CENTRAL HEATING PLANT BOILER REPLACEMENT UNIVERSITY OF KENTUCKY LEXINGTON, KY



SHEET LIST:

C.0	COV
S-1	STR
S-2	STR
S-3	STR
S-4	STR
S-5	STR
AD100	ARC
A100	PLA
A200	DET
ME1	MEC
H1.1D	H.V./
H1.2D	H.V./
H1.3D	H.V./
H1.1	H.V./
H1.2	H.V./
H1.3	H.V./
H2.1	H.V./
H3.1	H.V./
H4.1	H.V./
H5.1	BOIL
H5.2	BOIL
H5.3	BOIL
H5.4	BOIL
H5.5	BOIL
H5.6	BOIL
ES1.1	ELEC
E1.1	ELEC
E1.2	ELEC
E2.0	ELEC

/ER SHEET RUCTURAL GENERAL NOTES **UCTURAL GROUND FLOOR / FOUNDATION PLAN** RUCTURAL FIRST & SECOND TIER FRAMING PLANS RUCTURAL ROOF FRAMING PLAN RUCTURAL FRAMING DETAILS HITECTURAL DEMO PLANS NS, ELEVATIONS, SECTIONS AND SCHEDULES **TAILS** CH/ELEC LEGEND A.C. PLAN LOWER LEVEL DEMOLITION A.C. PLAN INTERMEDIATE LEVEL DEMOLITION A.C. PLAN UPPER LEVEL DEMOLITION A.C. PLAN LOWER LEVEL NEW WORK A.C. PLAN INTERMEDIATE LEVEL NEW WORK A.C. PLAN UPPER LEVEL NEW WORK A.C. AND FUEL OIL DIAGRAM A.C. ENLARGED SECTIONS .A.C. DETAILS ER DETAILS ER DETAILS ER DETAILS ER DETAILS ER DETAILS ER DETAILS CTRICAL PLAN SITE NEW WORK CTRICAL PLAN LOWER LEVEL NEW WORK CTRICAL PLAN UPPER LEVEL NEW WORK

CTRICAL RISER

RECORD DRAWINGS DATE

10/17/2017

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GENERAL NOTES

DESIGN LIVE LOADS FLOOR LIVE LOAD

CATWALKS		40 PSF
FIRST FLOOR		100 PSF
ROOF LIVE LOAD	20	PSF MIN
ROOF SNOW LOAD (PER ASCE 7-10)		
GROUND SNOW LOAD	. Pg =	15 PSF
IMPORTANCE FACTOR	ls =	1.1
SNOW EXPOSURE FACTOR	. Ce =	1.0
THERMAL FACTOR	. Ct =	1.0
RAIN ON SNOW SURCHARGE	Pr =	5 PSF
FLAT-ROOF SNOW LOAD* (Pf = 0.7CeCtIsPg + Pr ≥ (I Pg))	. Pf =	16.5 PSF
SLOPED-ROOF SNOW LOAD* (Ps = Cs Pf)	Ps =	16.5 PSF
*(INCREASE FOR DRIFTING PER ASCE 7-10, SECTION 7.7)		
WIND LOAD (PER ASCE 7-10)		
ULTIMATE DESIGN WIND SPEED	VULT=	120 MPH
NOMINAL DESIGN WIND SPEED	VASD=	93 MPH
RISK CATEGORY	CATE	GORY III

EXPOSURE B GC_{pi} = ± 0.18

COMPONE	NTS & CLADDI	NG EXTERNAL	PRESSURE ULT	IMATE (LRFD) LC	ADS (PSF)
EFFECTIVE		LOG	CATION PER AS	CE 7-10:	
WIND AREA (SQ FT)	1	2	3	4	5
<10	16.0	25.3	25.3	25.3	25.3
≥10	-27.7	-46.4	-46.4	-27.4	-33.8
20	16.0	23.8	23.8	25.3	25.3
20	-26.7	-39.9	-39.9	-27.4	-33.8
50	16.0	22.7	22.7	22.7	22.7
50	-26.0	-34.9	-34.9	-24.8	-28.5
100	16.0	21.6	21.6	20.5	20.5
100	-25.3	-30.0	-30.0	-22.6	-24.1
500				19.0	19.0
500				-21.1	-21.1

WIND EXPOSURE ...

