COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION

BID PACKAGE 01
(DEMOLITION)

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C5-701	EROSION CONTROL PLAN	■		
C5-702	EROSION CONTROL DETAILS AND NOTES	■		
C7-001	WATER TITLE SHEET		■	■
C7-201	WATER PLAN AND PROFILE	■	■	■
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PROFESSIONAL SEAL:

CONSULTANT LOGO:

CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 01

REVISIONS		
#	DATE	DESCRIPTION
1	04/16/19	BID PACKAGE 01 ASI 01
2	04/30/19	BID PACKAGE 01 ASI 02

DATE:	JOB NUMBER:
01-25-19	17-13

SHEET NUMBER:
G0.01

COVER / INDEX

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION

BID PACKAGE 02
(ROUGH GRADING)

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PROFESSIONAL SEAL:
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JAMES R. CHILDERS
REGISTERED ARCHITECT
05-24-2019

CONSULTANT LOGO:

CLIENT:
TRIBAL SEAL OF THE CHEROKEE NATION EST. SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02

REVISIONS		
#	DATE	DESCRIPTION
1	4/16/19	BID PACKAGE 02 ASI 01
2	05/24/19	BID PACKAGE 02 ASI 02

DATE: 02-08-19
JOB NUMBER: 17-13
SHEET NUMBER: G0.02
COVER / INDEX

1/8" = 1'-0" 1/4" = 1'-0" 3/8" = 1'-0" 1/2" = 1'-0" 3/4" = 1'-0" 1" = 1'-0" 1 1/2" = 1'-0" 3" = 1'-0"

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION

BID PACKAGE 03
(FOUNDATION)

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Grand total: 22					

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SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01
2	05/24/19	BID PACKAGE 03 ASI 02
3	07/12/19	BID PACKAGE 03 ASI 03

DATE: 03/20/19
JOB NUMBER: 17-13
SHEET NUMBER: G0.03
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COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION

BID PACKAGE 04
(UNDERGROUND UTILITIES / STEEL)

INDEX OF DRAWINGS - BID PACKAGE 04

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FIRE PROTECTION						
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Grand total: 62						

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07-29-2019

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College of Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	05/24/19	BID PACKAGE 04 ASI 01
2	06/17/19	BID PACKAGE 04 ASI 02
3	07/22/19	BID PACKAGE 04 ASI 03
4	07/29/19	BID PACKAGE 04 ASI 04

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: G0.04
COVER / INDEX

LEGAL DESCRIPTION

PARCELS 2 – 5

Legal Description (Warranty Deed, Book 1133, Page 722):

PARCEL 2

The South 329.1 feet of the SE4 NE4 NW4, LESS the East 220 feet of the South 230 feet thereof, AND the NE4 SE4 NW4, containing 13.84 Acres, more or less.

Parcel 3

A tract of land lying in the SE4 SE4 NW4, more particularly described by metes and bounds as follows, to–wit:

Commencing at the Southeast corner of the NW4; Thence N01°40'44"W, a distance of 561.17 feet to the Point of Beginning; Thence S88°15'25"W, a distance of 658.37 feet; Thence N01°41'38"W, a distance of 101.49 feet to the Northwest corner of the SE4 SE4 NW4; Thence N88°15'25"E, a distance of 658.38 feet to the Northeast corner of the SE4 SE4 NW4; Thence S01°40'44"E along the East line thereof, a distance of 101.49 feet to the Point of Beginning, containing 1.535 acres, more or less.

PARCEL 4

The SE4 SE4 NW4, LESS AND EXCEPT the North 101.49 feet, containing 8.49 acres, more or less.

Parcel 5

A tract of land lying in the SW4 NE4 NW4 and in the NW4 SE4 NW4, more particularly described as follows:

Beginning at a point 503.90 feet South of the Northeast corner of said SW4 NE4 NW4; Thence S01°41'38"W, along the East boundary of said SW4 NE4 NW4, a distance of 330.00 feet; Thence S88°22'23"W, a distance of 457.55 feet; Thence N01°41'37"E, a distance of 330.00 feet; Thence N88°22'23"E, a distance of 457.55 feet to the Point of Beginning, said tract of land containing 3.466 acres, more or less.

All in Section 34, Township 17 North, Range 22 East, I.B.&M., Cherokee County, Oklahoma.

Point Table

Point #	Elevation	Northing	Easting	Description
1	918.33	345448.18	2871759.26	CUT X TOP OF CURB
2	907.81	345552.27	2871399.63	CUT BOX TOP OF CURB
3000	919.59	345974.32	2872112.74	NO 4 BAR W LEMKE CONTROL CAP
3001	924.85	346372.33	2872627.77	NO 4 BAR W LEMKE CONTROL CAP
3002	927.43	346366.68	2873090.95	NO 4 BAR W LEMKE CONTROL CAP
3003	910.83	345345.57	2873140.97	NO 4 BAR W LEMKE CONTROL CAP
3004	904.46	344832.44	2873134.58	NO 4 BAR W LEMKE CONTROL CAP
3005	884.06	344771.16	2871698.56	NO 4 BAR W LEMKE CONTROL CAP

SCALE: 1" = 20'

UTILITY WARNING:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.

BEFORE YOU DIG
CALL OKIE
(800) 522-6543

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CWL
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CA# 7110, expiration date 06.30.2020

CLIENT:

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

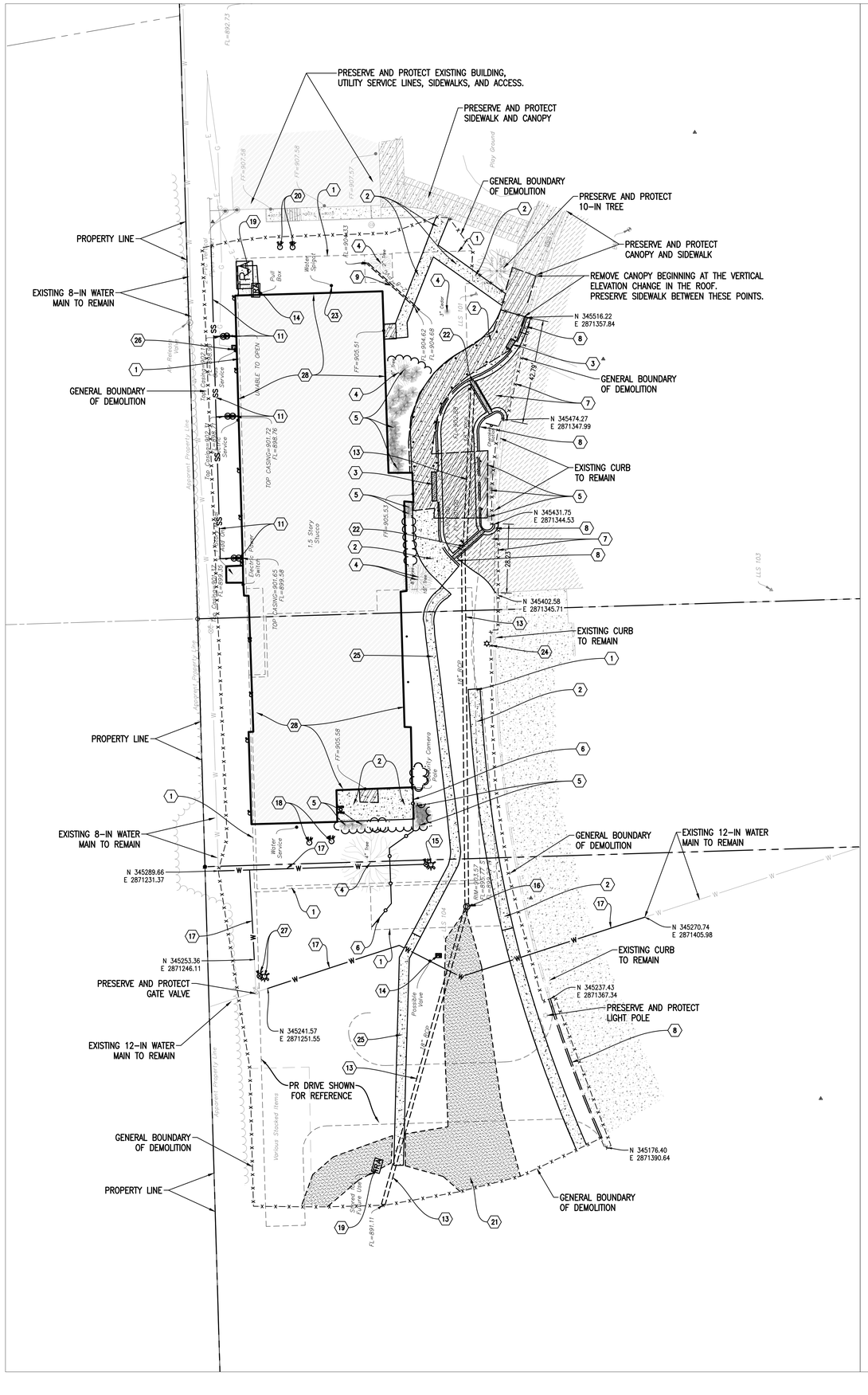
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 01

REVISIONS		
#	DATE	DESCRIPTION

DATE: 01-25-19
JOB NUMBER: 17-13
SHEET NUMBER: C1-101

EXISTING CONDITIONS AND SURVEY CONTROL



DEMOLITION KEYNOTES

NO.	DESCRIPTION
1	PROPOSED BUILDING LINE SHOWN FOR REFERENCE.
2	REMOVE CONCRETE SIDEWALK.
3	REMOVE ADA TACTILE DOME STRIP.
4	REMOVE TREE.
5	REMOVE SHRUBS.
6	REMOVE FENCE.
7	SAWCUT ASPHALT PAVEMENT IN STRAIGHT LINE AND REMOVE ASPHALT PAVING.
8	SAWCUT CONCRETE CURB AND REMOVE.
9	REMOVE (2) 8-IN PVC STORM PIPES.
10	REMOVE IRRIGATION VALVES. LOCATE THE EXISTING IRRIGATION CONDUITS, VALVES, HEADS, FITTINGS, AND WIRING AND REMOVE FROM THE FOOTPRINT OF THE PROPOSED BUILDING. COORDINATE WITH OWNER THE APPROPRIATE LOCATION(S) TO CUT AND CAP THE EXISTING CONDUITS.
11	REMOVE SANITARY SEWER CLEANOUT AND SEWER SERVICE LINE.
12	REMOVE CONCRETE FLUME.
13	REMOVE 18" RCP STORM PIPE. SEE SHEETS C6-202 FOR STORM SEWER RELOCATION PLAN.
14	REMOVE PULLBOX.
15	REMOVE FIRE HYDRANT.
16	REMOVE STORM MANHOLE. SEE SHEETS C6-202 FOR STORM SEWER RELOCATION PLAN.
17	REMOVE EXISTING WATER LINE. SEE SHEETS C7-201 FOR WATER LINE RELOCATION PLAN.
18	REMOVE WATER METERS.
19	REMOVE ELECTRICAL TRANSFORMER. CONTRACTOR TO COORDINATE WITH PRIVATE UTILITY COMPANY FOR DIRECTION AND LOCATION OF THE TRANSFORMER.
20	REMOVE SPRINKLER VALVES.
21	REMOVE GRAVEL AREA.
22	REMOVE TRENCH DRAINS.
23	REMOVE WATER SPIGOT AND BURIED PIPE. CAP SERVICE LINE AT THE MAIN.
24	REMOVE LIGHT POLE AND BASE.
25	REMOVE CONCRETE FLUME.
26	REMOVE GAS SERVICE. COORDINATE WITH NOPFA.
27	REMOVE FIRE HYDRANT. CLOSE VALVE AND ABANDON IN PLACE. SEE SHEETS C7-201 FOR RELOCATION PLAN.
28	DEMOLISH BUILDING. BUILDING FOOTPRINT IS ≈ 13,400 SF.

DEMOLITION PLAN NOTES

1. PRIOR TO DEMOLITION, COORDINATE WITH OWNER THE SCHEDULE AND TO DETERMINE IF OWNER WANTS ANY ITEMS TO BE SALAVAGED FOR REUSE.
2. CONTACT OKIE (811 OR 1-800-522-OKIE) PRIOR TO CONSTRUCTION FOR LOCATING EXISTING UTILITIES.
3. NOTIFY ALL UTILITY COMPANIES AND GOVERNMENTAL AGENCIES WHO MAY HAVE UTILITY LINES ON OR ABOUT THE PREMISES OR WHO MAY BE AFFECTED BY THE CONSTRUCTION. NOTICE SHALL BE GIVEN NO LESS THAN TWENTY-FOUR HOURS PRIOR TO ANY WORK THAT MAY INTERFERE WITH A UTILITY. CONTRACTOR SHALL ALSO COORDINATE THE CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES TO ENSURE COMPLIANCE WITH THE PROJECT SCHEDULE.
4. COMPLY WITH THE CITY, STATE, AND FEDERAL REQUIREMENTS FOR THE MINIMIZATION AND CONTROL OF SEDIMENT EROSION AND SITE RUN-OFF IN STORM WATER RESULTING FROM CONSTRUCTION ACTIVITIES. INSTALL TEMPORARY EROSIONS CONTROLS PRIOR TO SITE CLEARING. COMPLY WITH THE REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERMIT(S) ISSUED BY THE CITY AND STATE.
5. ALL EXISTING STRUCTURES, IMPROVEMENT AND UTILITIES DESIGNATED TO REMAIN SHALL BE ADEQUATELY PROTECTED FROM DAMAGE THAT MIGHT OTHERWISE OCCUR DUE TO CONSTRUCTION OPERATIONS. WHERE CONSTRUCTION COMES IN CLOSE PROXIMITY TO EXISTING STRUCTURES, UTILITIES OR APPURTENANCES, OR IF IT BECOMES NECESSARY TO MOVE SERVICES, POLES, GUY WIRES, PIPE LINES OR OTHER OBSTRUCTIONS, CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNER OF THE UTILITY, STRUCTURE, OR APPURTENANCE. THE UTILITY LINES AND OTHER EXISTING STRUCTURES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE AS TO LOCATION AND/OR DEPTH. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS. DURING CONSTRUCTION, ALL FIRE HYDRANTS, VALVE BOXES, FIRE OR POLICE CALL BOXES AND OTHER EXISTING UTILITY CONTROLS SHALL BE LEFT INTACT, UNOBSTRUCTED AND ACCESSIBLE UNLESS NOTED ON THE PLAN.
6. CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACTUAL EXISTING SUBSURFACE CONDITIONS, INCLUDING BUT NOT LIMITED TO THE DEPTH, LOCATION AND SIZES OF PIPE OR CONDUITS OF VARIOUS KINDS IN PLACE PRIOR TO DEMOLITION. WHERE THE EXACT DEPTH OF ANY UTILITY OR OBSTRUCTION IS NOT SHOWN ON A PLAN, EXCAVATION SHALL BE MADE PRIOR TO REACHING THE OBSTRUCTION IN ORDER TO DETERMINE ADJUSTMENTS IN GRADE IF NEEDED TO PREVENT INTERFERENCE. REDESIGN TO ELIMINATE CONFLICTS MAY BE NECESSARY.
7. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING SELECTIVE DEMOLITION OPERATIONS.
8. PHOTOGRAPH, RECORD ON VIDEO, OR BOTH THE EXISTING CONDITIONS OF THE PROJECT SITE AND ADJOINING PROPERTY.
9. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE RECYCLED, REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE ACCORDING TO CITY, STATE, AND FEDERAL REGULATIONS.
10. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE.
11. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
12. DO NOT BURN DEMOLISHED MATERIALS.
13. TRANSPORT DEMOLISHED MATERIALS OFF OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM.
14. MAINTAIN ACCESS TO EXISTING WALKWAYS, EXITS, AND OTHER FACILITIES USED BY OCCUPANTS OF ADJACENT BUILDINGS.

0' 20' 40' 80'
SCALE: 1" = 20'

UTILITY WARNING:
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BEFORE YOU DIG
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Fort Smith, AR 72901
479-783-2480
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PROFESSIONAL SEAL:
REGISTERED PROFESSIONAL ENGINEER COREY W. LIPPS 21291 OKLAHOMA
1/25/2019

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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:
THE CHEROKEE NATION ESTD. SEPT. 6, 1839

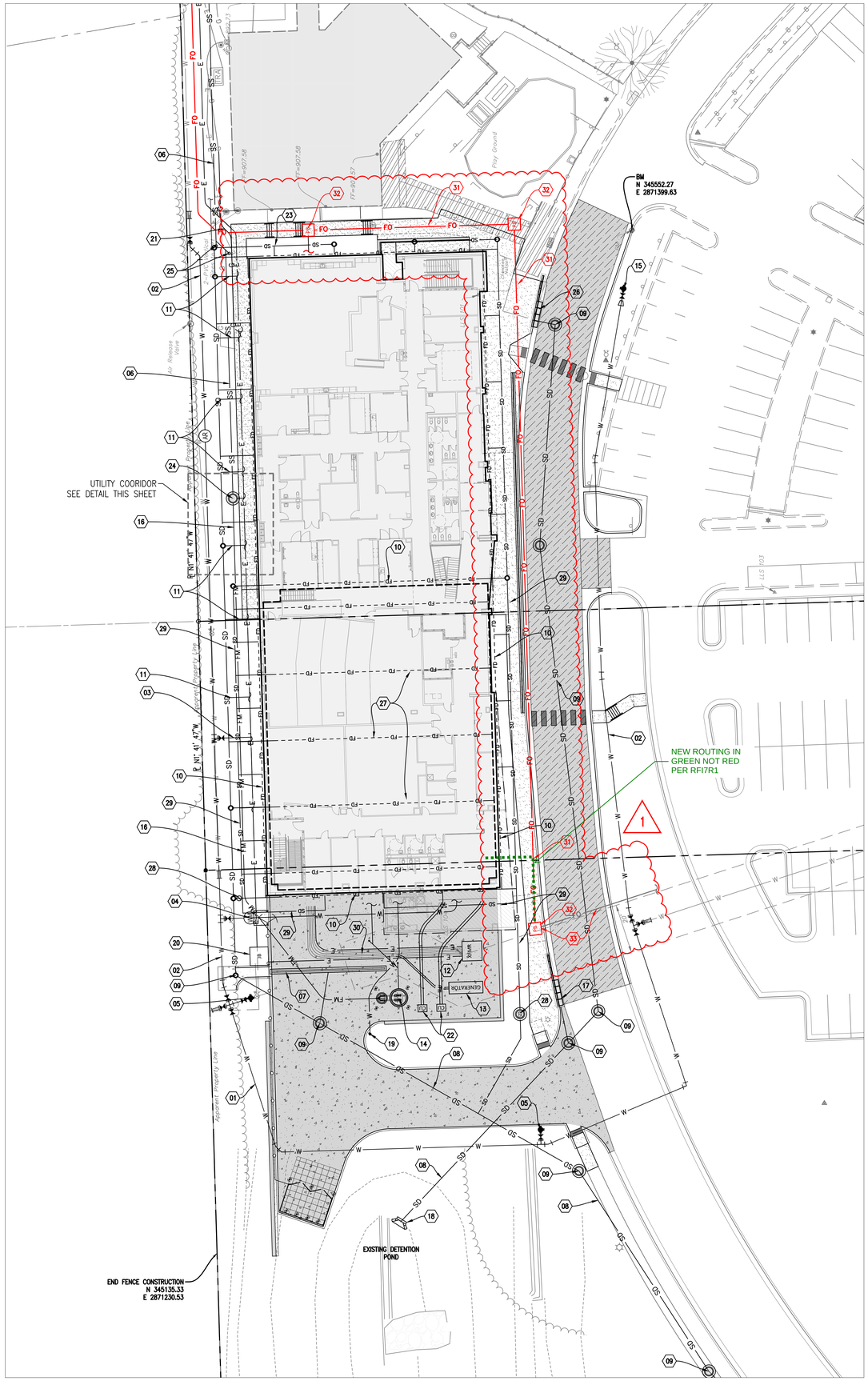
College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 01

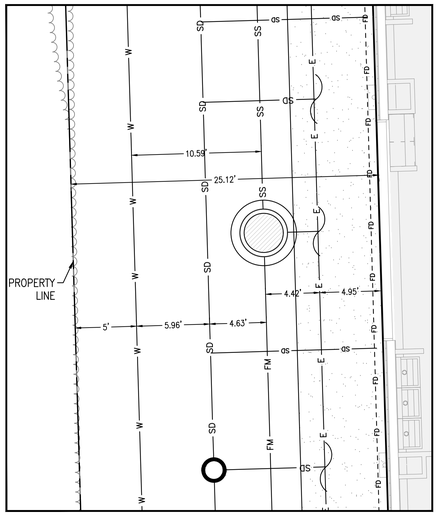
REVISIONS		
#	DATE	DESCRIPTION

DATE: 01-25-19
JOB NUMBER: 17-13
SHEET NUMBER: C2-101
DEMOLITION PLAN



UTILITY PLAN KEYNOTES

NO.	DESCRIPTION
01	CONSTRUCT RELOCATION OF 12-IN WATER LINE PER TPWA STANDARDS AND SPECIFICATIONS. SEE SHEET C7-201.
02	CONSTRUCT RELOCATION OF 8-IN WATER LINE PER TPWA STANDARDS AND SPECIFICATIONS. SEE SHEETS C7-201.
03	INSTALL 8-IN FIRE LINE TO FIRE RISER ROOM. SEE SHEETS C7-203.
04	INSTALL 3-IN WATER SERVICE LINE AND METER PER TPWA STANDARDS AND SPECIFICATIONS.
05	INSTALL FIRE HYDRANT. SEE SHEET C7-201.
06	INSTALL 6-IN SEWER SERVICE LINE. SEE SHEET C8-201.
07	INSTALL TRENCH DRAIN. SEE SHEETS C6-201 TO C6-203.
08	INSTALL HP STORM DRAIN PIPE. SEE SHEETS C6-201 TO C6-203.
09	INSTALL STORM DRAIN MANHOLE. SEE SHEETS C6-201 TO C6-203.
10	INSTALL 4-IN FOUNDATION DRAIN PIPE AROUND BASEMENT. SEE SHEET C6-204.
11	INSTALL HP STORM DRAIN PIPE FOR ROOF DRAINS. SEE SHEET C6-201.
12	PROPOSED TRANSFORMER LOCATION.
13	PROPOSED GENERATOR LOCATION.
14	PROPOSED LIFT STATION FOR BASEMENT SEWER.
15	INSTALL FIRE HYDRANT. SEE SHEET C7-202.
16	INSTALL BASEMENT SEWER FORCE MAIN. SEE SHEET C8-201.
17	INSTALL CAST IRON CURB AND GRATE INLET. SEE SHEET C6-501.
18	INSTALL CONCRETE HEADWALL. SEE SHEET C6-503.
19	INSTALL YARD WATER HYDRANT. SEE MEP FOR BUILDING CONNECTION.
20	ELECTRICAL SERVICE PULL-BOX.
21	INSTALL GAS LINE. REFER TO MEP FOR SIZE AND CONNECTION.
22	MORTECH CONDESNING UNITS. SEE PLUMBING PLANS AND MANUFACTURER DRAWINGS.
23	INSTALL FIBER OPTIC LINE TO BUILDING. REFER TO MEP FOR CONNECTION.
24	INSTALL SANITARY SEWER MANHOLE.
25	INSTALL SANITARY SEWER CLEANOUTS.
26	INSTALL STORM SEWER CURB INLET.
27	UNDERSLAB PERFORATED PIPE FOUNDATION DRAINS.
28	INSTALL 6-IN BACKWATER VALVE FOR FOUNDATION DRAINS.
29	6-IN DRAIN PIPE FOR FOUNDATION AND UNDERSLAB DRAINS.
30	SEE ELECTRICAL DRAWINGS FOR DUCT BANK TO BUILDING.
31	INSTALL (2) 4-IN COMMUNICATION CONDUITS PER CHEROKEE NATION HEALTH IT SPECIFICATIONS FOR FIBER OPTIC SERVICE.
32	INSTALL 30-IN x 48-IN x 36-IN QUAZITE PULLBOX FOR FIBER OPTIC SERVICE. B14304836A BOX WITH C12304803Y COVER. RIM AND COVER OF BOXES WITHIN SIDEWALKS SHALL BE SET FLUSH WITH FINISHED GRADE OF SIDEWALK.
33	THE PRECISE LOCATION OF EXISTING FIBER OPTIC CONDUITS FROM THE OUTPATIENT HEALTH CLINIC IS NOT KNOWN. LOCATE EXISTING CONDUITS CROSSING THE SIDEWALK AND SET QUAZITE PULL BOX TO ROUTE FIBER OPTIC CONDUITS ALONG THE EAST SIDE OF THE NEW FACILITY.



01 UTILITY CORRIDOR
SCALE: 1" = 5'

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC LINE
- PROPOSED GAS LINE
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER LINE
- PROPOSED OVERHEAD ELECTRIC LINE
- PROPOSED UNDERGROUND ELECTRIC LINE
- PROPOSED FIBER OPTIC LINE
- PROPOSED TELEPHONE LINE
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER FORCE MAIN
- PROPOSED PERFORATED DRAIN PIPE

HARDSCAPE / LANDSCAPE PATTERNS

- CONCRETE SIDEWALKS
- HEAVY DUTY CONCRETE PAVING
- REINFORCED HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING

N

0' 20' 40' 80'
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6/20/19

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ESTD. SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

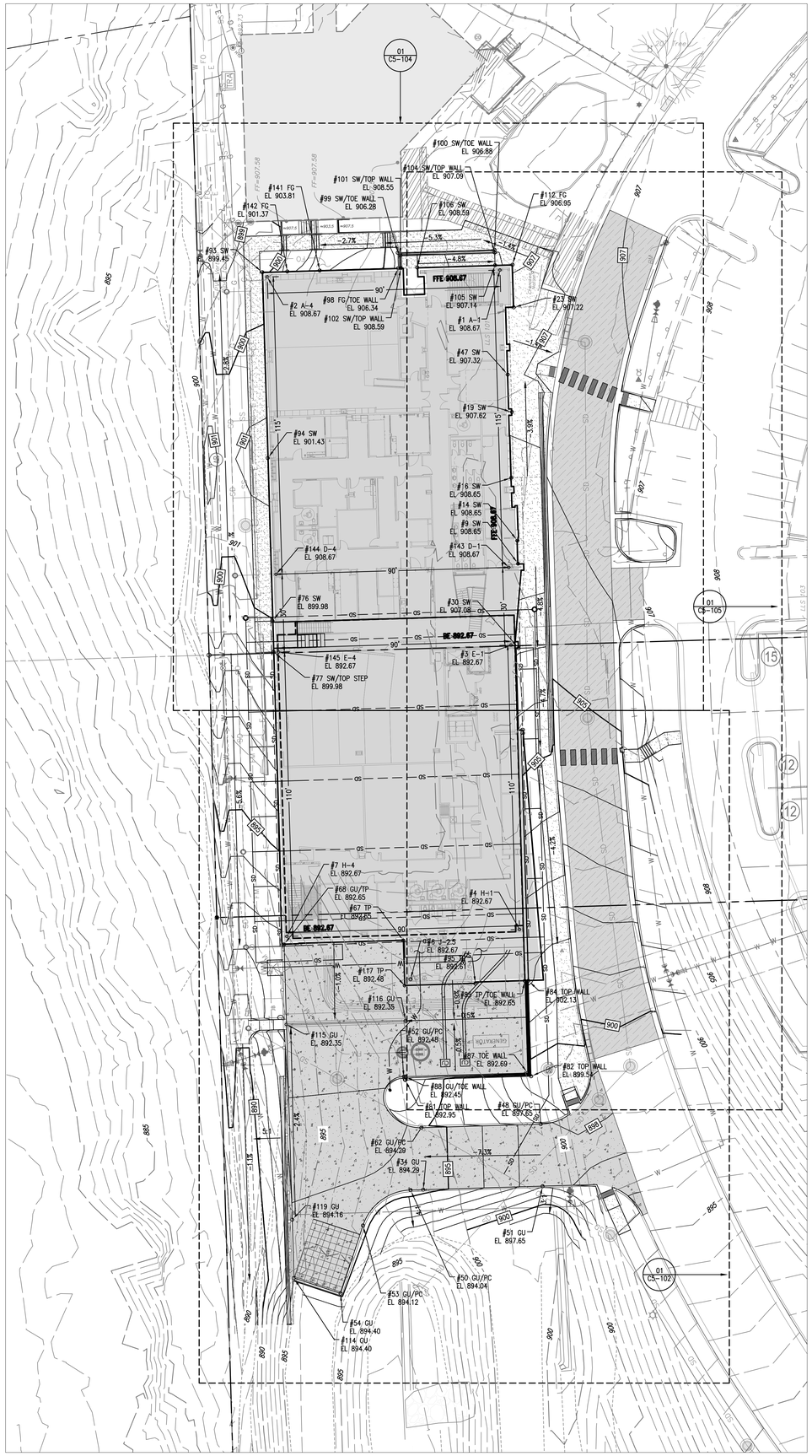
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	6/20/19	BP 04 RFI 007

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
C4-101

UTILITY PLAN



Point Table				
Point #	Elevation	Northing	Easting	Description
1	908.67	345541.68	2871335.38	A-1
2	908.67	345539.02	2871245.42	A-4
3	892.67	345396.75	2871339.67	E-1
4	892.67	345286.80	2871342.92	H-1
6	892.67	345267.54	2871300.81	J-2.5
7	892.67	345284.13	2871252.96	H-4
9	908.65	345428.17	2871342.37	SW
14	908.65	345437.09	2871342.11	SW
16	908.65	345461.36	2871339.76	SW
19	907.62	345486.80	2871339.99	SW
23	907.22	345527.25	2871340.72	SW
30	907.08	345395.50	2871342.61	SW
34	894.29	345186.20	2871305.72	GU
47	907.32	345501.28	2871338.40	SW
48	897.65	345211.56	2871351.16	GU/PC
50	894.04	345186.05	2871300.83	GU/PC
51	897.65	345187.57	2871351.87	GU
52	892.48	345229.95	2871298.14	GU/PC
53	894.12	345172.34	2871282.43	GU/PC
54	894.40	345146.10	2871273.75	GU
62	894.29	345210.19	2871305.01	GU/PC
67	892.65	345282.55	2871297.98	TP
68	892.65	345281.02	2871251.89	GU/TP
76	899.98	345406.02	2871247.47	SW
77	899.98	345394.03	2871247.82	SW/TOP STEP
81	892.95	345228.62	2871298.77	TOP WALL
82	899.54	345230.06	2871347.44	TOP WALL
84	902.13	345266.99	2871346.35	TOP WALL
85	892.65	345266.95	2871345.01	TP/TOE WALL
87	892.69	345231.35	2871346.07	TOE WALL
88	892.45	345229.95	2871298.73	GU/TOE WALL
93	899.45	345540.85	2871243.48	SW
94	901.43	345468.99	2871245.60	SW
95	892.61	345265.90	2871325.87	TP
98	906.34	345542.41	2871296.06	FG/TOE WALL
99	906.28	345548.35	2871295.88	SW/TOE WALL
100	906.88	345549.46	2871333.31	SW/TOE WALL
101	908.55	345547.38	2871296.91	SW/TOP WALL
102	908.59	345542.44	2871297.06	SW/TOP WALL
104	907.09	345548.46	2871333.34	SW/TOP WALL
105	907.14	345543.55	2871333.49	SW
106	908.59	345542.65	2871303.42	SW
112	906.95	345543.74	2871340.23	FG
114	894.40	345152.07	2871255.71	GU
115	892.35	345250.10	2871252.81	GU
116	892.35	345251.47	2871298.90	GU
117	892.48	345265.09	2871298.50	TP
119	894.16	345174.61	2871255.04	GU
141	903.81	345541.51	2871265.70	FG
142	901.37	345541.13	2871253.16	FG
143	908.67	345426.73	2871338.78	D-1
144	908.67	345424.07	2871248.82	D-4
145	892.67	345394.08	2871249.71	E-4

HARDSCAPE / LANDSCAPE PATTERNS

- CONCRETE SIDEWALKS
- HEAVY DUTY CONCRETE PAVING
- REINFORCED HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING

POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

0' 20' 40' 80'

SCALE: 1" = 20'

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21291
5/24/19

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CA# 7110, expiration date 06.30.2020

CLIENT:
THE CHEROKEE NATION
ESTD. DEPT. OF THE INTERIOR SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02

REVISIONS			
#	DATE	DESCRIPTION	
1	04/16/19		ASI 01
2	05/24/19		BID PACKAGE 02 ASI 02

DATE: 02-08-19
JOB NUMBER: 17-13
SHEET NUMBER: C5-101

GRADING PLAN

Point Table				
Point #	Elevation	Northing	Easting	Description
8	890.46	345252.18	2871233.07	TP
13	892.65	345266.95	2871345.01	TP/TOE WALL
15	892.61	345265.90	2871325.87	TP
31	901.44	345281.75	2871362.78	GU
32	894.29	345186.20	2871305.72	GU
33	902.01	345281.23	2871355.63	SW
35	899.08	345226.03	2871364.23	SW
36	898.57	345219.39	2871366.45	SW/GU
37	899.25	345236.73	2871369.89	GU
38	898.62	345215.50	2871362.50	SW/GU
39	899.13	345224.47	2871359.47	SW
40	896.50	345188.19	2871372.85	SW/GU
41	896.44	345187.15	2871378.69	SW/GU
42	895.41	345176.40	2871390.64	GU
43	896.56	345178.11	2871377.12	SW
44	896.51	345180.10	2871381.70	SW
45	895.94	345168.68	2871381.34	SW
46	895.84	345170.76	2871385.88	SW
49	893.42	345218.23	2871291.28	GU/PC
55	890.02	345242.67	2871238.35	GU
56	892.48	345229.95	2871298.14	GU/PC
57	890.91	345252.12	2871230.82	TP
58	890.02	345242.52	2871233.35	TP
59	890.47	345242.45	2871231.11	TP
60	895.00	345134.14	2871253.07	TOE WALL
61	895.00	345134.18	2871254.57	TOP WALL
63	894.08	345182.10	2871289.47	GU/MP
64	894.93	345151.55	2871254.06	TOP WALL
65	891.33	345151.51	2871252.56	TOE WALL
66	892.65	345282.55	2871297.98	TP
69	891.11	345247.81	2871243.20	GU/FL FLUME
71	892.65	345252.05	2871251.08	FL FLUME
72	892.65	345248.05	2871251.20	FL FLUME
78	892.18	345229.94	2871250.24	TOE WALL
79	893.15	345281.00	2871251.22	TC
80	890.46	345251.67	2871238.09	GU/FL FLUME
86	892.58	345252.84	2871345.43	TP/TOE WALL
89	892.18	345229.98	2871251.73	TOP WALL
90	892.69	345231.35	2871346.07	TP/TOE WALL
91	892.35	345251.47	2871298.90	GRATE
92	901.14	345252.88	2871346.76	TOP WALL
97	892.48	345265.09	2871298.50	TP
113	891.58	345174.52	2871251.88	TOE WALL
118	894.16	345168.89	2871281.29	GU
120	894.68	345174.56	2871253.38	TOP WALL
146	894.04	345186.05	2871300.83	GU/PC
147	894.40	345146.10	2871273.75	GU
148	894.40	345152.07	2871255.71	GU
149	894.16	345174.61	2871255.04	GU
150	894.16	345174.86	2871263.25	TP
151	892.35	345248.10	2871252.86	GU
152	892.35	345252.10	2871252.75	GU
153	892.65	345281.02	2871251.89	GU
154	892.85	345252.75	2871252.06	TC
155	892.85	345247.41	2871252.22	TC
156	902.13	345266.99	2871346.35	TOP WALL
157	899.54	345230.06	2871347.44	TOP WALL
158	892.95	345228.62	2871298.77	TOP WALL
159	892.45	345229.95	2871298.73	TP/TOE WALL
160	894.29	345210.19	2871305.01	GU/PC
161	897.65	345211.56	2871351.16	GU/PC
162	897.65	345187.57	2871351.87	GU
163	892.49	345274.90	2871245.40	SW
164	892.39	345268.91	2871245.58	SW
165	892.48	345269.08	2871251.58	SW/TC
166	892.58	345275.08	2871251.40	SW/TC
167	901.09	345261.66	2871357.27	SW
168	899.22	345229.23	2871357.94	SW
169	899.17	345230.79	2871362.69	SW
170	905.13	345355.19	2871349.42	SW
171	905.52	345364.14	2871349.16	SW
172	905.09	345355.47	2871354.42	SW/TOP WALL
173	905.47	345364.29	2871354.16	SW/TOP WALL
174	904.51	345355.60	2871356.58	GU
175	904.61	345364.35	2871356.32	GU

1

HARDSCAPE / LANDSCAPE PATTERNS

- CONCRETE SIDEWALKS
- HEAVY DUTY CONCRETE PAVING
- REINFORCED HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING
- SODDING / SEEDING / VEGETATIVE COVER

POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
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SW	SIDEWALK
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01 SOUTH AREA
Scale: N.T.S.

SCALE: 1" = 10'

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4/1/19

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ESTD. SEPT. 6, 1839

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AT THE CHEROKEE NATION
TAHLEQUAH, OK

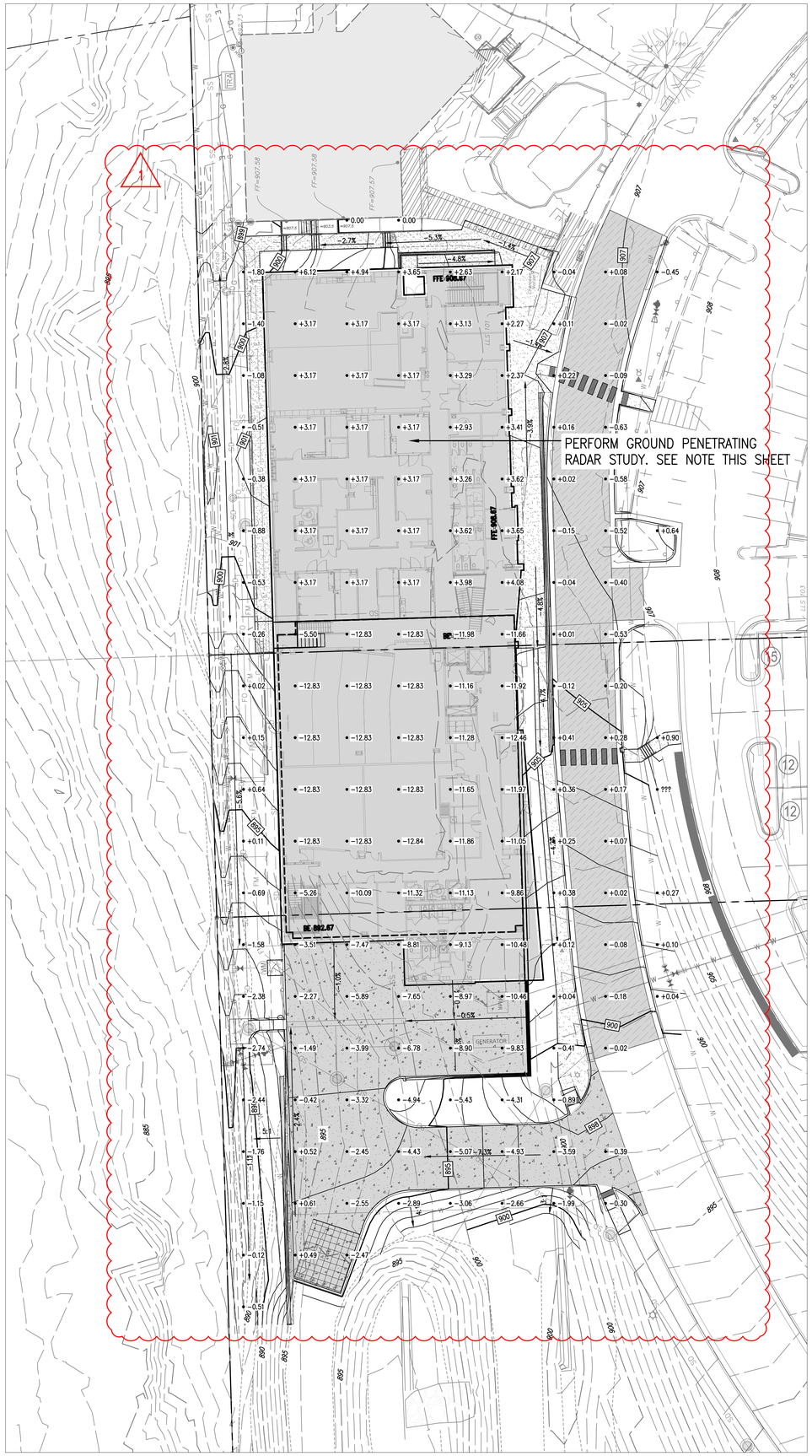
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02

REVISIONS		
#	DATE	DESCRIPTION
1	04/16/19	ASI 01

DATE: 02-08-19
JOB NUMBER: 17-13
SHEET NUMBER: C5-102

GRADING PLAN



PERFORM GROUND PENETRATING RADAR STUDY. SEE NOTE THIS SHEET

SCALE: 1" = 20'

EARTHWORK CALCULATION NOTES

1. THE EARTHWORK VOLUMES PROVIDED ARE CALCULATED BY COMPARING THE FINISHED GRADE SURFACE MODEL WITH THE EXISTING GRADE SURFACE MODEL.
2. NO CORRECTION IS MADE FOR COMPACTION OR EXPANSION OF MATERIALS.
3. NO CORRECTION IS MADE FOR PAVEMENT THICKNESS.
4. NO CORRECTION IS MADE FOR UTILITY TRENCH SPOILS.
5. ANY CUT OR FILL WITHIN THE FOOTPRINT OF THE EXISTING STRUCTURE ARE NOT INCLUDED IN THE QUANTITIES BELOW.

1

CUT VOLUME = 9,100 CY
FILL VOLUME = 1,881 CY

NET VOLUME = 7,219 CY CUT

GROUND PENETRATING RADAR

ONCE FINAL EXCAVATION WITHIN THE BUILDING FOOTPRINT IS ACHIEVED, THE SUBSURFACE AREA WITHIN THE FOOTPRINT SHALL BE INSPECTED WITH GROUND PENETRATING RADAR (GPR) TO POTENTIALLY LOCATE LARGE SHALLOW SUBSURFACE VOIDS, IF PRESENT.

HARDSCAPE / LANDSCAPE PATTERNS

⁘	CONCRETE SIDEWALKS
▩	HEAVY DUTY CONCRETE PAVING
▦	REINFORCED HEAVY DUTY CONCRETE PAVING
▨	HEAVY DUTY ASPHALT PAVING
☐	SODDING / SEEDING / VEGETATIVE COVER

POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

UTILITY WARNING:
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James R. Childers
Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:
COREY W. LIPPS
21291
4/16/19

CONSULTANT LOGO:

CARDINAL
ENGINEERING
An ENVIROCLEAN Company
525 Central Park Drive
Suite 500
Oklahoma City, Oklahoma 73105
P: 405-842-1066 F: 405-843-4687
OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:
SEAL OF THE CHEROKEE NATION
SEPT. 6, 1839

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02

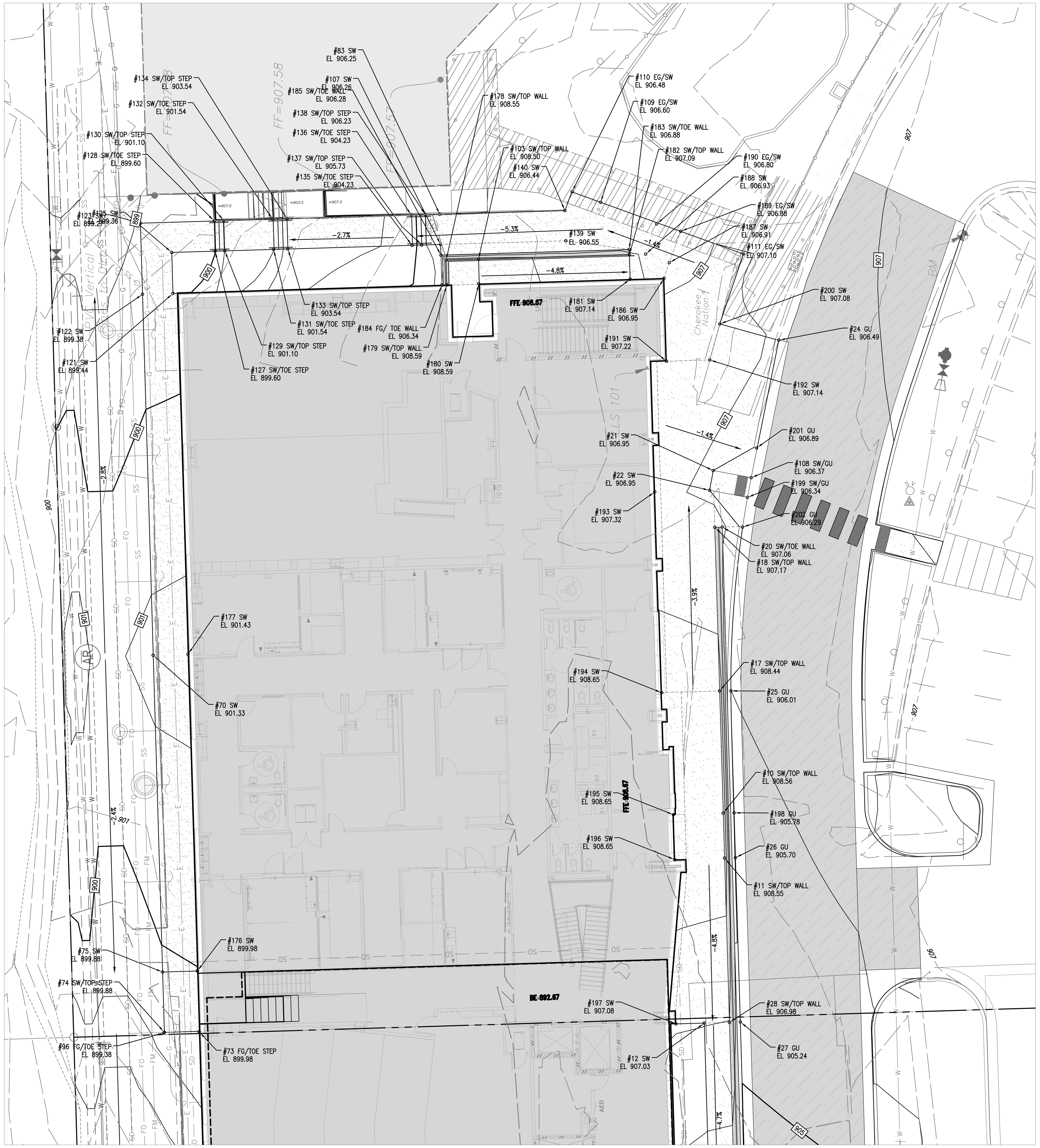
REVISIONS		
#	DATE	DESCRIPTION
1	04/16/19	ASI 01

DATE:
02-08-19

JOB NUMBER:
17-13

SHEET NUMBER:
C5-103

EARTHWORK
VOLUMES
STUDY



01 **NORTH AREA**
Scale: N.T.S.

0' 10' 20' 40'
SCALE: 1" = 10'

HARDSCAPE / LANDSCAPE PATTERNS

- CONCRETE SIDEWALKS
- HEAVY DUTY CONCRETE PAVING
- REINFORCED HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING
- SODDING / SEEDING / VEGETATIVE COVER

POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

Point Table

Point #	Elevation	Northing	Easting	Description
10	908.56	345437.41	2871351.99	SW/TOP WALL
11	908.55	345428.47	2871352.26	SW/TOP WALL
12	907.03	345395.67	2871348.23	SW
17	908.44	345461.70	2871351.27	SW/TOP WALL
18	907.17	345494.24	2871350.31	SW/TOP WALL
20	907.06	345494.28	2871351.81	SW/TOE WALL
21	906.95	345505.53	2871350.01	SW
22	906.95	345501.60	2871349.28	SW
24	906.49	345531.45	2871363.04	GU
25	906.01	345461.71	2871353.50	GU
26	905.70	345428.56	2871354.42	GU
27	905.24	345395.91	2871355.39	GU
28	906.98	345395.81	2871353.22	SW/TOP WALL
70	901.33	345468.79	2871238.69	SW
73	899.98	345393.94	2871247.83	FG/TOE STEP
74	899.88	345393.82	2871240.91	SW/TOP STEP
75	899.88	345405.82	2871240.55	SW
83	906.25	345556.46	2871295.64	SW
96	899.38	345393.74	2871240.83	FG/TOE STEP
103	908.50	345547.57	2871303.35	SW/TOP WALL
107	906.26	345550.46	2871295.82	SW
108	906.37	345504.11	2871357.55	SW/GU
109	906.60	345558.84	2871327.63	EG/SW
110	906.48	345560.98	2871321.95	EG/SW
111	907.10	345548.56	2871356.01	EG/SW
121	899.44	345540.74	2871242.62	SW
122	899.38	345540.56	2871236.56	SW
123	899.27	345554.70	2871236.15	SW
125	899.36	345548.88	2871242.38	SW
127	899.60	345549.14	2871251.00	SW/TOE STEP
128	899.60	345555.14	2871250.82	SW/TOE STEP
129	901.10	345549.19	2871252.92	SW/TOP STEP
130	901.10	345555.19	2871252.74	SW/TOP STEP
131	901.54	345549.48	2871262.63	SW/TOE STEP
132	901.54	345555.48	2871262.45	SW/TOE STEP
133	903.54	345549.57	2871265.46	SW/TOP STEP
134	903.54	345555.56	2871265.29	SW/TOP STEP
135	904.23	345550.30	2871290.15	SW/TOE STEP
136	904.23	345556.29	2871289.98	SW/TOE STEP
137	905.73	345550.35	2871292.07	SW/TOP STEP
138	906.23	345556.38	2871292.81	SW/TOP STEP
139	906.55	345551.20	2871320.70	SW
140	906.44	345557.20	2871320.52	SW
176	899.98	345406.02	2871247.47	SW
177	901.43	345468.99	2871245.60	SW
178	908.55	345547.38	2871296.91	SW/TOP WALL
179	908.59	345542.44	2871297.06	SW/TOP WALL
180	908.59	345542.65	2871303.42	SW
181	907.14	345543.55	2871333.49	SW
182	907.09	345548.46	2871333.34	SW/TOP WALL
183	906.88	345549.46	2871333.31	SW/TOE WALL
184	906.34	345542.41	2871296.06	FG/ TOE WALL
185	906.28	345548.35	2871295.88	SW/TOE WALL
186	906.95	345543.74	2871340.23	SW
187	906.91	345546.85	2871341.27	SW
188	906.93	345548.56	2871336.57	SW
189	906.88	345553.08	2871343.53	EG/SW
190	906.80	345554.55	2871338.76	EG/SW
191	907.22	345527.25	2871340.72	SW
192	907.14	345527.51	2871349.32	SW
193	907.32	345501.28	2871338.40	SW
194	908.65	345461.36	2871339.76	SW
195	908.65	345437.09	2871342.11	SW
196	908.65	345428.17	2871342.37	SW
197	907.08	345395.50	2871342.61	SW
198	905.78	345437.47	2871354.16	GU
199	906.34	345500.18	2871356.81	SW/GU
200	907.08	345534.66	2871351.31	SW
201	906.89	345510.00	2871358.63	GU
202	906.29	345494.28	2871355.84	GU

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CLIENT:
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SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02
ASI 01

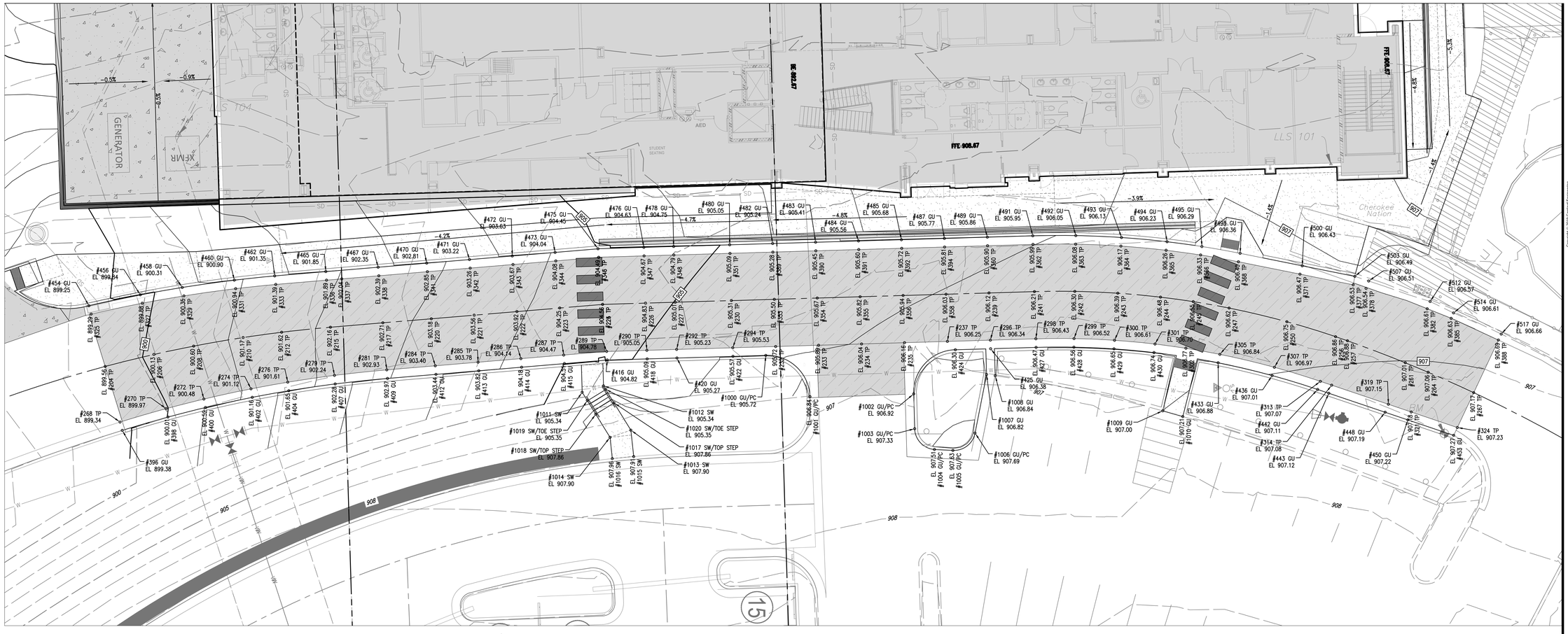
REVISIONS

#	DATE	DESCRIPTION

DATE: 04-16-19
JOB NUMBER: 17-13

SHEET NUMBER:
C5-104

GRADING PLAN



01 DRIVEWAY
Scale: N.T.S.

0' 10' 20' 40'
SCALE: 1" = 10'

Point Table				
Point #	Elevation	Northing	Easting	Description
204	899.56	345240.51	2871384.02	TP
206	900.13	345251.84	2871381.23	TP
208	900.60	345261.11	2871379.28	TP
210	901.17	345272.64	2871377.29	TP
212	901.62	345281.59	2871376.05	TP
215	902.16	345292.96	2871374.88	TP
217	902.71	345305.16	2871373.86	TP
220	903.18	345316.45	2871372.91	TP
221	903.56	345326.41	2871372.08	TP
222	903.92	345336.38	2871371.24	TP
223	904.25	345346.34	2871370.40	TP
224	904.56	345356.31	2871369.57	TP
225	904.56	345356.33	2871369.57	TP
226	904.83	345366.31	2871369.27	TP
227	905.01	345373.23	2871369.07	TP
230	905.31	345386.30	2871368.68	TP
232	905.72	345396.62	2871379.38	TP
233	905.89	345406.61	2871379.08	TP
234	906.04	345416.61	2871378.79	TP
235	906.16	345426.60	2871378.49	TP
237	906.25	345436.60	2871378.19	TP
239	906.12	345446.27	2871366.90	TP
241	906.21	345456.86	2871366.59	TP
242	906.30	345466.26	2871366.53	TP
243	906.39	345476.25	2871366.96	TP
244	906.48	345486.21	2871367.88	TP
245	906.55	345493.83	2871368.93	TP
247	906.62	345502.18	2871370.42	TP
250	906.75	345515.63	2871373.61	TP
256	906.86	345526.96	2871377.08	TP
257	906.88	345529.73	2871378.04	TP
261	907.01	345543.18	2871383.16	TP
264	907.06	345548.52	2871385.38	TP
267	907.17	345559.12	2871390.12	TP
268	899.34	345243.98	2871396.98	TP
270	899.97	345254.70	2871393.86	TP
272	900.48	345263.49	2871391.62	TP
274	901.12	345274.47	2871389.24	TP
276	901.61	345283.02	2871387.69	TP
279	902.24	345293.90	2871386.10	TP

Point Table				
Point #	Elevation	Northing	Easting	Description
281	902.93	345306.08	2871384.82	TP
284	903.40	345317.37	2871383.87	TP
285	903.78	345327.33	2871383.04	TP
286	904.14	345337.30	2871382.20	TP
287	904.47	345347.26	2871381.37	TP
289	904.78	345357.25	2871380.53	TP
290	905.05	345366.63	2871380.27	TP
292	905.23	345373.57	2871380.06	TP
294	905.53	345386.62	2871379.67	TP
296	906.34	345446.60	2871377.90	TP
298	906.43	345457.18	2871377.58	TP
299	906.52	345466.07	2871377.53	TP
300	906.61	345475.51	2871377.93	TP
301	906.70	345484.92	2871378.80	TP
302	906.77	345492.12	2871379.79	TP
305	906.84	345500.02	2871381.21	TP
307	906.97	345512.72	2871384.22	TP
313	907.07	345523.43	2871387.50	TP
314	907.08	345526.05	2871388.38	TP
319	907.15	345539.26	2871392.84	TP
321	907.18	345544.57	2871394.63	TP
324	907.23	345555.30	2871398.25	TP
325	899.29	345237.25	2871371.83	TP
327	899.88	345249.14	2871369.29	TP
329	900.35	345258.84	2871367.58	TP
331	900.94	345270.89	2871365.90	TP
333	901.39	345280.23	2871364.92	TP
336	901.89	345292.04	2871363.92	TP
337	902.04	345295.60	2871363.62	TP
338	902.39	345304.24	2871362.90	TP
341	902.85	345315.53	2871361.95	TP
342	903.26	345325.49	2871361.11	TP
343	903.67	345335.46	2871360.28	TP
344	904.08	345345.42	2871359.44	TP
345	904.49	345355.39	2871358.61	TP
346	904.49	345355.41	2871358.60	TP
347	904.67	345365.98	2871358.28	TP
348	904.79	345372.91	2871358.07	TP
351	905.09	345385.97	2871357.68	TP
353	905.50	345396.29	2871368.38	TP

Point Table				
Point #	Elevation	Northing	Easting	Description
354	905.67	345406.29	2871368.09	TP
355	905.82	345416.28	2871367.79	TP
356	905.94	345426.28	2871367.49	TP
358	906.03	345436.27	2871367.20	TP
360	905.90	345445.94	2871355.91	TP
362	905.99	345456.53	2871355.59	TP
363	906.08	345466.46	2871355.53	TP
364	906.17	345477.00	2871355.98	TP
365	906.26	345487.50	2871356.95	TP
366	906.33	345495.53	2871358.06	TP
368	906.40	345504.34	2871359.64	TP
371	906.47	345518.67	2871362.51	TP
377	906.53	345531.05	2871365.00	TP
378	906.54	345534.06	2871365.84	TP
382	906.61	345548.28	2871370.59	TP
385	906.63	345553.87	2871372.83	TP
388	906.69	345564.86	2871377.88	TP
389	905.28	345395.97	2871357.39	TP
390	905.45	345405.96	2871357.09	TP
391	905.60	345415.96	2871356.79	TP
392	905.72	345425.95	2871356.50	TP
394	905.81	345435.95	2871356.20	TP
396	899.38	345244.50	2871398.91	GU
398	900.01	345255.14	2871395.81	GU
400	900.52	345263.87	2871393.59	GU
402	901.16	345274.77	2871391.22	GU
404	901.65	345283.26	2871389.68	GU
407	902.28	345294.07	2871388.09	GU
409	902.97	345306.24	2871386.81	GU
412	903.44	345317.54	2871385.87	GU
413	903.82	345327.50	2871385.03	GU
414	904.18	345337.47	2871384.19	GU
415	904.51	345347.43	2871383.36	GU
416	904.82	345357.40	2871382.52	GU
418	905.09	345366.69	2871382.26	GU
420	905.27	345373.63	2871382.06	GU
422	905.57	345386.68	2871381.67	GU
424	906.30	345438.44	2871380.14	GU
425	906.38	345446.65	2871379.90	GU
427	906.47	345457.24	2871379.58	GU

Point Table				
Point #	Elevation	Northing	Easting	Description
428	906.56	345466.04	2871379.53	GU
429	906.65	345475.38	2871379.93	GU
430	906.74	345484.69	2871380.79	GU
433	906.88	345499.62	2871383.16	GU
436	907.01	345512.19	2871386.15	GU
442	907.11	345522.79	2871389.39	GU
443	907.12	345525.39	2871390.27	GU
448	907.19	345538.50	2871394.69	GU
450	907.22	345543.78	2871396.47	GU
453	907.27	345554.45	2871400.06	GU
454	899.25	345236.73	2871369.89	GU
456	899.84	345248.70	2871367.34	GU
458	900.31	345258.46	2871365.62	GU
460	900.90	345270.59	2871363.92	GU
462	901.35	345279.99	2871362.93	GU
465	901.85	345291.88	2871361.93	GU
467	902.35	345304.07	2871360.90	GU
470	902.81	345315.36	2871359.96	GU
471	903.22	345325.33	2871359.12	GU
472	903.63	345335.29	2871358.29	GU
473	904.04	345345.26	2871357.45	GU
475	904.45	345355.25	2871356.61	GU
476	904.63	345365.92	2871356.28	GU
478	904.75	345372.86	2871356.07	GU
480	905.05	345385.91	2871355.68	GU
482	905.24	345395.91	2871355.39	GU
483	905.41	345405.90	2871355.09	GU
484	905.56	345415.90	2871354.80	GU
485	905.68	345425.89	2871354.50	GU
487	905.77	345435.89	2871354.20	GU
489	905.86	345445.89	2871353.91	GU
491	905.95	345456.47	2871353.59	GU
492	906.05	345466.49	2871353.53	GU
493	906.13	345477.13	2871353.98	GU
494	906.23	345487.73	2871354.97	GU
495	906.29	345495.84	2871356.08	GU
498	906.36	345504.75	2871357.68	GU
500	906.43	345519.20	2871360.59	GU
503	906.49	345531.44	2871363.04	GU
507	906.51	345534.67	2871364.12	GU

Point Table				
Point #	Elevation	Northing	Easting	Description
512	906.57	345548.98	2871368.88	GU
514	906.61	345554.41	2871371.55	GU
517	906.66	345565.52	2871376.49	GU
1000	905.72	345394.31	2871381.45	GU/PC
1001	906.84	345404.60	2871391.07	GU/PC
1002	906.92	345428.74	2871390.42	GU/PC
1003	907.33	345428.97	2871398.53	GU/PC
1004	907.51	345433.57	2871403.37	GU/PC
1005	907.63	345437.88	2871403.58	GU/PC
1006	907.69	345443.03	2871399.55	GU/PC
1007	906.82	345445.71	2871385.90	GU
1008	906.84	345447.72	2871386.19	GU
1009	907.00	345486.72	2871394.36	GU
1010	907.21	345491.39	2871395.71	GU
1011	905.34	345351.57	2871390.03	SW
1012	905.34	345356.53	2871388.55	SW
1013	907.90	345362.90	2871398.87	SW
1014	907.90	345358.05	2871400.53	SW
1015	907.91	345363.55	2871405.02	SW
1016	907.96	345358.58	2871405.50	SW
1017	907.86	345358.98	2871392.52	SW/TOP STEP
1018	907.86	345354.72	2871395.14	SW/TOP STEP
1019	905.35	345352.75	2871391.95	SW/TOE STEP
1020	905.35	345357.01	2871389.33	SW/TOE STEP

HARDSCAPE / LANDSCAPE PATTERNS

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- REINFORCED HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING
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TOP WALL	FINISHED GRADE AT TOP OF WALL

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College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

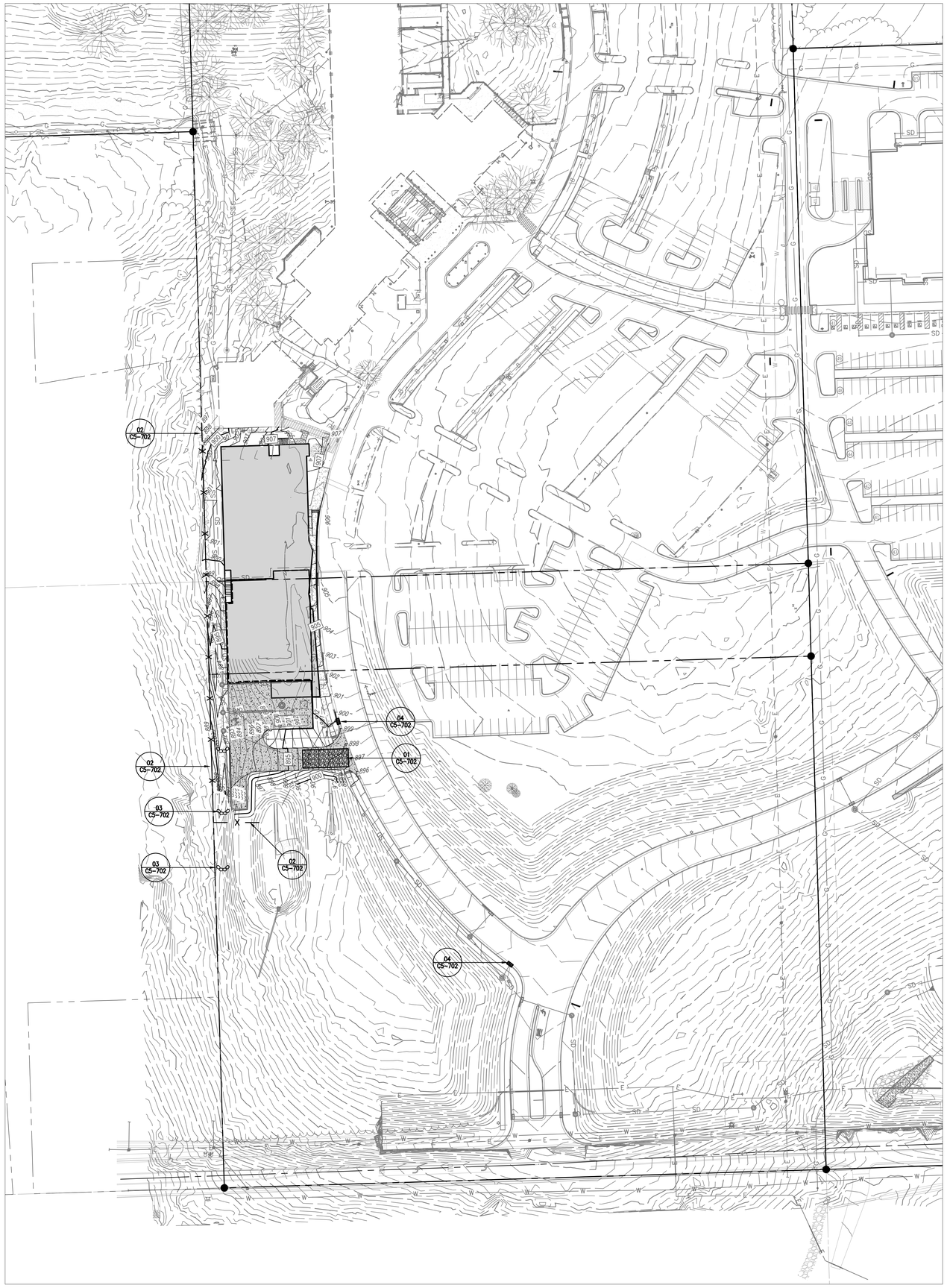
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02
ASI 01

REVISIONS		
#	DATE	DESCRIPTION

DATE: 04-16-19
JOB NUMBER: 17-13
SHEET NUMBER: C5-105

GRADING PLAN



0' 50' 100' 200'

SCALE: 1" = 50'

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REVISIONS		
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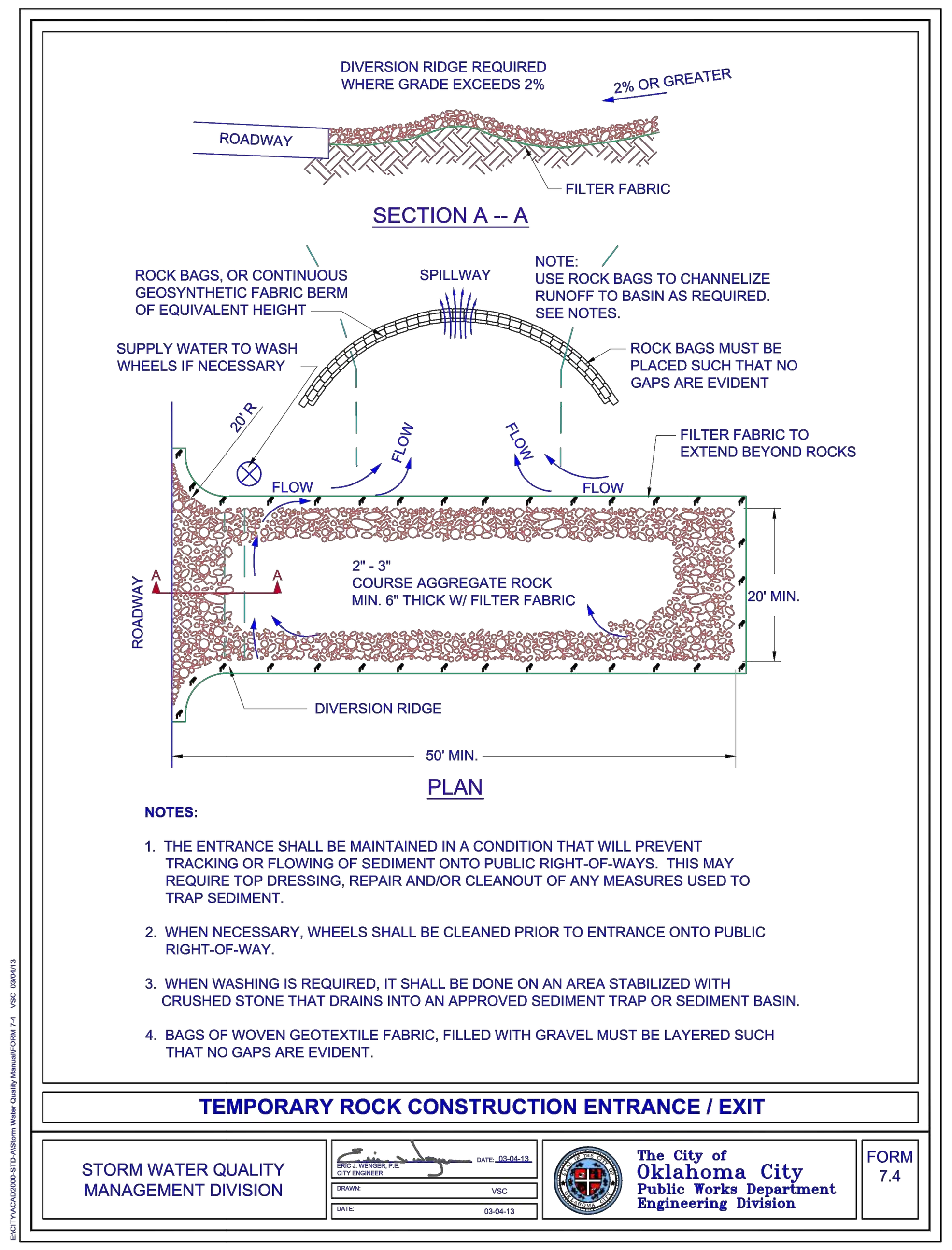
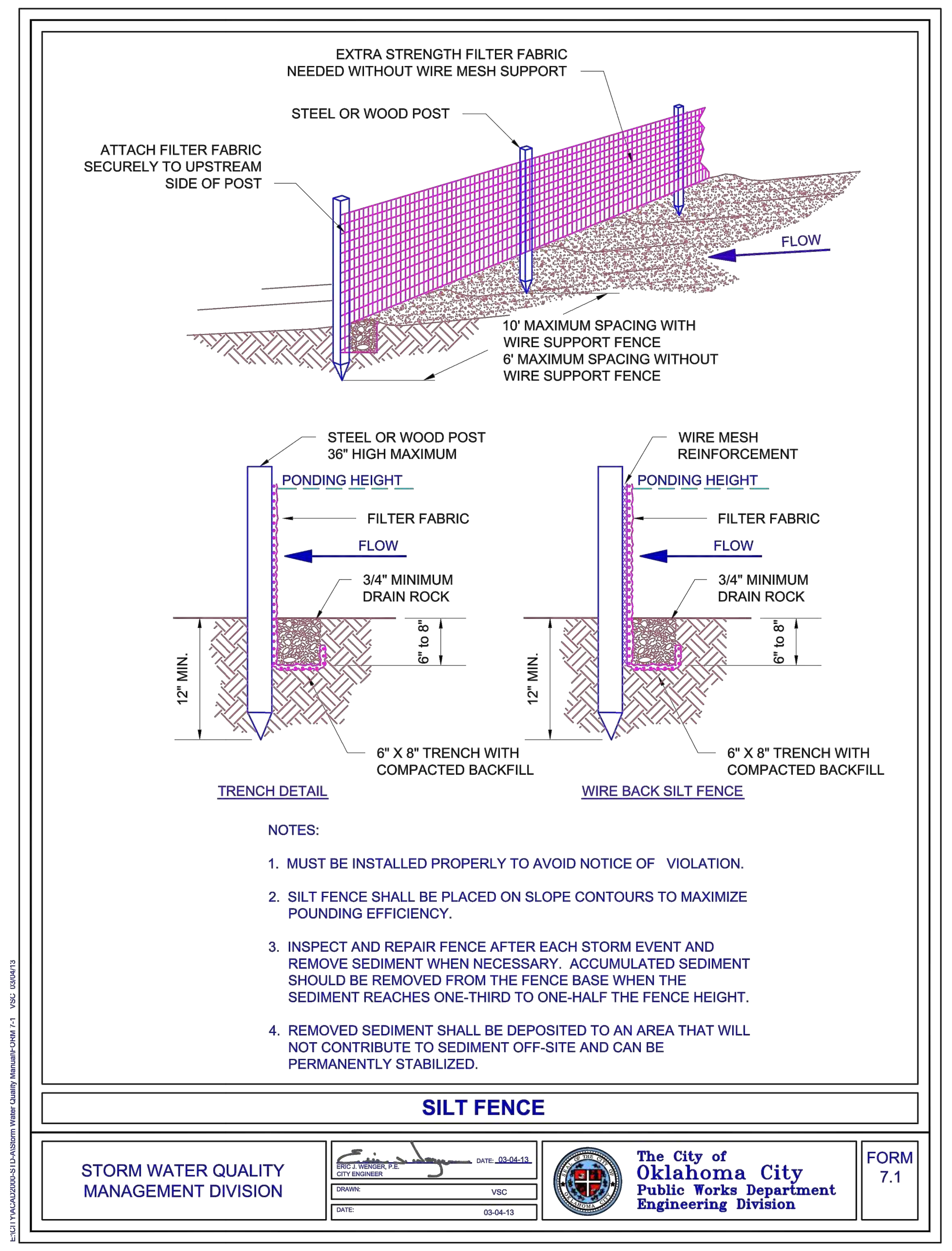
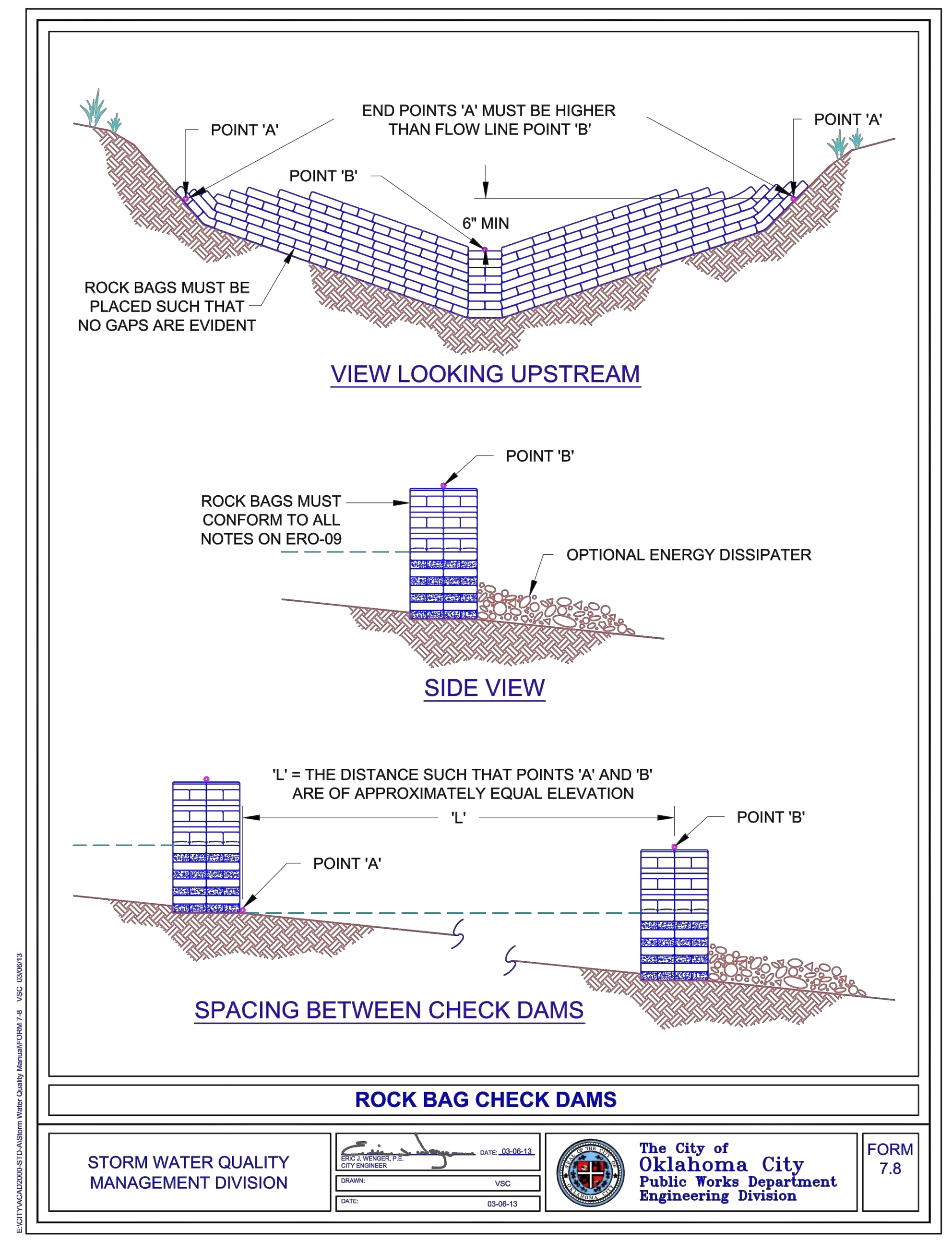
DATE: 01-25-19
JOB NUMBER: 17-13

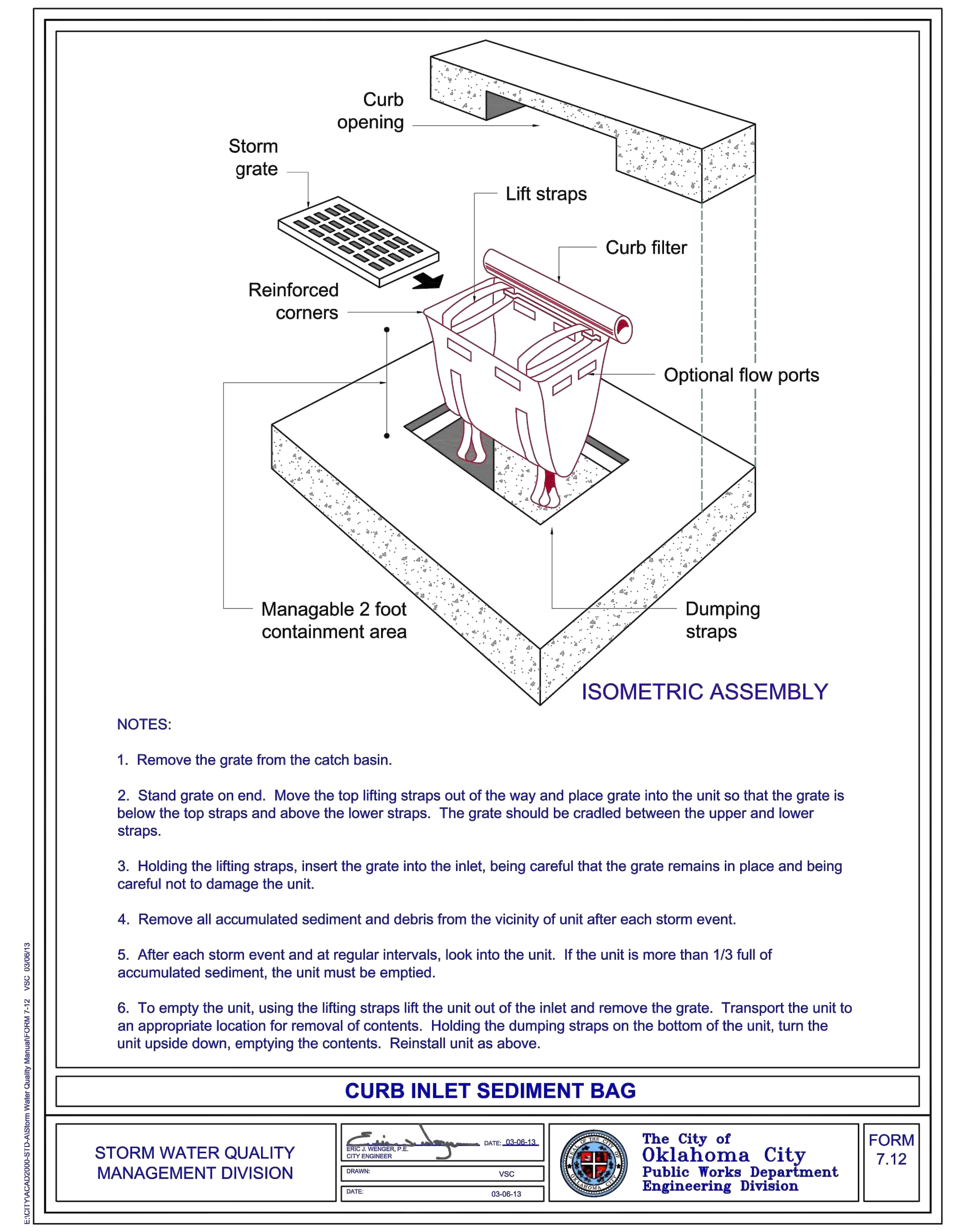
SHEET NUMBER:
C5-701

EROSION CONTROL PLAN









01 TEMPORARY ROCK CONSTRUCTION ENTRANCE
Scale: N.T.S.

02 SILT FENCE
Scale: N.T.S.

03 ROCK BAG CHECK DAMS
Scale: N.T.S.

04 CURB INLET SEDIMENT BAG
Scale: N.T.S.

STORMWATER POLLUTION PREVENTION PLAN

A STORMWATER POLLUTION PREVENTION PLAN (SWP3) HAS BEEN PREPARED FOR THE WORK AND AN NOTICE OF INTENT (NOI) HAS BEEN SUBMITTED BY OWNER TO THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY. CONTRACTOR SHALL IMPLEMENT THE SWP3, AND CONSTRUCT, INSPECT, AND MAINTAIN THE EROSION CONTROLS TO PREVENT RUNOFF OF SILT AND SEDIMENT FROM THE SITE. A COPY OF THE SWP3 SHALL BE KEPT AT THE SITE AT ALL TIMES AND BE MADE AVAILABLE TO INSPECTORS UPON REQUEST. INSPECTIONS REPORTS SHALL BE MAINTAINED IN THE SWP3 AND THE SWP3 SHALL BE UPDATED WHEN NECESSARY.

POSTING OF PUBLIC NOTICE

1. CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING PUBLIC NOTICE. THE NOTICE SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE THAT INDICATES THE FOLLOWING INFORMATION:
   - THE PERMIT NUMBER FOR THE PROJECT OR A COPY OF THE NOI IF A PERMIT NUMBER HAS NOT YET BEEN ASSIGNED.
   - THE NAME AND TELEPHONE NUMBER OF A LOCAL CONTACT PERSON.
   - A BRIEF DESCRIPTION OF THE PROJECT.
   - THE LOCATION OF THIS SWP3 IF THE SITE IS INACTIVE OR DOES NOT HAVE AN ON-SITE LOCATION TO STORE THE PLAN.

EROSION AND SEDIMENT CONTROLS

1. CONSTRUCTION AND PLACEMENT OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PERFORMED IN CONJUNCTION WITH THE PROGRESS OF GENERAL CONSTRUCTION. CONTRACTOR SHALL INSTALL THE EROSION CONTROL DEVICES SHOWN AND INSTALL ADDITIONAL EROSION CONTROL DEVICES AS NECESSARY TO PREVENT SILT RUNOFF FROM THE WORK AREA ONTO ADJACENT AREAS.
2. THE EROSION AND SEDIMENT CONTROLS TO BE USED FOR THIS SITE ARE:
   - TEMPORARY CONSTRUCTION ENTRANCE/EXIT – STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS WHERE CONSTRUCTION OR EMPLOYEE VEHICLES ENTER OR LEAVE THE CONSTRUCTION OR STAGING AREAS.
   - ROCK BAG FILTER BERMS – ROCK BAG FILTER BERMS SHALL BE PLACED IN SMALL OPEN CHANNELS. THE BERMS SHALL BE PLACED SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
   - ROCK BAG INLET BARRIER – ROCK BAG INLET BARRIERS SHALL BE PLACED AROUND ALL INLETS PROPOSED AND EXISTING THAT ARE RECEIVING RUNOFF FROM THE SITE.
   - SILT FENCES – SILT FENCES SHALL BE PLACED ALONG THE PERIMETER OF THE PROJECT WHERE STORM WATER WILL EXIT THE SITE. SILT FENCES SHALL ALSO BE UTILIZED ALONG SLOPE CONTOURS WHERE VEGETATIVE COVER IS NOT SUFFICIENTLY ESTABLISHED TO PREVENT EROSION.
   - SODDING/SITE SEEDING – SODDING AND SEEDING SHALL BE USED TO ESTABLISH FINAL VEGETATIVE COVER.
3. THE FOLLOWING ARE SOME OTHER CONTROLS THAT MAY BE USED IN THE COURSE OF THIS PROJECT.
   - COMMON VEGETATIVE PRACTICES – TEMPORARY SEEDING, MULCHING, PERMANENT SEEDING AND PLANTING, PRESERVATION OF NATURAL VEGETATION, DUST CONTROL
   - STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES – SILT FENCE, STORM DRAIN INLET PROTECTION, OUTLET PROTECTION, BERMS FOR FUEL STORAGE AND DISPENSING AREAS
4. ADDITIONAL CONTROLS NOT LISTED ABOVE MAY ALSO BE CONSIDERED FOR USE.

OTHER CONTROLS

1. THE PREMISES AND THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD. REMOVE CRATES, CARTONS, AND FLAMMABLE WASTE MATERIALS OR TRASH FROM THE WORK AREAS AT THE END OF EACH WORKING DAY.
2. PAVEMENT ON-SITE AND ON ADJOINING STREETS SHALL BE KEPT FREE OF ANY SEDIMENT OR MUD TRACKING FROM TRUCK TIRES OR FROM OTHER EQUIPMENT.
3. CHEMICAL TOILETS FOR THE USE OF ALL CONSTRUCTION PERSONNEL SHALL BE PROVIDED AT A LOCATION WITHIN THE LIMITS OF THE SITE. CHEMICAL TOILETS SHALL BE MAINTAINED IN A SANITARY CONDITION.
4. ANY DISPOSAL OF CONSTRUCTION WASTES, HAZARDOUS PRODUCTS, CONTAMINATED SOILS SHALL BE DISPOSED OF ACCORDING TO REQUIREMENTS OF THE CITY, COUNTY, ODEQ, AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY.
5. THE WHEELS OF VEHICLES LEAVING THE CONSTRUCTION AREAS SHALL BE CLEANED OF MUD PRIOR TO LEAVING THE CONSTRUCTION OR STAGING AREAS. WHEEL WASHING SHALL BE PERFORMED IN AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
6. ADEQUATE CONTROLS SHALL BE MADE TO PREVENT AND/OR CONTROL ANY RELEASE OF PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS, AND HAZARDOUS PRODUCTS.
7. ANY SPILL OF PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS, AND HAZARDOUS PRODUCTS SHALL BE CONTAINED AND REMOVED ACCORDING TO STATE AND FEDERAL REQUIREMENTS. ANY SPILL OF PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS, AND HAZARDOUS PRODUCTS SHALL BE REPORTED ACCORDING TO STATE AND FEDERAL REQUIREMENTS.

MAINTENANCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES AND OTHER PROTECTIVE MEASURES SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF SITE INSPECTIONS IDENTIFY EROSION CONTROLS THAT ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED BEFORE THE NEXT ANTICIPATED STORM EVENT, OR AS NECESSARY TO MAINTAIN THE CONTINUED EFFECTIVENESS OF STORM WATER CONTROLS. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED AS SOON AS PRACTICABLE.
2. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT SHALL BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT IN STREET COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS).
3. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
4. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

INSPECTIONS

1. CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.25 INCHES OR GREATER.
2. THE FOLLOWING ITEMS, LOCATIONS, AND AREAS SHALL BE INSPECTED.
   - DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM.
   - SEDIMENT AND EROSION CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY.
   - WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.
   - WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED TO THE EXTENT THAT SUCH INSPECTIONS ARE PRACTICABLE.
   - LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

REPORTS

1. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF EROSION CONTROLS SHALL BE MADE.
2. MAJOR OBSERVATIONS SHOULD INCLUDE: THE LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE; LOCATION(S) OF EROSION CONTROLS THAT NEED TO BE MAINTAINED; LOCATION(S) OF EROSION CONTROLS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL EROSION CONTROLS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION.
3. MODIFICATIONS MADE TO EROSION CONTROLS AS A RESULT OF INSPECTIONS SHALL BE RECORDED.
4. REPORTS SHALL IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE.
5. WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AND THIS PERMIT. THE OWNER OR CONTRACTOR SHALL SIGN THE REPORT.
6. ANY PERSON SIGNING THE REPORT SHALL MAKE THE FOLLOWING CERTIFICATION. □I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.
7. INSPECTION REPORTS SHALL BE MAINTAINED ON SITE.

MODIFICATIONS OR ADDITIONS TO EROSION CONTROLS

1. BASED ON THE RESULTS OF THE INSPECTION, EROSION CONTROLS SHALL BE MODIFIED AS NECESSARY OR ADDITIONAL CONTROL SHALL BE PROVIDED TO CORRECT THE PROBLEMS IDENTIFIED. IF EXISTING EROSION CONTROLS NEED TO BE MODIFIED OR IF ADDITIONAL CONTROLS ARE NECESSARY, IMPLEMENTATION SHALL BE COMPLETED BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICABLE.

STABILIZATION REQUIREMENTS

1. FINE GRADING SHALL BE PERFORMED ACCORDING TO THE GRADING PLAN.
2. ALL AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE REVEGETATED ACCORDING TO THE LANDSCAPING PLAN. IF A LANDSCAPING PLAN IS NOT PROVIDED, THE DISTURBED AREAS SHALL BE SEEDED OR HYDRO-MULCHED.
2. EXCEPT WHERE THE LANDSCAPING PLAN IDENTIFIES OTHER GRASSES, GROUNDCOVER, PLANTS, OR SHRUBS TO BE PLANTED, A 4 FT WIDE STRIP OF BERMUDA GRASS SOD SHALL BE PLACED BEHIND ALL CURBS.
3. CONTRACTOR SHALL PROVIDE SUFFICIENT WATER AND FERTILIZER TO ESTABLISH THE SUFFICIENT GROWTH OF SOD AND SEEDS UNTIL FINAL STABILIZATION OF THE AREA IS ACHIEVED.
4. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
5. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE
6. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
7. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
8. TEMPORARY SEEDING OR HYDRO-MULCHING MAY BE USED FOR TEMPORARY STABILIZATION, IF NECESSARY.

CONSTRUCTION COMPLETION AND FINAL STABILIZATION

1. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL STRUCTURES UPON COMPLETION OF CONSTRUCTION AND THE ESTABLISHMENT OF FINAL STABILIZATION.
2. FINAL STABILIZATION SHALL BE COMPLETE WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM (E.G., EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES) HAVE BEEN EMPLOYED.

ROCK BAG NOTES

1. ROCK BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18.5 INCHES BY 28 INCHES. BAGS SHALL BE FILLED ½ TO ⅔ FULL WITH 1 TO 3 INCH STONE. THE ENDS OF FILLED BAGS SHALL BE SEALED USING EITHER DRAW STRINGS OR WIRE TIES.
2. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT GAPS BETWEEN BAGS ARE FILLED AND ENDS OF BAGS ARE SEALED. COMPLETELY SURROUND INLET WITH A MINIMUM OF TWO ROWS OF BAGS TO MINIMUM OF 12 INCHES IN HEIGHT.
3. THE CONDITION OF THE ROCK BAGS SHALL BE EXAMINED DURING INSPECTIONS. ANY DAMAGE TO BAGS SHALL BE REPAIRED IMMEDIATELY. IF BAGS HAVE DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN OR WEAR AND TEAR, THE SHALL BE REPLACED.
4. SEDIMENT MUST BE REMOVED WHEN IT REACHES 3 INCHES HIGH ON THE BAGS.

Plant	Rate/Acre	Planting Time	Irrigation	Other
Bermudagrass Seed (Arizona common or Guymon)	10 lbs.	May	Low	Full sun; heat and drought tolerant
Bermudagrass Sprigs (Arizona common or Guymon)	30 lbs.	May-July	Low	Full sun; heat and drought tolerant; plant same day harvested and water immediately after planting
Bermudagrass Sod		May-July	Low	Full sun; heat and drought tolerant; plant within 24 hours of cut
Buffalograss Seed	6-12 lbs.	By June 1	Low	Full sun; heat, cold and drought tolerant
Buffalograss Sod		May-July	Low	Full sun; heat, cold and drought tolerant compared to bermudagrass
Ryegrass Annual	30-40 lbs.	OctoberApril	High	Die in summer; re-seed if not mowed
Ryegrass Perennial	30-40 lbs.	October April	High	Die in summer
Rye Grain	120 lbs.	August 15-December	Low	Die in summer; re-seed if not mowed
Wheat	120 lbs.	August 15-December	Low	Die in summer; re-seed if not mowed

Contractor shall provide adequate water and fertilizer to establish the sufficient growth of sod and seeds until final stabilization of the area is achieved.

