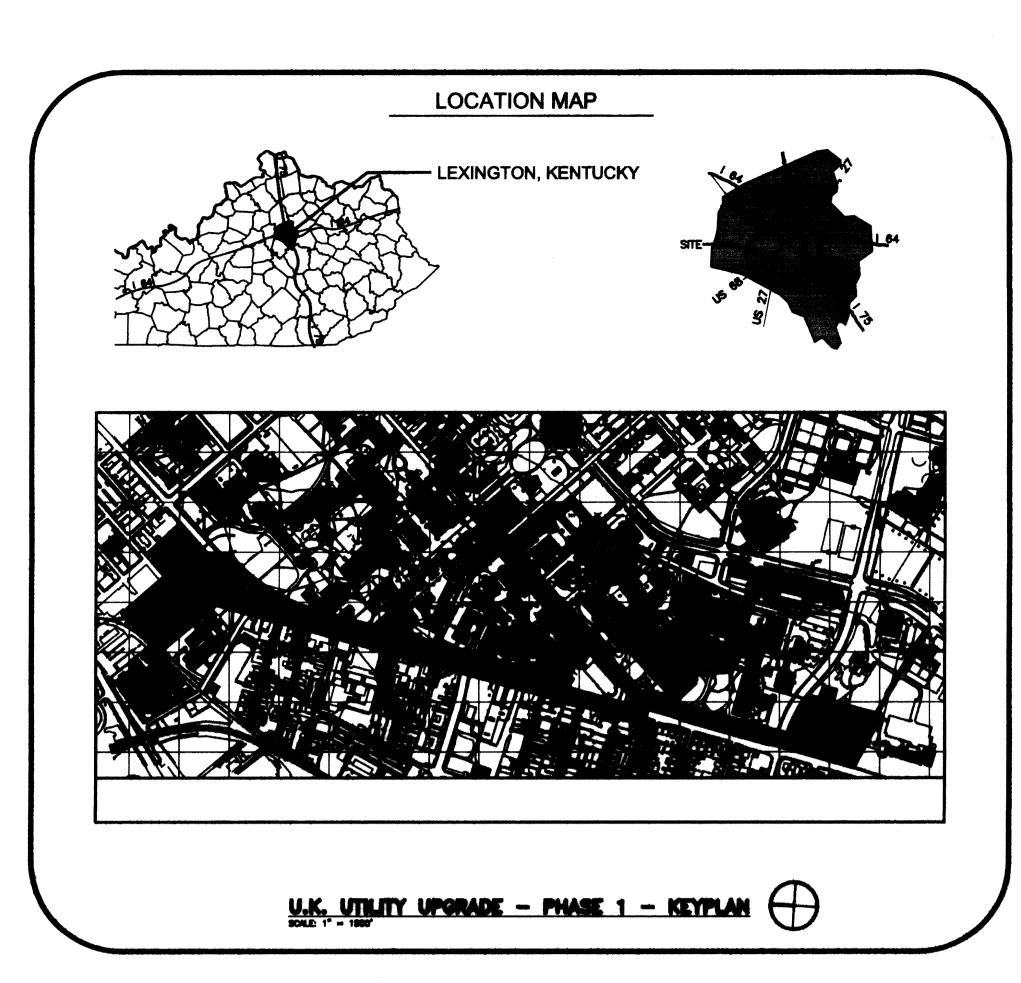
DECEMBER, 2000



UTILITY UPGRADE - PHASE 1

UNIVERSITY OF KENTUCKY

LEXINGTON,

KENTUCKY

UK PROJECT NO. 1949.0





STAGGS & FISHER CONSULTING ENGINEERS, INC.

MECHANICAL AND ELECTRICAL

BROWN & KUBICAN, PSC

STRUCTURAL

CONSTRUCTION DOCUMENT SUBMITTAL

CMW

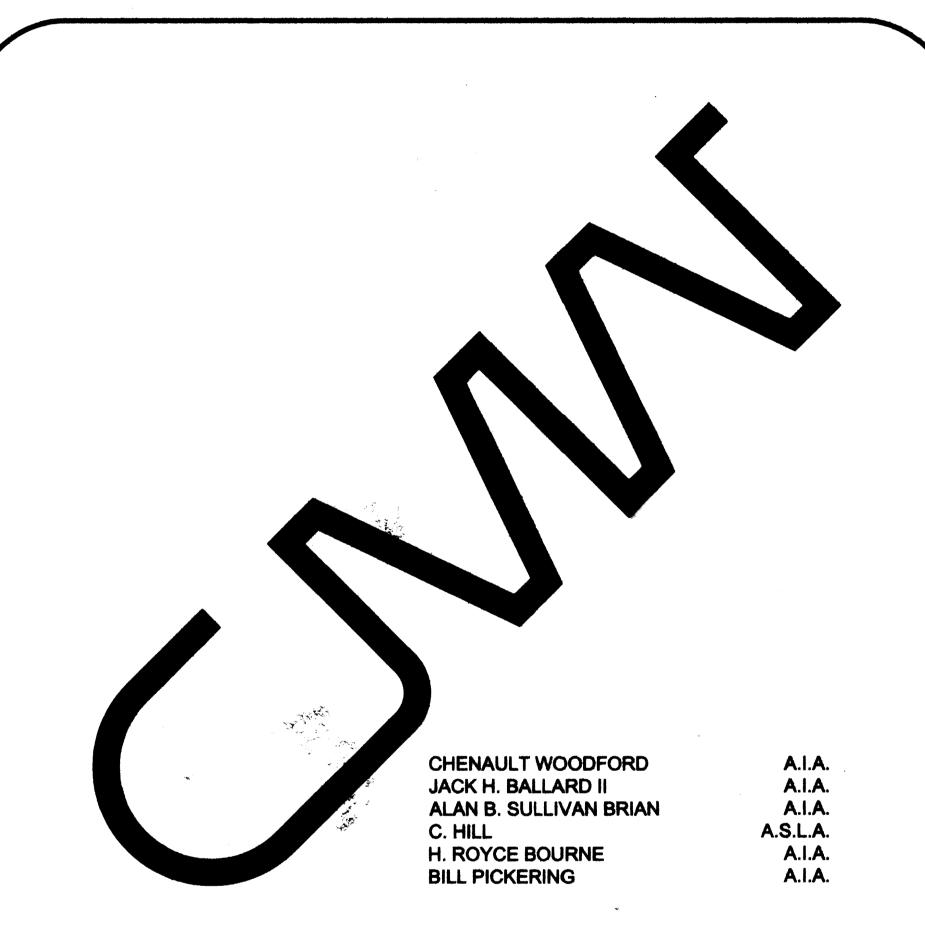
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LANDSCAPE ARCHITECTURE
INTERIOR DESIGN

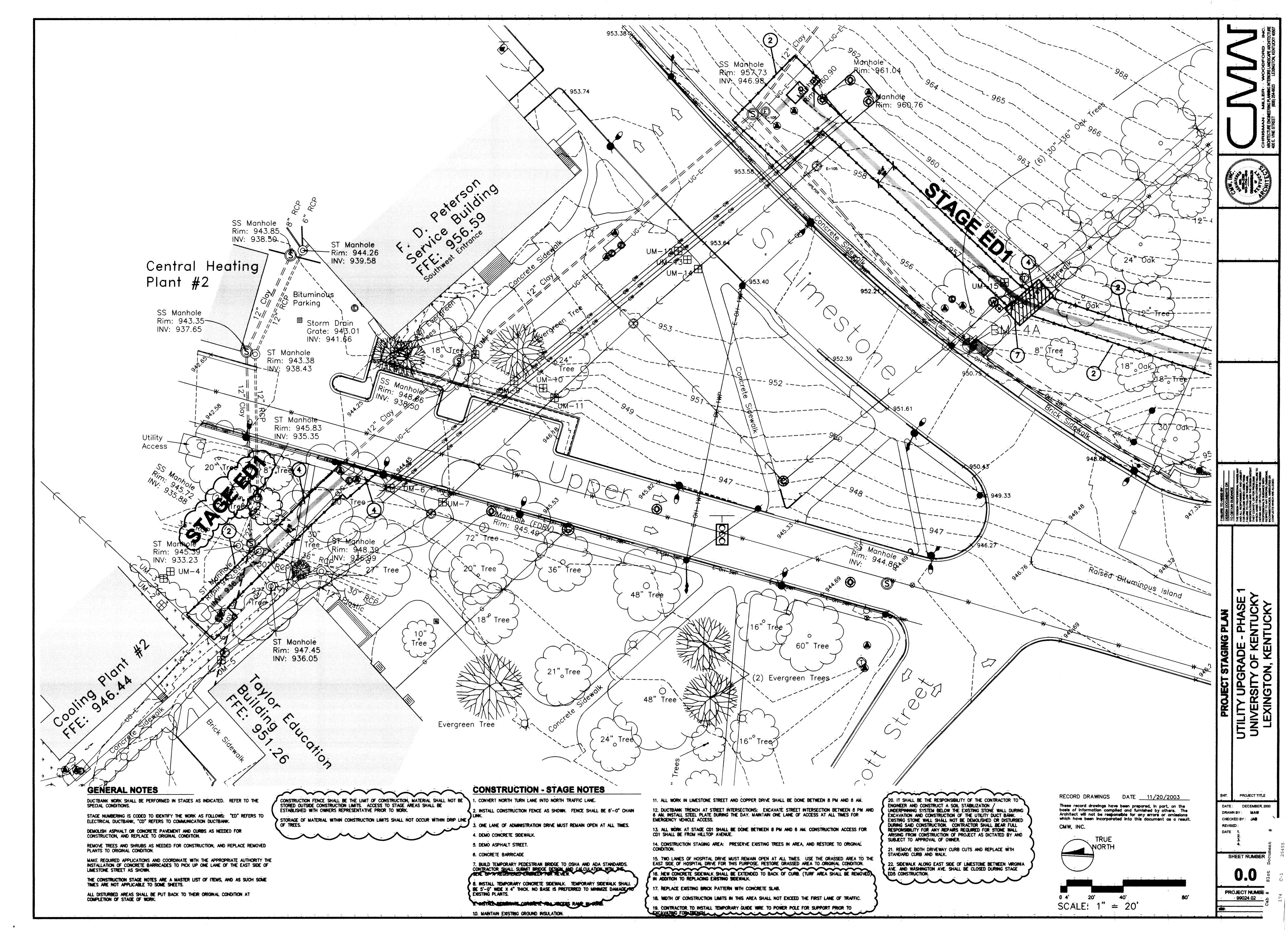
STAGGS & FISHER
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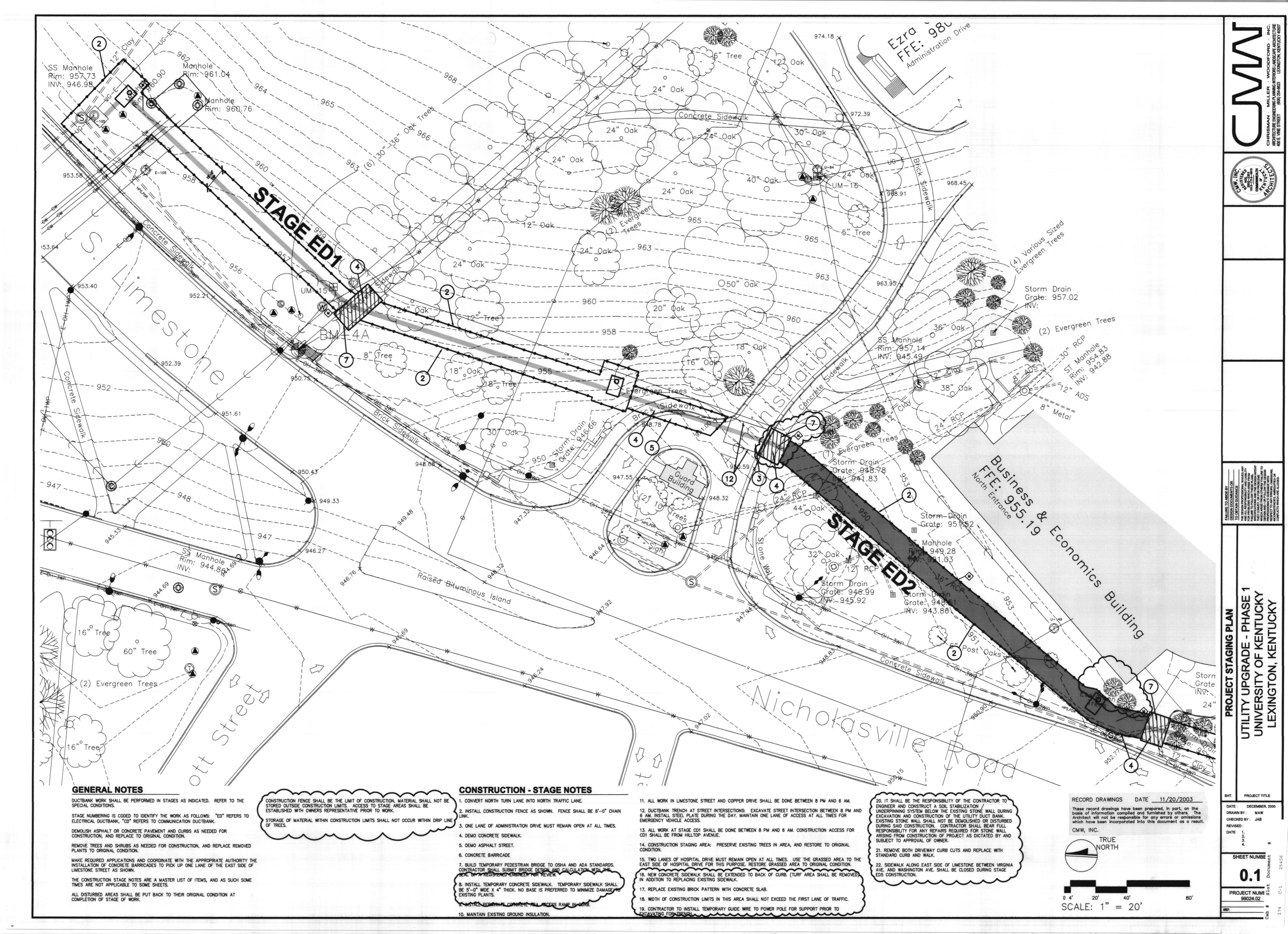
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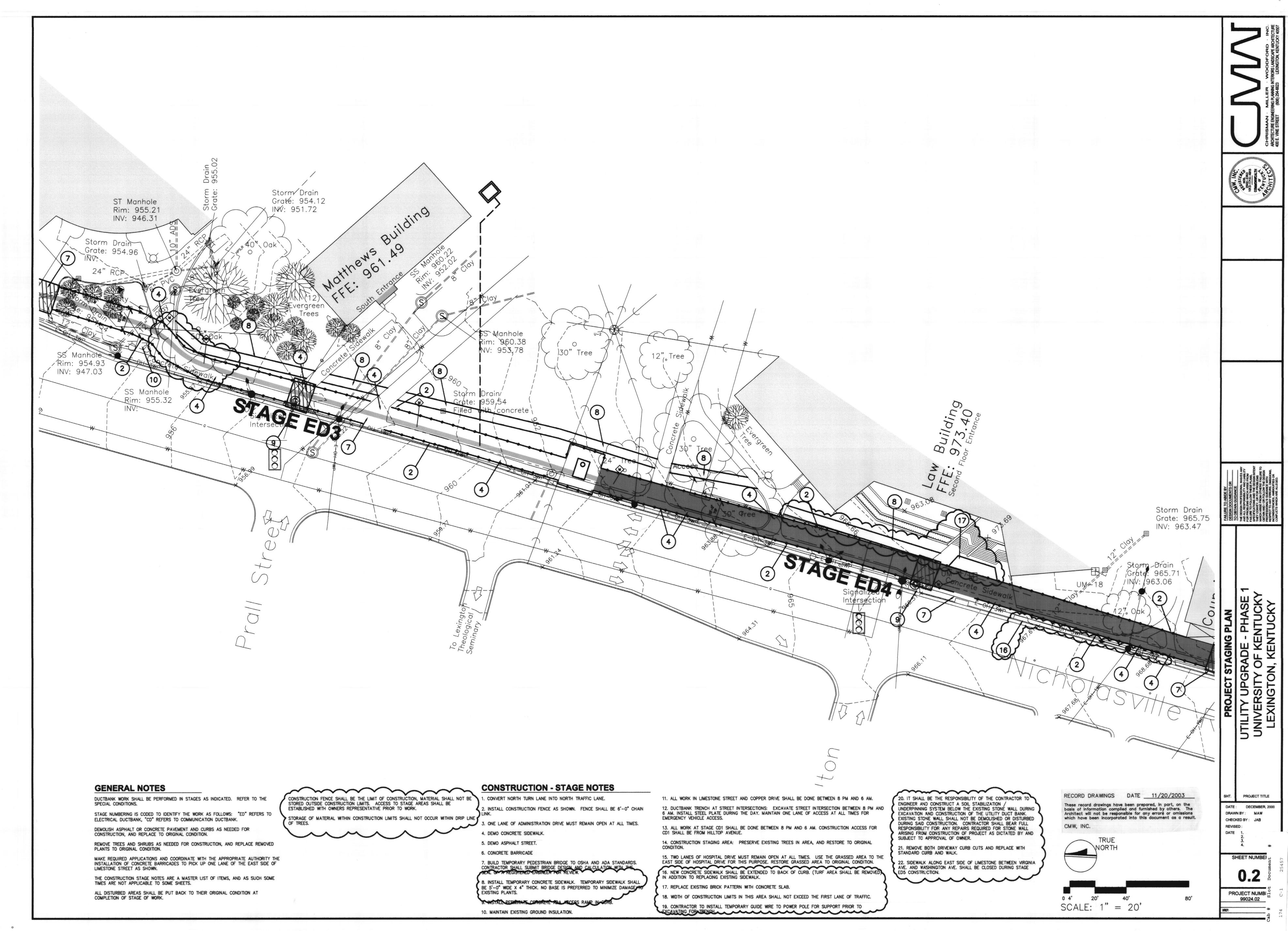
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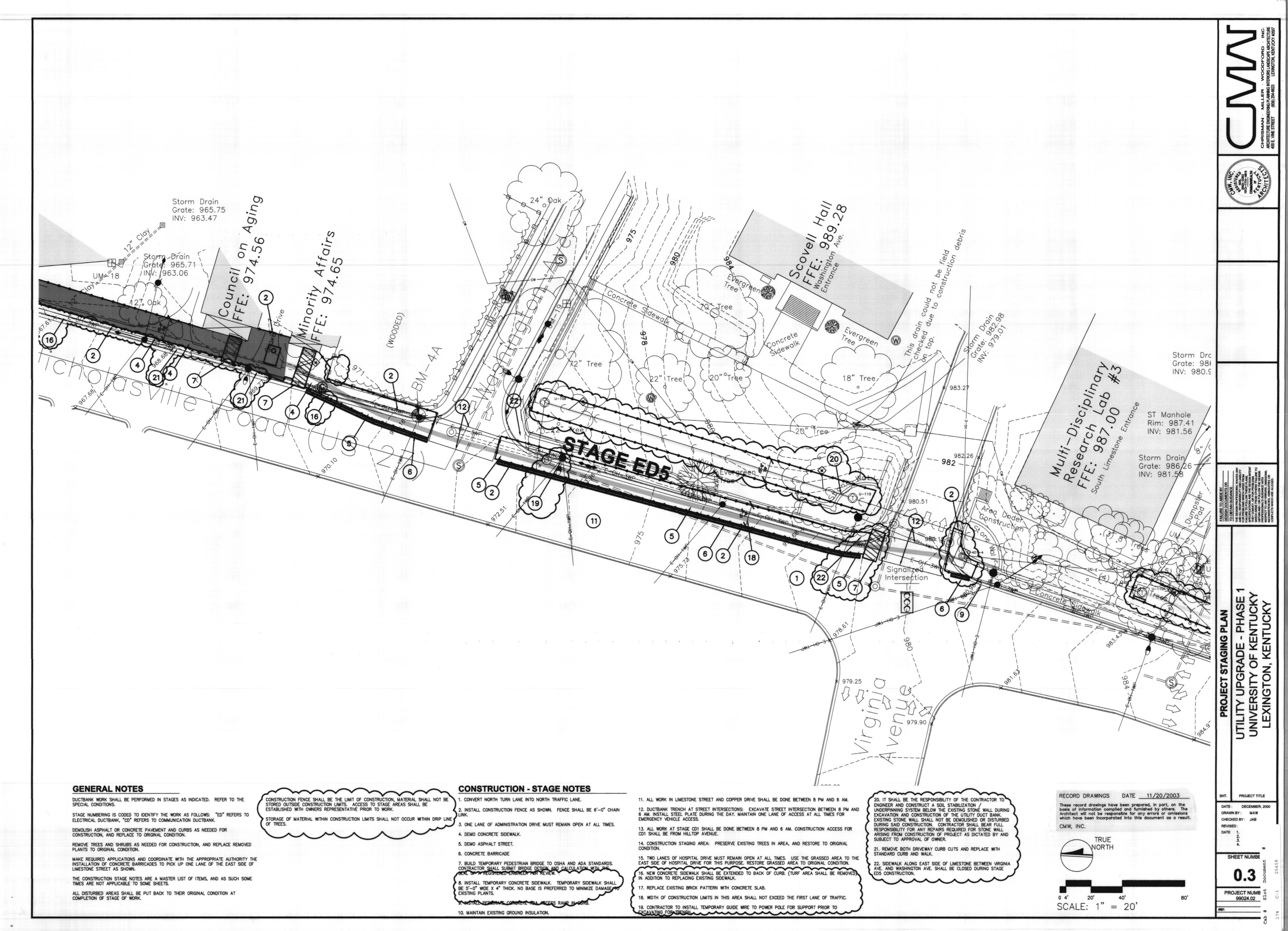
	SHEET INDEX				12/14/00
	STAGING PLANS		MECHANICAL	9.2.0	LIMESTONE - ELECTRICAL SITE PLAN - SECTION "A"
0.0	PROJECT STAGING PLAN	8.0.0	LEGEND/KEY PLAN	9.2.1	LIMESTONE - ELECTRICAL SITE PLAN - SECTION "B"
0.1	PROJECT STAGING PLAN	8.1.0	COOLING PLANT #3 - H.V.A.C. DEMOLTION - BASEMENT PLAN	9.2.2	LIMESTONE - ELECTRICAL SITE PLAN - SECTION "C"
0.2	PROJECT STAGING PLAN	8.1.1	COOLING PLANT #3 - H.V.A.C. DEMOLTION - FIRST FLOOR PLAN	9.2.3	LIMESTONE - ELECTRICAL SITE PLAN - SECTION "D"
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7	PROJECT STAGING PLAN	8.1.6	COOLING PLANT #3 - H.V.A.C. NEW WORK - ROOF PLAN		
.8	PROJECT STAGING PLAN	8.1.7	COOLING PLANT #3 - H.V.A.C. FLOW DIAGRAM	∠ 9.3.0	ROSE - ELECTRICAL SITE PLAN - SECTION "A"
0.9	PROSECT STAKING PLAN			9.3.1	ROSE - ELECTRICAL SITE PLAN - SECTION "B"
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.1	GENERAL NOTES, ABBREVIATIONS, AND LEGENDS	8.6.1	CHANDLER MEDICAL CENTER - H.V.A.C. NEW WORK	9.3.3	ROSE - ELECTRICAL DETAILS
				9.3.4	ROSE - ELECTRICAL DETAILS
	STRUCTURAL	8.7.0	HUGUELET DRIVE - H.V.A.C. NEW WORK - SITE PLAN	<u>e</u> .	5 ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±
.1	FOUNDATION PLAN AND SECTIONS	8.7.0 8.7.1	HUGUELET DRIVE - DETAILS	9.4.0	DENTAL WING - 12KV CONNECTION
. ı .2	FRAMING PLAN	0.7. 1	HUGUELET DRIVE - DETAILS	Ø. 11 .	DENTAL WING TENT COMMEDITAL
.2 .3	GENERAL NOTES AND STAIR DETAIL	8.8.1	H.V.A.C. SECTIONS	9.5.0	AGRICULTURAL SCIENCE COMMUNICATION DUCTBANK
.4	SECTIONS AND DETAILS	Q. Q. 1	H.V.A.C. SECTIONS	9.5.1	AGRICULTURAL SCIENCE COMMUNICATION DUCTBANK
5. 4 5.5	SECTIONS AND DETAILS SECTIONS AND DETAILS	8.9.1	H.V.A.C. GENERAL DETAILS	.	nomocional colonical colonical
					DEMOLITION
5.6 5.7	SECTIONS AND DETAILS MECHANICAL TUNNEL PLAN	8.9.2	H.V.A.C. GENERAL DETAILS/SCHEDULES	√12.1	BASEMENT PLAN DEMOLITION
• •	MECHANICAL TUNNEL PLAN TUNNEL DETAILS	900	COOLING PLANT #3 - ELECTRICAL SITE PLAN	√12.1 √12.2	FIRST FLOOR PLAN DEMOLITION
8.8	·	9.0.0	COOLING FLANT #5 - ELECTRICAL SITE FLAN		
.9	TUNNEL DETAILS			~12.3 42.4	ROOF PLAN DEMOLITION
.10	ELECTRIC MANHOLE VAULTS	/	ELECTRICAL	√12.4 12.5	DEMOLITION ELEVATIONS
		9.1.0	COOLING PLANT #3 - POWER DEMOLITION - BASEMENT PLAN	12.5	DEMOLITION ELEVATIONS
	ARCHITECTURAL BUILDING ENCLOSURE	9.1.1	COOLING PLANT #3 - POWER DEMOLITION - 1ST FLOOR PLAN		
4.0	CRITICAL CARE BASEMENT PLAN	9.1.2	COOLING PLANT #3 - POWER NEW WORK - BASEMENT PLAN		
4.1	BASEMENT PLAN	9.1.3	COOLING PLANT #3 - POWER NEW WORK - FIRST FLOOR AREA 1 P		
4.2	CRITICAL CARE FIRST FLOOR PLAN	9.1.4	COOLING PLANT #3 - POWER NEW WORK - FIRST FLOOR AREA 2 F		
4.3	FIRST FLOOR PLAN	9.1.5	"		
4.4	ROOF PLAN	9.1.6	"		
4.5	ELEVATIONS	9.1.7	COOLING PLANT #3 - ELECTRICAL PLAN - DETAILS		
4.6	ELEVATIONS	9,1,8	COOLING RANT \$3 - ELECTRICAL DETAILS		
4.7	STAIR SECTIONS AND PLANS				
				!	RECORD DRAWINGS DATE 11/20/2003
				t	These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Architect will not be responsible for any errors or omissions

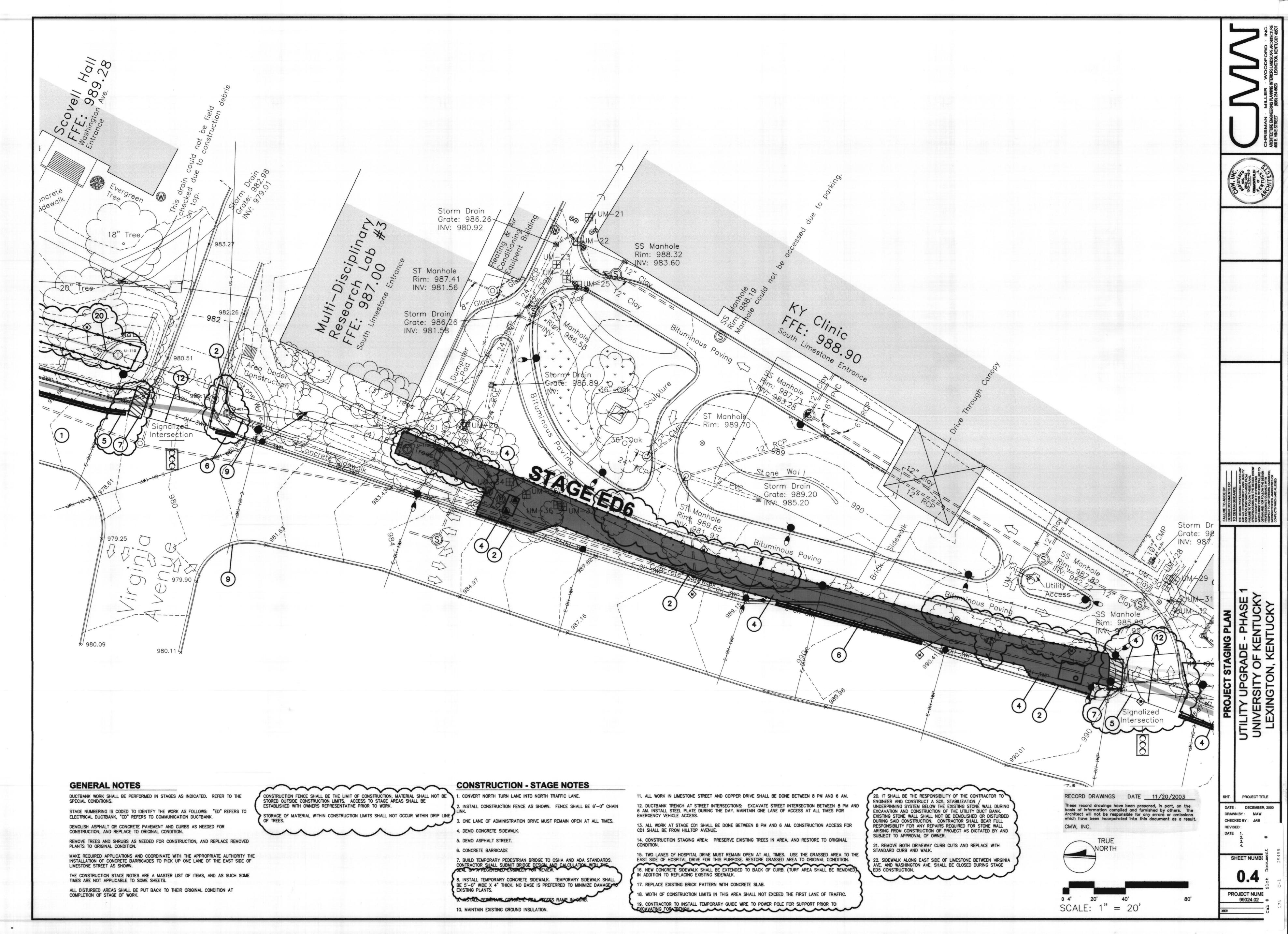


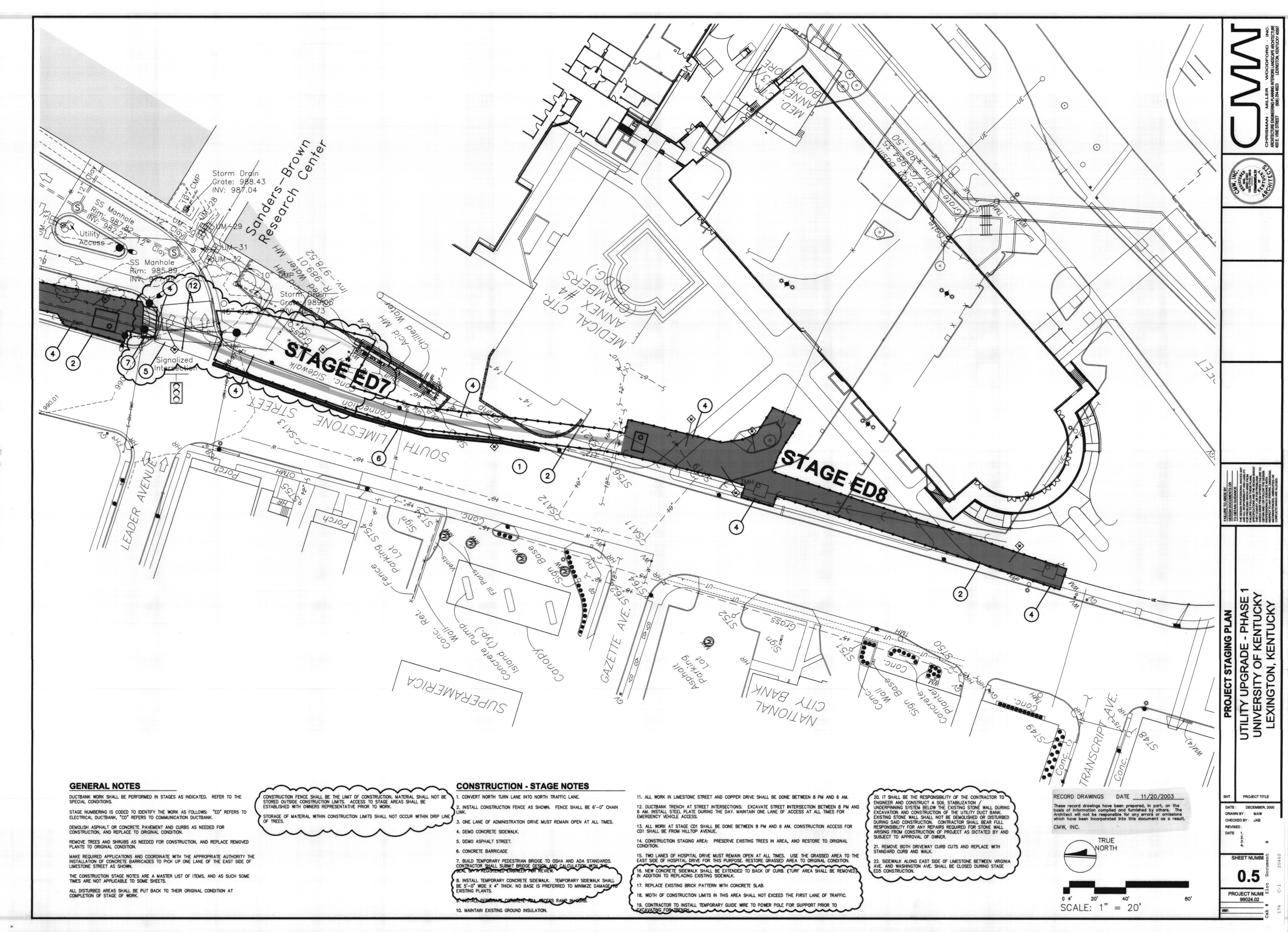


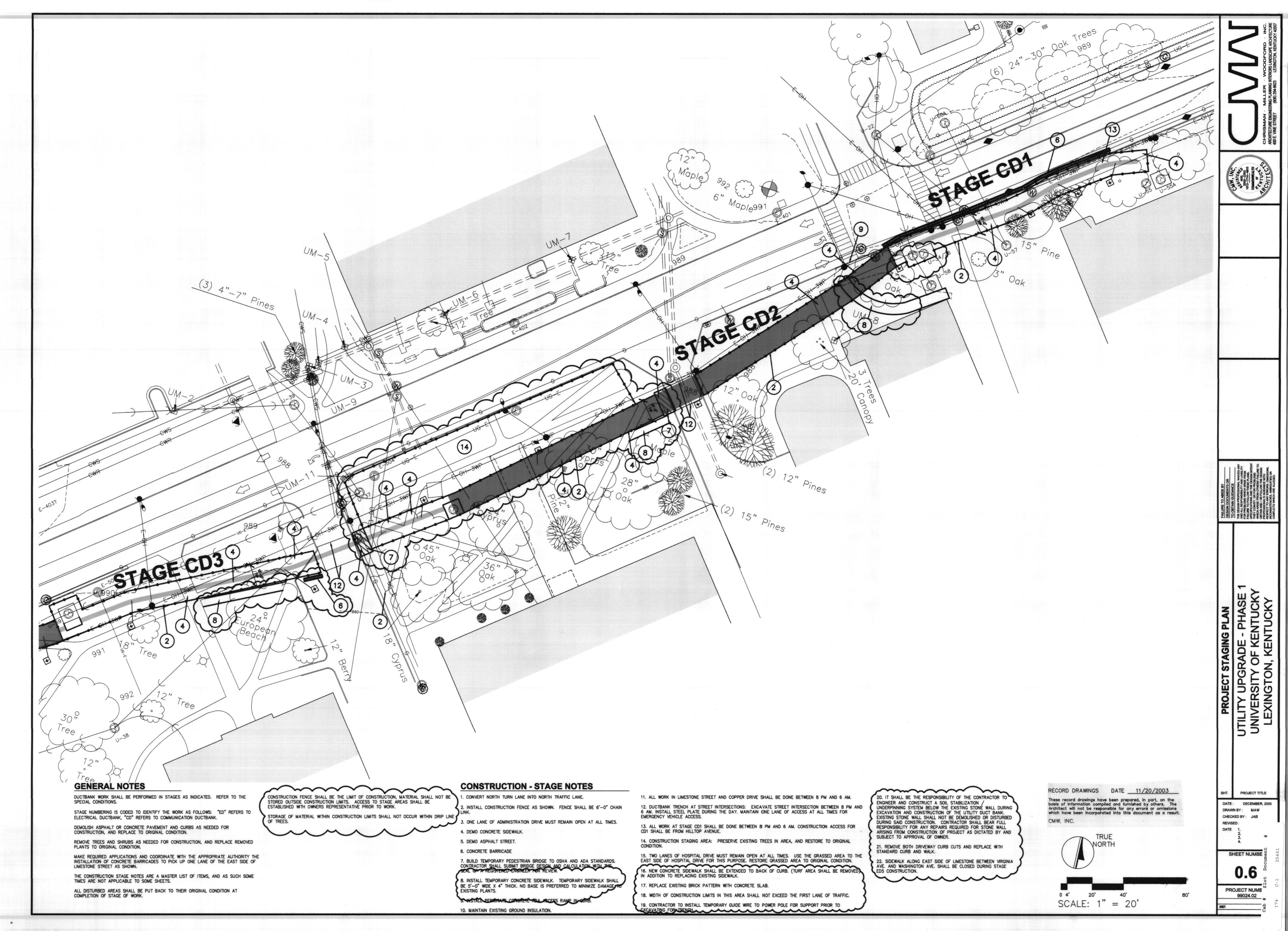


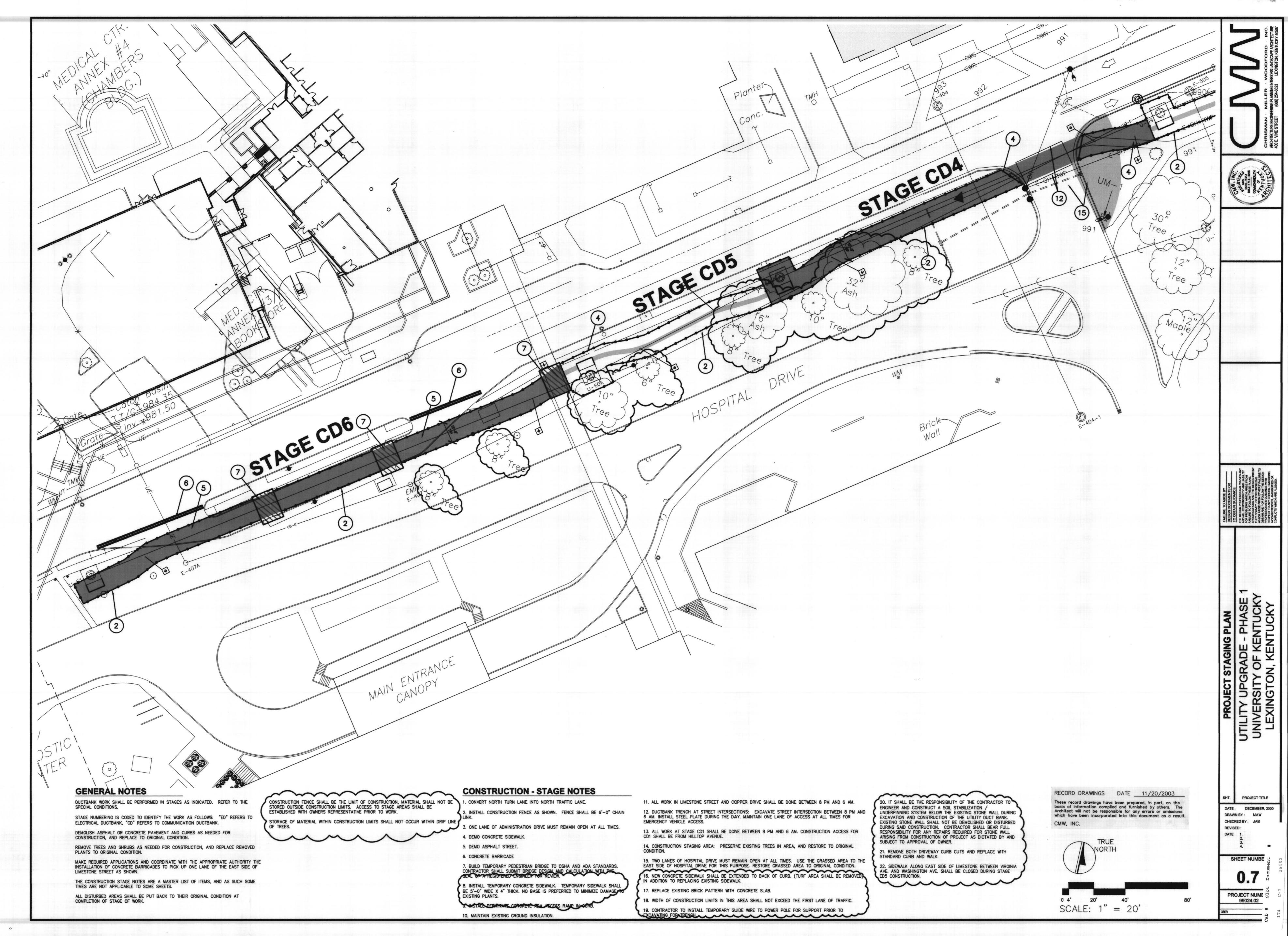


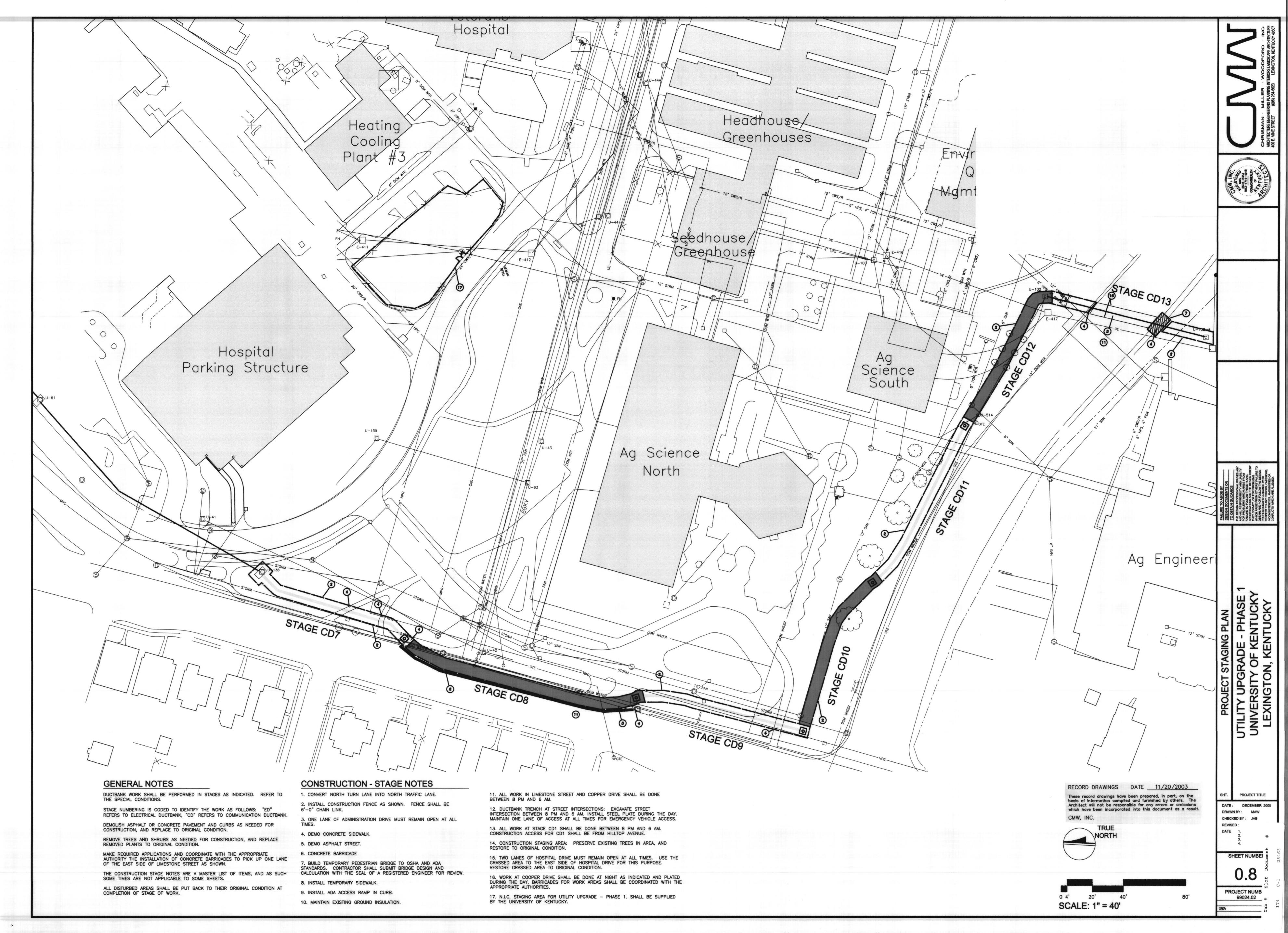


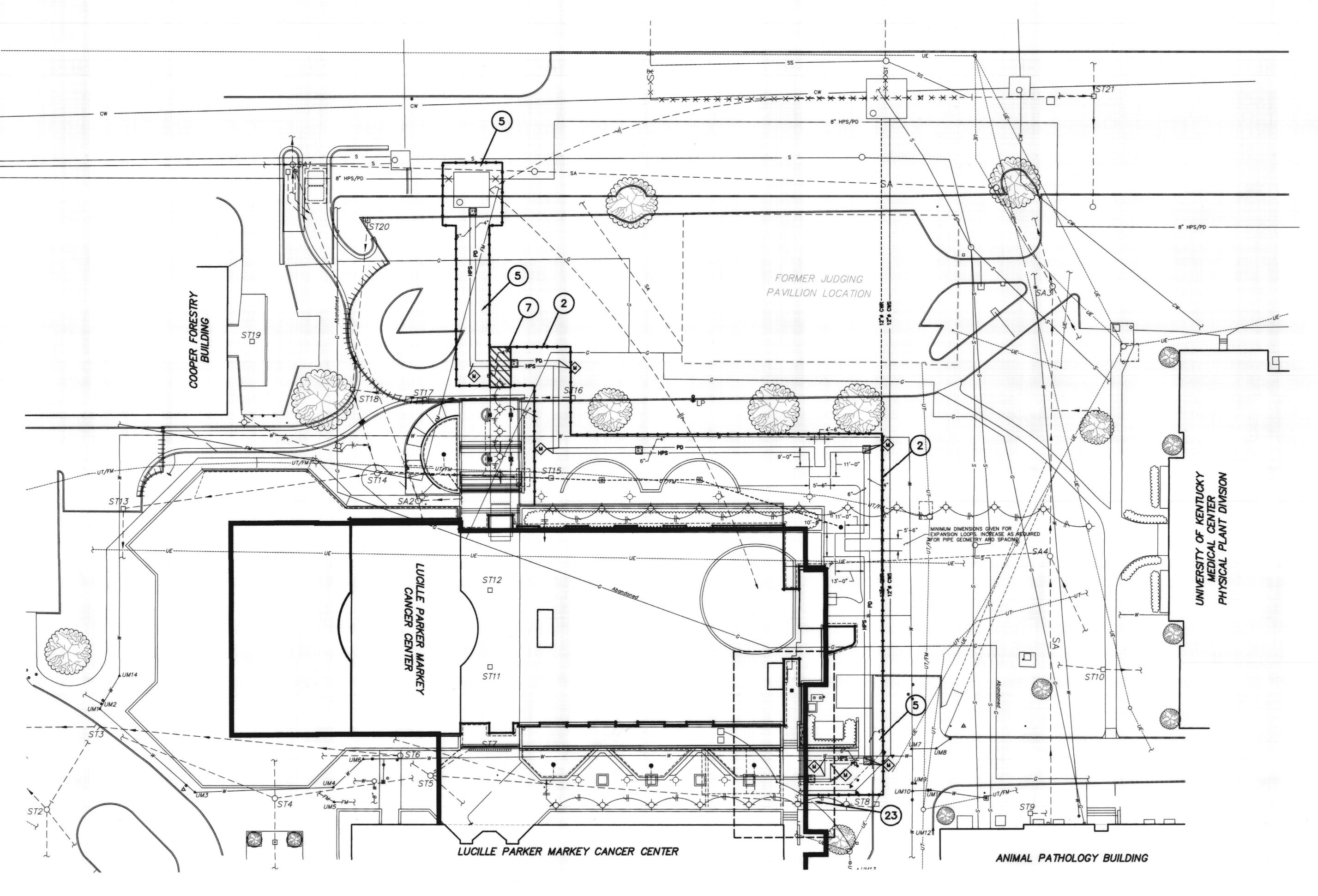












HUGUELET DRIVE - SITE PLAN

GRAPHIC SCALE: 1"=20'-0"

GENERAL NOTES

DUCTBANK WORK SHALL BE PERFORMED IN STAGES AS INDICATED. REFER TO THE SPECIAL CONDITIONS.

STAGE NUMBERING IS CODED TO IDENTIFY THE WORK AS FOLLOWS: "ED" REFERS TO ELECTRICAL DUCTBANK, "CD" REFERS TO COMMUNICATION DUCTBANK. DEMOLISH ASPHALT OR CONCRETE PAVEMENT AND CURBS AS NEEDED FOR CONSTRUCTION, AND REPLACE TO ORIGINAL CONDITION.

REMOVE TREES AND SHRUBS AS NEEDED FOR CONSTRUCTION, AND REPLACE REMOVED PLANTS TO ORIGINAL CONDITION.

MAKE REQUIRED APPLICATIONS AND COORDINATE WITH THE APPROPRIATE AUTHORITY THE INSTALLATION OF CONCRETE BARRICADES TO PICK UP ONE LANE OF THE EAST SIDE OF LIMESTONE STREET AS SHOWN.

THE CONSTRUCTION STAGE NOTES ARE A MASTER LIST OF ITEMS, AND AS SUCH SOME TIMES ARE NOT APPLICABLE TO SOME SHEETS. ALL DISTURBED AREAS SHALL BE PUT BACK TO THEIR ORIGINAL CONDITION AT COMPLETION OF STAGE OF WORK.

CONSTRUCTION FENCE SHALL BE THE LIMIT OF CONSTRUCTION, MATERIAL SHALL NOT BE STORED OUTSIDE CONSTRUCTION LIMITS. ACCESS TO STAGE AREAS SHALL BE ESTABLISHED WITH OWNERS REPRESENTATIVE PRIOR TO WORK. STORAGE OF MATERIAL WITHIN CONSTRUCTION LIMITS SHALL NOT OCCUR WITHIN DRIP LINE OF TREES.

CONSTRUCTION - STAGE NOTES

1. CONVERT NORTH TURN LANE INTO NORTH TRAFFIC LANE. 2. INSTALL CONSTRUCTION FENCE AS SHOWN. FENCE SHALL BE 6'-0" CHAIN LINK.

5. ONE LANE OF ADMINISTRATION DRIVE MUST REMAIN OPEN AT ALL

4. DEMO CONCRETE SIDEWALK.

5. DEMO ASPHALT STREET.

6. CONCRETE BARRICADE

7. BUILD TEMPORARY PEDESTRIAN BRIDGE TO OSHA AND ADA STANDARDS. CONTRACTOR SHALL SUBMIT BRIDGE DESIGN AND CALCULATION WITH THE SEAL OF A REGISTERED ENGINEER FOR

3. INSTALL TEMPORARY CONCRETE SIDEWALK. TEMPORARY SIDEWALK SHALL BE 5'-0" WIDE X 4" THICK. NO BASE IS PREFERRED TO MINIMIZE DAMAGE TO EXISTING PLANTS.

