LEE'S SUMMIT
MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

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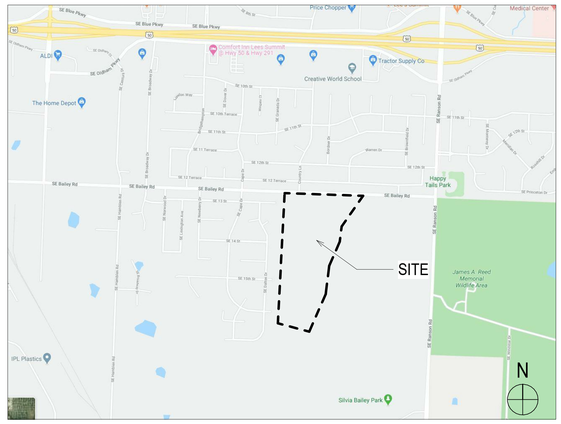
ISSUE FOR PERMIT - 08/28/2020

VICINITY MAP:



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13-20102-00

COVER SHEET

0.0B

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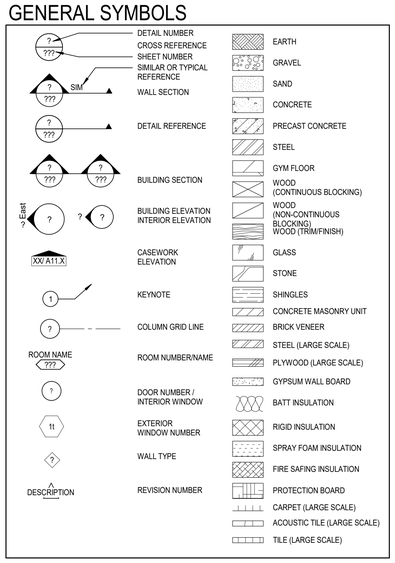
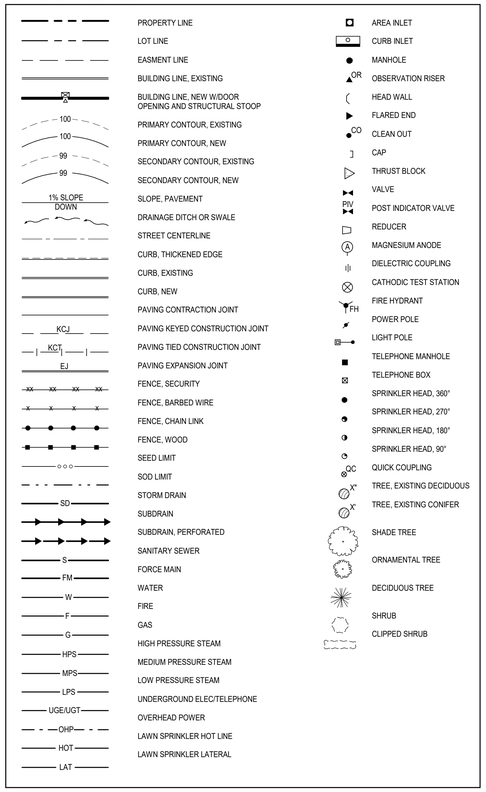
#	NUMBER
&	AND
@	AT
AB	ANCHOR BOLT
AB	AIR BARRIER
ABS	ASBESTOS
ACC	ADA ACCESSIBLE
ACR	ACRYLIC
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITY ACT
ADDN	ADDITION OR ADDITIONAL
ADJ	ADJUSTABLE
ADJT	ADJACENT
ADMIN	ADMINISTRATION
AEC	AUTOMATED EXTERNAL DEFIBRILLATIORS
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ALUMINUM
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS PANEL
APC	ACOUSTIC PANEL CEILING
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
AUTO	AUTOMATIC
AVG	AVERAGE
AWP	ACOUSTIC WALL PANEL
B.O.	BOTTOM OF
BCS	BABY CHANGING STATION
BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLKHD	BULKHEAD
BM(S)	BEAM(S)
BOT	BOTTOM
BRDG	BRIDGING
BRG	BEARING
BRKT	BRACKET
BSMT	BASEMENT
BT	BATHTUB
BTWN	BETWEEN
C	CHANNEL
CAB	CABINET
CANT	CANTILEVER
CAP	CAPACITY
CBD	CHALKBOARD
CER	CERAMIC
CF	CUBIC FEET
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFSF	COLD-FORMED STEEL FRAMING
CG	CLEAR FLOAT GLASS
CI	CAST IRON
CIG	CLEAR INSULATING GLASS
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJA	CONTROL JOINT ABOVE
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATIONS
COMPR	COMPRESSIBLE
CONC	CONCRETE
CONF	CONFERENCE
CONFIG	CONFIGURATION
CONN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
CORR	CORRIDOR
CP	COVER PLATE
CPT	CARPET
CR	CHAIR RAIL
CS	COUNTERSINK
CSTJ	CONSTRUCTION JOINT
CSWK	CASEWORK
CT	CERAMIC TILE
CTG	CLEAR TEMPERED FLOAT GLASS
CTIG	CLEAR TEMPERED INSULATING GLASS
CTR	CENTER
CU	COPPER
CU	CUBIC
CU	COMBINATION UNIT
CV	CONDOM VENDOR
CY	CUBIC YARD
CYL	CYLINDER
D	DEPTH
DB	DECIBEL
DBL	DOUBLE
DC	DUST COLLECTOR
DEG	DEGREE
DEMO	DEMOLISH OR DEMOLITION
DEPR	DEPRESS(ION)(ED)
DEPT	DEPARTMENT
DET	DETAIL
DET	DETENTION
DF	DRINKING FOUNTAIN
DG	DOOR GRILLE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	SPECIFICATION DIVISION
DN	DOWN
DPFG	DAMPROOFING
DR	DOOR
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
DWR	DRAWER
E	EAST
EA	EACH
EA	EACH FACE
EB	EXPANSION BOLT
EC	ELECTRICAL CONTRACTOR
EE	EACH END
EEW	EMERGENCY EYE WASH
EEWS	EMERGENCY EYE WASH SHOWER
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
ELAS	ELASTOMERIC
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENG	ENGINEER
ENTR	ENTRANCE
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ERF	EPOXY RESIN FLOORING
EUI	ENERGY USE INTENSITY
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXT	EXTERIOR
F	FABRIC
F.O.	FACE OF
F.V.	FIELD VERIFY
FAB	FABRICATE(D)
FB	FACE BRICK
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIN	FINISHED
FIX	FIXTURE
FL	FLOOR
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLOORING
FLM	FULL LENGTH MIRROR
FLUOR	FLUORESCENT
FO	FINISH OPENING
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FIREPROOFING
FR	FIRE RESISTANT
FRP	FIBERGLASS REINFORCED PANEL
FRT	FIRE RESISTANCE TREATED
FS	FLOOR SINK
FSS	FOLDING SHOWER SEAT
FT	FEET
FTG	FOOTING
FUT	FUTURE
FVC	FIRE VALVE CABINET
FWC	FABRIC WALL COVERING
G	GROUT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GEN	GENERAL
GFA	GROSS FLOOR AREA
GL	GLUE LAMINATED
GL	GLASS
GMP	GUARANTTED MAXIMUM PRICE
GOVT	GOVERNMENT
GR	GUARD RAIL
GR	GRADE
GRS	GALVANIZED RIGID STEEL
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
H	HEIGHT
HC	HOLLOW CORE
HD	HAND DRYER
HDBD	HARDBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HR	HANDRAIL
HS	HARDWARE SET
HSS	HOLLOW STRUCTURAL SHAPE
HVAC	HEATING VENTILATING AND AIR CONDITIONING
i.e.	THAT IS
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IJ	ISOLATION JOINT
IJS	IN JOIST SPACE
IN	INCH
INC	INCLUDE(ING)
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JCT	JUNCTION
JFB	JOINT FILLER BOARD
JST	JOIST
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KD	KNOCKDOWN
KH	KITCHEN HOOD
KIT	KITCHEN
L	ANGLE
LAB	LABORATORY
LAM	LAMINATED
LAV	LAVATORY
LB(S)	POUND(S)
LBR	LUMBER
LDG	LOADING
LF	LINEAR FOOT
LG	LENGTH (LONG)
LG	LAMINATED GLASS
LIN	LINEAR
LINO	LINOLEUM
LKR	LOCKER
LOC	LOCATION
LONG	LONGITUDINAL
LSC	LIFE SAFETY CODE
LTG	LIGHTING
LV	LOUVER
LVT	LUXURY VINYL TILE
LWC	LIGHT WEIGHT CONCRETE
M	THOUSAND
MAG	MAGNETIC
MAINT	MAINTENANCE
MAN	MANUAL
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MOP BASIN
MBD	MARKER BOARD
MBH	MOP/BROOM HOLDER
MC	MEDICINE CABINET
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MR/S	MIRROR WITH SHELF
MTD	MOUNTED
MTG	MOUNTING
MUL	MULLION
N	NORTH
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
O to O	OUT TO OUT
OA	OVERALL
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED OWNER INSTALLED
OPG(S)	OPENING(S)
OPP	OPPOSITE
OSHA	OPERATIONAL SAFETY AND HEALTH ADMINISTRATION
OTB	OPEN TO BELOW
OVFL	OVERFLOW
OVHD	OVERHEAD
P	PAINT
PAN B	PANIC BOLT
PAR	PARALLEL
PB	PARTICLE BOARD
PC	PRECAST CONCRETE
PCD	PAPER CUP DISPENSER
PCT	PORCELAIN CERAMIC TILE
PD	PANIC DEVICE
PENT	PENTHOUSE
PERF	PERFORATED
PERP	PERPENDICULAR
PG	PATTERN GLASS
PIC	PORTABLE INSTRUMENT CONNECTION
PIG	PATTERN INSULATING GLASS
PL	PLATE
PL	PROPERTY LINE
PL	PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECT(OR) (ION)
PS	PROJECTION SCREEN
PT	POINT
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION TOWEL DISPENSER/RECEPTACLE
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL
QT	QUARRY TILE
QTR RND	QUARTER ROUND
QTY	QUANTITY
RAD	RADIUS
RB	RUBBER BASE
RC	REMOTE CONTROL
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE
REFL	REFLECTED
REM	REMOVABLE
REQ(D)	REQUIRE(D)
RESIL	RESILIENT
REV	REVISION(S)
RF	RESILIENT FLOORING
RF	RUBBER FLOOR
RFM	RECESSED FLOOR MAT
RH	ROBE HOOK
RI&C	ROUGH IN AND CONNECT
RM	ROOM
RND	ROUND
S	SOUTH
S	SINK
SAT	SPRAYED ACOUSTIC TREATMENT
SAW	SOUND ABSORBING WALL UNITS
SB	SPLASH BLOCK
SC	SOLID CORE
SC	SHOWER CURTAIN
SCD	SEAT COVER DISPENSER
SCH	SHOWER CURTAIN HOOK
SCHED	SCHEDULE
SCR	SHOWER CURTAIN ROD
SCT	STRUCTURAL CLAY TILE
SD	SOAP DISPENSER
SECT	SECTION
SECY	SECRETARY
SG	SPANDREL GLASS
SGL	SINGLE
SH	SHOWER
SHM	SECURITY HOLLOW METAL
SHT	SHEET
SIM	SIMILAR
SLNT	SEALANT
SM	SHEET METAL
SND	SANITARY NAPKIN DISPOSAL
SNV	SANITARY NAPKIN VENDOR
SPEC	SPECIFICATION(S)
SPL	SOUND PRESSURE LEVEL
SPL	SPECIAL
SQ	SQUARE
SS	STAINLESS STEEL
SS	SOLID SURFACE
SSA	STORM SHELTER AREA
SSS	STAINLESS STEEL SHELF
ST	STONE
ST	STAIR
STAG'D	STAGGERED
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STGR	STRINGER
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUBFL	SUBFLOOR
SURF	SURFACE
SUSP	SUSPENDED
SV	SHEET VINYL
SYM	SYMETRICAL
T	TREAD
T&G	TONGUE AND GROOVE
T.O.	TOP OF
TAN	TANGENT
TB	TOWEL BAR
TBD	TACK BOARD
TCP	TOILET COMPARTMENT PARTITION
TEMP	TEMPORARY
TERR	TERRAZZO
TG	TINTED FLOAT GLASS
TH	THRESHOLD
TI	TENANT IMPROVEMENT
TIG	TINTED INSULATING GLASS
TMR	TILT MIRROR UNIT
TOP	TOP OF PAVING
TRANS	TRANSVERSE
TT	TERRAZZO TILE
TTD	TOILET TISSUE DISPENSER
TTG	TINTED TEMPERED FLOAT GLASS
TTIG	TINTED TEMPERED INSULATING GLASS
TW	TACK WALL
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
US	UTILITY SHELF
UTIL	UTILITY
VB	VAPOR BARRIER
VB	VINYL BASE
VCB	VENTED COVE BASE
VERT	VERTICAL
VEST	VESTIBULE
VF	VINYL FLOOR
VOC	VOLITILE ORGANIC COMPOUND
VOL	VOLUME
VP	VENEER PLASTER
VT	VINYL TILE
VWC	VINYL WALL COVERING
W	WEST
W	WIDE
WI	WITH
W/O	WITHOUT
WB	WALL BASE
WC	WATER CLOSET
WC	WALL COVERING
WCL	WATER CLOSET/LAVATORY COMBINATION
WD	WOOD
WDF	WOOD FLOORING
WDW	WINDOW
WG	POLISHED WIRE GLASS
WI	WROUGHT IRON
WOM	WALK OFF MAT
WR	WASTE RECEPTACLE
WRB	WEATHER RESISTANT BARRIER
WW	WARM WHITE
WWF	WELDED WIRE FABRIC
YD	YARD

GENERAL SYMBOLS



SITE SYMBOLS



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0.1B

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ARCH_2020.rvt
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FOR REFERENCE TO PACKAGE 2 - STRUCTURAL & SITE UTILITIES PERMIT SET.

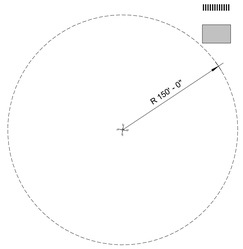
CODE SITE PLAN LEGEND

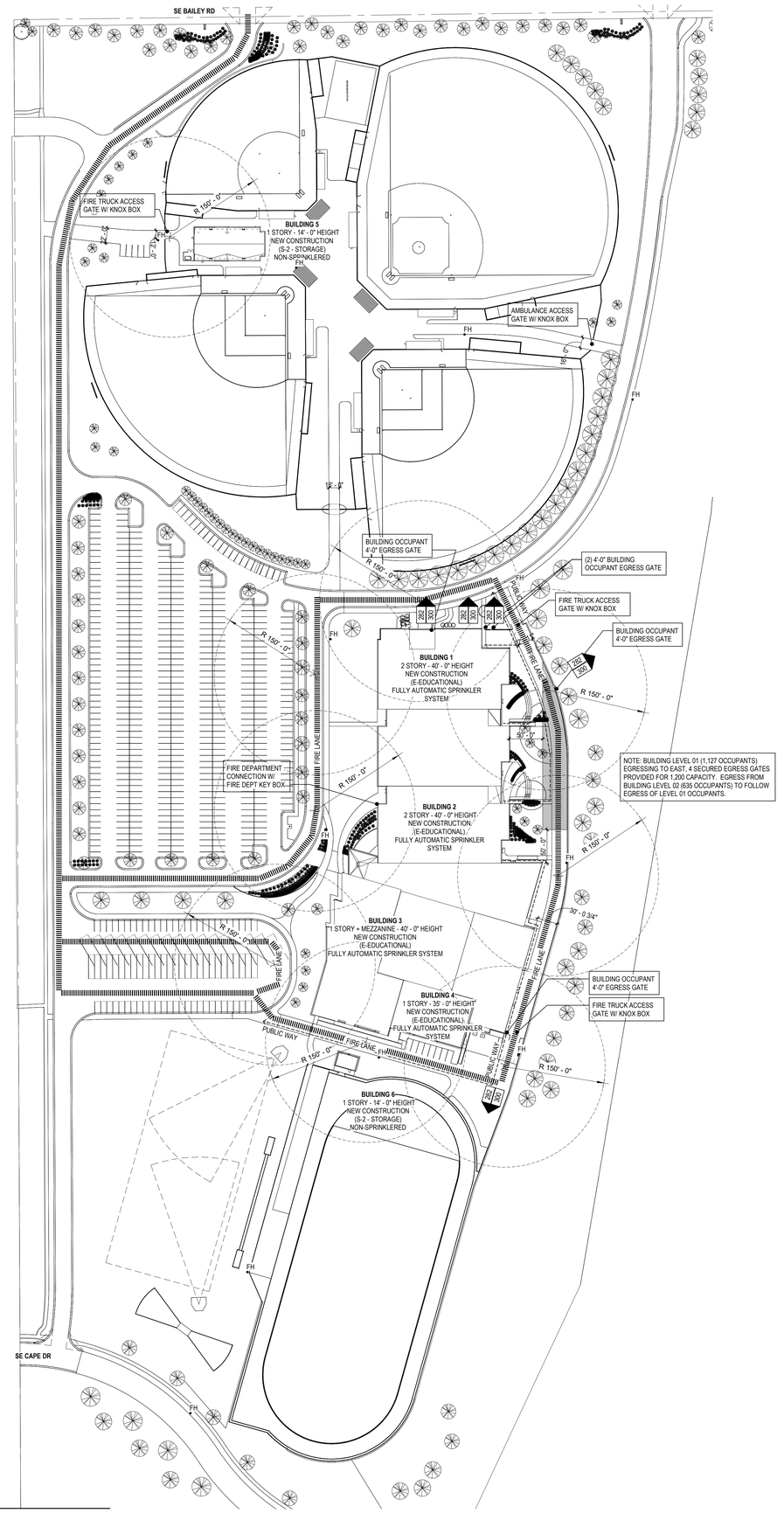
FH — FIRE HYDRANT

FIRE LANES AND FIRE LANE ACCESS

7,390 SF AREA OF REFUGE 50'-0" FEET AWAY FROM BUILDING. AREA ALLOWS FOR 2,463 MAX. OCCUPANTS AT 3 SF/PER OCCUPANT.

FIRE TRUCK HOSE RADIUS





CODE SITE PLAN

SCALE: 1" = 80'-0"

NORTH

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CODE ANALYSIS - SITE PLAN

CP0.0

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ARCH_2020.rvt
8/31/2020 5:39:22 PM

SYMBOL LEGEND

- ### - OCCUPANCY LOAD
- ### - ACCESSORY USE AREA (OCCUPANCY LOAD IS NOT INCLUDED IN LOADS BEYOND THIS ROOM)
- 0 / 0 - COMBINED OCCUPANT LOAD AT A GIVEN DOOR OR STAIR - TOTAL EXIT CAPACITY OF DOOR OR STAIR (THE CAPACITY OF DOORS ARE DETERMINED AS FOLLOWS: CLEAR OPENING WIDTH IN INCHES DIVIDED BY 0.15 THE CAPACITY OF STAIRS ARE DETERMINED AS FOLLOWS WIDTH IN INCHES DIVIDED BY 0.2 FOR SPRINKLERED PER 1005.3.1 EXCEPTION 1)
- 0 / 0 - COMBINED OCCUPANT LOAD AT A GIVEN DOOR. (SUM OF THESE EQUALS TOTAL OCCUPANT LOAD) - TOTAL EXIT CAPACITY OF DOOR (THE CAPACITY OF DOORS ARE DETERMINED AS FOLLOWS: CLEAR OPENING WIDTH IN INCHES DIVIDED BY 0.15)
- PD - PANIC DEVICE
- XX MIN - DOOR FIRE RATING

WALL SEPARATION LEGEND

WALL HOURLY RATING		WALL FIRE RATING TYPE	
0 = 0 HOUR		C = CORRIDOR	
1/2 = 1/2 HOUR		EW = EXTERIOR WALL	
1 = 1 HOUR		FB = FIRE BARRIER	
2 = 2 HOUR		FP = FIRE PARTITION	
3 = 3 HOUR		FSB = FIRE/SMOKE BARRIER	
SP = SMOKE PARTITION		FW = FIRE WALL	
SW = SMOKE WALL		HX = HORIZONTAL EXIT	
		SB = SMOKE BARRIER	
		VS = VERTICAL SHAFT	
		VX = VERTICAL EXIT	
		XP = EXIT PASSAGEWAY	

TYPICAL DOOR WIDTHS

DOOR WIDTH	CLEAR WIDTH	IBC 1005.1 FACTOR	ALLOWABLE OCCUPANCY
36"	33"	0.15	220
42"	39"	0.15	260
48"	45"	0.15	300
PAIR 36"	64"	0.15	426
PAIR 42"	76"	0.15	506
PAIR 48"	88"	0.15	586

EXIT ACCESS STAIRWAYS:

1. EXIT ACCESS STAIRWAYS AND RAMPS - TRAVEL DISTANCE ON EXIT ACCESS STAIRWAYS OR RAMPS SHALL BE INCLUDED IN THE EXIT ACCESS TRAVEL DISTANCE MEASUREMENT PER IBC 2018 1017.3.1.
2. TWO-STORY OPENINGS - OPENINGS DO NOT CONNECT MORE THAN TWO STORIES PER IBC 712.1.9, EXCEPTION 1.
3. EXIT ACCESS STAIRWAYS AND RAMPS SERVE ONLY TWO STORIES PER IBC 1019.3, EXCEPTION 1, AND DO NOT REQUIRE A SHAFT ENCLOSURE

BUILDING 1 - TYPE IIB - 2 STORY
20,385 SF
SPRINKLED

EXIT ACCESS TRAVEL DISTANCE LVL 1: 135'- 0" < 250'- 0"
(TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE)

MAXIMUM COMMON PATH OF TRAVEL: 71'- 0" < 75'- 0"
(TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY)

BUILDING 2 - TYPE IIB - 2 STORY
41,978 SF
SPRINKLED

EXIT ACCESS TRAVEL DISTANCE LVL 1: 187'- 0" < 250'- 0"
(TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE)

MAXIMUM COMMON PATH OF TRAVEL: 73'- 0" < 75'- 0"
(TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY)

BUILDING 3 - TYPE IIB - 1 STORY + MEZZANINE
65,957 SF
SPRINKLED

OCCUPANT LOAD: 1,173
*1,173 ACCOUNTED FOR IN EXITS

EXIT ACCESS TRAVEL DISTANCE LVL 1: 213'- 0" < 250'- 0"
(TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE)

MAXIMUM COMMON PATH OF TRAVEL: 56'- 0" < 75'- 0"
(TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY)

BUILDING 5 - TYPE IIB - 1 STORY
4,829 SF
NON-SPRINKLED
NONSEPARATED USE OCCUPANCY (A-5,S-2)

OCCUPANT LOAD: 38
*38 ACCOUNTED FOR IN EXITS

EXIT ACCESS TRAVEL DISTANCE: 42'-0" < 250'-0"
(TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE)

MAXIMUM COMMON PATH OF TRAVEL: 15'- 0" < 75'- 0"
(TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY)

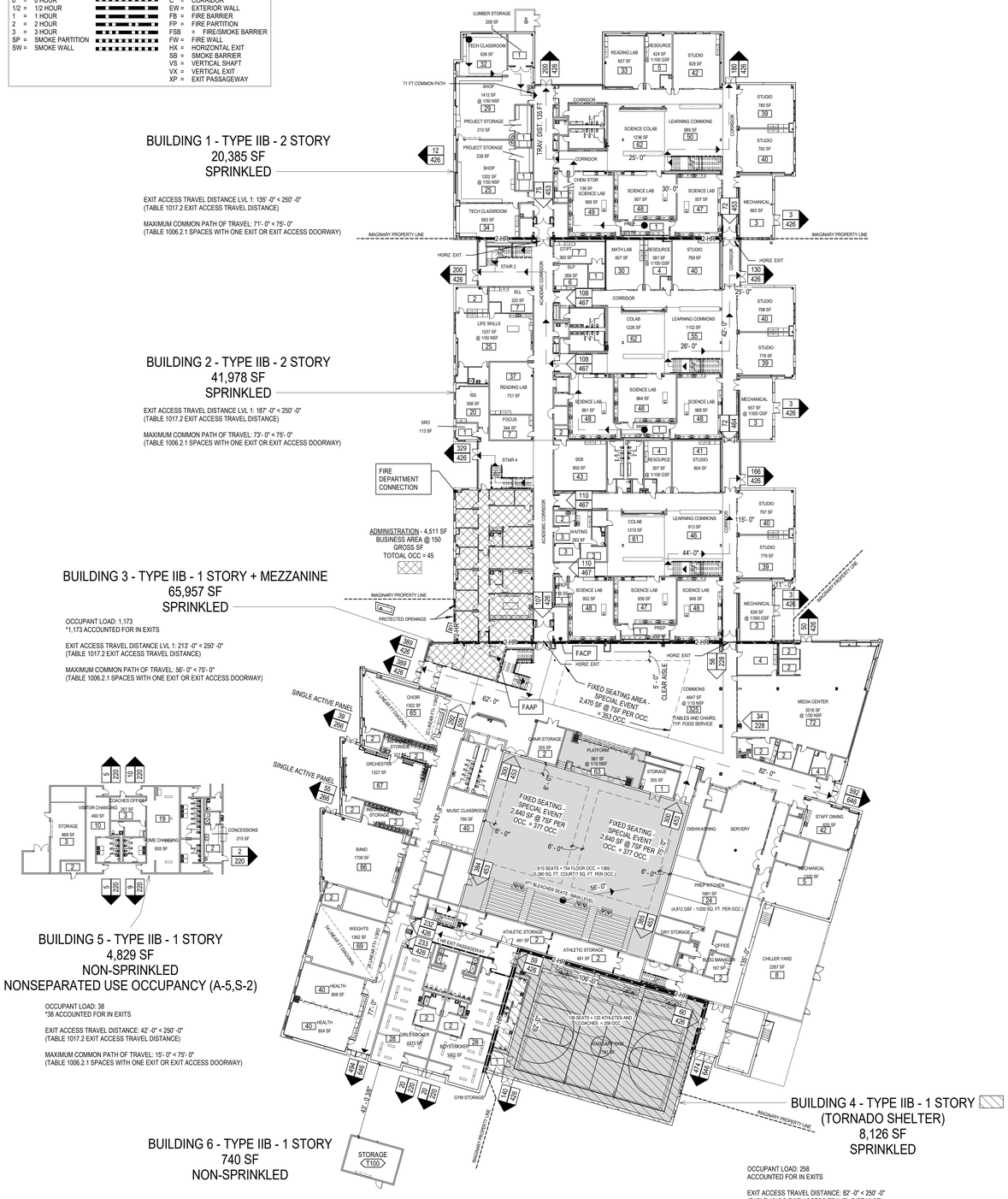
BUILDING 6 - TYPE IIB - 1 STORY
740 SF
NON-SPRINKLED

BUILDING 4 - TYPE IIB - 1 STORY (TORNADO SHELTER)
8,126 SF
SPRINKLED

OCCUPANT LOAD: 258
ACCOUNTED FOR IN EXITS

EXIT ACCESS TRAVEL DISTANCE: 82'-0" < 250'-0"
(TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE)

TORNADO SHELTER OCCUPANT LOAD - PER ICC 500 501.1.2.2.
REQUIRED NUMBER OF WHEELCHAIR SPACES 1 PER 200 SHELTER OCCUPANTS = 8
USEABLE STORM SHELTER FLOOR AREA - SUBTRACTED WALLS, PARTITIONS, COLUMNS FIXED OR MOVEABLE EQUIPMENT FROM GROSS SQUARE FOOTAGE = 7,361 USEABLE SF
1,456 OCCUPANTS (5 SF/ PER) = 7,280 SF
8 WHEELCHAIR OCCUPANTS (10 SF/ PER) = 80 SF
TOTAL OCCUPANTS = 1,464



BUILDING I:

OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 43,500 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE
(IBC 506.2.3 SINGLE OCCUPANCY, MULTI STORY BUILDING
IBC 506.3 FRONTAGE INCREASE):

IF= .6
Aa=[At + (NS * If)] * Sa
Aa=[43,500+(14,500*.6)]

TOTAL ALLOWABLE AREA PER FLOOR: 52, 200
ACTUAL AREA PER FLOOR:
LEVEL 01: 20,385 SF
LEVEL 02: 20,385 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT (PER TABLE 504.3): 75' - 0"
ACTUAL BUILDING HEIGHT: 42' - 3"

BUILDING 2:

OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 43,500 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.3):

IF= .26
Aa=[At + (NS * If)] * Sa
Aa=[43,500 + (14,500 * .26)]

TOTAL ALLOWABLE AREA PER FLOOR: 47, 270
ACTUAL AREA PER FLOOR:
LEVEL 01: 41,978 SF
LEVEL 02: 41,842 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT (PER TABLE 504.3): 75' - 0"
ACTUAL BUILDING HEIGHT: 42' - 3"

BUILDING 3:

OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 58, 000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.3):

IF= .67
Aa=[At + (NS * If)] * Sa
Aa=[58,000 + (14,500 * .67)]

TOTAL ALLOWABLE AREA PER FLOOR: 67, 715
ACTUAL AREA PER FLOOR:
LEVEL 01: 61,768 SF
MEZZANINE AND EQUIPMENT PLATFORMS: 5,718 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT: 75'-0'
ACTUAL BUILDING HEIGHT: 32'-0"

BUILDING 4:

OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 58,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):

IF= .46
Aa=[At + (NS * If)] * Sa
Aa=[58,000 + (14,500 * .46)]

TOTAL ALLOWABLE AREA PER FLOOR: 64,670
ACTUAL AREA PER FLOOR: LEVEL 01: 8,126 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT: 75'-0'
ACTUAL BUILDING HEIGHT: 32'-0"

BUILDING 5:

OCCUPANCY GROUP: S-2
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 26,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):
***NONSEPARATED USE OCCUPANCY - ALLOWABLE AREA AND HEIGHT OF BUILDING BASED ON MOST RESTRICTIVE ALLOWANCES PER 508.3.2.**
IF=.4
Aa=[At + (NS * If)] * Sa
Aa=[26, 000 + (26,000 * .4)]

TOTAL ALLOWABLE AREA PER FLOOR: 36,400
ACTUAL AREA PER FLOOR: 4,829 SF
MAXIMUM ALLOWABLE BUILDING HEIGHT: 55'-0'
ACTUAL BUILDING HEIGHT: 14'-0"

BUILDING 6:

OCCUPANCY GROUP: S-2
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 26,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):
IF=.4
Aa=[At + (NS * If)] * Sa
Aa=[26, 000 + (26,000 * .4)]

TOTAL ALLOWABLE AREA PER FLOOR: 36,400
ACTUAL AREA PER FLOOR: 740 SF
MAXIMUM ALLOWABLE BUILDING HEIGHT: 55'-0'
ACTUAL BUILDING HEIGHT: 14'-0"

FOR REFERENCE TO PACKAGE 2 - STRUCTURAL & SITE UTILITIES PERMIT SET.

PROJECT LOCATION:
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

OWNER NAME:
LEE'S SUMMIT R-7 SCHOOL DISTRICT

OWNER CONTACT:
KYLE GORRELL, DIRECTOR LSR7 FACILITY SERVICES

OWNER ADDRESS:
DEPARTMENT OF LEE'S SUMMIT SCHOOL DISTRICT
FACILITY SERVICES
502 SE TRANSPORT DRIVE
LEE'S SUMMIT, MO 64081

COUNTY: JACKSON COUNTY

FIRE DEPARTMENT:
LEE'S SUMMIT FIRE DEPARTMENT

WATER SUPPLY:
LEE'S SUMMIT WATER UTILITIES

AUTHORITY HAVING JURISDICTION:
CITY OF LEE'S SUMMIT

ARCHITECT OF RECORD:
DLR GROUP
7290 WEST 133RD STREET, OVERLAND PARK, KS 66213

CODES/REGULATIONS:
BUILDING: 2018 IBC
FIRE: 2018 INTERNATIONAL FIRE CODE
MECHANICAL: 2018 INTERNATIONAL MECHANICAL CODE
PLUMBING: 2018 INTERNATIONAL PLUMBING CODE
ELECTRICAL: 2017 NATIONAL ELECTRICAL CODE
ACCESSIBLE STANDARD: ICC/ANSI A117.1-2017

NEW CONSTRUCTION:
OCCUPANCY:
EDUCATIONAL GROUP E (SECTION 305): INSTRUCTIONAL AREAS
CONSTRUCTION TYPE (SECTION 602): TYPE IIB
ALLOWABLE HEIGHT (PER IBC TABLE 504.3): 75' - 0"
ALLOWABLE NUMBER OF STORIES (PER TABLE 504.4): 3

SEPARATION REQUIREMENTS:
BUILDING SEPARATION
PER TABLE 706.4: 2-HOUR FIRE WALL
*a. IN TYPE II CONSTRUCTION, WALLS SHALL BE PERMITTED TO HAVE A 2-HOUR FIRE-RESISTANCE RATING

LIFE SAFETY
AUTOMATIC FIRE SUPPRESSION SYSTEM THROUGHOUT
FIRE ALARMS THROUGHOUT
FIRE EXTINGUISHERS THROUGHOUT
EMERGENCY LIGHTING
FIRE DEPARTMENT CONNECTIONS -SEE CIVIL AND PLUMBING PLANS
FIRE ALARM ANNUNCIATOR PANEL (FAAP) - AT RECEPTION D100A
FIRE ALARM CONTROL PANEL (FACP) - AT ELECTRICAL C116
SMOKE CONTROL SYSTEM: NOT APPLICABLE
MANUAL ALARMS
COMMUNICATIONS AND ELECTRICAL ROOMS: NO UPS PROVIDED, NO RACK OF BATTERIES PROVIDED.
PENETRATIONS THROUGH FLOORS (PIPING, CONDUIT, ETC.): ANNULAR SPACE AROUND PENETRATING ITEMS TO BE FILLED WITH APPROVED MATERIALS TO RESIST THE FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION, PER 2018 IBC 714.6.2 AND 718.2.5.
DUCT PENETRATIONS THROUGH FLOORS: ANNULAR SPACE AROUND PENETRATING DUCT TO BE FILLED WITH AN APPROVED NON-COMBUSTIBLE MATERIAL THAT RESISTS THE FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION, PER 2018 IBC 717.6.3.2 AND 718.2.5

PLUMBING FIXTURES

	# OCCUPANTS		WC REQ'D		WC PROVIDED		LAV REQ'D		LAV PROVIDED		DRINKING FOUNTAINS	
	M	W	M	W	M	W	M	W	M	W	REQ'D.	PROV.
STUDENTS/ FACULTY NOTES: *CALCULATIONS BASED ON IPC 4.1 REQ'TS. OCCUPANT LOAD BASED ON PROJECTED 1,200 STUDENT/ 260 FACULTY COUNT*	730	730	15	15	17	17	15	15	17	17	15	20
MAIN GYMNASIUM - PERFORMANCE SPECIAL EVENT *NOTES: COMPETITION & AUXILLARY GYMS ARE NON-SIMULTANEOUS USE FROM STUDENT OCCUPANCY. BASED ON 1,369 OCCUPANTS SEATED ON BLEACHERS AND FLOOR W/ 63 STAGE OCCUPANTS*	716	716	6	12	12	12	4	4	7	7	3	6
MAIN GYMNASIUM - ATHLETIC COMPETITION (ASSEMBLY) *NOTES: COMPETITION & AUXILLARY GYMS ARE NON-SIMULTANEOUS USE FROM STUDENT OCCUPANCY. BASED ON 615 OCCUPANTS SEATED ON BLEACHERS AND 125 ATHLETES AND OFFICIALS*	370	370	3	6	12	12	2	2	7	7	2	6
BASEBALL/SOFTBALL COMPLEX (ASSEMBLY) *NOTES: CALCULATIONS BASED ON IPC 4.1 REQ'TS. OCCUPANT LOAD BASED ON PROJECTED MAXIMUM 600 ATHLETIC EVENT OCCUPANTS. FAMILY TOILET INCLUDED WITH FEMALE COUNTS PER 2902.1.2.*	300	300	4	8	4	8	2	2	2	4	1	2
TORNADO SHELTER NOTES: PER ICC 500 TABLE 702.2. *OCCUPANT LOAD BASED ON PROJECTED 1,200 STUDENT/ 260 FACULTY COUNT. TO BE USED AS DESIGNATED STORM SHELTER FOR STUDENT/FACULTY POPULATION. CALCULATIONS BASED ON ICC-500 REQUIREMENT FOR PLUMBING FIXTURES*	730	730	3	3	3	3	1	1	1	1	-	-

CODE PLAN, LEVEL 1

SCALE: 1" = 30'-0"

NORTH

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NOT FOR CONSTRUCTION

LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

ISSUE FOR PERMIT
8/28/20
REVISIONS

13-20102-00

CODE PLAN - LEVEL 01

CP1.1

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SYMBOL LEGEND

- ### - OCCUPANCY LOAD
- ### - ACCESSORY USE AREA (OCCUPANCY LOAD IS NOT INCLUDED IN LOADS BEYOND THIS ROOM)
- 0 / 0 - COMBINED OCCUPANT LOAD AT A GIVEN DOOR OR STAIR
  - TOTAL EXIT CAPACITY OF DOOR OR STAIR (THE CAPACITY OF DOORS ARE DETERMINED AS FOLLOWS: CLEAR OPENING WIDHT IN INCHES DIVIDED BY 0.15 THE CAPACITY OF STAIRS ARE DETERMINED AS FOLLOWS WIDTH IN INCHES DIVIDED BY 0.2 FOR SPRINKLERED PER 1005.3.1 EXCEPTION 1)
- 0 / 0 - COMBINED OCCUPANT LOAD AT A GIVEN DOOR. (SUM OF THESE EQUALS TOTAL OCCUPANT LOAD)
  - TOTAL EXIT CAPACITY OF DOOR (THE CAPACITY OF DOORS ARE DETERMINED AS FOLLOWS: CLEAR OPENING WIDTH IN INCHES DIVIDED BY 0.15)
- PD - PANIC DEVICE
- XX MIN - DOOR FIRE RATING

TYPICAL DOOR WIDTHS

DOOR WIDTH	CLEAR WIDTH	IBC 1005.1 FACTOR	ALLOWABLE OCCUPANCY
36"	33"	0.15	220
42"	39"	0.15	260
48"	45"	0.15	300
PAIR 36"	64"	0.15	426
PAIR 42"	76"	0.15	506
PAIR 48"	88"	0.15	586

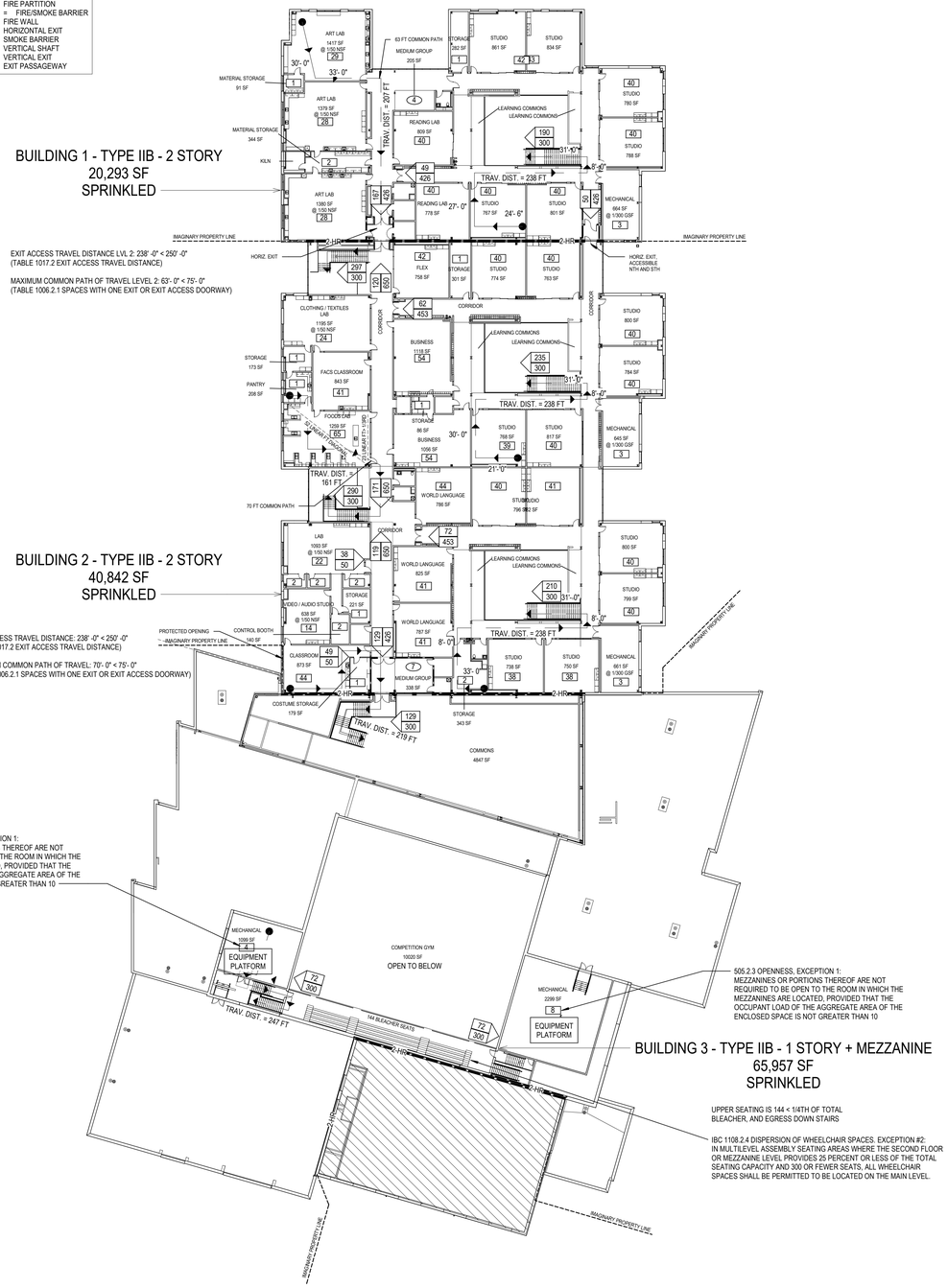
WALL SEPARATION LEGEND

WALL HOURLY RATING

0	=	0 HOUR
1/2	=	1/2 HOUR
1	=	1 HOUR
2	=	2 HOUR
3	=	3 HOUR
SP	=	SMOKE PARTITION
SW	=	SMOKE WALL

WALL FIRE RATING TYPE

C	=	CORRIDOR
EW	=	EXTERIOR WALL
FB	=	FIRE BARRIER
FP	=	FIRE PARTITION
FSB	=	FIRE/SMOKE BARRIER
FW	=	FIRE WALL
HX	=	HORIZONTAL EXIT
SB	=	SMOKE BARRIER
VS	=	VERTICAL SHAFT
VX	=	VERTICAL EXIT
XP	=	EXIT PASSAGEWAY



CODE PLAN, LEVEL 02

SCALE: 1" = 30'-0"

NORTH

BUILDING I:
OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 43,500 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE
(IBC 506.2.3 SINGLE OCCUPANCY, MULTI STORY BUILDING
IBC 506.3 FRONTAGE INCREASE):

IF= .6
Aa=[At + (NS * If)] * Sa
Aa=[43,500+(14,500*.6)]

TOTAL ALLOWABLE AREA PER FLOOR: 52, 200
ACTUAL AREA PER FLOOR:
LEVEL 01: 20,385 SF
LEVEL 02: 20,385 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT (PER TABLE 504.3): 75' - 0"
ACTUAL BUILDING HEIGHT: 42' - 3"

BUILDING 2:
OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 43,500 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.3):

IF= .26
Aa=[At + (NS * If)] * Sa
Aa=[43,500 + (14,500 * .26)]

TOTAL ALLOWABLE AREA PER FLOOR: 47, 270
ACTUAL AREA PER FLOOR:
LEVEL 01: 41,978 SF
LEVEL 02: 41,842 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT (PER TABLE 504.3): 75' - 0"
ACTUAL BUILDING HEIGHT: 42' - 3"

BUILDING 3:
OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 58, 000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.3):

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Aa=[At + (NS * If)] * Sa
Aa=[58,000 + (14,500 * .67)]

TOTAL ALLOWABLE AREA PER FLOOR: 67, 715
ACTUAL AREA PER FLOOR:
LEVEL 01: 61,768 SF
MEZZANINE AND EQUIPMENT PLATFORMS: 5,718 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT: 75'-0'
ACTUAL BUILDING HEIGHT: 32'-0"

BUILDING 4:
OCCUPANCY GROUP: E
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 58,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):

IF= .46
Aa=[At + (NS * If)] * Sa
Aa=[58,000 + (14,500 * .46)]

TOTAL ALLOWABLE AREA PER FLOOR: 64,670
ACTUAL AREA PER FLOOR: LEVEL 01: 8,126 SF

MAXIMUM ALLOWABLE BUILDING HEIGHT: 75'-0'
ACTUAL BUILDING HEIGHT: 32'-0"

BUILDING 5:
OCCUPANCY GROUP: S-2
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 26,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):
***NONSEPARATED USE OCCUPANCY - ALLOWABLE AREA AND HEIGHT OF BUILDING BASED ON MOST RESTRICTIVE ALLOWANCES PER 508.3.2.**
IF=.4
Aa=[At + (NS * If)] * Sa
Aa=[26, 000 + (26,000 * .4)]

TOTAL ALLOWABLE AREA PER FLOOR: 36,400
ACTUAL AREA PER FLOOR: 4,829 SF
MAXIMUM ALLOWABLE BUILDING HEIGHT: 55'-0'
ACTUAL BUILDING HEIGHT: 14'-0"

BUILDING 6:
OCCUPANCY GROUP: S-2
CONSTRUCTION TYPE: IIB
ALLOWABLE AREA (IBC TABLE 506.2): 26,000 SF
ALLOWABLE AREA INCREASE FOR FRONTAGE (IBC 506.2.2, 506.3):
IF=.4
Aa=[At + (NS * If)] * Sa
Aa=[26, 000 + (26,000 * .4)]

TOTAL ALLOWABLE AREA PER FLOOR: 36,400
ACTUAL AREA PER FLOOR: 740 SF
MAXIMUM ALLOWABLE BUILDING HEIGHT: 55'-0'
ACTUAL BUILDING HEIGHT: 14'-0"

FOR REFERENCE TO PACKAGE 2 - STRUCTURAL & SITE UTILITIES PERMIT SET.

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- NOT FOR CONSTRUCTION -

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

ISSUE FOR PERMIT
8/28/20
REVISIONS

13-20102-00

CODE PLAN - LEVEL 02

CP1.2

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GENERAL NOTES:

1. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", 1(800)344-7483 OR 811 AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!!
2. THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES AND FOR BRINGING THE PROJECT TO THE LINES AND GRADES SHOWN HEREIN. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS REQUIRED TO FULFILL THE PLANS IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE EARTHWORK QUANTITIES AND TO ACCOUNT FOR HAUL IN OR HAUL OFF OF MATERIAL AS NECESSARY TO MEET THE LINES AND GRADES OF THE PLANS EVEN IF QUANTITY ESTIMATES ARE SHOWN WITHIN THESE DOCUMENTS. NO ADDITIONAL PAYMENTS WILL BE MADE FOR IMPORT OR EXPORT OF MATERIAL OR FOR ADJUSTMENTS TO QUANTITY ESTIMATES.
5. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS *OF THE AMERICAN PUBLIC WORKS ASSOCIATION – KANSAS CITY METROPOLITAN CHAPTER (APWA-KC) AND* THE CITY OF LEE'S SUMMIT, MO, EXCEPT WHERE SHOWN OTHERWISE. NOTIFY ENGINEER OF DISCREPANCIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF MISSOURI STATE LAW WHICH REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM UTILITY COMPANIES.
8. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
9. THE CONTRACTOR SHALL LIMIT THE REMOVAL OF TREES TO THE LIMITS OF DEMOLITION SHOWN ON THE DEMOLITION PLAN.
10. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
11. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR.
12. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF SURFACE EROSION DURING CONSTRUCTION AND UNTIL THE OWNER ACCEPTS THE WORK AS COMPLETE. EROSION CONTROL MEASURES INCLUDING, BUT NOT LIMITED TO, THE SILT FENCES AND GRAVEL FILTER BAGS SHOWN ON THE EROSION CONTROL PLAN SHALL BE IN PLACE FOR THE DURATION OF THE SITE IMPROVEMENTS.
14. ALL HDPE PIPE SHALL BE ADS (N-12) OR APPROVED EQUAL, AND CONFORM TO AASHTO M294 SPECIFICATIONS. ALL PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
15. IF PRECAST CONCRETE STORM SEWER STRUCTURES ARE TO BE USED ON THIS PROJECT, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND HAVE THEM APPROVED BY THE ENGINEER PRIOR TO FABRICATION OF THE STRUCTURES. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION.
19. EXISTING TOPSOIL SHALL BE STRIPPED TO A POINT WHERE ALL VEGETATION IS REMOVED. REFER TO THE GEOTECHNICAL REPORT PROVIDED BY CFS ENGINEERS, PROJECT NO. 20-1074 AND DATED JUNE 8, 202 AND ALL ADDENDUMS FOR ADDITIONAL REQUIREMENTS.
20. THE CONTRACTOR SHALL, BY HIS OWN INVESTIGATION, AND PRIOR TO COMMENCING WORK, SATISFY HIMSELF AS TO THE SURFACE AND SUBSURFACE CONDITIONS TO BE ENCOUNTERED.
21. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
22. NO FEDERALLY OWNED MAILBOX MAY BE DISTURBED. THE CONTRACTOR SHALL GIVE AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE TO THE MANAGER OF DELIVERY AND COLLECTIONS. TAMPERING WITH FEDERAL MAIL FACILITIES MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.
23. THE CONTOUR LINES SHOWN ARE FOR MASS GRADING PURPOSES.
24. EXISTING CONTOURS REPRESENT MASS GRADING ELEVATIONS.
25. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN NO STEEPER THAN 1 FOOT VERTICAL IN 3 FEET HORIZONTAL UNLESS OTHERWISE SHOWN BY CONTOURS OR SPOT ELEVATIONS.
26. THE CONTRACTOR SHALL GRADE LANDSCAPED AREAS TO PROVIDE POSITIVE DRAINAGE IN THE BORROW AREA.
27. THE CONTRACTOR SHALL MAKE HIS OWN ASSUMPTIONS ON THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. ALL ROCK EXCAVATION AND REMOVAL SHALL BE INCLUDED IN THE CONTRACTORS' BID.
28. CONTRACTOR TO FIELD VERIFY ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES AND INFRASTRUCTURE PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS.
29. BY ACCEPTING AND UTILIZING ANY ELECTRONIC FILE OF ANY DRAWING, REPORT OR DATA TRANSMITTED BY OLSSON (OLSSON), THE RECIPIENT AGREES FOR ITSELF, ITS SUCCESSORS, ASSIGNS, INSURERS AND ALL THOSE CLAIMING UNDER OR THROUGH IT, THAT BY USING ANY OF THE INFORMATION CONTAINED IN THE ELECTRONIC FILE, ALL USERS AGREE TO BE BOUND BY THE FOLLOWING TERMS. ALL OF THE INFORMATION CONTAINED IN THIS ELECTRONIC FILE IS THE WORK PRODUCT AND INSTRUMENT OF SERVICE OF OLSSON, WHO SHALL BE DEEMED THE AUTHOR, AND SHALL RETAIN ALL COMMON LAW, STATUTORY LAW AND OTHER RIGHTS, INCLUDING COPYRIGHTS, UNLESS THE SAME HAVE PREVIOUSLY BEEN TRANSFERRED IN WRITING TO THE RECIPIENT. THE INFORMATION CONTAINED IN THE ELECTRONIC FILE IS PROVIDED FOR THE CONVENIENCE OF THE RECIPIENT AND IS PROVIDED IN "AS IS" CONDITION. THE RECIPIENT IS AWARE THAT DIFFERENCES MAY EXIST BETWEEN THE ELECTRONIC FILES AND THE PRINTED HARD-COPY ORIGINAL SIGNED AND SEALED DRAWINGS OR REPORTS. IN THE EVENT OF A CONFLICT BETWEEN THE SIGNED AND SEALED ORIGINAL DOCUMENTS PREPARED BY OLSSON AND THE ELECTRONIC FILES TRANSFERRED HEREWITH, THE SIGNED AND SEALED ORIGINAL DOCUMENTS SHALL GOVERN. OLSSON SPECIFICALLY DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ELECTRONIC FILES. IT SHALL BE THE RECIPIENT'S RESPONSIBILITY TO CONFIRM THE ACCURACY OF THE INFORMATION CONTAINED IN THE ELECTRONIC FILE AND THAT IF ACCURATELY REFLECTS THE INFORMATION NEEDED BY THE RECIPIENT. THE RECIPIENT SHALL NOT RETRANSMIT THE ELECTRONIC FILE, OR ANY PORTION THEREOF, WITHOUT INCLUDING THIS DISCLAIMER AS PART OF ANY SUCH TRANSMISSION. IN ADDITION, THE RECIPIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS OLSSON, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS AGAINST ANY AND ALL DAMAGES, LIABILITIES, CLAIMS OR COSTS, INCLUDING REASONABLE ATTORNEY'S AND EXPERT WITNESS FEES AND DEFENSE COSTS, ARISING FROM ANY CHANGES MADE BY ANYONE OTHER THAN OLSSON OR FROM ANY REUSE OF THE ELECTRONIC FILES WITHOUT THE PRIOR WRITTEN CONSENT OF OLSSON.
30. DESIGN PROFESSIONAL SHALL REVIEW SHOP DRAWINGS OR SAMPLES FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPTS ON THE PROJECT AND FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS, AND SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. THE DESIGN PROFESSIONAL'S REVIEW SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS IN WRITING CALLED DESIGN PROFESSIONAL'S ATTENTION TO EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND DESIGN PROFESSIONAL HAS GIVEN WRITTEN APPROVAL OF EACH SUCH VARIATION BY SPECIFIC WRITTEN NOTATION THEREOF INCORPORATED INTO OR ACCOMPANYING THE SHOP DRAWING OR SAMPLE; NOR WILL ANY APPROVAL BY THE DESIGN PROFESSIONAL RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS WITH CONFORMANCE TO CONTRACT DOCUMENTS.
31. GENERAL CONSTRUCTION NOTE REGARDING SEQUENCING OF EROSION CONTROL – ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN, EXCEPT THAT SILT FENCE WHICH IS TO BE PLACED ALONG THE BACK OF CURB FOR PROTECTION OF THE STREET. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR UNTIL ALL UTILITIES ARE IN PLACE. THE SILT FENCE THAT IS PLACED ALONG THE BACK OF THE CURB OR RIGHT -OF-WAY WILL BE INSTALLED IMMEDIATELY AFTER THE CURB IS CONSTRUCTED. EROSION AND SEDIMENTATION CONTROLS ARE TEMPORARY AND MUST BE REMOVED BY THE CONTRACTOR AFTER CONSTRUCTION IS COMPLETE AND THE DISTURBED AREA IS AT LEAST 70% PERMANENTLY VEGETATED.
32. HANDICAP PARKING STALLS SHALL BE SIGNED WITH CITY/ADA APPROVED SIGNAGE AND CONSTRUCTED IN STRICT ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS *OF THE APWA-KC*, CITY OF LEE'S SUMMIT ADA STANDARDS, *AND* SHALL NOT EXCEED 2.00 PERCENT IN ANY DIRECTION. ACCESSIBLE SIDEWALKS HAVE A MAXIMUM CROSS SLOPE OF 2 PERCENT AND A MAXIMUM LONGITUDINAL SLOPE OF 5 PERCENT.
33. ALL WATER LINES SHALL BE INSTALLED PER THE LATEST STANDARDS AND SPECIFICATIONS *OF THE APWA-KC AND* THE CITY OF LEE'S SUMMIT, MO. ALL WATER LINES SHALL BE A MINIMUM OF 48 INCHES BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN.
34. ALL WATER LINES SHALL BE INSTALLED PER CITY STANDARDS. ALL WATER LINES SHALL BE A MINIMUM OF 48 INCHES BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN.
35. ALL EXTERIOR CONCRETE SHALL BE KCMMB-4K AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, SHALL MEET KCMMB STANDARDS AND SPECIFICATIONS, AND SHALL BE AIR ENTRAINED. FLYASH IS NOT A SUITABLE REPLACEMENT FOR PORTLAND CEMENT.
36. ALL ON-SITE WIRING AND CABLES SHALL BE PLACED UNDERGROUND.
37. CONCRETE PAVEMENT JOINTS SHALL BE CONSTRUCTED AS FOLLOWS (REFER TO HARDSCAPE PLANS FOR SPECIFIC TREATMENT OF THESE AREAS):
    A. CONTROL JOINTS SPACED AT INTERVALS NOT GREATER THAN 12 FEET AND TOOLED TO 1/3 THE SLAB THICKNESS.
    B. CONSTRUCTION JOINTS AT THE END OF EACH POUR AND WHEN PAVING OPERATIONS ARE SUSPENDED FOR 30 MINUTES OR MORE.
    C. ISOLATION JOINTS PLACED WHERE THE PAVEMENT ABUTS THE BUILDING, DRAINAGE STRUCTURES AND OTHER FIXED STRUCTURES, CONSTRUCTED WITH A 1/2" NONEXTRUDING FILLER, CLOSED-CELL FOLSSONM RUBBER OR A BITUMEN-TREATED FIBER-BOLSSONRD, AND WITH A THICKENED EDGE, INCREASED BY 20 PERCENT, TAPERED TO THE REGULAR THICKNESS IN 5 FEET.
    D. ALL EXPANSION JOINTS SHALL BE FILLED AND SEALED WITH A PLASTIC JOINT SEALANT MATERIAL.
35. TELEPHONE AND COMMUNICATION SERVICE ROUTING AND CONDUITS NOT SHOWN ON PLANS. CONTRACTOR SHALL INSTALL NECESSARY CONDUIT PRIOR TO PAVEMENT INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING AND INSTALLATION SCOPE WITH SERVICE PROVIDER.
36. ANY CONTRACTOR BIDDING ANY PORTION OF THIS WORK SHALL HAVE IN HIS OR HER POSSESSION A COMPLETE SET OF CONSTRUCTION DOCUMENTS AND BE FAMILIAR WITH ALL SCOPES OF WORK AND TRADES TO UNDERSTAND THEIR INTERACTIONS.
37. EXISTING TOPSOIL SHALL BE STRIPPED TO A POINT WHERE ALL VEGETATION IS REMOVED. REFER TO THE GEOTECHNICAL REPORT PROVIDED BY OLSSON DATED 01/09/2019 AND ALL ADDENDUMS.
38. SITE PREPARATION, GRADING AND EXCAVATION PROCEDURES SHALL CONFORM TO THE RECOMMENDATIONS AS OUTLINED IN THE GEOTECHNICAL REPORT PREPARED BY OLSSON DATED 01/09/2019 AND ALL ADDENDUMS.

GENERAL UTILITY NOTES

1. THE SIZE AND LOCATION OF SERVICES SHALL BE VERIFIED WITH THE ARCHITECTURAL AND MEP PLANS PRIOR TO CONSTRUCTION. IF DISCREPANCIES EXIST, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
2. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SLEEVING UNDER PAVING AREAS WHERE NECESSARY.
3. INSTALL ALL PIPE LENGTHS, BENDS AND FITTINGS NECESSARY FOR UTILITY CONNECTIONS.
4. CONTRACTOR SHALL VERIFY ALL CROSSING ELEVATIONS AND LOCATIONS, SIZES, AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION OF STORM LINES AND ALL UTILITY SERVICE CONNECTIONS. ANY CONFLICTS SHALL BE MADE KNOWN TO THE ENGINEER AND RESOLVED PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO VERIFY FIRE SERVICE SIZE WITH SPRINKLER DESIGNER/CONTRACTOR PRIOR TO CONSTRUCTION AND INSTALLATION OF METER/BACKFLOW PREVENTER AND SERVICES. NOTIFY ENGINEER OF ALTERATIONS.
6. CONTRACTOR RESPONSIBLE FOR PAYING ALL TAP AND CONNECTION FEES AND SHALL CONTRACT AND PAY FOR ANY REQUIRED SUB CONTRACTORS BY UTILITY COMPANIES.
7. REFERENCE MEP PLANS FOR BUILDING CONNECTIONS.
8. CONTRACTOR TO REPAIR ALL AREA DAMAGED BY CONSTRUCTION TO EXISTING CONDITIONS OR BETTER.
9. BACK FLOW PREVENTION TO BE PROVIDED INSIDE BUILDING. SEE MEP AND ARCHITECTURAL PLANS FOR DETAILS.
10. LOCATION FOR POWER SHOWN IS APPROXIMATE AND SUBJECT TO CHANGE. CONTRACTOR TO VERIFY FINAL LOCATION AND DESIGN WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
11. CONTRACTOR TO COORDINATE LIGHT POLE LOCATIONS WITH OWNER, STORM SEWER INSTALLATION AND UTILITY COMPANIES PRIOR TO INSTALLATION TO AVOID CONFLICTS. NOTIFY ENGINEER AND ARCHITECT OF ANY CONFLICTS PRIOR TO INSTALLATION.
12. WATER METER CANNOT BE INSTALLED IN THE BUILDING.
13. CONTRACTOR SHALL COORDINATE CABLE/FIBER OPTIC CONDUIT AND SERVICE INSTALLATION WITH UTILITY COMPANY.
14. ALL TAPS AND CONNECTIONS FOR FIRE AND DOMESTIC WATER SERVICES ARE TO BE IN ACCORDANCE WITH THE CITY OF BLUE SPRINGS STANDARDS AND SPECIFICATIONS.
15. CONTRACTOR TO COORDINATE POWER ROUTING TO MONUMENT SIGNS NOT SHOWN ON PLANS.
16. ALL ROOF DRAIN AND DOWNSPOUT HEADER PIPES SHALL BE 12" HDPE PIPE AND INSTALLED AT 1.00% MINIMUM SLOPE UNLESS OTHERWISE NOTED WITHIN THIS PLAN. ALL BENDS AND FITTINGS NEEDED TO BUILD ROUTING AS SHOWN SHALL BE INCLUDED IN BID.
17. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY FITTINGS TO COMPLETE ROOF DRAIN AND DOWNSPOUT CONNECTIONS TO BUILDINGS. ALL ROOF DRAIN AND DOWNSPOUT CONNECTIONS / FITTINGS, INCLUDING BUT NOT LIMITED TO BENDS AND TEES, SHALL BE MADE OF HDPE PIPE UNLESS OTHERWISE NOTED WITHIN THIS PLAN.

CONTROL INFORMATION:

BASIS OF COORDINATES SHOWN HEREON ARE BASED ON MISSOURI STATE PLANE COORDINATE SYSTEM, WEST ZONE, AND SCALED TO GROUND COORDINATES UTILIZING A COMBINED ADJUSTMENT FACTOR OF 0.9998986, HOLDING JACKSON COUNTY GPS CONTROL POINT JA-45 AS A BASE POINT. DISTANCES SHOWN HEREON ARE GROUND DISTANCES IN US SURVEY FEET.

MO DNR JA-45:
KC METRO ALUMINUM GRS DISK SET IN CONCRETE ±3" BELOW PAVEMENT ON SHOULDER OF SE RANSON RD. STAMPED "JA-45".
N: 994990.346
E: 2834265.611
ELEV.: 1046.26'

OLSSON #100:
SET 1/2" REBAR WITH OLSSON CONTROL CAP. SET IN THE GRASS ON THE NORTH SIDE OF SE BAILEY RD.
N: 993598.83
E: 2831586.70
ELEVATION: 1032.16'
TIES:
1. SW 66.88' TO THE NE CORNER OF THE CONCRETE SIDEWALK ON THE SOUTH SIDE OF SE BAILEY RD.
2. SSW 82.19' TO THE CENTER OF A POWER POLE ON THE SOUTH SIDE OF SE BAILEY RD.
3. EAST 254.38' TO THE NW CORNER OF A CONCRETE CURB INLET ON THE NORTH SIDE OF SE BAILEY RD.
4. EAST ±298' TO THE CENTERLINE OF COUNTRY LN. ON THE NORTH SIDE OF SE BAILEY RD.

OLSSON #101:
SET 1/2" REBAR WITH OLSSON CONTROL CAP. SET IN THE GRASS ON THE NORTH SIDE OF SE BAILEY RD.
N: 993561.11
E: 2832755.84
ELEVATION: 1014.26'
TIES:
1. EAST 80.94' TO THE NW CORNER OF A CONCRETE CURB INLET ON THE NORTH SIDE OF SE BAILEY RD.
2. SE 91.53' TO THE SW CORNER OF A CONCRETE CURB INLET ON THE SOUTH SIDE OF SE BAILEY RD.
3. NE 94.82' TO THE SW CORNER OF A CONCRETE OVERFLOW STRUCTURE ON THE SOUTH SIDE OF A POND ON THE NORTH SIDE OF SE BAILEY RD.
4. WEST ±871' TO THE CENTERLINE OF COUNTRY LN. ON THE NORTH SIDE OF SE BAILEY RD.

OLSSON #102:
SET 1/2" REBAR WITH OLSSON CONTROL CAP. SET IN THE GRASS ±58' EAST OF THE EAST END OF SE 15TH ST.
N: 992084.37
E: 2831530.63
ELEVATION: 1012.56'
TIES:
1. NW 67.97' TO THE CENTER OF A WATER VALVE ON THE NORTH SIDE OF SE 15TH ST.
2. WEST 59.33' TO THE CENTER OF A SANITARY MANHOLE ON THE SOUTH SIDE OF SE 15TH ST.
3. WSW 57.28' TO THE SE CORNER OF THE EAST END OF THE CONCRETE SIDEWALK ON THE SOUTH SIDE OF SE 15TH ST.
4. NORTH ±15' TO THE EASTERLY PROLONGATION OF THE CENTERLINE OF SE 15TH ST.

OLSSON #103:
SET 1/2" REBAR WITH OLSSON CONTROL CAP. SET IN THE GRASS ±62' EAST OF THE EAST END OF SE CAPE DR.
N: 991553.72
E: 2831514.48
ELEVATION: 1000.43'
TIES:
1. NW 76.12' TO THE CENTER OF A TELEPHONE PEDESTAL ON THE NORTH SIDE OF SE CAPE DR.
2. SW 67.00' TO THE CENTER OF A WATER VALVE ON THE SOUTH SIDE OF SE CAPE DR.
3. SW 70.06' TO THE SE CORNER OF THE EAST END OF THE CONCRETE SIDEWALK ON THE SOUTH SIDE OF SE CAPE DR.
4. NORTH ±4' TO THE EASTERLY PROLONGATION OF THE CENTERLINE OF SE CAPE DR.

BASIS OF ELEVATIONS SHOWN HEREON ARE BASED UPON NAVD '88 UTILIZING MODOT'S CONTINUOUSLY MONITORED GNSS SYSTEM AND HOLDING THE ELEVATION OF JA-45 ELEVATION 1046.26'

OLSSON BENCHMARK #1:
SET CHISELED SQUARE CUT ON CENTER FRONT FACE OF A CURB INLET ON NORTH SIDE OF SE BAILEY RD. ±42' WEST OF COUNTRY LN.
ELEVATION: 1028.43'

OLSSON BENCHMARK #2:
SET CHISELED SQUARE CUT ON SE CORNER OF OVERFLOW STRUCTURE ON SOUTH SIDE OF POND ON NORTH SIDE OF SE BAILEY RD. ±962' EAST OF COUNTRY LN.
ELEVATION: 1017.13'

OLSSON BENCHMARK #3:
SET CHISELED "+" CUT ON SSE FLANGE BOLT OF FIRE HYDRANT IN THE NW QUADRANT OF THE INTERSECTION OF SE 15TH ST. AND SE DALTON DR.
ELEVATION: 1016.27'

OLSSON BENCHMARK #4:
SET CHISELED SQUARE CUT ON EDGE OF SIDEWALK AT THE WEST CENTER OF A CURB INLET IN THE NW QUADRANT OF THE INTERSECTION OF SE CAPE DR. AND SE DALTON DR.
ELEVATION: 999.24'

THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, & OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. CALL 1-800-DIG-RITE.