05 VEGETATIVE COVER
Scale: N.T.S.

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BID PACKAGE 01

REVISIONS

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01-25-19	17-13

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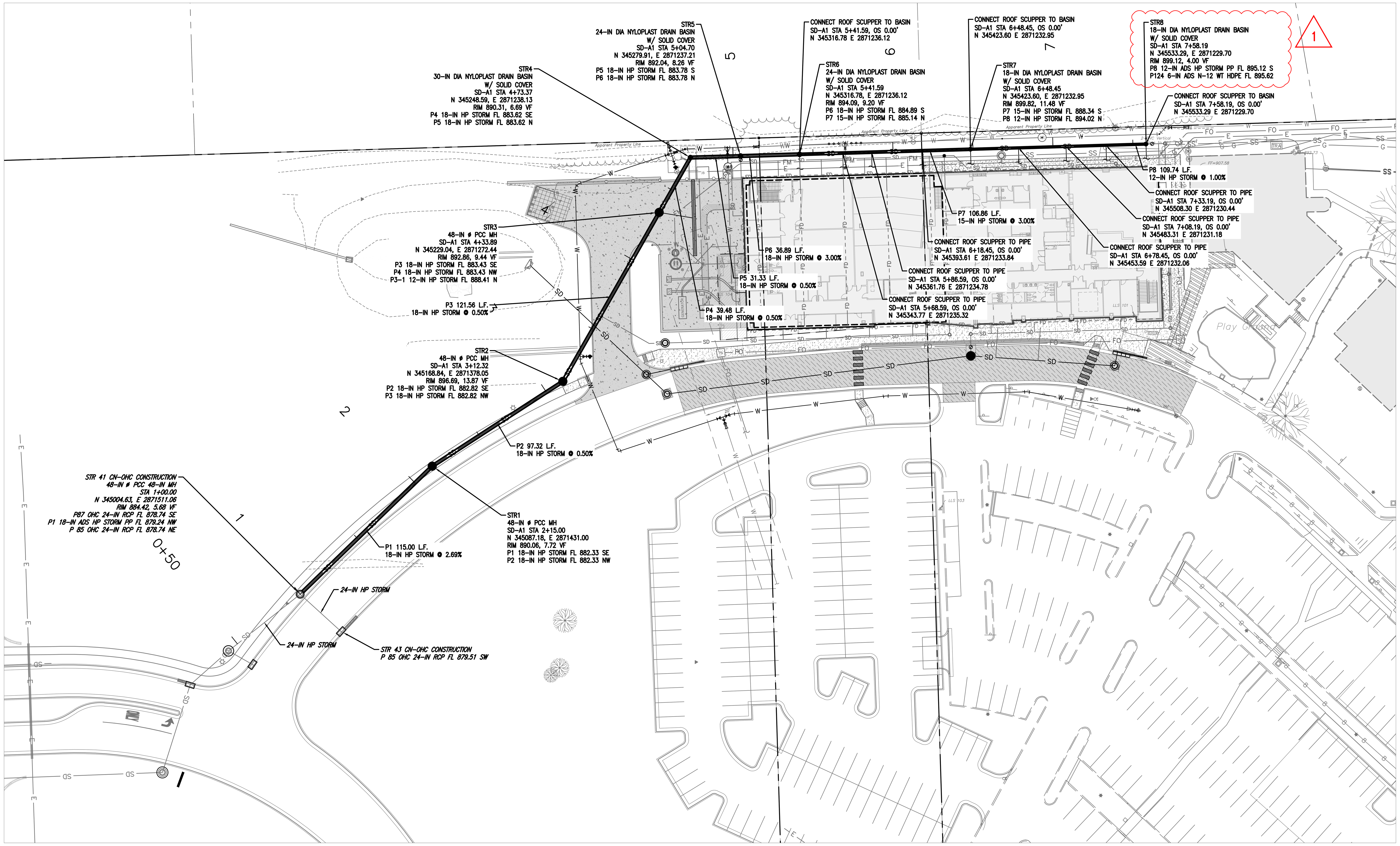
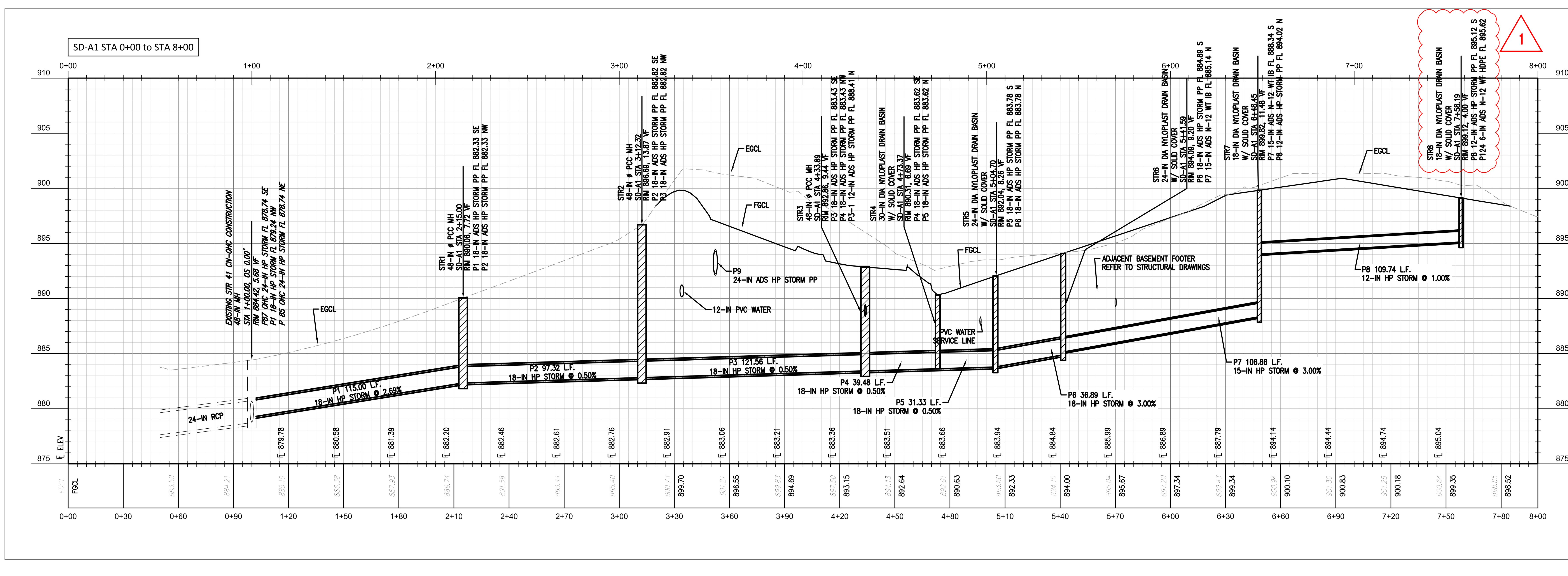
C5-702

EROSION CONTROL DETAILS AND NOTES





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PROJECT PHASE:
BID PACKAGE 04

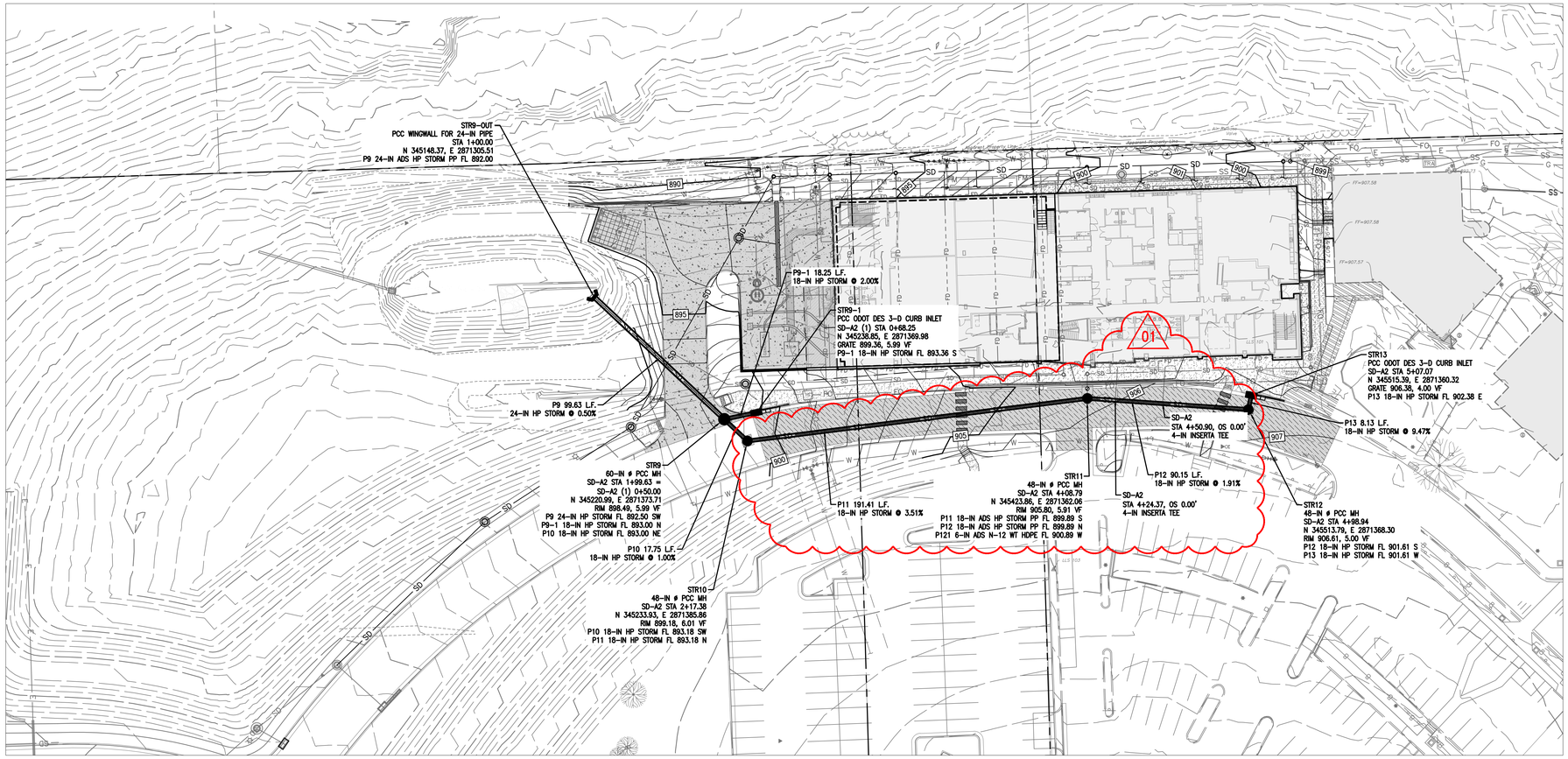
REVISIONS		
01	07/22/19	BID PACKAGE 04 - ASI 03

DATE: 05-10-19

JOB NUMBER: 17-13

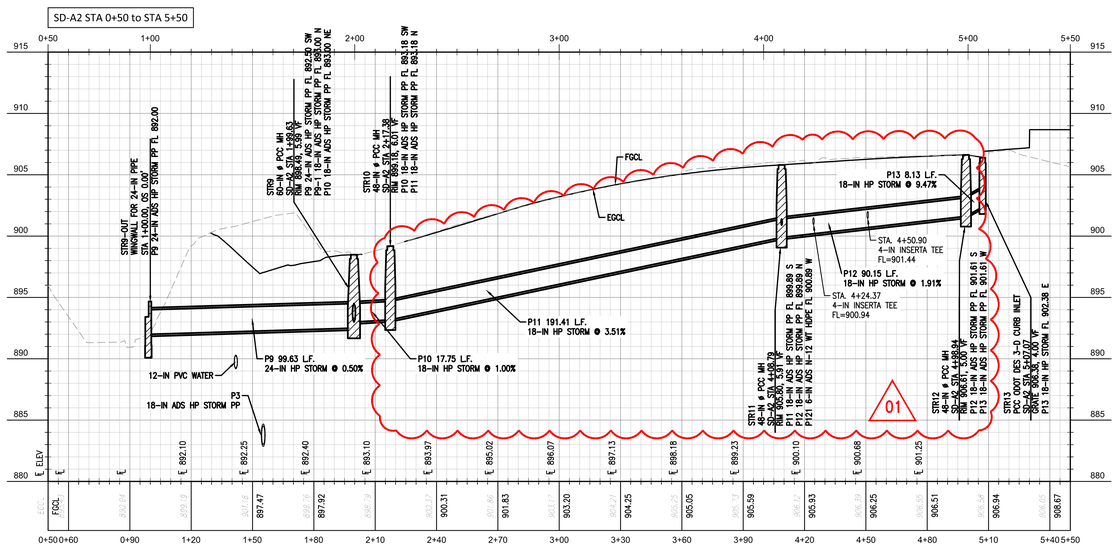
SHEET NUMBER: C6-201

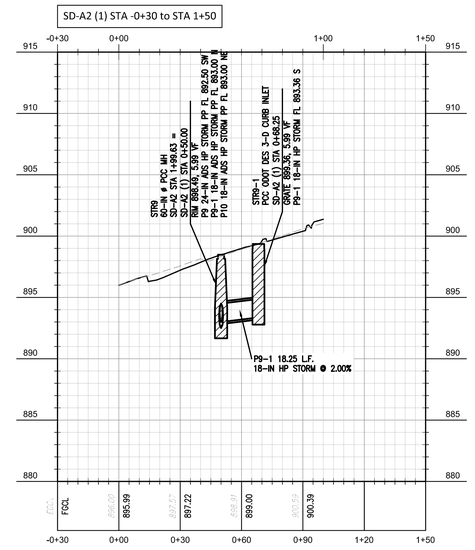
STORM SEWER PLAN AND PROFILE



0' 30' 60' 120'

SCALE: 1" = 30'





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CALL OKIE
(800) 522-6543

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PROFESSIONAL SEAL:
REGISTERED PROFESSIONAL ENGINEER
COREY W. LIPPS
21291
OKLAHOMA
7/22/19

CONSULTANT LOGO:
CARDINAL ENGINEERING
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Oklahoma City, Oklahoma 73105
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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:
THE CHEROKEE NATION
ESTD. SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

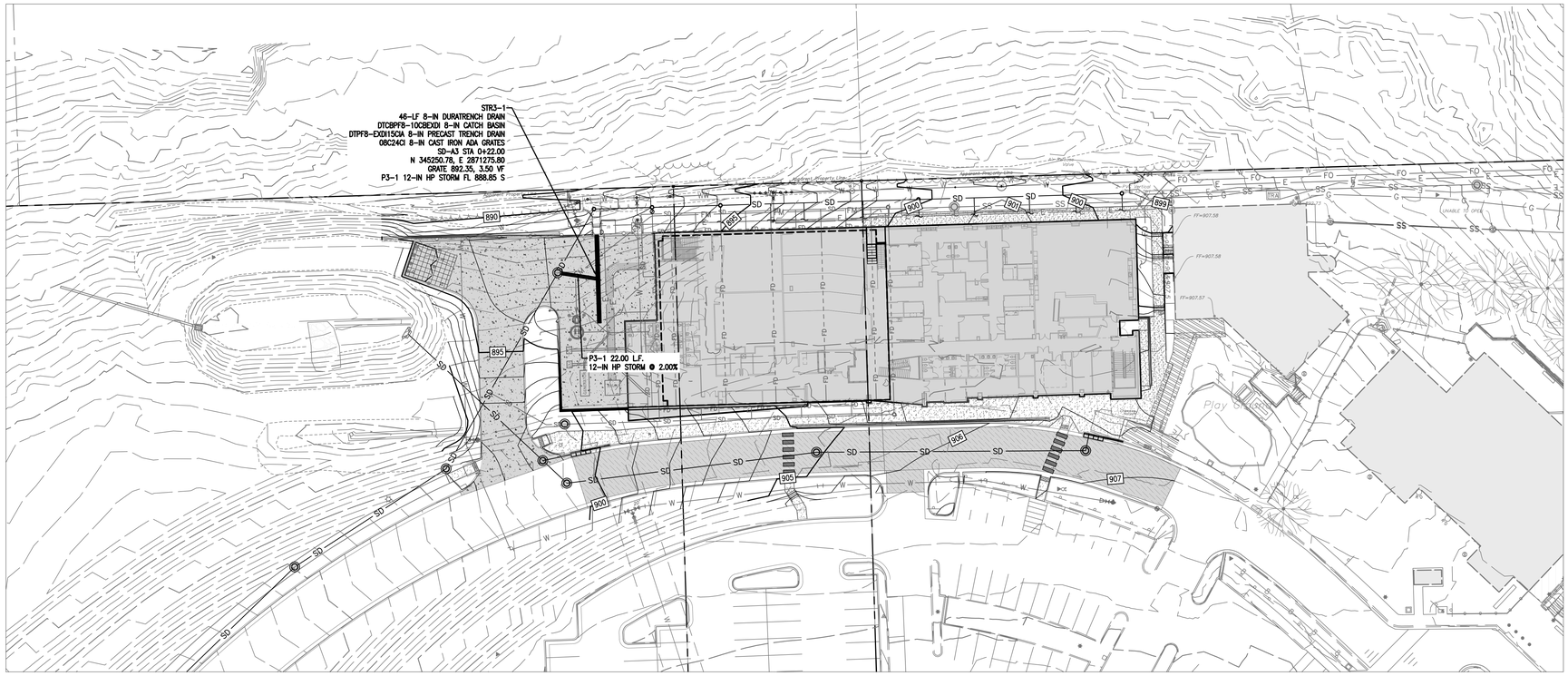
PROJECT PHASE:
BID PACKAGE 04

REVISIONS	
01	07/22/19 BID PACKAGE 04 - ASI 03

DATE: 05-10-19
JOB NUMBER: 17-13

SHEET NUMBER:
C6-202

STORM SEWER PLAN AND PROFILE



0' 30' 60' 120'

SCALE: 1" = 30'

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AT THE CHEROKEE NATION
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KEY PLAN:

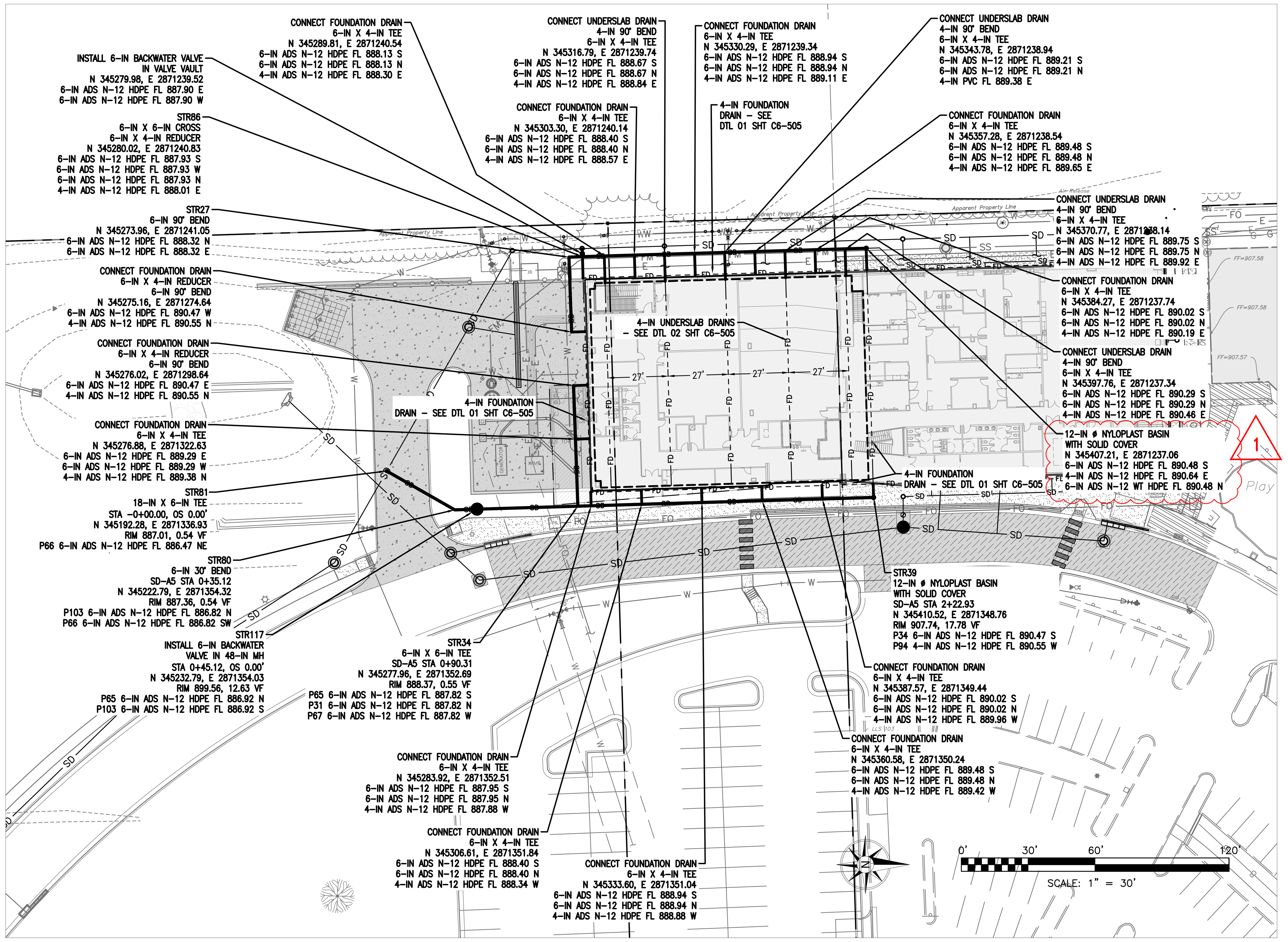
PROJECT PHASE:
BID PACKAGE 04

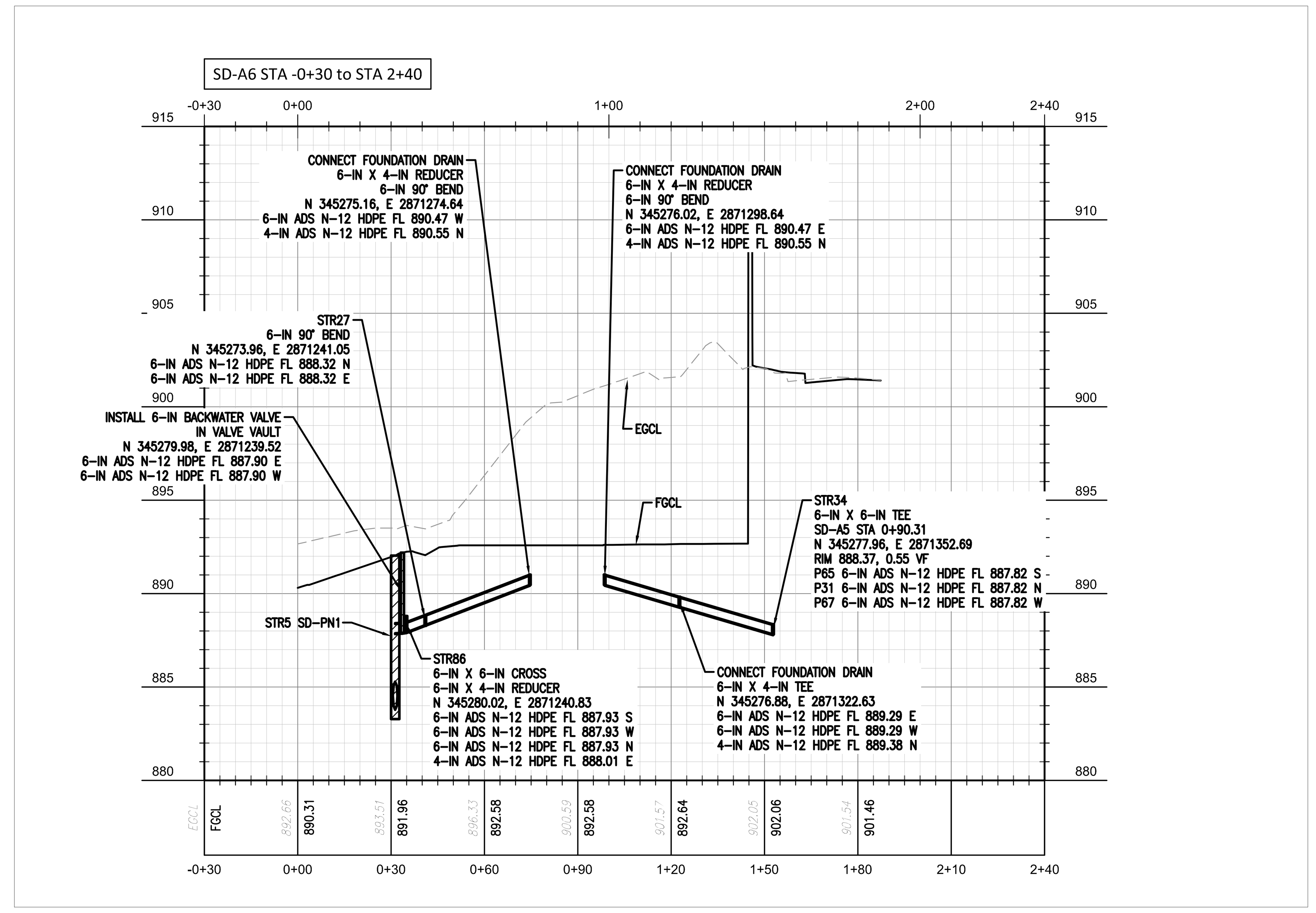
REVISIONS

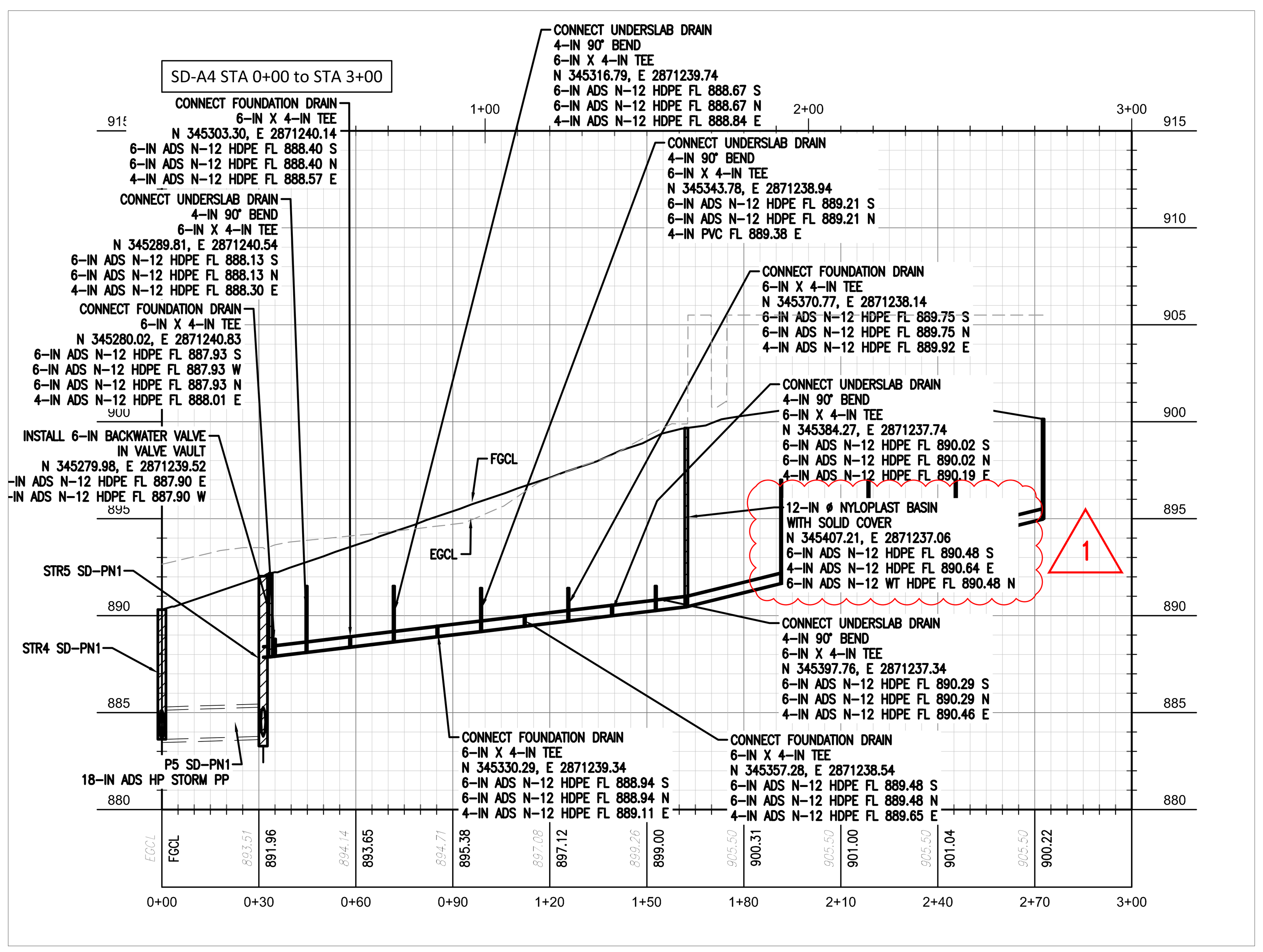
#	DATE	DESCRIPTION

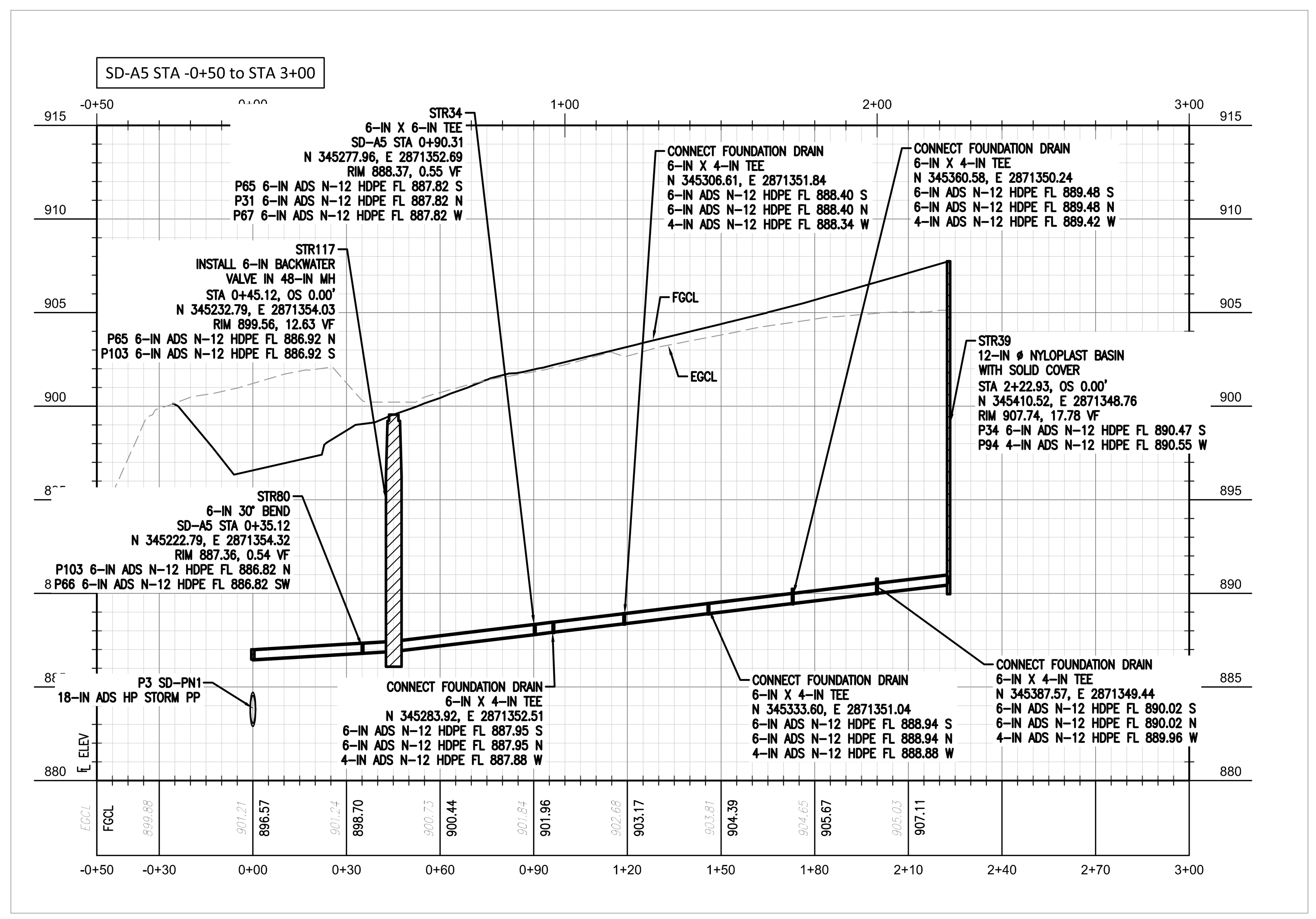
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-203

STORM SEWER PLAN AND PROFILE









PRIOR TO INSTALLATION, COMPARE FOUNDATION DRAIN PIPE ELEVATIONS WITH THE ELEVATION OF THE FOUNDATION DRAIN COLLECTORS TO VERIFY POSITIVE FLOW AWAY FROM FOUNDATION. NOTIFY ARCHITECT/ENGINEER IF POSITIVE FLOW AWAY FROM FOUNDATION CANNOT BE ACHIEVED.

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CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION

TAHLEQUAH, OK

KEY PLAN:

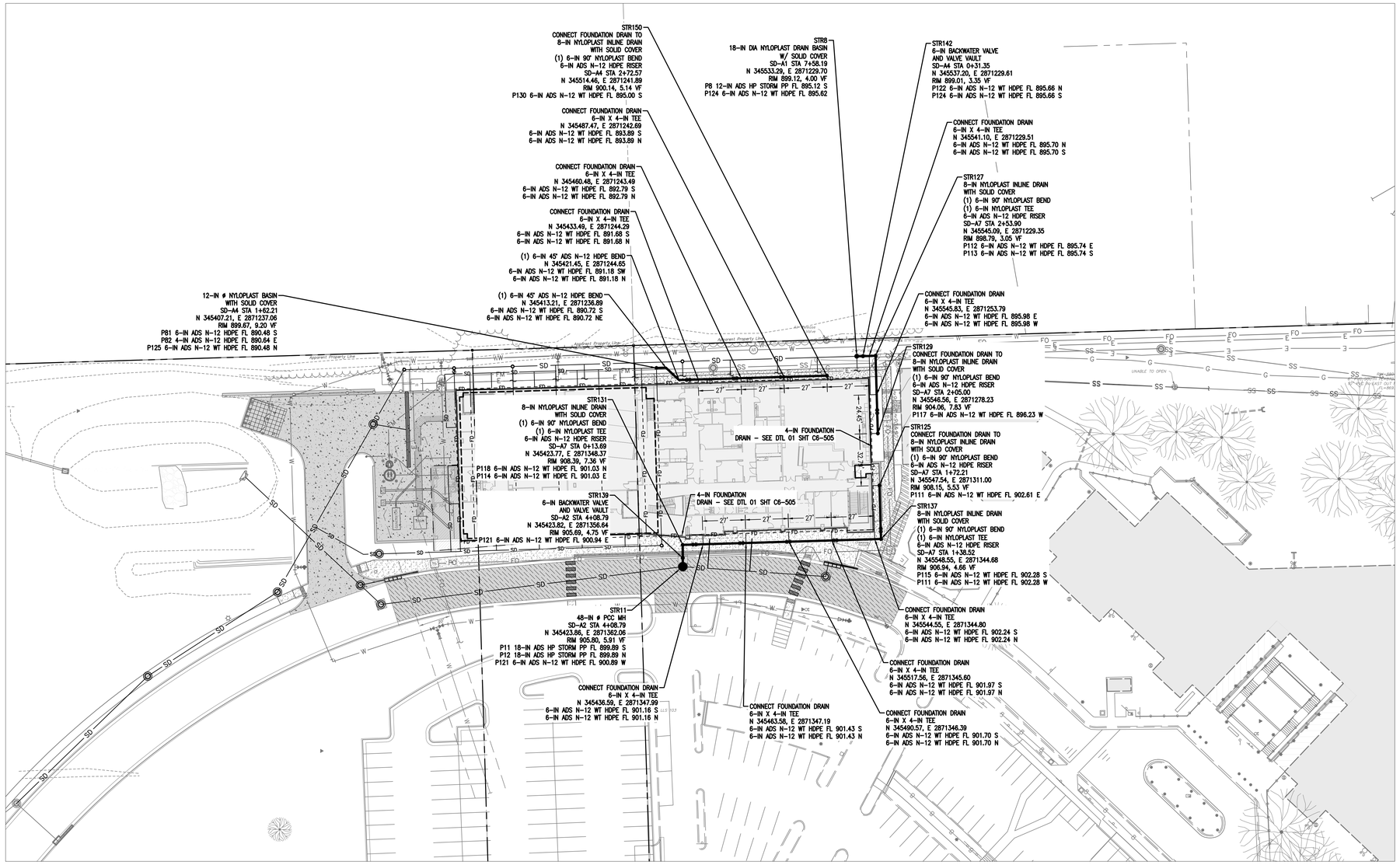
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
01	07/22/19	BID PACKAGE 04 - ASI 03

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
C6-204

FOOTER DRAIN PLAN AND PROFILE



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SD-A7 STA -1+00 to STA 3+50

SD-A4 STA 1+50 to STA 3+00

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Project Number JRCC182140

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AT THE CHEROKEE NATION
TAHLEQUAH, OK

OKLAHOMA STATE UNIVERSITY

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02
ASI 03

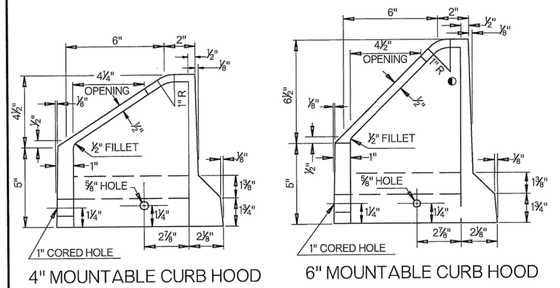
REVISIONS

#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
07-22-19	17-13

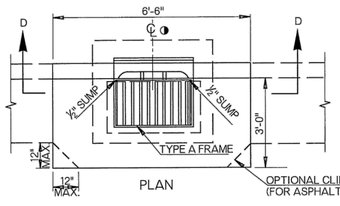
SHEET NUMBER:
C6-205

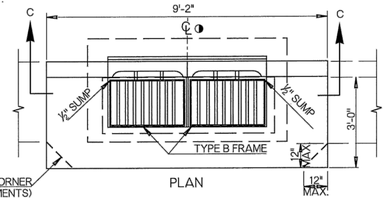
FOOTER
DRAIN PLAN
AND PROFILE

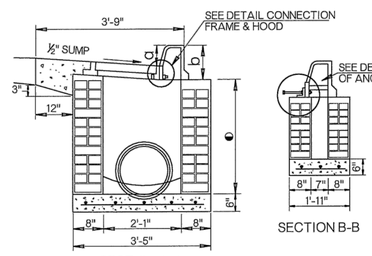


4" MOUNTABLE CURB HOOD

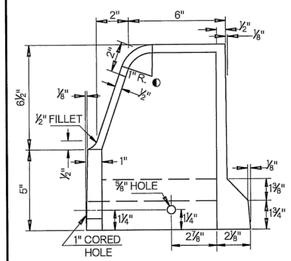
6" MOUNTABLE CURB HOOD



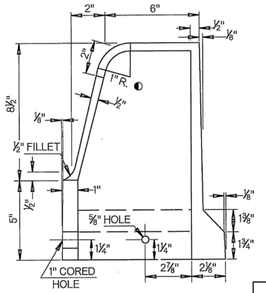




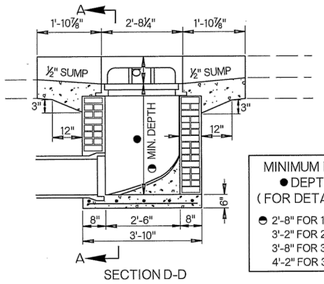
DESIGN NO.	TYPE OF CURB	DIMENSIONS a	DIMENSIONS b
1	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
2	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
3	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"



6" BARRIER CURB HOOD

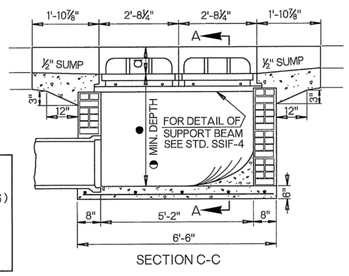


8" BARRIER CURB HOOD

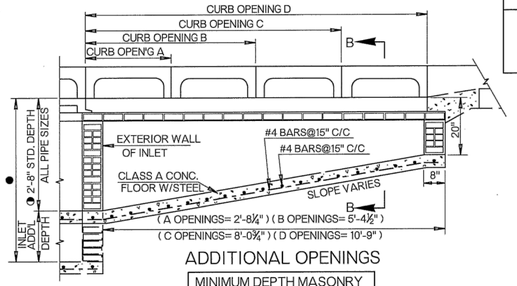


DESIGN 1
(SINGLE GRATE)

MINIMUM INLET
● DEPTH
(FOR DETAILING)
◓ 2'-8" FOR 18" RCP
3'-2" FOR 24" RCP
3'-8" FOR 30" RCP
4'-2" FOR 36" RCP

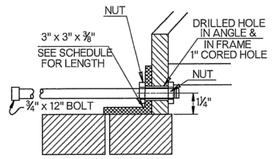


DESIGN 2 (DOUBLE GRATING)
DESIGN 3 (MULTIPLE DOUBLE GRATING)



ADDITIONAL OPENINGS

MINIMUM DEPTH MASONRY
OR PRECAST WALLS
2'- 3" FOR 18" RCP
2'- 9" FOR 24" RCP
3'- 3" FOR 30" RCP
3'- 9" FOR 36" RCP



DETAIL OF CONNECTION
ANGLE IRON & CAST IRON HOOD
NOTE: ANGLE IRON TO BE BOLTED TO HOOD WITH 3 EACH - 3/4 " x 12" MACHINE BOLTS IN EACH HOOD SECTION.

QUANTITIES (FOR 18" R.C. PIPE AND MIN. DEPTH) ⬒									
INLET	CURB OPENING	CLASS A CONCRETE	INLET		INLET FRAME & GRATE	CAST IRON HOOD	ANGLE IRON		
DESIGN	DESIGNATION	CU. YD.	BASE AM'T.	ADD'L. CF PER VERT FT.	EACH	EACH	NO.	LENGTH	
1	STD.	0.24	17.76	7.89	1	1	-	-	-
	A	0.34	23.84	7.89	1	2	1	2'-5⅜"	-
	B	0.43	30.11	7.89	1	3	1	5'-1⅜"	-
	C	0.53	36.38	7.89	1	4	1	7'-9⅞"	-
	D	0.63	42.66	7.89	1	5	1	10'-6⅜"	-
	2A	0.43	29.91	7.89	1	3	2	2'-5⅜"	2'-5⅜"
	A-B	0.53	36.19	7.89	1	4	2	2'-5⅜"	5'-1⅜"
	A-C	0.62	42.46	7.89	1	5	2	2'-5⅜"	7'-9⅞"
	2B	0.62	42.46	7.89	1	5	2	5'-1⅜"	5'-1⅜"
	B-C	0.72	48.74	7.89	1	6	2	5'-1⅜"	7'-9⅞"
	2C	0.82	55.01	7.89	1	7	2	7'-9⅞"	7'-9⅞"
2	STD.	0.41	25.76	11.45	2	2	-	-	-
	B	0.60	38.11	11.45	2	4	1	5'-1⅜"	-
	C	0.73	44.39	11.45	2	5	1	7'-9⅞"	-
	D	0.79	50.66	11.45	2	6	1	10'-6⅜"	-
	2B	0.79	50.46	11.45	2	6	2	5'-1⅜"	5'-1⅜"
	2C	0.98	63.01	11.45	2	8	2	7'-9⅞"	7'-9⅞"
	B-D	0.98	63.01	11.45	2	8	2	5'-1⅜"	10'-6⅜"
	2D	1.17	75.56	11.45	2	10	2	10'-6⅜"	10'-6⅜"
⬓ 3	STD.	0.74	41.27	18.34	4	4	-	-	-
	B	0.93	53.62	18.34	4	6	1	5'-1⅜"	-
	D	1.12	66.17	18.34	4	8	1	10'-6⅜"	-
	2B	1.12	65.98	18.34	4	8	1	5'-1⅜"	5'-1⅜"
	B-D	1.31	78.52	18.34	4	10	2	5'-1⅜"	10'-6⅜"
	2D	1.50	91.07	18.34	4	12	2	10'-6⅜"	10'-6⅜"

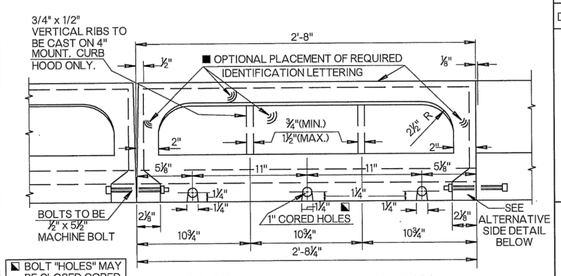
⬒ DEPTH OF 2'-8" SHALL BE USED FOR STANDARD DEPTH FOR ALL PIPE SIZES AND/OR PIPE TYPES. FOR INLET DEPTHS GREATER THAN STANDARD DEPTH, A PAY ITEM FOR ADDITIONAL DEPTH, VERTICAL FEET, SHALL BE USED. TO DETERMINE TOTAL INLET QUANTITY FOR INLET DEPTHS GREATER THAN 2'-8", MULTIPLY ADDITIONAL DEPTH BY ADDITIONAL CU. FT. PER VERTICAL FOOT AND ADD TO THE BASE AMOUNT.

⬓ QUANTITIES SHOWN ARE FOR 2 DOUBLE GRATED INLETS.

PAYMENT FOR ALL CLASS A CONCRETE AND ANY REINFORCING STEEL USED TO CONSTRUCT CAST IN PLACE INLET WALLS OR FLOORS SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.

PRECAST INLET ALTERNATIVES MAY BE ACCEPTED, IN LIEU OF BRICK MASONRY OR CAST-IN-PLACE CONCRETE, IF APPROVED BY THE ENGINEER.

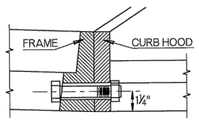
SPECIAL DESIGN CASTINGS, HOODS, FRAMES OR GRATES MAY BE USED, IN LIEU OF STANDARD DESIGNS SHOWN ON THIS SHEET, IF APPROVED BY THE ENGINEER.



■ BOLT "HOLES" MAY BE CLOSED CORED HOLES OR SLOTS.

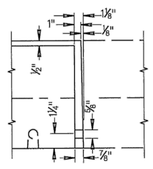
CAST IRON HOOD ELEVATION

■ TOP OF HOOD SHALL STATE "DUMP NO WASTE" AND "DRAINS TO RIVER" OR SIMILAR WORDING.



DETAIL OF CONNECTION
FRAME & CAST IRON HOOD

NOTE: FRAME TO BE BOLTED TO THE HOOD WITH 3 EA.- 3/4" x 4 1/2" MACHINE BOLTS. FOR FRAME DETAILS, SEE ROADWAY STANDARD SSIF-4



ALTERNATE SIDE DETAIL

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD SSIF-4 FRAMES AND STANDARD CIG-3 GRATES TO BE USED WITH THESE INLETS UNLESS OTHERWISE SPECIFIED. COST OF THESE ITEMS AND HOODS SHALL BE INCLUDED IN THE COST OF INLET.
3. WHEN THE INLET IS BUILT IN NEW CONCRETE PAVEMENT, THE APRON AROUND THE INLET MAY BE BUILT INTEGRAL WITH PAVEMENT OR MAY BE SEPARATE AND OF THE SIZE AS SHOWN. THE THICKNESS SHALL BE THE SAME AS THE CONCRETE PAVEMENT OR CURB AND GUTTER. IF CONSTRUCTED IN ANY OTHER AREA OR IN EXISTING PAVEMENT, THE APRON AROUND THE INLET SHALL BE THE SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8 INCH THICKNESS.
4. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB AND GUTTER OR P.C. CONCRETE THRU THE EXTENTS OF THE INLET HOODS. DEDUCTION WILL BE MADE FOR THE PAYMENT OF INTEGRAL CURB THROUGH THE EXTENTS OF THE INLET HOODS.
5. ALL LETTERING TO BE RECESSED⅛INCH AND SHALL NOT EXCEED ONE INCH IN HEIGHT. INFORMATION REQUIRED SHALL BE AS STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN, WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS PERMITTED.
6. CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE BUILT IN LIEU OF THE BRICK MASONRY TO THE SAME DIMENSIONS AS SHOWN. NO. 4 REINFORCING STEEL BARS SPACED 30" VERTICALLY AND 12" HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 5.0 FEET IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF STEEL REINFORCING TO BE INCLUDED IN THE COST OF THE INLET.
7. ALL CAST IN PLACE CLASS A CONCRETE INLET FLOORS SHALL HAVE NO. 4 REINFORCING STEEL PLACED AT 15" MAXIMUM C/C SPACING IN BOTH DIRECTIONS.
8. THE STANDARD DRAWING, DESIGN NO., DESIGNATION NO., AND NUMBER OF ADDITIONAL OPENINGS SHALL BE INDICATED ON THE PLANS, I.E., EXAMPLE: STD. CI-1, DES. 1(A-B).
9. TYPE B & C FRAMES TO BE USED FOR MULTIPLE DOUBLE GRATES. SEE ROADWAY STD. SSIF-4 FOR DETAILS.
10. BOLT(S) WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CAST IRON HOOD INTO CONCRETE CURB. COST OF INSTALLATION TO BE INCLUDED IN PRICE BID FOR THE CURB INLET.
11. CASTINGS AS SHOWN HERE SHALL BE CAST STEEL, DUCTILE IRON OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.

◐ 12. TWO INCH RADIUS MAY BE USED IF APPROVED BY THE ENGINEER.

◑ 13. CONSTRUCTION STATIONING OF CURB INLETS IS DETERMINED BY THE CENTERLINE (℄) OF THE SURFACE GRATES.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611 (G)	INLET (CI DES. ▲)	EA
611 (H)	ADDITIONAL DEPTH IN INLET (CI DES. ▼)	VF
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE▲	EA
611 (J)	REPLACEMENT OF INLET FRAME	EA
611 (K)	REPLACEMENT OF INLET GRATE	EA
611 (M)	REPLACEMENT OF CAST IRON HOOD	EA

▲ SPECIFY INLET DESIGN & CURB OPENING DESIGNATION.
▼ SPECIFY INLET DESIGN 1, 2 OR 3.
▲ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

CURB INLETS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CI-1 | 2

R-39

01 ODOT CAST IRON CURB INLET

Scale: N.T.S.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
STANDARD REVISIONS

DESCRIPTION	DATE

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER
COREY W. LIPPS
21291
OKLAHOMA
5/10/19

CONSULTANT LOGO:

CARDINAL ENGINEERING
An ENVIRO-CLEAN Company
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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA # 7110, expiration date 06.30.2020

CLIENT:

THE CHEROKEE NATION
ESTABLISHED SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OK

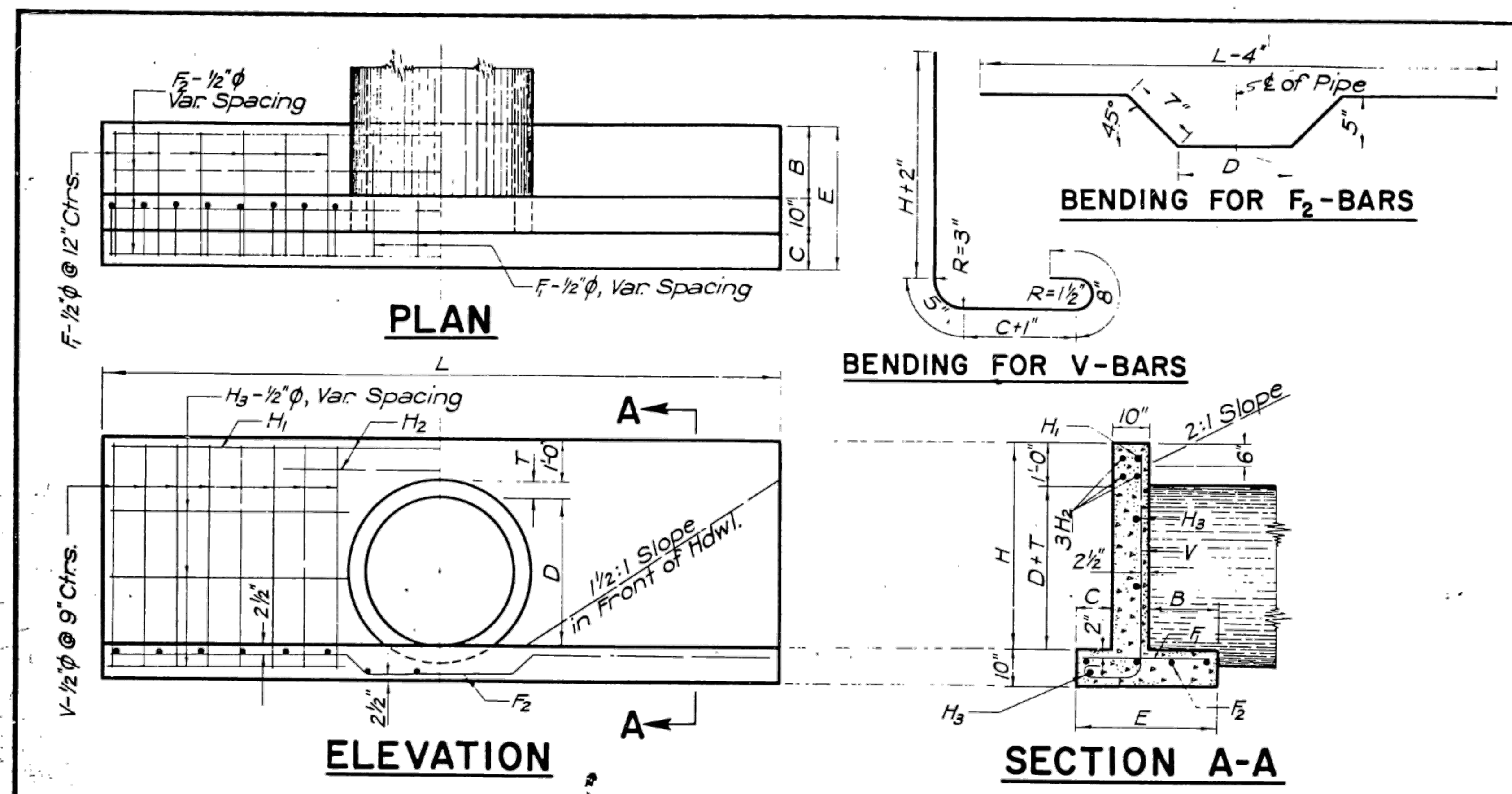
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-501

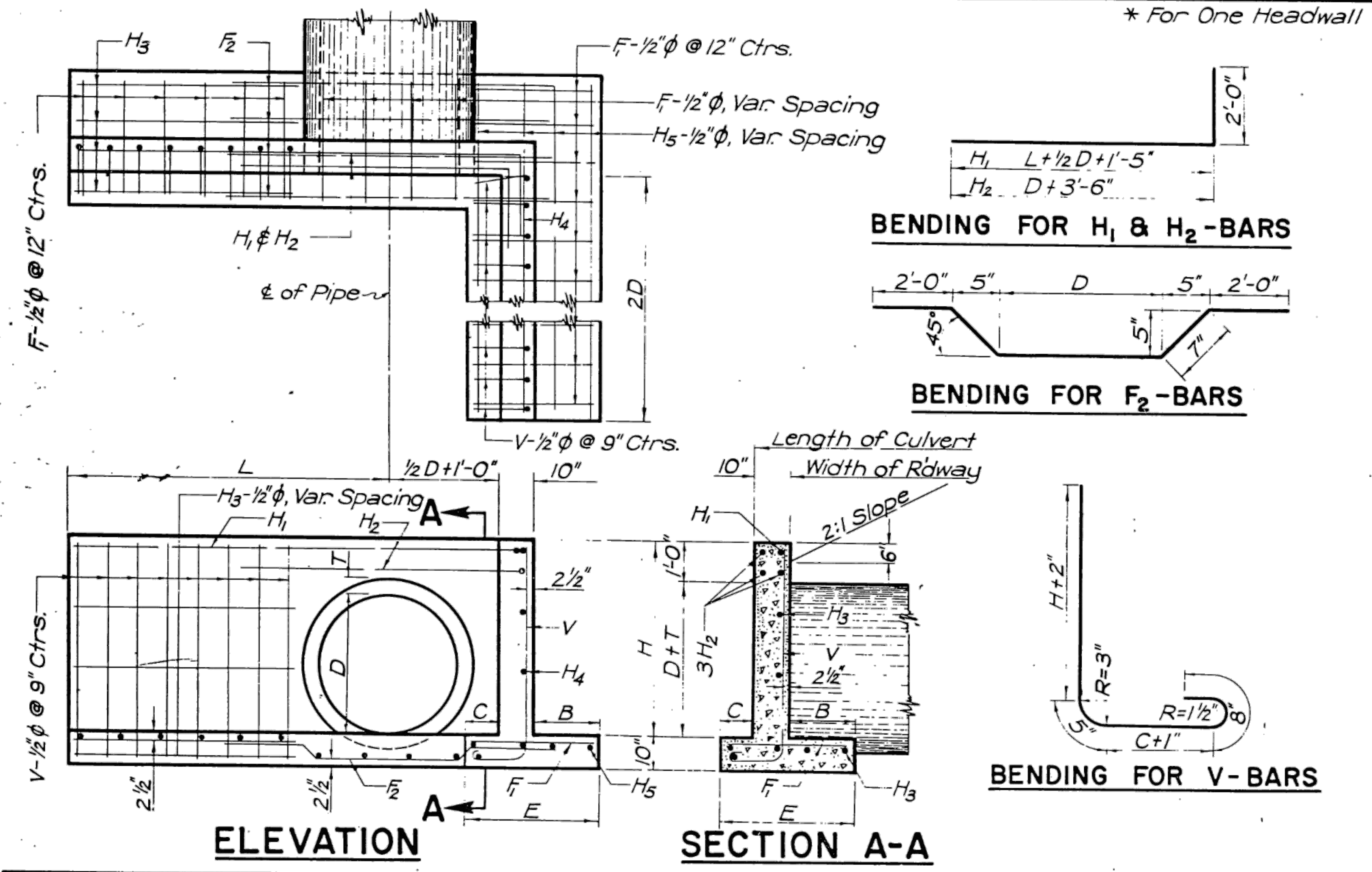
STORM SEWER DETAILS



DIMENSIONS & QUANTITIES FOR STRAIGHT HEADWALLS

D	AREA SQ.FT.	T	H	L	E	B	C	F_1 - ½"φ NO.	F_1 LGTH.	F_2 - ½"φ NO.	F_2 LGTH.	H_1 - ½"φ NO.	H_1 LGTH.	H_2 - ½"φ NO.	H_2 LGTH.	H_3 - ½"φ NO.	H_3 LGTH.	V - ½"φ NO.	V LGTH.	CLASS "A" CONC., C.Y.*	REINF. STEEL, LBS.*
15"	1.23	2¼"	2'-5¼"	6'-0"	2'-2"	10"	6"	6	1'-10"	3	6'-0"	1	5'-8"	3	5'-3"	4	2'-0"	6	4'-3"	0.78	56
18"	1.77	2½"	2-8½"	7'-0"	2'-3"	11"	6"	8	1'-11"	3	7'-0"	1	6'-8"	3	5'-6"	4	2'-4"	8	4'-6"	0.98	70
24"	3.14	3"	3'-3"	9'-0"	2'-7"	1'-3"	6"	11	2'-3"	3	9'-0"	1	8'-8"	3	6'-0"	4	3'-1"	10	5'-1"	1.46	95
30"	4.91	3½"	3'-9½"	11'-0"	2'-10"	1'-4"	8"	11	2'-6"	3	11'-0"	1	10'-8"	3	6'-6"	6	3'-9"	12	5'-9"	2.00	122
36"	7.07	4"	4'-4"	14'-0"	3'-1"	1'-7"	8"	16	2'-9"	4	14'-0"	1	13'-8"	3	7'-0"	6	5'-0"	14	6'-4"	2.85	170
42"	9.62	4½"	4'-10½"	16'-0"	3'-4"	1'-8"	10"	16	3'-0"	4	16'-0"	1	15'-8"	3	7'-6"	6	5'-8"	16	7'-0"	3.58	198

* For One Headwall

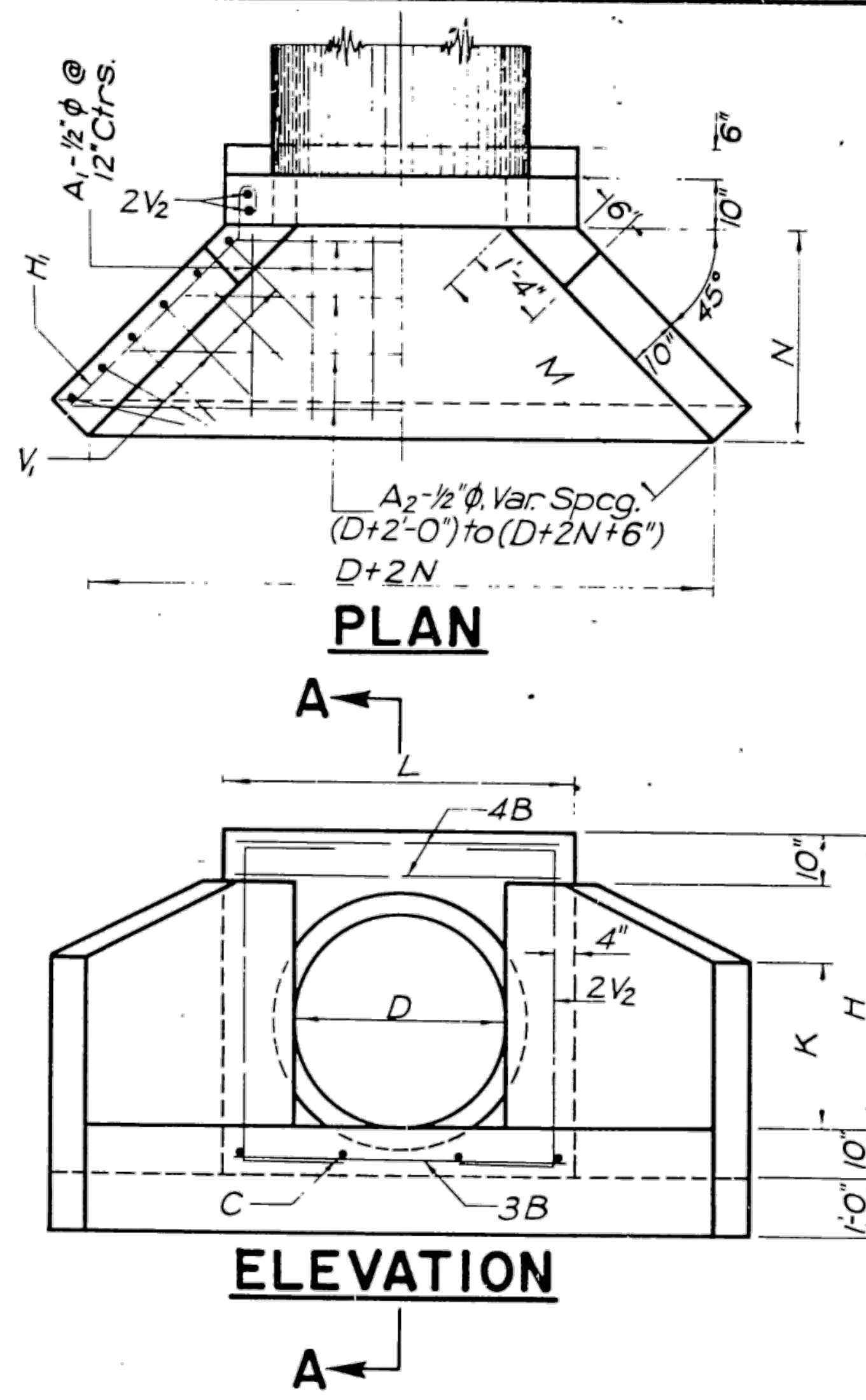


DIMENSIONS & QUANTITIES FOR HEADWALLS WITH 90° WINGS

D	AREA SQ.FT.	T	H	L	E	B	C	F_1 - ½"φ NO.	F_1 LGTH.	F_2 - ½"φ NO.	F_2 LGTH.	H_1 - ½"φ NO.	H_1 LGTH.	H_2 - ½"φ NO.	H_2 LGTH.	H_3 - ½"φ NO.	H_3 LGTH.	H_4 - ½"φ NO.	H_4 LGTH.	H_5 - ½"φ NO.	H_5 LGTH.	V - ½"φ NO.	V LGTH.	CLASS "A" CONC., C.Y.*	REINF. STEEL, LBS.*
15"	1.23	2¼"	2'-5¼"	3'-0"	2'-2"	10"	6"	10	1'-10"	3	6'-5"	1	7'-0"	3	6'-9"	5	2'-0"	2	3'-0"	4	3'-10"	7	4'-3"	1.09	84
18"	1.77	2½"	2'-8½"	3'-6"	2'-3"	11"	6"	10	1'-11"	3	6'-8"	1	7'-8"	3	7'-0"	5	2'-4"	2	3'-6"	4	4'-5"	9	4'-6"	1.32	97
24"	3.14	3"	3'-3"	4'-6"	2'-7"	1'-3"	6"	14	2'-3"	3	7'-2"	1	8'-11"	3	7'-6"	6	3'-1"	3	4'-6"	4	5'-9"	11	5'-1"	1.94	131
30"	4.91	3½"	3'-9½"	5'-6"	2'-10"	1'-4"	8"	16	2'-6"	3	7'-8"	1	10'-2"	3	8'-0"	6	3'-9"	3	5'-6"	4	6'-10"	14	5'-9"	2.59	163
36"	7.07	4"	4'-4"	7'-0"	3'-1"	1'-7"	8"	19	2'-9"	4	8'-2"	1	11'-11"	3	8'-6"	7	5'-0"	4	6'-6"	4	8'-1"	17	6'-4"	3.47	216
42"	9.62	4½"	4'-10½"	8'-0"	3'-4"	1'-8"	10"	21	3'-0"	4	8'-8"	1	13'-2"	3	9'-0"	7	5'-8"	4	7'-6"	4	9'-2"	19	7'-0"	4.32	252

* For One Headwall

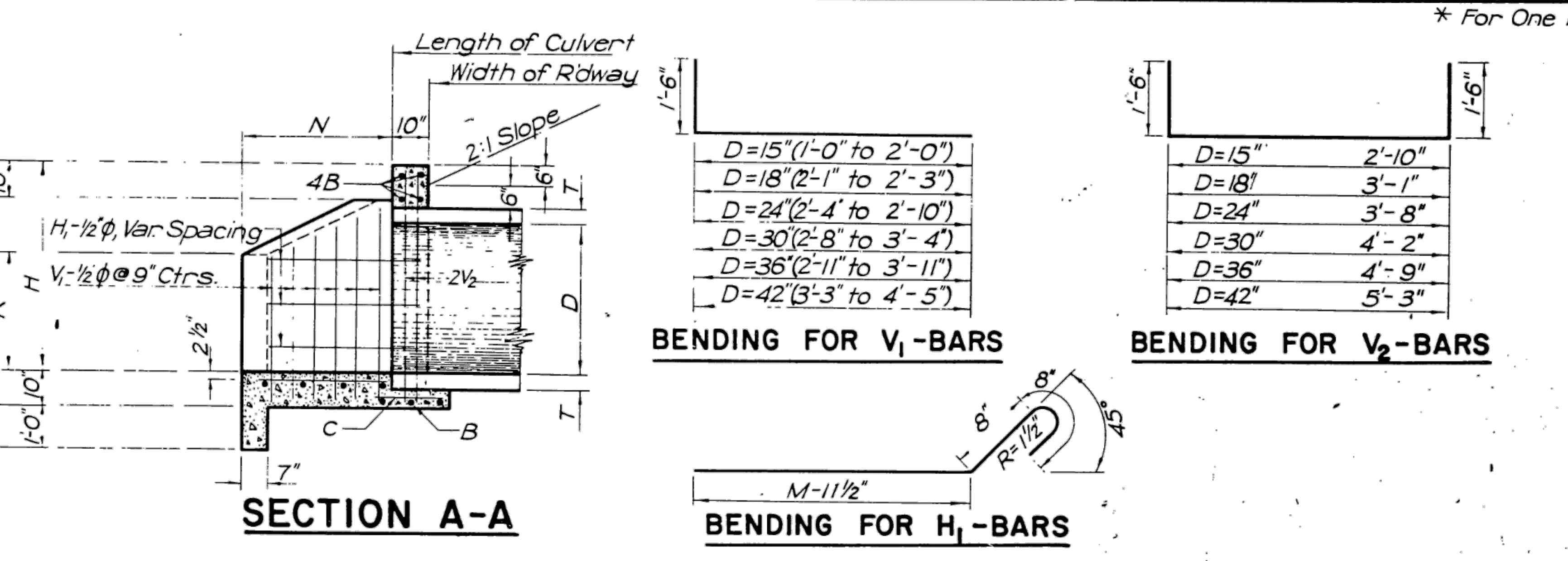
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	OKLA.			



DIMENSIONS & QUANTITIES FOR HEADWALLS WITH 45° WINGS

D	AREA SQ.FT.	T	H	K	L	M	N	A_1 - ½"φ NO.	A_1 LGTH.	A_2 - ½"φ NO.	A_2 LGTH.	B - ½"φ NO.	B LGTH.	C - ½"φ NO.	C LGTH.	H_1 - ½"φ NO.	H_1 LGTH.	V_1 - ½"φ NO.	V_1 LGTH.	V_2 - ½"φ NO.	V_2 LGTH.	CLASS "A" CONC., C.Y.*	REINF. STEEL, LBS.*
15"	1.23	2¼"	2'-5¼"	1'-5"	3'-7"	1'-9"	1'-3"	4	1'-0"	2	3'-9" Av.	7	3'-3"	3	1'-6"	4	2'-1"	4	3'-5" Av.	4	5'-10"	0.74	57
18"	1.77	2½"	2'-8½"	1'-7"	3'-10"	2'-1½"	1'-6"	4	1'-2"	2	4'-3" Av.	7	3'-6"	3	1'-6"	4	2'-6"	4	3'-8" Av.	4	6'-1"	0.91	61
24"	3.14	3"	3'-3"	1'-10½"	4'-4"	2'-10"	2'-0"	5	1'-8"	3	5'-3" Av.	7	4'-0"	3	1'-6"	6	3'-2"	6	4'-1" Av.	4	6'-8"	1.31	85
30"	4.91	3½"	3'-9½"	2'-2"	4'-10"	3'-6½"	2'-6"	5	2'-2"	3	6'-3" Av.	7	4'-6"	4	1'-6"	6	3'-11"	8	4'-6" Av.	4	7'-2"	1.77	104
36"	7.07	4"	4'-4"	2'-5½"	5'-4"	4'-3"	3'-0"	6	2'-8"	4	7'-3" Av.	7	5'-0"	4	1'-6"	6	4'-7"	10	4'-11" Av.	4	7'-9"	2.29	130
42"	9.62	4½"	4'-10½"	2'-9"	5'-10"	4'-11½"	3'-6"	6	3'-2"	4	8'-3" Av.	7	5'-6"	4	1'-6"	6	5'-4"	12	5'-4" Av.	4	8'-3"	2.89	151

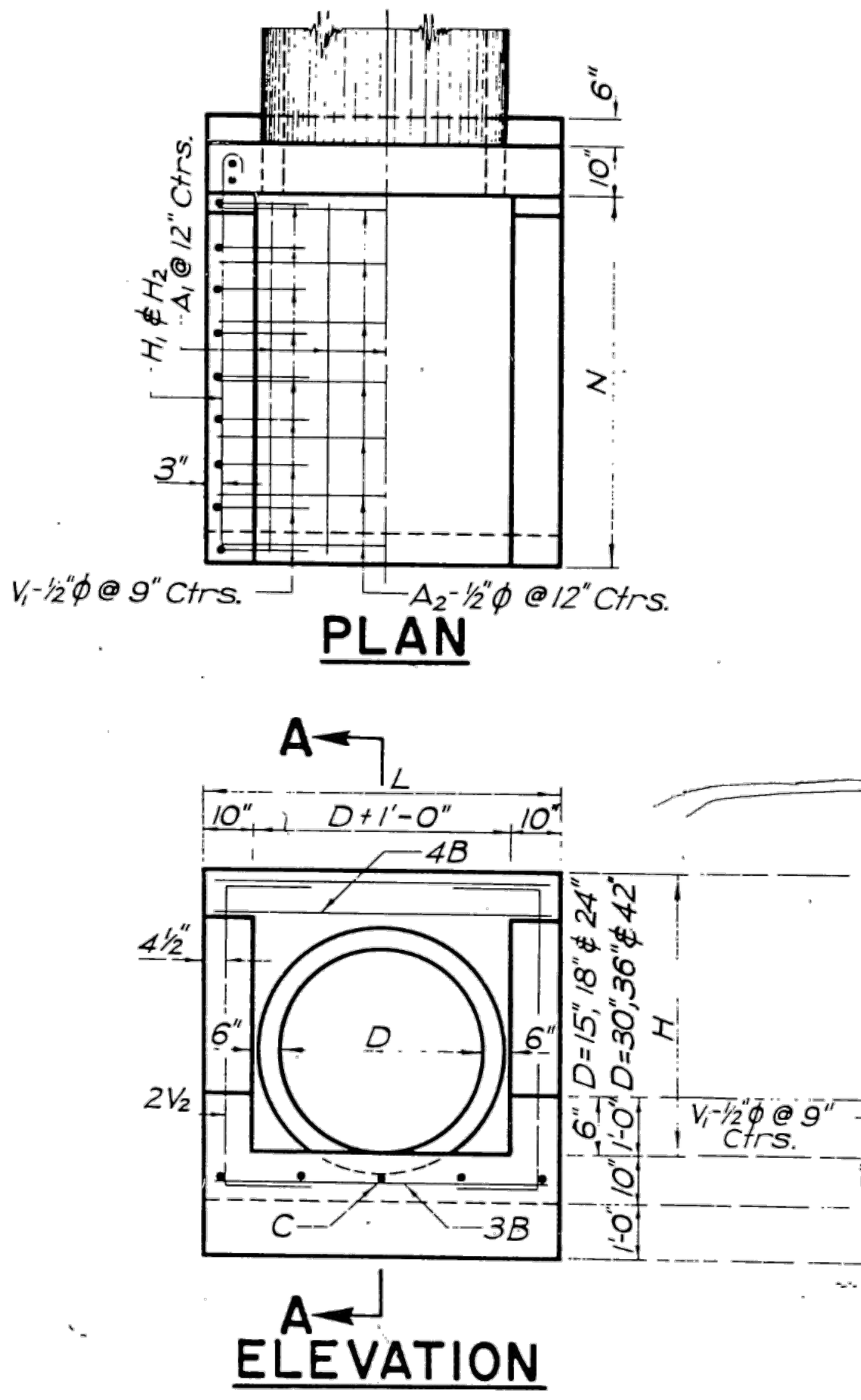
* For One Headwall

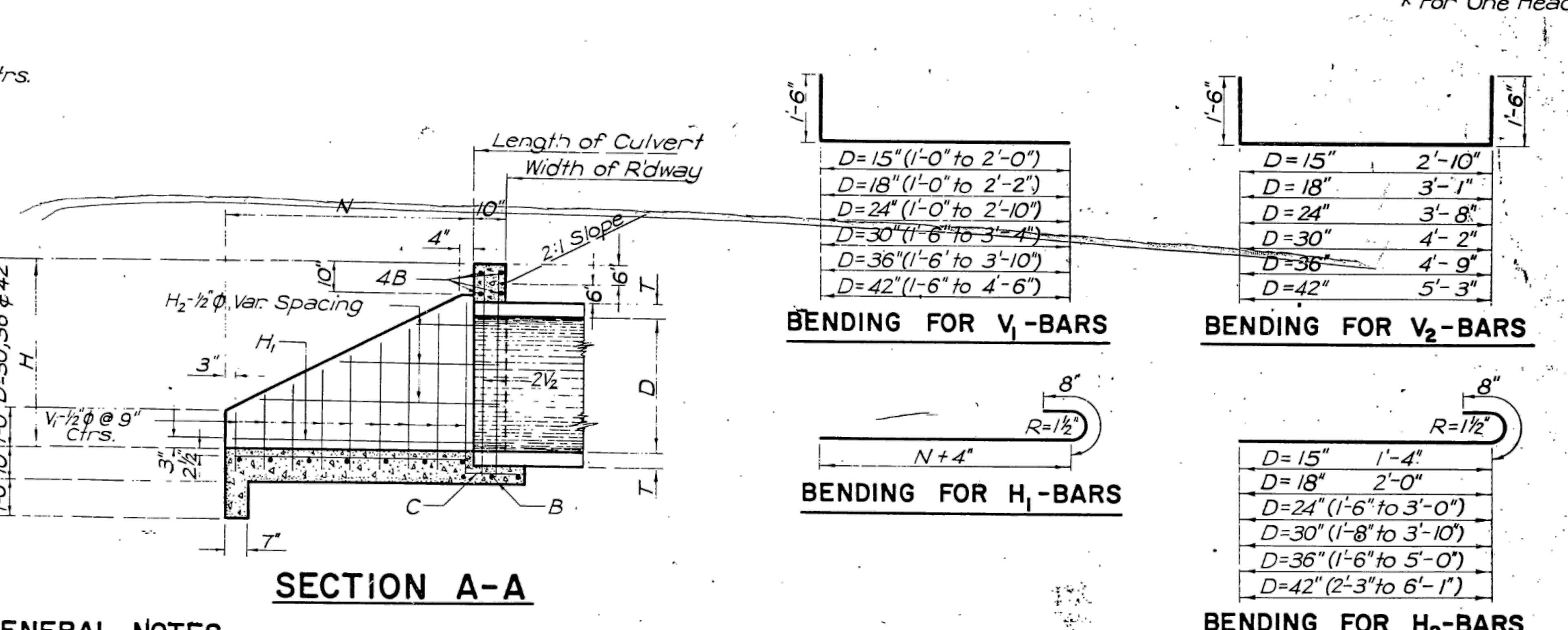


DIMENSIONS & QUANTITIES FOR HEADWALLS WITH U-TYPE WINGS

D	AREA SQ.FT.	T	H	L	N	A_1 - ½"φ NO.	A_1 LGTH.	A_2 - ½"φ NO.	A_2 LGTH.	B - ½"φ NO.	B LGTH.	C - ½"φ NO.	C LGTH.	H_1 - ½"φ NO.	H_1 LGTH.	H_2 - ½"φ NO.	H_2 LGTH.	V_1 - ½"φ NO.	V_1 LGTH.	V_2 - ½"φ NO.	V_2 LGTH.	CLASS "A" CONC., C.Y.*	REINF. STEEL, LBS.*
15"	1.23	2¼"	2-5¼"	3'-11"	2'-6"	3	2'-2"	3	3'-7"	7	3'-7"	3	1'-6"	2	3'-6"	2	2'-0"	8	3'-0" Av.	4	5'-10"	0.95	71
18"	1.77	2½"	2-8½"	4'-2"	3'-1"	3	2'-9"	4	3'-10"	7	3'-10"	3	1'-6"	2	4'-1"	2	2'-8"	8	3'-1" Av.	4	6'-1"	1.15	79
24"	3.14	3"	3'-3"	4'-8"	4'-2"	4	3'-10"	5	4'-4"	7	4'-4"	4	1'-6"	2	5'-2"	4	2'-11" Av.	12	3'-5" Av.	4	6'-8"	1.60	109
30"	4.91	3½"	3-9½"	5'-2"	4'-3"	4	3'-11"	5	4'-10"	7	4'-10"	4	1'-6"	2	5'-3"	4	3'-5" Av.	12	3'-11" Av.	4	7'-2"	1.91	120
36"	7.07	4"	4'-4"	5'-8"	5'-4"	5	5'-0"	6	5'-4"	7	5'-4"	5	1'-6"	2	6'-4"	6	3'-11" Av.	14	4'-2" Av.	4	7'-9"	2.48	152
42"	9.62	4½"	4'-10½"	6'-2"	6'-5"	5	6'-1"	7	5'-10"	7	5'-10"	5	1'-6"	2	7'-5"	6	4'-10" Av.	18	4'-6" Av.	4	8'-3"	3.12	186

* For One Headwall





GENERAL NOTES

All construction and materials requirements shall be in accordance with the current standard specifications.

All exposed concrete edges shall have a ¾ chamfer

Unless otherwise specified, all exposed concrete surfaces shall have a finish in accordance with the current standard specifications.

REVISIONS NO.	DESCRIPTION	BY	DATE
	Note for Reinf. Wts.	FWS	5-7-63
	Rev. Reinf. Steel Wts.	GMW	5-23-63
	Rev. General Notes	LED	9- -63
	Retraced	TSA	
	Rev. Spec. Referance	LED	1-31-67

RECORD ITEM	BY	DATE
DESIGN		
DETAIL	FRC	7-47
TRACED	JWW	7-47
CHECKED	HH AWV	3-48
APPROVED	DJM	3-48
SQUAD:		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
OKLAHOMA CITY, OKLAHOMA

STANDARD CONCRETE HEADWALLS FOR 15" TO 42" REINF. CONC. PIPES

64

CP-2₁-11

PROJECT NO. ______ SHEET NO. ______

OLD 4/6/89

01 CONCRETE HEADWALL DETAIL

Scale: N.T.S.

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:
REGISTERED PROFESSIONAL ENGINEER COREY W. LIPPS 21291 OKLAHOMA
5/10/19

CONSULTANT LOGO:

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525 Central Park Drive
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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:
SEAL OF THE CHEROKEE NATION SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OK

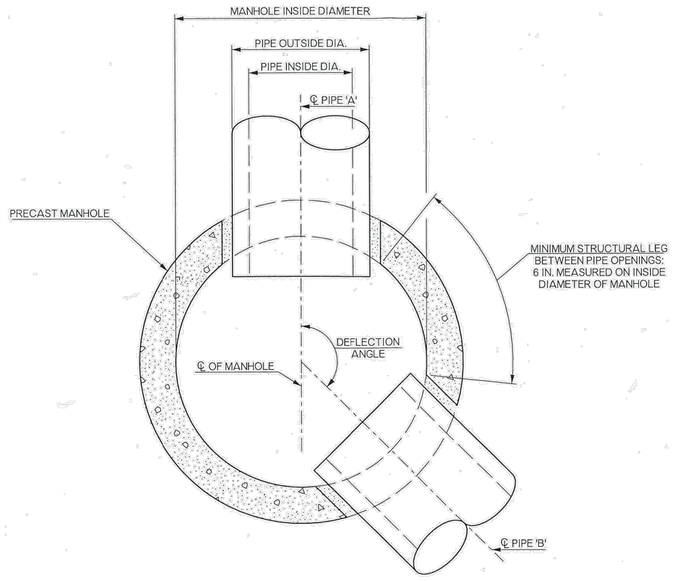
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

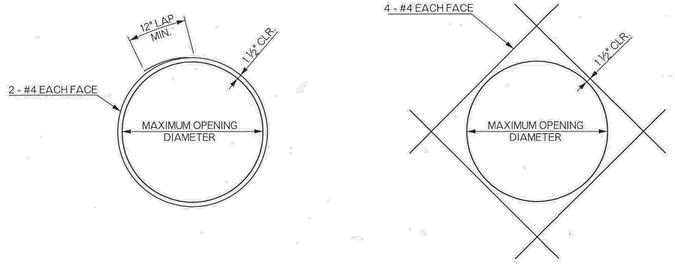
REVISIONS #	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-502

STORM SEWER DETAILS

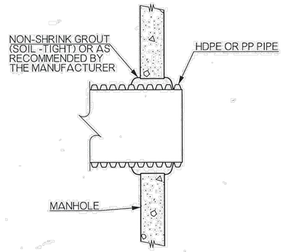


MANHOLE STRUCTURE SIZING DETAIL



TYPICAL PIPE PENETRATION

NOTE: ADDITIONAL REINFORCING SHOWN IS AT THE DISCRETION OF THE MANUFACTURER.



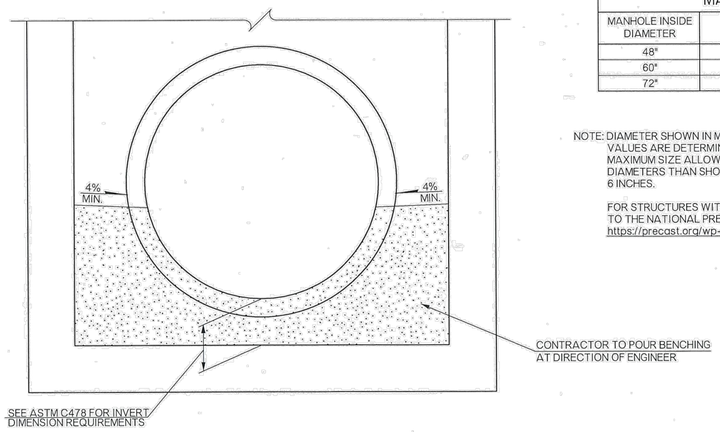
CONNECTION DETAIL

NOTE: HDPE PIPE SHOWN, RCP SIMILAR. ALTERNATIVELY, THE MANUFACTURER MAY PROVIDE BOOTS MEETING ASTM D2321 AND ASTM C923 FOR HDPE OR PP PIPE.

MANHOLE STRUCTURE SIZE SCHEDULE			
MANHOLE INSIDE DIAMETER	90° DEFLECTION	135° DEFLECTION	180° DEFLECTION
48"	18"	27"	30"
60"	27"	36"	42"
72"	33"	48"	48"

NOTE: DIAMETER SHOWN IN MANHOLE STRUCTURE SIZE SCHEDULE IS THE INTERNAL PIPE DIAMETER. TABLE VALUES ARE DETERMINED BY ASSUMING ADJOINING PIPES ARE EQUAL IN DIAMETER AND ARE THE MAXIMUM SIZE ALLOWED FOR ADJOINING PIPES OF EQUAL DIAMETER. PIPES MAY HAVE DIFFERENT DIAMETERS THAN SHOWN IN THE TABLE AS LONG AS THEY PROVIDE A MINIMUM STRUCTURAL LEG OF 6 INCHES.

FOR STRUCTURES WITH DIFFERENT DEFLECTION ANGLES, PIPE DIAMETERS, OR COMBINATIONS REFER TO THE NATIONAL PRECAST CONCRETE ASSOCIATION MANHOLE SIZING RECOMMENDATIONS AT: https://precast.org/wp-content/uploads/2014/08/Precast-concrete-manhole-sizing-recommendations.pdf



BENCHING DETAIL

APPROVED BY ROADWAY ENGINEER _____ DATE 01/25/19

ROADWAY STANDARD

PRECAST MANHOLE DETAILS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PMD-1 | 0

R-46

01 PRECAST MANHOLE DETAILS

Scale: N.T.S.

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PROFESSIONAL SEAL:

CONSULTANT LOGO:

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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-503

STORM SEWER DETAILS

James R. Childers Architect, Inc.
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Fort Smith, AR 72901
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www.childersarchitect.com

PROFESSIONAL SEAL:
REGISTERED PROFESSIONAL ENGINEER COREY W. LIPPS 21291 OKLAHOMA
5/10/19

CONSULTANT LOGO:
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Oklahoma City, Oklahoma 73105
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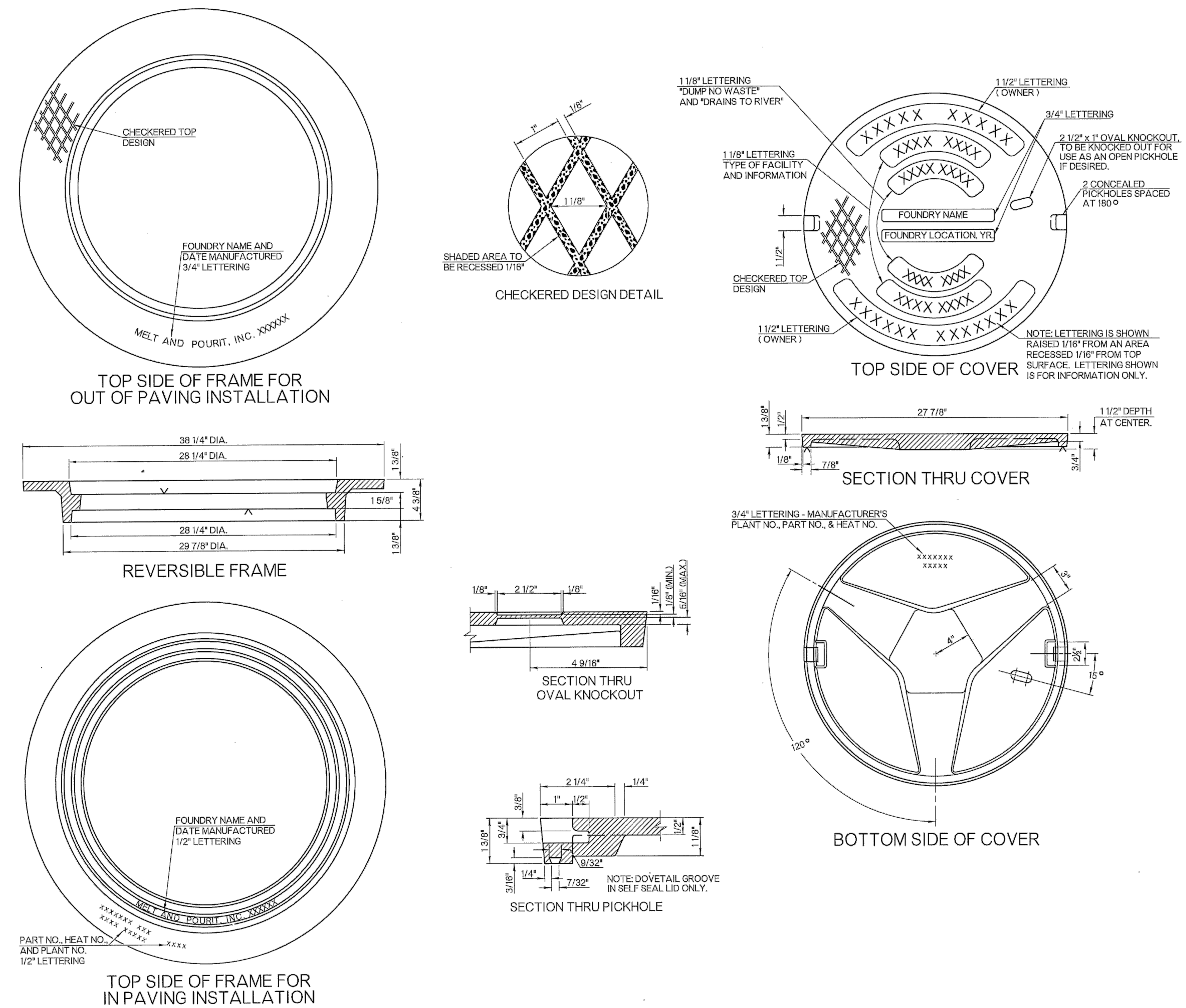
OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

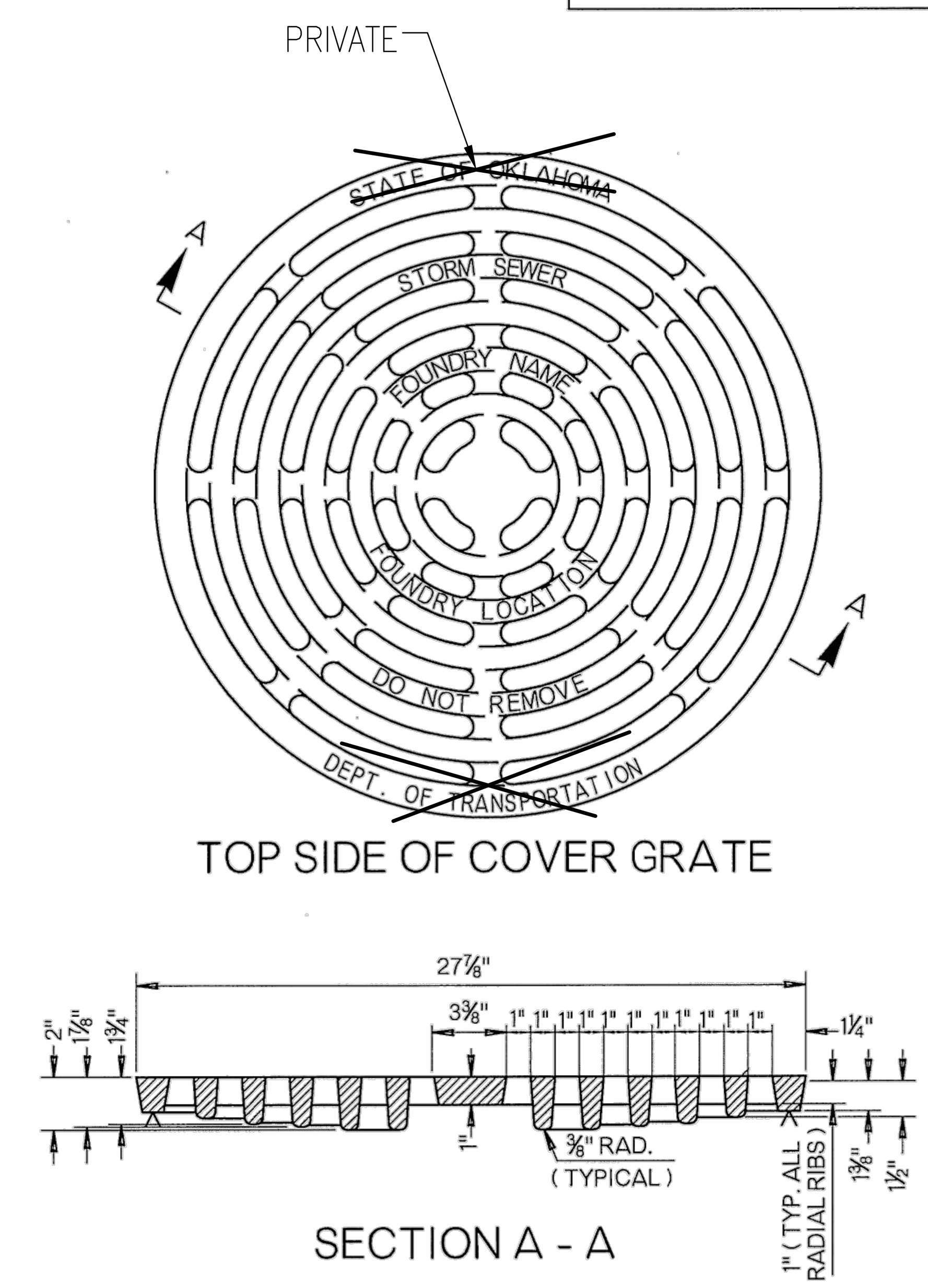
CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION

TAHLEQUAH, OK

STANDARD REVISIONS	
DESCRIPTION	DATE





GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COVERS WILL BE FURNISHED WITH A PLAIN SEAT, UNLESS A SELF-SEAL SEAT OR A LOCKING DEVICE IS SPECIFIED IN THE PLANS.
3. LETTERING TO DENOTE OWNERSHIP AND TYPE OF USAGE WILL BE AT THE DISCRETION OF THE OWNER.
4. FRAMES AND COVERS SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
5. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL MANHOLE.