9. INSTAL PERMINATE CONSIDER ADA ACCESS RAND IN CURB. 10. MAINTAIN EXISTING GROUND INSULATION.

11. ALL WORK IN LIMESTONE STREET AND COPPER DRIVE SHALL BE DONE BETWEEN 8 PM AND

12. DUCTBANK TRENCH AT STREET INTERSECTIONS: EXCAVATE STREET INTERSECTION BETWEEN 8 PM AND 6 AM. INSTALL STEEL PLATE DURING THE DAY. MAINTAIN ONE LANE OF ACCESS AT ALL TIMES FOR EMERGENCY VEHICLE ACCESS.

13. ALL WORK AT STAGE CD1 SHALL BE DONE BETWEEN 8 PM AND 6 AM. CONSTRUCTION ACCESS FOR CD1 SHALL BE FROM HILLTOP AVENUE.

14. CONSTRUCTION STAGING AREA: PRESERVE EXISTING TREES IN AREA, AND RESTORE TO ORIGINAL CONDITION.

15. TWO LANES OF HOSPITAL DRIVE MUST REMAIN OPEN AT ALL TIMES. USE THE GRASSED AREA TO THE EAST SIDE OF HOSPITAL DRIVE FOR THIS PURPOSE. RESTORE GRASSED AREA TO PRICINAL CONDITION -----16. NEW CONCRETE SIDEWALK SHALL BE EXTENDED TO BACK OF CURB. (TURF AREA SHALL BE REMOVED) IN ADDITION TO REPLACING EXISTING SIDEWALK.

17. REPLACE EXISTING BRICK PATTERN WITH CONCRETE SLAB.

18. WIDTH OF CONSTRUCTION LIMITS IN THIS AREA SHALL NOT EXCEED THE FIRST LANE OF 19. CONTRACTOR TO INSTALL TEMPORARY GUIDE WIRE TO POWER POLE FOR SUPPORT PRIOR TO

20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENGINEER AND CONSTRUCT A SOIL STABILIZATION / UNDERPINNING SYSTEM BELOW THE EXISTING STONE WALL DURING EXCAVATION AND CONSTRUCTION OF THE UTILITY DUCT BANK. EXISTING STONE WALL SHALL NOT BE DEMOLISHED OR DISTURBED DURING SAID CONSTRUCTION. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR ANY REPAIRS REQUIRED FOR STONE WALL ARISING FROM CONSTRUCTION OF PROJECT AS DICTATED BY AND SUBJECT, TO APPROVAL OF OWNER.

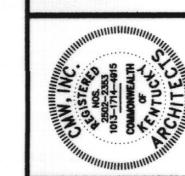
21. REMOVE BOTH DRIVEWAY CURB CUTS AND REPLACE WITH STANDARD CURB AND WALK.

22. SIDEWALK ALONG EAST SIDE OF LIMESTONE BETWEEN VIRGINIA AVE. AND WASHINGTON AVE. SHALL BE CLOSED DURING STAGE ED5 CONSTRUCTION.

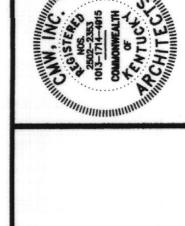
23. EGRESS DOORS FROM BUILDING SHALL BE

MAINTAINABLE AT ALL TIMES.

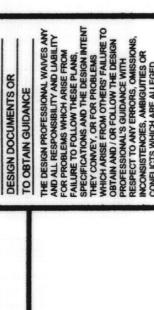
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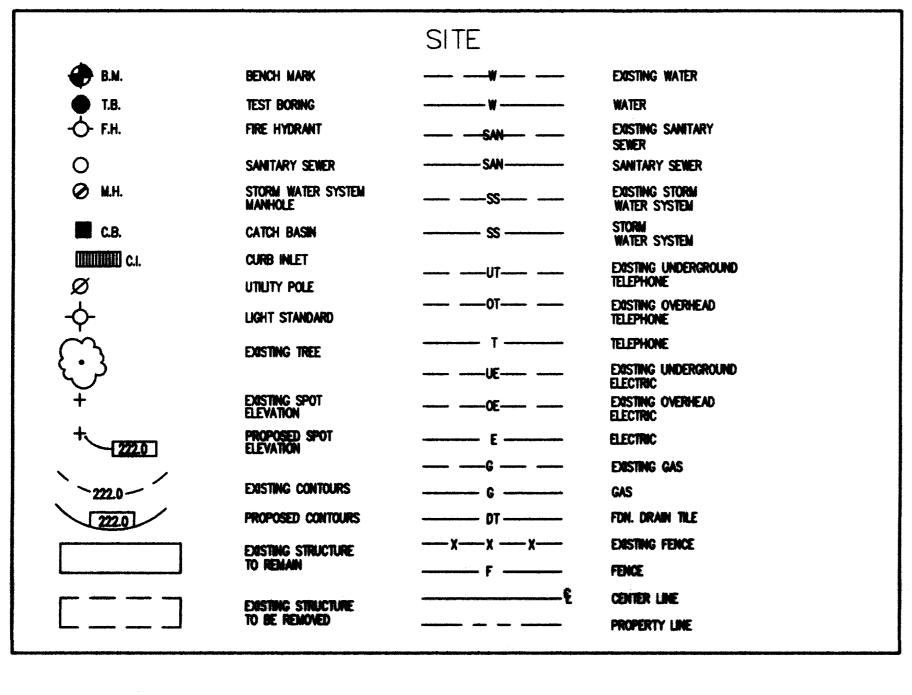


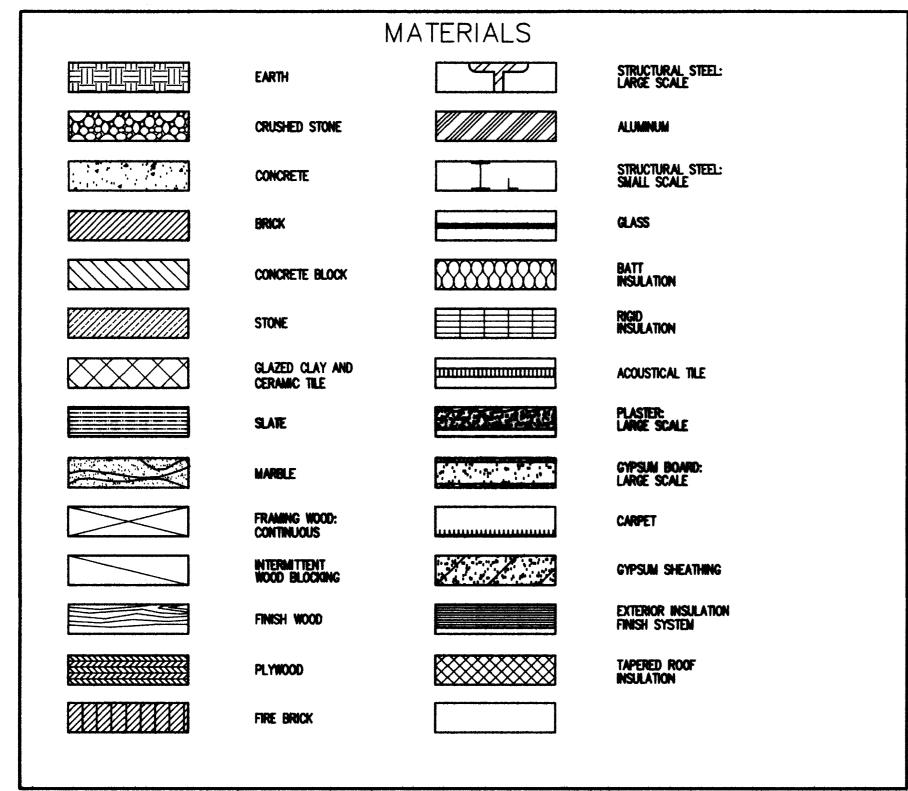
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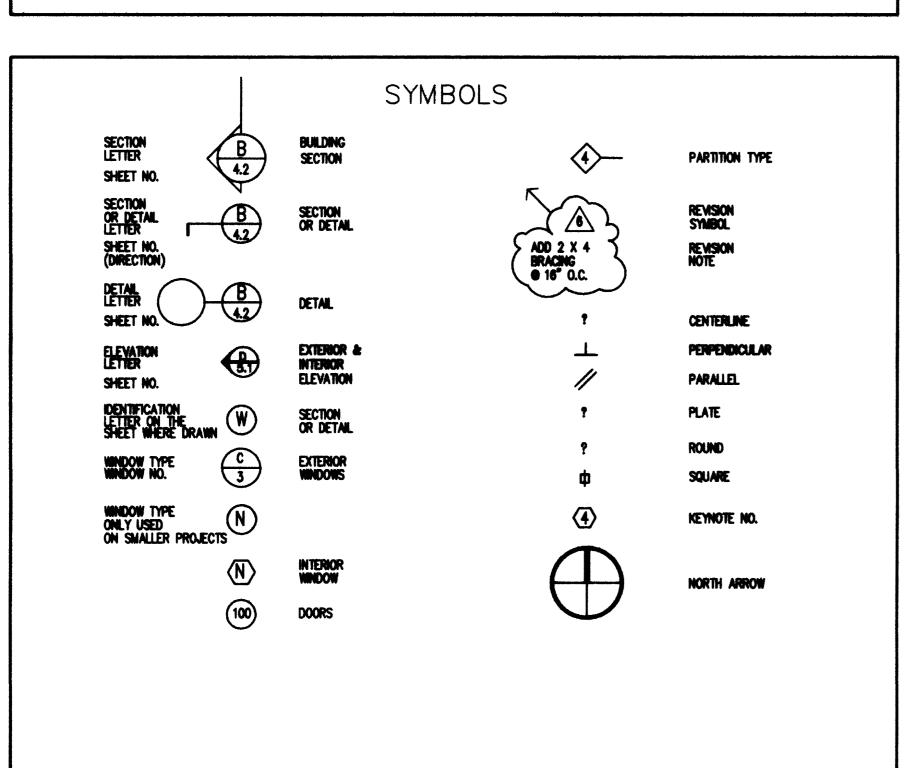
DATE: DECEMBER, 2000 DRAWN BY : MAW CHECKED BY: JAB REVISED: DATE

SHEET NUMBER

PROJECT NUMB 99024.02







ANCHOR BOLT AIR CONDITIONING ACCESSIBLE FLOOR ACOUSTICAL ACTUAL AREA DRAIN, ACCESS DOOR ADJUST, ADJUSTABLE ADHESIVE ABOVE FINISH FLOOR AGGREGATE AIR HANDING UNIT ACCESS PANEL **ASBESTOS** AUTOMATIC AUXILIARY BRITISH THERMAL UNIT BUILT UP ROOFING COURSES, CONDUIT CONCRETE BLOCK, CASING BEAD, CATCH BASIN CENTER TO CENTER (SAME MEANING AS OC) CUBIC FEET CIRCUIT BREAKER CORRUGATED METAL PIPE CONCRETE MASONRY UNIT CARBON DIOXODE CONDENSATE CONSTRUCTION CONTINUOUS, CONTINUATION CONTRACTOR CONVERTER, CONVENIENCE CTSK COUNTERSINK CULVERT CHECK VALVE COLD WATER, CLOCKWISE DEPRESSED DETAIL; DETECTOR DOUBLE HUNG DIMENSION DOWN DITTO DOWNSPOUT DRYWALL, DOMESTIC WATER

ABBREVIATIONS

ANGLE, LONG, LEFT EACH LAMNATE EPL. EFFLUENT LIGHT FIXTURE, LINEAR FEET EXPANSION JOINT ELEVATION LOCATION ELECTRIC, ELECTRICAL LOW POINT ELEV ELEVATOR, ELEVATION EMER ENCL LIGHTWEIGHT ENTRANCE EQUAL EQUIV EQUIVALENT ESWT EASEMENT MATERIAL ELECTRIC UNIT HEATER EACH WAY MISCELLANEOUS CHANNEL MEDIUM DENSITY OVERLAY EACH WAY EACH FACE MECHANICAL EXCAV EXCAVATE MEDIUM, MEDICINE EXCHGR EXCHANGER METAL DOH MANUFACTURER EXIST EXISTING EXPAN EXPANSION EXT EXTERIOR MISCELLANEOUS METAL LATH AND PLASTER MEMBRANE MASONRY OPENING FORCED AIR MTD FABRICATE MTG FIRE CODE MULLION FLOOR DRAIN, FIRE DAMPE FOUNDATION FIRE EXTINGUISHER FIRE TREATED WOOD NOT APPLICABLE FINISHED FLOOR ELEVATION NECESSARY FLAT HEAD, FIRE HOSE, NOT IN CONTRACT FIRE HYDRANT FINISH, FINISHED NOMINAL FIXT FIXTURE NOT TO SCALE FLOOR flash flex FLASHING FLEXIBLE FLUOR FTG FLUORESCENT ON CENTER FOOTING OUTSIDE DIAMETER FURRING OVERHEAD OPENING OPPOSITE OPPOSITE HAND GALVANIZED GRAB BAR GLAZED CONCRETE BLOCK PARTICLE BOARD GENERATOR PASS PASSAGE GALYANIZED IRON PRECAST GLASS, GLAZING POURED CONCRETE GLUE-LAMINATED PERF PERFORATED GROUND PERMETER PERPENDICULAR GRAVITY ROOF VENT PHASE GLAZED STRUCTURAL TILE PLAS PLASTER **CRAVITY VENT** PLASTIC LAMINATE PLYND PLYW000 PNEUMATIC POUSHED HARDENED POLY CARB POLYCARBONATE SHEET HOSE BIBB PREFABRICATED HOLLOW CORE PROJECT, PROJECTED HARD BOARD POLISHED PLATE GLASS HANDICAPPED HEADER HARDWARE POLYVINYL CHLORIDE HARDWOOD HEXAGONAL POLISHED WIRE GLASS HEIGHT HOLLOW METAL HORIZONTAL HIGH POINT HEATING HEATER RISER, RADIUS HOT WATER, HARD WHITE R OR RAD RADIUS R/A return air REINFORCED CONCRETE PIPE RCVR RECEIVER INSIDE DIAMETER ROOF DRAIN INSIDE FACE REINFORCING BAI INCH, INCHES RECIRCULATE INSULATION, INSULATE RECP RECEPTACLE RECTIFIER REFERENCE REFRIGERATOR REGISTER REINFORCE JUNCTION BOX REQUIRED RESILENT revise, revision RHEOSTAT ROUGH OPENING KENTUCKY BUILDING CODE ROW OR R/W RIGHT OF WAY (EDITION YEAR) REINFORCED VITRIFIED CLAY PIPE

RELIEF VALVE

RELIEF VALVE DISCHARGE

SUPPLY AIR SOLID CORE, SILL COCK, SELF CLOSING SCHEDULE SECTION, SECTIONAL SEPARATE SHEATHING SIMILAR SOLENOID SPACES SPECIFICATION SPEAKER SQUARE STAINLESS STEEL STATION STANDARD STEEL STORAGE STRUCTURAL SUBSTITUTE SUCTION SUSPENDED SWITCHBOARD SYMMETRICAL TREAD, TOP TOP OF CURB, TERRA COTTA TOP OF CURB ELEVATION TURNED DOWN SLAB TELEPHONE TERRAZZO TOP OF FOOTING ELEVATION TONGE AND GROOVE THICK, THICKINESS THRESHOLD TACKBOARD TOP OF CONCRETE TOILET TOPPING TREATMENT THICK SLAB, STRUCTURAL STEEL TUBING THERMOSTAT TOP OF WALL TYPICAL UNDERGROUND UNIT HEATER UNFINISHED UNLESS NOTED OTHERWISE VAPOR BARRIER VINYL COMPOSITION TILE VENTILATE VERTICAL VESTIBULE VERMICULITE WTH WATER CLOSET WOOD, WINDOW DIMENSION WEEP HOLE, WALL HYDRANT WATER HEATER

WROUGHT IRON

WATER RESISTANT

WELDED WIRE FABRIC

WHITE PINE

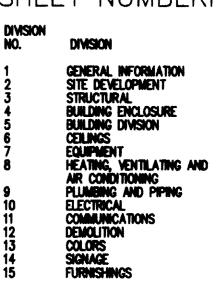
WAINSCOT

WALL VENT

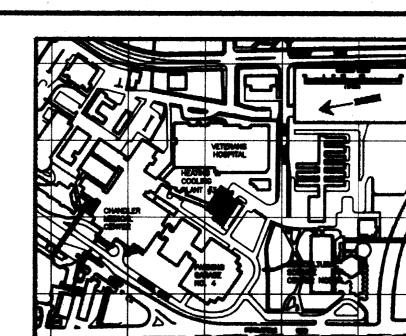
WP WATERPROOFING, WEATHERPROOF,

DIMENSIONING: ALL DIMENSIONS ARE TO FACE OF STUDS, FACE OF MASONRY, FACE OF PRE-CAST OR TO THE CENTERLINE OF STRUCTURAL STEEL UNLESS NOTED OTHERWISE ALL ABBREVIATIONS, SYMBOLS AND OTHER INFORMATION ON THIS SHEET MAY NOT NECESSARILY HAVE BEEN USED ON THIS PROJECT. THEY SHALL, HOWEVER, APPLY TO THIS PROJECT WHERE THEY ARE FOUND TO OCCUR.

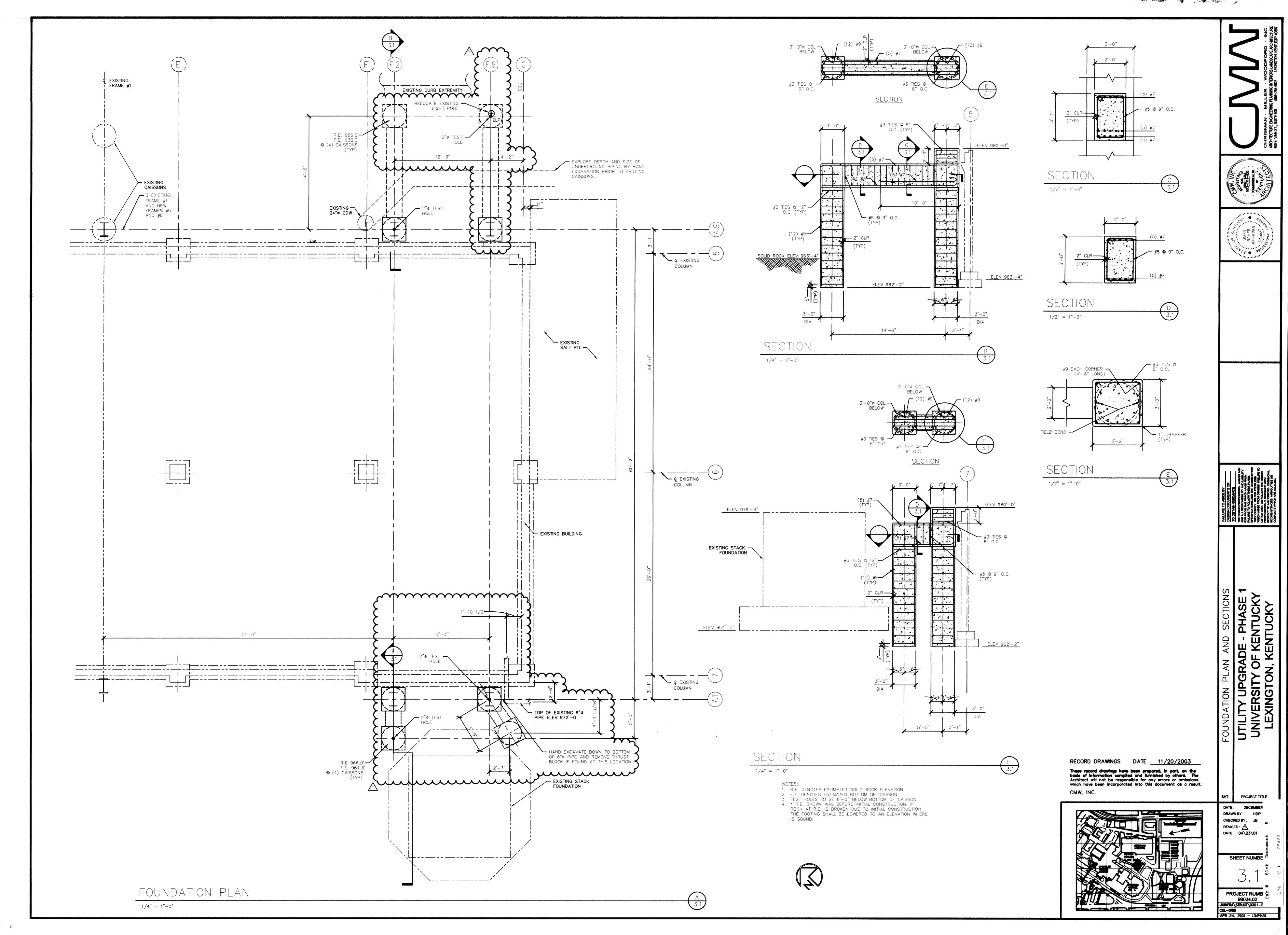
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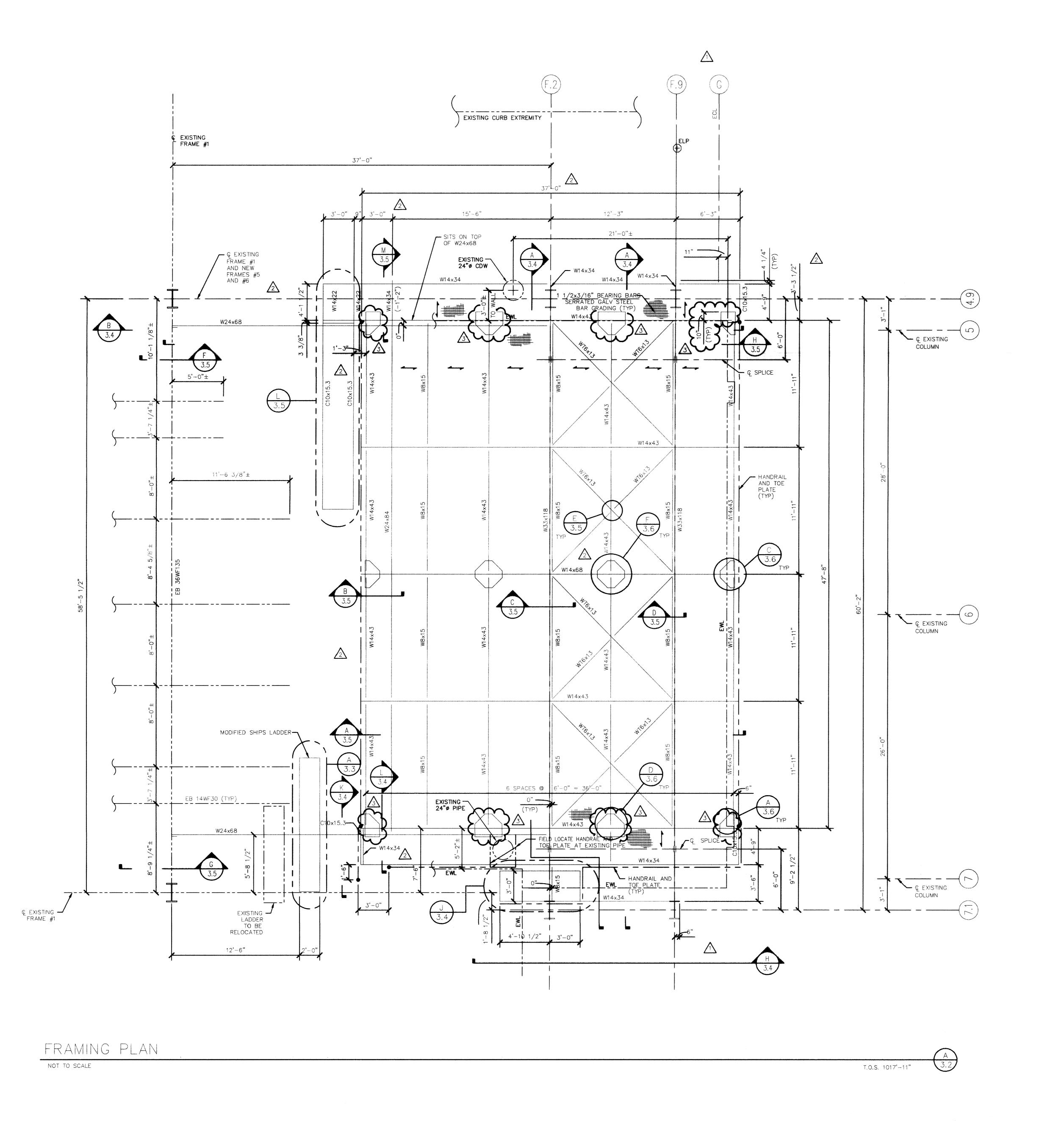


PROJECT NUME



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LEGEND

EB = EXISTING BEAM
ECL = EXISTING COLUMN LINE
ELP = EXISTING LAMP POST
EWL = EXISTING WALL LINE
CDW = CONDENSATE WATER

JOHN A JOHN PE-9785

ITY UPGRADE - PHASE 1
/ERSITY OF KENTUCKY
XINGTON, KENTUCKY

OTIC UNIV

DATE: DECEMBER COMMON BY: HDP
CHECKED BY: JB #
REVISED: 1
DATE 04-23-01 05- 14

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CMW, INC.

PROJECT NUMB
99024.02
UKINFRA\STRUCT\0302-F
COL-GRID



GENERAL NOTES

DESIGN LOADS

ROOF SNOW LOAD

*(INCREASE FOR DRIFTING PER KBC, SECTION 1608.0)

PRIMARY FRAME AND COMPONENTS GREATER THAN 700 SQ. FT.

WIND DESIGN PRESSURE (P)	
HEIGHT ABOVE GROUND	PRESSURE
0-15'	4 4 4 7 1 V 2
20'	
25 <u>'</u>	
30'	
40'	
50'	
COMPONENTS AND CLADDING LESS THAN 700 SQ. FT PER KBC,	SECTION 1609.8
EARTHQUAKE DESIGN DATA	
BASIC STRUCTURAL SYSTEM	BSS SRS
SEISMIC RESISTING SYSTEM	3
PEAK VELOCITY-RELATED ACCELERATION	. Av = 0.07
PEAK ACCELERATION	Aa . = . 0.05
SEISMIC HAZARD EXPOSURE GROUP	GROUP III
CEICLUA DEDECONIALIOE OLTEGODIA	$\Delta A TECODY \Delta$

SEISMIC PERFORMANCE CATEGORY CATEGORY C

DESIGN STRESSES

С	CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS:	
	DRILLED PIERS & GRADE BEAMS	4,500 PSI
	EXTERIOR SLABS ON GRADE	4,000 PSI
	CONCRETE SUBJECT TO FREEZING AND THAWING	4,500 PSI
R	EINFORCING BARS (ASTM A615 GRADE 60)	60,000 PSI
	VIDE FLANGE AND TÈE SHAPES DESIGNATED AS W AND WT (ASTM A992)	
	VIDE FLANGE AND TEE SHAPES DESIGNATED AS M, S, HP, MT AND ST (ASTM 36)fy. =	
C	CHANNELS, ANGLES, PLATES AND BARS (ASTM A36)	36,000 PSI
С	COLUMN BASE PLATES (ASTM A572)	.50,000 PSI
M	METAL DECKS	20,000 PSI
S	OIL BEARING PRESSURE FOR DRILLED PIERS	
	(SOLID ROCK)	. ,
S	OIL BEARING PRÉSSURE FOR FOUNDATIONS	
	(ON SOIL)	

<u>GENERAL</u>

- 1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN
- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES WHICH MAY EXIST. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE
- ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER. 4. DO NOT SCALE DRAWINGS.
- 5. THE CONTRACTOR SHALL FURNISH ALL NECESSARY BRACING REQUIRED TO PROPERLY CONSTRUCT THE BUILDING. 6. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION.

FOUNDATION CONSTRUCTION

- 1. FOUNDATIONS FOR THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS NOTED ON 6. SEE SPECIFICATIONS FOR ALL PAINTING REQUIREMENTS. EXISTING DRAWING S-2 (6-1-1970) BY MASON & HANGER-SILAS MASON CO. INC.
- ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS AND GRADE BEAMS. 3. ALL DRILLED PIERS MUST BE SUPPORTED ON UNDISTURBED SOLID ROCK OF SUPPORTING DESIGN LOADS
- WITHOUT APPRECIABLE SETTLEMENT. 4. FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH 9. ASTM D698 STANDARD PROCTOR METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH
- VIBRATORY TAMPING EQUIPMENT. 5. IN GRANULAR SOILS (SANDS AND GRAVEL) THE SOIL SHALL BE MECHANICALLY TAMPED TO A HARD SURFACE IMMEDIATELY PRIOR TO PLACING FOOTING.
- 6. EXISTING FOUNDATIONS: A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITION MUST BE VERIFIED AT TIME OF CONSTRUCTION.
- B. UNLESS OTHERWISE NOTED, NEW FOOTINGS SHALL NOT BEAR BELOW EXISTING FOOTINGS. 7. FOR BACKFILL REQUIREMENTS, SEE SPECIFICATIONS.
- 8. BEARING INTO SHALE ELEVATIONS GIVEN ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS.
- 9. SEE DRILLED PIER NOTES AND DETAILS FOR ADDITIONAL REQUIREMENTS. 10. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY
- COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL ACTIVE LINES. 11. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY AT A
- MINIMUM OF 2'-0'' BELOW THE EXCAVATION. 12. SHALE CONTAINING PYRITES MUST BE PROTECTED AS INDICATED ON THE DRAWINGS OR IN THE PROJECT

SPECIFICATIONS.

- ELEVATIONS NOTED FOR BOTTOM OF DRILLED PIERS ARE APPROXIMATE AND ARE FOR BASE BID PURPOSES
- 2. FINAL BEARING ELEVATION SHALL BE ADJUSTED TO MEET THE FOLLOWING CRITERIA: A. ALL DRILLED PIERS SHALL BEAR LEVEL WITH A MINIMUM EMBEDMENT OF 2'-0" INTO SOLID ROCK. ALL DRILLED PIERS SHALL BE INSTALLED FROM THE LEVEL EXISTING AFTER GENERAL EXCAVATION HAS PROGRESSED TO EXTENT REQUIRED. SEE SPECIFICATIONS FOR TOLERANCES IN DRILLED PIER INSTALLATION. DRILLED PIERS SHALL BE SEALED OFF TO PREVENT ANY INFLOW OF WATER, SILT, SAND, OR SIMILAR MATERIALS DURING INSTALLATION SUBMIT PROPOSED DRILLED PIER INSTALLATION METHOD TO CONSTRUCTION
- MANAGER AND ENGINEER FOR REVIEW PRIOR TO START OF ANY DRILLED PIER WORK. ALL DRILLED PIERS SHALL DE INSPECTED DURING DRILLING AND PLACING OF CONCRETE. A COMPLET REPORT OF EACH DRILLED PIER INSTALLED SHALL BE MADE. SEE SPECIFICATIONS FOR REQUIREMENTS OF INSPECTION AND REPORT.
- 5. ALL DRILLED PIERS SHALL BE FILLED WITH 4,500 PSI CONCRETE (28 DAY STRENGTH). NO CONCRETE SHALL BE PLACED UNTIL THE DRILLED PIER HAS BEEN INSPECTED AND APPROVED. AN ACCURATE VOLUME CHECK OF CONCRETE PLACED IN EACH DRILLED PIER SHALL BE MADE BY THE CONTRACTOR AS A CHECK TO VERIFY THE FINAL DIMENSIONS OF THE DRILLED PIER. CONCRETE SHALL BE PLACED THE SAME DAY AS THE FINAL CLEANOUT OF THE EXCAVATION.
- 6. THE CONTRACTOR SHALL ENGAGE A REGISTERED SURVEYOR TO SURVEY THE TOP LOCATION AND CENTERLINES OF DRILLED PIERS AS PLACED. SUBMIT THE SURVEY TO THE ENGINEER BEFORE ANY STRUCTURE IS PLACED ABOVE THE DRILLED PIER. ANY CORRECTIVE MEASURES REQUIRED BECAUSE OF MISALIGNMENT BEYOND THE
- 7. THE LOCATION OF EXISTING SEWER AND UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO THE DRILLING OF DRILLED PIERS. IF NEW DRILLED PIERS AS SHOWN ON PLAN WILL ENCROACH UPON THOSE EXISTING STRUCTURES, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR DIRECTION PRIOR TO PLACING DRILLED PIERS.

PERMISSIBLE TOLERANCE IS THE RESPONSIBILITY OF THE DRILLED PIER CONTRACTOR.

SHALE SPOILS SHALL BE REMOVED FROM SITE AND SHALL NOT BE USED FOR FILL. LOCATION OF EXISTING FOUNDATIONS AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND ARE INTENDED TO SHOW WHERE FORMER STRUCTURES EXISTED. THE PURPOSE OF SHOWING EXISTING FOUNDATIONS IS TO INDICATE THAT OBSTRUCTIONS MAY BE ENCOUNTERED IN DRILLING. DRILLING THROUGH ANY OBSTRUCTIONS IS THE CONTRACTOR'S RESPONSIBILITY UNDER BASE BID.

CONCRETE CONSTRUCTION

- 1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND
- REMOVAL OF FORMS AND RESHORING SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
- ALL EXPOSED CORNERS OF CONCRETE BEAMS, COLUMNS, WALLS, AND STEEL MEMBERS ENCASED IN CONCRETE ARE TO BE CHAMFERED 45 DEGREES. MINIMUM CHAMFER TO BE 1/2". 4. ALL EXPOSED CONCRETE SUBJECTED TO FREEZING AND THAWING TO HAVE A MINIMUM CEMENT CONTENT
- OF 6 SACKS PER YARD, A MAXIMUM WATER/CEMENT RATIO OF 0.40, AND 6% + /- 1% OF ENTRAINED AIR. 5. REINFORCING FOR SLABS ON GROUND (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN THIS POSITION DURING PLACEMENT OF CONCRETE.
 - A. LAP ALL COMPRESSION SPLICES 30 TIMES THE DIAMETER OF THE LARGER BAR. B. LAP ALL TENSION SPLICES IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH			1. INCREASE SPLICE LENGTH BY THE FOLLOWING:		
DAK SIZE	3,000 PSI	4,000 PSI	5,000 PSI	2. <u>NOTE:</u> INCREASED LENGTHS ARE ACCUI	MULATIVE	
#3 21" 19"	19"	17"	1. HORIZONTAL TOP BARS WITH GREATER			
#4	29"	25"	22"	THAN 12" OF CONCRETE BELOW + 2. BAR SPACING LESS THAN 2 BAR	+30%	
#5	36"	31"	28"	DIAMETERS 3. LIGHTWEIGHT CONCRETE	+50% +30%	
#6	#6 43" 37" 33"	4. EPOXY-COATED TOP BARS +3	+30%			
#7	62"	54"	48"	J. LEONT-CONTED OTHER BANS	T 50/8	
#8	71"	62"	55"			
#9 80"	70"	62"				
#10	#10 90"	78"	70"			
#11	100"	87"	78"			

7.		RETE PROTECTION FOR REINFORCEMENT:	COVER
		CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	. 3.
	В.	CONCRETE EXPOSED TO EARTH OR WEATHER	
		NO. 6 THROUGH NO. 18 BARS	2"
		NO. 5 BAR AND SMALLER	1 1/2"
	C.	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	,
		SLABS, WALLS, AND JOISTS	
		NO. 14 AND NO. 18 BARS	1 1/2."
		NO. 11 BAR AND SMALLER	. 3/4."
		REAMS AND COLUMNS	•

STEEL CONSTRUCTION

1. STEEL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE LATEST, AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE, AND THE AWS STRUCTURAL WELDING CODE.

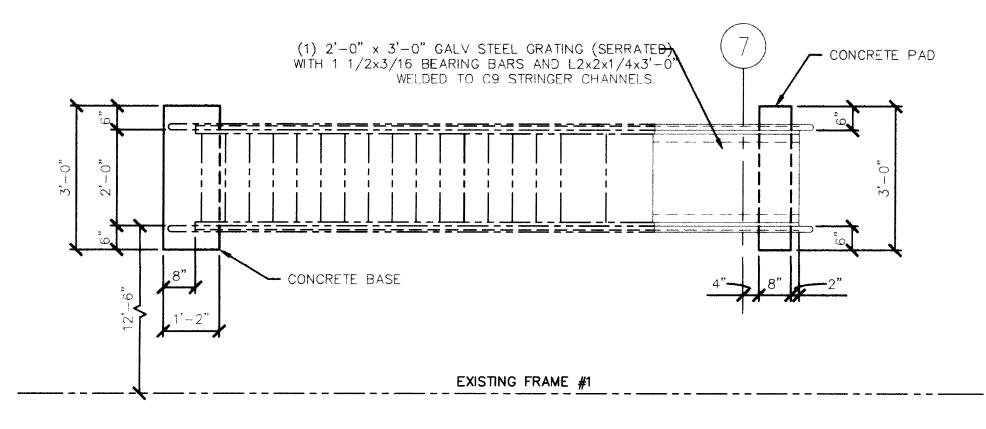
- 2. CONNECTIONS WELDED OR HIGH STRENGTH BOLTED: A. A325SC WITH HARDENED WASHERS - USE FOR ALL MOMENT CONNECTIONS, HANGERS, AND OTHER CONNECTIONS AS NOTED ON DRAWINGS.
- B. A325N WITH HARDENED WASHERS USE FOR ALL CONNECTIONS OTHER THAN SLIP CRITICAL CONNECTIONS.
- C. UNLESS SNUG TIGHT CONNECTIONS ARE NOTED ON THE DRAWINGS AS BEING PERMITTED, ALL BOLTS SHALL BE TIGHTENED TO FULL PRETENSIONING LOAD.
- D. USE STANDARD HOLES WITH THE FOLLOWING EXCEPTIONS: OVERSIZE HOLES ARE PERMITTED WHEN BOLTS ARE LOADED IN TENSION; SHORT SLOTTED HOLES ARE PERMITTED FOR SHEAR LOADING
- PERPENDICULAR TO THE SLOT. E. WHEREVER POSSIBLE, USE FRAMED BEAM CONNECTIONS AS LISTED IN TABLES II, III, IV OR X OF THE
- AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION. THE LENGTH OF CONNECTION ANGLES SHALL BE NOT LESS THAN ONE—HALF OF THE T DISTANCE OF THE BEAM WEB.
- F. WHERE REACTION IS NOTED, DEVELOP SAME. WHERE NOT NOTED, FOR NON-COMPOSITE BEAMS, CONNECTIONS SHALL DEVELOP ONE-HALF OF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM; FOR COMPOSITE BEAMS, SEE TABLE.
- WELDING ELECTRODES SHALL BE E70XX EXCEPT WHERE OTHER ELECTRODES ARE REQUIRED FOR COMPATIBILITY WITH MATERIAL BEING WELDED.
- 4. ALL SLIP CONNECTIONS SHALL BE PROVIDED WITH A MEANS OF PREVENTING THE NUTS FROM UNTHREADING. 5. SHOP DRAWINGS ARE REQUIRED AND SHALL NOTE TYPE OF ELECTRODES, SIZE OF ALL WELDS, AND TYPE AND SIZE OF ALL BOLTS. SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A LICENSED
- PROFESSIONAL ENGINEER. ALL SHOP AND FIELD WELDING SHALL BE DONE BY A CERTIFIED WELDER.
- THIS IDENTIFICATION SHALL BE VISIBLE THROUGHOUT FABRICATION AND ERECTION. METHOD OF IDENTIFICATION SHALL BE CLEARLY INDICATED ON THE SHOP DRAWINGS. WELD TO EXISTING STEEL AS SHOWN ON DRAWINGS.

8. ALL STRUCTURAL STEELS OTHER THAN ASTM A992 SHALL HAVE A POSITIVE METHOD OF IDENTIFICATION.

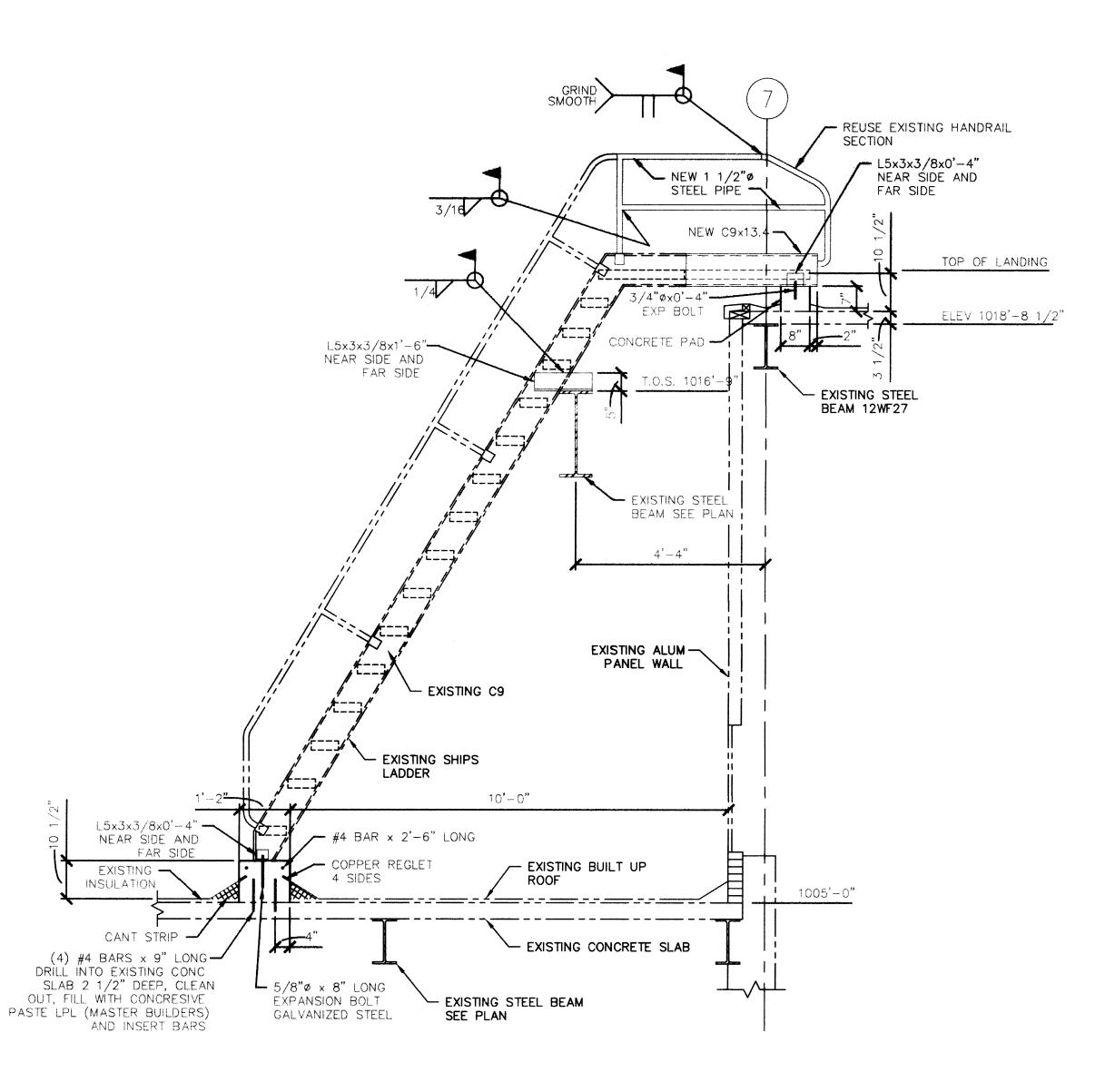
MISCELLANEOUS HANGING LOADS SUCH AS STAIR STRINGERS, PIPES, MECHANICAL UNITS, ETC., SUPPORTED BY STEEL MEMBERS SHALL HAVE THESE LOADS APPLIED IN SUCH A MANNER THAT NO TORSIONAL FORCES ARE INDUCED IN THESE MEMBERS, I.E., LOADS SHALL PASS THROUGH THE CENTERLINE OF WIDE FLANGE SECTIONS AND THROUGH THE SHEAR CENTER OF CHANNELS.

AN APPROVED INDEPENDENT TESTING LABORATORY SHALL PROVIDE INSPECTION AND TESTING SERVICES PER ASTM E329. REPORTS OF INSPECTION AND TESTING SHALL BE SENT TO THE ARCHITECT. SUCH INSPECTION AND TESTING SHALL INCLUDE:

1. CONCRETE: MIX DATA, DAILY POUR REPORTS, CYLINDER TESTS, SLUMP.



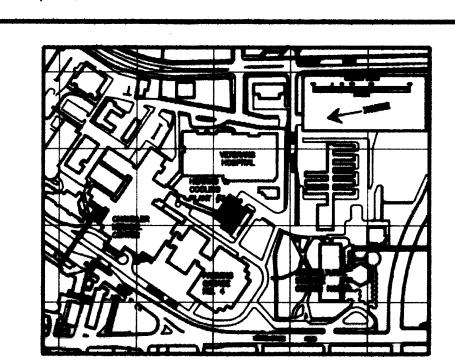
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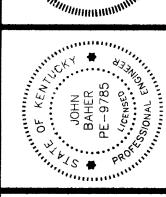
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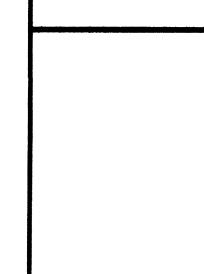
1/2" = 1'-0"

RECORD DRAWINGS DATE 11/20/2003 Architect will not be responsible for any errors or omissions which have been incorporated into this document as a result







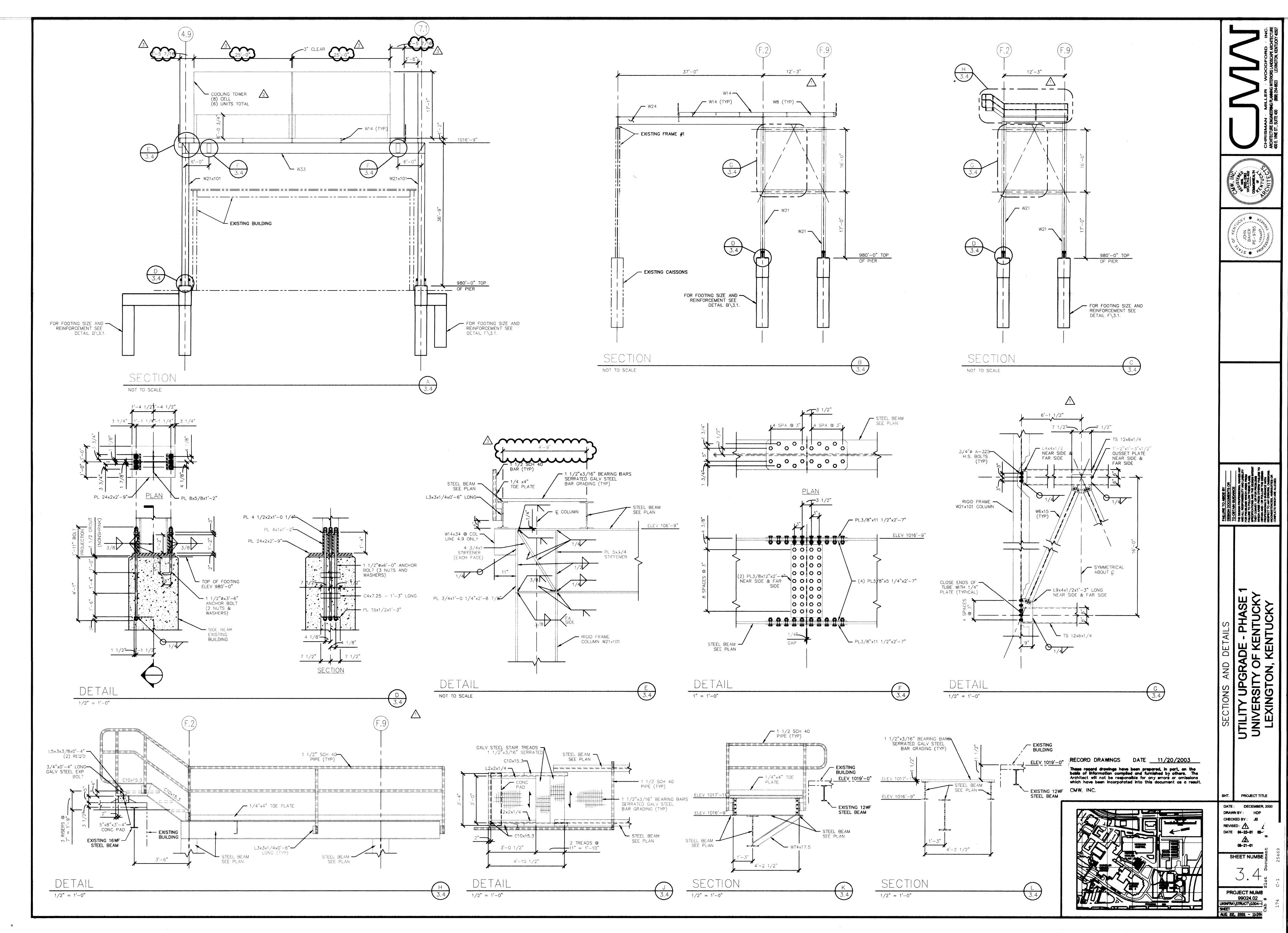


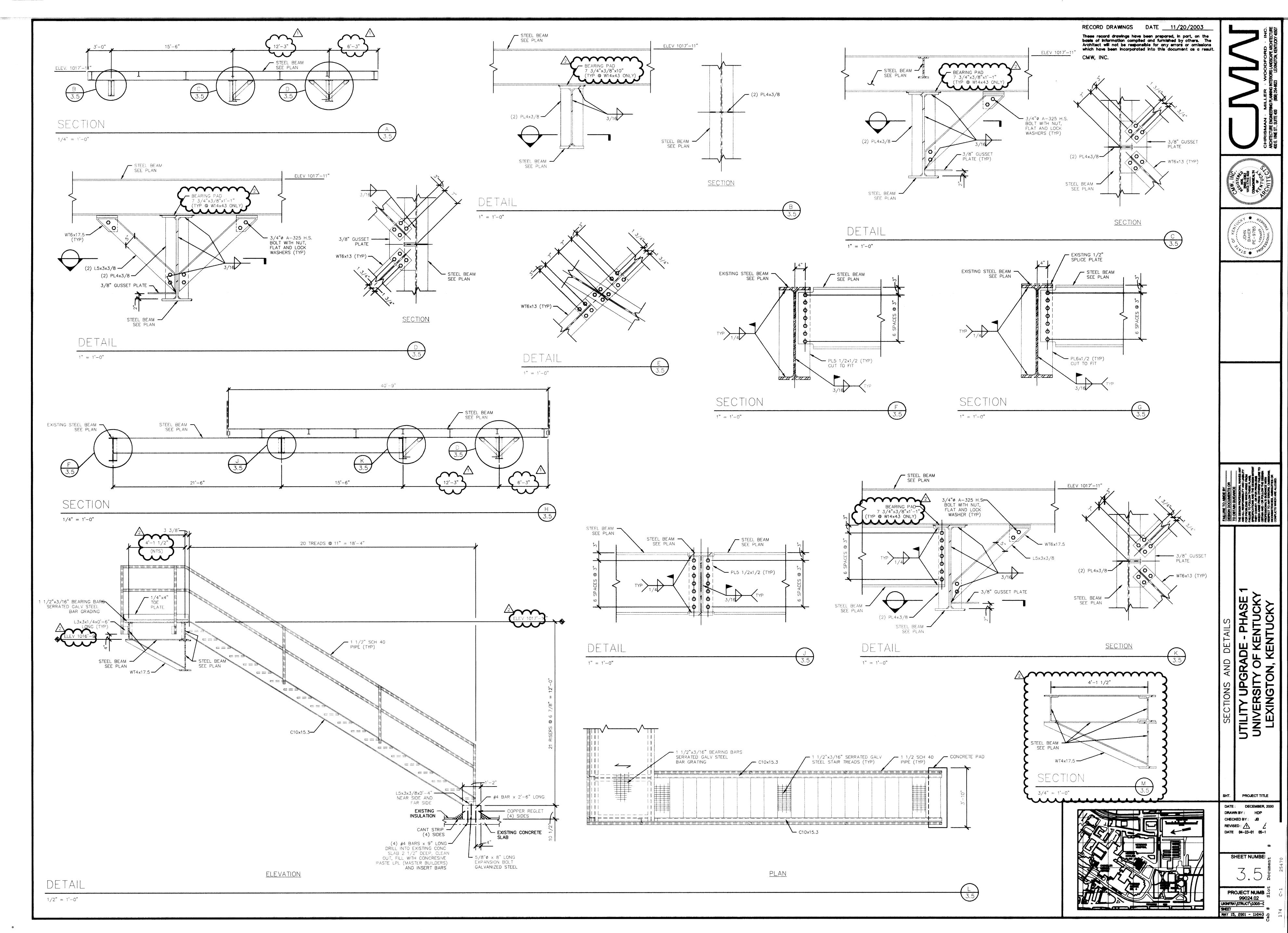


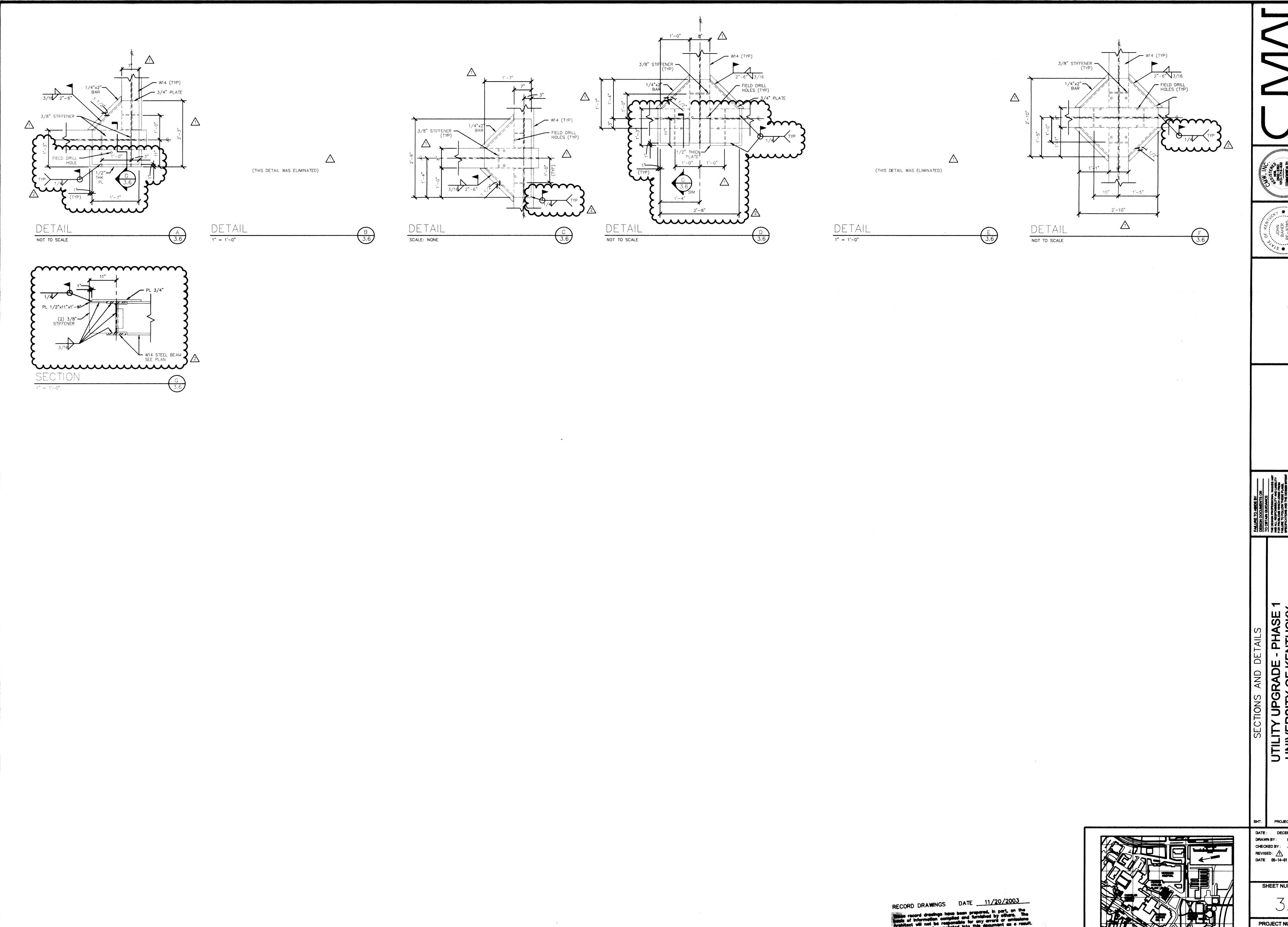
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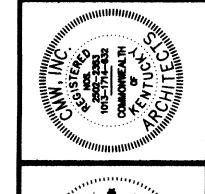
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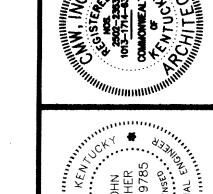


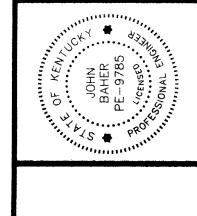


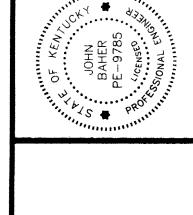






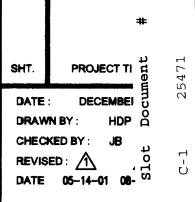


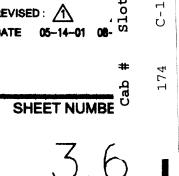


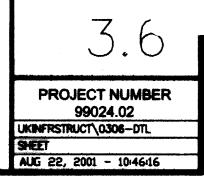












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FOUNDATION CONSTRUCTION

3. DO NOT SCALE DRAWINGS.

1. ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS. 2. ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. EXISTING FOUNDATIONS:

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DESIGN LIVE LOADS

TUNNEL LIVE LOAD

ROOF SNOW LOAD

WIND DESIGN PRESSURE (P)

EARTHQUAKE DESIGN DATA

DESIGN STRESSES

HEIGHT ABOVE GROUND

A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITION MUST BE VERIFIED AT TIME OF CONSTRUCTION. 4. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL ACTIVE LINES. 5. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY

AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION. 6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EMPLOY A QUALIFIED FIRM TO ENGINEER AND CONSTRUCT A JET GROUT / SOIL NAIL SOIL STABILIZATION AND UNDERPINNING SYSTEM FOR ALL EXISTING WALLS AND FOUNDATIONS UNCOVERED DURING THE EXCAVATION AND CONSTRUCTION OF THE UTILITY TUNNEL. ALTERNATE MEANS OF STABILIZING / UNDERPINNING MAY BE PROPOSED TO, BUT

ARE SUBJECT TO APPROVAL BY, THE STRUCTURAL ENGINEER OF RECORD.