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STATE OF MISSOURI
TERRYL PARSONS
NUMBER PE-2010010509
07 DEC 20

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TEL 913.381.1170
www.olsson.com

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEES SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

GENERAL NOTES

C1001

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_GEN01_0200103.dwg USER: bkimmich
DATE: Aug 27, 2020 6:51pm XREFS: C_XBASE_0200103 C_PBASE_0200103 C_PTBLK_0200103 T_PBASE_0200103 T_PSAS_0200103 V_XALT_00103

SITE DATA		
ZONING & SITE AREA		
PROPOSED USE: PUBLIC MIDDLE SCHOOL/ BALLFIELD COMPLEX		PROPOSED/EXISTING ZONING: AG AGRICULTURE
SITE AREA		
XX ACRES (XX SQ.FT.)		51.66 AC. (2,250,248.11 SF)
IMPERVIOUS		14.99 AC. (652,941 SF)
PERVIOUS		36.67 AC. (1,597,307.11 SF)
FAR (0.55 MAX):		0.084
BUILDING AREA		
BUILDING TYPE	# STORIES	AREA
BUILDING 1	2	1ST FLOOR: 129,739 SQ.FT.
		2ND FLOOR: 60,256 SQ.FT. (54,971 _ 5,285 SQ.FT. MECH MEZZANINE
BUILDING 2 (CONCESSIONS)	1	5,000 SQ.FT.
		TOTAL 189,995 SQ.FT.
PARKING		
USE	REQUIRED	PROVIDED
SCHOOL (36 CLASSROOMS)	2 SPACES PER CLASSROOM (72)	191
GYM OCCUPANCY (600)	1 SPACE PER 3 SEATS (200)	200
BALLFIELD COMPLEX OCCUPANCY(600)	1 SPACE PER 3 SEATS (200)	200
VAN ACCESSIBLE ADA		4
STANDARD ADA	13	9
TOTAL	472	604

LEGEND

- PROPERTY LINE
- LOT LINE
- UTILITY EASEMENT
- CONSTRUCT CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT FULL DEPTH
- ADA PATH
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- HEAVY DUTY CONCRETE PAVEMENT
- SIDEWALK AND LANDSCAPE CONCRETE PAVEMENT
- STORM SEWER
- SS — SANITARY SERVICE LINE
- W — WATER SERVICE LINE
- P-UG — UNDERGROUND POWER SERVICE LINE
- FP — FIRE PROTECTION LINE
- COMM — COMMUNICATIONS SERVICE LINE
- SD — LANDSCAPE/ROOF DRAIN
- ADA CONCRETE SIDEWALK AND RAMP
- SS — EXISTING SANITARY SEWER MAIN
- W — EXISTING WATER MAIN
- TEL — EXISTING COMMUNICATIONS LINE
- P-UG — EXISTING ELECTRIC LINE
- G — EXISTING GAS MAIN

SE WARREN DRIVE
SE BAILEY ROAD
SE COUNTRY LANE
R-1 RESIDENTIAL
LEE'S SUMMIT HIGH SCHOOL BASEBALL AND SOFTBALL COMPLEX
STREAM BUFFER
AG- AGRICULTURE
CENTERLINE OF EXISTING STREAMWAY
EXISTING TREE LINE
PROPOSED BUILDING
FFE=1017.75
6 LANE TRACK AND FOOTBALL FIELD
PRACTICE FIELD AND TRACK THROWING EVENTS
FUTURE SE CAPE DRIVE EXTENSION
AG- AGRICULTURE
BUS PARKING AND OVERFLOW PARKING
R-1 RESIDENTIAL
SE 13TH STREET
SE DALTON COURT
SE DALTON DRIVE
SE 14TH TERRACE
SE 15TH STREET
SE CAPE DRIVE
SE HOCKER CIRCLE
SE DALTON DRIVE
POINT OF BEGINNING
POINT OF COMMENCING
N. 1/4 Corner, Sec. 16--T47h--R31W
Found Copperweld in Monument Box
S35°20'15"W, 517.09'
S7°56'53"W, 320.18'
S12°12'42"W, 1168.07'
S27°41'50"W, 180.38'
N2°20'19"E, 2330.63'
N3°39'04"E, 600.96'
60' R/W
36'

N
0' 50' 100' 200'
SCALE IN FEET

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PACKAGE 2 - STRUCTURAL & SITE UTILITIES
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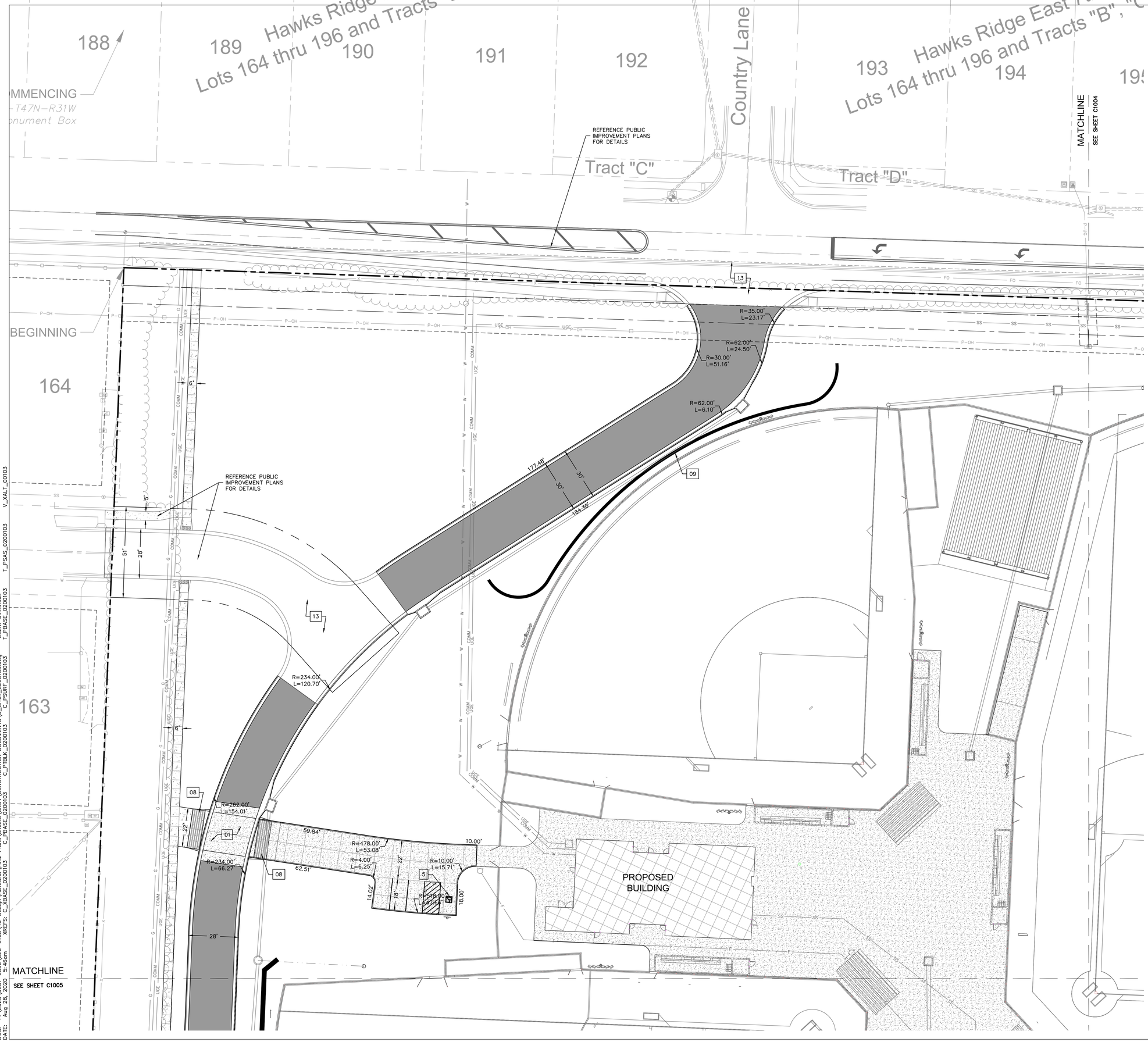
REVISIONS

13-20102-00

GENERAL LAYOUT PLAN

C1002



LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: (XX)

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS
02 SPEED TABLE. RE: GRADING DETAILS
03 DETENTION BASIN. RE: DETAILS
04 REMOVABLE CONCRETE BOLLARD. RE: ARCH
05 ADA PARKING, STRIPING AND SIGNAGE. RE: DETAILS
06 CONCRETE STAIRS AND HANDRAIL – BOTH SIDES. RE: ARCH
07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.
08 ADA RAMP. RE: DETAILS
09 CAST IN PLACE RETAINING WALL WITH GUARD RAIL. RE: STRUCTURAL PLANS
10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH
11 MODULAR BLOCK RETAINING WALL
12 TRASH DUMPSTER
13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N
0' 10' 20' 40'
SCALE IN FEET

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STATE OF MISSOURI
TERRY K. PARSONS
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07/28/20
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SITE DIMENSION PLAN

C1003

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_SIT01_0200103.dwg
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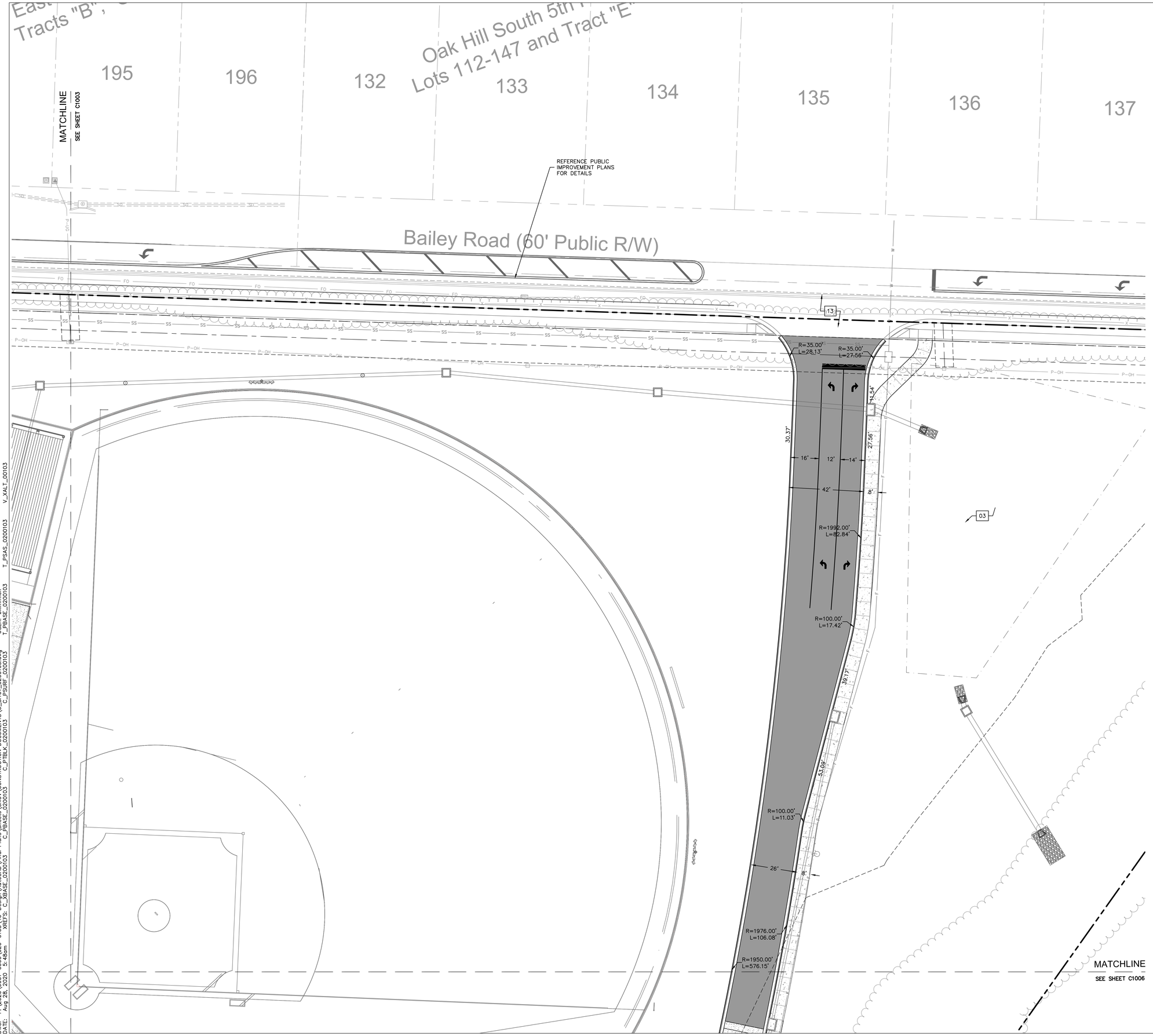

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
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- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: XX

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N

0' 10' 20' 40'
SCALE IN FEET

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_SIT01_0200103.dwg USER: bkimmich
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STATE OF MISSOURI
TERRY K PARSONS
NUMBER PE-2010010509
07.28.20
PROFESSIONAL ENGINEER

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

SITE DIMENSION PLAN

C1004

MATCHLINE
SEE SHEET C1003

MATCHLINE
SEE SHEET C1006

MATCHLINE
SEE SHEET C1007

28'
24' 60'
28'
8'
6'
11
20
08
05(TYP)
08
08
08
16'
13.00'
97.88'
R300'
12.97'
R=283.50'
L=145.06'
R=100.00'
L=79.55'
R=40.00'
L=62.88'
R=40.00'
L=61.01'
1376.91'
23.39'
263.25'
R=8.00' L=12.97'
R=12.00' L=22.56'
R=74.00' L=20.98'
R=8.00' L=7.83'
R=4.00' L=6.28'
R=4.00' L=6.28'
R=4.00' L=6.28'
R=8.00' L=18.81'
R=4.00' L=6.28'
R=8.00' L=6.32'
R=4.00' L=6.28'
R=8.00' L=17.62'
R=326.00' L=25.89'
R=4.00' L=6.28'
R=8.00' L=8.14'
R=4.00' L=6.28'
R=8.00' L=15.90'
R=326.00' L=23.14'
R=8.00' L=9.80'
R=4.00' L=6.28'
R=4.00' L=6.34'
R=300.00' L=76.43'
R=326.00' L=41.26'
R=8.00' L=14.34'
R=4.00' L=6.28'
R=15.00' L=20.76'
R=4.00' L=6.28'
8.93'
14.00'
2.63'
15.00'
26.50'
24.82'
15.00'
13.81'
30.98'
15.00'
8.00'
10.01'
15.00'
2.55'
15.00'
18.00'
15.00'
5.74'
2.66'
15.00'
9.00'
2.83'
15.00'
8'
6'
28'
26.68'
17'
25'
19'
19'
24'
19'
19'
24'
19'
19'
25'
18'
24'
17'
6'
8'
6'
10.00'
13.00'
5.00'
16'

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: (XX)

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS
02 SPEED TABLE. RE: GRADING DETAILS
03 DETENTION BASIN. RE: DETAILS
04 REMOVABLE CONCRETE BOLLARD. RE: ARCH
05 ADA PARKING, STRIPING AND SIGNAGE. RE: DETAILS
06 CONCRETE STAIRS AND HANDRAIL – BOTH SIDES. RE: ARCH
07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.
08 ADA RAMP. RE: DETAILS
09 CAST IN PLACE RETAINING WALL WITH GUARD RAIL. RE: STRUCTURAL PLANS
10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH
11 MODULAR BLOCK RETAINING WALL
12 TRASH DUMPSTER
13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N
0' 10' 20' 40'
SCALE IN FEET

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STATE OF MISSOURI
TERRYK PARSONS
NUMBER
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12-28-20

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REVISIONS

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SITE DIMENSION PLAN

C1005

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_SIT01_0200103.dwg USER: bkimmich
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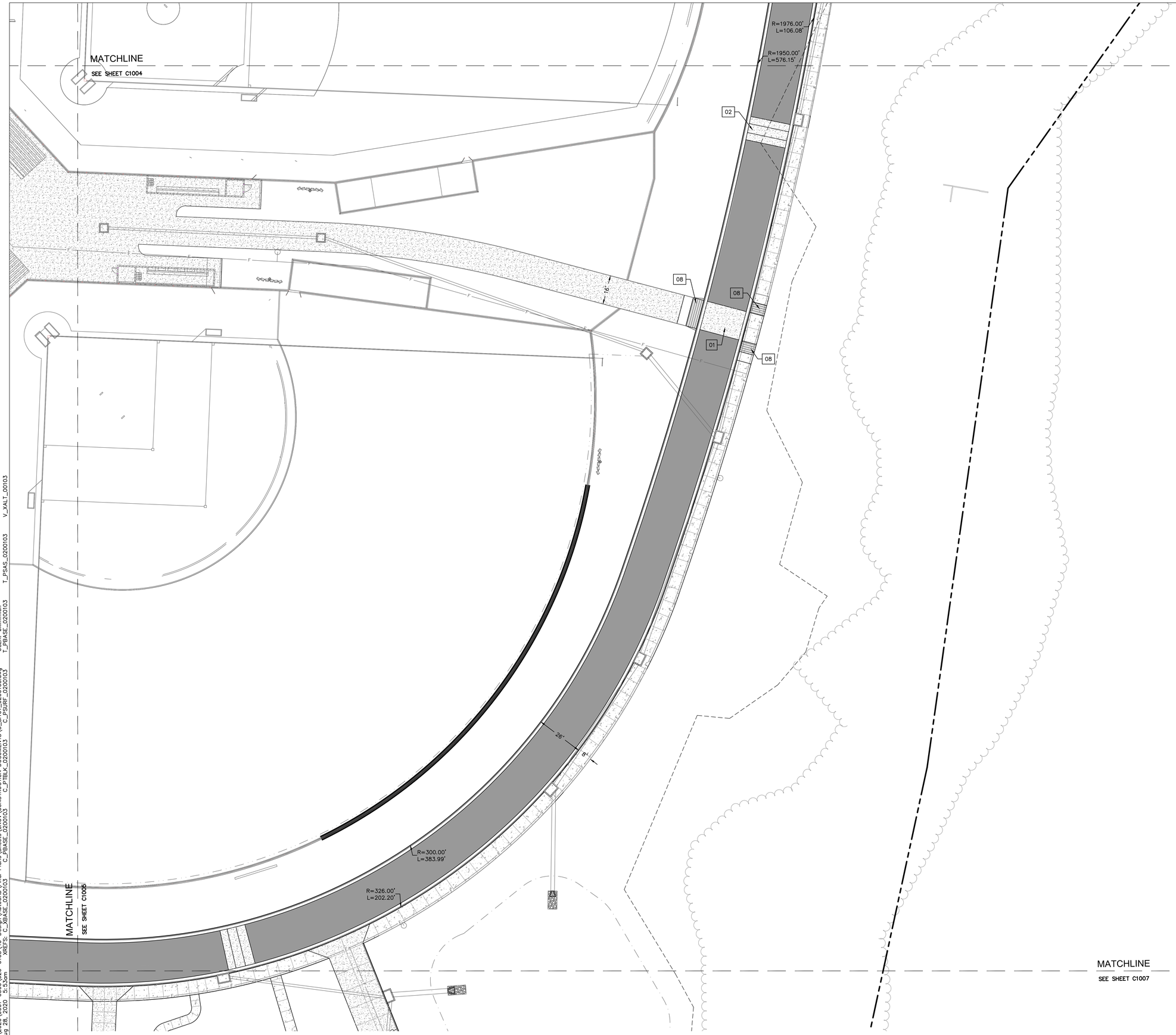

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: (XX)

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS

02 SPEED TABLE. RE: GRADING DETAILS

03 DETENTION BASIN. RE: DETAILS

04 REMOVABLE CONCRETE BOLLARD. RE: ARCH

05 ADA PARKING, STRIPING AND SIGNAGE. RE: DETAILS

06 CONCRETE STAIRS AND HANDRAIL – BOTH SIDES. RE: ARCH

07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.

08 ADA RAMP. RE: DETAILS

09 CAST IN PLACE RETAINING WALL WITH GUARD RAIL. RE: STRUCTURAL PLANS

10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH

11 MODULAR BLOCK RETAINING WALL

12 TRASH DUMPSTER

13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N

0' 10' 20' 40'
SCALE IN FEET

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STATE OF MISSOURI
TERRY K. PARSONS
NUMBER
PE-2010010509
8/28/20
CERTIFICATE OF AUTHORITY
PROFESSIONAL ENGINEER

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PACKAGE 2 -
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REVISIONS

13-20102-00

SITE DIMENSION PLAN

C1006

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_SIT01_0200103.dwg USER: bkimmich
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MATCHLINE
SEE SHEET C1008

MATCHLINE
SEE SHEET C1009

PROPOSED BUILDING

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: XX

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS
02 SPEED TABLE. RE: GRADING DETAILS
03 DETENTION BASIN. RE: DETAILS
04 REMOVABLE CONCRETE BOLLARD. RE: ARCH
05 ADA PARKING, STRIPING AND SIGNAGE. RE: DETAILS
06 CONCRETE STAIRS AND HANDRAIL – BOTH SIDES. RE: ARCH
07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.
08 ADA RAMP. RE: DETAILS
09 CAST IN PLACE RETAINING WALL WITH GUARD RAIL. RE: STRUCTURAL PLANS
10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH
11 MODULAR BLOCK RETAINING WALL
12 TRASH DUMPSTER
13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N
0' 10' 20' 40'
SCALE IN FEET

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SITE DIMENSION PLAN

C1007

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_SIT01_0200103.dwg USER: bkimmich
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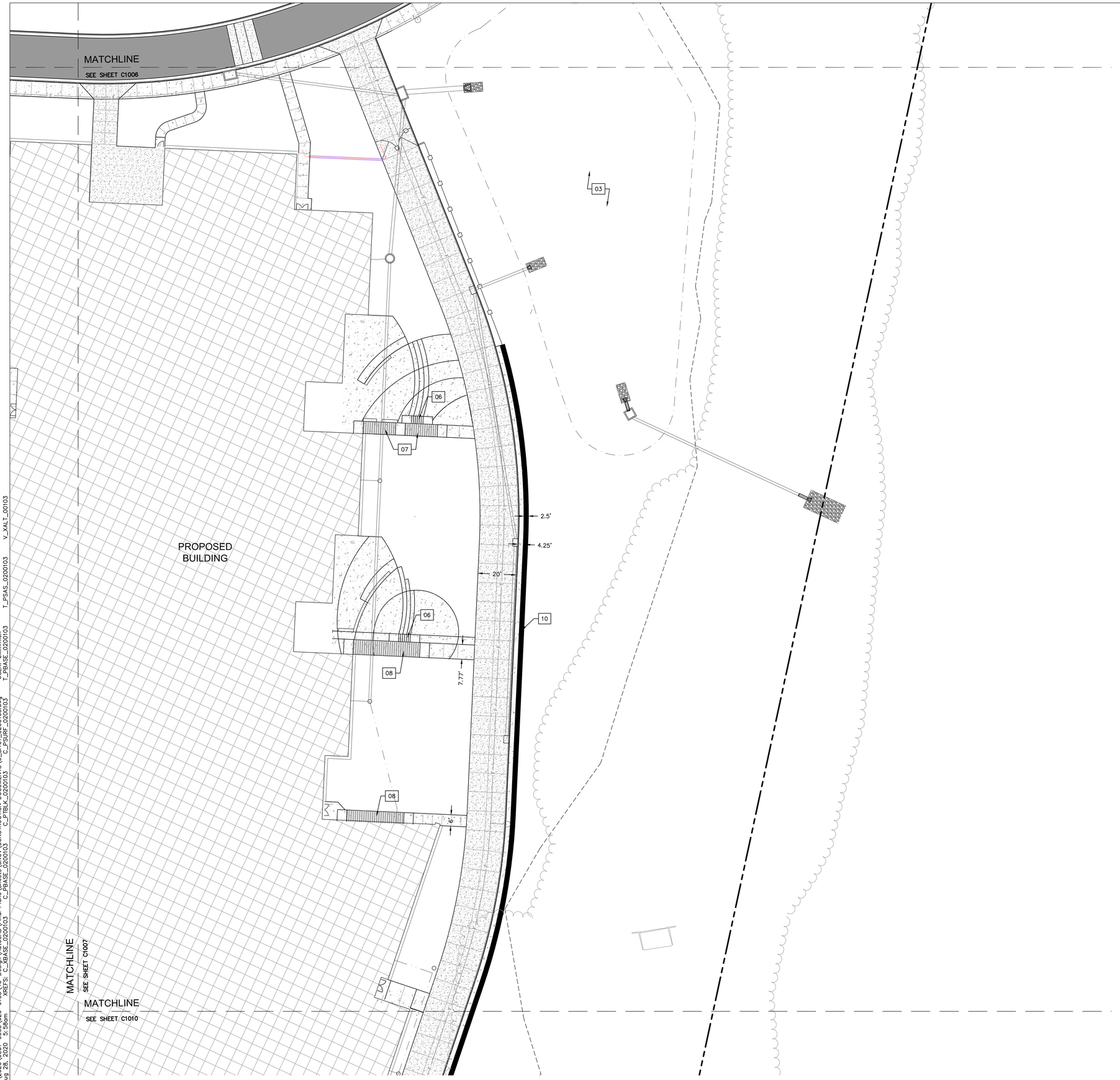

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: XX

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS

02 SPEED TABLE. RE: GRADING DETAILS

03 DETENTION BASIN. RE: DETAILS

04 REMOVABLE CONCRETE BOLLARD. RE: ARCH

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07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.

08 ADA RAMP. RE: DETAILS

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10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH

11 MODULAR BLOCK RETAINING WALL

12 TRASH DUMPSTER

13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N

0' 10' 20' 40'
SCALE IN FEET

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TERRYK PARSONS NUMBER PE-2010010509
07-28-20

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LEE'S SUMMIT, MO 64081

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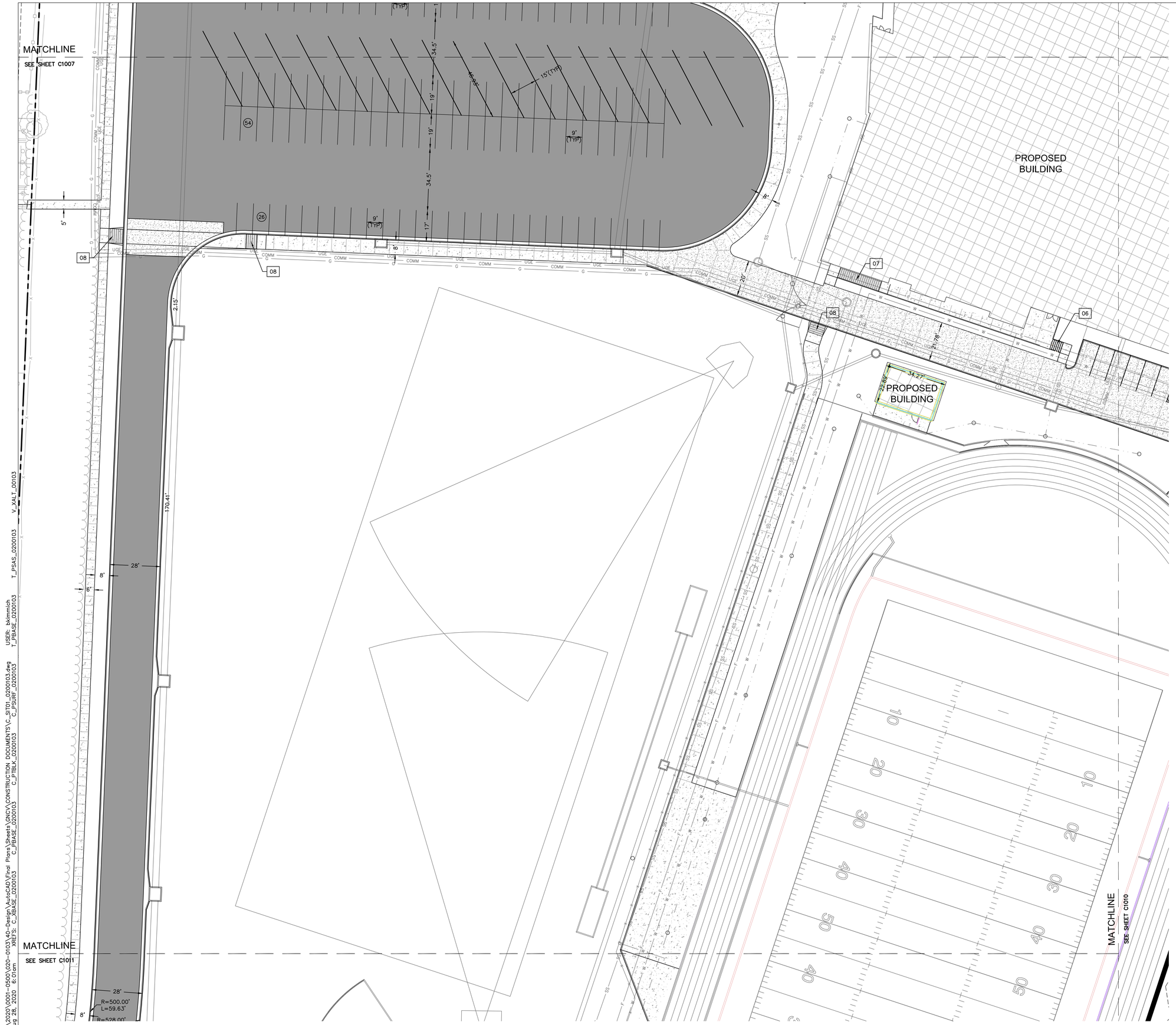
8/28/20
REVISIONS

13-20102-00

SITE DIMENSION PLAN

C1008



LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: (XX)

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS

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11 MODULAR BLOCK RETAINING WALL

12 TRASH DUMPSTER

13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N

0' 10' 20' 40'
SCALE IN FEET

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STATE OF MISSOURI
TERRYE PARSONS
NUMBER PE-2010010509
8/28/20
MY RENEWAL DATE IS DECEMBER 31, 2021

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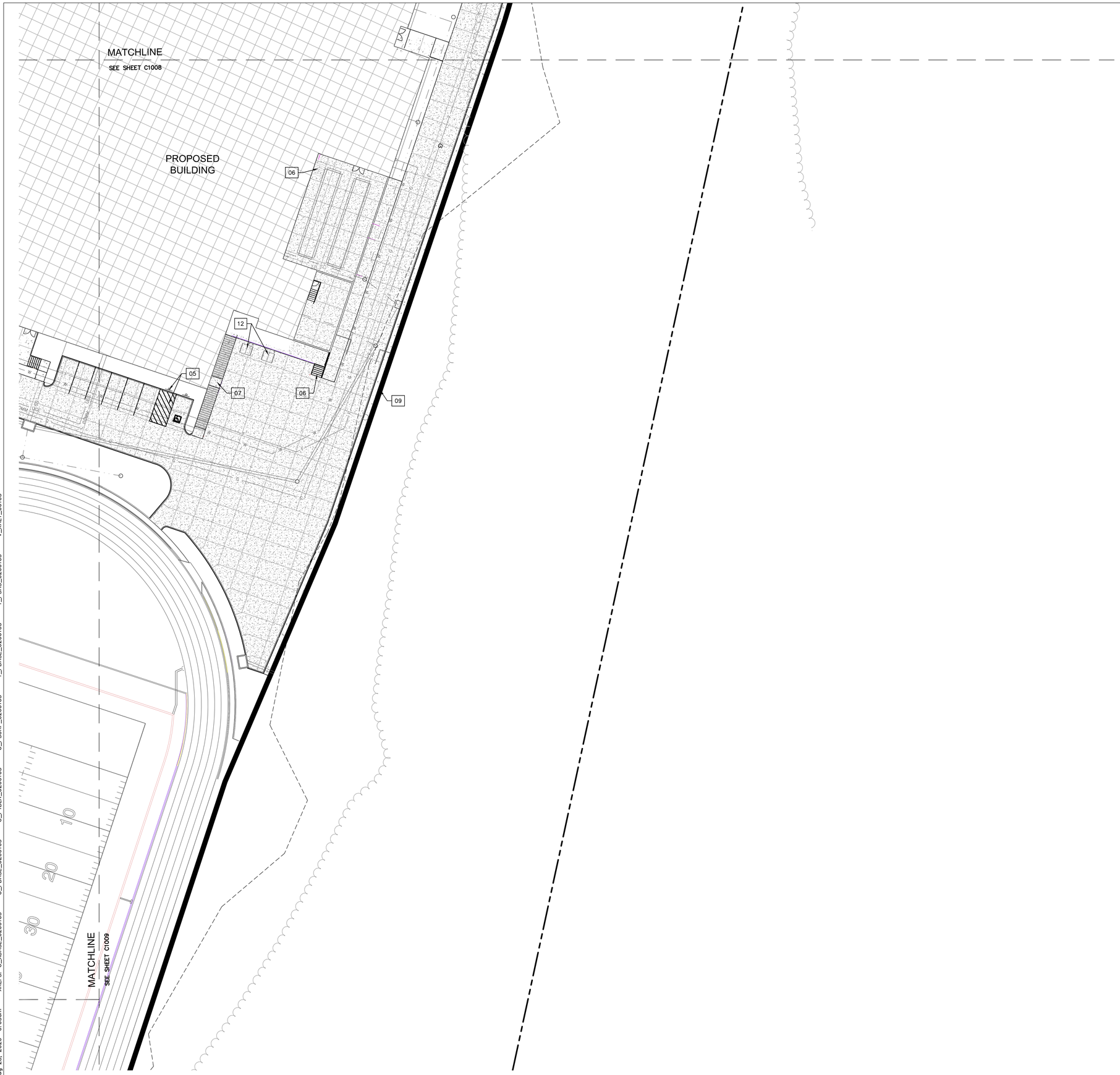
PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

SITE DIMENSION PLAN

C1009



LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: SHEET XX AND XX
- (XX) PARKING STALLS
- STORM SEWER RE: SHEETS XX

CONSTRUCTION KEYNOTES: XX

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS
02 SPEED TABLE. RE: GRADING DETAILS
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11 MODULAR BLOCK RETAINING WALL
12 TRASH DUMPSTER
13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N

0' 10' 20' 40'
SCALE IN FEET

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8/28/20
REVISIONS

13-20102-00

SITE DIMENSION PLAN

C1010

MATCHLINE
SEE SHEET C1009

28'
R=500.00'
L=59.63'
8'
6'
R=528.00'
L=66.41'
36'
36'
13
03
09
DETENTION
BASIN

LEGEND

- PROPERTY LINE
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- SAWCUT PAVEMENT FULL DEPTH
- COMMERCIAL ENTRANCE 8" PCC CONCRETE PAVEMENT
- 6" PCC CONCRETE PAVEMENT
- CONCRETE SIDEWALK PAVEMENT
- ASPHALT PAVEMENT – HEAVY DUTY
- ASPHALT PAVEMENT – LIGHT DUTY
- ADA CONCRETE SIDEWALK AND RAMP. RE: DETAILS
- (XX) PARKING STALLS
- STORM SEWER RE: STORM SEWER PLAN & PROFILE

CONSTRUCTION KEYNOTES: (XX)

01 HEAVY DUTY CONCRETE CROSSWALK. RE: DETAILS
02 SPEED TABLE. RE: GRADING DETAILS
03 DETENTION BASIN. RE: DETAILS
04 REMOVABLE CONCRETE BOLLARD. RE: ARCH
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07 ADA RAMP WITH HANDRAIL – BOTH SIDES. RE: DETAILS.
08 ADA RAMP. RE: DETAILS
09 CAST IN PLACE RETAINING WALL WITH GUARD RAIL. RE: STRUCTURAL PLANS
10 MODULAR BLOCK RETAINING WALL WITH FENCE. RE: STRUCTURAL AND ARCH
11 MODULAR BLOCK RETAINING WALL
12 TRASH DUMPSTER
13 PUBLIC IMPROVEMENTS – RE: PUBLIC IMPROVEMENT PLANS

N
0' 10' 20' 40'
SCALE IN FEET

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STATE OF MISSOURI
TERRYM PARSONS NUMBER PE-2010010509
8-27-20

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SITE DIMENSION PLAN

C1011

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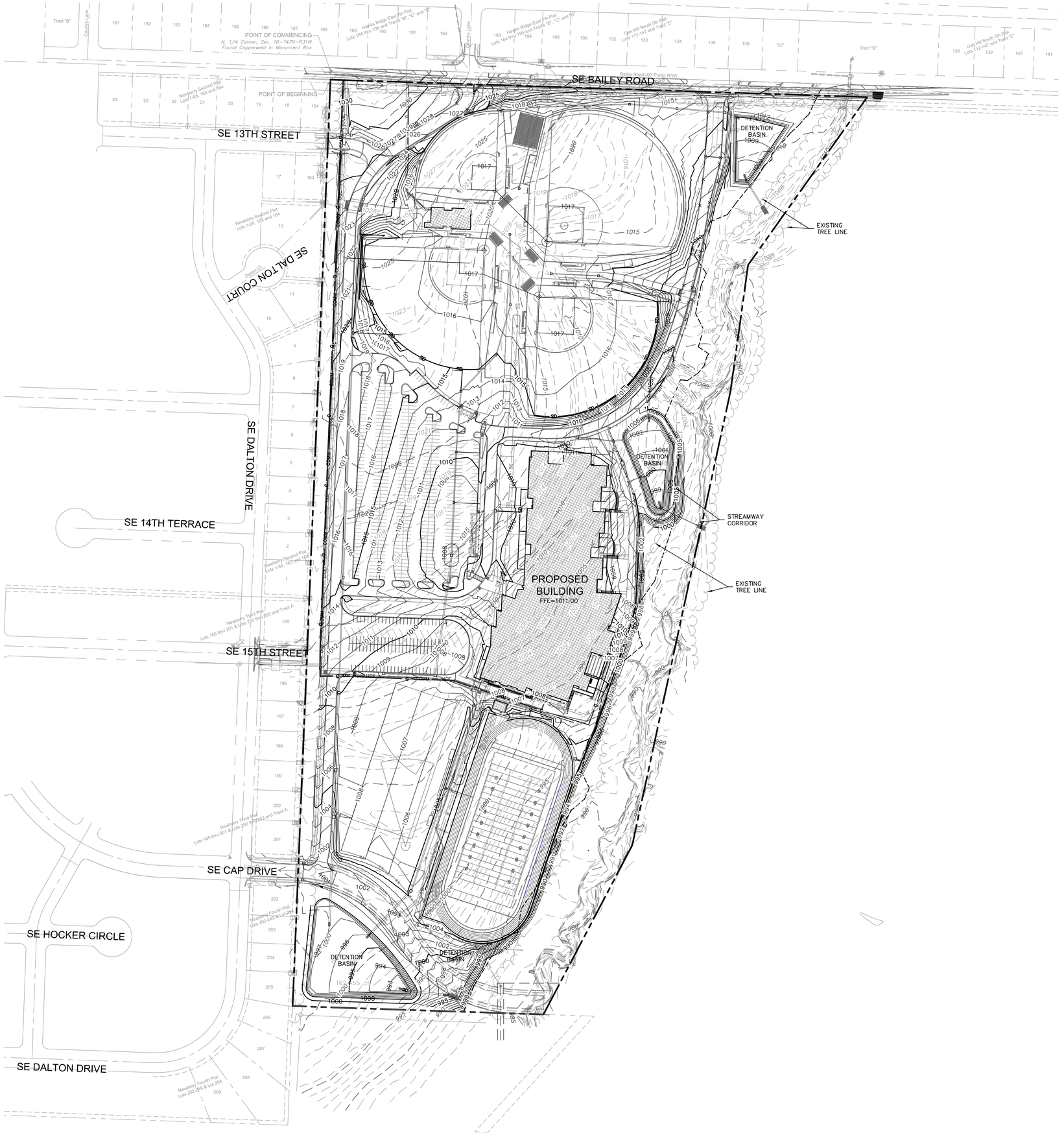

LEGEND

- PROPERTY LINE
- 995 EXISTING MAJOR CONTOUR
- 995 EXISTING MINOR CONTOUR
- 998 PROPOSED MAJOR CONTOUR
- 998 PROPOSED MINOR CONTOUR
- RAMP
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
- (X) GRADING DETAIL DESIGNATION RE: SHEET C5.1 THRU C5.5

NOTES:

1. CONTRACTOR TO REMOVE AND REPLACE ALL SIDEWALK NECESSARY FOR CONNECTION TO EXISTING.
2. ALL ADA ACCESSIBLE SIDEWALK CROSS SLOPES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.00% AND MAXIMUM LONGITUDINAL SLOPE OF 5.00%.
3. ALL ADA ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% IN ANY DIRECTION.

SPOT ELEVATION LEGEND

ALL SPOT ELEVATIONS ARE TOP OF PAVEMENT ELEVATION UNLESS NOTED OTHERWISE. RE: PLAN VIEW, LEGEND AND DETAILS FOR CURB TYPE AND TO CALCULATE TOP OF CURB ELEVATION.

TC=	TOP OF CURB
FG=	FINISHED GRADE WITHIN GREENSPACE
TS=	TOP OF STRUCTURE
TP=TC=	CURB DEPRESSED TO BE FLUSH WITH ADJACENT PAVEMENT
HP=	HIGH POINT
LP=	LOW POINT
MATCH EX.=	MATCH EXISTING
FFE=	FINISH FLOOR ELEVATION AT TOP OF SLAB

N

0' 50' 100' 200'
SCALE IN FEET

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olsson
7301 West 133rd Street, Suite 200
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TEL 913.381.1170
www.olsson.com

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

GRADING PLAN

C1012

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_GRD01_0200103.dwg USER: bkimmich
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LEE'S SUMMIT, MO 64081

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REVISIONS

13-20102-00

GRADING DETAILS

C1013

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LEGEND

- PROPERTY LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- RAMP
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
- GRADING DETAIL DESIGNATION RE: SHEET C5.1 THRU C5.5

NOTES:

1. CONTRACTOR TO REMOVE AND REPLACE ALL SIDEWALK NECESSARY FOR CONNECTION TO EXISTING.
2. ALL ADA ACCESSIBLE SIDEWALK CROSS SLOPES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.00% AND MAXIMUM LONGITUDINAL SLOPE OF 5.00%.
3. ALL ADA ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% IN ANY DIRECTION.

SPOT ELEVATION LEGEND

ALL SPOT ELEVATIONS ARE TOP OF PAVEMENT ELEVATION UNLESS NOTED OTHERWISE. REF. PLAN VIEW, LEGEND AND DETAILS FOR CURB TYPE AND TO CALCULATE TOP OF CURB ELEVATION.

TC= TOP OF CURB
FG= FINISHED GRADE WITHIN GREENSPACE
TS= TOP OF STRUCTURE
TP=TC= CURB DEPRESSED TO BE FLUSH WITH ADJACENT PAVEMENT
HP= HIGH POINT
LP= LOW POINT
MATCH EX.= MATCH EXISTING
FFE= FINISH FLOOR ELEVATION AT TOP OF SLAB

N

0' 10' 20' 40'
SCALE IN FEET

MATCHLINE
SEE SHEET C1014

MATCHLINE
SEE SHEET C1015

PROPOSED BUILDING
FFE=1017.50

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LEGEND

- PROPERTY LINE
- 995 EXISTING MAJOR CONTOUR
- 995 EXISTING MINOR CONTOUR
- 998 PROPOSED MAJOR CONTOUR
- 998 PROPOSED MINOR CONTOUR
- RAMP
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
- (X) GRADING DETAIL DESIGNATION RE: SHEET C5.1 THRU C5.5

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0' 10' 20' 40'
SCALE IN FEET

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MATCHLINE
SEE SHEET C1015

MATCHLINE
SEE SHEET C1014

MATCHLINE
SEE SHEET C1018

LEGEND

- PROPERTY LINE
- 995 EXISTING MAJOR CONTOUR
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- 998 PROPOSED MINOR CONTOUR
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DETENTION BASIN

0' 10' 20' 40'
SCALE IN FEET

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TERRYE PARSONS
NUMBER PE-2010010509
12-31-20
STATE OF PROFESSIONAL ENGINEERS

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GRADING DETAILS

C1016

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_GRD20_0200103.dwg USER: bkimmich
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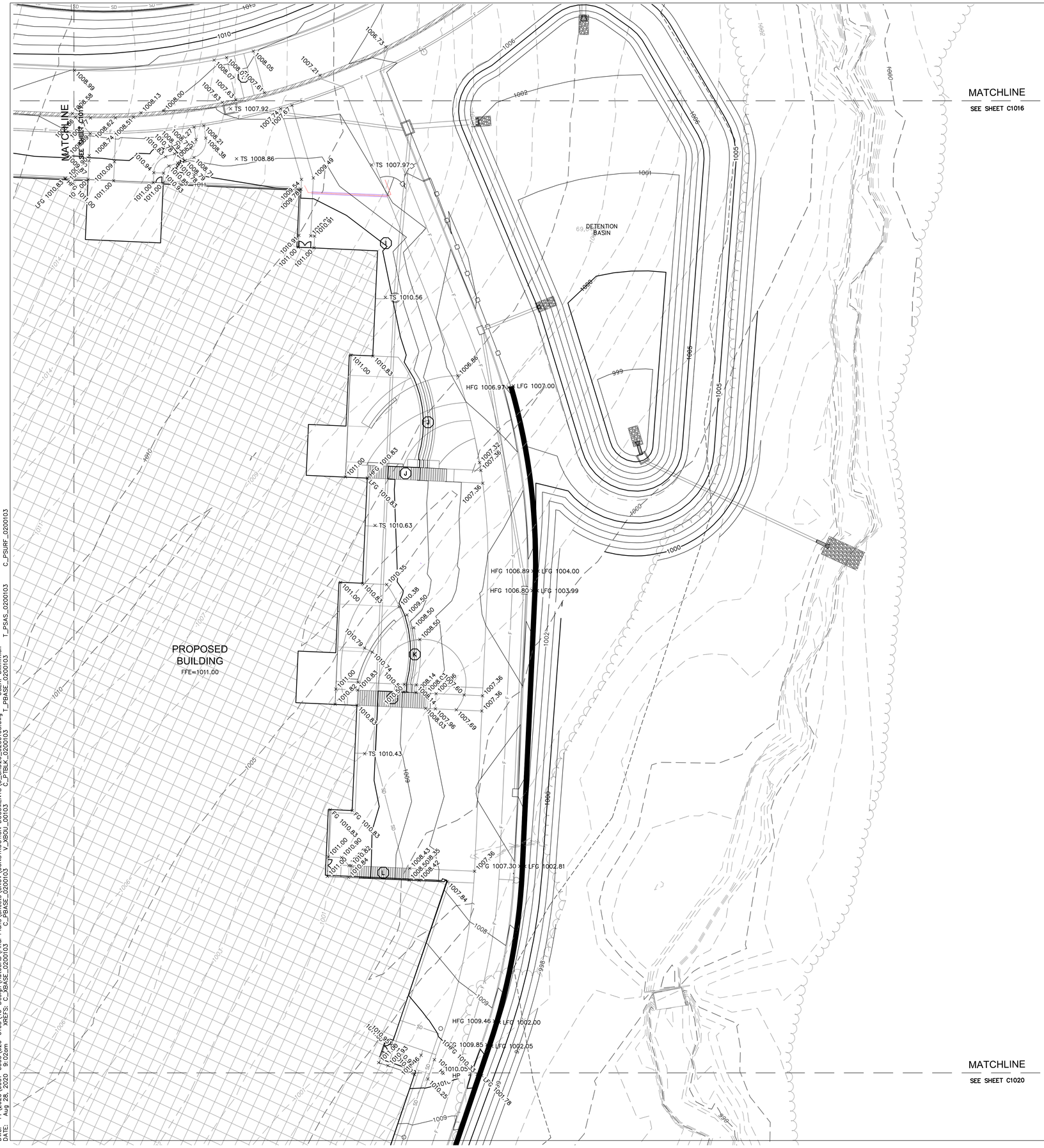

LEGEND

- PROPERTY LINE
- 995 EXISTING MAJOR CONTOUR
- 995 EXISTING MINOR CONTOUR
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- 998 PROPOSED MINOR CONTOUR
- RAMP
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
- (X) GRADING DETAIL DESIGNATION RE: SHEET C5.1 THRU C5.5

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FFE=	FINISH FLOOR ELEVATION AT TOP OF SLAB

0' 10' 20' 40'
SCALE IN FEET

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12-28-20

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C1018

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USER: bkimmich

LEGEND

- PROPERTY LINE
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- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
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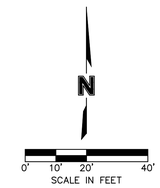

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C1020

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MATCHLINE

SEE SHEET C1019

LEGEND

- PROPERTY LINE
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- 995 EXISTING MINOR CONTOUR
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- 998 PROPOSED MINOR CONTOUR
- RAMP
- CONCRETE CURB & GUTTER TYPE "CG-1"
- CONCRETE CURB & GUTTER TYPE "CG-1 DRY"
- CONCRETE CURB TYPE "C-1" MODIFIED
- (X) GRADING DETAIL DESIGNATION RE: SHEET C1022 THRU C1023

NOTES:

1. CONTRACTOR TO REMOVE AND REPLACE ALL SIDEWALK NECESSARY FOR CONNECTION TO EXISTING.
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LP=	LOW POINT
MATCH EX.=	MATCH EXISTING
FFE=	FINISH FLOOR ELEVATION AT TOP OF SLAB

DETENTION BASIN

162,455 cf

DETENTION BASIN

EXISTING TREE LINE

STREAMWAY CORRIDOR

N

0' 10' 20' 40'

SCALE IN FEET

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C1021

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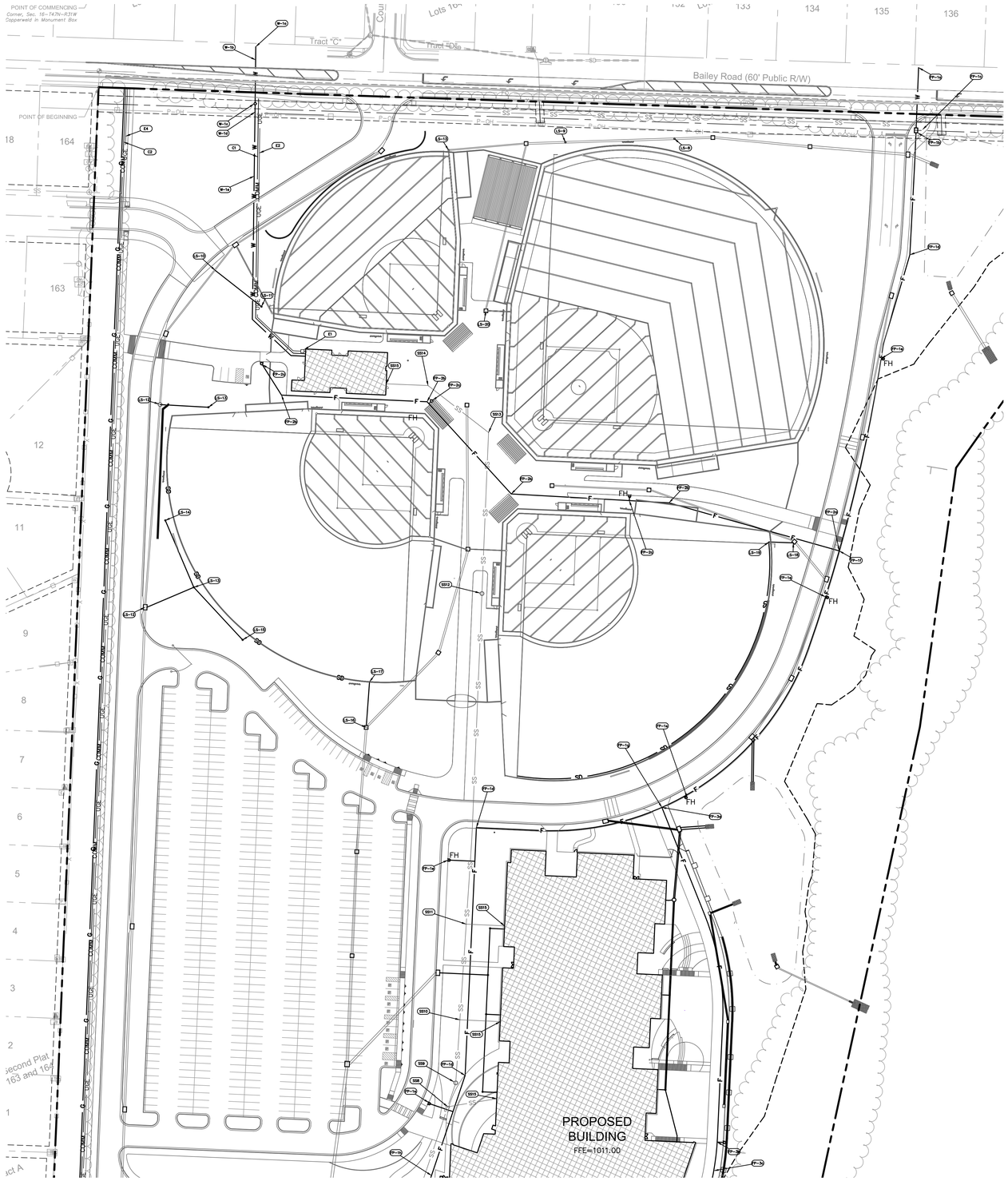
POINT OF COMMENCING
Corner, Sec. 16-T47N-R31W
Copperweld in Monument Box
POINT OF BEGINNING
Bailey Road (60' Public R/W)
Tract "C"
Tract "D"
Lots 164
Lots 163
Second Plat
163 and 164
PROPOSED
BUILDING
FFE=1011.00
FH
W-13
W-14
W-15
W-16
E1
E2
E3
E4
C1
S-8
S-9
S-10
S-11
S-12
S-13
S-14
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S-16
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SS3
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SS14
SS15
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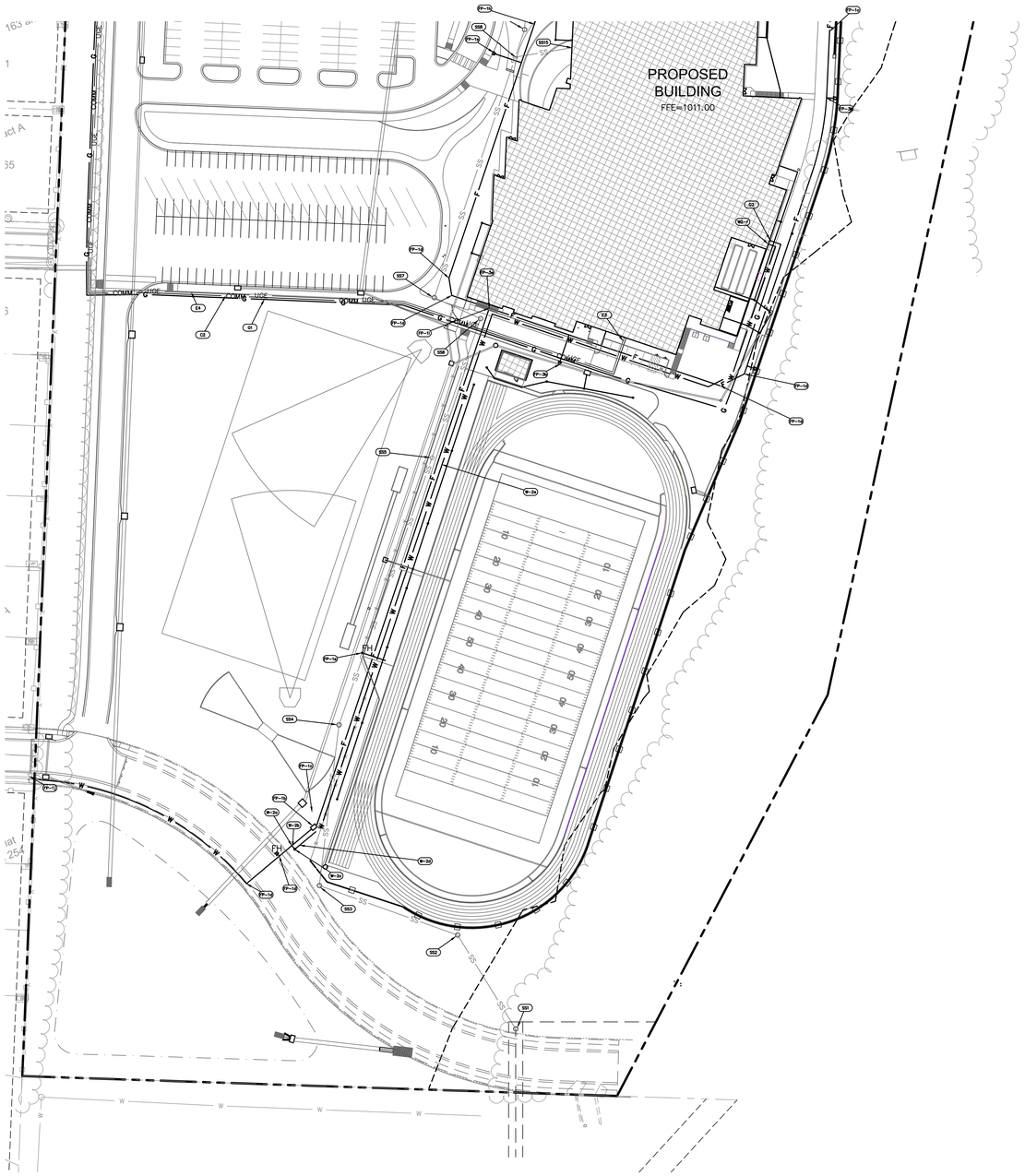
P-40



KEY NOTES:

DOMESTIC WATER
W2. WATERLINE TO MIDDLE SCHOOL
a. TAP EXISTING CITY WATER LINE PER STANDARD CITY DETAIL. COORDINATE TAP WITH LEE'S SUMMIT WATER DISTRICT. SIZE OF METER TO BE DETERMINED.
b. INSTALL 10 LF OF 4" TYPE COPPER PIPE FROM TAP TO METER.
c. INSTALL (TBD) METER AND PIT PER STANDARD CITY DETAIL.
d. INSTALL A MINIMUM 10 LF OF 4" TYPE SPLICE-FREE COPPER PIPE FROM TAP TO METER TOWARDS BUILDING PER CITY DETAIL.
e. CONTINUE BUILDING SERVICE CONNECTION WITH 1036± LF OF 4" POLYETHYLENE PIPE (AWWA C901) RE: MEP FOR CONNECTION AT BLDG.

FIRE PROTECTION:
ALL FIRE PROTECTION LINE SHALL BE 6" AWWA C900 U.N.O.

FP1 FIRE PROTECTION LINE 1 (2820 LF TOTAL)
b. INSTALL 6" GATE VALVE, BACK FLOW PREVENTOR, AND VAULT PER STANDARD CITY DETAIL
c. INSTALL 50 LF OF 2" PVC PIPE @ 1% MINIMUM SLOPE TO DRAIN BACK FLOW PREVENTOR TO EXISTING STREAM. PLACE CONCRETE COLLAR FLUSH WITH GRADE ON DAYLIGHTED PIPE TO PREVENT MOWER DAMAGE
d. INSTALL BEND
e. INSTALL HYDRANT AND GATE VALVE PER CITY STANDARDS
h. FIRE PROTECTION LINE 1 CONTINUES
i. INSTALL 6x6x6 TEE WITH GATE VALVE (END FIRE PROTECTION LINE 3)
j. CONNECT TO EXISTING PUBLIC MAIN (END FIRE PROTECTION LINE 1)

FP3 FIRE PROTECTION LINE 3 (1019 LF TOTAL)
f. INSTALL HYDRANT AND GATE VALVE PER CITY STANDARDS
g. FIRE PROTECTION LINE 3 CONTINUES
h. INSTALL BEND
f. END FIRE PROTECTION LINE 3

SANITARY SEWER:
SS1 CONNECT TO PROPOSED PUBLIC MANHOLE REF: PLANS LATER
INSTALL 117 LF 8" PVC SDR26 (APPROX. ℄IN=981.57)
SS2 CONSTRUCT STD. 4'ø MANHOLE (TS=1001.73, ℄OUT=987.08, ℄IN=987.38)
INSTALL 155 LF 8" PVC SDR26
SS3 CONSTRUCT STD. 4'ø MANHOLE (TS=1003.62, ℄OUT=988.93, ℄IN=989.23)
INSTALL 172 LF 8" PVC SDR26
SS4 CONSTRUCT STD. 4'ø MANHOLE (TS=1004.70, ℄OUT=990.95, ℄IN=991.25)
INSTALL 300 LF 8" PVC SDR26
SS5 CONSTRUCT STD. 4'ø MANHOLE (TS=1003.39, ℄OUT=994.25, ℄IN=994.55)
INSTALL 157 LF 8" PVC SDR26
SS6 CONSTRUCT STD. 4'ø MANHOLE (TS=1008.69, ℄OUT=996.12, ℄IN=996.42)
INSTALL 53 LF 8" PVC SDR26
SS7 CONSTRUCT STD. 4'ø MANHOLE (TS=1008.69, ℄OUT=996.95, ℄IN=997.25)
INSTALL 270 LF 8" PVC SDR26
SS8 INSTALL 8x8x4 TEE (℄=999.95)
INSTALL 30 LF 8" PVC SDR26
SS15 CONNECT SERVICE LINE TO BLDG W 4" PVC SDR25 (REF:MEP)

ELECTRICAL:
E1. TRANSFORMER LOCATION TO BE PROVIDED LATER. COORDINATED INSTALLATION WITH UTILITY COMPANY AND MEP PLANS. CONTRACTOR TO INSTALL TRANSFORMER PAD PER UTILITY COMPANY STANDARDS AND SPECIFICATIONS.
E2. INSTALL 2100±LF OF PVC CONDUIT FOR PRIMARY ELECTRICAL SERVICE PER UTILITY COMPANY STANDARDS AND SPECIFICATIONS. VERIFY CONDUIT SIZE AND ROUTING WITH KCP&L. ELECTRICAL DESIGN IS BY KCP&L. THE ALIGNMENT SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE ROUTE DIRECTLY WITH KCP&L AND PROVIDE NECESSARY CONDUIT TO TO SERVE THE PROJECT.
SEE MEP PLANS FOR LIGHTING AND LIGHTING CONDUIT.

COMMUNICATIONS:
C2 INSTALL 2110± LF OF 3-4" PVC CONDUIT W/PULL STRING. COORDINATE CONNECTION AND LOCATION WITH COMMUNICATIONS COMPANY.

GAS SERVICE
G1 INSTALL 2340± LF OF GAS SERVICE LINE (SIZE AND MATERIAL TO BE DETERMINED). COORDINATE LOCATION WITH GAS SERVICE COMPANY.
G2 PROPOSED METER LOCATION

LANDSCAPE DRAIN SYSTEM:

LS-8 INSTALL 2' DIA. NYLOPLAST BASIN
WITH DOMED LID ON 24" HDPELANDSCAPE DRAIN
INV. EL.=

LS-9 INSTALL 2' DIA. NYLOPLAST BASIGN
WITH DOMED LID ON 24" HDPE
INV. EL.=

LS-10 BALLFIELD LANDSCAPE DRAINS. RE: LANDSCAPE

EXISTING CONDITIONS LEGEND

- PROPERTY LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- P-OH — OVERHEAD ELECTRIC
- P-UG — UNDERGROUND ELECTRIC
- TEL — UNDERGROUND TELEPHONE
- FO — UNDERGROUND FIBER OPTIC
- G — GAS LINE
- W — WATER LINE
- SD — STORM SEWER LINE
- SS — SANITARY SEWER LINE

PROPOSED CONDITIONS LEGEND

- E — PROPOSED UNDERGROUND ELECTRIC
- FO — PROPOSED FIBER OPTIC
- W — PROPOSED WATER LINE
- FP — PROPOSED FIRE PROTECTION LINE
- SD — PROPOSED STORM SEWER LINE
- T — PROPOSED TURF DRAIN LINE
- SS — PROPOSED SANITARY SEWER SERVICE
- CONCRETE CURB & GUTTER
- PROPOSED BUILDING

N

0' 30' 60' 120'
SCALE IN FEET

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REVISIONS

13-20102-00

UTILITY PLAN

C1027

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_UTL02_0200103.dwg USER: bkimmich
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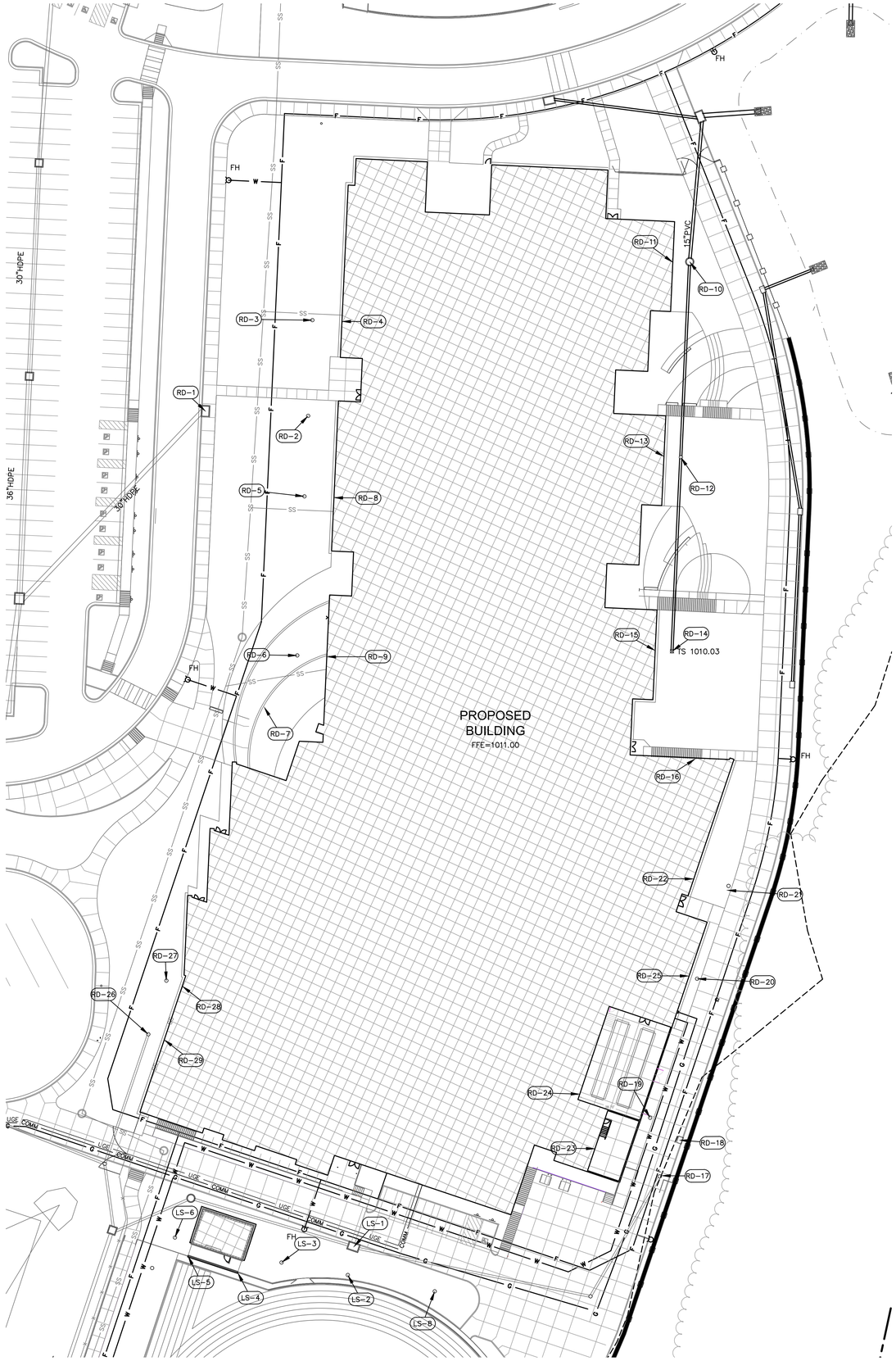

UTILITY KEYNOTES: (XX)

ROOF DRAIN SYSTEM:

RD-1 CONNECT TO NON-SETBACK CURB INLET
INSTALL 61.28 LF 12"HDPE (E.) @ 1.00%
TS=
INV.EL.=1001.98

RD-2 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID,
57.20 LF OF 8" HDPE (N) @ 7.65% AND
48.07 LF OF 12" HDPE (S) @ 1.00%
TS=1010.31
INV. EL.=1002.59

RD-3 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID
AND 5.05 LF 8" HPDE (E.) @ 1.00%

RD-4 CONNECT TO BUILDING. RE: MEP
INV. EL.=1008.39

RD-5 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID,
95.07 LF OF 12" HDPE (S.) @ 1.00% AND
17.61 LF OF 8" HDPE (E.) @ 23.00%
TE=1010.56
INV. EL.=1004.32

RD-6 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID,
36.74 LF OF 4" HPDE (S.W.) @ 2.00% AND
5.05 LF OF 10" HDPE (E.) @ 18.8%
TS=1010.67
INV.EL.=1005.27

RD-7 CONNECT TO CANOPY. RE: MEP
INV. EL.=1006.00

RD-8 CONNECT TO BUILDING. RE: MEP
INV.EL.-1008.37

RD-9 CONNECT TO BUILDING. RE: MEP
INV. EL.=1008.59

RD-10 CONNECT TO MH
INSTALL 6.63 LF 10" HDPE (W.) @ 1.00%
WITH NECESSARY BENDS AND FITTINGS

RD-11 CONNECT TO BUILDING. RE: MEP
INV.EL.=1007.69

RD-12 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN
ON 15" HDPE AMD INSTALL 9.97 LF 10" HDPE (W.)