NOTE: MACHINING (SYMBOL ʌ) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611 (C)	REPLACEMENT OF MANHOLE FRAME AND COVER	EA
611 (D)	REPLACEMENT MANHOLE FRAME	EA
611 (E)	REPLACEMENT OF MANHOLE COVER	EA
611 (F)	REPLACEMENT OF MANHOLE COVER GRATE	EA

APPROVED BY ROADWAY ENGINEER: [signature] DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

ODOT

MANHOLE FRAME AND COVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MFC-4 | 1 | R-42

01 MANHOLE FRAME AND COVER

Scale: N.T.S.

KEY PLAN:

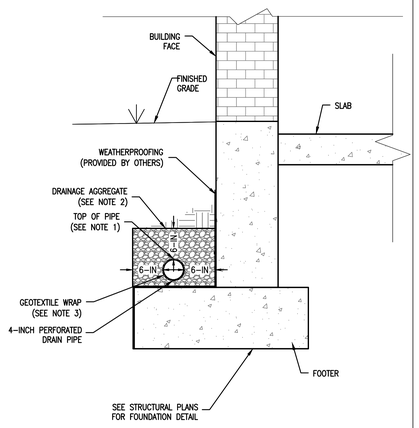
PROJECT PHASE: BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13

SHEET NUMBER: C6-504

STORM SEWER DETAILS



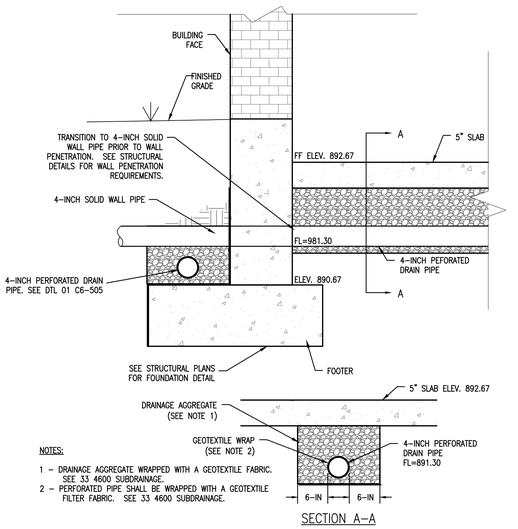
NOTES:

1 – TOP OF PERFORATED PIPE MUST BE BELOW BOTTOM OF SLAB.
2 – DRAINAGE AGGREGATE WRAPPED WITH A GEOTEXTILE FABRIC. SEE 33 4600 SUBDRAINAGE.
3 – PERFORATED PIPE SHALL BE WRAPPED WITH A GEOTEXTILE FILTER FABRIC. SEE 33 4600 SUBDRAINAGE.

01 FOUNDATION DRAIN PIPE

Scale: N.T.S.

1



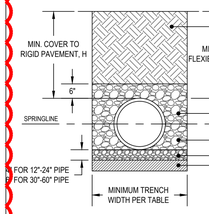
SECTION A–A

NOTES:

1 – DRAINAGE AGGREGATE WRAPPED WITH A GEOTEXTILE FABRIC. SEE 33 4600 SUBDRAINAGE.
2 – PERFORATED PIPE SHALL BE WRAPPED WITH A GEOTEXTILE FILTER FABRIC. SEE 33 4600 SUBDRAINAGE.

02 UNDERSLAB DRAINAGE

Scale: N.T.S.



RECOMMENDED MINIMUM TRENCH WIDTHS	
PIPE DIAMETER (IN)	MINIMUM TRENCH WITH (IN)
4	21
6	23
8	26
10	28
12	30
15	34
18	39
24	48
30	56
36	64
42	72
48	80
54	88
60	96

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS		
PIPE DIAMETER	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD)*
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS	
PIPE DIAMETER	COOPER E-80*
UP TO 24"	24"
30 - 36"	36"
42" - 60"	48"

* COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE. E-80 COVER REQUIREMENTS ARE ONLY APPLICABLE TO ASTM F-2306 PIPE.

GENERAL NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE. MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

03 HDPE AND PP PIPE INSTALLATION

Scale: N.T.S.

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
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www.childersarchitect.com

PROFESSIONAL SEAL:

REGISTERED PROFESSIONAL ENGINEER COREY W. LIPPS 21291 OKLAHOMA
5/21/19

CONSULTANT LOGO:

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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA # 7110, expiration date 06.30.2020

CLIENT:

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

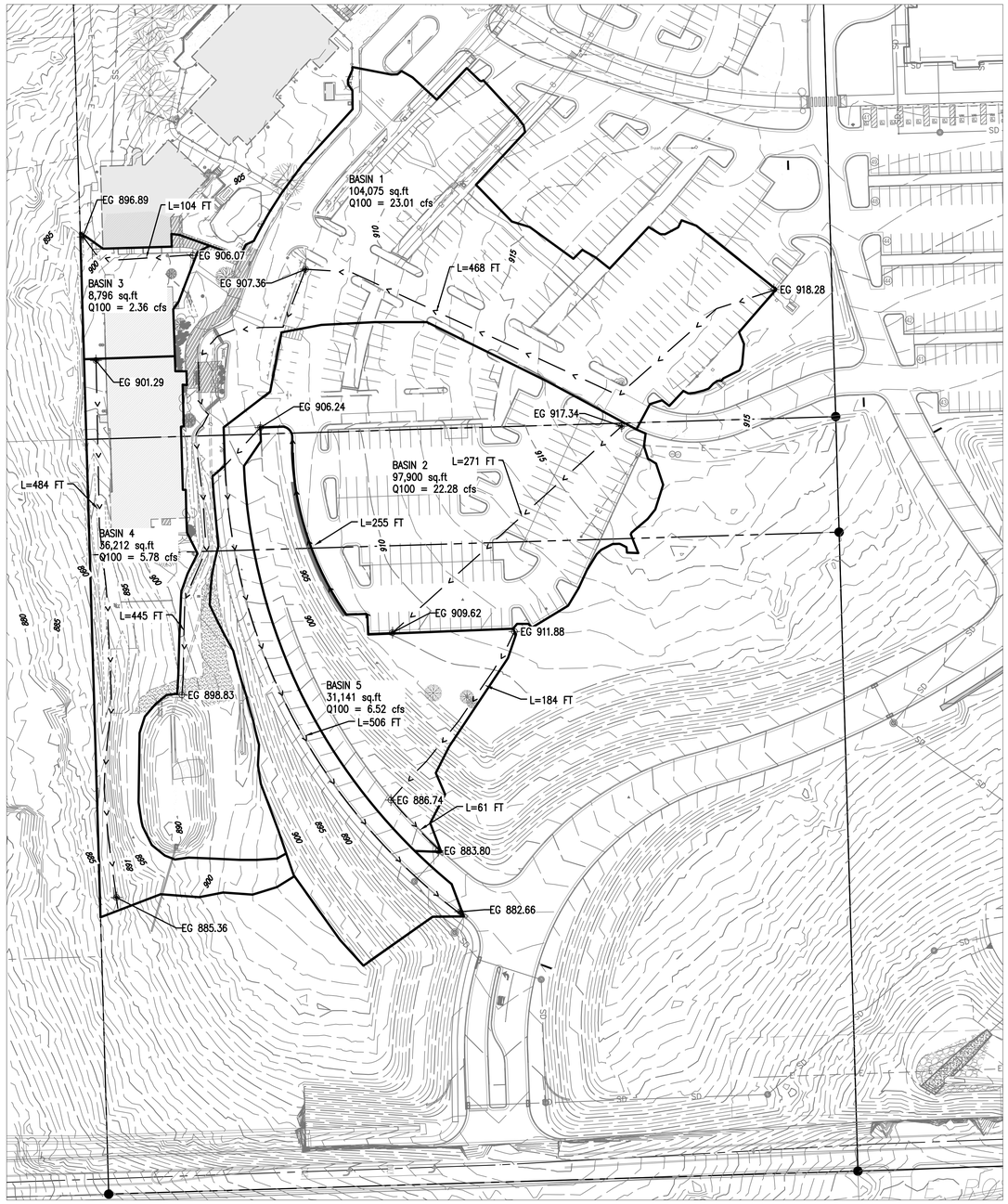
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	05/24/19	BID PACKAGE 04 AD. 01

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
C6-505

STORM SEWER DETAILS



	DRAINAGE SUB-BASIN(S)					
ZONE 2	Sub-Basin ID(s) / Description	Basin 1	Basin 2	Basin 3	Basin 4	Basin 5
	area (sq.ft)	104,075	97,900	8,796	36,212	31,141
	area (acres)	2.39	2.25	0.20	0.83	0.71
	TIME OF CONCENTRATION					
SUB-BASIN OVERLAND	elevation 1 (ft)	918.3	917.3	906.1	901.3	911.9
	elevation 2 (ft)	907.4	909.6	896.9	885.4	886.7
	overland flow length (Lo, ft)	468	271	104	484	184
	overland flow slope (So, %)	2.33%	2.84%	8.85%	3.29%	13.70%
	Retardance Factor Category	Pavement	Pavement	Average Grass	Average Grass	Average Grass
	Ko	0.372	0.372	1.040	1.040	1.040
	time of overland flow (To, min)	7.68	6.03	9.42	20.28	10.66
	sub-basin time of overland flow (To, min)	7.68	6.03	9.42	20.28	10.66
SUB-BASIN CHANNEL	elevation 1 (ft)	907.4	909.6			886.7
	elevation 2 (ft)	898.8	906.2			883.8
	channel length (ft)	445	255			61
	Channel Slope (Sf, ft/ft)	0.019	0.013			0.048
	Channel Category	Curbed Street	Curbed Street			Curbed Street
	Kf	0.0035	0.0035			0.0035
	time of channel flow (Tf, min)	1.75	1.32			0.27
	elevation 1 (ft)		906.2			
	elevation 2 (ft)		882.7			
	channel length (ft)		506			
	Channel Slope (Sf, ft/ft)		0.046			
	Channel Category		Curbed Street			
	Kf		0.0035			
	time of channel flow (Tf, min)		1.38			
Tc	total time of concentration (Tc, min)	9.43	8.72	5.00	20.28	10.93
	RUN-OFF COEFFICIENT					
	Run-Off Coefficient A (description)	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi
	Run-Off Coefficient A (value)	0.900	0.900	0.900	0.900	0.900
CA	c*A	2.15	2.02	0.18	0.75	0.64
	RUNOFF FLOW RATE					
INTENSITY/RUN-OFF	I10 (in/hr)	6.08	6.27	7.53	4.27	5.73
	I25 (in/hr)	7.24	7.44	8.79	5.19	6.85
	I50 (in/hr)	7.79	8.01	9.44	5.61	7.38
	I100 (in/hr)	8.64	8.87	10.38	6.27	8.19
	10-yr C_f x C	0.90	0.90	0.90	0.90	0.90
	25-yr C_f x C	0.99	0.99	0.99	0.99	0.99
	50-yr C_f x C	1.00	1.00	1.00	1.00	1.00
	100-yr C_f x C	1.00	1.00	1.00	1.00	1.00
	Q10 (cfs) = CfCIA	13.08	12.68	1.37	3.20	3.68
	Q25 (cfs) = CfCIA	17.13	16.56	1.76	4.27	4.85
	Q50 (cfs) = CfCIA	18.62	18.00	1.91	4.66	5.27
	Q100 (cfs) = CfCIA	20.64	19.93	2.10	5.22	5.86

0' 50' 100' 200'

SCALE: 1" = 50'

UTILITY WARNING:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.

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CLIENT:

THE CHEROKEE NATION
ESTABLISHED SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

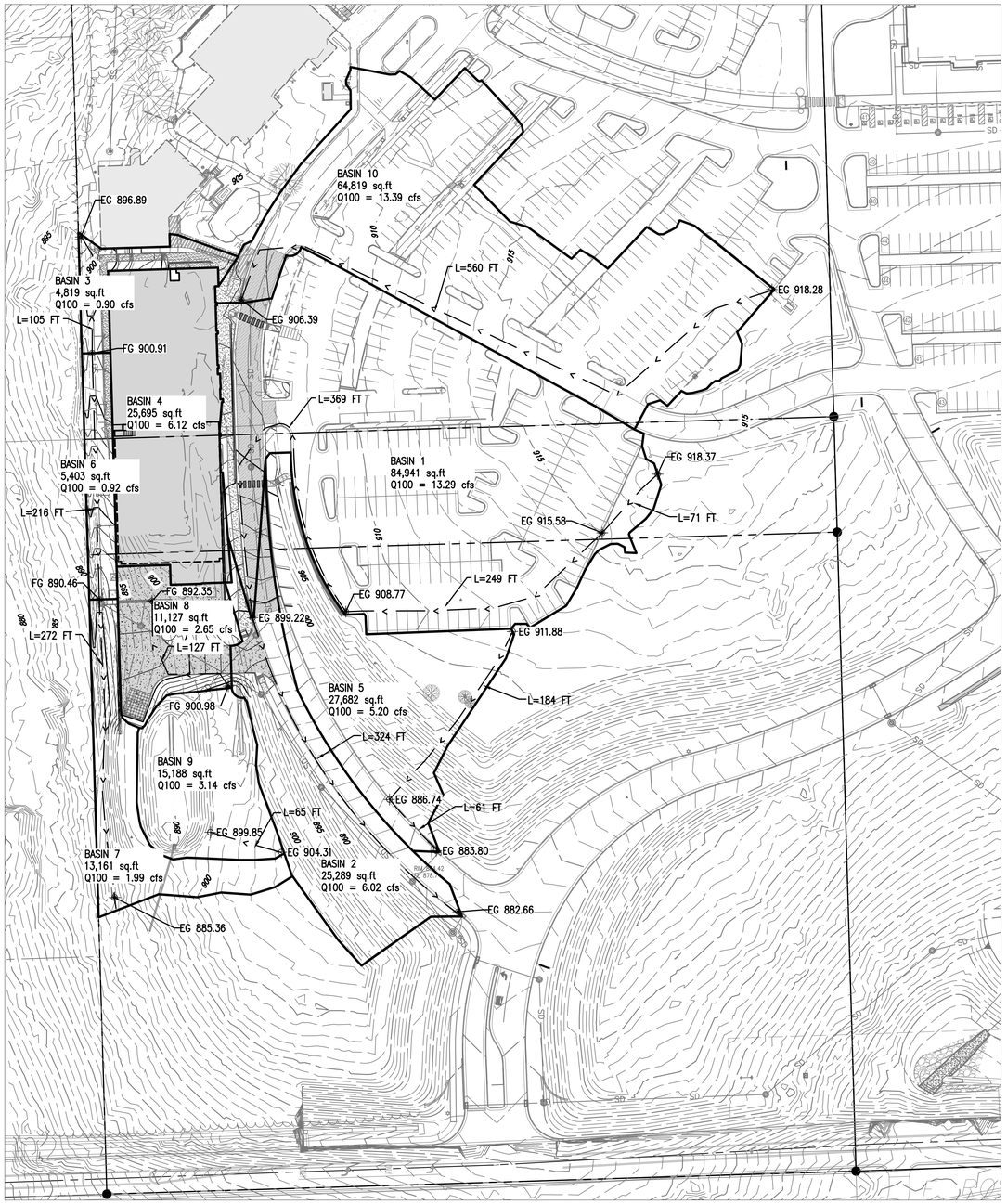
PROJECT PHASE:
BID PACKAGE 04

REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-801

EXISTING HYDROLOGY



	DRAINAGE SUB-BASIN(S)										
ZONE 2	Sub-Basin ID(s) / Description	Basin 1	Basin 2	Basin 3	BUILDING Basin 4	Basin 5	Basin 6	Basin 7	UTILITY YARD Basin 8	SMALL POND Basin 9	WEST CHANNEL Basins 6 and 7	Basin 10
	area (sq.ft)	84,941	25,289	4,819	25,695	27,682	5,403	13,161	11,127	15,188	18,564	64,819
	area (acres)	1.95	0.58	0.11	0.59	0.64	0.12	0.30	0.26	0.35	0.43	1.49
	TIME OF CONCENTRATION											
SUB-BASIN OVERLAND	elevation 1 (ft)	918.4		900.9		911.9	900.9	890.5	901.0	904.3		918.3
	elevation 2 (ft)	915.6		896.9		886.7	890.5	885.4	892.4	899.9		906.4
	overland flow length (Lo, ft)	71		105		184	216	272	127	65		560
	overland flow slope (So, %)	3.93%		3.81%		13.70%	4.81%	1.88%	6.77%	6.77%		2.13%
	Retardance Factor Category	Average Grass		Average Grass		Average Grass	Average Grass	Average Grass	Pavement	Average Grass		Pavement
	Ko	1.040		1.040		1.040	1.040	1.040	0.372	1.040		0.372
	time of overland flow (To, min)	9.62		11.19		10.66	13.94	18.33	3.83	8.35		8.35
	elevation 1 (ft)	915.6										
	elevation 2 (ft)	908.8										
	overland flow length (Lo, ft)	249										
	overland flow slope (So, %)	2.73%										
	Retardance Factor Category	Pavement										
	Ko	0.372										
	time of overland flow (To, min)	6.05										
	sub-basin time of overland flow (To, min)	15.67		11.19		10.66	13.94	18.33	3.83	8.35		8.35
SUB-BASIN CHANNEL	elevation 1 (ft)	908.8	889.2			886.7						
	elevation 2 (ft)	899.22	882.7			883.8						
	channel length (ft)	369	324			61						
	Channel Slope (Sf, ft/ft)	0.026	0.020			0.048						
	Channel Category	Curbed Street	Curbed Street			Curbed Street						
	Kf	0.0035	0.0035			0.0035						
	time of channel flow (Tf, min)	1.35	1.35			0.27						
Tc	total time of concentration (Tc, min)	17.02	5.00	11.19	5.00	10.93	13.94	18.33	5.00	8.35	32.27	8.35
	RUN-OFF COEFFICIENT											
CA	Run-Off Coefficient A (description)	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi	commercial - offi
	Run-Off Coefficient A (value)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
	C^*A	1.75	0.52	0.10	0.53	0.57	0.11	0.27	0.23	0.31	0.38	1.34
	RUNOFF FLOW RATE											
INTENSITY/RUN-OFF	I10 (in/hr)	4.67	7.53	5.67	7.53	5.73	5.14	4.50	7.53	6.37	3.30	6.37
	I25 (in/hr)	5.65	8.79	6.78	8.79	6.85	6.19	5.46	8.79	7.56	4.04	7.56
	I50 (in/hr)	6.10	9.44	7.31	9.44	7.38	6.68	5.89	9.44	8.13	4.38	8.13
	I100 (in/hr)	6.81	10.38	8.12	10.38	8.19	7.44	6.59	10.38	9.00	4.92	9.00
	10-yr C_y x C	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
	25-yr C_y x C	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	50-yr C_y x C	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	100-yr C_y x C	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Q10 (cfs) = CiA	8.20	3.94	0.56	4.00	3.28	0.57	1.22	1.73	2.00	1.27	8.53
	Q25 (cfs) = CiA	10.91	5.05	0.74	5.13	4.31	0.76	1.63	2.22	2.61	1.71	11.13
	Q50 (cfs) = CiA	11.90	5.48	0.81	5.57	4.69	0.83	1.78	2.41	2.83	1.87	12.09
	Q100 (cfs) = CiA	13.29	6.02	0.90	6.12	5.21	0.92	1.99	2.65	3.14	2.10	13.39

0' 50' 100' 200'

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CLIENT:
THE CHEROKEE NATION
ESTD. 6.1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C6-802

PROPOSED HYDROLOGY

TPWA WATER LINE CONSTRUCTION DOCUMENTS FOR

COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION

1

SUMMARY OF WORK

1. The Work to be performed consists of providing all labor, materials, equipment and services necessary for the complete construction and start up of the COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION as shown on the Drawings and herein specified in accordance with the Contract Documents.

CONTRACT COSTS

1. All costs for labor, materials, equipment, and services necessary for complete construction and start-up of the Work as shown on the Drawings and specified herein shall be included in the contract price unless otherwise indicated in the Contract Documents.
2. Work shown on the Drawings or required by the Specifications but not specifically listed in the Summary of Quantities shall be considered incidental construction, and the cost of such work shall be included in the Unit Prices Bid.
3. CONTRACTOR shall make their own estimate of the labor, materials, equipment, and services necessary to complete the work and shall visit the site and fully acquaint himself of the existing conditions prior to commencing construction. CONTRACTOR shall notify ENGINEER of any errors in the ENGINEER's construction quantities; or any condition at the site that may affect the construction of the work as shown on the Drawings.

GENERAL REQUIREMENTS

1. Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Cardinal Engineering, Inc., including electronic media editions, shall not be reused on extensions of the Project or any other project without written consent of OWNER and Cardinal Engineering, Inc. and specific written verification or adaptation by Cardinal Engineering, Inc.
2. Survey information shown on the drawings were provided by Lemke Land Surveying, 3226 Bart Conner Drive, Norman, OK. 73072 Phone (405) 366-8541, CA #2054.

APPLICABLE CODES AND SPECIFICATIONS

1. All references to codes, specifications, and standards referred to in the Specification and on the Drawings shall mean, and are intended to be, the latest edition, amendment, and/or revision of such reference standard in effect as of the date of these Contract Documents.

PROCEDURAL REQUIREMENTS

1. CONTRACTOR shall make the coordination of the operations of all trades, subcontractors, and material suppliers engaged upon or in connection with the Work. Every effort shall be made to assure a harmonious, cooperative attitude on the part of all concerned. CONTRACTOR shall guarantee to each of his foremen and subcontractors the proper dimensions they may require for the fitting of their work to adjoining work. All fitting and adjusting necessary to make all the parts of the work join together properly shall be made.
2. Cooperation with utility and government officials and inspectors shall occur at all times. If any official or inspector deems special inspection is necessary, assistance and facilities that will expedite his inspection shall be provided.

TEMPORARY FACILITIES AND CONTROLS

1. Arrange for and provide temporary facilities and controls as specified herein and as required for the proper and expeditious prosecution of the work. Pay all costs, except as otherwise specified, until final acceptance of the work unless the OWNER makes arrangements for the use of completed portions of the work after substantial completion in accordance with the provisions of the General Conditions.
2. Make all temporary connections to utilities and services in locations acceptable to the OWNER, ENGINEER, and local authorities having jurisdiction thereof; furnish all necessary labor and materials, and make all installations in a manner subject to the acceptance of such authorities and the ENGINEER; maintain such connections; remove the temporary installation and connections when no longer required; restore the services and sources of supply to proper operating condition.
3. Pay all costs for temporary electrical power and temporary water.
4. Water necessary for construction purposes shall be provided. All temporary connections shall be made to existing mains. A temporary meter shall be provided. Arrangements and payment for the temporary water service, including cost of installation, maintenance thereof, and water used shall be made. At the completion of the construction work, all temporary water service equipment and piping shall be removed.
5. Chemical toilets for the use of all construction personnel shall be provided at a location within the limits of the Site. Chemical toilets shall be maintained in a sanitary condition.
6. From the commencement to the completion of the work, keep all parts of the site and the project free from accumulation of water, and supply, maintain, and operate all necessary pumping and bailing equipment.
7. Remove snow and ice as necessary for the protection and prosecution of the work, and protect the work against weather damage.

PRODUCT REQUIREMENTS

1. Materials, products, and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling.
2. Provide suitable temporary weather tight storage facilities as may be required for materials that will be damaged by storage in the open. Any off-site storage space used is the responsibility of the CONTRACTOR. Store and protect materials delivered at the site from damage. Do not use damaged material on the work.
3. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the respective manufacturers, unless otherwise specified.
4. References to approved equal or similar terms mean that approval of the ENGINEER is required.
5. Whenever the Contract Documents require that a product be in accordance with Federal specification, ASTM designation, ANSI specification, AWWA specification, or other association standard, the CONTRACTOR shall present an affidavit from the manufacturer certifying that the product complies therewith. Where requested or specified, submit supporting test data to substantiate compliance.

EXECUTION REQUIREMENTS

1. CONTRACTOR shall be responsible for properly laying out the work, and for lines and measurements for the work executed under the Contract Documents. Verify the figures shown on the Drawings before ordering any materials and laying out the work, and report errors or inaccuracies in writing to the ENGINEER before commencing work. The ENGINEER or his representative will in no case assume the responsibility for laying out the work.
2. OWNER has or will perform a survey of the site, stake the property limits, and provide a reference benchmark elevation. CONTRACTOR shall be responsible for any additional offset staking or layout survey required to locate improvements and control grade of improvements. Be responsible for the proper location and level of the work and for the maintenance of reference lines and benchmarks. Any re-staking requested by the CONTRACTOR shall be done at his expense.
3. Existing survey points other than those specifically mentioned herein shall not be considered as acceptable control points unless approved by the ENGINEER. If approval is secured, CONTRACTOR remains responsible for maintaining them and for their accuracy. Be responsible for preserving all existing iron or metal, and all concrete survey points or monuments for the construction period.

STORM WATER POLLUTION PREVENTION PLAN

1. Construction activities that result in land disturbance of equal to or greater than one (1) acre, or less than one (1) acre, if they are part of a larger common plan of development or sale that totals at least one (1) acre must also obtain a permit for Storm Water Discharges from Construction Activities. This means that land disturbing of one (1) acre or more must permit with EPA.
2. A copy of the erosion control site plan must be on site at all times and made available to the inspector upon request.
3. The contractor shall be responsible for the repair or replacement of all erosion control devices damaged due to construction.
4. A Storm water Pollution Prevention Plan (SWPPP) has been prepared for the WORK and a Notice of Intent (NOI) has been submitted by OWNER. CONTRACTOR shall implement the SWPPP, and construct, inspect, and maintain the erosion controls to prevent runoff of silt and sediment from the site. A copy of the SWPPP shall be kept at the site at all times and be made available to inspectors upon request. Inspections reports shall be maintained in the SWPPP and the SWPPP shall be updated when necessary.
5. The erosion control plan, Notice of Intent (NOI), and the Storm Water Pollution Prevention Plan (SWPPP), as well as any other applicable state or municipal permits shall be kept on site by the construction superintendent at all times. Said items shall be made available to state and municipal authorities upon request.
6. Inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every fourteen (14) calendar days and within 24 hours of the end of a storm event of 0.25 inches or greater.
7. All erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If site inspections identify erosion controls that are not operating effectively, maintenance shall be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable.
8. If sediment escapes the construction site, off-site accumulations of sediment shall be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).
9. Sediment shall be removed from sediment traps or sedimentation ponds when the design capacity has been reduced by 50%.
10. Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).

EXISTING UTILITIES AND STRUCTURES

1. CONTRACTOR shall contact OKIE (1-800-522-6543) prior to construction for locating existing utilities.
2. The underground utilities shown have been located from field survey surface information and existing drawings. ENGINEER and Surveyor make no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The underground utilities are located as accurately as possible from information available; however, ENGINEER and Surveyor further do not guarantee that the underground utilities shown are in the exact location indicated either vertically or horizontally. ENGINEER and Surveyor have not physically located the underground utilities by probing, excavating, hydro-vac, or by any other means.
3. Prior to construction, CONTRACTOR shall notify all utility companies and governmental agencies who may have utility lines on or about the premises or who may be effected by the construction. Notice shall be given no less than twenty-four hours prior to any work that may interfere with a utility. CONTRACTOR shall also coordinate the construction activities with the utility companies to ensure compliance with the project schedule.
4. All existing structures, improvement and utilities designated to remain shall be adequately protected from damage that might otherwise occur due to construction operations. Where construction comes in close proximity to existing structures, utilities or appurtenances, or if it becomes necessary to move services, poles, guy wires, pipe lines or other obstructions, CONTRACTOR shall notify and cooperate with the owner of the utility, structure, or appurtenance. The utility lines and other existing structures shown on the plans are for information only and are not guaranteed to be complete or accurate as to location and/or depth. CONTRACTOR shall be liable for damage to any utilities resulting from the CONTRACTOR's operations. During construction, all fire hydrants, valve boxes, fire or police call boxes and other existing utility controls shall be left intact, unobstructed and accessible unless noted on the plan.
5. Any existing valve boxes, meters, fire hydrants, manholes, and other public utilities shall be rebuilt to finished grades according to specifications. All valves, manhole lids, and sewer clean-outs located in paved areas, shall be rated for H-20 traffic loading. Coordinate the work with the appropriate utility department.

PROTECTION AND MAINTENANCE

1. Perform all special construction operations and take all precautions necessary to adequately protect the materials and work performed, the property and landscape of OWNER and others, existing buildings and improvements, existing utilities, workers and employees, and the public in general.
2. Where trees, plants, shrubbery, and other vegetation are adjacent to the line of the work and are designated not to be destroyed or removed and replaced, CONTRACTOR shall protect these items by substantial wooden boxes and guards and shall not permit machinery or employees to scrape, tear the limbs from or damage, or attach guy cables to them. Hand excavation may be required if machinery could damage trees, plants, shrubbery, and other vegetation designated to be left undisturbed. CONTRACTOR shall be responsible for all damages to such trees, plants, shrubbery, and other vegetation unless specific provisions are made for their removal or abandonment on the Drawings.
3. Existing fences that require cutting for gates or other reasons shall be adequately braced to prevent slacking of the fence before it is cut. Livestock may be present in all fenced areas; therefore, points of entrance shall be kept closed at all times and the CONTRACTOR shall be responsible for the containment of livestock, their safety, and the safety of the public. All fencing shall be done in a workmanlike manner with standard construction practices as per the standard details provided. Gates installed shall be chained and locked closed. Locks shall be keyed alike. Provide a set of keys to the OWNER.
4. The sides of all excavations shall be sufficiently sheeted and shored to prevent slides, cave-ins, settlement or movement of the banks and to maintain the excavation clear of all obstructions that will, in any way, hinder or delay the progress of the work. All sheeting, shoring and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and maintain the sides of the excavation properly in place and protect all persons, including workmen, and all property from injury or damage. The removal of sheeting, shoring and bracing shall be done in such manner as to not endanger new or existing structures, public or private property, and to avoid cave-ins or slides of the banks. Sheeting, shoring, or bracing shall not be left in place.
5. Shore up and protect any building or other structure which may be endangered during the work and restore all buildings, culverts, fences, walls, or other properties disturbed during the work to a condition equal to that existing before operation. CONTRACTOR shall be responsible for any injuries to persons and for damages to existing buildings or other structures affected by the work, and OWNER shall not be liable therefore.
6. Immediately remove all surface or seepage water from sewers, drains, ditches, and other sources that may accumulate water during the excavation and construction work by pumping, bailing, or draining. CONTRACTOR shall have available at all times sufficient equipment in proper working order for doing the work herein required. All water removed from excavations shall be disposed of in an approved manner, so as to not create unsanitary conditions, nor to cause injury to persons or property or damage to the work in progress, nor to interfere unduly with the use of streets, private driveways or entrances.
7. When existing storm sewers, drains, or ditches are blocked, cut, opened, or removed in the course of the work, CONTRACTOR shall provide and maintain temporary outlets and connections until permanent facilities have been restored. Provide and maintain any pumps, diversions, piping, containers, and other facilities required for this purpose.
8. During construction and until such time as vegetation is reestablished, keep exposed dirt areas within the limits of construction and in stockpiles areas damp to prevent blowing. CONTRACTOR shall be responsible for providing and maintaining adequate erosion protection during construction and following construction until such time as proper vegetation is reestablished.
9. The premises and the job site shall be maintained in a reasonably neat and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons, and flammable waste materials or trash from the work areas at the end of each working day.
10. Upon completion of the work and before final acceptance and final payment shall be made, the CONTRACTOR shall completely clean and remove from the site of the work all equipment, construction materials, surplus and discarded materials, temporary structures and debris of every kind. CONTRACTOR shall leave the site of the work in a neat and orderly condition equal to that which originally existed, or as called for in the Contract documents. Surplus and waste materials removed from the site of the work shall be disposed of at locations satisfactory to the Engineer, and at the CONTRACTOR'S sole cost.
11. All terraces, levees, and watercourses shall be restored to former condition to the satisfaction of OWNER so that they shall function as originally intended.
12. Fences disturbed by construction shall be restored to original condition and to the satisfaction of OWNER.
13. Public and private streets, drives, and parking lots shall be restored to their original condition.
14. When and where any damage or injury is done to public or private property on the part of the CONTRACTOR, it shall restore or have restored at its own cost and expense such property to a condition equal (or improved) to that existing before such damage was done by repairing, rebuilding or otherwise restoring as may be directed, or it shall make good such damage or injury in a manner acceptable to the property owner or the Engineer. Replacement of previously constructed items, such as curb, gutter, sidewalks, driveways, paving, etc., shall conform to the specifications for new construction, unless directed otherwise by the OWNER.

EXCAVATION AND TRENCH SAFETY SYSTEMS

1. CONTRACTOR shall be responsible for complying with State laws and Federal regulations relating to excavation and trench safety, including those which may be enacted during the performance under this Contract. CONTRACTOR is advised that Federal Regulations 29 C.F.R. 1926.650-1926.652 have been, in their most recent version as amended, in effect since January 2, 1990. CONTRACTOR shall fully comply with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations pertaining to excavations, trenching, and shoring and shall provide and familiarize its employees involved in excavation and trenching with the provisions in OSHA Pamphlet Number 2226, Excavating and Trenching Operations.

TRAFFIC CONTROL

1. A Work Zone Permit must be obtained from the CITY at least two (2) working days prior to the start of work and/or placing or removing any barricades or modifying existing traffic control devices.
2. CONTRACTOR shall be responsible for erecting and maintaining barricades and other traffic warning devices as necessary around the perimeter of construction and adjacent to any open trenches. Provide and maintain adequate detours around the work under construction. Provide sufficient lights, warning signs, and watchmen for the safety of the public.
3. Any temporary street closure shall be coordinated with and approved by OWNER. CONTRACTOR shall establish all detour routes while streets are closed during construction. CONTRACTOR shall notify Fire, Police, and EMSA headquarters when any street is temporarily closed.
4. CONTRACTOR is responsible for the prompt replacement and/or repair of all traffic control devices, signs, and appurtenances damaged or disturbed due to construction. Any existing traffic signals, signal loops, conduits, cables, signs, and other traffic control devices affected by the work shall be reset or replaced according to specifications. Coordinate the work with the traffic department.

ADA COMPLIANCE

1. CONTRACTOR is responsible for ensuring all sidewalks, curb ramps, ramps, stairs, accessible parking spaces, and building access routes comply with the current Americans with Disability Act (ADA) Standards prior to construction. Any errors found shall be brought the ENGINEER'S attention for resolution.

DEFECTIVE AND UNAUTHORIZED WORK

1. All work that has been rejected or condemned shall be repaired or if it can not be satisfactorily repaired, it shall be removed and replaced at the CONTRACTOR's expense. Defective materials shall be removed immediately from the site of the work.
2. Work done without lines and grades having been given, work done beyond the lines or not in conformity with grades shown on the plans or as given, work done with out proper inspection, or any extra or unclassified work done without written authority and prior written agreement as to prices, will be done at the CONTRACTOR's risk and will be considered unauthorized, and at the option of the ENGINEER, may not be measured an paid for and may be ordered to be removed at the CONTRACTOR's expense.
3. Upon failure of the CONTRACTOR to satisfactorily repair or to remove and replace, if so directed, and rejected, unauthorized, or condemned work or materials immediately after receiving notice from the ENGINEER, the ENGINEER shall, after giving written notice to the CONTRACTOR, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and replace, and to deduct the cost thereof from any compensation due or to become due the CONTRACTOR. If the ENGINEER and OWNER deem it not expedient to correct the work damaged or done not in accordance with the Contract, and equable deduction from the Contract Price shall be made thereof.

LINE LEGEND

- BARBED WIRE FENCE
- CHAINLINK FENCE
- PIPERAIL FENCE
- STOCKADE FENCE
- SECURITY FENCE
- ELECTRIC UNDERGROUND
- OVERHEAD ELECTRIC
- GAS LINE
- SANITARY SEWER
- STORM DRAIN PIPE (SURVEYED)
- STORM DRAIN CENTERLINE
- WATER
- NONPOTABLE WATER
- CURB AND GUTTER
- SURFACE DRAINAGE FLOWLINE
- FIBER OPTIC
- TELEPHONE (AERIAL)
- TELEPHONE (BURIED)
- TELEVISION (AERIAL)
- TELEVISION (BURIED)
- CENTERLINE
- EASEMENTS
- PROPERTY LINE
- RIGHT OF WAY
- EXISTING BUILDINGS
- BUILDING SETBACK
- EX 1 FT CONTOUR
- EX 5 FT CONTOUR
- FG 1 FT CONTOUR
- FG 5 FT CONTOUR
- PROJECT BOUNDARY
- DEMOLITION LINE

SYMBOL LEGEND

- AIR CONDITIONER UNIT
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GAS VENT
- TRANSFORMER
- GUARD POST
- LIGHT POLE
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET
- SANITARY SEWER CLEANOUT
- COMMERCIAL SIGN
- SIGN
- SPRINKLER HEAD
- SPRINKLER VALVE
- TELEPHONE RISER
- TRAFFIC/ELECTRIC PULL BOX
- WATER METER
- WATER VALVE BOX
- TC=1121.63 TOP OF CURB SPOT ELEVATION
- G=1121.13 GUTTER SPOT ELEVATION
- X 1123.5 SPOT ELEVATION

HARDSCAPE / LANDSCAPE PATTERNS

- CONCRETE SIDEWALKS
- LIGHT DUTY ASPHALT PAVING
- HEAVY DUTY ASPHALT PAVING
- LIGHT DUTY CONCRETE PAVING
- HEAVY DUTY CONCRETE PAVING
- REINFORCED HEAVY DUTY CONCRETE PAVING
- SODDING / SEEDING / VEGETATIVE COVER

ABBREVIATIONS

@	AT		
AFF	ABOVE FINISHED FLOOR	N/A	NOT APPLICABLE
AGRD	ADJACENT GRADE		
AHJ	AUTHORITY HAVING JURISDICTION		
APPROX	APPROXIMATE	OD	OUTSIDE DIAMETER
ARCH	ARCHITECTURAL		
ASS'Y	ASSEMBLY	MTCH	MATCH
		MEP	MECHANICAL / ELECTRICAL / PLUMBING
BFF	BELOW FINISHED FLOOR		
BLDG	BUILDING		
		N	NORTH
CIP	CAST IN PLACE	N	NORTHING
CL	CENTERLINE	NO.	NUMBER
CM	CONSTRUCTION MANAGER		
CNTR	CENTER	OC	ON CENTER
CONC	CONCRETE	ODEQ	OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
CONST	CONSTRUCT		
CONT	CONTINUOUS	ODOT	OKLAHOMA DEPARTMENT OF TRANSPORTATION
CONTR	CONTRACTOR		
COORD	COORDINATE	OWRB	OKLAHOMA WATER RESOURCES BOARD
DIA	DIAMETER	OZ	OUNCE
DS	DOWN SPOUT		
DTL	DETAIL	PC	PORTLAND CEMENT
DWG(S)	DRAWINGS	PC	PRE-CAST
		PC	POINT OF CURVATURE
E	EAST	PLBG	PLUMBING
E	EASTING	POC	POINT OF CONNECTION
EG	EXISTING GRADE	PRC	POINT OF REVERSE CURVATURE
EGCL	EXISTING GRADE CENTER LINE	PT	POINT OF TANGENCY
ELEC	ELECTRICAL	PVI	POINT OF VERTICAL INTERSECTION
ELEV	ELEVATION		
EJ	EXPANSION JOINT	QTY	QUANTITY
EQ	EQUAL		
ETR	EXISTING TO REMAIN	R	RADIUS
EX	EXISTING	RE:	REFERENCE
EXHD	EXTRA HEAVY DUTY	REINF	REINFORCED
		REQ'D	REQUIRED
FD	FLOOR DRAIN	REV	REVISION
FF	FINISHED FLOOR		
FG	FINISHED GRADE	S	SOUTH
FGCL	FINISHED GRADE CENTER LINE	SAN	SANITARY
FL	FLOWLINE	SCHED	SCHEDULE
FOC	FACE OF CONCRETE	SECT	SECTION
FT	FOOT/FEET	SF	SQUARE FEET
FTNG	FOOTING	SHT	SHEET
FV	FIELD VERIFY	SPEC	SPECIFICATION
		SQ	SQUARE
GA	GAUGE	STRUC	STRUCTURAL
GALV	GALVANIZED	STD	STANDARD
GC	GENERAL CONTRACTOR	SW	SIDEWALK
GU	GUTTER	SY	SQUARE YARD
HD	HEAVY DUTY	TC	TOP OF CURB
HORIZ	HORIZONTAL	TEMP	TEMPORARY
HT	HEIGHT	TOC	TOP OF CONCRETE
		TOE	TOE OF SLOPE
IN	INCH	TOP	TOP OF SLOPE
INFO	INFORMATION	TOW	TOE OF WALL
ID	INSIDE DIAMETER	TPW	TOP OF WALL
IFGC	INTERNATIONAL FUEL GAS CODE	TYP	TYPICAL
IPC	INTERNATIONAL PLUMBING CODE		
		UNO	UNLESS NOTED OTHERWISE
JT	JOINT		
		VERT	VERTICAL
LD	LIGHT DUTY		
LF	LINEAL FEET	W	WEST
		W/	WITH
MH	MANHOLE	WT	WEIGHT
MAX	MAXIMUM		
MECH	MECHANICAL		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

CIVIL SHEET LIST

WATERLINE SHEETS	
Number	Title
C7-001	WATERLINE TITLE SHEET
C1-101	EXISTING CONDITIONS AND SURVEY CONTROL
C7-201	WATERLINE PLAN AND PROFILE SHEET
C7-202	WATERLINE PLAN AND PROFILE SHEET
C7-203	WATERLINE PLAN AND PROFILE SHEET
C7-501	WATER DETAILS
C5-701	EROSION CONTROL PLAN
C5-702	EROSION CONTROL DETAILS AND NOTES

WATER MAIN SEPARATION REQUIREMENTS

WATER MAIN SHALL BE INSTALLED ACCORDING TO THE FOLLOWING MINIMUM SEPARATION DISTANCES, MEASURED EDGE TO EDGE, BETWEEN WATER LINES AND OTHER BURIED UTILITIES, SHOULD SUCH UTILITIES BE ENCOUNTERED DURING CONSTRUCTION:

1. 10-FEET HORIZONTALLY FROM SEWER LINES.
2. 2-FEET VERTICALLY FROM SEWER LINES WITH SEWER LINES ARRANGED SO THAT ITS JOINTS WILL BE EQUIDISTANT FROM THE WATER LINE.
3. 2-FEET VERTICALLY BETWEEN THE WATER LINE AND ANY EXISTING OR PROPOSED STORM SEWERS, RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITIES.
4. 5-FEET HORIZONTALLY FROM EXISTING OR PROPOSED STORM SEWERS, RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITY LINES.
5. LOCATE CAST IRON WATER LINES AT LEAST 10-FEET FROM ANY GASOLINE STORAGE TANKS AND PVC WATER LINES AT LEAST 50-FEET HORIZONTALLY FROM ANY GASOLINE STORAGE TANKS AND LINES.
6. 15-FEET FROM ALL PARTS OF SEPTIC TANKS, ADSORPTION FIELDS, OR OTHER SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
7. WHEN IT IS IMPOSSIBLE TO OBTAIN SUCH HORIZONTAL OR VERTICAL SEPARATION BETWEEN THE WATER AND SEWER LINES, CONSTRUCT THE SEWER LINE OF WATER PIPE MATERIAL AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS.

INSTALLATION NOTES

1. MIDCO RESTRAINTS SHALL BE INSTALLED ON ALL MECHANICAL JOINTS.
2. BELL RESTRAINTS SHALL BE INSTALLED WITHIN 40 FT IN BOTH DIRECTIONS OF A MECHANICAL JOINT.
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CA# 7110, expiration date 06.30.2020

CLIENT:
THE CHEROKEE NATION
ESTD. 1839

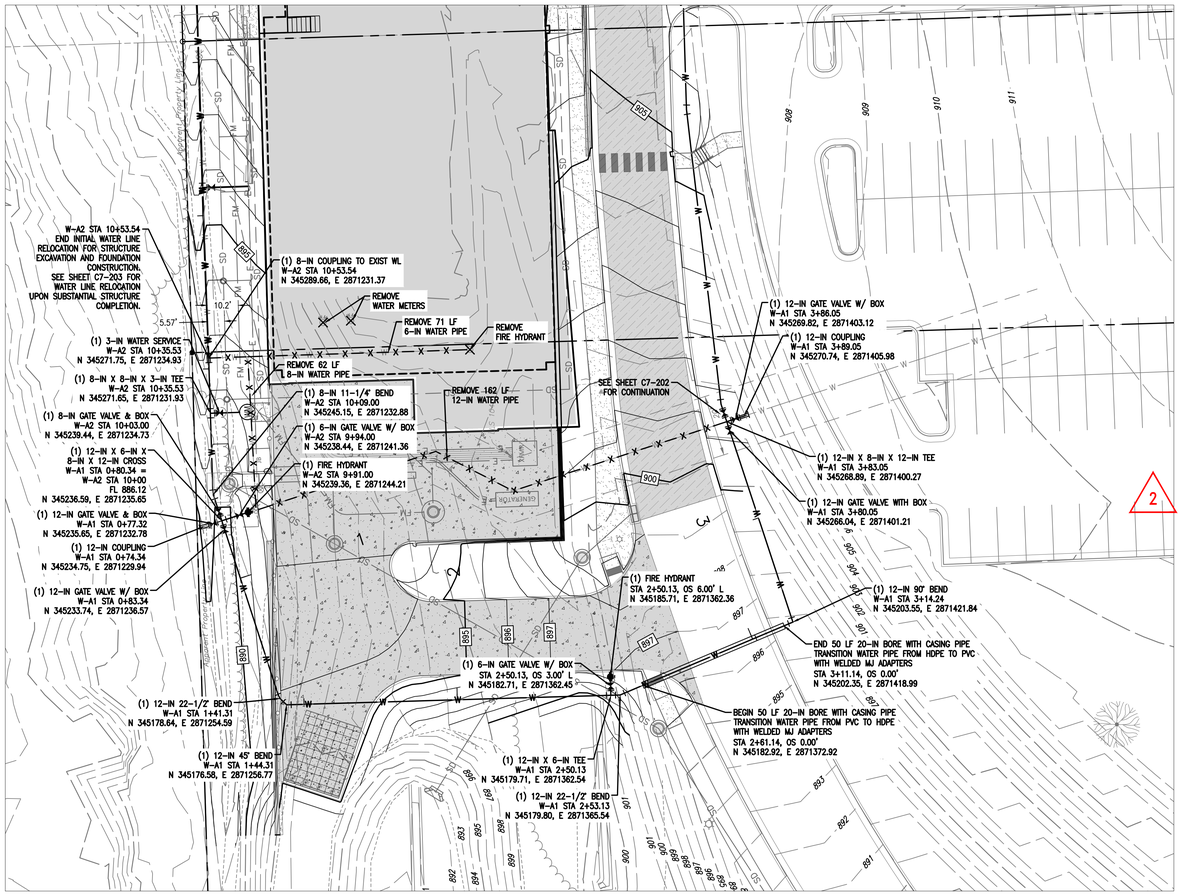
College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 01
ASI 01

REVISIONS		
#	DATE	DESCRIPTION
1	04/30/19	ASI 02

DATE: 04-16-19
JOB NUMBER: 17-13
SHEET NUMBER: C7-001
WATER TITLE SHEET



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5. LOCATE CAST IRON WATER LINES AT LEAST 10-FEET FROM ANY GASOLINE STORAGE TANKS AND PVC WATER LINES AT LEAST 50-FEET HORIZONTALLY FROM ANY GASOLINE STORAGE TANKS AND LINES.
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7. WHEN IT IS IMPOSSIBLE TO OBTAIN SUCH HORIZONTAL OR VERTICAL SEPARATION BETWEEN THE WATER AND SEWER LINES, CONSTRUCT THE SEWER LINE OF WATER PIPE MATERIAL AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS.

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2. BELL RESTRAINTS SHALL BE INSTALLED WITHIN 40 FT IN BOTH DIRECTIONS OF A MECHANICAL JOINT.
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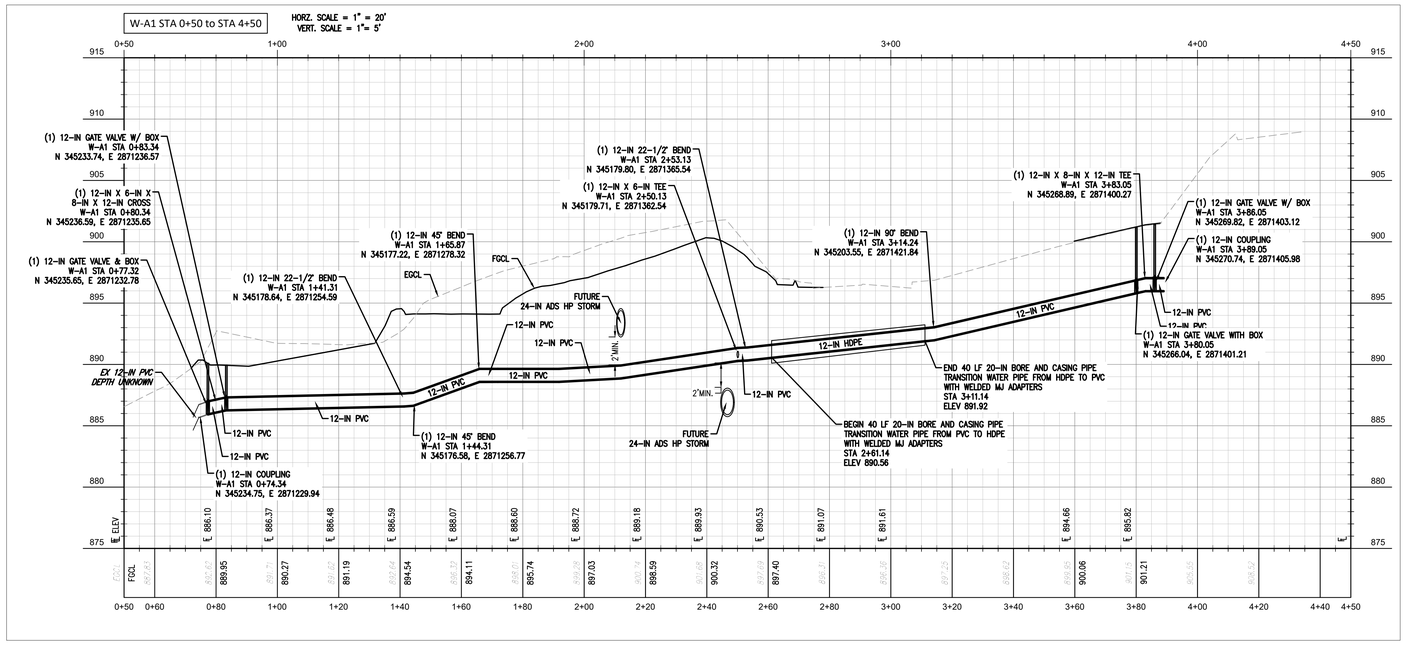
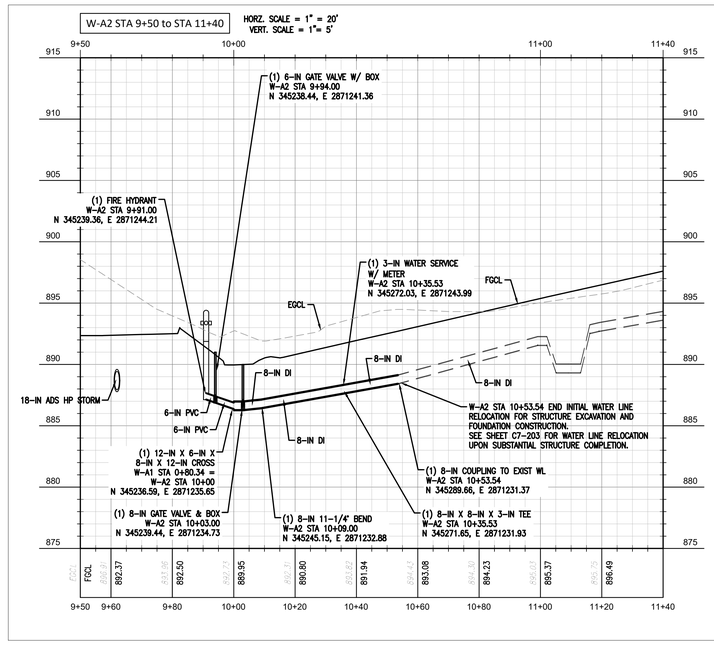
4. MINIMUM COVER SHALL BE 36-IN OVER TOP OF PIPE.

SCALE: 1" = 20'

W-A1 STA 0+50 to STA 4+50 — HORZ. SCALE = 1" = 20' VERT. SCALE = 1"= 5'



W-A2 STA 9+50 to STA 11+40 — HORZ. SCALE = 1" = 20' VERT. SCALE = 1"= 5'



UTILITY WARNING:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.

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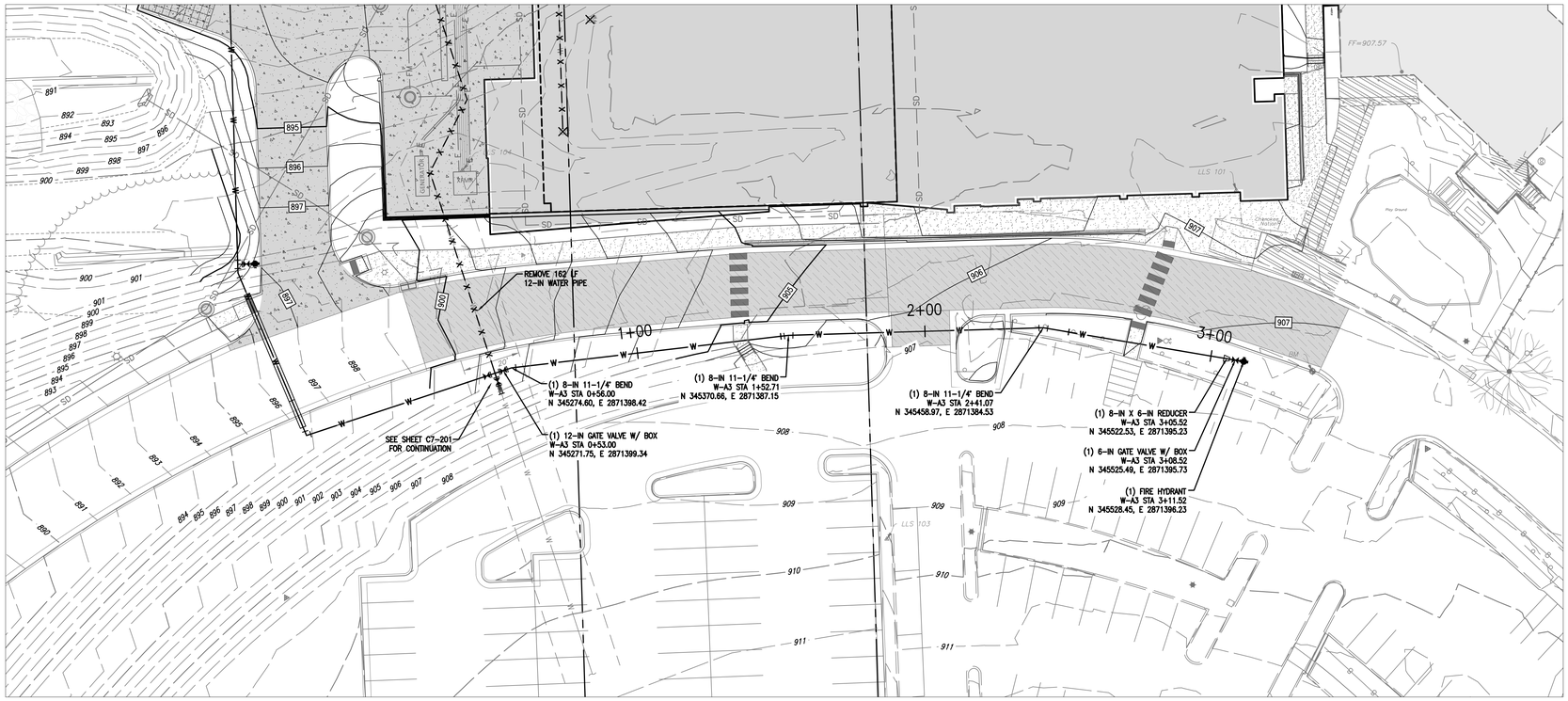
KEY PLAN:

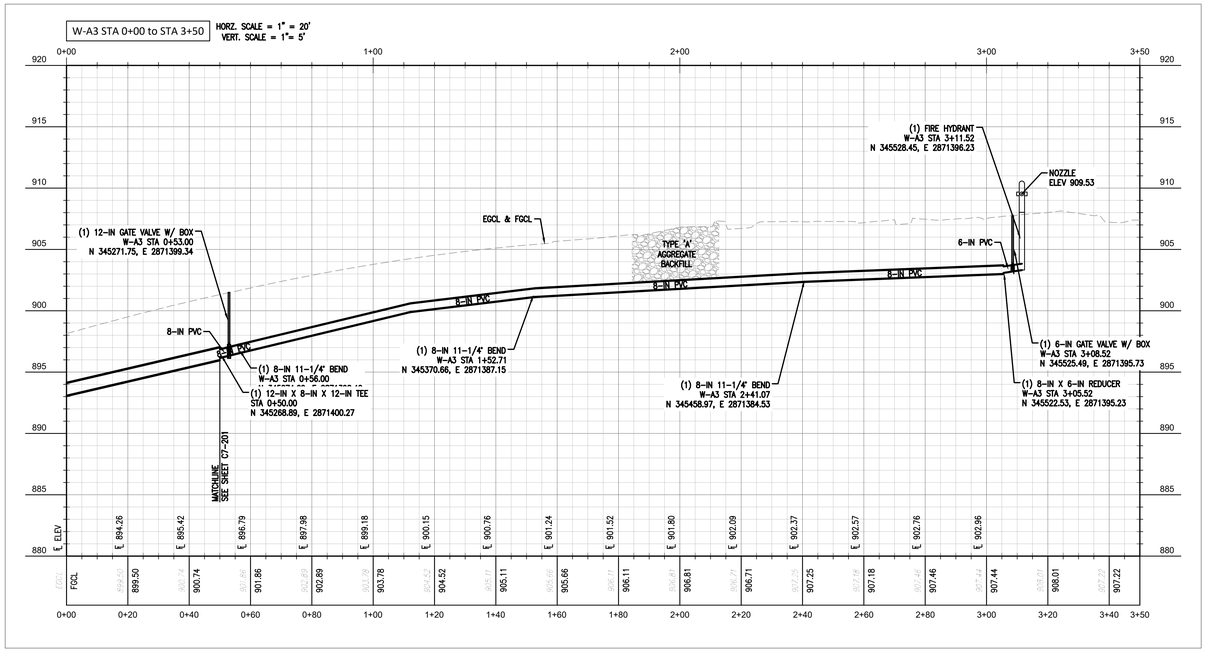
PROJECT PHASE:
BID PACKAGE 01

REVISIONS		
#	DATE	DESCRIPTION
1	04/16/19	ASI 01
2	04/30/19	ASI 02

DATE: 01-25-19
JOB NUMBER: 17-13
SHEET NUMBER: C7-201

WATER PLAN AND PROFILE





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0' 20' 40' 80'

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ASI 01

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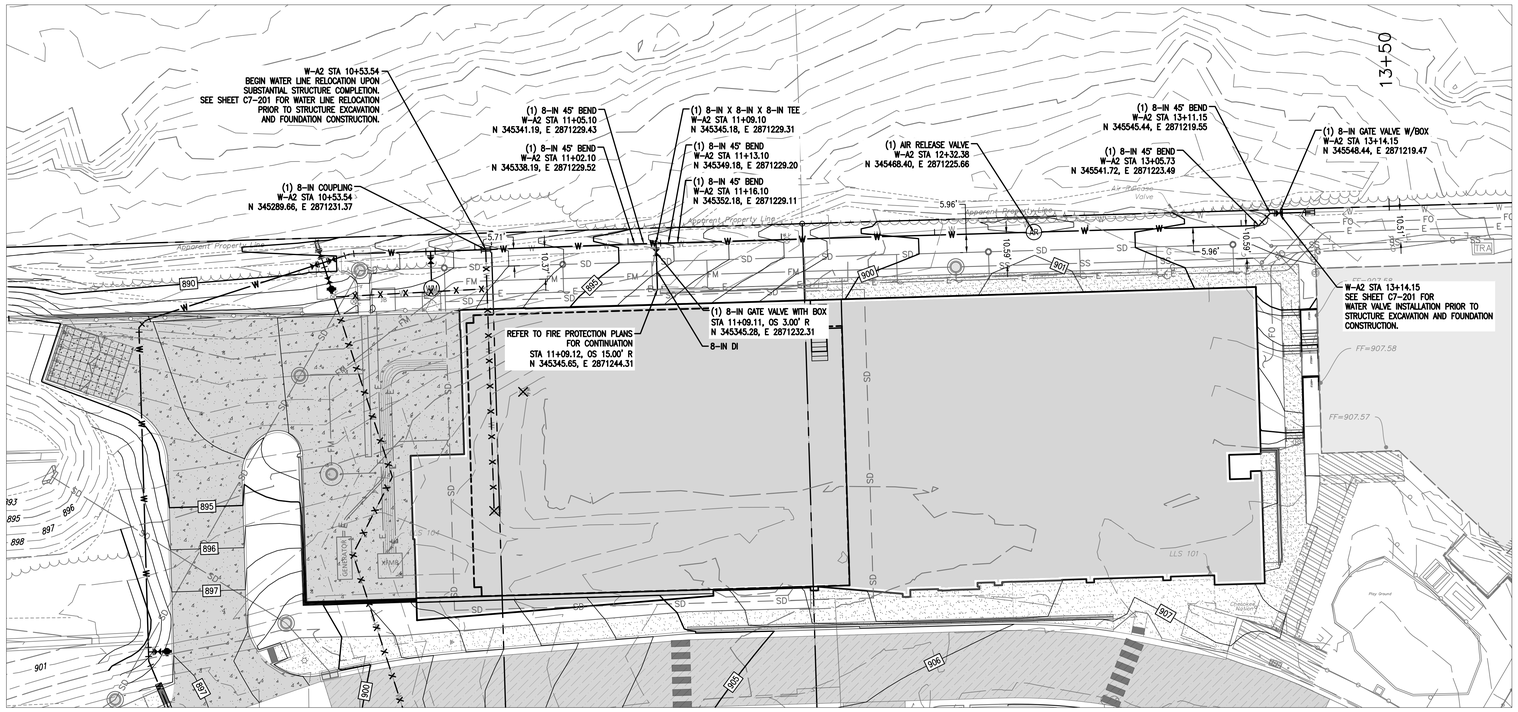
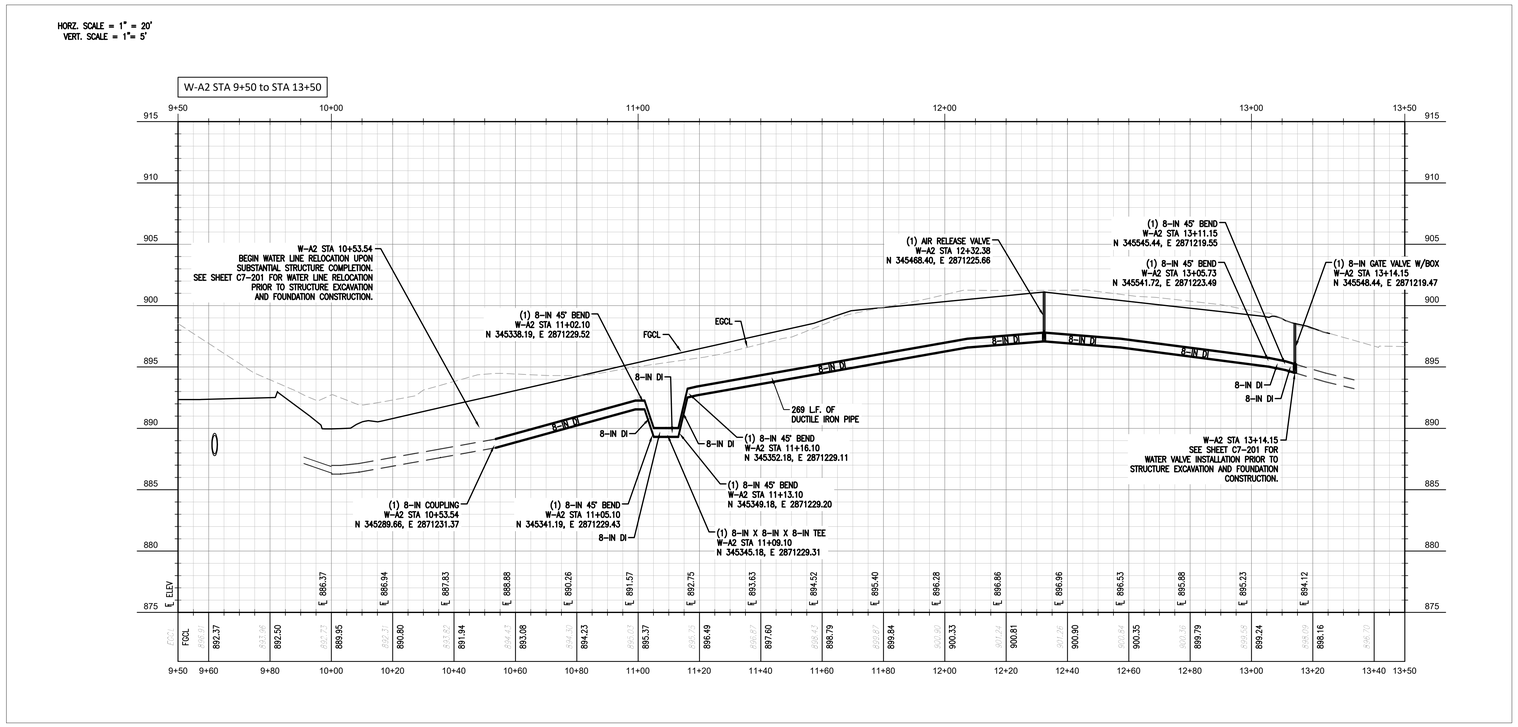
1	04.30.19	ASI 02

DATE: 04-16-19
JOB NUMBER: 17-13
SHEET NUMBER: C7-202

WATER PLAN AND PROFILE





WATER MAIN SEPARATION REQUIREMENTS

WATER MAIN SHALL BE INSTALLED ACCORDING TO THE FOLLOWING MINIMUM SEPARATION DISTANCES, MEASURED EDGE TO EDGE, BETWEEN WATER LINES AND OTHER BURIED UTILITIES, SHOULD SUCH UTILITIES BE ENCOUNTERED DURING CONSTRUCTION:

1. 10-FEET HORIZONTALLY FROM SEWER LINES.
2. 2-FEET VERTICALLY FROM SEWER LINES WITH SEWER LINES ARRANGED SO THAT ITS JOINTS WILL BE EQUIDISTANT FROM THE WATER LINE.
3. 2-FEET VERTICALLY BETWEEN THE WATER LINE AND ANY EXISTING OR PROPOSED STORM SEWERS, RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITIES.
4. 5-FEET HORIZONTALLY FROM EXISTING OR PROPOSED STORM SEWERS, RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITY LINES.
5. LOCATE CAST IRON WATER LINES AT LEAST 10-FEET FROM ANY GASOLINE STORAGE TANKS AND PVC WATER LINES AT LEAST 50-FEET HORIZONTALLY FROM ANY GASOLINE STORAGE TANKS AND LINES.
6. 15-FEET FROM ALL PARTS OF SEPTIC TANKS, ADSORPTION FIELDS, OR OTHER SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
7. WHEN IT IS IMPOSSIBLE TO OBTAIN SUCH HORIZONTAL OR VERTICAL SEPARATION BETWEEN THE WATER AND SEWER LINES, CONSTRUCT THE SEWER LINE OF WATER PIPE MATERIAL AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS.

INSTALLATION NOTES

1. MIDCO RESTRAINTS SHALL BE INSTALLED ON ALL MECHANICAL JOINTS.
2. BELL RESTRAINTS SHALL BE INSTALLED WITHIN 40 FT IN BOTH DIRECTIONS OF A MECHANICAL JOINT.
3. 14 GAUGE TRACER WIRE SHALL BE STUBBED OUTSIDE OF VALVE BOXES AND HYDRANTS.
4. MINIMUM COVER SHALL BE 36-IN OVER TOP OF PIPE.

0' 20' 40' 80'
SCALE: 1" = 20'

UTILITY WARNING:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.

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College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

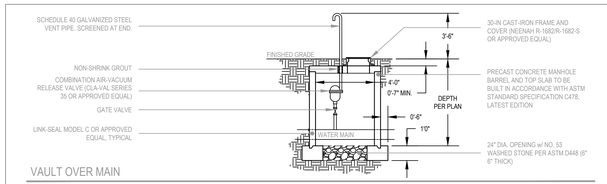
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 01
ASI 01

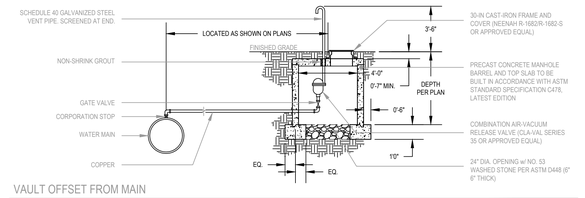
REVISIONS		
#	DATE	DESCRIPTION
1	04/30/19	ASI 02

DATE: 04-16-19
JOB NUMBER: 17-13
SHEET NUMBER: C7-203

WATER PLAN AND PROFILE



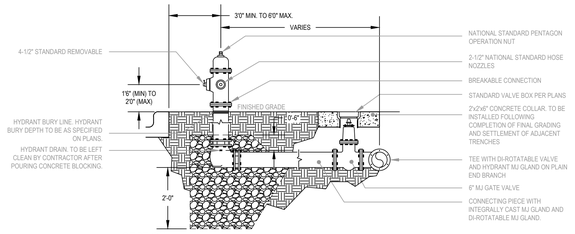
VAULT OVER MAIN



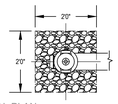
VAULT OFFSET FROM MAIN

01 AIR RELIEF VALVE AND VAULT

Scale: N.T.S.



SECTION



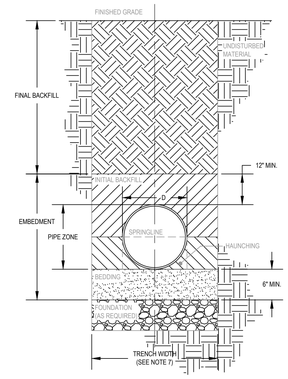
PARTIAL PLAN

GENERAL NOTES:

1. ASSEMBLY INCLUDES:
   - 1.1. (1) 3-WAY FIRE HYDRANT
   - 1.2. (1) 6" CONNECTING PIECE
   - 1.3. (1) 6" MJ GATE VALVE & BOX
   - 1.4. (1) 6" VALVE & HYDRANT TEE
   - 1.5. (1) VALVE BOX

02 HYDRANT DETAIL – W-09A

Scale: N.T.S.



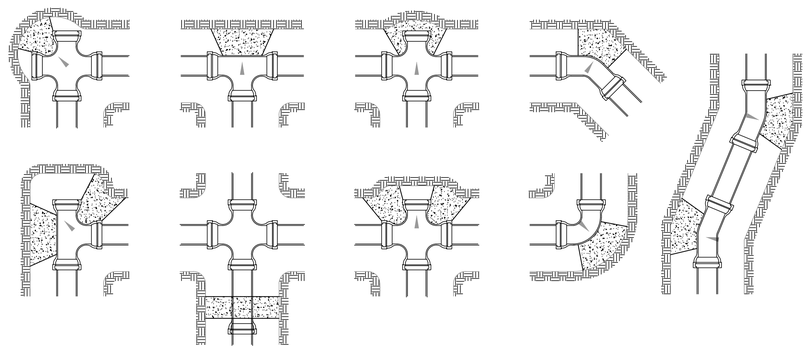
Soil Classes (ASTM D2774) (A)					
Class	Description	Percentage Passing Sieve Sizes			
		1.5-in (40-mm)	3/8-in (9.525-mm)	No. 4 (4.75-mm)	No. 200 (0.075-mm)
I	crushed rock (B,C)	100% (D)	less than or equal to 25%	less than or equal to 15%	less than or equal to 12%
II	clean, coarse grained soils E,F: SW, SP, GW, GP or any soil beginning with one of these symbols				less than or equal to 12% (E)
III	coarse grained soils with fines: GM, GC, SM, SC, or any soil beginning with one of these symbols				
	sandy or gravelly fine-grained soils: CL, ML, or any soil beginning with one of these symbols				< 70%
IV	fine-grained soils: CL, ML, or any soil beginning with one of these symbols				> 70%
IV	fine-grained soils, organic soils, high compressibility silts and clays, organic soil: MH, CH, OL, OH, PT				
(A) Soil classification descriptions and symbols are in accordance with ASTM Practice D2487 and D2488.					
(B) For Class I, all particle faces shall be fractured.					
(C) Additional restrictions on Class I Material particle size:The particle size of material in contact with the pipe shall not exceed the following: 1/2 in. for pipe to 4 in., 3/4 in. for pipes 6 to 8 in.; 1 in. for pipes 10 to 16 in.; and 1½2 in. for larger pipes. Each soil layer shall be sufficiently compacted to uniformly develop lateral passive soil forces during the backfill operation.					
(D) Sieves and sieve cloths shall be in accordance with ASTM Specification E11.					
(E) Materials such as broken coral, shells, and recycled concrete, with less than 12% passing a No. 200 sieve, should be treated as Class II soils.					
(F) Uniform fine sands (SP) with more than 50% passing a No. 100 sieve (0.006 in., 0.15 mm) are very sensitive to moisture and should not be used as backfill unless specifically allowed in the contract documents. If use of these materials is allowed, compaction and handling procedures should follow the guidelines for Class III materials.					

GENERAL NOTES:

1. PVC WATER LINE SHALL BE AS SPECIFIED BY THE DRAWINGS. THE FOLLOWING STANDARDS (LATEST EDITION) SHALL APPLY AS APPROPRIATE:
   - 1.1. ASTM D1785: STANDARD SPECIFICATION FOR POLY(VINYL CHLORIDE) (PVC) PLASTIC PIPE, SCHEDULES 40, 80, AND 120.
   - 1.2. ASTM D2241: STANDARD SPECIFICATION FOR POLY(VINYL CHLORIDE) (PVC) PRESSURE-RATED PIPE (SDR SERIES).
   - 1.3. AWWA C900: POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FABRICATED FITTINGS, 4 IN. THROUGH 12 IN., FOR WATER DISTRIBUTION, (100 MM THROUGH 300 MM).
   - 1.4. AWWA C905: POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FABRICATED FITTINGS, 14 IN. THROUGH 48 IN. (350 MM THROUGH 1,200 MM), FOR WATER TRANSMISSION AND DISTRIBUTION.
2. PROVIDED DETAIL SHALL BE USED FOR EXTENSION OF PRIVATE PVC WATER LINES ONLY. PUBLIC PVC WATER LINE EXTENSIONS SHALL BE BEDDED AND BACKFILLED PER THE REQUIREMENTS OF THE MUNICIPALITY WHICH WILL BE ACCEPTING THE IMPROVEMENTS AT THE COMPLETION OF THE WORK.
3. ALL INSTALLATIONS SHALL MEET THE REQUIREMENTS OF INTERNATIONAL PLUMBING CODE (CURRENT EDITION), AWWA C605 (CURRENT EDITION) AND OAC 252:656 WATER POLLUTION CONTROL FACILITY CONSTRUCTION STANDARDS (CURRENT EDITION).
4. FOR INSTALLATIONS BENEATH PROPOSED VEHICULAR PAVING, CONTRACTOR SHALL PROVIDE CLASS I OR CLASS II MATERIAL TO BOTTOM OF PROPOSED PAVING ELEVATION.
5. TRENCH STABILITY—DURING TRENCH EXCAVATION, ENSURE THAT THE TRENCH SIDES SHALL BE STABLE UNDER ALL WORKING CONDITIONS. THE TRENCH WALLS SHALL BE SLOPED OR APPROPRIATE SUPPORTS PROVIDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR SAFETY.
6. TRENCH WIDTH—THE WIDTH OF THE TRENCH AT ANY POINT BELOW THE TOP OF THE PIPE SHALL BE SUFFICIENT TO PROVIDE ADEQUATE ROOM FOR THE FOLLOWING REQUIREMENTS:
   - 6.1. JOINING THE PIPE IN THE TRENCH IF THIS IS REQUIRED
   - 6.2. SNAKING OF SMALLDIAMETER, HEAT FUSED OR SOLVENT CEMENTED PIPE FROM SIDE-TO-SIDE ALONG THE BOTTOM OF THE TRENCH, WHEN THE EFFECTS OF CONTRACTION ARE NOT OTHERWISE ACCOMMODATED
   - 6.3. FILLING AND COMPACTING THE SIDE FILLS
   - 6.4. CHECKING THE ELASTOMERIC SEAL JOINTS.
7. MINIMUM TRENCH WIDTHS SHALL BE PERMITTED TO BE UTILIZED WITH MOST SOLVENT-CEMENTED AND HEAT-FUSED PRESSURE PIPE MATERIALS BY JOINING THE PIPE OUTSIDE THE TRENCH AND LOWERING THE PIPE INTO THE TRENCH AFTER ADEQUATE JOINT STRENGTH HAS BEEN ATTAINED. THIS PRACTICE SHALL BE PERMITTED TO BE USED FOR GASKET JOINT PIPE, WITH MANUFACTURERS APPROVAL, PROVIDING CARE IS TAKEN TO NOT DISASSEMBLE THE JOINTS DURING LOWERING.
8. TRENCH BOTTOM—THE TRENCH BOTTOM SHALL BE PREPARED FOR THE DIRECT REPLACEMENT OF THE PIPE AND SHALL BE CONTINUOUS, RELATIVELY SMOOTH, FREE OF ROCKS, AND PROVIDE UNIFORM SUPPORT. FOR BELL-ENDED OR COUPLED PIPE, SUITABLE "BELL-HOLES" SHALL BE PROVIDED AT EACH JOINT TO PERMIT THE JOINT TO BE ASSEMBLED AND THE PIPE TO BE SUPPORTED PROPERLY.
   - 8.1. WHERE LEDGE ROCK, HARDPAN, OR BOULDERS ARE ENCOUNTERED, IT SHALL BE REQUIRED TO PAD THE TRENCH BOTTOM WITH A BEDDING OF AT LEAST 4-IN. (100-MM) THICKNESS OF COMPACTED CLASS I OR II MATERIAL. IN SITUATIONS WHERE RAPID MOVEMENT OF WATER TAKES PLACE THROUGH THIS BEDDING, THE CLASS I OR II MATERIAL USED SHALL HAVE GRADATION THAT PREVENTS LOSS BY MIGRATION OF ANY PIPE EMBEDMENT MATERIAL.
9. *TRENCH DEPTH* AND *PIPE COVER*—EXCAVATION FOR PIPE TRENCHES SHALL BE TO THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS. SUFFICIENT COVER SHALL BE MAINTAINED TO ADEQUATELY REDUCE THE TRAFFIC OR OTHER CONCENTRATED AND IMPACT LOADS.
10. RELIABILITY AND SAFETY OF SERVICE SHALL ASSUME MAJOR IMPORTANCE IN DETERMINING MINIMUM COVER FOR ANY INTENDED SERVICE. LOCAL, STATE, OR FEDERAL CODES SHALL ALSO GOVERN. PIPE INTENDED FOR WINTER WATER SERVICE SHALL HAVE A MINIMUM COVER EQUAL TO OR GREATER THAN THE MAXIMUM EXPECTED FROST PENETRATION DEPTH.
11. A MINIMUM COVER OF 24 IN. (610 MM) FOR PIPE SHALL BE REQUIRED WHEN SUBJECTED TO HEAVY OVERHEAD TRAFFIC. IN AREAS OF LIGHT OVERHEAD TRAFFIC A MINIMUM COVER OF 12 TO 18 IN. (305 TO 457 MM) IS REQUIRED.
12. THE PIPE SHALL BE UNIFORMLY AND CONTINUOUSLY SUPPORTED OVER ITS ENTIRE LENGTH ON FIRM STABLE MATERIAL. BLOCKING SHALL NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE ACROSS EXCAVATED SECTIONS.
13. PIPE SHALL BE PERMITTED TO BE INSTALLED IN A WIDE RANGE OF NATIVE SOILS. THE PIPE EMBEDMENT SHALL BE STABLE AND PLACED IN SUCH A MANNER AS TO EVENLY SUPPORT AND PHYSICALLY SHIELD THE PIPE FROM DAMAGE. ATTENTION SHALL BE GIVEN TO LOCAL PIPE LAYING EXPERIENCE WHICH SHALL INDICATE SOLUTIONS TO PARTICULAR PIPE BEDDING PROBLEMS.
14. THE PIPE EMBEDMENT MATERIALS SHALL BE STABLE, SUFFICIENTLY WORKABLE TO BE READILY PLACED UNDER THE SIDES OF THE PIPE TO PROVIDE SATISFACTORY HAUNCHING, AND READILY COMPACTABLE TO ACHIEVE SOIL DENSITIES SPECIFIED BY CONTRACT DOCUMENTS. THE EMBEDMENT SHALL BE EITHER CLASS I, II OR III SOILS, AS DESCRIBED IN BY ASTM D2774.
15. INITIAL BACKFILL MATERIALS SHALL BE PLACED IN COMPACTED LAYERS.
16. ALL NATIVE AND OTHER MATERIALS IN THE PIPE EMBEDMENT ZONE SHALL BE FREE FROM REFUSE, ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES, OR FROZEN SOILS.
17. THE PARTICLE SIZE OF MATERIAL IN CONTACT WITH THE PIPE SHALL NOT EXCEED THE FOLLOWING: 1/2 IN. FOR PIPE TO 4 IN., 3/4 IN. FOR PIPES 6 TO 8 IN.; 1 IN. FOR PIPES 10 TO 16 IN.; AND 1½2 IN. FOR LARGER PIPES. EACH SOIL LAYER SHALL BE SUFFICIENTLY COMPACTED TO UNIFORMLY DEVELOP LATERAL PASSIVE SOIL FORCES DURING THE BACKFILL OPERATION.
18. TO MINIMIZE DEFORMATION OF THINNER-WALLED PRESSURE PIPELINES, SUCH AS USED IN IRRIGATION, THE PIPELINE SHALL BE FIRST FILLED WITH WATER, ALL AIR REMOVED, AND KEPT FULL DURING THE BACKFILL OPERATION.
19. WHEN INSTALLING PIPE IN LOCATIONS WHERE RAPID MOVEMENT OF GROUND WATER SHALL RESULT IN MIGRATION OF SOIL FINES INTO, OUT OF, OR BETWEEN LAYERS OF THE EMBEDMENT MATERIAL, THE BEDDING AND BACK FILL SHALL BE OF SUCH GRADATION IN PARTICLE SIZE AS TO PRECLUDE THIS POSSIBILITY. SOIL MIGRATION SHALL ALSO BE CONTROLLED BY USING AN APPROPRIATE SOIL FILTER OR A GEOTEXTILE FILTER FABRIC BETWEEN COARSE EMBEDMENT AND FINE SOILS.
20. UNCOMPACTED FINAL BACKFILL CAN BE EITHER CLASS I, CLASS II, CLASS III, CLASS IV, OR CLASS V SOIL. IF BACKFILL IS TO BE COMPACTED, DO NOT USE CLASS V SOILS.
21. THE FINAL BACKFILL SHALL BE PLACED AND SPREAD IN APPROXIMATELY UNIFORM LAYERS IN SUCH A MANNER AS TO FILL THE TRENCH COMPLETELY SO THAT THERE WILL BE NO UNFILLED SPACES UNDER OR ABOUT ROCKS OR LUMPS OF EARTH IN THE BACKFILL. LARGE ROCKS, STONES, FROZEN CLODS, AND OTHER DEBRIS GREATER THAN 3 IN. (76 MM) IN DIAMETER SHALL BE REMOVED.
22. WHEN COMPACTION IS REQUIRED, ROLLING EQUIPMENT OR HEAVY TAMPERS SHALL ONLY BE USED TO COMPACT THE FINAL BACKFILL, PROVIDED THE PIPE IS COVERED BY AT LEAST 18 IN. OF BACKFILL. TRENCHES UNDER PAVEMENTS, SIDEWALKS, OR ROADS SHALL BE BACKFILLED AND COMPACTED TO THE REQUIRED DENSITY SPECIFIED BY CONTRACT DOCUMENTS OR BY THE APPROPRIATE GOVERNMENT JURISDICTION.
23. WHERE TRENCH WALLS ARE STABLE OR SUPPORTED, PROVIDE A WIDTH SUFFICIENT, BUT NO GREATER THAN NECESSARY, TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER EMBEDMENT MATERIALS. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED IN THE PIPE ZONE. MINIMUM WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER THE PIPE OUTSIDE DIAMETER PLUS 16 IN. (400 MM) OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 IN. (300 MM).
24. CONTRACTOR RESPONSIBLE FOR REVEGATATION OF ALL DISTURBED AREAS THAT ARE OUTSIDE THE LIMITS OF AREAS SPECIFICALLY IDENTIFIED TO RECEIVE VEGETATIVE COVER AT THE COMPLETION OF THE PROJECT. REVEGATATION TO BE COMPLETED VIA SOLID SLAB SOD PER CORRESPONDING SECTIONS OF THE PROJECT SPECIFICATIONS.

03 PIPE BEDDING AND BACKFILL – PVC (ASTM D2774)

Scale: N.T.S.



GENERAL NOTES:

1. IN SOFT, UNSTABLE SOILS SUCH AS MUCK OR PEAT, THRUSTS MAY BE RESISTED BY RUNNING CORROSION-RESISTANT TIE RODS TO SOLID FOUNDATIONS OR BY REMOVING SOFT MATERIALS AND REPLACING IT WITH A BALLAST OF SUFFICIENT SIZE AND WEIGHT TO RESIST THE THRUSTS DEVELOPED.
2. PRE-CAST THRUST BLOCKS SHALL NOT BE PLACED DIRECTLY AGAINST PVCPIPE TO AVOID POINT LOADING AN PROVIDE ADEQUATE FORCE DISTRIBUTION.
3. WHERE A FITTING IS USED TO MAKE A VERTICAL BEND, THE FITTING SHALL BE ANCHORED TO A THRUST BLOCK BRACED AGAINST UNDISTURBED SOIL. THRUST BLOCK SHALL HAVE ENOUGH RESISTANCE TO WITHSTAND UPWARD THRUSTS AT THE FITTING.
4. RESTRAINED JOINTS MAY BE UTILIZED IN LIEU OF CONCRETE THRUST BLOCKING. WHERE UTILIZED, SUCH INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

Soil Type	Assumed Bearing Pressure (lb/sq.ft.) (1)	Pipe Size	90-deg Bend (2)	Total Area of Thrust Backing Required (sq.ft.) (3)	45-deg Bend (2)	Total Area of Thrust Backing Required (sq.ft.) (3)	Tee/Plug (2)	Total Area of Thrust Backing Required (sq.ft.) (3)
soft clay	1,000	4	5,120	10.24	2,780	5.56	3,620	7.24
		6	10,580	21.16	5,720	11.44	7,480	14.96
		8	18,200	36.40	9,840	19.68	12,860	25.72
		10	27,360	54.72	14,820	29.64	19,720	39.44
		12	38,700	77.40	20,940	41.88	27,380	54.76
sand	2,000	4	5,120	5.12	2,780	2.78	3,620	3.62
		6	10,580	10.58	5,720	5.72	7,480	7.48
		8	18,200	18.20	9,840	9.84	12,860	12.86
		10	27,360	27.36	14,820	14.82	19,720	19.72
		12	38,700	38.70	20,940	20.94	27,380	27.38
sand and gravel	3,000	4	5,120	3.41	2,780	1.85	3,620	2.41
		6	10,580	7.05	5,720	3.81	7,480	4.99
		8	18,200	12.13	9,840	6.56	12,860	8.57
		10	27,360	18.24	14,820	9.88	19,720	13.15
		12	38,700	25.80	20,940	13.96	27,380	18.25
sand and gravel cemented with clay	4,000	4	5,120	2.56	2,780	1.39	3,620	1.81
		6	10,580	5.29	5,720	2.86	7,480	3.74
		8	18,200	9.10	9,840	4.92	12,860	6.43
		10	27,360	13.68	14,820	7.41	19,720	9.86
		12	38,700	19.35	20,940	10.47	27,380	13.69
hard shale	10,000	4	5,120	1.02	2,780	0.56	3,620	0.72
		6	10,580	2.12	5,720	1.14	7,480	1.50
		8	18,200	3.64	9,840	1.97	12,860	2.57
		10	27,360	5.47	14,820	2.96	19,720	3.94
		12	38,700	7.74	20,940	4.19	27,380	5.48
(1) Soil bearing data compiled from various sources. Contractor shall review Site Specific Geotechnical Report to determine appropriate value.								
(2) Based on 200-psi water pressure. Contractor shall make adjustments in thrust block size as required should water pressures exceed this assumption.								
(3) Factor of Safety = 2.0								

04 THRUST BLOCK

Scale: N.T.S.

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COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:

BID PACKAGE 01
ASI 02

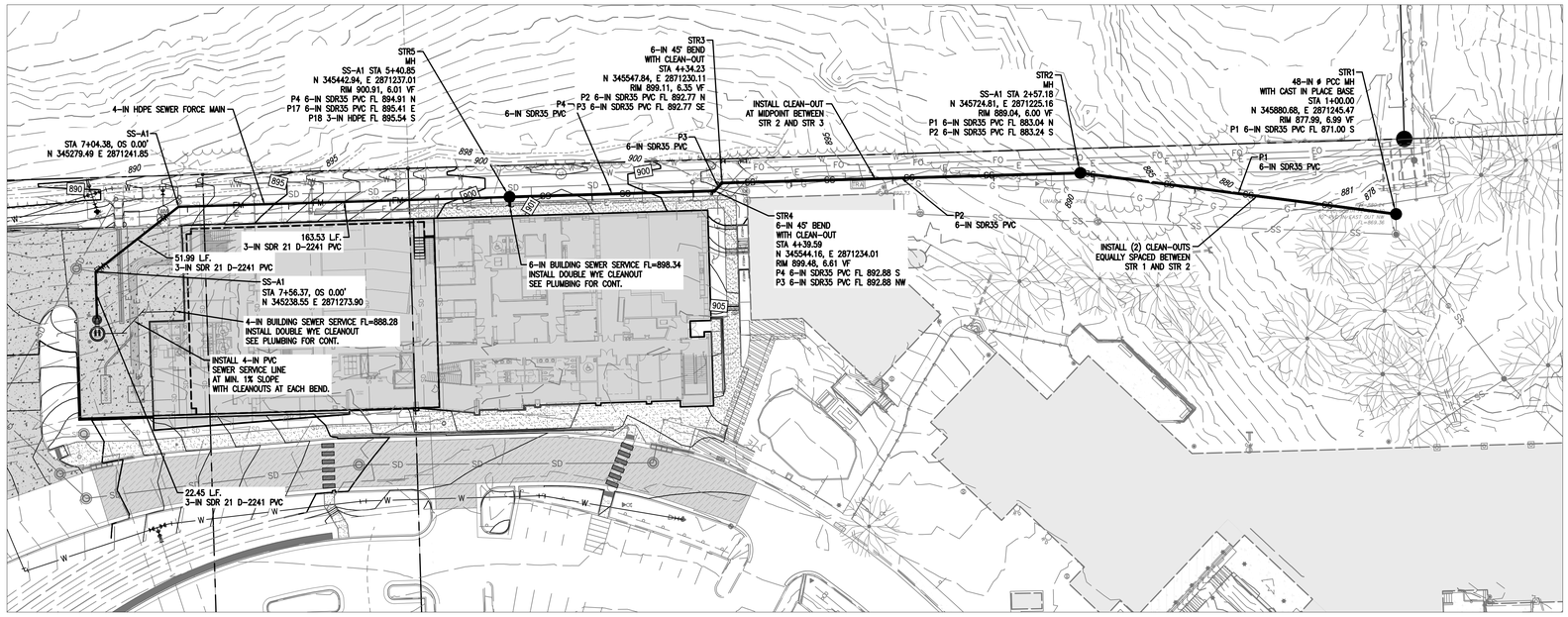
REVISIONS		
#	DATE	DESCRIPTION

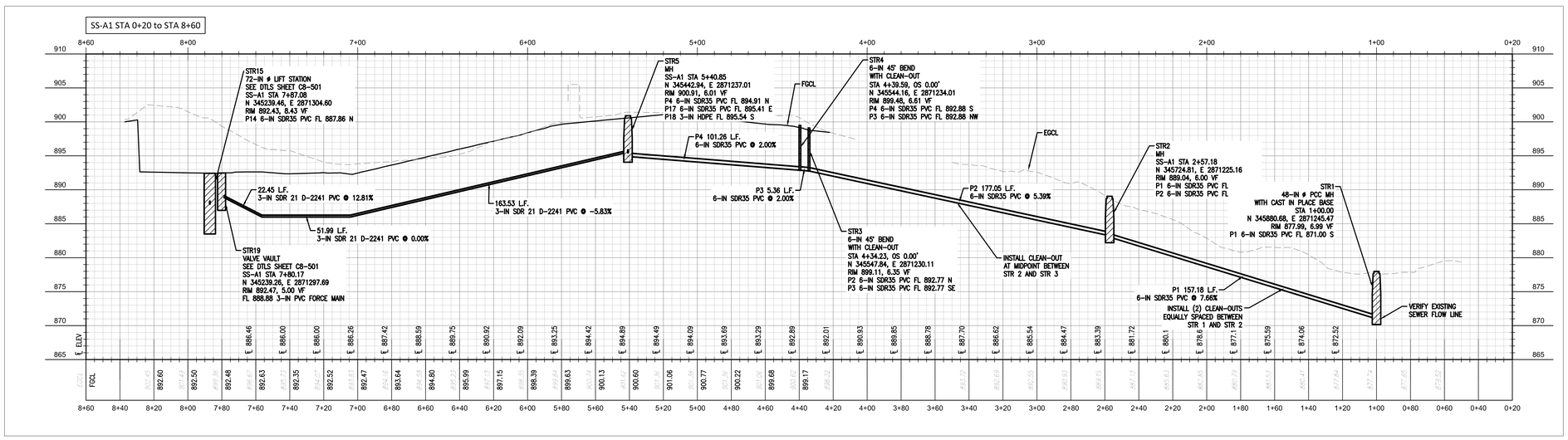
DATE: 04-30-19

JOB NUMBER: 17-13

SHEET NUMBER: C7-501

WATER DETAILS





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ESTABLISHED SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
C8-201

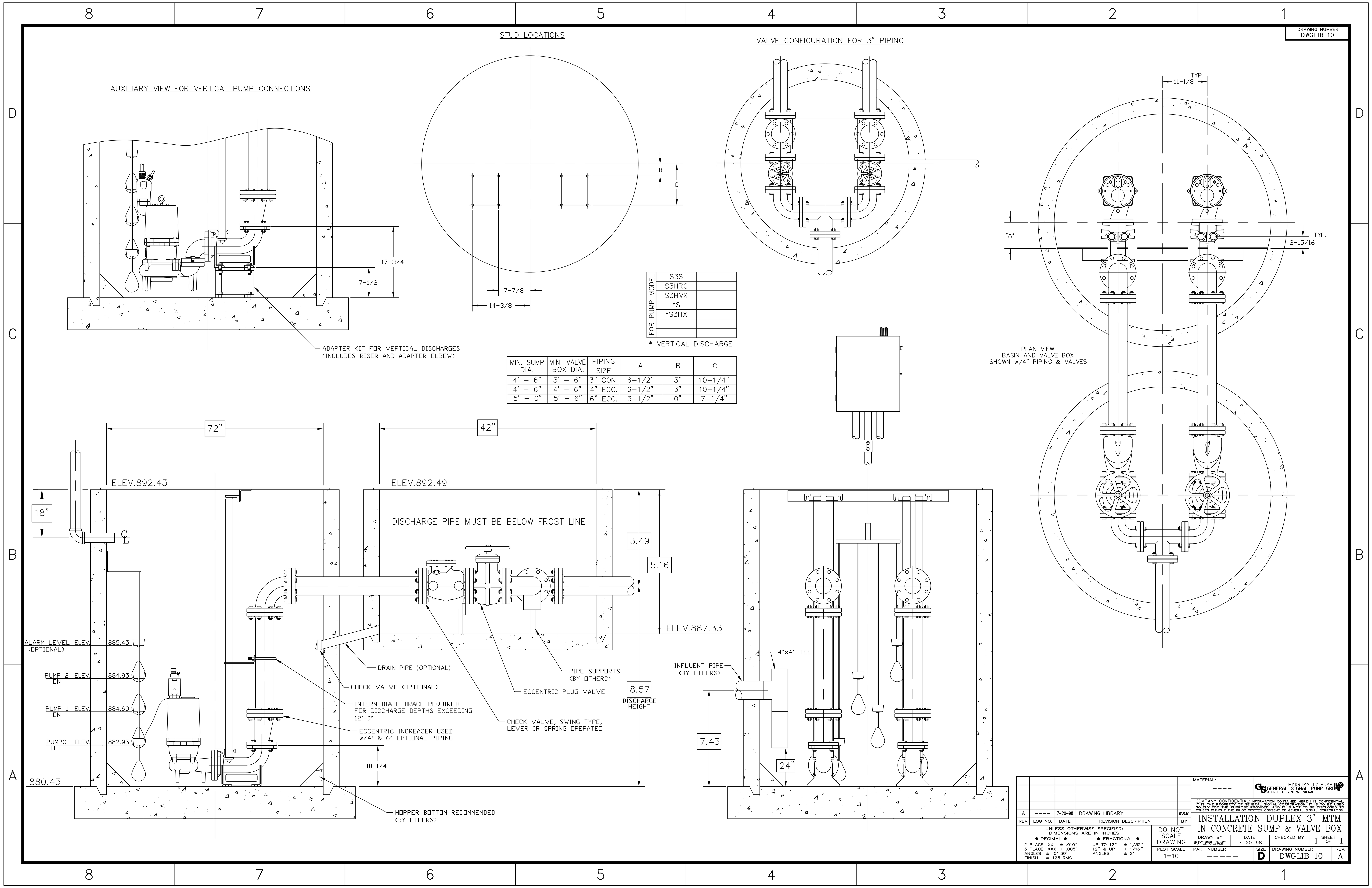
SEWER PLAN AND PROFILE

0' 30' 60' 120'
SCALE: 1" = 30'

UTILITY WARNING:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.