CONCRETE CONSTRUCTION

11. SPLICES:

1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND REMOVAL OF FORMS AND SHORING SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER. 2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION. 3. PROVIDE PLASTIC, PLASTIC-COATED (NOT PLASTIC-TIPPED) OR STAINLESS STEEL CHAIRS IN ALL CONCRETE EXPOSED TO VIEW IN COMPLETED STRUCTURE.

4. PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS. 5. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. WALLS AND FRAMED SLABS SHALL HAVE CONSTRUCTION JOINTS SO THAT THE

MAXIMUM LENGTH OF POUR IS 40'-0". WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED. PROVIDE HORIZONTAL KEYWAYS IN CONSTRUCTION JOINTS IN FRAMED SLABS, WALLS, AND FOOTINGS; MINIMUM 1 1/2" DEEP WITH HEIGHT EQUAL TO ONE-THIRD OF MEMBER DEPTH. 8. ALL EXPOSED CORNERS OF CONCRETE BEAMS AND WALLS ARE TO BE CHAMFERED 45 DEGREES.

MINIMUM CHAMFER TO BE 1/2". 9. BEND ALL HORIZONTAL WALL AND FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE CORNER BARS WITH 10. PROVIDE FOUNDATION DOWELS FOR ALL WALLS, PIERS, AND COLUMNS SAME SIZE AND SPACING AS VERTICAL STEEL.

A. LAP ALL COMPRESSION SPLICES 30 BAR DIAMETERS OF THE LARGER BAR. B. LAP ALL TENSION SPLICES IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

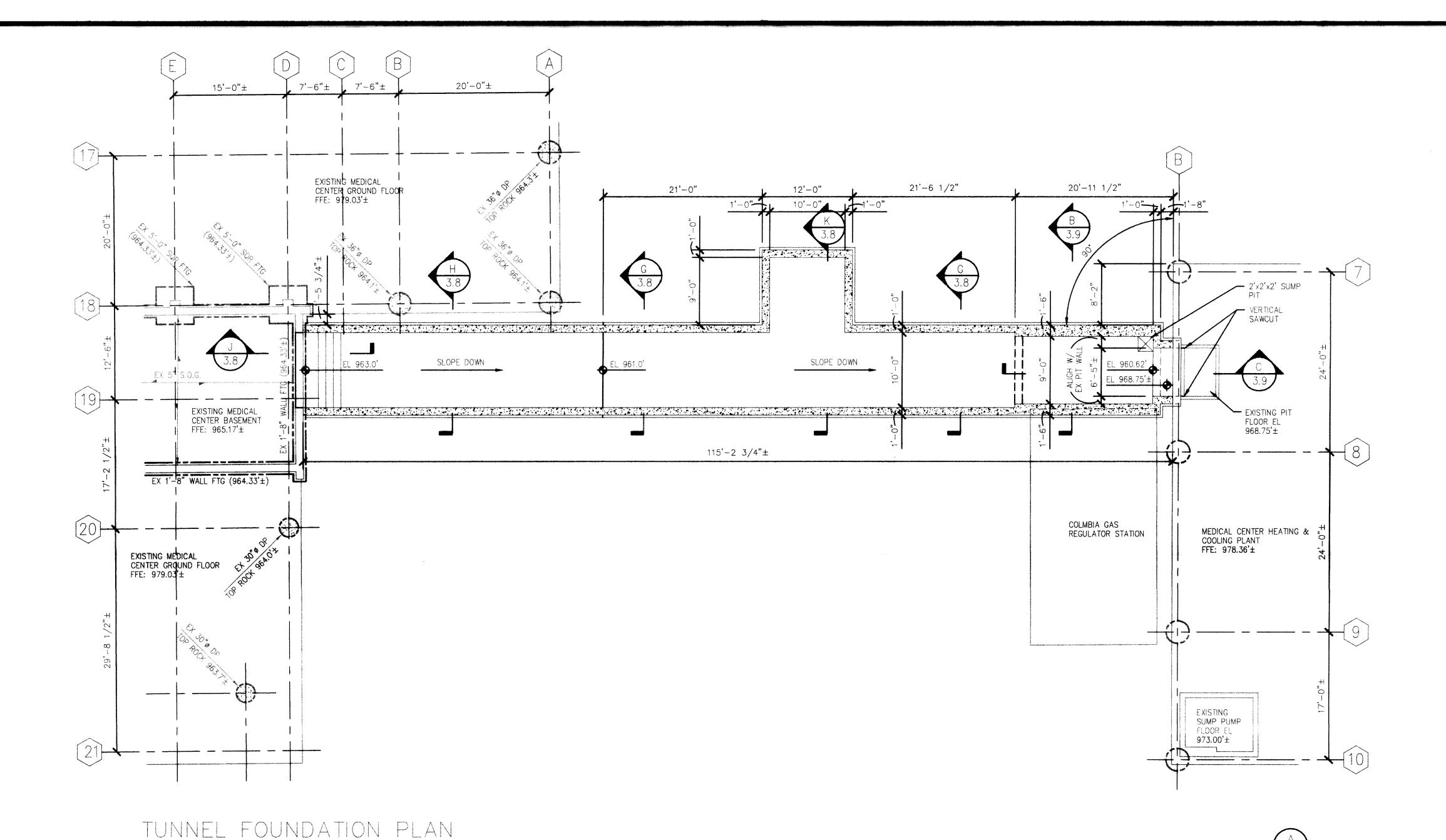
BAR SIZE	CONCRETE COMPRESSIVE STRENGTH	1. INCREASE SPLICE LENGTH BY THE FOLLOWING: 2. NOTE: INCREASED LENGTHS ARE ACCUMULATIVE		
DAN SIZE	4,000 PSI			
#3	19"	1. HORIZONTAL TOP BARS WITH GREATER		
#4	25"	THAN 12" OF CONCRETE BELOW +30% 2. BAR SPACING LESS THAN 2 BAR		
#5	31"	DIAMETERS +50%		
#6	37"			
#7	54"			
#8	62"			

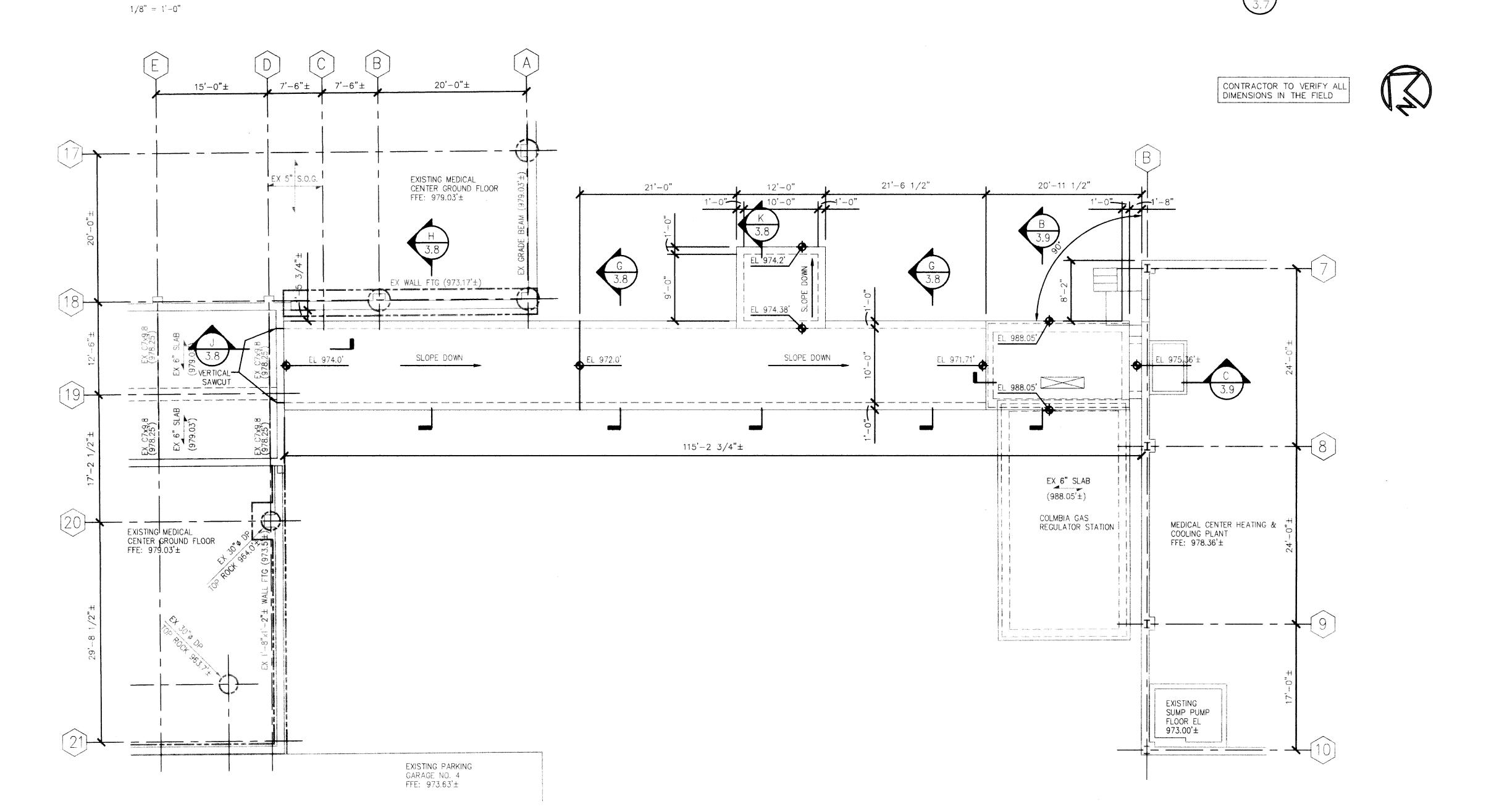
12. CON B. CONCRETE EXPOSED TO EARTH OR WEATHER NO. 5 BAR, W31 OR D31 WIRE AND SMALLER . . 1 1/2" C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND

ROOF, FLOOR, OR WALL OPENINGS

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.

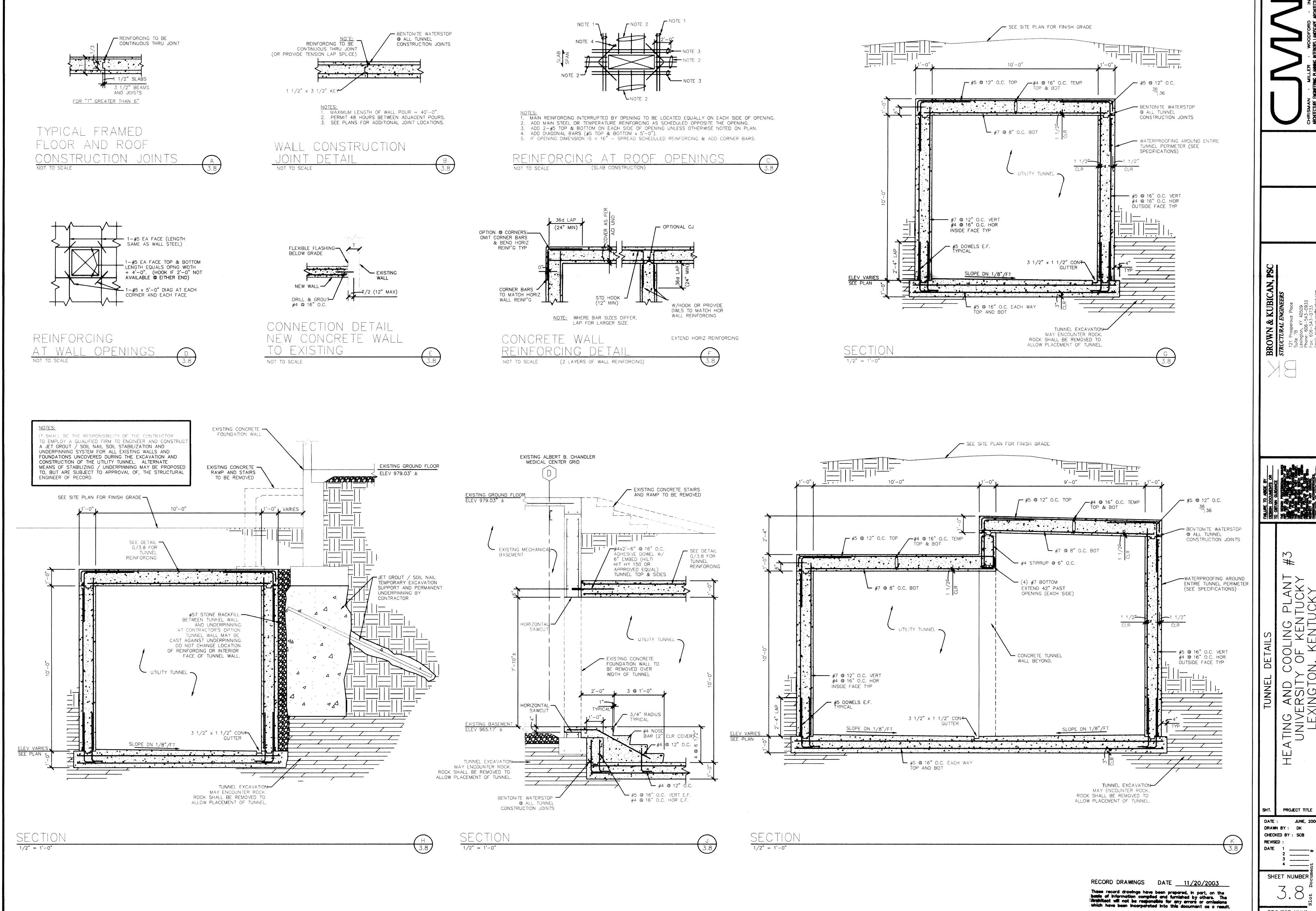
2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM.





TUNNEL ROOF PLAN

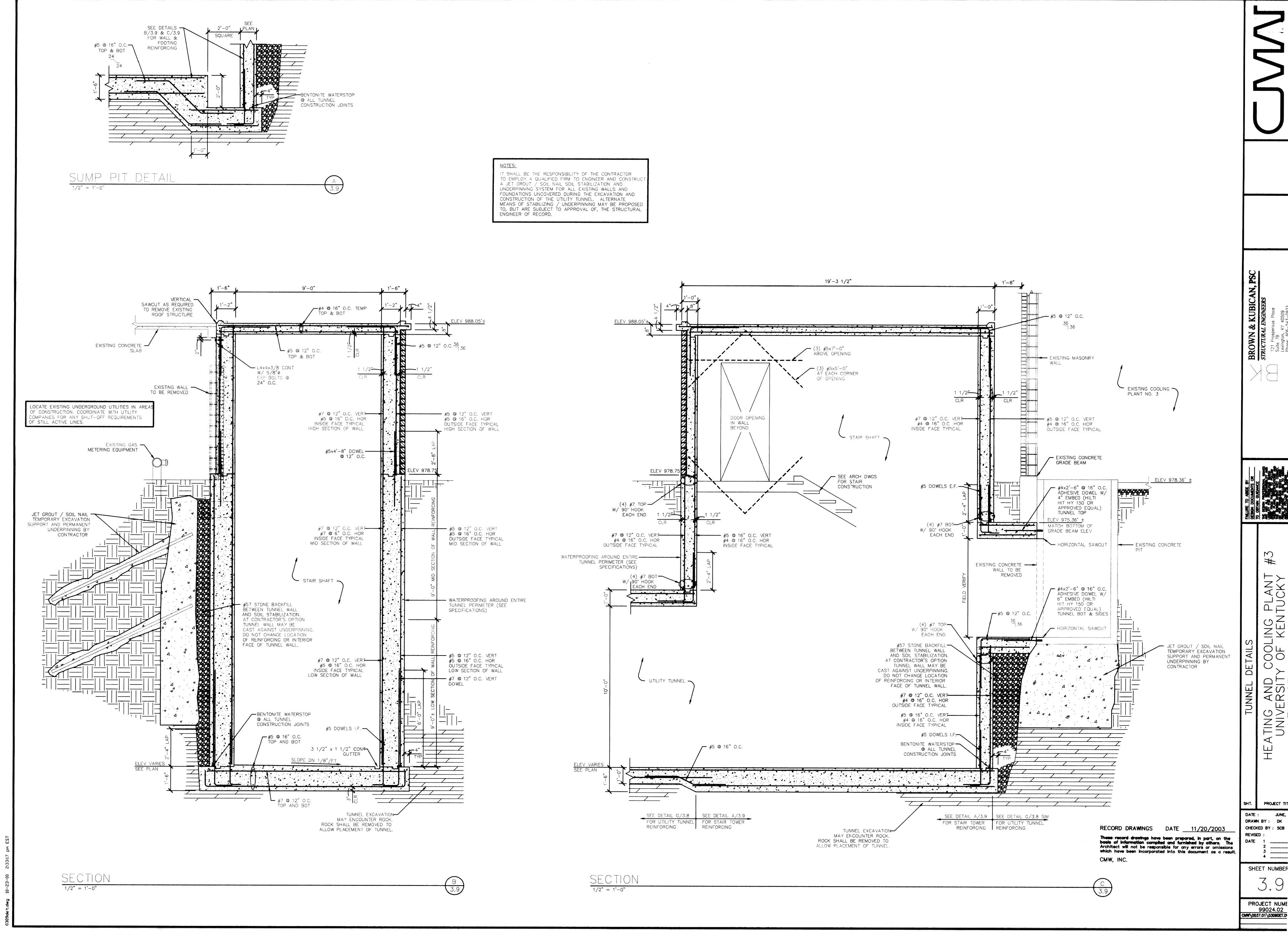
1/8" = 1'-0"



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JUNE, 2000

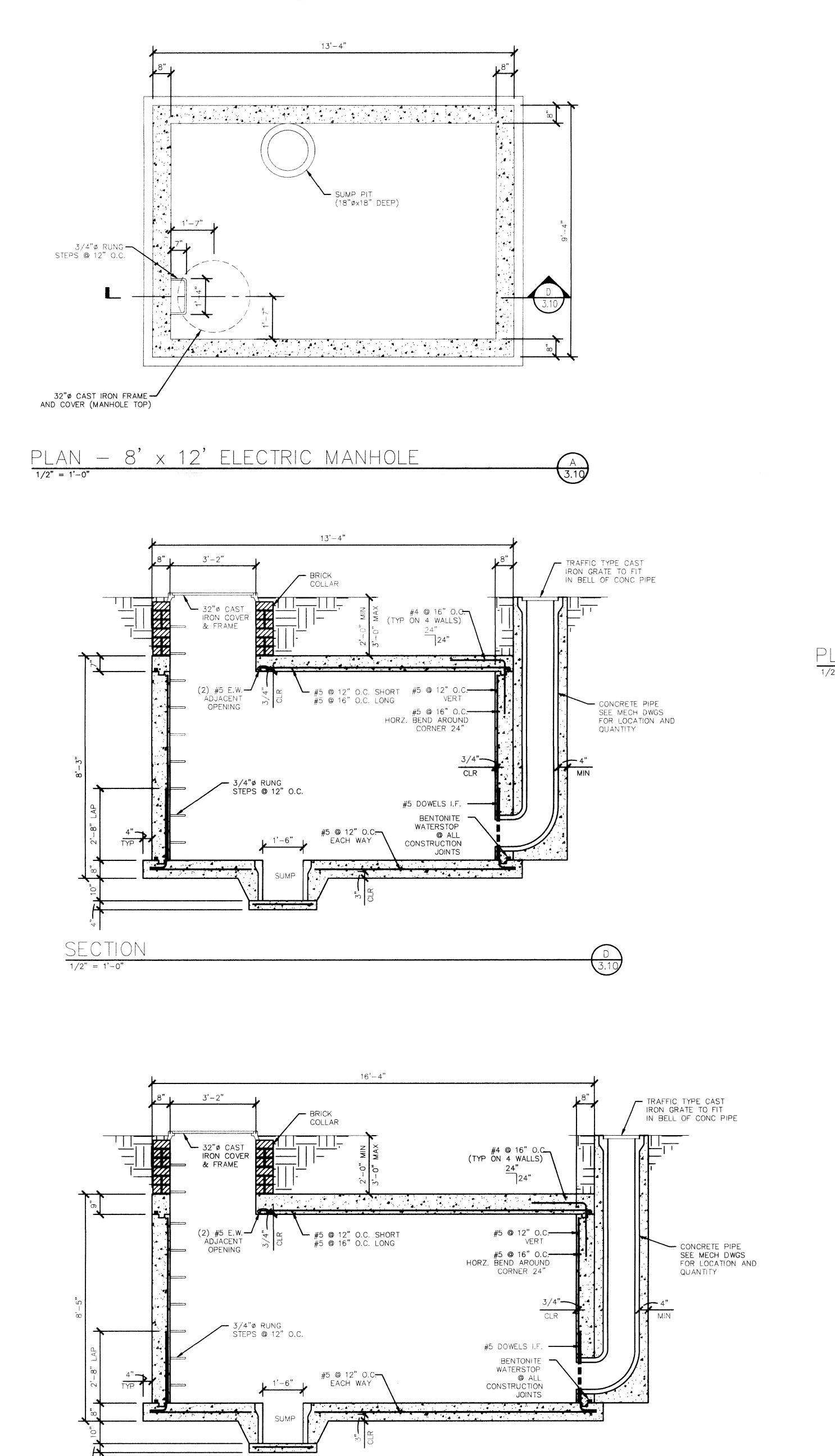


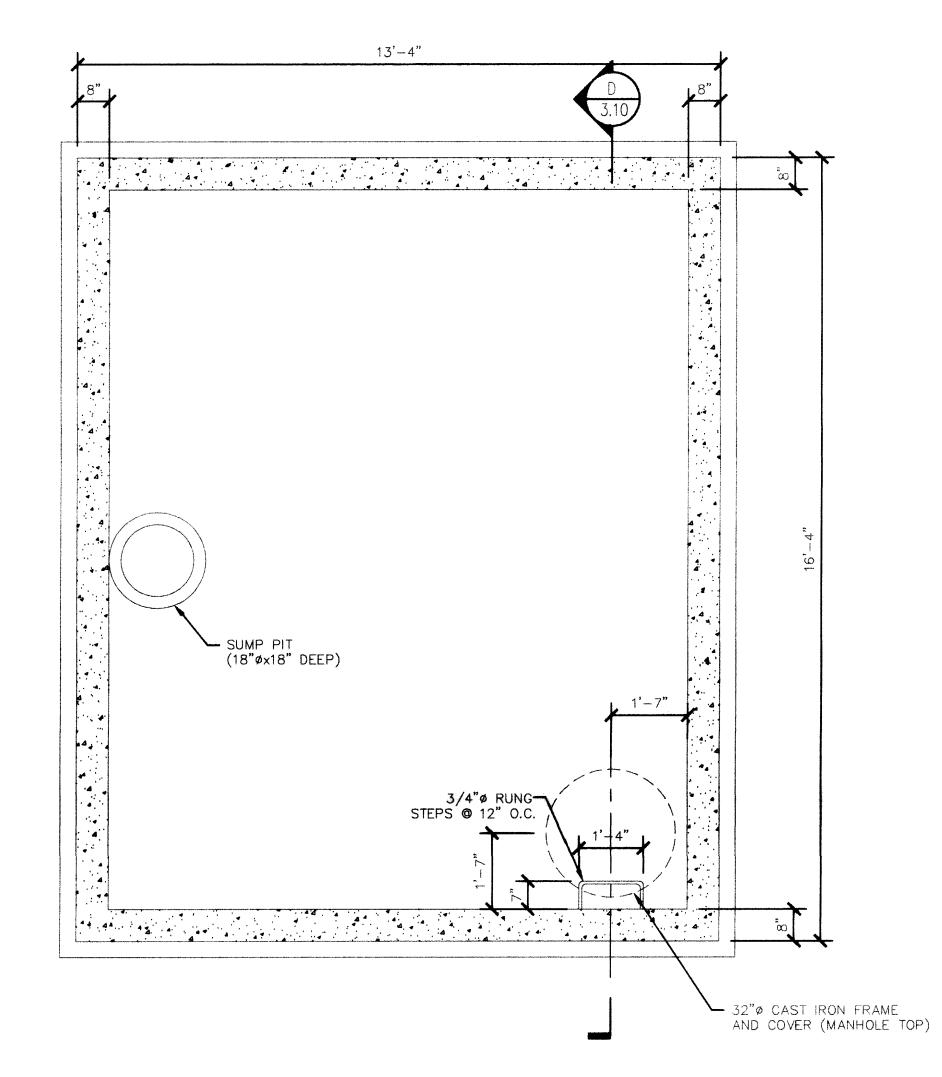
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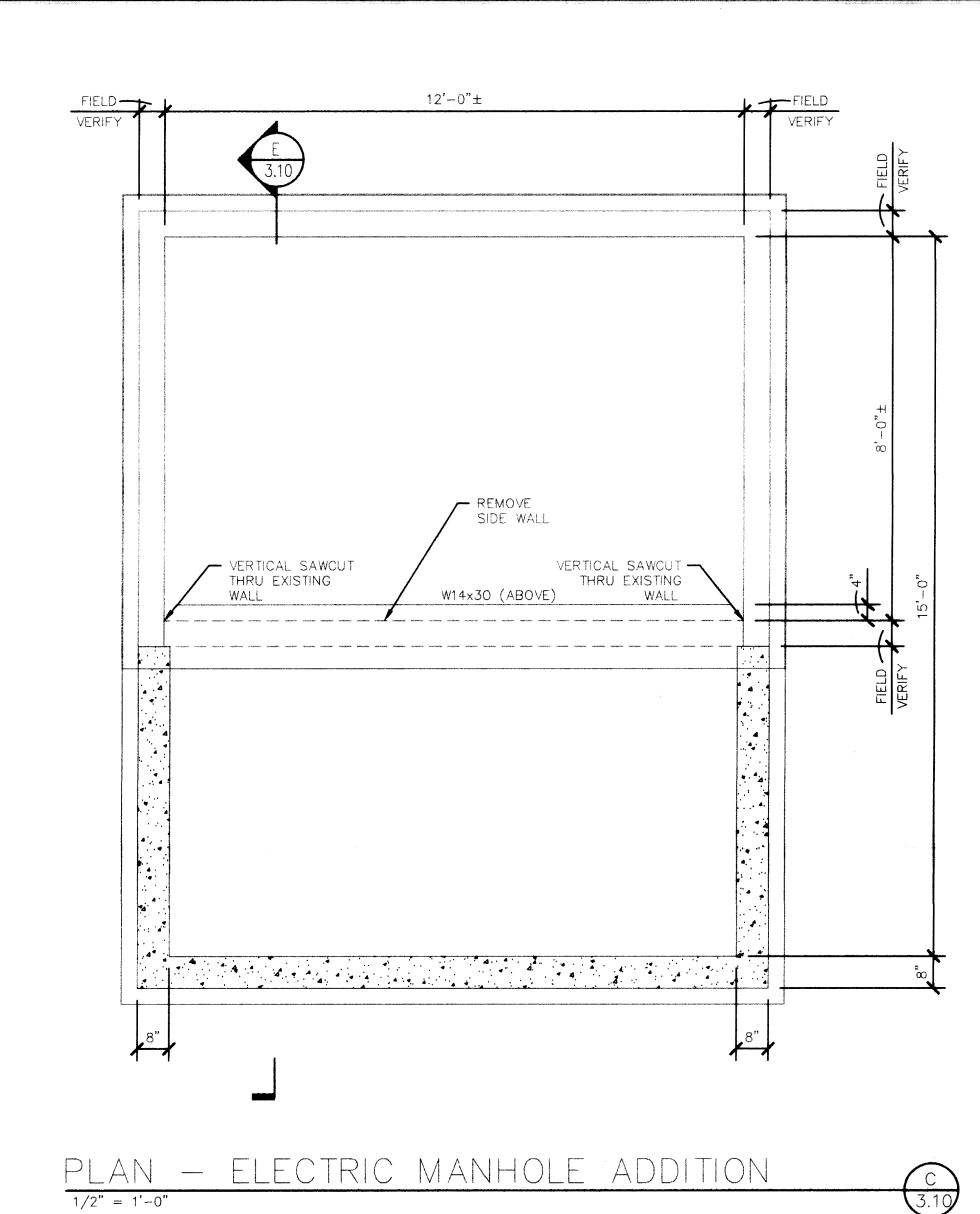
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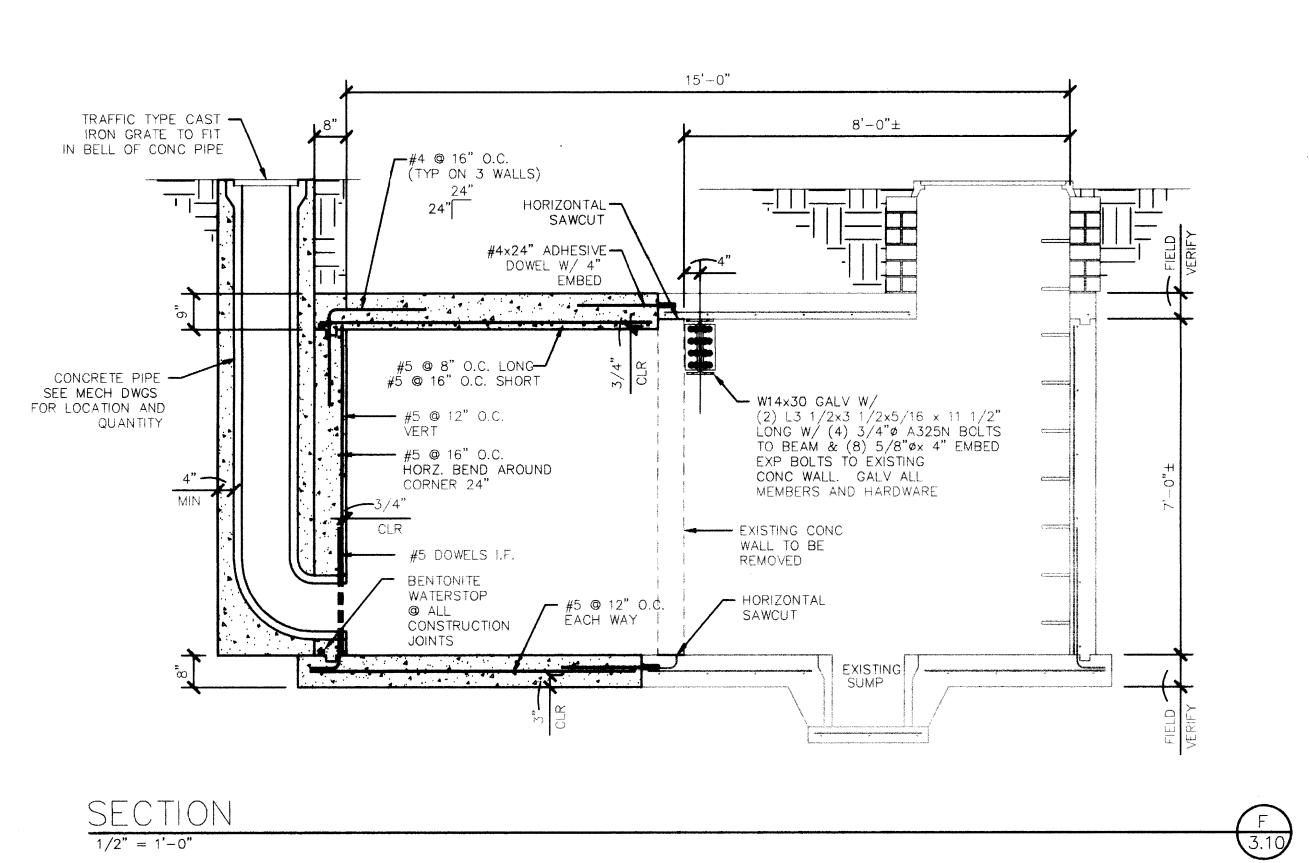
<u>PLAN - 12' x 15' ELECTRIC MANHOLE</u>

1/2" = 1'-0"



MANHOLE VAULT NOTES:

 SEE MECHANICAL AND SITE DRAWINGS FOR MANHOLE LOCATION, ELEVATION, AND ORIENTATION. 2. EXCAVATIONS FOR VAULTS MAY ENCOUNTER ROCK. ROCK SHALL BE REMOVED TO 12" MINIMUM BELOW BEARING ELEVATION AND THE EXCAVATION BACKFILLED WITH CRUCHED STONE. SAID ROCK EXCAVATION SHALL BE AT NO ADDITIONAL COST TO OWNER.



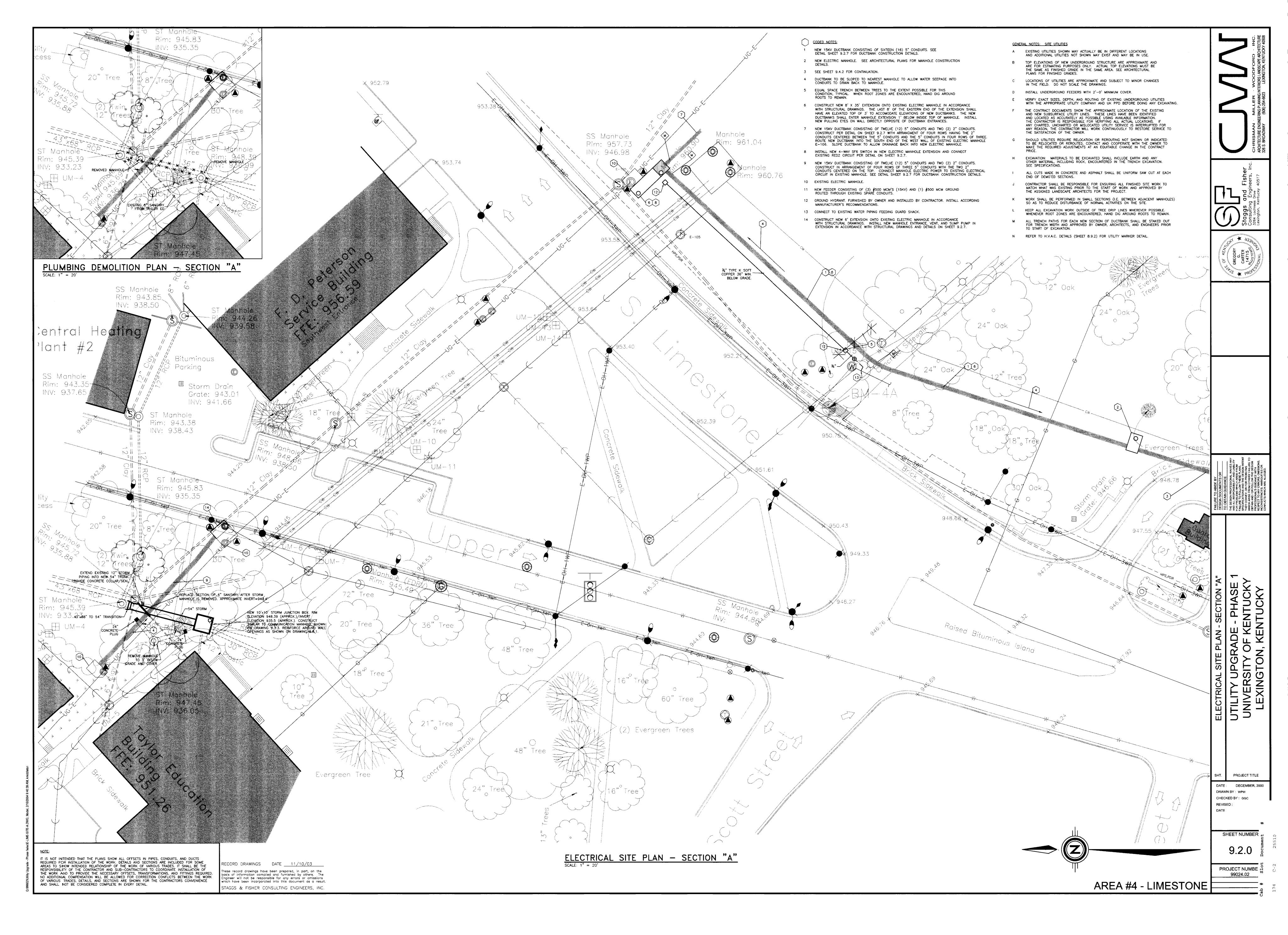
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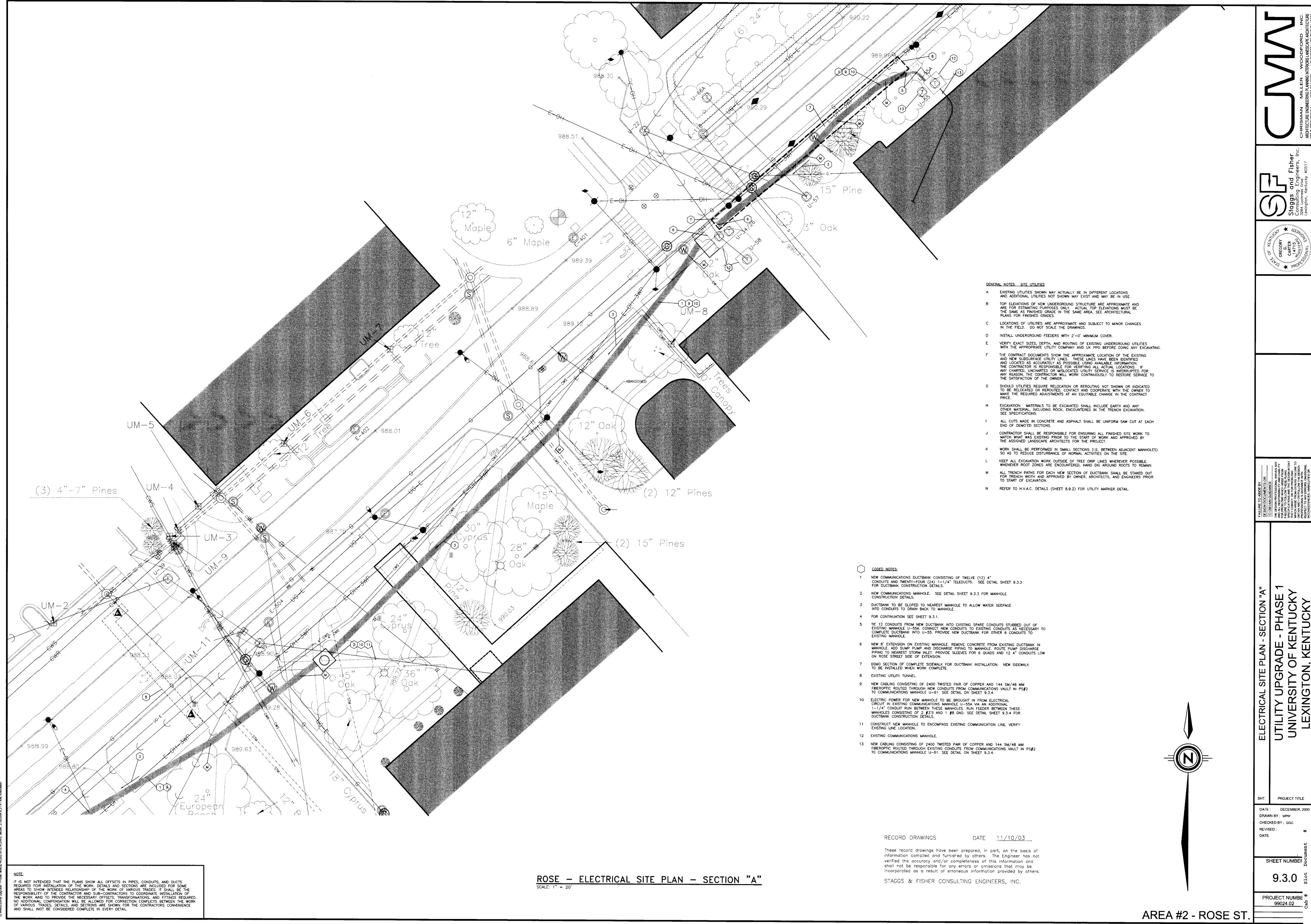
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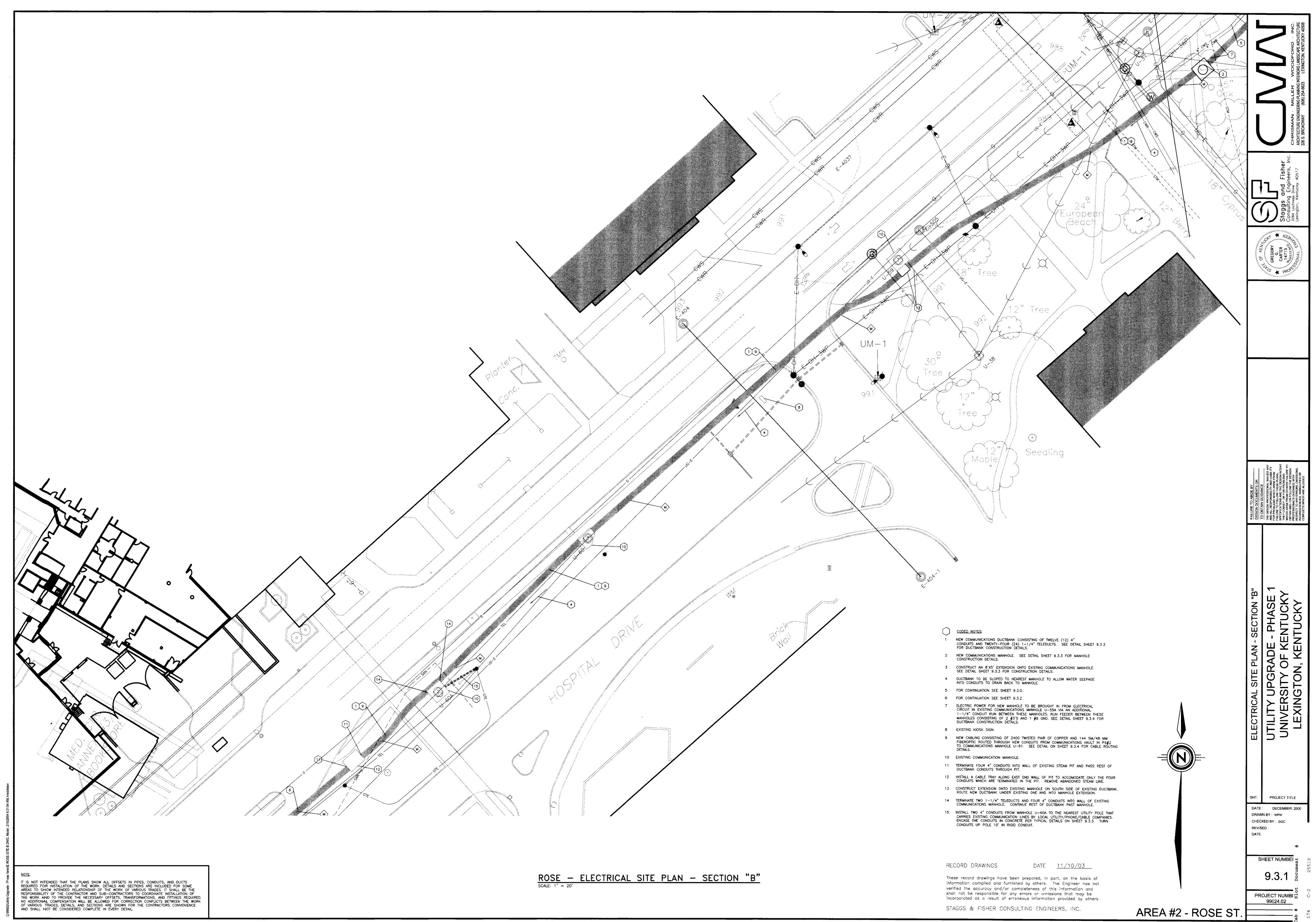
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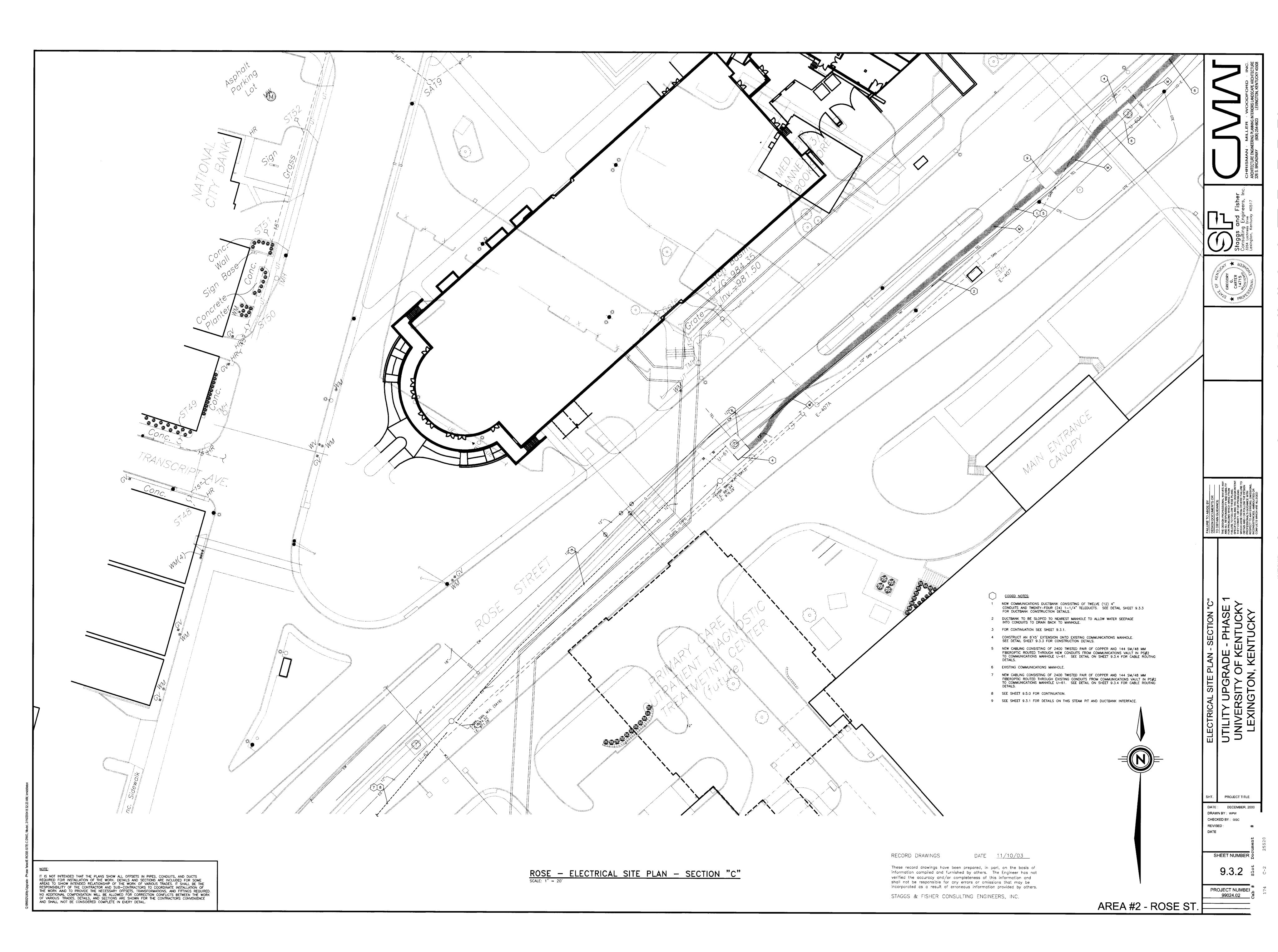
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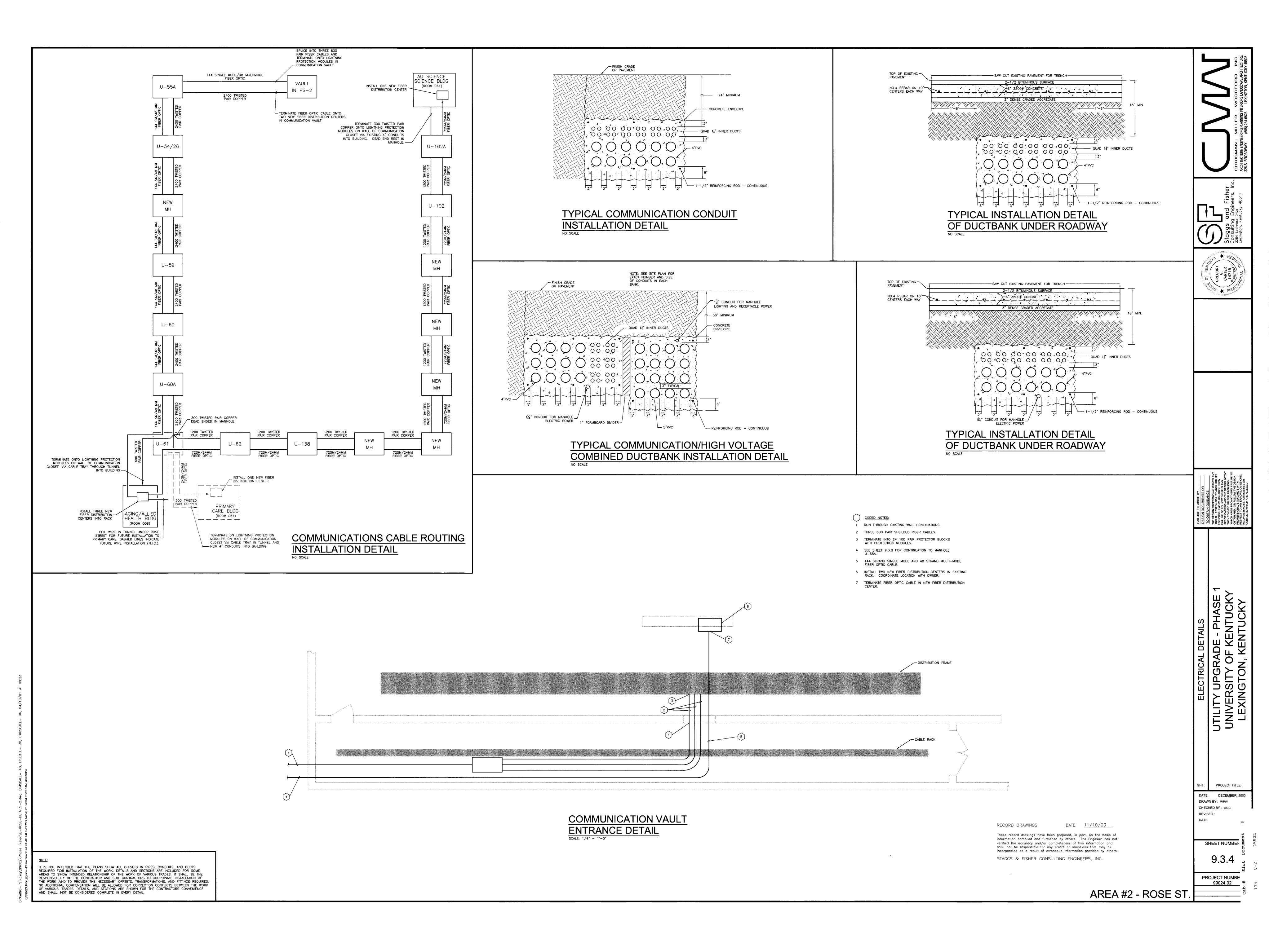