RD-13 CONNECT TO BUILDING. RE: MEP
INV. EL=1006.00

RD-14 CONNECT TO JUNCTION BOX AND INSTALL
65.86 LF 10" HDPE (S.) @ 1.38% AND
9.97 LF 10" HDPE (W.) @ 1.00%
TS=1010.03
INV. EL.=1005.90

RD-15 CONNECT TO BUILDING. RE: MEP
INV. EL.=1006.00

RD-16 CONNECT TO BUILDING. RE: MEP
INV. EL.=1006.81

RD-17 CONNECT TO 2' DIA. NYLOPLAST DRAIN BASIN,
INSTALL 24.58 LF 12" HDPE (N.E.) @ 1.00% AND
41.69 LF 4" HDPE (N.W.) @ 2.82%
WITH NECESSARY BENDS AND FITTINGS.
TS=1006.41
INV. EL.=1003.49

RD-18 INSTALL 4'X3' NYLOPLAST CURB INLET AND INSTALL
XX LF
TS=1006.10
INV. EL.=1003.7

RD-19 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID,
87.60 LF 12" HDPE (N.E.) @ 1.46% AND
44.25 LF 10" HDPE (N.W.) @ 1.00%
TS=1006.63
INV. EL.=1003.96

RD-20 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID,
55.81 LF 10" HPDE (N.E.) @ 1.00% AND
5.08 LF 8" HDPE (N.W.) @ 15.11%
TS=1008.64
INV. EL.=1005.23

RD-21 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN W/SOLID LID AND
XX LF 10" HDPE (N.W.) @ 1.00%

RD-22 CONNECT TO BUILDING. RE:MEP
INV. EL=1006.00

RD-23 CONNECT TO BUILDING. RE: MEP
INV. EL.=1004.67

RD-24 CONNECT TO BUILDING. RE: MEP
INV. EL.=1004.40

RD-25 CONNECT TO BUILDING. RE: MEP
INV. EL.=1006.00

RD-26 CONNECT TO NYLOPLAST DRAIN BASIN AND
INSTALL 33.77 LF 12" HDPE (N.E.) @ 1.00% AND
10.00 LF 10" HDPE (S.E.) @ 25.98%
TS=1010.25
INV. EL.=1005.56

RD-27 INSTALL 2' DIA. NYLOPLAST DRAIN BASIN AND
10.00 LF 10" HDPE (S.E.) @ 1.00%
TS=1010.38
INV. EL.=1005.90

RD-28 CONNECT TO BUILDING. RE: MEP
INV. EL.=1006.00

LANDSCAPE DRAIN SYSTEM:

LS-1 CONNECT TO CURB INLET.
INSTALL 17.17 LF 12" HDPE (S.) @ 1.00%

LS-2 INSTALL 2' DIA. NYLOPLAST DRAIN
WITH SOLID LID AND 40.29 LF 10" HDPE (N.W.) @ 1.00%
AND 52.81 LF 8" HDPE (S.E.) @ 1.00%
TS=1004.85
INV. EL.=1000.69

LS-3 INSTALL 2' DIA. NYLOPLAST DRAIN
WITH DOMED LID AND 26.81 LF 10" HDPE @ 1.00%
TS=1003.48
INV. EL.=1001.09

LS-4 INSTALL 31.27 LF 8" TRENCH DRAIN (N.W.)
TS=1004.92
INV. EL.=1001.36

LS-5 END TRENCH DRAIN
TS=1004.92
INV. EL.=1001.68

LS-6 INSTALL 2' DIA. NYLOPLAST DRAIN
WITH DOMED LID
TS=1004.81
INV. EL.=1001.81

EXISTING CONDITIONS LEGEND

- PROPERTY LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- P-OH — OVERHEAD ELECTRIC
- P-UG — UNDERGROUND ELECTRIC
- TEL — UNDERGROUND TELEPHONE
- FO — UNDERGROUND FIBER OPTIC
- G — GAS LINE
- W — WATER LINE
- SD — STORM SEWER LINE
- SS — SANITARY SEWER LINE

PROPOSED CONDITIONS LEGEND

- E — PROPOSED UNDERGROUND ELECTRIC
- FO — PROPOSED FIBER OPTIC
- W — PROPOSED WATER LINE
- FP — PROPOSED FIRE PROTECTION LINE
- SD — PROPOSED STORM SEWER LINE
- T — PROPOSED TURF DRAIN LINE
- SS — PROPOSED SANITARY SEWER SERVICE
- CONCRETE CURB & GUTTER
- PROPOSED BUILDING

N

0' 30' 60' 120'
SCALE IN FEET

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8/28/20
REVISIONS

13-20102-00

UTILITY PLAN

C1028

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_UTL01_0200103.dwg USER: bkimmich
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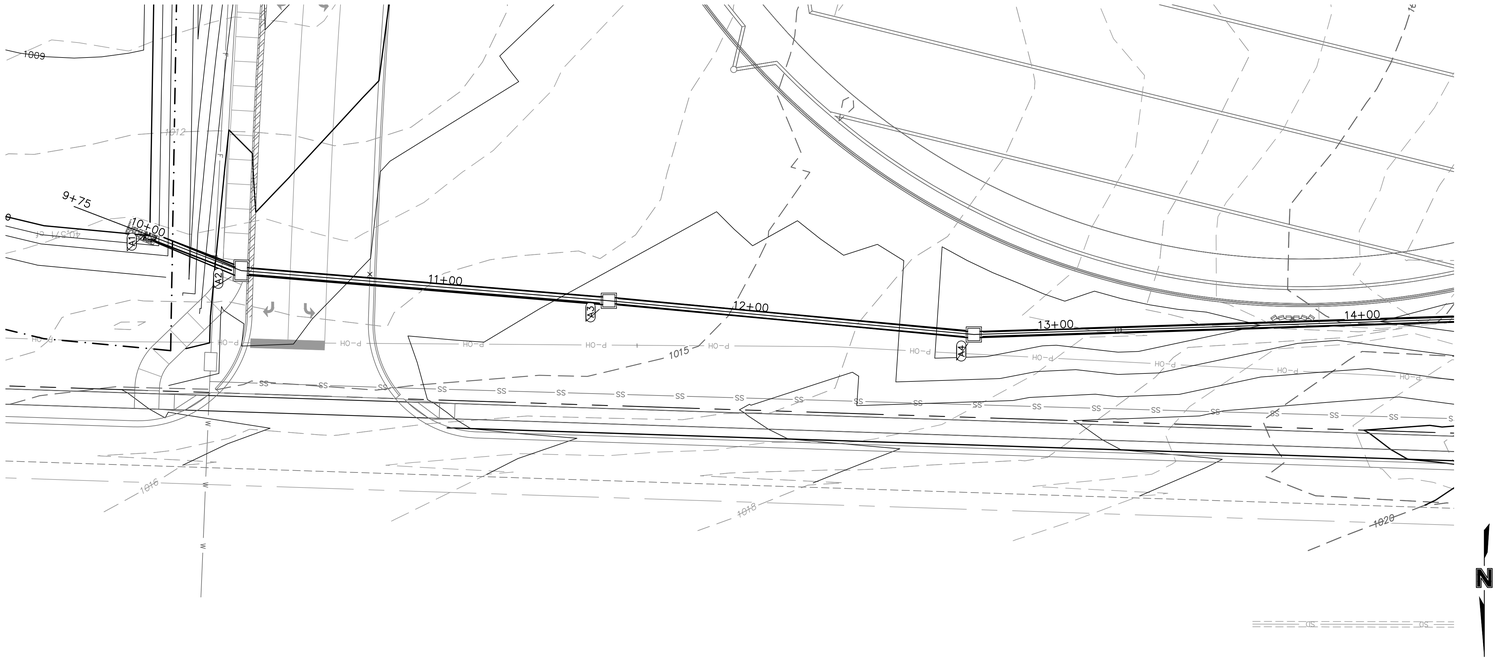
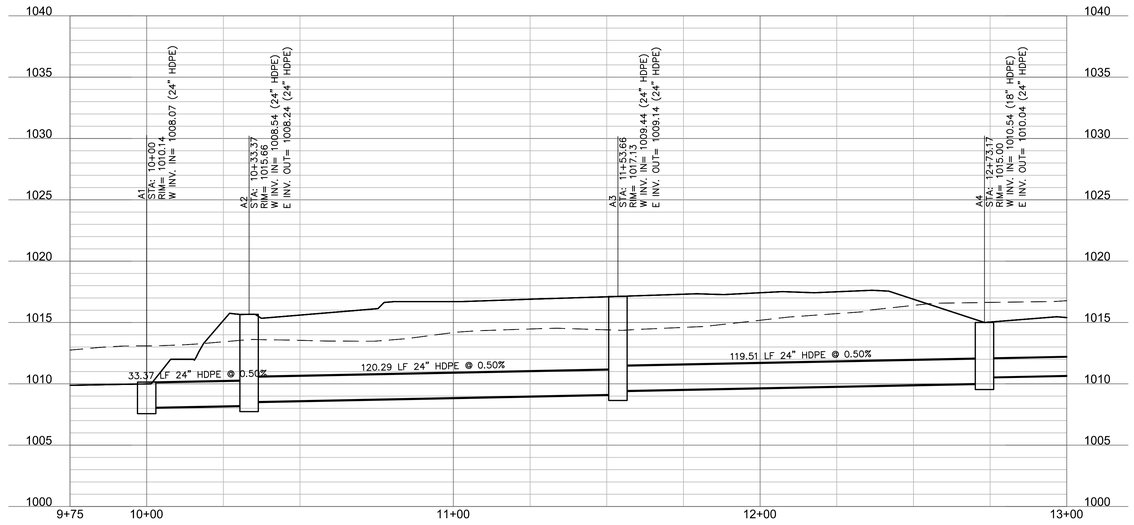


STRUCTURES	
ID	DESCRIPTION
A1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE A (3) RIM= 1010.14 INV IN = 1008.07 (24" HDPE) N: 993454.990; E: 2832558.361
A2	INSTALL 6'X4' NON-SETBACK CURB INLET 10+33.37, 0.00' LINE A (3) RIM= 1015.66 INV IN = 1008.54 (24" HDPE) INV OUT = 1008.24 (24" HDPE) N: 993466.944; E: 2832527.206
A3	INSTALL 4'X4' JUNCTION BOX 11+53.66, 0.00' LINE A (3) RIM= 1017.13 INV IN = 1009.44 (24" HDPE) INV OUT = 1009.14 (24" HDPE) N: 993476.766; E: 2832407.320
A4	INSTALL 4'X4' JUNCTION BOX 12+73.17, 0.00' LINE A (3) RIM= 1015.00 INV IN = 1010.54 (18" HDPE) INV OUT = 1010.04 (24" HDPE) N: 993487.779; E: 2832288.317

LINE A (3) (9+75 - 13+00)



STRUCTURES	
ID	DESCRIPTION
A1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE A (3) RIM= 1010.14 INV IN = 1008.07 (24" HDPE) N: 993454.990; E: 2832558.361
A2	INSTALL 6'X4' NON-SETBACK CURB INLET 10+33.37, 0.00' LINE A (3) RIM= 1015.66 INV IN = 1008.54 (24" HDPE) INV OUT = 1008.24 (24" HDPE) N: 993466.944; E: 2832527.206
A3	INSTALL 4'X4' JUNCTION BOX 11+53.66, 0.00' LINE A (3) RIM= 1017.13 INV IN = 1009.44 (24" HDPE) INV OUT = 1009.14 (24" HDPE) N: 993476.766; E: 2832407.320
A4	INSTALL 4'X4' JUNCTION BOX 12+73.17, 0.00' LINE A (3) RIM= 1015.00 INV IN = 1010.54 (18" HDPE) INV OUT = 1010.04 (24" HDPE) N: 993487.779; E: 2832288.317

10'
5'
2.5'
0'

0' 10' 20' 40'
SCALE IN FEET

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8/28/20
REVISIONS

13-20102-00

STORM SEWER PLAN & PROFILE - LINE A

C1029

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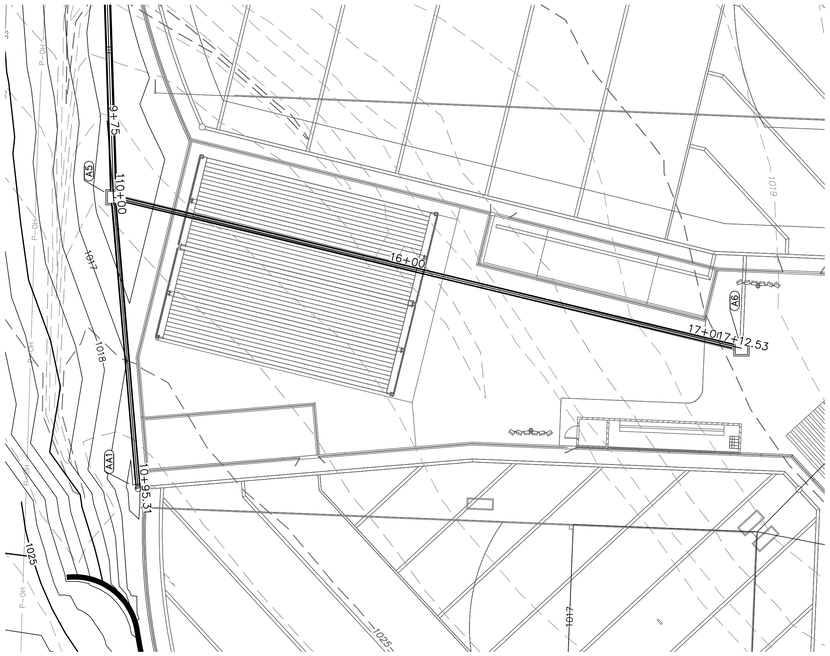
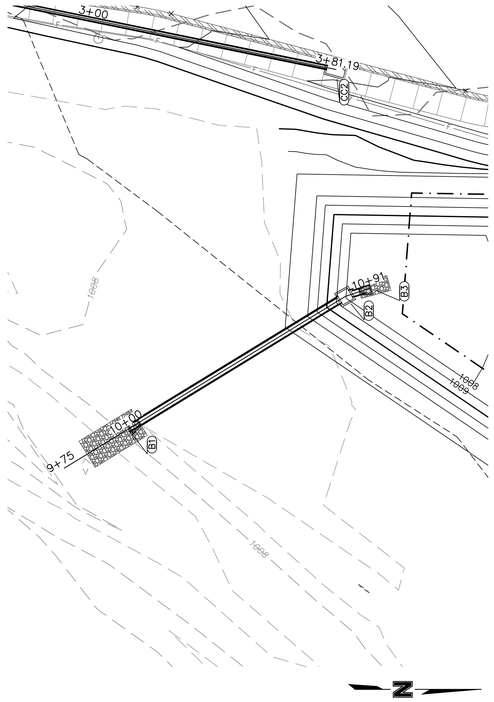
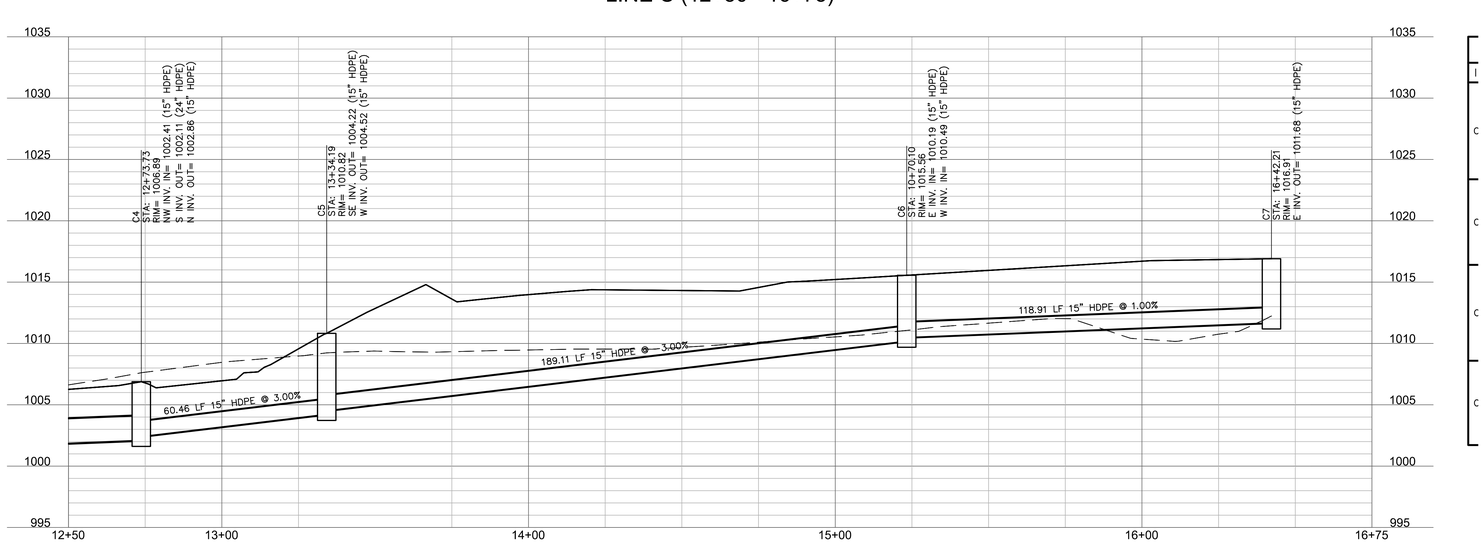
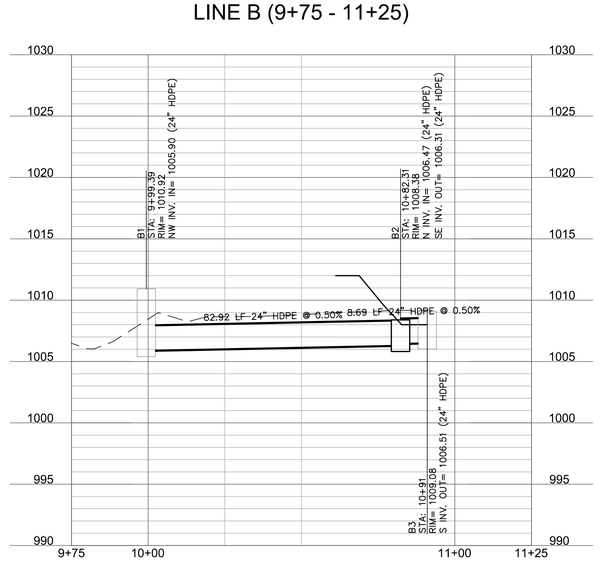


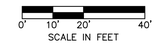
STRUCTURES	
ID	DESCRIPTION
C4	INSTALL 6'X4' NON-SETBACK CURB INLET 12+73.73, 0.00' LINE C RIM= 1006.89 INV IN = 1002.41 (15" HDPE) INV OUT = 1002.11 (24" HDPE) INV OUT = 1002.86 (15" HDPE) N: 992947.233; E: 2832427.690
C5	INSTALL 4'X4' JUNCTION BOX 13+34.19, 0.00' LINE C RIM= 1010.82 INV OUT = 1004.22 (15" HDPE) INV OUT = 1004.52 (15" HDPE) N: 992993.091; E: 2832388.295
C6	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 10+70.10, -442.17' LT LINE B RIM= 1015.56 INV IN = 1010.19 (15" HDPE) INV IN = 1010.49 (15" HDPE) N: 993056.407; E: 2832210.098
C7	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 16+42.21, 0.00' LINE C RIM= 1016.91 INV OUT = 1011.68 (15" HDPE) N: 993061.744; E: 2832091.305



STRUCTURES	
ID	DESCRIPTION
B1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 14.8 CY RIPRAP 9+99.39, 0.00' LINE B RIM= 1010.92 INV IN = 1005.90 (24" HDPE) N: 993226.607; E: 2832624.277
B2	INSTALL 4'X4' MODIFIED JUNCTION BOX 10+82.31, 0.00' LINE B RIM= 1008.38 INV IN = 1006.47 (24" HDPE) INV OUT = 1006.31 (24" HDPE) N: 993297.366; E: 2832581.043
B3	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL 10+91, 0.00' LINE B RIM= 1009.08 INV OUT = 1006.51 (24" HDPE) N: 993305.603; E: 2832578.267







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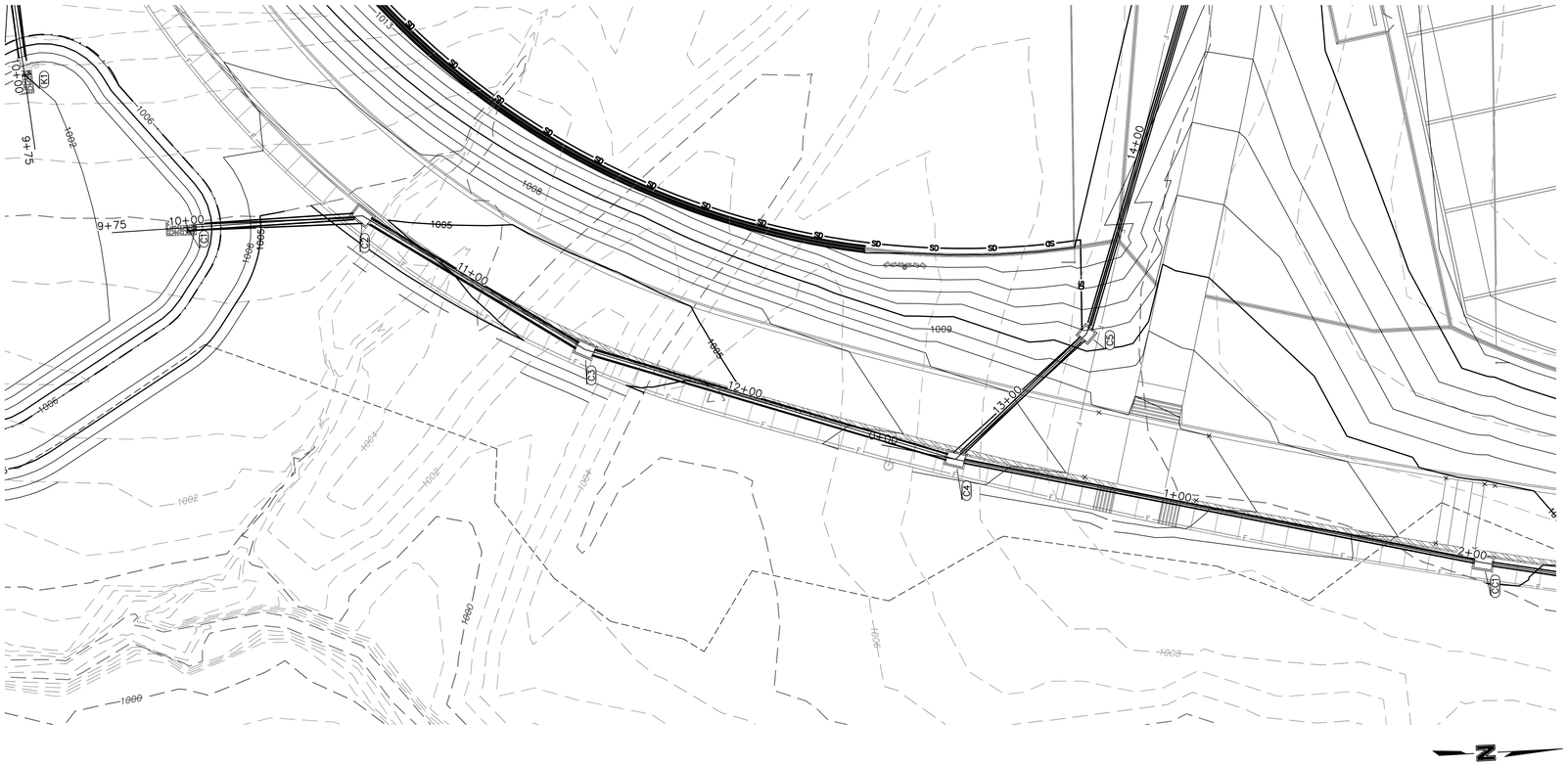
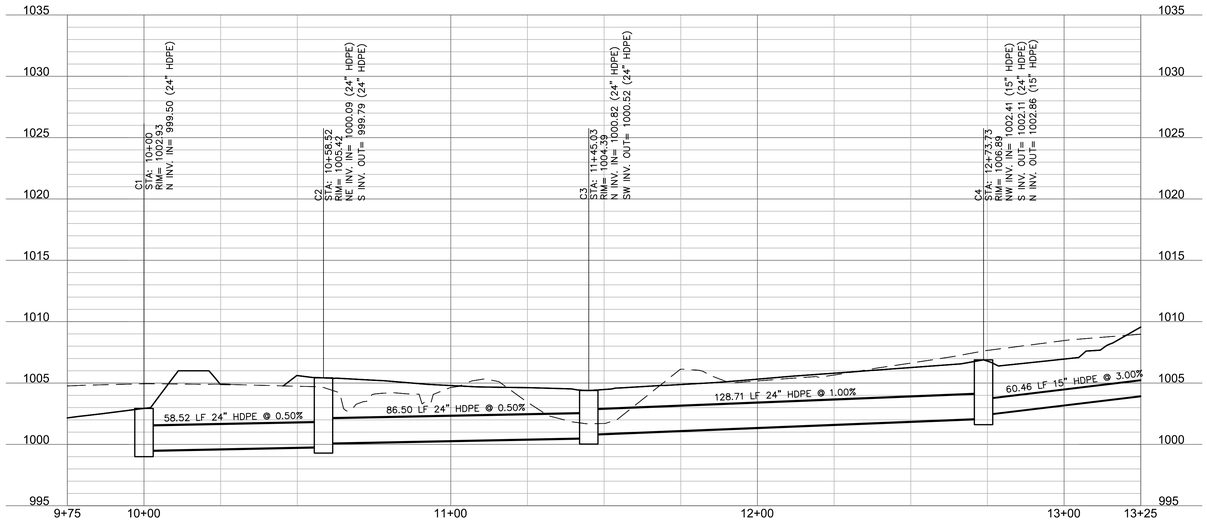
STORM SEWER PLAN & PROFILE - LINE A AND B

C1030



STRUCTURES	
ID	DESCRIPTION
C1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH TOEWALL AND 2.8 CY RIP RAP 10+00, 0.00' LINE C RIM= 1002.93 INV IN = 999.50 (24" HDPE) N: 992695.797; E: 2832336.866
C2	INSTALL 6'X4' NON-SETBACK CURB INLET 10+58.52, 0.00' LINE C RIM= 1005.42 INV IN = 1000.09 (24" HDPE) INV OUT = 999.79 (24" HDPE) N: 992754.314; E: 2832336.091
C3	INSTALL 6'X4' NON-SETBACK CURB INLET 11+45.03, 0.00' LINE C RIM= 1004.39 INV IN = 1000.82 (24" HDPE) INV OUT = 1000.52 (24" HDPE) N: 992825.971; E: 2832384.550
C4	INSTALL 6'X4' NON-SETBACK CURB INLET 12+73.73, 0.00' LINE C RIM= 1006.89 INV IN = 1002.11 (15" HDPE) INV OUT = 1002.11 (24" HDPE) INV OUT = 1002.86 (15" HDPE) N: 992947.233; E: 2832427.690

LINE C (9+75 - 13+25)



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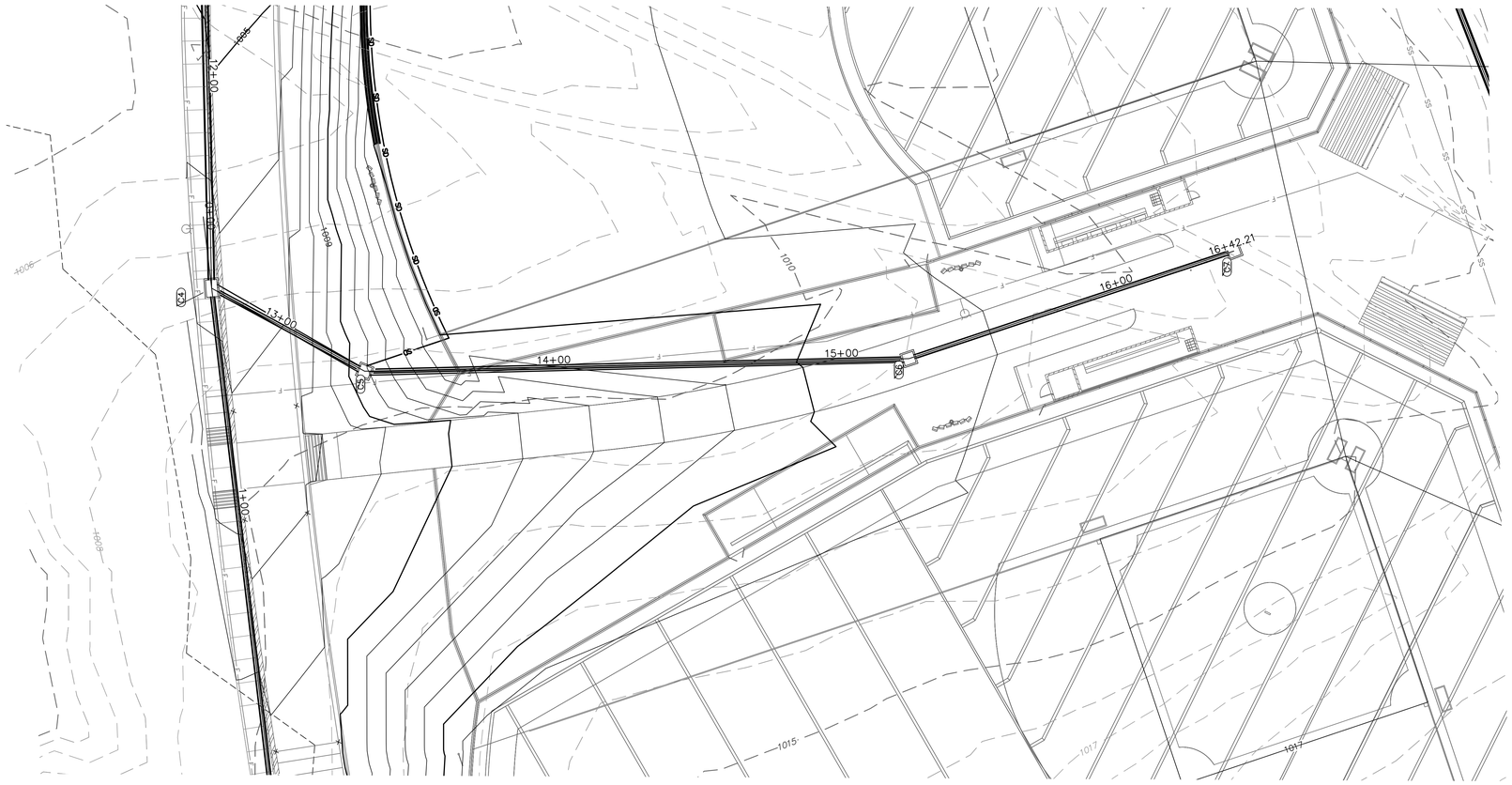
STORM SEWER PLAN & PROFILE - LINE A

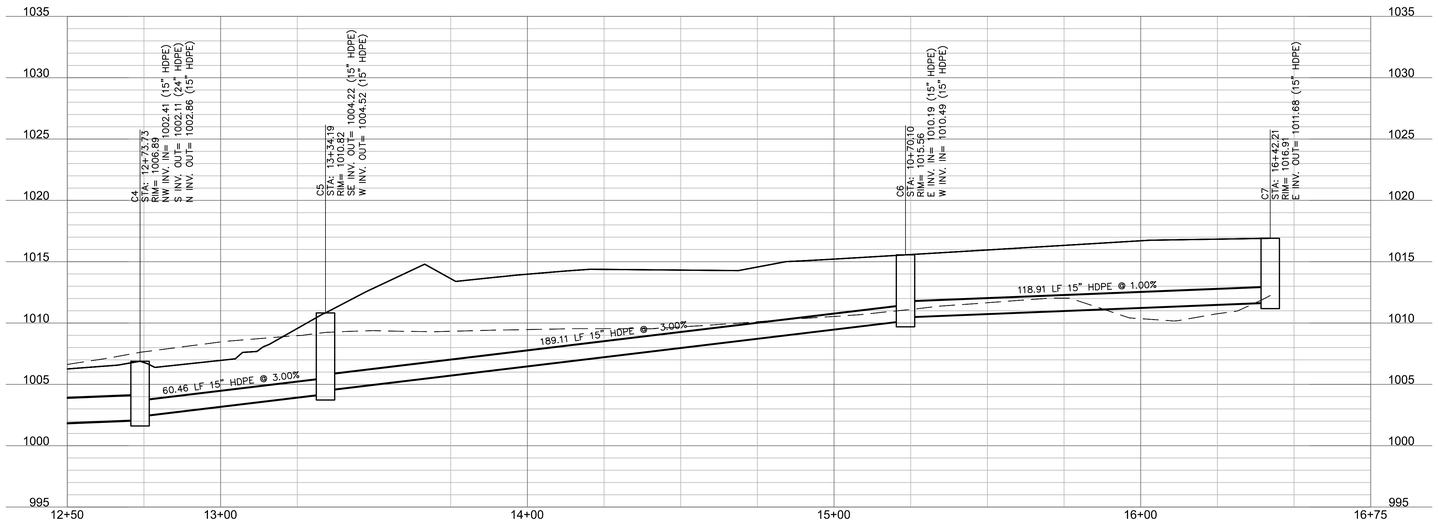
C1031

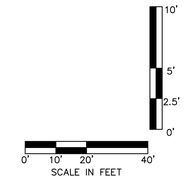
SCALE IN FEET
0' 10' 20' 40'
10'
5'
2.5'
0'



STRUCTURES	
ID	DESCRIPTION
C4	INSTALL 6'X4' NON-SETBACK CURB INLET 12+73.73, 0.00' LINE C RIM= 1006.89 INV IN = 1002.41 (15" HDPE) INV OUT = 1002.11 (24" HDPE) INV OUT = 1002.86 (15" HDPE) N: 992947.233; E: 2832427.690
C5	INSTALL 4'X4' JUNCTION BOX 13+34.19, 0.00' LINE C RIM= 1010.82 INV OUT = 1004.22 (15" HDPE) INV OUT = 1004.52 (15" HDPE) N: 992993.091; E: 2832388.295
C6	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 10+70.10, -442.17' LT LINE B RIM= 1015.56 INV IN = 1010.19 (15" HDPE) INV IN = 1010.49 (15" HDPE) N: 993056.407; E: 2832210.098
C7	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 16+42.21, 0.00' LINE C RIM= 1016.91 INV OUT = 1011.68 (15" HDPE) N: 993061.744; E: 2832091.305

LINE C (12+50 - 16+75)





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07-28-20

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REVISIONS

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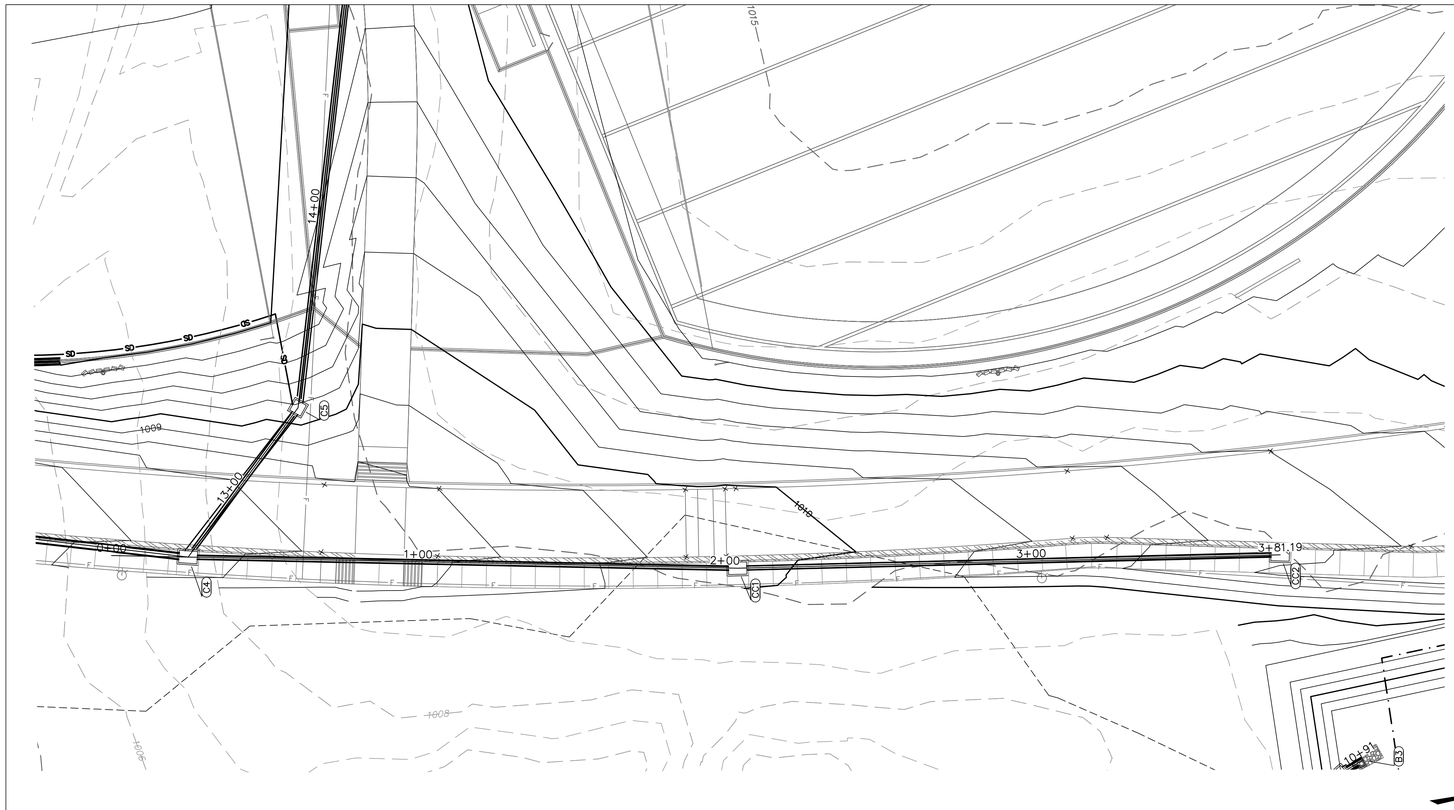
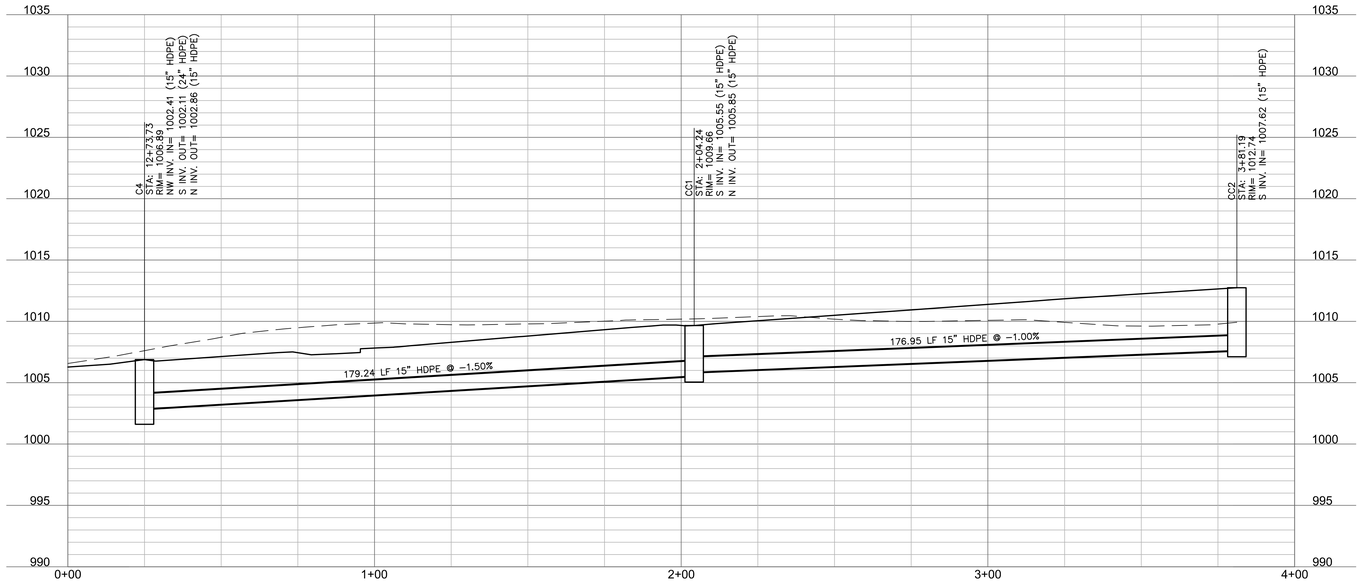
STORM SEWER PLAN & PROFILE - LINE C

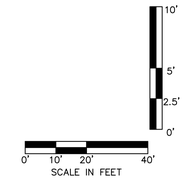
C1032



STRUCTURES	
ID	DESCRIPTION
C4	INSTALL 6'X4' NON-SETBACK CURB INLET 12+73.73, 0.00' LINE C RIM= 1006.89 INV IN = 1002.41 (15" HDPE) INV OUT = 1002.11 (24" HDPE) INV OUT = 1002.86 (15" HDPE) N: 992947.233; E: 2832427.690
CC1	INSTALL 6'X4' NON-SETBACK CURB INLET 2+04.24, 0.00' LINE CC RIM= 1009.66 INV IN = 1005.55 (15" HDPE) INV OUT = 1005.85 (15" HDPE) N: 993121.028; E: 2832471.516
CC2	INSTALL 6'X4' NON-SETBACK CURB INLET 3+81.19, 0.00' LINE CC RIM= 1012.74 INV IN = 1007.62 (15" HDPE) N: 993294.379; E: 2832507.027

LINE CC (0+00 - 4+00)





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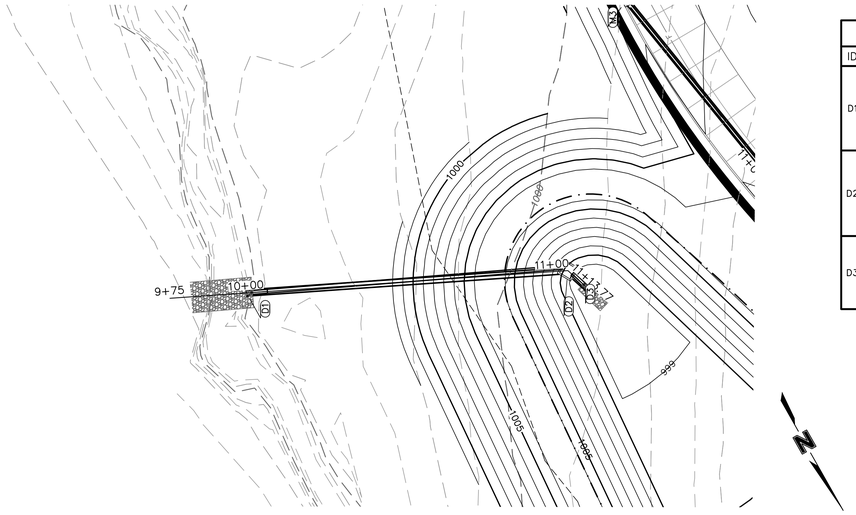
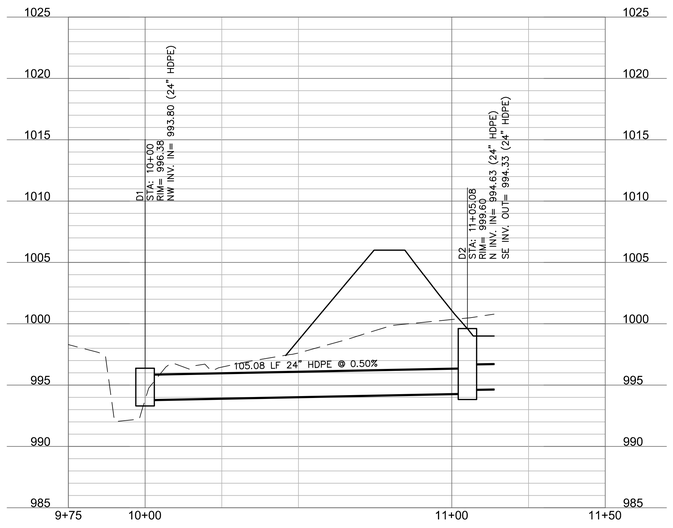
STORM SEWER PLAN & PROFILE - LINE CC

C1033



STRUCTURES	
ID	DESCRIPTION
D1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 14.8 CY RIPRAP 10+00, 0.00' LINE D RIM= 996.38 INV IN = 993.80 (24" HDPE) N: 992427.690; E: 2832461.780
D2	INSTALL 4'X4' MODIFIED JUNCTION BOX 11+05.08, 0.00' LINE D RIM= 999.60 INV IN = 994.63 (24" HDPE) INV OUT = 994.33 (24" HDPE) N: 992472.969; E: 2832366.953
D3	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 20+65.37, 788.02' RT LINE E RIM= 999.00 N: 992481.205; E: 2832364.177

LINE D (9+75 - 11+50)



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10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

13-20102-00

STORM SEWER PLAN & PROFILE - LINE D

C1034

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_STM01_0200103.dwg USER: bkimmich
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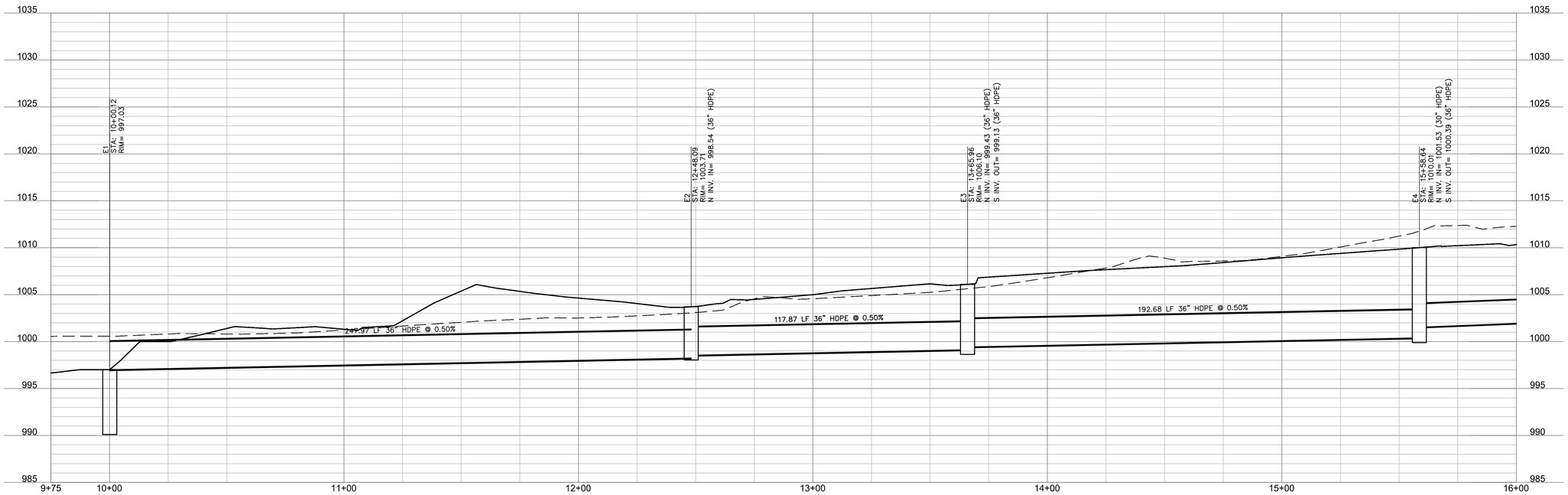
STRUCTURES	
ID	DESCRIPTION
E1	INSTALL 36" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00.12, 0.00' LINE E RIM= 997.03 N: 991450.382; E: 2831572.817
E2	INSTALL 6'X5' CURB INLET 12+48.09, 0.00' LINE E RIM= 1003.71 INV IN = 998.54 (36" HDPE) N: 991696.727; E: 2831544.472
E3	INSTALL 6'X5' CURB INLET 13+65.96, 0.00' LINE E RIM= 1006.10 INV IN = 999.43 (36" HDPE) INV OUT = 999.13 (36" HDPE) N: 991814.500; E: 2831549.282
E4	INSTALL 6'X4' CURB INLET 15+58.64, 0.00' LINE E RIM= 1010.01 INV IN = 1001.53 (30" HDPE) INV OUT = 1000.39 (36" HDPE) N: 992007.018; E: 2831557.144

LINE E (9+75 - 16+00)



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DATE: Aug 28, 2020 6:37pm XREFS: C_XBASE_0200103 C_PBASE_0200103 C_PSURF_0200103 C_PTBLK_0200103 T_PBASE_0200103 USER: bkimmich

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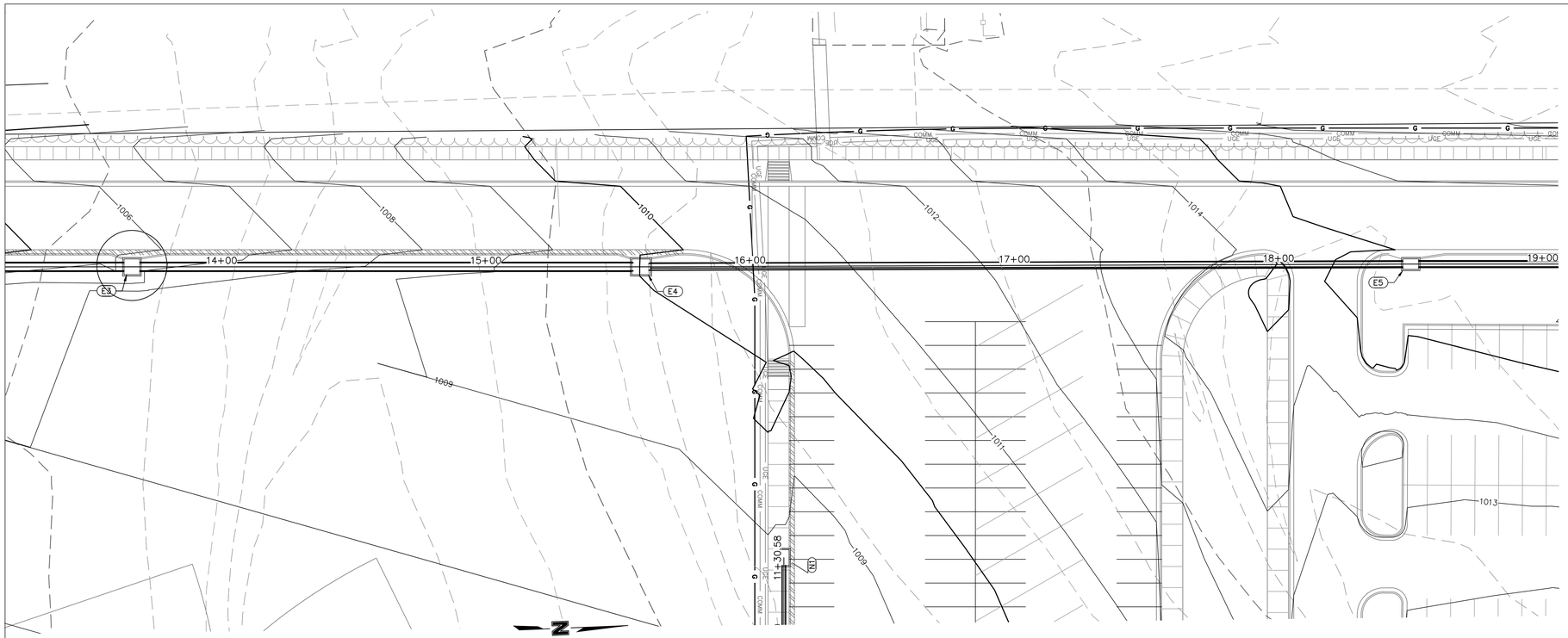
13-20102-00

STORM SEWER PLAN & PROFILE - LINE E

C1035

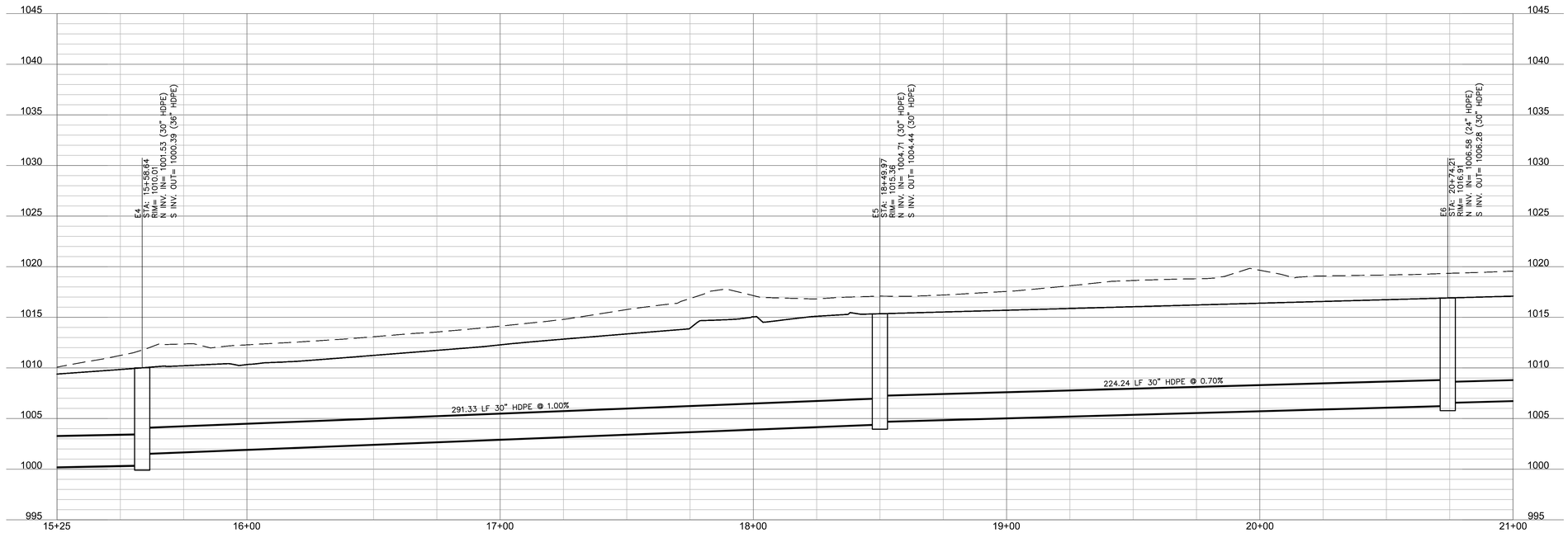
0' 10' 20' 40'
SCALE IN FEET

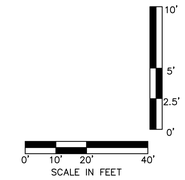
10'
5'
2.5'
0'



STRUCTURES	
ID	DESCRIPTION
E4	INSTALL 6'X4' CURB INLET 15+58.64, 0.00' LINE E RIM= 1010.01 INV IN = 1001.53 (30" HDPE) INV OUT = 1000.39 (36" HDPE) N: 992007.018; E: 2831557.144
E5	INSTALL 6'X4' CURB INLET 18+49.97, 0.00' LINE E RIM= 1015.36 INV IN = 1004.71 (30" HDPE) INV OUT = 1004.44 (30" HDPE) N: 992298.147; E: 2831568.027
E6	INSTALL 6'X4' CURB INLET 20+74.21, 0.00' LINE E RIM= 1016.91 INV IN = 1006.58 (24" HDPE) INV OUT = 1006.28 (30" HDPE) N: 992522.203; E: 2831577.179

LINE E (15+25 - 21+00)





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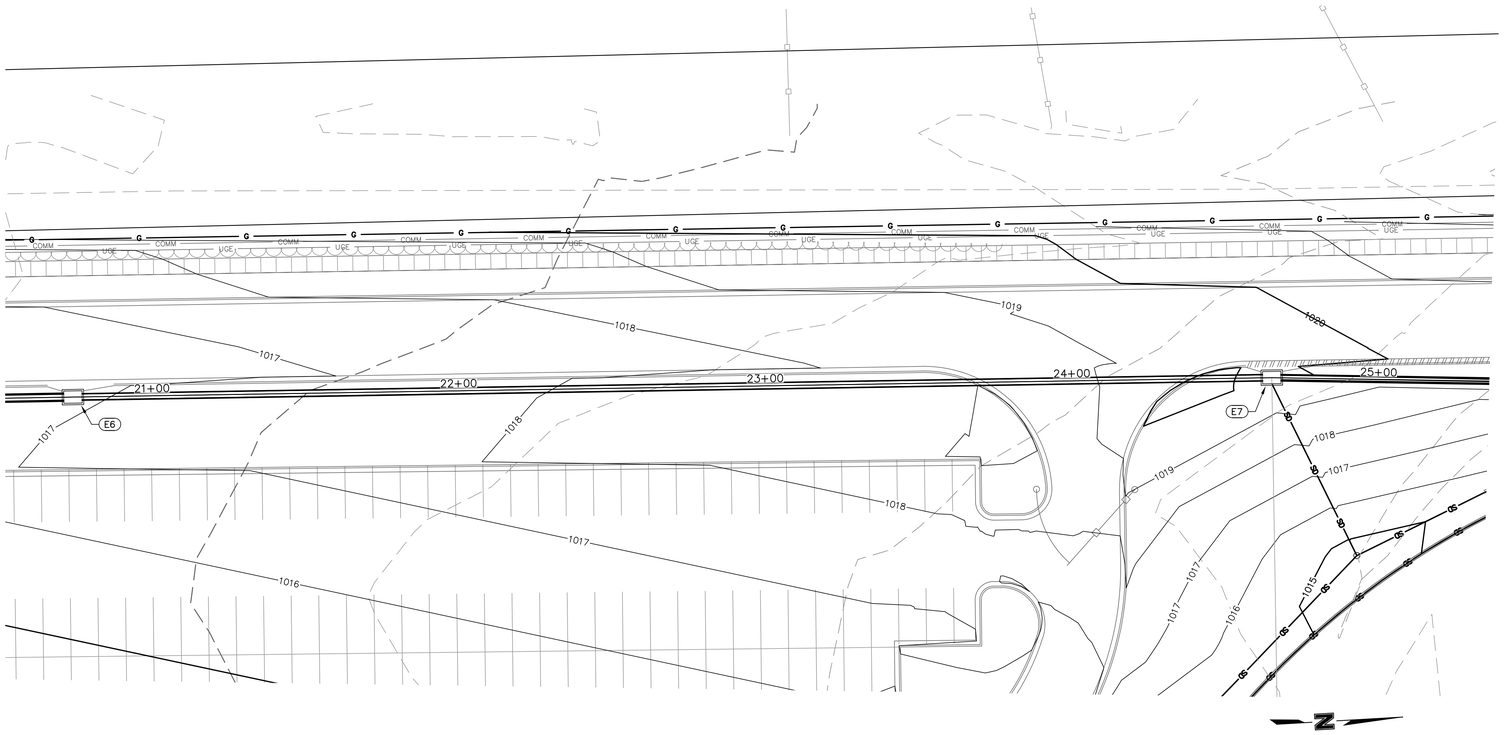
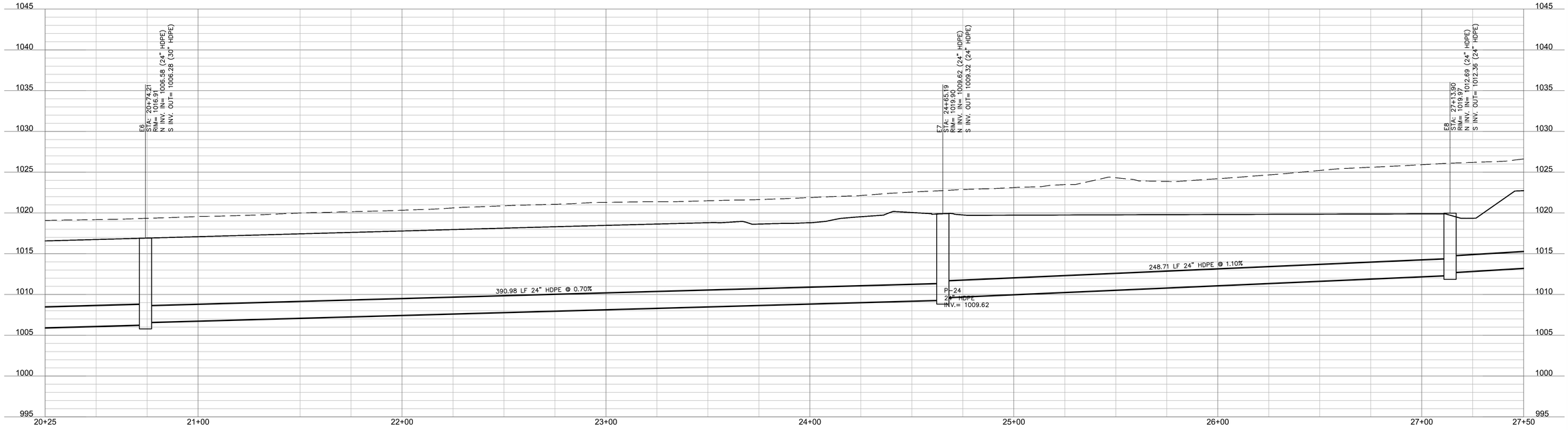
STORM SEWER PLAN & PROFILE - LINE E

C1036



STRUCTURES	
ID	DESCRIPTION
E6	INSTALL 6'X4' CURB INLET 20+74.21, 0.00' LINE E RIM= 1016.91 INV IN = 1006.58 (24" HDPE) INV OUT = 1006.28 (30" HDPE) N: 992522.203; E: 2831577.179
E7	INSTALL 6'X4' CURB INLET 24+65.19, 0.00' LINE E RIM= 1019.90 INV IN = 1009.62 (24" HDPE) INV OUT = 1009.32 (24" HDPE) N: 992912.857; E: 2831593.136
E8	INSTALL 4'X4' DOUBLE GRATE INLET 27+13.90, -0.65' LT LINE E RIM= 1019.97 INV IN = 1012.69 (24" HDPE) INV OUT = 1012.36 (24" HDPE) N: 993160.903; E: 2831611.266

LINE E (20+25 - 27+50)



10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

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STORM SEWER PLAN & PROFILE - LINE E

C1037

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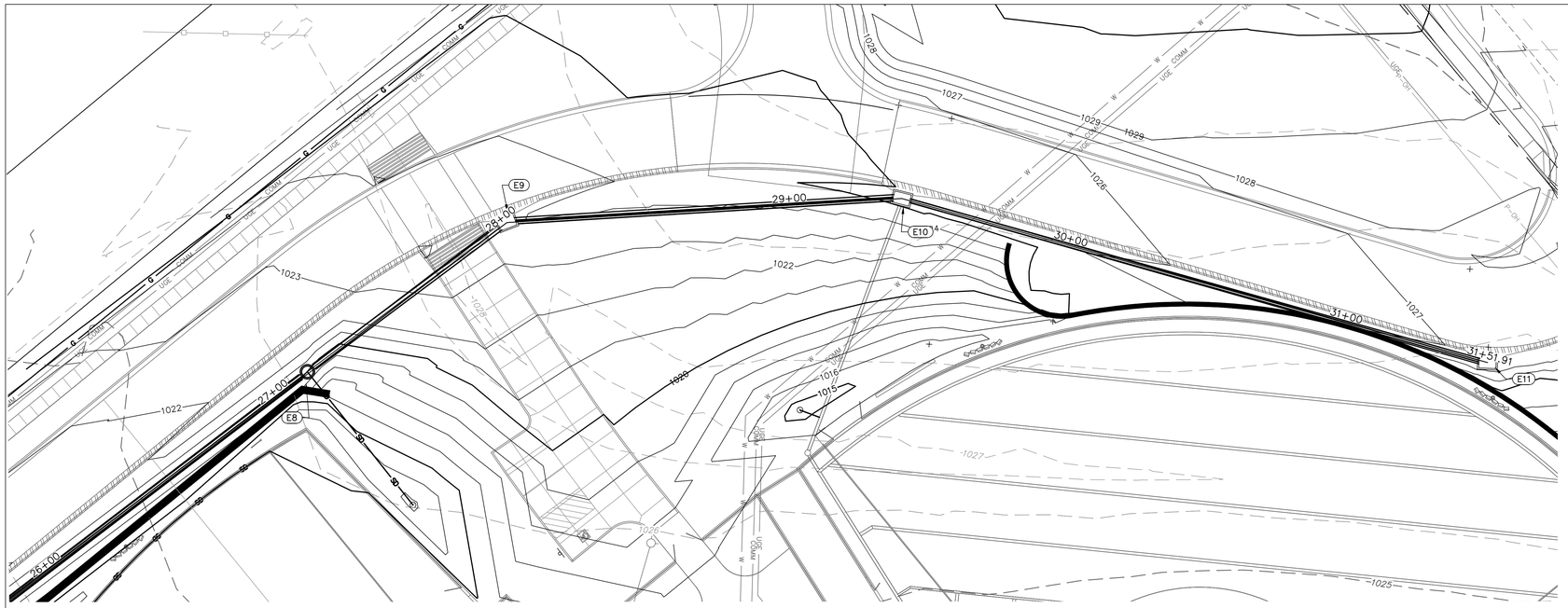
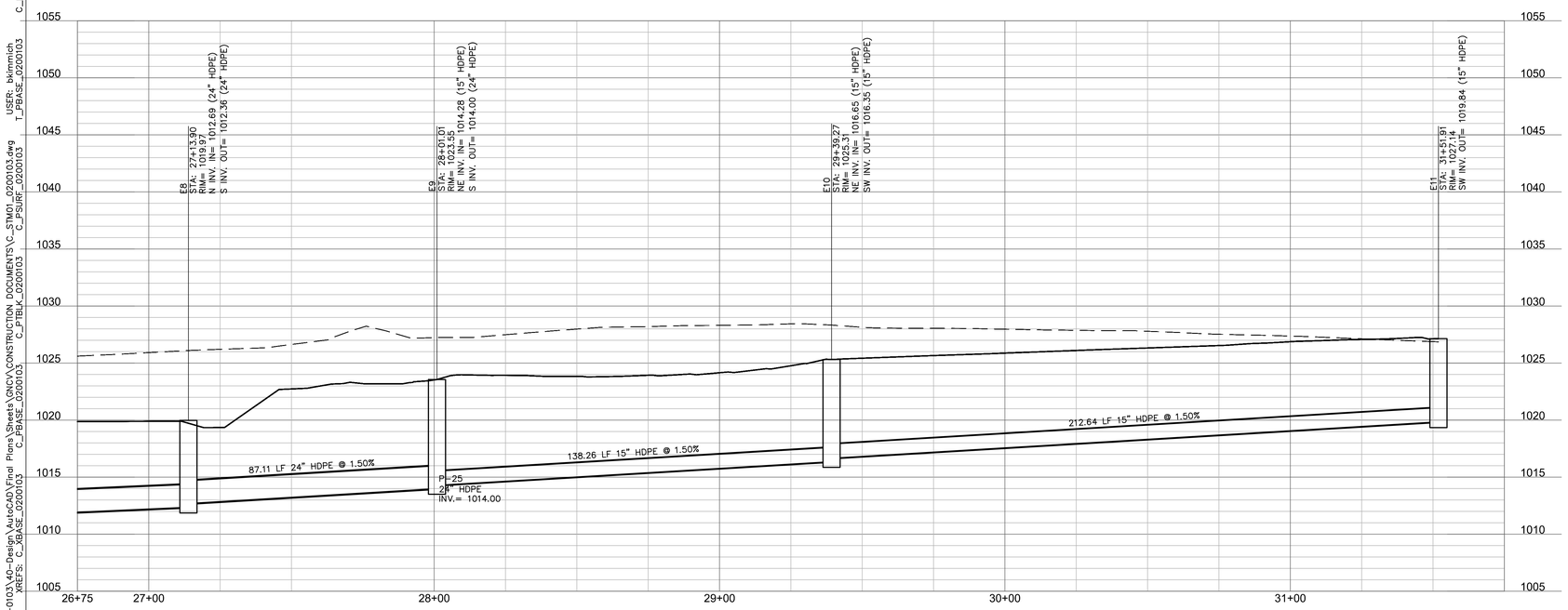


STRUCTURES	
ID	DESCRIPTION
E8	INSTALL 4'X4' DOUBLE GRATE INLET 27+13.90, −0.65' LT LINE E RIM= 1019.97 INV IN = 1012.69 (24" HDPE) INV OUT = 1012.36 (24" HDPE) N: 993160.903; E: 2831611.266
E9	INSTALL 6'X4' CURB INLET 28+01.01, 0.00' LINE E RIM= 1023.55 INV IN = 1014.28 (15" HDPE) INV OUT = 1014.00 (24" HDPE) N: 993247.716; E: 2831618.496
E10	INSTALL 6'X4' CURB INLET 29+39.27, 0.00' LINE E RIM= 1025.31 INV IN = 1016.65 (15" HDPE) INV OUT = 1016.35 (15" HDPE) N: 993356.535; E: 2831703.785
E11	INSTALL 6'X4' CURB INLET 31+51.91, 0.00' LINE E RIM= 1027.14 INV OUT = 1019.84 (15" HDPE) N: 993471.679; E: 2831882.557



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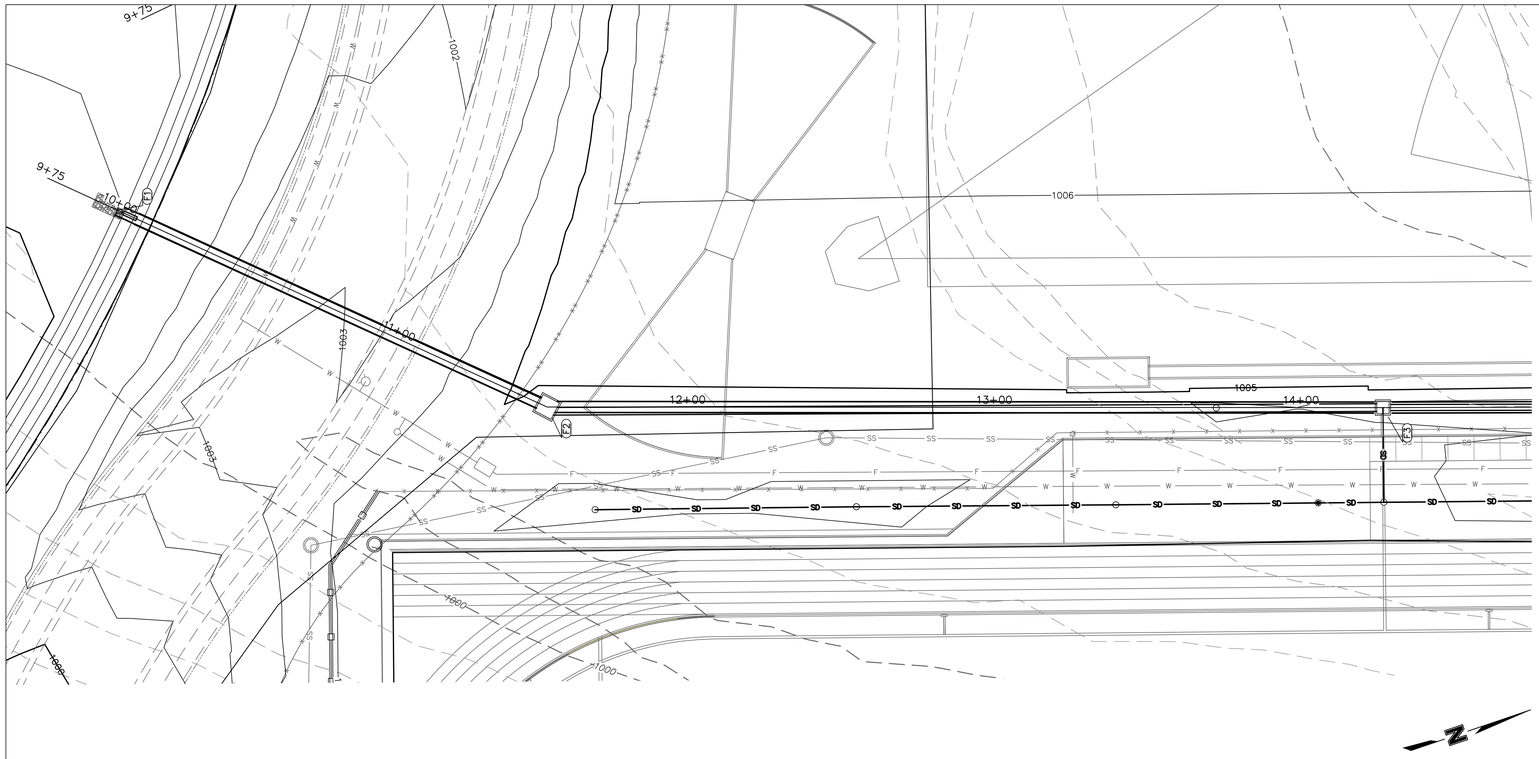
STORM SEWER PLAN & PROFILE - LINE E

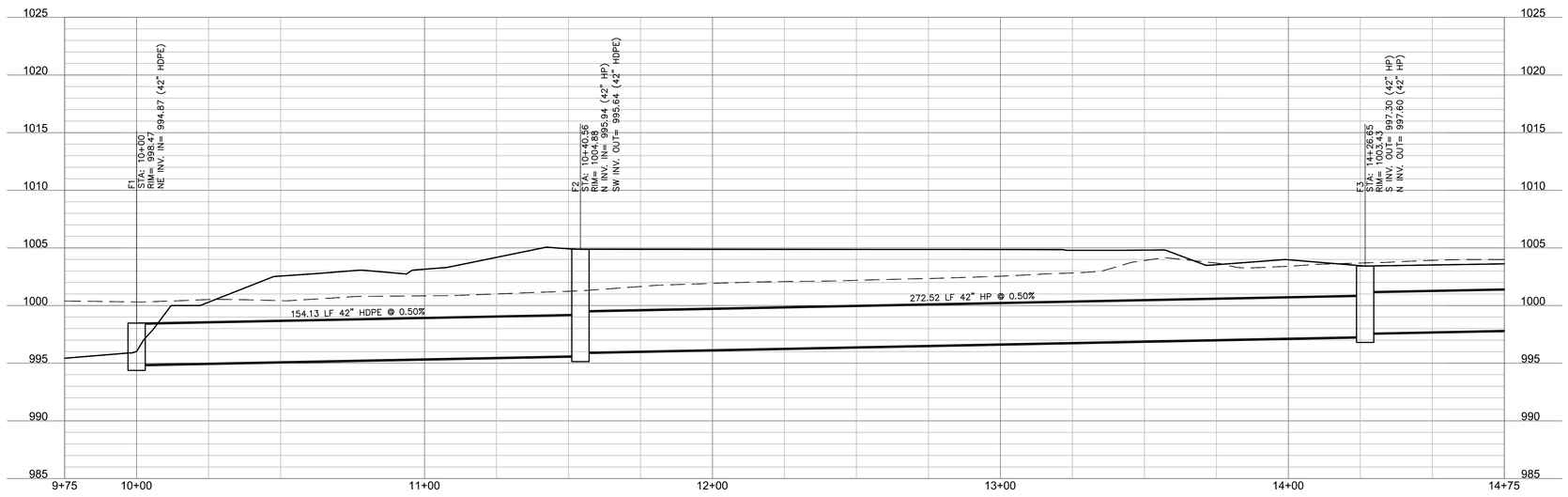
C1038

0' 10' 20' 40'
SCALE IN FEET
10'
5'
2.5'
0'



STRUCTURES	
ID	DESCRIPTION
F1	INSTALL 48" NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIP 10+00, 0.00' LINE F RIM= 998.47 INV IN = 994.87 (42" HDPE) N: 991398.070; E: 2831632.042
F2	INSTALL 5'X5' JUNCTION BOX 10+40.56, 170.83' RT LINE E RIM= 1004.88 INV IN = 995.94 (42" HP) INV OUT = 995.64 (42" HDPE) N: 991510.093; E: 2831737.899
F3	INSTALL 5'X5' DOUBLE GRATE INLET 14+26.65, 0.00' LINE F RIM= 1003.43 INV OUT = 997.30 (42" HP) INV OUT = 997.60 (42" HP) N: 991768.065; E: 2831825.747

LINE F (9+75 - 14+75)



10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

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STORM SEWER PLAN & PROFILE - LINE F

C1039

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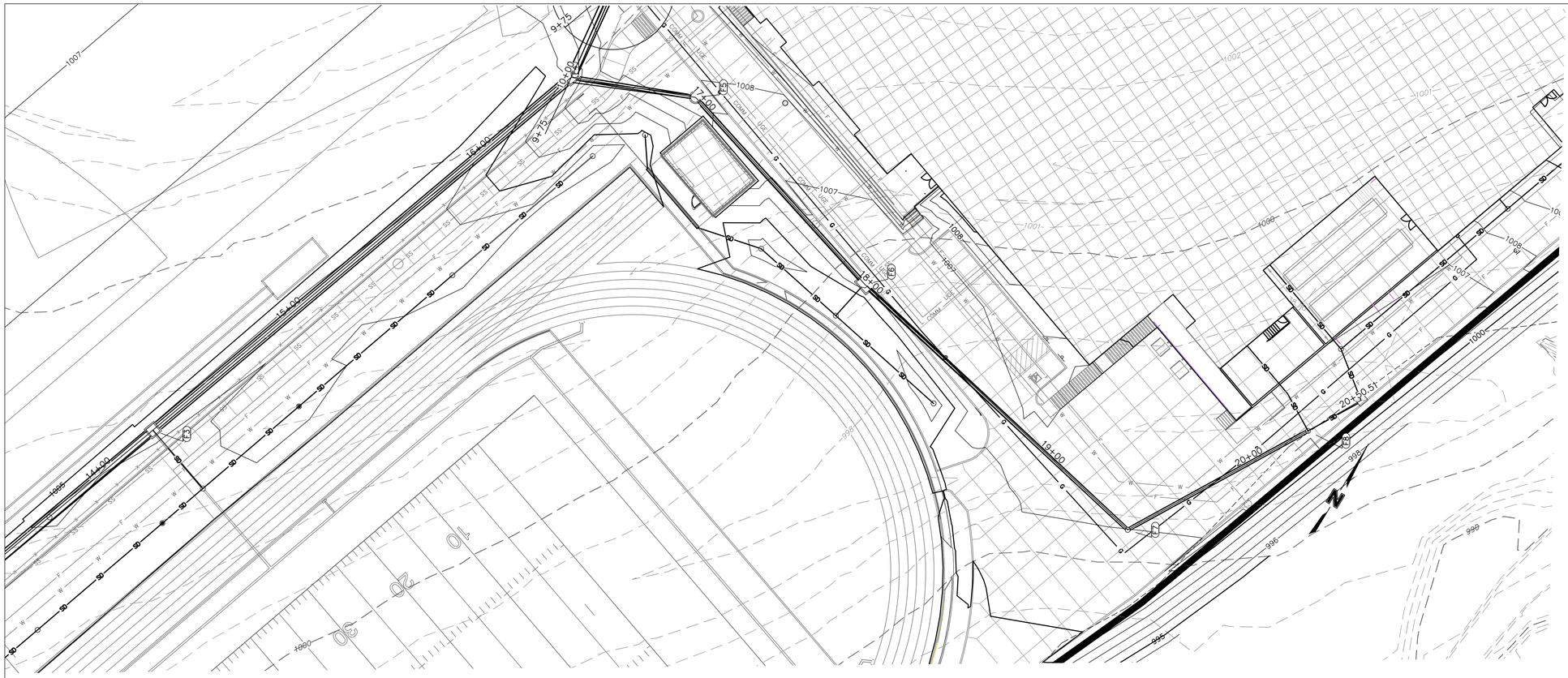
9+75
10+00
12+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
20+50.51
1007
1008
1002
1001
1000
999
998
997
996
995
990
1005
1010
1015
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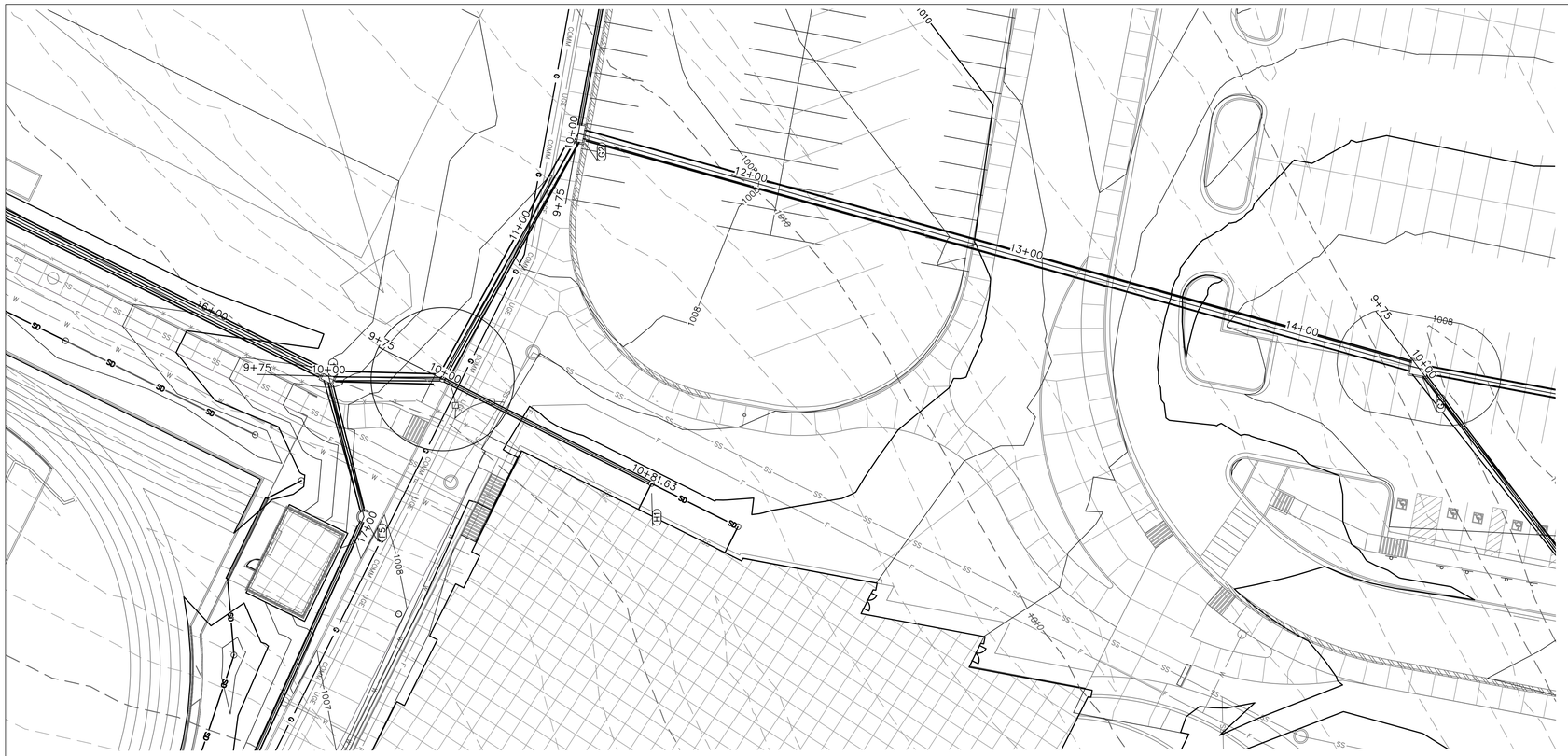
1195
1200