BEFORE YOU DIG
CALL OKIE
(800) 522-6543



FOR PUMP MODEL	
S3S	
S3HRC	
S3HVX	
*S	
*S3HX	

* VERTICAL DISCHARGE

MIN. SUMP DIA.	MIN. VALVE BOX DIA.	PIPING SIZE	A	B	C
4' - 6"	3' - 6"	3" CON.	6-1/2"	3"	10-1/4"
4' - 6"	4' - 6"	4" ECC.	6-1/2"	3"	10-1/4"
5' - 0"	5' - 6"	6" ECC.	3-1/2"	0"	7-1/4"

REV.	LOG NO.	DATE	REVISION DESCRIPTION	BY
A	----	7-20-98	DRAWING LIBRARY	WRM

MATERIAL: ----

HYDROMATIC PUMPS GENERAL SIGNAL PUMP GROUP A UNIT OF GENERAL SIGNAL

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INSTALLATION DUPLEX 3" MTM IN CONCRETE SUMP & VALVE BOX

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES
DECIMAL: 2 PLACE .XX ± .010"; 3 PLACE .XXX ± .005"; ANGLES ± 0° 30'; FINISH = 125 RMS
FRACTIONAL: UP TO 12" ± 1/32"; 12" & UP ± 1/16"; ANGLES ± 2°

DO NOT SCALE DRAWING — PLOT SCALE 1=10 — DRAWN BY WRM — DATE 7-20-98 — CHECKED BY — SHEET 1 OF 1 — PART NUMBER ----- — SIZE D — DRAWING NUMBER DWGLIB 10 — REV. A

01 LIFT STATION DETAIL

Scale: N.T.S.

James R. Childers Architect, Inc.
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479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL: REGISTERED PROFESSIONAL ENGINEER — COREY W. LIPPS 21291 — OKLAHOMA — 5/10/19

CONSULTANT LOGO:

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An ENVIROCLEAN Company
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Oklahoma City, Oklahoma 73105
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OKC | Norman | Tulsa | Woodward
www.cardinalengineers.com
CA# 7110, expiration date 06.30.2020

CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OK

KEY PLAN:

PROJECT PHASE: BID PACKAGE 04

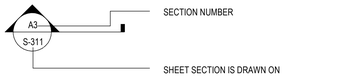
REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: C8-501

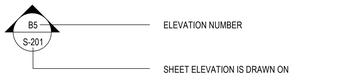
LIFT STATION DETAILS

STRUCTURAL GRAPHIC SYMBOLS

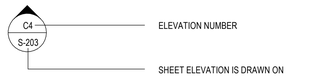
SECTION CROSS-REFERENCE SYMBOL



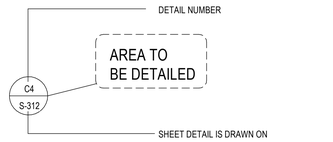
EXTERIOR ELEVATION CROSS-REFERENCE SYMBOL



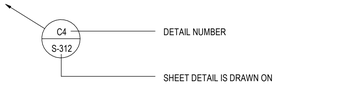
INTERIOR ELEVATION CROSS-REFERENCE SYMBOL



PLAN DETAIL CROSS-REFERENCE SYMBOL



DETAIL CROSS-REFERENCE SYMBOL

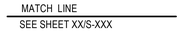


NORTH ARROW SYMBOL

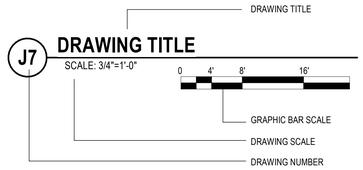
KEYNOTE SYMBOL

ELEVATION TARGET SYMBOL

MATCH LINE SYMBOL

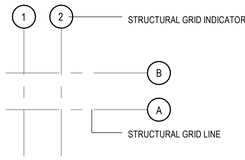


DRAWING TITLE SYMBOL



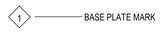
GRAPHIC BAR SCALE SYMBOL

STRUCTURAL GRID REFERENCE SYMBOL

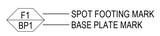


REVISION INDICATOR SYMBOL

BASE PLATE MARK SYMBOL

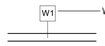


SPOT FOOTING MARK SYMBOL

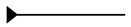


CONTINUOUS FOOTING MARK SYMBOL

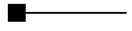
WALL MARK SYMBOL



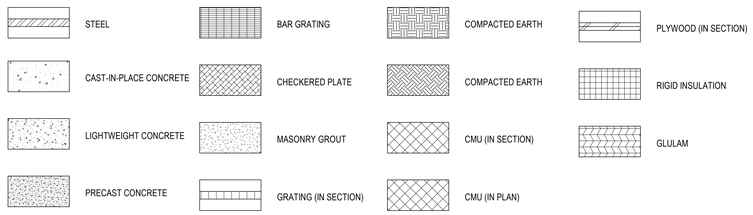
MOMENT CONNECTION SYMBOL



SIDEPLATE MOMENT CONNECTION SYMBOL, SEE SIDEPLATE DRAWINGS



STRUCTURAL MATERIALS LEGEND



ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ABAN	ABANDON
ABBRV	ABBREVIATION
AC	ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASPHALTIC CONCRETE PAVING
ACR	ACROSS
ACST	ACOUSTIC
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJACENT/ADJOINING
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHR	ANCHOR
AIA	AMERICAN INSTITUTE OF ARCHITECTS
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALNMT	ALIGNMENT
ALT	ALTERNATE, ALTERNATIVE
ALUM	ALUMINUM
AMT	AMOUNT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APPD	APPROVED
APPROX	APPROXIMATE
APPX	APPENDIX
AR	AS REQUIRED
ARCH	ARCHITECT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH	ASPHALT
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS
ASSN	ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATCH	ATTACHMENT
ATTN	ATTENTION
AWS	AMERICAN WELDING SOCIETY
AZ	AZIMUTH
B&F	BELL AND FLANGE
BAL	BALANCE
B/B	BACK TO BACK
BC	BOTTOM CHORD
BD	BOARD
BDRY	BOUNDARY
BEV	BEVEL
BFF	BELOW FINISH FLOOR
BKG	BACKING
BKGD	BACKGROUND
BLD	BUILD
BLDG	BUILDING
BLK	BLOCK/BLOCKING
BLT	BUILT
BLVD	BOULEVARD
BLW	BELOW
BM	BEAM
BO	BOTTOM OF
BOS	BOTTOM OF STEEL
BOT	BOTTOM
B PL	BASE PLATE
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRG PL	BEARING PLATE
BS	BOTH SIDES
BSMT	BASEMENT
BT WLD	BUTT WELD
BTWN	BETWEEN
C	CHANNEL
C/C	CENTER TO CENTER
CAM	CAMBER
CAN	CANOPY
CD	CONSTRUCTION DOCUMENTS, CONTRACT DOCUMENTS
CEM	CEMENT
CHFR	CHAMFER
CHKD	CHECKED/CHECKERED
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT
CJ	CONTRACTION JOINT
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
cm	CENTIMETER
CMU	CONCRETE MASONRY UNIT
CO	COMPANY
COA	CITY OF ALBUQUERQUE
COL	COLUMN
COM	COMMON
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS , CONTINUE
CONTR	CONTRACTOR
COORD	COORDINATE
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
CTR	CENTER
CTRL	CONTROL
CU	CUBIC
CU YD	CUBIC YARD
D	DEEP, DEPTH
D-B	DESIGN-BUILD
DAT	DATUM
DBL	DOUBLE
DEG	DEGREE
DEL	DELETE
DEMO	DEMOLITION
DET	DETAIL
DEV	DEVELOPMENT
DFTG	DRAFTING
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFERENCE, DIFFERENTIAL
DIM	DIMENSION
DIST	DISTANCE
DIV	DIVIDE
DJ	DOUBLE JOIST
DL	DEAD LOAD
DOC	DOCUMENT
DOUG FIR	DOUGLAS FIR
DSGN	DESIGN
DWG	DRAWING
DWL/DWLS	DOWELS
E	EAST, MODULUS OF ELASTICITY
EA	EACH
EE	EACH END
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRIC
ELEM	ELEMENTARY
ELEV	ELEVATOR
EMBED	EMBEDDED / EMBEDMENT
ENCL	ENCLOSURE
ENGR	ENGINEER
EOS	EDGE OF SLAB
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESCAL	ESCALATOR
ESMT	EASEMENT
EST	ESTIMATE
ETC	ET CETERA
EW	EACH WAY
EX	EXAMPLE
EXC	EXCAVATE
EXCL	EXCLUDE
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FAB	FABRIC
FACIL	FACILITY
FB	FLAT BAR
FD	FLOOR DRAIN
FDTN	FOUNDATION
FF	FAR FACE
FF EL	FINISH FLOOR ELEVATION
FIN GR	FINISH GRADE
FH	FLAT HEAD
FIN	FINISH
FIN FLR	FINISH FLOOR
FLG	FLANGE
FLR	FLOOR
FLR SK	FLOOR SINK
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF SLAB
FOS	FACE OF STUD
FOW	FACE OF WALL
FR	FRAME
FRMG	FRAMING
FS	FAR SIDE
FSTNR	FASTENER
FT	FOOT / FEET
FT/LB	FOOT/POUND
FT/LBF	FOOT/POUND FORCE
FTG	FOOTING
FUT	FUTURE
G	GIRDER
GA	GAGE
GALV	GALVANIZED
GALV STL	GALVANIZED STEEL
GR BM	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GLU LAM	GLUED LAMINATED WOOD
GLZ	GLAZING
GOVT	GOVERNMENT
GRTG	GRATING
GT	GROUT
H	HIGH
HAS	HEADED ANCHOR STUD
HC	HOLLOW-CORE
HCP	HANDICAPPED
HD	HEAVY DUTY
HGR	HANGER
HLDN	HOLDDOWN
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
HSKPG	HOUSEKEEPING
HSS	HOLLOW STRUCTURAL SECTIONS
HST	HOIST
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IFS	INSIDE FACE OF STUD
IN	INCH
INCL	INCLUDED
INFO	INFORMATION
IN-LB	INCH-POUND
IN-LBF	INCH-POUND FORCE
INSTL	INSTALL
INSUL	INSULATION
INT	INTERIOR
IR	INSIDE RADIUS
k	KIP
K	THOUSAND
KB	KNEE BRACE
KCJ	KEYED CONTROL JOINT
KIP	THOUSAND POUNDS
KIP FT	THOUSAND FOOT/POUNDS
KLF	KIPS PER LINEAL FOOT
KO	KNOCK OUT
KOP	KNOCK OUT PANEL
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE
LAM	LAMINATE
LATL	LATERAL
LBF	POUND-FORCE
LBR	LUMBER
LBS	POUND
LD BRG	LOAD BEARING
LF	LINEAR FEET (FOOT)
LIN	LINEAR
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LT GA	LIGHT GAGE
LT WT	LIGHT WEIGHT
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
M	MOMENT
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MOMENT CONNECTION
MCJ	MASONRY CONTROL JOINT
MD	METAL DECK
ME	MECHANICAL ENGINEER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MICRO-LAMINATED
ML	MONOLITHIC
MO	MASONRY OPENING
MS	MACHINE SCREW
MSL	MEAN SEA LEVEL
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NM	NEW MEXICO
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
O/O	OUT TO OUT
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFS	OUTSIDE FACE OF STUD
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
PAR	PARALLEL, PARAPET
PART	PARTIAL
PC	PIECE, PORTLAND CEMENT
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCI	PRECAST/PRESTRESSED CONCRETE INSTITUTE
PED	PEDESTAL
PEN	PENETRATE
PERIM	PERIMETER
PERP	PERPENDICULAR
PH	PHASE
PIL	PILASTER
PL	PLATE
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLM	PARALLAM
PLYWD	PLYWOOD
POS	POSITION
PP	PANEL POINT
PRCST	PRECAST
PREFAB	PREFABRICATE
PRELIM	PRELIMINARY
PREV	PREVIOUS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONED
PT CONC	POST-TENSIONED CONCRETE
PTN	PARTITION
PVG	PAVING
QTY	QUANTITY
QUAD	QUADRANT
R	RADIUS, RISER
RC	REINFORCED CONCRETE
RD	ROAD, ROOF DRAIN
REC	RECESSED
REF	REFERENCE
REINF	REINFORCE/REINFORCEMENT
REPL	REPLACE
REQ	REQUIRE
REQD	REQUIRED
REV	REVISION
RGD INS	RIGID INSULATION
RFI	REQUEST FOR INFORMATION
RND	ROUND
RO	ROUGH OPENING
RT	RIGHT
RVL	REVEAL
S	SOUTH
SCHEM	SCHEMATIC
SCHED	SCHEDULE
SD	SHOP DRAWINGS
SDI	STEEL DECK INSTITUTE
SDL	SADDLE
SE	STRUCTURAL ENGINEER
SECT	SECTION
SF	SQUARE FEET (FOOT)
SHT	SHEET, SHAFT
SHTHG	SHEATHING
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SLNT	SEALANT
SM	SMOOTH
SP	SUMP PIT
SPA	SPACE/SPACES
SPEC	SPECIFICATION
SPRT	SUPPORT
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SSPC	STRUCTURAL STEEL PAINTING COUNCIL
ST	STAIRS
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STL LNTL	STEEL LINTEL
STL	JST STEEL JOIST
STL PL	STEEL PLATE
STL RF DK	STEEL ROOF DECK
STR	STRINGERS
STRUCT	STRUCTURAL
SUB	SUBSTITUTE
SUF	SUFFICIENT
SUP	SUPPLEMENTARY
SUPPL	SUPPLEMENT
SYM	SYMBOL
SYMM	SYMMETRICAL
SYS	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TB	THRU BOLT
TEMP	TEMPORARY
THD	THREAD
THK	THICKNESS
THRU	THROUGH
TJI	TRUSS JOIST INSTITUTE
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOC FTG	TOP OF CONCRETE FOOTING
TOC WALL	TOP OF CONCRETE WALL
TOF	TOP OF FOOTING
TOG	TOP OF GRATE
TOJ	TOP OF JOIST
TOL	TOLERANCE
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TRNBKL	TURNBUCKLE
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VAR	VARIES
VERT	VERTICAL
VIF	VERIFY IN FIELD
VNR	VENEER
VR	VAPOR RETARDER
VRFY	VERIFY
W	WEST, WIDE
W/	WITH
W/O	WITHOUT
WBL	WOOD BLOCKING
WD	WOOD
WF	WIDE FLANGE
WF BM	WIDE FLANGE BEAM
WL	WIND LOAD
WLD	WELDED
WM	WIRE MESH
WP	WATERPROOFING
WSCT	WAINSCOT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
X BRACE	CROSS BRACING
XXH	DOUBLE EXTRA HEAVY
YD	YARD

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479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:

LICENSED PROFESSIONAL ENGINEER
CHRIS S. ROMERO
23578
OKLAHOMA
12-20-19

CONSULTANT LOGO:

Chavez-Grieves
consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

THE CHEROKEE NATION
SEAL OF THE CHEROKEE NATION
SEPT. 6, 1839

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
03-20-19	17-13

SHEET NUMBER:
S0.01

ABBREVIATIONS AND LEGEND

GENERAL STRUCTURAL NOTES

FOUNDATION NOTES

GENERAL:

A SUBSURFACE SOIL INVESTIGATION HAS BEEN MADE BY PALMERTON AND PARRISH, INC., PROJECT NO. 255932.

A REPORT OF THAT INVESTIGATION DATED 1/30/19 AND REV 1 DATED APRIL 4, 2019 IS AVAILABLE FOR VIEWING IN THE PROJECT MANUAL.

THE FOUNDATION SYSTEM FOR THIS PROJECT IS SPREAD FOOTINGS OVER ENGINEERED FILL AND/OR STIFF OR DENSE NATURAL SOILS.

ADDITIONAL INFORMATION CONCERNING SPECIFIC SOIL CONDITIONS TO BE ENCOUNTERED IS AVAILABLE IN THE SOILS REPORTS AND SHALL BE REVIEWED BY THE CONTRACTOR.

FIELD OBSERVATION AND TESTS:

THE OWNER SHALL EMPLOY THE SERVICES OF A REGISTERED, LICENSED GEOTECHNICAL ENGINEER TO OBSERVE ALL CONTROLLED EARTHWORK. THE GEOTECHNICAL ENGINEER SHALL PROVIDE CONTINUOUS ON-SITE OBSERVATION BY EXPERIENCED PERSONNEL DURING CONSTRUCTION OF CONTROLLED EARTHWORK. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER AT LEAST TWO WORKING DAYS IN ADVANCE OF ANY FIELD OPERATIONS OF THE CONTROLLED EARTHWORK.

TESTS OF MATERIALS SHALL BE MADE AT THE FOLLOWING MINIMUM RATES. THE ON-SITE GEOTECHNICAL ENGINEER SHALL DETERMINE THE ACTUAL TESTING RATES:

> ONE FIELD DENSITY TEST PER 2500 SQUARE FEET OF COMPACTED SUBGRADE, PRIOR TO PLACING STRUCTURAL FILL OR SLAB-ON-GRADE, WITH A MINIMUM OF 3 TESTS.
>
> ONE FIELD DENSITY TEST PER 2500 SQUARE FEET OF STRUCTURAL FILL PLACED OR EACH HORIZONTAL LAYER OF STRUCTURAL FILL, WHICHEVER IS GREATER.
>
> ONE MOISTURE-DENSITY CURVE FOR EACH TYPE OF MATERIAL USED, AS INDICATED BY THE SIEVE ANALYSIS AND THE PLASTICITY INDEX.

THE GEOTECHNICAL ENGINEER SHALL SUBMIT THE RESULTS OF ALL REQUIRED TESTS.

CLEARING AND GRUBBING:

REMOVE ALL EXISTING FOUNDATIONS, CONCRETE SLAB,VEGETATIVE MATTER, STUMPS, MATTED ROOTS AND ROOTS BRUSH, AND RUBBISH FROM THE CONSTRUCTION AREA.

REMOVE ALL TOPSOIL FROM THE CONSTRUCTION AREA. TOPSOIL/VEGETATIVE MATTER STRIPPING ON THE ORDER OF 3-INCHES SHOULD BE ANTICIPATED IN GRASS COVERED AREAS. THIS MATERIAL SHALL NOT BE USED AS FILL MATERIAL, BUT MAY BE STOCKPILED AND LATER USED IN LAWN AND LANDSCAPE AREAS ONLY.

SITE, SUBFLOOR AND BEARING SURFACE PREPARATION:

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHALL BE PRESENT TO CONFIRM COMPLETE EXCAVATION OF ANY UNCONTROLLED FILL, PROOF ROLLING AND CONSTRUCTION MATERIALS TESTING..

OVEREXCAVATE ALL SOILS UNDERLYING FOOTINGS AND FLOOR SLAB AND ALL UNCONTROLLED FILL TO A MINIMUM DEPTH OF 2 FEET OR TO GRAVELLY CLAYS/CLAYEY GRAVELS, WHICHEVER IS SHALLOWER, AND REPLACE WITH LVC FILL MATERIAL.

OVEREXCAVATE ALL SOILS UNDERLYING SITE RETAINING WALL FOOTINGS TO A MINIMUM DEPTH OF 2 FEET OR TO GRAVELLY CLAYS/CLAYEY GRAVELS, WHICHEVER IS SHALLOWER, AND REPLACE WITH LVC FILL MATERIAL.

ONCE THE BASEMENT EXCAVATION AND UNDERCUTTING OF EXISTING SOILS HAS BEEN COMPLETED THE BUILDING FOOTPRINT SOILS SHALL BE SCANNED WITH GROUND PENETRATING RADAR, GPR, TO SEARCH FOR ANY LARGE SHALLOW SURFACE VOIDS. THE GPR SCANNING SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR THE PROJECT.

AFTER GPR SCANNING AND WRITTEN APPROVAL THAT NO VOIDS EXIST, ALL UNDERCUT SUBGRADE SOILS SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK OR SIMILAR RUBBER TIRED CONSTRUCTION EQUIPMENT AND ANY AREAS WHICH RUT OR DEFLECT DURING ROLLING NOTED. ALL SOFT AREAS, IF ANY, IDENTIFIED DURING PROOF-ROLLING SHALL BE UNDERCUT AND REPLACED WITH COMPACTED FILL.

AFTER EVALUATION OF PROOF-ROLLING AND APPROVAL, SCARIFY ALL EXPOSED SUBGRADE SOILS TO A DEPTH OF 8 INCHES, MOISTEN TO OPTIMUM MOISTURE CONTENT (+/- 2%, OR 0 TO 4% FOR CH SOIL TYPES) AND COMPACT TO THE DENSITY SPECIFIED HEREINAFTER.

PLACE ALL STRUCTURAL FILL IN APPROXIMATELY HORIZONTAL LAYERS NOT GREATER THAN 12 INCHES IN LOOSE THICKNESS, MOISTEN TO OPTIMUM MOISTURE CONTENT (+/- 2% OR 0 TO 4% FOR CH SOIL TYPES) AND COMPACT TO DENSITY SPECIFIED HEREINAFTER.

ALL EARTHWORK FOR THE BUILDING PAD SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE PERIMETER FOOTINGS.

ENGINEERED FILL REQUIREMENTS:

LOW PLASTICITY COHESIVE SOIL OR GRANULAR FILL PER GEOTECHNICAL REPORT:

GRADATION (ASTM D422):

SIEVE SIZE	PERCENT PASSING BY WEIGHT
12"	100
NO. 200	</= 85%

LIQUID LIMIT (ASTM D4318): 50 MAXIMUM

MATERIAL LARGER THAN 12 INCHES SHALL NOT BE PLACED IN THE STRUCTURAL FILL, AND MATERIAL LARGER THAN 4 INCHES SHALL NOT BE PLACED WITHIN TWELVE INCHES OF THE BEARING SURFACES OF SLABS OR FOUNDATIONS.

NO BRUSH, SOD, FROZEN MATERIAL OR OTHER UNSUITABLE MATERIAL SHALL BE PLACED IN THE STRUCTURAL FILL. MATERIAL SHALL BE PLACED IN SUCH A MANNER AS TO RESULT IN A UNIFORMLY COMPACTED FILL.

BASED ON THE REQUIREMENTS FOR THE STRUCTURAL FILL AND THE DESCRIPTION OF THE EXISTING SITE SOILS IN THE PROJECT GEOTECHNICAL REPORT, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE MOST APPROPRIATE METHOD FOR PROVIDING THE REQUIRED STRUCTURAL FILL. DEPENDING ON THE SITE CONDITIONS, APPROPRIATE METHODS COULD INCLUDE REBLENDING OF THE EXISTING SITE SOILS, MIXING THE EXISTING SITE SOILS WITH IMPORTED FILL, OR REMOVING THE EXISTING SITE SOILS ENTIRELY AND REPLACING WITH IMPORTED FILL. SEE SPECIFIC REQUIREMENTS IN GEOTECHNICAL REPORT FOR USE OF ON-SITE SOILS/FILL.

ALL CONTINUOUS FOUNDATION WALLS (E.G., STEM WALLS AND BASEMENT WALLS) SHALL BE BACKFILLED WITH CLEAN CRUSHED STONE OR ROCK FILL IN THE MANNER SPECIFIED IN THE REVISED GEOTECHNICAL REPORT DATED APRIL 4, 2019. SEE A1/S0.03 FOR BACKFILL AND WALL DRAINAGE SCHEMATIC. CONTINUOUS WALL DRAINAGE IS NOT REQUIRED FOR FOUNDATION WALLS RETAINING SOIL NOT EXPOSED TO EXTERIOR CONDITIONS.

EXTERIOR SITE RETAINING WALLS ARE PERMITTED TO BE BACKFILLED WITH SUITABLE FILL MATERIAL OTHER THAN CLEAN CRUSHED STONE OR ROCK FILL.

NOTE: THESE BACKFILL REQUIREMENTS ALSO APPLY TO THE INSIDE FACE OF STEMWALLS ALONG GRID 4 BETWEEN A AND D.5, ALONG GRID A, AND ALONG GRID 1 BETWEEN D.5 AND A.

GRANULAR BASE COURSE REQUIREMENTS:

GRADATION (ASTM C136):

SIEVE SIZE	PERCENT PASSING BY WEIGHT
1"	100
3/4"	85-100
NO. 4	45-95
NO. 200	0-8

PLASTICITY INDEX (ASTM D4318): 3 MAXIMUM

THE COURSE AGGREGATE SHALL HAVE A PERCENT WEAR OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM C131.

THE FINISHED TOP SURFACE SHOULD BE FLAT AND LEVEL WITH SUFFICIENT FINES TO FILL BETWEEN COARSE AGGREGATE. IF THIS IS NOT THE CASE, PROVIDE UP TO 1/2 INCH BLOTTER LAYER OF SAND.

COMPACTION REQUIREMENTS:

IN ACCORDANCE WITH ASTM D698 (STANDARD PROCTOR), SUBGRADE SOILS AND STRUCTURAL FILL MATERIALS SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF THE MAXIMUM DRY DENSITY AT +/- 2% (OR 0 TO 4% FOR CH SOIL TYPES) OPTIMUM MOISTURE CONTENT:

MATERIAL	MINIMUM PERCENT COMPACTION
STRUCTURAL FILL IN THE BUILDING AREA	95
SUBBASE FOR SLAB SUPPORT	95
SUBGRADE BELOW STRUCTURAL FILL	95
MISCELLANEOUS BACKFILL	90

GENERAL STRUCTURAL NOTES

SITE RETAINING WALL DESIGN CRITERIA:

LOADING CONDITION	EQUIVALENT FLUID PRESSURE
ACTIVE EARTH PRESSURE FOR ON SITE SOIL BACKFILL	35 PCF UNRESTRAINED
ULTIMATE PASSIVE EARTH PRESSURE	460 PCF
EARTH PRESSURE AT REST	50 PCF UNRESTRAINED
ULTIMATE SOIL FRICTION FACTOR	0.52
SOIL BEARING CAPACITY	4500 PSF

CODES AND MANUALS:

IBC-15 INTERNATIONAL BUILDING CODE 2015
ASCE/SEI 3-91 STRUCTURAL DESIGN OF COMPOSITE SLABS
ASCE/SEI 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
AISC 360-10 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
AISC 341-10 SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS
AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION
SDI DIAPHRAGM DESIGN MANUAL, 3RD EDITION
ANSI/SDI NC1.0-06 STANDARD FOR NONCOMPOSITE STEEL FLOOR DECK
ANSI/SDI RD1.0-06 STANDARD FOR STEEL ROOF DECK
ANSI/SDI C1.0-06 STANDARD FOR COMPOSITE STEEL FLOOR DECK
AISI S100-12 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
AISI S200-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – GENERAL PROVISIONS
AISI S210-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – FLOOR AND ROOF SYSTEM DESIGN
AISI S211-07 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – WALL STUD DESIGN WITH 2012 SUPPLEMENT
AISI S212-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – HEADER DESIGN
AISI S213-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – LATERAL DESIGN WITH 2010 SUPPLEMENT
AISI S214-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING – TRUSS DESIGN, WITH SUPPLEMENT 2, DATED 2008
ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 530-13 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
ACI 530.1-13 SPECIFICATIONS FOR MASONRY STRUCTURES
AWS D1.1-04 STRUCTURAL WELDING CODE – STEEL
AWS D1.3-98 STRUCTURAL WELDING CODE – SHEET STEEL
AWS D1.4-11 STRUCTURAL WELDING CODE – REINFORCING STEEL

DESIGN CRITERIA:

VERTICAL:

LIVE LOAD	
FLOOR	80 PSF
STAIRS AND EXIT-WAYS*	100 PSF
*MINIMUM CONCENTRATED LOAD	300 LBS
ASSEMBLY AREAS	100 PSF
SAFER ROOM	100 PSF
STORAGE	150 PSF
LIBRARY/ BOOKSTORE	150 PSF
GYM	150 PSF
ADDITIONAL SUPERIMPOSED LOADS	
PARTITIONS	15 PSF
SUSPENDED EQUIPMENT	10 PSF
CONCENTRATED LOAD (PER IBC 1607.4)	2000 LBS
ROOF LIVE LOAD: LR = 20*R1*R2	20 PSF
REDUCTION FACTOR BASED ON TRIB AREA	R1 = 1.0
REDUCTION FACTOR BASED ON ROOF SLOPE	R2 = 1.0
SNOW LOAD	
GROUND SNOW LOAD	PG = 10 PSF
FLAT ROOF SNOW LOAD**	PF = 16 PSF
SNOW EXPOSURE FACTOR	CE = 0.9
SNOW LOAD IMPORTANCE FACTOR	IS = 1.10
THERMAL FACTOR	CT = 1.0
**INCLUDES 5 PSF RAIN-ON SNOW SURCHARGE LOAD	

HORIZONTAL:

WIND	
ULTIMATE DESIGN WIND SPEED	120 MPH
RISK CATEGORY	III
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	GCPI = 0.18
NATURAL FREQUENCY	0.685
STRUCTURE IS FLEXIBLE	
SEISMIC	
SEISMIC IMPORTANCE FACTOR	IS = 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS	
SHORT PERIOD	SS = 0.152G
1 SECOND PERIOD	S1 = 0.081G
SITE CLASS	C
SPECTRAL RESPONSE COEFFICIENTS	
SHORT PERIOD	SDS = 0.122G
1 SECOND PERIOD	SD1 = 0.092G
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC FORCE RESISTING SYSTEM:	
STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE	
SEISMIC RESPONSE COEFFICIENT	CS = 0.043
RESPONSE MODIFICATION FACTOR	R = 3
DESIGN BASE SHEAR	V = 0.043W
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE	
ALLOWABLE SOIL BEARING PRESSURE =	SPREAD FOOTINGS: 5000 PSF CONTINUOUS FOOTINGS: 4500 PSF
FROST DEPTH =	24 INCHES
FUTURE BUILDING EXPANSION:	NONE

GENERAL:

STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO THE SHOP DRAWINGS AND FIELD WORK.

COORDINATE DIMENSIONS OF ALL OPENINGS, DEPRESSIONS, BLOCKOUTS, ETC. WITH ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER DISCIPLINES, PROJECT SHOP DRAWINGS, AND FIELD CONDITIONS PRIOR TO SHOP DRAWING SUBMITTAL. THE STRUCTURAL DRAWINGS ONLY REPRESENT A PORTION OF THE REQUIREMENTS FOR THE PROJECT.

SEE ARCHITECTURAL PLANS FOR INTERIOR NON-BEARING PARTITION WALLS. PARTITION FRAMING SHALL BE CONNECTED TO THE PRIMARY STRUCTURE TO ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF SPAN/360 FOR FLOOR FRAMING AND SPAN/240 FOR ROOF FRAMING.

CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.

SHOP DRAWINGS SHALL BE FURNISHED AND REVIEWED BEFORE ANY FABRICATION OR ERECTION IS STARTED. THE CONTRACTOR SHALL REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE ARCHITECT FOR REVIEW. POORLY EXECUTED SHOP DRAWINGS WILL BE REJECTED AND SHALL BE RESUBMITTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE AND ADEQUATE SHORING FOR ALL PARTS OF THE STRUCTURE DURING CONSTRUCTION.

TEMPORARY PROVISIONS SHALL BE MADE FOR STRUCTURAL STABILITY DURING CONSTRUCTION. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR STABILITY UNDER FINAL CONFIGURATION.

NOTCHING OR CUTTING ANY STRUCTURAL MEMBER IN THE FIELD IS PROHIBITED.

THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF FOUNDATIONS UNDER MECHANICAL AND ELECTRICAL EQUIPMENT AS REQUIRED. NO CONCRETE PADS SHALL BE LOCATED ON ROOF UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

BACKFILL SHALL NOT BE PLACED BEHIND RETAINING WALLS UNTIL CONCRETE HAS ATTAINED 100 PERCENT OF DESIGN STRENGTH.

BACKFILL SHALL NOT BE PLACED BEHIND BASEMENT WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF DESIGN STRENGTH AND THE ELEVATED FLOOR PROVIDING LATERAL SUPPORT AT THE TOP OF THE WALL IS COMPLETELY CONSTRUCTED, OR TEMPORARY BRACING/SHORING OF THE WALL IS PROVIDED. DESIGN OF ANY TEMPORARY WALL BRACING/SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.

REMOVAL OF FORMS AND SHORING SHALL BE IN ACCORDANCE WITH ACI 347. WHERE CONCRETE MUST SUPPORT SUPERIMPOSED LOADS PRIOR TO ATTAINING THE SPECIFIED DESIGN STRENGTH, RESHORE CONCRETE IN ACCORDANCE WITH ACI 347. RESHORING SHALL NOT BE REMOVED SOONER THAN 28 DAYS FROM THE DATE OF POUR OR UNTIL CONCRETE HAS ATTAINED THE SPECIFIED DESIGN STRENGTH.

THE CONTRACTOR SHALL SUBMIT FOR PRIOR APPROVAL THE END OF POUR LOCATIONS FOR CONCRETE GRADE BEAMS, CONCRETE COLUMNS, AND CONCRETE BEAMS.

GENERAL STRUCTURAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL APPLICABLE STANDARDS SET FORTH BY OSHA, INCLUDING THE FOLLOWING REQUIREMENTS FROM STANDARDS - 29 CFR, SECTION 1926,
SUBPART R:

A. THE STEEL ERECTION CONTRACTOR SHALL NOT ERECT STEEL UNLESS THEY HAVE RECEIVED WRITTEN NOTIFICATION FROM THE CONTRACTOR THAT THE CONCRETE IN THE FOOTINGS, PIERS AND WALLS OR THE MORTAR IN THE MASONRY PIERS AND WALLS HAS ATTAINED, ON THE BASIS OF AN APPROPRIATE ASTM STANDARD TEST METHOD OF FIELD-CURED SAMPLES, EITHER 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE DESIGN STRENGTH OR SUFFICIENT STRENGTH TO SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION.

   PROVIDE STRUCTURAL ENGINEER A COPY OF WRITTEN NOTIFICATION WHEN IT IS PROVIDED TO THE STEEL ERECTOR.

B. ANCHOR RODS (ANCHOR BOLTS) SHALL NOT BE REPAIRED, REPLACED OR FIELD-MODIFIED WITHOUT THE APPROVAL OF THE PROJECT STRUCTURAL ENGINEER OF RECORD.

   PRIOR TO ERECTION OF COLUMNS, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE STEEL ERECTOR IF THERE HAS BEEN ANY REPAIR, REPLACEMENT OR MODIFICATION OF THE ANCHOR RODS (ANCHOR BOLTS).

   PROVIDE STRUCTURAL ENGINEER A COPY OF WRITTEN NOTIFICATION WHEN IT IS PROVIDED TO THE STEEL ERECTOR.

C. NO MODIFICATION THAT AFFECTS THE STRENGTH OF A STEEL JOIST OR STEEL JOIST GIRDER SHALL BE MADE WITHOUT THE APPROVAL OF THE PROJECT STRUCTURAL ENGINEER OF RECORD.

D. METAL DECKING HOLES AND OPENINGS SHALL NOT BE CUT UNTIL IMMEDIATELY PRIOR TO BEING PERMANENTLY FILLED WITH THE EQUIPMENT OR STRUCTURE, OR SHALL BE IMMEDIATELY COVERED.

PROTECTION: PROPER PRECAUTIONS SHALL BE TAKEN AT ALL TIMES TO PROTECT VEHICULAR AND PEDESTRIAN TRAFFIC FROM ANY DAMAGE OR INJURY WHICH MAY BE CAUSED, EITHER DIRECTLY OR INDIRECTLY, BY THE WORK INCLUDED ON THESE DRAWINGS. SUCH PRECAUTIONS SHALL INCLUDE THE ERECTION AND MAINTENANCE OF FENCES, BARRICADES, RAILINGS, GUARDS, SIGNS, COVERINGS, LIGHTS, AND OTHER PRECAUTIONS AS MAY BE REQUIRED. IF AT ANY TIME, IN THE OPINION OF THE OWNER OR THE OWNER'S REPRESENTATIVE, PROPER PRECAUTIONS ARE NOT BEING TAKEN TO SECURE THIS PROTECTION, THE CONTRACTOR SHALL AT NO ADDITIONAL COST TO THE OWNER, INSTALL AND MAINTAIN SUCH ADDITIONAL PROTECTION AS MAY BE DIRECTED BY THE OWNER.

POLLUTION CONTROLS: USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR TO LOWEST PRACTICAL LEVEL. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

TYPICAL DETAIL SHEETS:

THE S7.00 SERIES SHEETS IN THESE DRAWINGS CONTAIN TYPICAL STRUCTURAL DETAILS FOR VARIOUS BUILDING MATERIALS. SOME OF THESE DETAILS MAY NOT BE PART OF THIS PROJECT.

DRAWINGS:

DO NOT SCALE DRAWINGS.

WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. DETAILS NOTED "TYPICAL" APPLY TO ALL SIMILAR CONDITIONS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ELSEWHERE ON THE PROJECT.

FAST-TRACK/PHASED CONSTRUCTION:

THE STRUCTURAL PORTION OF THIS PROJECT IS BEING DESIGNED, BID, PERMITTED, AND CONSTRUCTED PRIOR TO THE COMPLETION OF ARCHITECTURAL, ENGINEERING, AND OTHER DESIGN TEAM CONSTRUCTION DOCUMENTS. THE OWNER, ARCHITECT, AND CONTRACTOR SHALL BE AWARE THAT THIS ACCELERATED STRUCTURAL SCHEDULE CREATES INHERENT RISK OF FUTURE CHANGES DUE TO DESIGN COORDINATION WITH OTHER DISCIPLINES. WHILE EVERY EFFORT HAS BEEN MADE TO MINIMIZE THESE CHANGES, THE RISK OF ADDED COSTS DUE TO THESE CHANGES SHALL BE UNDERSTOOD AND ACCEPTED BY ALL PARTIES.

DRAWINGS THAT DO NOT HAVE AN ENGINEERING SEAL BY THE STRUCTURAL ENGINEER OF RECORD OR NOT LABELED AS CONSTRUCTION DRAWINGS ARE PRELIMINARY AND SUBJECT TO CHANGE. IF THESE DOCUMENTS ARE BEING USED FOR PRICING, BIDDING, STEEL MILL ORDER, OR PREPARATION OF SHOP DRAWINGS, THE CONTRACTOR SHALL ANTICIPATE FUTURE DRAWING REVISIONS THAT MAY AFFECT THIS WORK OR INCREASE CONSTRUCTION COSTS. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CHANGE ORDER COSTS INCURRED DUE TO THESE DRAWING REVISIONS, AND THE CONTRACTOR SHALL CONSIDER THESE ANTICIPATED COSTS IN ANY BIDS OR PRICE GUARANTEES TO THE OWNER.

USE THE MOST CURRENT SET OF DRAWINGS IN PREPARATION OF ALL SUBMITTALS. ALL SUBMITTALS SHALL LIST THE DATE OF THE DRAWINGS USED TO PREPARE THE SUBMITTAL. SUBMITTALS PREPARED FROM OUTDATED DRAWINGS MAY BE REJECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING THE LATEST SET OF CONSTRUCTION DRAWINGS AND DISTRIBUTING TO THE APPROPRIATE PARTIES.

CAST-IN-PLACE CONCRETE:

ALL CONCRETE SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURAL CONCRETE, ACI 301-10.

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS NOTED OTHERWISE.

NORMALWEIGHT CONCRETE:

A. F'C = 4500 PSI @ 28 DAYS – ALL CONCRETE EXPOSED TO FREEZE/THAW CYCLES AND OCCASIONAL MOISTURE, INCLUDING CONCRETE FLAT WORK, EXPOSED BUILDING STEM WALLS, SITE WALLS, ETC…
   EXTERIOR CONCRETE SHALL MEET EXPOSURE CATEGORY AND CLASS F1 ACCORDING TO ACI 318 TABLE 19.3.1.1.
B. F'C = 3000 PSI @ 28 DAYS - ALL FOOTINGS, TIE BEAMS, GRADE BEAMS.
C. F'C = 3000 PSI @ 28 DAYS - ALL INTERIOR SLABS ON GRADE, UNLESS NOTED OTHERWISE.
D. F'C = 3500 PSI @ 28 DAYS - ALL CONCRETE FILL OVER METAL DECK, UNLESS NOTED OTHERWISE.
E. F'C = 4000 PSI @ 28 DAYS – ALL CAST-IN-PLACE CONCRETE COLUMNS, PEDESTALS, RETAINING WALLS, AND ELEVATED BEAMS.
F. F'C = 4000 PSI @ 28 DAYS – ALL ELEVATED CAST-IN-PLACE SLABS.
G. F'C = 4000 PSI @ 28 DAYS – ALL SLABS ON GRADE AND ELEVATED SLABS TO RECEIVE POLISHED CONCRETE FINISH.

FIRE RATED SLABS: COORDINATE AIR CONTENT REQUIREMENTS WITH ARCHITECTURAL DRAWINGS.

CONCRETE MIX DESIGNS (INCLUDING AIR CONTENT, WATER TO CEMENT RATIOS, AND OTHER CRITERIA) SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN ACI 318 TABLE 19.3.2.1, BASED ON THE EXPOSURE CATEGORIES AND CLASSES DEFINED IN ACI 318 TABLE 19.3.1.1. USE AIR ENTRAINING ADMIXTURE IN ALL EXTERIOR CONCRETE. AIR CONTENT IN FIRE RATED SLABS SHALL ALSO COMPLY WITH THE REQUIREMENTS IN THE SPECIFIED UL LISTING.

CRYSTALLINE WATERPROOFING SHALL BE BASF, W.R. MEADOWS ADMIXTURE OR APPROVED EQUAL.

CRYSTALLINE WATERPROOFING SHALL BE ADDED TO THE CONCRETE MIX PER THE MANUFACTURER'S RECOMMENDATIONS FOR ALL BASEMENT WALL CONCRETE.

COLD WEATHER CONCRETING: PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH CAUSED BY FROST, FREEZING OR LOW TEMPERATURES. COMPLY WITH ACI 306.1.

HOT WEATHER CONCRETING: WHEN HOT WEATHER CONDITIONS EXIST THAT WOULD IMPAIR THE QUALITY AND STRENGTH OF THE CONCRETE, REDUCE DELIVERY TIME OF READY MIX CONCRETE, LOWER THE TEMPERATURE OF MATERIALS, OR ADD RETARDER TO ENSURE THAT THE CONCRETE IS PLASTIC. RETEMPERING WITH WATER IS NOT ALLOWED. COMPLY WITH ACI 305R.

SLAB CURING: ALL INTERIOR CONCRETE SLABS, EXCEPT EXPOSED INTEGRALLY COLORED SLABS, ARE TO BE CURED WITH A MOISTURE RETAINING COVER FOR THE FIRST 7 DAYS (MINIMUM) AFTER PLACEMENT.

THE CONTRACTOR IS ALLOWED TO CAST FOUNDATIONS AGAINST EXCAVATED SOIL SURFACES, PROVIDED THE FOLLOWING IS ADHERED TO:

A. THE SIDE SLOPES OF THE EXCAVATION SHALL BE ABLE TO MAINTAIN VERTICAL SLOPE WITHOUT SOIL SLOUGHAGE.
B. THE BOTTOM WIDTH OF THE EXCAVATION SHALL BE ONE INCH WIDER MINIMUM ON EACH SIDE THAN THE SPECIFIED FOOTING WIDTH.
C. THE SIDE WALLS OF THE EXCAVATION SHALL BE BATTERED A MINIMUM OF ONE INCH HORIZONTAL TO TWELVE INCHES VERTICAL.
D. IF SANDY OR LOOSE MATERIALS ARE ENCOUNTERED, THE FOOTING MUST BE FORMED.
E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY SOIL SLOUGHAGE FROM THE WET CONCRETE DURING THE CASTING OPERATION.
F. THE CONTRACTOR AGREES TO REMOVE AND RECAST ANY FOOTING WHERE THE ABOVE CONDITIONS ARE NOT MET.

EXPOSED SITE WALLS, RETAINING WALLS, AND STEM WALLS GREATER THAN 30 FEET IN LENGTH SHALL HAVE CONTROL JOINTS INSTALLED AT THE FOLLOWING MAXIMUM SPACING:

12'-0" ON CENTER FOR WALLS 6'-0" MAXIMUM HEIGHT
18'-0" ON CENTER FOR WALLS 10'-0" MAXIMUM HEIGHT
20'-0" ON CENTER FOR WALLS GREATER THAN 10'-0" IN HEIGHT

ALL CONCRETE EXPOSED TO GROUND SHALL BE MANUFACTURED WITH PORTLAND CEMENT TYPE I OR TYPE II.

SEE SHEET S7.11 FOR TYPICAL CONCRETE DETAILS.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14), AND DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315-99).

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60; EXCEPT STIRRUPS, TIES AND INDICATED FIELD-BENT BARS, WHICH SHALL CONFORM TO ASTM A615 GRADE 40.

GENERAL STRUCTURAL NOTES

ALL WELDED WIRE FABRIC SHALL BE DEFORMED AND SHALL CONFORM TO ASTM A479. PROVIDE IN FLAT SHEETS ONLY.

TENSION AND COMPRESSION LAPS IN REINFORCING SHALL CONFORM TO THE LAP SPLICE SCHEDULE ON SHEET S6.01 AND BE IN ACCORDANCE WITH ACI 318, CHAPTER 12, UNLESS NOTED OTHERWISE.

ALL HORIZONTAL REINFORCING IN FOOTINGS, WALLS AND BEAMS SHALL BE CONTINUOUS AROUND CORNERS OR HAVE BENT (CORNER) BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS AND LAP 30 BAR DIAMETERS (24" MINIMUM).

CONCRETE COVER FOR REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
B. CONCRETE CAST AGAINST FORMS BUT EXPOSED TO EARTH OR WEATHER:	
1. BARS LARGER THAN NO. 5:	2"
2. BARS NO. 5 OR SMALLER:	1 1/2"
C. CONCRETE NOT EXPOSED TO WEATHER OR NOT IN CONTACT WITH GROUND:	
1. COLUMNS, GIRDERS AND BEAMS:	1 1/2"
2. STRUCTURAL SLABS, WALLS AND JOISTS (NO. 11 AND SMALLER):	3/4"
D. SLAB ON GRADE:	1 1/2" FROM TOP OF SLAB
E. STRUCTURAL SLABS ON METAL DECK:	1" FROM TOP OF SLAB

FORM TIES SHALL BE EITHER OF THE THREADED OR SNAP-OFF TYPE SO THAT NO METAL WILL BE LEFT WITHIN 1 INCH OF THE SURFACE OF THE WALL. FOLLOWING REMOVAL OF FORM TIES, RECESSES ARE TO BE CAREFULLY FILLED AND POINTED WITH MORTAR.

REINFORCING SHALL NOT BE TACK WELDED OR WELDED IN ANY MANNER UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL PLANS.

BAR SUPPORTS AND SPACERS FOR REINFORCING SHALL BE PROVIDED IN ACCORDANCE WITH ACI 315-99. REINFORCING SHALL BE SECURELY TIED TO SUPPORTS.

CHAIRS WITH 22 GAGE SAND PLATES OR PRECAST BLOCKS SHALL BE PROVIDED FOR ALL REINFORCING OF CONCRETE IN CONTACT WITH GRADE.

DECK CHAIRS SHALL BE PROVIDED FOR ALL WELDED WIRE FABRIC IN SLABS OVER METAL DECK.

POST INSTALLED ANCHORS:

THE STRUCTURAL DESIGN IS BASED ON THE POST INSTALLED ANCHORING SYSTEMS NOTED BELOW. SINCE ANCHOR CAPACITIES VARY BY MANUFACTURER, THE CONTRACTOR SHALL USE ONLY THE SYSTEMS NOTED BELOW UNLESS AN ALTERNATE IS APPROVED BY THE ENGINEER OF RECORD. ALTERNATE ANCHORING SYSTEMS MAY REQUIRE RE-DESIGN TO VERIFY ANCHOR QUANTITIES, SPACING, AND EMBED DEPTHS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL CONSTRUCTION AND RE-DESIGN COSTS ASSOCIATED WITH THE ALTERNATE ANCHORING SYSTEM.

ALL ADHESIVE (EPOXY) FOR POST INSTALLED ANCHORS AND/OR REBAR INTO GROUT FILLED MASONRY SHALL BE HILTI HIT HY 70 ADHESIVE ANCHORING SYSTEM. INSTALLATION SHALL BE PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

ALL ADHESIVE (EPOXY) FOR POST INSTALLED ANCHORS AND/OR REBAR INTO HOLLOW MASONRY AND/OR BRICK SHALL BE HILTI HIT HY 270 ADHESIVE ANCHORING SYSTEM. INSTALLATION SHALL BE PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

ALL POST INSTALLED MECHANICAL ANCHORS INTO CONCRETE SHALL BE HILTI KWIK HUS EZ (KH-EZ) SCREW ANCHOR. INSTALLATION SHALL BE PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

ANCHOR LENGTHS SHOWN FOR ATTACHMENT TO CONCRETE AND/OR MASONRY ARE REQUIRED EMBEDMENT LENGTHS. THE CONTRACTOR SHALL PROVIDE ANCHORS WITH ADDITIONAL LENGTH TO FACILITATE THE REQUIRED CONNECTION.

SUBMIT ALL PROPOSED ANCHORING SYSTEMS INCLUDING ICC-ES REPORTS TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO INSTALLATION. THE ICC–ES FORMS SHALL MEET THE REQUIREMENTS OF THE IBC REFERENCED IN THESE NOTES.

ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED WITH SPECIAL INSPECTION AS DICTATED BY THE RESPECTIVE PRODUCT'S ICC-ES EVALUATION SERVICE REPORT

THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING, UNLESS ALL PERSONNEL INSTALLING ANCHORS ARE CERTIFIED IN ACCORDANCE WITH ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT APPROVED BY THE ENGINEER OF RECORD.

INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL. INSTALLATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTFIEID THROUGH ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF INSTALLATION, AND INSPECTION REPORTS SHALL BE PROVIDED TO THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL.

STRUCTURAL AND MISCELLANEOUS STEEL:

ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".

ALL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, GRADE 50, UNLESS NOTED OTHERWISE.

ALL MISCELLANEOUS STEEL MEMBERS, SUCH AS CHANNELS, ANGLES, FLAT BARS, AND PLATES SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE.

ALL RECTANGULAR AND SQUARE STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B, FY = 46 KSI OR ASTM 1085, GRADE B, FY = 50 KSI.

ALL ROUND STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B, FY = 42 KSI OR ASTM 1085, GRADE B, FY = 50 KSI.

ALL STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, FY = 35 KSI.

BOLTS SHALL CONFORM TO ASTM A325N TENSION CONTROL BOLTS UNLESS NOTED OTHERWISE, WITH SIZES AS SHOWN ON THE DRAWINGS. WHERE CLEARANCE WITHIN A CONNECTION DOES NOT PERMIT THE USE OF TENSION CONTROL BOLTS, STANDARD A325N BOLTS SHALL BE USED AND INSPECTED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

ALL BOLTS SHALL BE INSTALLED IN A SNUG TIGHT CONDITION EXCEPT AT MOMENT CONNECTIONS, BRACED FRAME CONNECTIONS, AND AT CONNECTIONS DETAILED WITH A325SC BOLTS. AT THESE LOCATIONS, THE BOLTS SHALL BE TIGHTENED SO AS TO SHEAR THE SPLINE OFF THE BOLT.

ANCHOR BOLTS EMBEDDED IN CONCRETE SHALL BE ASTM F1554 GRADE 36 THREADED RODS WITH DOUBLE NUTS. PROVIDE FLAT WASHERS BETWEEN NUTS AND BASEPLATE SURFACES. ANCHOR BOLT LENGTHS SHOWN FOR ATTACHMENT TO CONCRETE AND/OR MASONRY ARE REQUIRED EMBEDMENT LENGTHS. THE CONTRACTOR SHALL PROVIDE ANCHOR BOLTS WITH ADDITIONAL BOLT LENGTH TO FACILITATE THE REQUIRED CONNECTION.

ANCHOR BOLT FLAT WASHERS SHALL BE PROVIDED IN ACCORDANCE WITH TABLE 14-2 OF AISC 360, AISC MANUAL OF STEEL CONSTRUCTION LATEST EDITION.

ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AWS STRUCTURAL WELDING CODE.

ALL BOLT HOLES THAT ARE REQUIRED TO BE FIELD DRILLED SHALL BE DRILLED WITH A MAG DRILL. FLAME CUTTING OF HOLES OR ENLARGING OF MISALIGNED HOLES WILL NOT BE ALLOWED.

HEADED CONCRETE ANCHORS AND SHEAR CONNECTORS SHALL BE MADE FROM STEEL CONFORMING TO ASTM A108 AND MEET THE MECHANICAL PROPERTIES OF TYPE B, AS REQUIRED BY CHAPTER 7 OF AWS D1.1 "STRUCTURAL WELDING CODE-STEEL", LATEST EDITION. STRUCTURAL STEEL TO RECEIVE SHEAR CONNECTORS SHALL BE FREE OF PAINT. WELDING PREQUALIFICATION REQUIRED.

COMPOSITE FLOORS:

THE METAL DECK FOR COMPOSITE FLOORS SHALL BE UNSHORED UNLESS NOTED OTHERWISE.

THE SHEAR CONNECTORS SHALL BE 3/4" DIAMETER X 3" AT 1 1/2" DEEP DECK AND 3/4" DIAMETER X 4 1/2" AT 3" DEEP DECK UNLESS NOTED OTHERWISE. THE SHEAR CONNECTORS SHALL BE MADE FROM STEEL CONFORMING TO ASTM A108 AND MEET THE MECHANICAL PROPERTIES OF TYPE B, AS REQUIRED BY CHAPTER 7 OF AWS D1.1 "STRUCTURAL WELDING CODE STEEL", LATEST EDITION. STRUCTURAL STEEL TO RECEIVE SHEAR CONNECTIONS SHALL BE FREE OF PAINT. WELDING PREQUALIFICATION REQUIRED.

THE SHEAR CONNECTIONS SHALL NOT BE ADDED UNTIL THE METAL FLOOR DECK IS INSTALLED.

WHERE SHEAR CONNECTIONS AND PUDDLE WELDS COINCIDE, THE SHEAR CONNECTOR MAY REPLACE THE PUDDLE WELD.

CAMBERED BEAMS SHALL HAVE THE CAMBER PUT IN AT 1/3 POINTS OR ALONG A PARABOLIC CURVE.

THE CONTRACTOR SHALL SURVEY THE CAMBER OF THE BEAMS AFTER THE BEAMS HAVE BEEN ERECTED. THE CONTRACTOR SHALL SUBMIT THE SURVEY TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL NOT POUR THE SLAB UNTIL THE ENGINEER HAS REVIEWED AND APPROVED THE BEAM CAMBERS.

CONTRACTOR SHALL SHORE BEAMS WITH A CAMBER MORE THAN 1/2" LOWER THAN SPECIFIED. THE BEAM SHALL BE ALLOWED TO DEFLECT TO LEVEL.

GENERAL STRUCTURAL NOTES

THE TOPPING SLAB SHALL BE POURED AND PLACED TO THE ELEVATION INDICATED ON THE DRAWINGS.

THE CONCRETE FOR THE SLAB SHALL BE POURED AND PLACED TO THE ELEVATION INDICATED ON THE DRAWINGS WHILE MAINTAINING THE MINIMUM THICKNESS. SPREAD CONCRETE OVER AREA OF INFLUENCE TO ROUGH DEPTH IN ORDER TO LOAD BEAMS AND GIRDERS PRIOR TO SETTING SCREED ELEVATIONS.

THE WEIGHT OF THE WET CONCRETE WILL CAUSE DEFLECTIONS OF THE STEEL FRAMING. THEREFORE, CONCRETE OVERRRUNS ARE TO BE ANTICIPATED BY THE CONTRACTOR.

CONTRACTOR SHALL CONTINUOUSLY MONITOR THE THICKNESS AND ELEVATIONS DURING CONCRETE PLACING OPERATIONS.

PROVIDE #4 X 6'-0" AT 12" ON CENTER OVER ALL GIRDERS OF COMPOSITE FLOORS.

PROVIDE #4 X 6'-0" AT 12" ON CENTER OVER SHORED BEAMS THAT ARE NOT ALLOWED TO DEFLECT TO LEVEL.

PROVIDE WELDED WIRE FABRIC AS INDICATED ON DRAWINGS IN FLAT SHEETS ONLY.

PROVIDE DECK CHAIRS FOR ALL WELDED WIRE FABRIC IN SLABS OVER METAL DECK.

STEEL DECK:

ALL STEEL DECK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE SPECIFICATIONS.

SEE PLANS FOR STEEL DECK TYPE, GAGE, FINISH AND CONNECTIONS.

PROVIDE A MINIMUM OF 1 1/2" BEARING FOR ALL STEEL DECK.

ALL SPLICES AND LAPS SHALL BE A MINIMUM OF 2" IN LENGTH AND SHALL BE LOCATED DIRECTLY ABOVE SUPPORTS.

ALL DECKING SHALL BE CONTINUOUS OVER TWO OR MORE SPANS.

COLD-FORMED METAL FRAMING (43 MILS OR HEAVIER):

ALL COLD-FORMED METAL FRAMING SHALL CONFORM TO THE LATEST EDITION OF AISI STANDARD S100 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".

WALLS SHALL BE PROVIDED WITH MANUFACTURER'S STANDARD BRIDGING: (EITHER WELDED 2 1/2" x 43 MILS STUD OR CLIPPED COLD-ROLLED CHANNEL 1 1/2" x 54 MILS). PROVIDE BRIDGING AT 4'-0" ON CENTER MAXIMUM FOR LOAD BEARING WALLS AND EXTERIOR WALLS.

PROVIDE ALL MISCELLANEOUS ACCESSORIES AND FOLLOW ERECTION PROCEDURES AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS UNLESS NOTED OTHERWISE.

COLD-FORMED METAL FRAMING SHALL MEET THE MINIMUM PROPERTIES AS SHOWN IN THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) SPECIFICATIONS.

ALL TRACK SHALL BE ANCHORED TO CONCRETE NOT MORE THAN 4' - 0" ON CENTER. ATTACHMENT BY OTHERS.

SECURE STUDS TO TOP AND BOTTOM TRACKS, ATTACHMENT BY OTHERS.

WELD CLIPS DESIGNED BY OTHERS. FASTEN WELD CLIPS TO STUDS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND LOAD DATA. WELD CLIPS SHALL BE DESIGNED FOR LATERAL LOADS AS SPECIFIED ON S0.03 AND VERTICAL LOADS AS DICTATED BY ARCHITECTURAL FINISHES AND SUPPORT REQUIREMENTS.

SLIDE CLIPS DESIGNED BY OTHERS. FASTEN SLIDE CLIPS TO STUDS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND LOAD DATA. SLIDE CLIPS SHALL BE DESIGNED FOR LATERAL LOADS AS SPECIFIED ON S0.03.

SEE SHEET S7.31 FOR TYPICAL COLD-FORMED DETAILS.

VENEER:

FOR CMU OR BRICK VENEER (4" MAXIMUM, 2" MINIMUM THICKNESS) ATTACHMENT TO STRUCTURAL MASONRY, PROVIDE ADJUSTABLE INTEGRAL ANCHOR TIES. ADJUSTABLE INTEGRAL ANCHOR TIES SHALL BE CORROSION RESISTANT AND HAVE TWO PINTLE LEGS MINIMUM WITH W2.8 (3/16") WIRE OR APPROVED EQUAL. PROVIDE DUR-O-WALL DA370 ADJUSTABLE INTEGRAL ANCHOR TIES OR APPOVED EQUAL.

FOR CMU OR BRICK VENEER (4" MAXIMUM, 2" MINIMUM THICKNESS) ATTACHMENT TO STRUCTURAL CONCRETE, PROVIDE ADJUSTABLE ANCHOR TIES. ADJUSTABLE ANCHOR TIES SHALL BE CORROSION RESISTANT AND HAVE A TWO PINTLE LEGS MINIMUM WITH A MINIMUM W2.8 (3/16") WIRE. ATTACH TO CONCRETE WITH 2-1/4" DIAMETER CONCRETE SCREWS, HILTI KWIKCON 11 x 1 1/2" OR APPROVED EQUAL.

FOR CMU OR BRICK VENEER (4" MAXIMUM, 2" MINIMUM THICKNESS) ATTACHMENT TO STRUCTURAL COLD FORMED METAL STUDS, PROVIDE ADJUSTABLE ANCHOR TIES. ADJUSTABLE ANCHOR TIES SHALL BE CORROSION RESISTANT AND HAVE TWO PINTLE LEGS MINIMUM W2.8 (3/16") WIRE. PROVIDE DUR-O-WALL DA213 ADJUSTABLE ANCHOR TIE OR APPROVED EQUAL. ATTACH THROUGH SHEATHING TO STUDS WITH 2-1/4" x 1 1/2" CORROSION RESISTANT TEK SCREWS.

SEE TYPICAL DETAILS ON SHEET S7.11, S7.21, AND S7.31 FOR VENEER TIE SPACING.

PROVIDE ADDITIONAL ANCHORS AROUND ALL OPENINGS LARGER THAN 16" IN EITHER DIMENSION. SPACE ANCHORS WITHIN 12" OF OPENING PERIMETER AND MATCH HORIZONTAL OR VERTICAL ANCHOR TIE SPACING.

COORDINATE VENEER LOCATION, TYPE, BOND PATTERN, ETC. WITH ARCHITECTURAL DRAWINGS.

GLASS CURTAIN WALL SYSTEM:

ALL LATERAL AND GRAVITY SUPPORT FOR THE GLASS CURTAIN WALL SYSTEM SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS. SHOP DRAWINGS AND STAMPED CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER OF RECORD AND THE ARCHITECT PRIOR TO INSTALLATION.

THE ENGINEER STAMPING THE SHOP DRAWINGS SHALL BE REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.

THE GLASS CURTAIN WALL SYSTEM SHALL BE LATERALLY SUPPORTED AT ALL FLOORS AND ROOF LEVEL.

SEISMIC BRACING OF NON-STRUCTURAL COMPONENTS:

SEISMIC BRACING AND RESTRAINTS FOR MECHANICAL/ELECTRICAL EQUIPMENT AND SYSTEMS SHALL BE PROVIDED BY THE CONTRACTOR PER THE 2015 INTERNATIONAL BUILDING CODE (2015 IBC) AND THE ASCE 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND STRUCTURES.

SEE THESE GENERAL STRUCTURAL NOTES FOR THE SITE-SPECIFIC SEISMIC DESIGN CRITERIA.

THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND INSTALLING THE SEISMIC BRACING AND RESTRAINTS. STAMPED SHOP DRAWINGS, INCLUDING CALCULATIONS, SHALL BE SUBMITTED FOR APPROVAL PRIOR TO ANY BRACING INSTALLATION.

THE ENGINEER STAMPING THE SHOP DRAWINGS SHALL BE REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.

ELEVATORS:

THE STRUCTURE HAS BEEN DESIGNED FOR A KONE MONOSPACE 500: 2500/4000 (SUBJECT TO CHANGE) ELEVATOR.

ALL STRUCTURAL SUPPORTS, FLOOR PENETRATION SIZES AND PIT DIMENSIONS HAVE BEEN DESIGNED BASED ON THE ABOVE INFORMATION. SHOULD THE ACTUAL ELEVATOR(S) SELECTED DIFFER FROM THE INFORMATION PROVIDED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL CONSTRUCTION AND REDESIGN COSTS ASSOCIATED WITH THE ALTERNATE ELEVATOR(S).

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELEVATOR PIT AND FLOOR PENETRATION LOCATIONS AND DIMENSIONS

DEFERRED SUBMITTALS:

THE DEFERRED SUBMITTALS LISTED BELOW ARE THOSE PORTIONS OF THE DESIGN THAT ARE NOT COMPLETED AT THE TIME OF APPLICATION AND ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO THE INSTALLATION OF THOSE ITEMS. THE MANUFACTURER, CONSULTANT, OR CONTRACTOR, AS APPROPRIATE, SHALL PROVIDE SUBMITTALS TO THE ENGINEER OF RECORD FOR REVIEW FOR THE FOLLOWING ITEMS.

- PRECAST PRESTRESSED CONCRETE
- COLD-FORMED METAL (LIGHTGAGE) FRAMING
- METAL STAIRS, RAMPS, LADDERS, AND GUARDRAILS
- DEWATERING/DRAINAGE SYSTEM BEHIND BASEMENT WALLS, INCLUDING ITS TIE IN TO THE STORM WATER DRAINAGE SYSTEM
- SEISMIC BRACING OF ALL ARCHITECTURAL, LIGHTING, THEMING, FIRE SUPPRESSION, AND MEP COMPONENTS.
- CURTAINWALL SYSTEMS
- TEMPORARY AND PERMANENT SHORING OF EXISTING STRUCTURES AND SOILS WHERE REQUIRED FOR NEW CONSTRUCTION
- UNDERSLAB FRENCH DRAIN SYSTEM LAYOUT AND TIE-IN TO STORM WATER DRAINAGE SYSTEM.

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.

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CLIENT:
SEPT. 6, 1839

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S0.02

GENERAL STRUCTURAL NOTES

SCHEDULE OF STRUCTURAL SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS / TESTING - "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM HAVING THE INSPECTIONS OF THE JURISDICTION BUILDING DEPARTMENT PER SECTION 110 OF THE IBC PERFORMED. BOTH THE JURISDICTION BUILDING DEPARTMENT INSPECTIONS AND "SPECIAL STRUCTURAL INSPECTION" SHALL BE PERFORMED.

2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE JURISDICTION BUILDING OFFICIAL AND SPECIAL INSPECTOR WHEN WORK IS READY FOR INSPECTION.

3. REPORTING FOR SPECIAL INSPECTION - SPECIAL INSPECTION AND TESTING REPORTS SHALL BE COMPLETED AND DISTRIBUTED AT THE COMPLETION OF EACH TASK. IF A TASK IS TO TAKE LONGER THAN THREE (3) DAYS, PROVIDE REPORTS FOR EACH DAY. PROVIDE COPIES OF REPORTS TO CONTRACTOR, OWNER, ARCHITECT AND STRUCTURAL ENGINEER OF RECORD. SPECIAL INSPECTOR TO KEEP A NON-COMPLIANCE LIST DOCUMENTING ITEMS INSPECTED NOT MEETING APPROVED CONSTRUCTION DOCUMENTS AND WHEN / HOW RESOLVED.

4. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING CONSTRUCTION DOCUMENTS FOR ADDITIONAL NON-STRUCTURAL SPECIAL INSPECTION ITEMS.

5. SPECIAL INSPECTION OF SHOP FABRICATED MEMBERS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH SECTION 1704.2, UNLESS FABRICATOR IS APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION.

6. IN ACCORDANCE WITH IBC CHAPTER 17, THE OWNER OR THE OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS, DURING CONSTRUCTION FOR THE TYPES OF WORK LISTED BELOW THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL IDENTIFIED IN IBC SECTION 110

7. DEFINITIONS:
   * **SPECIAL INSPECTION:** INSPECTION AS HEREIN REQUIRED BY A QUALIFIED SPECIAL INSPECTOR COMPETENT WITH THE MATERIALS, INSTALLATION, FABRICATION, ERECTION OR PLACEMENT OF COMPONENTS AND CONNECTIONS REQUIRING SPECIAL EXPERTISE TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS (SEE SECTION 1704).
   * **CONTINUOUS SPECIAL INSPECTION:** FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
   * **PERIODIC SPECIAL INSPECTION:** THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

ITEM	DESCRIPTION OF REQUIREMENTS	REQUIRED (YES/NO)
SPECIAL INSPECTION OF STRUCTURAL STEEL	TO BE PERFORMED IN ACCORDANCE WITH CHAPTER N OF AISC 360-10	YES
SPECIAL INSPECTION AND VERIFICATION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.2	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR CONCRETE CONSTRUCTION	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.3	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR WOOD CONSTRUCTION	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.5	NO
SPECIAL INSPECTIONS AND VERIFICATIONS OF SOILS	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.6, THE GEOTECHNICAL REPORT LISTED IN THE GENERAL FOUNDATION NOTES, AND ANY OTHER REQUIREMENTS LISTED IN THE GENERAL FOUNDATION NOTES	YES

GENERAL STRUCTURAL NOTES

TEMPORARY SHORING OF EXCAVATIONS:

THE TEMPORARY SHORING OF EXCAVATIONS SHALL BE SOIL NAIL/SHOTCRETE SYSTEM, SHEET PILING, OR APPROVED EQUAL.

THE SHORING SHALL NOT BE DRIVEN OR INSTALLED IN ANY MANNER THAT COULD POTENTIALLY DAMAGE EXISTING STRUCTURES OR CAUSE HUMAN DISCOMFORT.

THE CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLING SHORING. PROVISIONS SHALL BE MADE TO AVOID EXISTING UTILITIES.

THE SHORING AS SHOWN ON THE PLANS IS FOR GRAPHICAL REPRESENTATION ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND CONFIGURATION OF THE SHORING.

ANY SHORING THAT REMAINS IN PLACE SHALL NOT HAMPER FUTURE CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND INSTALLING THE TEMPORARY SHORING. STAMPED SHOP DRAWINGS, INCLUDING CALCULATIONS, SHALL BE SUBMITTED FOR APPROVAL PRIOR TO ANY SHORING INSTALLATION.

THE ENGINEER STAMPING THE SHOP DRAWINGS SHALL BE REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.

DEMOLITION:

NOTCHING OR CUTTING ANY STRUCTURAL MEMBER IN THE FIELD IS PROHIBITED, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL PLANS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL APPLICABLE STANDARDS SET FORTH BY OSHA.

PRIOR TO STARTING DEMOLITION WORK, THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL SURROUNDING IMPROVEMENTS TO REMAIN, TO DETERMINE AND RECORD THEIR EXISTING PHYSICAL CONDITION.

SHORING AND BRACING: THE CONTRACTOR SHALL FURNISH ALL SHORING, BRACING, AND INCIDENTALS NECESSARY AND REQUIRED FOR THE PROPER SUPPORT AND SAFETY OF ALL MEMBERS AFFECTED BY DEMOLITION WORK.

WHERE DEMOLITION WOULD AFFECT THE STRUCTURAL INTEGRITY OF THE REMAINING STRUCTURE, THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY FIELD CONDITION WHICH WOULD PRESENT A HAZARDOUS CONDITION TO THE STRUCTURE BEFORE PROCEEDING.

PROTECTION: PROPER PRECAUTIONS SHALL BE TAKEN AT ALL TIMES TO PROTECT VEHICULAR AND PEDESTRIAN TRAFFIC FROM ANY DAMAGE OR INJURY WHICH MAY BE CAUSED, EITHER DIRECTLY OR INDIRECTLY, BY THE WORK INCLUDED ON THESE DRAWINGS. SUCH PRECAUTIONS SHALL INCLUDE THE ERECTION AND MAINTENANCE OF FENCES, BARRICADES, RAILINGS, GUARDS, SIGNS, COVERINGS, LIGHTS, AND OTHER PRECAUTIONS AS MAY BE REQUIRED. IF AT ANY TIME, IN THE OPINION OF THE OWNER OR THE OWNER'S REPRESENTATIVE, PROPER PRECAUTIONS ARE NOT BEING TAKEN TO SECURE THIS PROTECTION, THE CONTRACTOR SHALL AT NO ADDITIONAL COST TO THE OWNER, INSTALL AND MAINTAIN SUCH ADDITIONAL PROTECTION AS MAY BE DIRECTED BY THE OWNER.

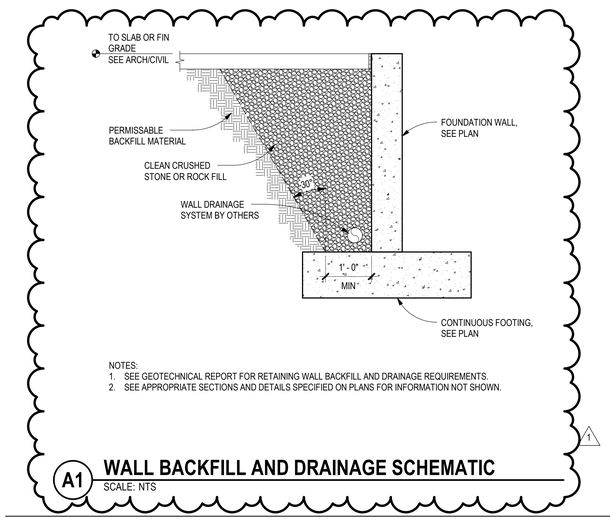
POLLUTION CONTROLS: USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR TO LOWEST PRACTICAL LEVEL. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

REMOVE DEBRIS FROM THE SITE AS IT ACCUMULATES. UNLESS OTHERWISE NOTED, DO NOT STORE, SELL, BURN, OR OTHERWISE DISPOSE OF DEBRIS ON THE SITE. REMOVAL OF DEBRIS INCLUDES CLEARING OF ALL LOWER LEVELS AND SIMILAR BELOW GRADE STRUCTURES. REMOVE ALL DEBRIS IN SUCH A MANNER AS TO PREVENT SPILLAGE. KEEP ALL PAVEMENTS AND AREAS ADJACENT TO THE SITE CLEAN AND FREE FROM MUD, DIRT, AND DEBRIS AT ALL TIMES.

USE OF EXPLOSIVES: THE CONTRACTOR IS ABSOLUTELY PROHIBITED FROM USING DYNAMITE OR ANY OTHER EXPLOSIVES IN ANY OF THE WORK OR OPERATIONS SHOWN ON THESE PLANS AT THE PROJECT SITE.

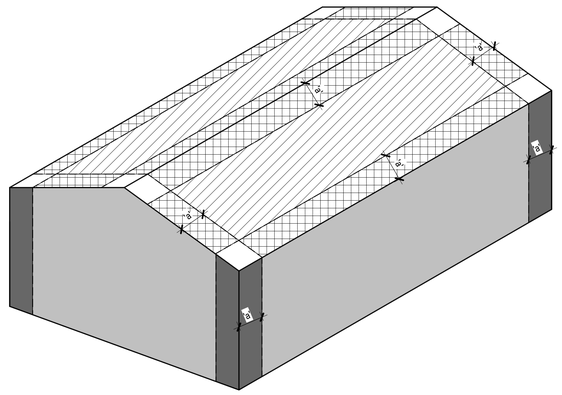
DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES INDICATED TO REMAIN. SURFACES SHALL BE PATCHED, IF REQUIRED, TO PROVIDE A SUITABLE SUBSTRATE FOR NEW CONSTRUCTION.

SPECIFIC DEMOLITION NOTES ARE NOT TO BE CONSIDERED ALL INCLUSIVE OR COMPLETE IN THEMSELVES. CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR CONSTRUCTION WHETHER SPECIFICALLY NOTED OR NOT.



NOTES:
1. SEE GEOTECHNICAL REPORT FOR RETAINING WALL BACKFILL AND DRAINAGE REQUIREMENTS.
2. SEE APPROPRIATE SECTIONS AND DETAILS SPECIFIED ON PLANS FOR INFORMATION NOT SHOWN.

A1 WALL BACKFILL AND DRAINAGE SCHEMATIC
SCALE: NTS



COMPONENTS AND CLADDING WIND PRESSURES (PSF) CALCULATED AT MEAN ROOF HEIGHT = 68 FEET			
a = 9 FT	EFFECTIVE WIND AREA (FT²)		
ZONE	10	100	500
1	-58.1	-48.2	-40.7
2	-91.3	-75.8	-63.9
1 AND 2 OVERHANGS	-91.3	-91.3	-91.3
3	-124.4	-103.2	-87.1
3 OVERHANGS	-143.0	-134.4	-128.7
4	39.7	35.0	31.8
4 PARAPETS	131.0	115.3	104.8
5	72.8	55.6	43.7
5 PARAPETS	164.1	125.2	98.5

ZONE 1 ZONE 4
ZONE 2 ZONE 5
ZONE 3

A4 COMPONENT AND CLADDING WIND LOADING DIAGRAM
SCALE: NTS

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CLIENT:
THE CHEROKEE NATION TRIBAL SEAL

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

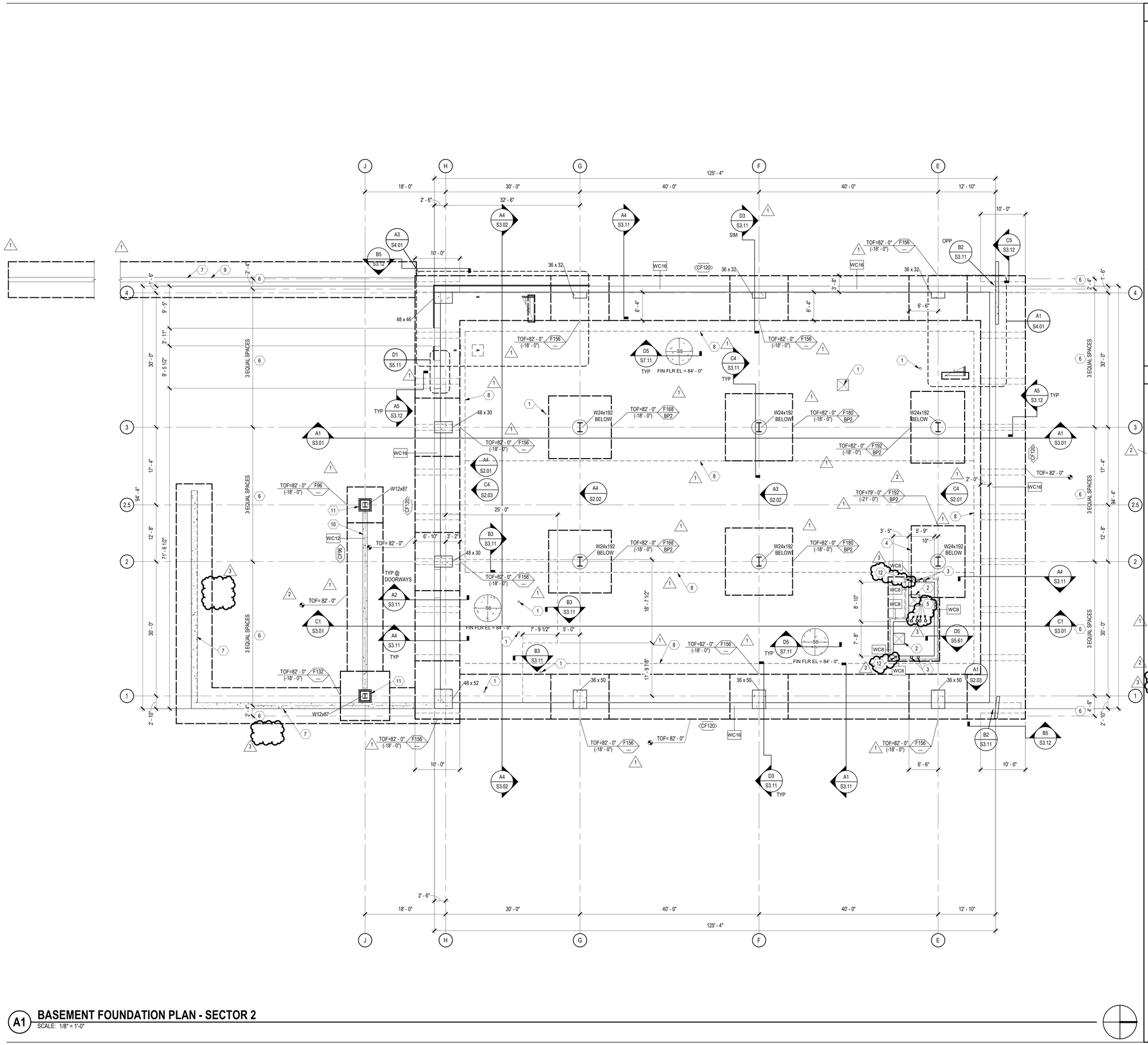
PROJECT PHASE:
BID PACKAGE 03

REVISIONS:		
#	DATE	DESCRIPTION
1	4/2/19	BID PACKAGE 03 ASI 01

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S0.03

GENERAL STRUCTURAL NOTES AND SPECIAL INSPECTION TABLES

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.



A1 BASEMENT FOUNDATION PLAN - SECTOR 2

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. REFERENCE FINISH FLOOR ELEVATION 100'-0" = MEAN SEA FINISH FLOOR ELEVATION. SEE CIVIL DRAWINGS.
3. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
4. DIMENSIONS ARE TO THE FACE OF CONCRETE UNLESS NOTED OTHERWISE.
5. PROVIDE SLAB JOINTS AT 10'-0" ON CENTER MAXIMUM. THE AREA OF THE CONTROL JOINT SHALL NOT EXCEED A 2.1 RATIO. CONTROL JOINTS SHALL BE LOCATED AT COLUMN LINES WHERE THE LAYOUT PERMITS. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS, PROVIDE 2-#4 x 3'-0" DIAGONAL TO THE RE-ENTRANT CORNER.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL FOUNDATION SECTIONS AND DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.