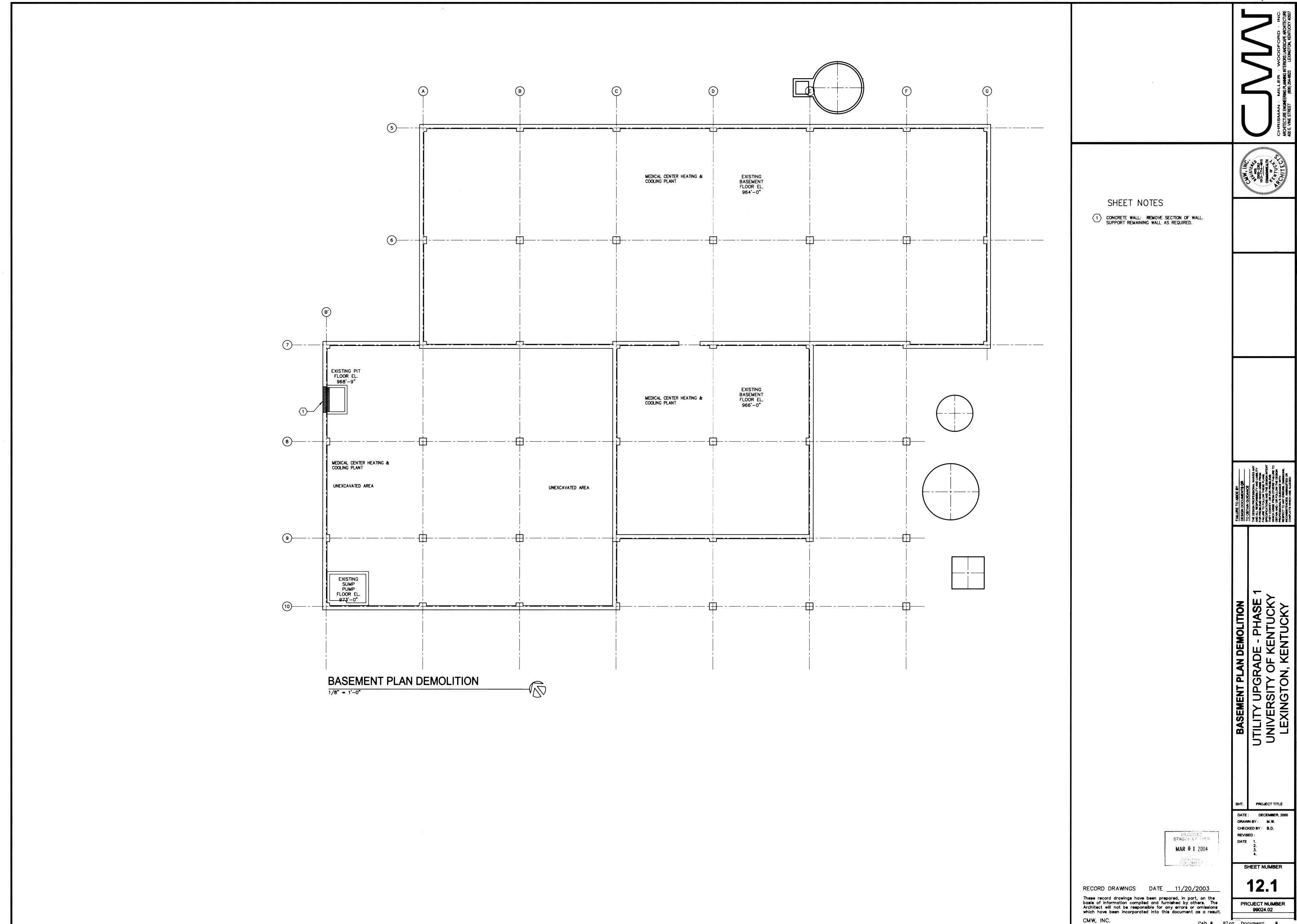


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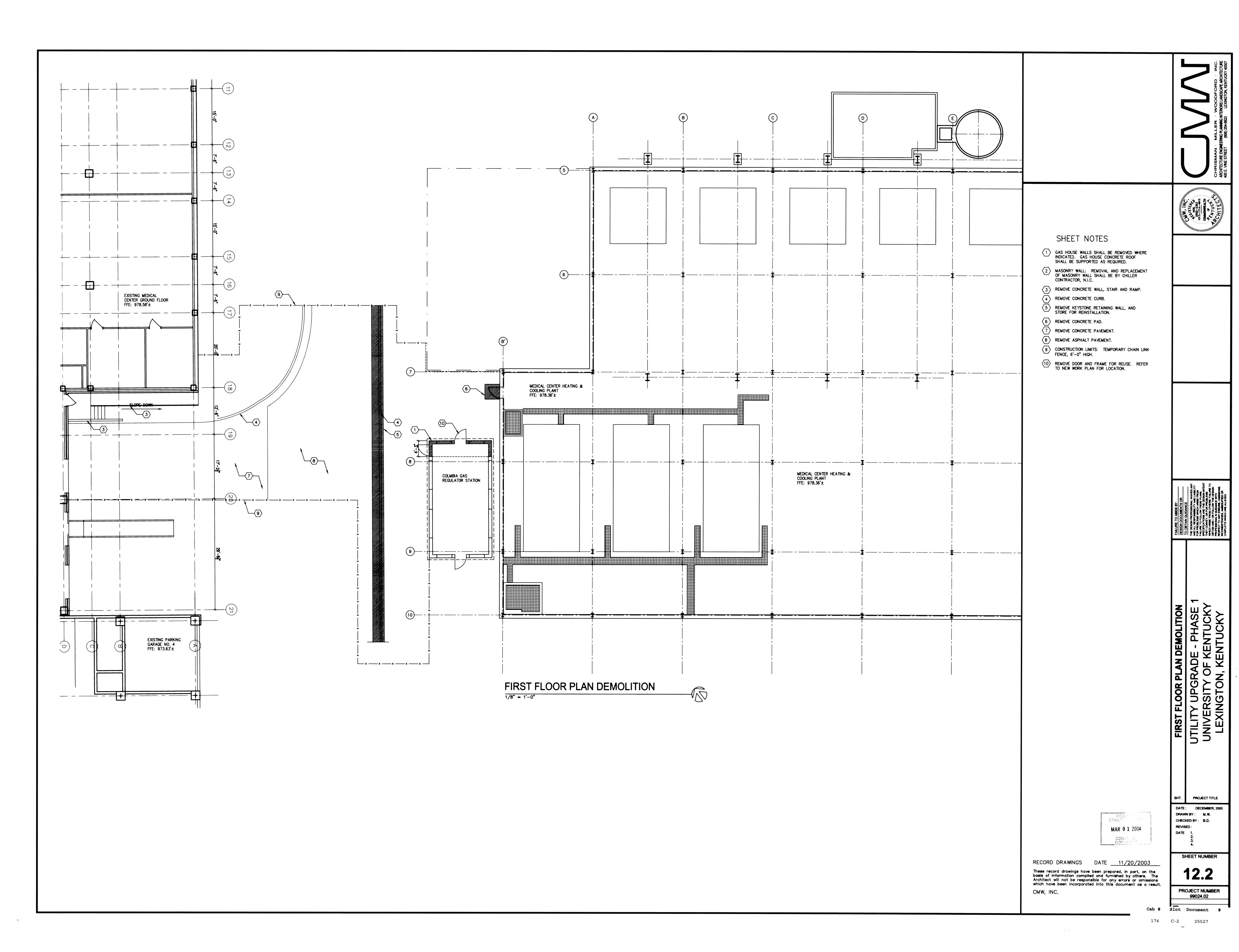


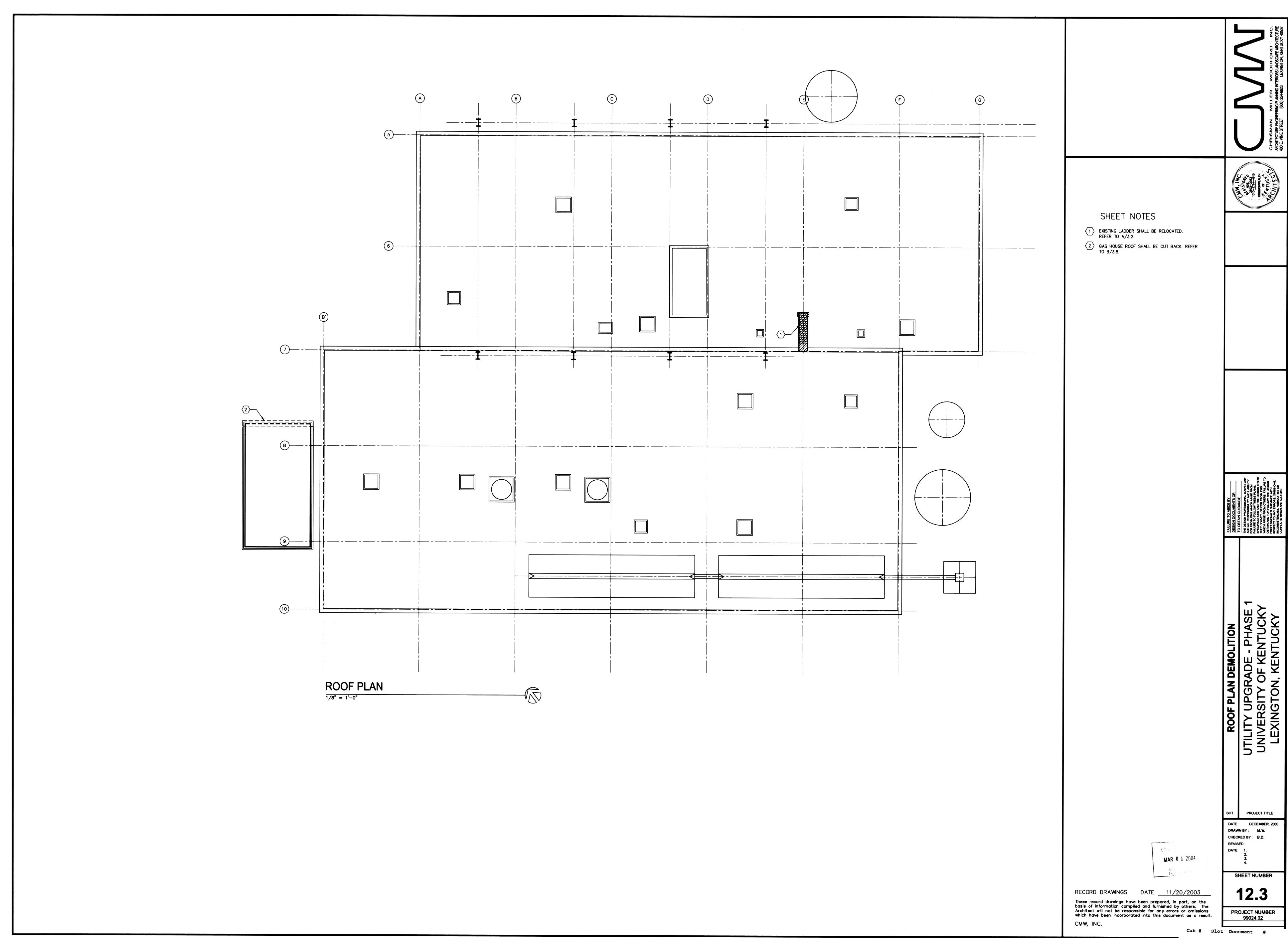




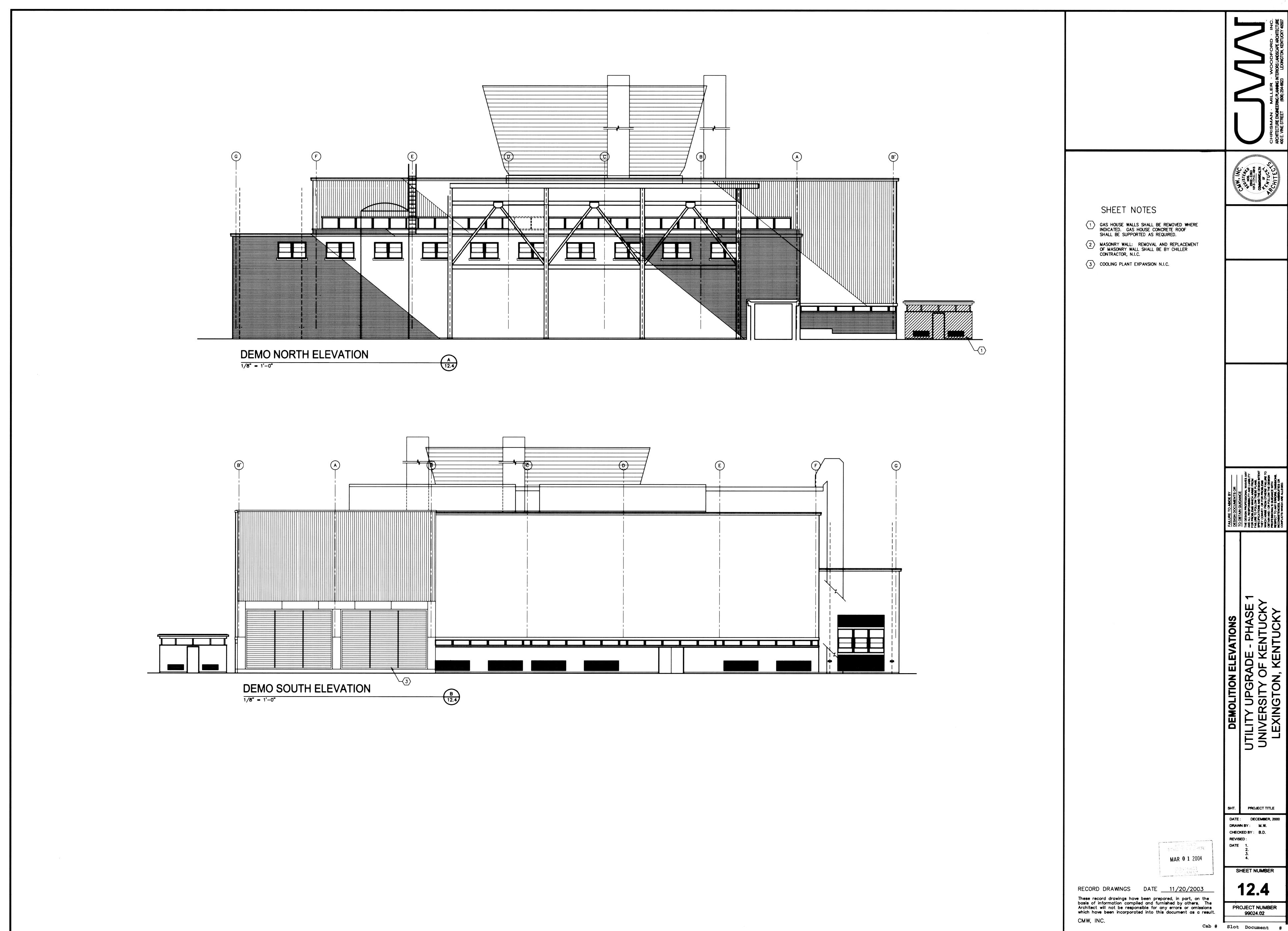
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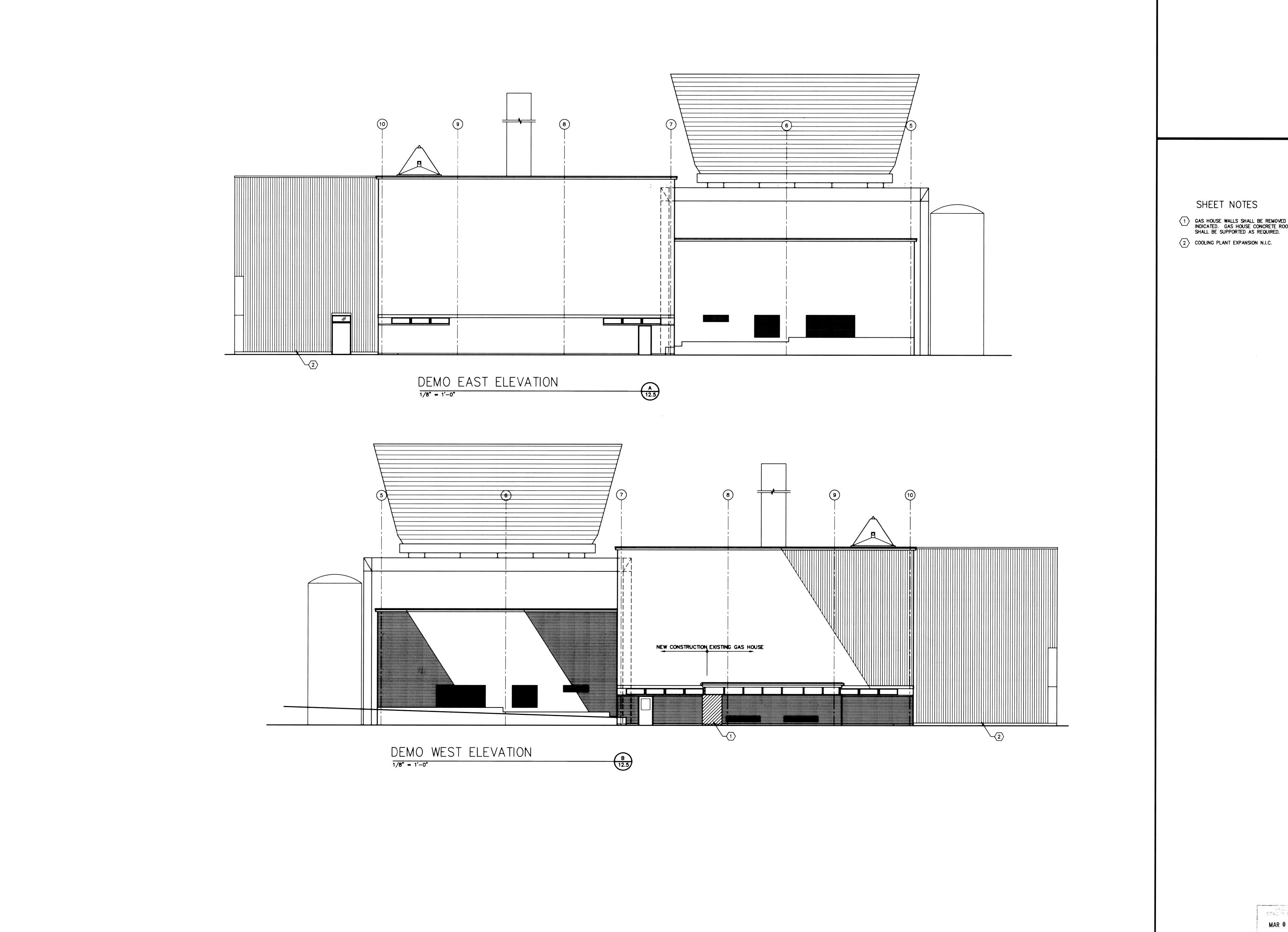
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GAS HOUSE WALLS SHALL BE REMOVED WHERE INDICATED. GAS HOUSE CONCRETE ROOF SHALL BE SUPPORTED AS REQUIRED. PROJECT TITLE DRAWN BY: BJ CHECKED BY: B.D. STAGOS & PISHER MAR 0 1 2004 SHEET NUMBER

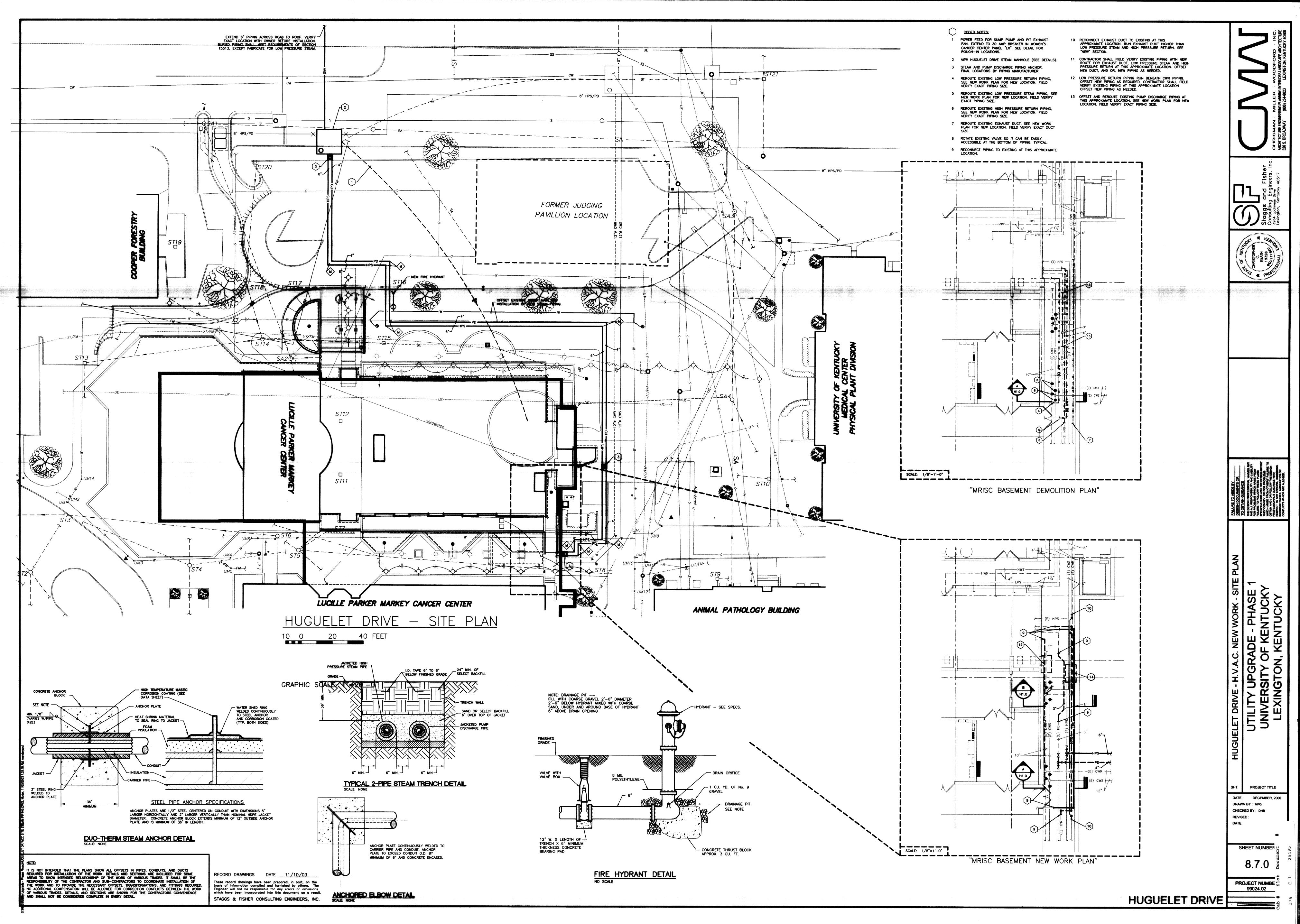
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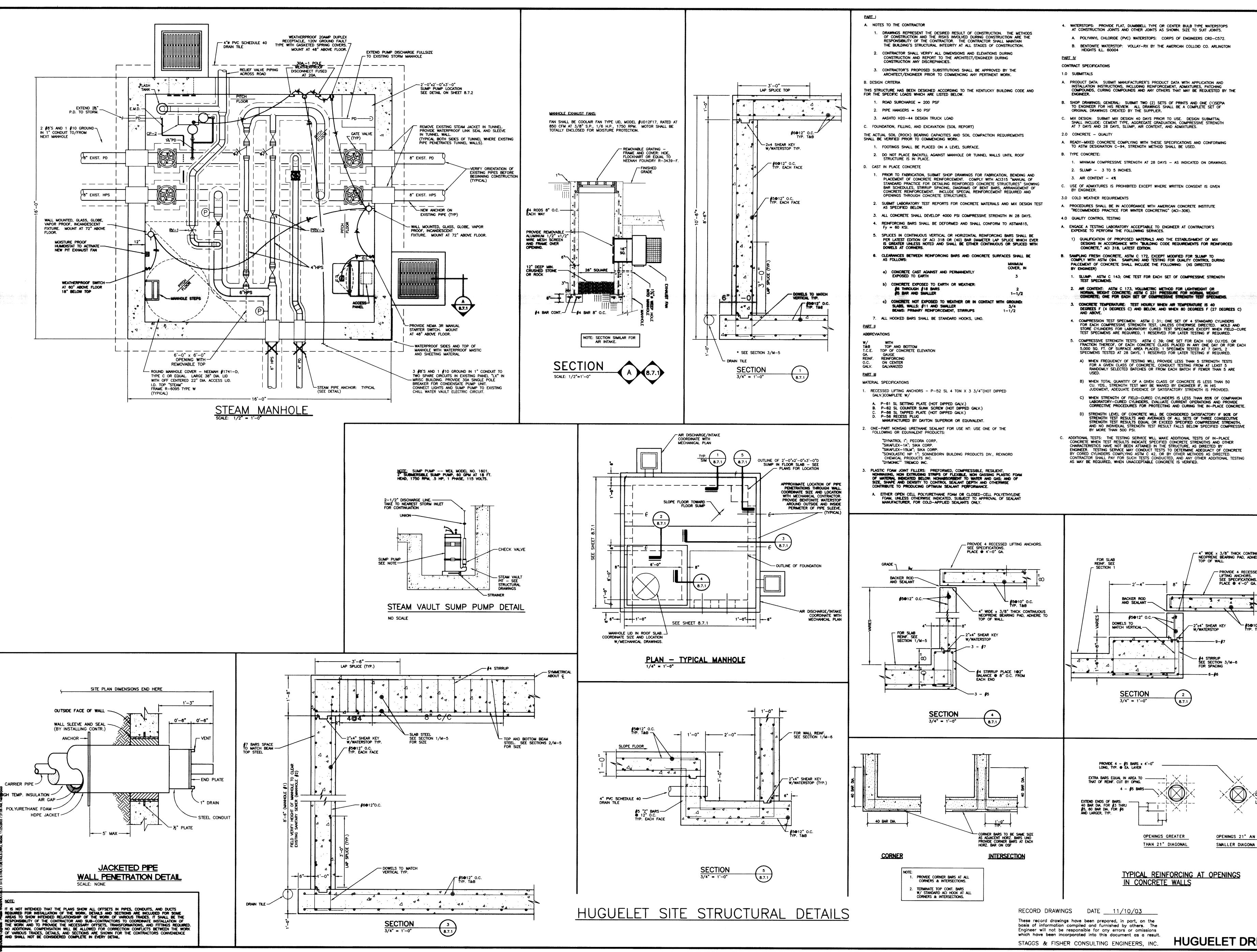
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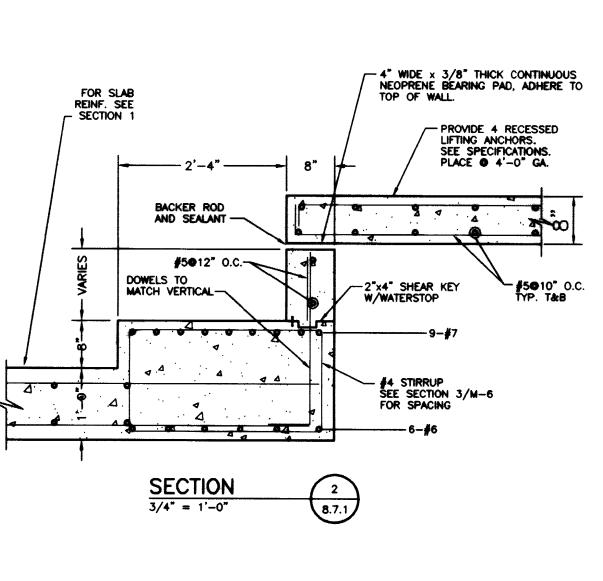
RECORD DRAWINGS DATE 11/20/2003

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These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Architect will not be responsible for any errors or omissions which have been incorporated into this document as a result.





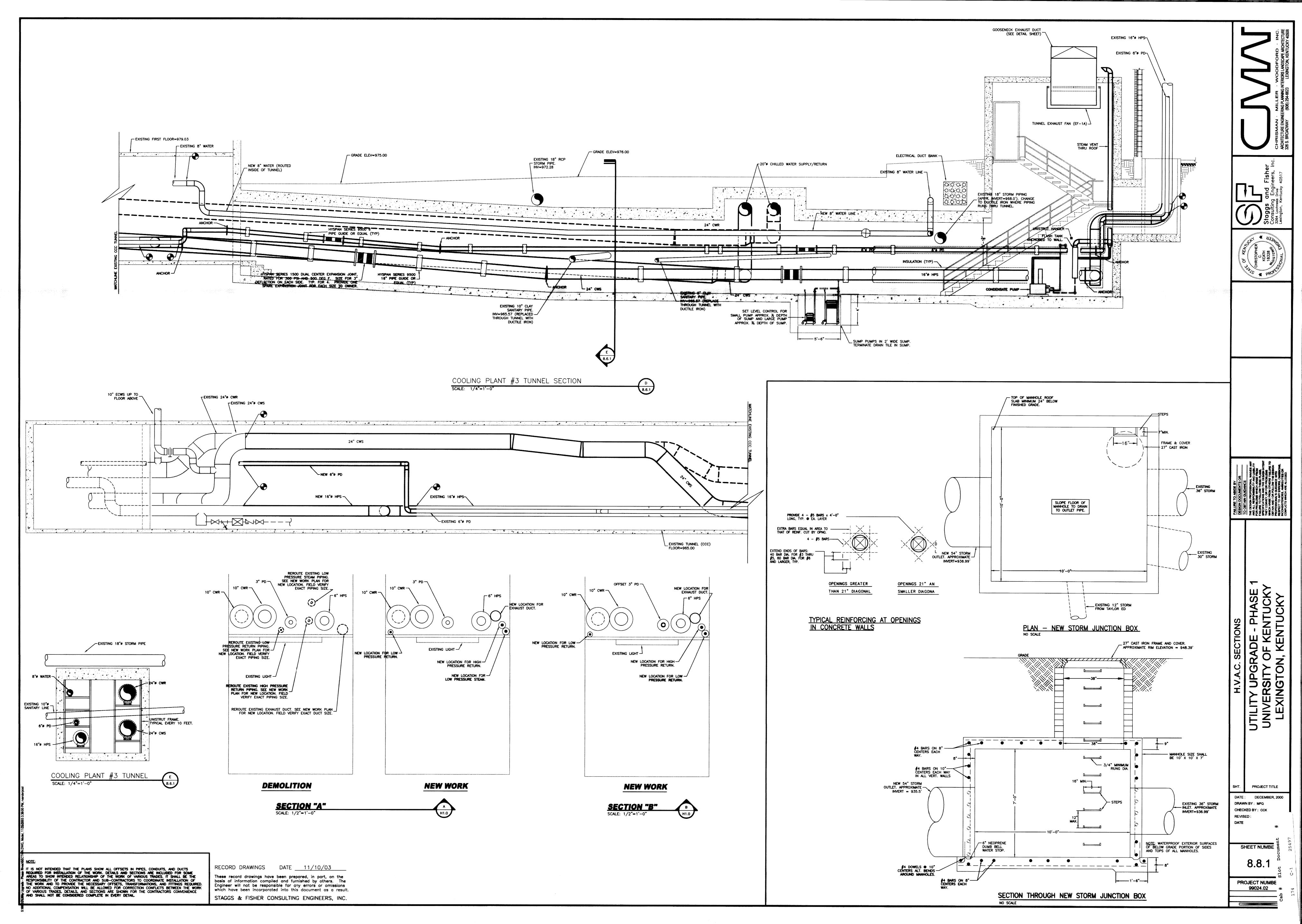


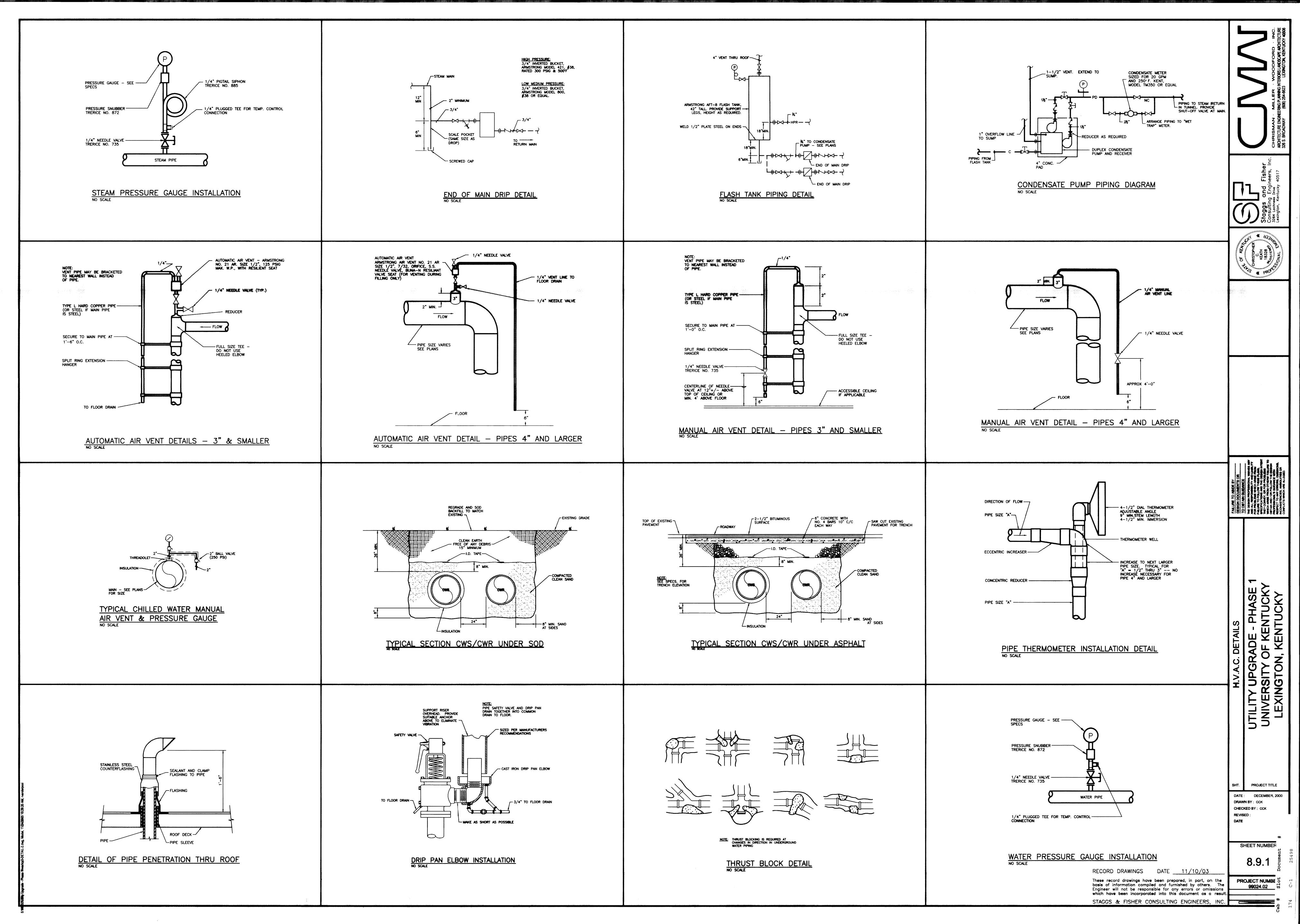
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PROJECT TITLE DECEMBER, 2000 DRAWN BY: MFQ CHECKED BY: CCK

DATE 11/14/01 STEAM R SHEET NUMBE

PROJECT NUME 99024.02





GENERAL NOTES: SITE UTILITIES

THE SATISFACTION OF THE OWNER.

- EXISTING UTILITIES SHOWN MAY ACTUALLY BE IN DIFFERENT LOCATIONS AND ADDITIONAL UTILITIES NOT SHOWN MAY EXIST AND MAY BE IN USE. TOP ELEVATIONS OF NEW UNDERGROUND STRUCTURE ARE APPROXIMATE AND
- LOCATIONS OF UTILITIES ARE APPROXIMATE AND SUBJECT TO MINOR CHANGES IN THE FIELD. DO NOT SCALE THE DRAWINGS.
- INSTALL DOMESTIC WATER PIPING WITH 3'-6" MINIMUM COVER. INSTALL FIRE PROTECTION PIPING WITH 4'-0" MINIMUM COVER.
- INSTALL NATURAL GAS PIPING WITH 2'-0" MIN. COVER UNDER GRASSED AREAS AND 2'-0" MINIMUM COVER UNDER PAVED SURFACES - AS DETAILED ON DRAWINGS.
- INSTALL UNDERGROUND FEEDERS WITH 2'-0' MINIMUM COVER.
- VERIFY EXACT SIZES AND ROUTING OF EXISTING UNDERGROUND UTILITIES WITH APPROPRIATE UTILITY COMPANIES BEFORE DOING ANY EXCAVATING. THE CONTRACT DOCUMENTS SHOW THE APPROXIMATE LOCATION OF THE EXISTING AND NEW SUBSURFACE UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS. IF ANY CHARTED, UNCHARTED OR MISLOCATED UTILITY SERVICE IS INTERRUPTED FOR ANY REASON, THE CONTRACTOR WILL WORK CONTINUOUSLY TO RESTORE SERVICE TO
- SHOULD UTILITIES REQUIRE RELOCATION OR REROUTING NOT SHOWN OR INDICATED TO BE RELOCATED OR REROUTED, CONTACT AND COOPERATE WITH THE OWNER TO MAKE THE REQUIRED ADJUSTMENTS AT AN EQUITABLE CHANGE IN THE CONTRACT
- EXCAVATION: MATERIALS TO BE EXCAVATED SHALL INCLUDE EARTH AND ANY OTHER MATERIAL, INCLUDING ROCK, ENCOUNTERED IN THE TRENCH EXCAVATION. SEE SPECIFICATIONS.
- TESTING OF EXTERIOR SEWER AND MANHOLES SHALL BE AS FOLLOWS: 1. EXTERIOR SANITARY SEWER SHALL BE PLUGGED BETWEEN MANHOLES AND SUBJECTED TO AN AIR PRESSURE TEST WITH ALL OPENINGS TIGHTLY CLOSED. AIR SHALL BE PUMPED IN UNTIL THE PRESSURE IS NOT LESS THAN 5 POUNDS PER SQUARE INCH. THE AIR PRESSURE GAGE SHALL REMAIN CONSTANT WITHOUT PUMPING ADDITIONAL AIR INTO THE SYSTEM.
- 2. MANHOLE SHALL BE PLUGGED AND FILLED WITH WATER AND A VISUAL INSPECTION MADE FOR LEAKS. ALL LEAKS SHALL BE CORRECTED.
- 3. ALL TESTS SHALL BE DONE PRIOR TO BACKFILLING. SUPPORT AND PROTECT EXISTING PIPING AS REQUIRED DURING TRENCHING/INSTALLATION.

ARE FOR ESTIMATING PURPOSES ONLY. ACTUAL TOP ELEVATIONS MUST BE THE SAME AS FINISHED GRADE IN THE SAME AREA. SEE ARCHITECTURAL

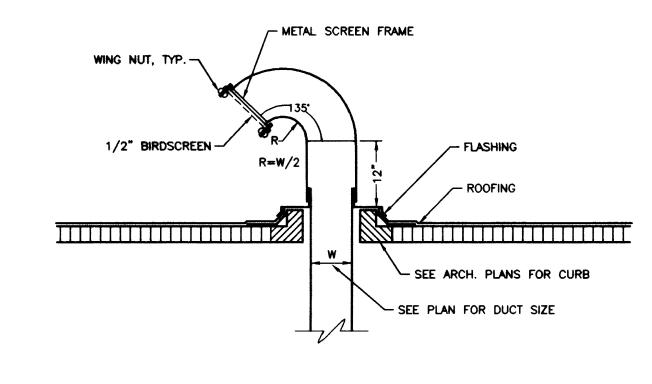
GENERAL NOTES: H.V.A.C.

- DUCTWORK AND PIING IN ROOMS WITH SUSPENDED CEILINGS SHALL BE ABOVE CEILING EXCEPT IN EQUIPMENT ROOMS.
- INSTALL AIR VENTS AT HIGH POINTS IN PIPING AND DRAINS IN LOW POINTS.
- LOCATIONS OF PIPING, DUCT AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.

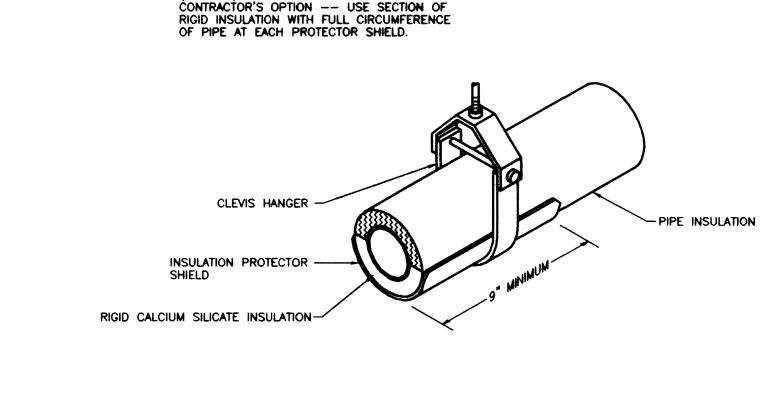
 DO NOT SCALE THE DRAWINGS.
- ALL OFFSETS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY. ALL INCREASERS AND REDUCERS IN PIPING SYSTEMS ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL INCREASERS AND REDUCERS WHERE REQUIRED.
- COORDINATE WITH PLUMBING, SHEET METAL AND ELECTRICAL CONTRACTORS TO AVOID INTERFERENCE WITH PIPING, DUCTS AND CONDUIT. INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- SEAL AIRTIGHT AROUND ALL DUCT AND PIPING PENETRATIONS THROUGH WALLS AND FLOORS.
- SEAL ALL DUCTWORK WITH DUCT SEALANT AND/OR DUCT CEMENT IN ACCORDANCE WITH SPECIFICATIONS SECTION "METAL DUCTWORK". DIMENSIONS FOR DUCTS ARE INSIDE DIMENSIONS. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF
- GRILLES AND DIFFUSERS IN CEILINGS. DO NOT RUN ANY PIPING OR DUCTWORK OVER ANY ELECTRICAL OR ELEVATOR EQUIPMENT.
- INSTALL ACCESS DOOR IN DUCT ADJACENT TO EACH MOTOR OPERATED DAMPER. ROLL FITTINGS IN ROUND DUCT AS REQUIRED FOR PROPER CONNECTIONS
- WHERE SIZE OF DUCT PENETRATING A FIRE WALL OR PARTITION IS LESS THAN THE MINIMUM SIZE OF FACTORY MADE FIRE DAMPER OR DUCT ACCESS DOOR, THEN PROVIDE THE MINIMUM SIZE FACTORY MADE DAMPER AND/OR ACCESS DOOR AVAILABLE. INCREASE DUCT SIZE AS REQUIRED TO ACCOMMODATE TRANSITIONS UPSTREAM AND DOWN STREAM OF SIZE INCREASE.

	- SMOOTH ALL ROUGH SURFACES ON EXPOSED PARTS OF PAD
	PROVIDE #4 STEEL ROD ANCHORS BETWEEN FLOOR AND BASE
	- REINFORCED CONCRETE
	- 1/2" ROUND BARS 9" O.C. BOTH WAYS VARIES
A = # = # = A A A	LOCATE EQUIP. ANCHOR BOLT WITH MFR.'S TEMPLATES BUSH HAMMER FLOOR TO A DEPTH OF 1". REMOVE DEBRIS
	CHAMFER TOP AND EDGE CORNERS SECTION "AA" CONCRETE BONDING AGENT.
PLAN	
	CONCRETE PAD DETAIL

NO SCALE



GOOSENECK DETAIL NO SCALE



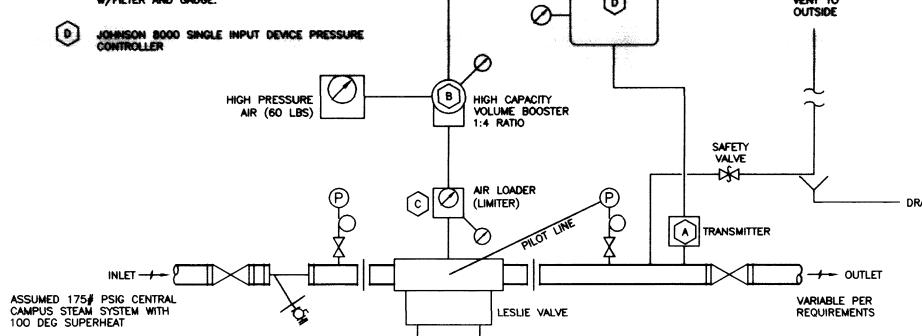
PROVIDE SECTION OF RIGID INSULATION

BETWEEN PROTECTOR SHIELD AND PIPE TO PREVENT CRUSHING OF INSULATION. SECTION

OF RIGID INSULATION SHALL BE FULL SIZE (MINIMUM) OF BEARING SURFACE OF SHIELD

TYP. PIPE SUPPORT DETAIL WITH SHIELD NO SCALE

(B) FAIRCHILD 1-4 AIR VOLUME BOOSTER C LESLIE AFG-2 AIRMATE AIRLOADER OR FAIRCHILD #65A W/FILTER AND GAUGE.