9+75
10+00
11+00
12+00
13+00
14+00
16+00
17+00
101.81.63
1008
1010
1012
1000
1001
1004
1006
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1080
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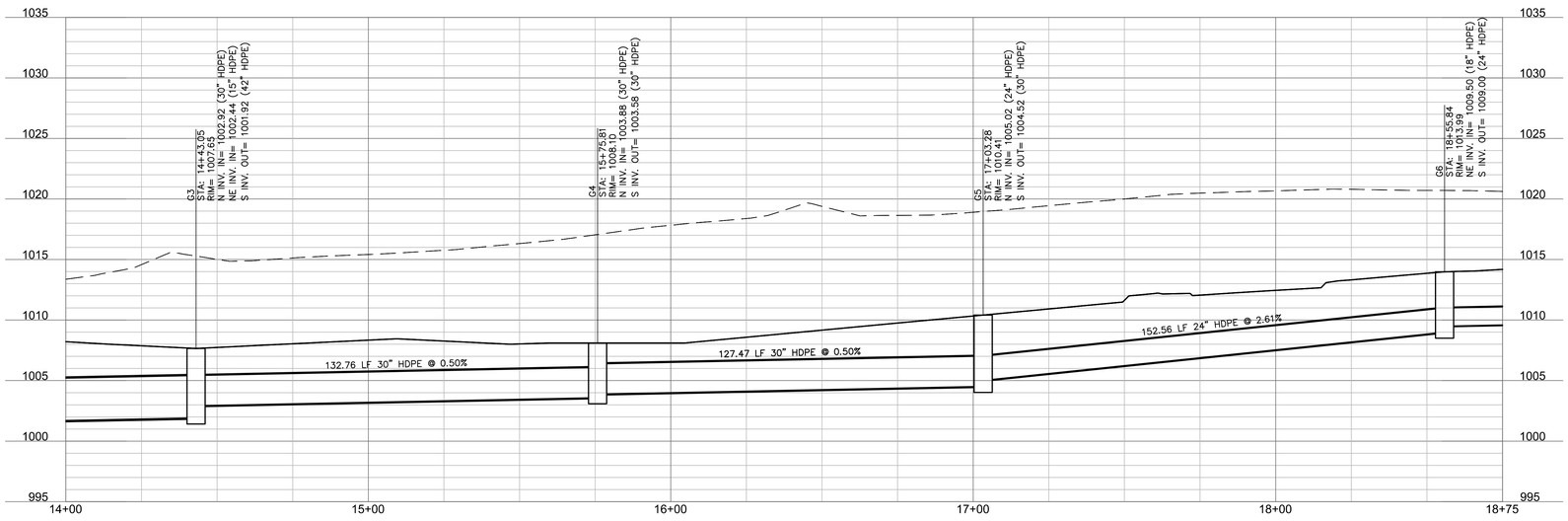
1090

STRUCTURES	
ID	DESCRIPTION
G3	INSTALL 5'X5' DOUBLE GRATE INLET 14+43.05, 0.00' LINE G RIM= 1007.65 INV IN = 1002.92 (30" HDPE) INV IN = 1002.44 (15" HDPE) INV OUT = 1001.92 (42" HDPE) N: 992353.638; E: 2831840.461
G4	INSTALL 5'X5' DOUBLE GRATE INLET 15+75.81, 0.00' LINE G RIM= 1008.10 INV IN = 1003.88 (30" HDPE) INV OUT = 1003.58 (30" HDPE) N: 992486.265; E: 2831846.479
G5	INSTALL 5'X5' DOUBLE GRATE INLET 17+03.28, 0.00' LINE G RIM= 1010.41 INV IN = 1005.02 (24" HDPE) INV OUT = 1004.52 (30" HDPE) N: 992613.603; E: 2831852.256
G6	INSTALL 4'X4' JUNCTION BOX 18+55.84, 0.00' LINE G RIM= 1013.99 INV IN = 1009.50 (18" HDPE) INV OUT = 1009.00 (24" HDPE) N: 992765.725; E: 2831863.789

LINE G (14+00 - 18+75)



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STORM SEWER PLAN & PROFILE - LINE G

C1042

10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

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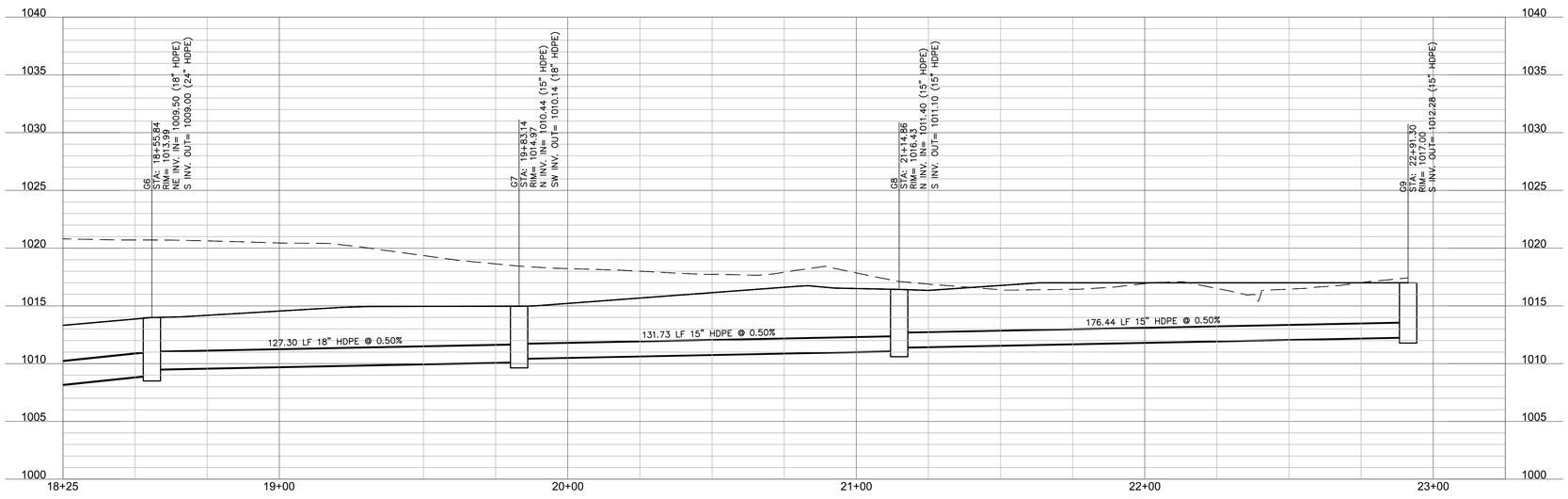
STRUCTURES	
ID	DESCRIPTION
G6	INSTALL 4'X4' JUNCTION BOX 18+55.84, 0.00' LINE G RIM= 1013.99 INV IN = 1009.50 (18" HDPE) INV OUT = 1009.00 (24" HDPE) N: 992765.725; E: 2831863.789
G7	INSTALL 4'X4' JUNCTION BOX 19+83.14, 0.00' LINE G RIM= 1014.97 INV IN = 1010.44 (15" HDPE) INV OUT = 1010.14 (18" HDPE) N: 992857.289; E: 2831952.225
G8	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 21+14.86, 0.00' LINE G RIM= 1016.43 INV IN = 1011.40 (15" HDPE) INV OUT = 1011.10 (15" HDPE) N: 992983.957; E: 2831988.380
G9	INSTALL 2' DIA. NYLOPLAST BASIN WITH PEDESTRIAN GRATE LID 22+91.30, 0.00' LINE G RIM= 1017.00 INV OUT = 1012.28 (15" HDPE) N: 993160.389; E: 2831987.198

LINE G (18+25 - 23+25)



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STATE OF MISSOURI
TERRYK PARSONS
NUMBER
PE-2010010509
07.23.20
REGISTERED PROFESSIONAL ENGINEER

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8/28/20
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13-20102-00

STORM SEWER PLAN & PROFILE - LINE G

C1043

10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_STM01_0200103.dwg USER: bkimmich
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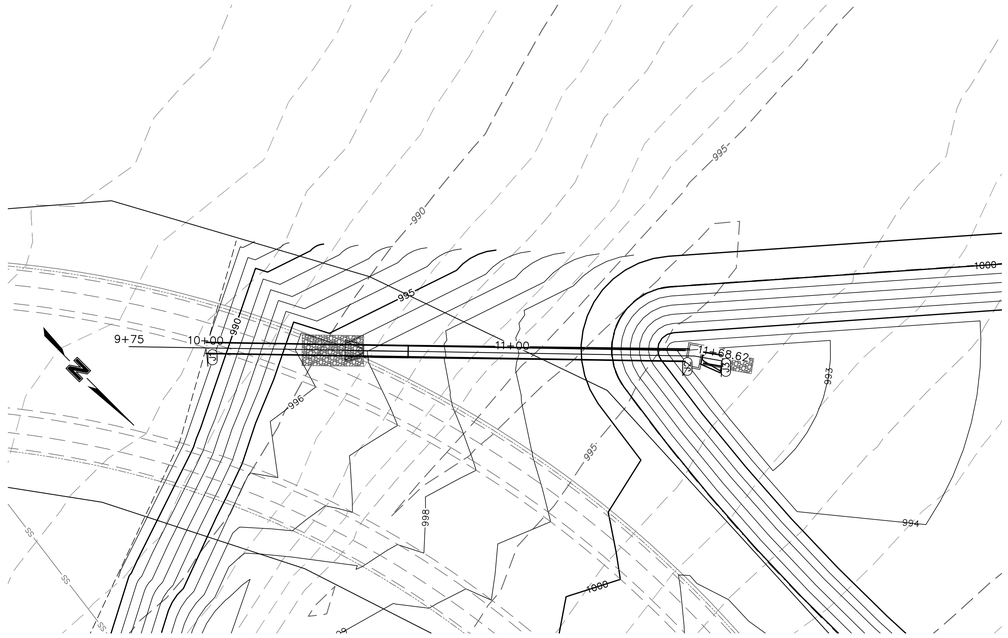
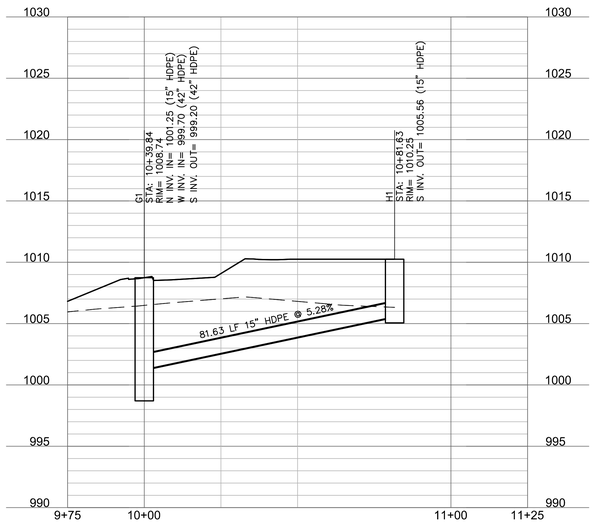
STRUCTURES	
ID	DESCRIPTION
G1	INSTALL 6'X6' JUNCTION BOX 10+39.84, 0.00' LINE G RIM= 1008.74 INV IN = 1001.25 (15" HDPE) INV IN = 999.70 (42" HDPE) INV OUT = 999.20 (42" HDPE) N: 992016.112; E: 2831891.428
H1	INSTALL 2' DIA. NYLOPLAST BASIN WITH SOLID LID 10+81.63, 0.00' LINE H RIM= 1010.25 INV OUT = 1005.56 (15" HDPE) N: 992093.480; E: 2831917.465

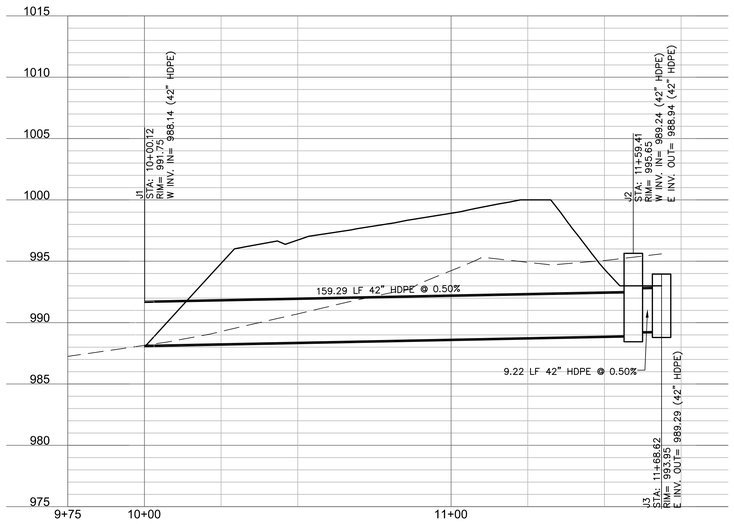


STRUCTURES	
ID	DESCRIPTION
J1	INSTALL 48" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 14.8 CY RIPRAP 10+00.12, 0.00' LINE J RIM= 991.75 INV IN = 988.14 (42" HDPE) N: 991241.500; E: 2831885.333
J2	INSTALL 6'X6' MODIFIED JUNCTION BOX 11+59.41, 0.00' LINE J RIM= 995.65 INV IN = 989.24 (42" HDPE) INV OUT = 988.94 (42" HDPE) N: 991260.071; E: 2831727.130
J3	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 11+68.62, 0.00' LINE J RIM= 993.95 INV OUT = 989.29 (42" HDPE) N: 991262.548; E: 2831718.253

LINE H (9+75 - 11+25)



LINE J (9+75 - 12+00)



10' 5' 2.5' 0'
0' 10' 20' 40'
SCALE IN FEET

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STORM SEWER PLAN & PROFILE - LINE H AND J

C1044

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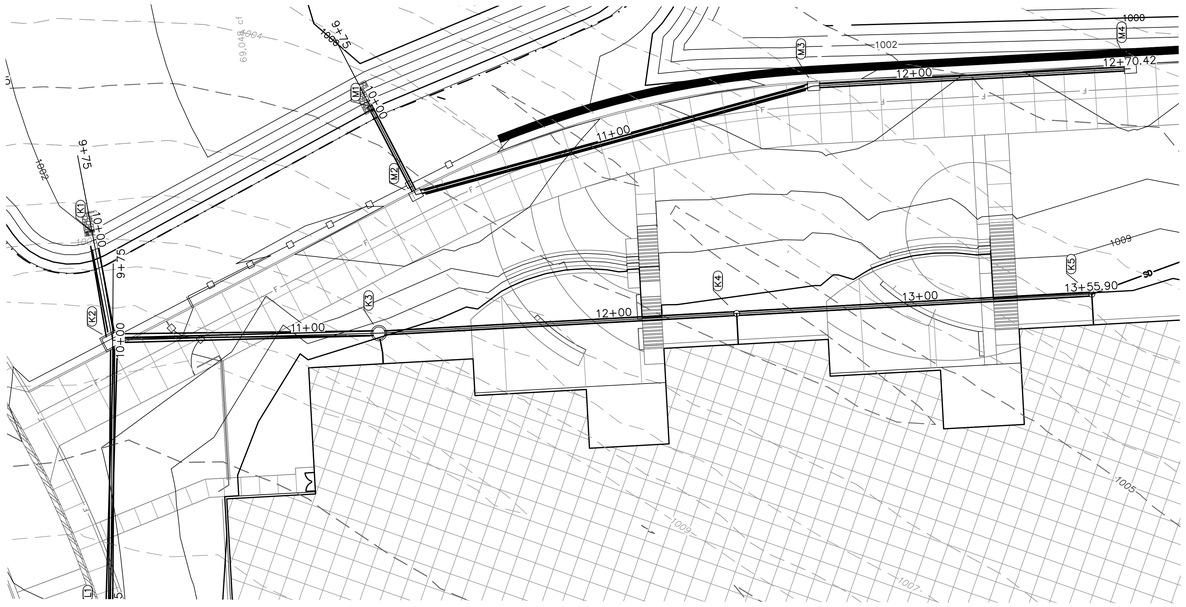
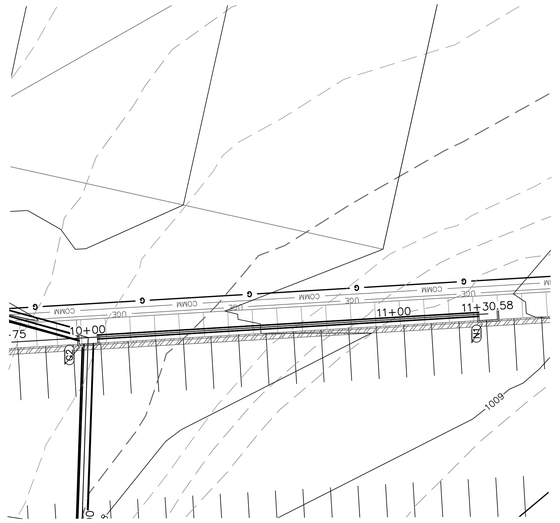
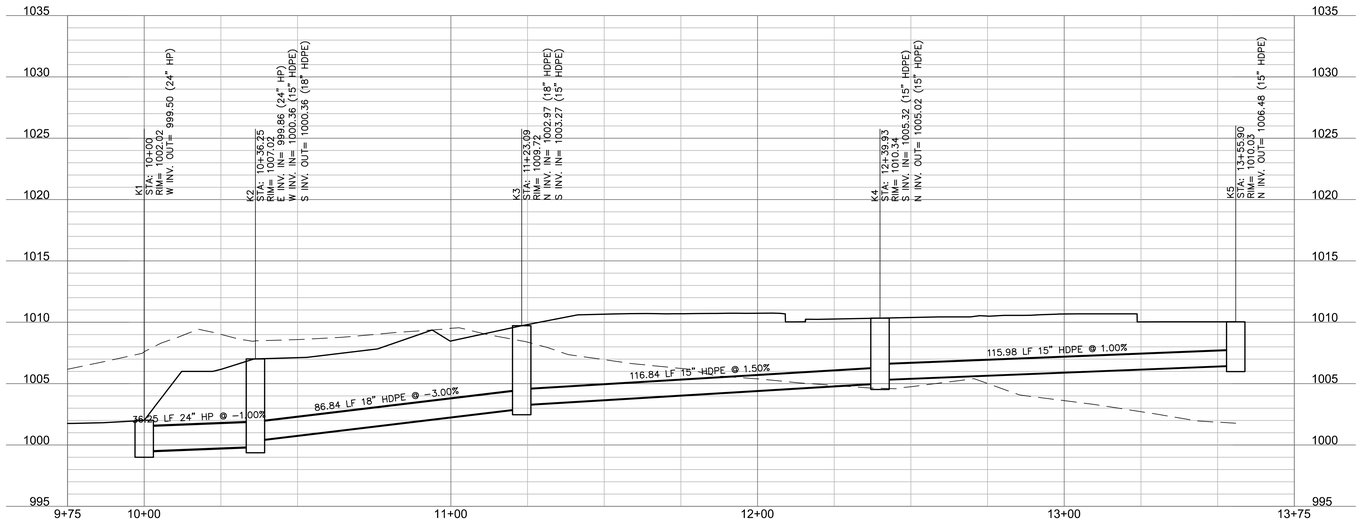


STRUCTURES	
ID	DESCRIPTION
K1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE K RIM= 1002.02 INV OUT = 999.50 (24" HP) N: 992644.388; E: 2832283.205
K2	INSTALL 6'X4' NON-SETBACK CURB INLET 10+36.25, 0.00' LINE K RIM= 1007.02 INV IN = 999.86 (24" HP) INV IN = 1000.36 (15" HDPE) INV OUT = 1000.36 (18" HDPE) N: 992641.229; E: 2832247.098
K3	INSTALL 2' DIA. NYLOPLAST BASIN WITH SOLID LID 11+23.09, 0.00' LINE K RIM= 1009.72 INV IN = 1002.97 (18" HDPE) INV IN = 1003.27 (15" HDPE) N: 992554.618; E: 2832240.753
K4	5' X 5' - JUNCTION BOX 12+39.93, 0.00' LINE K RIM= 1010.34 INV IN = 1005.32 (15" HDPE) INV OUT = 1005.02 (15" HDPE) N: 992437.898; E: 2832235.453
K5	INSTALL 2' DIA. NYLOPLAST BASIN WITH SOLID LID 13+55.90, 0.00' LINE K RIM= 1010.03 INV OUT = 1006.48 (15" HDPE) N: 992322.041; E: 2832230.192

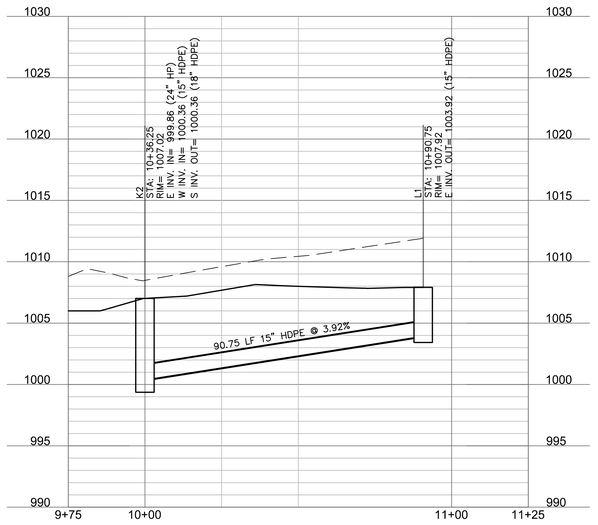


STRUCTURES	
ID	DESCRIPTION
M1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE M RIM= 1004.55 INV IN = 999.50 (15" HDPE) N: 992550.121; E: 2832314.726
M2	INSTALL 4'X3' NYLOPLAST CURB INLET 10+32.61, 0.00' LINE M RIM= 1006.57 INV IN = 999.80 (15" HDPE) INV OUT = 999.66 (15" HDPE) N: 992538.053; E: 2832284.431
M3	INSTALL 4'X3' NYLOPLAST CURB INLET 11+67.03, 0.00' LINE M RIM= 1006.54 INV IN = 1001.54 (15" HDPE) INV OUT = 1001.14 (15" HDPE) N: 992405.502; E: 2832306.749
M4	INSTALL 4'X3' NYLOPLAST CURB INLET 12+70.42, 0.00' LINE M RIM= 1006.67 INV OUT = 1002.57 (15" HDPE) N: 992302.216; E: 2832302.051

LINE K (9+75 - 13+75)



LINE L (9+75 - 11+25)



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STORM SEWER PLAN & PROFILE - LINE K AND L

C1045

10' 5' 2.5' 0'
0' 10' 20' 40'
SCALE IN FEET

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_STM01_0200103.dwg USER: bkimmich
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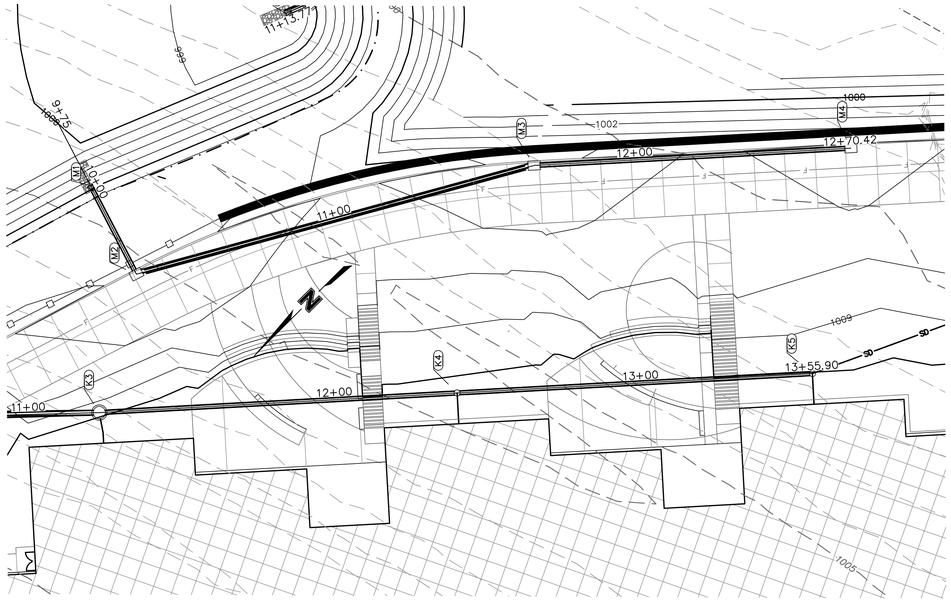

STRUCTURES	
ID	DESCRIPTION
M1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE M RIM= 1004.55 INV IN = 999.50 (15" HDPE) N: 992550.121; E: 2832314.726
M2	INSTALL 4'X3' NYLOPLAST CURB INLET 10+32.61, 0.00' LINE M RIM= 1006.57 INV IN = 999.80 (15" HDPE) INV OUT = 999.66 (15" HDPE) N: 992538.053; E: 2832284.431
M3	INSTALL 4'X3' NYLOPLAST CURB INLET 11+67.03, 0.00' LINE M RIM= 1006.54 INV IN = 1001.54 (15" HDPE) INV OUT = 1001.14 (15" HDPE) N: 992405.502; E: 2832306.749
M4	INSTALL 4'X3' NYLOPLAST CURB INLET 12+70.42, 0.00' LINE M RIM= 1006.67 INV OUT = 1002.57 (15" HDPE) N: 992302.216; E: 2832302.051

STRUCTURES	
ID	DESCRIPTION
M1	INSTALL 24" DIA. NYLOPLAST END SECTION WITH CONCRETE TOEWALL AND 2.8 CY RIPRAP 10+00, 0.00' LINE M RIM= 1004.55 INV IN = 999.50 (15" HDPE) N: 992550.121; E: 2832314.726
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M3	INSTALL 4'X3' NYLOPLAST CURB INLET 11+67.03, 0.00' LINE M RIM= 1006.54 INV IN = 1001.54 (15" HDPE) INV OUT = 1001.14 (15" HDPE) N: 992405.502; E: 2832306.749
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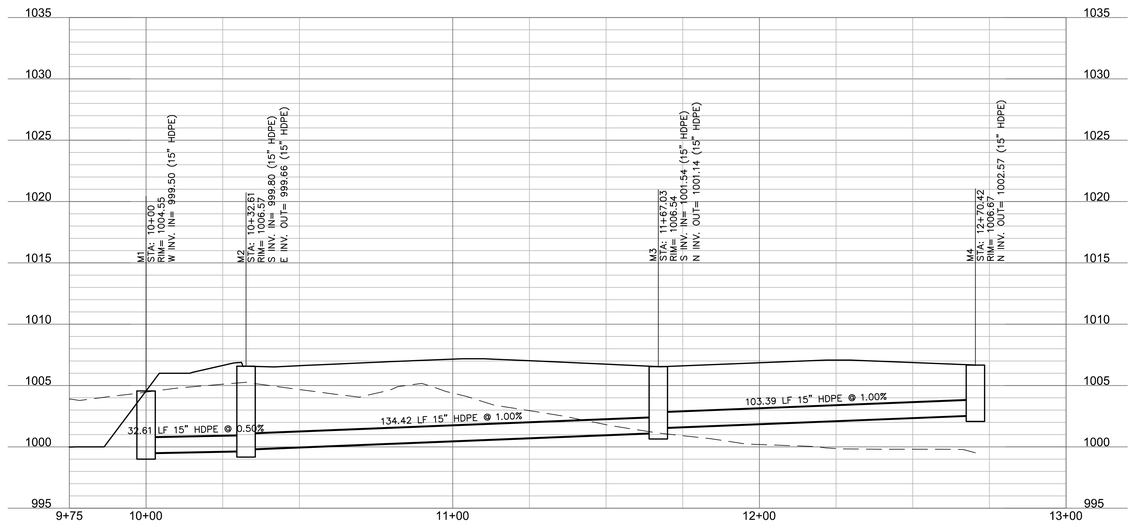
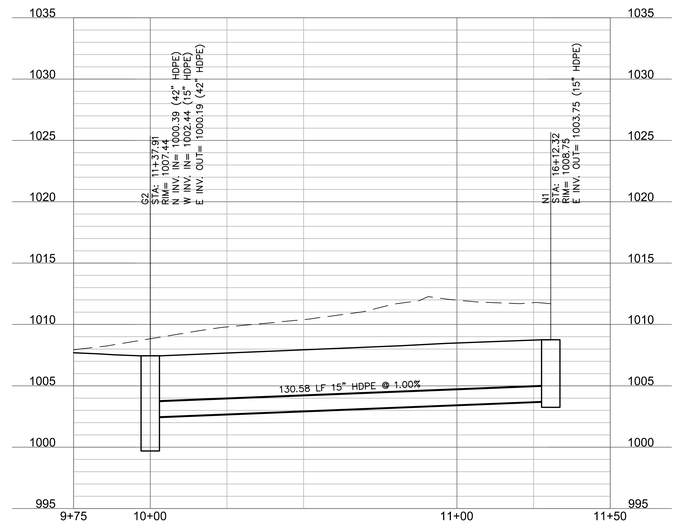
LINE M (9+75 - 13+00)



LINE N (9+75 - 11+50)



10'
5'
2.5'
0'
0' 10' 20' 40'
SCALE IN FEET

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TERRY K. PARSONS
NUMBER
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STORM SEWER PLAN & PROFILE - LINE M AND N

C1046

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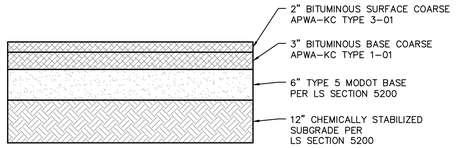
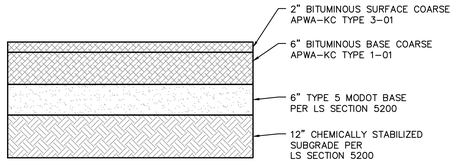


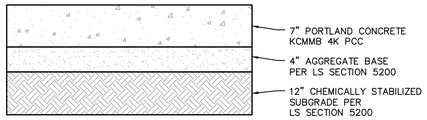
REFER TO THE GEOTECHNICAL REPORT PROVIDED BY CFS ENGINEERS, PROJECT NO. 20–1074 AND DATED JUNE 8, 202 AND ALL ADDENDUMS FOR ADDITIONAL REQUIREMENTS.

LIGHT DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE



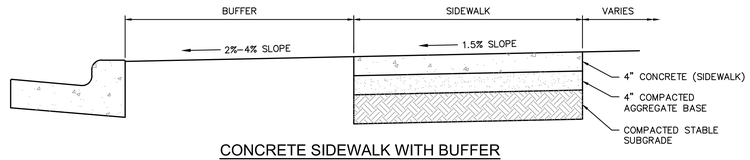
REFER TO THE GEOTECHNICAL REPORT PROVIDED BY CFS ENGINEERS, PROJECT NO. 20–1074 AND DATED JUNE 8, 202 AND ALL ADDENDUMS FOR ADDITIONAL REQUIREMENTS.

HEAVY DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE



REFER TO THE GEOTECHNICAL REPORT PROVIDED BY CFS ENGINEERS, PROJECT NO. 20–1074 AND DATED JUNE 8, 202 AND ALL ADDENDUMS FOR ADDITIONAL REQUIREMENTS.

HEAVY DUTY CONCRETE PAVEMENT SECTION
NOT TO SCALE

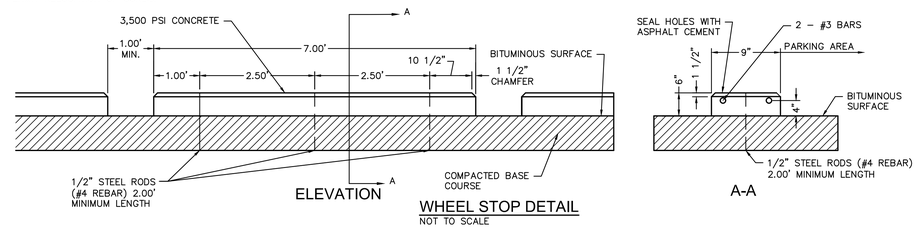


CONCRETE SIDEWALK WITH BUFFER
NOT TO SCALE

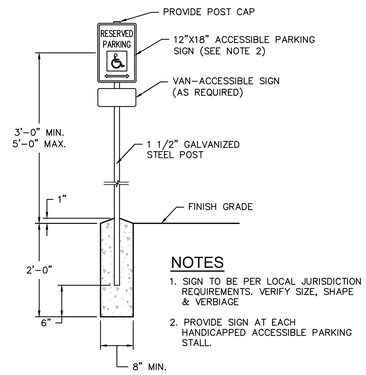
GENERAL NOTES:

1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG)
5. AN EXPANSION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK, BUT NO GREATER THAN 10 FT.
6. SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

NOTE:
ANCHOR RODS TO BE SLEEVED OF GREASED THRU CONCRETE CURBS TO PERMIT RELOCATION OF CURBS.



WHEEL STOP DETAIL
NOT TO SCALE



NOTES
1. SIGN TO BE PER LOCAL JURISDICTION REQUIREMENTS. VERIFY SIZE, SHAPE & VERBIAGE
2. PROVIDE SIGN AT EACH HANDICAPPED ACCESSIBLE PARKING STALL.

ACCESSIBLE PARKING
SPACE SIGNAGE
NOT TO SCALE

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STANDARD
DETAILS

C1050

DWG: F:\2020\0001–0500\020–0103\40–Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_DTL01_020103.dwg USER: tparsons
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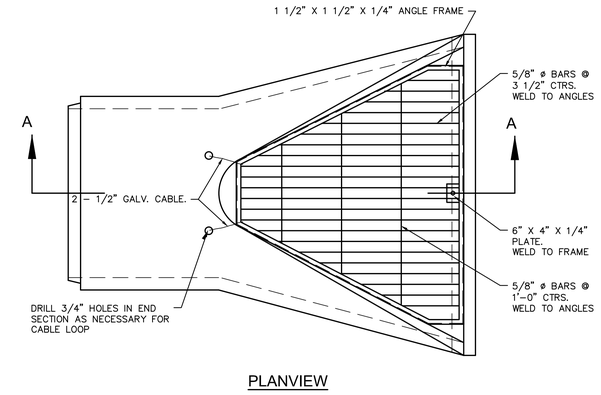
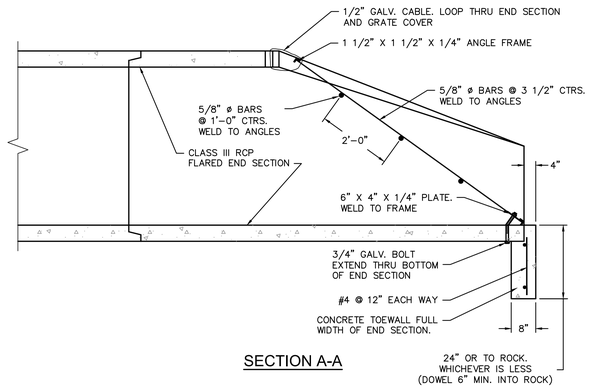


PLANVIEW

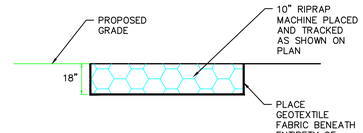


SECTION A-A

END SECTION NOTES

1. GRATE COVER DETAIL SHALL BE ADJUSTED AS NECESSARY TO FIT END SECTION PROVIDED.
2. MAXIMUM OPENING THRU END SECTION SHALL BE NO GREATER THAN 6". ADJUST DETAIL AS NECESSARY.
3. ALL METAL SURFACES SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.
4. USE CITY APPROVED CONCRETE THROUGHOUT.
5. ALL CONCRETE AND MATERIALS USED IN THIS WORK SHALL MEET THE REQUIREMENTS OF THE GOVERNING BODY.
6. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
7. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF ±1/8" SHALL BE PERMITTED.
8. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
9. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.
10. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
11. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.

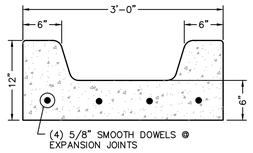
END SECTION TOE WALL WITH GRATE
NOT TO SCALE



10" RIPRAP

WEIGHT OF INDIVIDUAL PIECES	MINIMUM PERCENT LARGER THAN
500 lbs.	0%
250 lbs.	50%
125 lbs.	70%
10 lbs.	90%

STONE RIPRAP DETAIL
NOT TO SCALE



CONCRETE FLUME DETAIL
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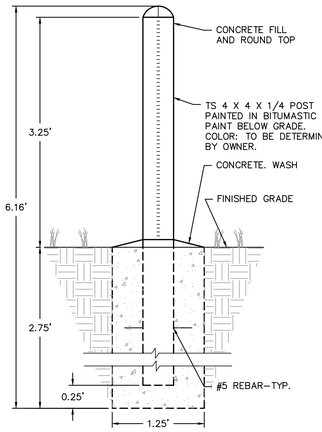
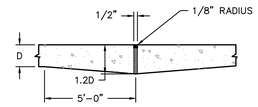


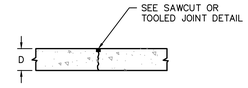
NOTE:
WHEN PLACED IN PAVEMENT, TOP OF CONCRETE FOUNDATION SHALL BE PLACED BELOW NEW PAVEMENT WITH 1/2 ISOLATION JOINT & SEAL.

BOLLARD DETAIL
NOT TO SCALE

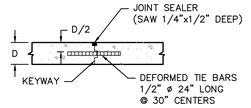


EXPANSION JOINT AT CONNECTION TO EXISTING PAVEMENT

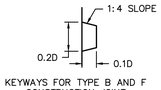
NOTE:
1. EXPANSION JOINTS TO BE USED IN ALL AREAS THAT CONCRETE PAVEMENT ABUTS BUILDING
2. 6X6X6 WELDED WIRE MESH IS TO BE USED IN ALL CONCRETE WALKS AROUND BUILDINGS.



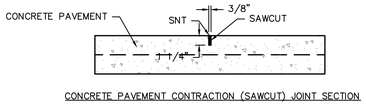
SAWED LONGITUDINAL OR TRANSVERSE



EMERGENCY TIED TRANSVERSE CONSTRUCTION JOINT
(USED AT MIDDLE THIRD NORMAL JOINT SPACING)



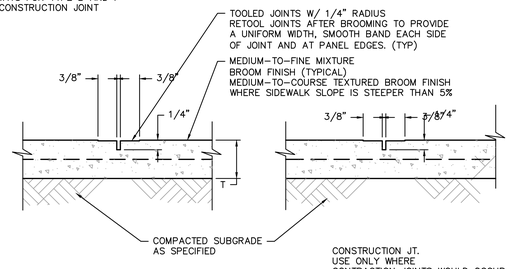
KEYWAYS FOR TYPE B AND F CONSTRUCTION JOINT



CONCRETE PAVEMENT CONTRACTION (SAWCUT) JOINT SECTION

SAWCUT JOINT

CONCRETE PAVING JOINT DETAILS
NOT TO SCALE



TOOLED JOINT

DLR Group
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STATE OF MISSOURI TERRYK PARSONS NUMBER PE-2010010509 PROFESSIONAL ENGINEER

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Overland Park, KS 66213-4750
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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STANDARD DETAILS

C1051

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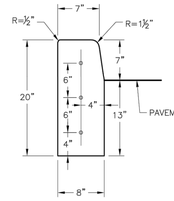
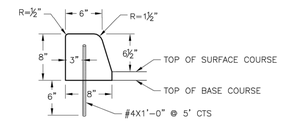
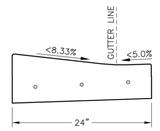
TE DETAIL



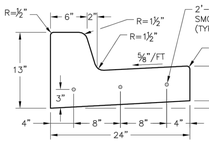
STRAIGHT CURB
(TYPE C-1)



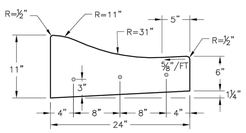
DOWELLED CURB
(TYPE DC)



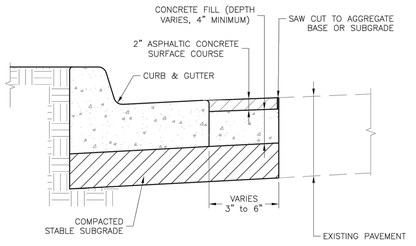
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



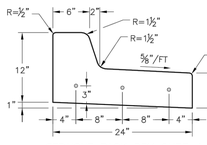
STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



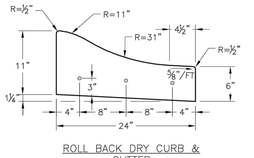
ROLL BACK CURB &
GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB &
GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB &
GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

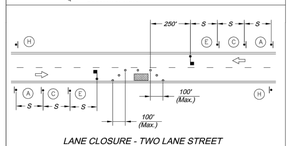
Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Detail Name: CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

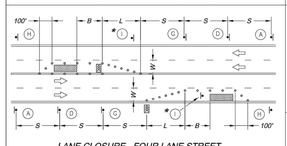
GEN-4

SYMBOL LEGEND

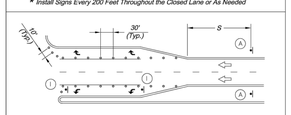
- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger



LANE CLOSURE - TWO LANE STREET



LANE CLOSURE - FOUR LANE STREET
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TURN LANE CLOSURE

Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

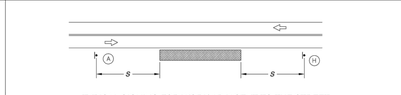
Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L" per Lane Width "W"			Minimum Number of Channelizers
	10'	11'	12'	
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

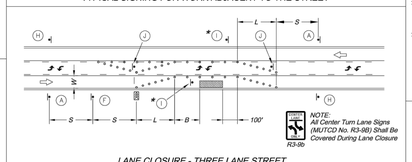
Maximum Channelizer Spacing			
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)	
25	25	50	
30	30	60	
35	35	70	
40	40	80	
45	45	90	

SIGN LEGEND

ROAD WORK AHEAD	ROAD CLOSED AHEAD	ONE LANE ROAD AHEAD	RIGHT LANE CLOSED AHEAD (W20-5L)		W1-4R
A W20-1 36" x 36"	B W20-2 36" x 36"	C W20-4 36" x 36"	D W20-5R 36" x 36"	E W20-7a 36" x 36"	F W1-4L 36" x 36"
W4-2R	END ROAD WORK	Use Only As Approved by City Traffic Engineer	KEEP RIGHT	ROAD CLOSED	ROAD CLOSED TO THRU TRAFFIC
G W4-2R 36" x 36"	H G20-2 36" x 18"	I R3-2 24" x 24"	J R4-7a 24" x 30"	K R11-2 48" x 30"	L R11-4 60" x 30"

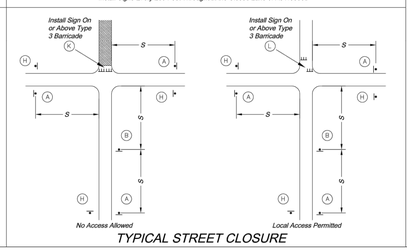


TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



NOTE:
All Center Turn Lane Signs (MUTCD No. R3-9B) Shall Be Covered During Lane Closure
R3-9b

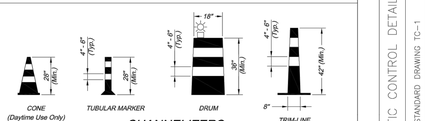
LANE CLOSURE - THREE LANE STREET
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TYPICAL STREET CLOSURE

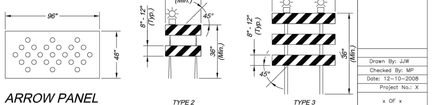
GENERAL NOTES:

1. All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
4. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
5. Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
6. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
7. The Contractor shall provide cast lane barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
8. Access shall be maintained to alleys and side streets unless noted otherwise on the plans.
9. No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
10. Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction vehicles including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
11. Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
13. All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
14. All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
15. The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
16. No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
17. The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
18. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
19. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
    - A) Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
    - B) Stop the work until deficiencies are corrected,
    - C) Suspend all pay estimates until deficiencies are corrected, or
    - D) Place the Contractor in default.



CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



BARRICADES

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

STATE OF MISSOURI
TERRY M. PARSONS
NUMBER
PE-2010015059
07-31-20
PROFESSIONAL ENGINEER

Project: TRAFFIC CONTROL DETAILS
Sheet Name: STANDARD DRAWING TC-1

Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X
x OF x
X

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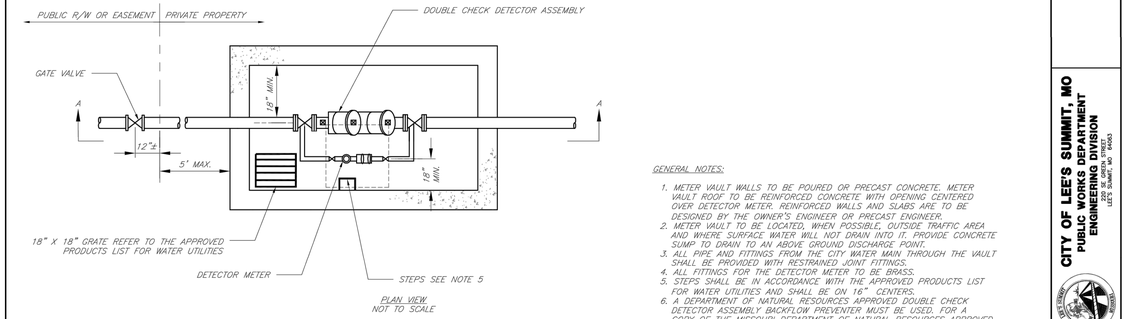
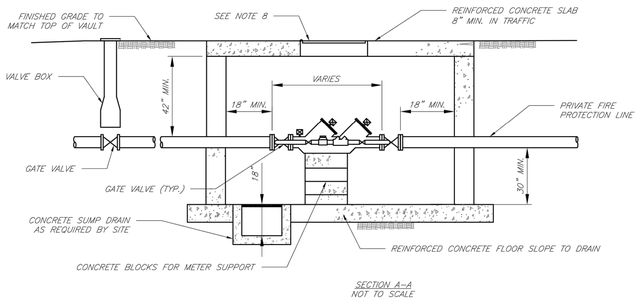
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com



PLAN VIEW
NOT TO SCALE

GENERAL NOTES:

1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE WITH OPENING CENTERED OVER DETECTOR METER. REINFORCED WALLS AND SLABS ARE TO BE DESIGNED BY THE OWNER'S ENGINEER OR PRECAST ENGINEER.
2. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA AND WHERE SURFACE WATER WILL NOT DRAIN INTO IT. PROVIDE CONCRETE SUMP TO DRAIN TO AN ABOVE GROUND DISCHARGE POINT.
3. ALL PIPE AND FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
4. ALL FITTINGS FOR THE DETECTOR METER TO BE BRASS.
5. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
6. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT WATER UTILITIES AT 816-969-1900.
7. ALL VALVES SHALL HAVE RISING STEMS.
8. MANHOLE COVER SHALL BE A BILCO K-1 MODEL UNLESS IN A VEHICLE TRAFFIC AREA. SEE THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR TRAFFIC CONDITIONS. THE COVER SHALL HAVE A 1-3/4" ø HOLE DRILLED FOR A TOUCH/READ DEVICE.
9. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
10. CONTACT PUBLIC WORKS ENGINEERING FOR VAULTS THAT INCLUDE A FIRE DEPARTMENT CONNECTION OR A 3" OR LARGER METER.



SECTION A-A
NOT TO SCALE

CITY OF LEE'S SUMMIT, MO
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063

Project: STANDARD DRAWINGS
Detail Name: VAULT FOR DOUBLE CHECK DETECTOR CHECK

Drawn By: AS
Checked By: JL
Date: 1/14
Rev: 1/14
of
WAT-12

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STANDARD
DETAILS

C1052

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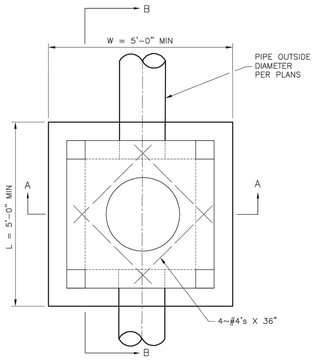
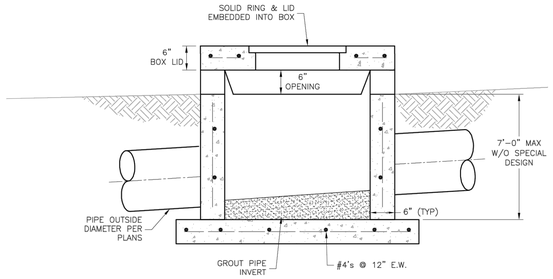
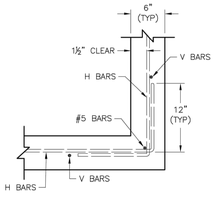


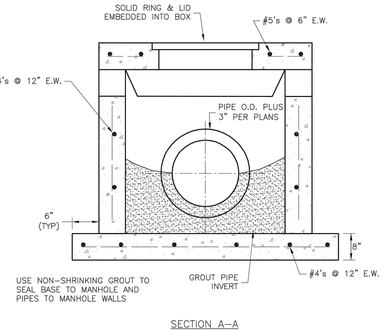
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

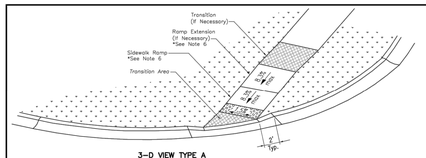
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
FIELD INLET DETAIL

Project:
Sheet Name:

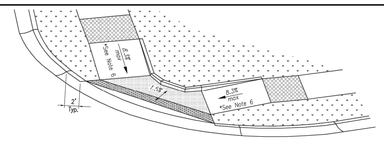
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-2

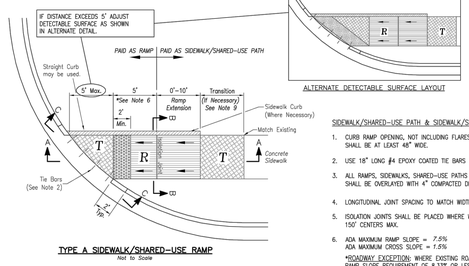


3–D VIEW TYPE A
SIDEWALK/SHARED–USE RAMP

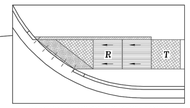
LEGEND
- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



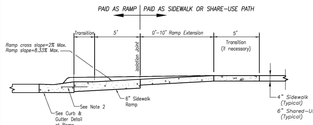
3–D VIEW TYPE B
SIDEWALK/SHARED–USE RAMP



TYPE A SIDEWALK/SHARED–USE RAMP
Not to Scale



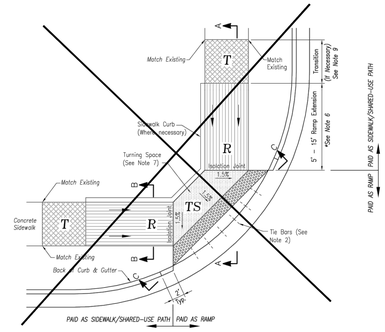
ALTERNATE DETECTABLE SURFACE LAYOUT



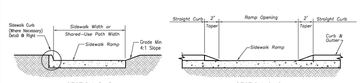
SECTION A–A

SIDEWALK/SHARED–USE PATH & SIDEWALK/SHARED–USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED–USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = *7.6%*
   ADA MAXIMUM CROSS SLOPE = *1.5%*
   ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL A MAXIMUM OF 1.5%.
7. TURNING SPACES SHALL BE *7.5% MAX* SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. *ALL SPOT ELEVATION, SLOPES, AND DETECTABLE SURFACE PLACEMENT WILL MATCH THE SPECIFIC GRADING DETAIL PROVIDED FOR EACH RAMP*
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



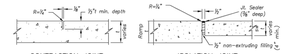
TYPE B SIDEWALK/SHARED–USE RAMP
Not to Scale



SECTION B–B SECTION C–C

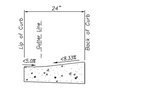
TYPE A & B SIDEWALK RAMP
Not to Scale

SIDEWALK CURB DETAIL
Not to Scale



CONTRACTION JOINT ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

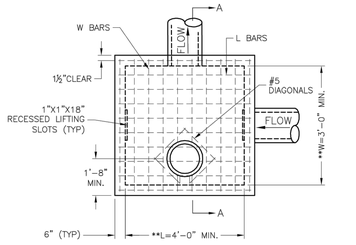
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP ~~RETROFIT~~ DETAIL

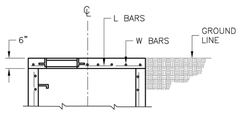
Project:
Sheet Name:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3A



PLAN

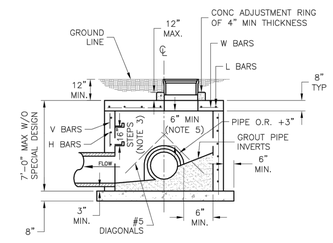


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

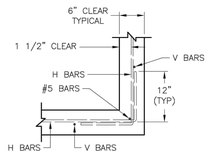
** INCREASE IN MULTIPLES OF 6" (7'–0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



SECTION A–A



WALL CORNER DETAIL

GENERAL NOTES:
1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

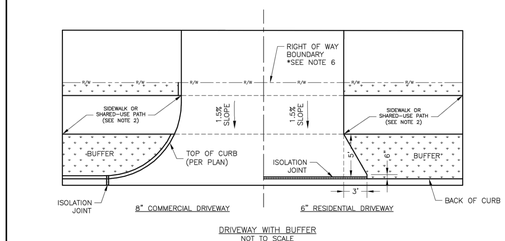
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
JUNCTION BOX DETAIL

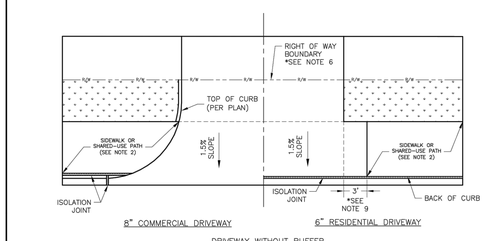
Project:
Sheet Name:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

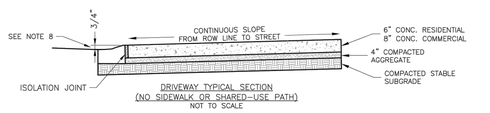
STM-3



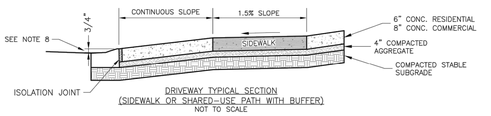
DRIVEWAY WITH BUFFER
NOT TO SCALE



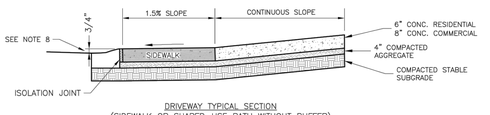
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED–USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED–USE PATH WITHOUT BUFFER)
NOT TO SCALE

GENERAL NOTES
1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS AND DRIVEWAY APPROACHES, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
8. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG–1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
9. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
10. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
DRIVEWAY DETAIL

Project:
Sheet Name:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-1

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STATE OF MISSOURI
TERESA M. PARSONS
NUMBER PE-2010015059
07-31-20

olsson
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STANDARD DETAILS

C1053

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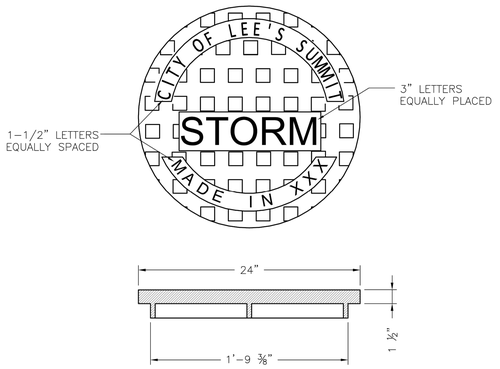
DATE: Aug 27, 2020 9:04pm XREFS: C_4LS_XBASE_80330 C_4LS_PBASE_80330 C_4LS_PSURF_80330 L_PLBASE_61023 L_PBASE_61023 TE DETAIL C_PBASE_80330



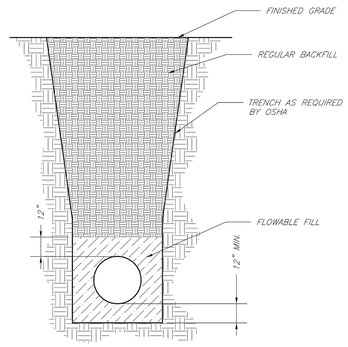
STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	STM-6



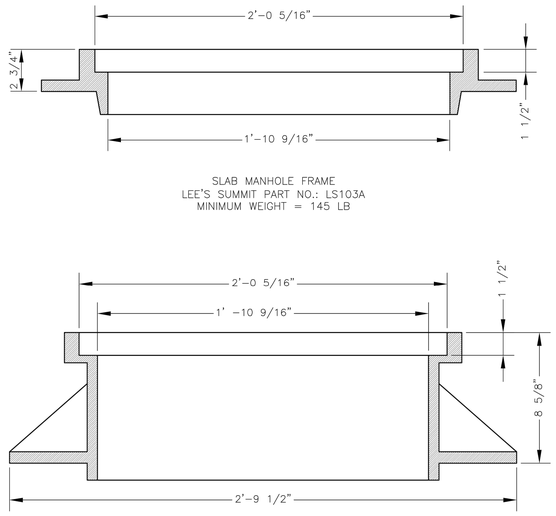
NOT TO SCALE

NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

TRENCH CHECK

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-6
Rev:	1/14
Rev:	

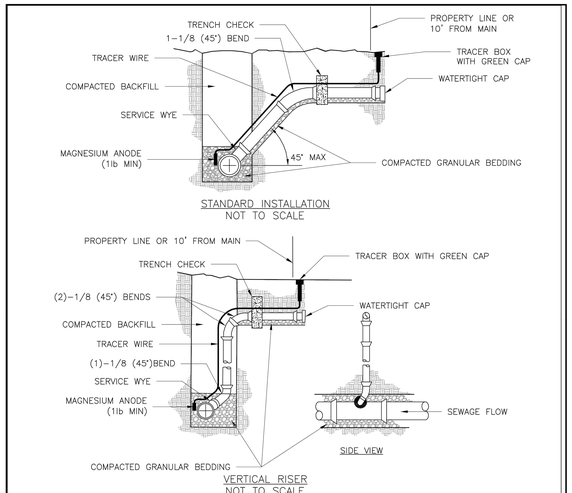


*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE FRAME DETAIL

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	STM-7

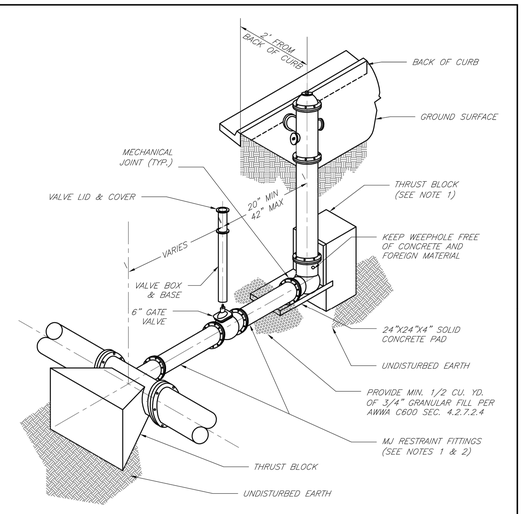


NOTES:
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 36" ABOVE GROUND AND PAINTED GREEN.
3. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
4. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
5. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
6. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
7. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
8. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
9. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

BUILDING SEWER STUB AND RISER

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	SAN-1

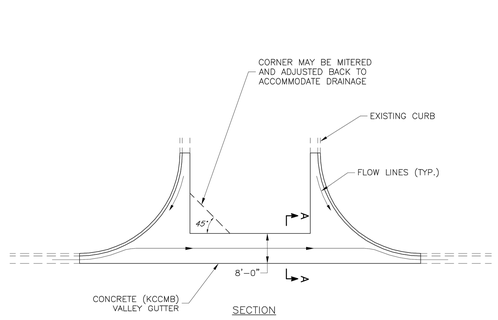


NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

HYDRANT INSTALLATION – STRAIGHT SET

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-7
Rev:	1/14
Rev:	

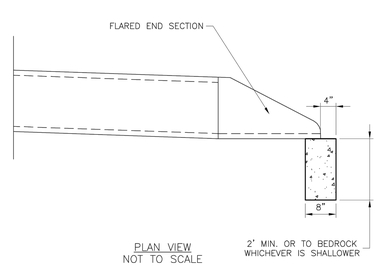


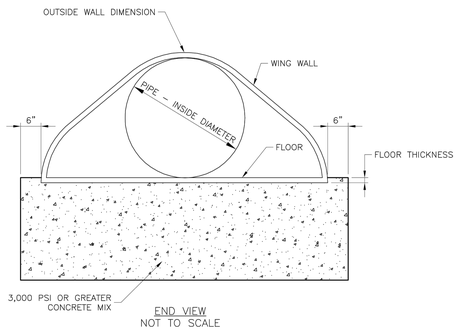
VALLEY GUTTER DETAIL
Intersection of Two Public Streets

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

VALLEY GUTTER DETAIL

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	GEN-7





LEE'S SUMMIT
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PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

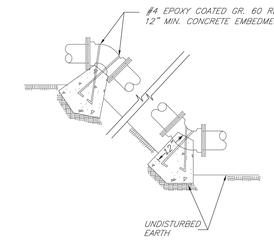
FLARED END SECTION SUPPORT DETAIL

Date:	04/17
Drawn By:	MJF
Checked By:	DL
	STM-5

REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



LEE'S SUMMIT
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VERTICAL THRUST BLOCKS

Date:	02/13
Drawn By:	JN
Checked By:	DL
FILE:	WAT-2
Rev:	1/14
Rev:	

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STATE OF MISSOURI
TERRYE PARSONS
NUMBER PE-2010015059
CERTIFICATE OF AUTHORITY

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STANDARD DETAILS

C1054

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_DTL01_0200103.dwg USER: bkimmich
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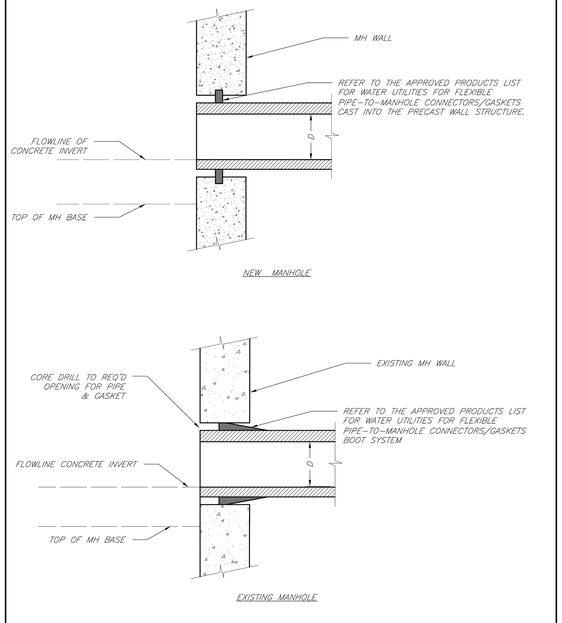
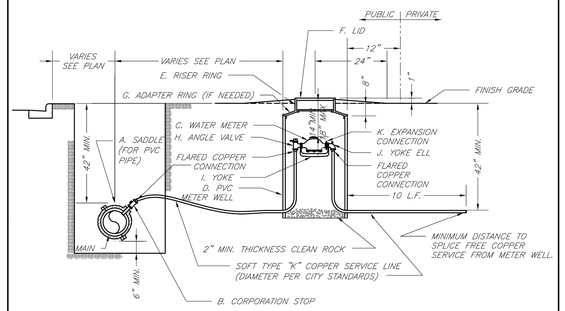


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

MANHOLE WALL CONNECTIONS

Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: SAN-5 | Rev: 1/14 | Rev:



TYPICAL METER INSTALLATION – 2" AND SMALLER
NOT TO SCALE

NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A–K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

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SERVICE CONNECTION/METER WELL

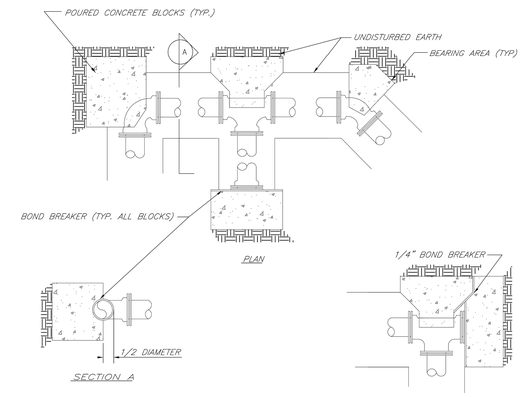
Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: WAT-11 | Rev: 1/14 | Rev:

REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

NOTES:

1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



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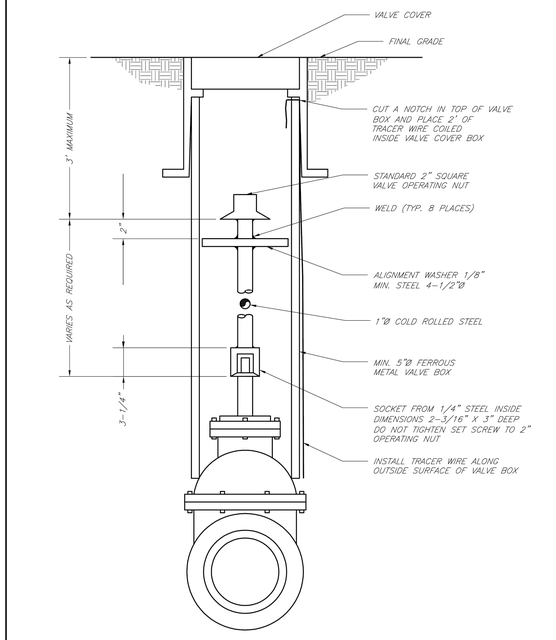
HORIZONTAL THRUST BLOCKS

Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: WAT-1 | Rev: 1/14 | Rev:



LEE'S SUMMIT
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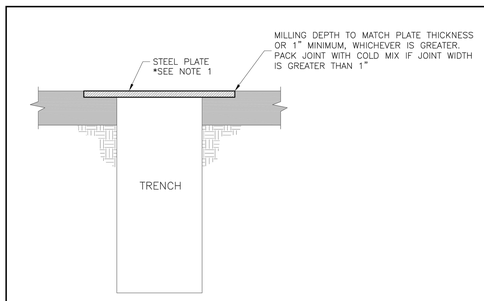
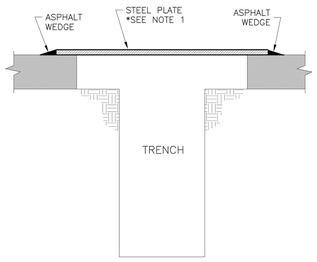
VALVE STEM EXTENSION AND VALVE BOX

Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: WAT-9 | Rev: 1/14 | Rev:



TYPE "A" PLATING
NOT TO SCALE
(CITY POSTED SPEEDS OF 35 MPH AND GREATER)



TYPE "B" PLATING
NOT TO SCALE
(CITY POSTED SPEEDS OF 30 MPH OR LESS)

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE ADEQUATE OVERLAP OF PLATE ON ASPHALT TO ASSURE NO SLIPPAGE OF PLATE AND NO COLLAPSING OF TRENCH.
2. ALL PLATES SHALL BE ANCHORED SO PLATES DO NOT MOVE OR SHIFT UNDER TRAFFIC.

LEE'S SUMMIT
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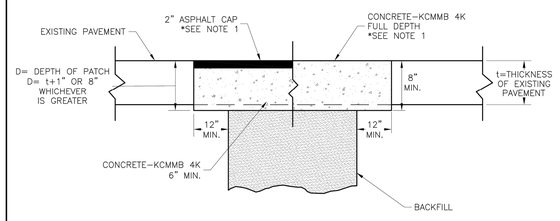
TRENCHING PLATE DETAIL

Date: 04/17 | Drawn By: MJF | Checked By: DL | GEN-6



TRENCHING/PATCHING DETAIL
NOT TO SCALE

NOTE:

1. ASPHALT CAP OR FULL DEPTH CONCRETE SHALL BE DETERMINED BY CITY INSPECTOR.

LEE'S SUMMIT
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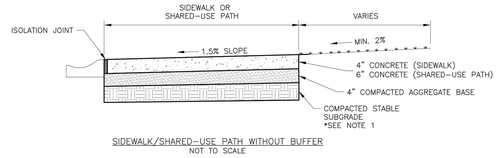
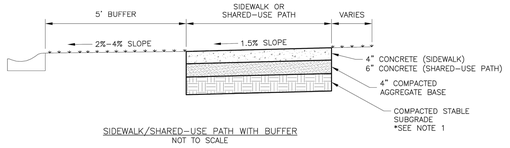
TRENCHING/PATCHING ROADWAYS DETAIL

Date: 04/17 | Drawn By: MJF | Checked By: DL | GEN-5



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN EXPANSION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK, BUT NO GREATER THAN 10 FT.
6. SHARED-USE PATH WIDTH SHALL BE 10 FT. WIDE.
7. SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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SIDEWALK/SHARED-USE PATH DETAIL

Date: 04/17 | Drawn By: MJF | Checked By: DL | GEN-2

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STATE OF MISSOURI
JEREMY K. PARSONS
NUMBER PE-2010010509
07-31-20

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7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
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LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

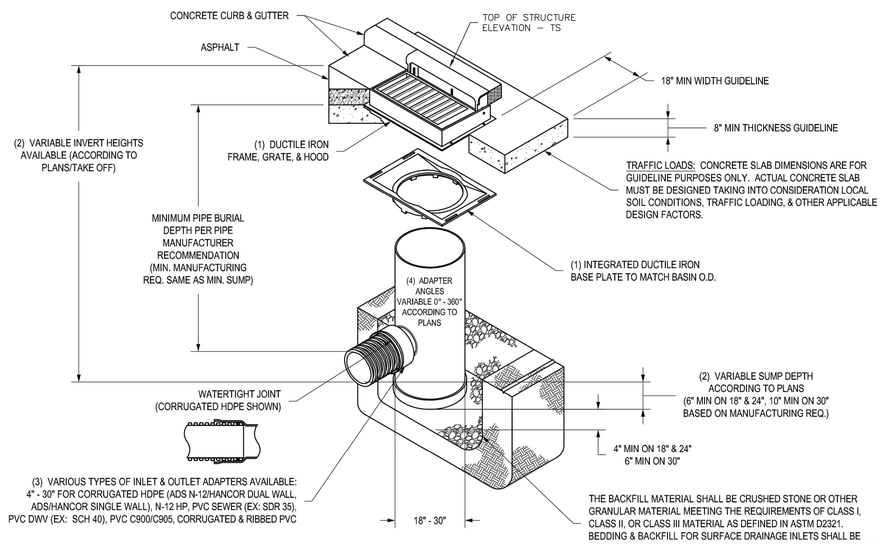
13-20102-00

STANDARD DETAILS

C1055

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_DTL01_020103.dwg USER: bkimmich
DATE: Aug 27, 2020 9:05pm XREFS: C_4LS_XBASE_80330 L_PBASE_61023 C_4LS_PSURF_80330 L_PLBASE_61023 C_4LS_PBASE_80330 C_PTBLK_020103
C_PBASE_80330 TE DETAIL

NYLOPLAST 2 FT X 3FT CURB INLET STRUCTURE: 30 _ _ AGR _ _ X



1 - 18" - 30" FRAMES, GRATES, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - ALL CURB INLET GRATE OPTIONS (DIAGONAL & HIGH FLOW) SHALL MEET H-20 LOAD RATING

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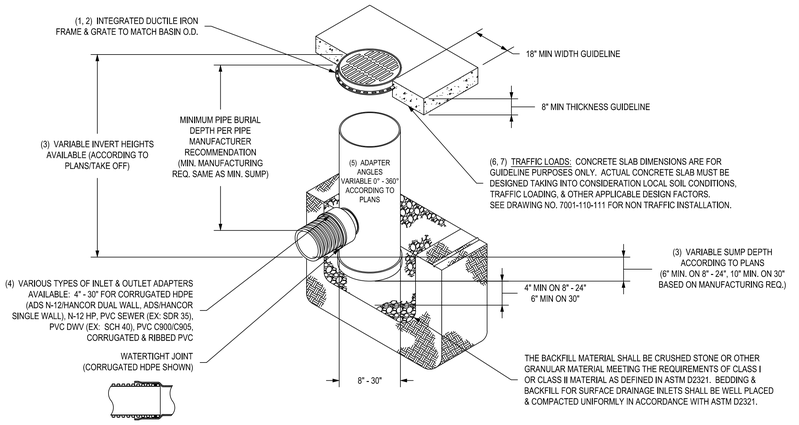
DRAWN BY	EBC	MATERIAL	
DATE	03-22-10		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-10-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH 2 FT X 3 FT CURB INLET QUICK SPEC INSTALLATION DETAIL

DWG NO. 7002-110-087 REV C

NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12"- 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

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DATE	1-23-06		
REVISED BY	CCA	PROJECT NO./NAME	
DATE	12-29-11		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

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BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
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TITLE: DRAIN BASIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-144 REV G

Section 2721

Engineered Surface Drainage Products

GENERAL
PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

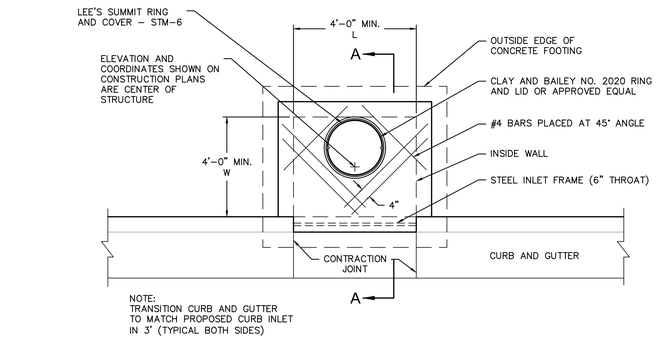
MATERIALS
The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for sizes 8", 10", 12", 15", 18", 24" and 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

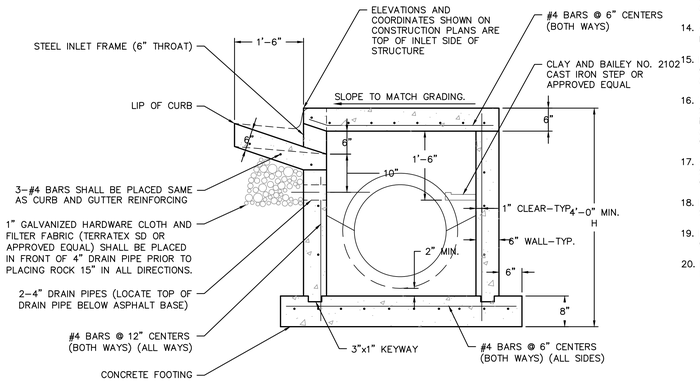
INSTALLATION
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1 or class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

NON-SETBACK CURB INLET NOTES

1. USE CITY APPROVED CONCRETE THROUGHOUT.
2. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
3. FLOOR OF INLET SHALL BE SHAPED TO PROVIDE SMOOTH FLOW.
4. EXPANSION JOINTS SHALL BE EITHER HOT OR COLD POURED JOINT SEALING COMPOUND, OR PREMOLDED EXPANSION JOINT FILLER.
5. STEEL INLET FRAME SPACERS SHALL BE PLACED AT EQUAL SPACINGS NOT TO EXCEED 4'-0".
6. CAST IRON STEPS TO BE CLAY & BAILEY 2102 OR APPROVED EQUAL. STEEL CORE, PLASTIC COATED STEPS MAY BE USED (M.A. IND.,INC. NO. PS1-PF, PS2-PF, OR APPROVED EQUAL). CAST IRON STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY.
7. BEVEL ALL EXPOSED EDGES WITH TRIANGULAR MOLDING.
8. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
9. ALL STORM SEWER STRUCTURES SHALL BE PRECAST. PRECAST SHOP DRAWINGS SHALL BE APPROVED BY THE DESIGN ENGINEER.
10. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
11. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF ±1/8" SHALL BE PERMITTED.
12. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
13. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.
14. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
15. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
16. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
17. ALL CURB INLET TOPS ARE TO BE CONSTRUCTED AFTER FINAL CURB STRING LINE HAS BEEN APPROVED BY THE ENGINEER AND PRIOR TO CURB CONSTRUCTION, OR AS DIRECTED BY THE CITY ENGINEER.
18. RCP CONNECTIONS TO PRECAST STRUCTURE SHALL MEET ALL CITY STANDARDS.
19. BACKFILL AROUND STRUCTURES SHALL BE COMPACTED AND SHALL BE OF THE MATERIAL SPECIFIED PER CITY STANDARDS.
20. NON-SETBACK CURB INLET TO BE USED ONLY WITH THE APPROVAL OF THE CITY ENGINEER.