INTERNAL PRESSURE COEFFICIENT ...

1. WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE

- SURFACES, RESPECTIVELY 4. FOR HIP ROOFS WITH $\Theta \leq 25^\circ$, ZONE 3 SHALL BE TREATED AS ZONE 2.
- . EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES,
- DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
- SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE. NOTATION:
- a: 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER. BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT. h: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES Θ < 10% *Θ*: ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.



<u>GABLE ROOF (7° < $\theta \le 45^{\circ}$)</u>

FAYETTE / KENTUCKY

CATEGORY III

EARTHQUAKE DESIGN DATA
COUNTY / STATE
RISK CATEGORY

IMPORTANCE FACTOR	. le	. =	1.
MAPPED SHORT PERIOD RESPONSE ACCELERATION	. Ss	;= 0.	. 1
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	. S1	= 0.	.0
SITE CLASS (ASSUMED)		. CLAS	38
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	Sds	;= 0	.2
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	Sd1	= 0.	.1
SEISMIC DESIGN CATEGORY	CA	TEGOR	Y
<u>)ESIGN STRESSES</u> CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 D	AYS'		
INTERIOR SLABS ON GRADE AND CONCRETE ON METAL DECK	f 'c =	4,000	Ē
REINFORCING BARS (ASTM A615 GRADE 60)	fy =	60,000	F
VIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	fy =	50,000	F
CHANNELS, ANGLES, PLATES AND BARS (ASTM A36)	fy =	36,000	F

CONCRE	ΤE	(S1	RE	IGT
	LN 17			01

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 20 DA	ATO.	
INTERIOR SLABS ON GRADE AND CONCRETE ON METAL DECK	f 'c =	4,000 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	fy =	60,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	fy =	50,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A36)	fy =	36,000 PSI
STEEL ROOF DECK (ASTM A653)	fy =	33,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES		
(ASTM A500 GRADE B)	fy =	46,000 PSI
STRUCTURAL STEEL PIPE (ASTM A53 GRADE B)	fy =	35,000 PSI
MASONRY ASSEMBLY COMPRESSIVE STRENGTH	f'm =	1,500 PSI
CONCRETE MASONRY UNIT STRENGTH	fm =	1,900 PSI
TYPE S MORTAR STRENGTH	fm =	1,800 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE		
STRENGTH IN 28 DAYS	fm =	2,000 PSI

<u>GENERAL</u>

- 1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS. 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.
- 3. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER.
- TO PROPERLY CONSTRUCT THE BUILDING. 5. THE CONTRACTOR SHALL BE SOLEY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY OF THE STRUCTURE, NEW OR EXISTING, TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE
- CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. 6. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION

7. NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, ETC.) ARE TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NON-STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND DESIGN INTENT ONLY. NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL, ELECTRICAL AND PLUMBING DRAWINGS.

- 8. ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE IDEALIZED ELEVATIONS BASED ON DECK THICKNESS AND SLOPES SHOWN ON DRAWINGS AND DO NOT ACCOUNT FOR BEAM OR JOIST CAMBER. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE ANY CAMBER OF THEIR WORK WITH OTHER TRADES AND ADJUST ELEVATIONS AS NECESSARY TO ACCOUNT FOR DEAD LOAD DEFLECTION AND THIS
- 9. WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGRAMMATIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
- 10. EXISTING CONSTRUCTION SHOWN IS BASED ON EXISTING CONSTRUCTION DOCUMENTS AND GENERAL CONSTRUCTION PRACTICE AND IS NOT GUARANTEED TO BE TRUE OR EXACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS RELEVANT TO
- HIS WORK PRIOR TO CONSTRUCTION. 11. DETAILS NOT SPECIFICALLY INDICATED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