20 LB MAIN AIR

 \bigcirc

PRESSURE REDUCING VALVE

- A PRESSURE CONTROLLER SENSING THE REDUCED PRESSURE WILL RELOAD THE PRESSURE REDUCING VALVE, ONLY WHEN THE INLET PRESSURE CHANGES, DUE TO PLANT CONDITIONS, PRESSURE DROPS, ETC. TO INSURE THE PROPER OUTLET PRESSURE IS MAINTAINED. THE AIR LOADER WILL BE SET AT A MAXIMUM PRESSURE TO LIMIT THE AMOUNT OF LOADING PRESSURE ON THE REDUCING VALVE.
- 2. THE HIGH CAPACITY VOLUME BOOSTER IS ONLY NEEDED WHEN THE LOADING PRESSURE IS ABOVE 18 PSIG. ALL CONTROLLERS MUST HIGH VOLUME RELAY TYPE (NOT ONE PIPE BLEED
- 3. PROVIDE GAUGES FOR MAIN AIR PRESSURE AND AT PRESSURE REDUCTIONS.

NOTE: IT IS NOT THE INTENT OF THESE STANDARDS TO IDENTIFY VENDORS. HOWEVER, THE FOLLOWING EQUIPMENT WILL GIVE ACCEPTABLE OPERATION.

(A) JOHNSON P-8575 CONTROLLER

STANDARD STEAM PRESSURE REDUCING SYSTEM (CONTROL)

SAFETY RELIEF VALVES MANUFACTURER NO. SIZE MBH PRESSURE 300 4"x6" 41,343 300 3"x4" 23,309 125 RV-2 125

*1 300# INLET FLANGE, 150# OUTLET FLANGE, RATED FOR 500# AT 750 DEG F, WITH DRIP

	STEAL	M PRESS	URE	REDUC	ING VAL	/ES	
SYMBOL	MANUFACTURER	MODEL NO.	SIZE	LB/HR	UPSTREAM PRESSPSIG	DELIVERY PRESSPSIG	REMARKS
PRV-1	LESLE	GPB	4*	20,000	175	125	
PRV-2	LESLIE	GPB	2.5"	9,880	175	125	
PRV-3	LESUE	LS-5	3"	11,800	175	125	1
		+	 				- †

			C	COOLING	TO	WERS							
		MODEL		CAPACITY		E.W.B.	E.W.T.	L.W.T.	FA	W	ELE	CTRICAL	
SYMBOL	MANUFACTURER	NO.	TYPE	TONS	GPM	DEG F	DEG F	DEG F	NO.	HP	PH	VOLTS	REMARKS
CT-1	TOWER TECH	TTMT-288-301	FORCED DRAFT	556	1950	78	95	85	8	7.5	3	460	*1

*1 FAN MOTORS SHALL BE PRE-WIRED TO INDIVIDUAL DISCONNECTS FOR CONNECTION TO MOTOR STARTERS INSIDE BUILDING. PROVIDE ADDITIONAL DRAINS AS REQUIRED TO DRAIN TOWERS 100%.

						FANS									
						S.P.	FAN			М	OTOR		WH	EEL	
SYMBOL	MANUFACTURER	MODEL	TYPE	SONES	CFM	IN. W.G.	RPM	BHP	HP	RPM	PH	VOLTS	TYPE	DIAM.	REMARK
EF-1	COOK	TDB-18	INLINE	*1	11,500	0.40	513	2.8	5	1725	3	460	B.I.	18"	*1

- *1 PROVIDE PREMIUM EFFICIENTCY MOTOR AND SPRING VIBRATION ISOLATORS.
- *2 SOUND DATA (OCTAVE BAND/DB): 1/89, 2/87, 3/81, 4/78, 5/76, 6/73, 7/69, 8/66.

	С	ONDEN	SATE P	UMPS A	ND	RECEIV	ER	S			
SYMBOL	MANUFACTURER	MODEL	CAPACITY SQ. FT. EDR	RECEIVER CAPGALS	GPM	DISCHARGE PRESSPSIG	HP		OTOF PH	R VOLTS	REMARKS
CP-1	DOMESTIC	23CB22-20	22,000	36	18.0	20	1/2	3500	3	208	*1 *2
CP-2	DOMESTIC	23CB9-25	9,000	23	9.0	25	1/2	3500	1	115	*1 *2

- PROVIDE WATER LEVEL GAUGE WITH SHUT-OFF VALVE, DIAL THERMOMETER, INLET BASKET STRAINER, DISCHARTE PRESSURE DISCHARGE PRESSURE GAUGES, MECHANICAL ALTERNATOR FOR SEQUENCING AND STANDBY, U.L. LISTED CONTROL PANEL, SUCTION BUTTERFLY VALVE, AND LIFTING EYES.
- PROVIDE THE FOLLOWING WITH CONTROL PANEL: MAGNETIC STARTERS, DISCONNECT SWITCHES AND CIRCUIT BREAKERS, "OFF-HAND-LEAD-LAG" SELECTOR SWITCHES, ELECTRIC ALTERNATOR, TRANSFORMER, PILOT LIGHTS, AND AUDIBLE ALARM.

	PUMP SCHEDULE													
					HEAD				MOT	OR	SHUT-OFF	END OF CURVE	TYPE	
SYMBOL	MFR.	SERIES	SIZE	GPM	F.T.	BHP	HP	RPM	PH	VOLTS	HEAD FT.	FLOW - GPM	•1	REMARKS
PU-1	BELL & GOSSETT	vscs	10x12x11	2,400	55	41.31	50.00	1775	3	460	75	2,900	V.S.C.	PRIMARY CHILLED WATER PUMP *2
PU-2	BELL & GOSSETT	vscs	12x14x17-1/2L	5,000	160	252.75	300.00	1785	3	460	200	7,300	v.s.c.	SECONDARY CHILLED WATER PUMP +2
PU-3	BELL & GOSSETT	vscs	12x14x12-3/4L	4,500	127	173.33	200.00	1785	3	460	150	7,400	v.s.c.	COOLING TOWER PUMP *2

REMARKS:

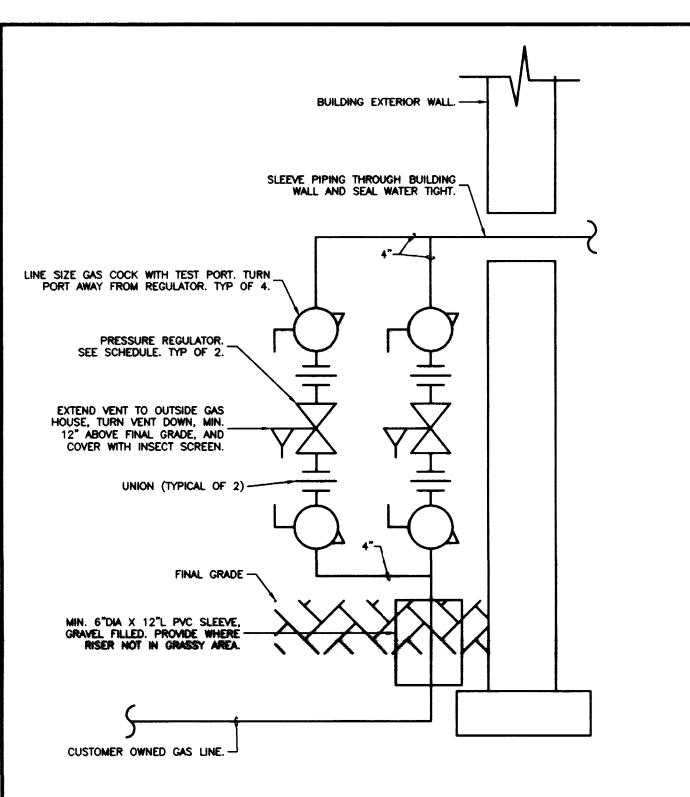
*1 V.S.C. - VERTICAL SPLIT CASE, DOUBLE SUCTION.

*2 PROVIDE EXTERNALLY FLUSHED MECHANICAL SEAL, 250 PSI WORKING PRESSURE, AND 250 PSI FLANGES.

					CON	NTROL	_ VAL	VE S	SCH	EDUL	=							
				GPM-	STEAM INLET	DESIGN P.D.	DESIGN P.D.	DESIGN		ACTUAL	ACTUAL P.D.	ACTUAL P.D.	RANGE-	MIN. CLOSE OFF PRESS.	RECOMM. OPER.	RATED PRESS.		
SYM.	MFR.	TYPE	SERVICE	LB/HR	PRESS (PSI)	(PSI)	(FT)	Cv	SIZE	Cv	(PSI)	(FT)	ABILITY	(PSI)	P.D. (PSI)	(PSI)	REM.	
CV-1	JAMESBURY	*1	CONDENSER WATER	1,950		5.2	12.0	853.7	8.00	880.0	4.9	11.3	50.0	75	75	300	COOLING TOWER	*2
CV-2	JAMESBURY	*1	CHILLED WATER	2,400		7.0	16.0	909.9	8.00	880.0	7.4	17.1	50.0	75	75	300	CHILLER EVAP.	
CV-3	JAMESBURY	*1	CONDENSER WATER	4,500		12.8	29.5	1256.5	12.00	1510.0	8.9	20.4	50.0	75	75	300	CHILLER COND.	*2

2-WAY R-SERIES ROTARY EQUAL PERCENTAGE

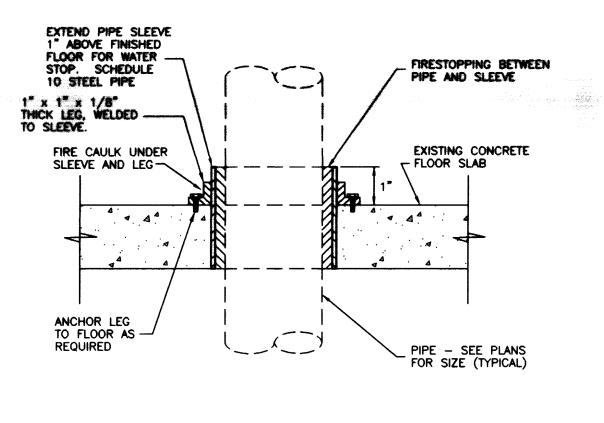
PROVIDE "Q-TRIM" SELF-CLEANING OPTION.



NATURAL GAS PRESSURE REGULATOR AT EXTERIOR WALL NO SCALE

1 COORDINATE WITH FIRE STOPPING MANUFACTURER TO INSURE U.L. LISTED ASSEMBLY.

2 CAULK ALL AROUND PIPE SLEEVE AT FLOOR PENETRATION.



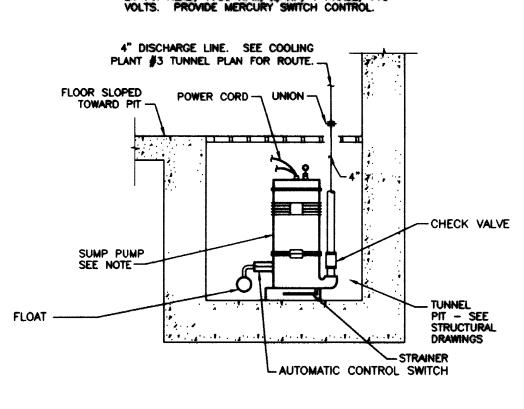
WATER STOP SLEEVE DETAIL FOR PIPING PASSING THRU EXISTING CONCRETE FLOOR SLAB

CANVAS COVERED OR P.V.C FITTING COVER - SEE SPECS STAPLES _VAPOR BARRIER TAPE WITH P.V.C - IF INSULATION IS TERMINATED SEAL ALL ENDS WITH SEALING COMPOUND

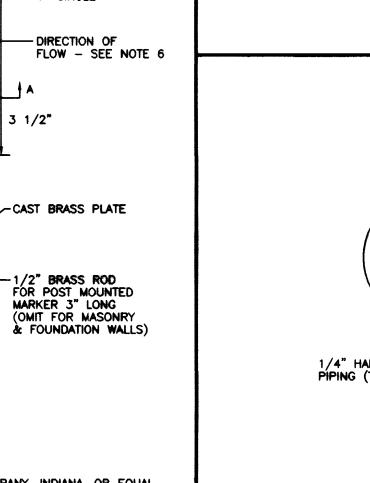
FITTINGS -- ALL FITTINGS SHALL BE FINISHED WITH CANVAS CLOTH APLLIED OVER. CONTRACTOR HAS THE OPTION OF FINISHING

TYPICAL DETAIL OF INSULATION AT PIPE FITTING

MAIN SUMP PUMP -- WEIL SERIES 1603. SIZE 3" SUBMERSIBLE SUMP PUMP, 200 GPM AT 21 FT. HEAD, 1150 RPM, 2 HP, 3 PHASE, 208 VOLTS. PROVIDE MERCURY SWITCH CONTROL. SECONDARY SUMP PUMP -- WEIL SERIES 1400, SIZE 2" SUBMERSIBLE SUMP PUMP, 50 GPM AT 24 FT. HEAD, 1750 RPM, % HP, 1 PHASE, 115 VOLTS. PROVIDE MERCURY SWITCH CONTROL.



TUNNEL SUMP PUMP DETAIL NO SCALE



DRILL & COUNTERSINK
(4) 1/4" HOLES FOR
BRASS FLATHEAD
MACHINE SCREW & LEAD
ANCHOR FOR MTG. ON
MASONRY & FOUNDATION
WALLS ONLY

MARKERS SHALL BE LOCATED WERE INDICATED ON DRAWINGS.

ELEVATION

SECTION B-B

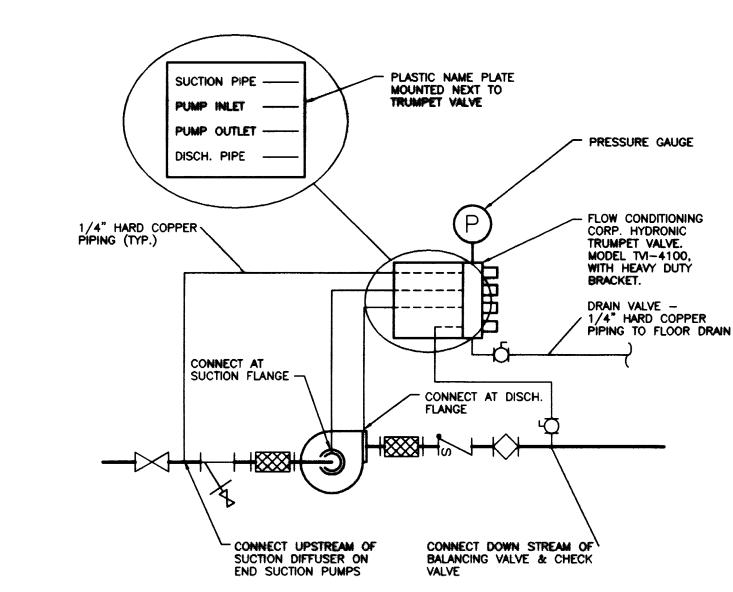
BRASS MARKERS SHALL BE CAST BY BRUCE FOX COMPANY, NEW ALBANY, INDIANA, OR EQUAL.

UTILITY MARKER

PLAN VIEW

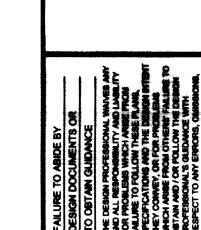
- EXAMPLE ONLY. LETTERING TO BE RAISED 1/8".
- 4. AT THE CONTRACTOR'S OPTION, ONE MARKER MAY BE USED FOR COMPANION MAINS THAT ARE LOCATED CLOSE TOGETHER SUCH AS STEAM AND CONDENSATE PUMP DISCHARGE PIPING OR CHILLED WATER SUPPLY AND CHILLED WATER RETURN PIPING. PROVIDE ARROW
- CONTRACTOR SHALL FURNISH A COMPLETE LIST FOR APPROVAL OF ALL MARKERS SHOWING NAMES, ARROWS, DEPTH AND DATE.
- WHEN UTILITY MARKERS ARE INSTALLED OVER LINES AT A POINT OF DIRECTION CHANGE, THE ARROW ON THE MARKERS SHALL BE "ANGLED" AS REQUIRED TO

UTILITY SERVICE MARKER DETAIL



TYPICAL PUMP PRESSURE GAUGE INSTALLATION DETAIL NO SCALE

RECORD DRAWINGS DATE 11/10/03 These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Engineer will not be responsible for any errors or omissions which have been incorporated into this document as a result. STAGGS & FISHER CONSULTING ENGINEERS, INC.



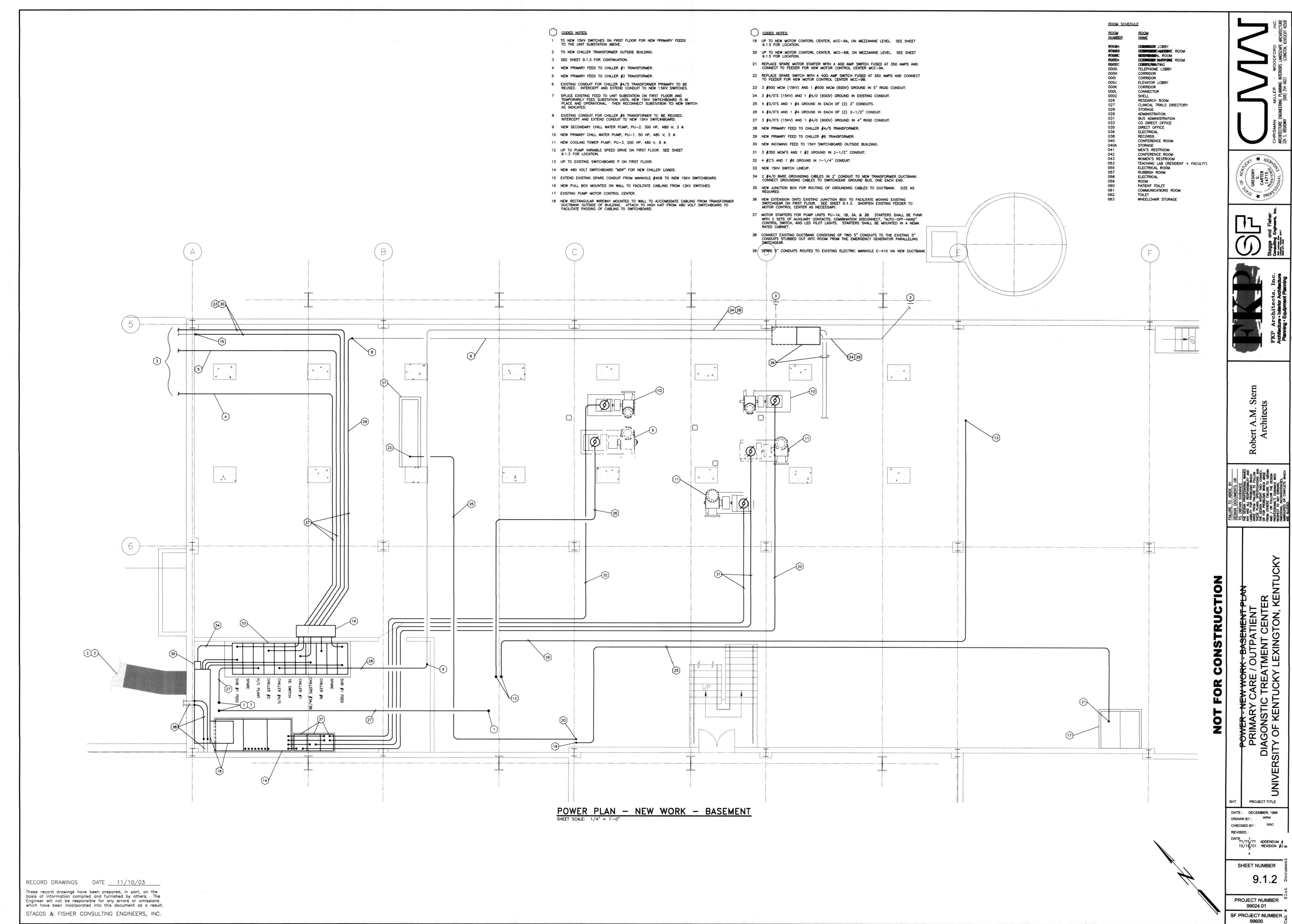


PROJECT TITLE CHECKED BY: CCK

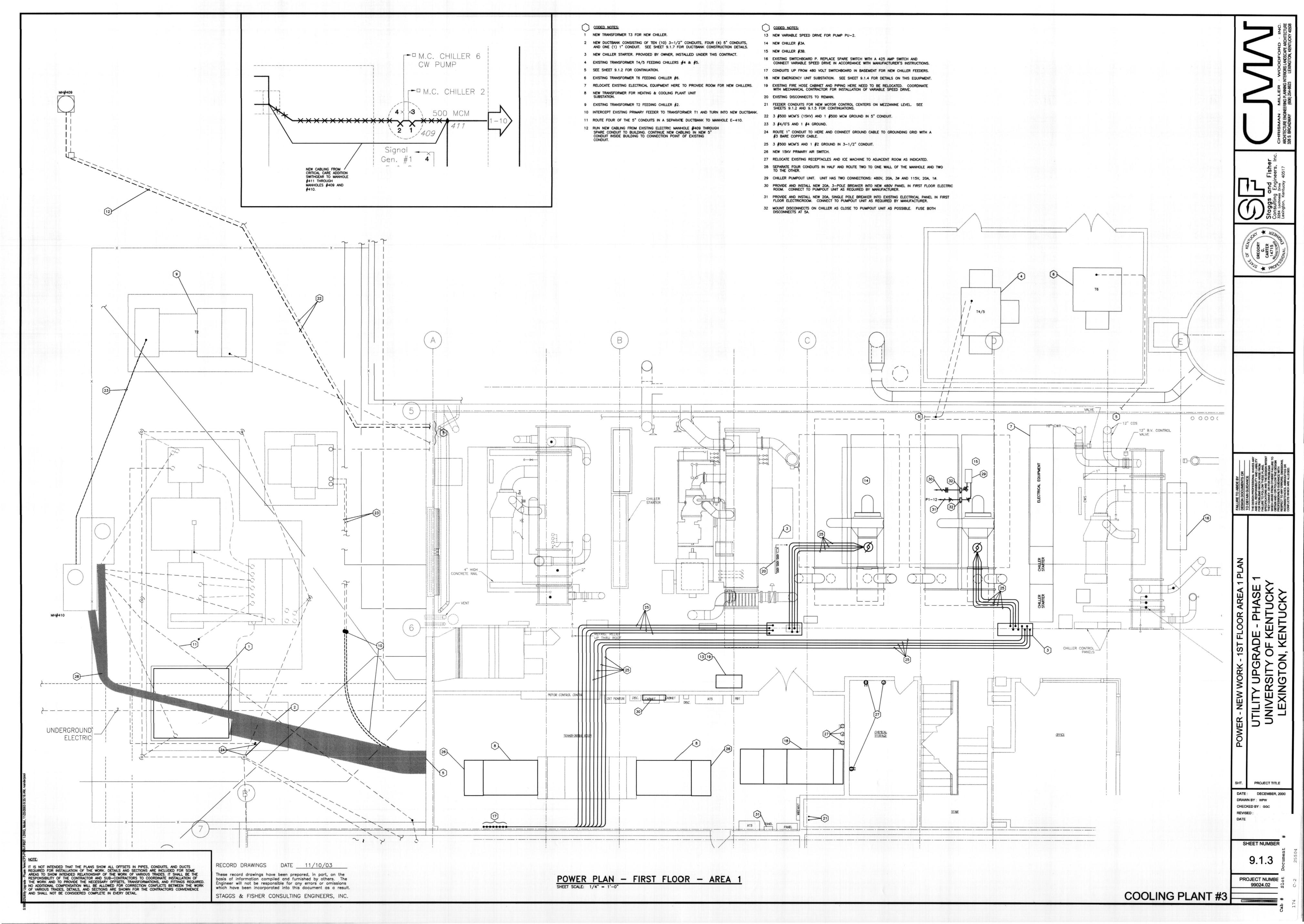
DECEMBER, 20 REVISED: DATE 1 2/20/01 ADDENDUM 2 6/0/01 STEAM PRV 3 12/6/01 GAS PIPING 4 3/7/02 ADD DRAIN TIL

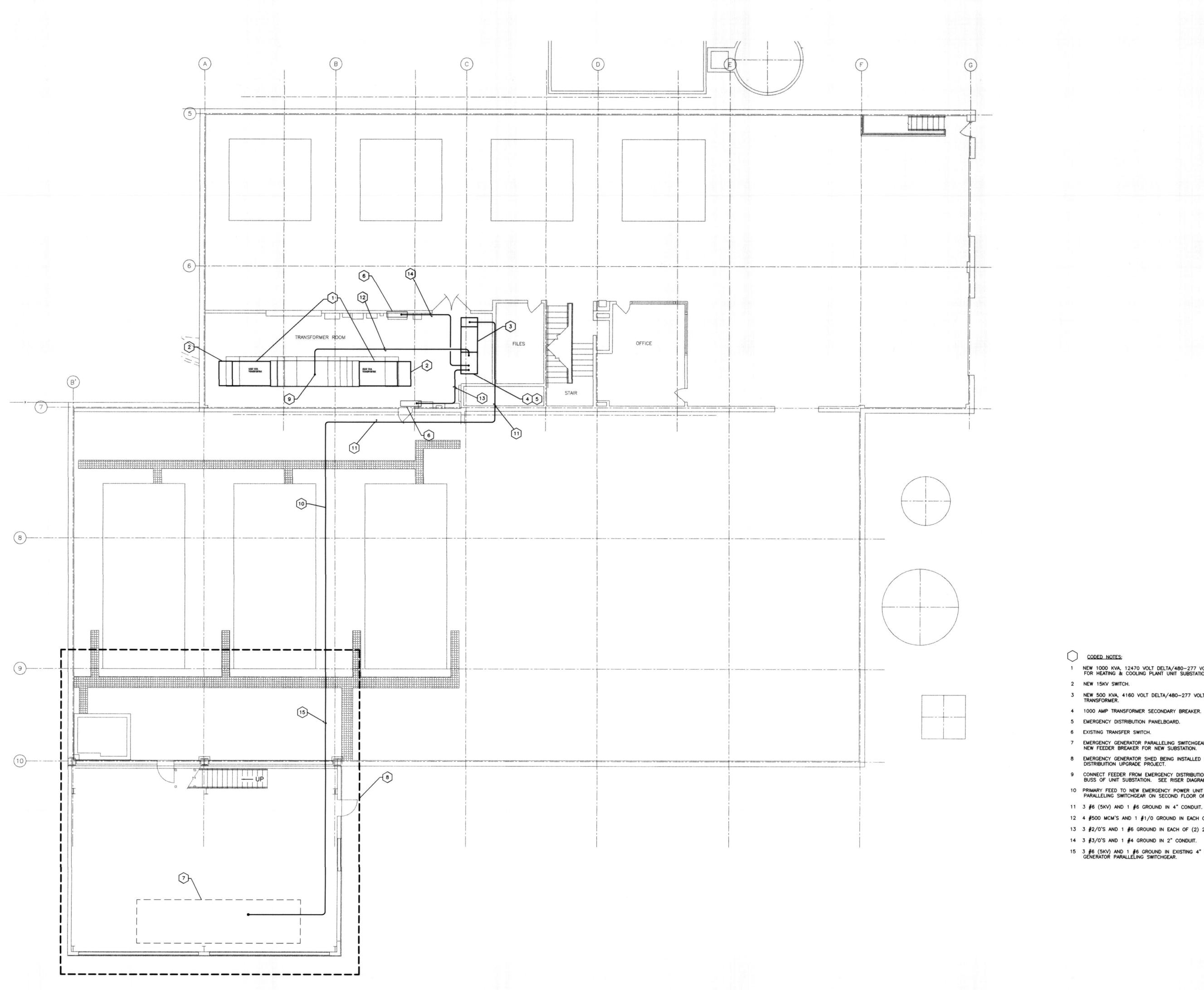
SHEET NUMBER 8.9.2

PROJECT NUMBE 99024.02



Upgrade - Phase NeleciCP3-PWR-BASEM





1 NEW 1000 KVA, 12470 VOLT DELTA/480-277 VOLT WYE, TRANSFORMERS FOR HEATING & COOLING PLANT UNIT SUBSTATION.

2 NEW 15KV SWITCH.

3 NEW 500 KVA, 4160 VOLT DELTA/480-277 VOLT WYE, PAD-MOUNTED TRANSFORMER.

6 EXISTING TRANSFER SWITCH.

7 EMERGENCY GENERATOR PARALLELING SWITCHGEAR ON SECOND FLOOR. PROVIDE NEW FEEDER BREAKER FOR NEW SUBSTATION. 8 EMERGENCY GENERATOR SHED BEING INSTALLED UNDER THE EMERGENCY DISTRIBUITION UPGRADE PROJECT.

9 CONNECT FEEDER FROM EMERGENCY DISTRIBUTION PANELBOARD DIRECTLY TO BUSS OF UNIT SUBSTATION. SEE RISER DIAGRAM FOR ADDITIONAL DETAILS.

10 PRIMARY FEED TO NEW EMERGENCY POWER UNIT SUBSTATION FROM GENERATOR PARALLELING SWITCHGEAR ON SECOND FLOOR OF GENERATOR SHED ADDITION.

11 3 #6 (5KV) AND 1 #6 GROUND IN 4" CONDUIT.

12 4 #500 MCM'S AND 1 #1/0 GROUND IN EACH OF (2) 3-1/2" CONDUITS.

13 3 #2/0'S AND 1 #6 GROUND IN EACH OF (2) 2" CONDUITS.

14 3 #3/0'S AND 1 #4 GROUND IN 2" CONDUIT.

15 3 #6 (5KV) AND 1 #6 GROUND IN EXISTING 4" CONDUIT TO GENERATOR PARALLELING SWITCHGEAR.

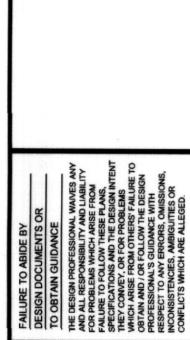
POWER PLAN - FIRST FLOOR AREA 2

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

RECORD DRAWINGS DATE 11/10/03 IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS
REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME
AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE
RESPONSIBILITY OF THE CONTRACTOR AND SUB—CONTRACTORS TO COORDINATE INSTALLATION OF
THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED.
NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTION CONFLICTS BETWEEN THE WORK
OF VARIOUS TRADES, DETAILS, AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCE
AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL. These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Engineer will not be responsible for any errors or omissions which have been incorporated into this document as a result. STAGGS & FISHER CONSULTING ENGINEERS, INC.

COOLING PLANT #3



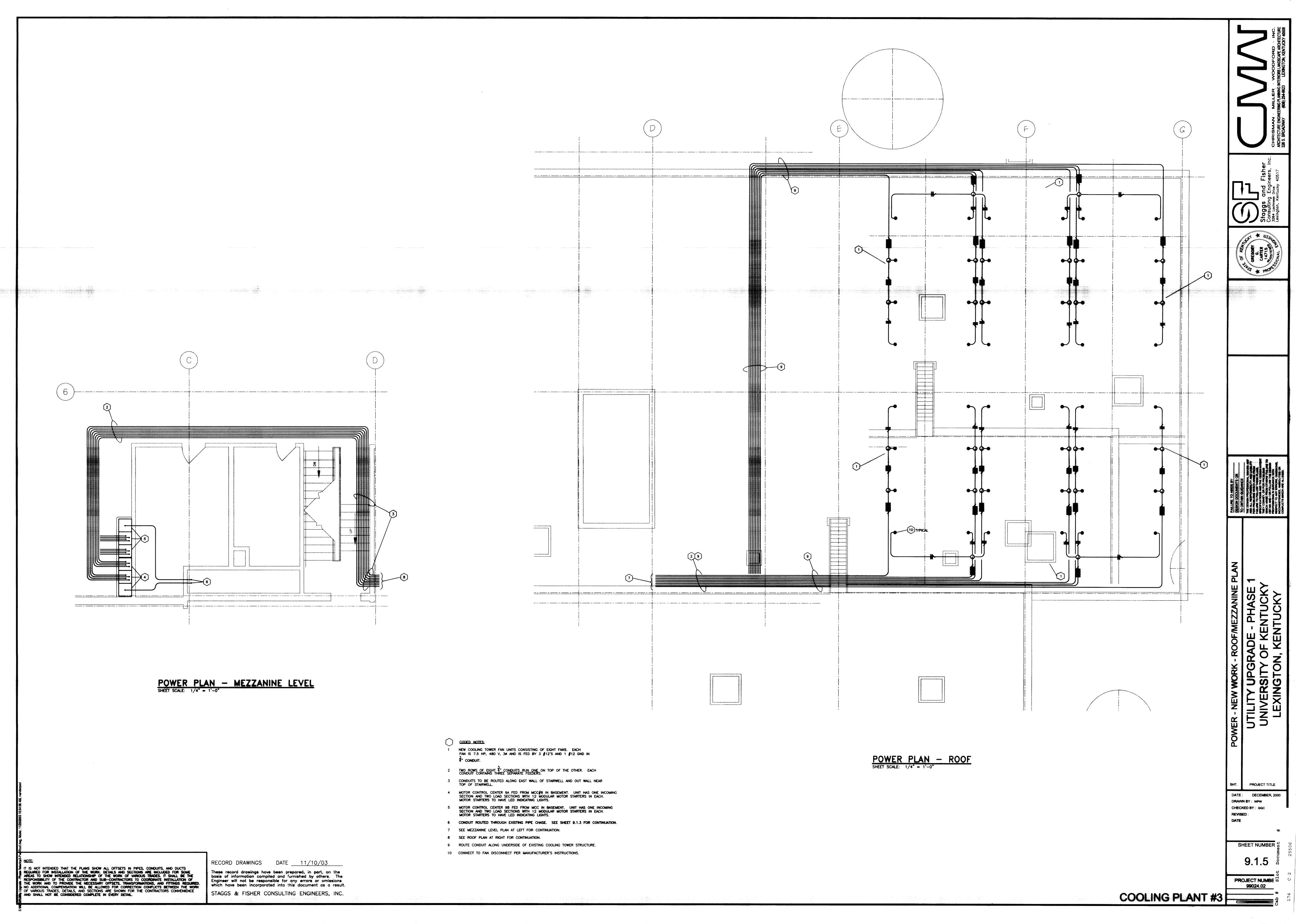


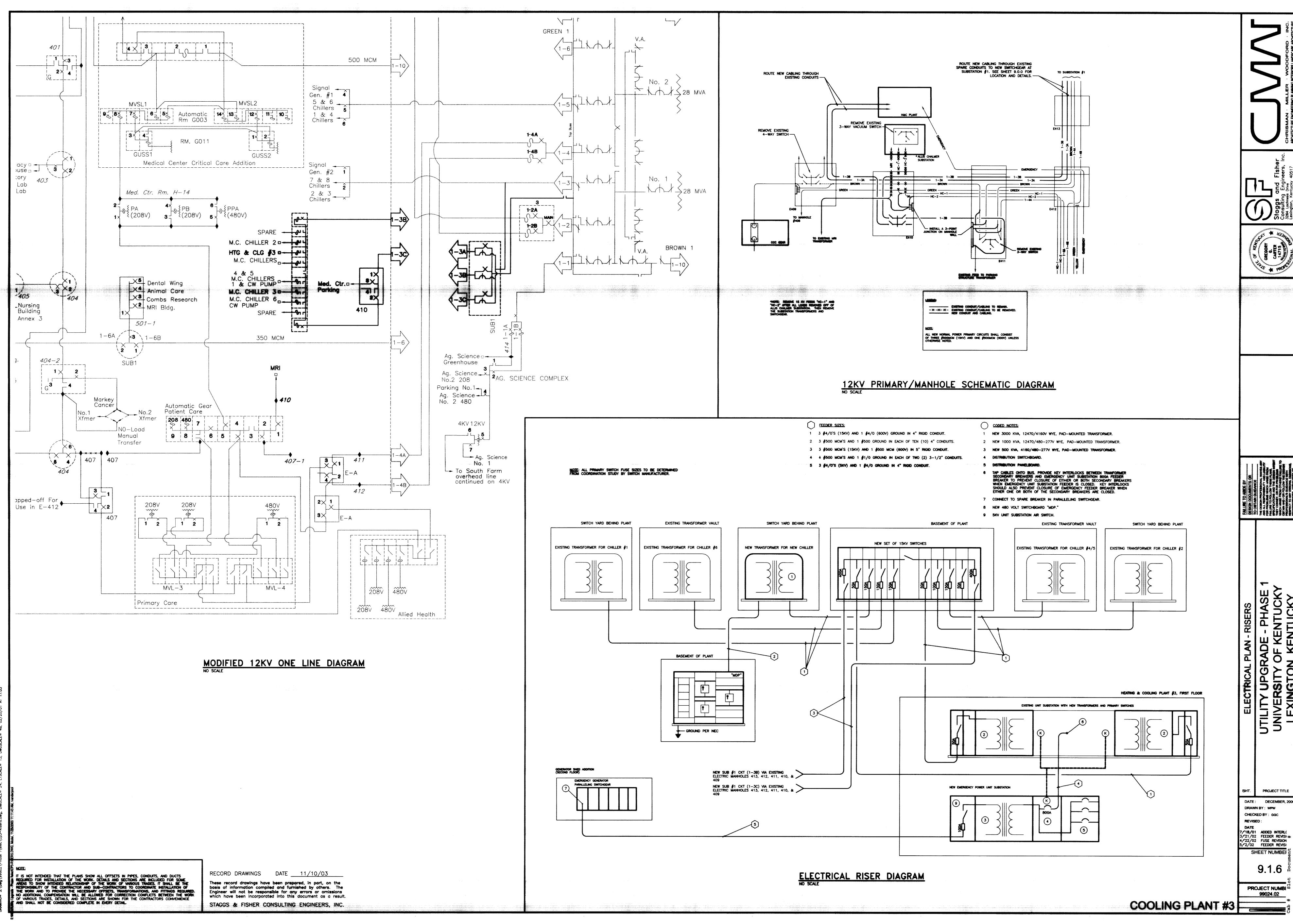
PROJECT TITLE DATE: DECEMBER, 2000 DRAWN BY: WPW

CHECKED BY : GGC REVISED :

SHEET NUMBER

PROJECT NUMBE 99024.02

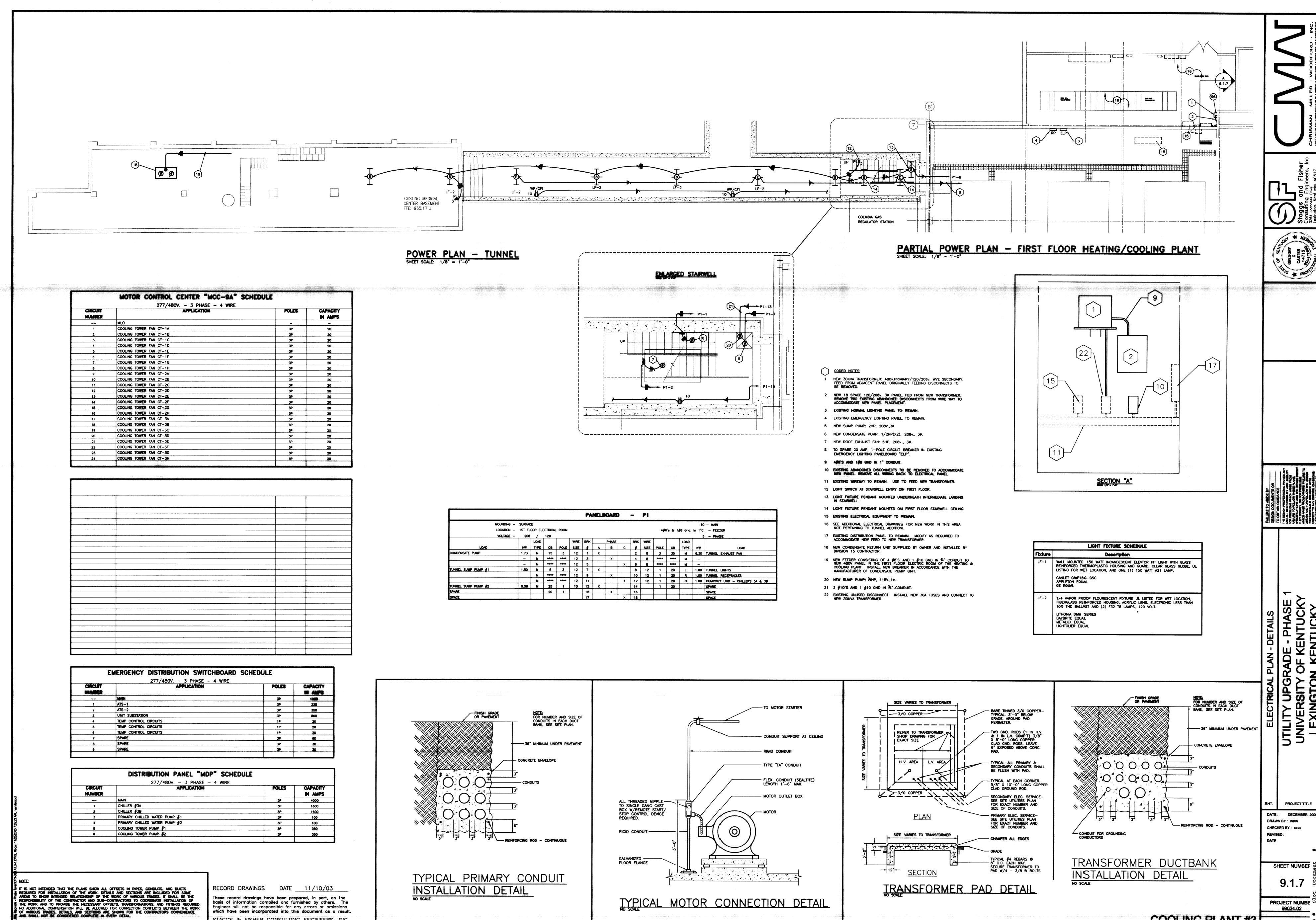




PROJECT TITLE DATE: DECEMBER, 2000

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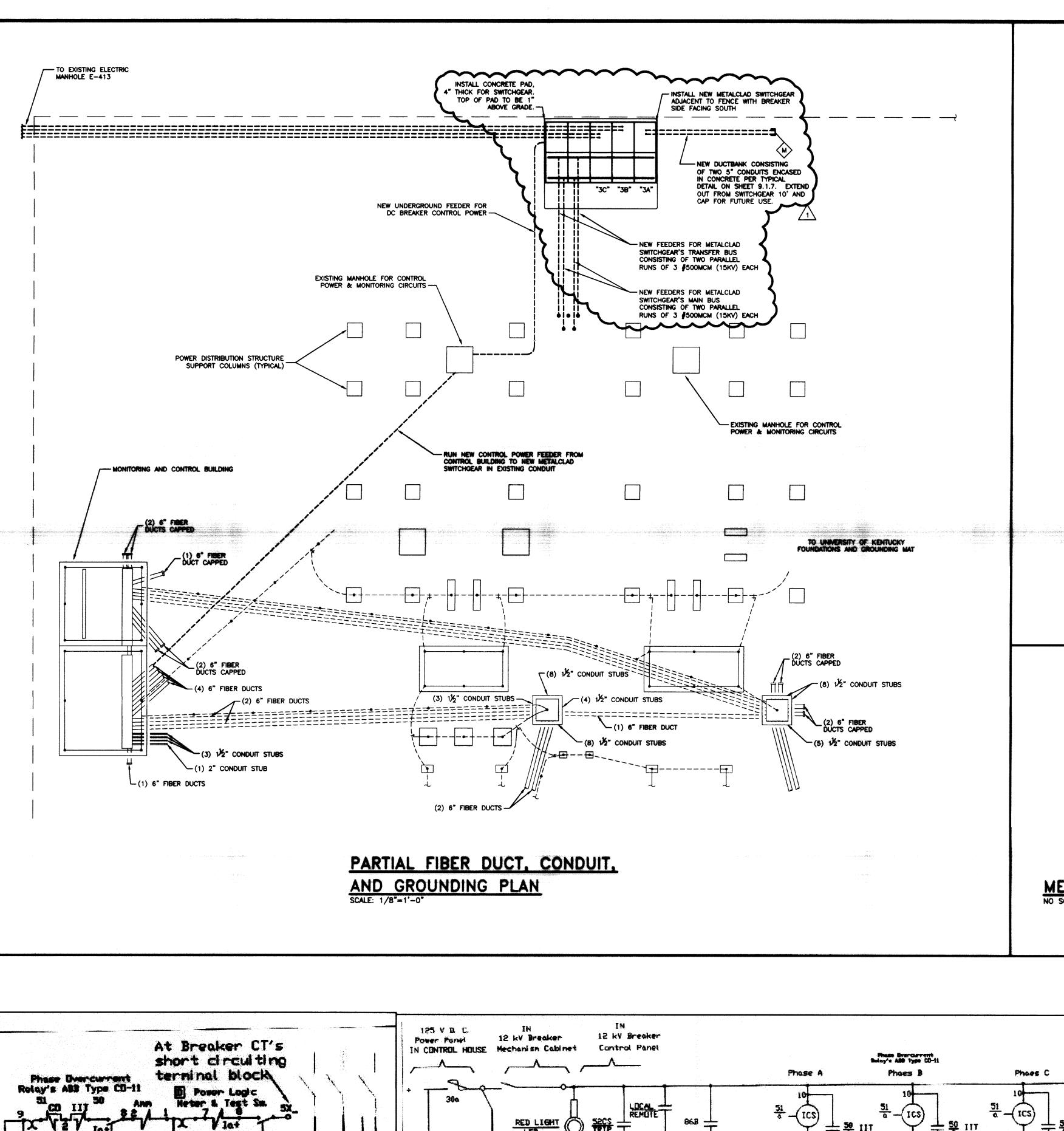
PROJECT NUMBI 07 99024.02

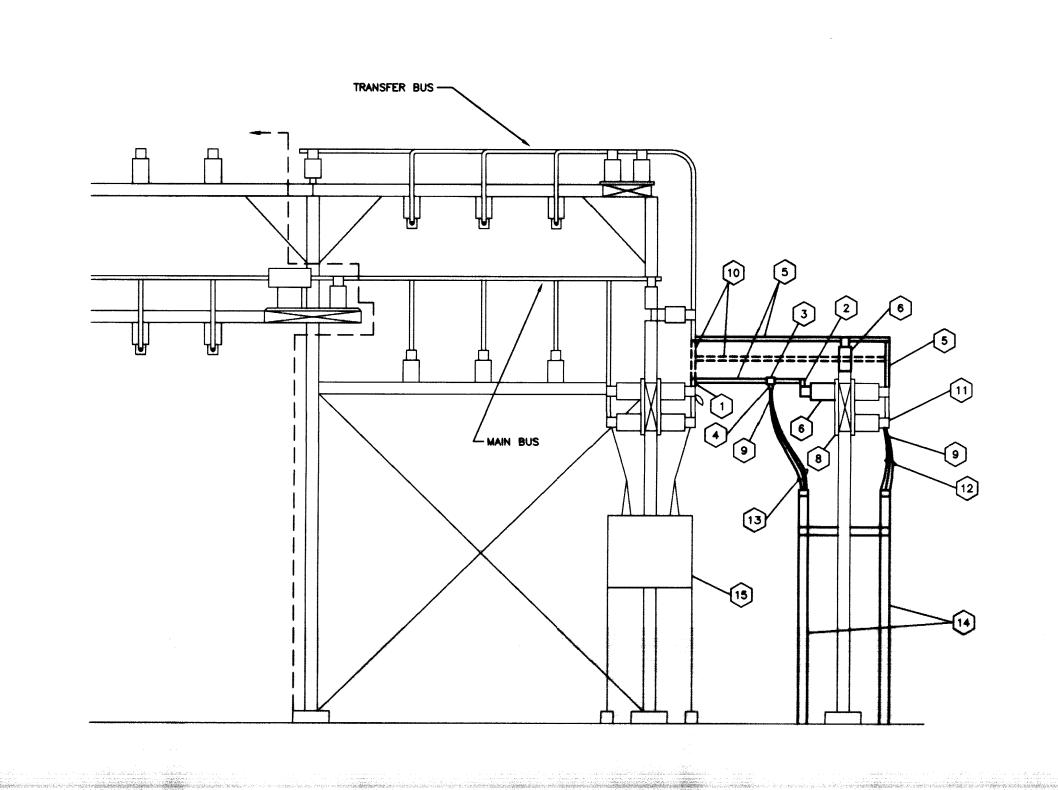


which have been incorporated into this document as a result.

STAGGS & FISHER CONSULTING ENGINEERS, INC.

PROJECT NUMBE 99024.02 COOLING PLANT #3





CODED NOTES:

BRONZE TERMINAL 1-1/4" S.P.S. TO A 4 HOLE PAD. CATALOG # FNTT90-49-4A.

BRONZE TEE CONNECTOR 1-1/4" RUN TO 4 HOLE PAD. CATALOG # TFT-49-4A. BRONZE TERMINAL 4 HOLE PAD TO 500 MCM COPPER CABLE. CATALOG # FNCT-42-4A.

5 1-1/4" S.P.S. COPPER PIPE BUS.

6 3" B.C. 15KV CLASS STATION POST INSULATOR. CATALOG # T.R.205.

7 6" INSULATOR STOOL FOR 3" B.C.

8 3" B.C. GALVANIZED STEEL INSLULATOR SUPPORTS.

9 RAYCHEM TERMINATORS FOR 500 MCM CABLE.

10 REMOVE SECTION OF EXISTING BUS TO FACILITATE ROUTING BOTH BUSES TO FRONT DISTRIBUTION GIRDER. 11 TERMINATE NEW FEEDER CONDUCTORS ONTO EXISTING FEEDER TERMINALS.

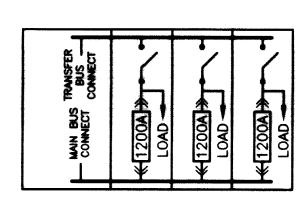
12 NEW FEEDERS FOR METALCIAD SWITCHGEAR'S TRANSFER BUS CONSISTING OF THREE

PARALLEL RUNS OF 2 #500MCM (15KV) EACH.

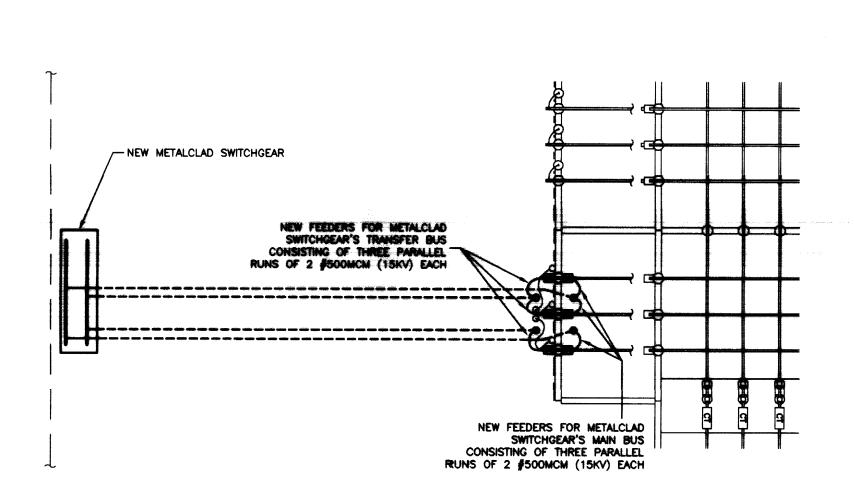
13 NEW FEEDERS FOR METALCLAD SWITCHGEAR'S MAIN BUS CONSISTING OF THREE PARALLEL RUNS OF 2 #500MCM (15KV) EACH. 14 INSTALL 2 NEW RUINS OF 5" CONDUIT.