SHEET KEYNOTE

1. FLOOR DRAIN / MOP SINK, SLOPE SLAB TO DRAIN 1/8" PER FOOT. COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. ELEVATOR SUMP PIT. COORDINATE EXACT SIZE AND LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.61
3. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE B4 / S5.61
4. ELEVATION SHALL BE COORDINATED WITH TOP OF ELEVATOR PIT FOOTING. CONTRACTOR TO COORDINATE.
5. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE D4 / S5.61
6. TRANSVERSE SHEAR KEY AT LOCATIONS/SPACING SHOWN.
7. SITE RETAINING WALL. COORDINATE EXACT SIZE AND EXTENT WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE RETAINING WALL SCHEDULE A1 / S6.01
8. UNDER SLAB FRENCH DRAIN SYSTEM REQUIRED BELOW THE SLAB ON GRADE IN THE BASEMENT. SEE GEOTECHNICAL REPORT SECTION 12 FOR ADDITIONAL INFORMATION. FRENCH DRAIN PIPING SHALL BE SLOPED TO DRAIN WATER QUICKLY FROM BELOW THE SLAB TO A STORM DRAIN SYSTEM OUTSIDE THE BUILDING FOUNDATION PERIMETER.
9. PROVIDE WALL TYPE 'B', 12" STEM, SITE WALL AT PRIVACY FENCE LOCATIONS. SEE A1 / S6.01 FOR SITE RETAINING WALL SCHEDULE. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR INFORMATION NOT GIVEN.
10. CONCRETE SCREEN WALL TO SUPPORT PRE-MANUFACTURED CANOPY. PROVIDE #4 U-BARS @ 32" OC AT TOP OF WALL. WALL SHALL NOT ATTACH TO ANY PORTION OF STRUCTURE, INCLUDING STEEL COLUMNS OR STEEL BEAMS. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION NOT SHOWN.
11. PEDESTAL UP TO EXTERIOR GRADE. SEE A1 / S3.12 AND ARCHITECTURAL FOR ADDITIONAL INFORMATION.
12. HSS4x4x1/4 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE C4 / S5.62 AND D4 / S5.62

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CLIENT:

THE CHEROKEE NATION TRIBAL SEAL OF THE CHEROKEE NATION SEPT. 6, 1839

College of Osteopathic Medicine
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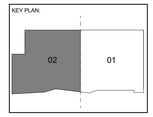
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 03

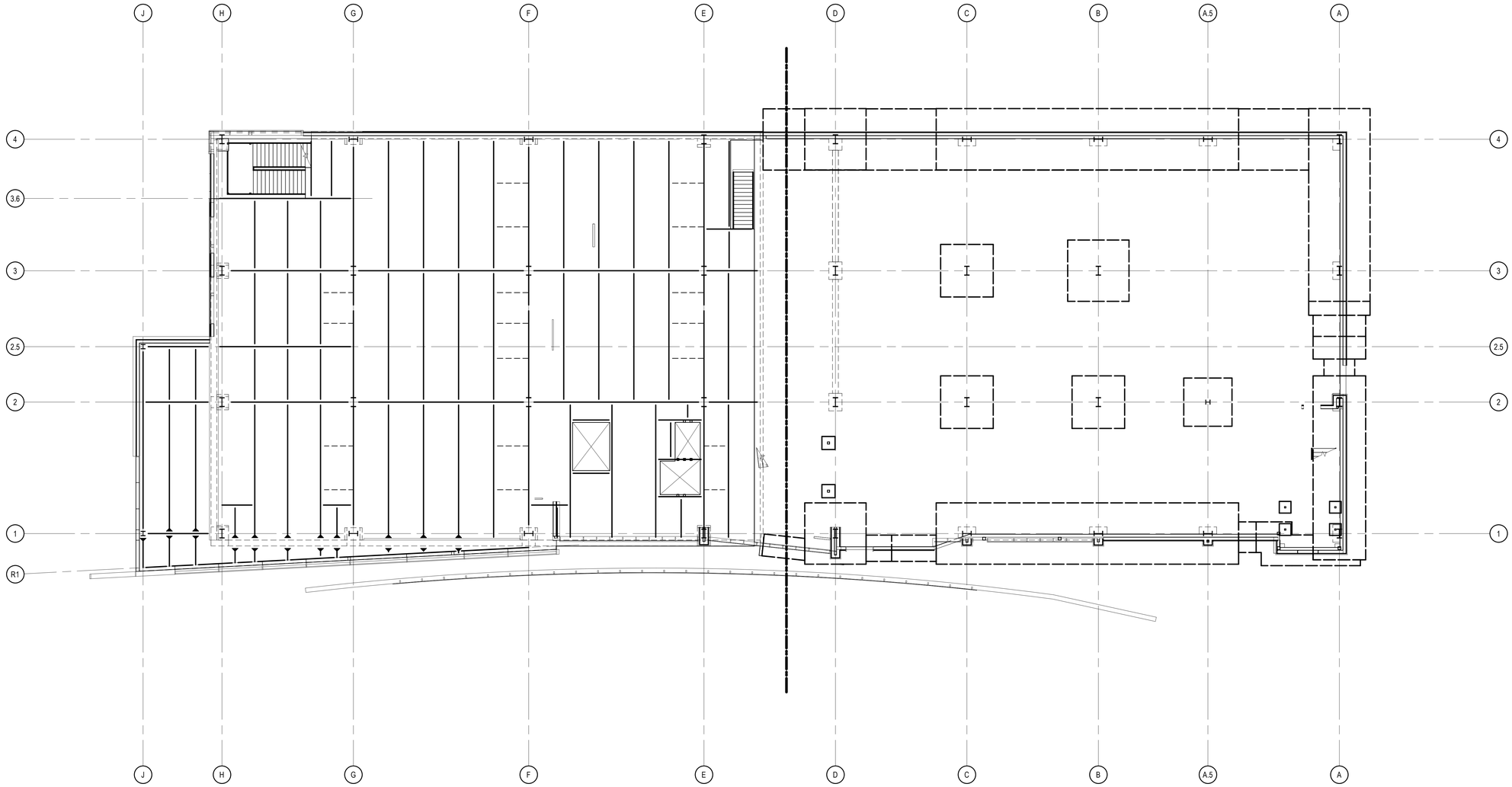
REVISIONS:		
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

DATE: 03-20-19

JOB NUMBER: 17-13

SHEET NUMBER: S1.02

BASEMENT FOUNDATION PLAN - SECTOR 2



A1 **FIRST FLOOR FRAMING PLAN - OVERALL PLAN**
SCALE: 3/32" = 1'-0"

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KEY PLAN:
02 01

PROJECT PHASE:
BID PACKAGE 03

REVISIONS

#	DATE	DESCRIPTION

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S1.10

FIRST FLOOR FRAMING PLAN - OVERALL PLAN

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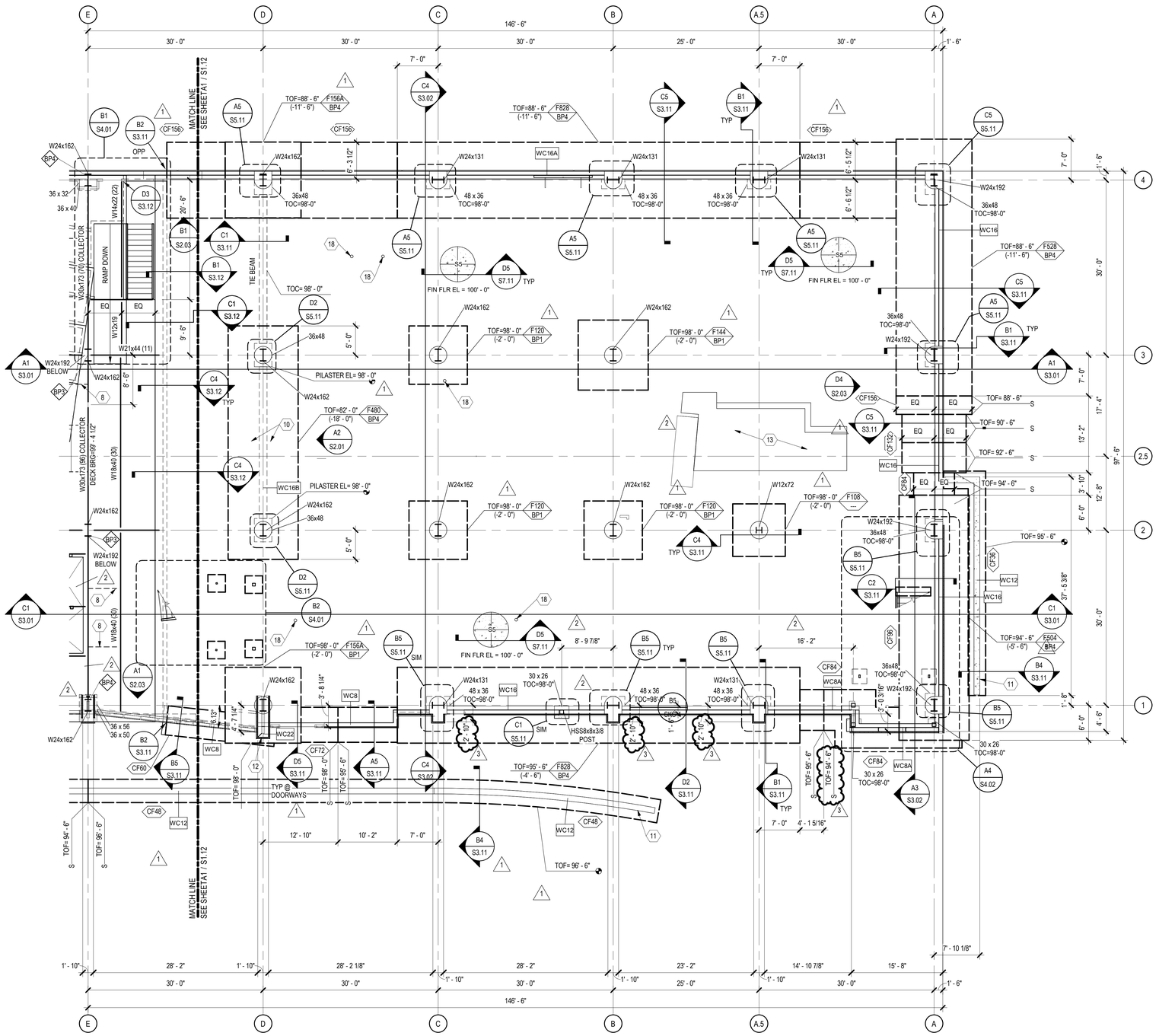
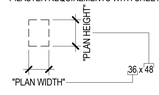


A1 FIRST FLOOR FOUNDATION AND FRAMING PLAN - SECTOR 1

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ALL MOMENT FRAMES LABELED ON PLAN UTILIZE SIDEPLATE PROPRIETARY MOMENT CONNECTIONS. SEE SHEETS S8.01 - S8.08.
10. ▶ DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
11. ■ DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS, SHEETS S8.01 - S8.08.
12. DIMENSIONS SHOWN ON PLAN AS FOLLOWS ARE CONCRETE PILASTER DIMENSIONS IN INCHES: 38x36, 50x36, ETC. DIMENSIONS ARE "PLAN WIDTH" x "PLAN HEIGHT". COORDINATE PILASTER REQUIREMENTS WITH SHEET S2.03



SHEET KEYNOTE

1. HSS6x4x1/2 ELEVATOR RAIL SUPPORT POST. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER. SEE B4 / S5.62 , C4 / S5.62 , D4 / S5.62
2. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A5 / S5.52 FOR SUPPORT.
3. BEAM SPLICE LOCATION. SEE B4 / S5.52 FOR SPLICE DETAIL.
4. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62 , D4 / S5.62 , AND C3 / S5.62
5. W8x31 OUTRIGGER.
6. TOTAL NUMBER OF CHORD REINFORCEMENT BARS AT EXTENTS SHOWN. CHORD REINFORCEMENT SHALL BE LOCATED AS INDICATED ON PLAN. PROVIDE 130% LAP SPLICES WHEN REQUIRED.
7. 3-#7 SLAB REINFORCING BARS. EXTEND BARS 130% OF A LAP SPLICE LENGTH BEYOND OPENING, OR PROVIDE STD 90 DEGREE HOOK WHERE REQUIRED.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING SPACED AT 10' - 0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE. SEE A1 / S5.52
10. BACKFILL PLACED AGAINST WALL SHALL BE DONE IN EQUAL LIFTS, ALTERNATING EACH SIDE OF WALL TO PREVENT UNINTENDED RETAINAGE OF SOIL.
11. SITE WALL. COORDINATE EXACT SIZE, EXTENT, AND RADIAL DIMENSIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE B4 / S3.11
12. PROVIDE STEMWALL FOR SUPPORT OF EXTERIOR STUDS AND VENEER, SEE D1 / S3.11
13. PODIUM FRAMING, COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION FOR WALL FRAMING REQUIREMENTS WITH ARCHITECTURAL ELEVATIONS.
15. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
16. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
17. CONTRACTOR TO COORDINATE FLOOR OPENING WITH ARCHITECTURAL AND MECHANICAL.
18. FLOOR DRAIN / MOP SINK, SLOPE SLAB TO DRAIN 1/8" PER FOOT. COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
19. BOTTOM FLANGE CROSS BRACING AT EQUAL SPACING UNLESS NOTED OTHERWISE. NO CONNECTION AT BRACE INTERSECTION. SEE B1 / S5.52
20. BEAM SHALL BE CENTERED BETWEEN ELEVATOR GUIDERAIL SUPPORTS. CONTRACTOR TO COORDINATE BEAM LOCATION WITH SELECTED ELEVATOR.
21. HSS4x4x1/4 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE C4 / S5.62 AND D4 / S5.62

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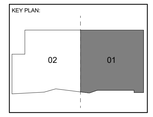


PROJECT PHASE:

BID PACKAGE 03

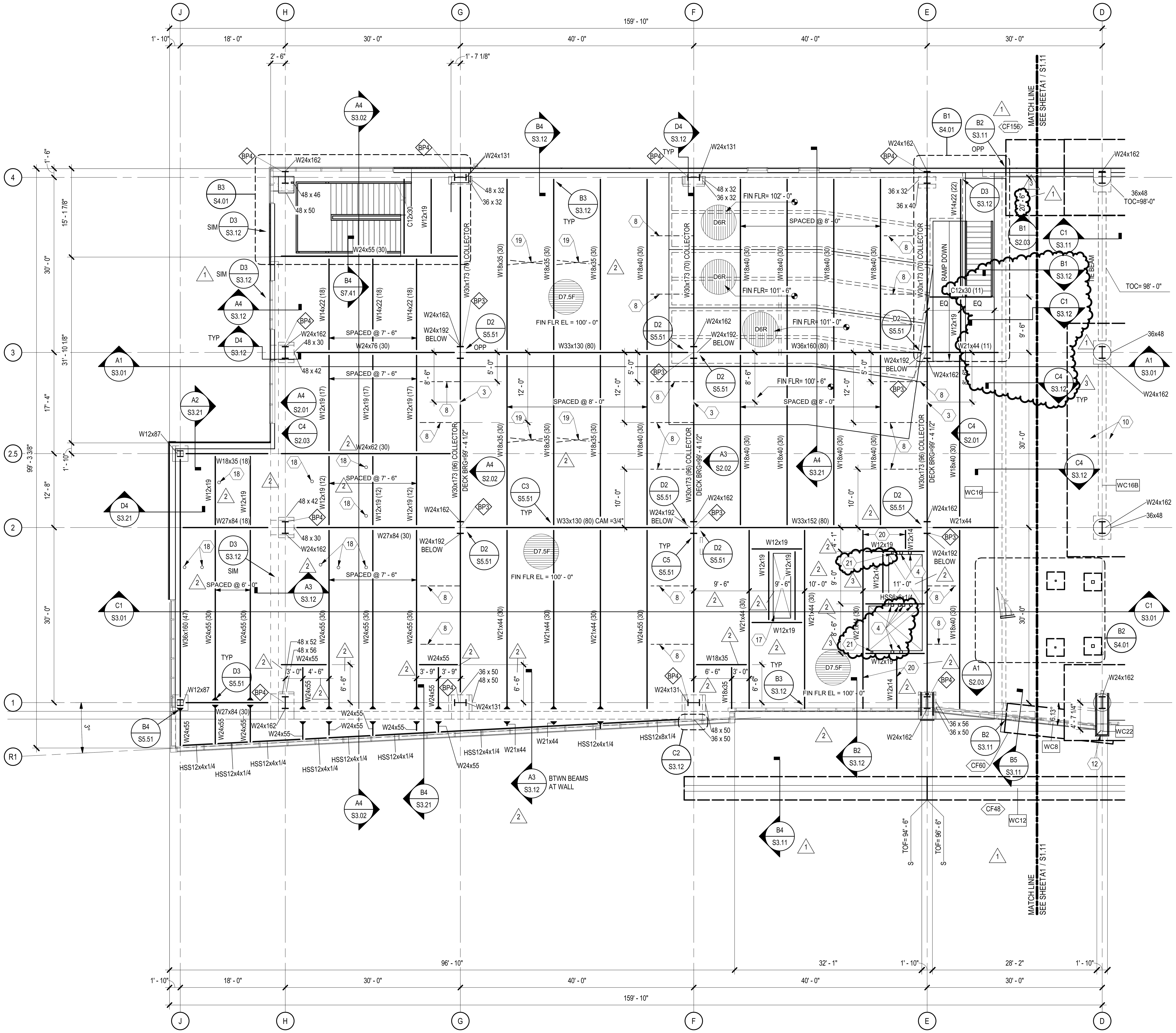
REVISIONS		
#	DATE	DESCRIPTION
1	4/2/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

DATE:	JOB NUMBER:
03-20-19	17-13

SHEET NUMBER:

S1.11

FIRST FLOOR FOUNDATION AND FRAMING PLAN - SECTOR 1



A1 FIRST FLOOR FRAMING PLAN - SECTOR 2

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ALL MOMENT FRAMES LABELED ON PLAN UTILIZE SIDEPLATE PROPRIETARY MOMENT CONNECTIONS. SEE SHEETS S8.01 - S8.08.
10. DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
11. DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS, SHEETS S8.01 - S8.08.
12. DIMENSIONS SHOWN ON PLAN AS FOLLOWS ARE CONCRETE PILASTER DIMENSIONS IN INCHES: 36x36, 50x36, ETC. DIMENSIONS ARE "PLAN WIDTH" x "PLAN HEIGHT". COORDINATE PILASTER REQUIREMENTS WITH SHEET S2.03

"PLAN HEIGHT" "PLAN WIDTH" 36 x 48

SHEET KEYNOTE

1. HSS6x4x1/2 ELEVATOR RAIL SUPPORT POST, COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER. SEE B4 / S5.62 , C4 / S5.62 , D4 / S5.62
2. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A5 / S5.52 FOR SUPPORT.
3. BEAM SPLICE LOCATION. SEE B4 / S5.52 FOR SPLICE DETAIL.
4. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST, COORDINATE LOCATION WITH ELEVATOR MANUFACTURER. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, D4 / S5.62 , AND C3 / S5.62
5. W8x31 OUTRIGGER.
6. TOTAL NUMBER OF CHORD REINFORCEMENT BARS AT EXTENTS SHOWN. CHORD REINFORCEMENT SHALL BE LOCATED AS INDICATED ON PLAN. PROVIDE 130% LAP SPLICES WHEN REQUIRED.
7. 3-#7 SLAB REINFORCING BARS. EXTEND BARS 130% OF A LAP SPLICE LENGTH BEYOND OPENING, OR PROVIDE STD 90 DEGREE HOOK WHERE REQUIRED.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING SPACED AT 10' - 0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE. SEE A1 / S5.52
10. BACKFILL PLACED AGAINST WALL SHALL BE DONE IN EQUAL LIFTS, ALTERNATING EACH SIDE OF WALL TO PREVENT UNINTENDED RETAINAGE OF SOIL.
11. SITE WALL. COORDINATE EXACT SIZE, EXTENT, AND RADIAL DIMENSIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE B4 / S3.11
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19. BOTTOM FLANGE CROSS BRACING AT EQUAL SPACING UNLESS NOTED OTHERWISE. NO CONNECTION AT BRACE INTERSECTION. SEE B1 / S5.52
20. BEAM SHALL BE CENTERED BETWEEN ELEVATOR GUIDERAIL SUPPORTS. CONTRACTOR TO COORDINATE BEAM LOCATION WITH SELECTED ELEVATOR.
21. HSS4x4x1/4 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE C4 / S5.62 AND D4 / S5.62

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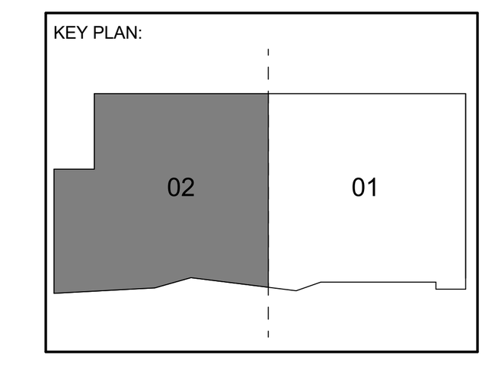
OKLAHOMA STATE UNIVERSITY

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02
1	6/17/19	BID PACKAGE 04 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

DATE:	JOB NUMBER:
03-20-19	17-13

SHEET NUMBER:

S1.12

FIRST FLOOR FRAMING PLAN - SECTOR 2

A1 FIRST FLOOR FRAMING PLAN - SECTOR 2 SLAB PLAN

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
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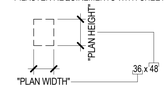
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ALL MOMENT FRAMES LABELED ON PLAN UTILIZE SIDEPLATE PROPRIETARY MOMENT CONNECTIONS. SEE S8.00 SERIES SHEETS
10. ▶—— DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
11. ■—— DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS.
12. DIMENSIONS SHOWN ON PLAN AS FOLLOWS ARE CONCRETE PILASTER DIMENSIONS IN INCHES: 38x36, 50x36, ETC. DIMENSIONS ARE "PLAN WIDTH" x "PLAN HEIGHT". COORDINATE PILASTER REQUIREMENTS WITH SHEET S2.03



SHEET KEYNOTE

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2. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A5 / S5.52 FOR SUPPORT.
3. BEAM SPLICE LOCATION. SEE B4 / S5.52 FOR SPLICE DETAIL.
4. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62 , D4 / S5.62 , AND C3 / S5.62
5. W8x31 OUTRIGGER.
6. TOTAL NUMBER OF CHORD REINFORCEMENT BARS AT EXTENTS SHOWN. CHORD REINFORCEMENT SHALL BE LOCATED AS INDICATED ON PLAN. PROVIDE 130% LAP SPLICES WHEN REQUIRED.
7. 3-#7 SLAB REINFORCING BARS. EXTEND BARS 130% OF A LAP SPLICE LENGTH BEYOND OPENING, OR PROVIDE STD 90 DEGREE HOOK WHERE REQUIRED.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING SPACED AT 10' - 0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE. SEE A1 / S5.52
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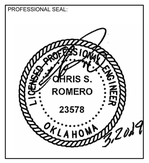
PROFESSIONAL SEAL:



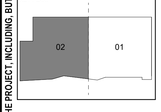
CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

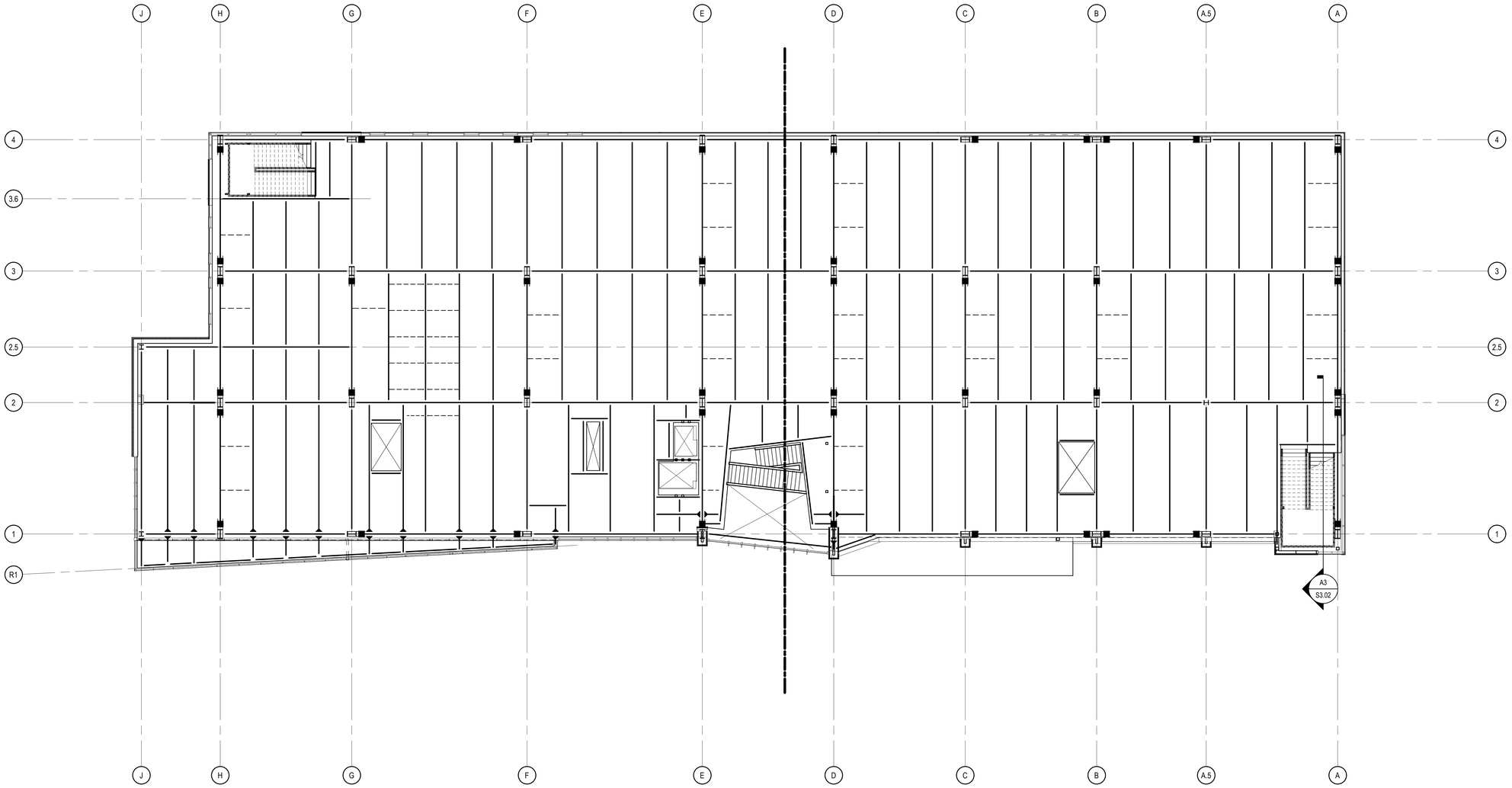


PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S1.13
FIRST FLOOR SLAB REINFORCING PLAN - SECTOR 2

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.



A1 **SECOND FLOOR FRAMING PLAN - OVERALL PLAN**
SCALE: 3/32" = 1'-0"

James R. Childers
Architect, Inc.
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PROFESSIONAL SEAL:

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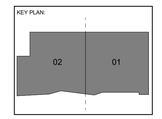


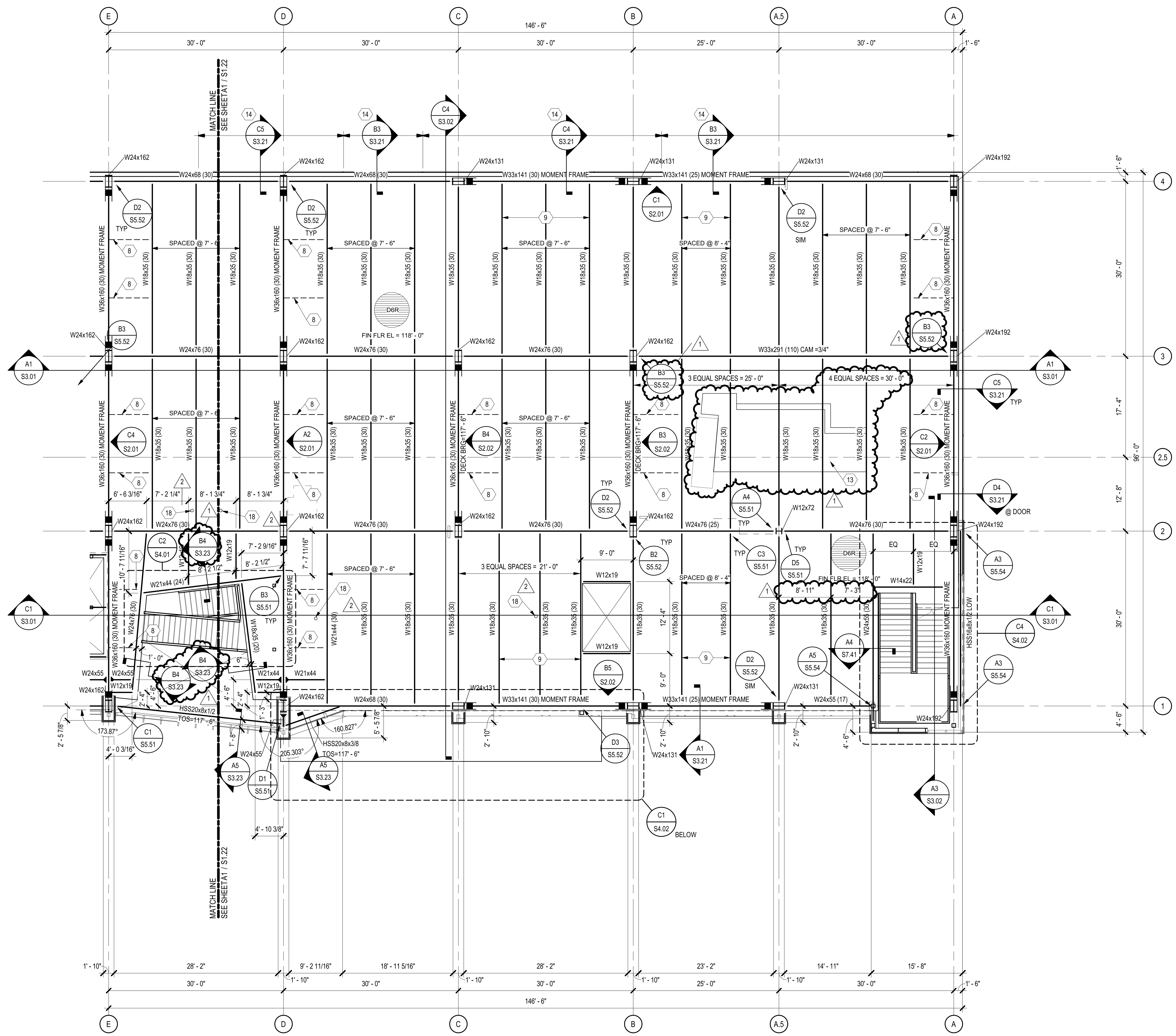
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
S1.20

SECOND FLOOR FRAMING PLAN - OVERALL PLAN



A1 SECOND FLOOR FRAMING PLAN - SECTOR 1
SCALE: 1/8" = 1'-0"

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4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ALL MOMENT FRAMES LABELED ON PLAN UTILIZE SIDEPLATE PROPRIETARY MOMENT CONNECTIONS. SEE SHEETS S8.01 - S8.08.
10. DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
11. DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS, SHEETS S8.01 - S8.08.
12. DIMENSIONS SHOWN ON PLAN AS FOLLOWS ARE CONCRETE PILASTER DIMENSIONS IN INCHES: 38x36, 50x36, ETC. DIMENSIONS ARE "PLAN WIDTH" x "PLAN HEIGHT". COORDINATE PILASTER REQUIREMENTS WITH SHEET S2.03

"PLAN HEIGHT" "PLAN WIDTH" 36 x 48

SHEET KEYNOTE

1. HSS6x4x1/2 ELEVATOR RAIL SUPPORT POST, COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER. SEE B4 / S5.62 , C4 / S5.62, D4 / S5.62
2. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A5 / S5.52 FOR SUPPORT.
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5. W8x31 OUTRIGGER.
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7. 3-#7 SLAB REINFORCING BARS. EXTEND BARS 130% OF A LAP SPLICE LENGTH BEYOND OPENING, OR PROVIDE STD 90 DEGREE HOOK WHERE REQUIRED.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING SPACED AT 10' - 0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE. SEE A1 / S5.52
10. BACKFILL PLACED AGAINST WALL SHALL BE DONE IN EQUAL LIFTS, ALTERNATING EACH SIDE OF WALL TO PREVENT UNINTENDED RETAINAGE OF SOIL.
11. SITE WALL. COORDINATE EXACT SIZE, EXTENT, AND RADIAL DIMENSIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE B4 / S3.11
12. PROVIDE STEMWALL FOR SUPPORT OF EXTERIOR STUDS AND VENEER, SEE D1 / S3.11
13. PODIUM FRAMING, COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION FOR WALL FRAMING REQUIREMENTS WITH ARCHITECTURAL ELEVATIONS.
15. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
16. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
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James R. Childers Architect, Inc.
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PROFESSIONAL SEAL: 23578 OKLAHOMA 5.10.19

CONSULTANT LOGO:
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505-344-4080 505-343-8759 (fax)

CLIENT: THE CHEROKEE NATION

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN: 02 01

PROJECT PHASE: BID PACKAGE 04

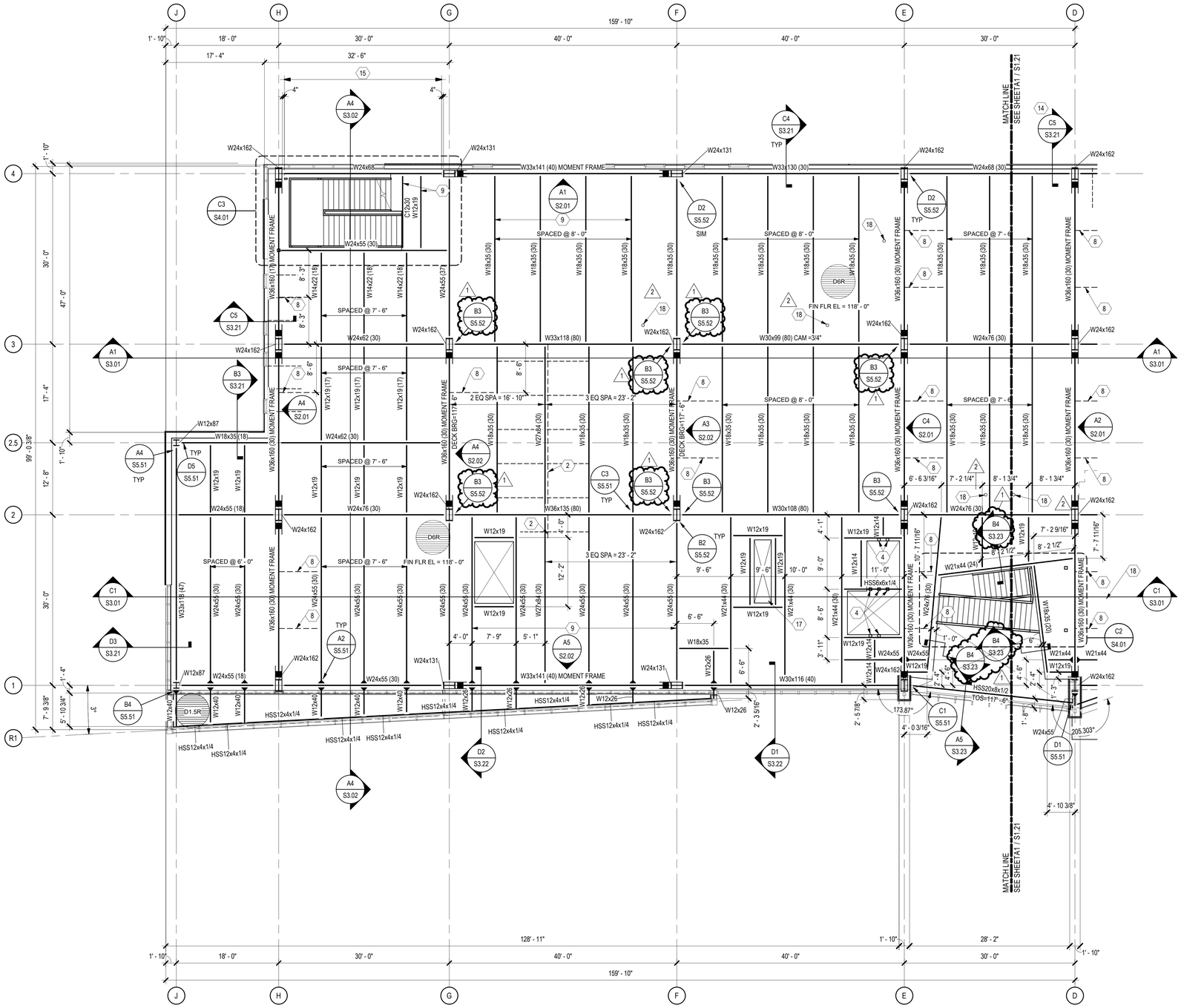
REVISIONS

#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER: S1.21

SECOND FLOOR FRAMING PLAN - SECTOR 1



A1 SECOND FLOOR FRAMING PLAN - SECTOR 2

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

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8. SEE SHEET S6.01 FOR SCHEDULES.
9. ALL MOMENT FRAMES LABELED ON PLAN UTILIZE SIDEPLATE PROPRIETARY MOMENT CONNECTIONS. SEE SHEETS S8.01 - S8.08.
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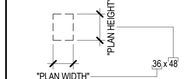

SHEET KEYNOTE

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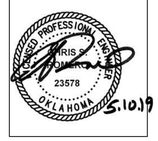
PROFESSIONAL SEAL:



CONSULTANT LOGO:

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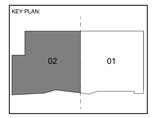
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

THE CHEROKEE NATION
SEAL OF THE CHEROKEE NATION
SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 04

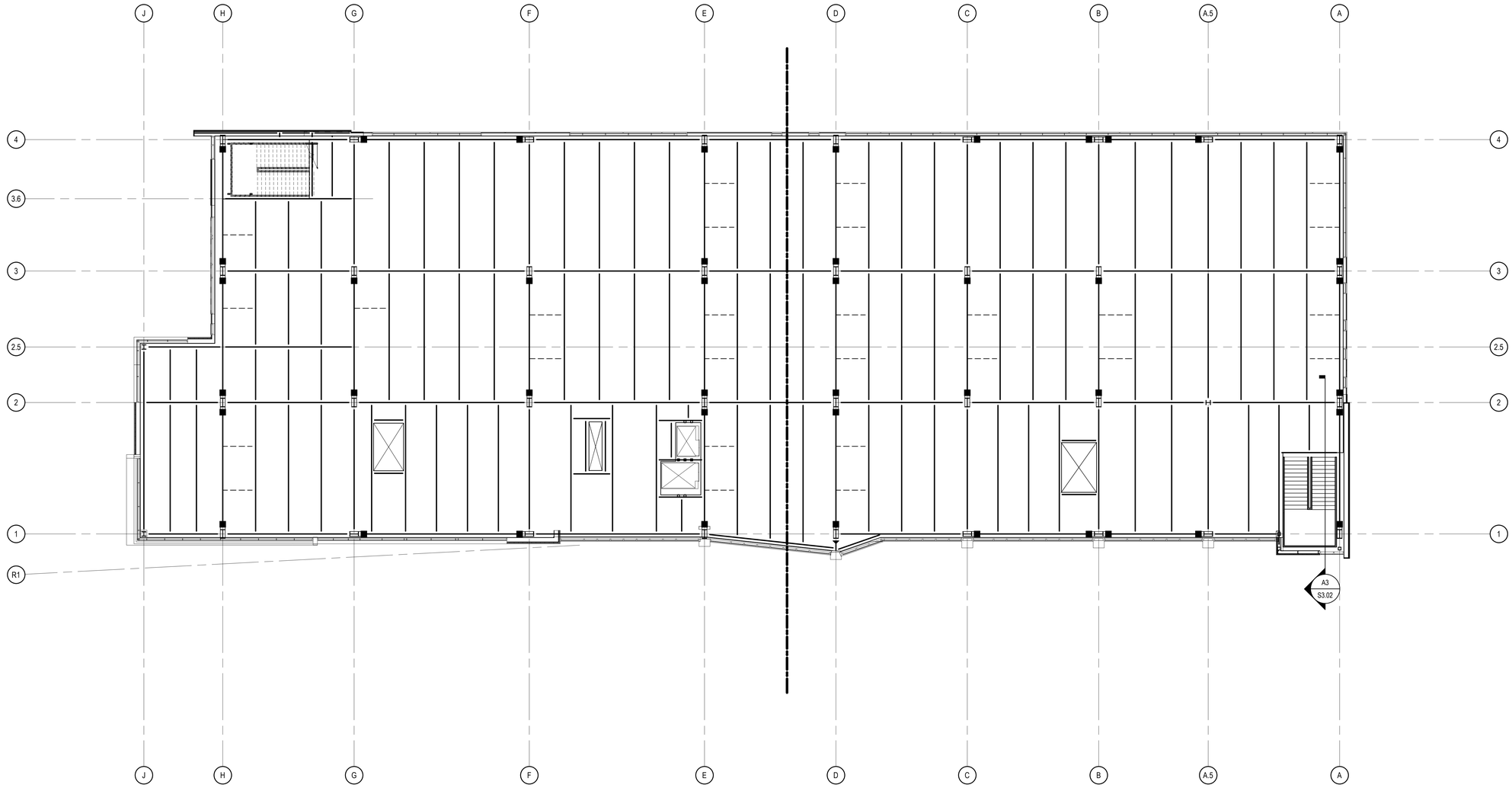
REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE: 05-10-19

JOB NUMBER: 17-13

SHEET NUMBER: S1.22

SECOND FLOOR FRAMING PLAN - SECTOR 2



A1 THIRD FLOOR FRAMING PLAN - OVERALL PLAN

SCALE: 3/32" = 1'-0"

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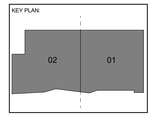


PROJECT PHASE:

BID PACKAGE 04

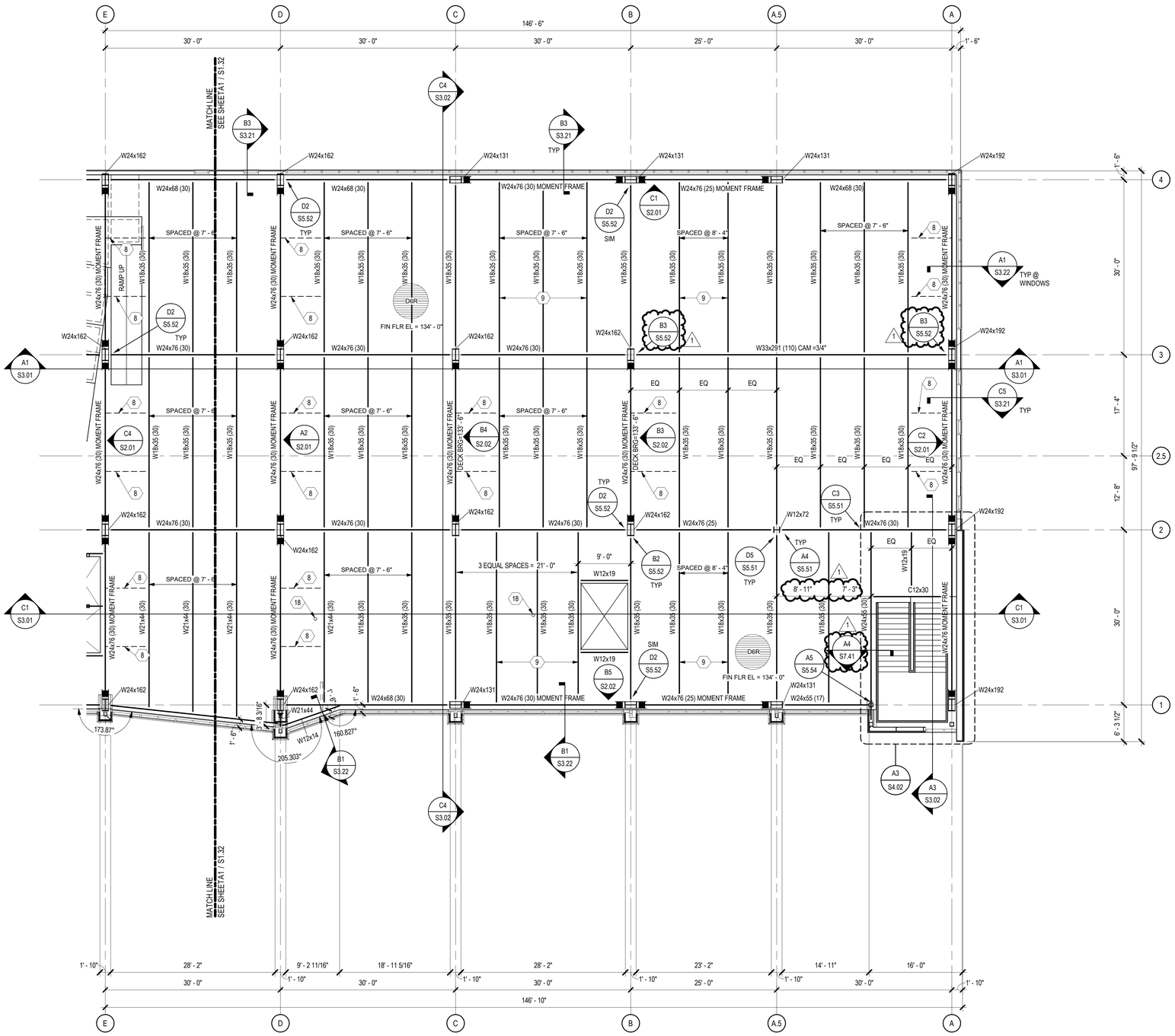
REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

S1.30

THIRD FLOOR FRAMING PLAN - OVERALL PLAN



A1 THIRD FLOOR FRAMING PLAN - SECTOR 1

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

GENERAL SHEET NOTES

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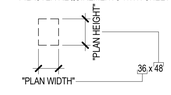

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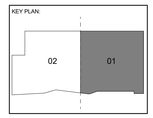


PROJECT PHASE:

BID PACKAGE 04

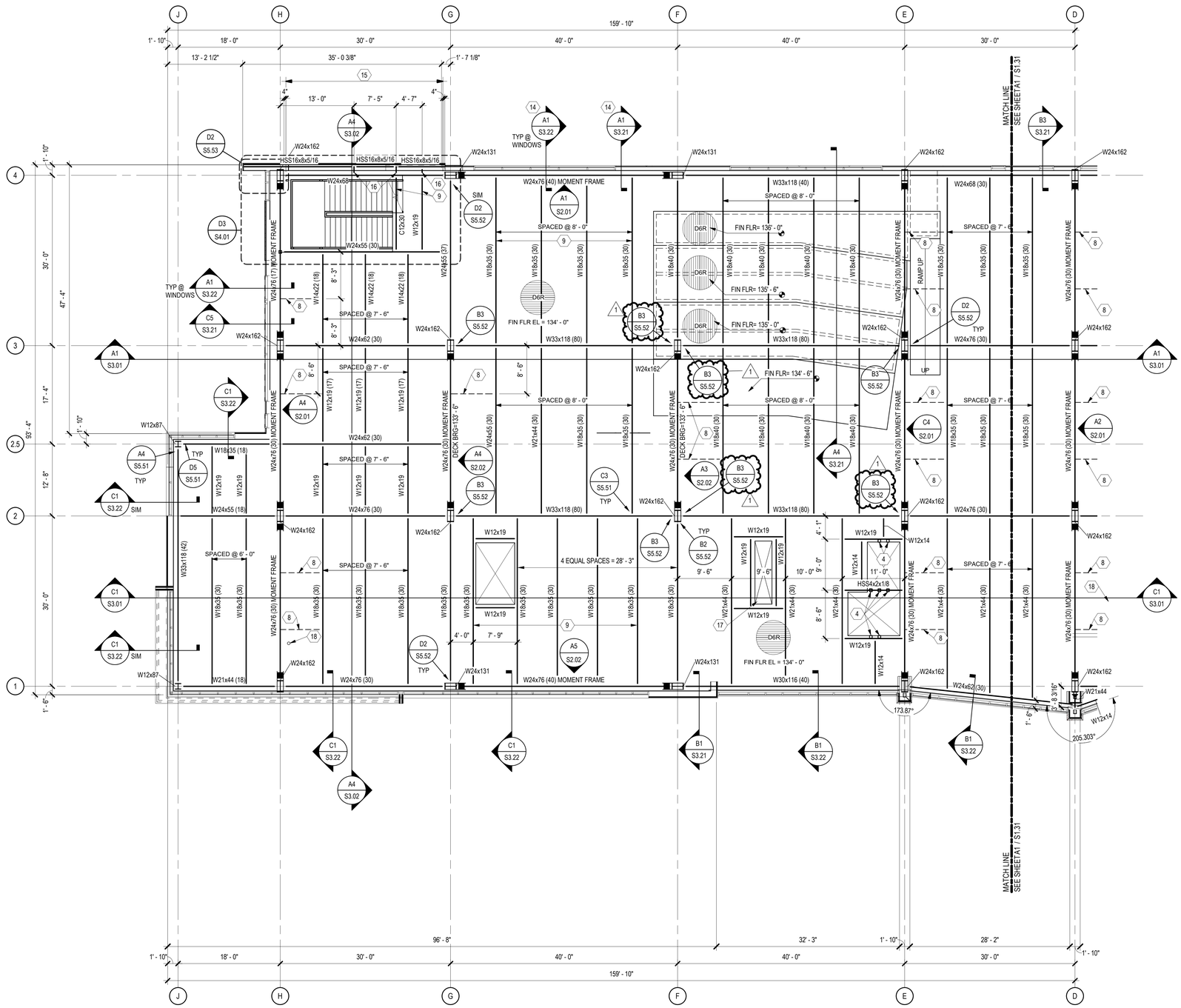
REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ADD 02

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

S1.31

THIRD FLOOR FRAMING PLAN - SECTOR 1



A1 THIRD FLOOR FRAMING PLAN - SECTOR 2

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

GENERAL SHEET NOTES

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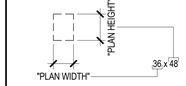
11. ■ DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS, SHEETS S8.01 - S8.08.
12. DIMENSIONS SHOWN ON PLAN AS FOLLOWS ARE CONCRETE PILASTER DIMENSIONS IN INCHES: 38x36, 50x36, ETC. DIMENSIONS ARE "PLAN WIDTH" x "PLAN HEIGHT". COORDINATE PILASTER REQUIREMENTS WITH SHEET S2.03



SHEET KEYNOTE

1. HSS6x4x1/2 ELEVATOR RAIL SUPPORT POST. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER. SEE B4 / S5.62 , C4 / S5.62 , D4 / S5.62
2. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A5 / S5.52 FOR SUPPORT.
3. BEAM SPLICE LOCATION. SEE B4 / S5.52 FOR SPLICE DETAIL.
4. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62 , D4 / S5.62 , AND C3 / S5.62
5. W8x31 OUTRIGGER.
6. TOTAL NUMBER OF CHORD REINFORCEMENT BARS AT EXTENTS SHOWN. CHORD REINFORCEMENT SHALL BE LOCATED AS INDICATED ON PLAN. PROVIDE 130% LAP SPLICES WHEN REQUIRED.
7. 3-#7 SLAB REINFORCING BARS. EXTEND BARS 130% OF A LAP SPLICE LENGTH BEYOND OPENING, OR PROVIDE STD 90 DEGREE HOOK WHERE REQUIRED.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING SPACED AT 10' - 0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE. SEE A1 / S5.52
10. BACKFILL PLACED AGAINST WALL SHALL BE DONE IN EQUAL LIFTS, ALTERNATING EACH SIDE OF WALL TO PREVENT UNINTENDED RETAINAGE OF SOIL.
11. SITE WALL. COORDINATE EXACT SIZE, EXTENT, AND RADIAL DIMENSIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE B4 / S3.11
12. PROVIDE STEMWALL FOR SUPPORT OF EXTERIOR STUDS AND VENEER, SEE D1 / S3.11
13. PODIUM FRAMING, COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION FOR WALL FRAMING REQUIREMENTS WITH ARCHITECTURAL ELEVATIONS.
15. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
16. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
17. CONTRACTOR TO COORDINATE FLOOR OPENING WITH ARCHITECTURAL AND MECHANICAL.
18. FLOOR DRAIN / MOP SINK, SLOPE SLAB TO DRAIN 1/8" PER FOOT. COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
19. BOTTOM FLANGE CROSS BRACING AT EQUAL SPACING UNLESS NOTED OTHERWISE. NO CONNECTION AT BRACE INTERSECTION. SEE B1 / S5.52
20. BEAM SHALL BE CENTERED BETWEEN ELEVATOR GUIDERAIL SUPPORTS. CONTRACTOR TO COORDINATE BEAM LOCATION WITH SELECTED ELEVATOR.

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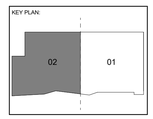
CLIENT:

THE CHEROKEE NATION
TRIBAL SEAL
SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 04

REVISIONS

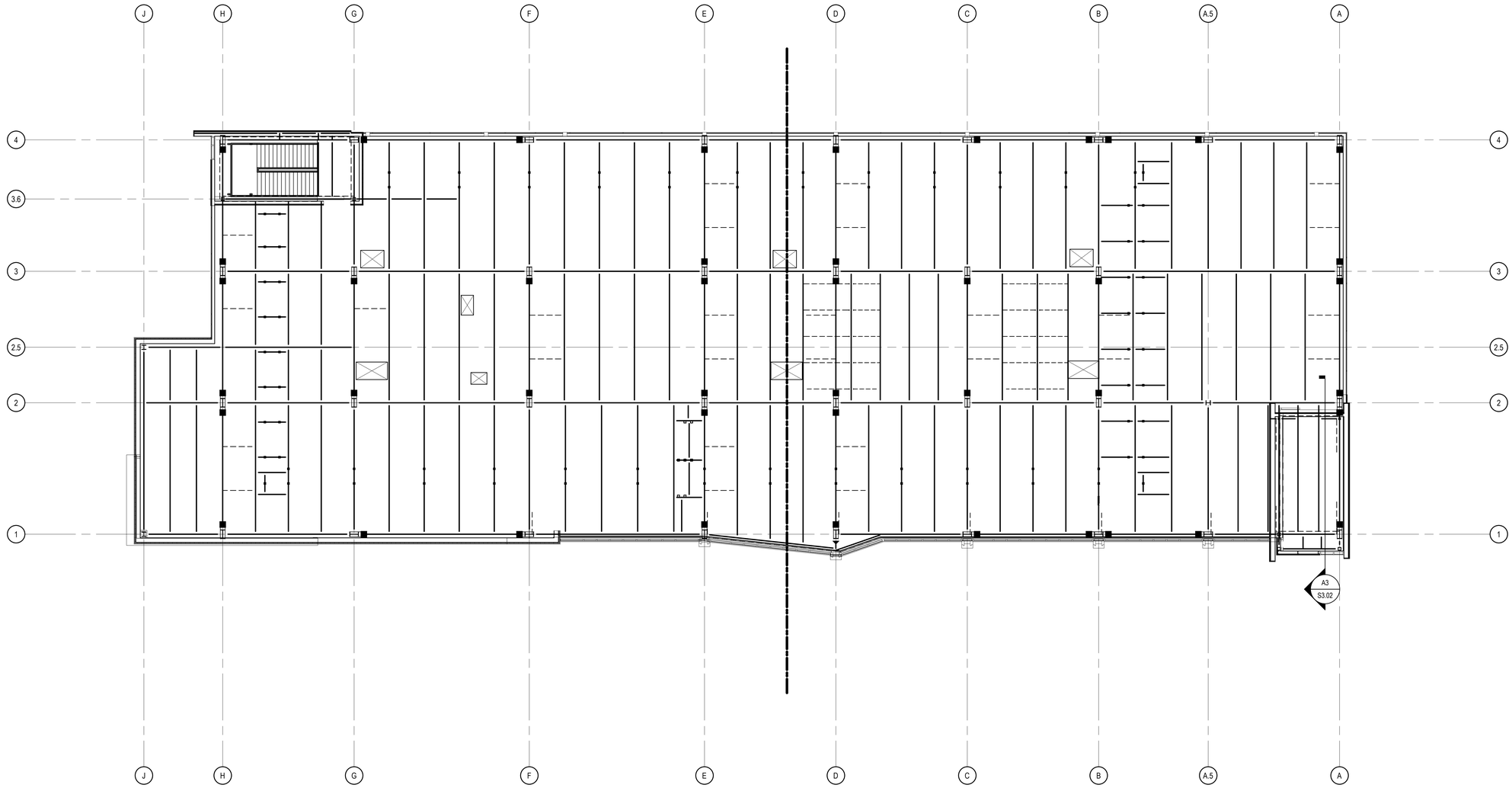
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE: 05-10-19

JOB NUMBER: 17-13

SHEET NUMBER: S1.32

THIRD FLOOR FRAMING PLAN - SECTOR 2



A1 ROOF FRAMING PLAN - OVERALL PLAN

SCALE: 3/32" = 1'-0"

James R. Childers Architect, Inc.
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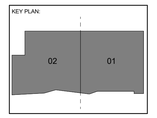
CLIENT:

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 04

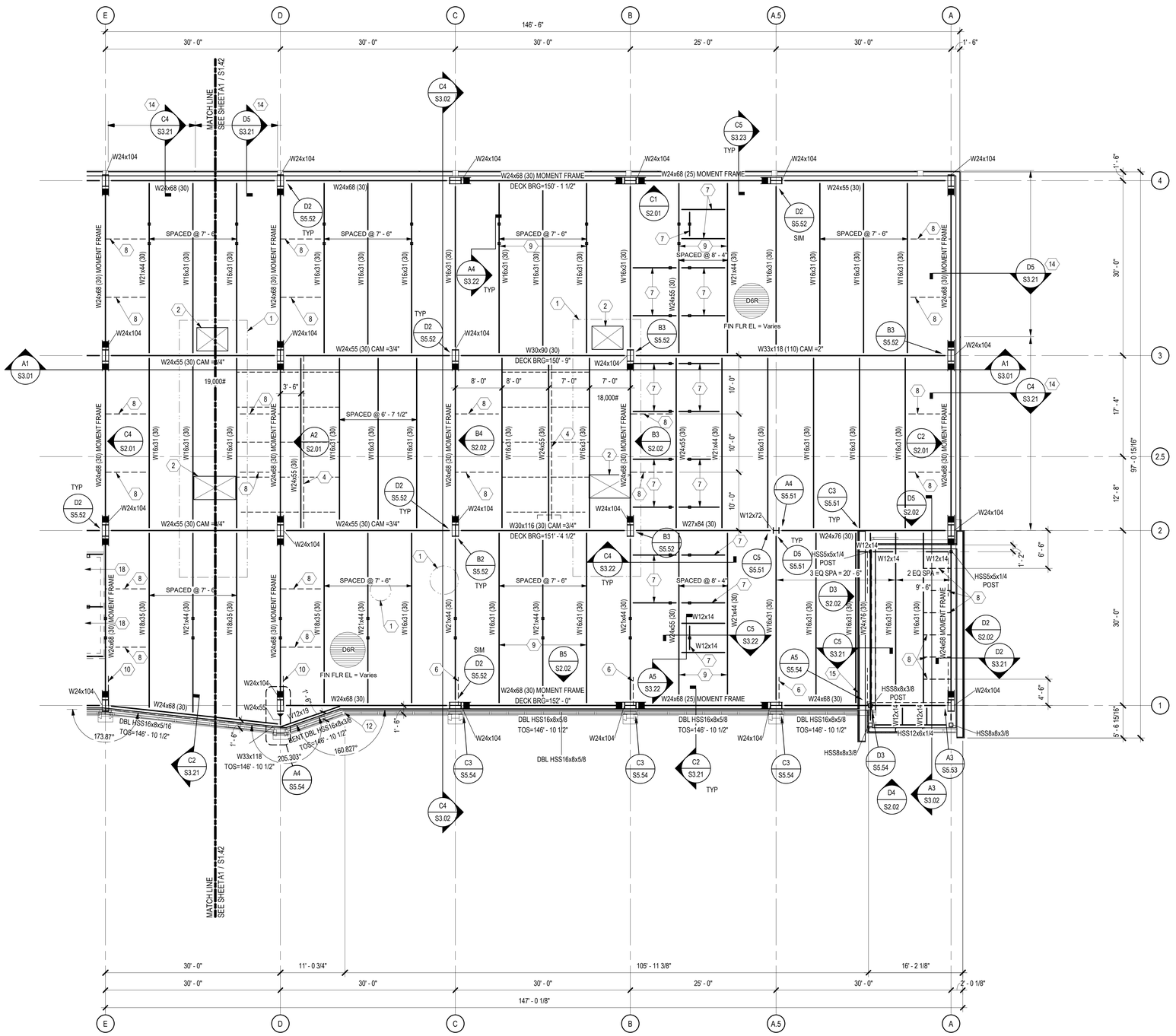
REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

S1.40

ROOF FRAMING PLAN - OVERALL PLAN



A1 **ROOF FRAMING PLAN - SECTOR 1**

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ▶━━
   DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
10. ■━━
   DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS.

⬡ SHEET KEYNOTE

1. MECHANICAL UNIT, COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS.
2. MECHANICAL OPENING. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS. SEE B2 / S7.41 AND C2 / S7.41 FOR TYPICAL FRAMING.
3. HSS6x4x3/16 EXTERIOR CLADDING SUPPORT.
4. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62 FOR SUPPORT.
5. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62
6. HSS4x4x1/4 WEB VERTICAL BRACE, SEE C3 / S5.53
7. W12x26.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE ON PLAN. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING AT EACH BEAM, UNLESS NOTED OTHERWISE ON PLAN A1 / S5.52
10. HSS4x4x1/4 FLANGE VERTICAL BRACE, SEE D3 / S5.53
11. HSS4x4x1/4 BRACE BELOW.
12. SEE B5 / S5.52 FOR BENT DBL HSS GIRT DETAIL
13. HSS3x3x1/4 OUTRIGGER. SEE A4 / S5.52
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION WITH ARCHITECTURAL ELEVATIONS.
15. HSS VERTICAL BRACE, SEE A2 / S5.53
16. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
17. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
18. W8x31 ELEVATOR HOIST BEAM. BEAM SIZE CONTINGENT UPON DESIGN BASIS ELEVATOR. CONTRACTOR TO COORDINATE.

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Osteopathic Medicine
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TAHLEQUAH, OKLAHOMA

KEY PLAN:

02	01

PROJECT PHASE:

BID PACKAGE 04

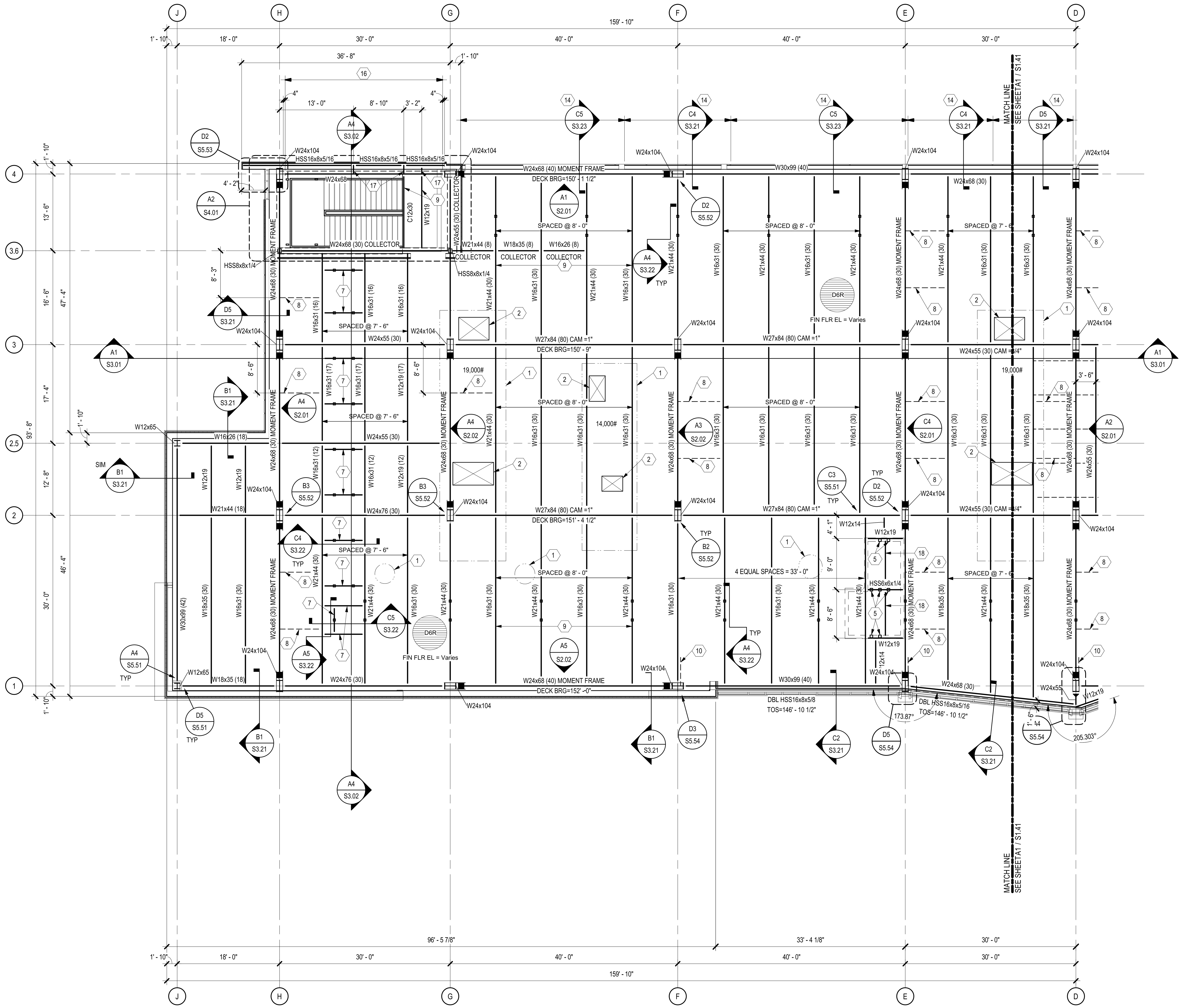
REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

S1.41

ROOF FRAMING PLAN - SECTOR 1



A1 ROOF FRAMING PLAN - SECTOR 2

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
10. DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS.

SHEET KEYNOTE

1. MECHANICAL UNIT, COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS.
2. MECHANICAL OPENING. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS. SEE B2 / S7.41 AND C2 / S7.41 FOR TYPICAL FRAMING.
3. HSS6x4x3/16 EXTERIOR CLADDING SUPPORT.
4. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A4 / S5.62, B4 / S5.62, C4 / S5.62, AND D4 / S5.62 FOR SUPPORT.
5. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.62, B4 / S5.62, C4 / S5.62, AND D4 / S5.62
6. HSS4x4x1/4 WEB VERTICAL BRACE, SEE C3 / S5.53
7. W12x26.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE ON PLAN. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING AT EACH BEAM, UNLESS NOTED OTHERWISE ON PLAN A1 / S5.52
10. HSS4x4x1/4 FLANGE VERTICAL BRACE, SEE D3 / S5.53
11. HSS4x4x1/4 BRACE BELOW.
12. SEE B5 / S5.52 FOR BENT DBL HSS GIRT DETAIL
13. HSS3x3x1/4 OUTRIGGER. SEE A4 / S5.52
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION WITH ARCHITECTURAL ELEVATIONS.
15. HSS VERTICAL BRACE, SEE A2 / S5.53
16. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
17. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
18. W8x31 ELEVATOR HOIST BEAM. BEAM SIZE CONTINGENT UPON DESIGN BASIS ELEVATOR. CONTRACTOR TO COORDINATE.

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CLIENT:

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TAHLEQUAH, OKLAHOMA

KEY PLAN:

02 01

PROJECT PHASE:
BID PACKAGE 04

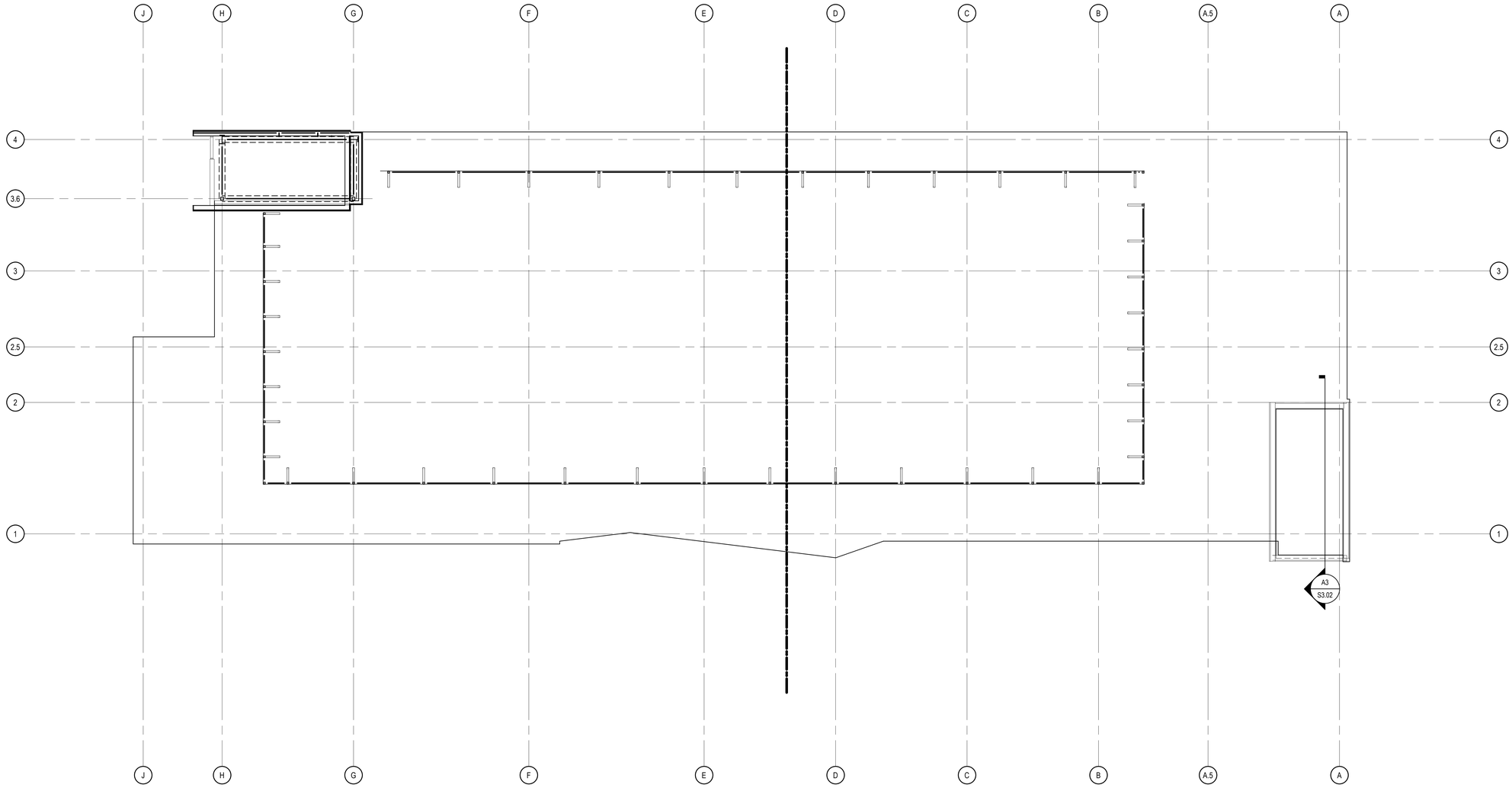
REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13

SHEET NUMBER: S1.42

ROOF FRAMING PLAN - SECTOR 2



A1 **HIGH ROOF FRAMING PLAN - OVERALL PLAN**
SCALE: 3/32" = 1'-0"

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SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

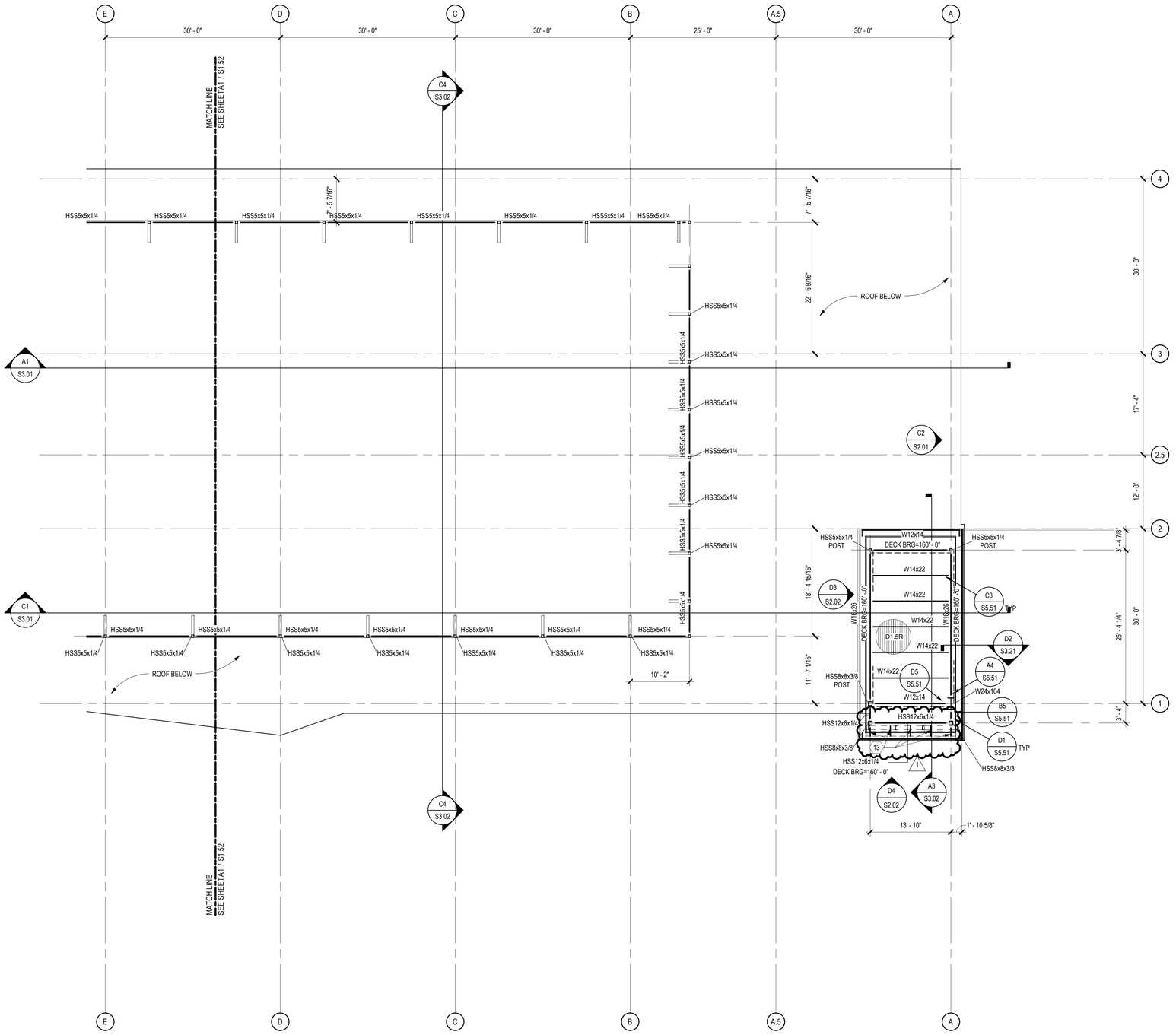
KEY PLAN:
02
01

PROJECT PHASE:
BID PACKAGE 04

REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S1.50
HIGH ROOF FRAMING PLAN - OVERALL PLAN



A1 HIGH ROOF FRAMING PLAN - SECTOR 1

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ▶ DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
10. ■ DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS.

SHEET KEYNOTE

1. MECHANICAL UNIT. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS.
2. MECHANICAL OPENING. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS. SEE B2 / S7.41 AND C2 / S7.41 FOR TYPICAL FRAMING.
3. HSS6x4x3/16 EXTERIOR CLADDING SUPPORT.
4. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62 FOR SUPPORT.
5. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62
6. HSS4x4x1/4 WEB VERTICAL BRACE, SEE C3 / S5.53
7. W12x26.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE ON PLAN. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING AT EACH BEAM, UNLESS NOTED OTHERWISE ON PLAN A1 / S5.52
10. HSS4x4x1/4 FLANGE VERTICAL BRACE, SEE D3 / S5.53
11. HSS4x4x1/4 BRACE BELOW.
12. SEE B5 / S5.52 FOR BENT DBL HSS GIRT DETAIL
13. HSS3x3x1/4 OUTRIGGER. SEE A4 / S5.52
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION WITH ARCHITECTURAL ELEVATIONS.
15. HSS VERTICAL BRACE, SEE A2 / S5.53
16. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
17. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
18. W8x31 ELEVATOR HOIST BEAM. BEAM SIZE CONTINGENT UPON DESIGN BASIS ELEVATOR. CONTRACTOR TO COORDINATE.

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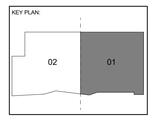
CLIENT:

THE CHEROKEE NATION OKLAHOMA SEAL OF SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:

BID PACKAGE 04

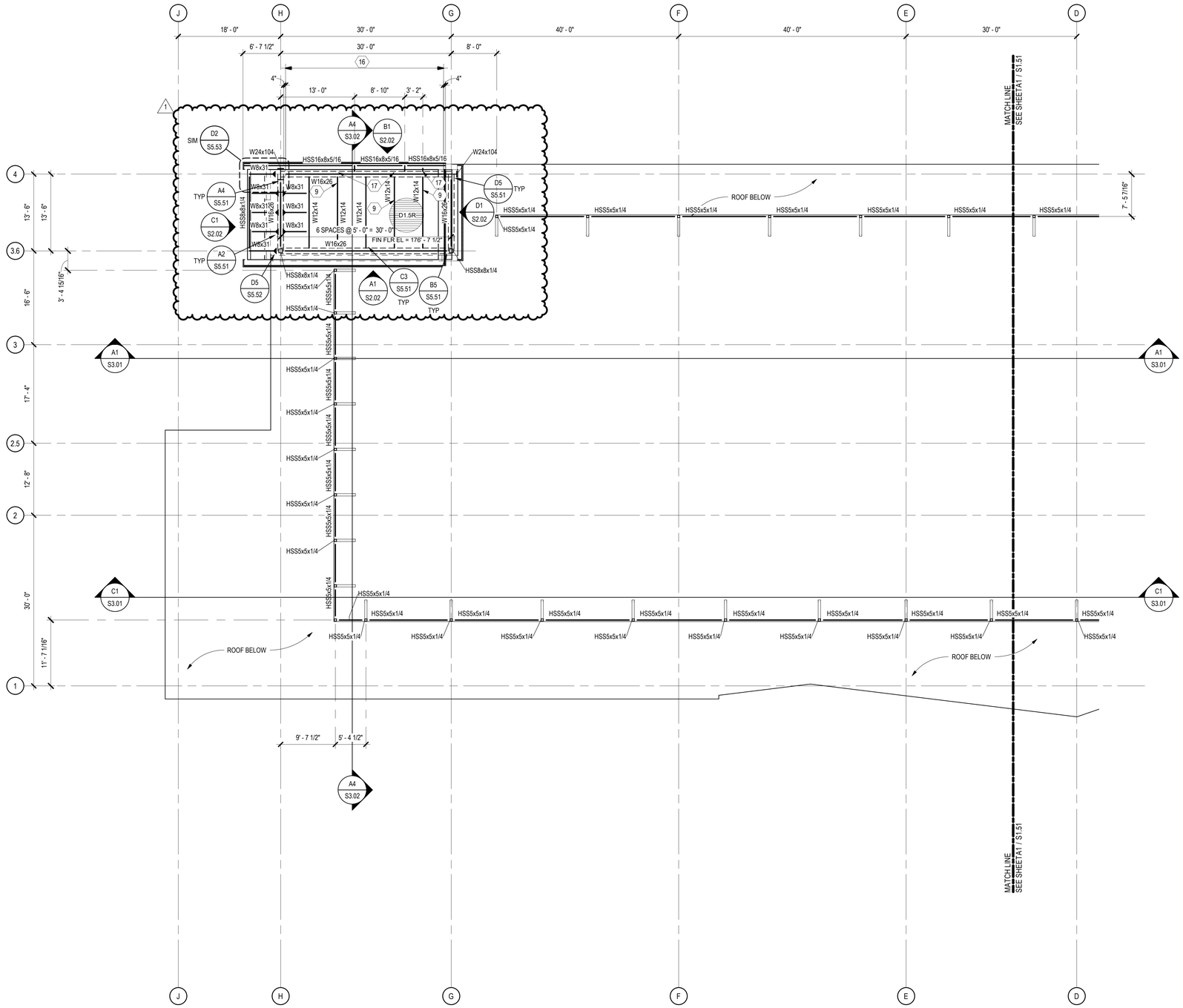
REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

S1.51

HIGH ROOF FRAMING PLAN - SECTOR 1



A1 HIGH ROOF FRAMING PLAN - SECTOR 2

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE CONCRETE WALLS AND MOMENT FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
3. DIMENSIONS ARE TO THE FACE OF CONCRETE OR STUDS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
5. BEAMS ARE SPACED EQUALLY BETWEEN GRIDS UNLESS NOTED OTHERWISE.
6. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE. STUD THICKNESS AND SPACING BY OTHERS.
7. SEE S7.00 SERIES SHEETS FOR TYPICAL DETAILS.
8. SEE SHEET S6.01 FOR SCHEDULES.
9. ▶ DENOTES MOMENT CONNECTION PER TYPICAL DETAILS.
10. ■ DENOTES SIDEPLATE MOMENT CONNECTION. SEE SIDEPLATE DRAWINGS.

SHEET KEYNOTE

1. MECHANICAL UNIT. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS.
2. MECHANICAL OPENING. COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS. SEE B2 / S7.41 AND C2 / S7.41 FOR TYPICAL FRAMING.
3. HSS6x4x3/16 EXTERIOR CLADDING SUPPORT.
4. OPERABLE PARTITION BELOW. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62 FOR SUPPORT.
5. HSS6x6x3/8 ELEVATOR RAIL SUPPORT POST. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER, SEE A4 / S5.62, B4 / S5.62 , C4 / S5.62, AND D4 / S5.62
6. HSS4x4x1/4 WEB VERTICAL BRACE, SEE C3 / S5.53
7. W12x26.
8. BOTTOM FLANGE BRACING AT EQUAL SPACING, UNLESS NOTED OTHERWISE ON PLAN. SEE B1 / S5.52
9. BOTTOM FLANGE BRACING AT EACH BEAM, UNLESS NOTED OTHERWISE ON PLAN A1 / S5.52
10. HSS4x4x1/4 FLANGE VERTICAL BRACE, SEE D3 / S5.53
11. HSS4x4x1/4 BRACE BELOW.
12. SEE B5 / S5.52 FOR BENT DBL HSS GIRT DETAIL
13. HSS3x3x1/4 OUTRIGGER. SEE A4 / S5.52
14. CONTRACTOR TO COORDINATE EXACT EXTENT OF SECTION WITH ARCHITECTURAL ELEVATIONS.
15. HSS VERTICAL BRACE, SEE A2 / S5.53
16. COVER PLATE BEAM AT EXTENTS SHOWN. DIMENSIONS GIVEN ARE TO FACE/EDGE OF FLANGE. SEE D5 / S3.23 FOR FRAMING DETAIL.
17. OUTRIGGER BEAM (STUB). SEE D5 / S3.23
18. W8x31 ELEVATOR HOIST BEAM. BEAM SIZE CONTINGENT UPON DESIGN BASIS ELEVATOR. CONTRACTOR TO COORDINATE.

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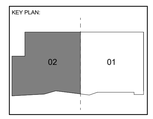
KEY PLAN:



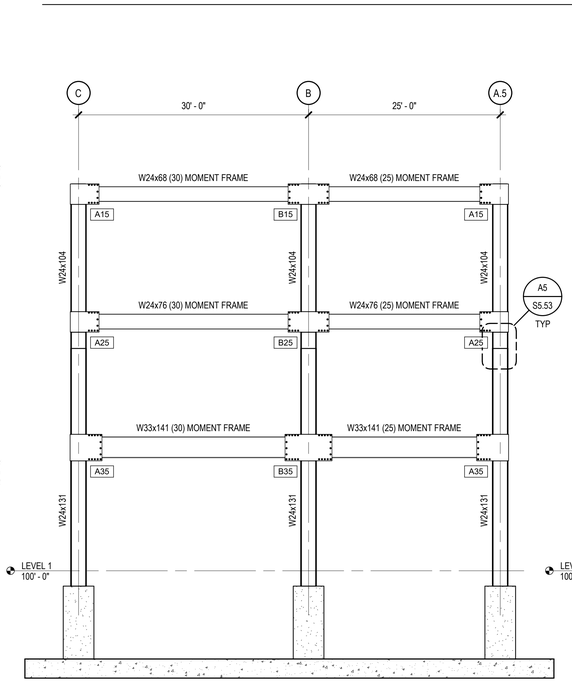
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE:	JOB NUMBER:
05-10-19	17-13

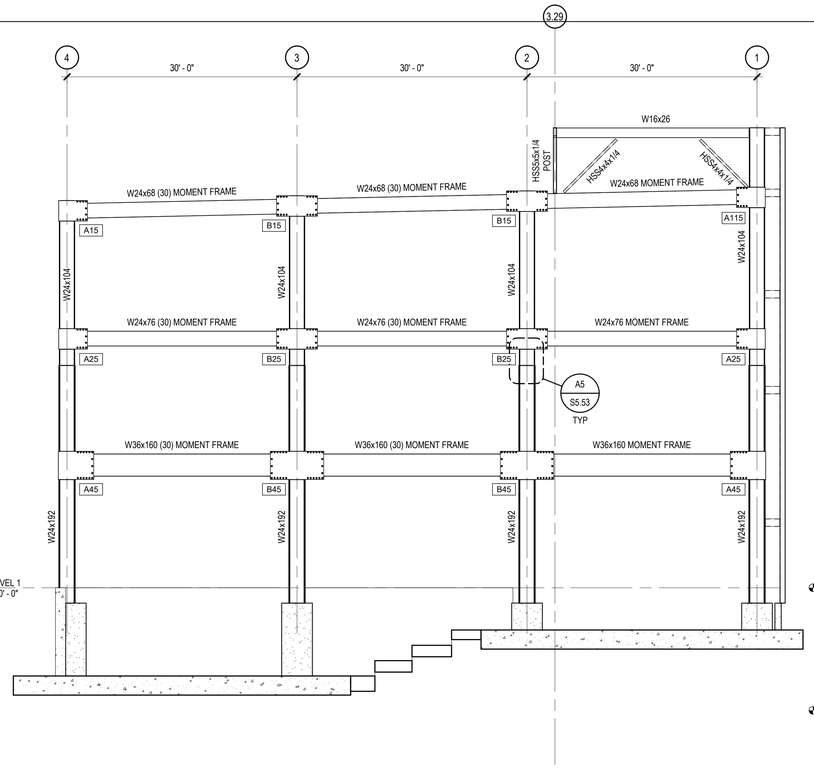
SHEET NUMBER:
S1.52

HIGH ROOF FRAMING PLAN - SECTOR 2



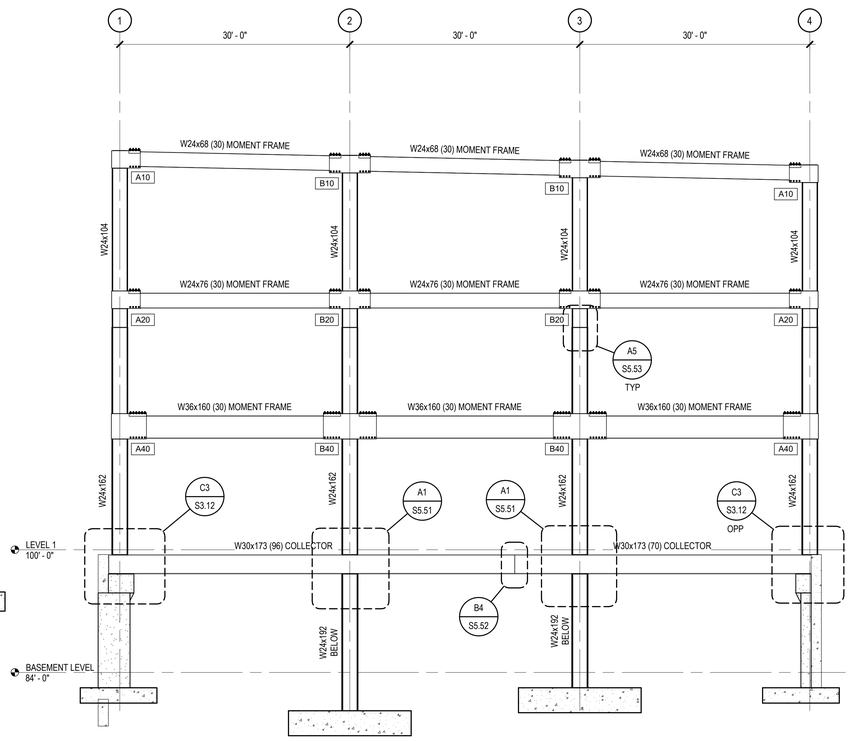
C1 MOMENT FRAME ELEVATION - GRID 4

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



C2 MOMENT FRAME ELEVATION - GRID A

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



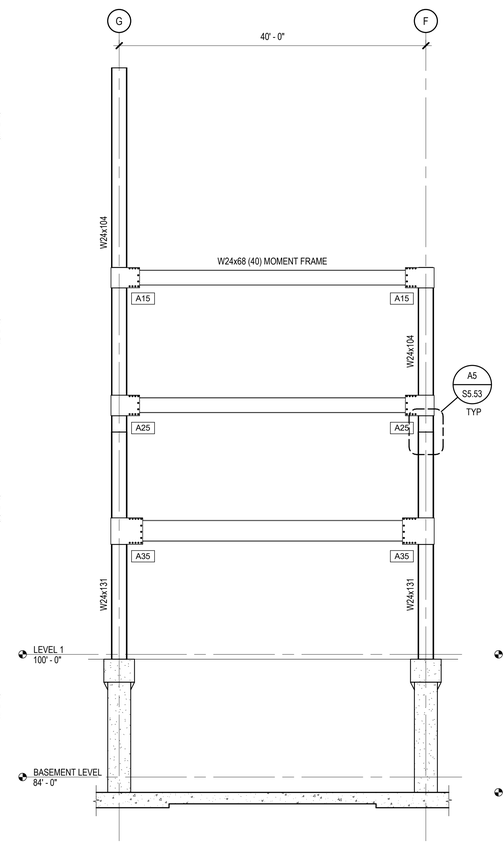
C4 MOMENT FRAME ELEVATION - GRID E

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

SIDEPLATE CONNECTION NOTES

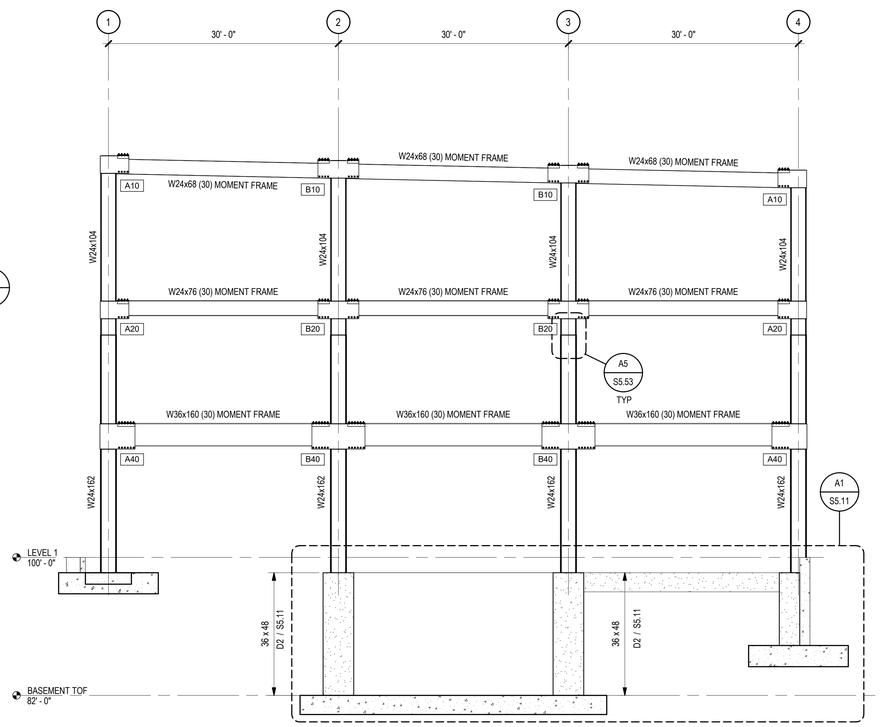
AXX INDICATES SIDEPLATE CONNECTION PER SHEETS S8.01 - S8.08

MX INDICATES MISCELLANEOUS SIDEPLATE DETAIL PER SHEETS S8.01 - S8.08



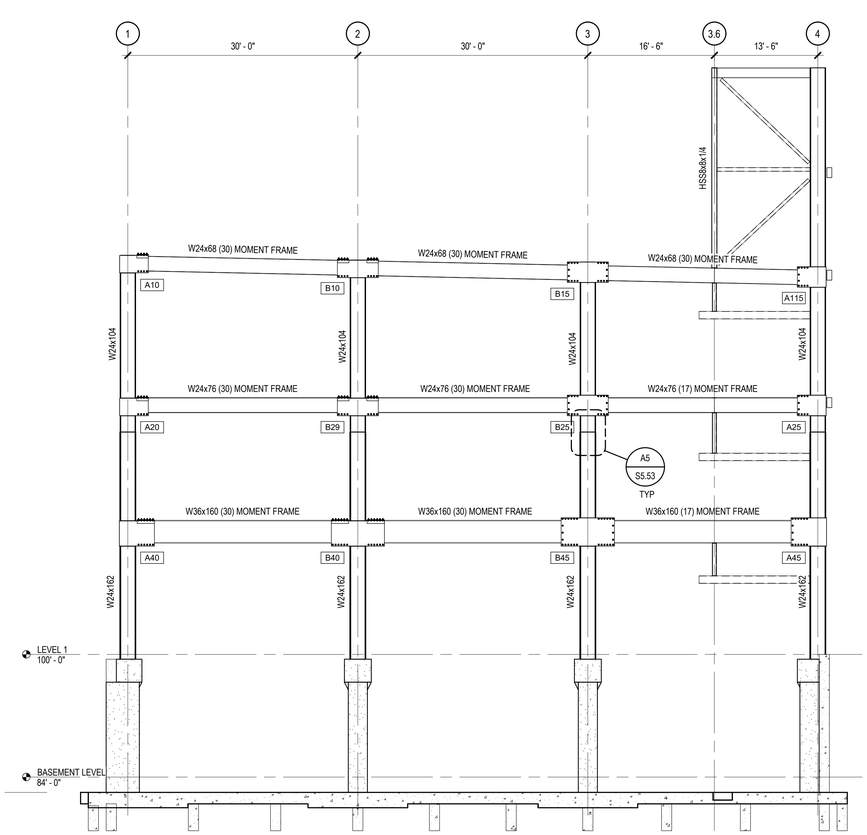
A1 MOMENT FRAME ELEVATION - GRID 4

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



A2 MOMENT FRAME ELEVATION - GRID D

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



A4 MOMENT FRAME ELEVATION - GRID H

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

ENTIRE SHEET REVISED 2

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TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS:		
#	DATE	DESCRIPTION
2	5/24/19	BID PACKAGE 03 ADD 02

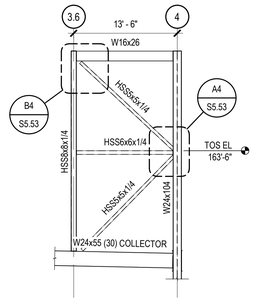
DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S2.01

MOMENT FRAME ELEVATIONS

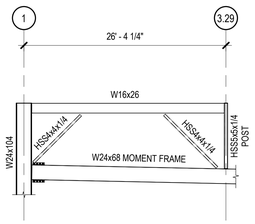
SIDEPLATE CONNECTION NOTES

AXX INDICATES SIDEPLATE CONNECTION PER SHEETS S8.01 - S8.08

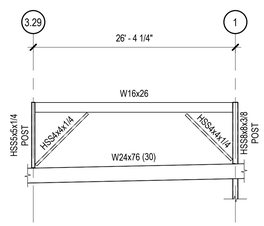
MX INDICATES MISCELLANEOUS SIDEPLATE DETAIL PER SHEETS S8.01 - S8.08



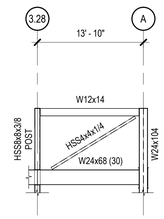
D1 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



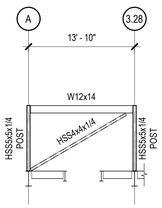
D2 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



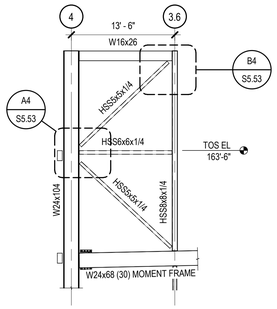
D3 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



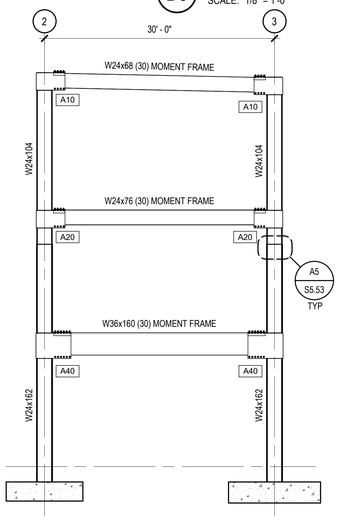
D4 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



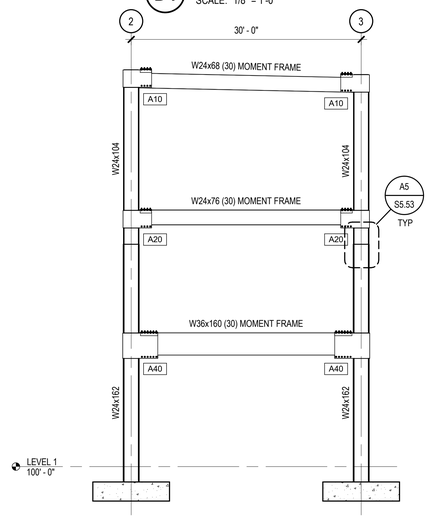
D5 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



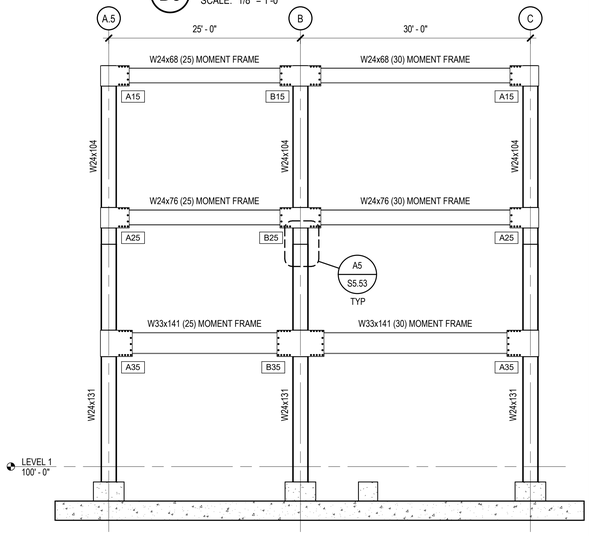
C1 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



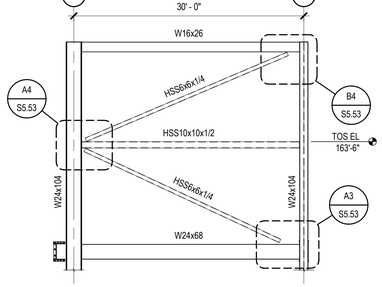
B3 MOMENT FRAME ELEVATION - GRID B
SCALE: 1/8" = 1'-0"



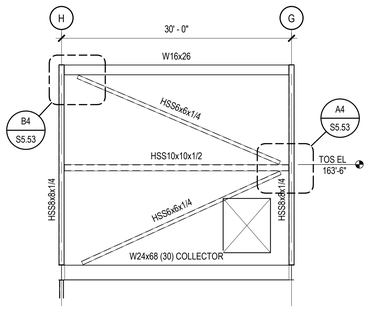
B4 MOMENT FRAME ELEVATION - GRID C
SCALE: 1/8" = 1'-0"



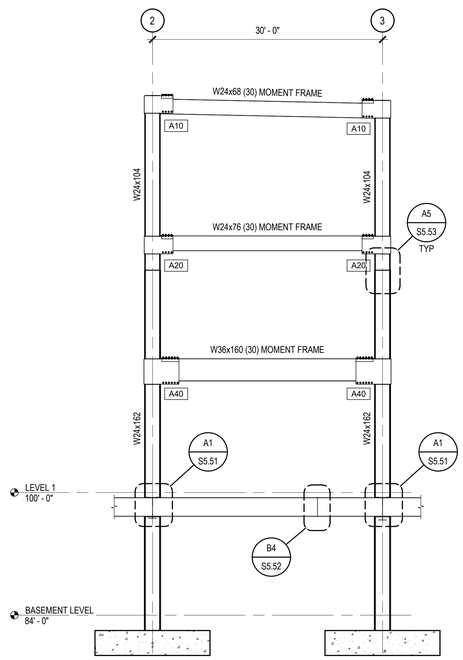
B5 MOMENT FRAME ELEVATION - GRID 1
SCALE: 1/8" = 1'-0"



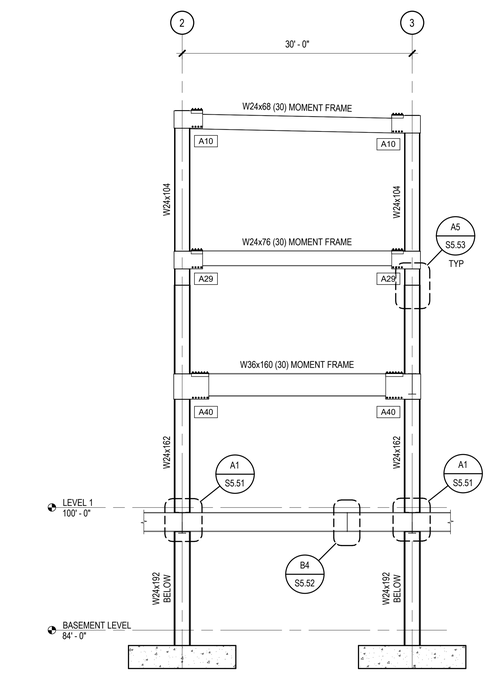
B1 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



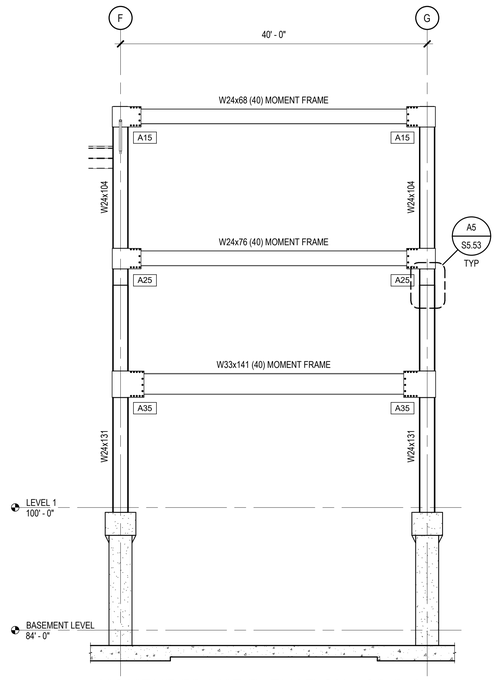
A1 BRACED FRAME ELEVATION
SCALE: 1/8" = 1'-0"



A3 MOMENT FRAME ELEVATION - GRID F
SCALE: 1/8" = 1'-0"



A4 MOMENT FRAME ELEVATION - GRID G
SCALE: 1/8" = 1'-0"



A5 MOMENT FRAME ELEVATION - GRID 1
SCALE: 1/8" = 1'-0"

2 ENTIRE SHEET REVISED

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CLIENT:

THE CHEROKEE NATION
SEAL OF
SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

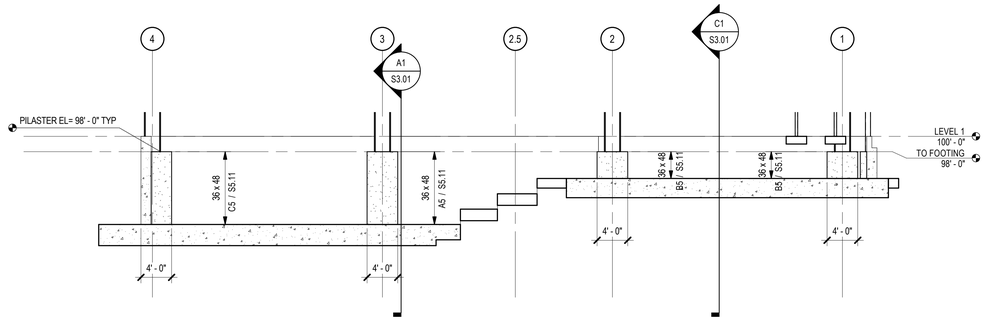
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
2	5/24/19	BID PACKAGE 03 ASI 02

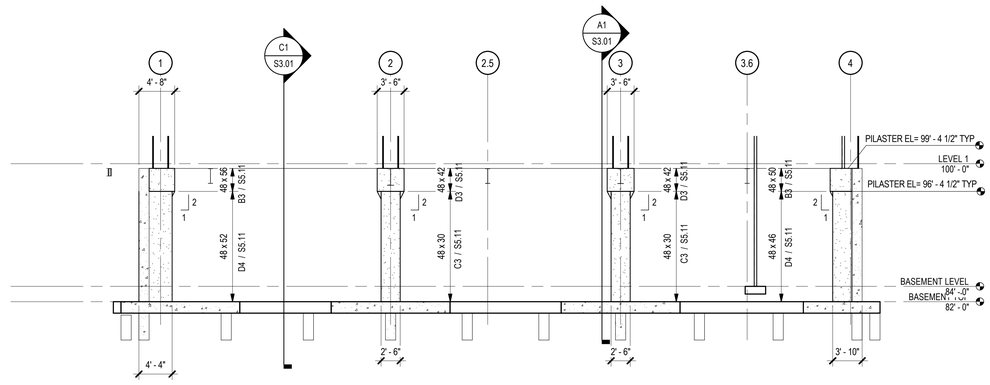
DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S2.02

MOMENT FRAME AND BRACED FRAME ELEVATIONS



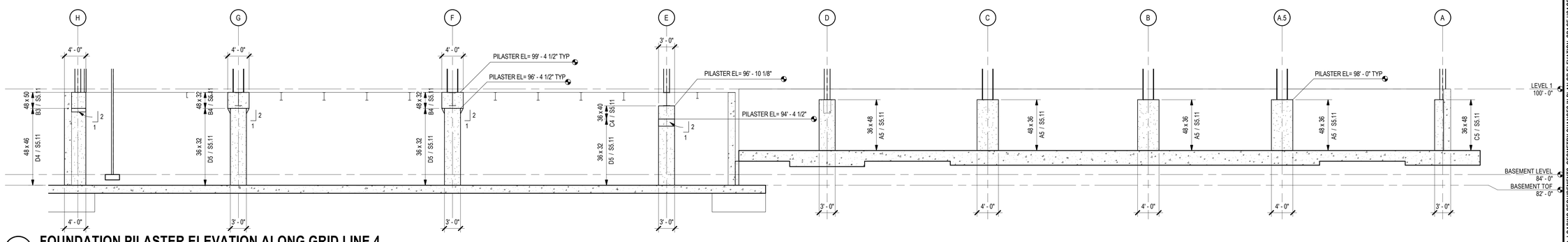
D4 FOUNDATION PILASTER ELEVATION ALONG GRID LINE A

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



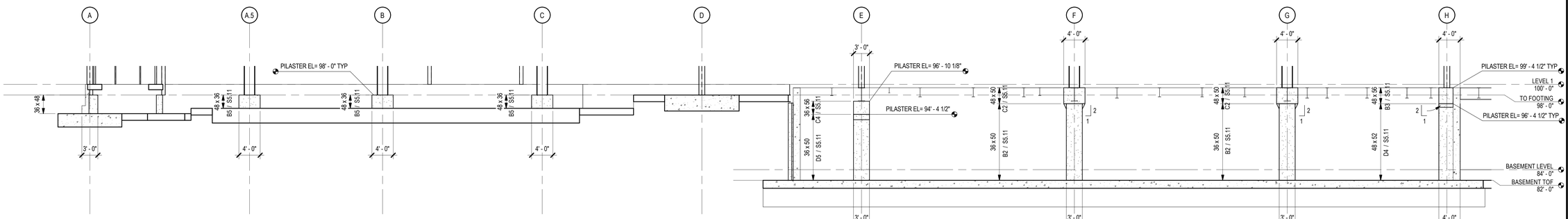
C4 FOUNDATION PILASTER ELEVATION ALONG GRID LINE H

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



B1 FOUNDATION PILASTER ELEVATION ALONG GRID LINE 4

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



A1 FOUNDATION PILASTER ELEVATION ALONG GRID LINE 1

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

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TRIBAL JUST
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COLLEGE OF
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AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

OKLAHOMA STATE UNIVERSITY

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

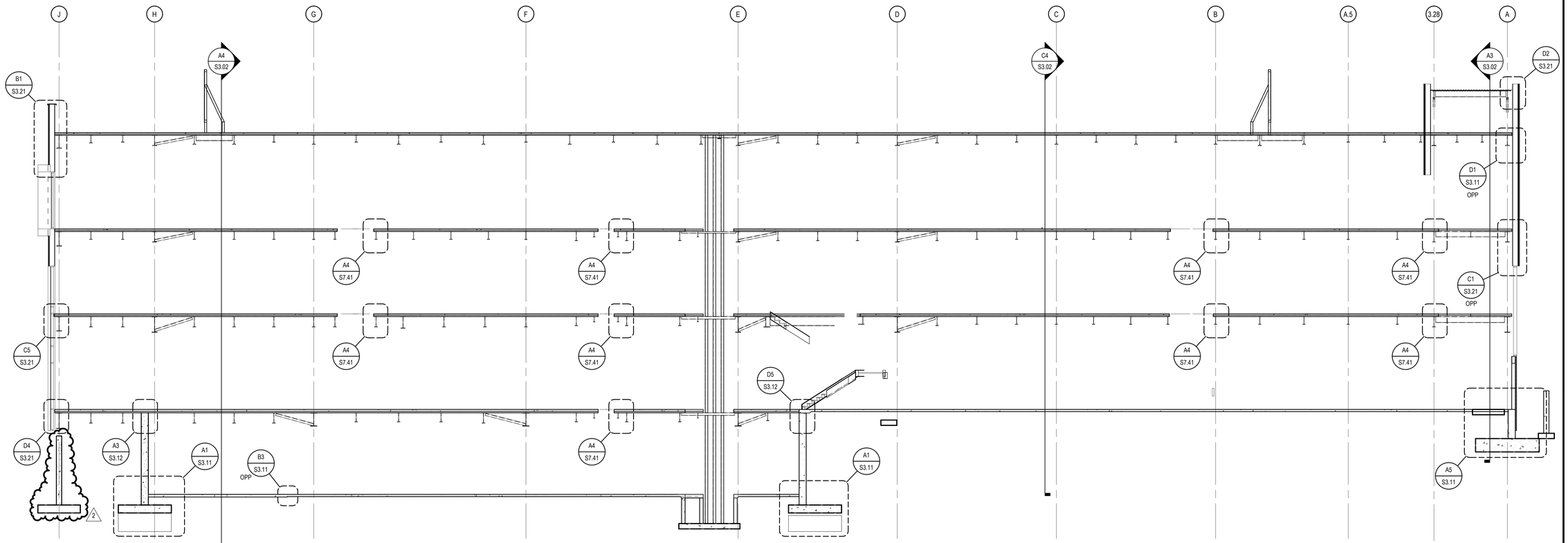
REVISIONS:		
#	DATE	DESCRIPTION

DATE: 03-20-19
JOB NUMBER: 17-13

SHEET NUMBER:
S2.03

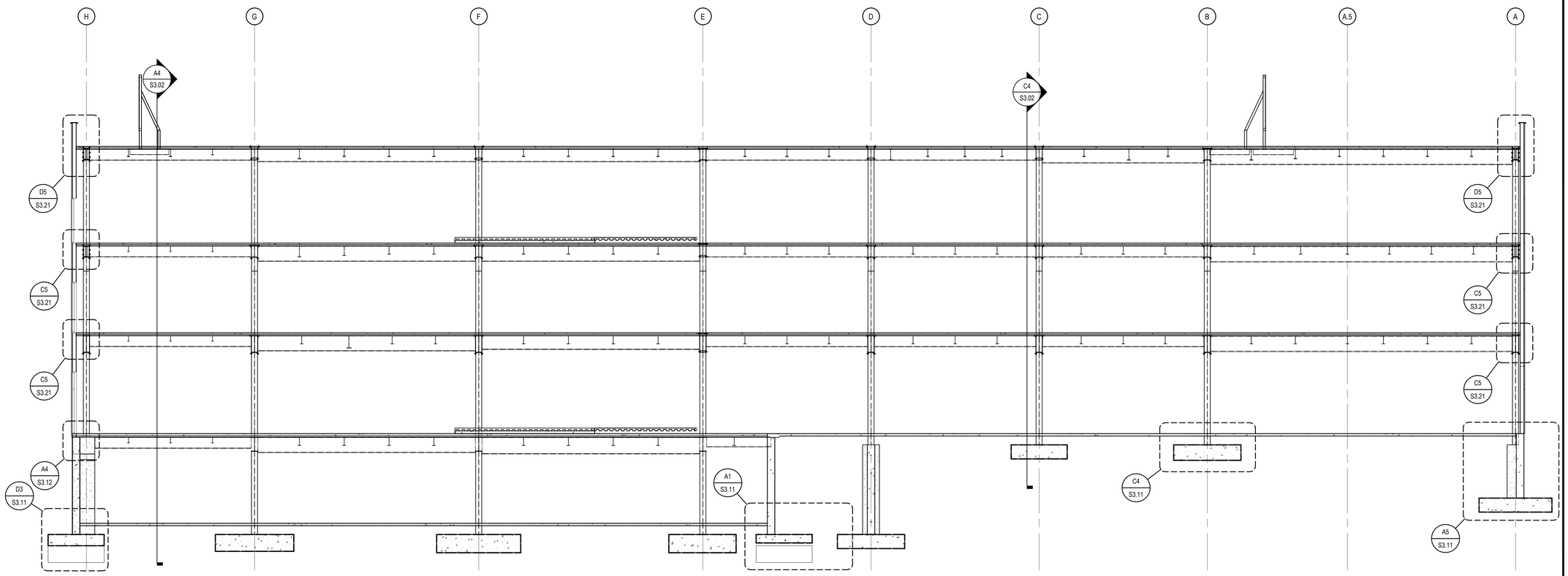
FOUNDATION PILASTER ELEVATIONS

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.