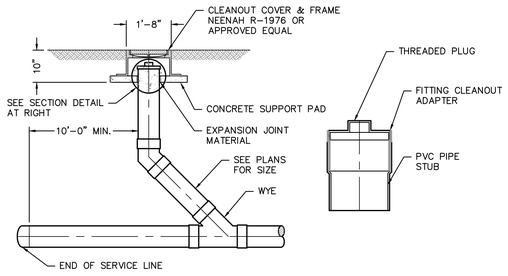


PLAN



SECTION A-A

NON-SETBACK CURB INLET
NOT TO SCALE



ONE-WAY WYE CLEANOUT DETAIL
NOT TO SCALE

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LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT
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LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STANDARD DETAILS

C1056

DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\GNCV\CONSTRUCTION DOCUMENTS\C_DTL01_0200103.dwg USER: bkimmich
DATE: Aug 27, 2020 9:05pm XREFS: C_4LS_XBASE_80330 C_4LS_PBASE_80330 C_4LS_PSURF_80330 L_PLBASE_61023 L_PBASE_61023 TE DETAIL C_PBASE_80330 C_PTBLK_0200103

GENERAL NOTES

CODE:

INTERNATIONAL BUILDING CODE, 2018 EDITION

GENERAL NOTES:
1. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, NOT THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, BRACING, SHORING FOR CONSTRUCTION LOADS AND EQUIPMENT, ETC. THE ARCHITECT-ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS, SEQUENCES OF CONSTRUCTION, OR THE SAFETY PROGRAM. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT-ENGINEER WILL NOT INVOLVE REVIEW OF THESE ITEMS.

2. CONTRACTOR IS TO ESTABLISH AND VERIFY OPENINGS AND INSERTS FOR ITEMS TO BE INSTALLED BY OTHER TRADES PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND CONSTRUCTION.

3. CONSTRUCTION MATERIAL AND EQUIPMENT PLACED ON FRAMED CONSTRUCTIONS SHALL BE SUCH THAT THE LOAD DOES NOT EXCEED THE DESIGN LIVE LOAD OF THE CONSTRUCTION. PROVIDE SHORING OF CONSTRUCTIONS WHERE NECESSARY FOR LOADS.

4. DETAILS THAT ARE NOTED AS "TYP." OR DETAIL TITLES ARE TO BE APPLIED TO THE PROJECT CONSTRUCTION AS GENERAL CONSTRUCTION METHODS UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT CUT AT ALL LOCATIONS THEY OCCUR AND MAY NOT BE CUT AT ALL. WHERE NO SPECIFIC DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR CONDITIONS ELSE WHERE ON THE PROJECT.

5. DO NOT SCALE DRAWINGS

6. THESE NOTES SHALL SUPPLEMENT THE PROJECT SPECIFICATIONS, WHICH SHALL BE REFERRED TO FOR ADDITIONAL REQUIREMENTS.

7. WHERE DISCREPANCIES OCCUR BETWEEN GENERAL NOTES, PLANS, DETAILS, AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS VERIFIED OTHERWISE BY THE ARCHITECT AND ENGINEER IN WRITING.

8. THESE DOCUMENTS SHALL NOT BE CONSTRUED AS STAND-ALONE DOCUMENTS. CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONSULTANTS WORK.

9. CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE OF SHOP DRAWINGS SUBMITTALS OR ANY OTHER PROJECT WITHOUT WRITTEN CONSENT BY DLR GROUP.

10. IF THE STRUCTURAL ENGINEER'S SEAL AND SIGNATURE IS NOT AFFIXED TO THESE DRAWINGS, THESE DRAWINGS ARE INTENDED FOR PRELIMINARY PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION.

DESIGN DEAD LOADS:
ROOF: 25 PSF (SUPERIMPOSED)
FLOOR: 25 PSF (SUPERIMPOSED)

DESIGN LIVE LOADS:
ROOF: 20 PSF (REDUCIBLE IN ACCORDANCE WITH IBC 1607.12)
ROOF: SNOW LOADS IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE SECTION 1608, INCLUDING AND CHAPTER 7 OF ASCE 7, INCLUDING DRIFT SNOW LOADS.
Pf = Ce x I x Pg Ce = 1.0 I = 1.10 Pg = 20 PSF Pf = 22 PSF
AT AUXILIARY GYM (STORM SHELTER)
I = 1.20 Pf = 24 PSF
DRIFTING SNOW LOADS - SEE SNOW DRIFT PLANS: DRIFT LOADS ARE IN ADDITION TO FLAT ROOF SNOW LOADS AND SHALL BE COMBINED WITH OTHER LOADS NOTED IN ACCORDANCE WITH THE BUILDING CODE PRESCRIBED COMBINATIONS. SEE S0.3 FOR DRIFT PLAN.

FLOORS:
40 PSF (CLASSROOMS)
50 PSF (OFFICE)
100 PSF (CORRIDORS)
125 PSF (STORAGE ROOMS)
125 PSF (MECHANICAL ROOMS)

WIND LOAD:
RISK CATEGORY III
BASIC WIND SPEED, V = 120 MPH
RISK CATEGORY IV AT AUXILIARY GYM (STORM SHELTER)
BASIC WIND SPEED, V = 125 MPH
EXPOSURE "C"

STORM SHELTER LOADS & CRITERIA:

1. SEE STRUCTURAL PLANS FOR LOCATION OF STORM SHELTER. SEE S0.4 FOR ADDITIONAL CRITERIA. STRUCTURAL DESIGN IS BASED ON STRUCTURAL RECOMMENDATIONS LISTED IN ICC 500-2014 "STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS".

2. REFER TO ARCHITECTURAL, CIVIL, AND MEP DRAWINGS FOR DOOR AND WINDOW HARDWARE, ETC TO COMPLY WITH HARDENED AREA REQUIREMENTS.

3. ALL COMPONENTS THAT MAKE UP THE HARDENED AREA INCLUDING DEFERRED SUBMITTALS SHALL BE DESIGNED IN STRICT ACCORDANCE ICC 500-2014. CALCULATIONS SHALL BE PROVIDED AT EACH CONNECTION FOR VERIFICATION OF LOAD PATH.

4. STORM SHELTER WALL AND SLAB ASSEMBLIES HAVE BEEN SELECTED BASED ON ICC 500 RECOMMENDATIONS. NO ADDITIONAL TESTING OR ANALYSIS HAS BEEN PERFORMED TO ESTIMATE DYNAMIC IMPACT OF OBJECTS FOUND IN THE ACTUAL ENVIRONMENT AGAINST THE HARDENED STRUCTURE.

SEISMIC LOAD:
SEISMIC DESIGN IS IN ACCORDANCE WITH IBC, RISK CATEGORY PER TABLE 1604.5 IS CATEGORY III,
S1 = 0.069
SS = 0.101
I = 1.25
I = 1.50 AT AUXILIARY GYM (STORM SHELTER)
SITE CLASS = C
SDS = 0.107
SD1 = 0.110
DESIGN CATEGORY 'B'
DESIGN CATEGORY 'C' AT AUXILIARY GYM (STORM SHELTER)
R = 3.0 Do = 3.0 Cd = 3.0 STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
R = 4.0; Do = 2.5 Cd = 4.0 INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
R = 4.0; Do = 2.5 Cd = 4.0 INTERMEDIATE PRECAST CONCRETE SHEAR WALLS

LATERAL LOAD RESISTANCE SYSTEM:
1. LATERAL LOAD SYSTEM CONSISTS OF FLOOR/ROOF DIAPHRAGMS TRANSFERRING LATERAL LOADS TO MASONRY/CONCRETE SHEAR WALLS/STRUCTURAL STEEL X-BRACING.

2. LATERAL LOAD SYSTEM CONSISTS OF FLOOR/ROOF DIAPHRAGMS TRANSFERRING LATERAL LOADS TO MOMENT RESISTING STEEL FRAMES.

3. STEEL FRAME IS A "NON-SELF-SUPPORTING" STEEL FRAME REQUIRING INTERACTION OF THE STEEL FRAMING,FLOOR/ROOF DIAPHRAGMS AND SHEAR WALLS/X-BRACING. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS NECESSARY TO PROVIDE SUPPORT OF FRAMING UNTIL ALL ATTACHMENTS ARE COMPLETE, INCLUDING STRUCTURAL STEEL TO STRUCTURAL CONCRETE AND EMBEDDED ITEMS INTO CONCRETE.

FOUNDATIONS:
1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL INVESTIGATION PERFORMED BY COOK, FLATT & STROBEL ENGINEERS, P.A., JOB NO. 20-1074, DATED JUNE 8, 2020. A COPY OF THE GEOTECHNICAL INVESTIGATION REPORT IS INCLUDED IN THE PROJECT SPECIFICATIONS. BASED ON THE GEOTECHNICAL REPORT, THE FOLLOWING HAS BEEN ASSUMED:

- MINIMUM FROST DEPTH =	3'-0".
- ALLOWABLE SOIL BEARING PRESSURE =	2,500 PSF
- EQUIVALENT ACTIVE (UNRESTRAINED) FLUID PRESSURE =	55 PCF
- EQUIVALENT AT-REST (RESTRAINED) FLUID PRESSURE =	75 PCF
- EQUIVALENT PASSIVE FLUID PRESSURE =	250 PCF
- COEFFICIENT OF FRICTION =	0.27

2. SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL READ AND FAMILARIZE HIMSELF WITH THE GEOTECHNICAL REPORT. IF DISCREPANCIES EXIST BETWEEN PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS DETERMINED OTHERWISE BY THE ENGINEER.

3. ALL FOUNDATION WALLS ARE DESIGNED TO BE RESTRAINED IN THE COMPLETED STRUCTURE, UNLESS OTHER-WISE NOTED. CONNECTING CONSTRUCTION SHALL BE INSTALLED, INCLUDING INSTALLATION OF FLOOR/ ROOF DIAPHRAGM AND THEIR ATTACHMENTS, PRIOR TO BACKFILLING WALL. CONCRETE DIAPHRAGMS SHALL REACH 75% OF REQUIRED 28 DAY COMPRESSIVE STRENGTH PRIOR TO BACKFILLING.

4. WALLS ARE NOT DESIGNED TO WITHSTAND TEMPORARY CONSTRUCTION LOADS, INCLUDING WIND AND SEISMIC. CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR DESIGN OF TEMPORARY SHORING.

5. BACKFILLING AGAINST FOUNDATION WALLS WHERE GRADE IS PRESENT ON BOTH SIDES SHALL BE PERFORMED SUCH THAT THE DIFFERENCE IN SOIL HEIGHT ON EACH SIDE DOES NOT EXCEED 2 FEET.

6. TEMPORARY FROST PROTECTION SHALL BE PROVIDED DURING COLD WEATHER FOR ALL FOUNDATIONS.

7. CONTRACTOR SHALL PROVIDE FOR PROPER DEWATERING OF ALL EXCAVATIONS.

CONCRETE CONSTRUCTION:
1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301 AND ACI 318.

2. PROVIDE A FORMED CONSTRUCTION KEYWAY BETWEEN ALL HORIZONTAL AND VERTICAL POUR EDGES EXCEPT CONCRETE TOPPING SLABS. PROVIDE WATERSTOPS FOR ALL CONSTRUCTION JOINTS BELOW WATER TABLE AND WHERE INTERIOR SLAB-ON-GRADE IS BELOW EXTERIOR GRADE.

3. CONCRETE SHALL BE MECHANICALLY CONSOLIDATED IN ACCORDANCE WITH ACI 309.

4. CONTROL (CONTRACTION OR CONSTRUCTION) JOINTS SHALL BOUND ALL CONCRETE SLABS ON GRADE AS SHOWN ON THE DRAWINGS.

5. PROVIDE DOVETAIL ANCHOR SLOTS WHERE MASONRY/STONE IS VENEERED TO CONCRETE. PLACE SLOTS VERTICALLY AT 32-INCHES OC MAXIMUM. PROVIDE DOVETAIL ANCHOR FOR EACH TWO SQUARE FEET OF VENEER SURFACE.

CONCRETE REINFORCEMENT:
1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60.

2. CONCRETE COVER REQUIREMENTS FOR CAST-IN-PLACE, NON-PRESTRESSED CONCRETE UNLESS OTHERWISE NOTED ON DETAILS:

a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
b. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 BARS AND LARGER:	2"
#5 BARS AND SMALLER:	1 1/2"
c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:	
SLABS, WALLS, AND JOISTS:	
#14 AND #18 BARS:	1 1/2"
#11 BARS AND SMALLER:	1"
d. BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT:	2"
TIES, STIRRUPS, SPIRALS:	1 1/2"

3. REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318-14 AND THE REINFORCING SPLICE LENGTH TABLE SHOWN ON THE DRAWINGS. PROVIDE CLASS 'B' LAP SPLICE, UNO.

4. ALL REINFORCING SHALL BE PROPERLY CHAIRED BY THE CONTRACTOR. SECURE ALL REINFOCEMENT IN PLACE PRIOR TO CONCRETE POUR PER SPECIFICATIONS. DO NOT WET STICK REINFOCEMENT OR EMBEDDED ITEMS INTO CONCRETE.

5. LAP ALL WELDED WIRE REINFORCING AT LEAST ONE FULL WIRE SPACING PLUS 2 INCHES.

6. MECHANICAL COUPLERS SHALL BE TYPE 2 COUPLERS CAPABLE OF SUSTAINING 125% Fy.

CAST-IN-PLACE CONCRETE:
1. PROPORTION EACH INDIVIDUAL CONCRETE MIX TO HAVE THE FOLLOWING PROPERTIES:

LOCATION	28 DAY Fc	MIX TYPE	MAX W/C	MAX AGG	EXP CLASS
CONCRETE OVER STEEL DECK	4,000 PSI	NWT	0.45	3/4"	F0, C0
FOUNDATIONS/WALLS*	4,500 PSI	NWT	0.45	3/4"	F1, C1
INTERIOR SLABS-ON-GRADE	4,000 PSI	NWT	0.45	1"	F0, C0
EXTERIOR SLABS-ON-GRADE*	5,000 PSI	NWT	0.40	1"	F3, C2

NWT = NORMAL WEIGHT CONCRETE (UNIT WEIGHT = 145PCF)
LWT = LIGHT WEIGHT CONCRETE (UNIT WEIGHT = 110 PCF)
* 6% ±1 1/2% AIR ENTRAINED CONCRETE AT ALL EXTERIOR CONDITIONS INCLUDING SHALLOW FOUNDATIONS.

2. CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP NOT EXCEEDING 3" PRIOR TO ADDING ADMIXTURE AND NOT EXCEEDING 8" AT PLACEMENT

3. THE ADDITION OF WATER TO A CONCRETE BATCH WITH INSUFFICIENT SLUMP SHALL NOT BE PERMITTED

4. SUBSTITUTION OF FLYASH FOR PORTLAND CEMENT IN SLABS ON GRADE AND STRUCTURAL SLABS SHALL NOT BE PERMITTED.

5. ALL CONCRETE SHALL BE PROPORTIONED FOR A MAXIMUM ALLOWABLE UNIT SHRINKAGE OF 0.04% MEASURED AT 28 DAYS AFTER CURING IN LIME WATER AS DETERMINED BY ASTM C157 USING AIR STORAGE. PROVIDE TEST RESULTS WITH MIXTURE DESIGN.

CONTINUOUS FOOTINGS:
1. CONTINUOUS FOOTING REINFORCING SHALL CONTINUE THROUGH ISOLATED SPREAD FOOTINGS WHERE THEY OCCUR.

2. PROVIDE CLASS 'A' LAP SPLICES FOR ALL TOP AND BOTTOM BARS WHERE LAP SPLICES ARE REQUIRED.

3. TOP FOOTING REINFORCING SHALL TERMINATE AT TEE AND CORNER INTERSECTIONS WITH A STANDARD 90 DEGREE HOOK. ALL REINFORCING AT INTERSECTIONS SHALL EXTEND TO THE FAR FACE OF THE INTERSECTING FOOTING.

4. CONSTRUCTION JOINT LOCATIONS SHALL NOT OCCUR WITHIN EXTENTS OF ISOLATED SPREAD FOOTINGS

5. CONTINUOUS FOOTINGS SHALL NOT HAVE CONSTRUCTION JOINTS IN A HORIZONTAL PLANE.

6. WHERE FOOTING EXCAVATIONS ARE MADE NEATLY, SIDES MAY BE CAST AGAINST THE EARTH CUT. PROVIDE 4" MINIMUM COVER FOR ALL REINFORCING CAST AGAINST EARTH, INCLUDING BOTTOM AND SIDES OF FOOTINGS, WHERE APPLICABLE.

SLABS ON GRADE AND ELEVATED SLABS:
1. ALL SLABS ON GRADE SHALL BE CAST ON A 15 MIL VAPOR BARRIER (RE: SPECS) INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS, PLACED OVER CRUSHED ROCK DRAINAGE MATERIAL TO FORM A CAPILARY BREAK OF THICKNESS NOTED ON DRAWINGS, BUT NOT LESS THAN THAT PRESCRIBED BY THE GEOTECHNICAL ENGINEER.

2. SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE PROJE CT SPECIFICATIONS. CONTRACTOR SHALL READ AND FAMILARIZE HIMSELF WITH THE GEOTECHNICAL REPORT. IF DISCREPANCIES EXIST BETWEEN PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT, THE MOST STRINGENT REQUIREMENTS SHALLGOVERN.

3. ALL SLABS SHOWN ON STRUCTURAL DRAWINGS REQUIRE REINFORCING. UNLESS OTHERWISE CALLED OUT ON DRAWINGS, REINFORCE SLABS WITH 6X6 W2.1XW2.1 WELDED WIRE REINFORCING.

4. ALL PIPING AND CONDUIT INSTALLED BELOW SLABS ON GRADE SHALL BE INSTALLED ENTIRELY BELOW THE BOTTOM OF THE SLAB, WITH NO ENCROACHMENT UP INTO THE BOTTOM OF THE SLAB.

5. PIPING AND CONDUIT SHALL NOT BE INSTALLED IN ELEVATED SLABS. ROUTE ALL PIPING AND CONDUIT BELOW STRUCTURE.

STRUCTURAL PRECAST CONCRETE:
1. FABRICATOR SHALL BE AN "APPROVED FABRICATOR" IN ACCORDANCE WITH IBC SECTION 1704.2, REGISTERED AND APPROVED BY THE LOCAL BUILDING DEPARTMENT.

2. PROVIDE UNITS AS SHOWN ON THE DRAWINGS. MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 5,000 PSI. HOLLOW CORE JOINTS SHALL BE GROUTED SOLID. DOUBLE TEE FLANGES SHALL BE CONNECTED IN ACCORDANCE WITH MANUFACTURER'S STANDARD DETAIL TO RESIST A SHEAR LOAD OF 1,000 LBS/FT VERTICALLY AND HORIZONTALLY.

3. A QUALIFIED ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED SHALL DESIGN THE UNITS. UNITS SHALL BE DESIGNED FOR CONSTRUCTION, HANDLING, ERECTION, AND IN-PLACE CODE PRESCRIBED LOADS AND ANY ADDITIONAL LOADS SHOWN ON THE DRAWINGS. ALL CONNECTIONS AND EMBEDS SHALL BE BY THE UNIT MANUFACTURER INCLUDING CONNECTION TO THE FOUNDATIONS.

4. DESIGN WALL PANEL UNITS FOR VERTICAL DEAD AND LIVE LOADS, WIND/SEISMIC LOADS PERPENDICULAR TO PANEL FACE, AS PREVIOUSLY NOTED, AND SEISMIC LOAD PARALLEL TO PANEL FACE TO MATCH DIAPHRAGM CONNECTION CAPACITY (SEE DETAILS FOR CONNECTION CAPACITY). IN ADDITION, DESIGN FOR SPECIAL LOADS WHERE SHOWN ON THE DRAWINGS.

5. PRECAST SUPPLIER IS RESPONSIBLE FOR DESIGN, DETAILING AND FURNISHING OF ALL HEADERS, POUR STRIPS, UNIT LAYOUT, OPENINGS THROUGH FLOOR, ETC., AS NECESSARY TO PROVIDE FOR A COMPLETE INSTALLATION.

6. UNITS SHALL HAVE ONE HOUR UNRESTRAINED FIRE RESISTANCE RATING IN ACCORDANCE WITH UL 1949 AND SHALL HAVE UL LABELS.

7. ALL OPENINGS REQUIRING CUTTING OF STRANDS SHALL BE BY UNIT MANUFACTURER. COORDINATE WITH MECHANICAL, ELECTRICAL AND OTHER TRADES INVOLVED.

8. DEFLECTION OF PRECAST FLOOR FRAMING MEMBERS NOT SUPPORTING MASONRY BEARING OR PARTITION WALLS ABOVE SHALL NOT EXCEED SPAN/480 FOR FULL DEAD AND LIVE LOAD INCLUDING LONG TERM DEFLECTIONS DUE TO ALL SUSTAINED LOADS.

9. DEFLECTION OF PRECAST ROOF OR FLOOR FRAMING MEMBERS SUPPORTING MASONRY WALLS ABOVE SHALL NOT EXCEED SPAN/600 FOR LIVE LOAD ONLY, AND NOT TO EXCEED SPAN/240 FOR DEAD AND LIVE LOADS.

10. PRECAST DESIGN SHALL COMPLY WITH ALL ICC 500-2014 REQUIREMENTS AND A SET OF CALCULATIONS SHALL BE SUBMITTED FOR REVIEW.

11. PRECAST SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE LICENSED ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

12. COORDINATE WITH ALL OTHER TRADES WHICH PRECAST CONCRETE INTERACTS. THIS INCLUDES BUT IS NOT LIMITED TO COORDINATING WITH MASONRY, STEEL, CAST-IN-PLACE CONCRETE, JOIST, AND METAL DECK SUPPLIERS. WHERE MISALIGNMENT OF STEEL EMBEDDED PLATES DUE IMPROPER COORDINATION OCCURS, THE CONTRACTOR SHALL HIRE AN ENGINEER LICENSED IN THE STATE WHICH THE PROJECT IS LOCATED TO PRODUCE A REPAIR AND SUBMIT THE REPAIR DETAIL WITH CALCULATIONS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION..

13. INSULATED PRECAST "SANDWICH" PANELS SHALL BE DESIGNED BY THE PRECAST SUPPLIER AS A NON-COMPOSITE WALL SYSTEM COMPRISED OF AN INTERIOR LOAD-BEARING STRUCTURAL WYTHE, AND LAYER OF RIGID INSULATION, AND AN EXTERIOR NON-LOAD BEARING ARCHITECTURAL WYTHE. EVERY EFFORT SHALL BE MADE BY THE PRECAST SUPPLIER TO DETAIL WALL PANELS AND CONNECTIONS TO AVOID THERMAL BRIDGING BETWEEN ARCHITECTURAL AND STRUCTURAL WYTHES.

CONCRETE TOPPING SLABS:
1. TOPPING THICKNESS SHOWN ON PLAN IS NOMINAL. ACTUAL THICKNESS WILL VARY DUE TO PRECAST CAMBER AND/OR STRUCTURE DEFLECTIONS. PROVIDE THICKNESS AS REQUIRED TO ACHIEVE A LEVEL FLOOR WITH A MINIMUM ACTUAL THICKNESS THE THICKNESS CALLED OUT ON PLAN MINUS 1/2-INCH.

2. UNLESS OTHERWISE NOTED ON PLAN OR DETAIL, PROVIDE 1 #4 IN TOPPING SLAB EACH SIDE OF OPENINGS EXCEEDING 12 INCHES IN SIZE. EXTEND REINFORCING 1'-6" PAST CORNER OF OPENING.

3. ALL TOPPING SLABS SHALL BE REINFORCED WITH #4 @ 12" O.C. EW. UNLESS OTHERWISE NOTED. WELDED WIRE FABRIC IN THE TOPPING SHALL BE FLAT SHEETS CENTERED IN THE TOPPING THICKNESS AND CHAIRED TO MAINTAIN ITS CORRECT LOCATION. LAP ONE FULL MESH AT SPLICES AND WIRE TOGETHER.

4. PROVIDE CONTROL JOINTS IN TOPPING SLAB ONLY WHERE SHOWN ON THE STRUCTURAL DRAWINGS. CONTROL JOINT DEPTH SHALL BE NO MORE THAN 1/4 TOPPING THICKNESS.

CONCRETE MASONRY UNITS (CMU):
1. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE MASONRY UNITS SHALL BE 2,000 PSI ON THE NET AREA, PROVIDING A STRUCTURAL DESIGN COMPRESSIVE STRENGTH OF 2,000 PSI PER THE INTERNATIONAL BUILDING CODE, SECTION 2105.1 SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602 TABLE 2).

2. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CLAY MASONRY UNITS SHALL BE 3,350 PSI ON THE NET AREA, PROVIDING A STRUCTURAL DESIGN COMPRESSIVE STRENGTH OF 1,500 PSI PER THE INTERNATIONAL BUILDING CODE, SECTION 2105.1 SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602 TABLE 1).

3. MORTAR SHALL BE TYPE S IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, SECTION 2103.3. MORTAR PROPORTIONS USING CEMENT LIME OR MORTAR CEMENT MIXES (MASONRY CEMENT IS NOT ACCEPTABLE).

4. MINIMUM 28-DAY COMPRESSIVE STRENGTH OF GROUT SHALL BE THE GREATER OF 3,000 PSI OR THE COMPRESSIVE STRENGTH OF THE MASONRY UNITS, TESTED PER ASTM C 1019. GROUT SHALL CONFORM TO ASTM C476. DO NOT USE AIR ENTRAINMENT AND OTHER ADDITIVES UNLESS ACCEPTABLE IN GROUT MIX. GROUT SHALL HAVE A SPLUMP OF 24 TO 30 INCHES, AS DETERMINED BY ASTM C1611, AND HAS A VISUAL STABILITY INDEX (VSI) LESS THAN OR EQUAL TO 1, AS DETERMINED IN ACCORDANCE WITH ASTM C1611, APPENDIX X.1.

5. MASONRY REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60.

6. HORIZONTAL JOINT REINFORCING SHALL COMPLY WITH ASTM A 951 AND BE STANDARD LADDER TYPE, GALVANIZED, AT 16-INCHES ON CENTER, UNLESS OTHERWISE NOTED ON PLAN. SPACE JOINT REINFORCING AT 8-INCHES ON CENTER AT NON-CAVITY MULTIWYTHE WALLS. COLLAR JOINT BETWEEN WYTHES OF NON-CAVITY MULTIWYTHE WALLS ARE TO BE MORTARED/GROUTED SOLID.

7. MINIMUM BOND BEAM REINFORCING SHALL BE (2) #5 IN 8" AND 9" WIDE BOND BEAMS AND (2) #6 IN 12" WIDE BOND BEAMS. BOND BEAM REINFORCING SHALL BE CONTINUOUS THROUGH CONTROL JOINTS EXCEPT AS NOTED ON TYPICAL MASONRY WALL OPENING DETAIL.

8. SPLICE LENGTHS FOR MASONRY REINFORCEMENT SHALL BE IN 72 TIMES THE REINFORCING BAR DIAMETER, UNLESS NOTED OTHERWISE.

9. PROVIDE BOND BEAMS AT TOP AND BOTTOM OF ALL WALLS, AT ROOFS, STRUCTURAL FLOORS, AND WHERE SHOWN ON THE DRAWINGS.

10. REINFORCING SHALL BE HELD IN PLACE PRIOR TO GROUTING WITH WIRE POSITIONERS PLACED AT INTERVALS NOT EXCEEDING 192 BAR DIAMETERS NOR 10 FEET. PROVIDE POSITIONERS AT REINFORCING SPLICES.

11. VERTICAL REINFORCING SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR DETAILS.

8" CONC. BLOCK	(1) #5 @ 24" OC
12" CONC. BLOCK	(2) #5 @ 32" OC

12. PROVIDE BOND BEAMS AT 48"OC (MAXIMUM) VERTICALLY WHERE STACK BOND CMU WALLS OCCUR. (REFER TO ARCHITECTURAL DRAWINGS)

13. PROVIDE VERTICAL REINFORCING AT JAMB OPENINGS, ENDS AND CORNERS OF ALL WALLS AND EACH SIDE OF CONTROL JOINTS. SPECIAL JAMB REINFORCING, WHERE REQUIRED, IS CALLED OUT ON THE PLANS.

14. VERTICAL REINFORCING REQUIRED BY THESE NOTES OR SHOWN ON THE FOUNDATION PLANS SHALL EXTEND FROM FOUNDATION TO TOP OF WALL UNLESS OTHERWISE NOTED.

15. ELECTRICAL PANELS, CONDUITS, PIPES, FIRE EXTINGUISHER CABINETS, ETC., ARE TO BE LOCATED SO AS NOT TO INTERFERE WITH REINFORCED AND/OR GROUTED CELLS. PIPES AND CONDUITS PASSING HORIZONTALLY THROUGH WALLS SHALL BE SLEEVED. MINIMUM SPACING OF SLEEVES SHALL BE THREE DIAMETERS.

16. ALL MASONRY BELOW HIGHEST ADJACENT GRADE SHALL BE GROUTED SOLID.

17. GROUT SHALL BE MECHANICALLY CONSOLIDATED IN A MANNER TO FILL THE GROUT SPACE AND RECONSOLIDATED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MASONRY BUILDINGS TM S602, SECTION 3.5E.

18. PROVIDE GROUT AND MASONRY UNIT TESTING PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.

19. TESTING LABORATORY, IN ACCORDANCE WITH IBC REQUIREMENTS, SHALL INSPECT REINFORCEMENT PLACEMENT, GROUT SPACES AND GROUTING OPERATION. MORTAR FINAL PROJECTION INTO THE GROUT SPACE SHALL NOT EXCEED 1/2 INCH.

20. WHERE STONE IS VENEERED TO MASONRY, PROVIDE TRUSS TYPE (GALV.) JOINT REINFORCING AT 16 INCHES ON CENTER WITH "EYES".

21. SPACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF WALL EXCEEDS 24'-0". REGARDLESS OF JOINT LAYOUT SHOWN ON ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL NOT PLACE CONTROL JOINTS ABOVE / BELOW OPENINGS OR WITHIN SCHEDULED JAMB EXTENTS. CONTROL JOINTS SHALL NOT JOG HORIZONTALLY, UNLESS NOTED OTHERWISE.

22. SUBMIT SHOP DRAWINGS WITH PLANS AND ELEVATIONS CLEARLY INDICATING REBAR SIZE, SPACING, LAP LENGTHS, LINTELS, JAMBS, CONTROL JOINT LOCATIONS, FOOTING, SLAB, AND ROOF ELEVATIONS, WALL PENETRATIONS WITH DIMENSIONS, BOND BEAM ELEVATIONS, ETC . FOR REVIEW AND APPROVAL IN ADDITION TO ANY OTHER REQUIREMENTS LISTED INSPECIFICATIONS..

23. REFER TO ARCHITECTURAL DRAWINGS FOR ALL NON-LOAD BEARING CMU WALLS AND REINFORCE AS FOLLOWS UNLESS OTHERWISE NOTED:

6" AND 8" CMU:	(1) #4 @48" OC
12" CMU:	(2) #4 @48"OC

24. ALL CMU WALL OPENINGS REQUIRE LINTELS AS DEFINED IN THE "TYPICAL MASONRY LINTEL DETAIL/ SCHEDULE."

25. REFER TO TYPICAL DETAILS FOR MASONRY DETAILS AND REQUIREMENTS NOT SHOWN IN SECTIONS OR PLANS

26. CONTRACTOR SHALL REMOVE AND REPLACE WALL AT HIS COST IF WALL IS FOUND TO BE CONSTRUCTED WITHOUT REBAR POSITIONERS.

27. ALL CMU LOAD BEARING WALLS REQUIRE LEVEL B SPECIAL INSPECTION PER IBC SECTION 1705.4, AND SHALL BE SPECIAL INSPECTED FOR REINFORCING PLACEMENT, SIZE, POSITIONERS, AND LAP LENGTHS PRIOR TO POURING GROUT.

STRUCTURAL STEEL:
1. FABRICATOR QUALIFICATIONS: A QUALIFIED FABRICATOR THAT PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY STD AND AN "APPROVED FABRICATOR" IN ACCORDANCE WITH IBC SECTION 1704.2, REGISTERED AND APPROVED BY THE LOCAL BUILDING DEPARTMENT. AISC CERTIFICATION SHALL BE SHOWN CLEARLY ON THE SHOP DRAWINGS TO AVOID SHOP DRAWINGS BEING REJECTED.

2. ALL COMPLETE JOINT PENETRATION WELDS SHALL BE ULTRASONIC TESTED BY THE INSPECTION AGENCY.

3. STRUCTURAL STEEL SHALL MEET ASTM A36 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL MEET ASTM A992 (GRADE 50).

4. STEEL TUBE SHALL MEET ASTM A500, GRADE B.

5. STEEL PIPE SHALL MEET ASTM A53, TYPE E OR S.

6. BOLTS AT STEEL TO STEEL CONNECTIONS SHALL BE 3/4-INCH DIAMETER, ASTM A325-N, AND TIGHTENED TO THE SNUG TIGHT CONDITION AS DEFINED BY AISC UNLESS OTHERWISE NOTED. WHERE CONNECTIONS ARE NOTED TO BE ASTM A 325-SC, BOLTS SHALL BE TIGHTENED TO THE MINIMUM PRETENSION FOR FULLY TIGHTENED BOLTS BY ONE OF THE AISC APPROVED METHODS.

7. ANCHOR BOLTS IN CONCRETE OR MASONRY SHALL BE 3/4-INCH DIAMETER ASTM F1554 GRADE 55, WELDABLE, UNLESS NOTED OTHERWISE.

8. FIELD BOLTING INSTALLATION SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND THE AISC MANUAL.

9. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF THE AMERICAN WELDING SOCIETY CODE AWS D1.1. ELECTRODES SHALL MATCH BASE METALS AS SPECIFIED IN IBC. ALL WELDING OF ASTM A706 REINFORCING STEEL TO STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AWS D1.4 USING E70 ELECTRODES.

10. THE TESTING LABORATORY SHALL VISUALLY INSPECT ALL FIELD WELDING. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.

11. ALL BOLTS (HIGH STRENGTH, ANCHOR BOLTS, EXPANSION BOLTS, ADHESIVE ANCHORS, ETC.) SHALL BE INSTALLED WITH STEEL WASHERS.

12. ALL WELDS SHOWN ON THE DRAWINGS SHALL BE SHOP WELDS UNLESS NOTED OTHERWISE. CONTRACTO

SPECIAL STRUCTURAL INSPECTIONS:

1. IN ACCORDANCE WITH IBC, SECTION 1704, AS NOTED BELOW. TESTING AND INSPECTION SHALL BE BY AN INDEPENDENT TESTING/INSPECTION FIRM UNDER THE SUPERVISION OF A LICENSED ENGINEER EMPLOYED BY THAT FIRM. THIS ENGINEER SHALL BE DEEMED THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS PERFORMED BY HIS FIRM OR HIS CONSULTANTS. INSPECTORS SHALL BE ICBO CERTIFIED AND APPROVED BY THE BUILDING OFFICIAL.

2. THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL BE RESPONSIBLE FOR DEFINING THE ACTIVITIES OF THE INSPECTORS, FOR CERTIFYING THE QUALIFICATIONS OF THE INSPECTORS WITH THE BUILDING OFFICIAL, AND TO ATTEND THE PRECONSTRUCTION MEETING TO DEFINE THEIR SCOPE OF SERVICES AND THE TESTING OR TEST PROCEDURES THAT ARE REQUIRED AS OUTLINED IN THE INTERNATIONAL BUILDING CODE.

3. SPECIAL INSPECTION IS TO BE PROVIDED IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE LOCAL DEPARTMENT OF BUILDING SAFETY AND SHALL NOT BE CONSTRUED TO RELIEVE THE OWNER OR HIS AUTHORIZED AGENT FROM REQUESTING THE PERIODIC AND CALLED INSPECTIONS REQUIRED BY SECTION 110 OF THE INTERNATIONAL BUILDING CODE.

4. CONCRETE: PER SECTION 1705.3 WITH EXCEPTIONS, THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION: ALL CONCRETE EXCEPT SLAB-ON-GRADE, SIDEWALKS, AND DRIVEWAYS. ALL SLABS REQUIRE TESTING FOR FLOOR FLATNESS AND LEVELNESS PER PROJECT SPECIFICATIONS.

8. STEEL CONSTRUCTION: SPECIAL INSPECTIONS SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360. SPECIAL INSPECTION FOR SEISMIC RESISTANCE SHALL BE IN ACCORDANCE WITH AISC 341AND SHALL COMPLY WITH IBC SECTION 1705.12. PROVIDE INSPECTION PER IBC SECTION 1704.2.5 FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP. THESE INSPECTIONS SHALL BE AT THE CONTRACTOR'S EXPENSE IF THE FABRICATOR IS NOT AN APPROVED FABRICATOR PER IBC SECTION 1704.2.5.1.

7. WELDING: WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1. THE BASIS FOR WELDING INSPECTOR QUALIFICATIONS SHALL BE AWS D1.1. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC TABLE N5.4-1 THROUGH TABLE N5.4-3

8. HIGH STRENGTH BOLTING: INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE PERIODICALLY INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC TABLE N5.6-1 THROUGH TABLE N5.6-3.

9. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT SHALL BE PER AISC TABLE N5-1.

10. STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SHALL BE PER IBC SECTION 1705.2.2 AND REQUIREMENTS OF SDI QA/QC, AND 1705.2.3 FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.

11. STRUCTURAL MASONRY: MASONRY CONSTRUCTION SHALL BE INSPECTED AND VERIFIED IN ACCORDANCE WITH TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6 AS FOLLOWS:

a. ENGINEERED MASONRY IN RISK CATEGORY I, II, OR III STRUCTURES: THE MINIMUM SPECIAL INSPECTION PROGRAM FOR MASONRY SHALL COMPLY WITH LEVEL B QUALITY ASSURANCE, TABLE 4.

b. ENGINEERED MASONRY IN RISK CATEGORY IV STRUCTURES: THE MINIMUM SPECIAL INSPECTION PROGRAM FORMASONRY SHALL COMPLY WITH LEVEL C QUALITY ASSURANCE, TABLE 5.

12. GRADING, EXCAVATION AND FILLING: PER SECTION 1705.6. SEE CIVIL DRAWINGS AND SPECIFICATION DIVISION 2.

13. SPRAY-APPLIED FIREPROOFING: PER SECTION 1705.14. SEE ARCHITECTURAL DRAWINGS FOR ALL FIREPROOFING METHODS AND REQUIREMENTS.

14. FIRE RESISTANT PENETRATIONS AND JOINTS: PER SECTION 1705.17

15. NONBEARING EXTERIOR STUD WALLS AND EXTERIOR VENEER: PER SECTION 1705.12.5 WITH EXCEPTIONS.

16. EXPANSION BOLT, SCREW ANCHOR AND ADHESIVE ANCHOR INSTALLATION TO VERIFY INSTALLATION IN ACCORDANCE WITH ICBO REPORTS NOTED PREVIOUSLY OR APPROVED EQUAL.

17. HEADED CONCRETE SHEAR CONNECTORS: INSPECTED AND TESTED PER AMERICAN WELDING SOCIETY CODE AWS D1.1.

18. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR THE INSTALLATION OF ALL STORM SHELTER DOOR, WINDOW AND PROTECTIVE OPENING DEVICES, INCLUDING THE ANCHORAGE TO WALL/ROOF.

19. THE INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

20. THE INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS ON THE WORK TO THE BUILDING OFFICIAL AND TO THE ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND, IF UNCORRECTED, TO THE ENGINEER AND THE BUILDING OFFICIAL.

21. THE TESTING/INSPECTION FIRM'S ENGINEER SHALL COMPLETE, SIGN AND SEAL A FINAL REPORT CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONSTRUCTION SCHEDULE WITH THE OWNER'S SPECIAL INSPECTION REPRESENTATIVE IN A TIMELY MANNER AND SHALL NOT PROCEED WITH CONSTRUCTION OF COMPONENTS THAT MAY INTERFERE WITH THE INSPECTORS ABILITY TO PERFORM CODE REQUIRED INSPECTIONS. ANY COST INCURRED ASSOCIATED WITH REMOVAL OF WORK TO PERFORM INSPECTIONS WILL BE BORNE BY THE CONTRACTOR.

23. STEEL DETAILING: THE SPECIAL INSPECTOR SHALL PERFORM AN INSPECTION OF THE STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION

TABLE 1705.3
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD a	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement	-	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706 b. Inspect single-pass fillet welds, maximum 5/16", and c. Inspect all other welds	- - X	X X	AWS D1.4 ACI 318: 26.6.4	-
3. Inspection of anchors cast in concrete	-	X	ACI 318: 17.8.2	
4. Inspection of anchors post-installed in hardened concrete members a. Adhesive anchors installed in. horizontally or upward inclined orientations to resist sustained tension loads b. Mechanical anchors and adhesive anchors not defined in 4.a	X -	- X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
5. Verify use of required design mix.	-	X	ACI 318: Ch. 19 26.4.3, 26.4.4	1904.1,1904.2, 1908.2 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests. and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	1908.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6,1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspect prestressed concrete for: a. Application of prestressing forces; and b. Grouting of bonded prestressing tendons in the seismic force-resisting system.	X X	- -	ACI 318: 26.10	-
10. Inspect erection of precast concrete members.	-	X	ACI 318: 26.9	-
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.11.2	-
12. Inspect formwork for shape, location, and dimensions of the concrete member being formed.	-	X	ACI 318: 26.11.1.2(b)	-

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1705.12, Special inspections for seismic resistance.

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI318 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK LISTED	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of compacted fill materials	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	X	-
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	-	X

MASONRY: TMS 402/602-16:
Table 3 - Level 2 Quality Assurance

MINIMUM TESTS	
Prior to construction, verification of compliance of submittals	Art 1.5
Prior to construciton, verification of f'm and FACC, except where specifically exempted by the Code.	Art 1.4 B
During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project.	Art 1.5 & 1.6.3

MINIMUM INSPECTION				
Inspection Task	**Frequency (a)**		**Reference for Criteria**	
	Continuous	Periodic	TMS 402	TMS 602
1. As masonry construction begins, verify that the following are in compliance:				
a. Proportions of site-prepared mortar		X		Art. 2.1, 2.6 A & 2.6.C
b. Grade and size of prestressing tendons and anchorages		X		Art. 2.4 B, 2.4 H.
c. Grade, type and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages		X		Art. 3.4 & 3.6 A
d. Prestressing technique		X		Art. 3.6 B
e. Properties of thin-bed mortar for AAC masonry	X(b)	X(c)		Art. 2.1 C.1
f. Sample panel construction		X		Art. 1.6 D
2. Prior to grouting, verify that the following are in compliance:				
a. Grout space		X		Art. 3.2 D & 3.2 F
b. Placement of prestressing tendons and anchorages.		X	Sec 10.8 & 10.9	Art 2.4 & 3.6
c. Placement of reinforcement, connectors, and anchor bolts		X	Sec. 6.1, 6.3.1 & 6.3.6 & 6.3.7	Art. 3.2 E, 3.4
d. Proportions of site-prepared grout and prestressing grout for bonded tendons		X		Art. 2.6 B, & 2.4 G.1.b
3. Verify compliance of the following during construction:				
a. Materials and procedures with the approved submittals		X		Art. 1.5
b. Placement of masonry units and mortar joint construction		X		Art. 3.3 B
c. Size and location of structural elements		X		Art. 3.3 F
d. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction		X	Sec. 1.2.1(e) 6.2.1 & 6.3.1	
e. Welding of reinforcement	X		Sec. 6.1.6.1.2	
f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))		X		Art. 1.8 C, & 1.8 D
g. Application and measurement of prestressing force	X			Art. 3.6 B
h. Placement of grout and prestressing grout for bonded tendons is in compliance	X			Art. 3.5 & 3.6 C
i. Placement of AAC masonry units and construction of thin-bed mortar joints	X(b)	X(c)		Art. 3.3 B.9 & 3.3 F.1.b
4. Observe preparation of grout specimens, mortar specimens, and/or prisms		X		Art. 1.4 B.2.a.3; 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4

(a) Frequency refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.
(b) Required for the first 5000 square feet (465 square meters) of AAC masonry.
(c) Required after the first 5000 square feet (465 square meters) of AAC masonry.

AISC 360 TABLE N5.4-1
Inspection Tasks Prior to Welding

Inspection Tasks Prior to Welding	QC	QA
Welder qualification records and continuity records	P	O
Welding procedure specifications (WPSs) available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type/grade)	O	O
Welder identification system 1	O	O
Fit-up of groove welds (including joint geometry) · Joint preparation · Dimensions (alignment, root opening, root face, bevel) · Cleanliness (condition of steel surfaces) · Tacking (tack weld quality and location) · Backing type and fit (if applicable)	O	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds · Dimensions (alignment, gaps at root) · Cleanliness (condition of steel surfaces) · Tacking (tack weld quality and location)	O	O
Check welding equipment	O	-

1 The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

AISC 360 TABLE N5.4-2
Inspection Tasks During Welding

Inspection Tasks During Welding	QC	QA
Control and handling of welding consumables · Packaging · Exposure control	O	O
No welding over cracked tack welds	O	O
Environmental conditions · Wind speed within limits · Precipitation and temperature	O	O
WPS followed · Settings on welding equipment · Travel speed · Selected welding materials · Shielding gas type/flow rate · Preheat applied · Interpass temperature maintained (min./max.) · Proper position (F, V, H, OH)	O	O
Welding techniques · Interpass and final cleaning · Each pass within profile limitations · Each pass meets quality requirements	O	O
Placement and installation of steel headed stud anchors	P	P

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

AISC 360 TABLE N5 After Welding
Inspection Tasks After Welding

Inspection Tasks After Welding	QC	QA
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria · Crack prohibition · Weld/base-metal fusion · Crater cross section · Weld profiles · Weld size · Undercut · Porosity	P	P
Arc strikes	P	P
k-area [a]	P	P
Weld access holes in rolled heavy shapes and built-up heavy shapes [b]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P
No prohibited welds have been added without the approval of the EOR	O	O

[a] When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75 mm) of the weld.
[b] After rolled heavy shapes (see Section A3.1c) and built-up heavy shapes (see Section A3.1d) are welded, visually inspect the weld access hole for cracks

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

AISC 360 TABLE N5.6-1
Inspection Tasks Prior to Bolting

Inspection Tasks Prior to Bolting	QC	QA
Manufacturer's certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Correct bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Proper storage provided for bolts, nuts, washers and other fastener components	O	O

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

AISC 360 TABLE N5.6-2
Inspection Tasks During Bolting

Inspection Tasks During Bolting	QC	QA
Fastener assemblies placed in all holes and washers and nuts are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

AISC 360 TABLE N5.6-3
Inspection Tasks After Bolting

Inspection Tasks After Bolting	QC	QA
Document acceptance or rejection of bolted connections	P	P

O- Observe these items on a random basis. Operations need not be delayed pending these inspections.
P- Perform these tasks for each welded joint or member.

TABLE 1705.2.3
REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

TYPE	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
I. Installation of open-web steel joists and joist girders.		
a. End Connections - welding or bolted.	-	X
b. Bridging - Horizontal or diagonal.		
1. Standard bridging.	-	X
2. Bridging that differs from the SJI specifications listed in Section 2207.1	-	X

ABBREVIATIONS:
ABBREVIATIONS ARE AS SHOWN IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING EXCEPTIONS:

@	AT
&	AND
AR	ANCHOR ROD
ADDN	ADDITION OR ADDITIONAL
AHU	AIR HANDLING UNIT
ADDL	ADDITIONAL
ANCH	ANCHOR
APPROX	APPOXIMATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BM (S)	BEAM (S)
BO	BOTTOM OF
BOT	BOTTOM
BRDG	BRIDGING
BRG	BEARING
BTWN	BETWEEN
C	CHANNEL
CANT	CANTILEVER
CIP	CAST-IN-PLACE CONCRETE
CJ	CONSTRUCTION/CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN(S)	CONNECTION (S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
db	BAR DIAMETER
DBA	DEFORMED BAR ANCHOR
DET	DETAIL
DIA	DIAMETER
DWA	DEFORMED WIRE ANCHOR
DWL (S)	DOWEL (S)
DWG (S)	DRAWING (S)
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDMENT
ENGR	ENGINEER
EOS	EDGE OF SLAB
EOD	EDGE OF DECK
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FA	FACE
FAB	FABRICATE
Fc	28 DAY CONCRETE STRENGTH
FD	FLOOR DRAIN
FDN	FOUNDATION
FIN	FINISH (ED)
FL	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
FY	YEILD STENGTH
GALV	GALVANIZED
GEN	GENERAL
HGR	HANGER
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SHAPE
INT	INTERIOR
JT	JOINT
k	KIPS
KSF	KIPS PER SQUARE FOOT
2L	DOUBLE ANGLE
L	ANGLE
LLBB	LONG LEG BACK TO BACK
LB (S)	POUND (S)
Ld	DEVELOPMENT LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LWC	LIGHT WEIGHT CONCRETE
MAS	MASONRY
MAX	MAXIMUM
MC	MOMENT CONNECTION
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SACLE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OPG(S)	OPENING (S)
OPP	OPPOSITE
OH	OPPOSITE HAND
PC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSION (ED)(ING)
QTY	QUANTITY
RAD / R	RADIUS
RE / REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
REV	REVISION
RTU	ROOF TOP UNIT
SC	SHEAR CONNECTOR (S)
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SLBB	SHORT LEG BACK TO BACK
SPA	SPACE (ING)
SPEC	SPECIFICATION (S)
SQ	SQUARE
STD	STANDARD
STL	STEEL
STIR	STIRRUP
STRUCT	STRUCTURE
SYM	SYMMETRICAL
t	PLATE THICKNESS
THRD	THREADED
T&B	TOP AND BOTTOM
TO	TOP OF
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDE FLANGE
WGT	WEIGHT
WP	WORK POINT
WT	STEEL TEE SECTION
WWR	WELDED WIRE REINFORCEMENT
X-STR	EXTRA STRONG
XX-STR	DOUBLE EXTRA STRONG

SYMBOLS AND NOTATIONS

MOMENT CONNECTION	SHEAR (k) / AXIAL (k) MOMENT (kft) — SHEAR (k) / AXIAL (k) MOMENT (kft)
BEAM SPLICE	SHEAR (k)
COLLECTOR BEAM AXIAL CONNECTION (TENSION OR COMPRESSION, 15k MIN WHERE AXIAL LOAD NOT INDICATED PER PLAN).	SHEAR (k) / AXIAL (k) — SHEAR (k) / AXIAL (k)
COLUMN CENTER LINE	#
CMU	SECTION — PLAN
COMPOSITE BEAM	NUMBER OF SHEAR CONNECTORS FOR UNIFORM SPACING; CAMBER; LEFT END VERT REACTION (KIPS) 12k (5); W16x26 (15) c=1/2" (8); 12k (5); RIGHT END VERT REACTION (KIPS); NUMBER OF SHEAR CONNECTORS FOR POINT LOADING (IF APPLICABLE)
CONCRETE	SECTION — PLAN
EARTH (UNDISTURBED)	SECTION
FLOOR OR ROOF SLOPE	SLOPE
FLOOR STEP IN ELEVATION	
GRAVEL	SECTION
STRUCTURED SLAB OR METAL DECK SPAN DIRECTION	
PRECAST CONCRETE	SECTION — PLAN
GROUT	SECTION
ROCK	SECTION
TOP OF STEEL ELEVATION FROM NOTED TOS	<+2 1/2"> OR <-2 1/2">
WELDED WIRE REINFORCEMENT	
KEYNOTE MARK	#
COLUMN MARK	C#
FOOTING MARK	F#
CONCRETE COLUMN MARK	CC#
STEEL BRACED FRAME BAY	
MATCHLINE	MATCHLINE
REVISION MARK	#
CROSS REFERENCE	12 / S3.1 — DETAIL NUMBER; SHEET ON WHICH DRAWN
DETAIL REFERENCE	12 / S3.1
DETAIL OR WALL SECTION	12 / S3.1
FRAME OR SHEAR WALL ELEVATION	12 / S3.1
ELEVATION DATUM MARK	FLOOR 100'-0"
FLOOR OPENING	SLAB EDGE
ARCHITECTURAL EXTERIOR/CLADDING LINE	

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STRUCTURAL NOTES

S0.2

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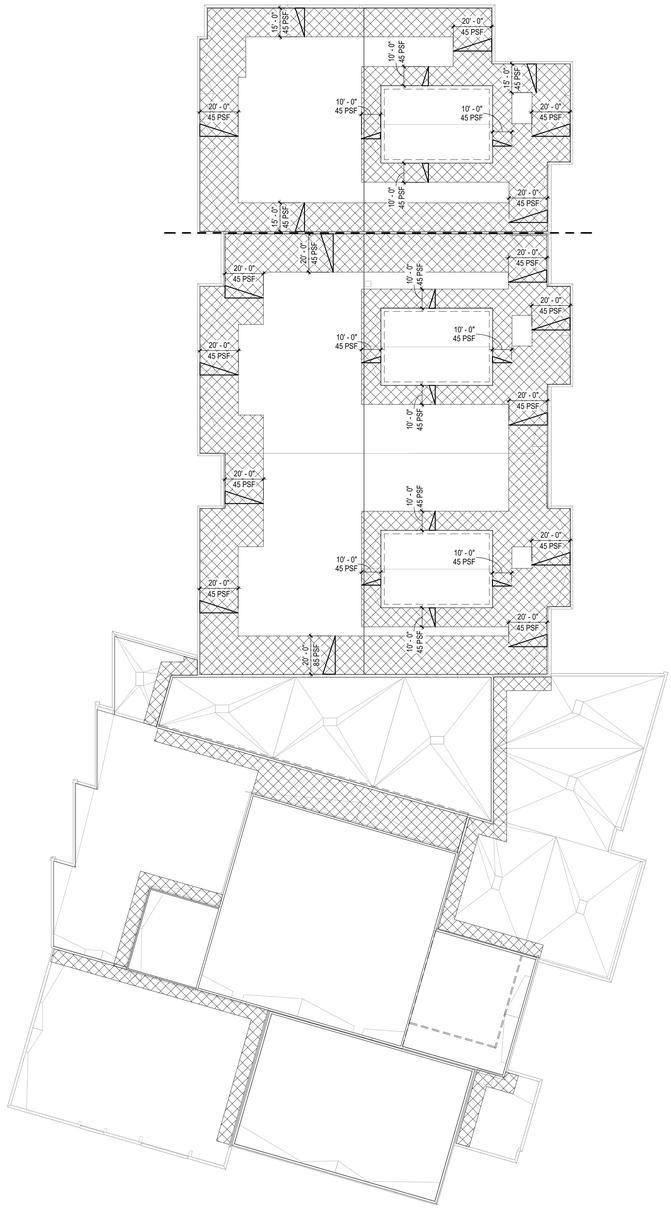
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20' - 0"
45 PSF
10' - 0"
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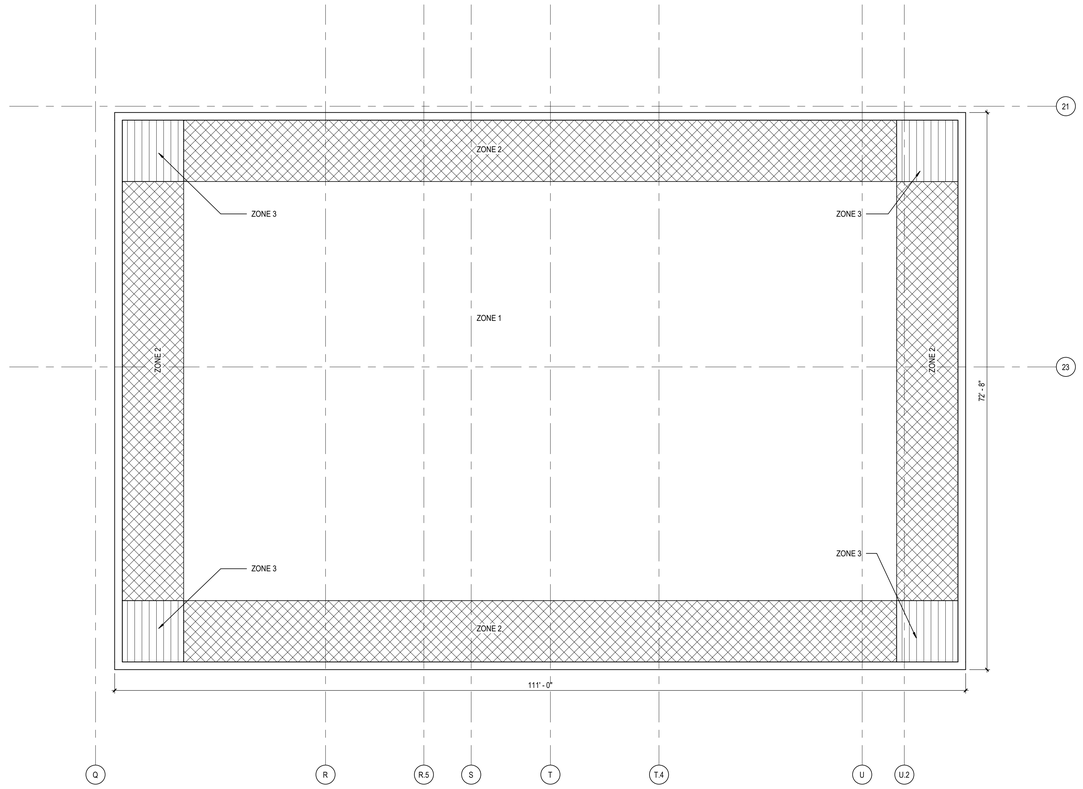
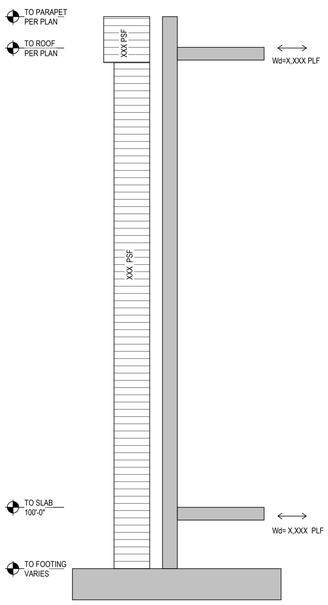
45 PSF
10



SHELTER ROOF PLAN

NORTH

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



1 S0.4 HARDENED AREA WINDWARD WALL SECTION (MWFRS)

SCALE: 1/4" = 1'-0"

STRUCTURAL NOTES

GENERAL STORM SHELTER NOTES:

1. THE PORTION OF STRUCTURE SHOWN ON THIS SHEET IS BASED ON STRUCTURAL RECOMMENDATIONS LISTED IN ICC 500-2014 "ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS". SHELTER HAS NOT BEEN CONSTRUCTED WITHIN AN AREA SUSCEPTIBLE TO FLOODING.

2. ALL COMPONENTS THAT MAKE UP THE STORM SHELTER AREA, INCLUDING DEFERRED SUBMITTALS, SHALL BE DESIGNED IN STRICT ACCORDANCE WITH ICC 500 STANDARDS. CALCULATIONS SHALL BE PROVIDED AT EACH CONNECTION FOR VERIFICATION OF LOAD PATH.

3. STORM SHELTER WALL AND SLAB ASSEMBLIES HAVE BEEN SELECTED BASED ON ICC 500 AND FEMA 361 RECOMMENDATIONS. NO ADDITIONAL TESTING OR ANALYSIS HAS BEEN PERFORMED TO ESTIMATE THE DYNAMIC IMPACT OF OBJECTS FOUND IN THE ACTUAL ENVIRONMENT AGAINST THE STRUCTURE.

4. REFER TO ARCHITECTURAL, CIVIL, MEP DRAWINGS FOR STORM SHUTTERS, DOORS, WINDOWS AND ATTACHMENT OF THESE COMPONENTS TO THE BUILDING STRUCTURE.

5. DIAPHRAGM SHEARS HAVE BEEN DISTRIBUTED BASED ON A RIGID DIAPHRAGM ASSUMPTION AND ARE SHOWN AS STRENGTH (ULTIMATE) LEVEL WIND FORCES.

6. LOWER LEVEL SLAB-ON-GRADE IS USED AS A STRUCTURAL DIAPHRAGM DISTRIBUTING FORCES TO THE FOUNDATIONS. CONTRACTOR SHALL SUBMIT A POUR PLAN FOR REVIEW SHOWING PLANED LOCATIONS FOR CONSTRUCTION JOINTS.

SHELTER TYPE:
COMMUNITY TORNADO

WIND LOADS:
IN ACCORDANCE WITH ASCE 7-10, CHAPTER 26 AND 27 DIRECTIONAL PROCEDURE
BASIC WIND SPEED V = 250 MPH
Iw=1.0
PARTIALLY ENCLOSED, EXPOSURE CATEGORY = "C"
Kzt = 1.0
Kd= 1.0
GCpi = +-0.55

LIVE LOAD:
ROOF: 100 PSF
COLLAPSE OF UPPER STRUCTURES WAS CONSIDERED IN THE DESIGN OF THE STORM SHELTERS.

LOAD COMBINATIONS:
1. ALL WIND LOADS SHOWN ON THIS SHEET ARE STRENGTH (ULTIMATE) LEVEL LOADS AND SHALL BE APPLIED WITH THE FOLLOWING LOAD COMBINATIONS IN ADDITION TO THE STANDARD LOAD COMBINATIONS OF ASCE7-05 CHAPTER 2. COMBINATIONS INDICATED AS N/A ARE SEISMIC LOAD CONDITIONS THAT WILL NOT GOVERN IN THE DESIGN.

LRFD	ASD
1) 1.4D	1) D
2) 1.2D + 1.6L + 0.5(Lr or S)	2) D + L
3) 1.2D + 1.6(Lr or S) + (L or 0.5Ww)	3) D + (Lr or S)
4) 1.2D + 1.0Wx + L +0.5(Lr or S)	4) D + 0.75L + 0.75(Lr or S)
5) NA	5) D + 0.6Wx
6) 0.9D + 1.0Wx	6) D + 0.75L + 0.75(0.6Wx) + 0.75(Lr or S)
7) NA	7) 0.6D + 0.6Wx
	8) N/A

ALL LOAD CONDITION DESIGNATIONS ARE PER ASCE 7-10 EXCEPT THE FOLLOWING:
Wx = EXTREME WIND EVENT WIND LOAD

TORNADO MISSILE IMPACT CRITERIA:
1. MANUFACTURERS SHALL PROVIDE DATA INDICATING THAT ALL STRUCTURAL PRODUCTS MEET THE IMPACT CRITERIA TEST REQUIRED BY ICC-500 INCLUDING THE IMPACT FROM THE END OF A 15-LB 2x4 AT THE FOLLOWING VELOCITY:

a. VERTICAL SURFACES = 100 MPH

b. HORIZONTAL SURFACES = 67 MPH

2. ALL COMPONENTS OF THE STORM SHELTER ENVELOPE SHALL BE TESTED IN ACCORDANCE WITH ICC-500, SECTION 304 (PRESSURE) AND SECTION 305 (IMPACT).

QUALITY ASSURANCE, SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS FOR STORM SHELTER (ICC 500-2014):
THE FOLLOWING SPECIAL INSPECTION REQUIREMENTS SHALL BE PREFORMED ON ALL STORM SHELTER COMPONENTS IN ADDITION TO SPECIAL INSPECTION REQUIREMENTS AS STATED IN 2015 IBC ON SHEET S0.2.

1. QUALITY ASSURANCE FOR WIND REQUIREMENTS PLAN SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 1705 FOR ALL COMPONENTS MAKING UP THE STRUCTURAL SYSTEM OF THE STORM SHELTER AS FOLLOWS:

a. THE MAIN WIND-FORCE-RESISTING SYSTEM THAT IS SUBJECT TO QUALITY ASSURANCE ARE THE
1. CAST-IN-PLACE CONCRETE ROOF DIAPHRAGM INCLUDING REINFORCEMENT, CHORDS, COLLECTORS, AND CONNECTIONS TO SHEAR WALLS.
2. PRECAST CONCRETE ROOF STRUCTURE
3. PRECAST CONCRETE SHEAR WALLS INCLUDING CONNECTION TO DIAPHRAGMS, WALL PANEL TO PANEL CONNECTIONS AND PANEL TO FOOTING CONNECTIONS.
4. CONCRETE FOUNDATIONS
5. FABRICATION AND INSTALLATION OF COMPONENTS AND ASSEMBLIES AT SHELTER ENVELOPE REQUIRED TO MEET MISSLE IMPACT TESTING OF ICC 500 INCLUDING DOORS, WINDOWS, AND OPENING PROTECTION DEVICES.

b. THE SPECIAL INSPECTIONS REQUIRED ARE INDICATED UNDER SPECIAL INSPECTION ON SHEET S0.2 AND THE ADDITIONAL REQUIREMENTS OF SECTION 1706 OF THE IBC. MATERIALS TESTING REQUIRED IS INDICATED UNDER THE SPECIFICATION FOR EACH MATERIAL.

c. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL EMPLOYED BY THE OWNER TO CONDUCT VISUAL OBSERVATIONS OF THE CONSTRUCTION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE CONSTRUCTION OF THE STRUCTURAL SYSTEM.

d. DISTRIBUTION OF OBSERVATION, TESTING AND SPECIAL INSPECTION REPORTS SHALL BE WITHIN TWENTY-FOUR (24) HOURS AFTER EACH SPECIAL INSPECTION, SUBMIT TWO (2) COPIES OF INSPECTION REPORTS TO THE CONTRACTOR, ARCHITECT AND BUILDING OFFICIAL.

2. CONTRACTOR RESPONSIBILITY: EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN-FORCE RESISTING SYSTEM, OR A WIND-RESISTING COMPONENT LISTED IN THE QUALITY ASSURANCE PLAN, SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENTS. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:

a. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE QUALITY ASSURANCE PLAN.

b. ACKNOWLEDGE THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITHIN THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.

c. PROCEDURE'S FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION THE METHOD AND FREQUENCY OF REPORTING, AND DISTRIBUTION OF THE REPORTS.

d. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION IN THE ORGANIZATION.

COMPONENT AND CLADDING WIND LOADS:
ALL LOADS SHALL BE CONSIDERED AS POSITIVE OR NEGATIVE.