15 EXISTING BREAKER FOR CIRCUIT 1-3. RESET OVERCURRENT TRIP SETTINGS TO 800 AMPS.

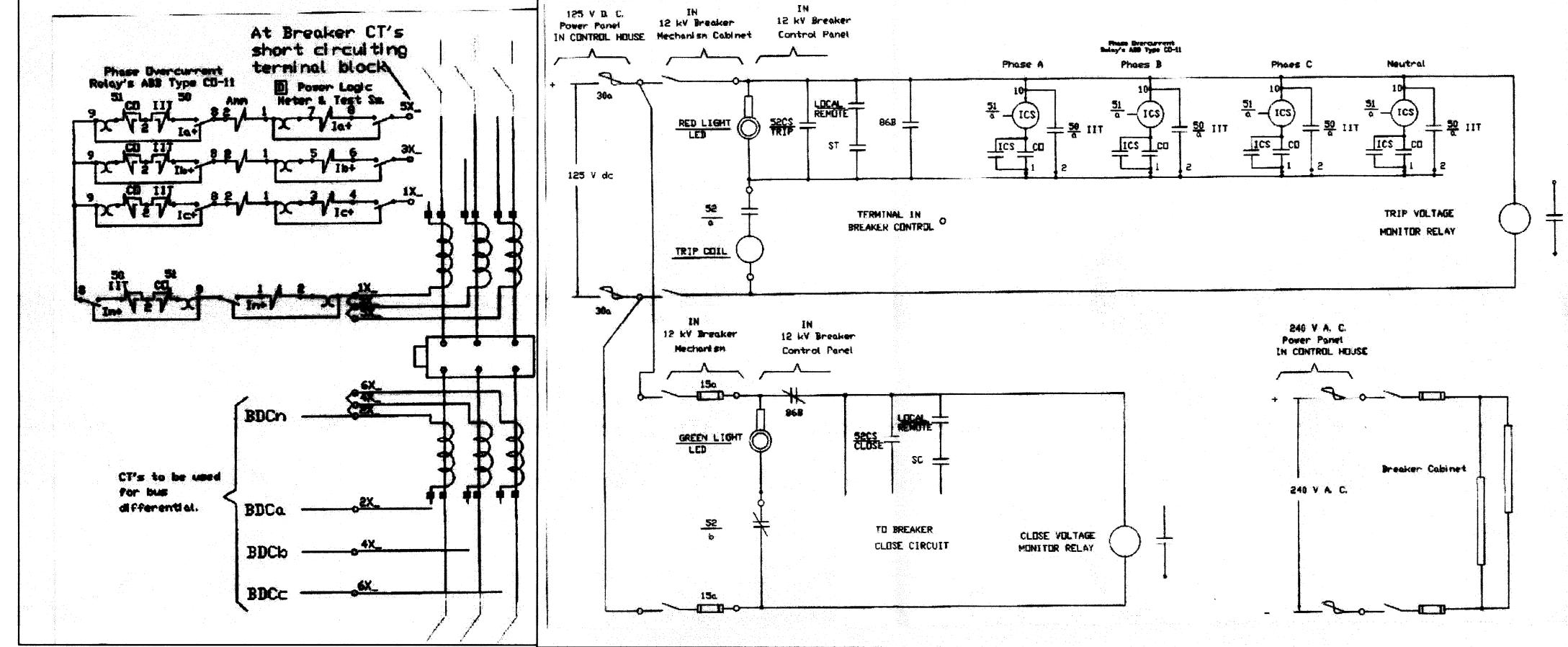
SUBSTATION #1 - NEW SWITCHGEAR INSTALLATION DETAIL - SECTION VIEW



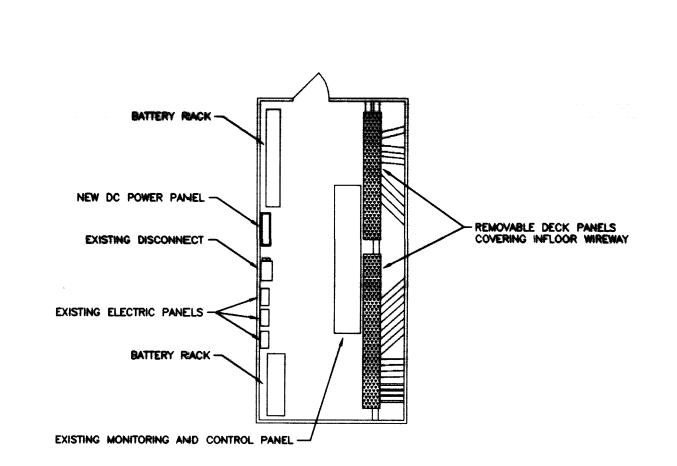
METALCLAD SWITCHGEAR BLOCK DIAGRAM



SUBSTATION #1 - NEW SWITCHGEAR INSTALLATION DETAIL - PLAN VIEW



METALCLAD SWITCHGEAR CONTROL SCHEMATICS
NO SCALE

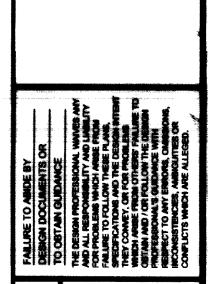


DC POWER PANEL INSTALLATION

DETAIL - CONTROL HOUSE

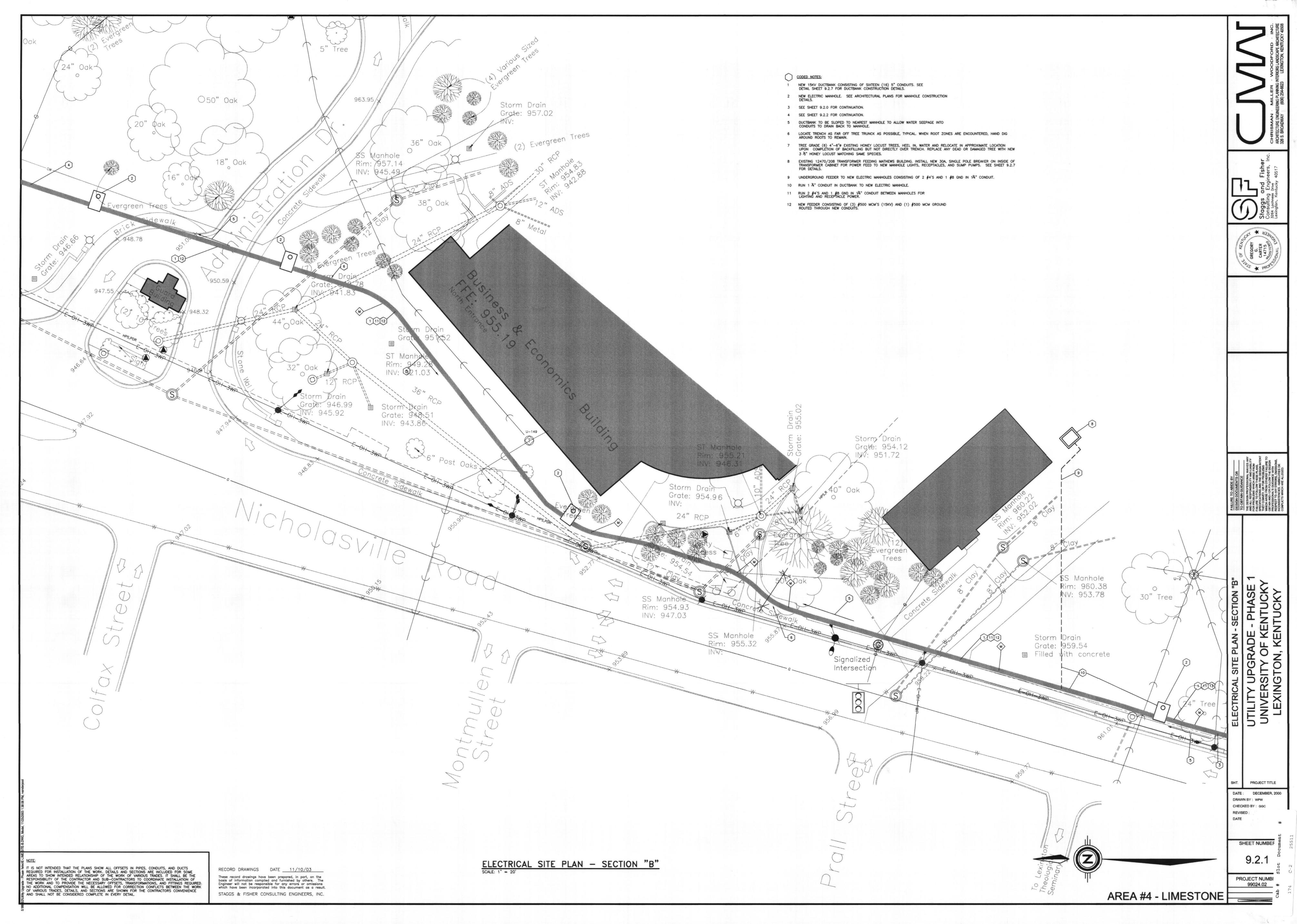
COOLING PLANT #3

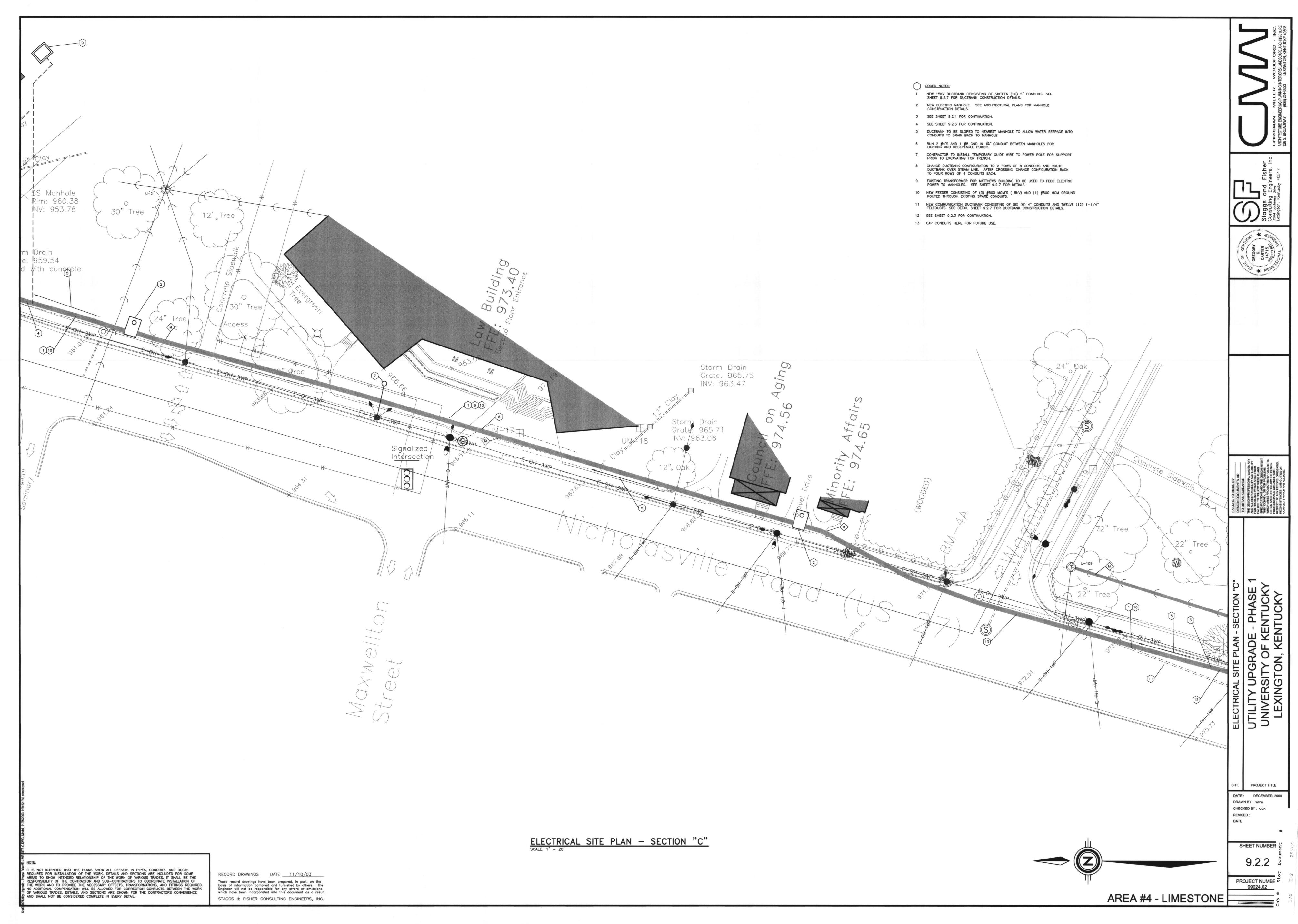


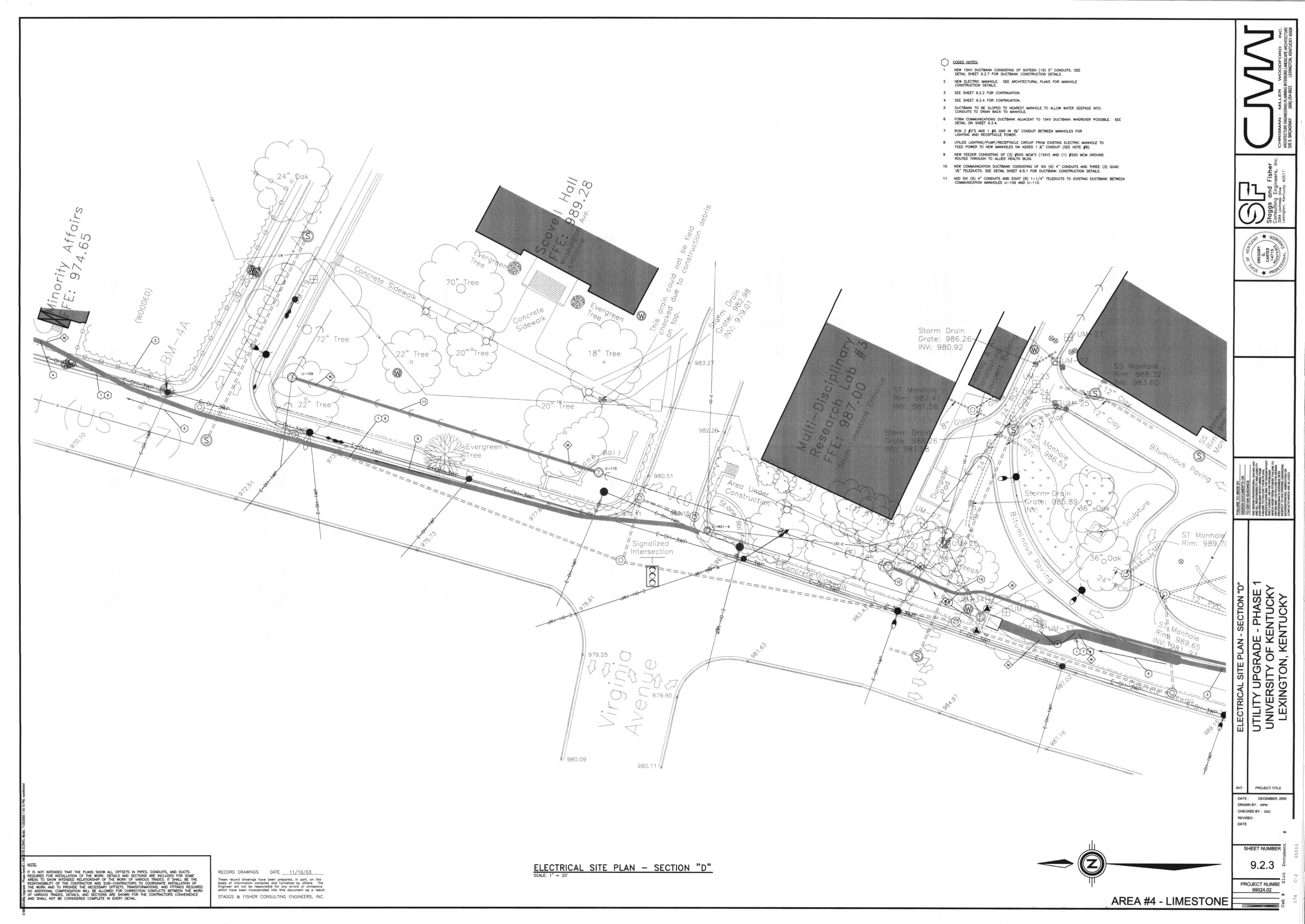


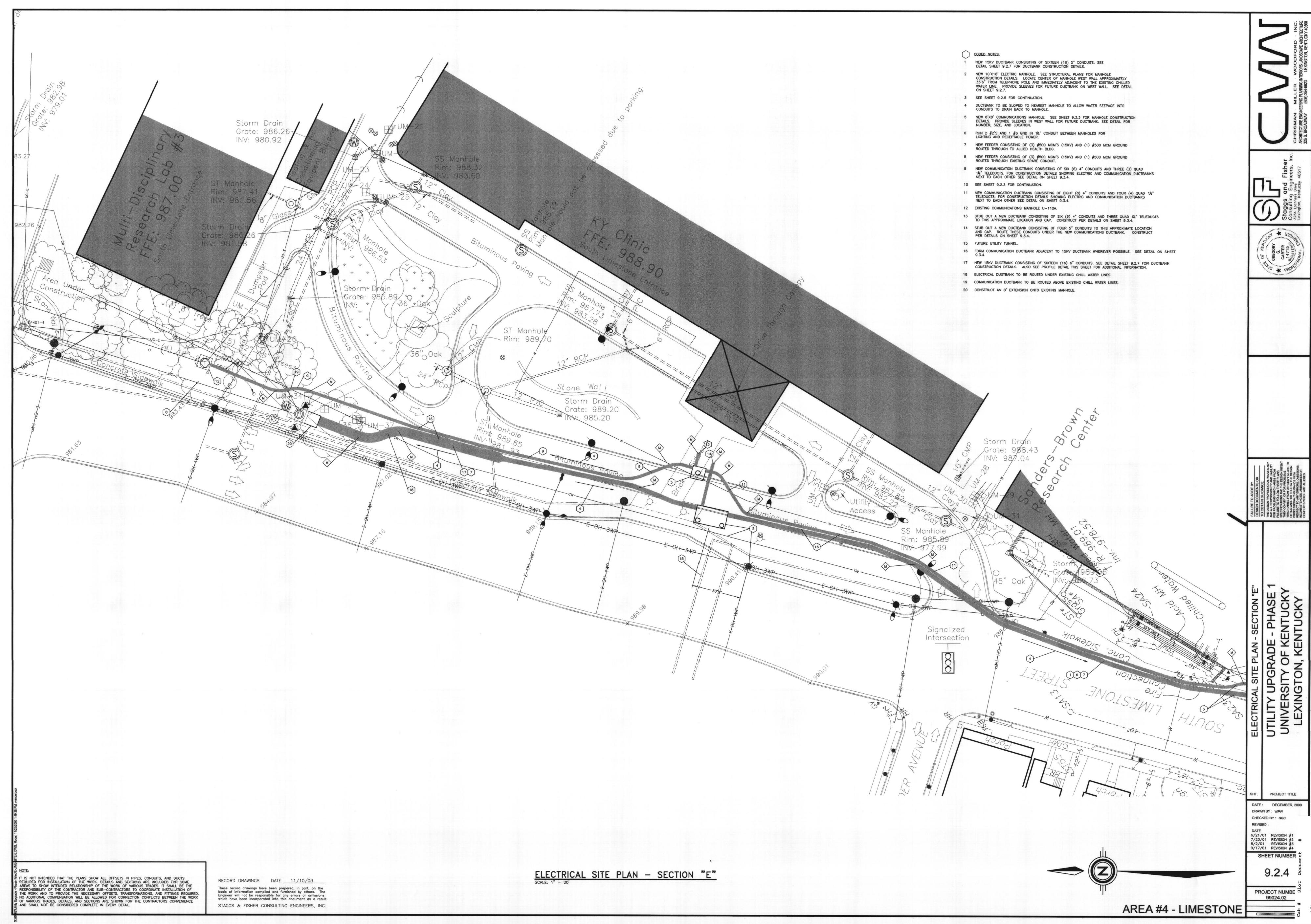
PROJECT TITLE

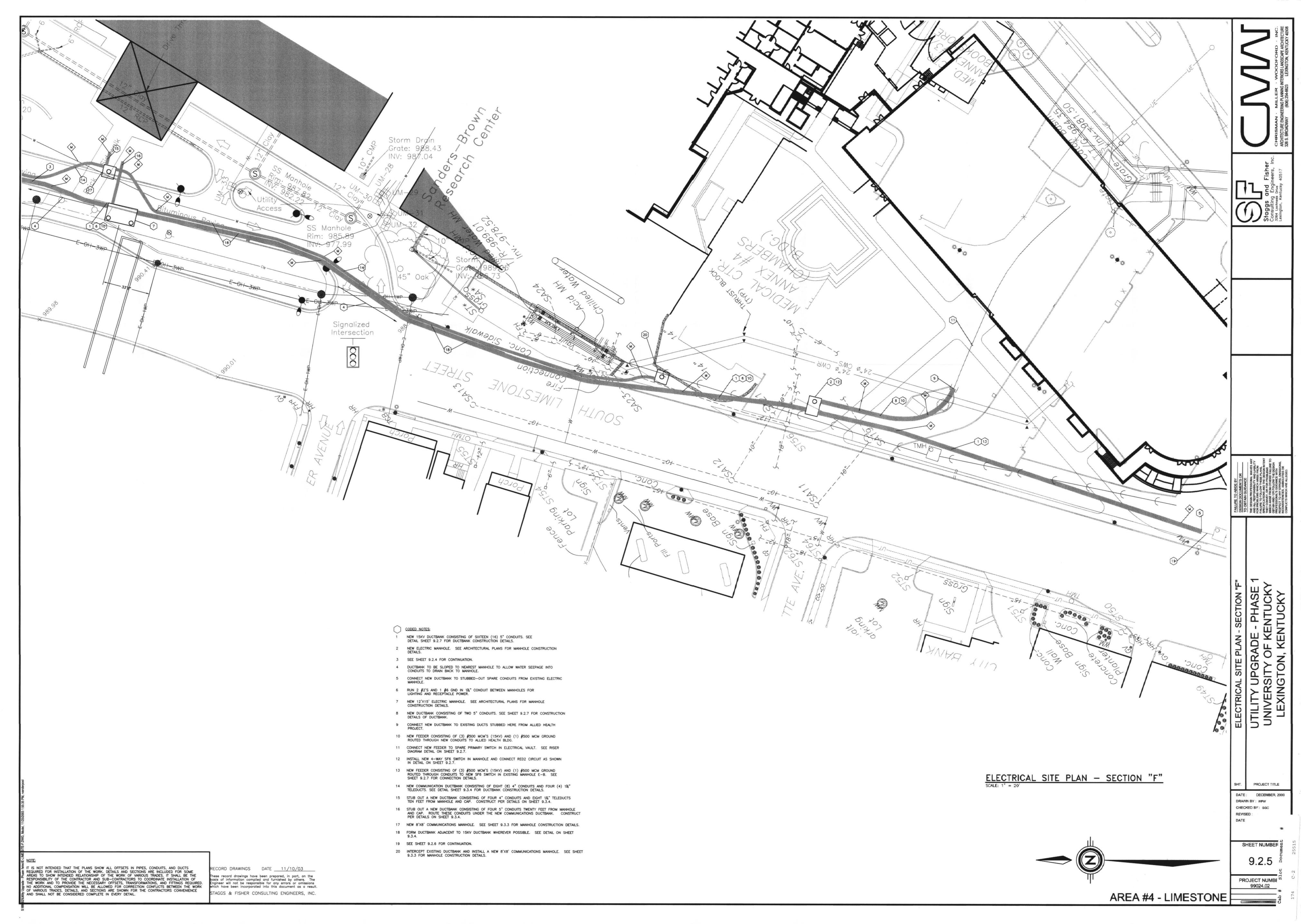
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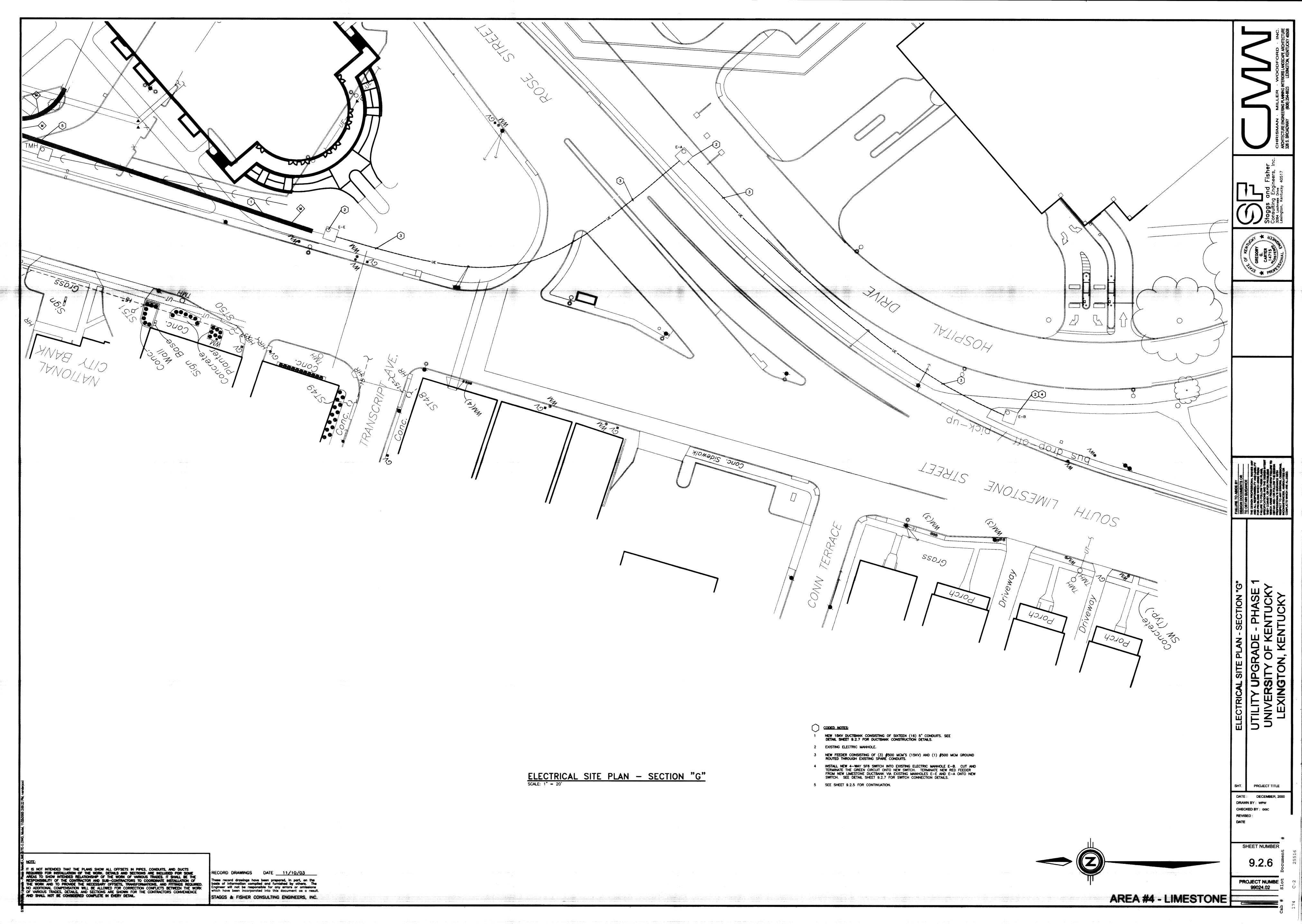


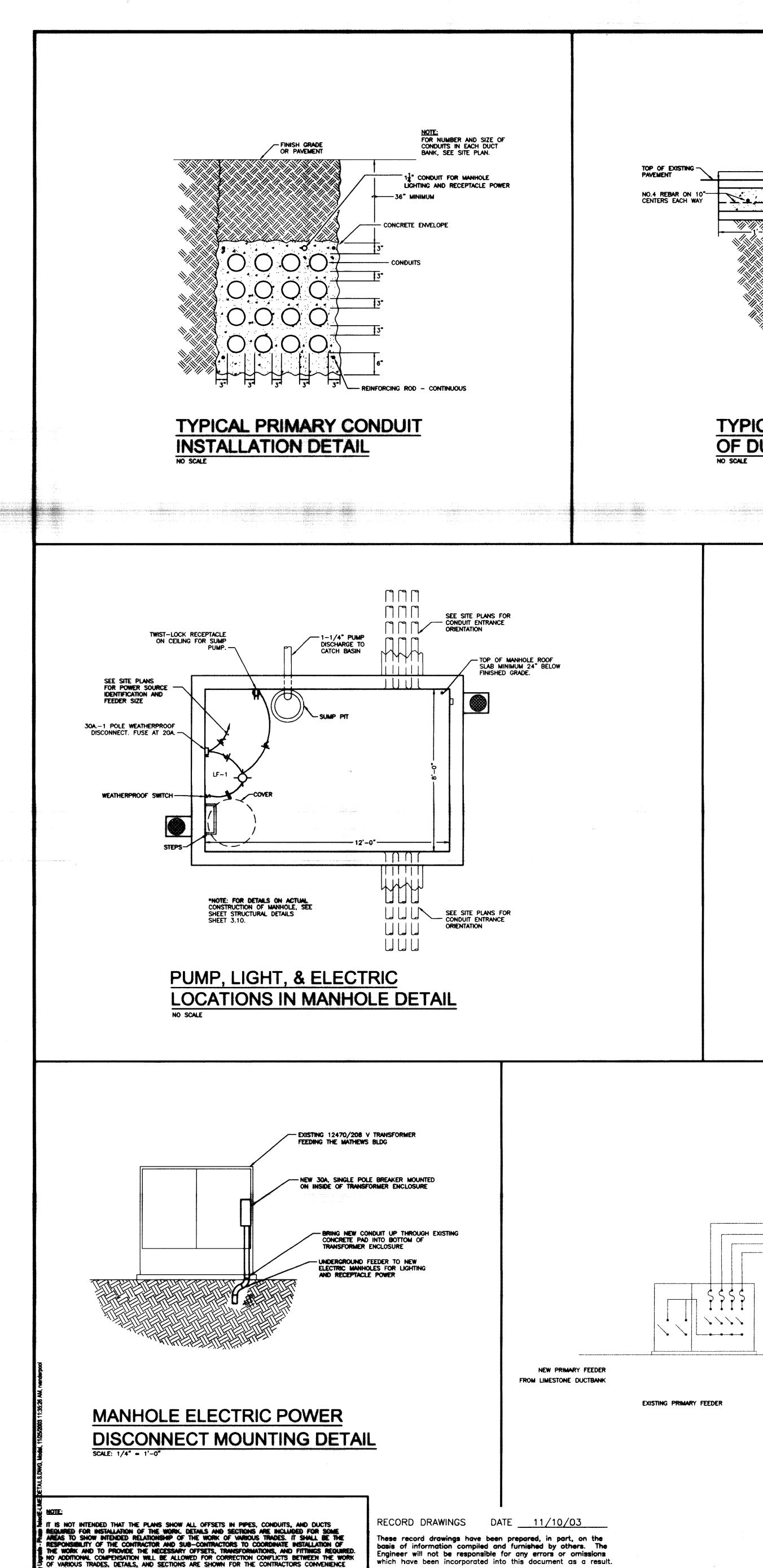




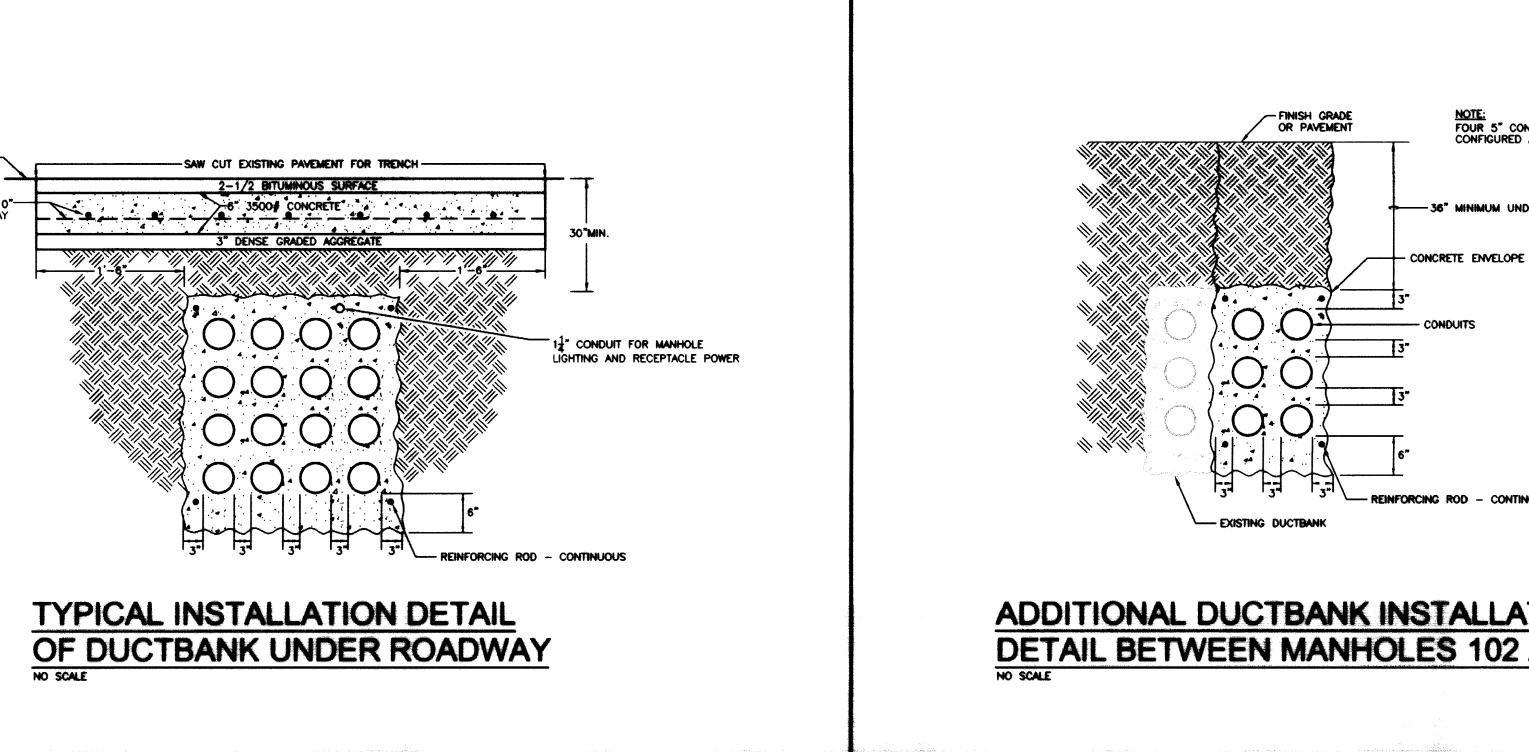








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PROVIDE SLEEVES INTO WEST WALL TO ACCOMMODATE 18 5" CONDUITS. CAP OUTSIDE END OF EACH SLEEVE ———

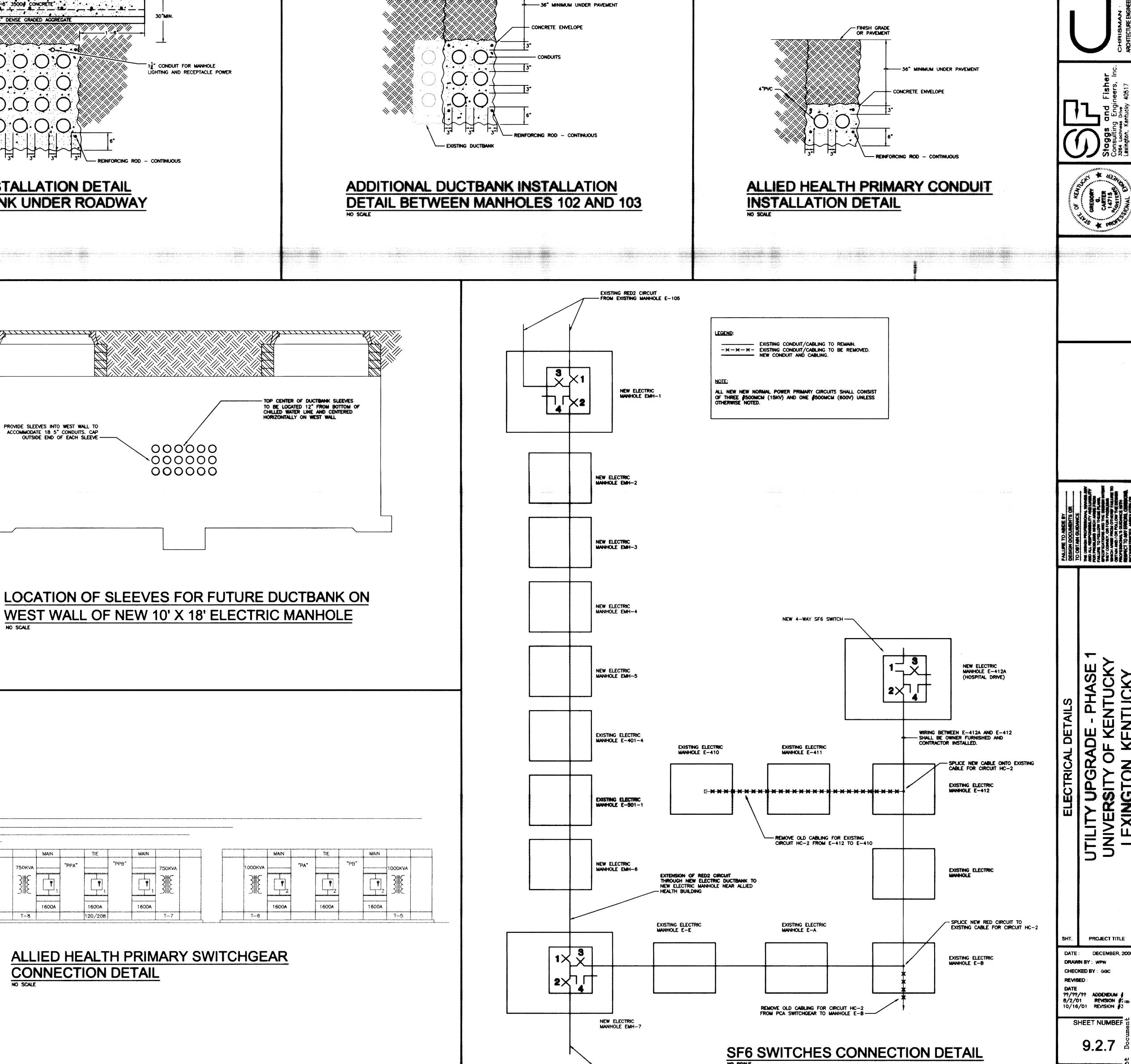
1600A

CONNECTION DETAIL

ALLIED HEALTH PRIMARY SWITCHGEAR

000000

1600A



PROJECT TITLE

DECEMBER, 2000

DRAWN BY: WPW

CHECKED BY: GGC

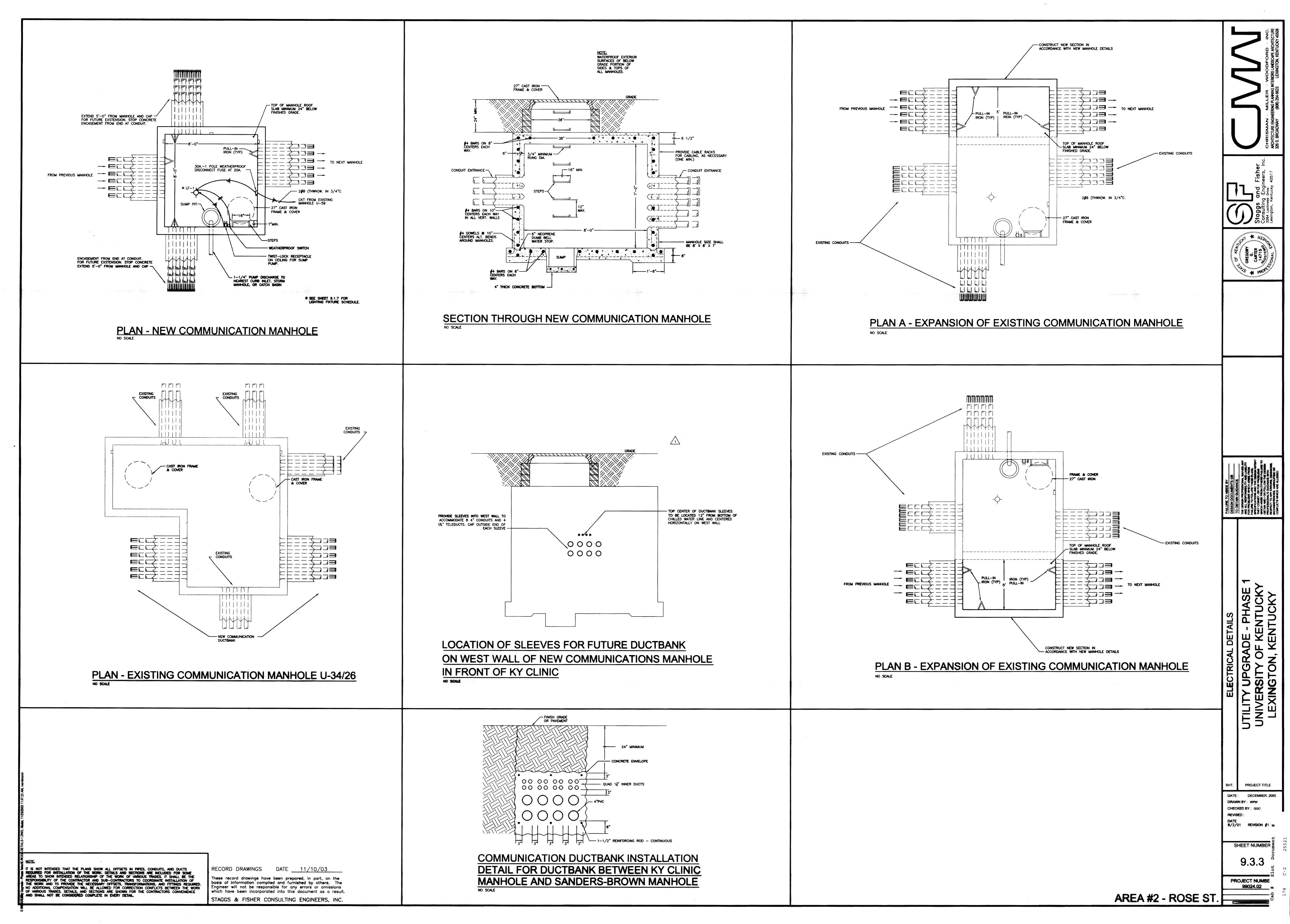
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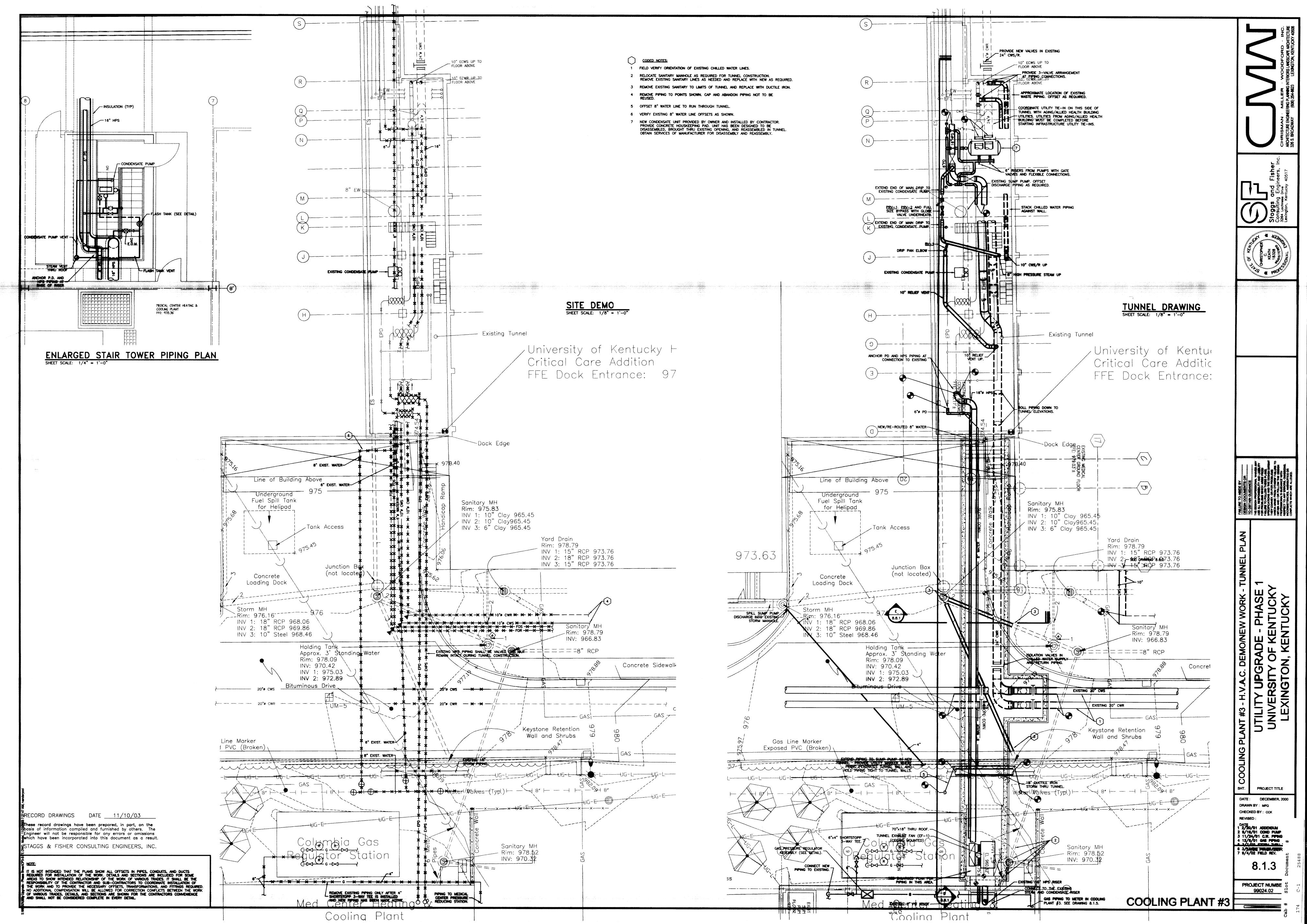
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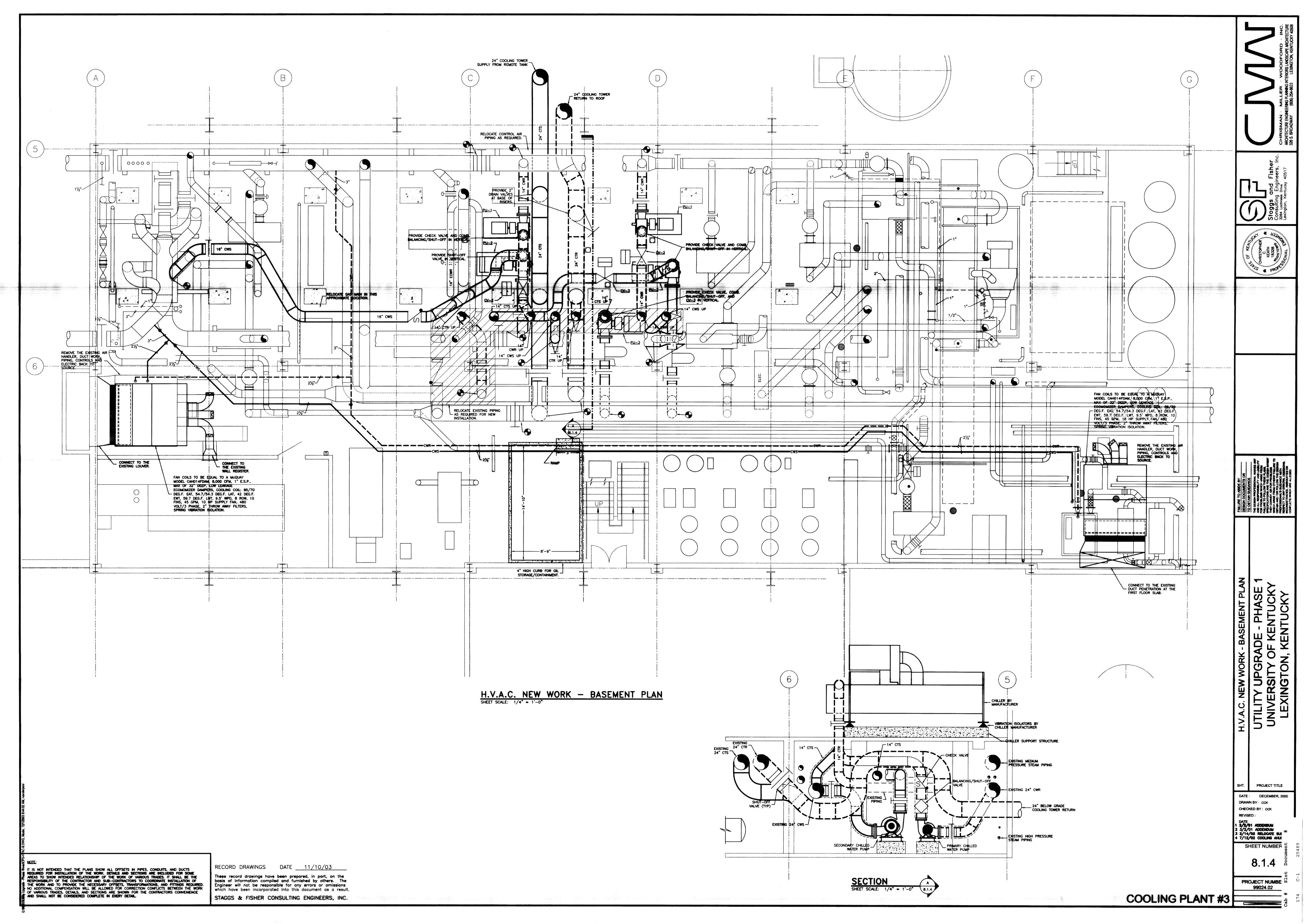
PROJECT NUMBE 99024.02