C1 BUILDING SECTION

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



A1 BUILDING SECTION

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

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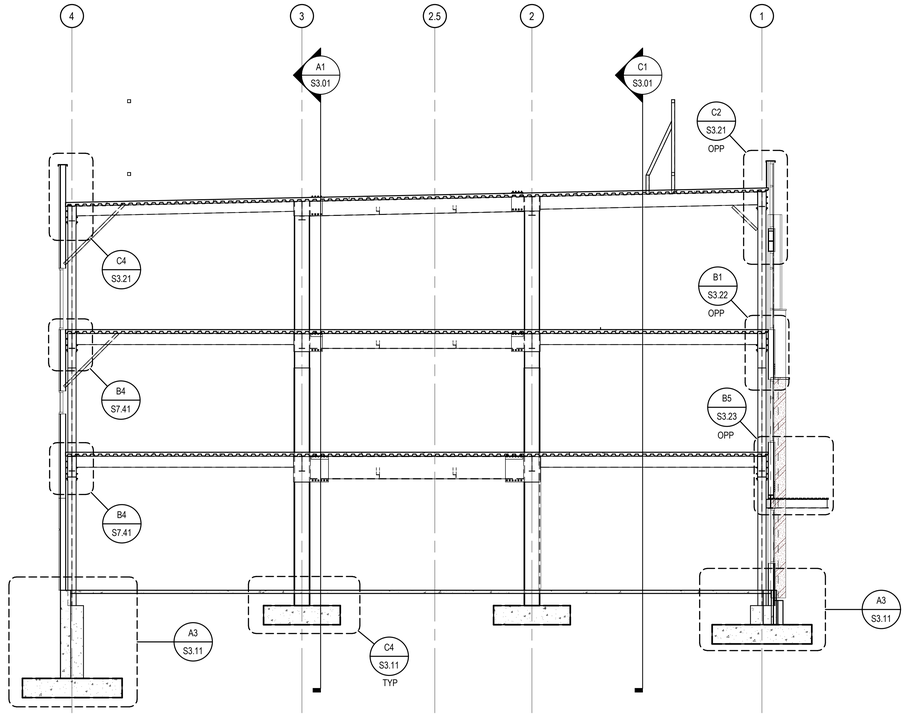
BID PACKAGE 03

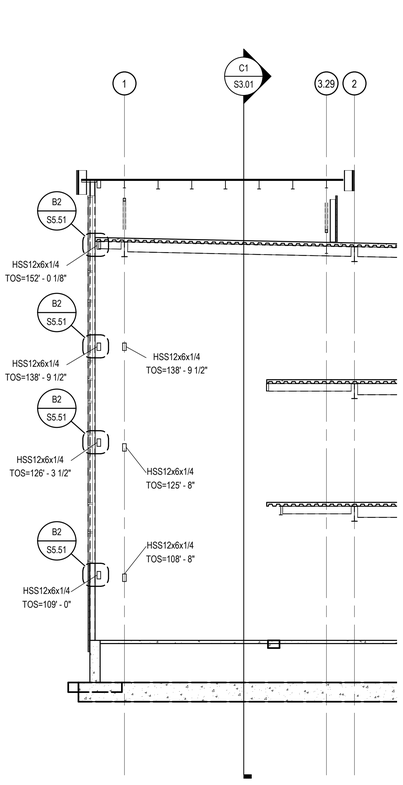
REVISIONS:		
#	DATE	DESCRIPTION
2	5/24/19	BID PACKAGE 03 ADD 02

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S3.01
BUILDING SECTIONS



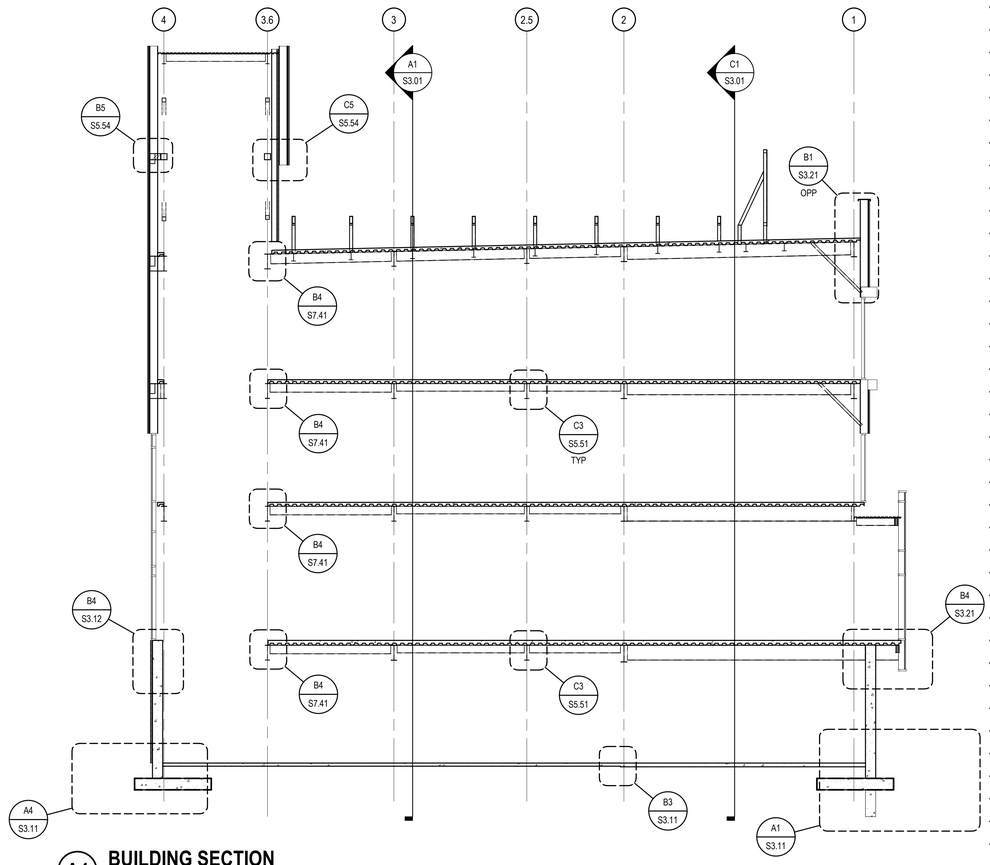
C4 BUILDING SECTION

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



A3 STAIR SHAFT SECTION

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



A4 BUILDING SECTION

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

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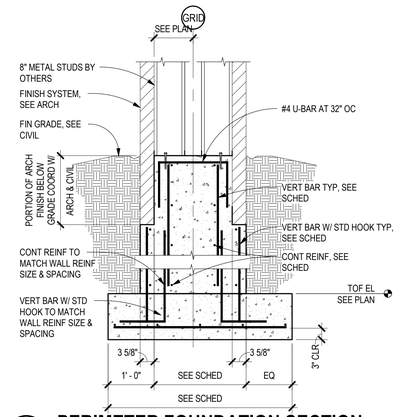
DATE:	JOB NUMBER:
03-20-19	17-13

SHEET NUMBER:

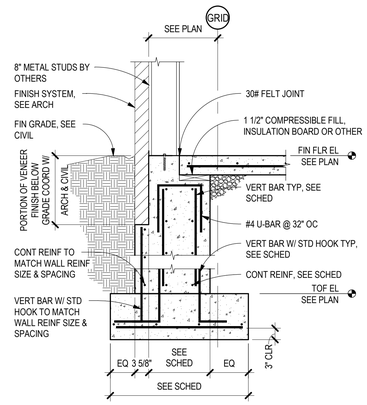
S3.02

BUILDING SECTIONS



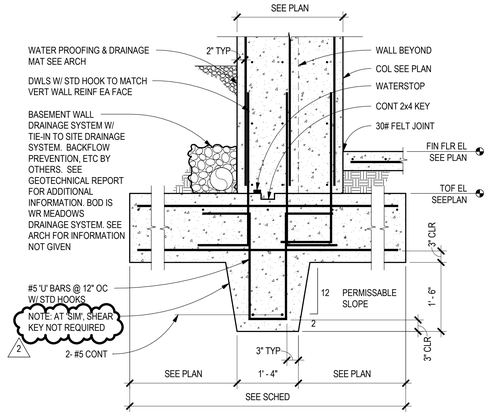
D1 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



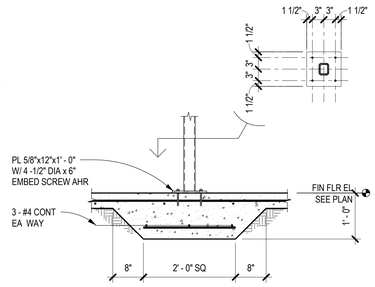
D2 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



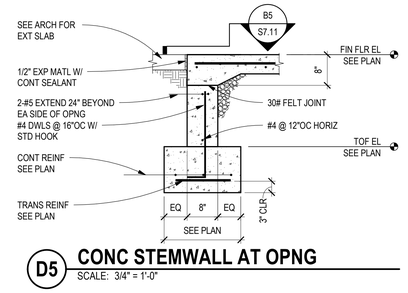
D3 BASEMENT COLUMN SECTION

SCALE: 3/4" = 1'-0"



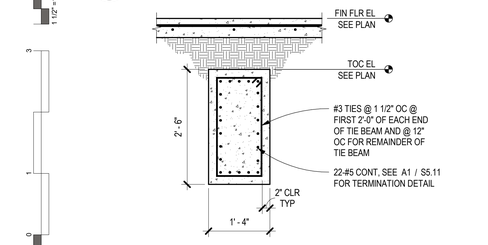
D4 INT COLUMN AT THICKENED SLAB

SCALE: 3/4" = 1'-0"



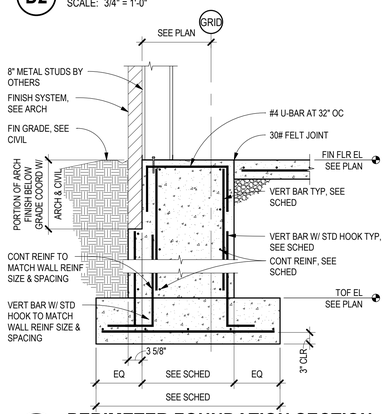
D5 CONC STEMWALL AT OPNG

SCALE: 3/4" = 1'-0"



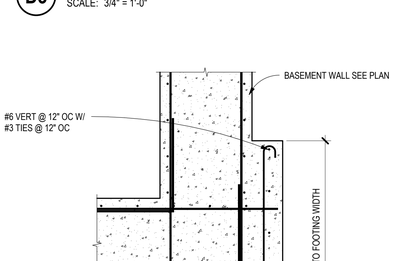
C1 TIE BEAM SECTION

SCALE: 3/4" = 1'-0"



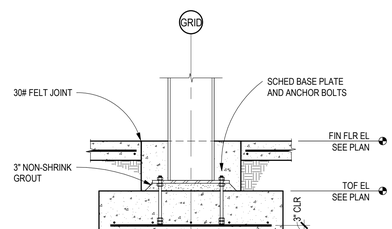
C2 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



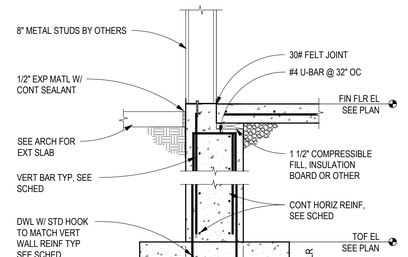
C3 FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



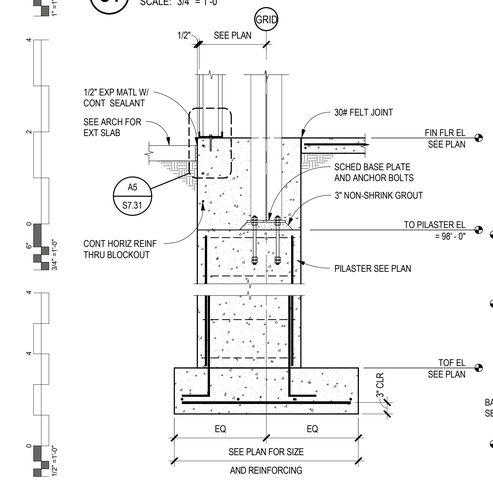
C4 INTERIOR COLUMN SECTION

SCALE: 3/4" = 1'-0"



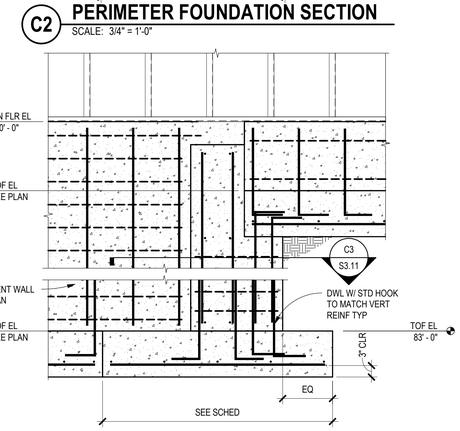
C5 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



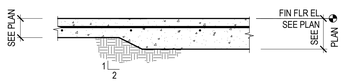
B1 FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



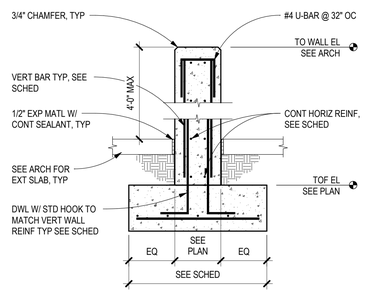
B2 FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



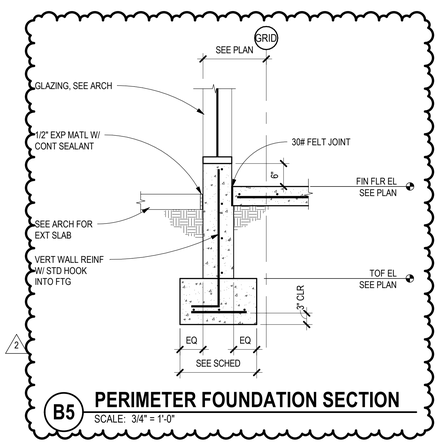
B3 SLAB THICKNESS TRANSITION

SCALE: 3/4" = 1'-0"



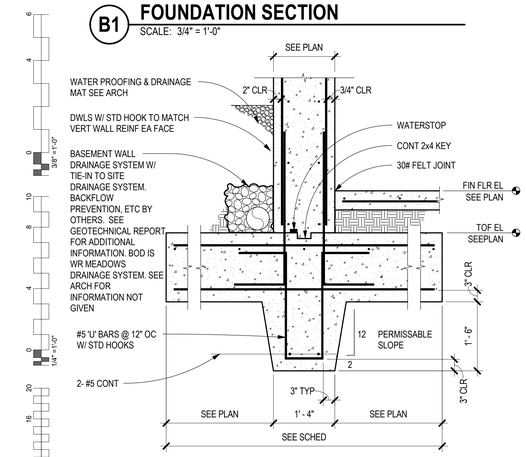
B4 EXTERIOR SITE WALL SECTION

SCALE: 3/4" = 1'-0"



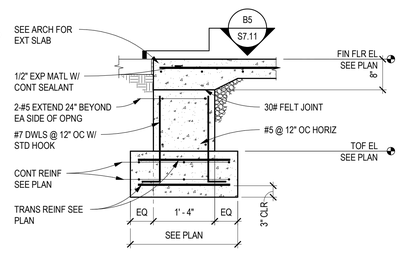
B5 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



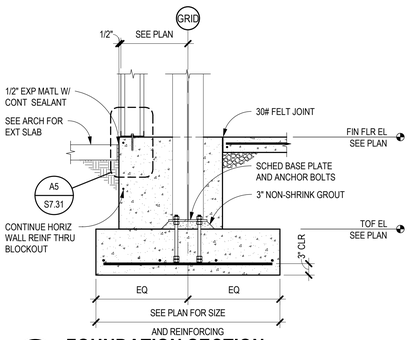
A1 BASEMENT WALL SECTION

SCALE: 3/4" = 1'-0"



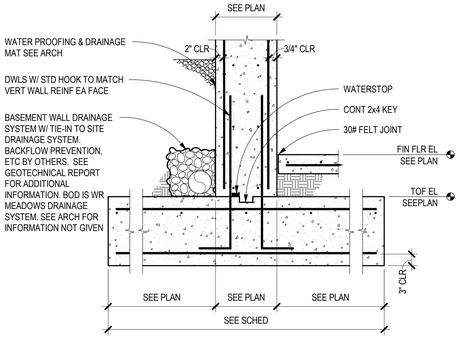
A2 BASEMENT WALL AT OPNG

SCALE: 3/4" = 1'-0"



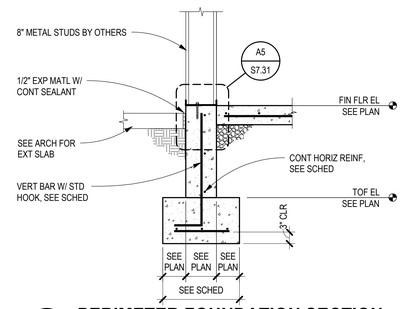
A3 FOUNDATION SECTION

SCALE: 3/4" = 1'-0"



A4 BASEMENT WALL SECTION

SCALE: 3/4" = 1'-0"



A5 PERIMETER FOUNDATION SECTION

SCALE: 3/4" = 1'-0"

1 ENTIRE SHEET REVISED

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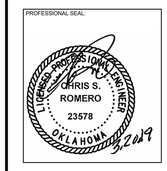
PROFESSIONAL SEAL:



CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

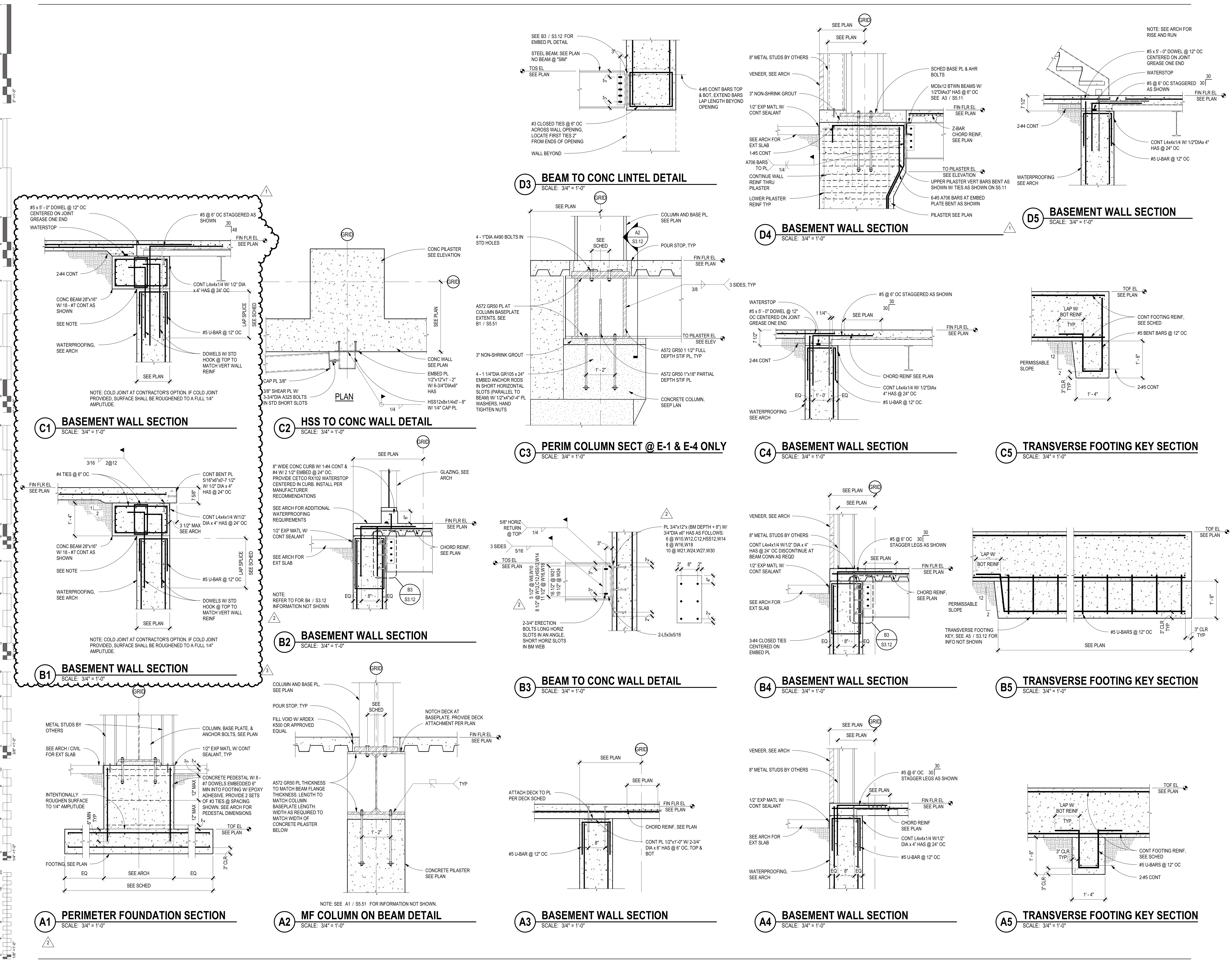
COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

REVISIONS:		
#	DATE	DESCRIPTION
1	4/2/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S3.11
FOUNDATION SECTIONS



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COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION

TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:

BID PACKAGE 03

REVISIONS

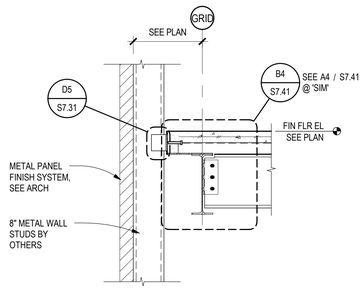
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02
2	6/17/19	BID PACKAGE 04 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

DATE: 03-20-19

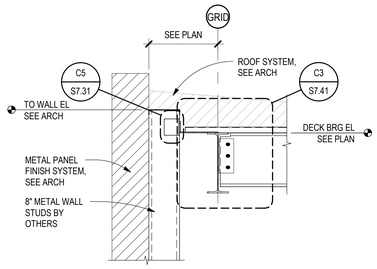
JOB NUMBER: 17-13

SHEET NUMBER: S3.12

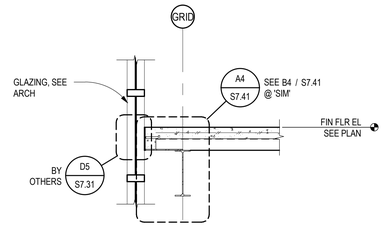
FOUNDATION SECTIONS



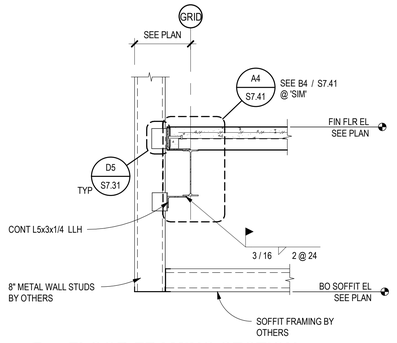
D1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



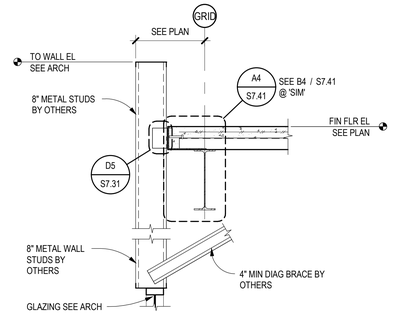
D2 ROOF FRAMING SECTION
SCALE: 3/4" = 1'-0"



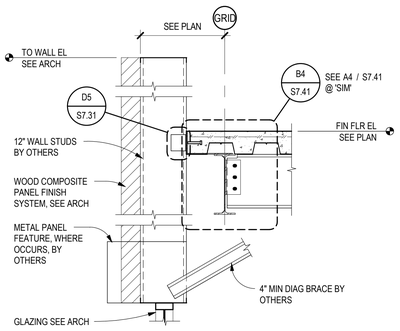
D3 FLOOR FRAMING SECTION
SCALE: 3/4" = 1'-0"



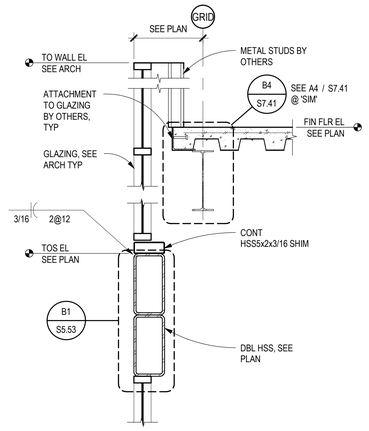
D4 FLOOR FRAMING SECTION
SCALE: 3/4" = 1'-0"



D5 ROOF FRAMING SECTION
SCALE: 3/4" = 1'-0"



C1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



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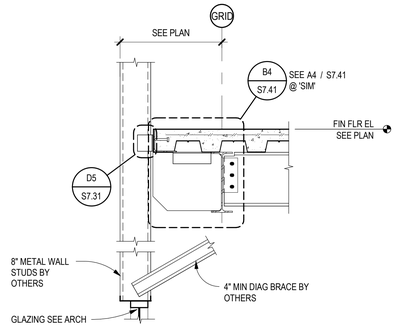

C3 FLOOR FRAMING SECTION
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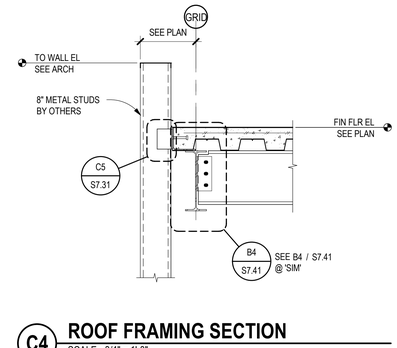

C4 ROOF FRAMING SECTION
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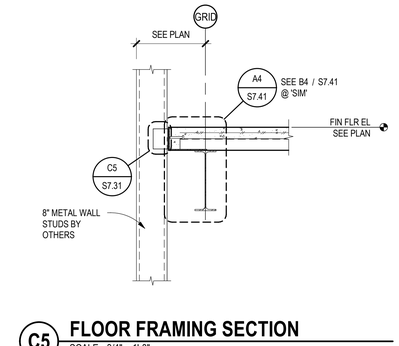
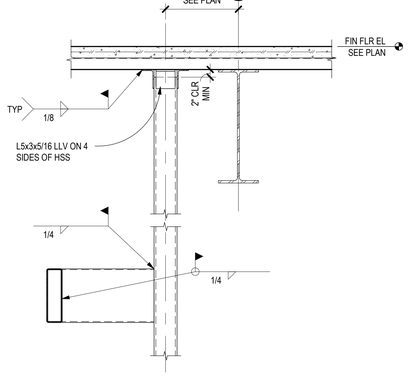


C5 FLOOR FRAMING SECTION
SCALE: 3/4" = 1'-0"

B1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



B2 ROOF FRAMING SECTION
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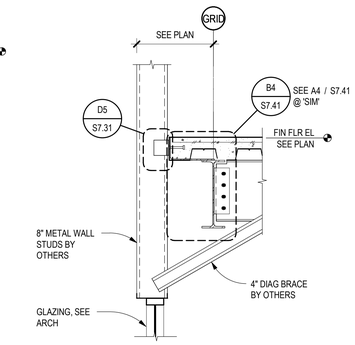
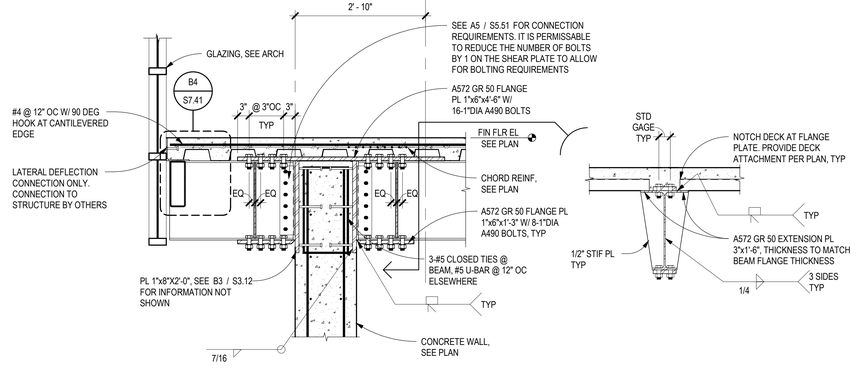
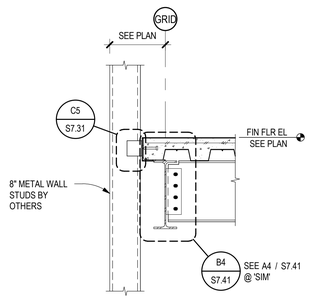


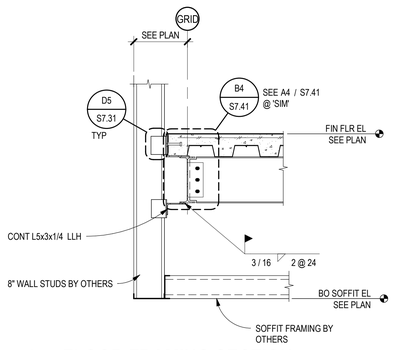
B3 FLOOR FRAMING SECTION
SCALE: 3/4" = 1'-0"



B4 BASEMENT WALL SECTION
SCALE: 3/4" = 1'-0"



A1 FLOOR FRAMING SECTION
SCALE: 3/4" = 1'-0"



A2 FLOOR FRAMING SECTION
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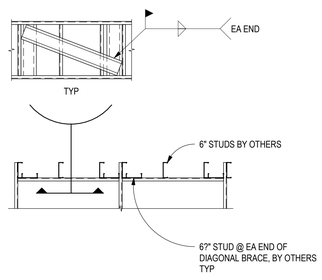
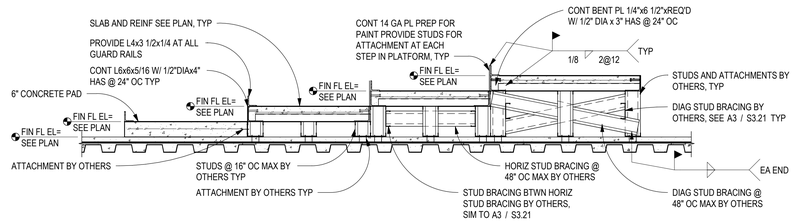


A3 DIAGONAL BRACING SECTION
SCALE: 1/2" = 1'-0"



NOTES:
1. CONTRACTOR TO COORDINATE LOCATION OF SLAB STEPS W/ ARCH
2. GUARD RAILS NOT SHOWN FOR CLARITY, SEE ARCH.

A4 FLOOR FRAMING SECTION @ LECTURE HALL
SCALE: 1/2" = 1'-0"

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KEY PLAN:

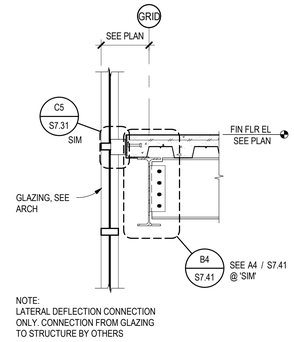
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE:	JOB NUMBER:
05-10-19	17-13

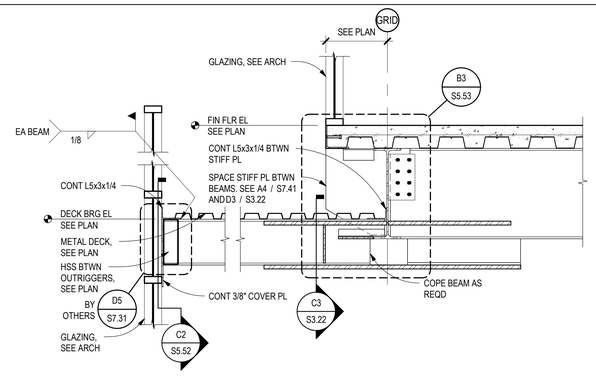
SHEET NUMBER:
S3.21

FRAMING SECTIONS



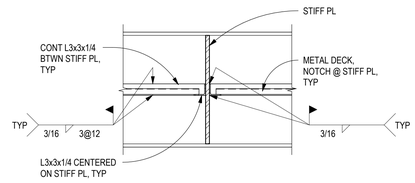
D1 FLOOR FRAMING SECTION

SCALE: 3/4" = 1'-0"



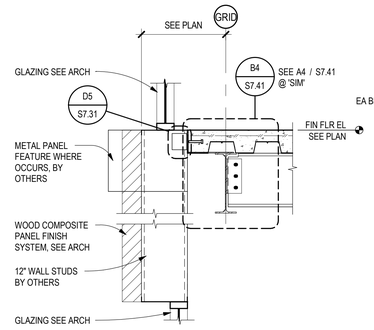
D2 LOW ROOF FRAMING SECTION

SCALE: 3/4" = 1'-0"



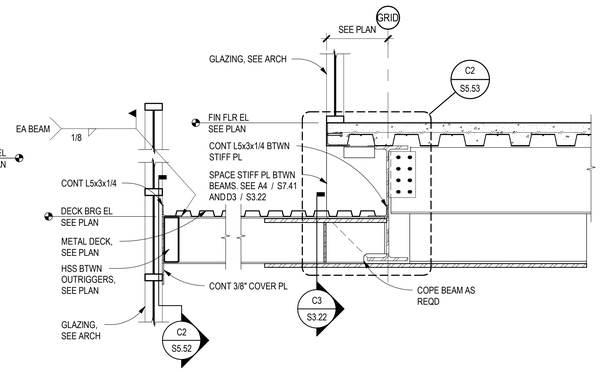
D3 DECK SUPPORT AT STIFF PL

SCALE: 3/4" = 1'-0"



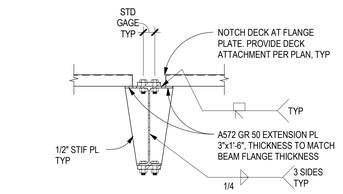
C1 FRAMING SECTION

SCALE: 3/4" = 1'-0"



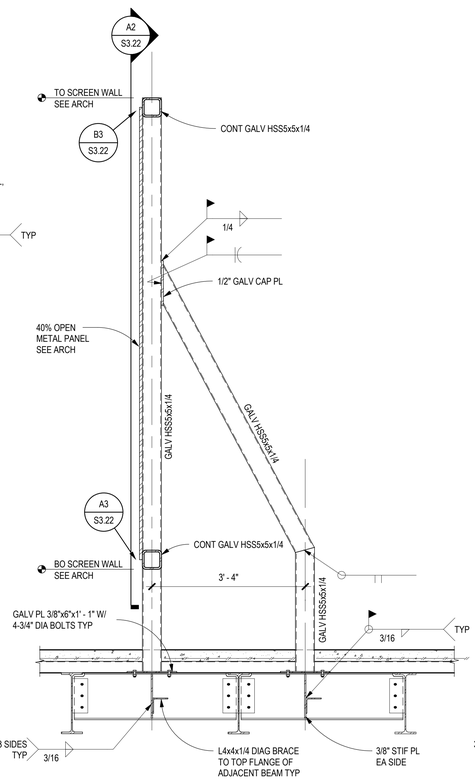
C2 LOW ROOF FRAMING SECTION

SCALE: 3/4" = 1'-0"



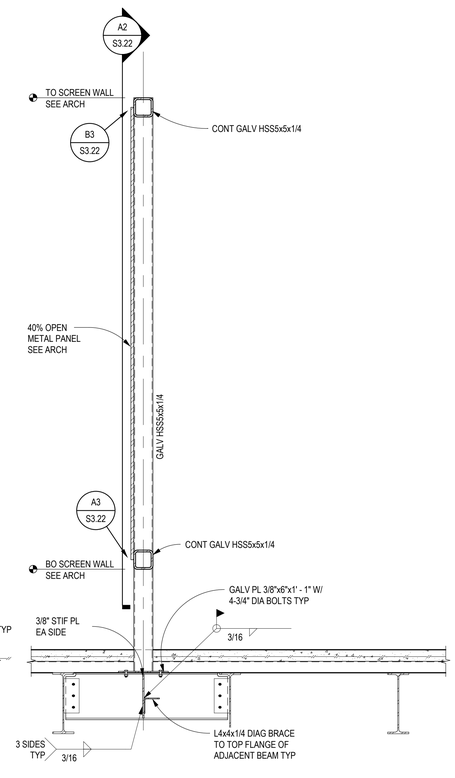
C3 DECK SUPPORT AT BEAM

SCALE: 3/4" = 1'-0"



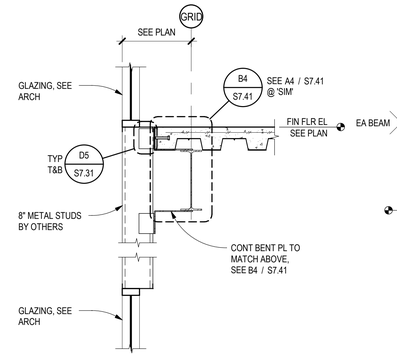
C4 SCREEN WALL BTWN ROOF BEAMS

SCALE: 3/4" = 1'-0"



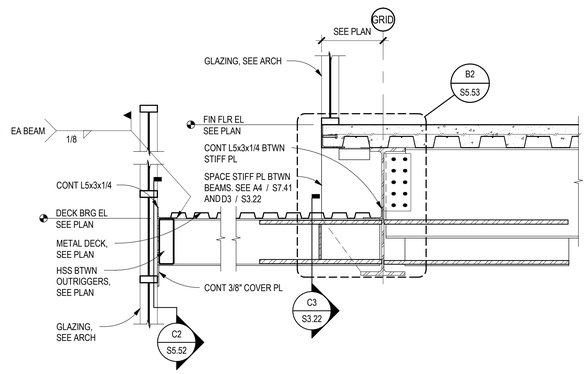
C5 SCREEN WALL BTWN ROOF BEAMS

SCALE: 3/4" = 1'-0"



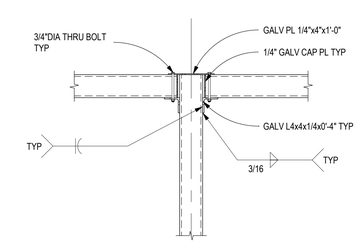
B1 FLOOR FRAMING SECTION

SCALE: 3/4" = 1'-0"



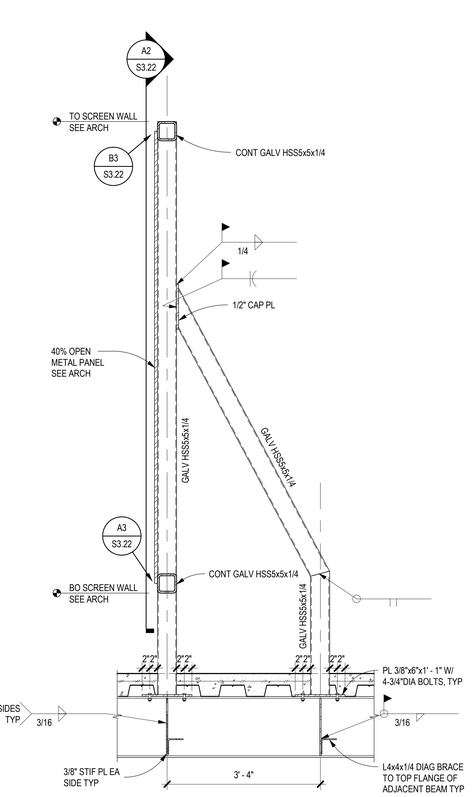
B2 LOW ROOF FRAMING SECTION

SCALE: 3/4" = 1'-0"



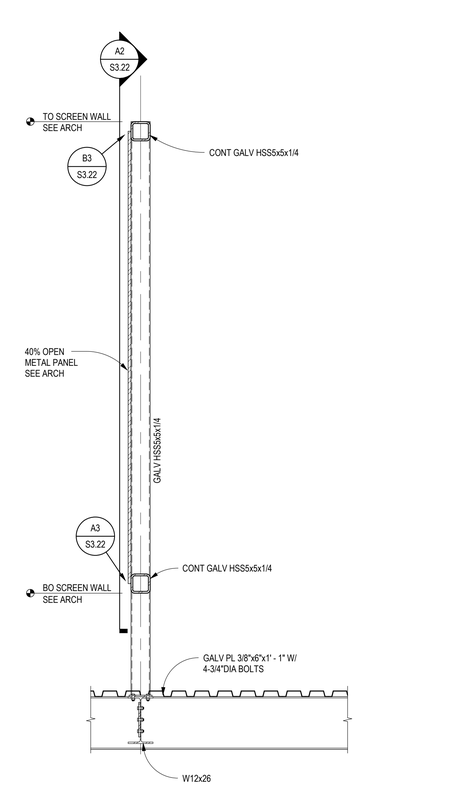
B3 SCREEN WALL HSS CONNECTION

SCALE: 3/4" = 1'-0"



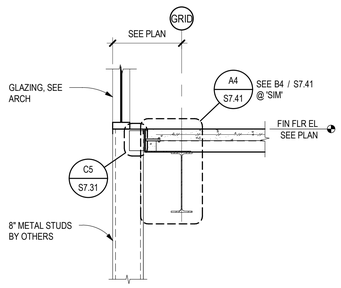
B4 SCREEN WALL AT ROOF BEAMS

SCALE: 3/4" = 1'-0"



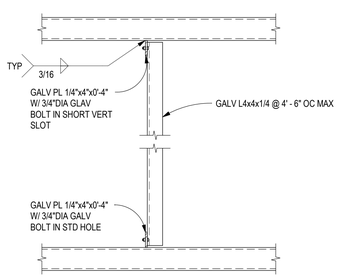
B5 SCREEN WALL BTWN ROOF BEAMS

SCALE: 3/4" = 1'-0"



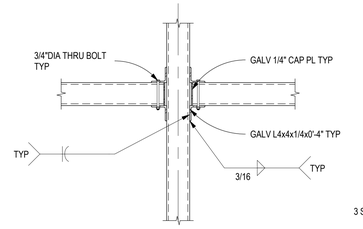
A1 FLOOR FRAMING SECTION

SCALE: 3/4" = 1'-0"



A2 INTERMEDIATE SCREEN WALL SUPPORT

SCALE: 3/4" = 1'-0"



A3 SCREEN WALL HSS CONNECTION

SCALE: 3/4" = 1'-0"

A4 SCREEN WALL AT ROOF BEAMS

SCALE: 3/4" = 1'-0"

A5 SCREEN WALL BTWN ROOF BEAMS

SCALE: 3/4" = 1'-0"

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CLIENT:

THE CHEROKEE NATION
TRIBAL SEAL OF THE CHEROKEE NATION
SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

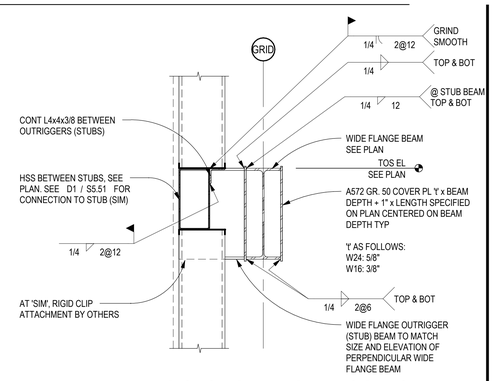
OKLAHOMA STATE UNIVERSITY

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

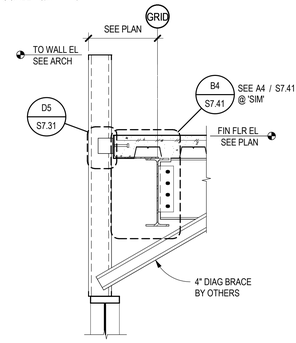
REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S3.22
FRAMING SECTIONS



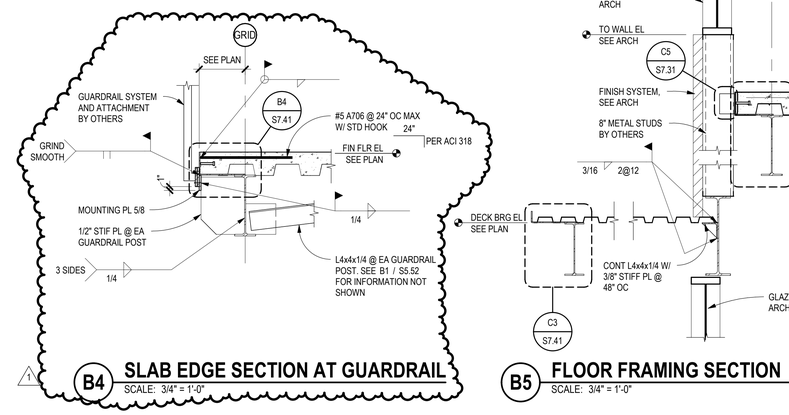
D5 FRAMING SECTION AT OUTRIGGERS

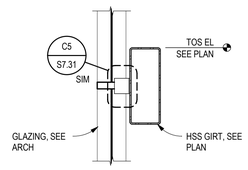
SCALE: 3/4" = 1'-0"



C5 ROOF FRAMING SECTION

SCALE: 3/4" = 1'-0"





NOTE:
LATERAL DEFLECTION CONNECTION ONLY. CONNECTION FROM GLAZING TO STRUCTURE BY OTHERS

A5 FLOOR FRAMING SECTION

SCALE: 3/4" = 1'-0"

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
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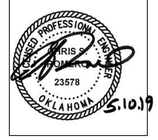
www.childersarchitect.com

PROFESSIONAL SEAL:



CONSULTANT LOGO:

Chavez-Grieves
consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

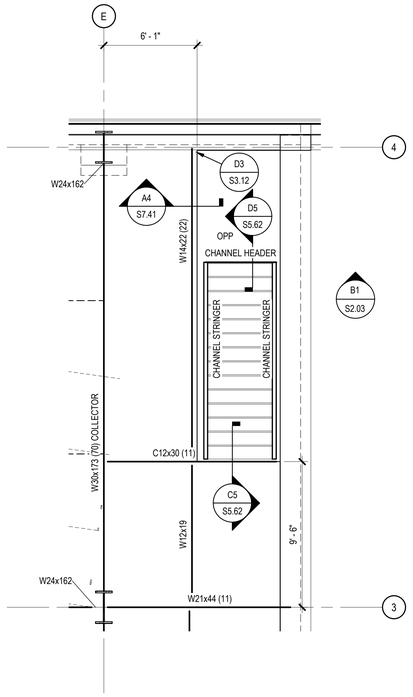
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ADD 02

DATE:	JOB NUMBER:
05-10-19	17-13

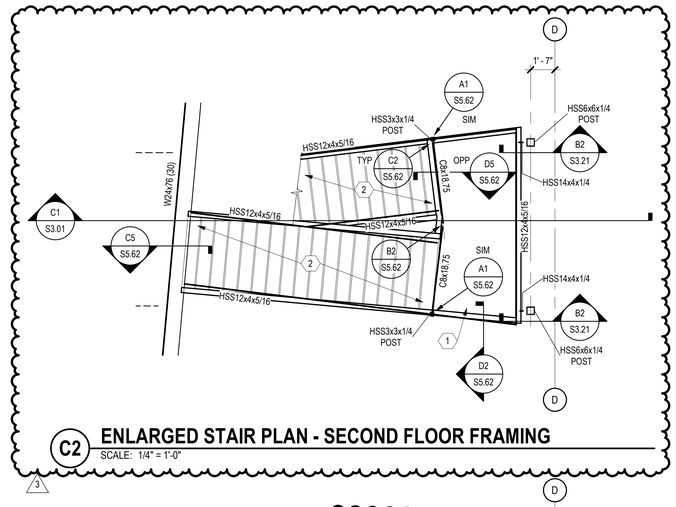
SHEET NUMBER:
S3.23

FRAMING SECTIONS



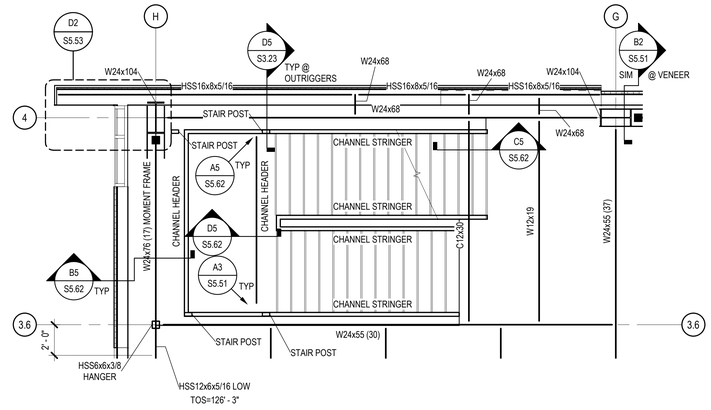
B1 ENLARGED STAIR PLAN - SECOND FLOOR FRAMING

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



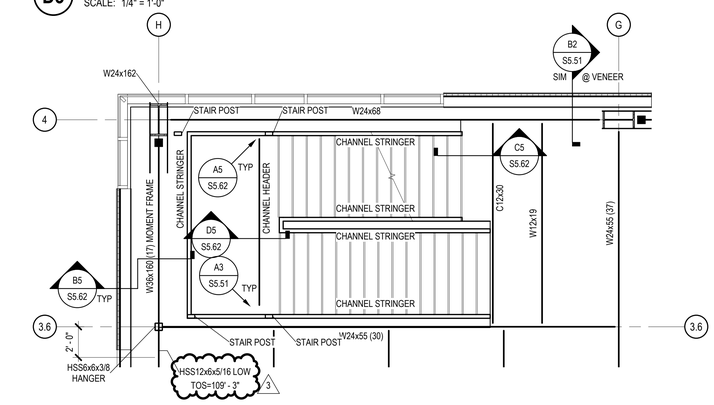
C2 ENLARGED STAIR PLAN - SECOND FLOOR FRAMING

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



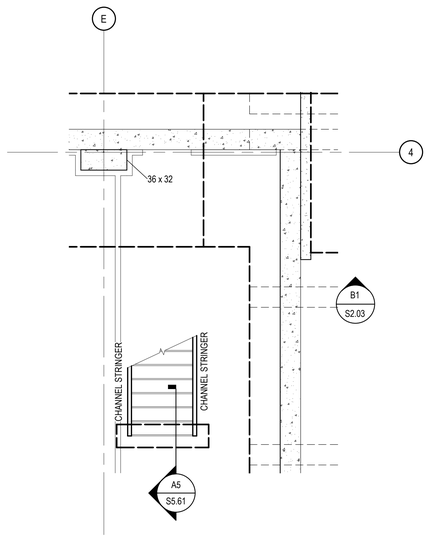
D3 ENLARGED STAIR PLAN - THIRD FRAMING

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



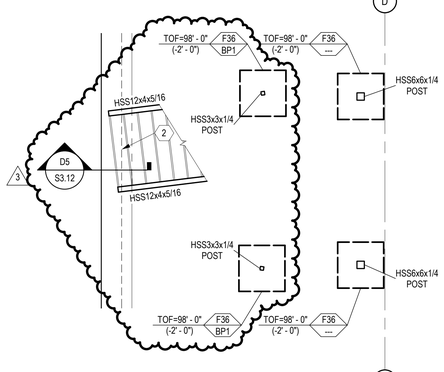
C3 ENLARGED STAIR PLAN - SECOND FLOOR FRAMING

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



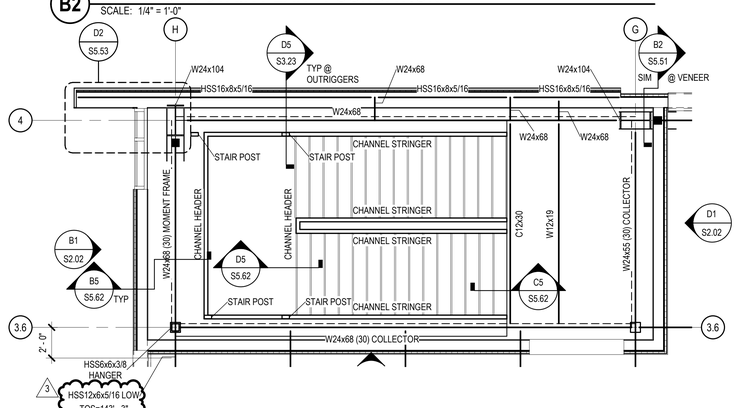
A1 ENLARGED STAIR PLAN - FOUNDATION

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



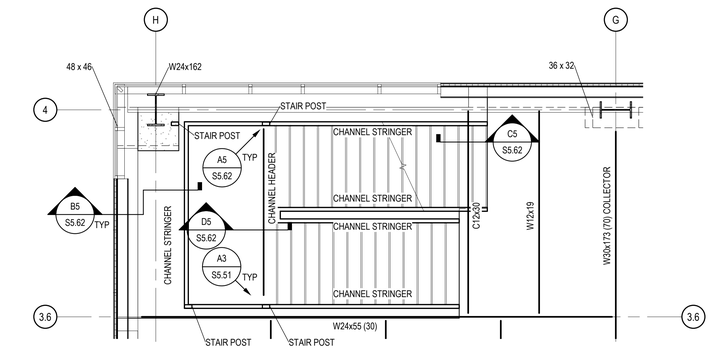
B2 ENLARGED STAIR PLAN - FOUNDATION

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



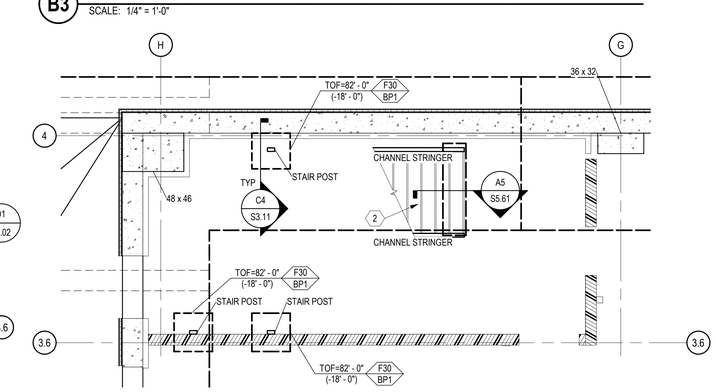
A2 ENLARGED STAIR PLAN - ROOF FRAMING

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



B3 ENLARGED STAIR PLAN - FIRST FLOOR FRAMING

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



A3 ENLARGED STAIR PLAN - FOUNDATION

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. DIMENSIONS ARE TO THE FACE OF CONCRETE, OR STUD UNLESS NOTED OTHERWISE. COORDINATE ALL STAIR DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR INTERMEDIATE LANDING ELEVATIONS.
4. SEE ARCHITECTURAL DRAWINGS FOR STAIR RISE AND RUN.
5. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 600S162-43 AT 16" ON CENTER UNLESS NOTED OTHERWISE.

SHEET KEYNOTE

1. 4" NORMAL WEIGHT CONCRETE LANDING SLAB REINFORCED WITH 6x6-W2.1xW2.1 WELDED WIRE FABRIC IN FLAT SHEETS ONLY OVER METAL PAN. SEE ARCHITECTURAL DRAWINGS FOR LANDING ELEVATIONS.
2. 2" CONCRETE FILLED METAL PANS, REINFORCED WITH 6x6-W2.1xW2.1 WELDED WIRE FABRIC.

ENTIRE SHEET REVISED 2

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23578
OKLAHOMA
2017

CONSULTANT LOGO:

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consulting engineers, inc.
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505-344-4080 505-343-8759 (fax)

CLIENT:

THE CHEROKEE NATION
1839
SEPT. 6, 1839

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

OKLAHOMA STATE UNIVERSITY

KEY PLAN:

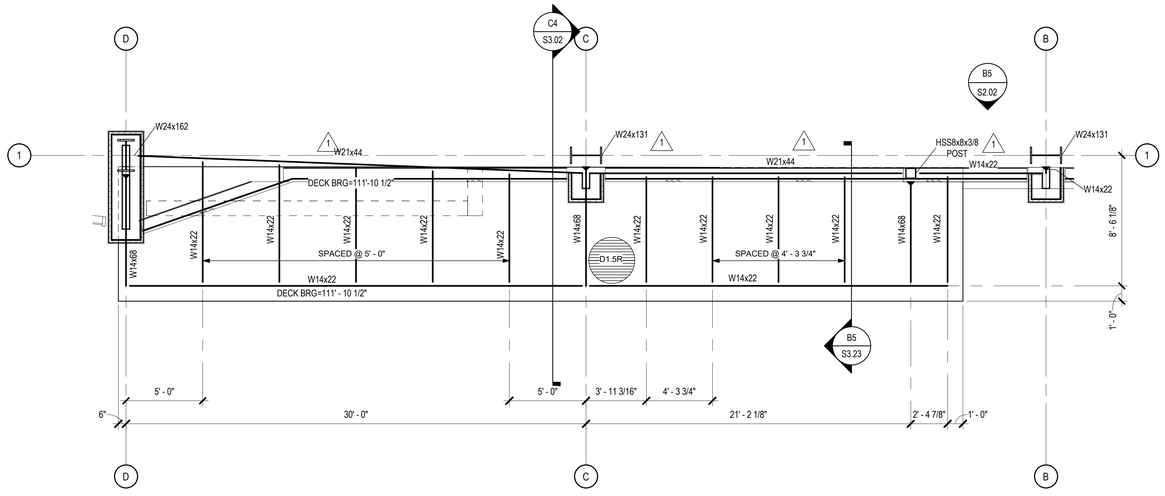
PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
2	5/24/19	BID PACKAGE 03 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

DATE: 03-20-19
JOB NUMBER: 17-13

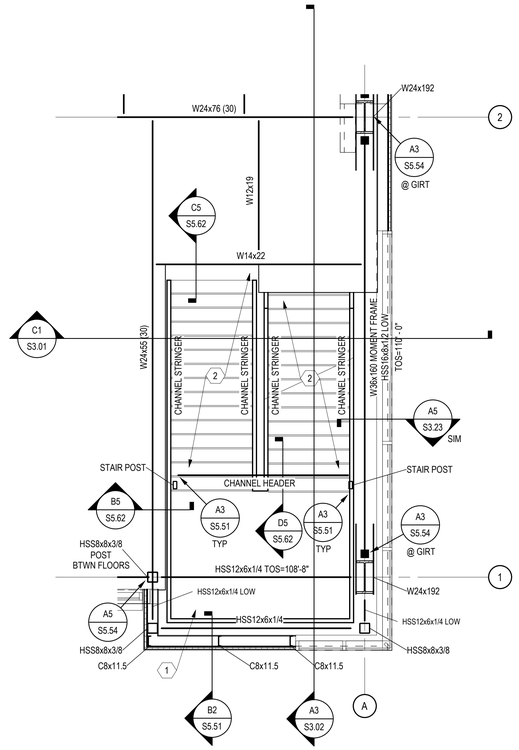
SHEET NUMBER: S4.01

ENLARGED STAIR PLANS



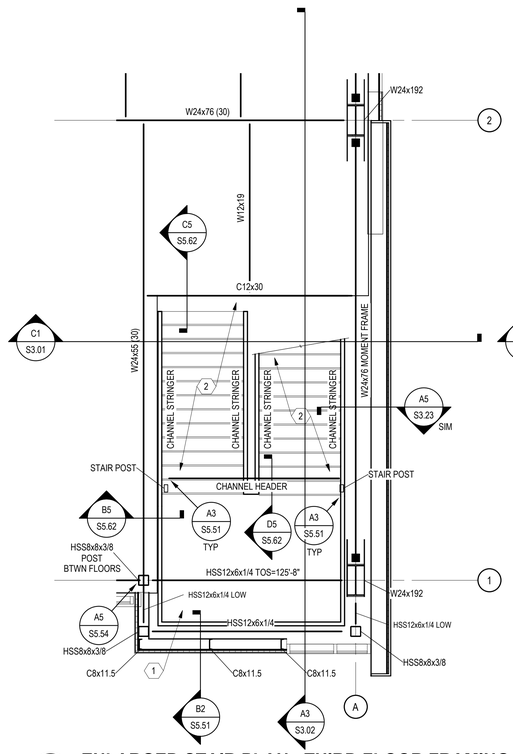
C1 ENTRY CANOPY FRAMING PLAN

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



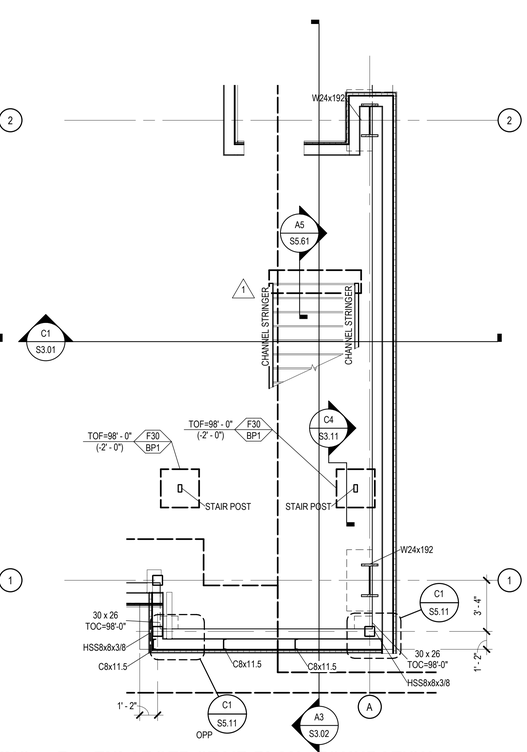
C4 ENLARGED STAIR PLAN - SECOND FLOOR FRAMING

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



A3 ENLARGED STAIR PLAN - THIRD FLOOR FRAMING

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



A4 ENLARGED STAIR PLAN - FOUNDATION

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

GENERAL SHEET NOTES

1. SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
2. DIMENSIONS ARE TO THE FACE OF CONCRETE, OR STUD UNLESS NOTED OTHERWISE. COORDINATE ALL STAIR DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR INTERMEDIATE LANDING ELEVATIONS.
4. SEE ARCHITECTURAL DRAWINGS FOR STAIR RISE AND RUN.
5. STRUCTURAL COLD FORMED METAL STUDS SHALL BE 600S162-43 AT 16" ON CENTER UNLESS NOTED OTHERWISE.

SHEET KEYNOTE

1. 4" NORMAL WEIGHT CONCRETE LANDING SLAB REINFORCED WITH 6x6-W2.1xW2.1 WELDED WIRE FABRIC IN FLAT SHEETS ONLY OVER METAL PAN. SEE ARCHITECTURAL DRAWINGS FOR LANDING ELEVATIONS.
2. 2" CONCRETE FILLED METAL PANS, REINFORCED WITH 6x6-W2.1xW2.1 WELDED WIRE FABRIC.

ENTIRE SHEET REVISED 2

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FIRST CAPITAL
SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

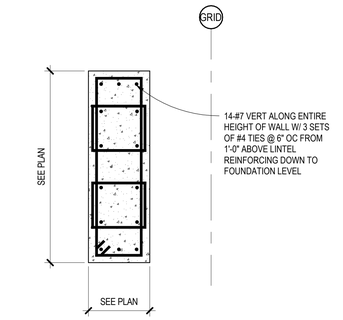
PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
1	4/2/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02

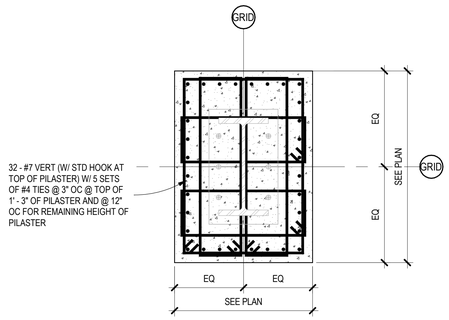
DATE:	JOB NUMBER:
03-20-19	17-13

SHEET NUMBER:
S4.02

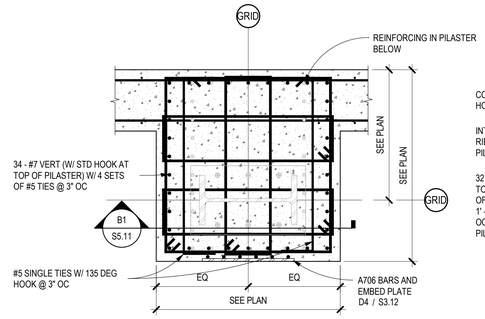
ENLARGED PLANS



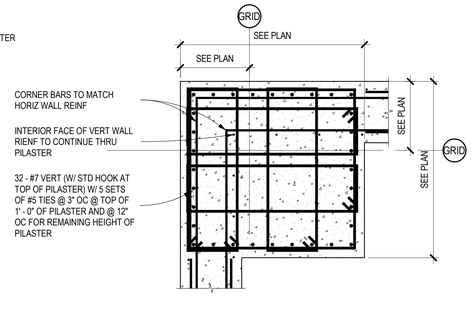
D1 JAMB DETAIL
SCALE: 3/4" = 1'-0"



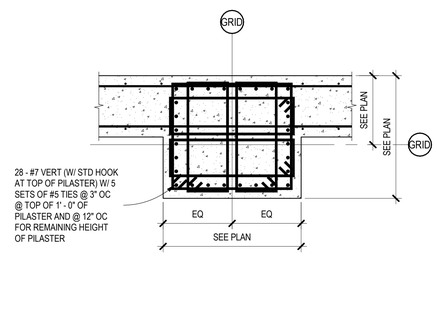
D2 PILASTER DETAIL
SCALE: 3/4" = 1'-0"



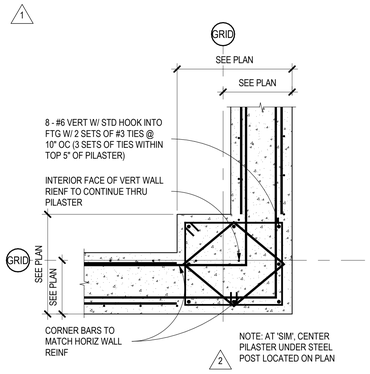
D3 PILASTER DETAIL - UPPER PILASTER
SCALE: 3/4" = 1'-0"



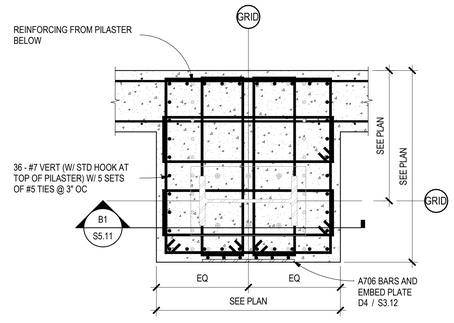
D4 PILASTER DETAIL - LOWER PILASTER
SCALE: 3/4" = 1'-0"



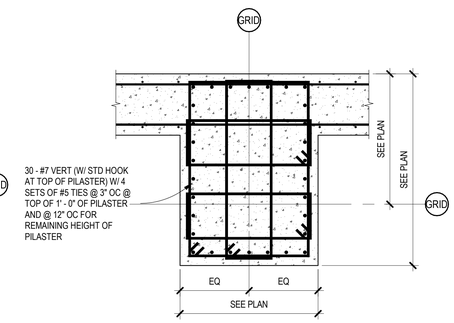
D5 PILASTER DETAIL - LOWER PILASTER
SCALE: 3/4" = 1'-0"



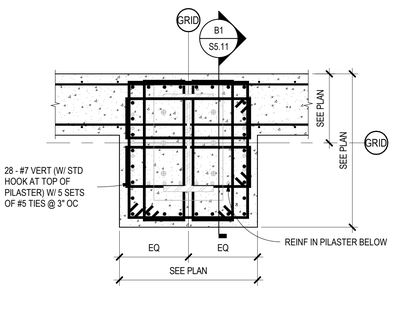
C1 PILASTER DETAIL - STAIR SHAFT
SCALE: 3/4" = 1'-0"



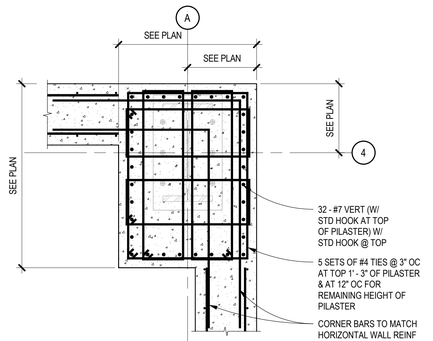
C2 PILASTER DETAIL - UPPER PILASTER
SCALE: 3/4" = 1'-0"



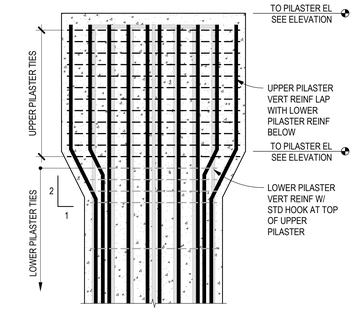
C3 PILASTER DETAIL - LOWER PILASTER
SCALE: 3/4" = 1'-0"



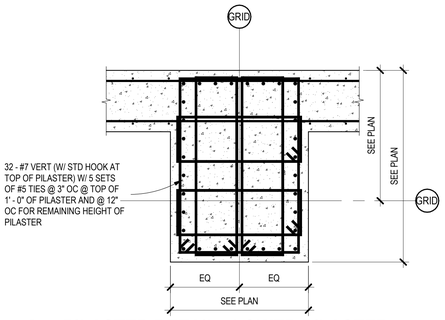
C4 PILASTER DETAIL - UPPER PILASTER
SCALE: 3/4" = 1'-0"



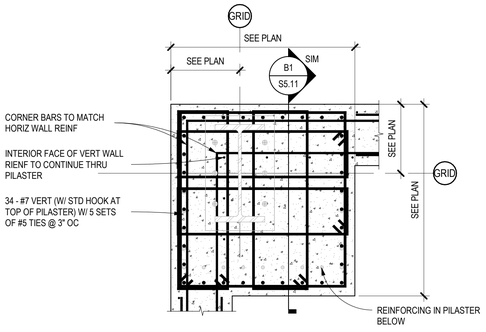
C5 PILASTER DETAIL
SCALE: 3/4" = 1'-0"



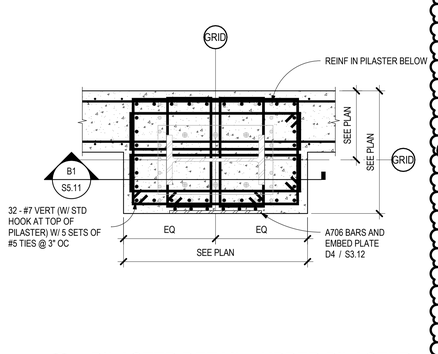
B1 PILASTER SPLICE SECTION
SCALE: 3/4" = 1'-0"



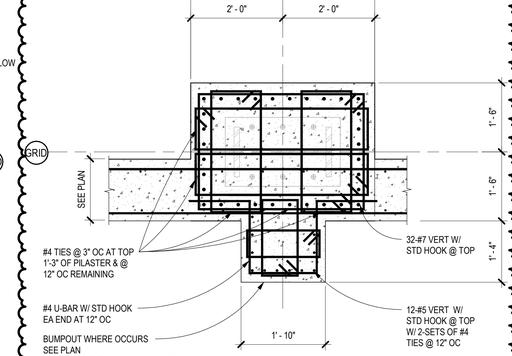
B2 PILASTER DETAIL - LOWER PILASTER
SCALE: 3/4" = 1'-0"



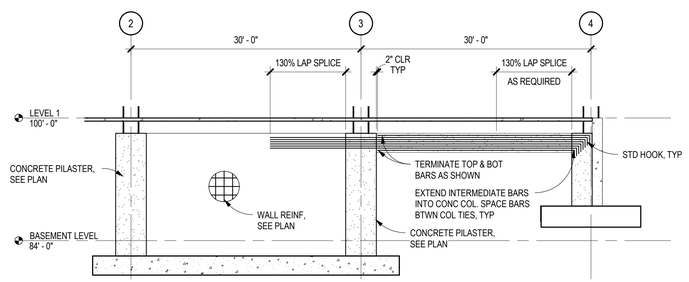
B3 PILASTER DETAIL - UPPER PILASTER
SCALE: 3/4" = 1'-0"



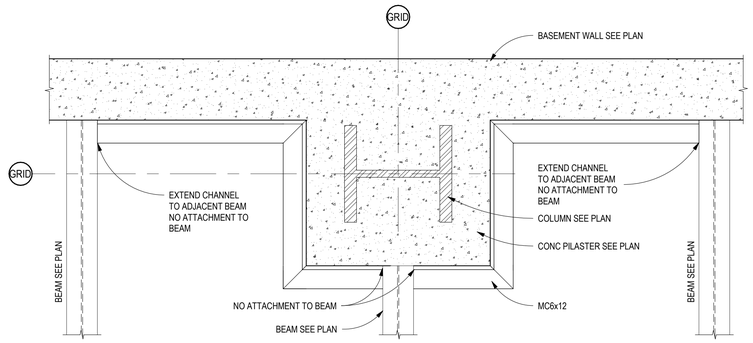
B4 PILASTER DETAIL - UPPER PILASTER
SCALE: 3/4" = 1'-0"



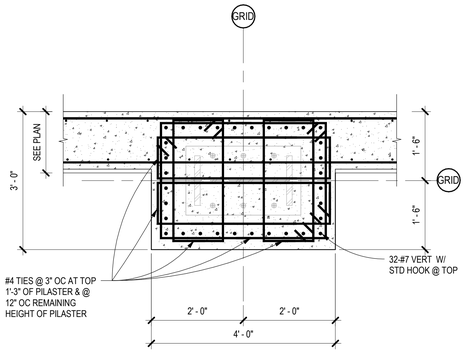
B5 PILASTER DETAIL
SCALE: 3/4" = 1'-0"



A1 SHEAR WALL ELEVATION DETAIL
SCALE: 1/8" = 1'-0"



A3 TYPICAL PERIMETER CHANNEL AT BASEMENT LID PLAN
SCALE: 3/4" = 1'-0"



A5 PILASTER DETAIL
SCALE: 3/4" = 1'-0"

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2-28-2019

CONSULTANT LOGO:
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CLIENT:
THE CHEROKEE NATION
SEAL OF THE CHEROKEE NATION
SEPT. 6, 1839

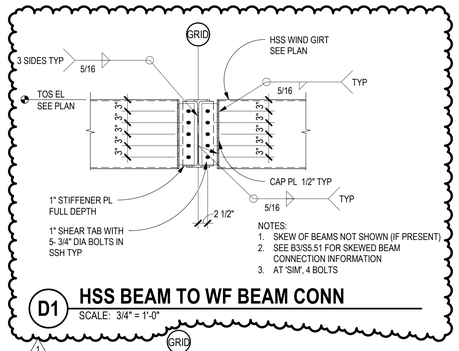
College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

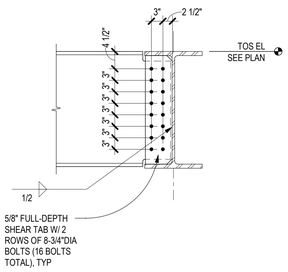
PROJECT PHASE:
BID PACKAGE 03

REVISIONS:		
#	DATE	DESCRIPTION
1	4/2/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02
3	7/12/19	BID PACKAGE 03 ASI 03

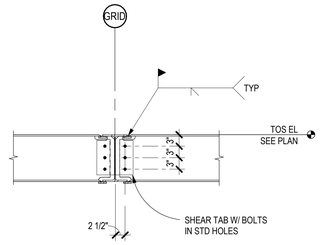
DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S5.11
CONCRETE DETAILS



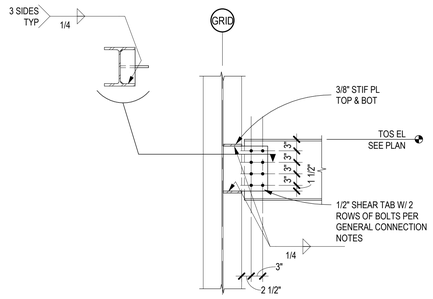
D1 HSS BEAM TO WF BEAM CONN
SCALE: 3/4" = 1'-0"



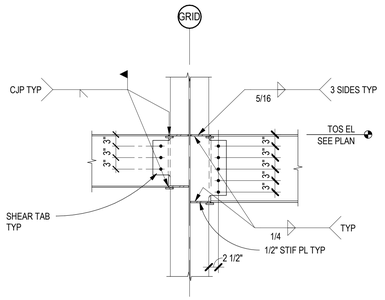
D2 BEAM TO EXTENDED SHEAR TAB
SCALE: 3/4" = 1'-0"



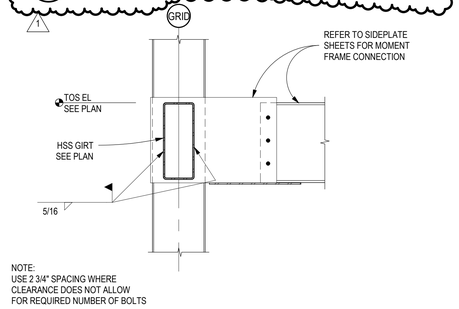
D3 BEAM TO BEAM MOMENT CONN
SCALE: 3/4" = 1'-0"



D4 BM TO COL WEB TWO ROWS
SCALE: 3/4" = 1'-0"

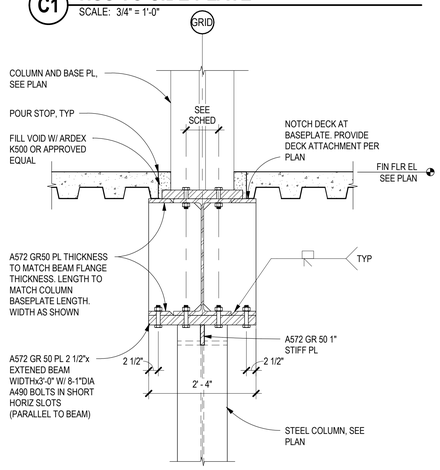


D5 BEAM TO COLUMN WEB CONN
SCALE: 3/4" = 1'-0"



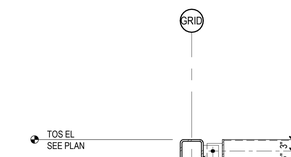
NOTE:
USE 2 3/4" SPACING WHERE CLEARANCE DOES NOT ALLOW FOR REQUIRED NUMBER OF BOLTS

C1 HSS TO SIDE PLATE
SCALE: 3/4" = 1'-0"



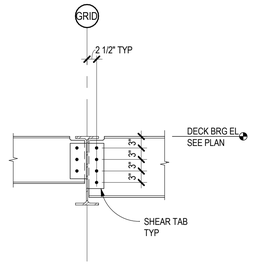
NOTE: SEE A1 / S5.51 FOR INFORMATION NOT SHOWN.

B1 MF COLUMN ON BEAM DETAIL
SCALE: 3/4" = 1'-0"



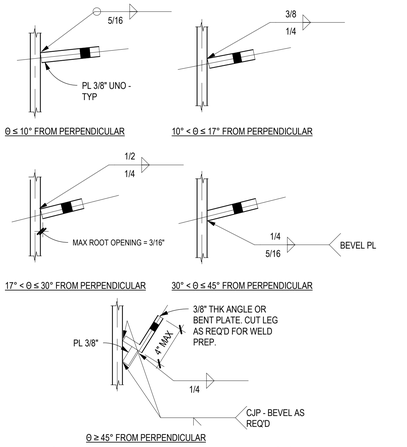
NOTE:
AT 'SIM', HSS BEAM TO HSS COLUMN

C2 BEAM TO BEAM CONN
SCALE: 3/4" = 1'-0"

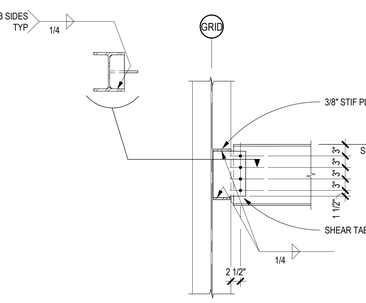


C3 TYPICAL BEAM TO BEAM CONN
SCALE: 3/4" = 1'-0"

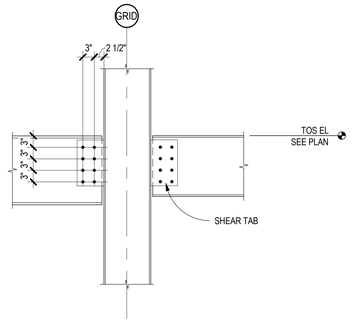
NOTE:
FOR PLATE THICKNESS EXCEEDING 3/8", MINIMUM FILLET WELD SIZES SHALL BE 5/8 TIMES THE PLATE THICKNESS



B3 SKEWED BEAM TO BEAM CONN
SCALE: 3/4" = 1'-0"



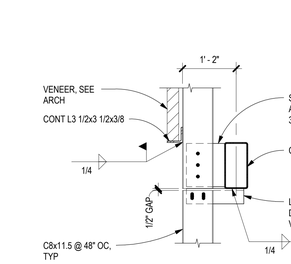
C4 BEAM TO COLUMN WEB CONN
SCALE: 3/4" = 1'-0"



C5 BEAM TO COLUMN FLANGE CONN
SCALE: 3/4" = 1'-0"

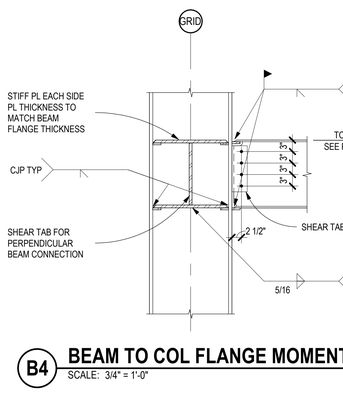
NOTE: SEE A1 / S5.51 FOR INFORMATION NOT SHOWN.