CONCRETE CONSTRUCTION

- 1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301-10, ACI 318-11 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND REMOVAL OF FORMS SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER.
- 2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION. 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. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED. 6. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 45 DEGREES. MINIMUM
- CHAMFER TO BE 1/2". 7. 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. 8. SLAB THICKNESS INDICATED OVER STEEL FORM DECK INCLUDES FORM DECK DEPTH.
- USE FORM DECK THAT WILL SAFELY SUPPORT ALL CONSTRUCTION LOADS. LIMIT DEFLECTION OF FORM DECK TO 1/240 OF SPAN WHEN LOADED WITH THE WET WEIGHT OF CONCRETE AND CONSTRUCTION LOADS. 9. HORIZONTAL ROOFS WHICH HAVE DEFLECTING STRUCTURAL MEMBERS (UNSHORED
- STEEL BEAMS, ETC) SHALL BE FINISHED LEVEL. THE SLAB THICKNESS NOTED IS MINIMUM. ADD CONCRETE AS NECESSARY TO OVERCOME MEMBER DEFLECTIONS. SHORED CONSTRUCTION SHALL BE FINISHED TO A CONSTANT DEPTH. 10. WHERE POCKETS OR VOIDS ARE FORMED INTO CONCRETE WALL FOR STEEL BEAMS OR COLUMNS, FILL POCKET WITH CONCRETE AFTER THE STEEL MEMBER HAS BEEN
- INSTALLED 11. SPLICES:
- 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 3,000 PSI 4,000 PSI 5,000 PSI			1. 2.	INCREASE SPLICE LENG FOLLOWING: <u>NOTE:</u> INCREASED LENG ACCUMULATIVE
#3	21"	19"	17"		
#4	29"	25"	22"	1.	THAN 12" OF CONCRETE
#5	36"	31"	28"	2.	BAR SPACING LESS THA
#6	43"	37"	33"		DIAMETERS

B. CONCRETE EXPOSED TO EARTH OR WEATHER NO. 6 THROUGH NO. 18 BARS NO. 5 BAR, W31 OR D31 WIRE AND SMALLER C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GF SLABS, WALLS, AND JOISTS

NO. 11 BAR AND SMALLER

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.
- 3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

MASONRY WALL CONSTRUCTION

- 1. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-11/ASCE 5-11/TMS 402-11)
- 2. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-11/ ASCE 6-11/TMS 602-11) AND THE PROJECT SPECIFICATIONS. IF THERE ARE ANY CONFLICTS
- BETWEEN THE TWO, THE MORE RESTRICTIVE REQUIREMENT SHALL BE APPLICABLE. 3. DETERMINE COMPRESSIVE STRENGTH OF MASONRY (fm) BY THE UNIT STRENGTH METHOD (SECTION 1.4B.2 OF ACI 530.1-11/ASCE 6-11/TMS 602-11). THE STRENGTH OF GROUT SHALL
- BE DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C1019. 4. MATERIALS:
 - ASTM C55 OR C90 C.M.U. GROUT ASTM C476
- MORTAR TYPE S 5. PROVIDE SHOP DRAWINGS WHICH INDICATE SIZE, SPACING, BENDING DETAILS, AND TYPE OF ALL REINFORCING BARS PLACED IN MASONRY WALLS. COMPLY WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT." PROVIDE ELEVATIONS OF ALL REINFORCED WALLS SHOWING LOCATIONS OF ALL HORIZONTAL AND VERTICAL DEFORMED BAR REINFORCING, DEPTH/WIDTH OF GROUTING, AND DIMENSIONED
- LOCATIONS OF CONTROL JOINTS. INCOMPLETE SUBMITTALS WILL BE REJECTED WITHOUT REVIEW 6. PROVIDE HORIZONTAL JOINT REINFORCEMENT PER ASTM A951, GALVANIZED, AT 16"
- GALVANIZED LADDER TYPE JOINT REINFORCEMENT. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
- BAR SIZE WALL THICKNESS 8" CMU
- 11. IN ADDITION TO SPACING INDICATED IN SCHEDULE, PROVIDE VERTICAL BARS AT ALL







