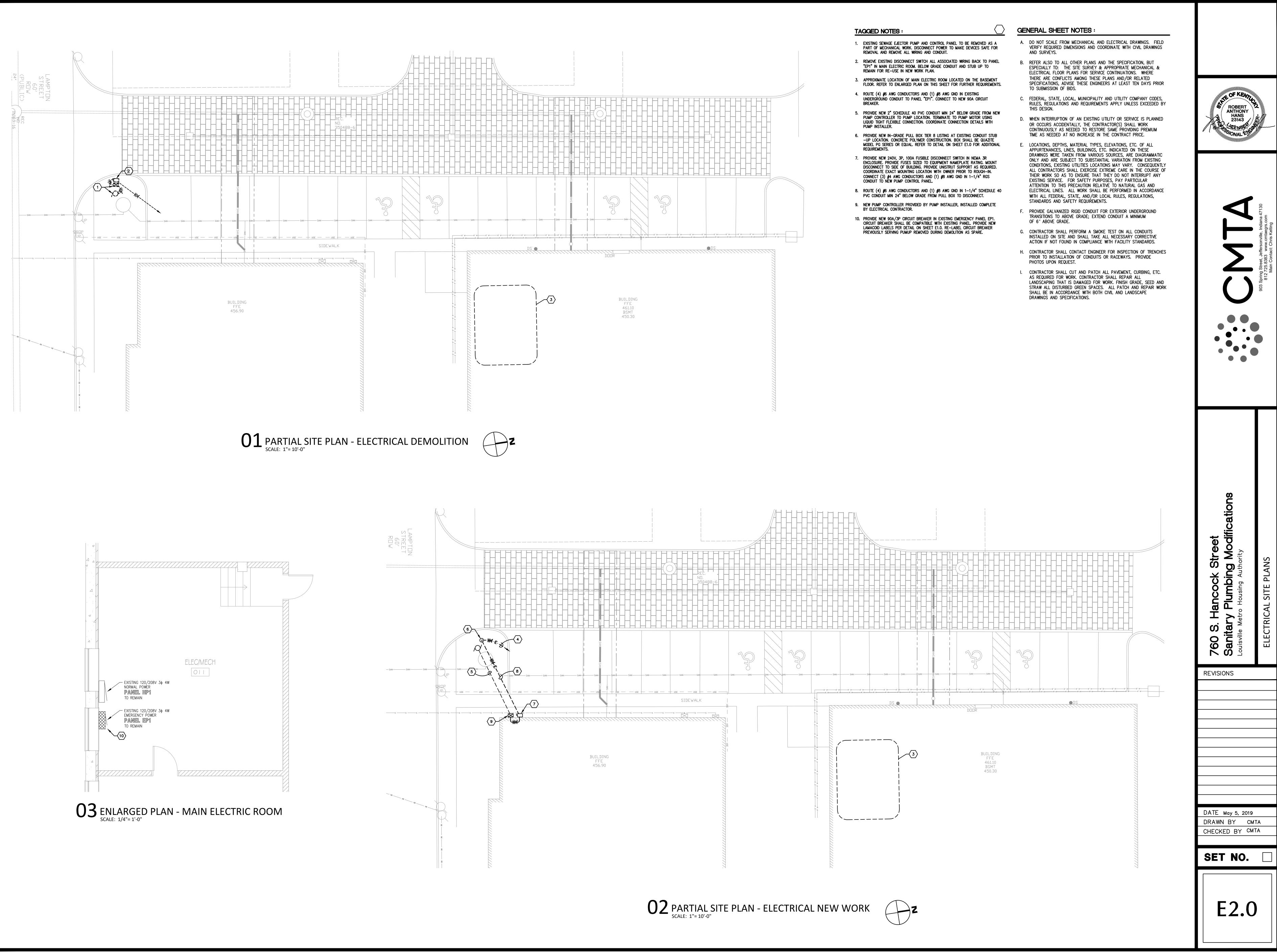
TYPICAL SWITCHBOARD AND DISTRIBUTION PANELBOARD CIRCUIT LABEL NAMEPLATE DETAIL



TYPICAL DISCONNECT AND COMBINATION STARTER/DISCONNECT NAMEPLATE DETAIL



CONSTRUCTION DOCUMENTS



CONSTRUCTION DOCUMENTS