B1 MF COLUMN ON BEAM DETAIL
SCALE: 3/4" = 1'-0"

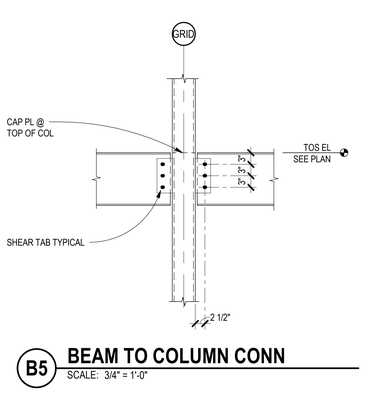


B2 HSS FRAMING SECTIONS
SCALE: 3/4" = 1'-0"

A3 BEAM OVER COLUMN CONN
SCALE: 3/4" = 1'-0"

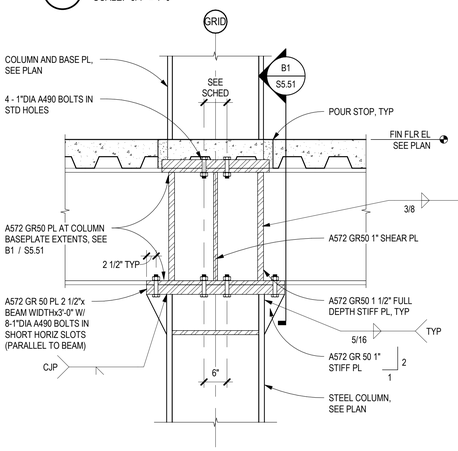


A4 BEAM TO COLUMN FLANGE CONN
SCALE: 3/4" = 1'-0"

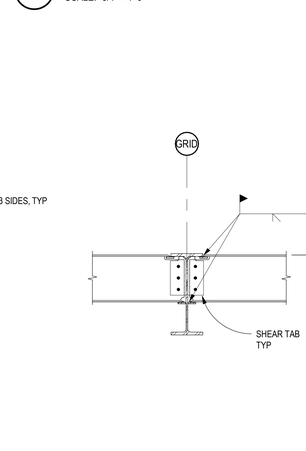


B4 BEAM TO COL FLANGE MOMENT CONN
SCALE: 3/4" = 1'-0"

B5 BEAM TO COLUMN CONN
SCALE: 3/4" = 1'-0"



A1 MF COLUMN ON BEAM DETAIL - MID
SCALE: 3/4" = 1'-0"



A2 BEAM TO BEAM MOMENT CONN
SCALE: 3/4" = 1'-0"

1. PROVIDE 1/4" CAP PLATE AT THE TOP OF ALL HOLLOW STRUCTURAL STEEL (HSS) COLUMNS UNLESS NOTED OTHERWISE.
2. PROVIDE 1/4" CAP PLATE AT THE TOP OF ALL PIPE COLUMNS UNLESS NOTED OTHERWISE.
3. PROVIDE 1/2" CAP PLATE AT THE TOP OF ALL WIDE FLANGE COLUMNS UNLESS NOTED OTHERWISE.
4. PROVIDE 1/4" END PLATE AT ALL EXPOSED HSS MEMBERS UNLESS NOTED OTHERWISE.
5. ALL CONNECTION SHEAR TABS SHALL BE PL 3/8" UNLESS NOTED OTHERWISE. PROVIDE 5/16" FILLET WELD EACH SIDE OF SHEAR TAB TO SUPPORTING MEMBER.
6. ALL BOLTS SHALL BE 3/4 " DIAMETER A325N IN SHORT SLOTS AS FOLLOWS UNLESS NOTED OTHERWISE:
   - 2 @ W8, W10
   - 3 @ W12
   - 4 @ W14, W16
   - 5 @ W18, W21
   - 6 @ W24
   - 7 @ W27
   - 8 @ W30
   - 9 @ W33
   - 10 @ W36
   - 11 @ W40
   - 12@ W44

A5 TYPICAL STEEL CONN NOTES
SCALE: 3/4" = 1'-0"

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505-344-4080 505-343-8759 (fax)

CLIENT:

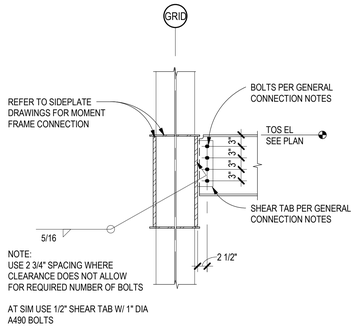
COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

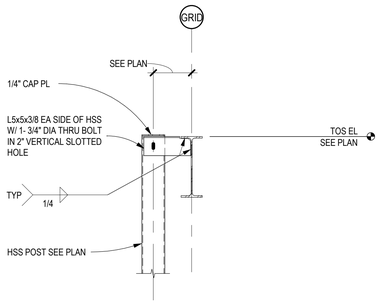
REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S5.51
STEEL DETAILS



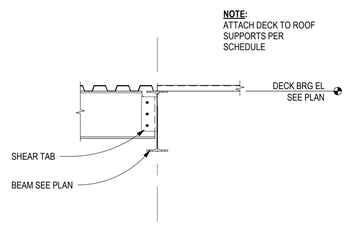
D2 BM TO COL WEB CONN AT SIDEPLATE

SCALE: 3/4" = 1'-0"



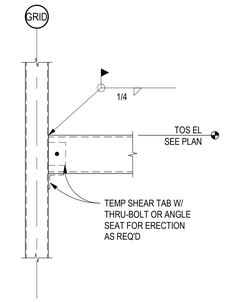
D3 TYPICAL POST TO ROOF BEAM CONN

SCALE: 3/4" = 1'-0"



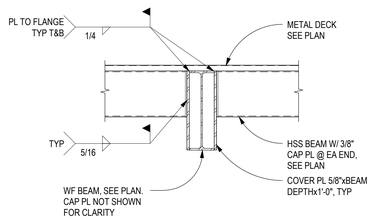
D4 ROOF DECK TRANSITION

SCALE: 3/4" = 1'-0"



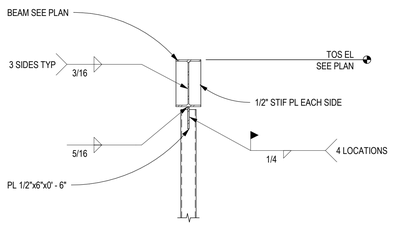
D5 HSS CONNECTION W/ PARTIAL FIXITY

SCALE: 3/4" = 1'-0"



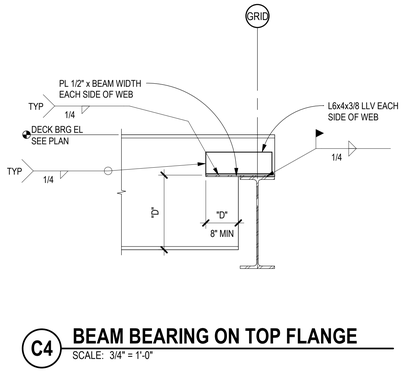
C2 HSS TO WF BEAM DETAIL

SCALE: 3/4" = 1'-0"



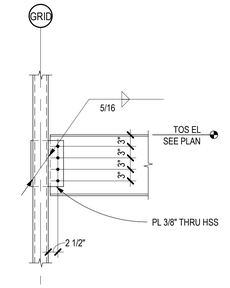
C3 HSS HANGER TO BEAM

SCALE: 3/4" = 1'-0"



C4 BEAM BEARING ON TOP FLANGE

SCALE: 3/4" = 1'-0"

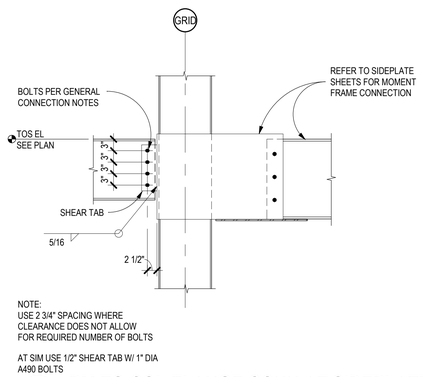


C5 BEAM TO HSS COL W/ THRU PL CONN

SCALE: 3/4" = 1'-0"

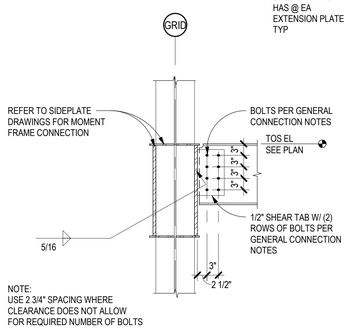
B1 DIAG ANGLE AT MOMENT (WUF) CONN

SCALE: 3/4" = 1'-0"



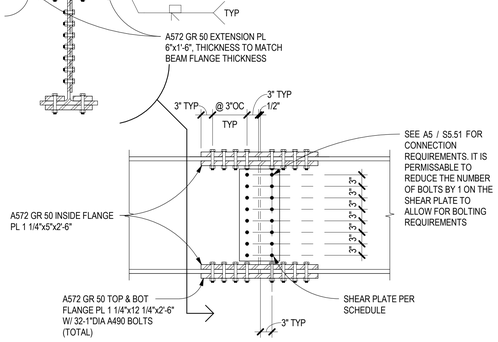
B2 BM TO COL FLANGE CONN AT SIDEPLATE

SCALE: 3/4" = 1'-0"



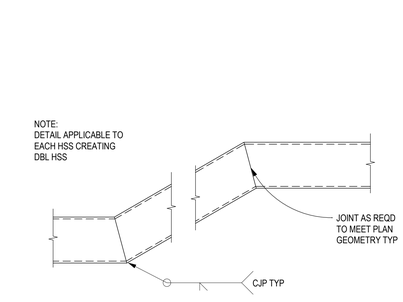
B3 BM TO COL WEB CONN AT SIDEPLATE

SCALE: 3/4" = 1'-0"



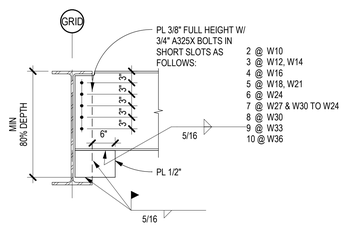
B4 WF BEAM SPLICE

SCALE: 3/4" = 1'-0"



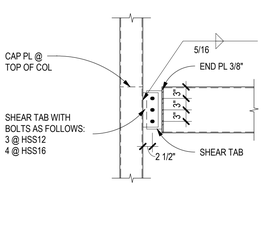
B5 DBL BENT HSS GIRT DETAIL

SCALE: 3/4" = 1'-0"



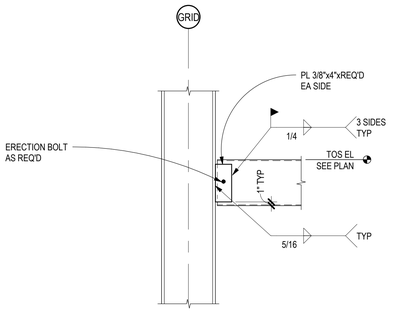
A1 BEAM CONN AT MOMENT (WUF) CONN

SCALE: 3/4" = 1'-0"



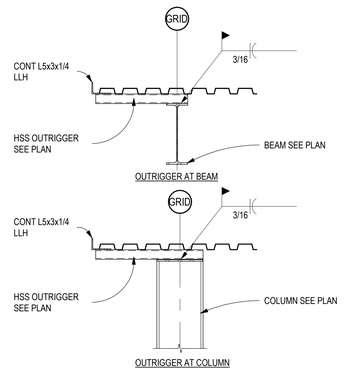
A2 HSS BEAM TO HSS COLUMN DETAIL

SCALE: 3/4" = 1'-0"



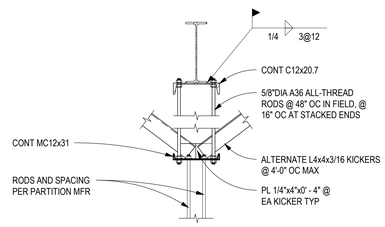
A3 HSS CONN W/ VERT LOAD ONLY

SCALE: 3/4" = 1'-0"



A4 ROOF OUTRIGGER DETAIL

SCALE: 3/4" = 1'-0"



A5 PARTITION SUPPORT SECTION

SCALE: 3/4" = 1'-0"

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5.10.19

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CLIENT:

THE CHEROKEE NATION
TRIBAL SEAL
SEPT. 6, 1839

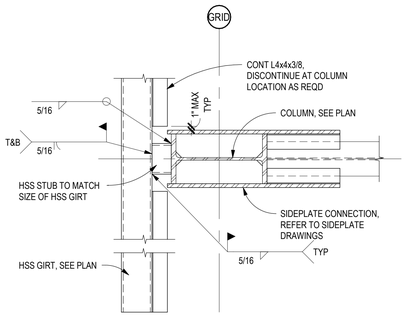
COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

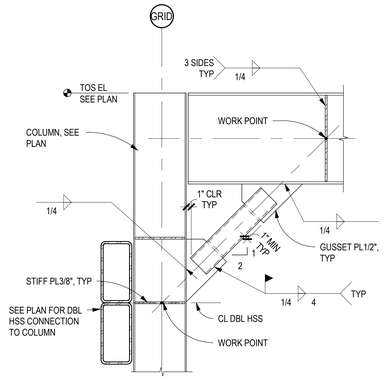
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

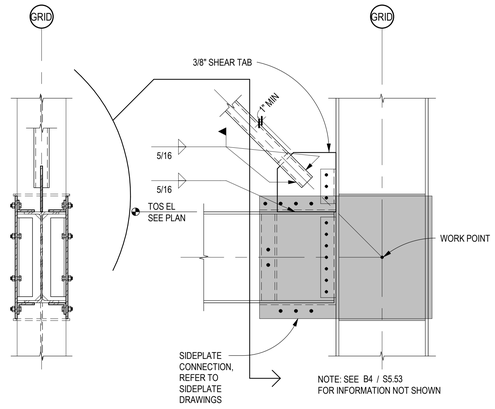
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S5.52
STEEL DETAILS



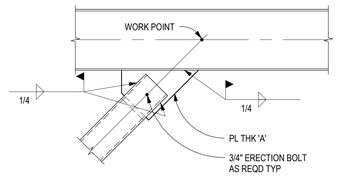
D2 FRAMING EXTENSION DETAIL
SCALE: 3/4" = 1'-0"



D3 VERTICAL BRACE AT COL FLANGE
SCALE: 3/4" = 1'-0"



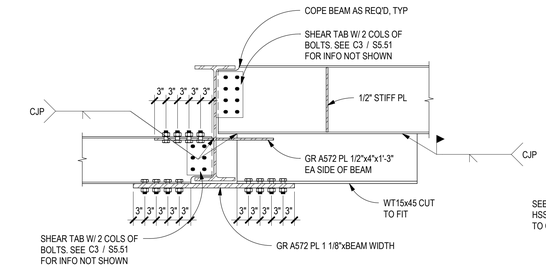
C4 BRACE PARALLEL TO SIDEPLATE CONN
SCALE: 3/4" = 1'-0"



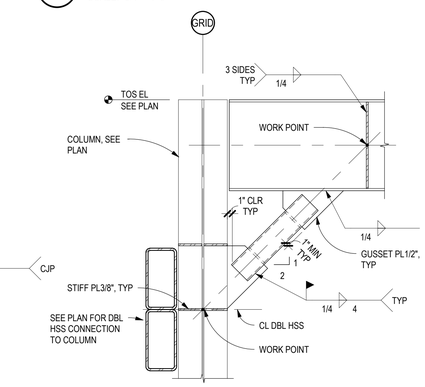
CONNECTION SCHEDULE		
BRACE SIZE	PL THK 'A'	WELD LENGTH 'A'
HSS4x4	1/2"	4"

NOTES
1. LENGTHS GIVEN ARE SINGLE-SIDE LENGTHS AND MINIMUM REQUIRED LENGTHS
2. LONGER GUSSET/WELD LENGTHS MAY BE REQ'D WHERE BRACE SLOPE VARIES FROM 1:1

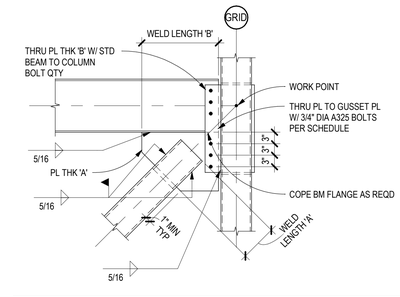
C5 BRACED FRAME CONNECTION
SCALE: 3/4" = 1'-0"



C2 LOW ROOF MOMENT CONNECTION
SCALE: 3/4" = 1'-0"



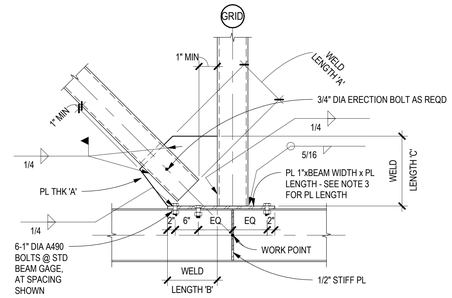
C3 VERTICAL BRACE AT COLUMN WEB
SCALE: 3/4" = 1'-0"



CONNECTION SCHEDULE					
BRACE SIZE	PL THK 'A'	THRU PL THK 'B'	WELD LENGTH 'A'	WELD LENGTH 'B'	GUSSET PL BOLTS
HSS5x5	5/8"	5/8"	5"	20"	3
HSS6x6	5/8"	5/8"	6"	22"	3

NOTES
1. LENGTHS GIVEN ARE SINGLE-SIDE LENGTHS AND MINIMUM LENGTHS
2. LONGER GUSSET/WELD LENGTHS MAY BE REQ'D WHERE BRACE SLOPE VARIES FROM 1:1
3. ALL BOLTS IN STANDARD HOLES

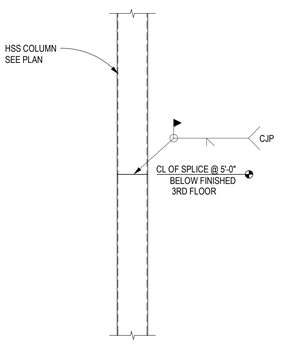
B4 BRACED FRAME CONNECTION
SCALE: 3/4" = 1'-0"



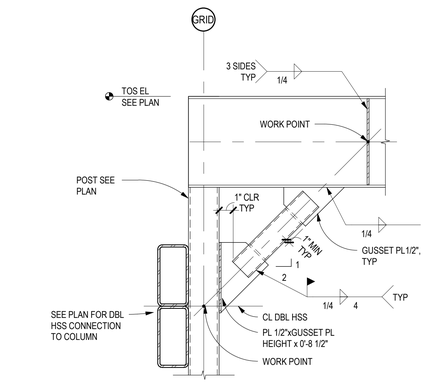
CONNECTION SCHEDULE				
BRACE SIZE	PL THK 'A'	WELD LENGTH 'A'	WELD LENGTH 'B'	WELD LENGTH 'C'
HSS4x4	1/2"	4"	12"	12"
HSS5x5	1/2"	5"	12"	12"
HSS6x6	5/8"	6"	12"	12"

NOTES
1. LENGTHS GIVEN ARE SINGLE-SIDE LENGTHS AND MINIMUM LENGTHS
2. LONGER GUSSET/WELD LENGTHS MAY BE REQ'D WHERE BRACE SLOPE VARIES FROM 1:1
3. PLATE LENGTHS BASED ON POST SIZE
   A. HSS5x5 & HSS6x6: 1'-8"
   B. HSS8x8: 2'-0"

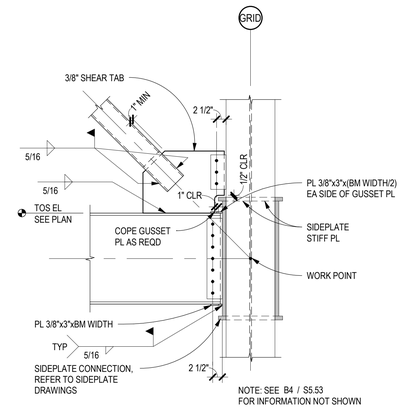
B5 BRACED FRAME CONNECTION
SCALE: 3/4" = 1'-0"



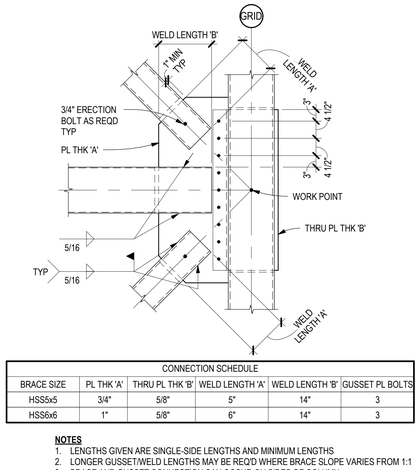
A1 HSS COLUMN SPLICE
SCALE: 3/4" = 1'-0"



A2 VERTICAL BRACE AT HSS COLUMN
SCALE: 3/4" = 1'-0"



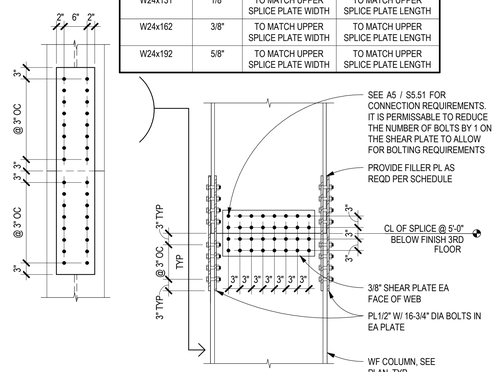
A3 BRACE PERP TO SIDEPLATE CONN
SCALE: 3/4" = 1'-0"



CONNECTION SCHEDULE					
BRACE SIZE	PL THK 'A'	THRU PL THK 'B'	WELD LENGTH 'A'	WELD LENGTH 'B'	GUSSET PL BOLTS
HSS5x5	3/4"	5/8"	5"	14"	3
HSS6x6	1"	5/8"	6"	14"	3

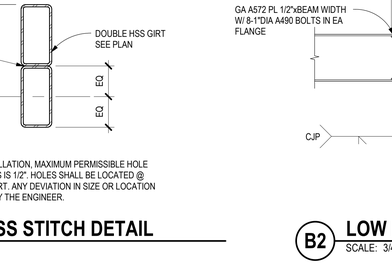
NOTES
1. LENGTHS GIVEN ARE SINGLE-SIDE LENGTHS AND MINIMUM LENGTHS
2. LONGER GUSSET/WELD LENGTHS MAY BE REQ'D WHERE BRACE SLOPE VARIES FROM 1:1
3. BRACE AND GUSSET CONNECTION CAN OCCUR ON SIDES OF COLUMN
4. ALL BOLTS IN STANDARD HOLES

A4 BRACED FRAME CONNECTION
SCALE: 3/4" = 1'-0"



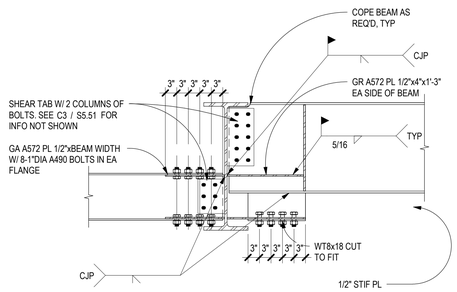
BOLTED SPLICE PLATE FILL PLATE SCHEDULE			
BOTTOM COLUMN SIZE	FILLER PL THICKNESS	FILLER PLATE WIDTH	FILLER PLATE LENGTH
W24x131	1/8"	TO MATCH UPPER SPLICE PLATE WIDTH	TO MATCH UPPER SPLICE PLATE LENGTH
W24x162	3/8"	TO MATCH UPPER SPLICE PLATE WIDTH	TO MATCH UPPER SPLICE PLATE LENGTH
W24x192	5/8"	TO MATCH UPPER SPLICE PLATE WIDTH	TO MATCH UPPER SPLICE PLATE LENGTH

A5 BOLTED WF COLUMN SPLICE
SCALE: 3/4" = 1'-0"

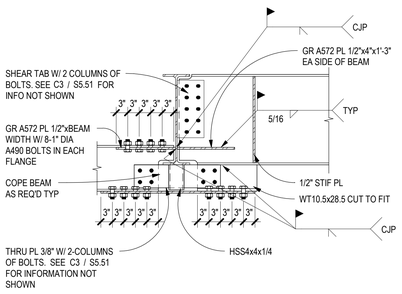


NOTE:
FOR INSULATION INSTALLATION, MAXIMUM PERMISSIBLE HOLE DIAMETER IN HSS GIRTS IS 1/2". HOLES SHALL BE LOCATED @ QUARTER POINTS IN GIRT. ANY DEVIATION IN SIZE OR LOCATION SHALL BE APPROVED BY THE ENGINEER.

B1 DOUBLE HSS STITCH DETAIL
SCALE: 3/4" = 1'-0"



B2 LOW ROOF MOMENT CONNECTION
SCALE: 3/4" = 1'-0"



B3 LOW ROOF MOMENT CONNECTION
SCALE: 3/4" = 1'-0"

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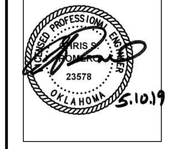
www.childersarchitect.com

PROFESSIONAL SEAL:



CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

THE CHEROKEE NATION FIRST CAPITAL SEPT. 6, 1839 TAHLEQUAH, OKLA.

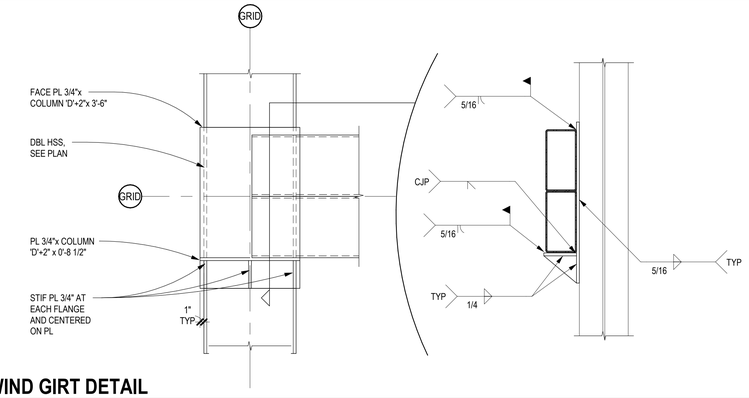
COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

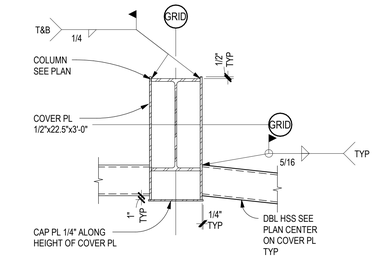
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

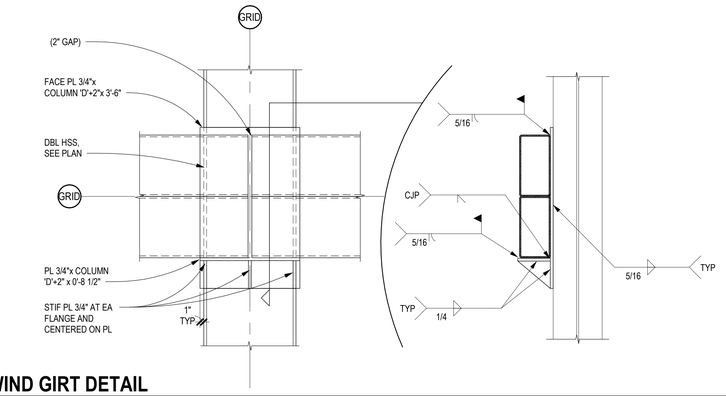
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S5.53
STEEL DETAILS



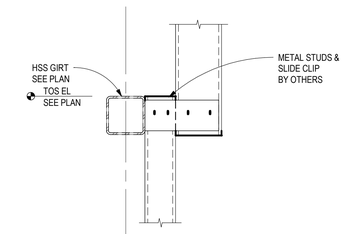
D3 WIND GIRT DETAIL
SCALE: 3/4" = 1'-0"



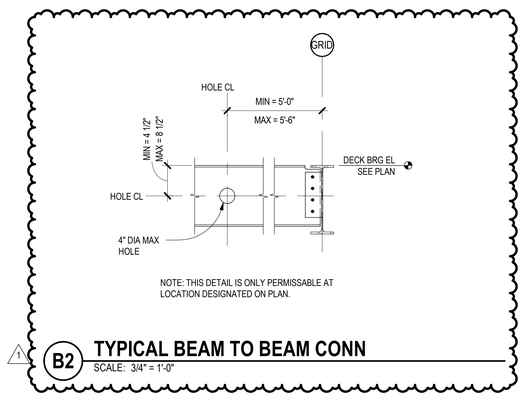
D5 GIRT AT COLUMN
SCALE: 3/4" = 1'-0"



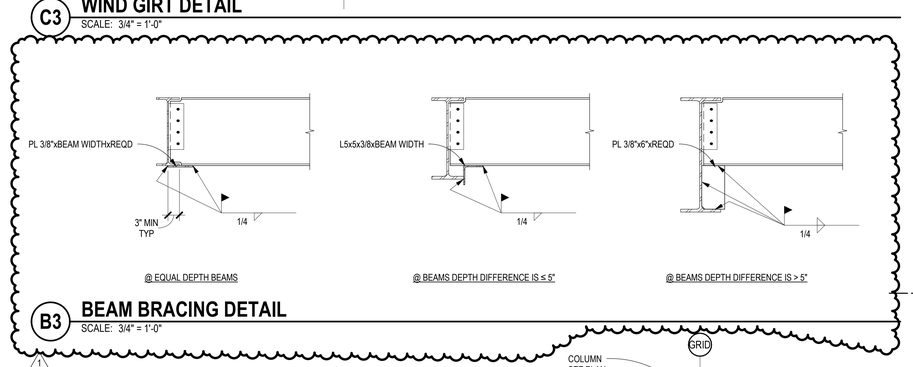
C3 WIND GIRT DETAIL
SCALE: 3/4" = 1'-0"



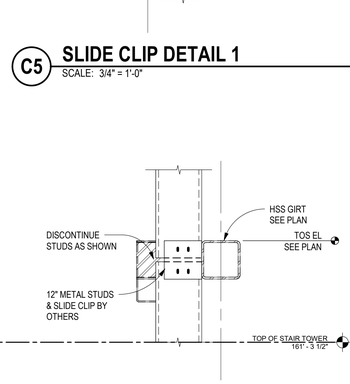
C5 SLIDE CLIP DETAIL 1
SCALE: 3/4" = 1'-0"



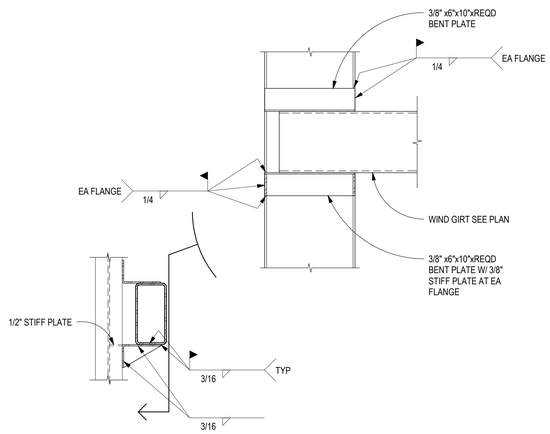
1 B2 TYPICAL BEAM TO BEAM CONN
SCALE: 3/4" = 1'-0"



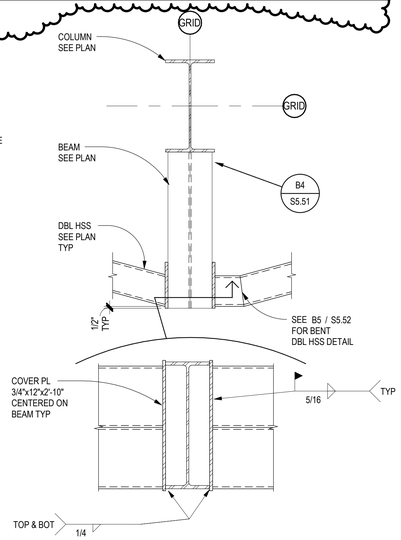
B3 BEAM BRACING DETAIL
SCALE: 3/4" = 1'-0"



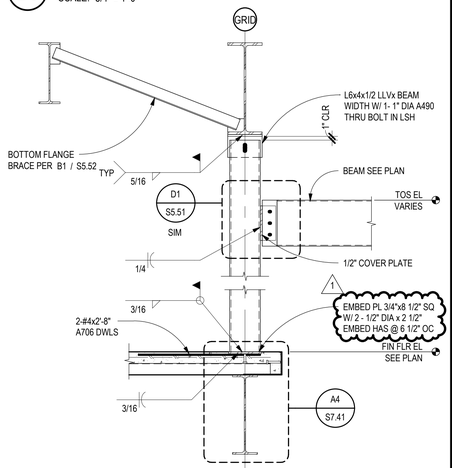
B5 SLIDE CLIP DETAIL
SCALE: 3/4" = 1'-0"



A3 HSS BEAM TO COLUMN FLANGE
SCALE: 3/4" = 1'-0"



A4 GIRT AT COLUMN
SCALE: 3/4" = 1'-0"



A5 FLOOR POST DETAIL
SCALE: 3/4" = 1'-0"

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CLIENT:

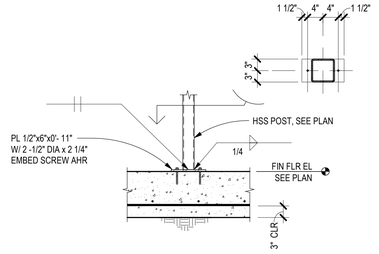
COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

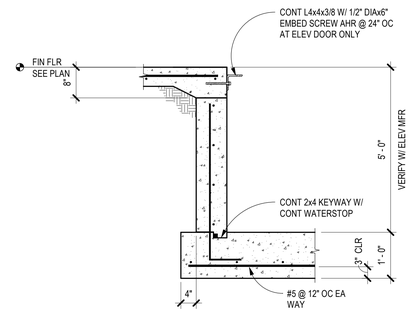
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

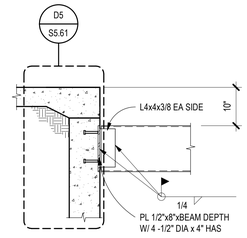
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S5.54
STEEL DETAILS



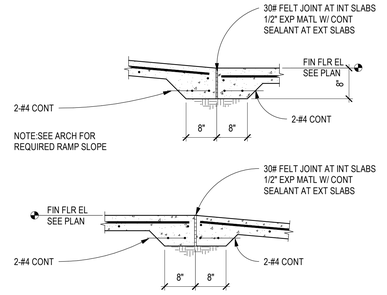
D4 INT COLUMN AT ELEVATOR PIT SLAB
SCALE: 3/4" = 1'-0"



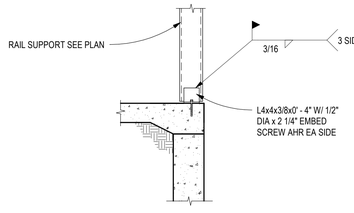
D5 ELEVATOR PIT SECTION
SCALE: 3/4" = 1'-0"



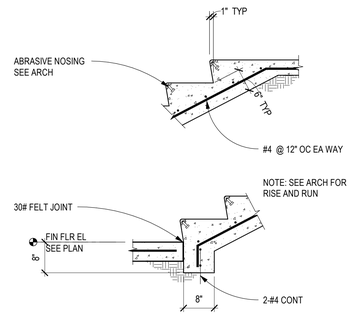
C4 ELEVATOR SEPARATOR BEAM
SCALE: 3/4" = 1'-0"



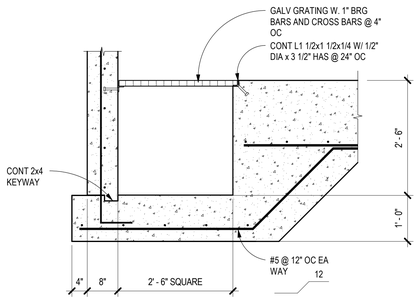
C5 TYPICAL RAMP SECTION
SCALE: 3/4" = 1'-0"



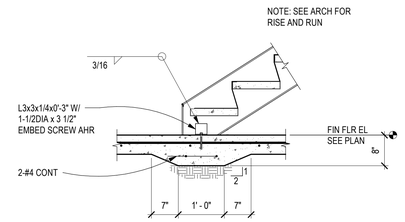
B4 ELEVATOR PIT SECTION
SCALE: 3/4" = 1'-0"



B5 TYPICAL CONC STAIR SECTION
SCALE: 3/4" = 1'-0"



A4 ELEVATOR SUMP PIT SECTION
SCALE: 3/4" = 1'-0"



A5 TYPICAL STAIR BASE DETAIL
SCALE: 3/4" = 1'-0"

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KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

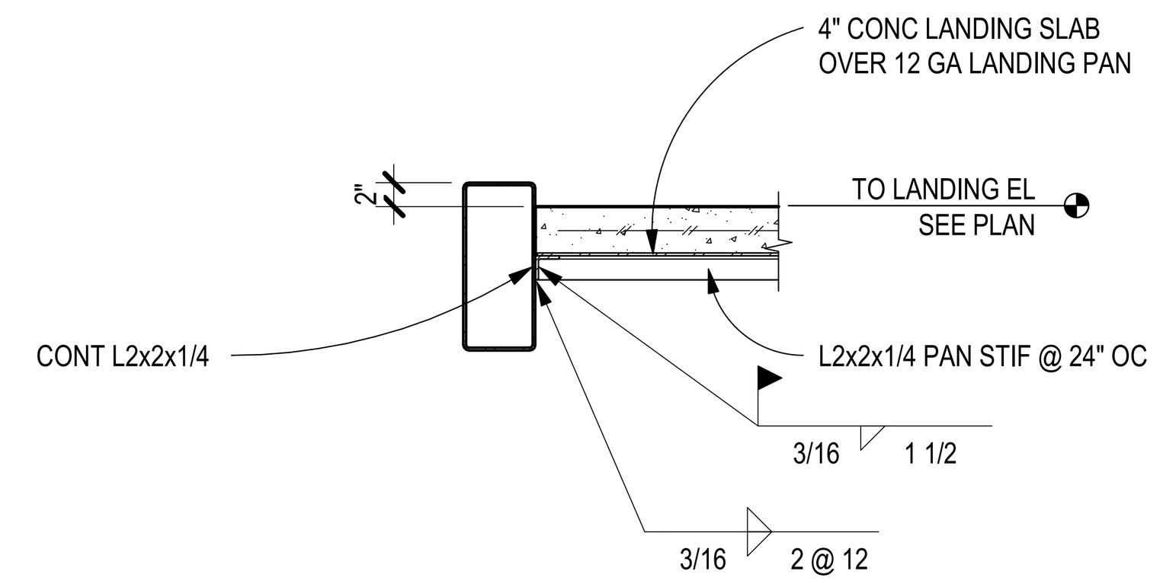
REVISIONS		
#	DATE	DESCRIPTION

DATE: 03-20-19
JOB NUMBER: 17-13

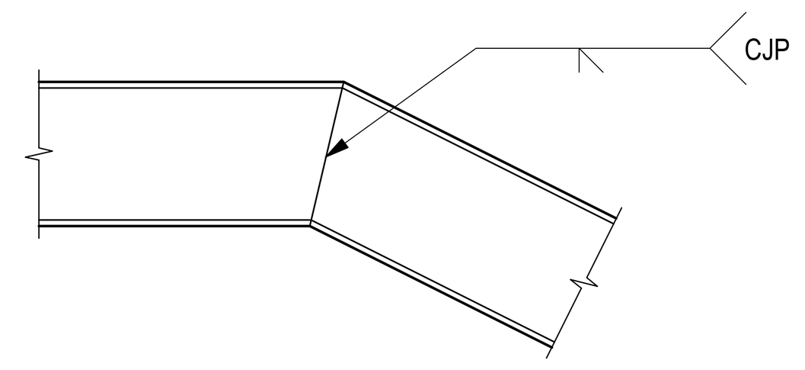
SHEET NUMBER:
S5.61

TYPICAL VERTICAL CIRCULATION FOUNDATION DETAILS

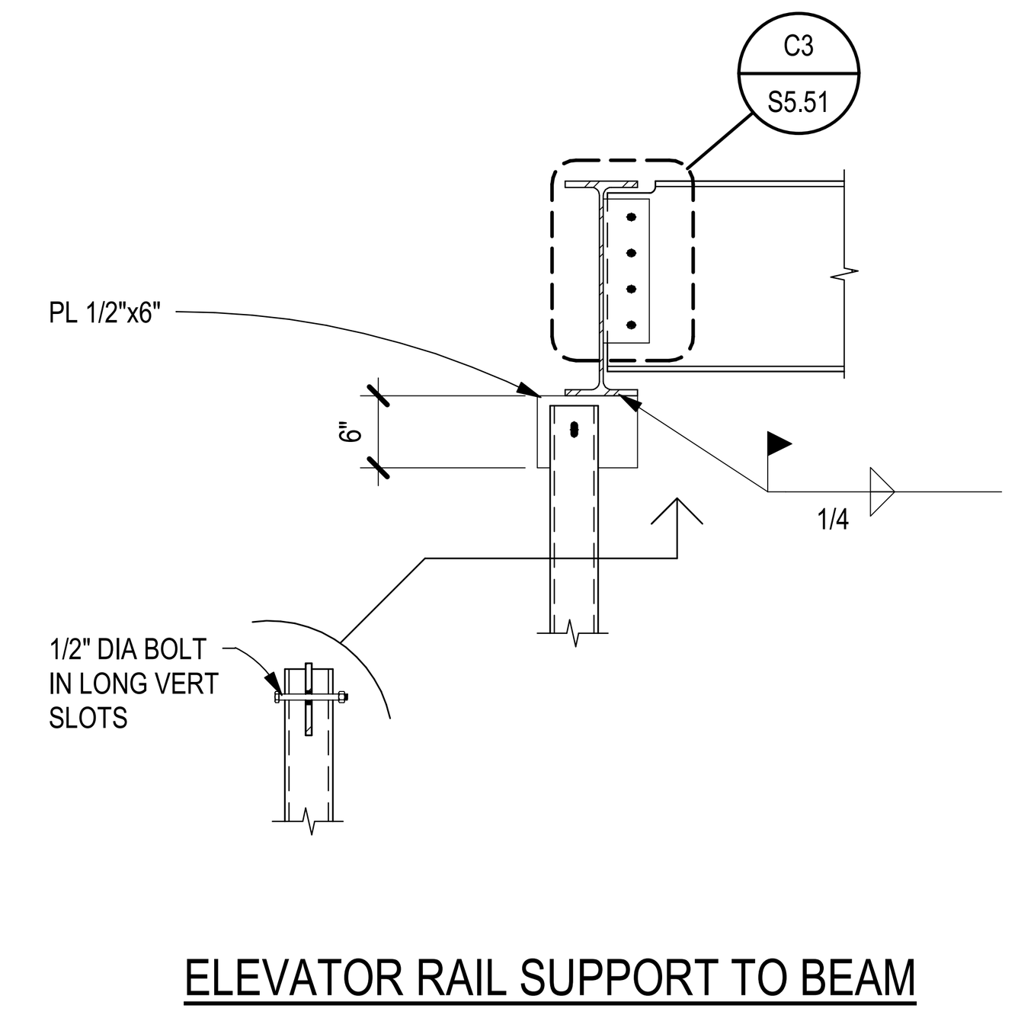
NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.



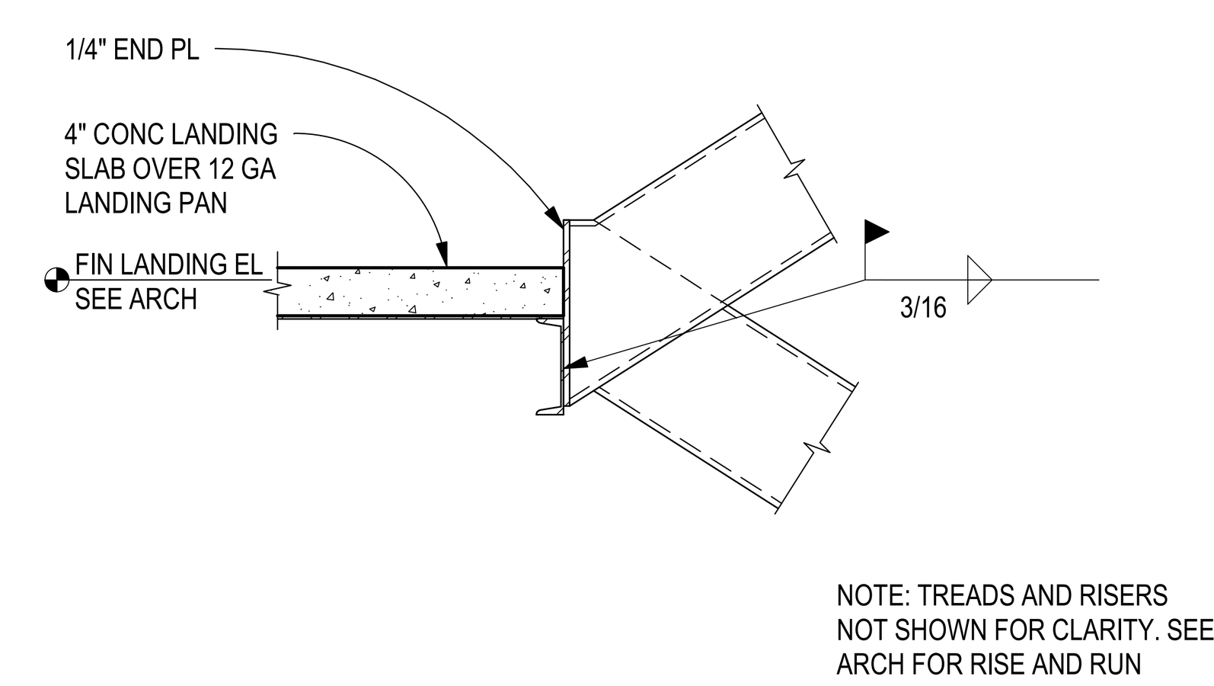
D2 STAIR LANDING SECTION
SCALE: 3/4" = 1'-0"



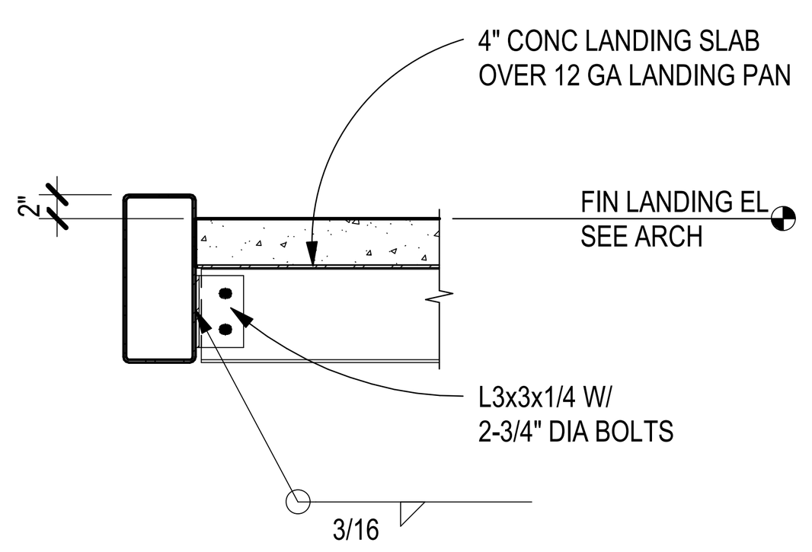
D3 STAIR STRINGER DETAIL
SCALE: 3/4" = 1'-0"



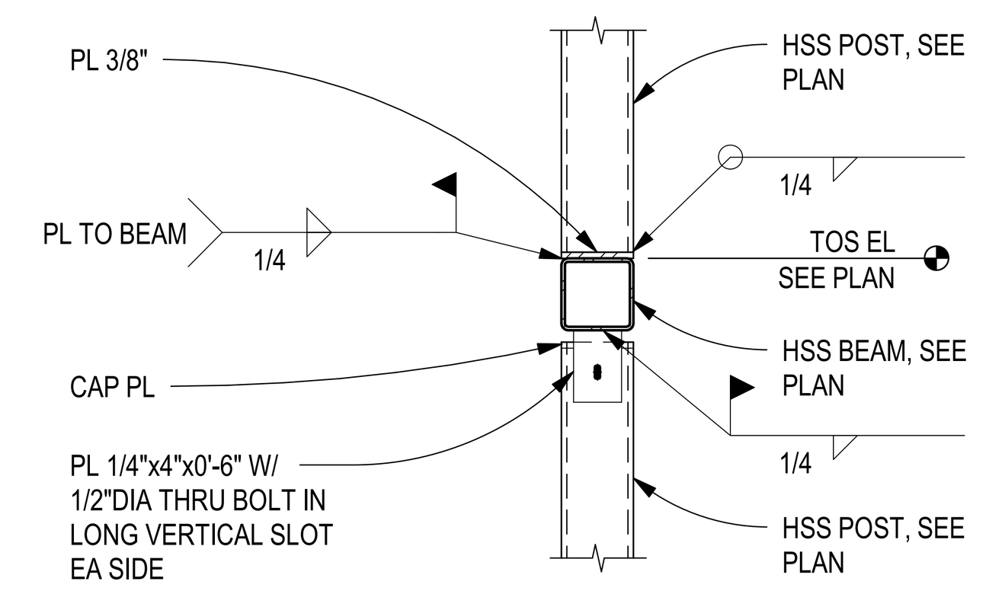
D4 ELEV RAIL SUPPORT TO ROOF
SCALE: 3/4" = 1'-0"



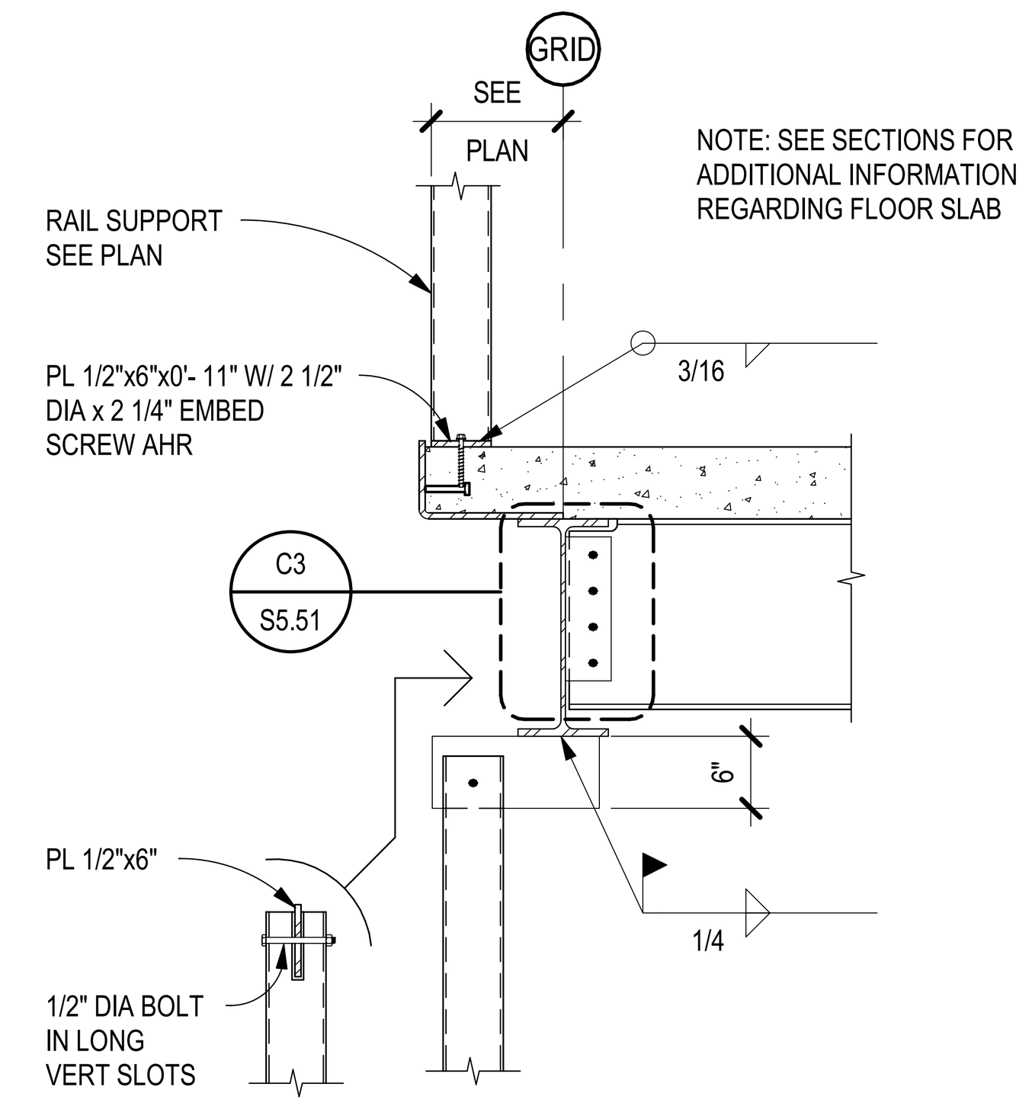
D5 INTERMEDIATE LANDING SECTION
SCALE: 3/4" = 1'-0"



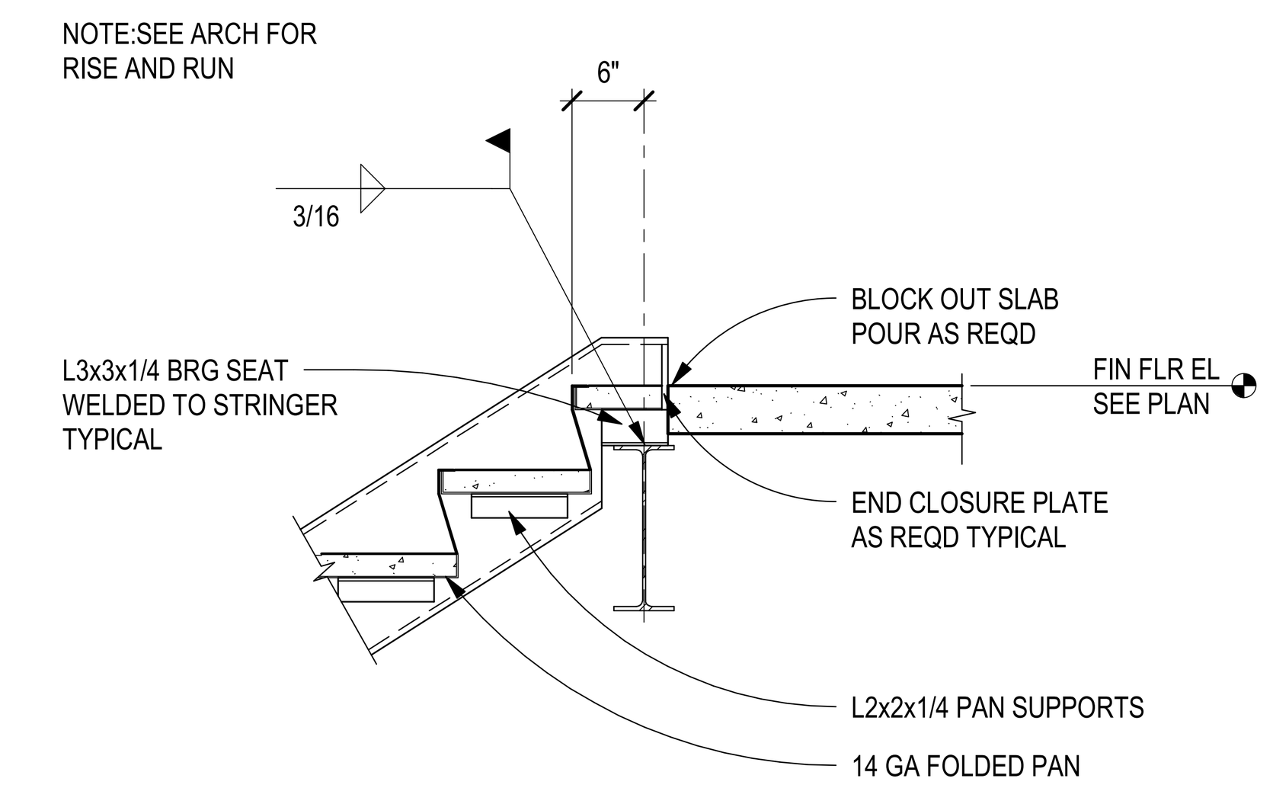
C2 STAIR LANDING SECTION
SCALE: 3/4" = 1'-0"



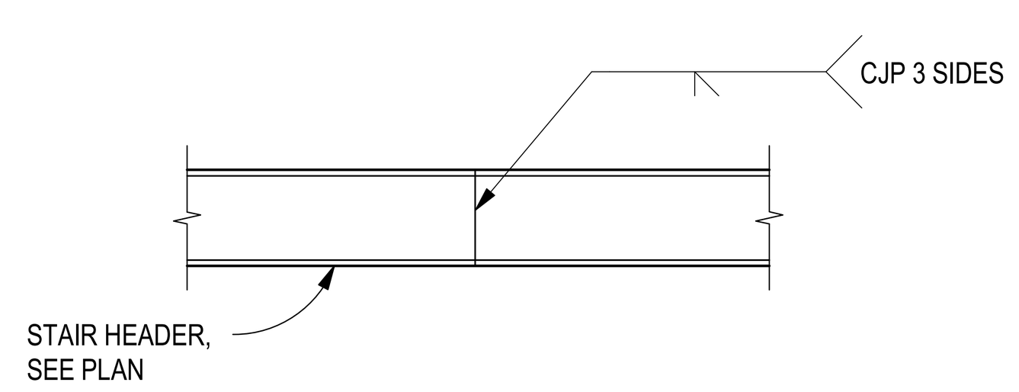
C3 ELEVATOR DETAIL
SCALE: 3/4" = 1'-0"



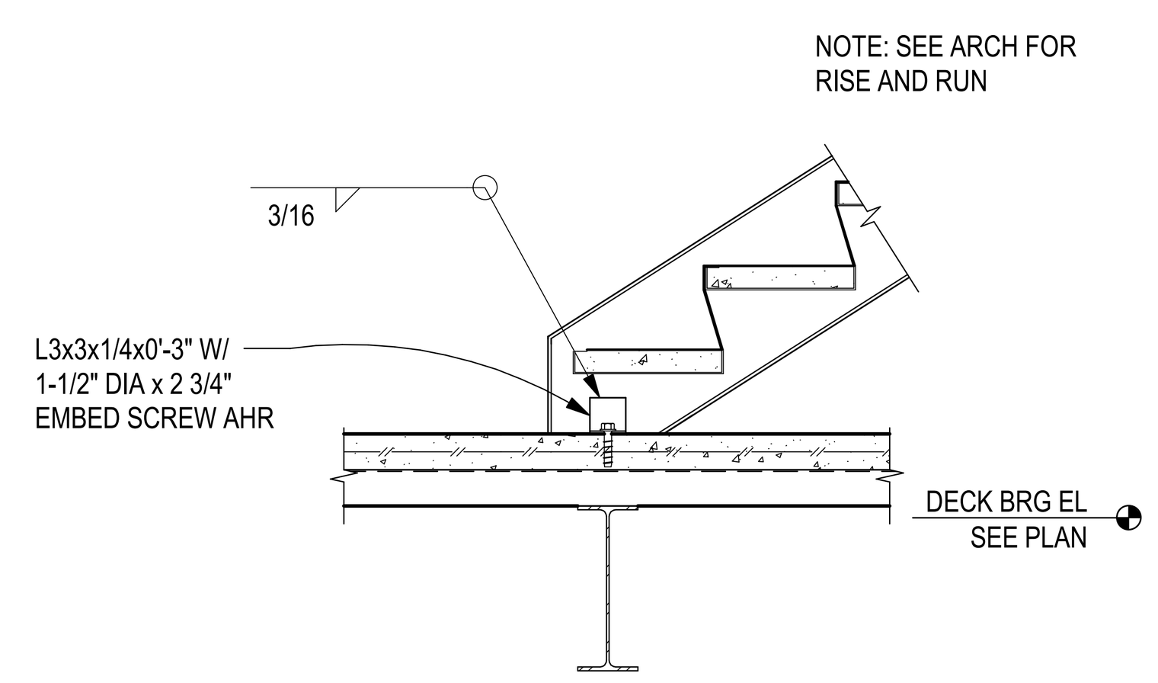
C4 ELEVATOR DETAIL
SCALE: 3/4" = 1'-0"



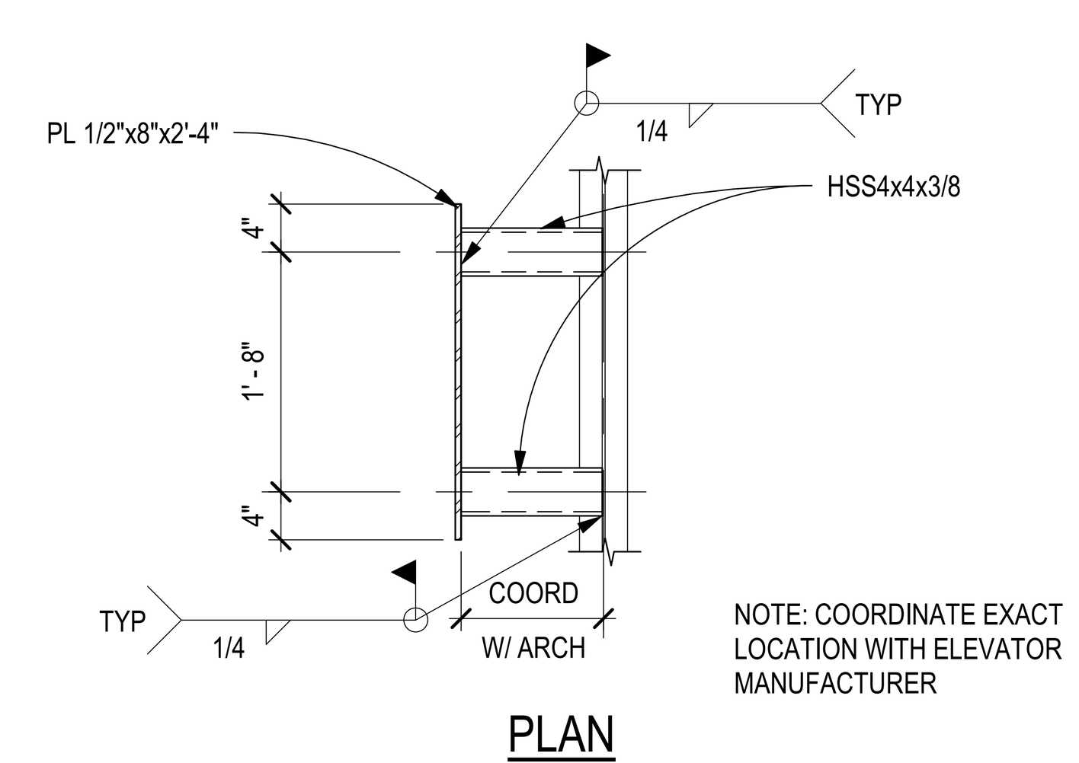
C5 STAIR STRINGER AT LANDING
SCALE: 3/4" = 1'-0"



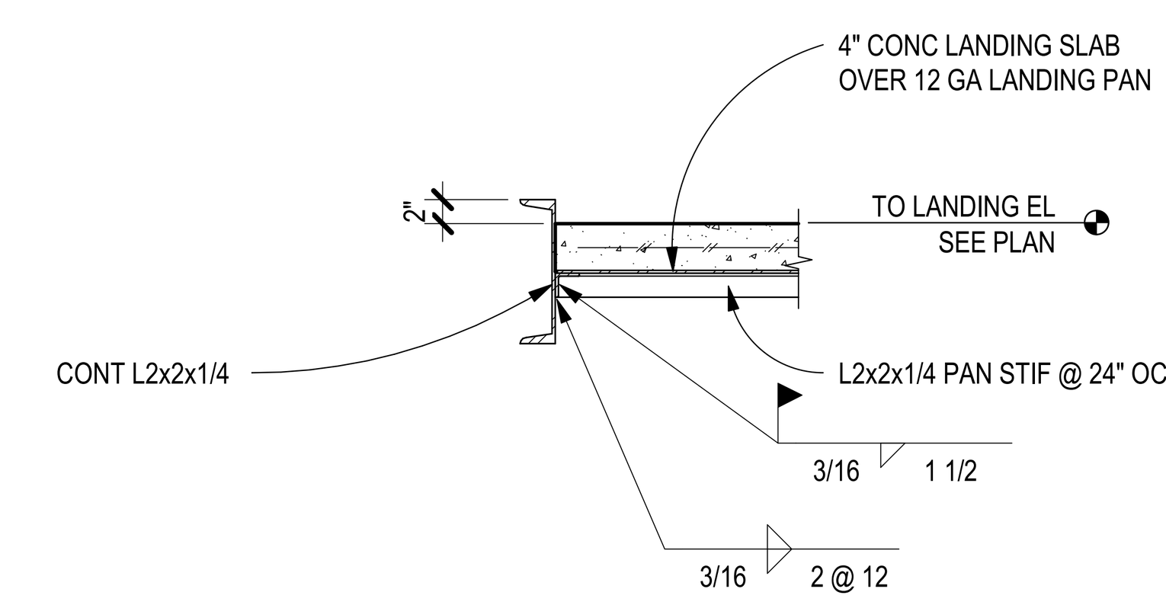
B2 STAIR HEADER DETAIL
SCALE: 3/4" = 1'-0"



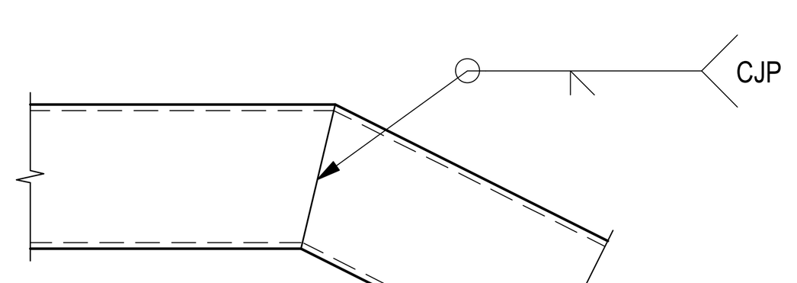
B3 TYPICAL STAIR BASE DETAIL
SCALE: 3/4" = 1'-0"



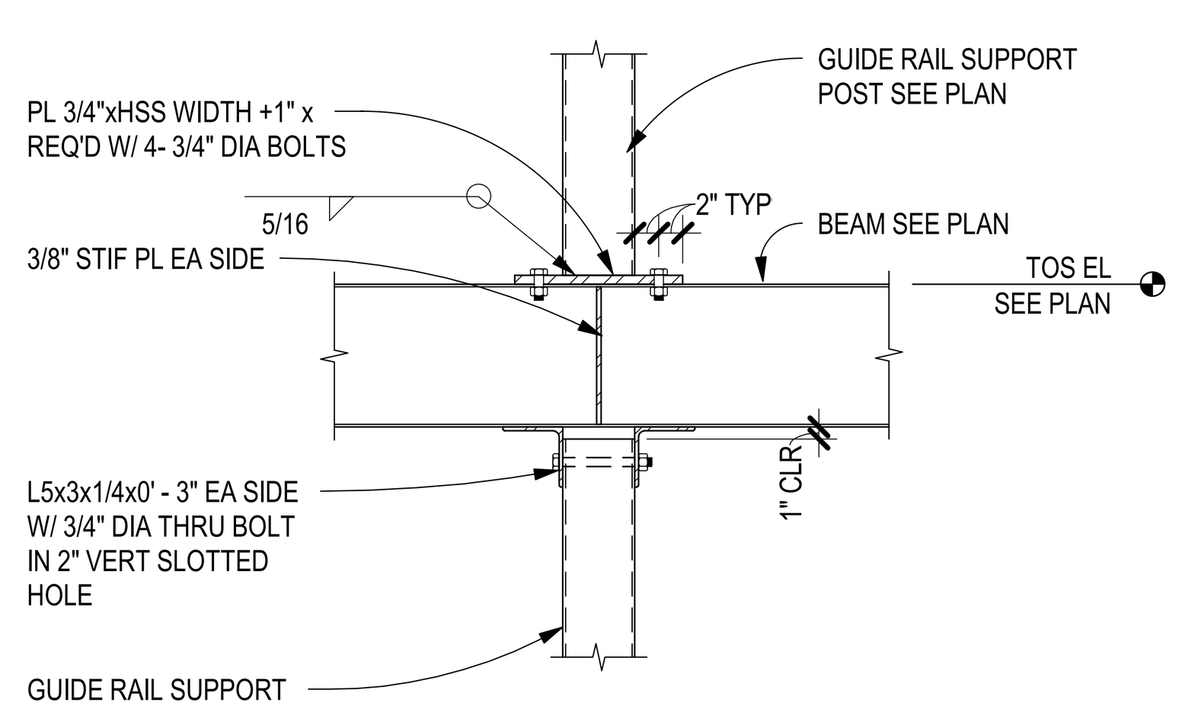
B4 ELEV RAIL BRACKET SUPPORT
SCALE: 3/4" = 1'-0"



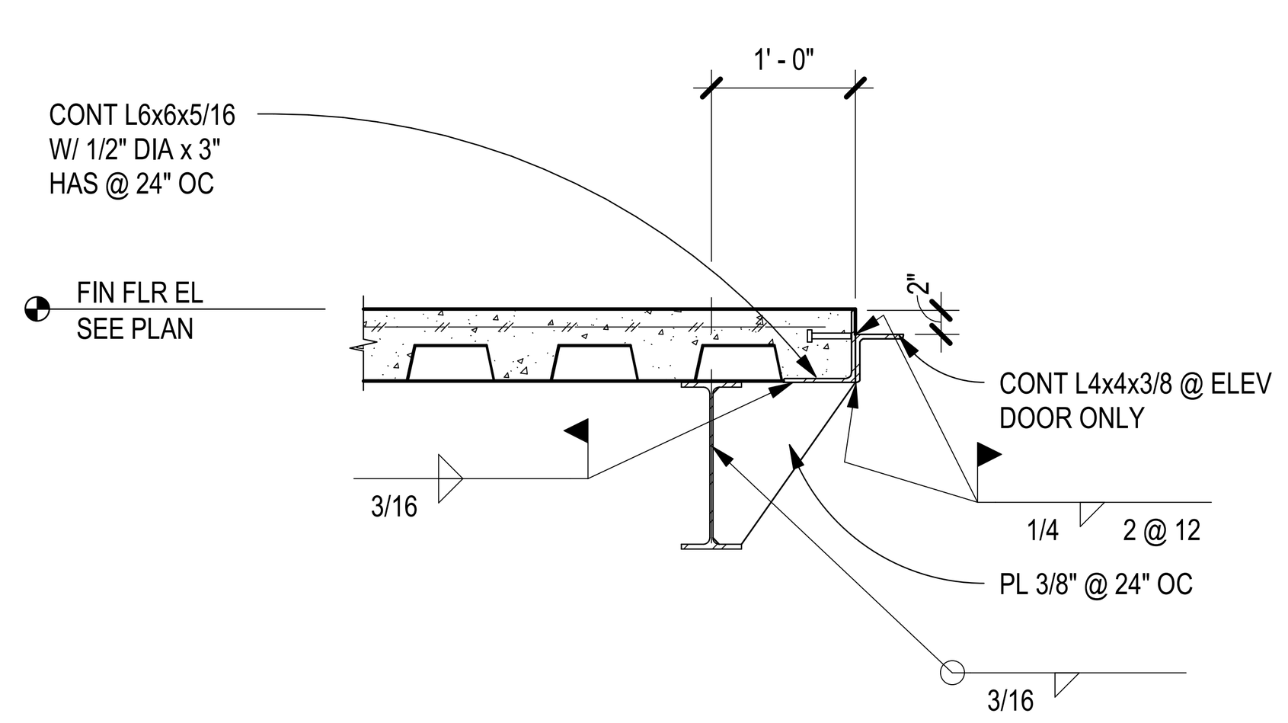
B5 STAIR LANDING SECTION
SCALE: 3/4" = 1'-0"



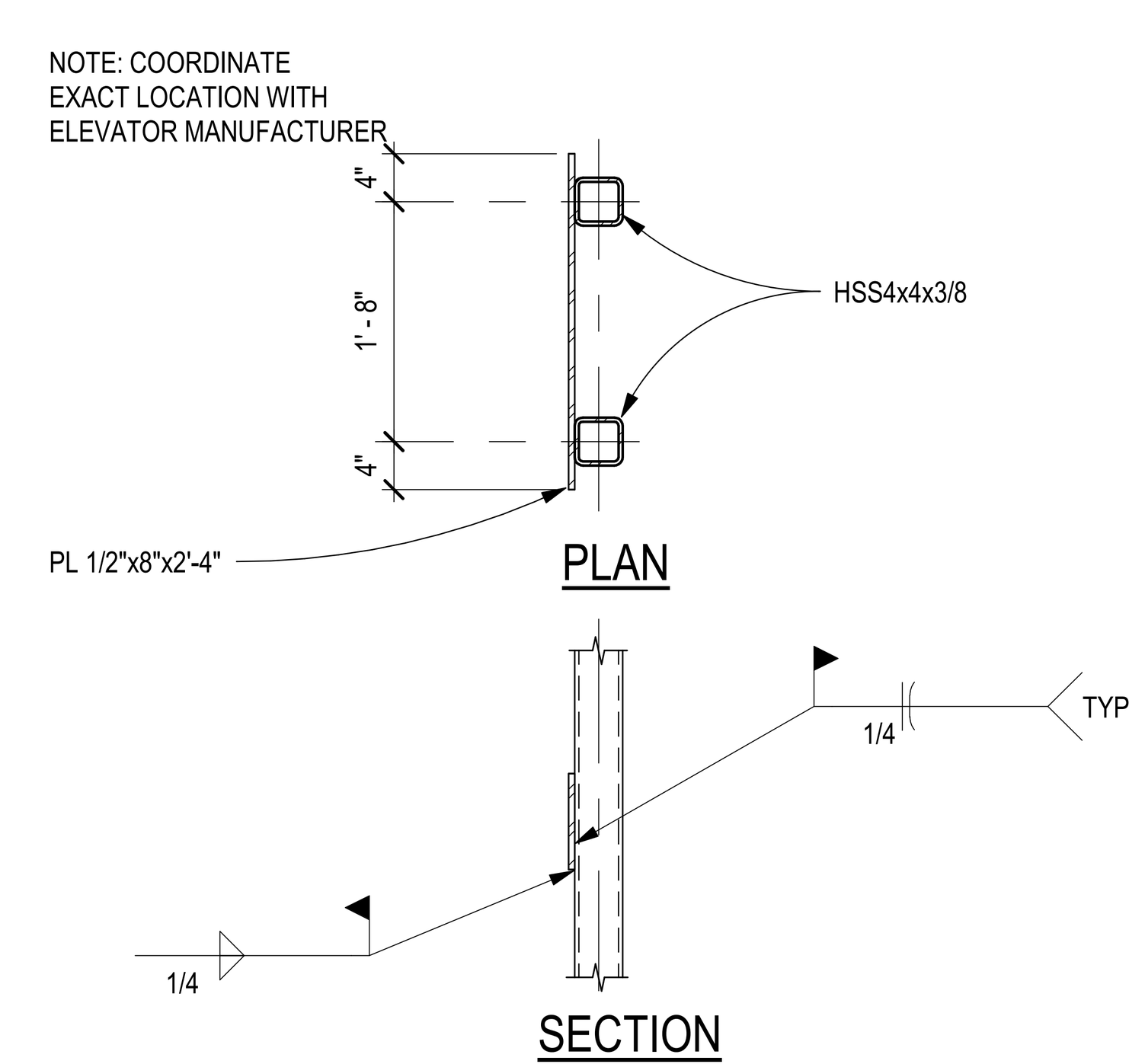
A1 HSS STAIR STRINGER DETAIL
SCALE: 3/4" = 1'-0"



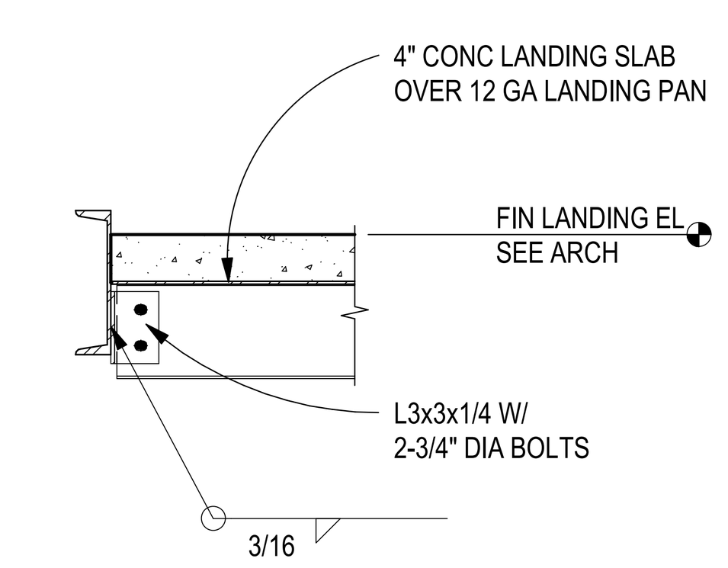
A2 GUIDE RAIL TO BM TOP AND BTM
SCALE: 3/4" = 1'-0"



A3 ELEVATOR OPENING SECTION
SCALE: 3/4" = 1'-0"



A4 ELEV RAIL BRACKET SUPPORT
SCALE: 3/4" = 1'-0"



A5 STAIR LANDING SECTION
SCALE: 3/4" = 1'-0"

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5.10.19

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TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

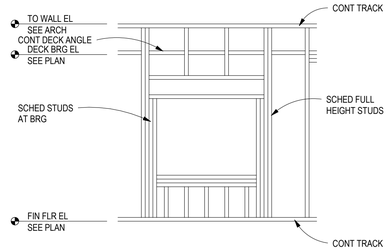
REVISIONS

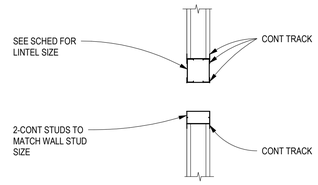
#	DATE	DESCRIPTION

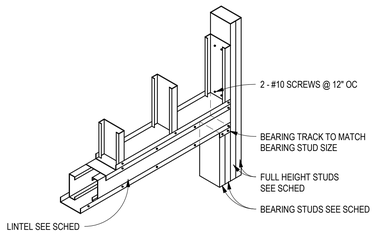
DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
S5.62

TYPICAL VERTICAL CIRCULATION FRAMING DETAILS







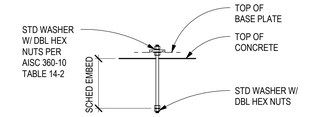
DECK SCHEDULE													
		SLAB			METAL DECK				DECK ATTACHMENTS			TOTAL SLAB /	
MARK	COMPOSITE SLAB	THICK	MATL	REINF	THICK	TYPE	GAGE	FINISH	ATTACH PERP TO RIBS	ATTACH PARALLEL TO RIBS	ATTACH SIDELAPS	DECK THICKNESS	COMMENTS
D1.5R		- -	- -	- -	1 1/2"	B	20	PAINTED	4-5/8 "DIA PUDDLE WELDS PER 36 "WIDE SHEET	5/8" DIA PUDDLE WELDS @ 12" OC	#10 SCREWS @ 12" OC	1 1/2"	
D6R	X	3"	NW CONC	6x6 - W2.1xW2.1 WELD WIRE FABRIC IN FLAT SHEETS	3"	VLI	18	GALVANIZED	4-5/8 "DIA PUDDLE WELDS PER 36 "WIDE SHEET	5/8" DIA PUDDLE WELDS @ 12" OC	#10 SCREWS @ 12" OC	6"	
D7.5F	X	4 1/2"	NW CONC	#5 @ 12" OC EA WAY	3"	VLI	18	GALVANIZED	4-5/8 "DIA PUDDLE WELDS PER 36 "WIDE SHEET	5/8" DIA PUDDLE WELDS @ 12" OC	#10 SCREWS @ 12" OC	7 1/2"	PROVIDE 3/4" DIAMETER x 6" LONG HEADED ANCHOR STUDS WHEN SPECIFIED ON PLAN

SLAB-ON-GRADE SCHEDULE					
	SLAB				
MARK	THICKNESS	MATL	REINFORCING	BEARING STRATA	COMMENTS
S5	5"	CONC	#4 @ 18" OC EA WAY	15 MIL VAPOR RETARDER OVER LASER LEVELED 4" MINIMUM GRANULAR BASE OVER COMPACTED SUBGRADE PER GEN STRUCT NOTES	THE FINISHED TOP SURFACE SHOULD BE FLAT AND LEVEL WITH SUFFICIENT FINES TO FILL BETWEEN COARSE AGGREGATE. IF THIS IS NOT THE CASE, PROVIDE UP TO 1/2 INCH BLOTTER LAYER OF SAND
S6	6"	CONC	#4 @ 12" OC EA WAY	15 MIL VAPOR RETARDER OVER LASER LEVELED 4" MINIMUM GRANULAR BASE OVER COMPACTED SUBGRADE PER GEN STRUCT NOTES	THE FINISHED TOP SURFACE SHOULD BE FLAT AND LEVEL WITH SUFFICIENT FINES TO FILL BETWEEN COARSE AGGREGATE. IF THIS IS NOT THE CASE, PROVIDE UP TO 1/2 INCH BLOTTER LAYER OF SAND

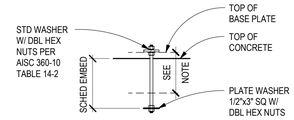
1 2

GRAVITY BASE PLATE SCHEDULE			
	BASE PLATE		ANCHOR BOLTS
COLUMN SIZE	TYPE	SIZE "T"x"A"x"B"	QTY x SIZE x GRADE
W12	A	PL 2"x21"x1' - 9"	4 - 3/4" DIA x 9" F1554 GR 36
HSS8x6	A	PL 3/4"x14"x1' - 2"	4 - 3/4" DIA x 9" F1554 GR 36
HSS8x8	A	PL 3/4"x16"x1' - 4"	4 - 3/4" DIA x 9" F1554 GR 36

NOTE: FOR GRAVITY BASE PLATES, PROVIDE MAXIMUM OVERSIZED HOLES AND PLATE WASHERS WITH SIZE AND THICKNESS PER AISC 360-10 TABLE 14-2.



GRAVITY ANCHOR BOLT

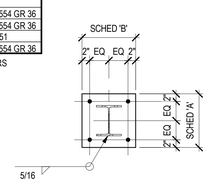


NOTE: FIRST 1'-0" OF EMBEDDED PORTION OF ANCHOR BOLT SHALL BE UNTHREADED

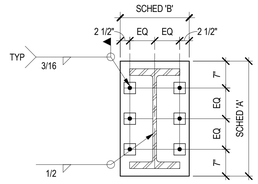
LATERAL ANCHOR BOLT

LATERAL BASE PLATE SCHEDULE			
	BASE PLATE		ANCHOR BOLTS
MARK	TYPE	SIZE "T"x"A"x"B"	QTY x SIZE x GRADE
BP1	B	PL 2 1/4"x30"x1'-6"	6 - 1 1/4" DIA x 18" F1554 GR 36
BP2	B	PL 2 1/2"x30"x1'-6"	6 - 1 1/4" DIA x 18" F1554 GR 36
BP3	C	PL 2 1/4"x30"x1'-6"	SEE_A5_/_S5.51
BP4	B	PL 2 1/4"x30"x1'-6"	6 - 1 1/4" DIA x 24" F1554 GR 36

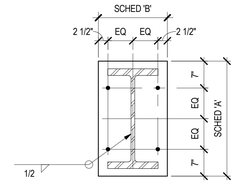
NOTE: FOR LATERAL BASE PLATES, PROVIDE PLATE WASHERS WITH SIZE AND THICKNESS PER AISC 360-10 TABLE 14-2.



TYPE 'A'



TYPE 'B'



TYPE 'C'

WALL SCHEDULE						
			REINFORCING			
MARK	VENEER	WALL	VERTICAL	HORIZONTAL	GRADE	COMMENTS
WC8	- -	8" CONC	#4 @ 12" OC	#4 @ 12" OC	A615	
WC8A	- -	8" CONC	#5 @ 9" OC	#4 @ 12" OC	A615	SEE D2/S3.11
WC12	- -	12" CONC	#5 @ 12" OC EA FACE	#4 @ 12" OC EA FACE	A615	
WC16	- -	16" CONC	#7 @ 12" OC EA FACE	#5 @ 12" OC EA FACE	A615	
WC16A	- -	16" CONC	#7 @ 12" OC EA FACE	#5 @ 12" OC EA FACE	A615	
WC16B	- -	16" CONC	#5 @ 12" OC EA FACE	#5 @ 12" OC EA FACE	A615	
WC22	- -	22" CONC	#5 @ 12" OC EA FACE	#5 @ 12" OC EA FACE	A615	

REINFORCING LAP SCHEDULE								
REINFORCEMENT TYPE	#6 AND SMALLER (#db)			#7 AND LARGER (#db)			MINIMUM LENGTH (IN)	COMMENTS
	3000 PSI	4000 PSI	5000 PSI	3000 PSI	4000 PSI	5000 PSI		
CONTINUOUS WALL FOOTINGS AND STEMWALLS	30	30	30	30	30	30	18	
RETAINING WALLS AND BASEMENT WALL VERTICAL REINFORCING	57	50	45	72	62	56	12	
RETAINING WALLS AND BASEMENT WALL HORIZONTAL REINFORCING	57	50	45	72	62	56	12	
CONCRETE COLUMNS NOT SUPPORTING LATERAL FORCES	30	30	30	30	30	30	12	
CONCRETE COLUMNS SUPPORTING LATERAL FORCES	57	50	45	72	62	56	12	
TOP FLEXURAL REINFORCEMENT, INCLUDING BEAMS, GRADE BEAMS, AND COMBINED COLUMN FOOTING AT BRACED FRAME AND MOMENT FRAMES	57	50	45	72	62	56	12	
BOTTOM FLEXURAL REINFORCEMENT, INCLUDING BEAMS, GRADE BEAMS, AND COMBINED COLUMN FOOTING AT BRACED FRAME AND MOMENT FRAMES	57	50	45	55	62	56	12	
SLABS-ON-GRADE	30	30	30	30	30	30	12	
MINIMUM EMBEDMENT OF STANDARD HOOKS INTO CONCRETE BASE	16	14	12	16	14	14	6	INCREASE LENGTH FOR # 11 BARS AND LARGER BY A FACTOR OF 1.4
ALL REBAR LAPS IN CMU		72			72		12	

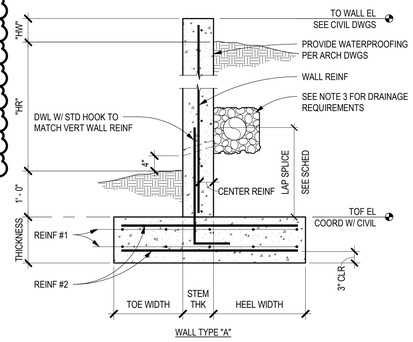
SPOT FOOTING SCHEDULE						
	SIZE			REINFORCING		
MARK	WIDTH	LENGTH	DEPTH	BOTTOM	TOP	COMMENTS
F30	2' - 6"	2' - 6"	1' - 0"			
F36	3' - 0"	3' - 0"	1' - 0"	4 - #4 EA WAY	---	STD HOOK EACH END OF EACH BAR
F96	8' - 0"	8' - 0"	2' - 0"	10 - #7 EA WAY	10 - #7 EA WAY	
F108	9' - 0"	9' - 0"	2' - 3"	12 - #7 EA WAY	12 - #7 EA WAY	
F120	10' - 0"	10' - 0"	2' - 6"	14 - #7 EA WAY	14 - #7 EA WAY	
F132	11' - 0"	11' - 0"	2' - 9"	12 - #8 EA WAY	12 - #8 EA WAY	
F144	12' - 0"	12' - 0"	2' - 9"	15 - #8 EA WAY	15 - #8 EA WAY	
F156	13' - 0"	10' - 0"	2' - 0"	15 - #7 EA WAY	---	CONTINUOUS FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH FOOTING
F156A	13' - 0"	13' - 0"	2' - 9"	18 - #8 EA WAY	18 - #8 EA WAY	CONTINUOUS FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH FOOTING
F168	14' - 0"	14' - 0"	3' - 0"	18 - #9 EA WAY	18 - #9 EA WAY	
F180	15' - 0"	15' - 0"	3' - 3"	22 - #9 EA WAY	22 - #9 EA WAY	
F192	16' - 0"	12' - 0"	3' - 3"	20 - #9 EA WAY	20 - #9 EA WAY	
F480	12' - 0"	40' - 0"	2' - 6"	#8 @ 9" OC EA WAY	#8 @ 9" OC EA WAY	
F504	12' - 0"	42' - 0"	2' - 6"	#8 @ 6" OC EA WAY	#8 @ 6" OC EA WAY	
F528	13' - 0"	44' - 0"	2' - 6"	#8 @ 6" OC EA WAY	#8 @ 6" OC EA WAY	
F828	13' - 0"	69' - 0"	2' - 6"	#8 @ 6" OC EA WAY	#8 @ 6" OC EA WAY	

CONCRETE SITE RETAINING WALL SCHEDULE										
WALL TYPE	STEM THICKNESS	WALL HEIGHT ABOVE GRADE "HW"	HEIGHT RETAINED "HR"	FOOTING SIZE			FOOTING REINFORCING		WALL REINFORCING	
				TOE WIDTH	HEEL WIDTH	THICKNESS	REINF #1	REINF #2	VERT SIZE - SPACING	HORIZ SIZE - SPACING
	IN	FT-IN	FT-IN	FT-IN	FT-IN	FT-IN	QTY - SIZE	SIZE - SPACING		
A	8"	0'-0" - 0'-6"	0'-0" - 4'-0"	1'-6"	3'-4"	1'-3"	6 - #5 CONT T&B	#5 @ 18" OC T&B	#5 @ 12" OC	#4 @ 12" OC
			4'-1" - 6'-0"	2'-0"	5'-4"	1'-6"	9 - #5 CONT T&B	#5 @ 12" OC T&B	#7 @ 12" OC	#4 @ 12" OC
B	10"	0'-0" - 0'-6"	6'-1" - 8'-0"	2'-6"	5'-8"	1'-6"	10 - #5 CONT T&B	#5 @ 12" OC T&B	#6 @ 12" OC EA FACE	#4 @ 12" OC EA FACE
	12"	0'-0" - 0'-6"	8'-1" - 10'-0"	3'-0"	6'-0"	2'-0"	12 - #5 CONT T&B	#5 @ 12" OC T&B	#7 @ 12" OC EA FACE	#4 @ 12" OC EA FACE
			10'-1" - 12'-0"	3'-6"	7'-0"	2'-0"	14 - #5 CONT T&B	#5 @ 12" OC T&B	#7 @ 6" OC EA FACE	#4 @ 12" OC EA FACE

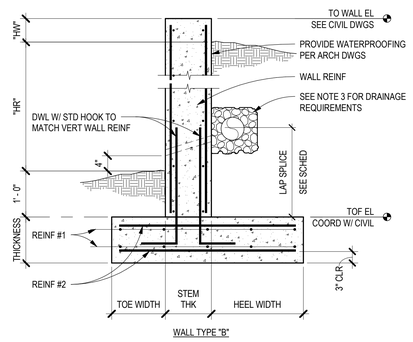
2

NOTES:
1. COORDINATE EXACT LOCATION AND EXTENT OF WALL WITH ARCHITECTURAL AND CIVIL DWGS.
2. PROVIDE CONCRETE WALL VERTICAL CONTROL JOINTS AT (2) TIMES THE WALL HEIGHT AND AT ALL STEPS IN TOP OF WALL. SEE DETAIL C2/S7.11 FOR CONTROL JOINT INFORMATION.
3. WALL DRAINAGE SYSTEM SHALL CONSIST OF ONE OF THE FOLLOWING:
   A. CONTINUOUS 4" DIAMETER SLOTTED SCHEDULE 40 DRAIN PIPE WITH SLOTS ON BOTTOM HALF OF PIPE.
   B. 1 1/2" (MIN) DIA PVC WEEP PIPE @ 8'-0" OC MAX W/ 12"x12"x12" GRAVEL & MIRAFI 140N GEOTEXTILE FILTER FABRIC BETWEEN SOIL & GRAVEL @ EA WEEP HOLE OR WEEP HOLES.
   C. TIE-IN TO SITE DRAINAGE SYSTEM. BACKFLOW PREVENTION, ETC. TO BE PROVIDED BY OTHERS.

SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.



WALL TYPE "A"



WALL TYPE "B"

1

CONTINUOUS FOOTING SCHEDULE					
	SIZE		REINFORCING		
MARK	WIDTH	DEPTH	CONTINUOUS	TRANSVERSE	COMMENTS
CF36	3' - 0"	1' - 0"	4 - #4 BOT	#4 @ 12" OC BOT	
CF48	4' - 0"	1' - 0"	5 - #5 BOT	#5 @ 12" OC BOT	
CF60	5' - 0"	1' - 3"	8 - #5 BOT	#5 @ 12" OC BOT	
CF72	6' - 0"	1' - 3"	10 - #5 BOT	#5 @ 12" OC BOT	
CF84	7' - 0"	1' - 3"	12 - #5 TOP & BOT	#5 @ 12" OC TOP & BOT	
CF96	8' - 0"	1' - 6"	10 - #7 TOP & BOT	#7 @ 12" OC TOP & BOT	
CF120	10' - 0"	1' - 6"	12 - #7 TOP & BOT	#7 @ 12" OC TOP & BOT	
CF132	11' - 0"	1' - 6"	12 - #7 TOP & BOT	#7 @ 12" OC TOP & BOT	
CF156	13' - 0"	2' - 0"	18 - #7 TOP & BOT	#7 @ 12" OC TOP & BOT	

1

A1 **TYPICAL CONCRETE SITE RETAINING WALL SCHEDULE AND DETAIL**
SCALE: 3/4" = 1'-0"

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23578
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12-20-19

CONSULTANT LOGO:
Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:
THE CHEROKEE NATION
FIRST CAPITAL
SEPT. 6, 1839

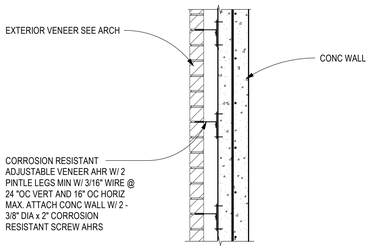
COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

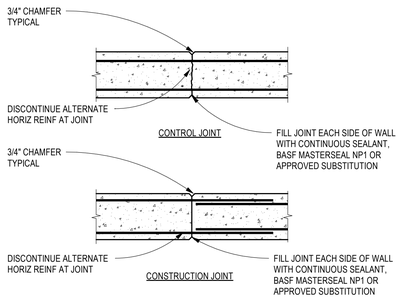
PROJECT PHASE:
BID PACKAGE 03

REVISIONS		
#	DATE	DESCRIPTION
1	4/22/19	BID PACKAGE 03 ASI 01
2	5/24/19	BID PACKAGE 03 ASI 02

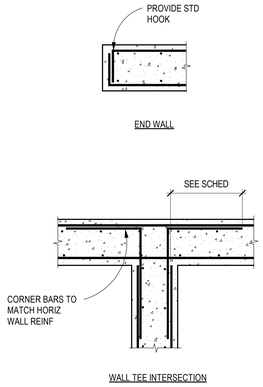
DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S6.01
SCHEDULES

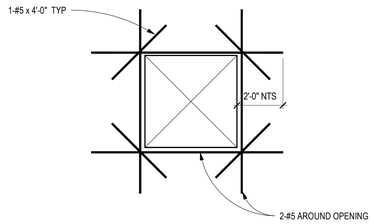


D1 TYPICAL VENEER TO CONC WALL
SCALE: NTS

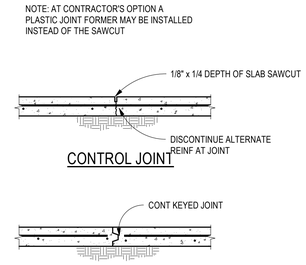


D2 TYPICAL WALL JOINT DETAIL
SCALE: NTS

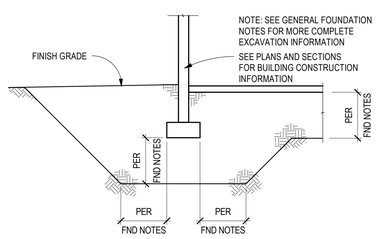




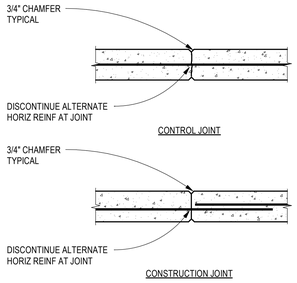
D4 TYPICAL OPNG IN CONC WALL DETAIL
SCALE: NTS



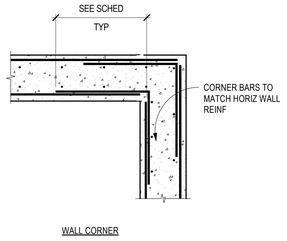
D5 TYPICAL SLAB JOINT
SCALE: NTS



C1 TYPICAL FND EXCAVATION DETAIL
SCALE: NTS

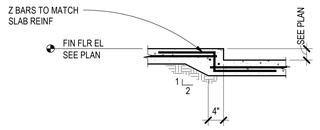


C2 TYPICAL WALL JOINT DETAIL
SCALE: NTS

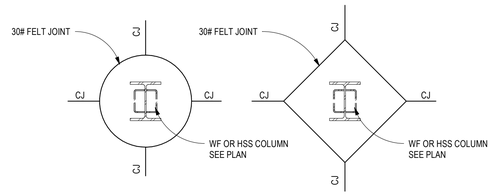


NOTE: REINFORCING SHOWN ON FOUNDATION SECTIONS AND SPECIFICALLY REFERENCED DETAILS SHALL TAKE GOVERN OVER REINFORCING IN STANDARD DETAILS.

C3 TYPICAL DOUBLE MAT WALL REINF
SCALE: NTS



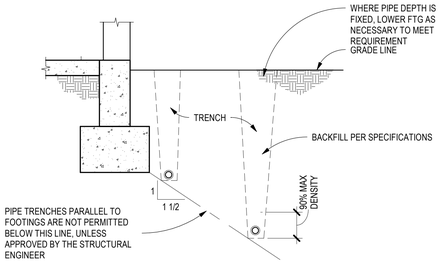
C4 TYPICAL DEPRESSED SLAB
SCALE: 3/4" = 1'-0"



NOTE : CONTRACTOR'S OPTION FOR TYPE TO BE USED. PLACE BLOCKOUTS AT ALL COLUMNS .

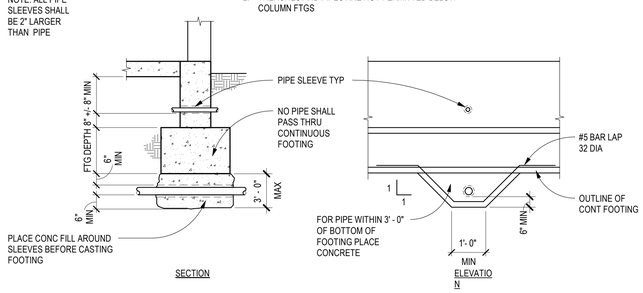
NOTE: ENLARGED BLOCKOUTS MAY BE REQUIRED AT BRACED FRAME LOCATIONS FOR GUSSET PLATE CLEARANCE.

C5 TYPICAL COLUMN BLOCKOUT
SCALE: NTS



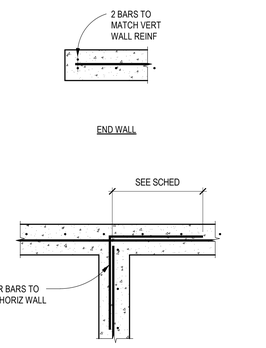
PIPE AND TRENCHES PARALLEL TO FOOTINGS

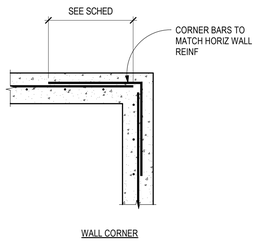
NOTES:
1. FOR PIPES MORES THAN 3' - 0" BELOW BOTTOM OF FTG USE COMPACTED FILL PER SPECIFICATIONS.
2. TRENCHES AND PIPES ARE NOT PERMITTED BELOW COLUMN FTGS



PIPE AND TRENCHES TRANSVERSE TO FOOTINGS

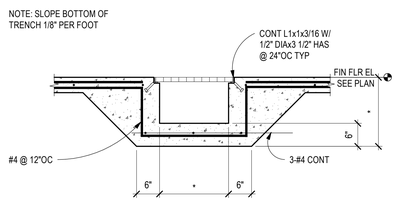
A1 TYPICAL PIPE PENETRATION AND TRENCH DETAILS
SCALE: NTS



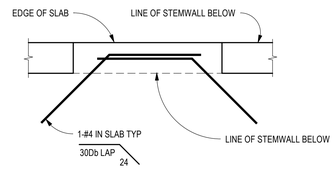


NOTE: REINFORCING SHOWN ON FOUNDATION SECTIONS AND SPECIFICALLY REFERENCED DETAILS SHALL TAKE GOVERN OVER REINFORCING IN STANDARD DETAILS.