EMBED MINIMUM EMBEDMENT DEPTH INTO SUBSTRATE

E.W. EACH WAY E.O.S. EDGE OF SLAB EXPANSION FAR SIDE

- F.F.E. FINISHED FLOOR ELEVATION F.R.C. FIBER REINFORCED CONCRETE
- F.R.T. FIRE RETARDENT TREATED GA GAUGE GALV GALVANIZED

APA

BOT

CLR

D

DET

E.F.

EXP

F.S.

DEEP

DETAIL

EACH FACE

DWGS DRAWINGS

ELEV ELEVATION

HORIZ HORIZONTAL HSS HOLLOW STRUCTURAL SECTION

POWDER ACTUATED FASTENER PRESERVATIVE TREATED TONGUE AND GROOVE TYPICAL

TYP VERT VERTICAL W WIDE W.W.F. WELDED WIRE FABRIC

- CENTERS VERTICALLY. SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, PROVIDE A 8. LAP SPLICES FOR REINFORCING CENTERED IN CORES TO BE IN ACCORDANCE WITH THE

 - VERTICAL REINFORCEMENT
 - 10. REINFORCE BOND BEAMS WITH (2) #5 CONTINUOUS, UNLESS OTHERWISE NOTED.
- FOLLOWING TABLE.
- - 9. SEE DETAILS AND SCHEDULES FOR LOCATIONS AND SIZES OF HORIZONTAL AND
 - CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS.

4. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACING REQUIRED STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN

STRUCTURAL

AMERICAN PLYWOOD ASSOCIATION ARCH ARCHITECTURAL BOTTOM CLEAR CANT CANTILEVER BEAM C.F.S. COLD-FORMED STEEL C.M.U. CONCRETE MASONRY UNI CONT CONTINUOUS

TH BY THE	
GTHS ARE	
WITH GREATER BELOW +30 % N 2 BAR	
+50 %	
<u>CO\</u> RTH	/ <u>ER</u> . 3"
	2" 1⁄2"

MATERIAL LEGEND

NATIVE EARTH /

CONCRETE

- 12. EXTEND ALL VERTICAL REINFORCEMENT THRU MID-HEIGHT BOND BEAMS. EXTEND VERTICAL REINFORCING INTO BOND BEAMS AT TOP OF WALL AND TERMINATE AT 2" DOWN FROM TOP OF WALL 13. PROVIDE DOWELS FROM SUPPORTING MEMBER (FOOTING, BEAM, OR SLAB) FOR ALL REINFORCED WALLS, SAME SIZE, LOCATION, AND SPACING AS WALL REINFORCING. 14. VERTICAL REINFORCEMENT SHALL BE CENTERED IN CELLS OF MASONRY UNIT, UNLESS OTHERWISE NOTED. 15. BAR POSITIONERS SHALL BE USED TO HOLD VERTICAL AND BOND BEAM REINFORCEMENT IN PROPER ALIGNMENT. 16. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 4 FEET. 17. GROUTING OF MASONRY LINTELS OVER OPENINGS SHALL BE ACCOMPLISHED IN ONE CONTINUOUS OPERATION. 18. WHERE LOW CUT WEB, OPEN CELLED C.M.U. ARE USED FOR BOND BEAMS, PROVIDE A CONTINUOUS METAL LATH GROUT RETAINER IN THE BED JOINT TO RETAIN GROUT IN CELLS 19. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4" FROM THE MASONRY SURFACE AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS.
- 20. MAINTAIN CLEAR DISTANCE OF 1/4" MINIMUM FOR FINE GROUT OR 1/2" MINIMUM FOR COARSE GROUT BETWEEN REINFORCING BARS AND ANY FACE OF MASONRY UNIT. 21. MASONRY PROTECTION FOR REINFORCEMENT: <u>COVER</u> A. MASONRY EXPOSED TO EARTH OR WEATHER
- NO. 6 BAR AND LARGER NO. 5 BAR AND SMALLER . .. 1 1/2' B. MASONRY NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND ALL BARS ...
- 22. REMOVE MORTAR PROTRUSIONS GREATER THAN 1/2" FROM CELLS BEFORE GROUTING. 23. GROUTING SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT THE POUR JOINT.
- 24. GROUT ALL CELLS OF CONCRETE MASONRY UNITS BELOW GRADE. 25. DO NOT EXCEED THE MAXIMUM GROUT POUR HEIGHT FOR EACH GROUT TYPE AND SPACE GIVEN IN THE FOLLOWING TABLE:

GROUT TYPE	MAXIMUM GROUT POUR HEIGHT	MINIMUM WIDTH OF GROUT SPACE	MINIMUM GROUT SPACE DIMENSIONS FOR GROUTING CELLS OF HOLLOW UNITS
FINE	1'	3/4"	1 1/2" x 2"
FINE	5'	2"	2" x 3"
FINE	12'	2 1/2"	2 1/2" x 3"
FINE	24'	3"	3" x 3"
COARSE	1	1 1/2"	1 1/2" x 3"
COARSE	5'	2"	2 1/2" x 3"
COARSE	12'	2 1/2"	3" x 3"
COARSE	24'	3"	3" x 4"

- 26. PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET. 27. CONSOLIDATE GROUT POURS 12 INCH OR LESS IN HEIGHT BY MECHANICAL VIBRATION OR PUDDLING. CONSOLIDATE POURS EXCEEDING 12 INCH IN HEIGHT BY MECHANICAL VIBRATION AND RECONSOLIDATE BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
- 28. PROVIDE CLEANOUT HOLES AT LEAST 3 INCHES IN LEAST DIMENSION FOR GROUT POURS OVER 5 FEET IN HEIGHT. A. AT STRUCTURALLY REINFORCED WALLS PROVIDE CLEANOUT HOLES AT EACH STRUCTURAL VERTICAL REINFORCING BAR. B. AT SOLID GROUTED MASONRY, PROVIDE CLEANOUT HOLES AT NOT MORE THAN 32*
- ON CENTER. C. CLEANOUT CLOSURES SHALL BE BRACED TO RESIST GROUT PRESSURES. D. GROUT POURS SHALL BE PLANNED SO THAT CLEANOUT HOLES ARE CONCEALED BELOW SLAB OR BEHIND TRIM, CEILING, OR OTHER FINISHES. WHERE CLEANOUTS CANNOT BE CONCEALED, GROUT SHALL BE APPLIED IN POURS LESS THAN 5 FEET TALL TO FORGO CLEANOUTS. 29. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF VERTICAL CONTROL JOINTS.
- 30. PROVIDE VERTICAL CONTROL JOINT BETWEEN ALL NON-LOADBEARING PARTITIONS AND BEARING WALLS. 31. PROVIDE GALVANIZED STEEL SLEEVE / 8 GA WIRE STABILIZING ANCHORS AT 24" O.C. VERTICAL AT ALL JOINTS BETWEEN MASONRY PARTITIONS AND IN-PLACE MASONRY
- CONSTRUCTION (BEARING OR EXISTING WALL CONSTRUCTION), FASTEN ANCHOR TO IN-PLACE WALL W/ (2) 3/16"Ø x 1 1/4" MASONRY SCREWS. 32. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 25 FEET. 33. AT VERTICAL CONTROL JOINTS, BOND BEAM REINFORCEMENT AND JOINT
- REINFORCEMENT SHALL BE DISCONTINUOUS. PROVIDE TWO 3/4" DIAMETER SMOOTH DOWELS BY 1'-4" ACROSS EACH CONTROL JOINT AT EACH BOND BEAM, GREASE ONE END. PROVIDE 3/8" THICK FOAM POUR STOP IN HEAD JOINT OF ALL BOND BEAMS AT CONTROL JOINT TO PREVENT BINDING.