1. WALLS: Wx = 275 PSF (ZONE 4, TYP)
Wx = 325 PSF (ZONE 5, WITHIN 8'-0" OF CORNERS)

2. PARAPETS: Wx = 350 PSF (ZONE 4, TYP)
Wx = 400 PSF (ZONE 5, WITHIN 8'-0" OF CORNERS)

3. ROOFS: Wx = 260 PSF (UPLIFT ZONE 1)
Wx = 395 PSF (UPLIFT ZONE 2)
Wx = 560 PSF (UPLIFT ZONE 3)

MAIN WIND FORCE RESISTING SYSTEM LOADS (MWFRS):

Wx = 205 PSF (WINDWARD)
Wx = 165 PSF (LEEWARD)
Wx = 175 PSF (SIDE WALL)
USE 205 PSF AGAINST WALL IN EACH ORTHOGONAL DIRECTION

Wx = 220 PSF (ROOF UPLIFT PRESSURE)
Wx = 250 PSF (WINDWARD NET PARAPET PRESSURE)
Wx = 167 PSF (LEEWARD NET PARAPET PRESSURE)

NOTATIONS:
V = TOTAL DIAPHRAGM SHEAR DUE TO EXTREME WIND EVENT IN DIRECTION INDICATED.
Wd = UNIFORMLY DISTRIBUTED LOAD APPLIED TO ROOF DIAPHRAGM (PERPENDICULAR TO WALL)
Vw = TOTAL SHEAR LOAD RESISTED BY THE ENTIRE LENGTH OF SHEAR WALL FROM DIAPHRAGM FORCE DISTRIBUTION
Ww = DIAPHRAGM SHEAR WALL FORCE OVER THE LENGTH OF THE WALL (PARALLEL TO WALL)

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STORM SHELTER STRUCTURAL CRITERIAL

S0.4

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GRID GEOMETRY PLAN
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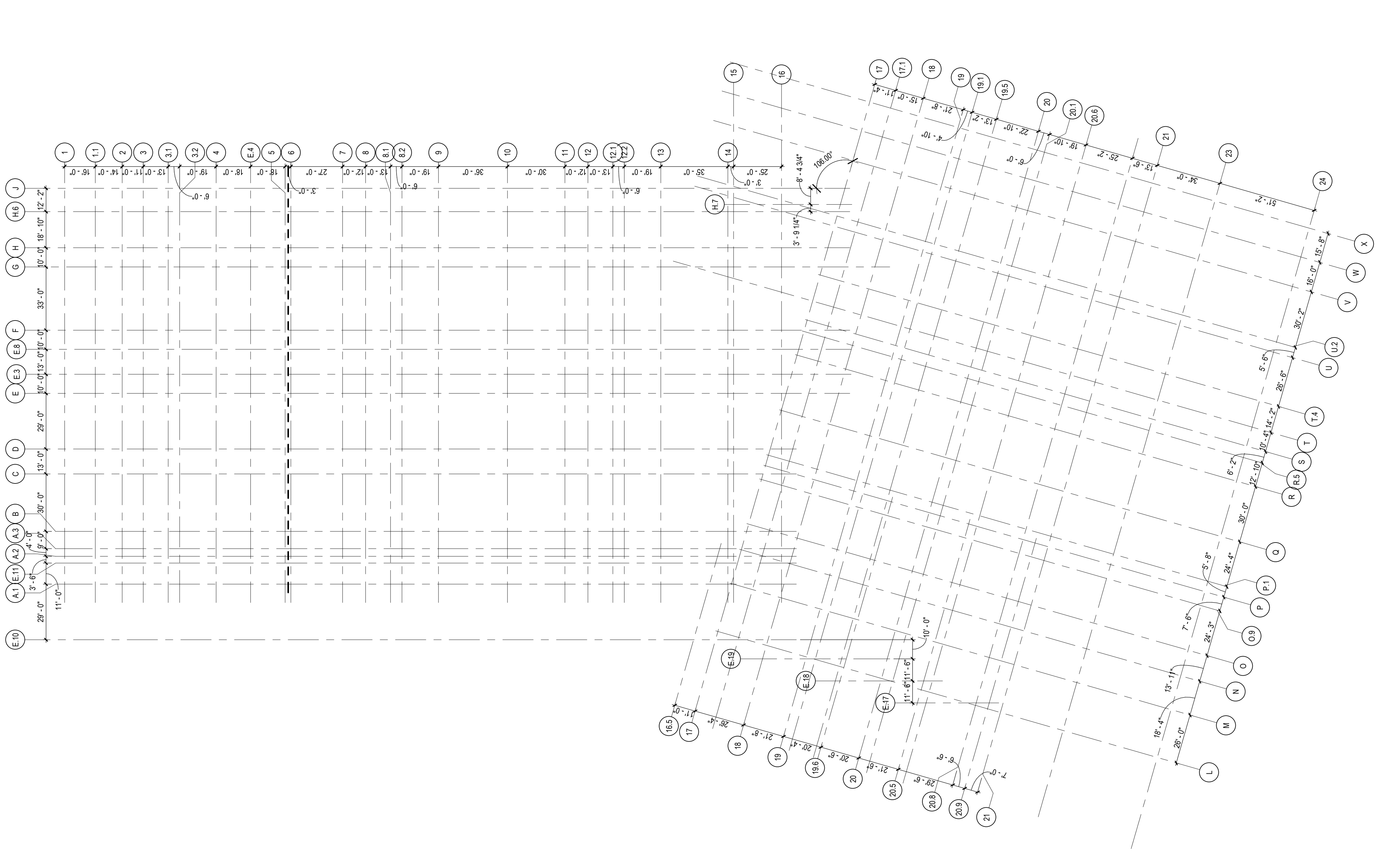
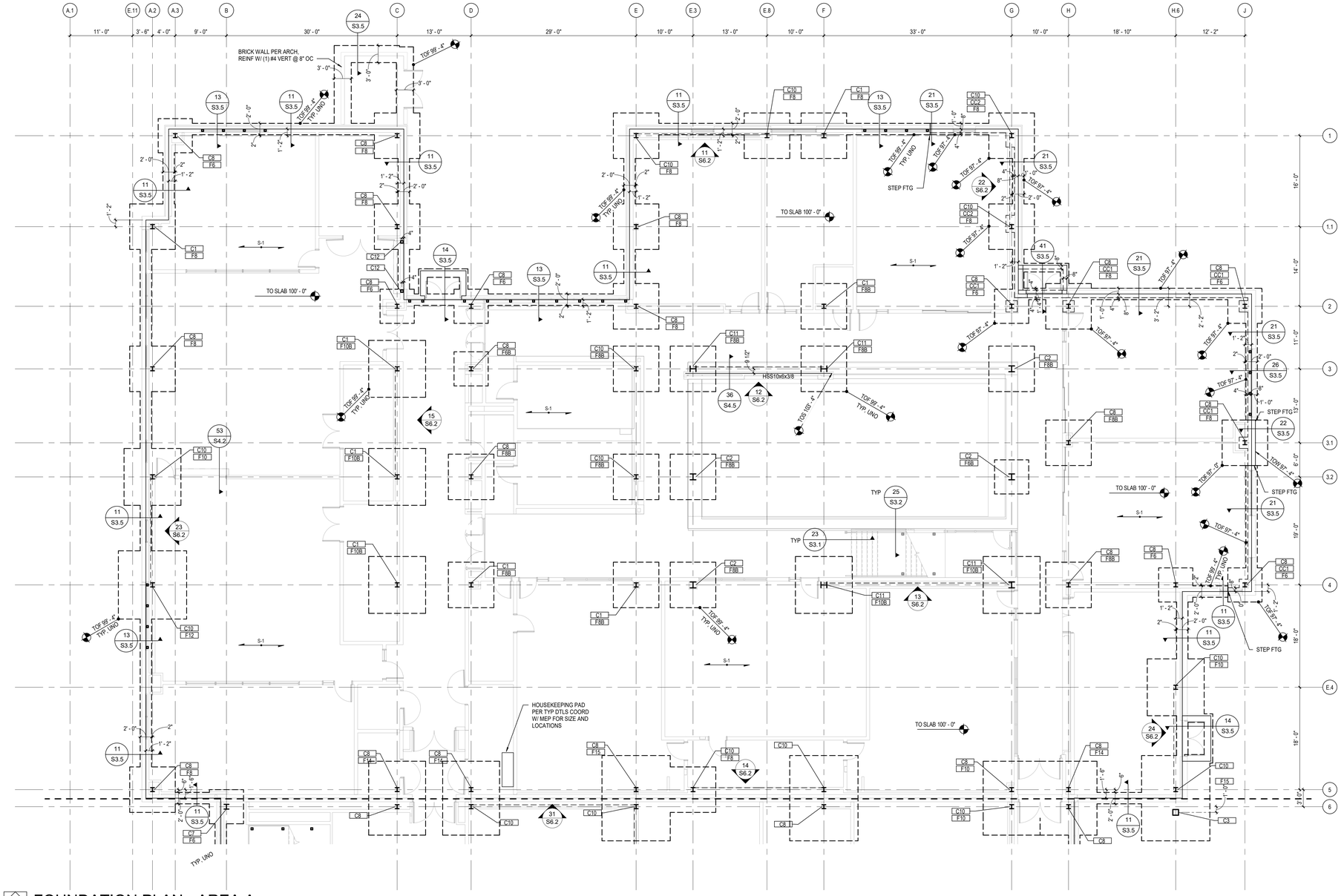


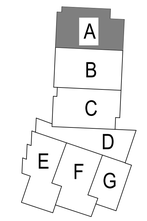


FOUNDATION PLAN - AREA A

NORTH

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

KEY PLAN



NORTH

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FOUNDATION
PLAN - AREA A

S1.1A

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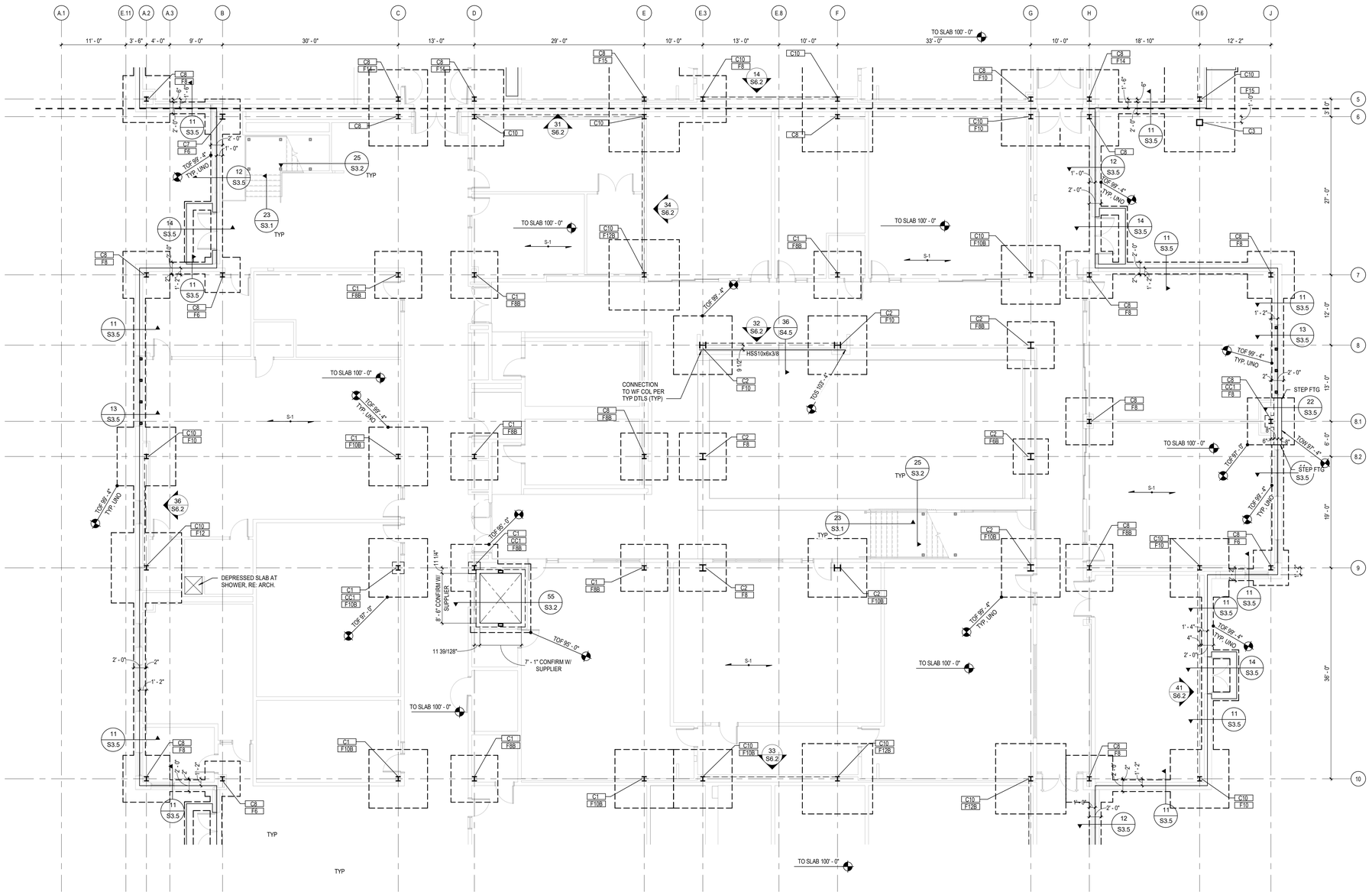

FOUNDATION PLAN - AREA B

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

NORTH

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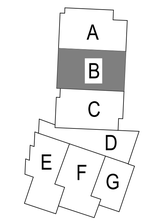

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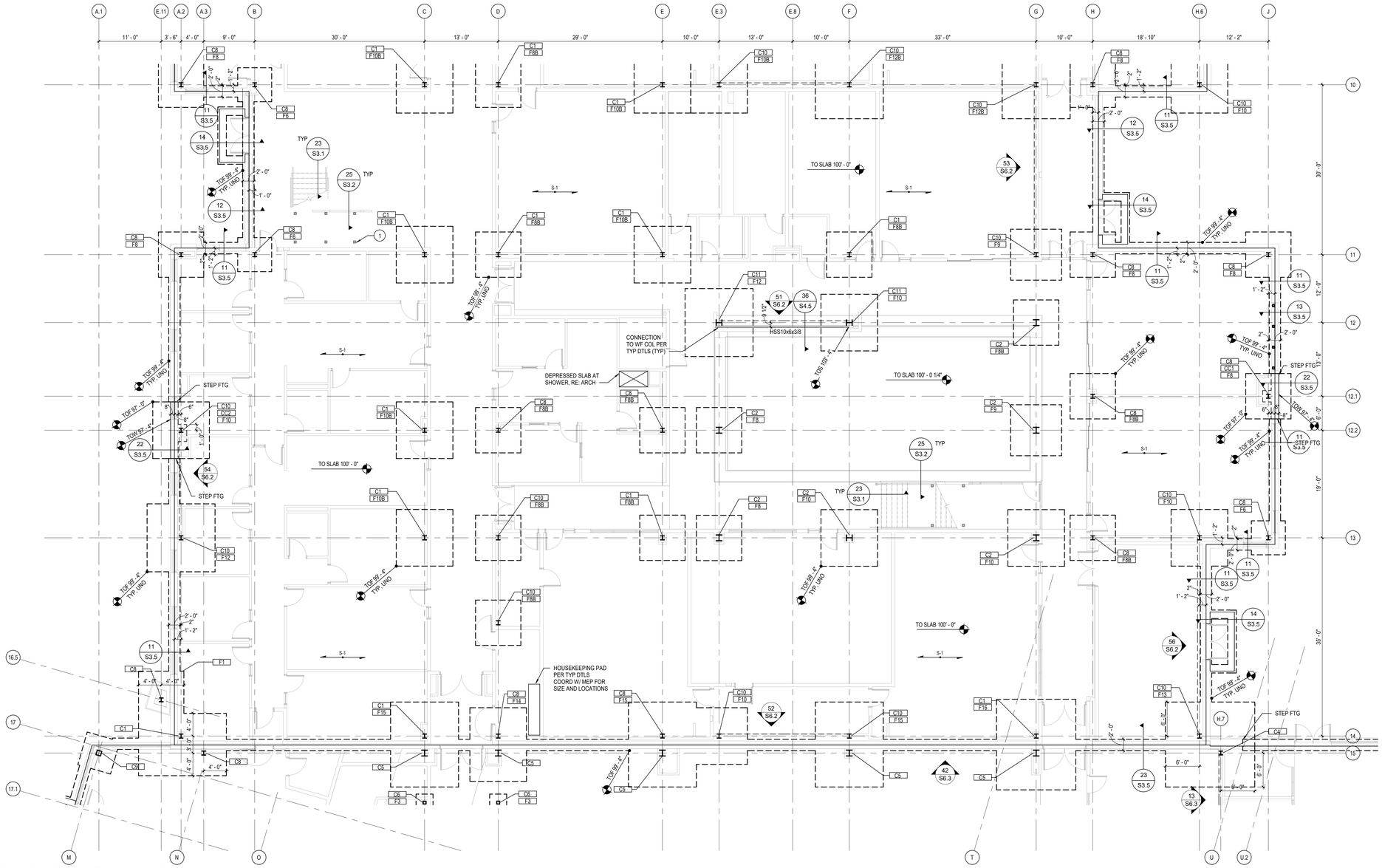
FOUNDATION
PLAN - AREA B

S1.1B



FOUNDATION PLAN - AREA C

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

NORTH

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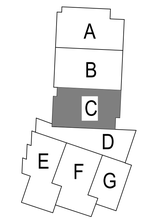

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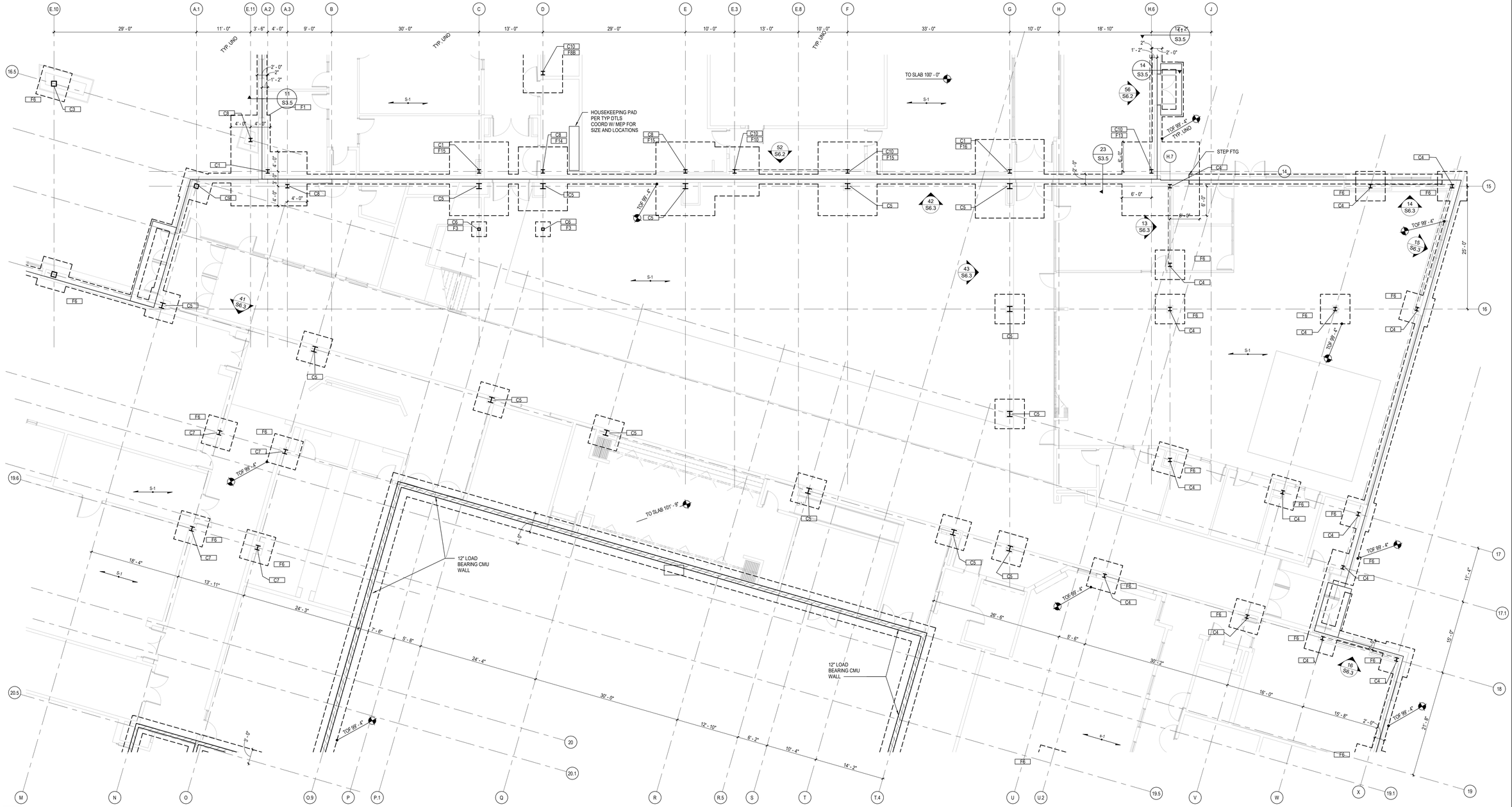
FOUNDATION
PLAN - AREA C

S1.1C


E.10
A.1
E.11
A.2
A.3
B
C
D
E
E.3
E.8
F
G
H
H.6
J
29' - 0"
11' - 0"
3' - 6"
4' - 0"
9' - 0"
30' - 0"
13' - 0"
29' - 0"
10' - 0"
13' - 0"
10' - 0"
33' - 0"
10' - 0"
18' - 10"
TYP. UNO
16.5
19.6
20.5
M
N
O
O.9
P
P.1
Q
R
R.5
S
T
T.4
U
U.2
19.5
V
W
X
19.1
19
20
20.1
14
15
16
17
17.1
18
TO SLAB 100' - 0"
TO SLAB 101' - 5"
HOUSEKEEPING PAD
PER TYP DTLS
COORD W/ MEP FOR
SIZE AND LOCATIONS
12" LOAD
BEARING CMU
WALL
STEP FTG
TOF 98' - 4"
TOF 99' - 4"
TOF 99' - 5"
TOF 99' - 6"
TOF 99' - 7"
TOF 99' - 8"
TOF 99' - 9"
TOF 99' - 10"
S-1
16' - 4"
13' - 11"
24' - 3"
7' - 6"
5' - 8"
24' - 4"
30' - 0"
12' - 10"
6' - 2"
10' - 4"
14' - 2"
26' - 6"
5' - 6"
30' - 2"
16' - 0"
15' - 8"
7' - 0"
21' - 8"
15' - 0"
11' - 4"
25' - 0"
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4' - 0"
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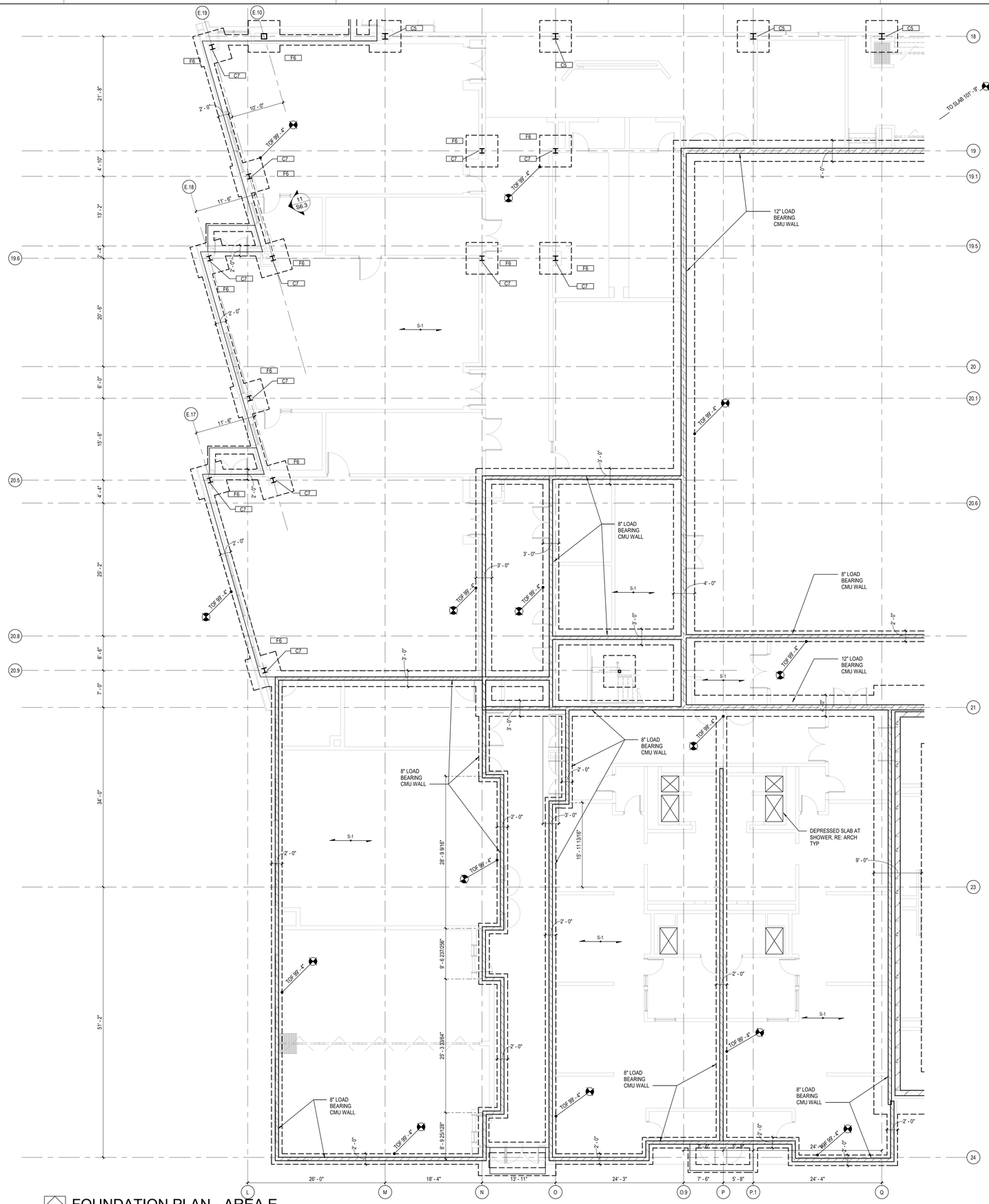
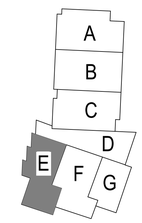


FOUNDATION PLAN - AREA E

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

NORTH

KEY PLAN



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FOUNDATION PLAN - AREA E

S1.1E

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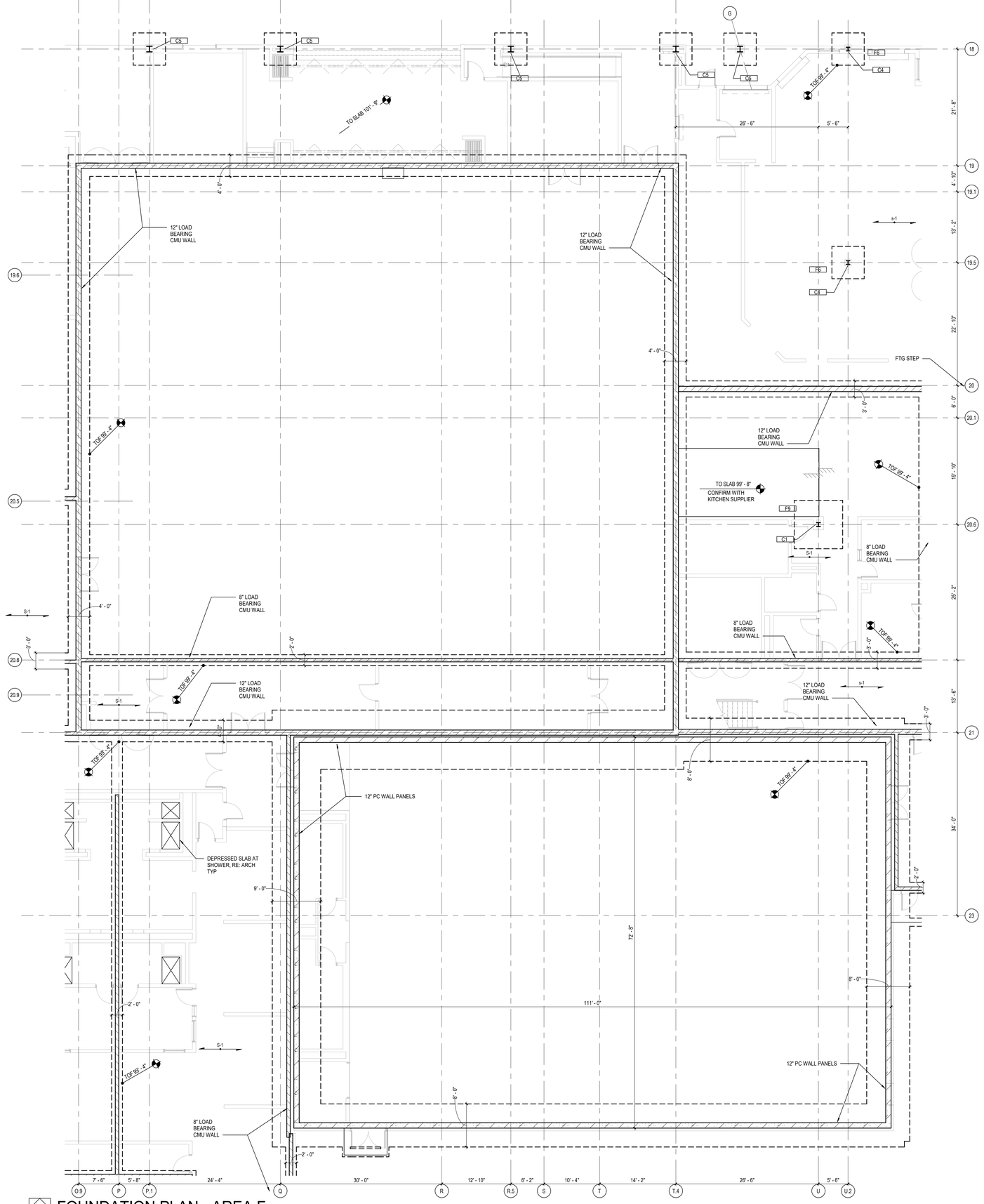
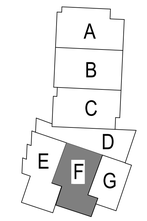


FOUNDATION PLAN - AREA F

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

NORTH

KEY PLAN



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FOUNDATION PLAN - AREA F

S1.1F

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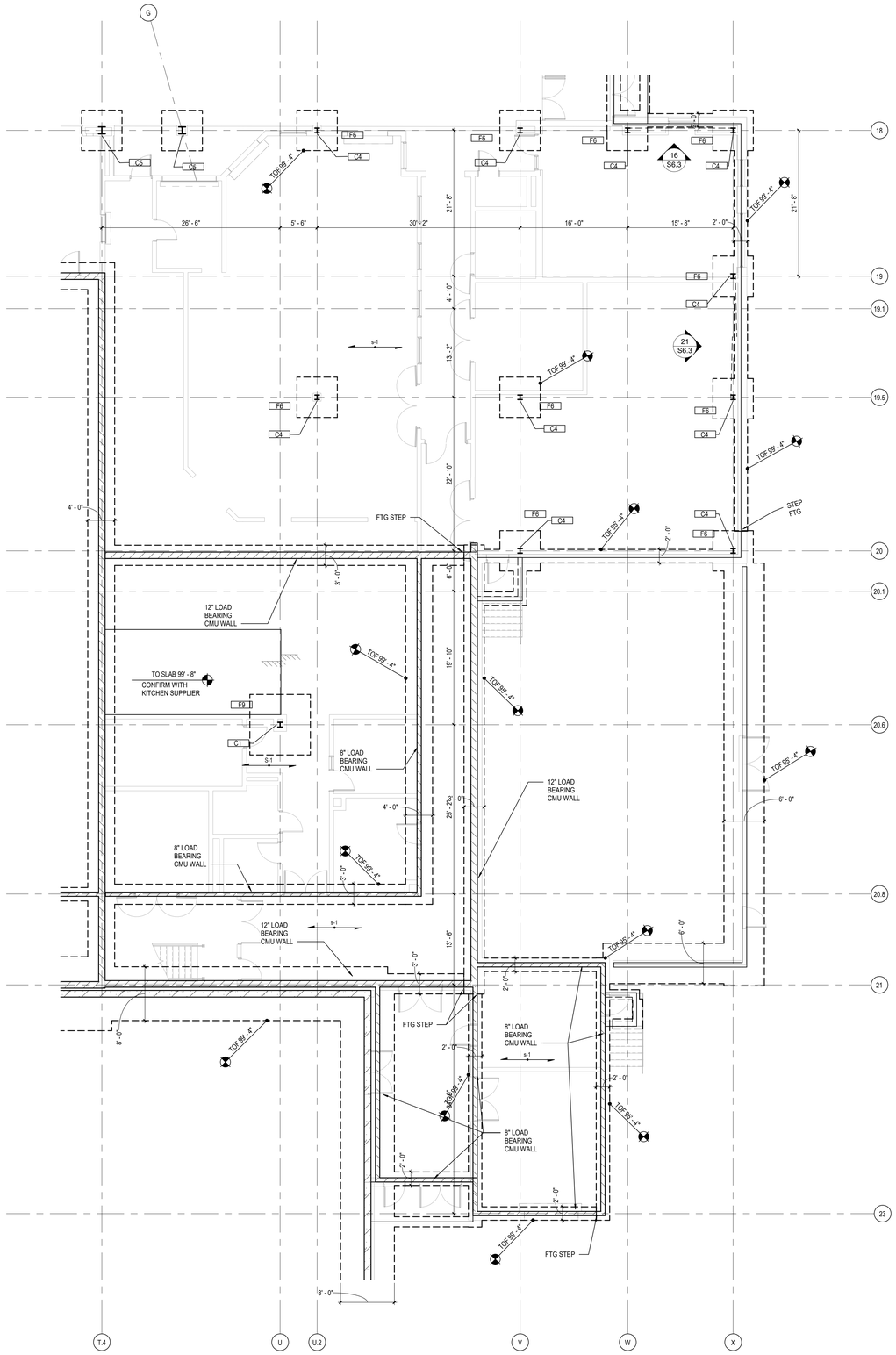
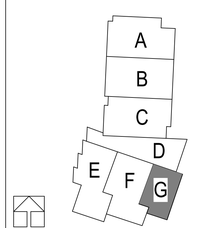


FOUNDATION PLAN - AREA G

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

NORTH

KEY PLAN



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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

FOUNDATION PLAN - AREA G

S1.1G

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
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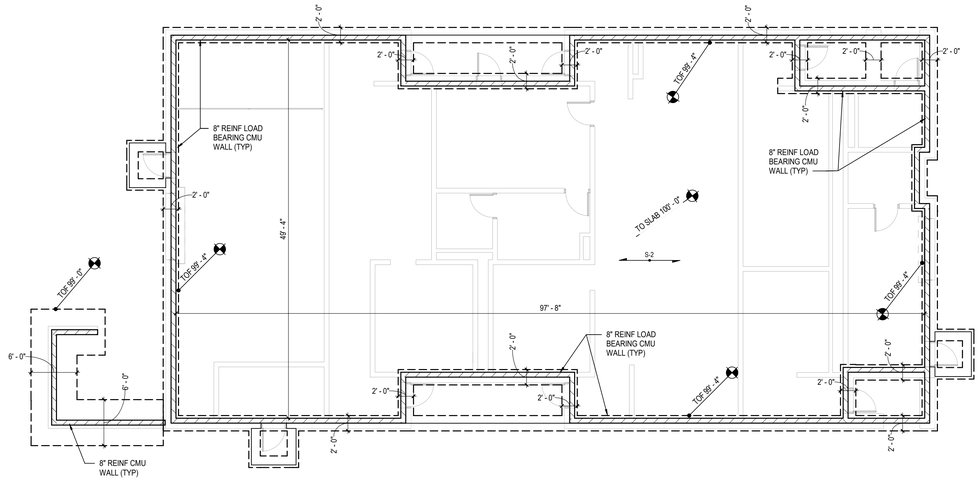
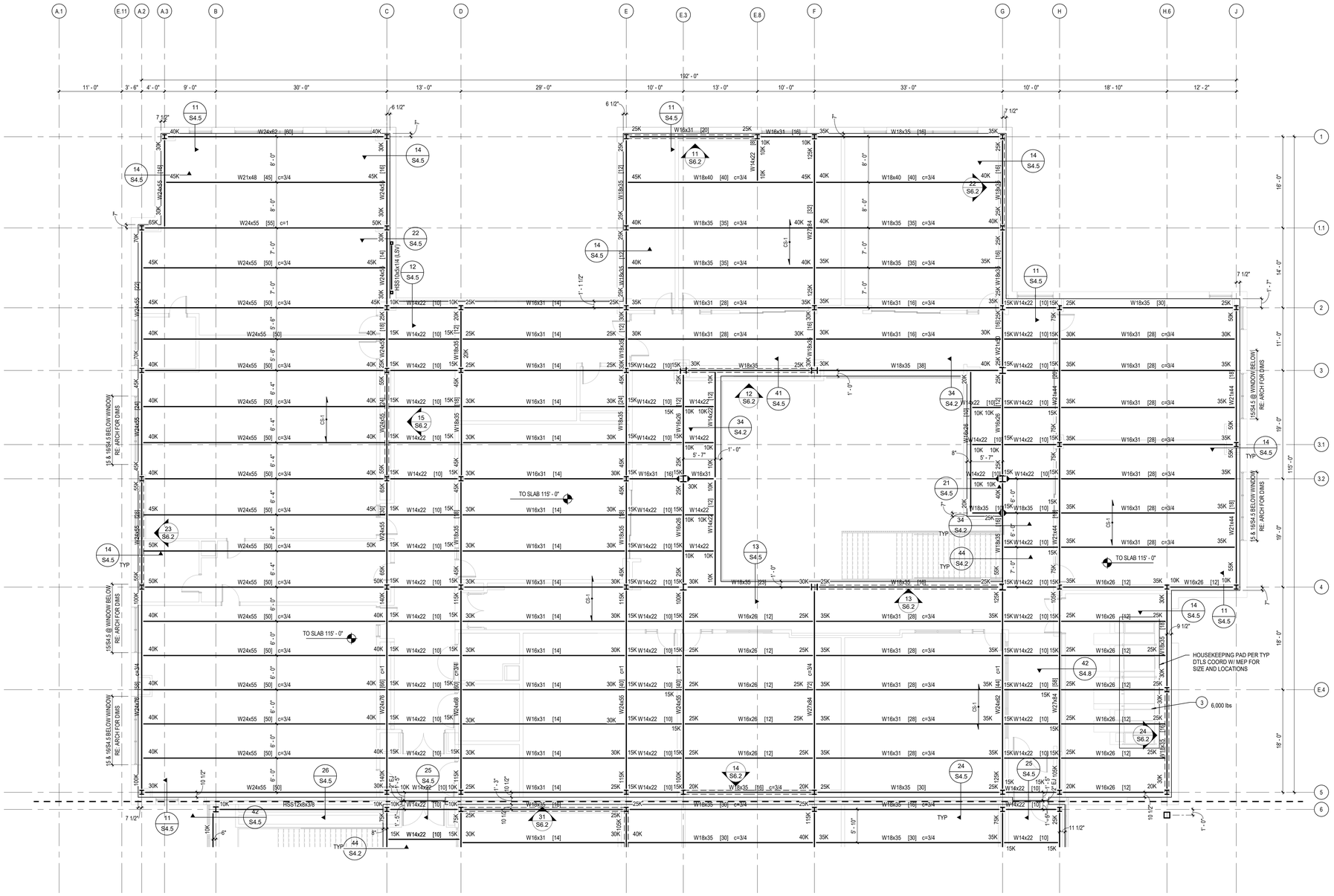

2' - 0"
2' - 0"
2' - 0"

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER S6/S4.2 AND S1/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED. CONFIRM WITH MECHANICAL SUPPLIER.

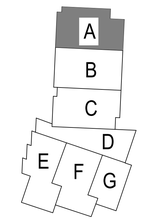


FLOOR FRAMING PLAN - AREA A

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

NORTH

KEY PLAN



NORTH

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FLOOR FRAMING PLAN - AREA A

S2.1A

BIM 360://13-201102-00 Lees Summit Middle School 4/13-201102-00_Lee's Summit Middle School 4_ST_2020.rvt
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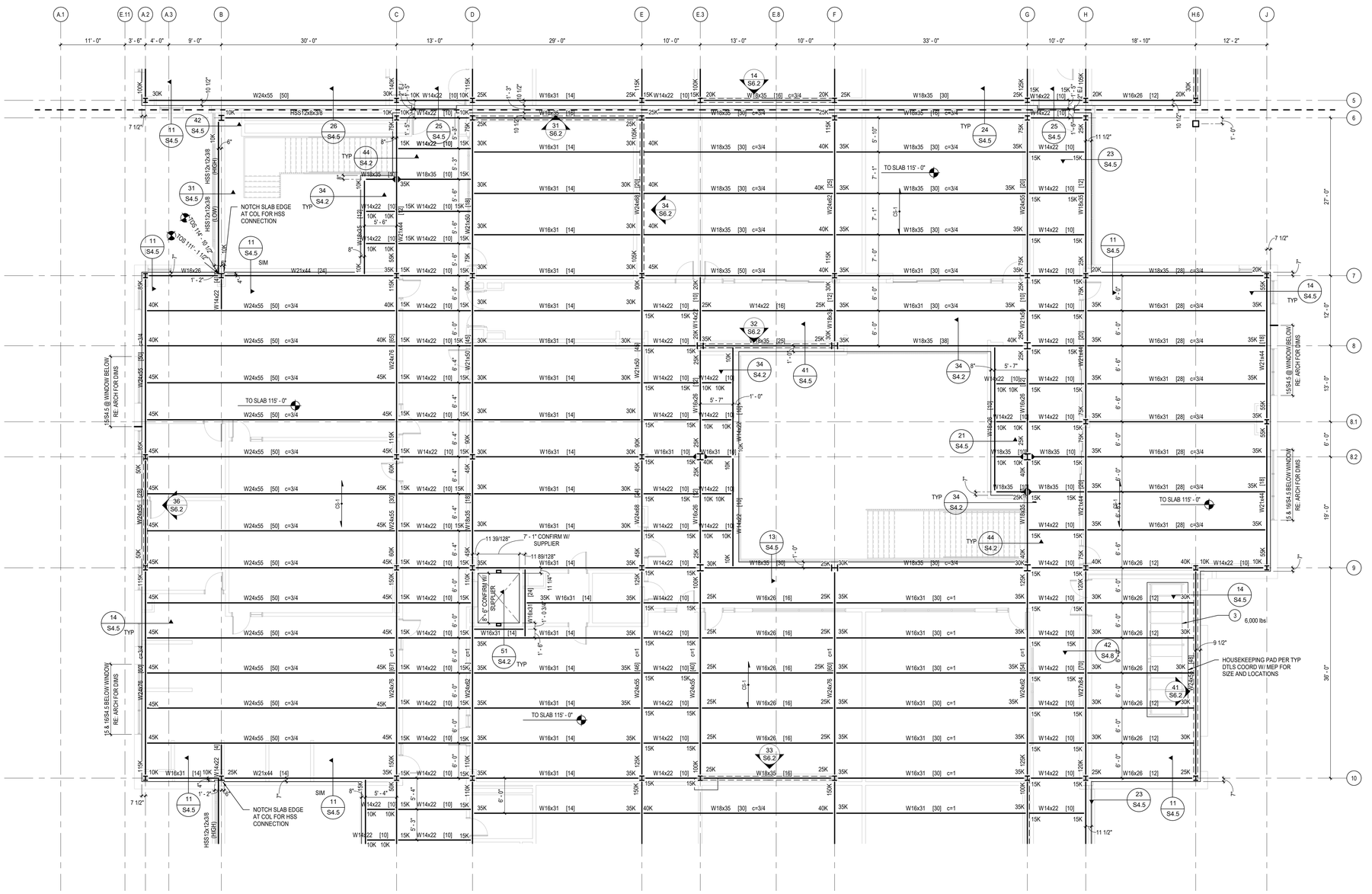
1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

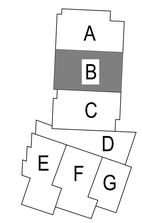


FLOOR FRAMING PLAN - AREA B

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

NORTH

KEY PLAN



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FLOOR FRAMING PLAN - AREA B

S2.1B

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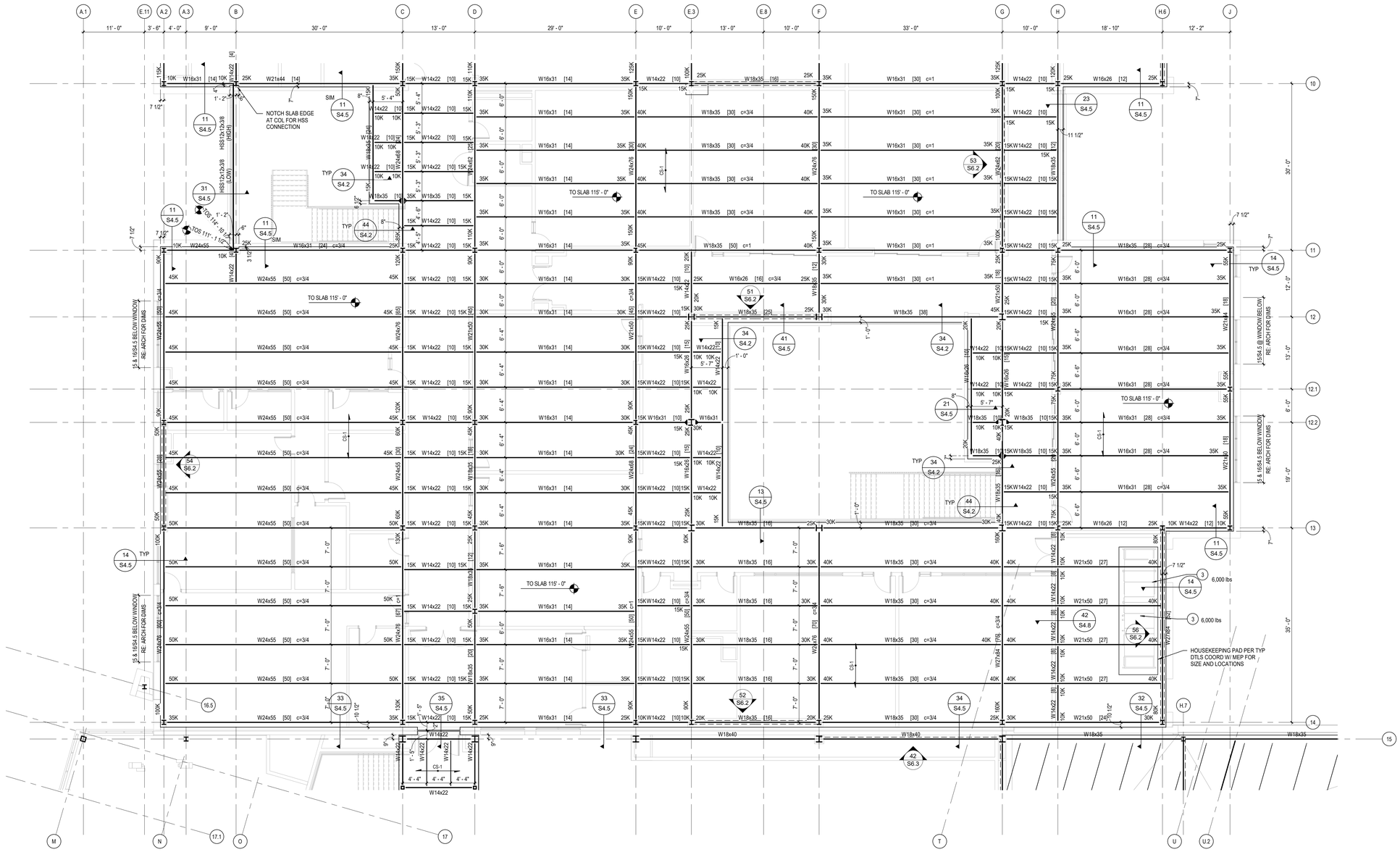

FLOOR FRAMING PLAN - AREA C

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

NORTH

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

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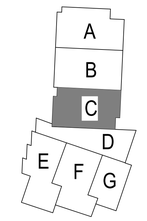
KEY PLAN



13-20102-00

FLOOR FRAMING PLAN - AREA C

S2.1C

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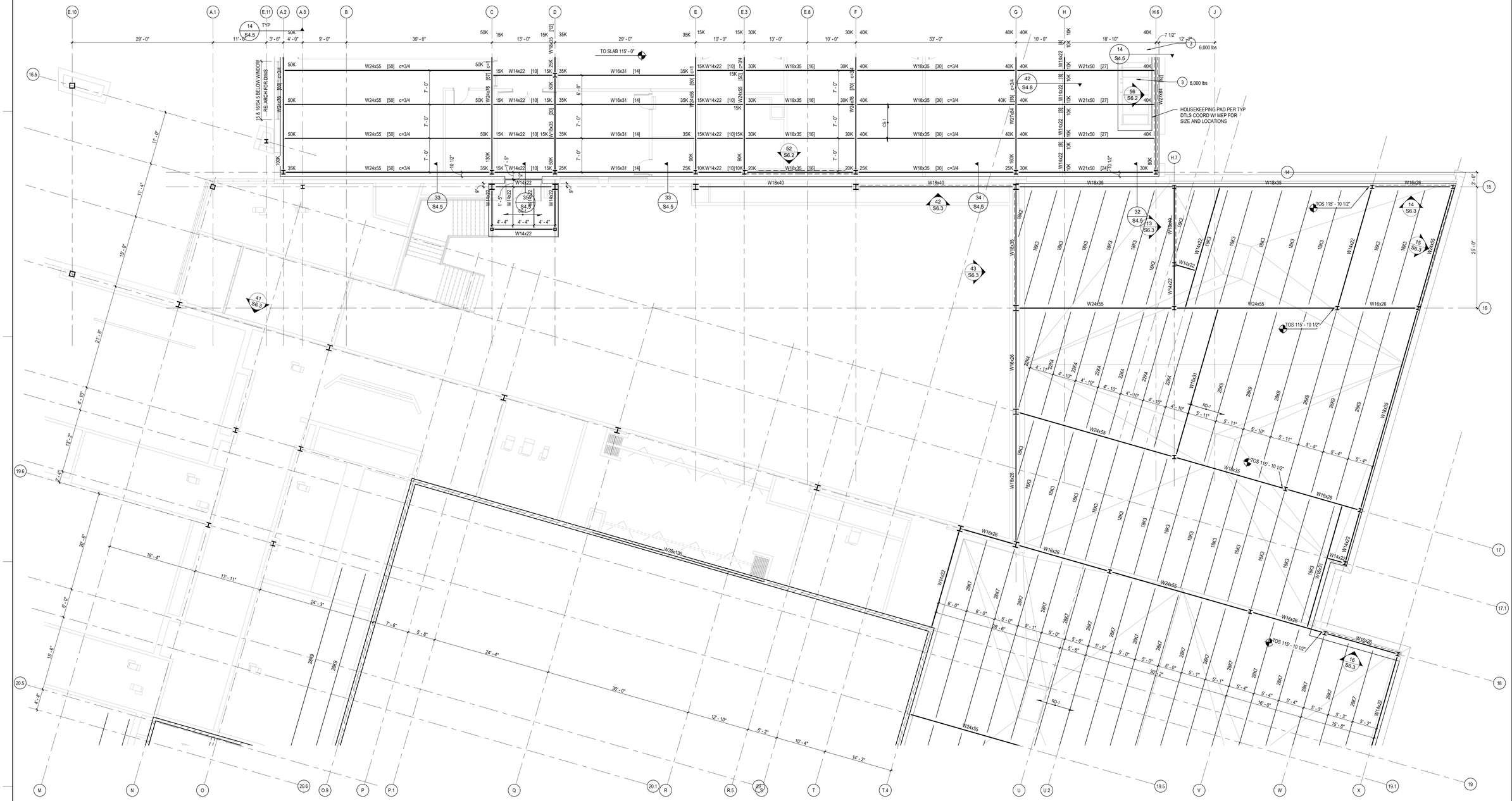


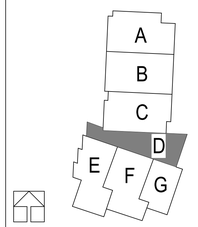
FLOOR FRAMING PLAN - AREA D

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

NORTH

1. BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1
2. ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.
3. MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

KEY PLAN



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FLOOR FRAMING PLAN - AREA D

S2.1D

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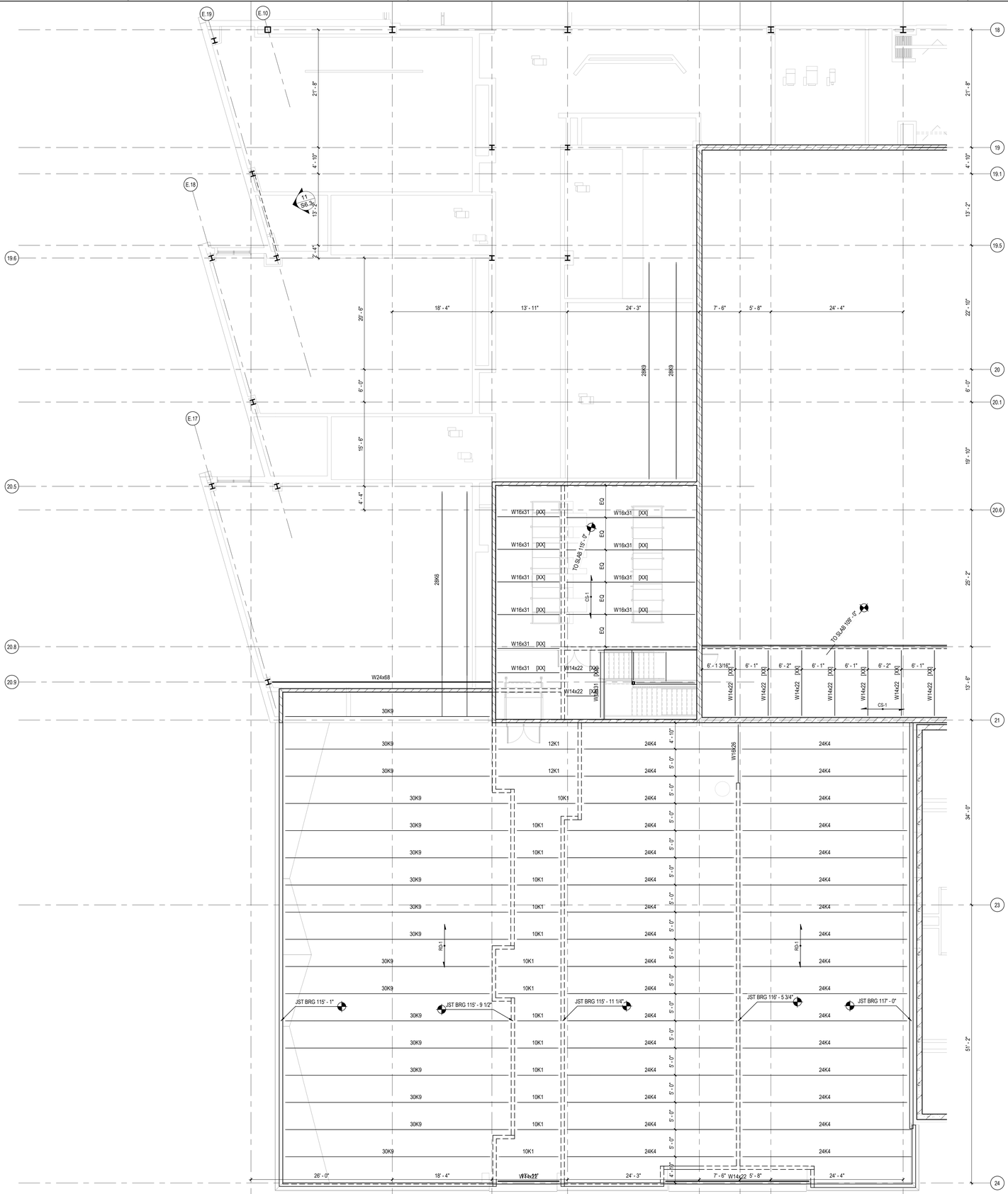


FLOOR FRAMING PLAN - AREA E

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

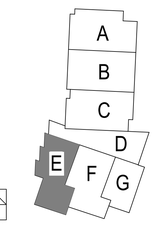
NORTH

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1.

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

KEY PLAN



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FLOOR FRAMING PLAN - AREA E

S2.1E

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
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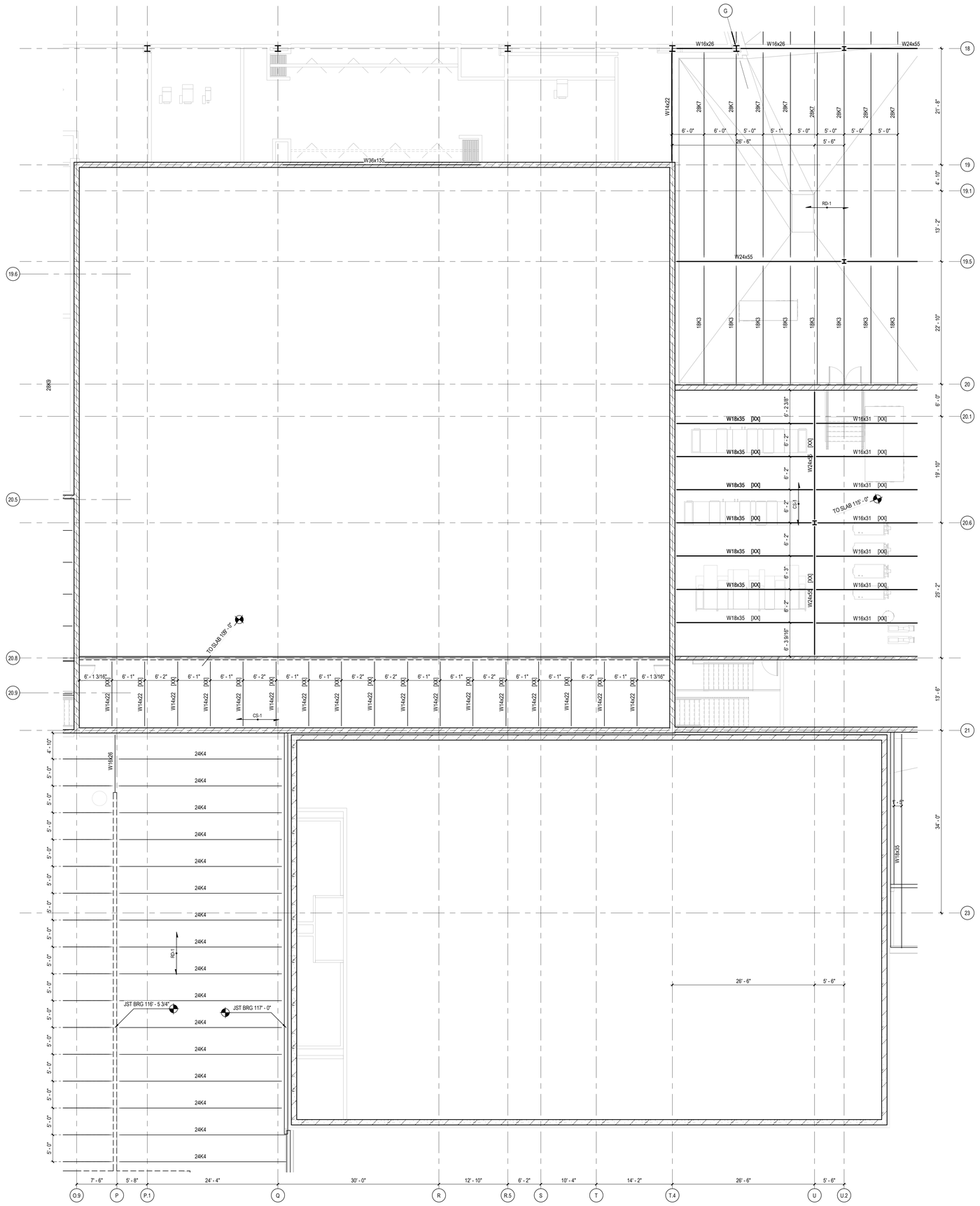

FLOOR FRAMING PLAN - AREA F

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

NORTH

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

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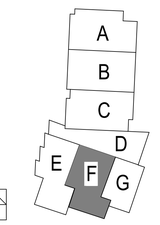
KEY PLAN



NORTH

13-20102-00

FLOOR FRAMING PLAN - AREA F

S2.1F

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
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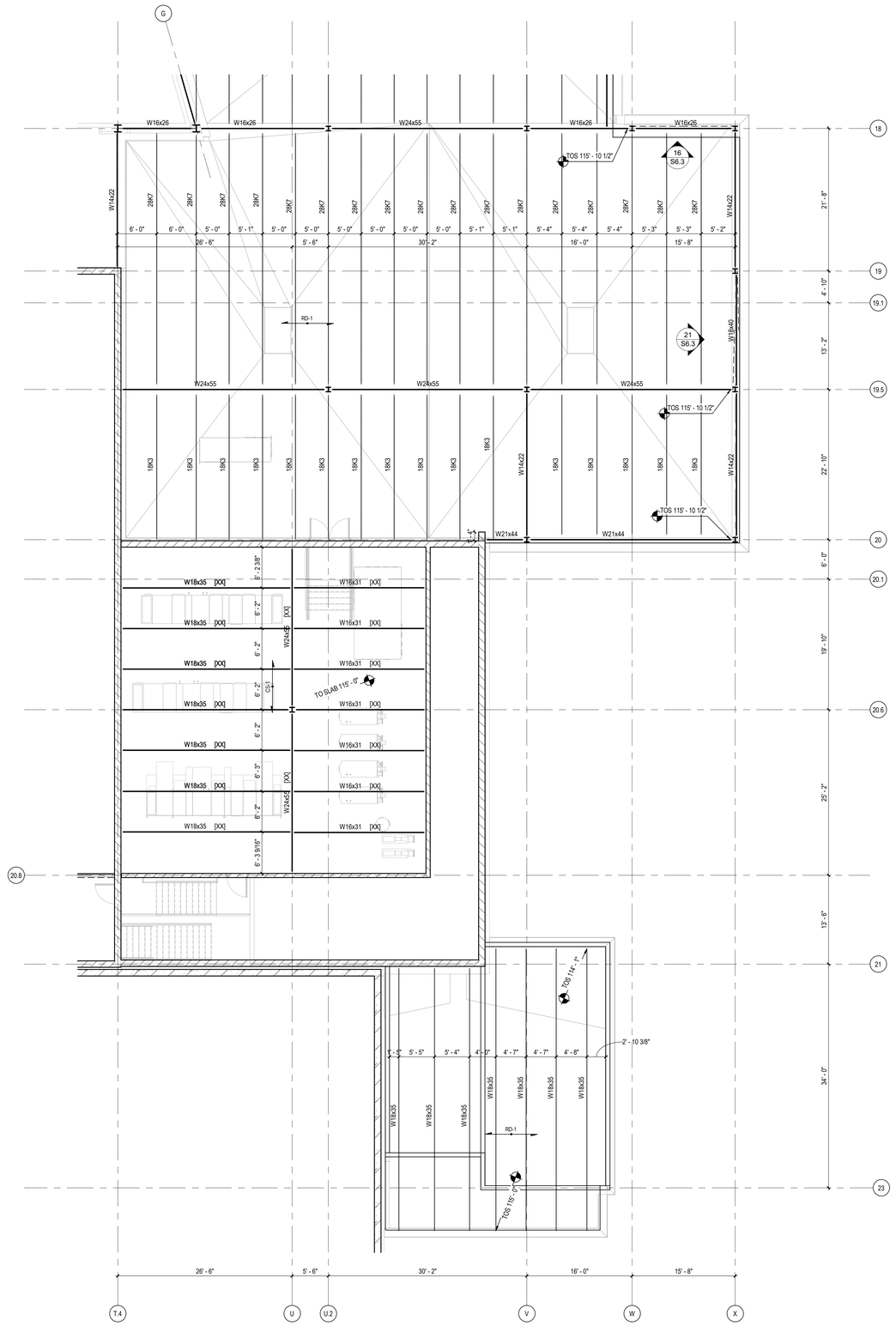
1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.



FLOOR FRAMING PLAN - AREA G

NORTH

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

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LEE'S SUMMIT R-7 SCHOOL DISTRICT

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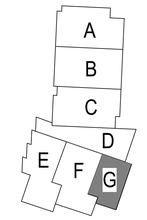
KEY PLAN



NORTH

13-20102-00

FLOOR FRAMING PLAN - AREA G

S2.1G

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
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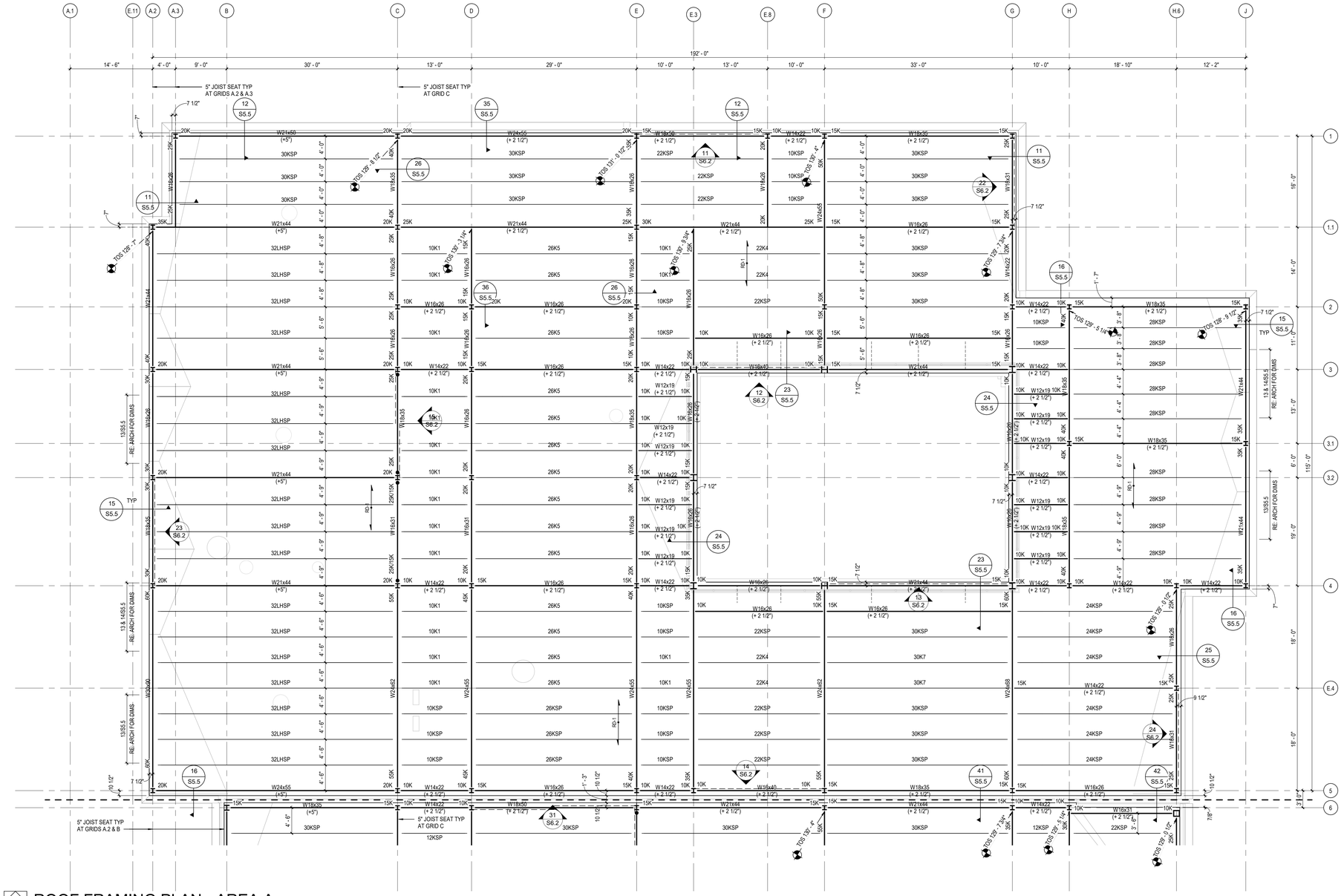
1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

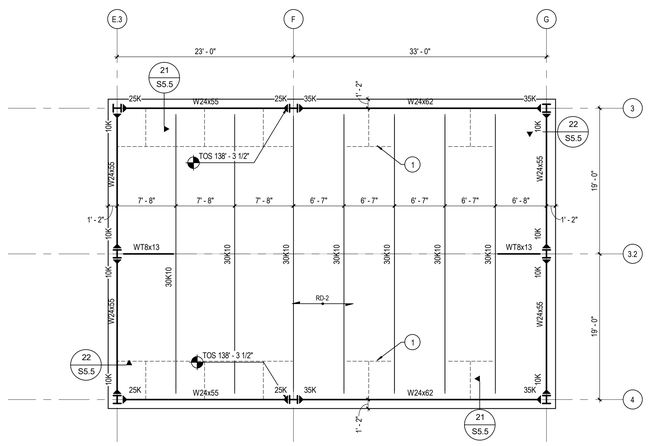
3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.



ROOF FRAMING PLAN - AREA A

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

NORTH



CLERESTORY ROOF FRAMING PLAN - AREA A

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

NORTH

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PROFESSIONAL ENGINEER
JAMES E. BRADLEY
NUMBER
E-2007018527
8/28/20
MISSOURI

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

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LEE'S SUMMIT, MO 64081

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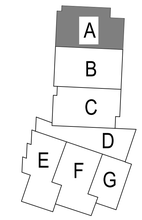
KEY PLAN

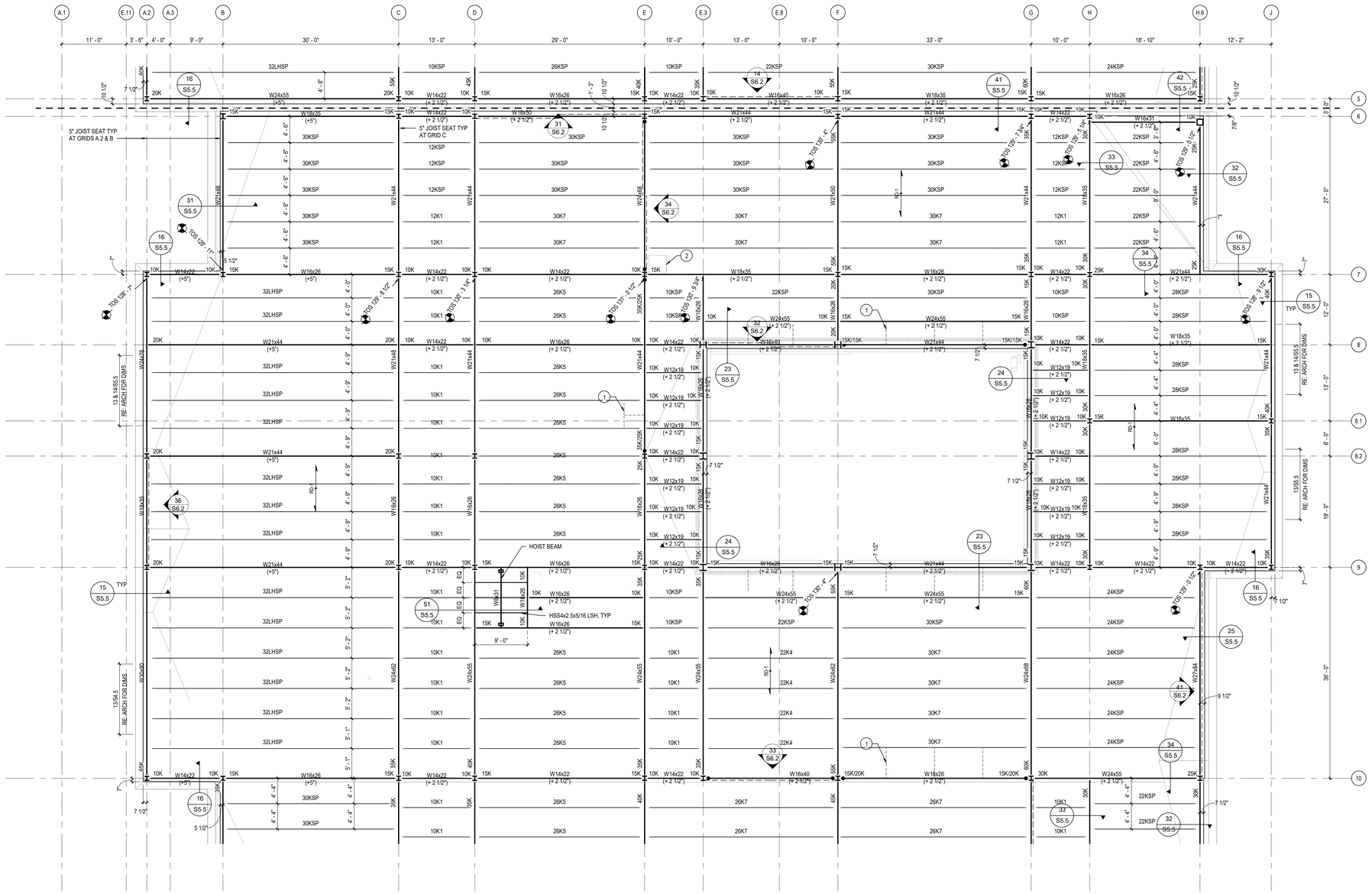


NORTH

13-20102-00

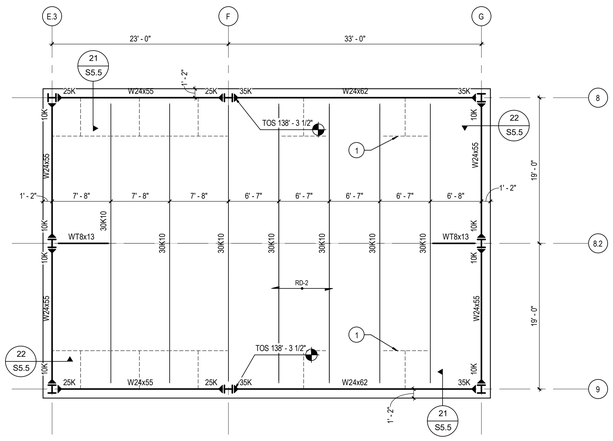
ROOF FRAMING PLAN - AREA A

S2.2A



ROOF FRAMING PLAN - AREA B

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



CLERESTORY ROOF FRAMING PLAN - AREA B

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

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

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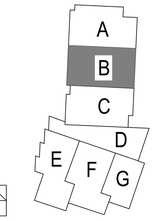

13-20102-00

ROOF FRAMING PLAN - AREA B

S2.2B

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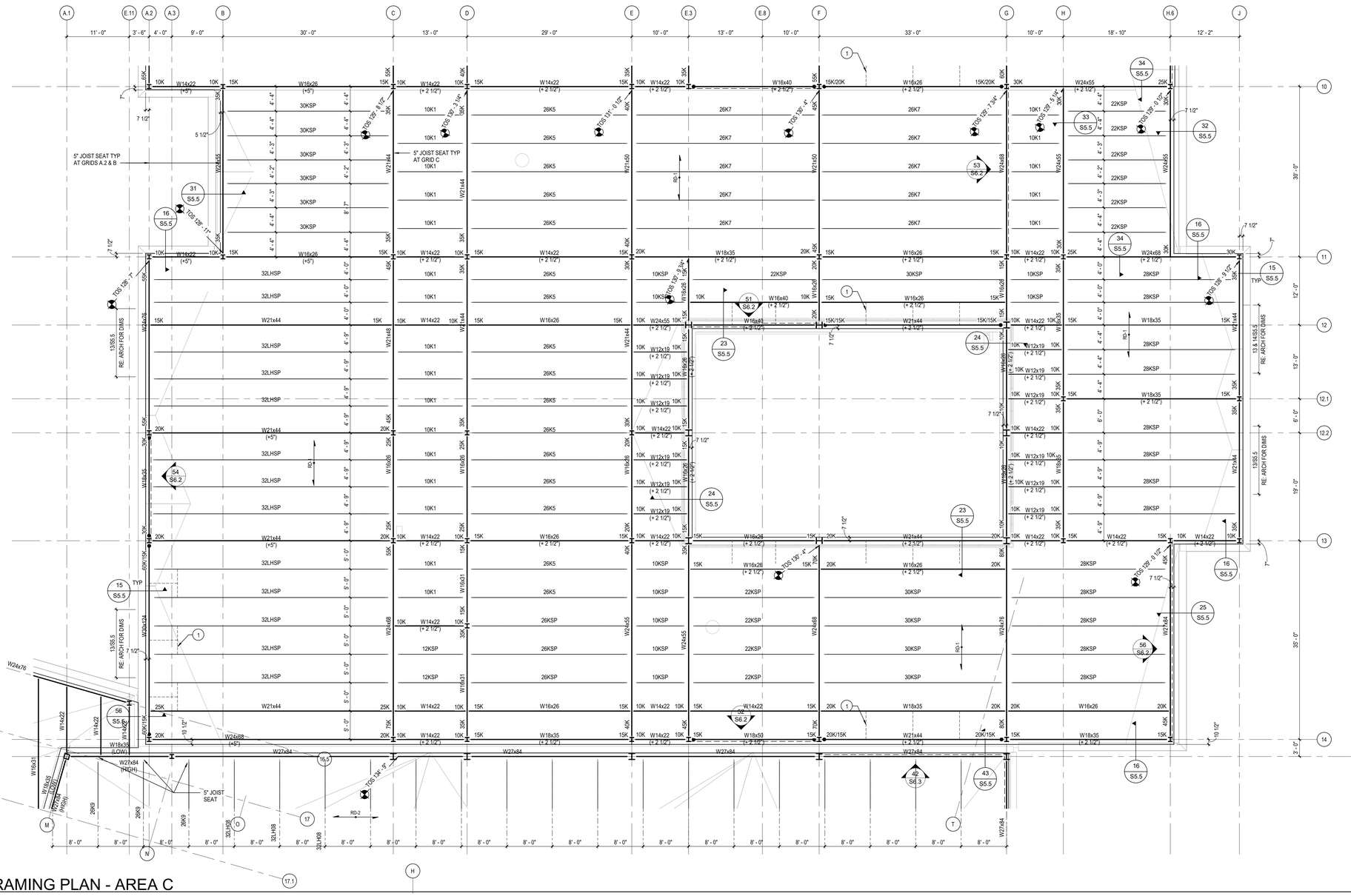
8/28/2020 11:48:02 AM

1. BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1
2. ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 2/S5.1.
3. MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.