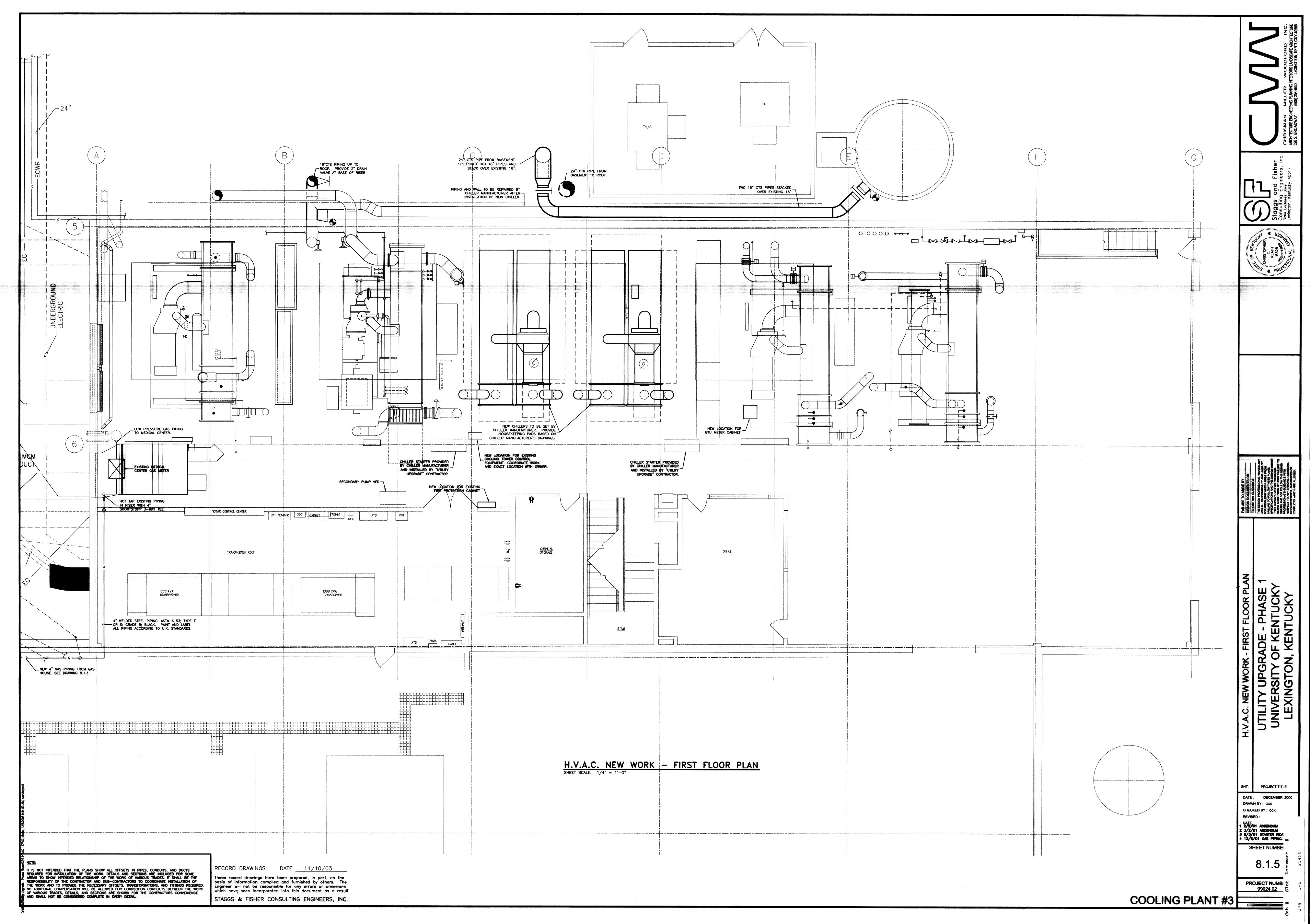
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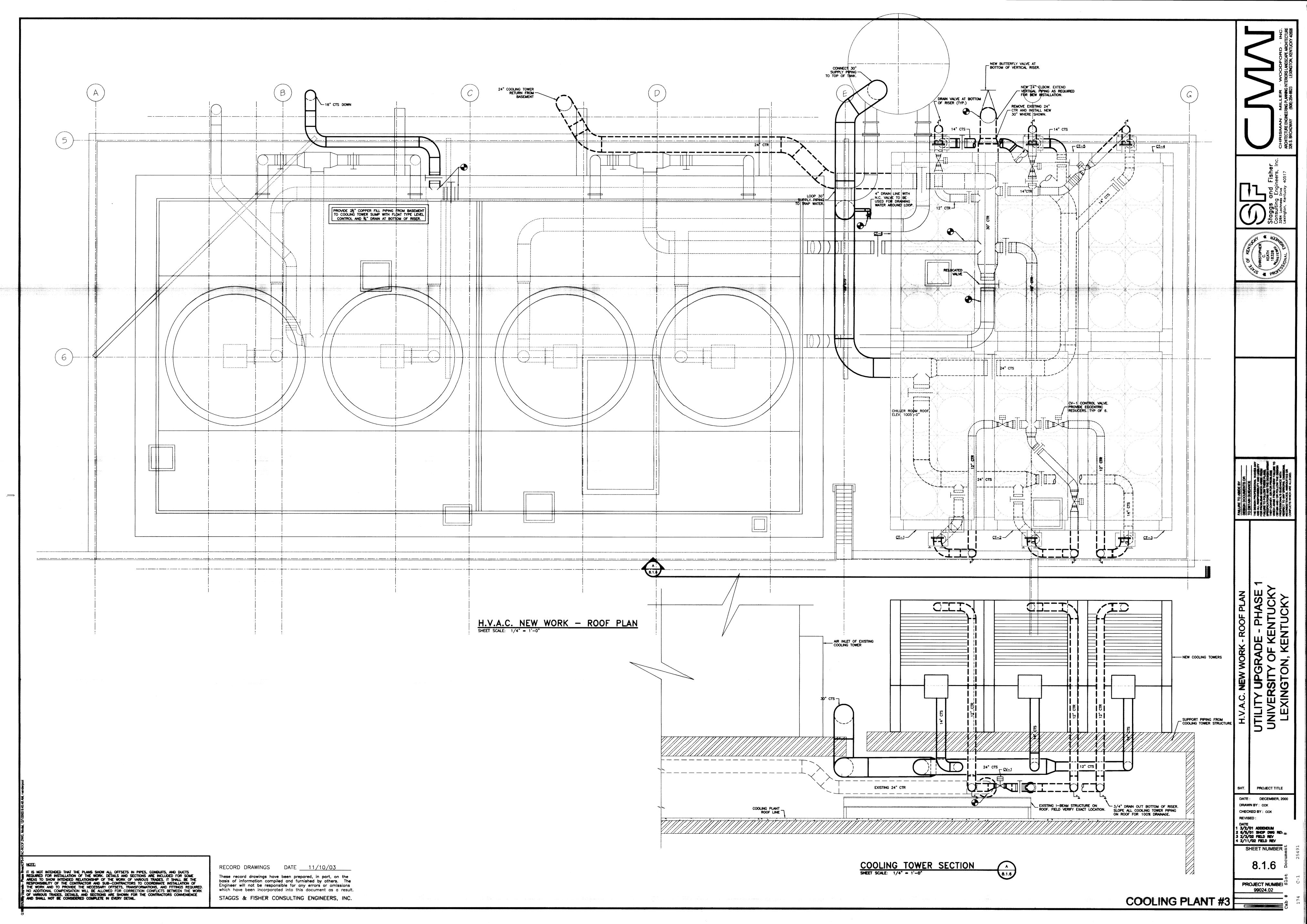
AREA #4 - LIMESTONE

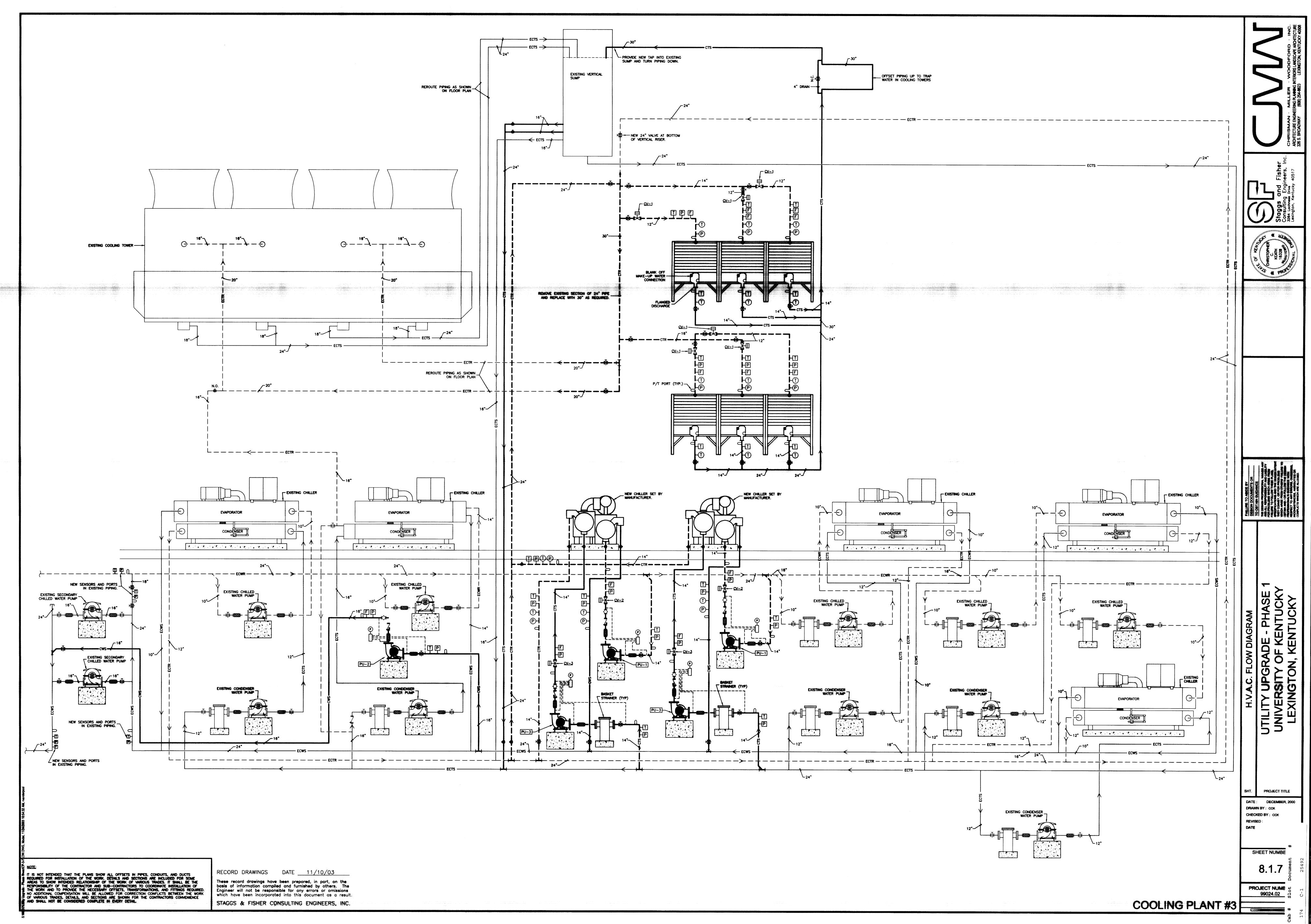


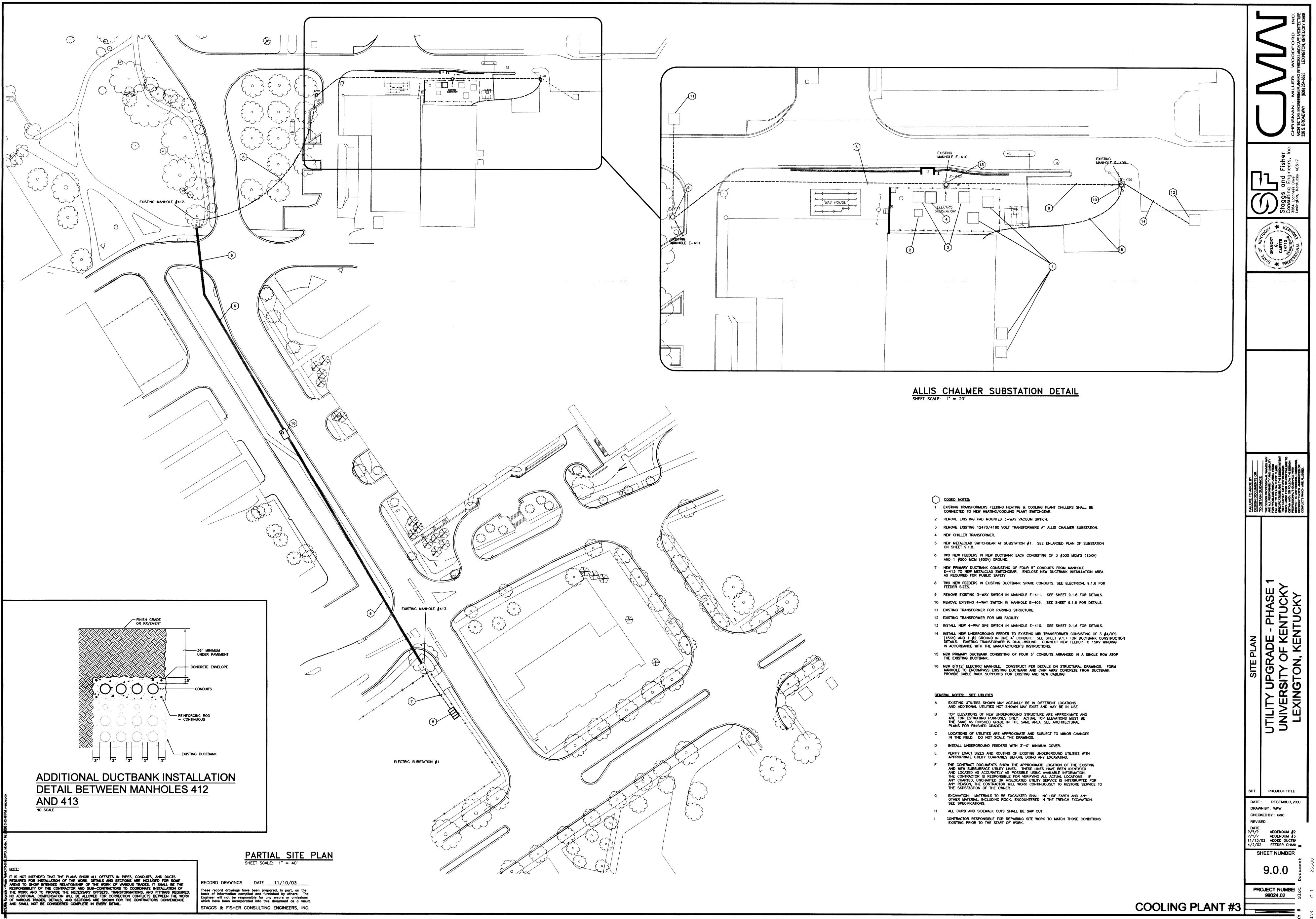






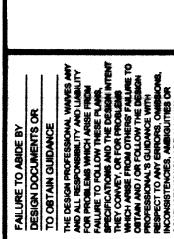








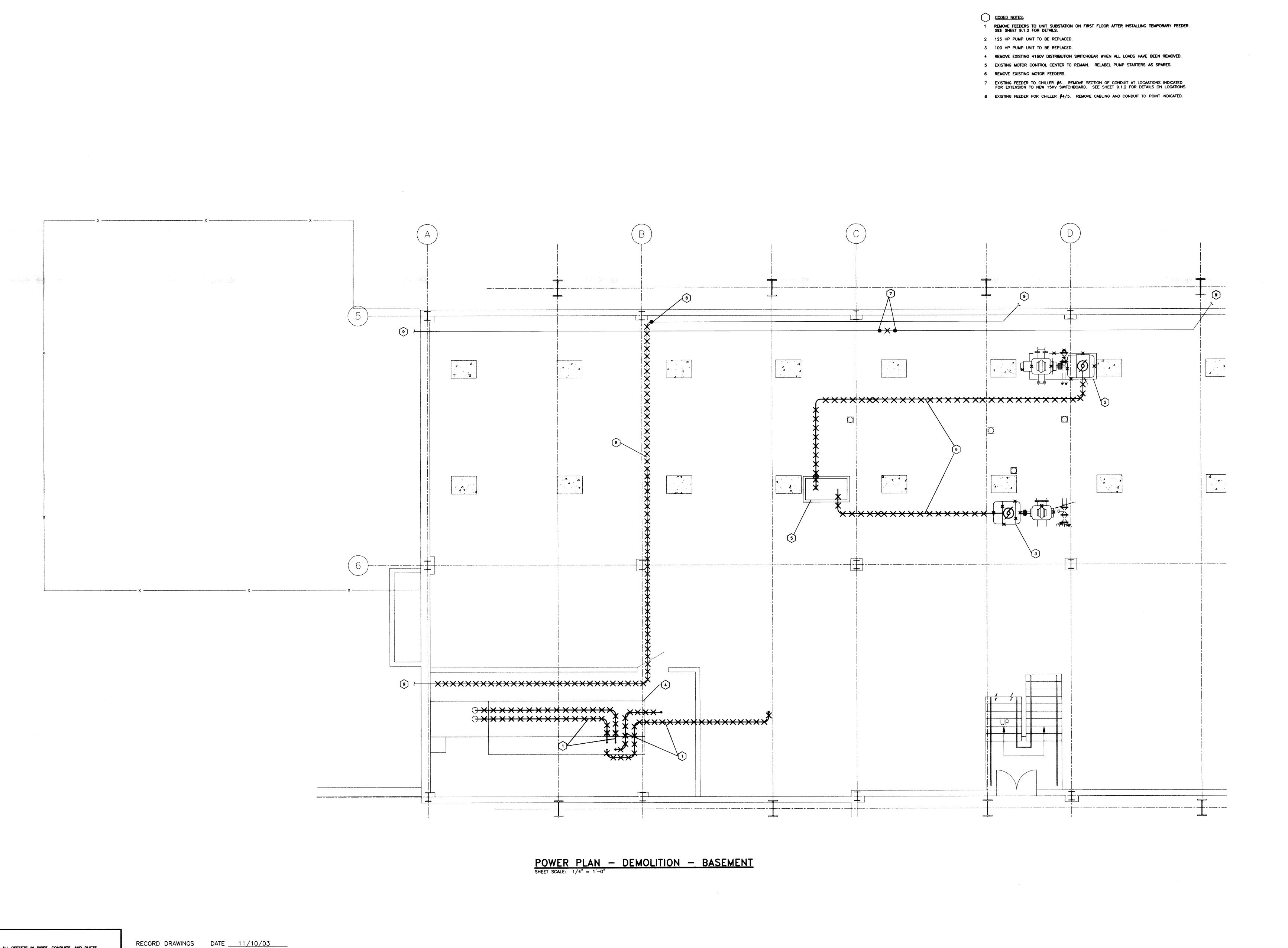




PROJECT TITLE DATE: DECEMBER, 2000 DRAWN BY: WPW CHECKED BY: GGC

DATE
?/?/? ADDENDUM #2
?/?/? ADDENDUM #3
11/13/02 ADDED DUCTB4
4/2/02 FEEDER CHANC

SHEET NUMBER



IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB—CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED. OF VARIOUS TRADES, DETAILS, AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCE AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.

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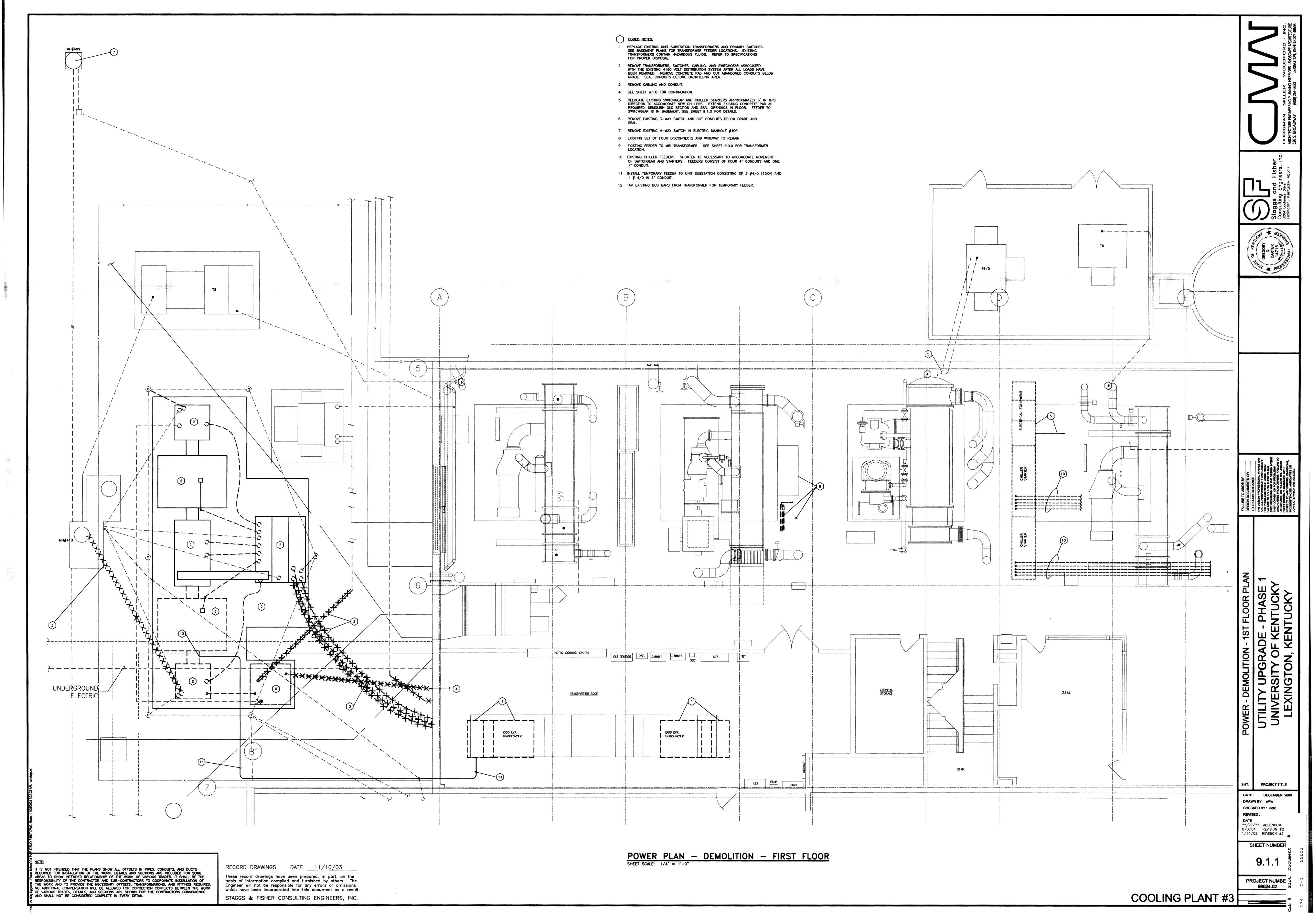
STAGGS & FISHER CONSULTING ENGINEERS, INC.

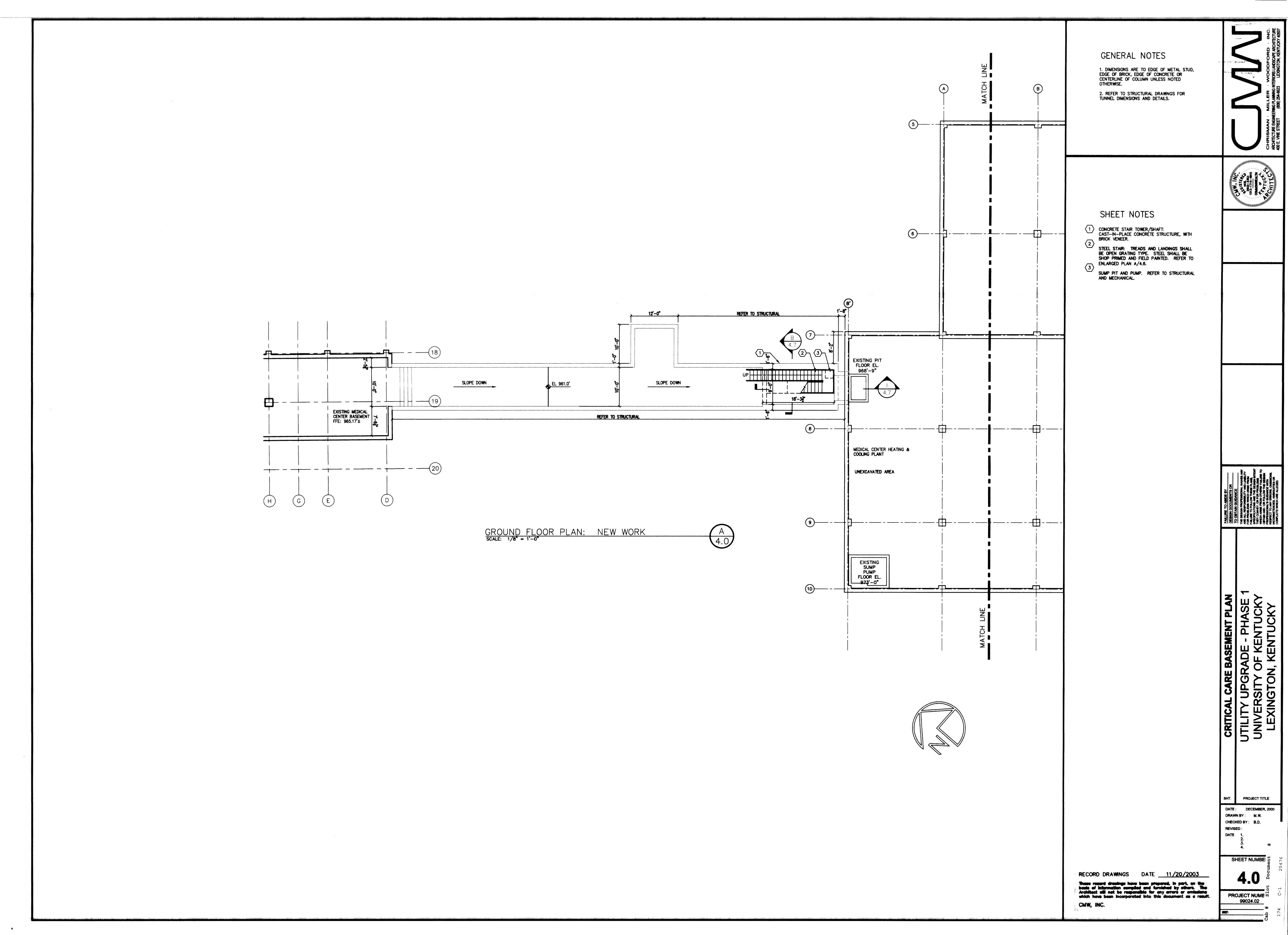
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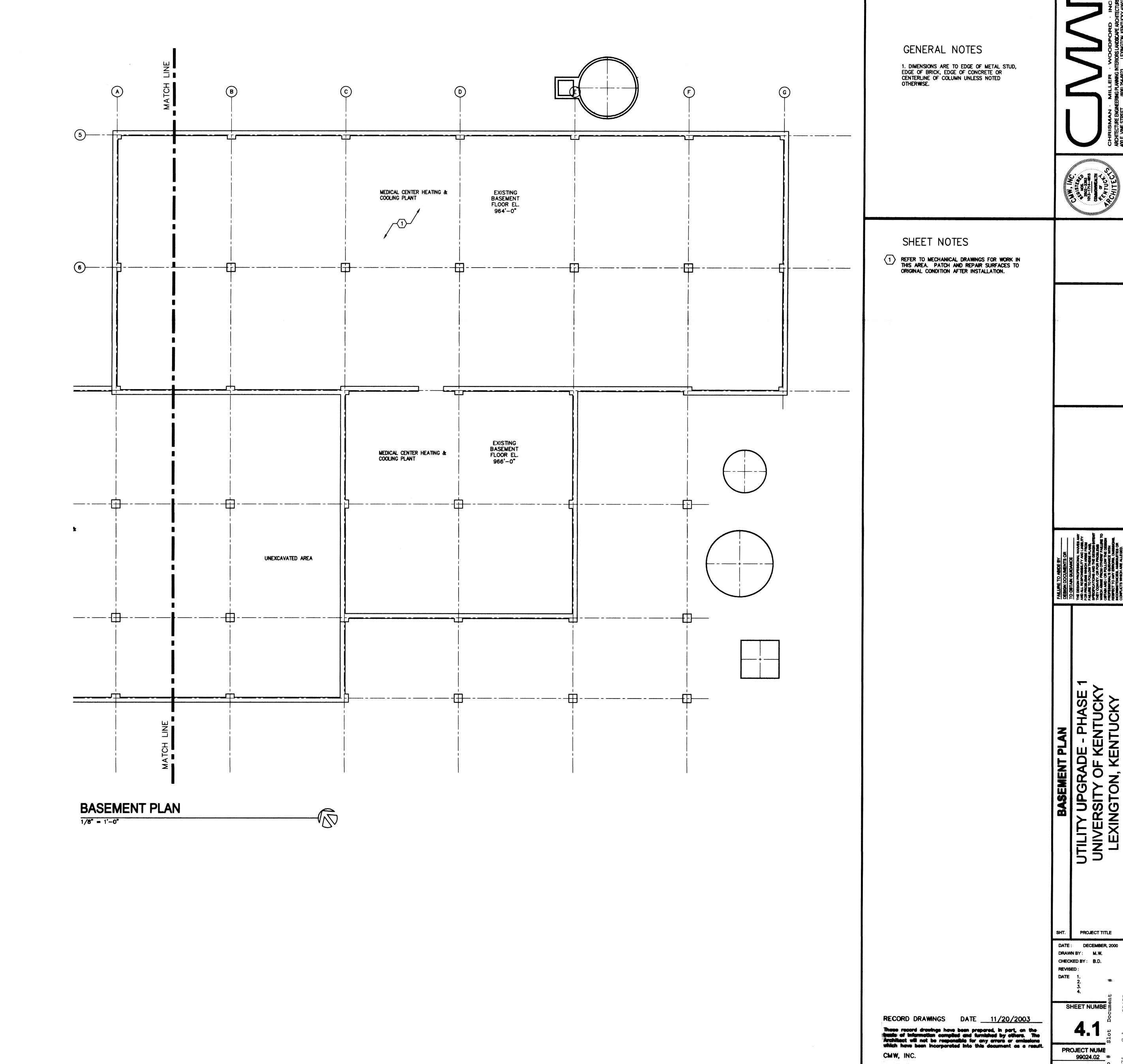
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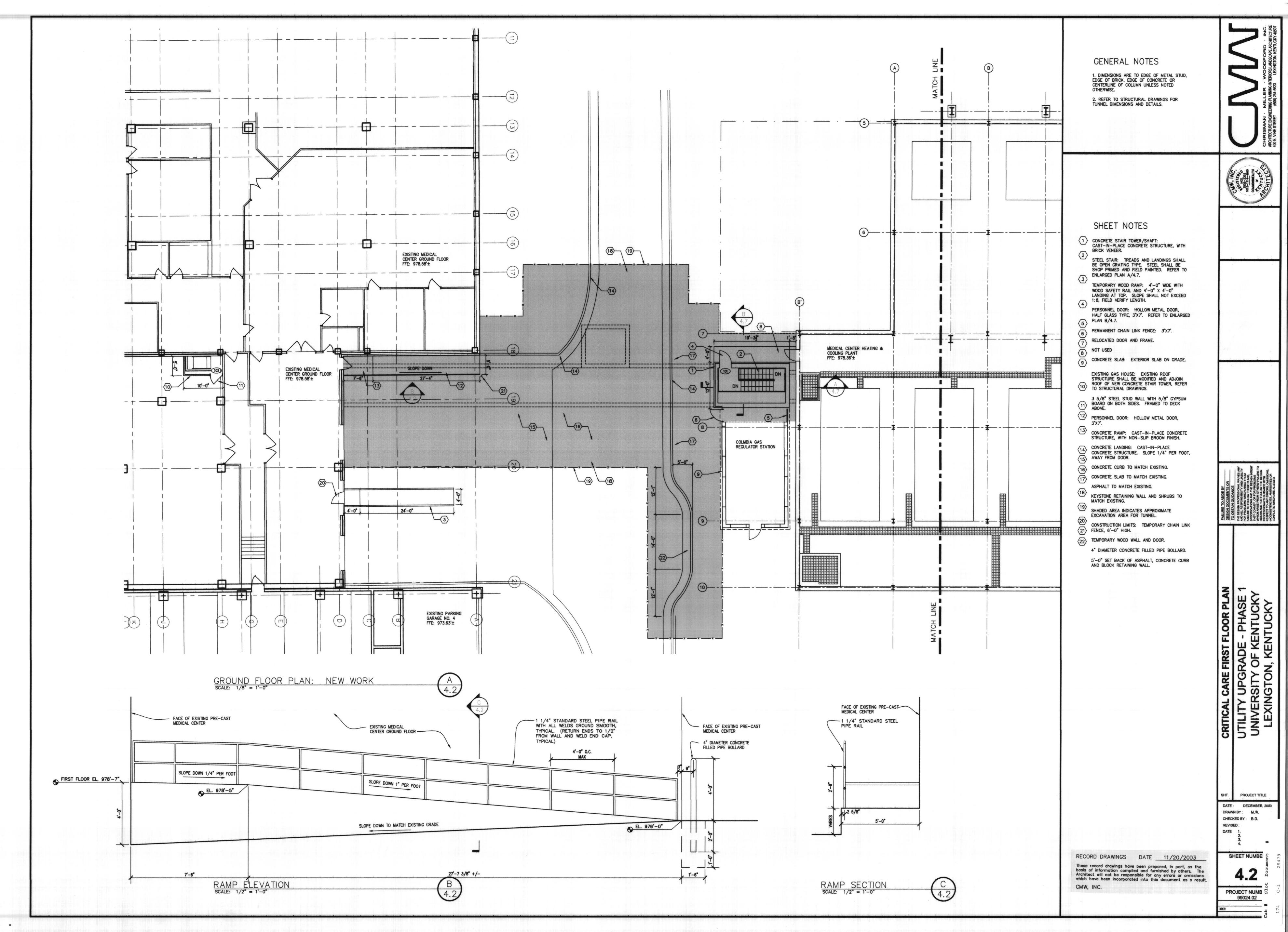
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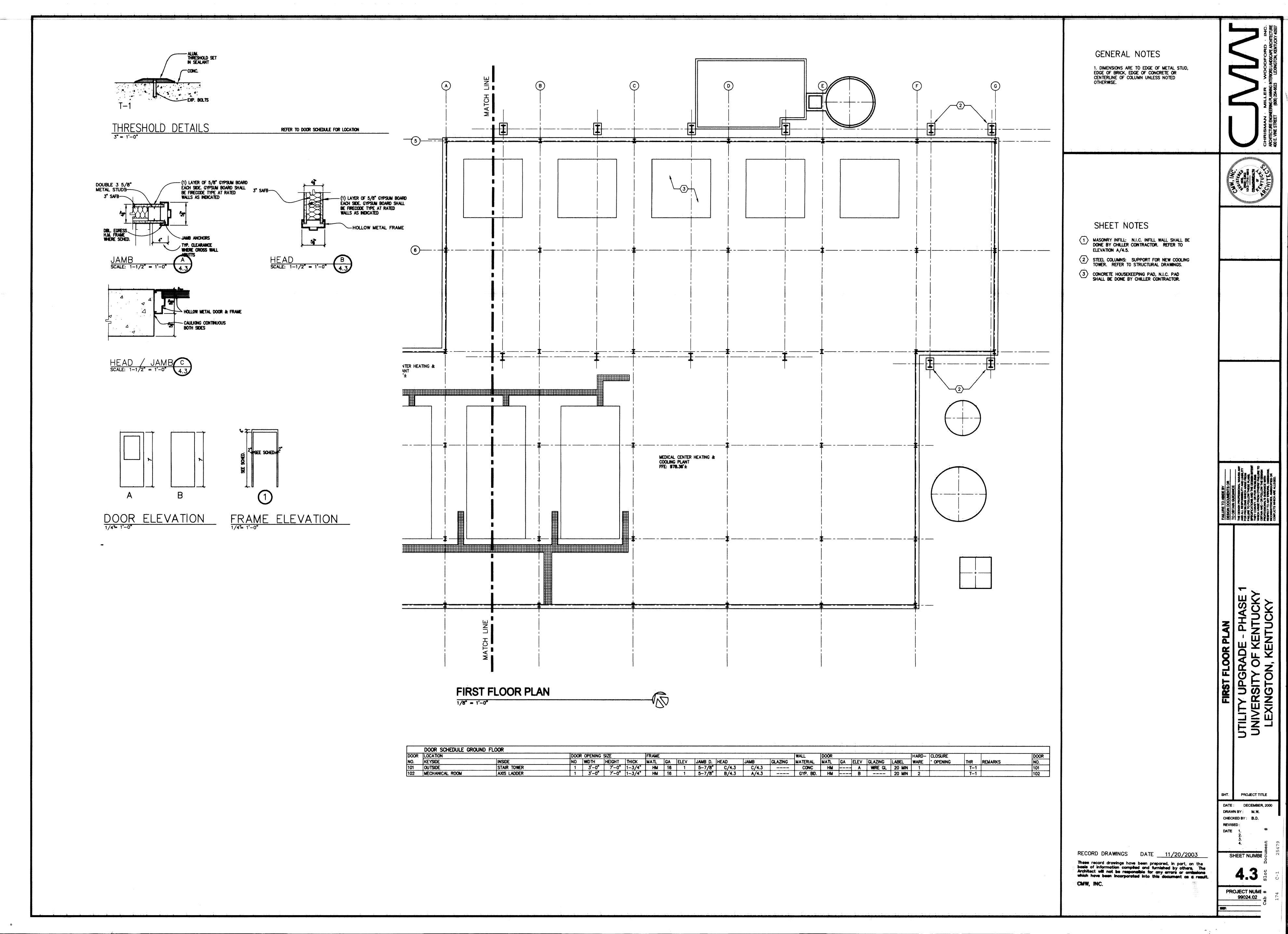
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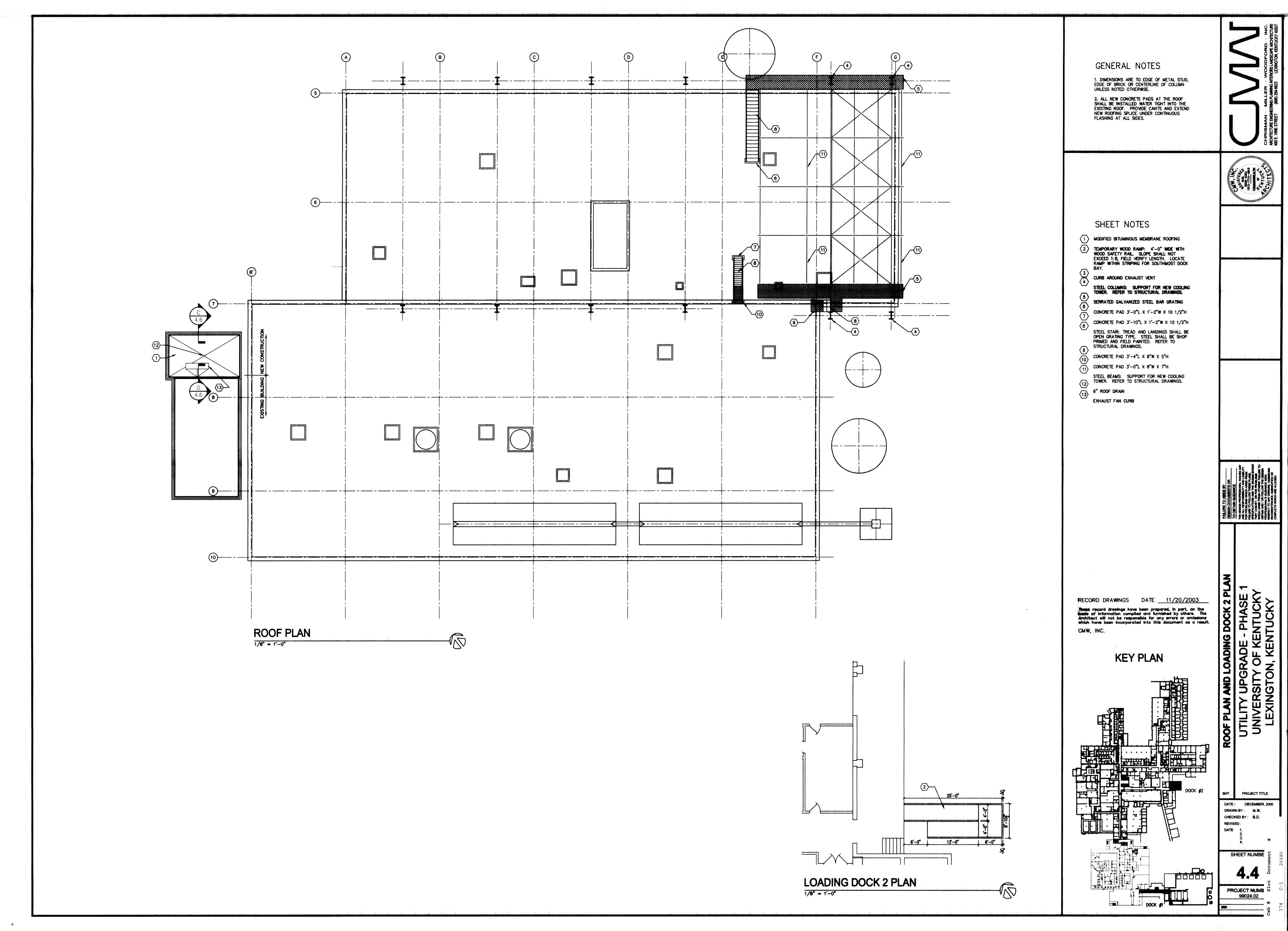


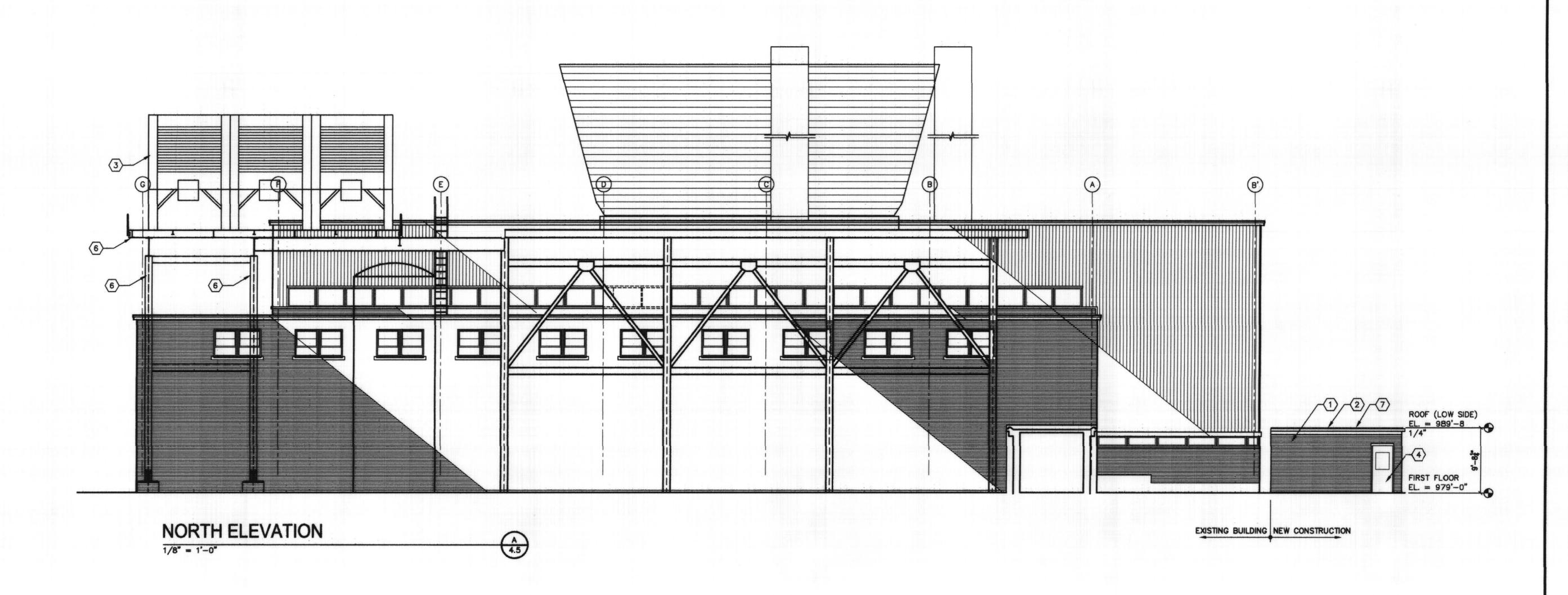


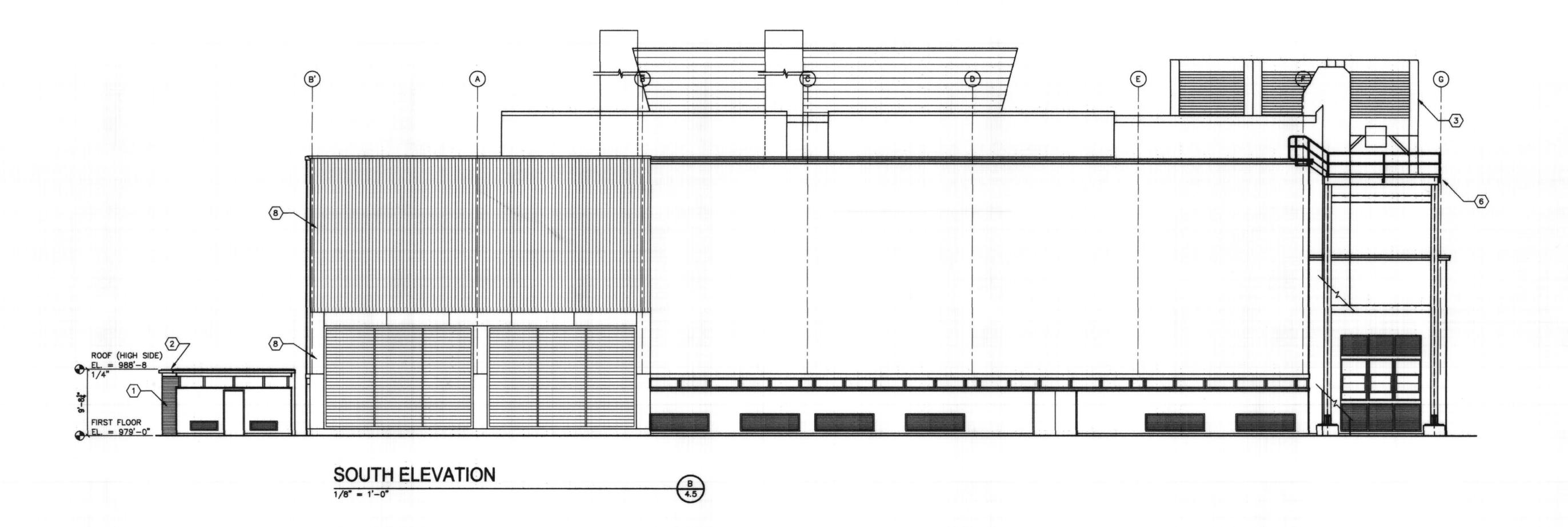












GENERAL NOTES

1. ALL EXTERIOR EXPOSED CONCRETE TO HAVE RUBBED FINISH AND SEALANT.

SHEET NOTES

CONCRETE STAIR TOWER/SHAFT:
CAST-IN-PLACE CONCRETE STRUCTURE. WITH
BRICK VENEER. BRICK SHALL MATCH EXISTING
BRICK AT GAS HOUSE.

CONCRETE ROOF STRUCTURE: MATCH EXISTING
ROOF PROFILE. REFER TO DETAIL C/4.6

NEW COOLER TOWERS

PERSONEL DOOR: HOLLOW METAL DOOR, HALF
GLASS TYPE, 3'X7'. REFER TO ENLARGED PLAN 5 D/4.7

BRICK AND BLOCK INFILL, N.I.C. INFILL WALL
SHALL BE DONE BY CHILLER CONTRACTOR.

STEEL COLUMNS: SUPPORT FOR NEW COOLING TOWER. REFER TO STRUCTURAL DRAWINGS.

MODIFIED BITUMEN ROOFING.

COOLING PLANT EXPANSION N.I.C.

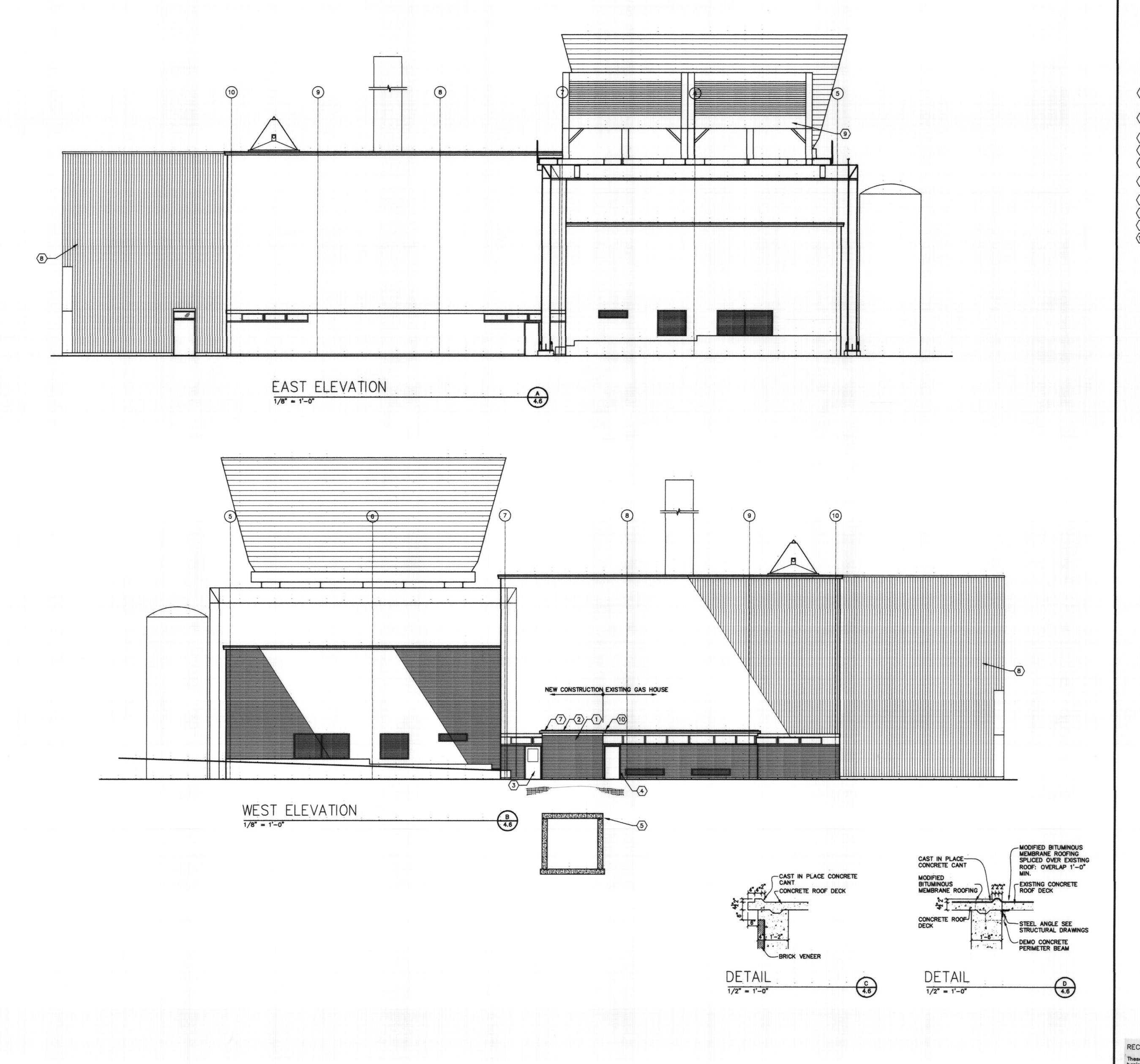
PROJECT TITLE DATE: DECEMBER, 2000

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PROJECT NUME 99024.02 #

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GENERAL NOTES

ALL EXTERIOR EXPOSED CONCRETE TO HAVE RUBBED FINISH AND SEALANT.

SHEET NOTES

CONCRETE STAIR TOWER/SHAFT: CAST-IN-PLACE CONCRETE STRUCTURE, WITH BRICK VENEER. BRICK SHALL MATCH EXISTING BRICK AT GAS HOUSE.

2 CONCRETE ROOF STRUCTURE: MATCH EXISTING ROOF PROFILE. REFER TO DETAIL C/4.6

(3) EXISTING DOOR BEYOND.

4 RELOCATED EXISTING DOOR AND FRAME.

5 CONCRETE TUNNEL: CAST-IN-PLACE CONCRETE STRUCTURE, WITH BENTONITE WATER PROOFING.

6 STEEL COLUMNS: SUPPORT FOR NEW COOLING TOWER. REFER TO STRUCTURAL DRAWINGS.

7 MODIFIED BITUMEN ROOFING. 8 COOLING PLANT EXPANSION N.I.C.

9 NEW COOLING TOWERS

SEE ENLARGED DETAIL D/4.6

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CMW, INC.