STEEL CONSTRUCTION

- 1. STEEL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE, AND THE AWS STRUCTURAL WELDING CODE. 2. CONNECTIONS - WELDED OR HIGH STRENGTH BOLTED:
- A. A325-N WITH HARDENED WASHERS USE FOR ALL CONNECTIONS. B. UNLESS SNUG TIGHT CONNECTIONS ARE NOTED ON THE DRAWINGS AS BEING
- PERMITTED, ALL BOLTS SHALL BE TIGHTENED TO FULL PRETENSIONING LOAD. C. UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR WITHOUT WRITTEN PERMISSION FROM THE ENGINEER, ALL BOLTS FOR THE PROJECT SHALL BE OF ONE ASTM TYPE AND ONE DIAMETER.
- 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. HARDENED WASHERS SHALL BE USED OVER ALL OVERSIZED OR SHORT-SLOTTED HOLES IN AN OUTER PLY. WHERE LONG-SLOTTED HOLES ARE USED IN AN OUTER
- PLY, 5/16" THICK A36 PLATE WASHERS OR CONTINUOUS BAR WITH STANDARD HOLES SHALL BE PROVIDED 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. G. WHEREVER POSSIBLE, USE FRAMED BEAM CONNECTIONS AS LISTED IN TABLES 10-1, 10-2, 10-3,10-4, 10-9, 10-10, AND 10-11 OF THE AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION. THE LENGTH OF CONNECTION ANGLES AND PLATES SHALL BE NOT LESS THAN ONE-HALF OF THE T DISTANCE OF THE BEAM WEB.
- J. PREAPPROVED CONNECTION DETAILS ARE PROVIDED ON DRAWING S-5. 3. WELDING ELECTRODES SHALL BE E70XX EXCEPT WHERE OTHER ELECTRODES ARE REQUIRED FOR COMPATIBILITY WITH MATERIAL BEING WELDED. 4. SHOP DRAWINGS ARE REQUIRED AND SHALL NOTE TYPE OF ELECTRODES, SIZE OF ALL
- WELDS, AND TYPE AND SIZE OF ALL BOLTS. 5. SEE SPECIFICATIONS FOR ALL PRIMING REQUIREMENTS. 6. ALL SHOP AND FIELD WELDING SHALL BE DONE BY A CERTIFIED WELDER.
- 7. DO NOT WELD TO EXISTING STEEL WITHOUT WRITTEN APPROVAL FROM THE ENGINEER. 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.

STEEL DECK CONSTRUCTION

1. STEEL DECK DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE LATEST, AWS STRUCTURAL WELDING CODE AND THE STEEL DECK INSTITUTE SPECIFICATIONS. 2. STEEL ROOF DECK SHALL BE CONTINUOUS OVER A MINIMUM OF 3 SPANS. 3. DO NOT HANG OR SUPPORT ANY LOADS SUCH AS STUD WALLS, BULKHEADS, PIPES, ETC FROM STEEL ROOF DECK.

SPECIAL INSPECTION

- 1. SPECIAL INSPECTIONS AS DEFINED IN SECTIONS 1704 AND 1705 OF THE KENTUCKY BUILDING CODE ARE REQUIRED. 2. SPECIAL INSPECTIONS SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY
- APPROVED BY THE ARCHITECT AND THE STRUCTURAL ENGINEER AND PAID FOR BY THE OW/NER 3. THE INSPECTOR SHALL OBSERVE WORK FOR CONFORMANCE WITH THE APPROVED STRUCTURAL DRAWINGS AND SPECIFICATIONS AND PREPARE INSPECTION REPORTS
- STATING HIS/HER OBSERVATIONS. COPIES OF THE INSPECTION REPORTS SHALL BE SUBMITTED TO THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER. 4. ALL DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE WORK BEING
- PERFORMED SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT AND THE STRUCTURAL ENGINEER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
- 5. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT OF INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS. 6. SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING WORK:
 - INSPECTION OF FABRICATORS PERFORM SPECIAL INSPECTIONS PER SECTION 1704.2.5 OF THE KENTUCKY BUILDING CODE. PERFORM SPECIAL INSPECTIONS PER SECTION 1705.2 OF THE KENTUCKY BUILDING
 - PERFORM SPECIAL INSPECTIONS PER SECTION 1705.3 OF THE KENTUCKY BUILDING CODE.