A.1
E.11
A.2
A.3
B
C
D
E
E.3
E.8
F
G
H
H.6
J
11' - 0"
3' - 6"
4' - 0"
9' - 0"
30' - 0"
13' - 0"
29' - 0"
10' - 0"
13' - 0"
10' - 0"
33' - 0"
10' - 0"
18' - 10"
12' - 2"
5" JOIST SEAT TYP AT GRIDS A.2 & B
5" JOIST SEAT TYP AT GRID C
5" JOIST SEAT
RE: ARCH FOR DIMS
W24x76
W24x55
W24x62
W24x68
W24x84
W24x94
W24x103
W24x131
W24x146
W24x162
W24x176
W21x44
W21x48
W21x50
W21x55
W21x57
W21x62
W21x68
W21x73
W21x83
W21x93
W21x101
W21x111
W21x122
W21x132
W21x147
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W12x17335736
W12x17352392
W12x17369056
W12x17385728
W12x17402408
W12x17419096
W12x17435792
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W12x17485928
W12x17502656
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W12x17552888
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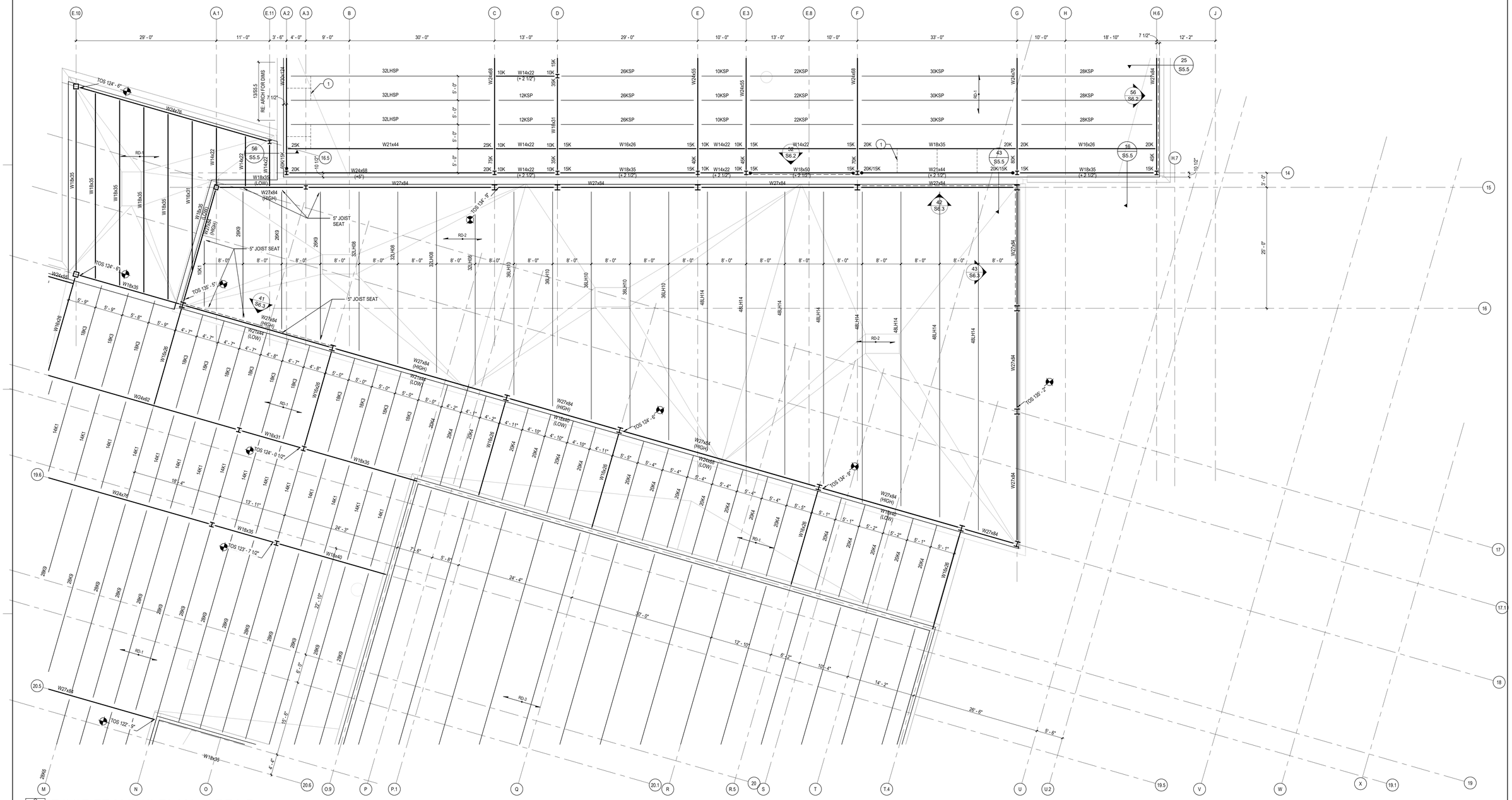
W12x18



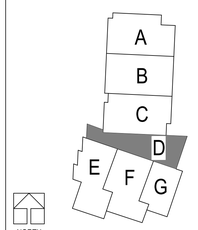
ROOF FRAMING PLAN - AREA D

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

NORTH

1. BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1
2. ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.
3. MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

KEY PLAN



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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

100 I SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
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13-20102-00

ROOF FRAMING PLAN - AREA D

S2.2D

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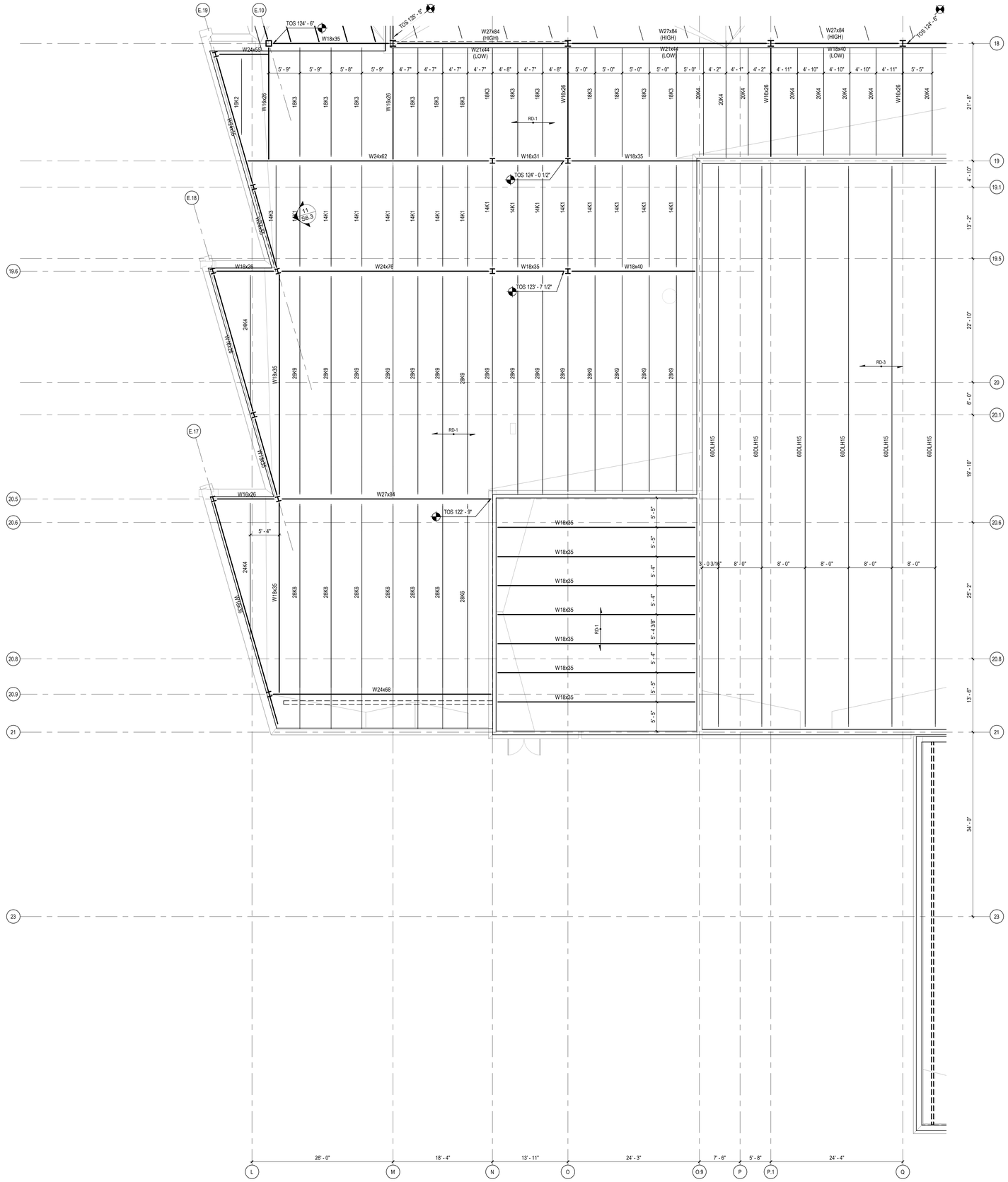
E.19
E.10
E.18
E.17
TOS 124' - 6"
TOS 126' - 5"
TOS 124' - 6"
W18x35
W24x50
W27x84 (HIGH)
W21x44 (LOW)
W27x84 (HIGH)
W21x44 (LOW)
W27x84 (HIGH)
W18x40 (LOW)
5' - 9"
5' - 9"
5' - 8"
5' - 9"
4' - 7"
4' - 7"
4' - 7"
4' - 7"
4' - 8"
4' - 7"
4' - 8"
5' - 0"
5' - 0"
5' - 0"
5' - 0"
5' - 0"
4' - 2"
4' - 1"
4' - 2"
4' - 11"
4' - 10"
4' - 10"
4' - 10"
4' - 11"
5' - 5"
W16x26
W16x28
18K2
18K3
14K1
14K3
20K4
24K4
RD-1
RD-3
W24x62
W16x31
W18x35
W18x40
W24x76
W16x36
28K6
28K9
W24x94
W24x68
W18x26
W18x30
W18x50
W18x55
W18x65
W18x76
W18x86
W18x106
W18x119
W18x130
W18x143
W18x158
W18x192
W18x211
W18x234
W18x258
W18x283
W18x311
W18x352
W18x370
W18x406
W18x443
W18x473
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W18x528
W18x550
W18x589
W18x619
W18x643
W18x673
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W18x933
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W18x1578
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W18x1642
W18x1675
W18x1706
W18x1739
W18x1770
W18x1803
W18x1834
W18x1867
W18x1898
W18x1931
W18x1962
W18x1995
W18x2026
W18x2059
W18x2090
W18x2123
W18x2154
W18x2187
W18x2218
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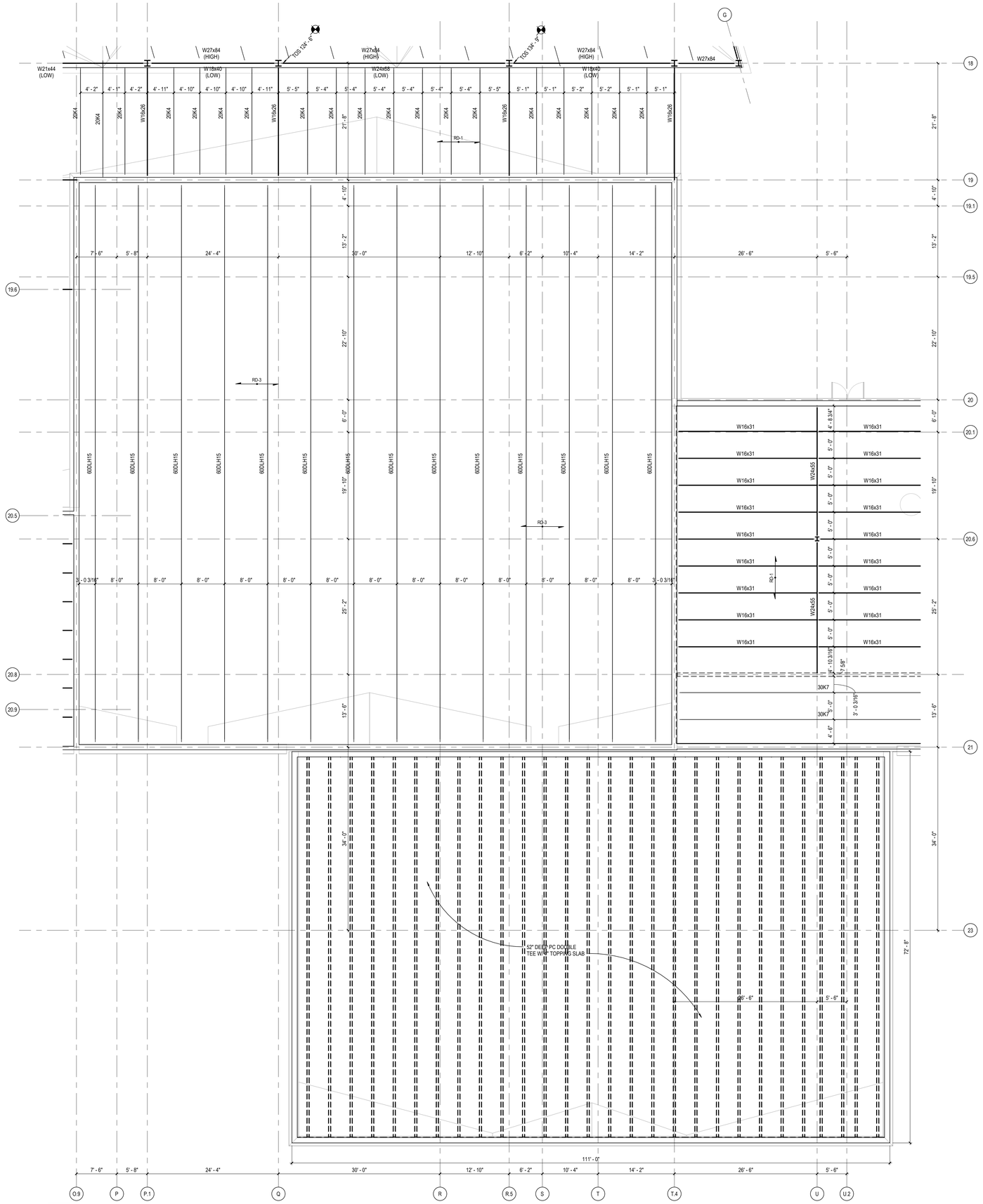
W18x2474
W18x2507



ROOF FRAMING PLAN - AREA F

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

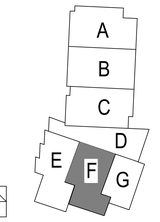
NORTH

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1.

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

KEY PLAN



NORTH

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LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

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ROOF FRAMING PLAN - AREA F

S2.2F

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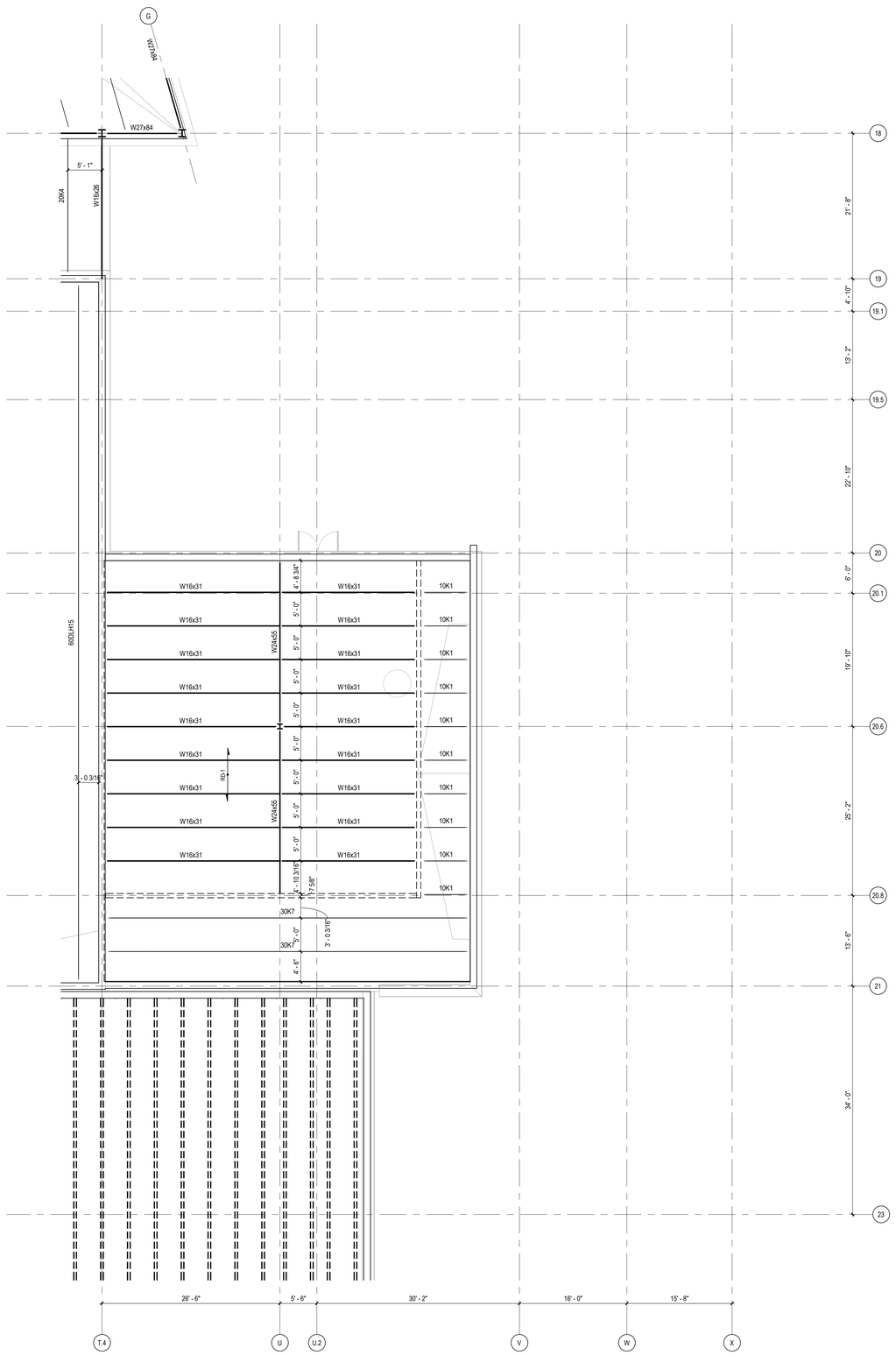


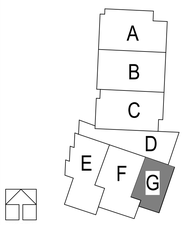
ROOF FRAMING PLAN - AREA G

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

NORTH

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1
2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.
3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

KEY PLAN



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LEE'S SUMMIT R-7 SCHOOL DISTRICT

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LEE'S SUMMIT, MO 64081

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ROOF FRAMING PLAN - AREA G

S2.2G

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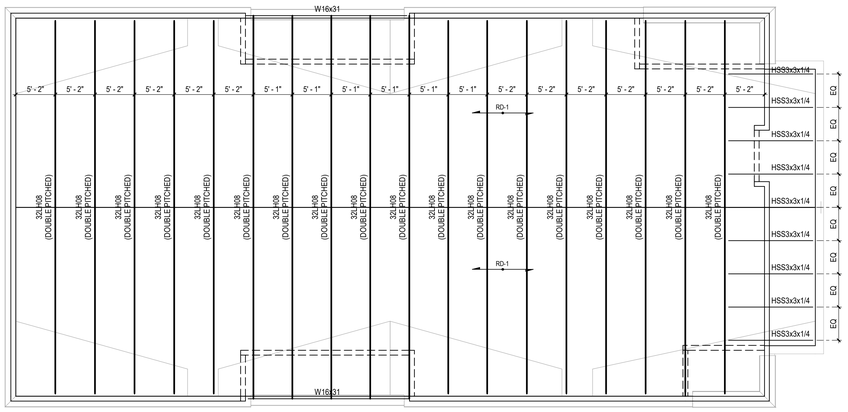
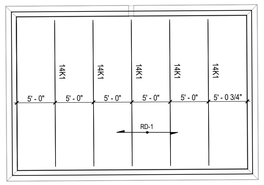


ROOF FRAMING PLAN - AREA S

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



ROOF FRAMING PLAN - AREA T

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

1 BOTTOM FLANGE BRACE PER TYPICAL DETAIL PER 56/S4.2 AND 51/S5.1

2 ROOF HATCH PER ARCHITECTURAL DRAWINGS. PROVIDE 22/S5.1.

3 MECHANICAL UNIT OF MAXIMUM WEIGHT INDICATED, CONFIRM WITH MECHANICAL SUPPLIER.

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ROOF FRAMING PLAN - AREAS S & T

S2.2S

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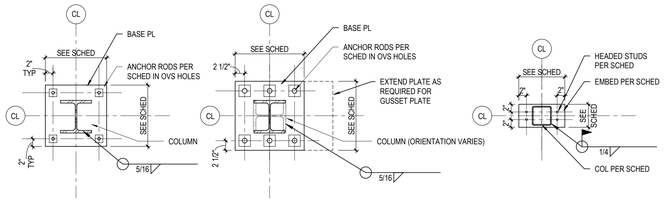
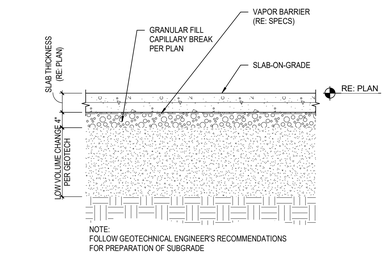


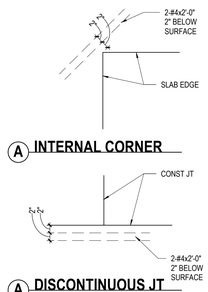
BP1 **BP2** **BP3**

11 S3.1 COLUMN BASE PLATE DETAILS
SCALE: 3/4" = 1'-0"



NOTE:
FOLLOW GEOTECHNICAL ENGINEER'S RECOMMENDATIONS FOR PREPARATION OF SUBGRADE

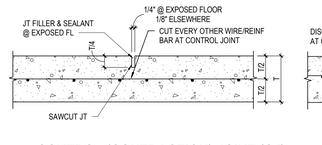
13 S3.1 TYP SLAB-ON-GRADE DETAIL
SCALE: 3/4" = 1'-0"



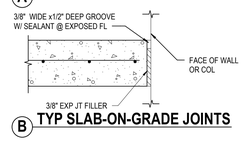
A INTERNAL CORNER

A DISCONTINUOUS JT INTERSECTION

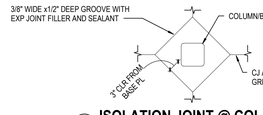
14 S3.1 TYP SLAB-ON-GRADE
SCALE: 3/4" = 1'-0"



A CONTROL (CONTRACTION) JOINT (CJ) **C CONSTRUCTION JOINT (CONST JT)**



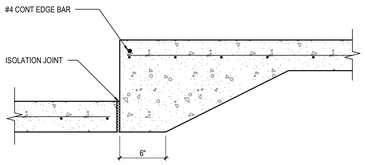
B TYP SLAB-ON-GRADE JOINTS



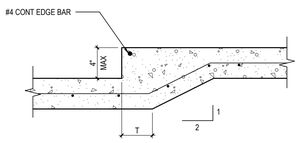
D ISOLATION JOINT @ COL

NOTES:
1. CONTROL JOINTS SHALL BE SPACED AT INTERVALS < 12'-0" OC IN EACH DIRECTION.
2. CONTRACTOR SHALL COORDINATE JOINT SPACING WITH ARCHITECTURAL REQUIREMENTS AS APPLICABLE. SUBMIT JOINT LAYOUT FOR ARCHITECT / ENGINEER'S REVIEW.
3. JOINT LAYOUT SHOULD BE RELATIVELY SQUARE WHENEVER POSSIBLE. LENGTH / WIDTH ASPECT RATIO SHALL BE LESS THAN 2:1.

15 S3.1 TYP SLAB-ON-GRADE JOINTS
SCALE: 3/4" = 1'-0"

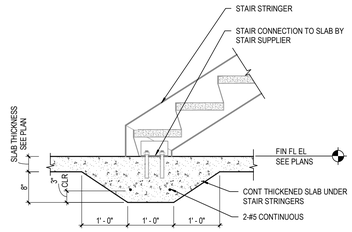


21 S3.1 TYP FLOOR SLAB RECESS DETAIL
SCALE: 1 1/2" = 1'-0"

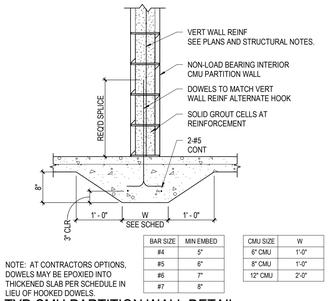


NOTE:
SEE ARCHITECTURAL PLANS FOR LOCATION OF RECESSED SLABS

22 S3.1 TYP FLOOR SLAB RECESS DETAIL
SCALE: 1 1/2" = 1'-0"



23 S3.1 TYP STRINGER FOUNDATION DETAIL
SCALE: 3/4" = 1'-0"

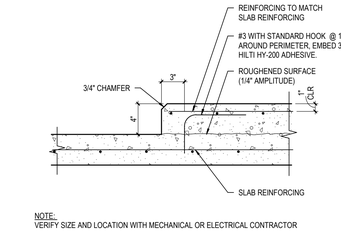


BAR SIZE	MIN EMBED
#4	5"
#5	6"
#6	7"
#7	8"

CMU SIZE	W
6" CMU	1'-0"
8" CMU	1'-0"
12" CMU	2'-0"

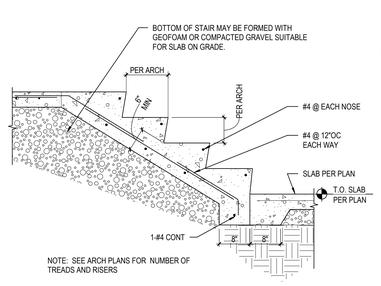
NOTE: AT CONTRACTORS OPTIONS, DOWELS MAY BE EPOXIED INTO THICKENED SLAB PER SCHEDULE IN LIEU OF HOOKED DOWELS.

24 S3.1 TYP CMU PARTITION WALL DETAIL
SCALE: 3/4" = 1'-0"



NOTE:
VERIFY SIZE AND LOCATION WITH MECHANICAL OR ELECTRICAL CONTRACTOR

25 S3.1 TYP CONC PAD DETAIL
SCALE: 1 1/2" = 1'-0"



NOTE: SEE ARCH PLANS FOR NUMBER OF TREADS AND RISERS

26 S3.1 TYP INTERIOR ON-GRADE CONCRETE STAIR DETAIL
SCALE: 3/4" = 1'-0"

NOTE: STOP ALTERNATE HORIZONTAL BARS AT JOINT. SEE ARCH FOR CJ LOCATIONS.

A WALL CONTROL JT **B WALL CONST JT**

NOTE:
JOINTS SPACING SHALL NOT EXCEED THE SMALLER OF 25 FEET OR 3 TIMES THE WALL HEIGHT.

31 S3.1 TYP CONC WALL JOINT DETAIL
SCALE: 3/4" = 1'-0"

NOTE: INTERSECTION BARS TO BE SAME SIZE AND SPACING AS THE HORIZONTAL BARS.

A DOUBLE LAYER **B SINGLE LAYER**

32 S3.1 TYP WALL INTERSECTION REINF DETAIL
SCALE: 3/4" = 1'-0"

NOTE: CORNER BARS TO BE SAME SIZE AND SPACING AS THE HORIZONTAL BARS.

A DOUBLE LAYER **B SINGLE LAYER**

33 S3.1 TYP WALL REINF DETAIL
SCALE: 3/4" = 1'-0"

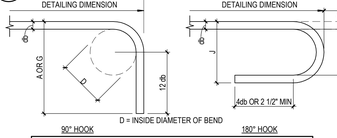
34 S3.1 TYP FTG REINF DETAIL
SCALE: 3/4" = 1'-0"

NOTE:
FOR FOOTING ELEVATIONS, DEPTH AND REINFORCING, SEE PLANS AND TYPICAL FOOTING DETAIL.

35 S3.1 TYP BOT STEP FTG DETAIL
SCALE: 3/4" = 1'-0"

NOTE:
FOR FOOTING ELEVATION DEPTH, AND REINFORCING, SEE PLANS AND TYP FOOTING DETAIL.

36 S3.1 TYP STEP FOOTING DETAIL
SCALE: 3/4" = 1'-0"



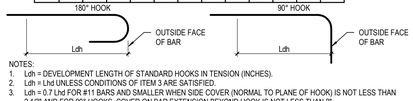
D = INSIDE DIAMETER OF BEND

RECOMMENDED END HOOKS, ALL GRADES					
BAR SIZE	FINISHED BEND DIAMETER (D)(IN)	180° HOOKS		90° HOOKS	
		A OR G (IN)	J (IN)	A OR G (IN)	
#3	2 1/4	5	3	6	
#4	3	6	4	8	
#5	3 3/4	7	5	10	
#6	4 1/2	8	6	12	
#7	5 1/4	10	7	14	
#8	6	11	8	16	
#9	9 1/2	15	11 3/4	19	
#10	10 3/4	17	13 1/4	22	
#11	12	19	14 3/4	24	
#14	18 1/4	27	21 3/4	31	
#18	24	36	28 1/2	41	

41 S3.1 END HOOK TYPES
SCALE: 3/4" = 1'-0"

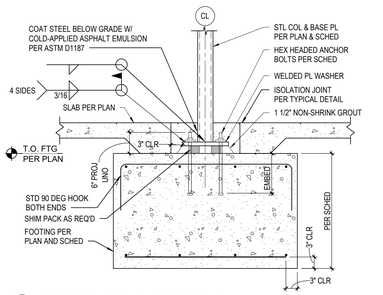
DEVELOPMENT LENGTHS OF STANDARD HOOKS IN TENSION , GRADE 60 REINFORCEMENT IN NORMAL WEIGHT CONCRETE

BAR SIZE	F'c = 3,000		F'c = 4,000		F'c = 5,000		F'c = 6,000		F'c = 7,000		F'c = 8,000	
	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh
#3	8	6	7	6	6	6	6	6	6	6	6	6
#4	11	8	9	7	8	6	8	6	7	6	7	6
#5	14	10	12	8	11	7	10	7	9	6	8	6
#6	16	12	14	10	13	9	12	8	11	8	10	7
#7	19	13	17	12	15	10	14	9	13	9	12	8
#8	22	15	19	13	17	12	15	11	14	10	13	9
#9	25	17	21	15	19	13	17	12	16	11	15	11
#10	28	19	24	17	22	15	20	14	18	13	17	12
#11	31	22	27	19	24	17	22	15	20	14	19	13
#14	37	NA	32	NA	29	NA	26	NA	24	NA	23	NA
#18	49	NA	43	NA	38	NA	35	NA	32	NA	30	NA



NOTES:
1. Ldh = DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION (INCHES).
2. Ldh = Lhd UNLESS CONDITIONS OF ITEM 3 ARE SATISFIED.
3. Ldh = 0.7 Lhd FOR #11 BARS AND SMALLER WHEN SIDE COVER (NORMAL TO PLANE OF HOOK) IS NOT LESS THAN 2 1/2" AND FOR 90° HOOKS, COVER ON BAR EXTENSION BEYOND HOOK IS NOT LESS THAN 2".
4. HOOKS ARE NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.
5. Ldh SHALL BE MULTIPLIED BY 1.2 FOR EPOXY-COATED HOOKED BARS.

42 S3.1 DEVELOP LENGTHS OF STD HOOKS
SCALE: 3/4" = 1'-0"



46 S3.1 TYP COLUMN BASE DETAIL
SCALE: 3/4" = 1'-0"

ACI TENSION LAP SPLICE LENGTHS (IN) FOR f'c = 4,000 PSI

BAR SIZE	LAP CLASS	f'c=4000 PSI			
		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2
#3	A	18	28	14	21
	B	24	36	18	28
#4	A	25	37	19	28
	B	32	48	25	37
#5	A	31	46	24	36
	B	40	60	31	46
#6	A	37	55	28	43
	B	48	72	37	55
#7	A	54	81	42	62
	B	70	105	54	81
#8	A	62	92	47	71
	B	80	120	62	92
#9	A	70	104	54	80
	B	90	136	70	104
#10	A	78	117	60	90
	B	102	153	78	117
#11	A	87	130	67	100
	B	113	170	87	130

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE.
2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE BASED ON ACI 318-02, SECTIONS 12.2.2 AND 12.15, RESPECTIVELY. TABULATED VALUES FOR BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING THE MIN CODE REQUIREMENTS. LENGTHS ARE IN INCHES.
3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS:

BEAMS OR COLUMNS	CASE 1	COVER AT LEAST 1db AND c-c SPACING AT LEAST 2db
	CASE 2	COVER LESS THAN 1db AND c-c SPACING LESS THAN 2db
ALL OTHERS	CASE 1	COVER AT LEAST 1db AND c-c SPACING AT LEAST 3db
	CASE 2	COVER LESS THAN 1db AND c-c SPACING LESS THAN 3db

4. LAP CLASS A VALUES ARE THE REQUIRED TENSION DEVELOPMENT LENGTH, Id. LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS. CLASS A = 1.0 Id AND CLASS B = 1.3 Id ACI 138-02, SECTION 12.15.1.
5. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
6. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3; OR WHEN fct IS SPECIFIED, THE FACTOR IS 6.6√fct/≤1.0
7. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:

CONCRETE COVER AND SPACING	TOP BARS	OTHER BARS
COVER < 3db OR c-c SPACING < 7db	1.7/1.3=1.31	1.50
COVE ≥ 3db AND c-c SPACING ≥ 7db R	1.20	1.20

51 S3.1 CONCRETE REINFORCING LAP SPLICE SCHEDULE
SCALE: 3/4" = 1'-0"

SLAB ON GRADE SCHEDULE

MARK	DESCRIPTION
S-1	4" NORMAL WEIGHT CONCRETE SLAB-ON-GRADE W/ 6x6-W2.1xW2.1 WELDED WIRE REINF. ON 15 MIL VAPOR BARRIER OVER 4" GRANULAR FILL
S-2	6" NORMAL WEIGHT CONCRETE SLAB-ON-GRADE W/ #4 @ 16" EW REINF ON 15 MIL VAPOR BARRIER OVER 4" GRANULAR FILL

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND ELEVATIONS OF DRAINS.

STEEL COLUMN SCHEDULE

MARK	SIZE	BASE PLATE TYPE	BASE PLATE DIMENSIONS	ANCHOR BOLTS	NOTES
C1	W8x48	TYPE 1	PL1"x16"x1'-4	(4) 3/4"Ø, 12" EMBED	
C2	W12x72	TYPE 1	PL1"x20"x1'-8"	(4) 3/4"Ø, 12" EMBED	
C3	HSS12x12x3/8	TYPE 1	PL1"x20"x1'-8"	(4) 3/4"Ø, 12" EMBED	
C4	W8x31	TYPE 1	PL1"x16"x1'-4	(4) 3/4"Ø, 12" EMBED	
C5	W12x79	TYPE 1	PL1"x20"x1'-8"	(4) 3/4"Ø, 12" EMBED	
C6	HSS6x6x1/4	TYPE 1	PL1"x16"x1'-4	(4) 3/4"Ø, 12" EMBED	
C7	W10X49	TYPE 1	PL1"x20"x1'-8"	(4) 3/4"Ø, 12" EMBED	
C8	W8x35	TYPE 1	PL1"x16"x1'-4	(4) 3/4"Ø, 12" EMBED	
C9	HSS10x10x3/8	TYPE 1	PL1"x16"x1'-4	(4) 3/4"Ø, 12" EMBED	
C10	W8x48	TYPE 2	PL1-1/2"x16"x1'-4	(6) 1-1/4"Ø, 18" EMBED	
C11	W12x72	TYPE 2	PL1-1/2"x20"x1'-8"	(6) 1-1/4"Ø, 18" EMBED	
C12	HSS5x5x3/8	TYPE 3	PL1/2x6x1'-0"	(4) 1/2"Ø HSA 5" EMBED	

NOTES:
1. REFER TO STRUCTURAL GENERAL NOTES AND SPECIFICATIONS FOR ANCHOR BOLT TYPE.
2. ALL ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55, WELDABLE, UNLESS NOTED OTHERWISE.
3. PROVIDE AISC STANDARD PLATE WASHERS WITH STD HOLES FOR ALL ANCHOR BOLTS.
4. REFERENCE 11/S3.01 FOR COLUMN BASE PLATE DETAILS.
5. ALL EXTERIOR EXPOSED COLUMNS, BASE PLATES, AND ANCHOR BOLTS SHALL BE GALVANIZED.

SPREAD FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT
F1	PER PLAN x 3'-0" THICK	#6 @ 12" OC EW T/B
F3	3'-0"x3'-0"x3'-0"	(4) #6 EW T/B
F6	6'-0"x6'-0"x3'-0"	(6) #6 EW T/B
F6B	6'-0"x6'-0"x2'-0"	(6) #6 EW T/B
F8	8'-0"x8'-0"x3'-0"	(8) #6 EW T/B
F8B	8'-0"x8'-0"x2'-0"	(8) #6 EW T/B
F9	9'-0"x9'-0"x3'-0"	(9) #6 EW T/B
F10	10'-0"x10'-0"x3'-0"	(10) #6 EW T/B
F10B	10'-0"x10'-0"x2'-0"	(12) #6 EW T/B
F12	12'-0"x12'-0"x3'-0"	(13) #6 EW T/B
F12B	12'-0"x12'-0"x2'-6"	(16) #6 EW T/B
F13	13'-0"x13'-0"x3'-0"	(12) #8 EW T/B
F14	10'-0"x13'-0"x3'-0"	(12) #8 EW T/B
F15	12'-0"x15'-0"x3'-0"	(15) #8 EW T/B
F16	14'-0"x16'-0"x3'-0"	(16) #8 EW T/B

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

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FOUNDATION TYPICAL DETAILS

S3.1

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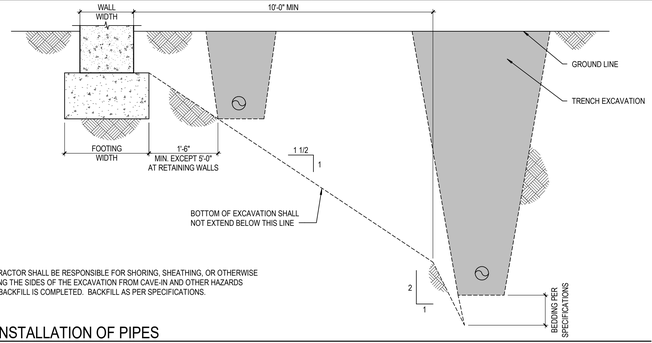
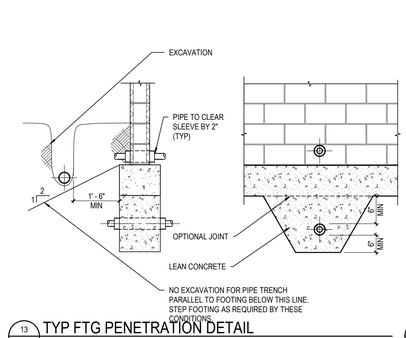
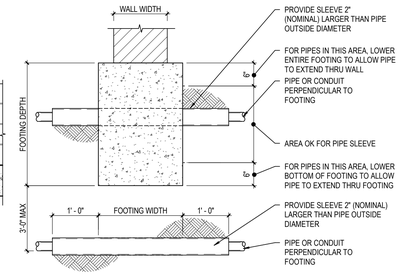


NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING, SHEATHING, OR OTHERWISE MAINTAINING THE SIDES OF THE EXCAVATION FROM CAVE-IN AND OTHER HAZARDS UNTIL ALL BACKFILL IS COMPLETED. BACKFILL AS PER SPECIFICATIONS.

11 S3.2 TYP INSTALLATION OF PIPES
SCALE: 3/4" = 1'-0"

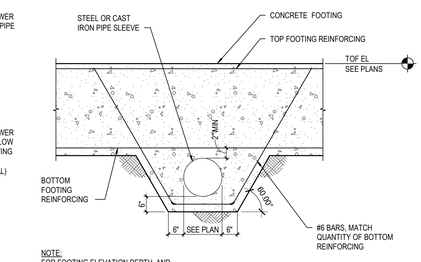


13 S3.2 TYP FTG PENETRATION DETAIL
SCALE: 1/2" = 1'-0"



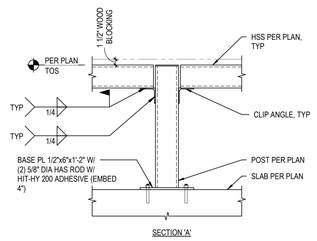
NOTE:
1. FOR PIPES 3'-0" OR LESS BELOW FOOTING, PROVIDE SLEEVE AS SHOWN.
2. FOR PIPES AND CONDUITS MORE THAN 3'-0" BELOW FOOTING, PIPE SLEEVE MAY BE ELIMINATED.
3. COORDINATE WITH MECHANICAL, ELECTRICAL, AND ALL OTHER EFFECTED TRADES.

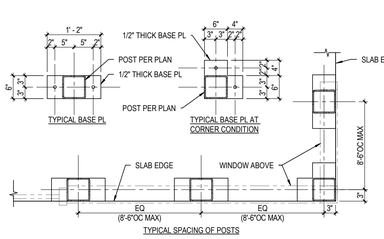
14 S3.2 TYP INSTALLATION OF PIPES
SCALE: 3/4" = 1'-0"



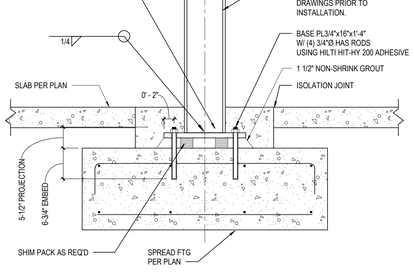
NOTE:
FOR FOOTING ELEVATION DEPTH, AND REINFORCING, SEE PLANS AND TYP FOOTING DETAIL

15 S3.2 TYP PIPE SLEEVE DETAIL
SCALE: 1/2" = 1'-0"

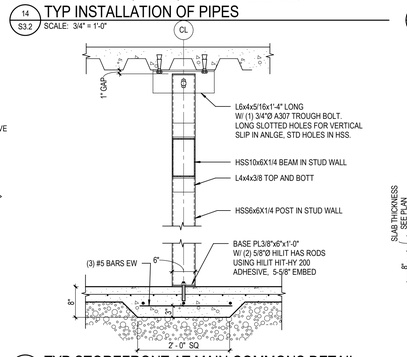




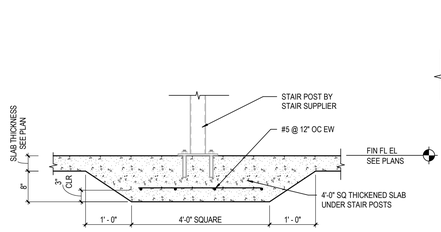
21 S3.2 TYP WINDOW OR LOUVER FRAMING SUPPORTS
SCALE: 3/4" = 1'-0"



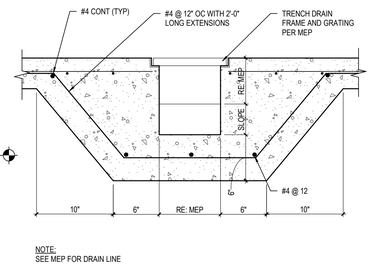
23 S3.2 TYPICAL WF POST CONNECTION DETAIL
SCALE: 1" = 1'-0"



24 S3.2 TYP STOREFRONT AT MAIN COMMONS DETAIL
SCALE: 3/4" = 1'-0"



25 S3.2 TYP STAIR POST BASE DETAIL
SCALE: 3/4" = 1'-0"



NOTE:
SEE MEP FOR DRAIN LINE

26 S3.2 TYP TRENCH DRAIN DETAIL
SCALE: 1 1/2" = 1'-0"

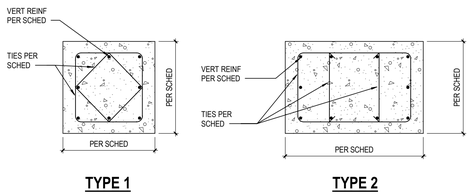
31 S3.2 TYPICAL MECHANICAL EQUIPMENT FOUNDATION
SCALE: 3/4" = 1'-0"

33 S3.2 TYP REINFORCED WALL OPENING DETAIL
SCALE: 3/8" = 1'-0"

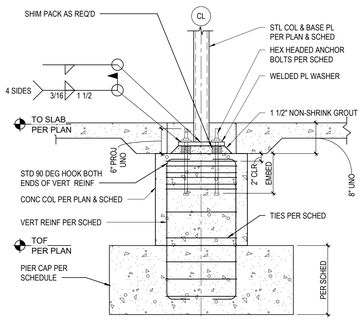
NOTE:
REFERENCE ARCHITECTURAL DRAWINGS FOR PARTIAL HEIGHT WALL LOCATIONS.

35 S3.2 TYP PARTIAL HEIGHT WALL SUPPORT DETAIL
SCALE: 3/4" = 1'-0"

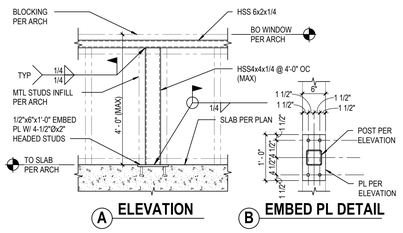
CONC COLUMN SCHEDULE				
MARK	SIZE	VERTICAL REINFORCEMENT	TIES	TYPE
CC1	24 x 24	(8) #8 VERT	#4 TIES 6@3/R@12	TYPE 1
CC2	24 x 36	(12) #8 VERT	#4 TIES 6@3/R@12	TYPE 2



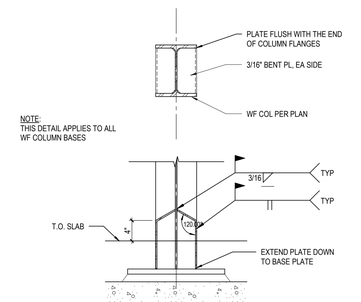
41 S3.2 CONCRETE COLUMN SCHEDULE & REINF DETAILS
SCALE: 3/4" = 1'-0"



44 S3.2 TYP COLUMN BASE ON CONC COLUMN DETAIL
SCALE: 3/4" = 1'-0"



51 S3.2 TYPICAL DETAIL
SCALE: 3/4" = 1'-0"



54 S3.2 TYP WF BASE CLOSURE PLATE DETAIL
SCALE: 1" = 1'-0"

56 S3.2 TYP ELEVATOR PIT DETAIL
SCALE: 1/2" = 1'-0"

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S3.2

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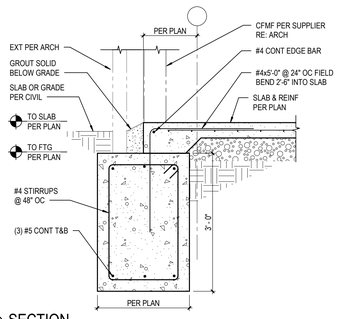
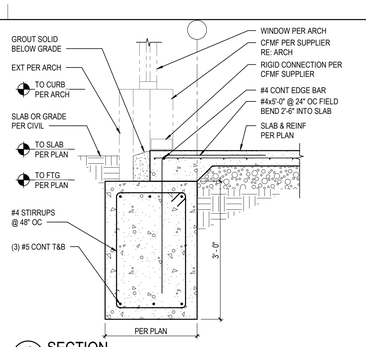


11 S3.5 SECTION
SCALE: 3/4" = 1'-0"



12 S3.5 SECTION
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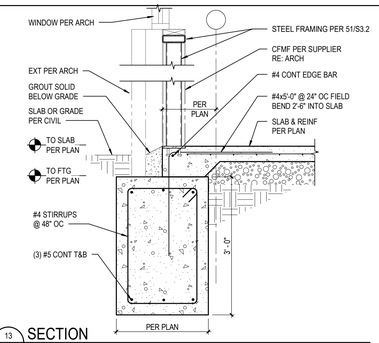

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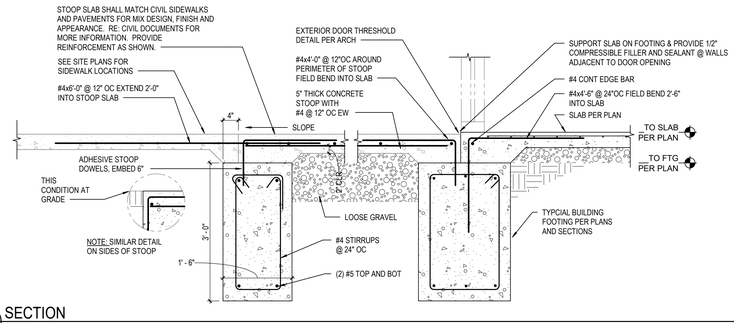

14 S3.5 SECTION
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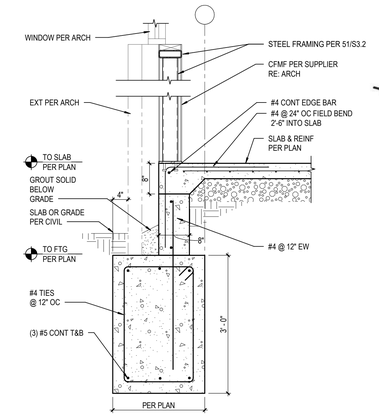

26 S3.5 SECTION
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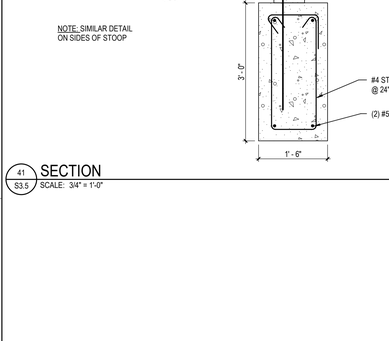

21 S3.5 SECTION
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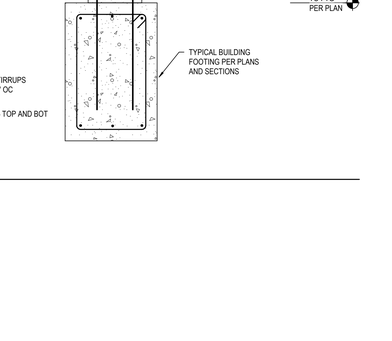
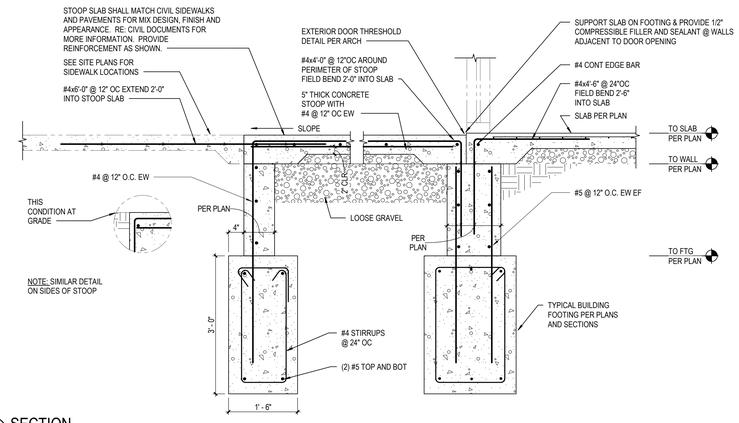


22 S3.5 SECTION
SCALE: 3/4" = 1'-0"

23 S3.5 SECTION
SCALE: 3/4" = 1'-0"

24 S3.5 SECTION
SCALE: 3/4" = 1'-0"



41 S3.5 SECTION
SCALE: 3/4" = 1'-0"

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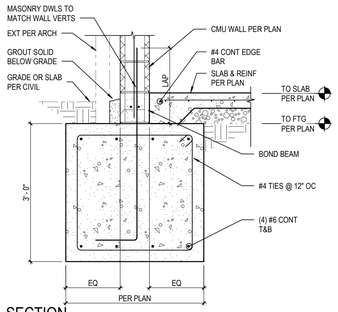
FOUNDATION SECTIONS

S3.5



11 S3.7 SECTION
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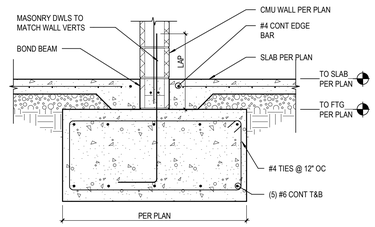

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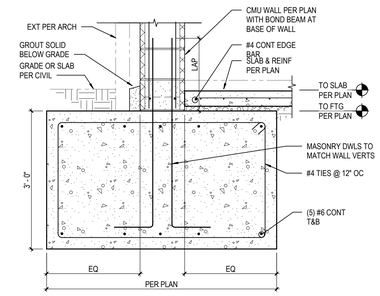
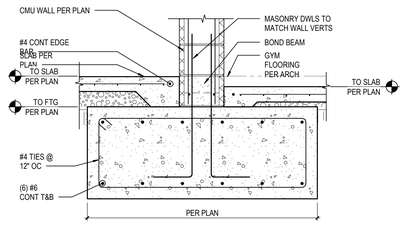
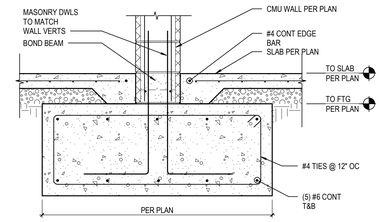


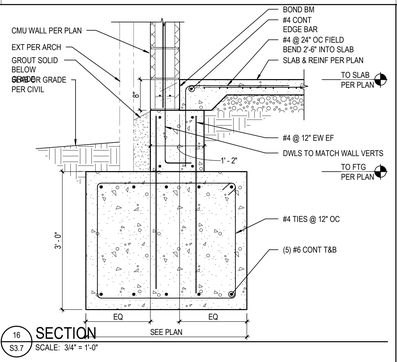
13 S3.7 SECTION
SCALE: 3/4" = 1'-0"



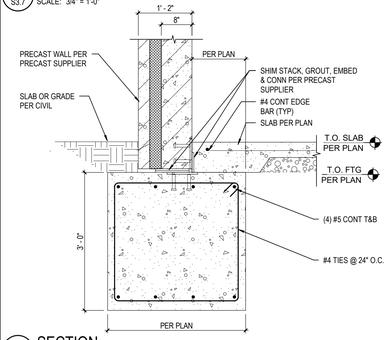
14 S3.7 SECTION
SCALE: 3/4" = 1'-0"



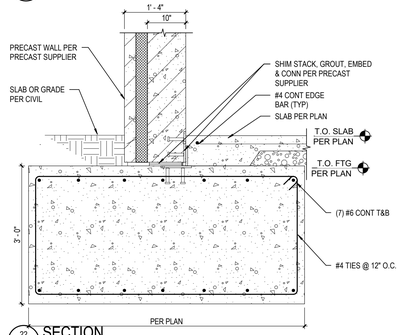
15 S3.7 SECTION
SCALE: 3/4" = 1'-0"



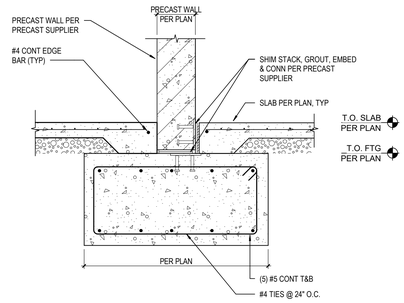
16 S3.7 SECTION
SCALE: 3/4" = 1'-0"



21 S3.7 SECTION
SCALE: 3/4" = 1'-0"



22 S3.7 SECTION
SCALE: 3/4" = 1'-0"



23 S3.7 SECTION
SCALE: 3/4" = 1'-0"

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- NOT FOR CONSTRUCTION -

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

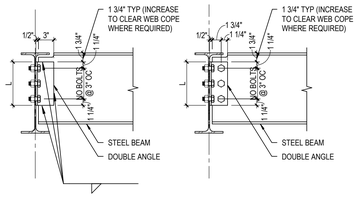
FOUNDATION SECTIONS

S3.7

BIM 360://13-201102-00 Lees Summit Middle School 4/13-201102-00_Lee's Summit Middle School 4_ST_2020.rvt
8/28/2020 11:38:41 AM

CONNECTION SCHEDULE		
BM SIZE	MIN NO OF BOLTS	L=ANGLE LENGTH
W8, W10	2	5 1/2"
W12, W14	3	8 1/2"
W16, W18	4	11 1/2"
W21	5	14 1/2"
W24	6	17 1/2"
W27	7	20 1/2"
W30, W33	8	23 1/2"
W36	9	26 1/2"

NOTES:
1. USE SIMILAR CONNECTION AT WIDE FLANGE COLUMN FLANGE OR WEB.
2. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN W/ MIN NUMBER OF BOLTS PER THIS SCHEDULE.
3. IF NO REACTIONS ARE PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 THE MAXIMUM TOTAL UNIFORM LRFD LOAD BASED ON SPAN LISTED IN TABLE 3-6 OF THE AISC STEEL CONNECTION MANUAL.

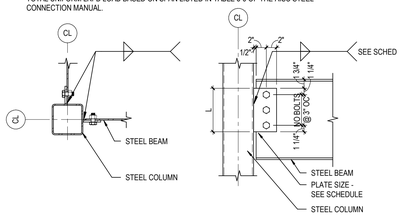


A WELDED CONN B BOLTED CONN

21 S4.1 TYP STEEL BEAM CONNECTION DETAIL
SCALE: 1" = 1'-0"

CONNECTION SCHEDULE		
EACH BM SIZE	MIN NO OF BOLTS	L=ANGLE LENGTH
W8, W10	2	5 1/2"
W12, W14	3	8 1/2"
W16, W18	4	11 1/2"
W21	5	14 1/2"
W24	6	17 1/2"
W27	7	20 1/2"
W30, W33	8	23 1/2"
W36	9	26 1/2"

NOTES:
1. USE SIMILAR CONNECTION AT WIDE FLANGE COLUMN FLANGE OR WEB.
2. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN W/ MIN NUMBER OF BOLTS PER THIS SCHEDULE.
3. IF NO REACTIONS ARE PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 THE MAXIMUM TOTAL UNIFORM LRFD LOAD BASED ON SPAN LISTED IN TABLE 3-6 OF THE AISC STEEL CONNECTION MANUAL.

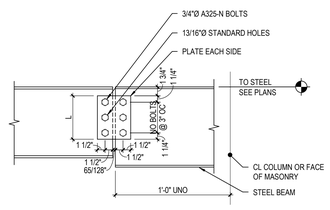


A PLAN B BOLTED CONN

22 S4.1 TYP STEEL BEAM CONNECTION DETAIL
SCALE: 1" = 1'-0"

CONNECTION SCHEDULE		
BM SIZE	MIN NO OF BOLTS	L=PLATE LENGTH
W8, W10	2	5 1/2"
W12, W14	3	8 1/2"
W16, W18	4	11 1/2"
W21	5	14 1/2"
W24	6	17 1/2"
W27	7	20 1/2"
W30, W33	8	23 1/2"
W36	9	26 1/2"

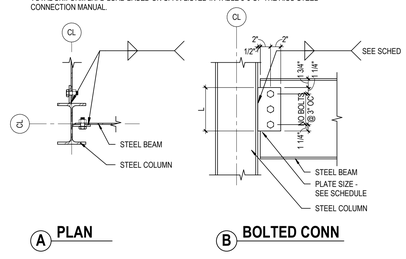
NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN W/ MIN NUMBER OF BOLTS PER THIS SCHEDULE.
2. IF NO REACTIONS ARE PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 THE MAXIMUM TOTAL UNIFORM LRFD LOAD BASED ON SPAN LISTED IN TABLE 3-6 OF THE AISC STEEL CONNECTION MANUAL.



23 S4.1 TYP STEEL BEAM CONNECTION DETAIL
SCALE: 1" = 1'-0"

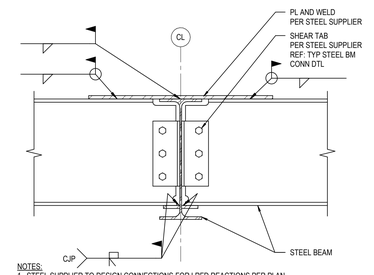
CONNECTION SCHEDULE		
EACH BM SIZE	MIN NO OF BOLTS	L=ANGLE LENGTH
W8, W10	2	5 1/2"
W12, W14	3	8 1/2"
W16, W18	4	11 1/2"
W21	5	14 1/2"
W24	6	17 1/2"
W27	7	20 1/2"
W30, W33	8	23 1/2"
W36	9	26 1/2"

NOTES:
1. USE SIMILAR CONNECTION AT WIDE FLANGE COLUMN FLANGE OR WEB.
2. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN W/ MIN NUMBER OF BOLTS PER THIS SCHEDULE.
3. IF NO REACTIONS ARE PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 THE MAXIMUM TOTAL UNIFORM LRFD LOAD BASED ON SPAN LISTED IN TABLE 3-6 OF THE AISC STEEL CONNECTION MANUAL.



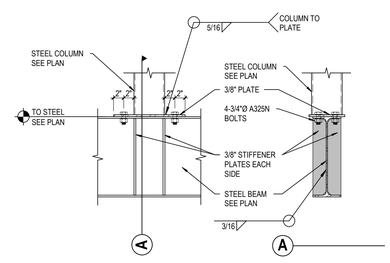
A PLAN B BOLTED CONN

24 S4.1 TYP STEEL BEAM CONNECTION DETAIL
SCALE: 1" = 1'-0"

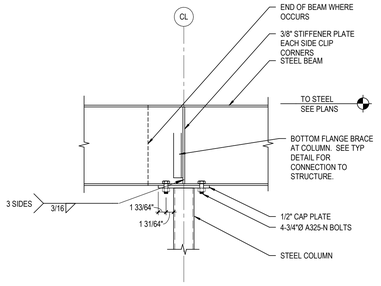


NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN.
2. IF NO REACTIONS ARE PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 THE MAXIMUM TOTAL UNIFORM LRFD LOAD BASED ON SPAN LISTED IN TABLE 3-6 OF THE AISC STEEL CONNECTION MANUAL.

15 S4.1 TYP WF BEAM MOMENT CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"

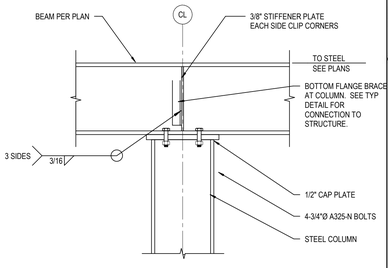


25 S4.1 COLUMN / BEAM CONNECTION DETAIL
SCALE: 1" = 1'-0"

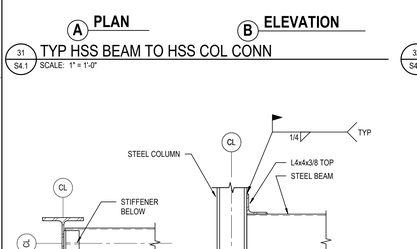


NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN.

16 S4.1 TYP BEAM OVER COLUMN DETAIL
SCALE: 1" = 1'-0"

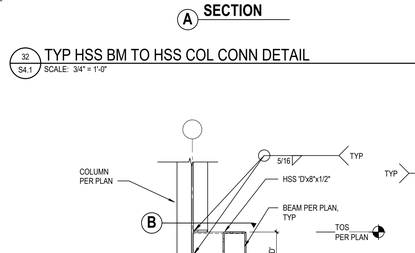


26 S4.1 TYP BEAM OVER COLUMN DETAIL
SCALE: 1" = 1'-0"

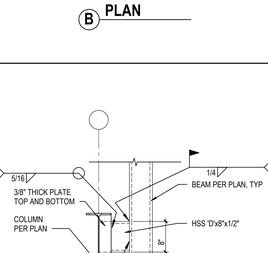


A PLAN B ELEVATION

31 S4.1 TYP HSS BEAM TO HSS COL CONN
SCALE: 1" = 1'-0"

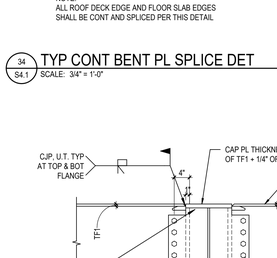


A SECTION



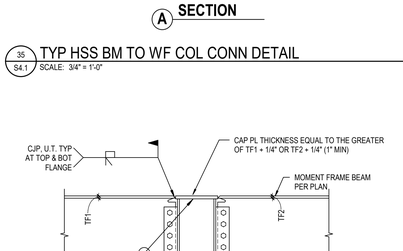
B PLAN

32 S4.1 TYP HSS BM TO HSS COL CONN DETAIL
SCALE: 3/4" = 1'-0"

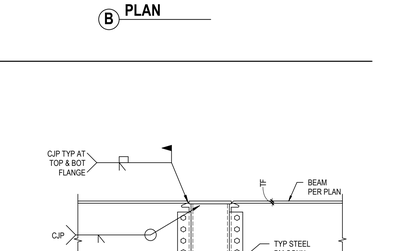


NOTE:
ALL ROOF DECK EDGE AND FLOOR SLAB EDGES SHALL BE CONT AND SPLICED PER THIS DETAIL

34 S4.1 TYP CONT BENT PL SPLICE DET
SCALE: 3/4" = 1'-0"



A SECTION



B PLAN

35 S4.1 TYP HSS BM TO WF COL CONN DETAIL
SCALE: 3/4" = 1'-0"

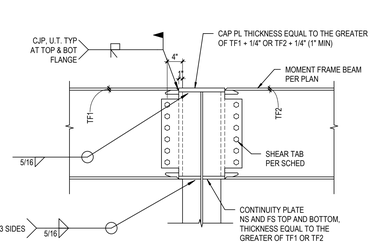
A PLAN B ELEVATION

41 S4.1 TYP HSS BEAM TO WF COL CONN
SCALE: 1" = 1'-0"

A SECTION

B PLAN

42 S4.1 TYP HSS BM TO WF COL CONN DETAIL
SCALE: 3/4" = 1'-0"



NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN.

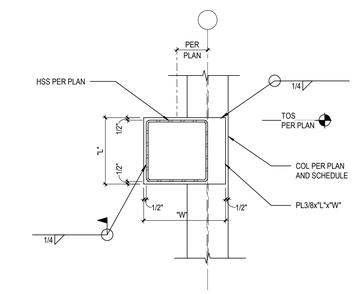
44 S4.1 TYP WF BEAM TO WF COL WEB MOMENT CONN DTL
SCALE: 3/4" = 1'-0"

NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN.

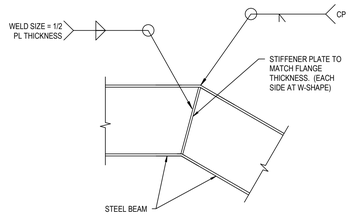
45 S4.1 TYP WF BEAM TO WF COL FLANGE MOMENT CONN DTL
SCALE: 3/4" = 1'-0"

NOTES:
1. STEEL SUPPLIER TO DESIGN CONNECTIONS FOR LRFD REACTIONS PER PLAN.

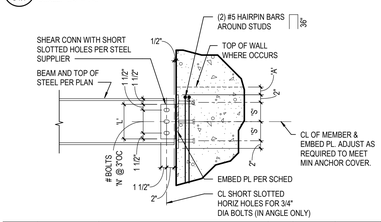
46 S4.1 TYP WF BEAM TO HSS COL MOMENT CONN DETAIL
SCALE: 3/4" = 1'-0"



51 S4.1 TYP OFFSET HSS TO WF COL CONN DTL
SCALE: 1" = 1'-0"



53 S4.1 BEAM MITER OR SPLICE DETAIL
SCALE: 1" = 1'-0"



MARK	EMBED PL	HEADED STUDS			'A'	Ru MAX	REMARKS
		'S'	GAGE	SIZE			
EP-1	3/4"x12"x2'-1"	7"	6"	(4) ROWS OF (2), (8) 3/4"Ø x 6" LONG	2"	55k	--
EP-2							

NOTE:
1. PROVIDE EP-X FOR ALL BEAMS, UNLESS NOTED OTHERWISE ON PLANS.
2. Ru MAX DENOTES THE MAXIMUM CAPACITY OF EMBED PLATE
3. EMBED PLATE REQUIRES A LARGER COVER AT TOP OF WALL CONDITIONS.

56 S4.1 TYP EMBED PLATE SCHEDULE
SCALE: 3/4" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

STEEL TYPICAL DETAILS

S4.1

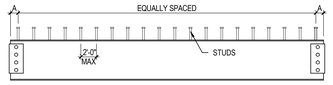
BIM 360://13-20102-00 Lees Summit Middle School #/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
8/28/2020 11:49:11 AM

A. BEAMS:

1. THE NUMBER SHOWN THUS (NO) FOLLOWING THE BEAM SIZE INDICATES THE NUMBER OF 3/4" HEADED STUDS TO BE PLACED ON THE BEAM. ALL BEAMS (AND GIRDERS) SHALL HAVE HEADED STUDS ATTACHED TO THE TOP FLANGE. IF NO SPECIFIC STUD QUANTITY IS NOTED ON PLANS, THE MAXIMUM STUD SPACING SHALL BE 2'-0"OC. DECK VALLEYS WITHOUT STUDS SHALL BE WELDED.

2. STUD PLACEMENT SHALL BE AS FOLLOWS:
   A. NUMBER OF STUDS IS LESS THAN THE NUMBER OF DECK VALLEYS.
      UNIFORMLY SPACE STUDS SYMMETRICALLY WITH THE BEAM CENTERLINE.
   B. NUMBER OF STUDS IS GREATER THAN THE NUMBER OF DECK VALLEYS.
      PLACE ONE STUD IN EACH VALLEY STARTING AT THE ENDS OF THE BEAM. WHEN TWO STUDS ARE REQUIRED, PLACE STUDS 1 1/2" EACH SIDE OF THE BEAM WEB.

NOTE: SPACE 'A' TO COORDINATE WITH DECK LAYOUT.

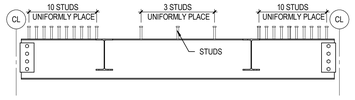


EXAMPLE LAYOUT

B. GIRDERS:

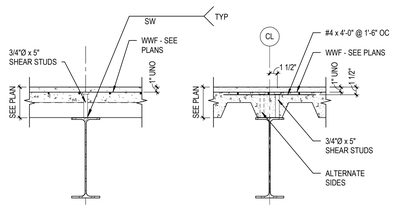
1. THE SERIES OF NUMBERS SHOWN THUS [NO-NO-NO] FOLLOWING THE GIRDER SIZE WHEN ADDED TOGETHER, REPRESENT THE TOTAL NUMBER OF STUDS TO BE PLACED ON THE GIRDER. FOR EXAMPLE, [10-3-10] REPRESENTS THE TOTAL OF 23 STUDS TO BE LOCATED ON THE GIRDER. THE FIRST AND LAST NUMBERS REPRESENTS THE NUMBER OF STUDS TO BE PLACED BETWEEN THE END OF THE GIRDER AND THE FIRST (OR LAST) INTERSECTING BEAM. THE MIDDLE NUMBER REPRESENTS THE NUMBER OR STUDS TO BE LOCATED BETWEEN THE TWO INTERSECTING BEAMS.

2. PLACE STUDS UNIFORMLY ALONG THE BEAMS OR PORTION OF BEAM INDICATED. CENTER THE STUDS OVER THE WEB AND PROVIDE A MAXIMUM SPACING OF 2'-0" AND A MINIMUM SPACING OF 4 1/2". IF THE REQUIRED NUMBER OF STUDS EXCEEDS WHAT CAN BE PLACED AT 4 1/2", PLACE A SECOND ROW OF STUDS SPACED AT 4 1/2" CENTERS STARTING AT THE END OF THE BEAM UNTIL THE REQUIRED NUMBER OF STUDS IS REACHED. WHEN TWO ROWS OF STUDS ARE REQUIRED, PLACE STUDS 1 1/2" EACH SIDE OF THE BEAM CENTER LINE.