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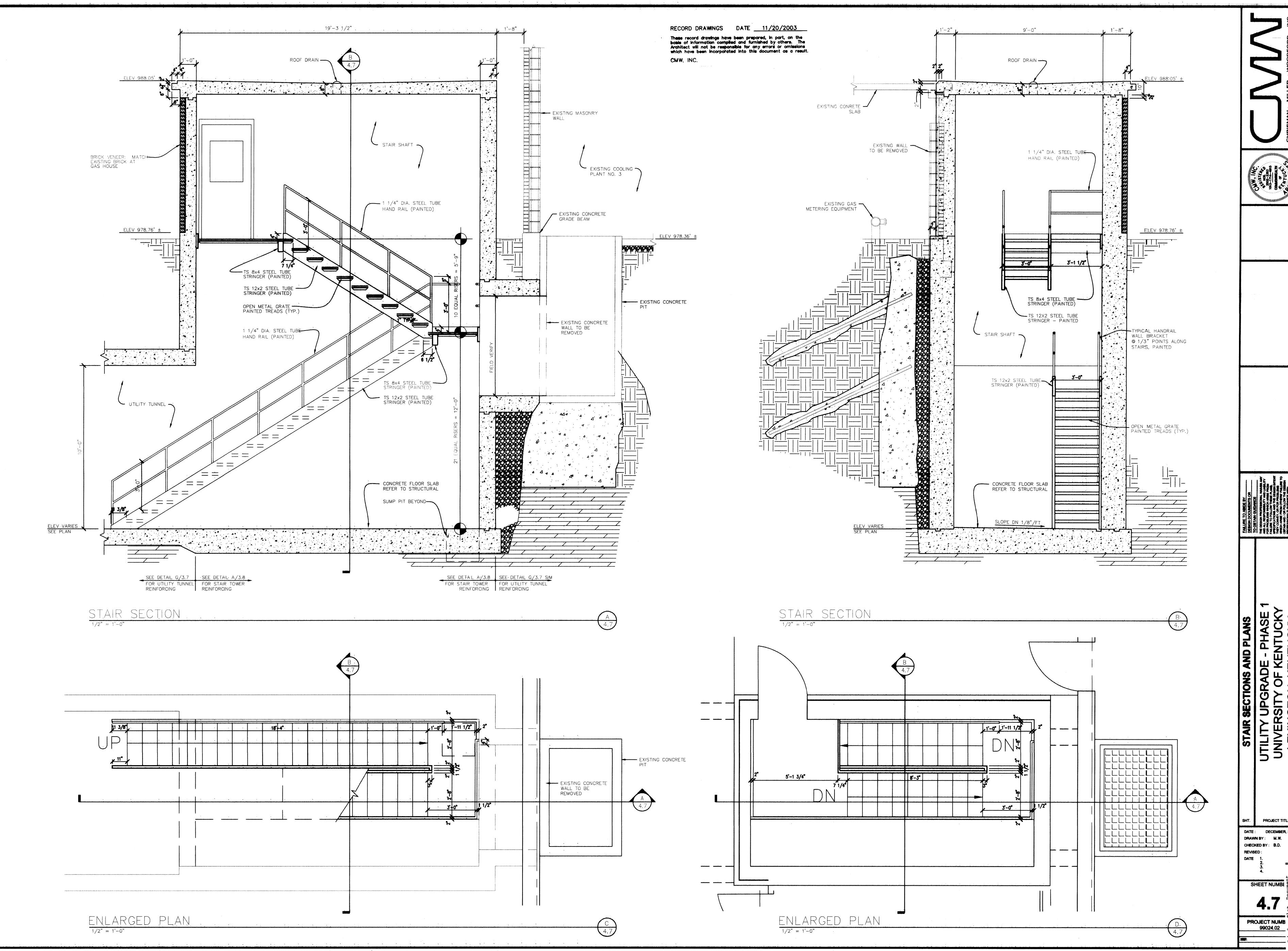
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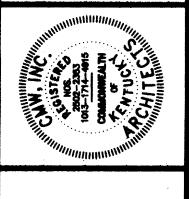
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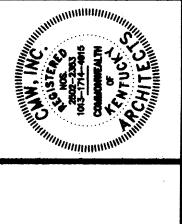
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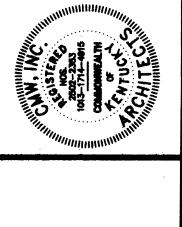
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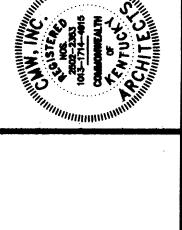
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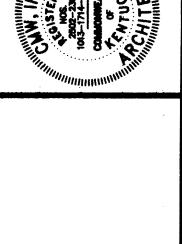


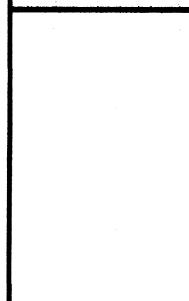


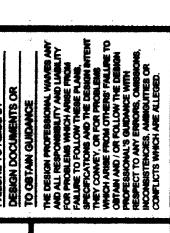






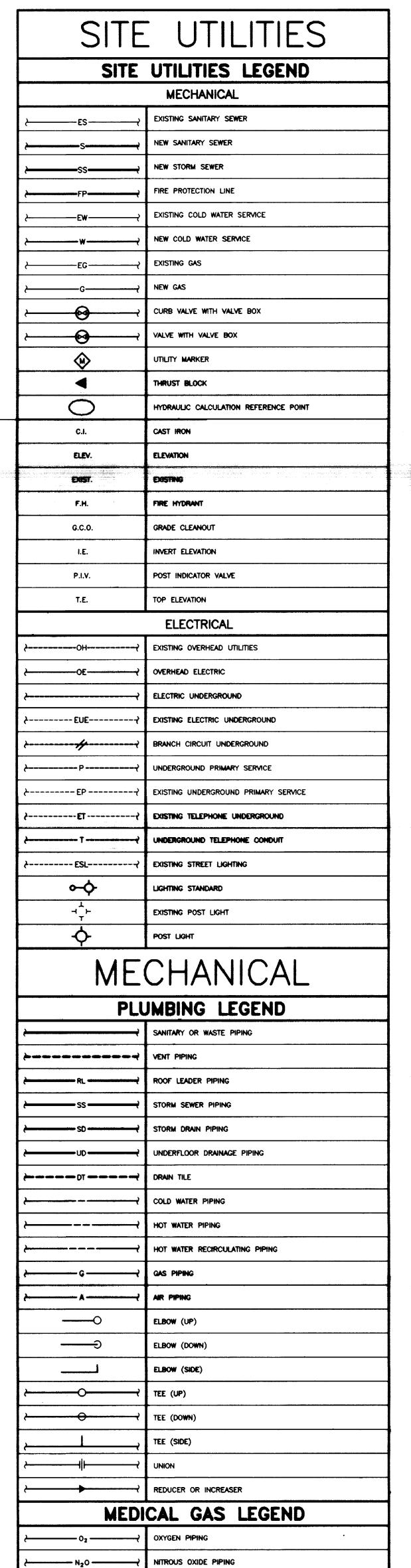






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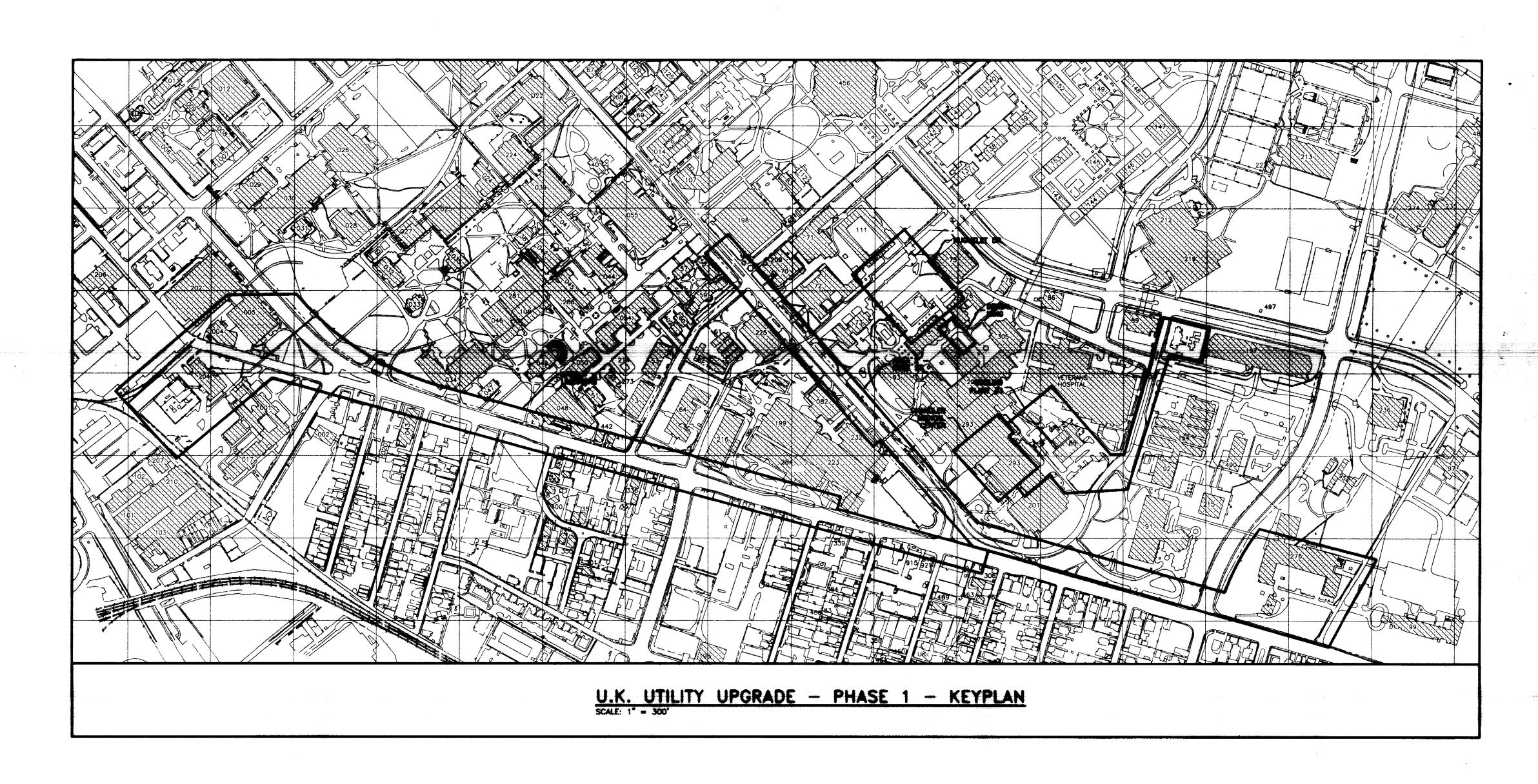
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MEDICAL AIR PIPING

CARBON DIOXIDE SYSTEM

ME	CHANICAL
FIRE F	ROTECTION LEGEND
├ FP 	FIRE PROTECTION MAIN
	SPRINKLER BRANCH PIPING
_	
<u></u>	ELBOW (UP)
	ELBOW (DOWN)
	ELBOW (DOWN)
	ELBOW (SIDE)
, ,	
· · · · · ·	TEE (UP)
\longrightarrow	TEE (DOWN)
	TEE (SIDE)
, ,	CHIPERIACED VALVE
· ~	SUPERVISED VALVE
───	INSPECTOR'S TEST PIPING
P	
	FLOW SWITCH
0	SPRINKLER HEAD (PENDENT)
	SPRINKLER HEAD (UPRIGHT)
•	SPRINKLER HEAD (SIDEWALL)
∢ _E	SPRINKLER HEAD (SIDEWALL - EXTENDED COVERAGE)
	HYDRAULIC CALCULATION REFERENCE POINT
	C. PRO EGGIO
} 	EXISTING PIPING TO BE REMOVED
HPS	HIGH PRESSURE STEAM
1113	
⊱₩PR	HIGH PRESSURE CONDENSATE RETURN
<u>├</u>	MEDIUM PRESSURE STEAM
≿ MPR	MEDIUM PRESSURE CONDENSATE RETURN
	2
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≻−−−− LPR −−−− →	LOW PRESSURE CONDENSATE RETURN
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├ ──₽Ð ─ ──	CONDENSATE PUMP DISCHARGE
۶۷۷	SAFETY RELIEF VALVE VENT
\	VENT
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}—— cws——	CHILLED WATER SUPPLY
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CWS	CHILLED WATER SUPPLY CHILLED WATER RETURN CONDENSATE DRAINAGE FUEL OIL SUPPLY
CWS	CHILLED WATER SUPPLY CHILLED WATER RETURN CONDENSATE DRAINAGE FUEL OIL SUPPLY
CWS	CHILLED WATER SUPPLY CHILLED WATER RETURN CONDENSATE DRAINAGE FUEL OIL SUPPLY FUEL OIL RETURN TEMPERATURE CONTROL PRESSURE SENSOR
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CWS	CHILLED WATER SUPPLY CHILLED WATER RETURN CONDENSATE DRAINAGE FUEL OIL SUPPLY FUEL OIL RETURN TEMPERATURE CONTROL PRESSURE SENSOR
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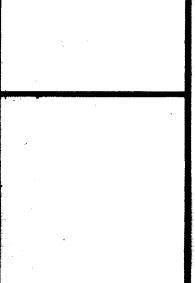
ME	CHANICAL						
A	BBREVIATIONS						
	PLUMBING						
C.I.	CAST IRON						
c.o.	CLEANOUT						
CW	COLD WATER						
FD	FLOOR DRAIN						
HW	HOT WATER						
RD	ROOF DRAIN						
VTR	VENT-THROUGH-ROOF						
VCP	VITRIFIED CLAY PIPE						
H.V.A.C.							
A.A.V.	AUTOMATIC AIR VENT						
A.D.	ACCESS DOOR						
A.F.	ABOVE FLOOR						
E.M.D.	END OF MAIN DRIP						
F.M.S.	FLOW MEASURING STATION						
MAV.	MANUAL AIR VENT						
N.C.	NORMALLY CLOSED						
N.O.	NORMALLY OPEN						
T.A.V.	THERMOSTATIC AIR VENT						
T.C.P.	TEMPERATURE CONTROL PANEL						
V.B.	VACUUM BREAKER						
V.F.C.	VARIABLE FREQUENCY CONTROLLER						

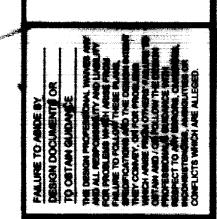
EL	ECTRICAL
CONDU	TS, LIGHTING, ETC.
≻	CONDUIT BELOW FLOOR
·	CONDUIT ABOVE FLOOR
——	WIREWAY OR DUCT BANK
>> DC	D.C. CIRCUIT IN CONDUIT (MINIMUM #10 WIRE)
	CEILING OUTLET FOR LIGHT FIXTURE
•	ENTRANCE POINT OF CONDUIT THROUGH FLOOR
-	PANELBOARD OR TERMINAL CABINET
□ Je	JUNCTION BOX
	DISCONNECT SWITCH
<u> </u>	SEE NOTE 1 THIS SHEET
RECEPTAC	SEE NOTE 1 THIS SHEET CLES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE)
RECEPTAC	CLES (BOTTOM 16" A.F.F.)
RECEPTAC	LES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE)
RECEPTAC GRI WP	CLES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE) GROUND FAULT INTERRUPTING OUTLET WEATHERPROOF OUTLET WALL OUTLET (240V., 1-PHASE) (RATING AS NOTED)
RECEPTAC GFI WALL SW	CLES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE) GROUND FAULT INTERRUPTING OUTLET WEATHERPROOF OUTLET
RECEPTAC GFI WALL SW	CLES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE) GROUND FAULT INTERRUPTING OUTLET WEATHERPROOF OUTLET WALL OUTLET (240V., 1-PHASE) (RATING AS NOTED) TCHES (BOTTOM 44" A.F.F.)
RECEPTAC GFI WALL SW	CLES (BOTTOM 16" A.F.F.) (EXCEPT AS NOTED OTHERWISE) GROUND FAULT INTERRUPTING OUTLET WEATHERPROOF OUTLET WALL OUTLET (240V., 1-PHASE) (RATING AS NOTED) TCHES (BOTTOM 44" A.F.F.) (EXCEPT AS NOTED OTHERWISE)
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LL	ECTRICAL	
ELECTR	ICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR	
C.	CONDUIT	
F.A.	FIRE ALARM	
G.F.I.	GROUND FAULT INTERRUPTER	
IG .	ISOLATED GROUND	
JB	JUNCTION BOX	
T.T.C.	TELEPHONE TERMINAL CABINET	
Ŕ	DEVICE OR OUTLET TO BE REMOVED	
W .	WIRE	
F.	FLUSH	
P.	PEDESTAL	
NOTE: ALL DASHED DEVICES, OUTLETS OTHERWISE NOTED.	S, ETC., ARE EXISTING TO REMAIN UNLESS	
OTTERWISE NOTES.		
NOTE: THE SYMBOLS LISTED THE CONTRACT DRAWIN	ON THIS SHEET MAY NOT ALL BE USED ON IGS, HOWEVER, WHEREVER A SYMBOL IS USED, URNISHED AND INSTALLED.	
NOTE: THE SYMBOLS LISTED THE CONTRACT DRAWIN THE ITEM SHALL BE F	IGS, HOWEVER, WHEREVER A SYMBOL IS USED,	
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Inc. CHRISMAN MILLER WOODFORD INC. ARCHITECTURE ENGNEERING PLANNING INTERIORS LANDSCAPE ARCHITECTURE







UPGRADE - PHASE 1
SITY OF KENTUCKY

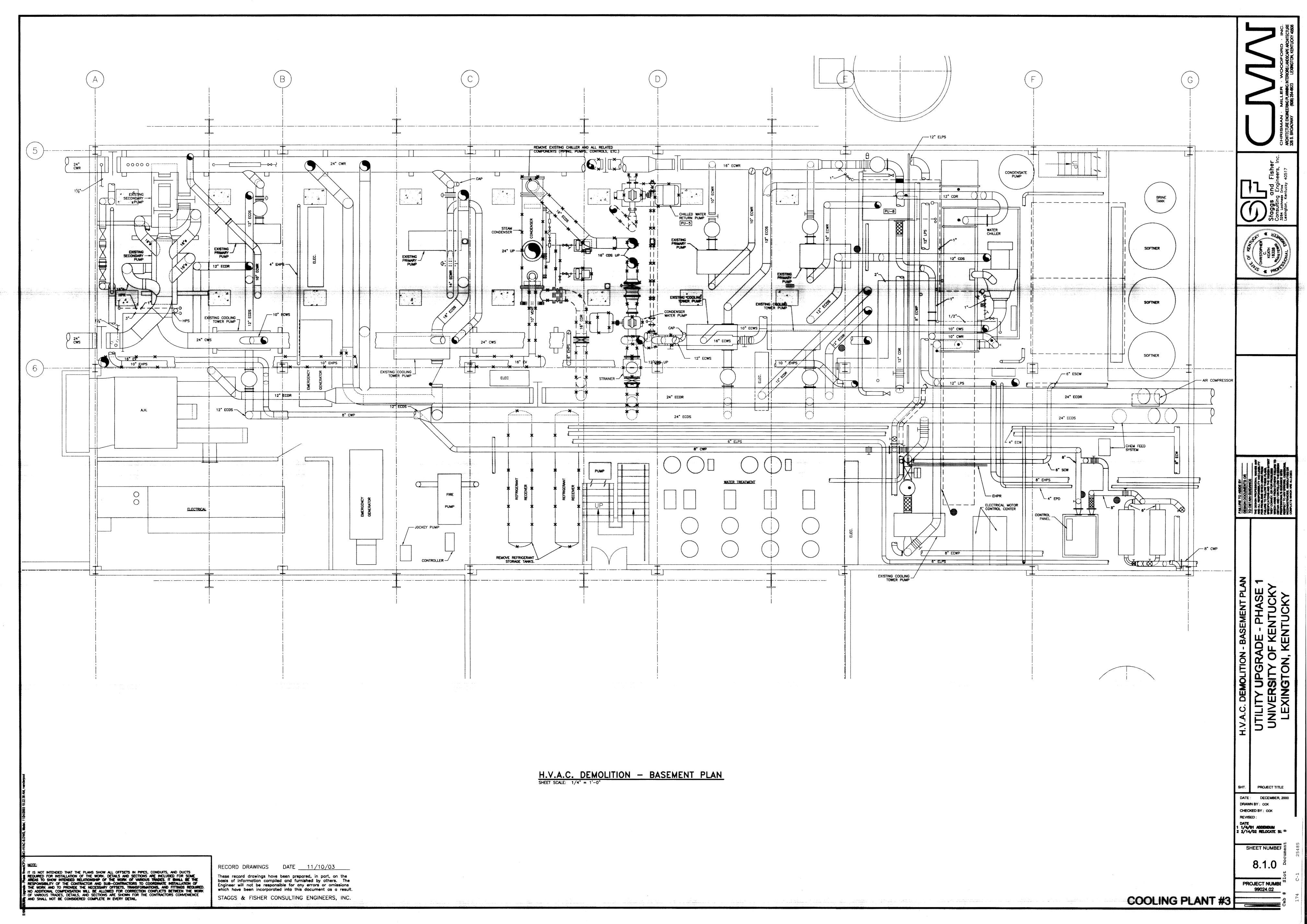
UTILITY UPGRA UNIVERSITY OF

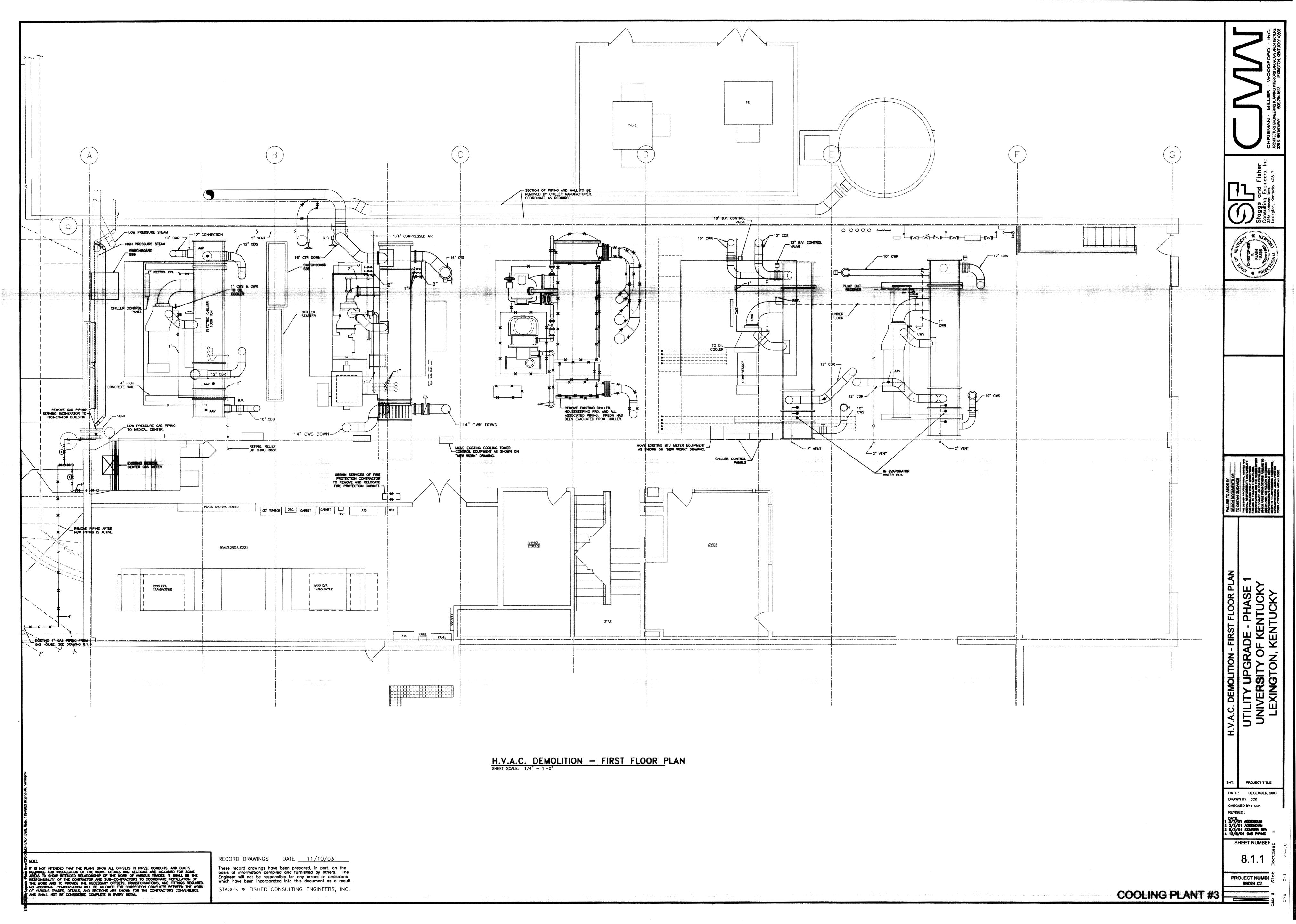
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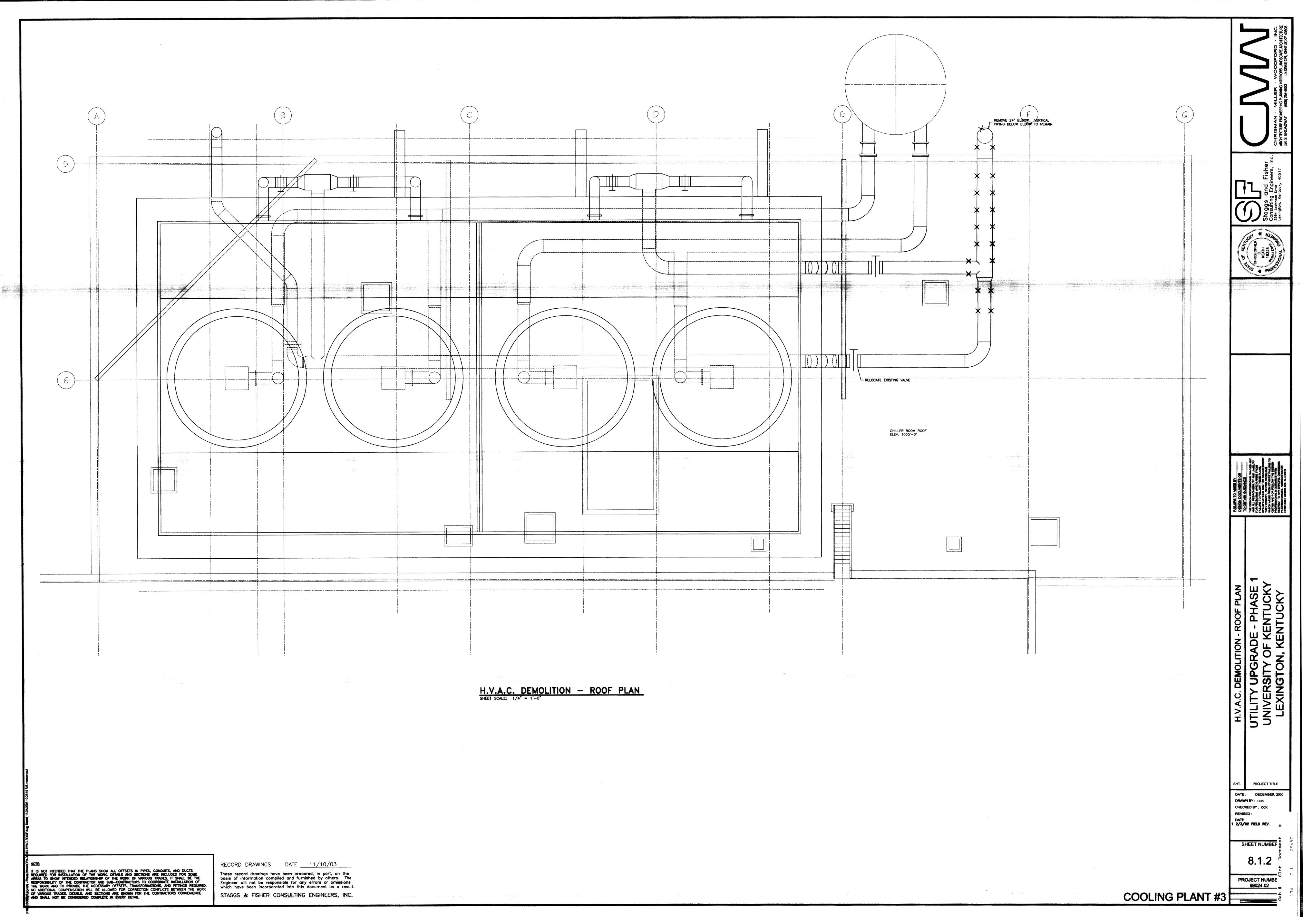
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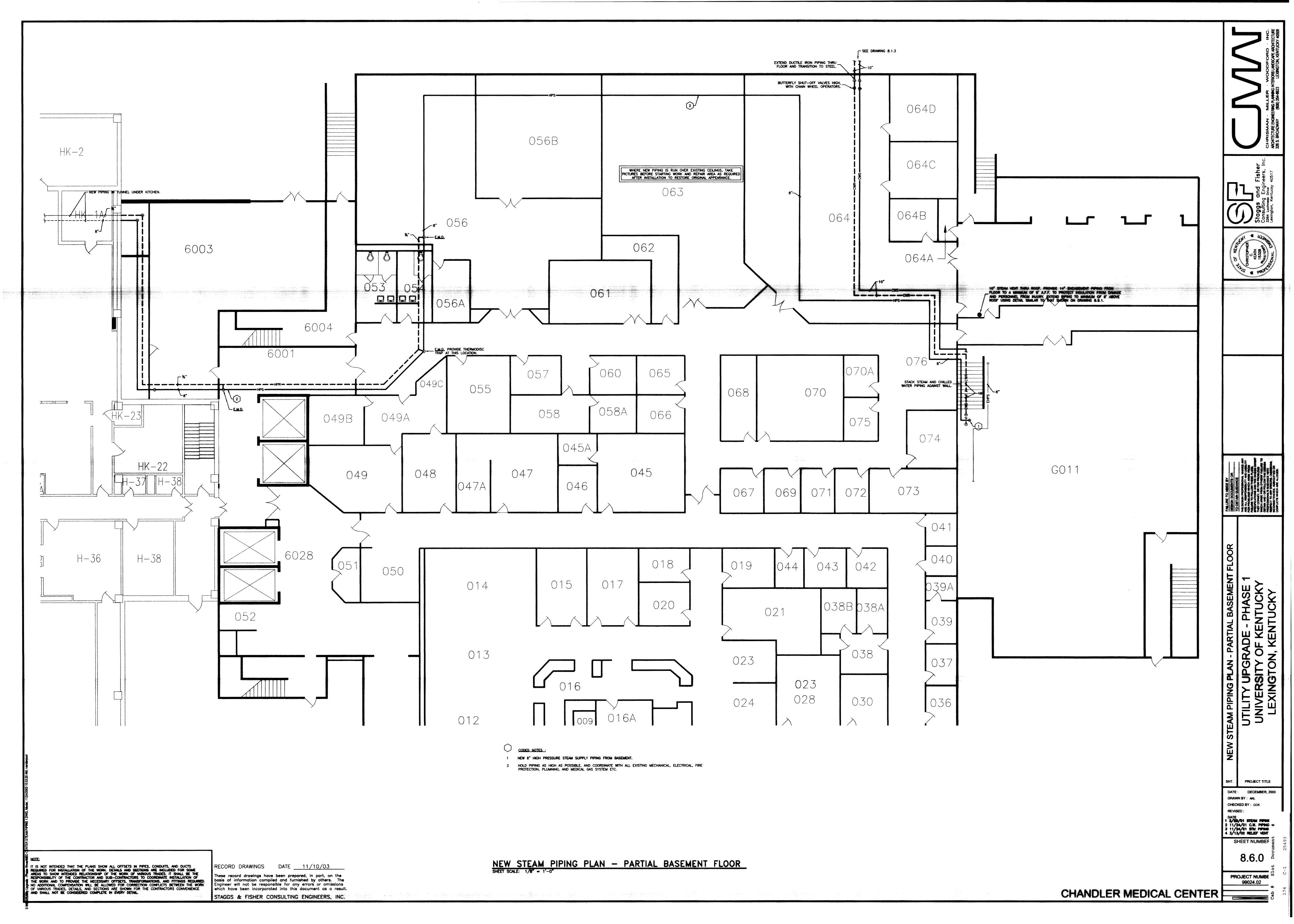
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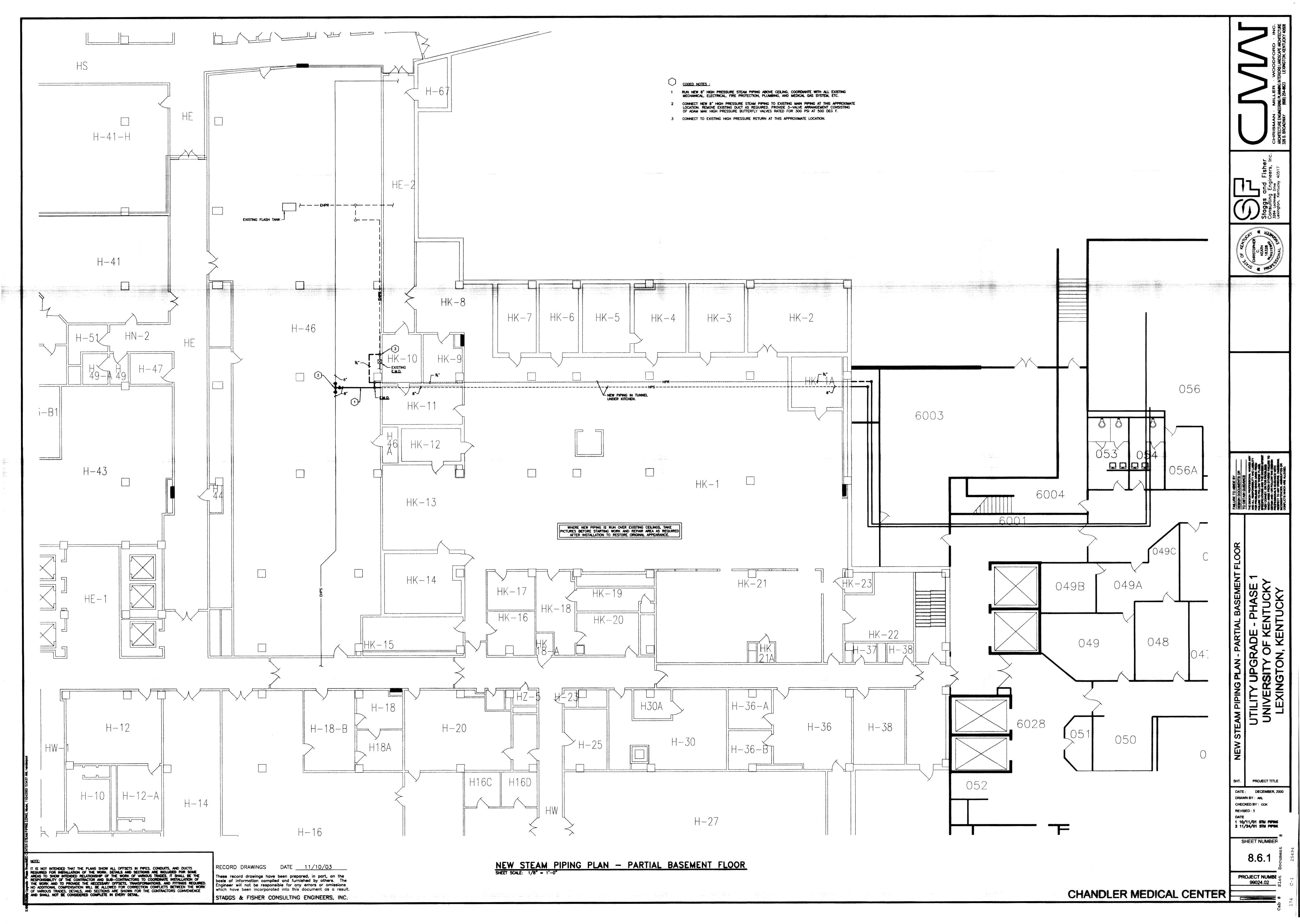
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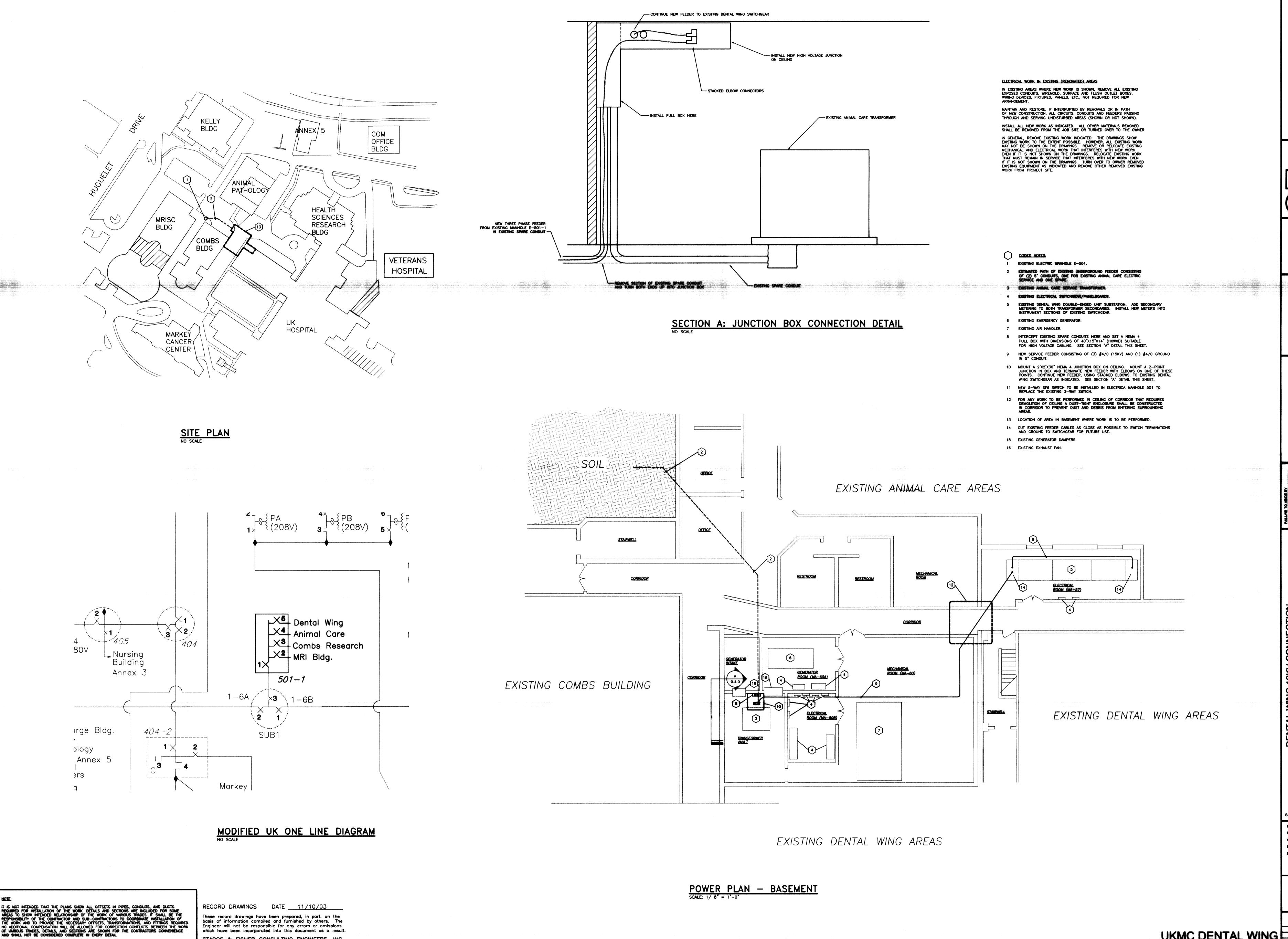












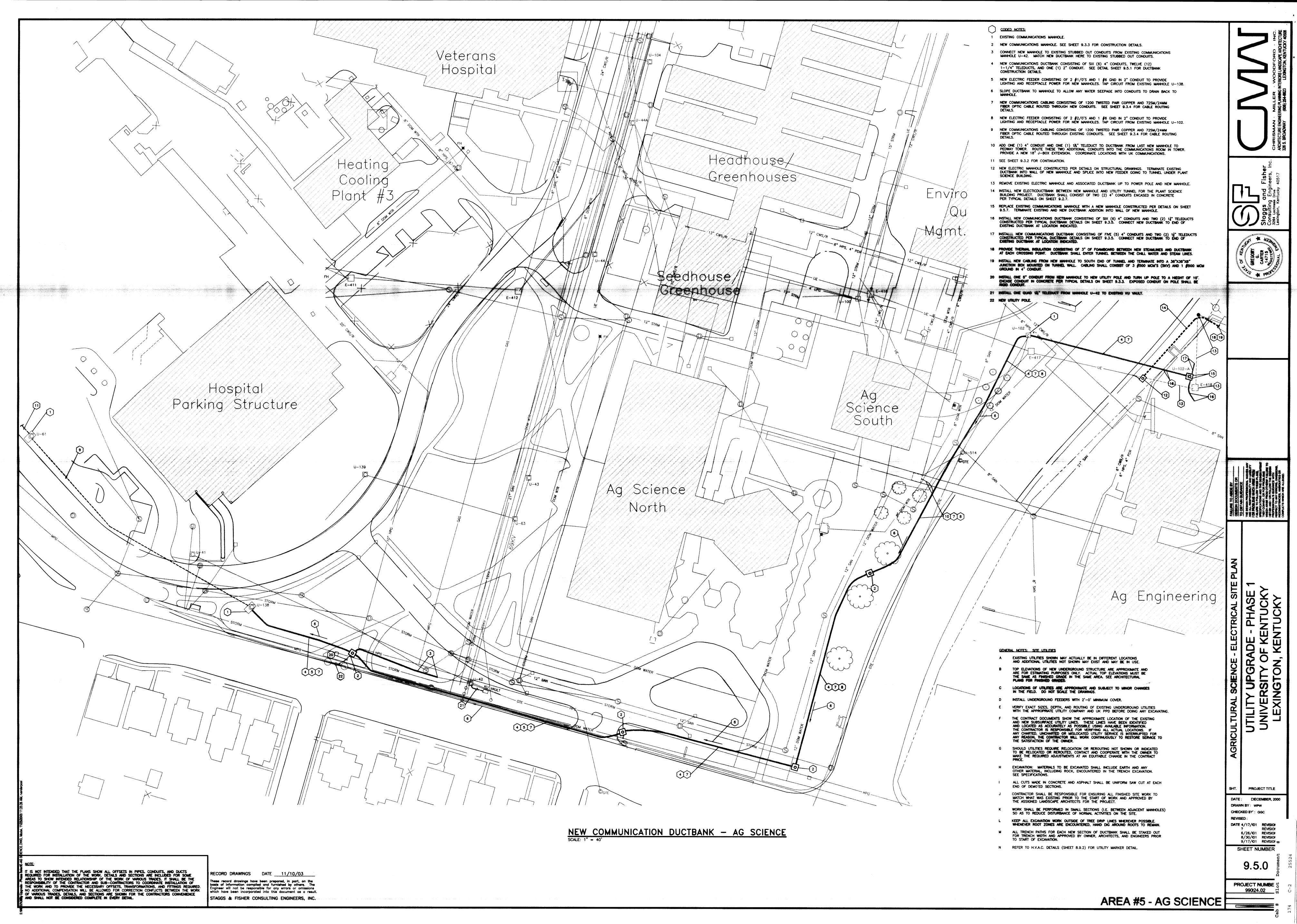
STAGGS & FISHER CONSULTING ENGINEERS, INC.

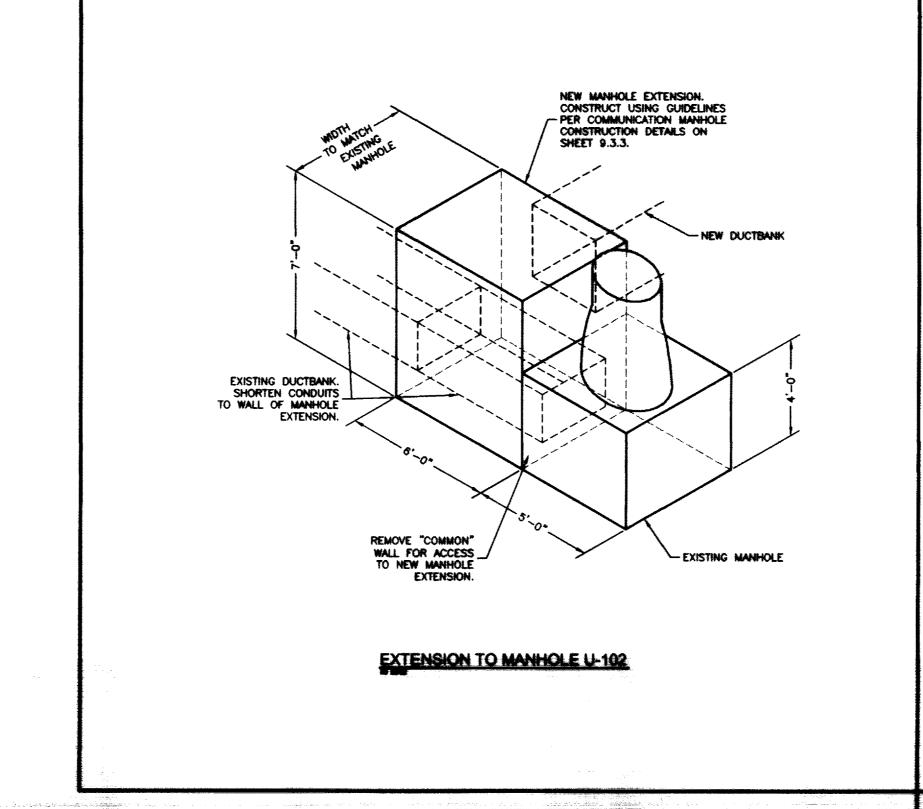
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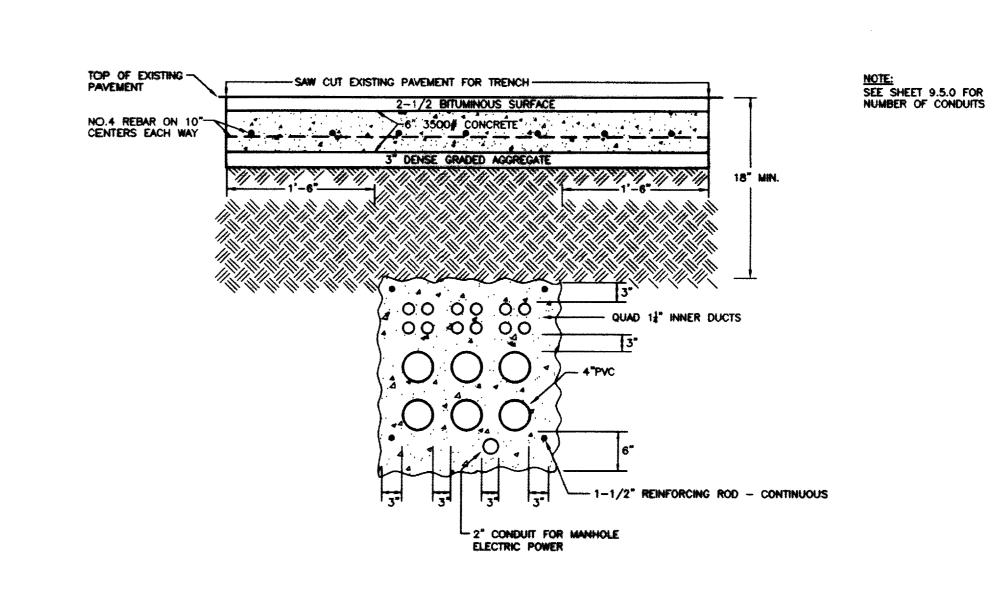
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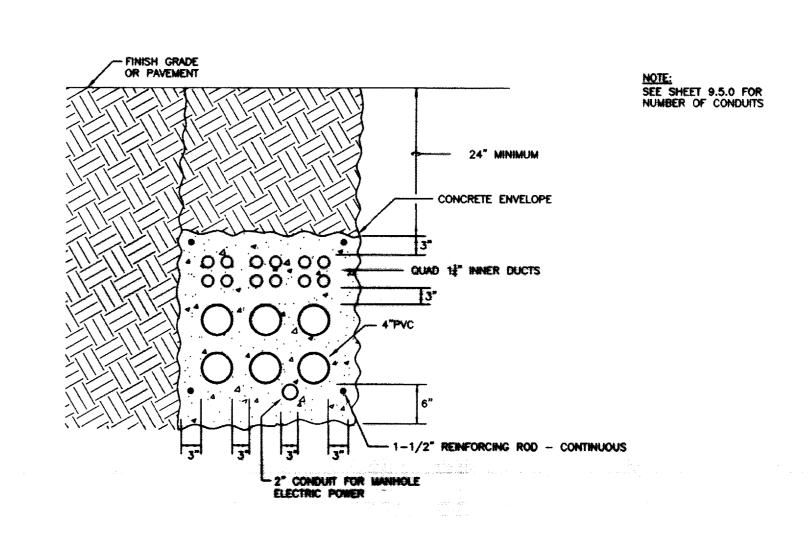
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TYPICAL INSTALLATION DETAIL OF DUCTBANK UNDER ROADWAY



TYPICAL COMMUNICATION CONDUIT INSTALLATION DETAIL

NO SCALE

PROJECT TITLE DATE: DECEMBER, 2000 DRAWN BY: WPW

SHEET NUMBER

PROJECT NUMBER 50 99024.02

IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS
REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME
AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE
RESPONSIBILITY OF THE CONTRACTOR AND SUB—CONTRACTORS TO GOODDINATE INSTALLATION OF
THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED.
NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTION CONFLICTS BETWEEN THE WORK
OF VARIOUS TRADES, DETAILS, AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCE
AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.

RECORD DRAWINGS DATE 11/10/03 These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. The Engineer will not be responsible for any errors or omissions which have been incorporated into this document as a result. STAGGS & FISHER CONSULTING ENGINEERS, INC.

CERTIFICATE
OF
SUBSTANTIAL COMPLETION & BENEFICIAL OCCUPANCY
(All Data ()n This Sheet Must Be Typed)

PROJECT NUMBER:

Equipment Inventory

1949.0

PROJECT NAME: UTILITY UPGRADE - PHASE I

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Page 1	3)
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PROJECT LOCATION: HOPS	SITAL DRIVE			
PROJECT GROSS SQ. FT. 150	000 (PLANT ONLY)	CONSTRUCTION	COST: DETERMINED AT COMPLET	 FION
	000 ADDITION			
				·
OTHER SYSTEMS:	•	•		
SPRINKLER COMPANY:				
ADDRESS:			PHONE:	
ROOF CONSTRUCTION:	*. `\		•	
FLOOR CONSTRUCTION:	Service Control of the Control of th	INTERIOR WALLS:		
A list of items to be completed or of to include any items on such list do Contract Documents. STAGGS & FISHER		the Contractor to complete	tative, is appended hereto. The fail all Work in accordance with the	иге
Consultant	.By	1	Date	
ENGLISH PAVING Contractor			lays from the above Date of Substar $\frac{7/23/02}{\text{Date}}$	
The Owner agrees to assume the responding thereof beginning on the above year-end inspection is hereby s	sponsibility of the operation, magnetic of Substant	intenance, utilities, and insu	rance of the Work or designated	
•			· \	
INIVERSITY OF KENTUCKY	Project Manager		Pate	_
his action has been acknowledged		of		
2: Director of Capital Project Man CPMD Project Manager Sector Representative Consultant Contractor	nagement		(Sector)	
Beneficial Occupancy File Business Office Risk Management Physical Plant Division		Senior Acc	countant Date	;