PERFORM SPECIAL INSPECTIONS PER SECTION 1705.4 OF THE KENTUCKY BUILDING

DEMOLITION AND RECONSTRUCTION NOTES

- 1. WHERE EXISTING SLAB ON GRADE IS TO BE PARTIALLY REMOVED FOR PLUMBING UTILITIES, NEW FOOTINGS ETC., SAWCUT PERIMETER OF SLAB REMOVAL. PLACE NEW VAPOR RETARDER WITHIN EXTENT OF SLAB REMOVAL. DOWEL NEW SLAB TO EXISTING W/ 1/2"Ø x 18" SMOOTH RODS DRILLED 6" INTO EXISTING SLAB AT MID-DEPTH, SAWCUT CONTRACTION JOINTS IN REPLACEMENT SLAB WHICH EXCEED 400 SQ FT IN SIZE. IF EXISTING SLAB ON GRADE TO BE REMOVED IS NEXT TO EXISTING MASONRY WALL, SAWCUT PERIMETER OF SLAB REMOVAL CAREFULLY TO AVOID DAMAGING EXISTING MASONRY WALL.
- 2. EXTENT OF SLAB REPLACEMENT FOR INSTALLATION OF NEW UTILITIES, ETC. NOT SHOWN. CONTRACTOR TO COORDINATE SUCH WORK W/ SUBCONTRACTORS' DURING 3. REPAIR OF ANY DAMAGE CAUSED TO THE BUILDING DURING DEMOLITION AND CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- NOTE: THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING NECESSARY TO INSTALL NEW STRUCTURAL ELEMENTS. CEASE DEMOLITION OPERATIONS AND NOTIFY ARCHITECT IF ANY EXISTING STRUCTURAL ELEMENT TO REMAIN IN SERVICE DEVELOPS CRACK, BOW, DEFLECTION, ETC. OR IF ANY COMPONENT OF THE EXISTING STRUCTURE APPEARS DAMAGED, CORRODED OR OTHERWISE COMPROMISED.

OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

- TO STRUCTURAL STEEL 1. FIELD CUTTING/DRILLING OF HOLES LARGER THAN 3/8" INTO BEAM FLANGES OR COLUMNS IS PROHIBITED 2 PENETRATIONS / HOLES THROUGH BEAM WEBS MAY BE POSSIBLE. TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING COST TO VERIFY ADEQUACY AND DESIGN AND FOR INSTALLATION COST OF OPENING AND ANY REINFORCEMENT. 3. DO NOT FIELD CUT ANY PORTION OF A STEEL JOIST.
- TO FLOOR DECK, PLANK, ELEVATED SLABS, ROOF DECK 4. NO PENETRATIONS LARGER THAN 12" IN DIAMETER / SQUARE SHALL BE FIELD CUT IN THE STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ENGINEER OF RECORD FOR THAT ELEMENT. CUTTING / CORING OF ADJACENT PENETRATIONS, PERPENDICULAR TO THE STRUCTURAL SPAN, SHALL BE AVOIDED. ADJACENT PENETRATIONS WHICH REMOVE MORE THAN 20% OF SUCH STRUCTURAL ELEMENT, IN ANY GIVEN 3 FOOT LENGTH, ARE PROHIBITED



BROWN + KUBICAN STRUCTURAL ENGINEERS K

A S-1 UNDERGROUND STORAGE TANK INFORMATION PLAN NOT TO SCALE