EXAMPLE LAYOUT
EXAMPLE: [10-3-10]

11 S4.2 TYP STUD PLACEMENT DETAIL
SCALE: 1/2" = 1'-0"

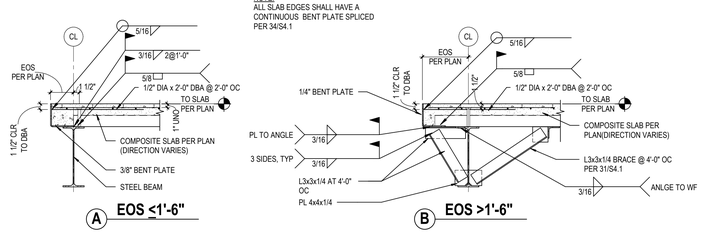


A AT COMP BEAM

B AT COMP GIRDER

NOTE:
PROVIDE DECK GIRDER FILLER PLATE IF REQUIRED.

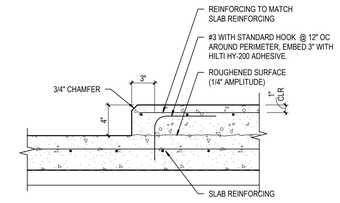
13 S4.2 TYP COMPOSITE BM & GIRDER DETAIL
SCALE: 1" = 1'-0"



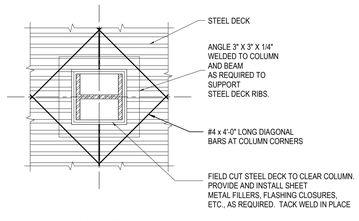
A EOS ≤1'-6"

B EOS >1'-6"

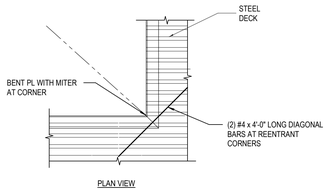
14 S4.2 TYP SLAB EDGE DETAIL
SCALE: 3/4" = 1'-0"



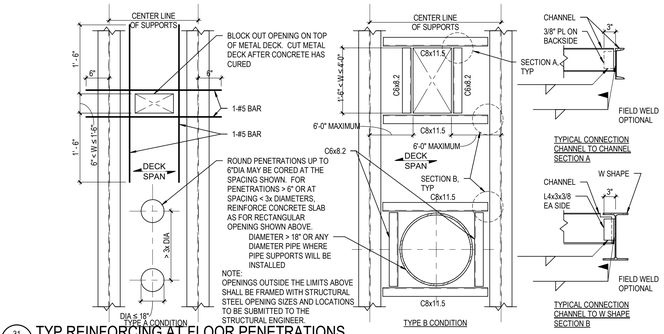
NOTE:
VERIFY SIZE AND LOCATION WITH MECHANICAL OR ELECTRICAL CONTRACTOR



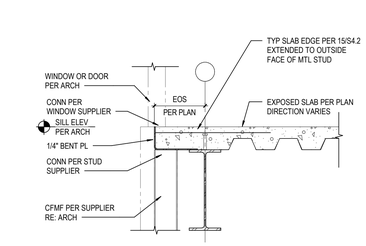
PLAN VIEW



PLAN VIEW

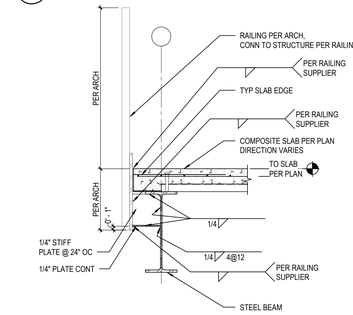


31 S4.2 TYP REINFORCING AT FLOOR PENETRATIONS
SCALE: 3/4" = 1'-0"

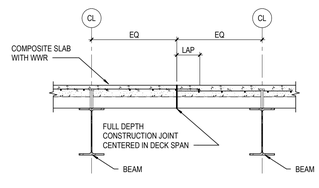


NOTE: SEE ARCHITECTURAL PLANS FOR FLOOR FINISH

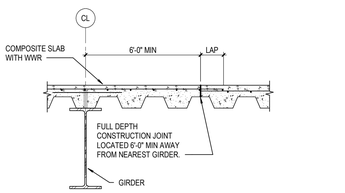
33 S4.2 TYP WINDOW AT FLOOR SLAB DETAIL
SCALE: 3/4" = 1'-0"



34 S4.2 TYP RAILING DETAIL
SCALE: 3/4" = 1'-0"



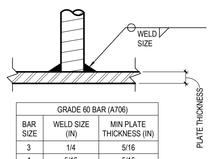
PERPENDICULAR TO DECK FLUTES



PARALLEL TO DECK FLUTES

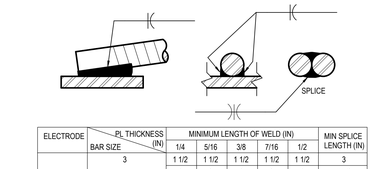
NOTE:
EXTEND WWR THROUGH CONSTRUCTION JOINT AND LAP PER SPECIFICATIONS

35 S4.2 TYP CONSTRUCTION JOINT IN COMPOSITE SLAB
SCALE: 3/4" = 1'-0"



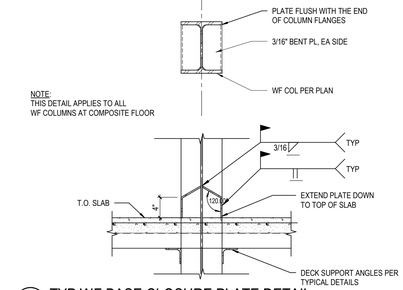
GRADE 60 BAR (A706)		
BAR SIZE	WELD SIZE (IN)	MIN PLATE THICKNESS (IN)
3	1/4	5/16
4	5/16	5/16
5	3/8	5/16
6	7/16	3/8
7	1/2	1/2
8	9/16	1/2
9	5/8	5/8
10	11/16	5/8
11	3/4	3/4

41 S4.2 BAR TO PLATE WELD SCHEDULE
SCALE: 3" = 1'-0"

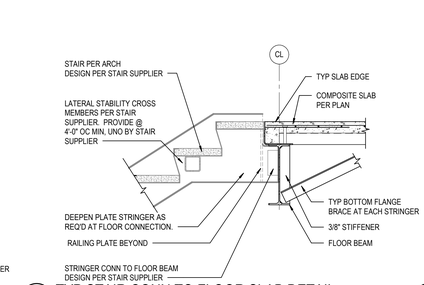


ELECTRODE	BAR SIZE	PL THICKNESS (IN)	MINIMUM LENGTH OF WELD (IN)				MIN SPLICE LENGTH (IN)
			1/4	5/16	3/8	7/16	1/2	
E70	3		1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	3
	4		2	2	2	2	2	4 1/2
	5		2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	5 1/4
	6		3	3	3	3	3	6
	7		3 3/4	3 1/4	3 1/4	3 1/4	3 1/4	6 3/4
	8		5	4	3 3/4	3 3/4	3 3/4	7 1/2
	9		6 1/4	5	4 1/4	4 1/4	4 1/4	9
	10		8	6 1/4	5 1/4	4 3/4	4 3/4	9 3/4
	11		9 3/4	7 3/4	6 1/2	5 1/2	5 3/4	10 1/2

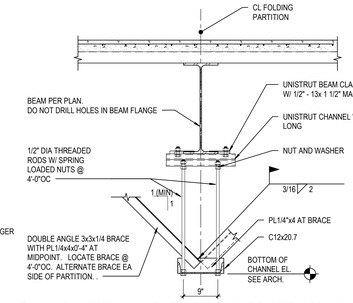
42 S4.2 WELD PARALLEL TO BAR SCHED
SCALE: 3" = 1'-0"



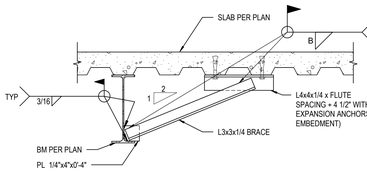
43 S4.2 TYP WF BASE CLOSURE PLATE DETAIL
SCALE: 1" = 1'-0"



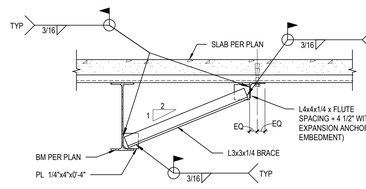
44 S4.2 TYP STAIR CONN TO FLOOR SLAB DETAIL
SCALE: 3/4" = 1'-0"



45 S4.2 TYP OPERABLE PARTITION SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



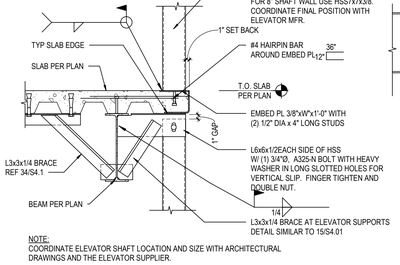
A BEAM PARALLEL TO DECK SPAN



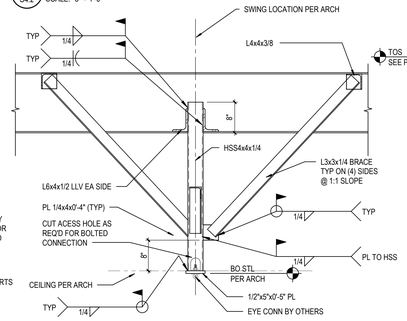
B BEAM PERPENDICULAR TO DECK SPAN

NOTES:
1. FIELD WELDING OF CONNECTION PLATES SHALL BE AT FABRICATOR'S OPTION.
2. SEE PLANS AND DETAILS FOR LOCATIONS OF BRACES.
3. CLIP CONNECTION PLATES TO CLEAR BEAM AND ANGLE FILLETS.

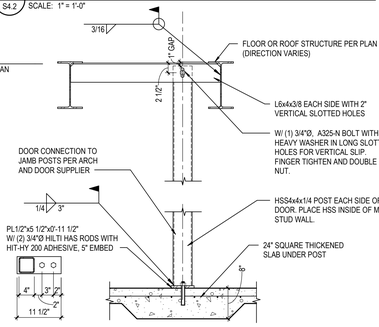
56 S4.2 TYP BOTTOM FLANGE BRACE DETAIL
SCALE: 3/4" = 1'-0"



51 S4.2 TYP ELEVATOR SHAFT DETAIL
SCALE: 3/4" = 1'-0"



52 S4.2 TYP SWING SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



53 S4.2 TYP OVERHEAD DOOR SUPPORT DETAIL
SCALE: 3/4" = 1'-0"

COMPOSITE FLOOR SLAB SCHEDULE	
MARK	DESCRIPTION
CS-1	4-1/2" SLAB ON 2" DEEP x 18 GA GALVANIZED COMPOSITE METAL DECK (6-1/2" TOTAL THICKNESS). REINFORCE SLAB WITH 6x6-W2.9xW2.9 WELDED WIRE REINF.

NOTES:
1. REFER TO FLOOR TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AT COMPOSITE BEAMS.
2. ALL REINFORCEMENT, INCLUDING WWR, SHALL BE PROPERLY CHAIRED BY THE CONTRACTOR.
3. REFERENCE GENERAL NOTES AND SPECIFICATIONS FOR FURTHER INFORMATION.

54 S4.2 COMPOSITE FLOOR SLAB SCHEDULE
SCALE: 3/4" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

FLOOR FRAMING TYPICAL DETAILS

S4.2

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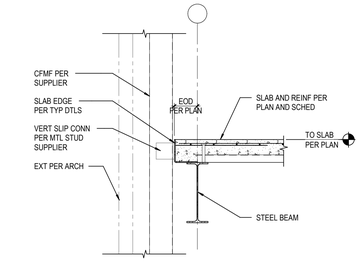
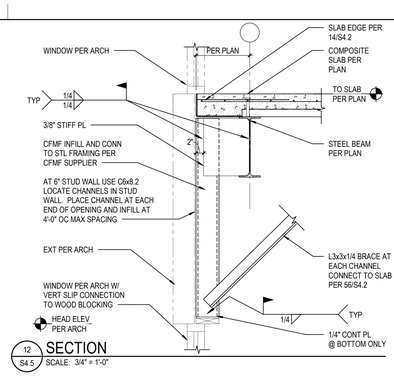


11 S4.5 SECTION
SCALE: 3/4" = 1'-0"



12 S4.5 SECTION
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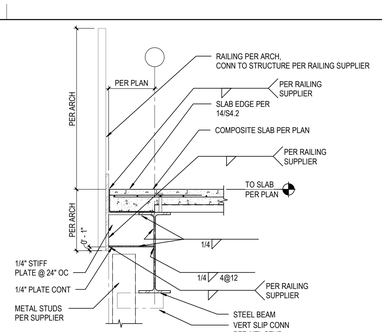

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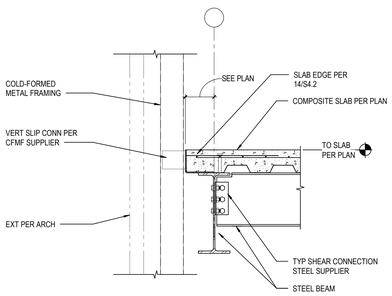

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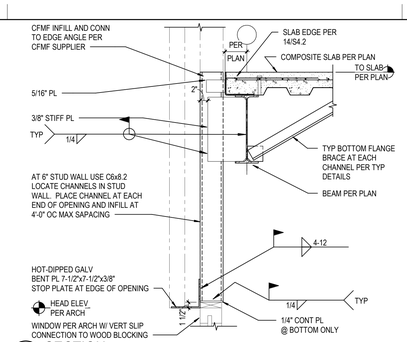

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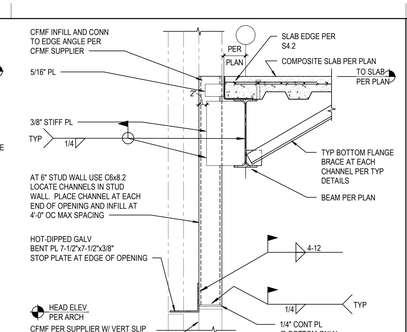

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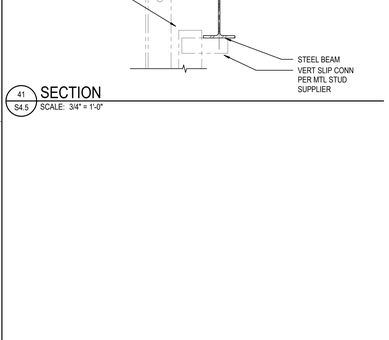

21 S4.5 SECTION
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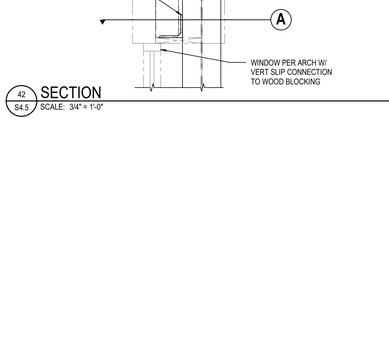

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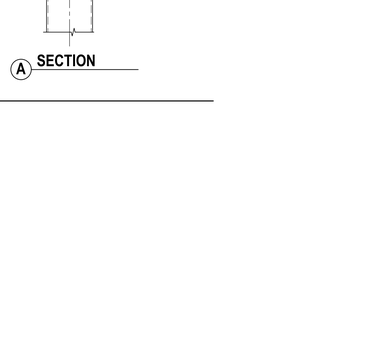

23 S4.5 SECTION
SCALE: 3/4" = 1'-0"

24 S4.5 SECTION
SCALE: 3/4" = 1'-0"

25 S4.5 SECTION
SCALE: 3/4" = 1'-0"

26 S4.5 SECTION
SCALE: 3/4" = 1'-0"

31 S4.5 SECTION
SCALE: 3/4" = 1'-0"

32 S4.5 SECTION
SCALE: 3/4" = 1'-0"

33 S4.5 SECTION
SCALE: 3/4" = 1'-0"

34 S4.5 SECTION
SCALE: 3/4" = 1'-0"

35 S4.5 SECTION
SCALE: 3/4" = 1'-0"

36 S4.5 SECTION
SCALE: 3/4" = 1'-0"

41 S4.5 SECTION
SCALE: 3/4" = 1'-0"

42 S4.5 SECTION
SCALE: 3/4" = 1'-0"

A SECTION

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STEVEN M. SCHMIDT
NUMBER A-2007018273
8/28/2020
REGISTERED ARCHITECT
STATE OF MISSOURI

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

FLOOR FRAMING SECTIONS

S4.5

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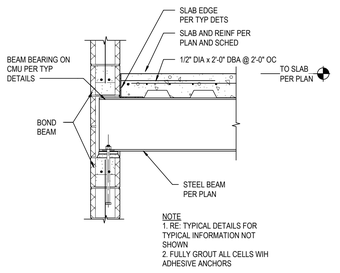

11 S4.7 SECTION
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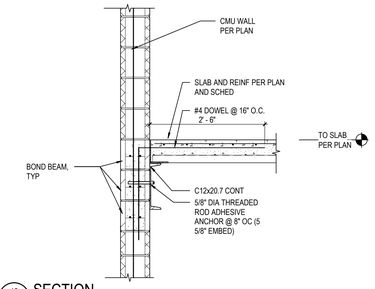

12 S4.7 SECTION
SCALE: 3/4" = 1'-0"

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- NOT FOR CONSTRUCTION -

LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
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8/28/20
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FLOOR FRAMING
SECTIONS

S4.7

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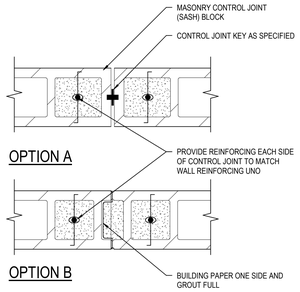
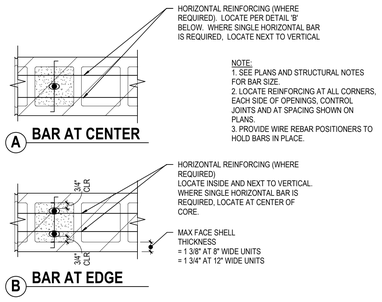
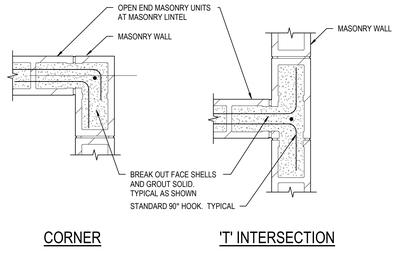
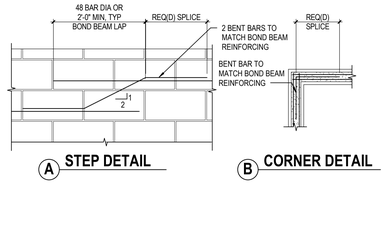
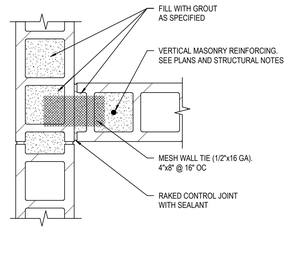




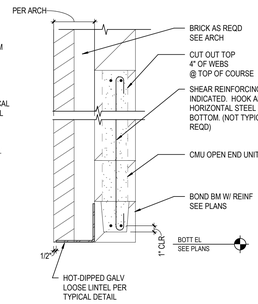
NOTE:
1. SEE PLANS AND STRUCTURAL NOTES FOR BAR SIZE.
2. LOCATE REINFORCING AT ALL CORNERS, EACH SIDE OF OPENINGS, CONTROL JOINTS AND AT SPACING SHOWN ON PLANS.
3. PROVIDE WIRE REBAR POSITIONERS TO HOLD BARS IN PLACE.







11 S4.8 TYP CMU WALL CJ DETAIL
SCALE: 1 1/2" = 1'-0"

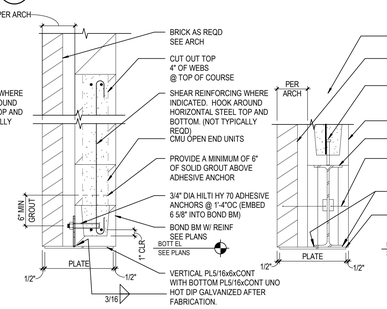


NOTE:

1. PROVIDE SHORING UNDER BEAM FOR A MINIMUM OF 7 DAYS AFTER GROUTING
2. MONOLITHICALLY GROUT BOND BEAM AND ALL CELLS SOLID. GROUTING SHALL HAVE NO VERTICAL OR HORIZONTAL COLD JOINTS FULL HEIGHT AND LENGTH OF LINTEL INCLUDING END BEARINGS.
3. MECHANICALLY VIBRATE GROUT.
4. SEE TYPICAL MASONRY BEAM/ LINTEL BEARING DETAIL FOR BEARING.
5. HORIZONTAL REINFORCEMENT SHALL NOT BE SPLICED.
6. "T" PLATE TO STOP AT EDGE OF OPENING. "T" PLATE NOT REQUIRE WHERE BRICK IS SUPPORTED BY LOOSE ANGLE LINTEL.

MASONRY LINTEL W/ LOOSE LINTEL

12 S4.8 TYP CMU WALL REINF PLACEMENT
SCALE: 1 1/2" = 1'-0"



MASONRY LINTEL W/ 'T' PLATE

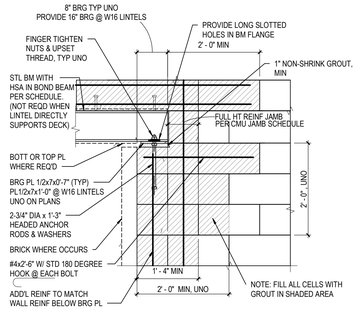
STEEL LINTEL W/ BOTTOM PL

13 S4.8 TYP LINTEL/BOND BM @ INTERSECTION
SCALE: 1" = 1'-0"

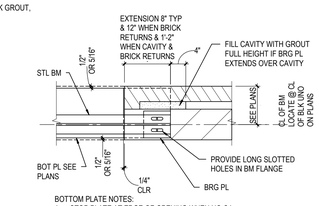
OPENING LINTEL SCHEDULE			
SPAN TABLE	8" CMU	10" OR 12" CMU	COMMENTS
0' < 4'-0"	ML-1	ML-2	8" DEEP BOND BM W/ 2-#4 T&B
4'-0" ≤ L < 6'-0"	ML-3	ML-4	16" DEEP BOND BM W/ 2-#5 T&B
6'-0" ≤ L < 9'-4"	ML-5	ML-6	24" DEEP BOND BM W/ 2-#6 T&B
9'-4" ≤ L < 11'-4"	W8X21	W8X24	PROVIDE 5/16" BOT PLATE AS REQD
11'-4" ≤ L < 13'-4"	W16X31	W16X31	PROVIDE 5/16" BOT PLATE AS REQD
13'-4" ≤ L < 20'-0"	W24X55	W24X55	PROVIDE 5/16" BOT PLATE AS REQD

NOTE:
1. ALL OPENINGS REQUIRE A LINTEL. THE CONTRACTOR SHALL COORDINATE ALL OPENING AND PENETRATION LOCATIONS WITH OTHER CONSULTANTS' WORK AND REFER TO THIS SCHEDULE FOR LINTEL SIZES.
2. BOND BEAM REINFORCING SHALL BE CONTINUOUS, WITHOUT SPLICES.
3. DO NOT LOCATE CMU CONTROL JOINTS WITHIN OPENING OR JAMB EXTENTS.
4. STEEL LINTEL BOTTOM PLATES SHALL BE 1" LESS THAN THE NOMINAL WIDTH OF WALL (INCLUDES MASONRY VENEER EXCEPT WHERE BRICK IS SUPPORTED BY LOOSE ANGLE).
5. STEEL LINTELS SHALL HAVE 5/8" DIA X 6" HEADED ANCHOR STUS @24" OC. INTO AN 8" DEEP BOND BEAM W/ 2#4 T&B.
6. REFER TO OTHER TYPICAL DETAILS FOR FURTHER INFORMATION.
7. SCHEDULE IS SUPERCEDED WHERE LINTEL SIZES ARE SPECIFICALLY NOTED ON PLANS.
8. PROVIDE #4 @ 8" OC SHEAR REINF FOR ML-5 AND ML-6. SEE TYP MASONRY LINTEL FOR ADD'L INFO.

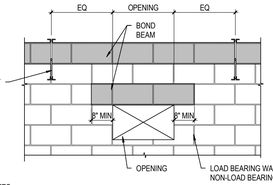
14 S4.8 TYP BOND BEAM DETAIL
SCALE: 3/4" = 1'-0"



15 S4.8 TYP INTERSECTION REINF DETAIL
SCALE: 1 1/2" = 1'-0"



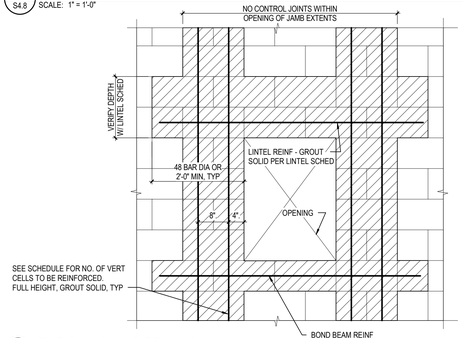
BOTTOM PLATE NOTES:
1. STOP PLATE AT EDGE OF OPENING WHEN NO CJ
2. EXTEND PLATE TO END OF BEAM WHEN THERE IS AS OFFSET CJ ABOVE THE OPENING.
3. NOTCH PLATE AROUND BRICK WHEN CJ IS AT EDGE OF OPENING IN BRICK AND OFFSET IN BLOCK.



NOTES:

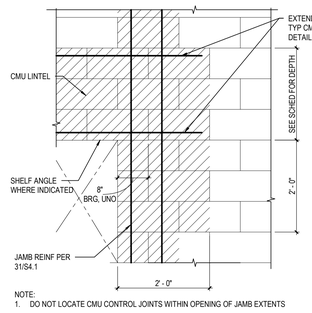
1. LOAD-BEARING WALLS: LOCATE BETWEEN JOISTS AS SHOWN. IF OPENINGS MUST BE UNDER JOIST, TOP OF OPENING SHALL BE A MINIMUM OF 1/2 OF THE OPENING WIDTH + 8 INCHES BELOW THE JOIST BEARING OR CONTACT THE ENGINEER.
2. NON-BEARING WALLS: PROVIDE 8" BOND BEAM FOR OPENINGS 4'-8" AND LESS AND 16" BOND BEAM FOR OPENINGS GREATER THAN 4'-8" AND LESS THAN 6'-0". CONTACT ENGINEER FOR LARGER OPENINGS.
3. WHERE VENEER OCCURS, PROVIDE SUPPORT PER TYPICAL LINTEL DETAILS.
4. GENERAL CONTRACTOR SHALL COORDINATE LOCATION OF OPENINGS WITH MECHANICAL, ELECTRICAL AND OTHER CONTRACTORS BEFORE CONSTRUCTING WALLS.

21 S4.8 TYPICAL CMU LINTEL DETAIL
SCALE: 1" = 1'-0"



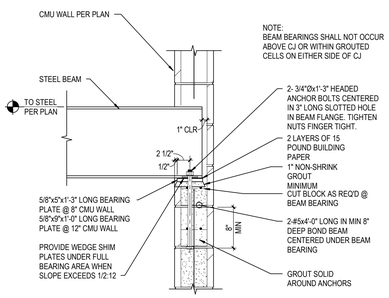
JAMB REINFORCEMENT SCHEDULE		
OPENING WIDTH	WALL REINF SPACING	NO. OF REINFORCED CELLS EACH JAMB
≤ 4'-0"	8" OC	3
	16" OC	2
	24" OC	1
	32" OC	1
	48" OC	1
> 4'-0" TO ≤ 8'-0"	8" OC	6
	16" OC	3
	24" OC	2
	32" OC	2
	48" OC	1
> 8'-0" TO ≤ 12'-0"	8" OC	9
	16" OC	5
	24" OC	3
	32" OC	3
	48" OC	2

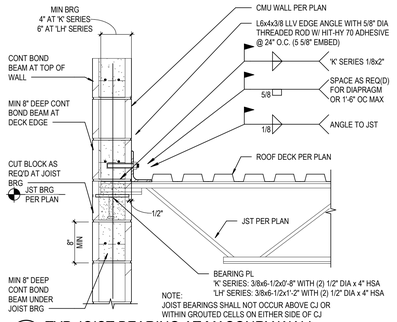
NOTES:
1. PROVIDE SAME BAR SIZE AND QUANTITY OF BARS PER CELL AS NOTED FOR WALL WHICH OPENING IS LOCATED IN.
2. SCHEDULE IS SUPERSEDED IF SPECIFICALLY NOTED OTHERWISE ON THE PLANS.
3. DO NOT LOCATE CMU CONTROL JOINTS WITHIN OPENING OR JAMB EXTENTS

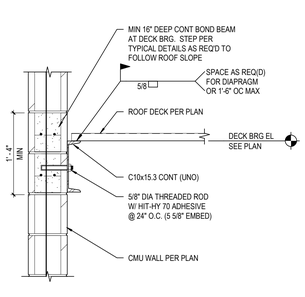


NOTE:
1. DO NOT LOCATE CMU CONTROL JOINTS WITHIN OPENING OF JAMB EXTENTS

24 S4.8 TYP STEEL LINTEL BEARING ON MASONRY
SCALE: 3/4" = 1'-0"







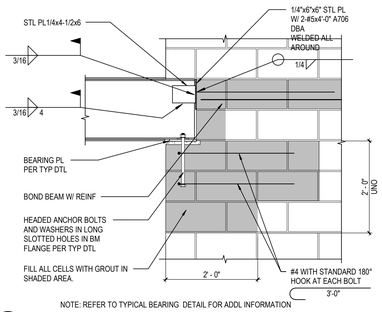
31 S4.8 TYPICAL CMU OPENING
SCALE: 1" = 1'-0"

33 S4.8 TYP CMU LINTEL BRG
SCALE: 3/4" = 1'-0"

34 S4.8 TYP STEEL BEAM BEARING AT MASONRY WALL
SCALE: 1" = 1'-0"

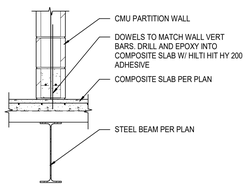
35 S4.8 TYP JOIST BEARING AT MASONRY WALL
SCALE: 1" = 1'-0"

36 S4.8 TYP DECK TO MASONRY WALL DETAIL
SCALE: 1" = 1'-0"

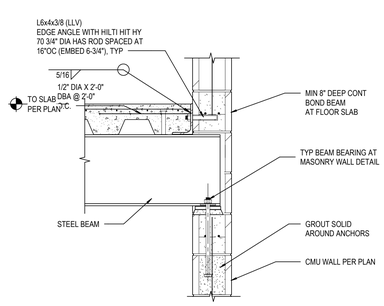


NOTE: REFER TO TYPICAL BEARING DETAIL FOR ADDL INFORMATION

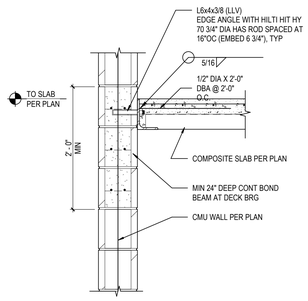
41 S4.8 TYP CMU COLLECTOR BEAM DETAIL
SCALE: 3/4" = 1'-0"



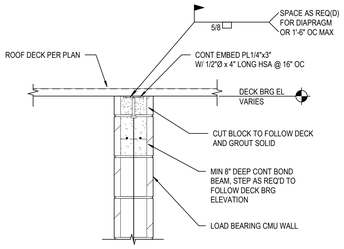
42 S4.8 TYP ELEVATED CMU WALLSUPPORT DETAIL
SCALE: 3/4" = 1'-0"



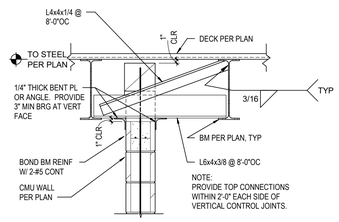
43 S4.8 TYP FLOOR BEAM AT MASONRY DETAIL
SCALE: 1" = 1'-0"



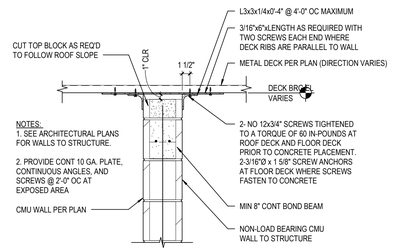
44 S4.8 TYP FLOOR SLAB AT MASONRY DETAIL
SCALE: 1" = 1'-0"



45 S4.8 TYP INTERIOR BRG ON CMU WALL DETAIL
SCALE: 1" = 1'-0"

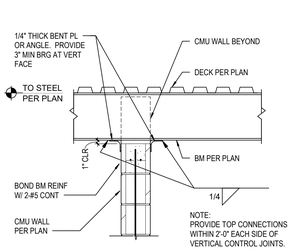


51 S4.8 TYP CMU PARTITION WALL BRACING DETAIL
SCALE: 3/4" = 1'-0"

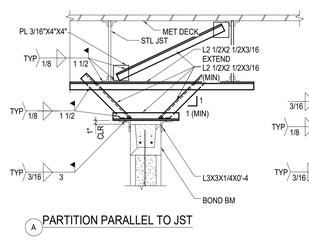


NOTES:
1. SEE ARCHITECTURAL PLANS FOR WALLS TO STRUCTURE.
2. PROVIDE CONT 10 GA. PLATE, CONTINUOUS ANGLES, AND SCREWS @ 2'-0" OC AT EXPOSED AREA

52 S4.8 TYP CMU PARTITION WALL BRACING DETAIL
SCALE: 1" = 1'-0"

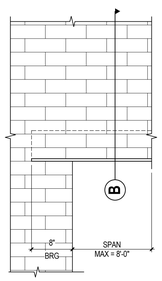


53 S4.8 TYP CMU PARTITION WALL BRACING DETAIL
SCALE: 3/4" = 1'-0"

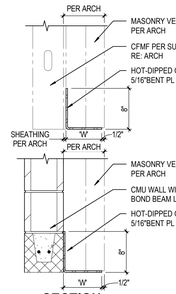


NOTES:
1. WALLS SHALL BE LATERALLY SUPPORTED AT A MAXIMUM SPACING OF 8'-0 BY PERPENDICULAR WALLS OR BRACING AS SHOWN.
2. SEE ARCHITECTURAL DRAWING FOR PARTITION WALLS.
3. PROVIDE TOP CONNECTIONS WITHIN 2'-0" EACH SIDE OF VERTICAL CONTROL JOINTS.

54 S4.8 TYP CMU PARTITION BRACING DETAIL
SCALE: 3/4" = 1'-0"



A ELEVATION



B SECTION

56 S4.8 TYP LOOSE LINTEL DETAIL
SCALE: 1" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

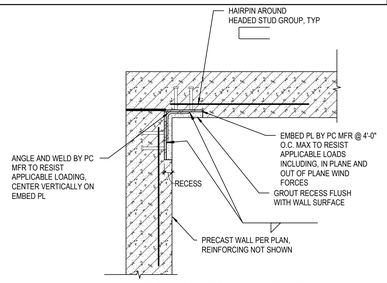
100 I SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

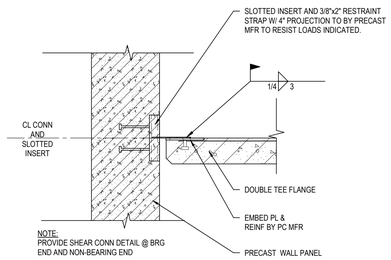
MASONRY TYPICAL DETAILS

S4.8



NOTE: PROVIDE CONNECTION 2' - 0" AFF (TO CENTER OF CONN) AND AT 4'-0" O.C. ABOVE, MINIMUM. ACTUAL SPACING AND QUANTITY OF CONNECTIONS IS TO BE DETERMINED BY PRECASTER AS DICTATED BY PANEL DESIGN.

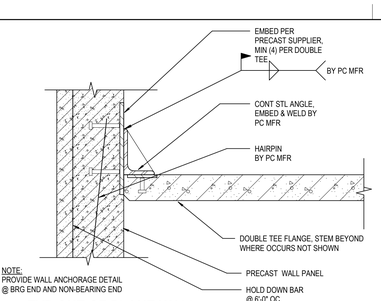
11 S4.9 TYPICAL CORNER CONNECTION
SCALE: 3/4" = 1'-0"



NOTE:
PROVIDE SHEAR CONN DETAIL @ BRG END AND NON-BEARING END

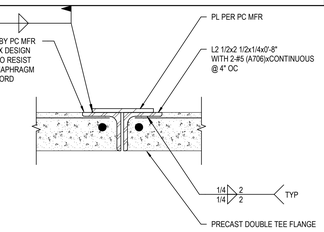
A TYP DIAPHRAGM SHEAR CONN

12 S4.9 TYP PRECAST WALL TO DIAPHRAGM CONN DET
SCALE: 1 1/2" = 1'-0"



NOTE:
PROVIDE WALL ANCHORAGE DETAIL @ BRG END AND NON-BEARING END

B TYP OUT OF PLANE WALL ANCHORAGE CONN

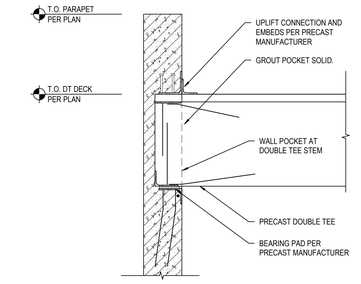


NOTES:
1. DOUBLE TEE ROOF SLAB STITCH PLATE DETAIL IS REQUIRED AT ALL ROOF SLAB JOINTS UNLESS NOTED OTHERWISE ON ROOF PLAN.

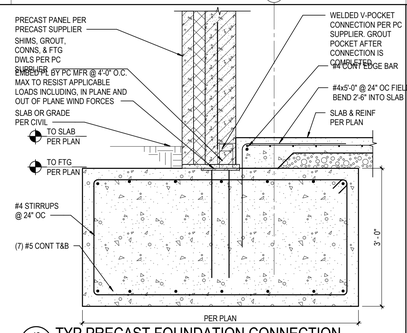
2. PROVIDE CONNECTION 2' - 0" FROM EACH END OF SLAB AND AT 4'-0" O.C., MINIMUM ALONG THE SPAN LENGTH. ACTUAL SPACING AND QUANTITY OF CONNECTIONS IS TO BE DETERMINED BY PRECASTER AS DICTATED BY DOUBLE TEE DESIGN AND DIAPHRAGM LOADING REQUIREMENTS.

3. CONNECTION SHALL BE DESIGNED BY PRECAST MFR TO ACCOUNT FOR ALL VOLUME CHANGES.

14 S4.9 TYP DIAPHRAGM CHORD DETAIL
SCALE: 3" = 1'-0"



15 S4.9 TYP DOUBLE TEE / WALL DETAIL
SCALE: 3/4" = 1'-0"



16 S4.9 TYP PRECAST FOUNDATION CONNECTION
SCALE: 3/4" = 1'-0"

A TYPICAL PANEL
B TYP OPENING IN PANEL
C TYP OPENING @ EDGE

21 S4.9 TYP HOLD DOWN LOCATIONS
SCALE: 1/4" = 1'-0"

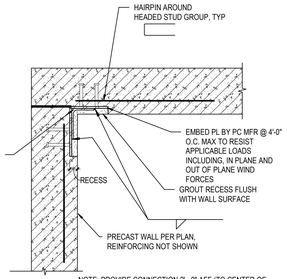
NOTES:
1. WALL STITCH PLATE DETAIL IS REQUIRED AT ALL PANEL JOINTS UNLESS NOTED OTHERWISE ON FOUNDATION PLAN.

2. PROVIDE CONNECTION 2' - 0" AFF (TO CENTER OF CONN) AND AT 4' O.C. ABOVE, MINIMUM. ACTUAL SPACING AND QUANTITY OF CONNECTIONS IS TO BE DETERMINED BY PRECASTER AS DICTATED BY PANEL DESIGN.

3. CONNECTION SHALL BE DESIGNED BY PRECAST MFR TO ACCOUNT FOR ALL VOLUME CHANGES.

23 S4.9 WALL STITCH PLATE
SCALE: 3/4" = 1'-0"

ELEVATION



NOTE: PROVIDE CONNECTION 2' - 0" AFF (TO CENTER OF CONN) AND AT 4'-0" O.C. ABOVE, MINIMUM. ACTUAL SPACING AND QUANTITY OF CONNECTIONS IS TO BE DETERMINED BY PRECASTER AS DICTATED BY PANEL DESIGN.

25 S4.9 TYP CORNER CONNECTION
SCALE: 3/4" = 1'-0"

NOTES:
1. REINFORCING SHALL BE DESIGNED BY PC MFR TO RESIST THE FORCES PROVIDED. PROVIDE REINFORCING AND SPACING NO LESS THAN THAT INDICATED.

31 S4.9 ELEVATION - WALL PENETRATION
SCALE: 1/2" = 1'-0"

NOTE:
COORDINATE SIZE AND LOCATIONS OF OPENINGS WITH MECHANICAL DRAWINGS PRIOR TO STEEL FABRICATION AND PRECAST SHOP DRAWINGS. GALVANIZE STEEL AT EXTERIOR WALLS.

32 S4.9 TYP WALL/ROOF OPENING PROTECTION DET
SCALE: 3/4" = 1'-0"

NOTE:
COORDINATE SIZE AND LOCATIONS OF OPENINGS WITH MECHANICAL DRAWINGS PRIOR TO PRECAST SHOP DRAWINGS. GALVANIZE STEEL AT EXTERIOR WALLS.

33 S4.9 TYP WALL/ROOF OPENING PROTECTION DET
SCALE: 3/4" = 1'-0"

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LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

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8/28/20
REVISIONS

13-20102-00

PRECAST
TYPICAL DETAILS

S4.9

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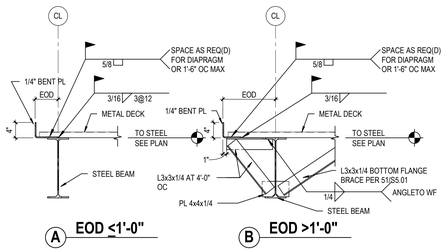
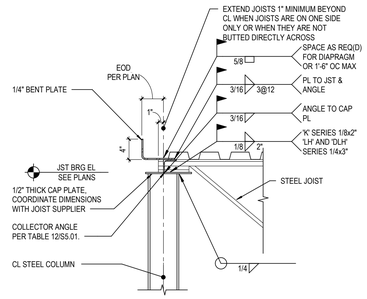
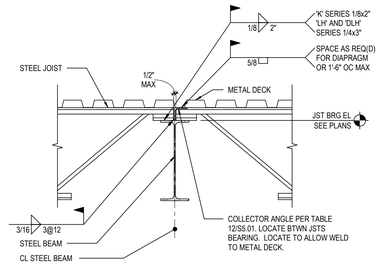


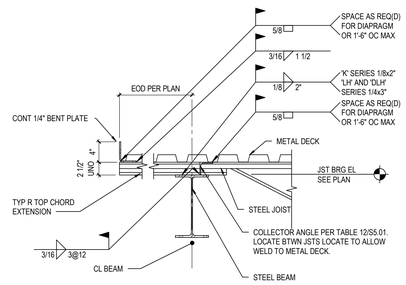
A EOD ≤1'-0"

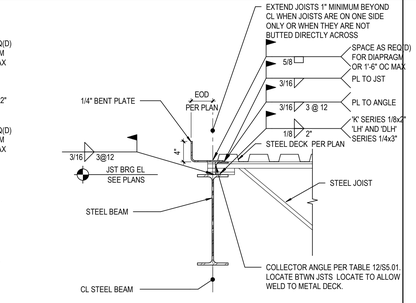
B EOD >1'-0"

JST SEAT DEPTH	ANGLE SIZE
2-1/2"	L2-1/2x2-1/2x3/16
3-1/2"	L3-1/2x3x1/4 LLV
5"	L5x3x1/4 LLV









11 S5.1 TYP EDGE OF DECK DETAIL
SCALE: 3/4" = 1'-0"

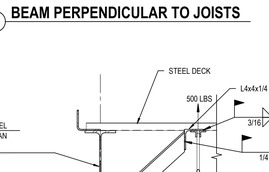
12 S5.1 COLLECTOR ANGLE TABLE
SCALE: 1" = 1'-0"

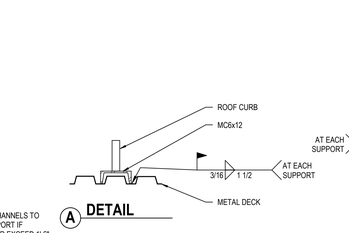
13 S5.1 TYP JOIST BEARING DETAIL
SCALE: 1" = 1'-0"

14 S5.1 TYP JOIST BEARING DETAIL
SCALE: 1" = 1'-0"

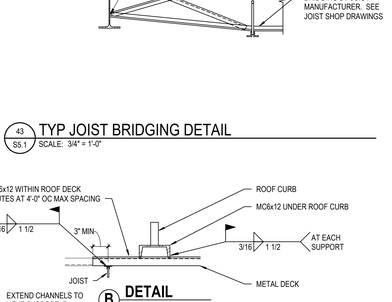
15 S5.1 TYP EXTENDED END JST BEARING DETAIL
SCALE: 1" = 1'-0"

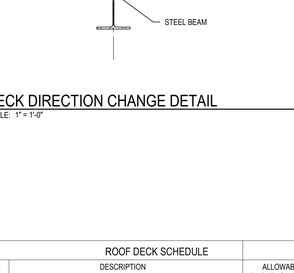
16 S5.1 TYP JOIST BEARING DETAIL
SCALE: 1" = 1'-0"





NOTE:
TYPICAL DETAIL APPLIES TO ALL OPENINGS 6" AND LARGER.





NOTE:
1. DESIGN ALL JOIST TOP AND BOTTOM CHORDS FOR BEND CHECK LOADS AS SHOWN. REINFORCEMENT ONLY REQUIRED WHERE LOADS EXCEED LOADS SHOWN.
2. PROVIDE REINFORCEMENT WHEN CONCENTRATED LOAD IS MORE THAN 4" FROM PANEL POINT AND EXCEEDS LOAD SHOWN.

NOTE:
1. USE ONLY WHERE DUCTS ARE SHOWN BETWEEN JOISTS ON MECHANICAL DRAWINGS. VERIFY LOCATION WITH CONTRACTOR.
2. DO NOT INSTALL DUCTS IN TWO ADJACENT JOIST SPACES.
3. COORDINATE BRIDGING WITH JOIST SUPPLIER.

NOTE:
1. JOIST SUPPLIER TO DESIGN ROOF JOISTS FOR A UNIFORMLY DISTRIBUTED LIVE LOAD OF 250 PLF AND A CONCENTRATED Xk DEAD LOAD AT STACK LOCATIONS.
2. LIMIT LIVE LOAD DEFLECTION OF JOISTS TO 1/4"

21 S5.1 TYP WT BRACE DETAIL
SCALE: 3/4" = 1'-0"

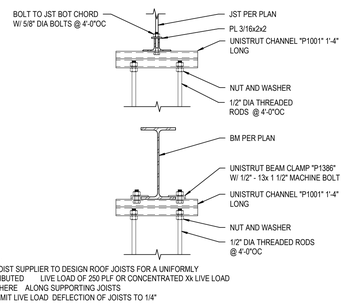
22 S5.1 TYP ROOF OPENING DETAIL
SCALE: 3/4" = 1'-0"

23 S5.1 TYP JOIST BEARING DETAIL
SCALE: 1" = 1'-0"

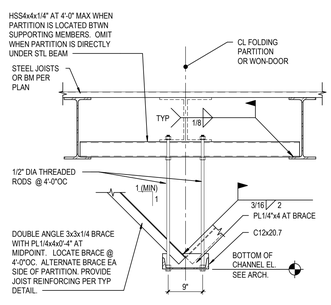
24 S5.1 TYP JOIST REINFORCING DETAIL
SCALE: 1" = 1'-0"

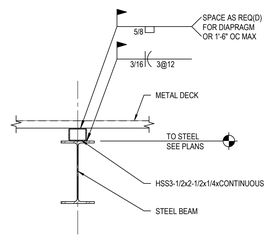
25 S5.1 TYP JOIST BEARING DETAIL
SCALE: 3/4" = 1'-0"

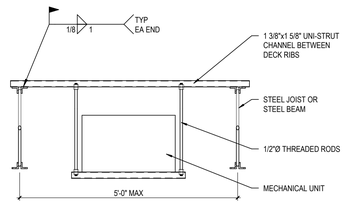
26 S5.1 TYP OPERABLE PARTITION WALL CONN DTL
SCALE: 3/4" = 1'-0"



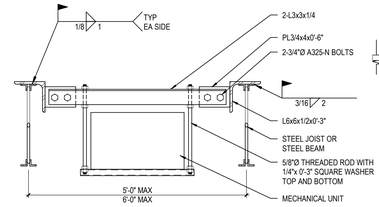
NOTE:
1. JOIST SUPPLIER TO DESIGN ROOF JOISTS FOR A UNIFORMLY DISTRIBUTED LIVE LOAD OF 250 PLF OR CONCENTRATED Xk LIVE LOAD ANYWHERE ALONG SUPPORTING JOISTS
2. LIMIT LIVE LOAD DEFLECTION OF JOISTS TO 1/4"



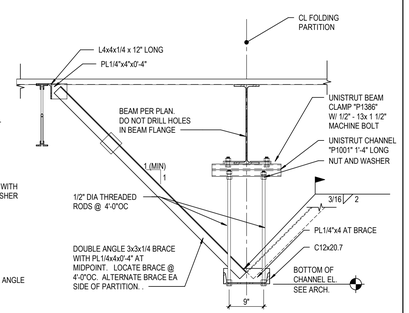




NOTE:
1. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION WITH MECHANICAL CONTRACTOR.
2. PROVIDE SEISMIC BRACING IN ACCORD WITH MECHANICAL SPECIFICATIONS AND DETAILS.
3. WEIGHT OF MECHANICAL UNIT EQUAL TO OR LESS THAN 400LBS PER CHANNEL



NOTE:
1. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION WITH MECHANICAL CONTRACTOR.
2. PROVIDE SEISMIC BRACING IN ACCORD WITH MECHANICAL SPECIFICATIONS AND DETAILS.
3. WEIGHT OF MECHANICAL UNIT GREATER THAN 400 LBS PER ANGLE, BUT LESS THAN 700 LBS PER ANGLE



31 S5.1 TYP OPERABLE PARTITION WALL CONN DTL
SCALE: 1" = 1'-0"

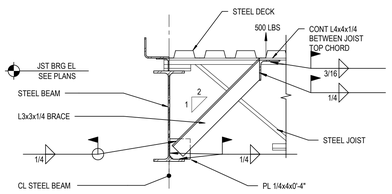
32 S5.1 TYP OPERABLE PARTITION WALL CONN DTL
SCALE: 3/4" = 1'-0"

33 S5.1 TYP LOWERED BEAM DETAIL
SCALE: 1" = 1'-0"

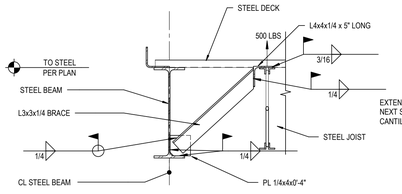
34 S5.1 TYP HANGING MECH UNIT DETAIL
SCALE: 1" = 1'-0"

35 S5.1 TYP HANGING MECH UNIT DETAIL
SCALE: 1" = 1'-0"

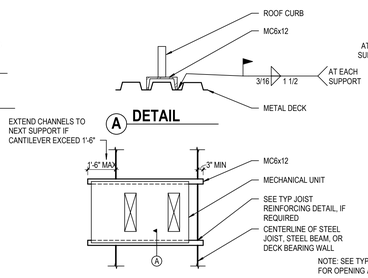
36 S5.1 TYP OPERABLE PARTITION WALL CONN DTL
SCALE: 3/4" = 1'-0"



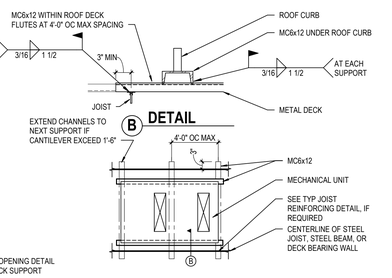
A BEAM PERPENDICULAR TO JOISTS



B BEAM PARALLEL TO JOISTS

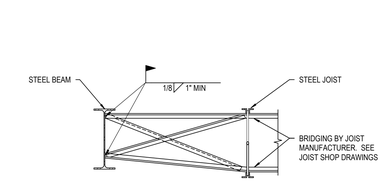


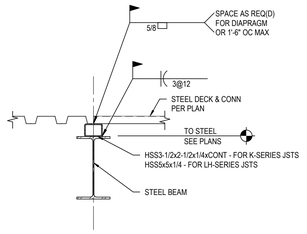
MECH UNIT PERPENDICULAR WITH ROOF FRAMING



MECH UNIT PARALLEL WITH ROOF FRAMING

ROOF DECK SCHEDULE		
MARK	DESCRIPTION	ALLOWABLE DIAPHRAGM SHEAR
RD-1	1-1/2" DEEP x 20 GA, WIDE RIB PAINTED STEEL ROOF DECK, 1.5B20. PROVIDE 5/8"Ø PUDDLE WELDS IN A 36/5 PATTERN AND 5 #10 TEK SCREW SIDE LAPS PER SPAN.	540 PLF
RD-2	2" DEEP x 20 GA, ACOUSTICAL, PAINTED DOVETAIL STEEL ROOF DECK PROVIDE 3/4" Ø PUDDLE WELDS IN A 24/8 PATTERN AND 1.5" LONG ARC SEAM WELDS OR 2" LONG FILLET WELDS AT 18" OC SIDE LAPS	525 PLF
RD-3	3" DEEP x 20 GA, WIDE RIB PAINTED STEEL ACOUSTICAL ROOF DECK, 3NA20. PROVIDE 5/8"Ø PUDDLE WELDS IN A 24/4 PATTERN AND 8 #10 TEK SCREW SIDE LAPS PER SPAN	460 PLF





51 S5.1 TYP BOTTOM FLANGE BRACE DETAIL
SCALE: 1" = 1'-0"

52 S5.1 TYP ROOF TOP UNIT SUPPORT DETAIL AT 1-1/2" DEEP ROOF DECK
SCALE: 1/2" = 1'-0"

43 S5.1 TYP JOIST BRIDGING DETAIL
SCALE: 3/4" = 1'-0"

44 S5.1 DECK DIRECTION CHANGE DETAIL
SCALE: 1" = 1'-0"

54 S5.1 ROOF DECK SCHEDULE
SCALE: 3/4" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

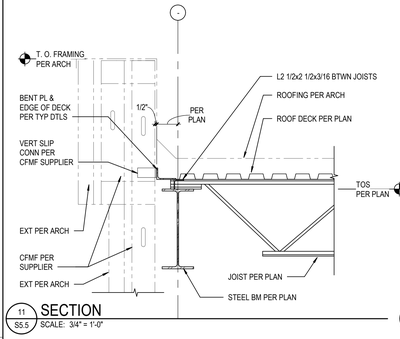
1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES ISSUED FOR PERMIT
8/28/20
REVISIONS

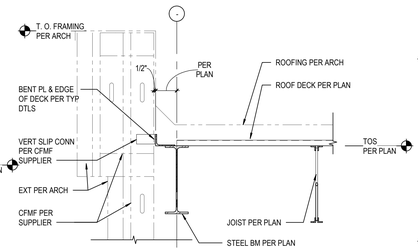
13-20102-00

ROOF FRAMING TYPICAL DETAILS

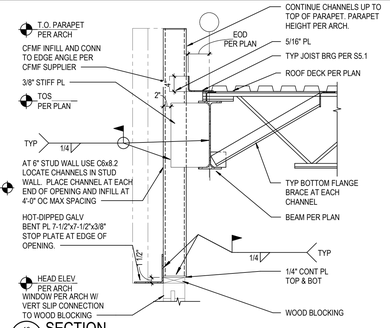
S5.1



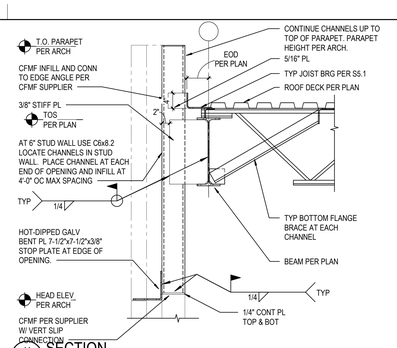
11 S5.5 SECTION
SCALE: 3/4" = 1'-0"



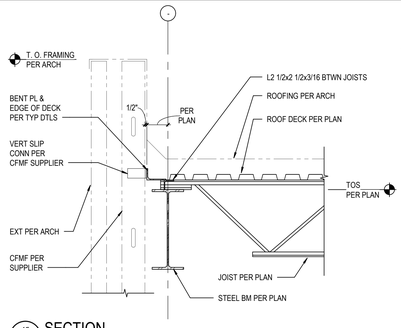
12 S5.5 SECTION
SCALE: 3/4" = 1'-0"



13 S5.5 SECTION
SCALE: 3/4" = 1'-0"



14 S5.5 SECTION
SCALE: 3/4" = 1'-0"



15 S5.5 SECTION
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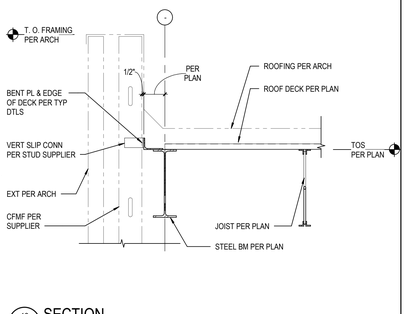

16 S5.5 SECTION
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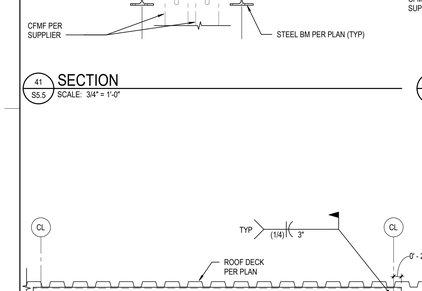

21 S5.5 SECTION
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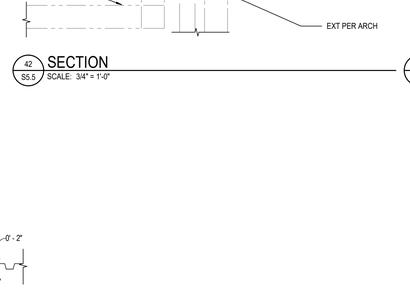

22 S5.5 SECTION
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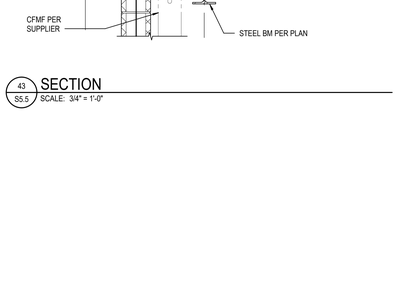
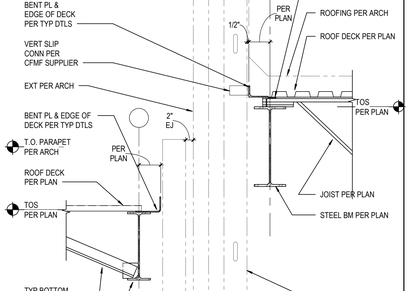


23 S5.5 SECTION
SCALE: 3/4" = 1'-0"

24 S5.5 SECTION
SCALE: 3/4" = 1'-0"

25 S5.5 SECTION
SCALE: 3/4" = 1'-0"



26 S5.5 SECTION
SCALE: 3/4" = 1'-0"

31 S5.5 SECTION
SCALE: 3/4" = 1'-0"

32 S5.5 SECTION
SCALE: 3/4" = 1'-0"

33 S5.5 SECTION
SCALE: 3/4" = 1'-0"

34 S5.5 SECTION
SCALE: 3/4" = 1'-0"

35 S5.5 SECTION
SCALE: 3/4" = 1'-0"

36 S5.5 SECTION
SCALE: 3/4" = 1'-0"

41 S5.5 SECTION
SCALE: 3/4" = 1'-0"

42 S5.5 SECTION
SCALE: 3/4" = 1'-0"

43 S5.5 SECTION
SCALE: 3/4" = 1'-0"

51 S5.5 SECTION
SCALE: 3/4" = 1'-0"

56 S5.5 SECTION
SCALE: 3/4" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4

LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

PACKAGE 2 - STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

13-20102-00

ROOF FRAMING SECTIONS

S5.5

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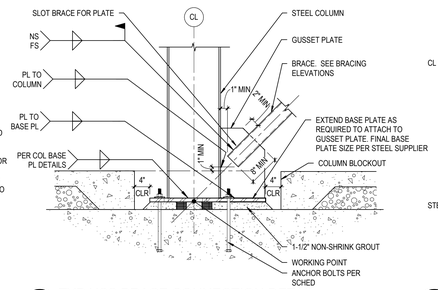
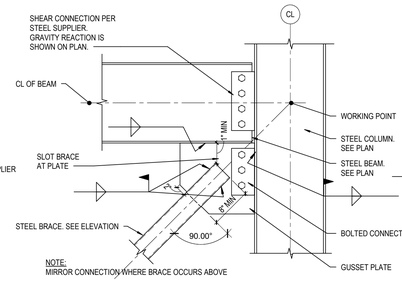
BRACING CONNECTION NOTES:

1. ALL CONNECTIONS SHOWN ARE SCHEMATIC ONLY. FINAL CONNECTION DESIGN CALCULATIONS AND DETAILING SHALL BE PROVIDED BY THE STEEL FABRICATOR'S ENGINEER.
2. REFER TO PLANS FOR ADDITIONAL SHEAR AND AXIAL REACTIONS NOT SHOWN.
3. ALL CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH AISC LOAD AND RESISTANCE FACTOR DESIGN (LRFD) TO RESIST FACTORED REACTIONS PROVIDED FOR AN R = 3 SYSTEM.
4. THE WORKPOINT SHALL BE DEFINED AS THE INTERSECTION OF ALL MEMBER CENTROIDS FRAMING INTO THE JOINT. STEEL SUPPLIER SHALL DESIGN THE CONNECITONS TO TRANSFER ALL FORCES TO THE WORKPOINT.

11 S6.1 BRACE CONNECTION DETAIL NOTES
SCALE: 1" = 1'-0"



12 S6.1 TYP HSS BRACE CONNECTION DETAIL
SCALE: 3/4" = 1'-0"



13 S6.1 TYP HSS BRACE CONNECTION DETAIL
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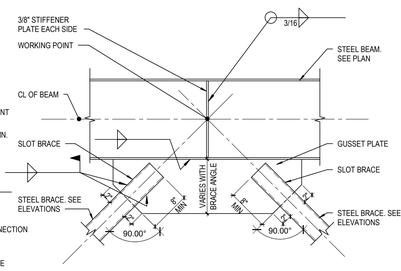

14 S6.1 BRACE CONNECTION DETAIL
SCALE: 1" = 1'-0"

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LEE'S SUMMIT MIDDLE SCHOOL #4

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BRACED FRAME
TYPICAL DETAILS

S6.1

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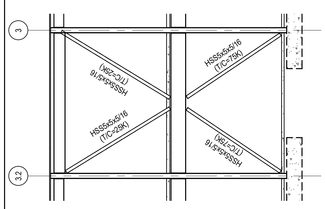
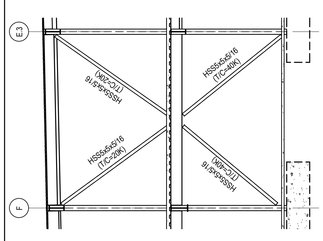
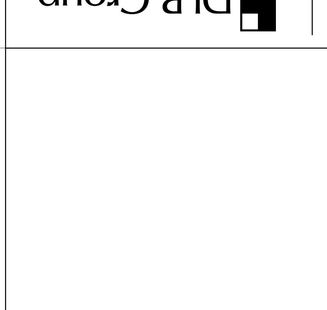


3 3.2 — ELEVATION — 15 S6.2 — SCALE: 1/8" = 1'-0"

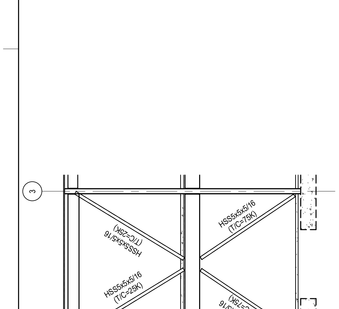


E3 F — ELEVATION — 14 S6.2 — SCALE: 1/8" = 1'-0"

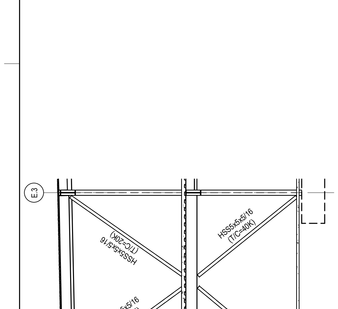


E.3 F — ELEVATION — 13 S6.2 — SCALE: 1/8" = 1'-0"

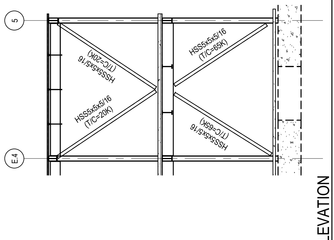
E.8 E — ELEVATION — 11 S6.2 — SCALE: 1/8" = 1'-0"



F G — ELEVATION — 19 S6.2 — SCALE: 1/8" = 1'-0"



E3 F — ELEVATION — 12 S6.2 — SCALE: 1/8" = 1'-0"



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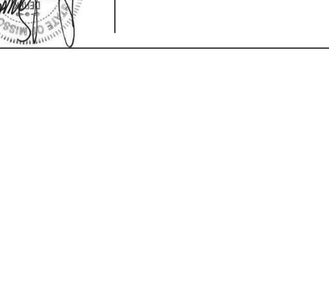


12 4 — ELEVATION — 23 S6.2 — SCALE: 1/8" = 1'-0"

11 1 — ELEVATION — 22 S6.2 — SCALE: 1/8" = 1'-0"

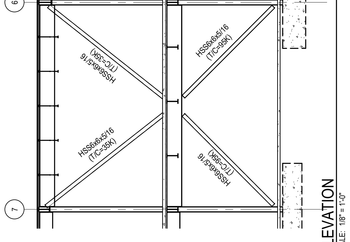
E3 F — ELEVATION — 21 S6.2 — SCALE: 1/8" = 1'-0"

E E.8 — ELEVATION — 31 S6.2 — SCALE: 1/8" = 1'-0"

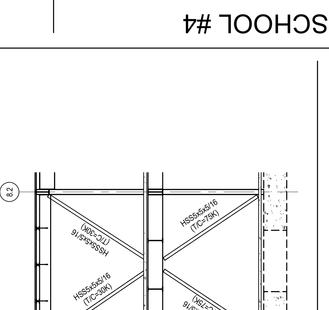
D E — ELEVATION — 32 S6.2 — SCALE: 1/8" = 1'-0"

E3 F — ELEVATION — 33 S6.2 — SCALE: 1/8" = 1'-0"

9 10 — ELEVATION — 41 S6.2 — SCALE: 1/8" = 1'-0"



7 6 — ELEVATION — 34 S6.2 — SCALE: 1/8" = 1'-0"

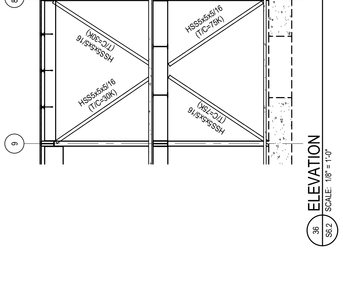


9 8.2 — ELEVATION — 35 S6.2 — SCALE: 1/8" = 1'-0"

13 14 — ELEVATION — 55 S6.2 — SCALE: 1/8" = 1'-0"

E3 F — ELEVATION — 52 S6.2 — SCALE: 1/8" = 1'-0"

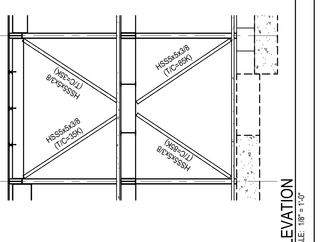
E E.3 — ELEVATION — 51 S6.2 — SCALE: 1/8" = 1'-0"



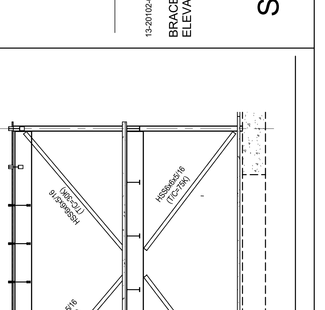
D E — ELEVATION — 53 S6.2 — SCALE: 1/8" = 1'-0"

E3 F — ELEVATION — 54 S6.2 — SCALE: 1/8" = 1'-0"

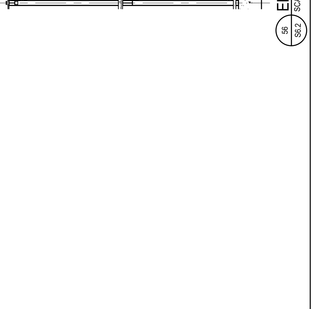
10 11 — ELEVATION — 56 S6.2 — SCALE: 1/8" = 1'-0"



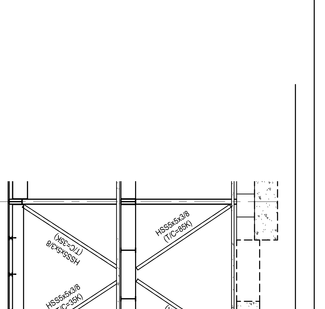
13 14 — ELEVATION — 55 S6.2 — SCALE: 1/8" = 1'-0"



9 8.2 — ELEVATION — 35 S6.2 — SCALE: 1/8" = 1'-0"

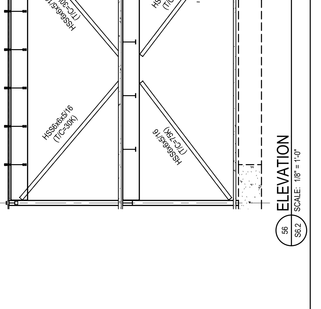


13 14 — ELEVATION — 54 S6.2 — SCALE: 1/8" = 1'-0"

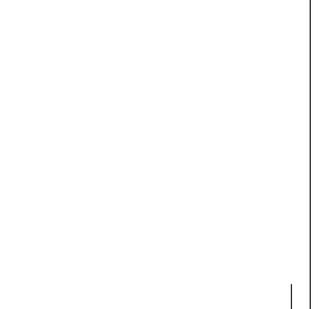


E3 F — ELEVATION — 52 S6.2 — SCALE: 1/8" = 1'-0"

E E.3 — ELEVATION — 51 S6.2 — SCALE: 1/8" = 1'-0"



D E — ELEVATION — 53 S6.2 — SCALE: 1/8" = 1'-0"



E3 F — ELEVATION — 54 S6.2 — SCALE: 1/8" = 1'-0"

10 11 — ELEVATION — 56 S6.2 — SCALE: 1/8" = 1'-0"

PACKAGE 2 -
STRUCTURAL & SITE UTILITIES
ISSUED FOR PERMIT
8/28/20
REVISIONS

LEE'S SUMMIT MIDDLE SCHOOL #4
LEE'S SUMMIT R-7 SCHOOL DISTRICT

1001 SE BAILEY ROAD
LEE'S SUMMIT, MO 64081

13-201102-00

BRACED FRAME
ELEVATIONS

S6.2

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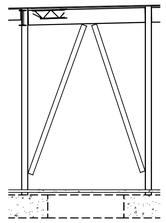
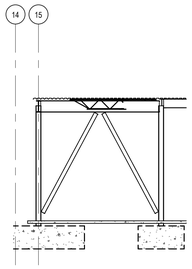
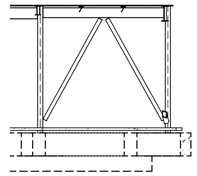


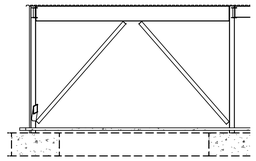
11 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



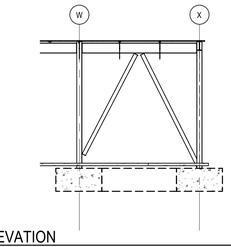
13 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



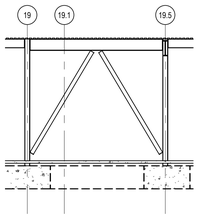
14 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



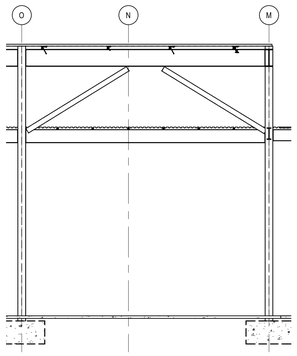
15 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



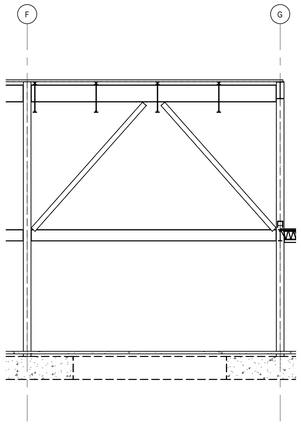
16 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



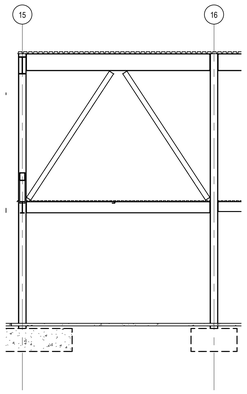
21 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



41 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



42 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"



43 S6.3 ELEVATION
SCALE: 1/8" = 1'-0"

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BRACED FRAME ELEVATIONS

S6.3

BIM 360://13-20102-00 Lees Summit Middle School 4/13-20102-00_Lee's Summit Middle School 4_ST_2020.rvt
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