A3 TYPICAL SINGLE MAT WALL REINF
SCALE: NTS

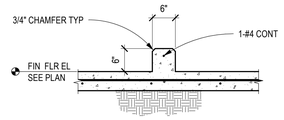


B4 TYPICAL TRENCH SECTION
SCALE: NTS

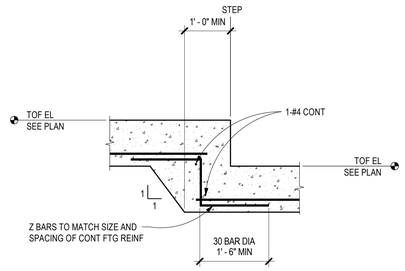


PLAN

B5 TYPICAL SLAB REINF AT OPNG
SCALE: NTS



A4 TYPICAL CURB SECTION
SCALE: NTS



A5 TYPICAL STEPPED FOOTING DETAIL
SCALE: NTS

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505-344-4080 505-343-8759 (fax)

CLIENT:
THE CHEROKEE NATION TRIBE OF OKLAHOMA SEPT. 6, 1839

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

NOTE: THIS STRUCTURAL PACKAGE IS FOR FOUNDATIONS ONLY. ANY CHANGES TO THE PROJECT, INCLUDING, BUT NOT LIMITED TO: LOADING REQUIREMENTS, GEOMETRY CHANGES IN PLAN OR ELEVATION, SPACE USAGE REVISIONS, OR VALUE ENGINEERING MAY AFFECT THE STRUCTURAL STEEL MEMBER REQUIREMENTS SHOWN IN THESE DRAWINGS.

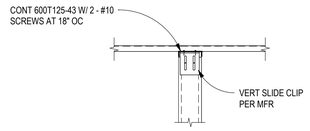
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 03

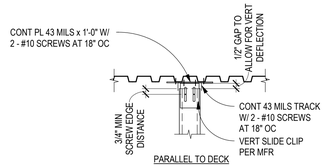
REVISIONS:		
#	DATE	DESCRIPTION

DATE: 03-20-19
JOB NUMBER: 17-13
SHEET NUMBER: S7.11

TYPICAL CONCRETE DETAILS

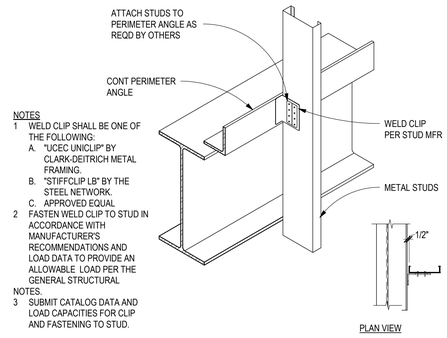


PERPENDICULAR TO DECK



PARALLEL TO DECK

D4 TYPICAL SLIP TRACK ASSEMBLY
SCALE: NTS



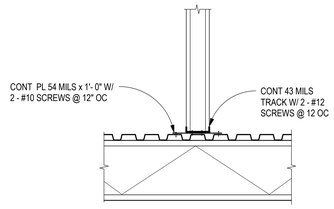
NOTES
1 WELD CLIP SHALL BE ONE OF THE FOLLOWING:
- A. "UCEC UNICLIP" BY CLARK-DEITRICH METAL FRAMING.
- B. "STIFFCLIP LB" BY THE STEEL NETWORK.
- C. APPROVED EQUAL

2 FASTEN WELD CLIP TO STUD IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND LOAD DATA TO PROVIDE AN ALLOWABLE LOAD PER THE GENERAL STRUCTURAL

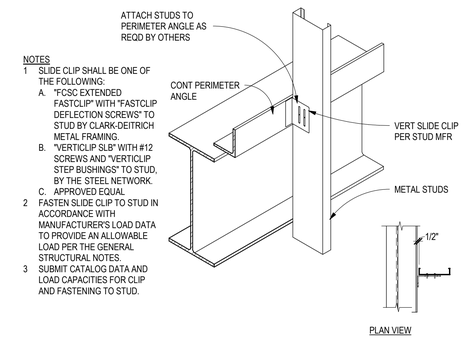
NOTES.
3 SUBMIT CATALOG DATA AND LOAD CAPACITIES FOR CLIP AND FASTENING TO STUD.

PLAN VIEW

D5 TYPICAL WELD CLIP
SCALE: NTS



C4 TYPICAL STUD AT METAL DECK
SCALE: 3/4" = 1'-0"

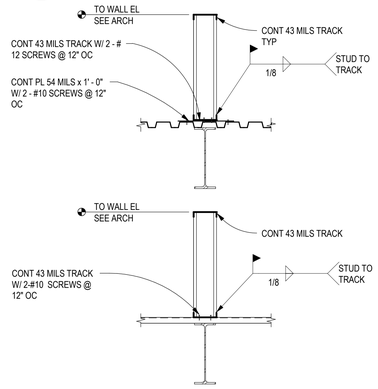


NOTES
1 SLIDE CLIP SHALL BE ONE OF THE FOLLOWING:
- A. "FCSC EXTENDED FASTCLIP" WITH "FASTCLIP DEFLECTION SCREWS" TO STUD BY CLARK-DEITRICH METAL FRAMING.
- B. "VERTICLIP SLB" WITH #12 SCREWS AND "VERTICLIP STEP BUSHINGS" TO STUD, BY THE STEEL NETWORK.
- C. APPROVED EQUAL

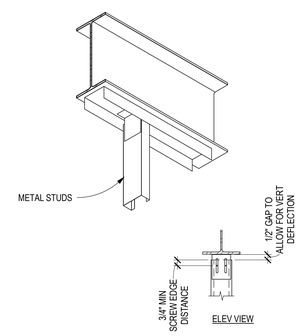
2 FASTEN SLIDE CLIP TO STUD IN ACCORDANCE WITH MANUFACTURER'S LOAD DATA TO PROVIDE AN ALLOWABLE LOAD PER THE GENERAL STRUCTURAL NOTES.
3 SUBMIT CATALOG DATA AND LOAD CAPACITIES FOR CLIP AND FASTENING TO STUD.

PLAN VIEW

C5 TYPICAL VERTICAL SLIDE CLIP
SCALE: NTS

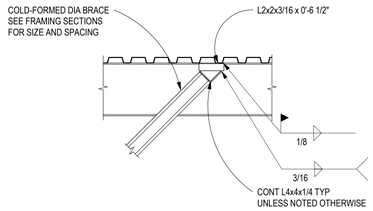


B4 TYPICAL PARAPET TO DECK
SCALE: 3/4" = 1'-0"

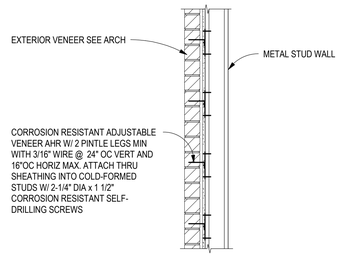


ELEV VIEW

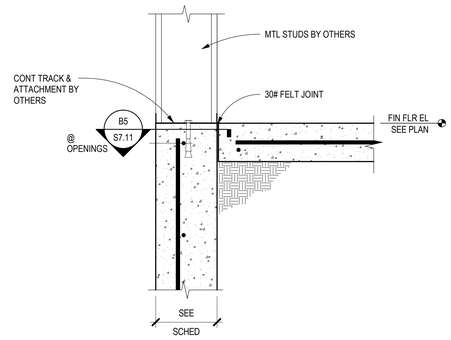
B5 TYPICAL SLIP TRACK ASSEMBLY
SCALE: NTS



A3 TYPICAL DIAG BRACE TO DECK
SCALE: 3/4" = 1'-0"



A4 TYPICAL VENEER ON MTL STUDS
SCALE: 3/4" = 1'-0"



A5 TYPICAL STUD @ CONC STEMWALL
SCALE: 1 1/2" = 1'-0"

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479-783-2480
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CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 · 505-343-8759 (fax)

CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

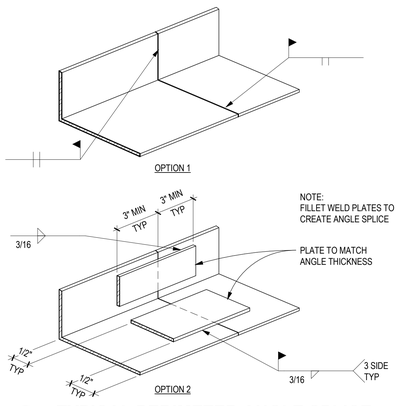
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

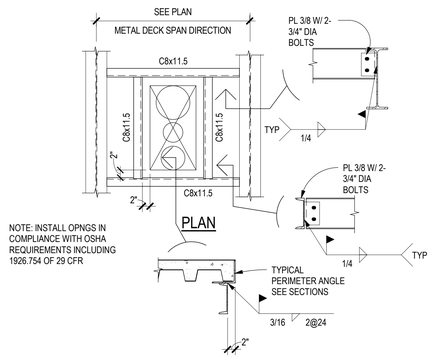
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S7.31

TYPICAL COLD-FORMED DETAILS



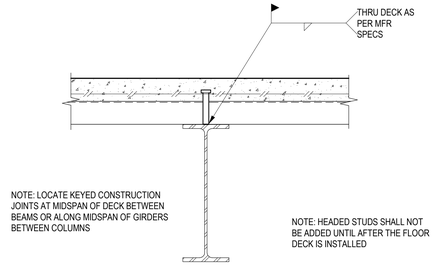
C1 TYPICAL PERIMETER ANGLE SPLICE

SCALE: 3/4" = 1'-0"



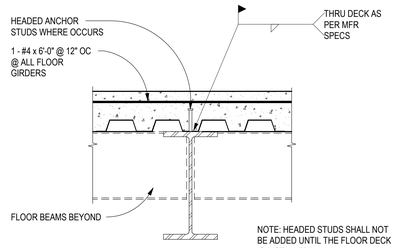
D2 TYPICAL SLAB OPNG > 24"

SCALE: 3/4" = 1'-0"



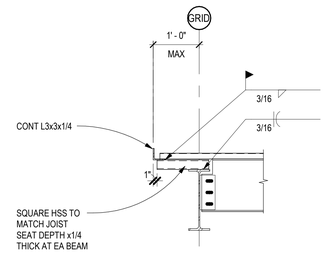
D3 TYPICAL COMPOSITE BEAM

SCALE: 1 1/2" = 1'-0"



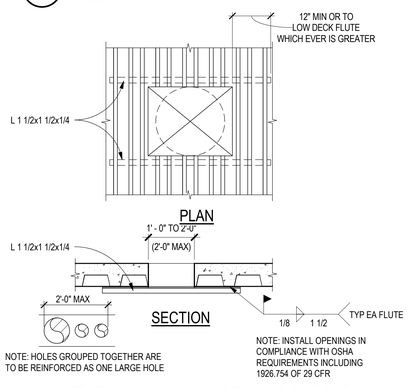
D4 TYPICAL FLOOR GIRDER

SCALE: 3/4" = 1'-0"



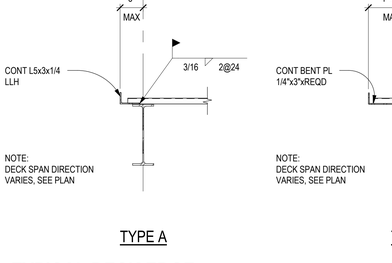
D5 TYPICAL DECK EDGE AT BEAM

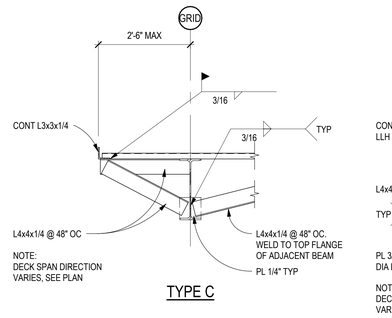
SCALE: 3/4" = 1'-0"



C2 TYPICAL SLAB OPENING 12"-24"

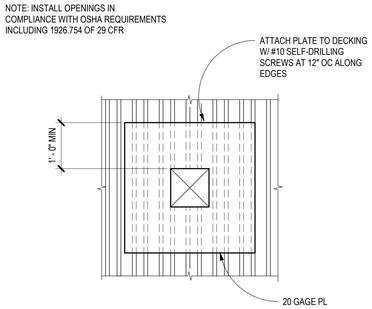
SCALE: 3/4" = 1'-0"





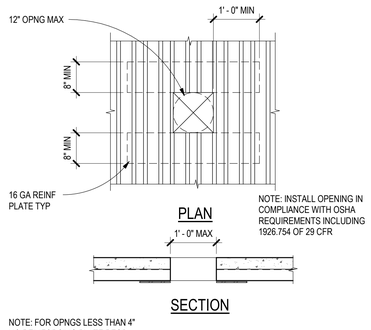
C3 TYPICAL DECK EDGE

SCALE: 3/4" = 1'-0"



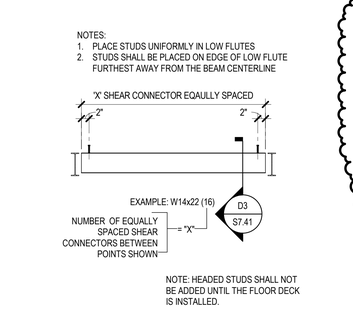
B1 TYPICAL ROOF OPENING 0"-12"

SCALE: 3/4" = 1'-0"



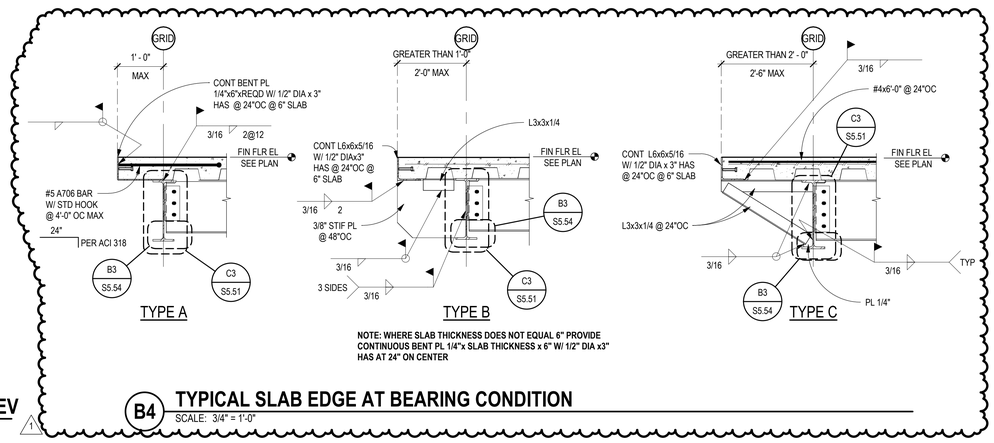
B2 TYPICAL SLAB OPENING 4"-12"

SCALE: 3/4" = 1'-0"



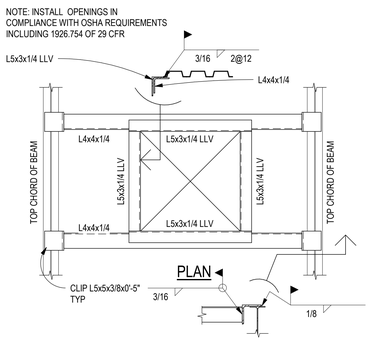
B3 TYPICAL COMPOSITE BEAM ELEV

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



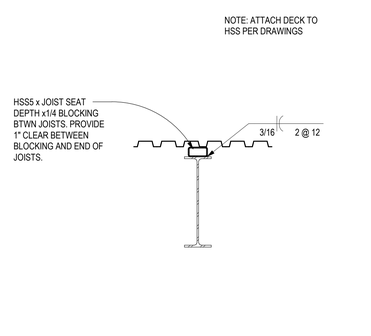
B4 TYPICAL SLAB EDGE AT BEARING CONDITION

SCALE: 3/4" = 1'-0"



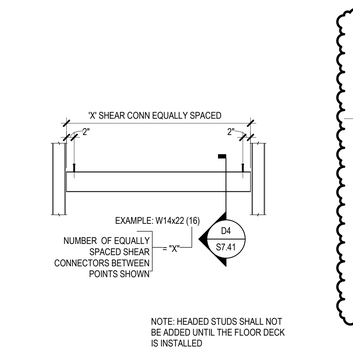
A1 TYPICAL ROOF OPENING > 12"

SCALE: 3/4" = 1'-0"



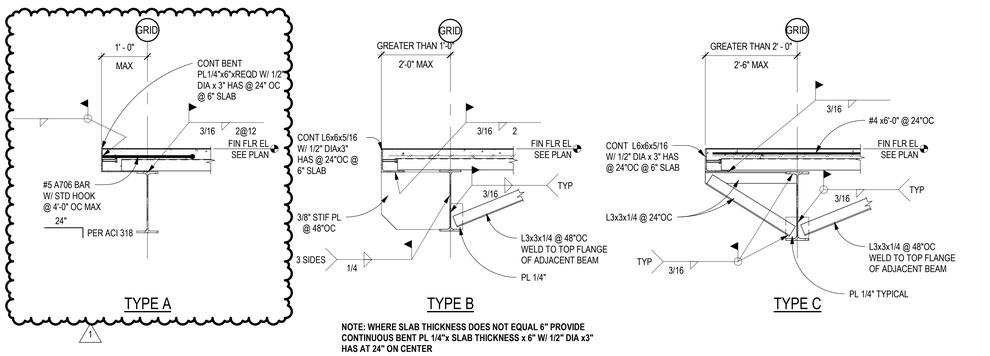
A2 TYPICAL HSS BLOCKING DETAIL

SCALE: 3/4" = 1'-0"



A3 TYPICAL COMPOSITE GIRDER ELEV

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



A4 TYPICAL SLAB EDGE AT NON-BEARING CONDITION

SCALE: 3/4" = 1'-0"

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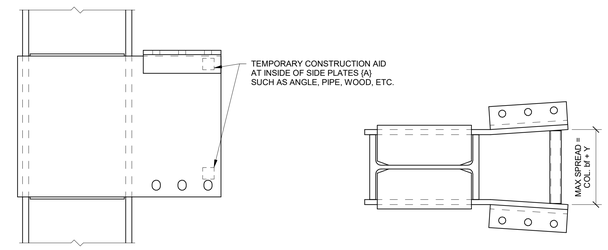
BID PACKAGE 04

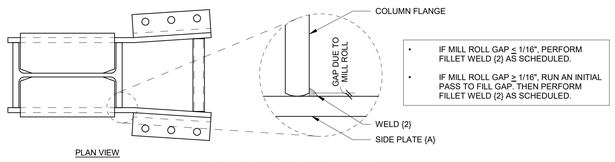
REVISIONS		
#	DATE	DESCRIPTION
1	6/17/19	BID PACKAGE 04 ASI 02

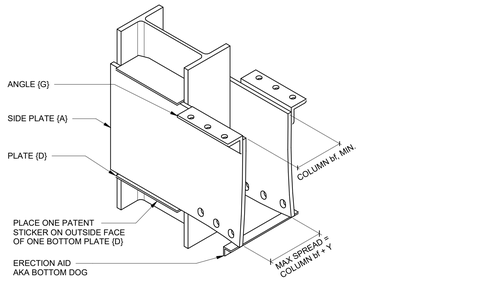
DATE: 05-10-19
JOB NUMBER: 17-13

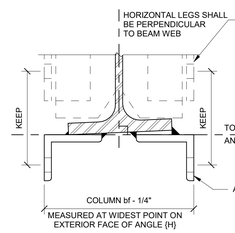
SHEET NUMBER:
S7.41

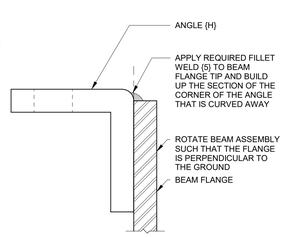
TYPICAL STEEL DETAILS











PROJECT SPECIFIC INFORMATION

PROJECT NUMBER:	**19038**
SUBMITTAL NUMBER:	S-02
SUBMITTAL DATE:	05/02/2019
PROJECT NAME:	CHEROKEE NATION OSU
LOCATION:	TAHLEQUAH, OK
CONNECTION TYPE:	SIDEPLATE
NUMBER OF BUILDINGS:	1
APPROX. TOTAL GROSS SQUARE FOOTAGE:	73222
NUMBER OF STORIES:	3

eDATA:

a. THERE MAY BE eDATA AVAILABLE FOR YOUR PROJECT WHICH IS AVAILABLE FOR DOWNLOAD AT WWW.SIDEPLATE.COM. eDATA MAY INCLUDE:
- eSTIMATE FILE IN EXCEL FORMAT FOR USE IN AFFIRMING SIDEPLATE CONNECTION MATERIAL QUANTITIES.
- ComponentXML FILE FOR USE IN ASSISTING DETAILING EFFORTS.

b. ESTIMATED NUMBER OF SIDEPLATE JOINTS FOR THIS PROJECT = 102
c. ESTIMATED NUMBER OF SIDEPLATE JOINTS FOR THIS PROJECT THAT ARE **NOT** SUPPORTED BY eDATA = 0
d. MISCELLANEOUS DETAILS, TYPICALLY DESIGNATED BY M#, ARE NOT SUPPORTED.

INSTRUCTIONS TO STEEL FABRICATOR

1. SIDEPLATE LICENSE FEE:
   a. THE STEEL FABRICATOR'S BID PRICE FOR PROCUREMENT, FABRICATION AND ERECTION OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL INCLUDE THE SIDEPLATE LICENSE FEE FOR THE PROJECT. EACH PROSPECTIVE STEEL FABRICATOR WHO BIDS THE PROJECT SHALL FORMALLY REQUEST THE SIDEPLATE LICENSE FEE BY ACCESSING THE SIDEPLATE WEBSITE (http://www.sideplate.com).
   b. UPON THE SUCCESSFUL STEEL FABRICATOR SIGNING A CONTRACT TO FABRICATE STRUCTURAL STEEL FOR THIS PROJECT, THE STEEL FABRICATOR SHALL SUBMIT A PURCHASE ORDER (PO) TO SIDEPLATE SYSTEMS, INC. FOR THE TOTAL AMOUNT OF THE SIDEPLATE LICENSE FEE AND SHALL INCLUDE SAID FEE IN ITS FIRST CONSTRUCTION DRAW.
   c. THE STEEL FABRICATOR SHALL MAKE PAYMENT OF THE SIDEPLATE LICENSE FEE DIRECTLY TO:

SIDEPLATE SYSTEMS, INC.
25909 PALA, SUITE 200
MISSION VIEJO, CA 92691
TEL: 949-238-8900

SUBMITTALS

1. IN ADDITION TO THE REQUIRED SUBMITTALS SPECIFIED BY THE BALANCE OF THE CONTRACT DOCUMENTS, THE FOLLOWING SUBMITTALS SHALL BE SENT TO SIDEPLATE SYSTEMS, INC. ELECTRONICALLY VIA THE STRUCTURAL ENGINEER OF RECORD FOR THEIR REVIEW AND DISPOSITION:
   a. QUALITY CONTROL PROGRAM (REQUIRED IF NOT AISC CERTIFIED)
   b. ONE ELECTRONIC COPY OF ALL STRUCTURAL STEEL DRAWINGS THAT EITHER DIRECTLY PERTAINS TO AND/OR AFFECTS THE SHOP FABRICATION OR FIELD ERECTION OF THE SIDEPLATE STEEL FRAME CONNECTION SYSTEM, INCLUDING THE INITIAL SUBMITTAL AND ALL CORRECTED RE-SUBMITTALS OF AFFECTED DRAWINGS. SIDEPLATE SYSTEMS, INC. SHALL BE GIVEN, AS A MINIMUM, THE SAME SPECIFIED REVIEW TIME (NOT LESS THAN SEVEN BUSINESS DAYS) AS THE ENGINEER OF RECORD.

MEETINGS

1. PRE-DETAILING MEETING
   a. PRIOR TO THE START OF DETAILING OF THE SHOP DRAWINGS, THE FABRICATION CONTRACTOR SHALL FORMALLY REQUEST A PRE-DETAILING MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR THE DETAILING OF THE SIDEPLATE CONNECTIONS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.
2. PRE-FABRICATION MEETING
   a. PRIOR TO THE START OF FABRICATION, THE FABRICATION CONTRACTOR SHALL FORMALLY REQUEST A PRE-FABRICATION MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR THE FABRICATION OF THE SIDEPLATE CONNECTIONS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.
3. PRE-ERECTION MEETING
   a. PRIOR TO THE START OF STEEL ERECTION, THE ERECTION CONTRACTOR SHALL FORMALLY REQUEST A PRE-ERECTION MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR FIELD ERECTION OF THE SIDEPLATE BEAMS AND COLUMNS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.

GENERAL

1. THE GOVERNING CODES SHALL CONSIST OF ANSI/AWS D1.1-2010 (AWS D1.1), AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES (APRIL 14, 2010), 2009 RCSC SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, AND ALL APPLICABLE BUILDING AND JURISDICTIONAL CODES AND PROJECT STANDARDS SPECIFIED IN THE PROJECT SPECIFICATION STRUCTURAL STEEL SECTION. WHERE THE REQUIREMENTS DIFFER BETWEEN SIDEPLATE CONNECTION NOTES, THE GENERAL STRUCTURAL NOTES, AND THE GOVERNING CODES, THE MORE STRINGENT SECTION CRITERIA SHALL CONTROL.
2. ALPHA AND NUMERIC DESIGNATORS {X} & {#} USED HEREIN TO SIMPLIFY THE IDENTIFICATION OF PLATES, ANGLES, AND WELDS ARE DEFINED BELOW:

{A}	SIDE PLATE FOR UNIAXIAL CONNECTIONS
{B}	BEAM FLANGE COVER PLATE, AS REQUIRED
{C}	VERTICAL SHEAR PLATE OR FLAT BAR, AS REQUIRED
{D}	HORIZONTAL SHEAR PLATE OR FLAT BAR, AS REQUIRED
{E}	VERTICAL ANGLE WELDED TO THE VERTICAL SHEAR PLATE {C}, AS REQUIRED
{F}	VERTICAL SHEAR ELEMENT (VSE) WHICH CONSISTS OF PLATE {C} AND ANGLE {E} MATERIAL, AS REQUIRED
{G}	LONGITUDINAL ANGLE WELDED TO THE OUTSIDE FACE OF SIDE PLATE {A}, AS REQUIRED
{H}	LONGITUDINAL ANGLE WELDED TO THE BOTTOM BEAM FLANGE (OR TOP BEAM FLANGE AS REQUIRED)
{T}	HORIZONTAL PLATE WELDED TO THE OUTSIDE FACE OF SIDE PLATE {A}, AS REQUIRED
{1}	FILLET WELD CONNECTING SIDE PLATE {A} TO HORIZONTAL SHEAR PLATE {D} OR COLUMN
{2}	FILLET (AND/OR FLARE BEVEL) WELD CONNECTING INSIDE FACE OF SIDE PLATE {A} TO COLUMN
{3}	FILLET WELD CONNECTING HORIZONTAL SHEAR PLATE {D} TO COLUMN, AS REQUIRED
{4}	FILLET WELD TO CONSTRUCT VSE {F} AND TO CONNECT IT TO THE WEB OF THE BEAM, AS REQUIRED
{5}	FILLET (AND/OR PJP) WELD CONNECTING BEAM FLANGE TIPS TO COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}, AS REQUIRED
{5a}	FILLET WELD CONNECTING OUTSIDE FACE OF BEAM FLANGE TO COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}, AS REQUIRED
{5b}	FILLET WELD CONNECTING COVER PLATE {B} EDGE TO TOP FACE OF BEAM FLANGE, ACROSS ITS WIDTH
({5p})	PJP WELD CONNECTING ANGLE {H} TO BEVELED BEAM FLANGE
{8}	FILLET (AND/OR PJP) WELD CONNECTING LONGITUDINAL ANGLE {G} (AND/OR PLATE {T}) TO SIDE PLATE {A}, AS REQUIRED
({8p})	PJP WELD CONNECTING PLATE {T} TO SIDE PLATE {A} AND/OR CONNECTING BUILT UP ANGLE {H} PLATES TOGETHER, AS REQUIRED
{9}	FILLET WELD CONNECTING SIDE PLATE {A} TO COLUMN FACE, WRAPPED AROUND THREE SIDES OF SIDE PLATE {A}
{10}	FILLET WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY
{10p}	PJP WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY
{10r}	REINFORCING FILLET WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY

3. ALPHA DESIGNATORS, USED HEREIN TO SIMPLIFY THE IDENTIFICATION OF DIMENSIONS OF THE SIDEPLATE CONNECTIONS, ARE DEFINED BELOW:

GAP	PHYSICAL SEPARATION BETWEEN THE END OF THE MOMENT FRAME BEAM AND THE ADJOINING FACE OF THE COLUMN FLANGE
B	DEPTH OF SIDE PLATE {A}
C	LENGTH OF COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}
D	LENGTH OF SLOT FROM THE TOE OF THE RADIUS IN THE COVER PLATE {B}, AS REQUIRED
E	EDGE DISTANCE OF BOLT HOLES IN COVER PLATE {B}, AS REQUIRED
G	GAGE DISTANCE TO CENTERLINE OF BOLT HOLES IN ANGLES {G} AND {H}, AND PLATE {T}, AS REQUIRED
H	ADDED DIMENSION TO COLUMN FLANGE WIDTH TO DEFINE TOTAL COVER PLATE {B} WIDTH
J	DISTANCE FROM END OF THE BEAM TO CENTERLINE OF VERTICAL BOLT HOLES IN VSE {F}, AS REQUIRED
R	RADIUS OF SLOT DIMENSION IN COVER PLATE {B}
S	HORIZONTAL SPACING BETWEEN BOLT HOLES
Y	ADDED DIMENSION TO COLUMN FLANGE WIDTH FOR ALLOWABLE SPREAD OF SIDE PLATES {A}

MATERIAL

1. PLATE, FLAT BAR, AND ANGLE MATERIAL:
   a. ALL PLATE MATERIAL SHALL HAVE A MINIMUM YIELD STRENGTH (F_y) OF 50 KSI.
   b. ANGLE AND BAR MATERIAL SHALL HAVE A HIGH STRENGTH STEEL SPECIFICATION AND SHALL HAVE A MINIMUM YIELD STRENGTH (F_y) OF 50 KSI.
2. HIGH STRENGTH BOLTS/FASTENERS:
   a. BOLTS SHALL BE TYPE 1 OR TYPE 3 AND SHALL BE A490 HEAVY HEX, F2280 TWIST-OFF-TYPE TENSION-CONTROL BOLT ASSEMBLIES, OR F3148 FIXED SPLINE BOLT ASSEMBLIES. THE BOLT HEAD SHALL BE DISTINCTIVELY MARKED WITH A MINIMUM MARKING OF A490, A490TC, OR 144 RESPECTIVELY. AN ALTERNATIVE DESIGN THAT MEETS THE REQUIREMENTS OF RCSC SECTION 2.8 MAY BE USED, WITH THE WRITTEN APPROVAL FROM SIDEPLATE SYSTEMS, INC.
   b. WASHERS SHALL BE ORDINARY THICKNESS AND ASTM F436 TYPE 1 OR TYPE 3.
   c. NUTS SHALL BE ASTM A563 GRADE DH OR DH3.
   d. THE BOLT ASSEMBLY SHALL BE COVERED IN A LIGHT PROTECTIVE OIL. F2280 AND F3148 ASSEMBLIES SHALL ONLY BE LUBRICATED BY THE SUPPLIER.
   e. THE MILL TEST REPORT (MTR) MUST HAVE DOCUMENTED LOT TRACEABILITY, STATEMENT OF DIMENSIONAL RESULTS, FULL CHEMICAL AND MECHANICAL TEST RESULTS TO THE SPECIFICATIONS ABOVE.
   f. THE USE OF FINGER SHIMS ARE ACCEPTABLE PER BOLTING SECTION 8.
3. ROLLED SHAPES:
   a. ALL ROLLED SHAPES USED FOR COLUMNS AND BEAMS IN CONSTRUCTING SIDEPLATE MOMENT FRAMES SHALL BE ASTM A992 GRADE 50 UNO.
4. HSS TUBE SHAPES:
   a. ALL HSS SHAPES USED FOR COLUMNS AND BEAMS IN CONSTRUCTING SIDEPLATE MOMENT FRAMES SHALL, AS A MINIMUM, BE ASTM A500 GRADE B OR GRADE C OR ASTM1085.

PREPARATION

1. THE STEEL FABRICATION AND ERECTION SUBCONTRACTORS SHALL EMPLOY A DISTORTION CONTROL PROGRAM PRIOR TO THE START OF SIDEPLATE MOMENT FRAME FABRICATION. THE DISTORTION CONTROL PROGRAM SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF AWS D1.1 SECTION 5.21 AND 5.22 TO ENSURE THAT THE FOLLOWING ARE MAINTAINED:
   - DIMENSIONAL ACCURACY
   - FRAMING AND ALIGNMENT TOLERANCES
   - COMPLIANCE WITH AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 7.0, ERECTION PROVISIONS
   - CONTROL OF DISTORTION AND WELD SHRINKAGE

WELDING

1. WELDER QUALIFICATION: THE PERFORMANCE OF ALL WELDERS, WELDING OPERATORS AND TACK WELDERS SHALL BE QUALIFIED IN CONFORMANCE WITH AWS D1.1, SECTION 4, PART C TO DEMONSTRATE ABILITY TO PRODUCE SOUND WELDS.

BOLTING

1. BOLTS/FASTENERS SHALL BE INSTALLED TO PRETENSIONED CONDITION USING ONE OF THE METHODS PRESCRIBED HERE: TURN-OF-NUT (A490), CALIBRATED WRENCH (A490), TWIST-OFF-TYPE TENSION-CONTROL BOLT (F2280), OR TORQUE AND ANGLE METHOD(F3148).
2. FOR ALL PRETENSIONING METHODOLOGIES, ALL FASTENER ASSEMBLIES WITHIN THE JOINT SHALL FIRST BE BROUGHT TO A SNUG TIGHT CONDITION, FOLLOWED BY A SYSTEMATIC PRETENSIONING PROCESS. PRETENSIONING SHALL BEGIN AT THE MOST RIGID PART OF THE JOINT AND CONTINUE IN A MANNER THAT WILL MINIMIZE THE RELAXATION OF PREVIOUSLY PRETENSIONED FASTENERS, UNTIL THE CONNECTED PLIES ARE IN AS FIRM CONTACT AS POSSIBLE.
3. REUSE OF A490, F2280, AND F3148 BOLT ASSEMBLIES SHALL NOT BE ALLOWED. TOUCHING UP OR RE-TIGHTENING BOLTS THAT MAY HAVE BEEN LOOSENED BY THE INSTALLATION OF ADJACENT BOLTS SHALL NOT BE CONSIDERED TO BE A REUSE.
4. ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS.
5. THE BOLT LENGTH USED SHALL BE SUCH THAT THE BOLT THREAD EXTENDS BEYOND OR IS AT LEAST FLUSH WITH THE OUTER FACE OF THE NUT WHEN PROPERLY INSTALLED.
6. FASTENER COMPONENTS SHALL BE PROTECTED FROM DIRT AND MOISTURE IN CLOSED CONTAINERS AT THE SITE OF INSTALLATION.
7. F2280 OR F3148 ASSEMBLIES AND ALTERNATIVE DESIGN FASTENERS THAT MEET THE SPECIFIED REQUIREMENTS PREVIOUSLY MENTIONED SHALL NOT BE RE-LUBRICATED, EXCEPT BY THE MANUFACTURER.
8. FINGER SHIMS MAY BE USED UP TO 1/4 INCH WITHOUT RESTRICTION, SHIM REQUIREMENTS GREATER THAN 1/4 INCH SHALL BE SUBMITTED TO SIDEPLATE SYSTEMS INC FOR APPROVAL PRIOR TO USE.
9. WASHERS SHALL BE ASTM F436 ORDINARY THICKNESS AND SHALL BE USED UNDER THE NUT OF THE FASTENER ASSEMBLY SO AS TO PROVIDE A HARDENED NON-GALLING SURFACE OF THE TURNED ELEMENT. WHEN USING THE TURN-OF-NUT OR CALIBRATED WRENCH METHOD, THE TURNED ELEMENT MUST BE THE SAME AS WAS USED WHEN PERFORMING PREINSTALLATION VERIFICATION TESTING.

QUALITY CONTROL

1. THE FABRICATOR AND ERECTOR SHALL BE RESPONSIBLE FOR QUALITY CONTROL BY PROVIDING, AS A MINIMUM, IN-PROCESS VISUAL INSPECTION OF ALL FABRICATION AND ERECTION ACTIVITIES TO ENSURE THAT MATERIALS AND WORKMANSHIP MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND SHALL INCLUDE WORK PERFORMED PRIOR TO ASSEMBLY. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFYING THAT EFFECTIVE PROCEDURES AND METHODS HAVE BEEN EMPLOYED IN THE FORM OF A DISTORTION CONTROL PROGRAM TO ACCOUNT FOR AND COUNTERACT THE EFFECTS OF WELD SHRINKAGE, EXISTING BEAM SWEEP AND CAMBER, AND CHANGES IN MOMENT FRAME GEOMETRY DUE TO SKEWED AND CURVED DESIGN CONFIGURATIONS (AS OCCURS), TO ENSURE COMPLIANCE WITH SPECIFIED ERECTION AND ALIGNMENT TOLERANCES. QC INSPECTION SHALL INCLUDE **HOLD POINTS** FOR THE FOLLOWING:
   a. COLUMN TREE ASSEMBLY
      1. VERIFICATION THAT ACTUAL COLUMN FLANGE WIDTH IS AT LEAST NOMINAL COLUMN FLANGE WIDTH WHERE THE SIDE PLATES {A} ARE TO BE INSTALLED. IN THE UNLIKELY EVENT ACTUAL COLUMN FLANGE WIDTH IS LESS THAN NOMINAL, BUT WITHIN AISC STANDARD MILL TOLERANCES (-3/16 INCH MAX), CONTACT SIDEPLATE SYSTEMS, INC FOR APPROPRIATE RECOMMENDATIONS.
      2. MINIMUM CLEAR DIMENSION SHALL BE VERIFIED AFTER PLACEMENT OF WELD {2}, COOLING OF WELD {2}, AND REMOVAL OF TEMPORARY SHOP CONSTRUCTION AID(S). VERIFY THAT A MINIMUM ACTUAL COLUMN FLANGE WIDTH DIMENSION OCCURS ANYWHERE IN BETWEEN THE SIDE PLATES {A} FROM TOP TO BOTTOM. THE SIDE PLATES SHALL BE PARALLEL TO ONE ANOTHER. IN NO CASE SHALL THEY BE LESS THAN THE ACTUAL COLUMN FLANGE WIDTH.
      3. MAXIMUM SPREAD DIMENSION OF SIDE PLATE {A} SHALL NOT EXCEED ACTUAL COLUMN FLANGE WIDTH PLUS THE SCHEDULED SPREAD DIMENSION Y. THE FIELD CONSTRUCTION AID SHALL BE PLACED AND HOLD THE SIDE PLATES IN THIS FLARED CONDITION UNTIL THE BEAM HAS BEEN SAFELY ERECTED. IN NO CASE SHALL THE SPREAD CAUSE PERMANENT DEFORMATION IN THE SIDE PLATES.
      4. VERIFICATION OF BOLT HOLE ELEVATION AND SPACING FOR POSITION OF SIDE PLATE {A} AND PROPER POSITION AND ELEVATION OF ANGLES {G}.
   b. BEAM ASSEMBLY
      1. VERIFICATION OF PERPENDICULAR ALIGNMENT BETWEEN THE TOP COVER PLATE {B} AND BOTTOM ANGLES {H} TO THE WEB OF THE BEAM, TO MINIMIZE, IF NOT ELIMINATE, ANY MISALIGNMENT OF BOLT HOLES DUE TO BEAM FLANGE TILT WHEN THE BEAM HAS BEEN LOWERED INTO PLACE.
      2. VERIFICATION OF BOLT HOLE SPACING AND POSITION ON COVER PLATE {B} AND ANGLES {H}. CONSIDERATION SHALL BE GIVEN TO THE CUPPING EFFECT OF THE TOP COVER PLATE {B}, DUE TO WELD SHRINKAGE.
      3. VERIFICATION OF THE DISTANCE BETWEEN EXTERIOR ANGLE {H} FACES AND THEIR RESPECTIVE BOLT HOLE PLACEMENT TO EACH OTHER (VERTICALLY AND HORIZONTALLY).
      4. VERIFICATION THAT IN NO CASE SHALL THE OUTSIDE FACE OF VSE {F} EXTEND BEYOND THE OUTSIDE FACES OF THE LONGITUDINAL ANGLES {H}.
      5. VERIFICATION THAT VERTICAL PLACEMENT OF VSE {F} IS IN THE CORRECT LOCATION.
2. FILLET WELD FIT-UP TOLERANCES:
   a. THE PARTS TO BE JOINED BY FILLET WELDS SHALL BE BROUGHT INTO AS CLOSE CONTACT AS PRACTICABLE, USING AS NECESSARY SUITABLE CLAMPING MEANS. THE ROOT OPENING (I.E., THE FIT-UP GAP) SHALL NOT EXCEED 1/4 INCH. FOR FILLET WELD ROOT GAPS GREATER THAN 1/16 INCH, THE LEG SIZE (I.E., THE SPECIFIED SIZE) OF FILLET WELD SHALL BE INCREASED BY THE AMOUNT OF THE ROOT OPENING.
3. THERMAL CUTTING:
   a. THE ROUGHNESS OF ALL THERMAL-CUT SURFACES SHALL BE NO GREATER THAN AN ANSI SURFACE ROUGHNESS VALUE OF 1000 MICRO-INCHES. ROUGHNESS EXCEEDING THIS VALUE AND NOTCHES OR GOUGES NOT MORE THAN 3/16 INCH DEEP SHALL BE REMOVED BY MACHINING OR GRINDING. NOTCHES OR GOUGES IN THE THERMALLY CUT EDGES DEEPER THAN 3/16 INCH SHALL BE REPAIRED PER AWS.
4. TENSION CALIBRATION FOR PRE-INSTALLATION:
   a. TENSION CALIBRATION SHALL BE USED TO CONFIRM THE SUITABILITY OF THE COMPLETE FASTENER ASSEMBLY, AND THE PROCEDURE TO BE USED BY THE BOLTING CREW.

QUALITY ASSURANCE

IN ADDITION TO ALL OTHER QUALITY ASSURANCE INSPECTION ACTIVITIES, THE OWNER'S VERIFICATION INSPECTOR SHALL BE RESPONSIBLE FOR:

1. WELDING:
   a. TO ASSURE THE PROPER AMPERAGE AND VOLTAGE OF THE WELDING PROCESS, THE USE OF HAND HELD CALIBRATED AMP AND VOLT METERS SHALL BE USED. THIS EQUIPMENT SHALL BE USED BY THE FABRICATOR AND THE INSPECTOR. AMPERAGE AND VOLTAGE SHALL BE MEASURED NEAR THE ARC. TRAVEL SPEED AND ELECTRODE STICK OUT SHALL BE VERIFIED TO BE IN COMPLIANCE WITH THE APPROVED WPS.
   b. VISUAL INSPECTION SHALL BE PERFORMED ON ALL SHOP WELDS.
   c. EACH WELDER EMPLOYED ON THE PROJECT SHALL UNDERSTAND ALL THE REQUIREMENTS OF THE WELDING PROCEDURE SPECIFICATION(S) BEFORE WELDING ON THE PROJECT.
   d. AS-BUILT BEAM TO COLUMN GAP PER CONNECTION SCHEDULE IS ALLOWED TO BE INSTALLED WITH A TOLERANCE OF PLUS OR MINUS 1/2 INCH.
2. FAYING SURFACES:
   a. THE SURFACES ADJACENT TO THE BOLT HEAD AND NUT SHALL BE FREE OF DIRT AND OTHER FOREIGN MATERIAL OTHER THAN THE SPECIFIED COATINGS.
   b. FAYING SURFACES ARE PERMITTED TO BE UNCOATED AND COATED WITH ANY COATINGS OF ANY FORMULATION OR GALVANIZATION.
   c. AFTER THE CONNECTIONS HAVE BEEN ASSEMBLED, VISUALLY ENSURE THAT THE PLIES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO AS CLOSE OF CONTACT AS PRACTICABLE WITH ONE ANOTHER. GAPS UP TO 1/8 INCH BETWEEN THE SURFACES SHALL BE ALLOWED. GAPS GREATER THAN 1/8 INCH UP TO 1/4 INCH SHALL HAVE FINGER SHIMS INSTALLED BEFORE PRETENSIONING. FOR GAPS GREATER THAN 1/4 INCH, CONTACT SIDEPLATE SYSTEMS, INC.

HOT DIPPED GALVANIZING

1. SIDEPLATE CONNECTIONS REQUIRING THIS TYPE OF FINISH SHALL FOLLOW THE SAME CONSTRUCTION SEQUENCING AS PREVIOUSLY OUTLINED WITH THE FOLLOWING MODIFICATIONS:
   a. HORIZONTAL SHEAR PLATES {D} SHALL HAVE AN INCREASED CLIP SIZE WHICH SHALL BE 1 5/8 INCH BY 1 5/8 INCH TO PROVIDE ADEQUATE VENTILATION AND DRAINAGE. CONTACT SIDEPLATE SYSTEMS, INC. IN THE EVENT THAT THE GALVANIZING CONTRACTOR SPECIFICATIONS REQUIRE A LARGER OPENING THAN THAT SPECIFIED HEREIN.
   b. SEAL WELDING SHALL BE ALLOWED ON THE PLATES {B} AND ANGLES.
   c. ANY DEVIATIONS TO THESE MODIFICATIONS SHALL BE COORDINATED WITH SIDEPLATE SYSTEMS, INC. AND THE SEOR.

FIREPROOFING

1. WHEN REQUIRED BY THE GOVERNING CODE FOR CERTAIN TYPES OF CONSTRUCTION, SIDEPLATE CONNECTIONS SHALL HAVE A FIRE-RESISTANCE RATING LIKE THAT OF A STEEL "STRUCTURAL FRAME".
2. THE MINIMUM THICKNESS OF SPRAY-APPLIED FIRE-RESISTIVE MATERIAL (SFRM) FOR STEEL SIDEPLATE CONNECTIONS PLATES THAT ARE NOT ENCASED IN CONCRETE, SHALL BE DETERMINED JUST LIKE THAT OF A PIPE/TUBE COLUMN SECTION WITH A CONSTANT STEEL WALL THICKNESS USING THE THICKNESS OF SIDE PLATE {A} FOR EACH SIDEPLATE CONNECTION ID PER THE SIDEPLATE CONNECTION SCHEDULE, WHICH ARE UNIFORMLY HEATED AND PROTECTED (THE FIRE EXPOSURE OF A PIPE/TUBE COLUMN IS DIRECTLY ANALOGOUS TO A PLATE WITH A 1-SIDED FIRE EXPOSURE AND PROTECTION). THE SFRM SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM E119 AND LISTED FOR FIRE RESISTIVE PIPE/TUBE COLUMN APPLICATIONS FOR NO LESS THAN THE REQUIRED RATED TIME.
3. AS REQUIRED, WHEN NO VERTICAL SHEAR ELEMENT {F} EXISTS IN THE BEAM, SPRAY THE MINIMUM THICKNESS OF SFRM BETWEEN INSIDE OF SIDE PLATE {A} AND BEAM WEB COVERING ALL SURFACES INCLUDING COLUMN FLANGE. NOTE: THIS DOES NOT NECESSITATE FILLING THE CAVITY FULL.
4. WHEN VERTICAL SHEAR ELEMENT {F} IS USED, THE CONTRACTOR SHALL PROVIDE THE MEANS, TYPICALLY DONE WITH A LAYERING TECHNIQUE, FOR FIREPROOFING ACROSS THE BOTTOM OF THE GAP.
5. SEE GRAPHIC NUMBER 10 IN FIELD ERECTION OF THE SIDEPLATE BOLTED SYSTEM FOR FIREPROOFING ACROSS THE BOTTOM OF THE GAP.

INTELLECTUAL PROPERTY

1. IN ORDER TO SAFEGUARD THE AUTHORIZED USE AND INTELLECTUAL PROPERTY OF THE PATENTED SIDEPLATE CONNECTION TECHNOLOGY, THE STEEL FABRICATION SUBCONTRACTOR SHALL SATISFY THE FOLLOWING REQUIREMENTS:
   a. A NOTICE OF INTELLECTUAL PROPERTY, IDENTICAL TO THAT PROVIDED ON THIS SHEET, SHALL BE AFFIXED ON EACH SHEET OF SHOP DETAIL AND FIELD ERECTION DRAWINGS CONTAINING SIDEPLATE SYSTEM INFORMATION WHICH DISCLOSES IN ANY WAY THE SIDEPLATE CONNECTION CONCEPT PRIOR TO RELEASING SUCH INFORMATION FOR ITS INTENDED USE. SUCH NOTICE SHALL BE PROVIDED TO THE STEEL FABRICATION SUBCONTRACTOR BY SIDEPLATE SYSTEMS, INC. IN A FORMAT (E.G. WORD OR AUTOCAD) SUITABLE TO THE NEEDS OF THE STEEL FABRICATION SUBCONTRACTOR'S DETAILER.
   b. PATENT LABELS SHALL BE APPLIED ON THE OUTSIDE FACE OF ONE OF THE TWO BOTTOM HORIZONTAL SHEAR PLATES {D} OF EACH MOMENT CONNECTION AND ON ONE END OF THE BEAM WEB IN COMPLIANCE WITH THE PATENT AND INTELLECTUAL PROPERTY LAWS.

CONSTRUCTION GUIDELINES

1. THE CONTRACTOR SHALL ASSUME FULL AND COMPLETE RESPONSIBILITY FOR THE MEANS AND METHODS OF CONSTRUCTING THE STEEL FRAME USING THE SIDEPLATE BOLTED SYSTEM. CONSTRUCTION MEANS AND METHODS SHALL BE COMPLIANT WITH THE CURRENT PROVISIONS OF AWS D1.1, THE AISC 360 CODE OF STANDARD PRACTICE, THE RCSC HIGH-STRENGTH BOLTING SPECIFICATIONS, AND THE CONSTRUCTION GUIDELINES PROVIDED HEREIN AND SHALL INCLUDE, BUT ARE NOT LIMITED TO:
   a. DIMENSIONAL VERIFICATION AND CONTROL
   b. FABRICATION AND ERECTION PROCEDURES (INCLUDING METHODS FOR CONTROLLING DISTORTION DUE TO WELD SHRINKAGE, AND FOR CONTROLLING COMBINED MILL, FABRICATION AND ERECTION TOLERANCES)
   c. CONSTRUCTION AIDS SUCH AS ERECTION RIGGING AND SHORING
   d. PROPER BOLT HOLE ALIGNMENT
   e. PROPER PRETENSIONING OF BOLTS
2. THE SEQUENCE OF CONSTRUCTION OPTIONS PROVIDED BELOW IN THESE CONSTRUCTION GUIDELINES HAVE PROVEN TO BE SUCCESSFUL BY STEEL FABRICATORS AND ERECTORS TO COST EFFICIENTLY CONSTRUCT THE BOLTED SIDEPLATE CONNECTION SYSTEM. VARIATIONS TO THESE CONSTRUCTION SEQUENCE OPTIONS PROVIDED BELOW SHALL BE SUBMITTED FOR REVIEW AND DISPOSITION TO SIDEPLATE SYSTEMS, INC.
3. A PRE-FABRICATION COORDINATION MEETING WITH A SIDEPLATE SYSTEMS, INC. REPRESENTATIVE IS REQUIRED FOR ALL PROJECTS. THE PRE-FABRICATION COORDINATION MEETING IS INTENDED TO SHARE BEST PRACTICES AND COMMON MISTAKES TO AVOID.

SHOP FABRICATION OF THE SIDEPLATE BOLTED SYSTEM

1. WATCH OUR SIDEPLATE COLUMN ASSEMBLY VIDEO AT

https://portal.sideplate.com/account/login

GRAPHIC NO. 1 - COLUMN TREE ASSEMBLY PREPARATION FOR WELD {2}

- IF MILL ROLL GAP ≤ 1/16", PERFORM FILLET WELD {2} AS SCHEDULED.
- IF MILL ROLL GAP ≥ 1/16", RUN AN INITIAL PASS TO FILL GAP. THEN PERFORM FILLET WELD {2} AS SCHEDULED.

GRAPHIC NO. 2 - MILL ROLL INDUCED GAP

GRAPHIC NO. 3 - COMPLETED SIDEPLATE BOLTED COLUMN TREE ASSEMBLY

2. WATCH OUR SIDEPLATE BEAM ASSEMBLY VIDEO AT

https://portal.sideplate.com/account/login

GRAPHIC NO. 4 - ANGLE {H} PLACEMENT

GRAPHIC NO. 5 - ROTATE BEAM ASSEMBLY TO FACILITATE WELD {5} MATERIAL AT MINIMAL EDGE DISTANCE

FIELD ERECTION OF SIDEPLATE BOLTED SYSTEM

3. WATCH OUR SIDEPLATE FIELD ERECTION VIDEO AT

https://portal.sideplate.com/account/login

GRAPHIC NO. 6 - FIELD ERECTION OF SIDEPLATE BEAM ASSEMBLY

GRAPHIC NO. 7 - COMPLETED SIDEPLATE BOLTED CONNECTION

GRAPHIC NO. 8 - SNUG TIGHT CONDITION PRIOR TO PRETENSIONING BOLTS

GRAPHIC NO. 9 - TYPICAL GAP CLOSURE AT THE TOP OF THE GAP

GRAPHIC NO. 10 - FIREPROOFING ACROSS THE BOTTOM OF THE GAP

NMF BOLTED

INTELLECTUAL PROPERTY RIGHTS NOTICE

The SIDEPLATE® steel frame connection system is covered by one or more of U.S. Pat. Nos. 6,138,427; 6,516,583; 6,591,573; 7,178,296; 8,122,671; 8,122,672; 8,146,322; 8,176,706; 8,205,408; and 9,091,065 and foreign counterparts. Other U.S. and foreign applications pending.

SIDEPLATE® is a registered trademark of MiTek Holdings, Inc., an affiliate of SidePlate Systems, Inc.

v15.06.00

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CLIENT:

COLLEGE OF
Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

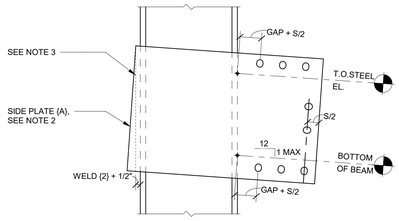
PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.01

SIDEPLATE GENERAL NOTES AND CONSTRUCTION GUIDELINES

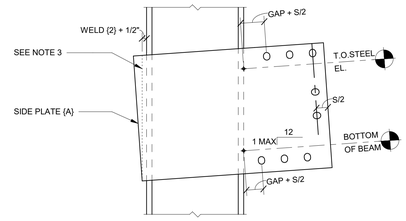
AMF BOLTED



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

9 SLOPED DOWN CONNECTION (AS APPLICABLE)
N.T.S.



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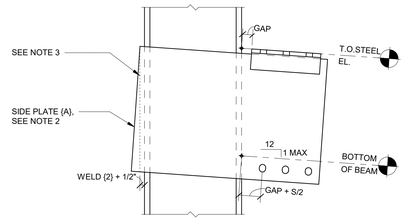
8 SLOPED UP CONNECTION (AS APPLICABLE)
N.T.S.



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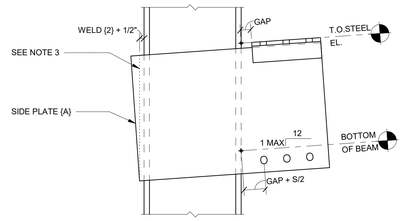
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

4 SLOPED DOWN CONNECTION (AS APPLICABLE)
N.T.S.



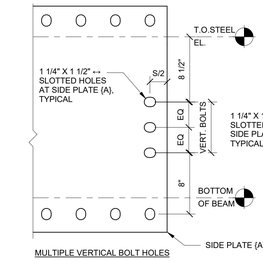
FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

3 SLOPED UP CONNECTION (AS APPLICABLE)
N.T.S.

ID	COLUMN PANEL ZONE DESIGN (INCHES)				SIDE PLATE {A} EXTENSION DESIGN (INCHES)								
	COLUMN	WELD	BEAM		PLATE				BOLT				
	SERIES	{2}	SHAPE	GAP	{A}				DIAMETER	HORIZONTAL #	VERTICAL #	G	S
		SIZE			THICKNESS	B	E	Y					
A15	W24x	3/8	W24X68	2	5/8	31 3/4	1 3/8	2 1/2	1 1/8	4	2	2 1/8	4 1/2
A25	W24x	3/8	W24X76	2	3/4	31 7/8	1 3/8	2 1/8	1 1/8	4	2	2 1/8	4 1/2
A35	W24x	3/8	W33X141	2	3/4	41 1/4	1 3/8	3 1/8	1 1/8	5	3	2 1/8	4 1/2
A45	W24x	3/8	W36X160	2	3/4	44	1 3/8	4 3/8	1 1/8	6	3	2 1/8	4 1/2

6 A TYPE NARROW COLUMN CONNECTION SCHEDULE
N.T.S.

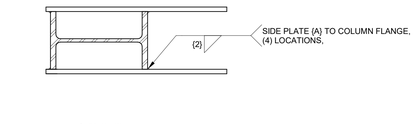


NOTE(S):
1. SEE COLUMN SCHEDULE FOR BOLT QUANTITY.

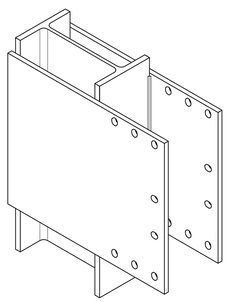
7 SIDE PLATE {A} VSE BOLT HOLE DETAIL
N.T.S.

ID	COLUMN PANEL ZONE DESIGN (INCHES)				SIDE PLATE {A} EXTENSION DESIGN (INCHES)											
	COLUMN	WELD	BEAM		PLATE				ANGLE				WELD	BOLT		
	SERIES	{2}	SHAPE	GAP	{A}				{G}				{8}	DIAMETER	HORIZONTAL #	G	S
		SIZE			THICKNESS	B	Y		SUGGESTED SIZE	HORIZONTAL LEG	VERTICAL LEG	SIZE				
A10	W24x	3/8	W24X68	2	5/8	27 1/4	2 1/2		L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16		1 1/8	4	2 1/8	4 1/2
A20, A29	W24x	3/8	W24X76	2	5/8	27 3/8	2 1/2		L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16		1 1/8	4	2 1/8	4 1/2
A40	W24x	3/8	W36X160	2	3/4	39 1/2	4 3/8		L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16		1 1/8	6	2 1/8	4 1/2

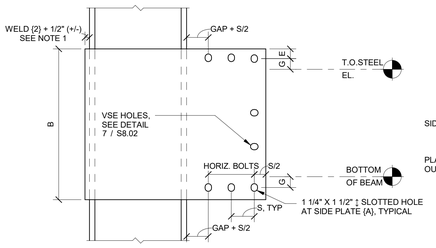
2 A TYPE COLUMN CONNECTION SCHEDULE
N.T.S.



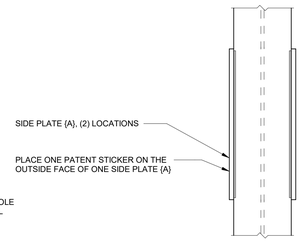
PLAN VIEW



ISOMETRIC



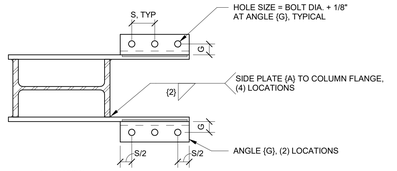
FRONT ELEVATION



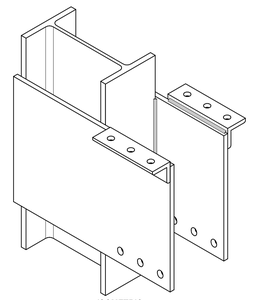
SIDE ELEVATION

NOTE(S):
1. THE 1/2 INCH OVERHANG ON THE SIDE PLATE {A} IS TO ENSURE SUFFICIENT ROOM FOR WELD {2}, THE +/- TOLERANCE IS APPLIED SO THAT IF DESIRED, THE DETAILER CAN MAKE THE SIDE PLATES {A} THE SAME LENGTH WITH SLIGHTLY VARYING COLUMN DEPTHS WITHIN A GROUP OF THE SAME CONNECTION ID'S.

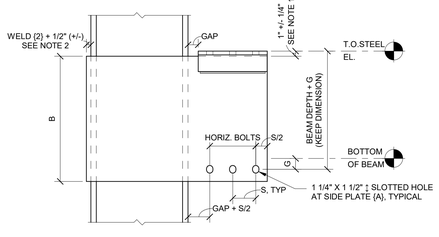
5 A TYPE NARROW BOLTED CONNECTION
N.T.S.



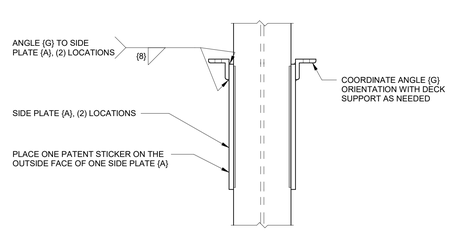
PLAN VIEW



ISOMETRIC



FRONT ELEVATION



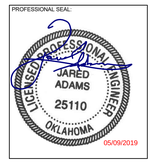
SIDE ELEVATION

NOTE(S):
1. THE +/- 1/4 INCH TOLERANCE FOR PLACEMENT OF ANGLES {G} IS TO ENSURE CORRECT TOP OF STEEL PLACEMENT RELATIVE TO THE CENTERLINE OF THE BOTTOM HORIZONTAL ROW OF BOLT HOLES. THE PLACEMENT OF ANGLES {G} SHALL NEVER BE MEASURED FROM THE BOTTOM EDGE OF SIDE PLATE {A} TO ESTABLISH THE CORRECT TOP OF STEEL.
2. THE 1/2 INCH OVERHANG ON THE SIDE PLATE {A} IS TO ENSURE SUFFICIENT ROOM FOR WELD {2}, THE +/- TOLERANCE IS APPLIED SO THAT IF DESIRED, THE DETAILER CAN MAKE THE SIDE PLATES {A} THE SAME LENGTH WITH SLIGHTLY VARYING COLUMN DEPTHS WITHIN A GROUP OF THE SAME CONNECTION ID'S.

1 A TYPE BOLTED CONNECTION
N.T.S.

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:



CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

COLLEGE OF Osteopathic Medicine AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

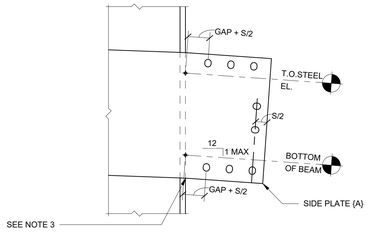
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.02

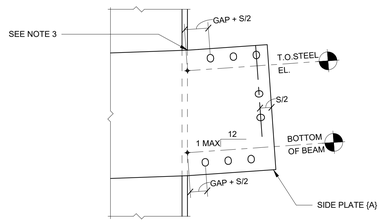
SIDEPLATE COLUMN DETAILS, A TYPE NO PLATE D



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

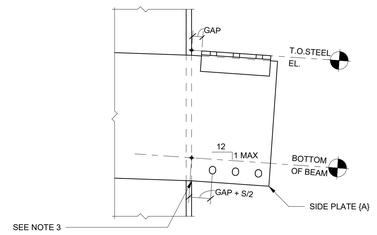
9 SLOPED DOWN CONNECTION (AS APPLICABLE)
N.T.S.



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

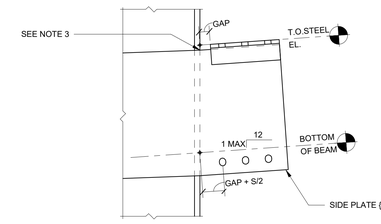
8 SLOPED UP CONNECTION (AS APPLICABLE)
N.T.S.



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

4 SLOPED DOWN CONNECTION (AS APPLICABLE)
N.T.S.



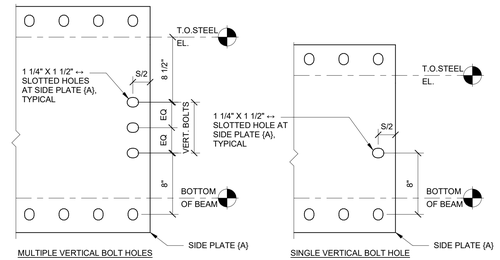
FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

3 SLOPED UP CONNECTION (AS APPLICABLE)
N.T.S.

ID	COLUMN PANEL ZONE DESIGN (INCHES)				SIDE PLATE {A} EXTENSION DESIGN (INCHES)							
	COLUMN	WELD	BEAM		PLATE				BOLT			
	SERIES	{2} SIZE	SHAPE	GAP	{A} THICKNESS	B	E	Y	DIAMETER	HORIZONTAL #	VERTICAL #	G	S
B15	W24x	7/16	W24X68	2	3/4	31 3/4	1 3/8	2 1/8	1 1/8	4	2	2 1/8	4 1/2
B25	W24x	3/8	W24X76	2	5/8	31 7/8	1 3/8	2 1/2	1 1/8	4	2	2 1/8	4 1/2
B35	W24x	7/16	W33X141	2	3/4	41 1/4	1 3/8	3 1/8	1 1/8	5	3	2 1/8	4 1/2
B45	W24x	7/16	W36X160	2	3/4	44	1 3/8	4 3/8	1 1/8	6	3	2 1/8	4 1/2

6 B TYPE NARROW COLUMN CONNECTION SCHEDULE
N.T.S.

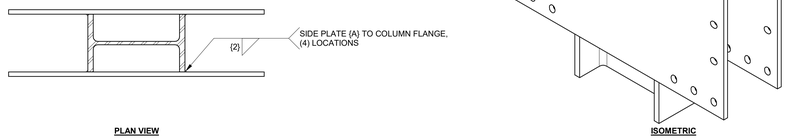


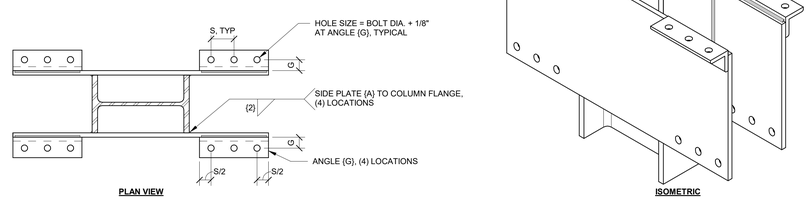
NOTE(S):
1. SEE COLUMN SCHEDULE FOR BOLT QUANTITY.

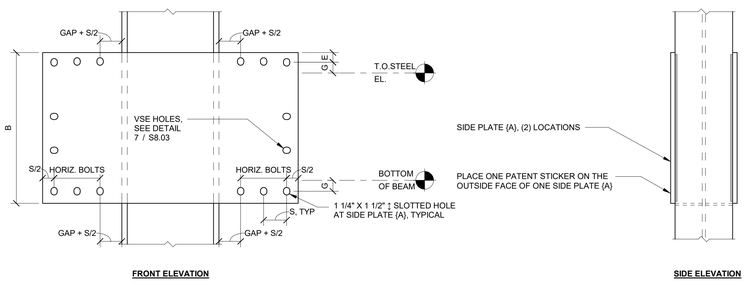
7 SIDE PLATE {A} VSE BOLT HOLE DETAIL
N.T.S.

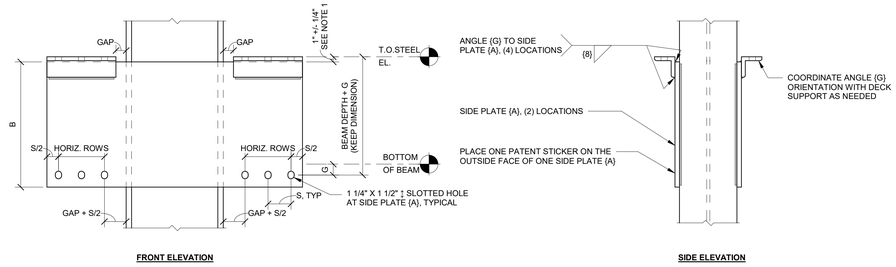
ID	COLUMN PANEL ZONE DESIGN (INCHES)				SIDE PLATE {A} EXTENSION DESIGN (INCHES)									
	COLUMN	WELD	BEAM		PLATE			ANGLE			WELD	BOLT			
	SERIES	{2} SIZE	SHAPE	GAP	{A} THICKNESS	B	Y	{G} SUGGESTED SIZE	HORIZONTAL LEG	VERTICAL LEG	{8} SIZE	DIAMETER	HORIZONTAL #	G	S
B10	W24x	3/8	W24X68	2	5/8	27 1/4	2 1/2	L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16	1 1/8	4	2 1/8	4 1/2
B20, B29	W24x	3/8	W24X76	2	5/8	27 3/8	2 1/2	L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16	1 1/8	4	2 1/8	4 1/2
B40	W24x	7/16	W36X160	2	3/4	39 1/2	4 3/8	L5X3-1/2X5/8	3-1/2 to 6	4 to 6	5/16	1 1/8	6	2 1/8	4 1/2

2 B TYPE COLUMN CONNECTION SCHEDULE
N.T.S.









NOTE(S):
1. THE +/- 1/4 INCH TOLERANCE FOR PLACEMENT OF ANGLES {G} IS TO ENSURE CORRECT TOP OF STEEL PLACEMENT RELATIVE TO THE CENTERLINE OF THE BOTTOM HORIZONTAL ROW OF BOLT HOLES. THE PLACEMENT OF ANGLES {G} SHALL NEVER BE MEASURED FROM THE BOTTOM EDGE OF SIDE PLATE {A} TO ESTABLISH THE CORRECT TOP OF STEEL.

5 B TYPE NARROW BOLTED CONNECTION
N.T.S.

1 B TYPE BOLTED CONNECTION
N.T.S.

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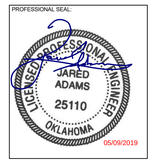
PROFESSIONAL SEAL:



CONSULTANT LOGO:

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4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

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TAHLEQUAH, OKLAHOMA

KEY PLAN:

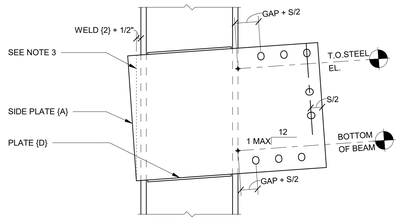
PROJECT PHASE:
BID PACKAGE 04

REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.03

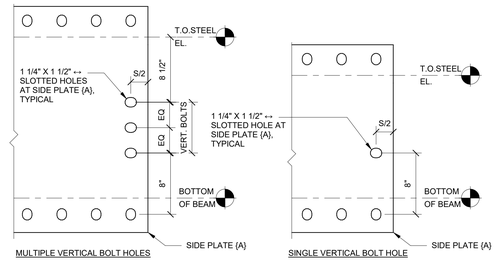
SIDEPLATE COLUMN DETAILS, B TYPE NO PLATE D



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

4 SLOPED UP CONNECTION (AS APPLICABLE)
N.T.S.

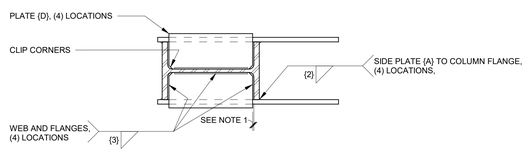


NOTE(S):
1. SEE COLUMN SCHEDULE FOR BOLT QUANTITY.

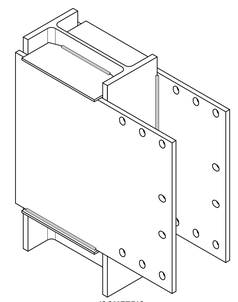
3 SIDE PLATE {A} VSE BOLT HOLE DETAIL
N.T.S.

ID	COLUMN PANEL ZONE DESIGN (INCHES)					SIDE PLATE {A} EXTENSION DESIGN (INCHES)										
	COLUMN	PLATE	WELD			BEAM		PLATE				BOLT				
	SERIES	{D}	{1}	{2}	{3}	SHAPE	GAP	{A}				DIAMETER	HORIZONTAL #	VERTICAL #	G	S
		THICKNESS	SIZE	SIZE	SIZE			THICKNESS	B	E	Y					
A115	W24x	3/8	1/4	3/8	1/4	W24X68	2	5/8	31 3/4	1 3/8	2 1/2	1 1/8	4	2	2 1/8	4 1/2

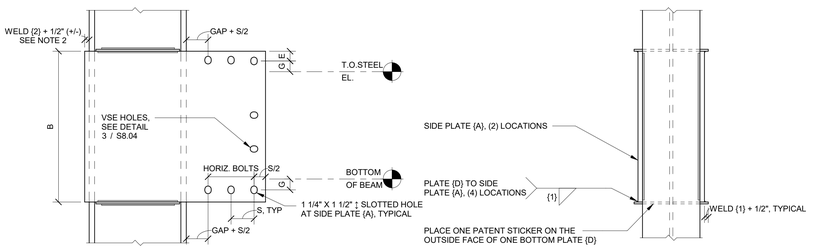
2 A TYPE NARROW COLUMN CONNECTION SCHEDULE
N.T.S.



PLAN VIEW



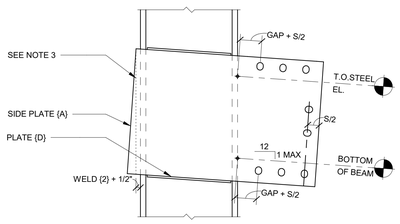
ISOMETRIC



FRONT ELEVATION **SIDE ELEVATION**

NOTE(S):
1. DIMENSION BETWEEN PLATE {D} AND INSIDE FACE OF COLUMN FLANGE SHALL NOT EXCEED 1/4 INCH. THIS DIMENSION MAY VARY DEPENDING ON THE DETAILER'S PREFERENCE TO ACCOMMODATE MILL TOLERANCE AND/OR THE UNIFORMITY OF PIECE MARKS.
2. THE 1/2 INCH OVERHANG ON THE SIDE PLATE {A} IS TO ENSURE SUFFICIENT ROOM FOR WELD {2}. THE +/- TOLERANCE IS APPLIED SO THAT IF DESIRED, THE DETAILER CAN MAKE THE SIDE PLATES {A} THE SAME LENGTH WITH SLIGHTLY VARYING COLUMN DEPTHS WITHIN A GROUP OF THE SAME CONNECTION ID'S.

1 A TYPE NARROW BOLTED CONNECTION
N.T.S.



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

5 SLOPED DOWN CONNECTION (AS APPLICABLE)
N.T.S.

James R. Childers
Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
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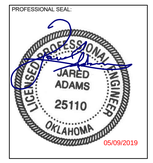
PROFESSIONAL SEAL:



05/09/2019

CONSULTANT LOGO:

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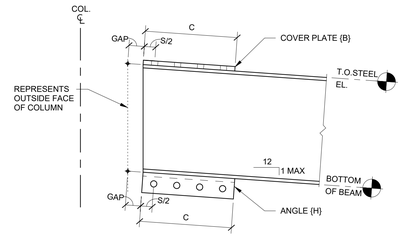
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.04

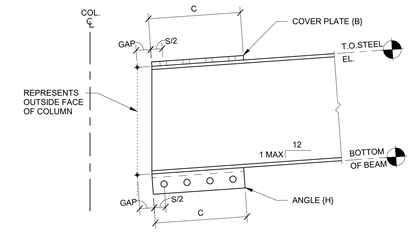
SIDEPLATE COLUMN DETAILS, A TYPE



ELEVATION VIEW

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

4 SLOPED DOWN BEAM END (AS APPLICABLE)
N.T.S.



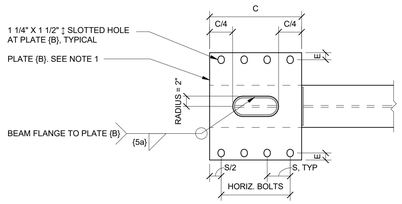
ELEVATION VIEW

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

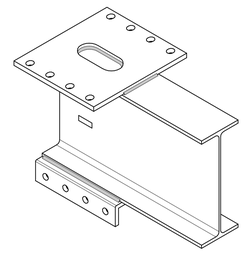
3 SLOPED UP BEAM END (AS APPLICABLE)
N.T.S.

ID	BEAM DESIGN (INCHES)																	
	BEAM		PLATE				ANGLE				WELD			BOLT				
	SHAPE	GAP	{B}				{H}				{5}	{5a}	{5b}	DIAMETER	HORIZONTAL #	G	S	
			COVER PLATE TYPE	THICKNESS	E	H	SUGGESTED SIZE	C	HORIZONTAL LEG	VERTICAL LEG	SIZE	SIZE	SIZE					
A10	W24X68	2	Slotted	7/8	1 3/8	8 1/4	L5X3-1/2X5/8	18	5	3 1/2	5/16	5/16	5/16	1 1/8	4	2 1/8	4 1/2	
A20, B20	W24X76	2	Slotted	3/4	1 3/8	8 1/4	L5X3-1/2X5/8	18	5	3 1/2	5/16	5/16	5/16	1 1/8	4	2 1/8	4 1/2	
A29	W24X76	2	Slotted	1 3/8	1 3/8	8 1/4	L5X3-1/2X5/8	18	5	3 1/2	5/16	5/16	5/16	1 1/8	4	2 1/8	4 1/2	
A40, B40	W36X160	2	Slotted	3/4	1 3/8	8 1/2	L5X3-1/2X5/8	27	5	3 1/2	5/16	5/16	5/16	1 1/8	6	2 1/8	4 1/2	
B10	W24X68	2	Slotted	1	1 3/8	8 1/4	L5X3-1/2X5/8	18	5	3 1/2	5/16	5/16	5/16	1 1/8	4	2 1/8	4 1/2	
B29	W24X76	2	Slotted	1	1 3/8	8 1/4	L5X3-1/2X5/8	18	5	3 1/2	5/16	5/16	5/16	1 1/8	4	2 1/8	4 1/2	

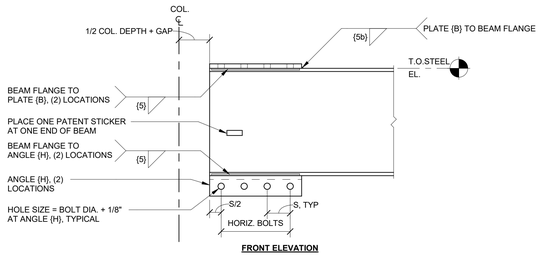
2 BEAM END SCHEDULE
N.T.S.



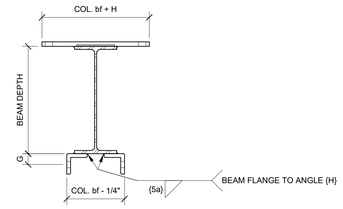
PLAN VIEW



ISOMETRIC VIEW

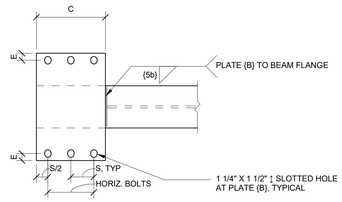


FRONT ELEVATION



SECTION VIEW

NOTE(S):
1. USE SLOTTED OR RECTANGULAR COVER PLATE {B} PER SCHEDULE. FOR RECTANGULAR COVER PLATE, SEE DETAIL 5 / S8.05



PLAN VIEW

NOTE(S):
1. FOR ITEMS NOT NOTED, SEE DETAIL 1 / S8.05

5 RECTANGULAR COVER PLATE {B}
N.T.S.

1 BEAM END DETAIL
N.T.S.

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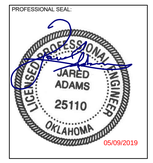
PROFESSIONAL SEAL:



05/09/2019

CONSULTANT LOGO:

Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
505-344-4080 505-343-8759 (fax)

CLIENT:

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

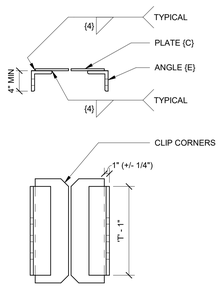
PROJECT PHASE:
BID PACKAGE 04

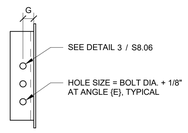
REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.05

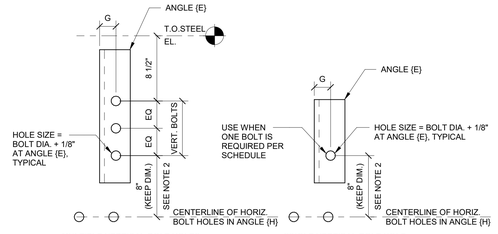
SIDEPLATE BEAM DETAILS





NOTE(S):
1. SEE SIDEPLATE SCHEDULE FOR BOLT QUANTITY.

4 VSE {F} DETAIL
N.T.S.

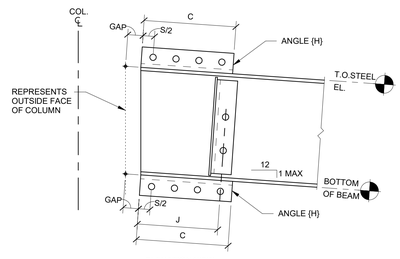


NOTE(S):
1. SEE BEAM END SCHEDULE FOR BOLT QUANTITY.
2. EFFECTS OF MILL AND FABRICATION TOLERANCES ARE ACCOUNTED FOR BY MEASURING FROM THE CENTERLINE OF THE HORIZONTAL ROW OF BOLTS IN THE BOTTOM ANGLES {H}.

3 VSE {F} HOLE DETAIL
N.T.S.

ID	BEAM DESIGN (INCHES)																
	BEAM		PLATE	ANGLE					WELD			BOLT					
	SHAPE	GAP	{C}	{H}				{E}	{4}	{5}	{5a}	DIAMETER	HORIZONTAL #	VERTICAL #	G	J	S
			THICKNESS	SUGGESTED SIZE	C	HORIZONTAL LEG	VERTICAL LEG	SIZE	SIZE	SIZE	SIZE						
A15, A115, B15	W24X68	2	3/8	L5X3-1/2X5/8	18	5	3 1/2	L4X4X1/2	1/4	5/16	5/16	1 1/8	4	2	2 1/8	15 3/4	4 1/2
A25, B25	W24X76	2	3/8	L5X3-1/2X5/8	18	5	3 1/2	L4X4X1/2	1/4	5/16	5/16	1 1/8	4	2	2 1/8	15 3/4	4 1/2
A35, B35	W33X141	2	3/8	L5X3-1/2X5/8	22 1/2	5	3 1/2	L4X4X1/2	1/4	5/16	5/16	1 1/8	5	3	2 1/8	20 1/4	4 1/2
A45, B45	W36X160	2	3/8	L5X3-1/2X5/8	27	5	3 1/2	L4X4X1/2	1/4	5/16	5/16	1 1/8	6	3	2 1/8	24 3/4	4 1/2

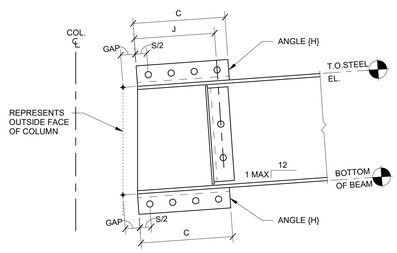
2 NARROW BEAM END SCHEDULE
N.T.S.



ELEVATION VIEW

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

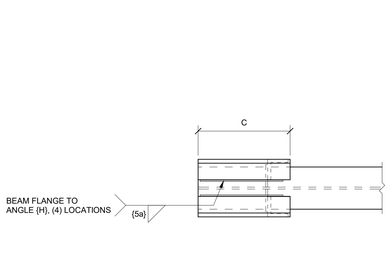
6 SLOPED DOWN BEAM END (AS APPLICABLE)
N.T.S.



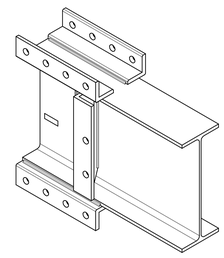
ELEVATION VIEW

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

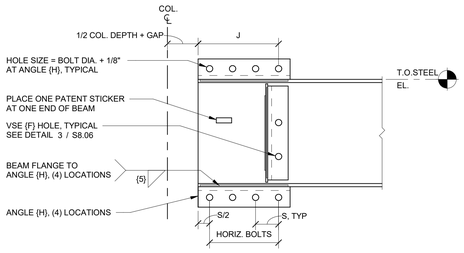
5 SLOPED UP BEAM END (AS APPLICABLE)
N.T.S.



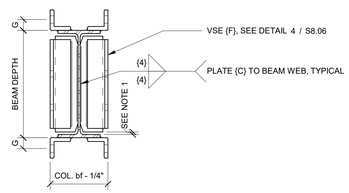
PLAN VIEW



ISOMETRIC VIEW



FRONT ELEVATION



SECTION VIEW

NOTE(S):
1. DIMENSION BETWEEN PLATE {C} AND INSIDE FACE OF BEAM FLANGE SHALL NOT EXCEED 1/4 INCH, AND MAY VARY DEPENDING ON BEAM MILL TOLERANCES. PLATE {C} SHALL BE CENTERED ON THE DEPTH OF THE BEAM.

1 NARROW BEAM END DETAIL
N.T.S.

James R. Childers Architect, Inc.
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PROFESSIONAL SEAL:
LICENSED PROFESSIONAL ENGINEER
JARED ADAMS
25110
OKLAHOMA
05/09/2019

CONSULTANT LOGO:
Chavez-Grieves consulting engineers, inc.
4700 Lincoln Road NE, Suite 102 Albuquerque, NM 87109
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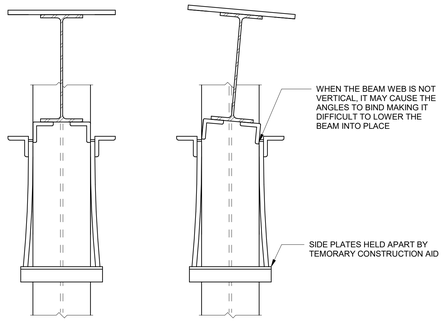
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

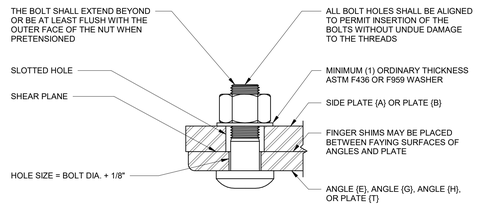
REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.06

SIDEPLATE BEAM DETAILS, NARROW



4 BEAM INSTALLATION DETAIL
N.T.S.



NOTE(S):
1. BOLTS SHALL BE INSTALLED AS SHOWN TO KEEP THREADS OUTSIDE OF SHEAR PLANE.
2. BOLTS SHALL BE SYSTEMATICALLY INSTALLED AS OUTLINED IN THE BOLTING SPECIFICATIONS. FIRST TO A SNUG TIGHT CONDITION, AND THEN PRETENSIONED.
3. THE USE OF FINGER SHIMS ARE ALLOWED FOR GAPS GREATER THAN 1/8 INCH UP TO 1/4 INCH. CONTACT SIDEPLATE SYSTEMS, INC. IF GAPS ARE GREATER THAN 1/4 INCH.
4. NUT SHALL BE ASTM A563.
5. THE BOLT/FASTENER ASSEMBLY SHALL BE COVERED IN A LIGHT PROTECTIVE OIL.
6. FOLLOW QUALITY CONTROL SECTION FOR EXPOSURE LIMITATION ON BOLTS/FASTENERS.

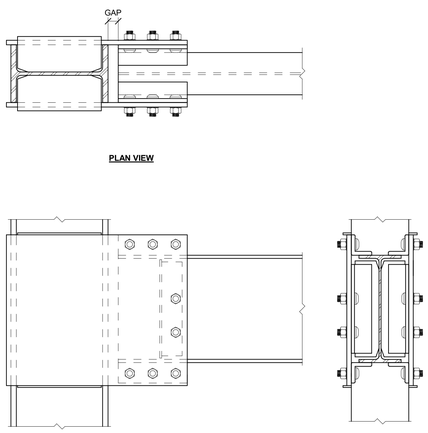
3 FIELD BOLTING DETAIL
N.T.S.

ID	ERECTION DESIGN (INCHES)				
	BEAM	BOLT			
	SHAPE	DIAMETER	HORIZONTAL #	VERTICAL #	TOTAL # PER BEAM END
A10, B10	W24X68	1 1/8	4	2	16
A20, A29, B20, B29	W24X76	1 1/8	4	2	16
A40, B40	W36X160	1 1/8	6	3	24

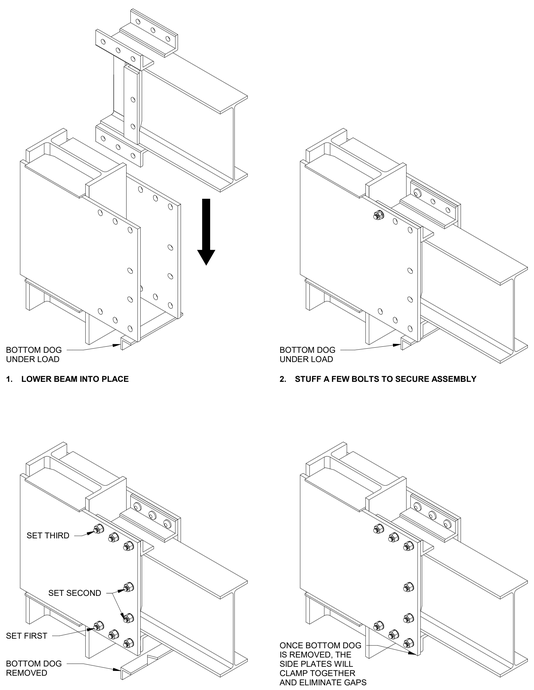
2 BEAM ERECTION SCHEDULE
N.T.S.

ID	ERECTION DESIGN (INCHES)				
	BEAM	BOLT			
	SHAPE	DIAMETER	HORIZONTAL #	VERTICAL #	TOTAL # PER BEAM END
A15, A115, B15	W24X68	1 1/8	4	2	20
A25, B25	W24X76	1 1/8	4	2	20
A35, B35	W33X141	1 1/8	5	3	26
A45, B45	W36X160	1 1/8	6	3	30

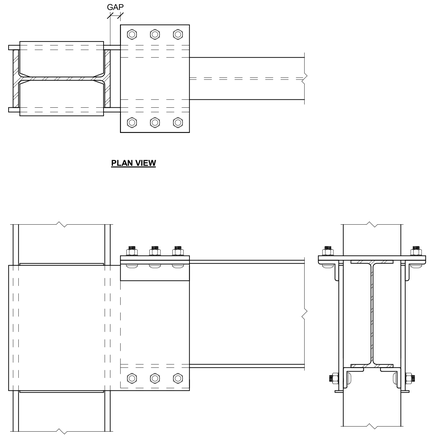
6 NARROW BEAM ERECTION SCHEDULE
N.T.S.



TYPICAL SEQUENCE OF ERECTION:
1. LOWER THE BEAM INTO PLACE FROM ABOVE.
2. STUFF A FEW BOLTS TO SECURE ASSEMBLY.
3. **BOTTOM DOG SHALL BE REMOVED.** IT IS RECOMMENDED THAT IT BE REMOVED BY TORCH CUTTING A 'V' SECTION OUT OF ONE OF THE ANGLE LEGS TO ALLEVIATE THE LOAD AND THEN PROCEED TO REMOVE IT. **IT IS NOT RECOMMENDED TO USE A GRINDING WHEEL TO REMOVE THE WELDS WHILE THE DOG IS UNDER LOAD!**
4. BOLTS SHALL BE STUFFED INTO HOLES IN THE BEAM COVER PLATE {B} AND THE SIDE PLATES {A}.
5. SYSTEMATICALLY TIGHTEN BOLTS PER RCSC SPECIFICATIONS.
6. THE WELD REMNANTS OF THE BOTTOM DOG MAY REMAIN IN PLACE AND DO NOT NEED TO BE GROUND SMOOTH.



5 NARROW BEAM ERECTION DETAIL
N.T.S.



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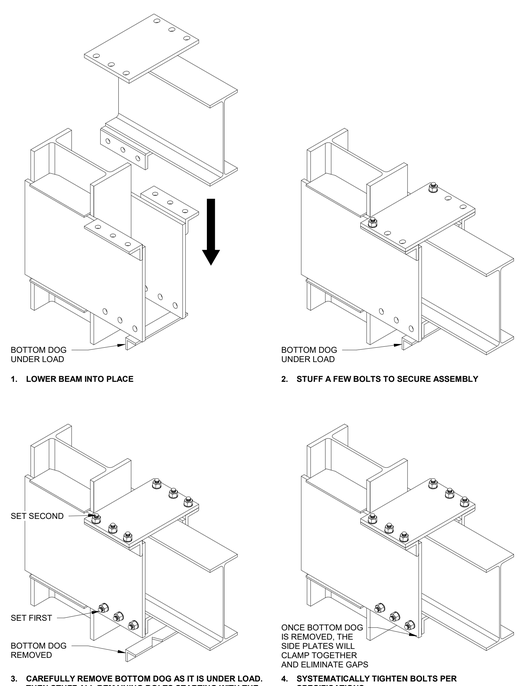
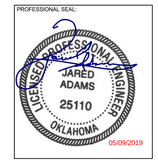
4. BOLTS SHALL BE STUFFED INTO HOLES IN THE BEAM COVER PLATE {B} AND THE SIDE PLATES {A}.
5. SYSTEMATICALLY TIGHTEN BOLTS PER RCSC SPECIFICATIONS.
6. THE WELD REMNANTS OF THE BOTTOM DOG MAY REMAIN IN PLACE AND DO NOT NEED TO BE GROUND SMOOTH.



1 BEAM ERECTION DETAIL
N.T.S.

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:



05/09/2019

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CLIENT:

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TAHLEQUAH, OKLAHOMA

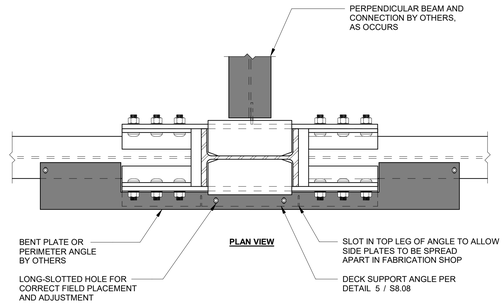
KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

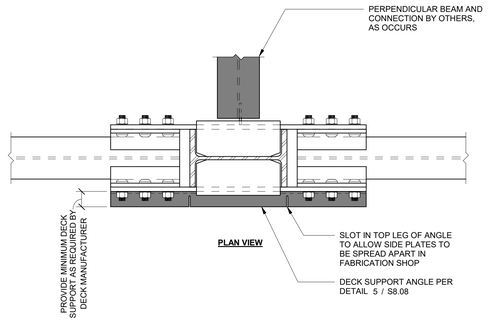
REVISIONS		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.07

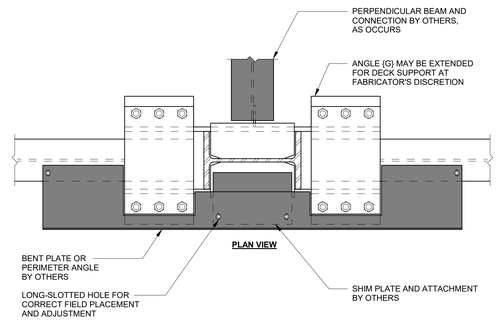
SIDEPLATE FIELD ERECTION DETAILS



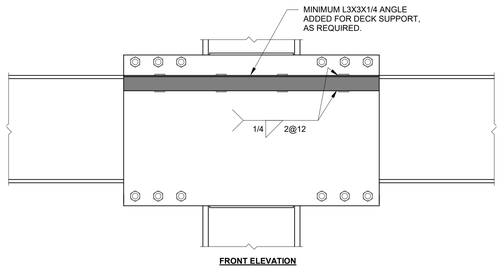
4 NARROW CONFIGURATION SLAB EDGE DETAIL
N.T.S.



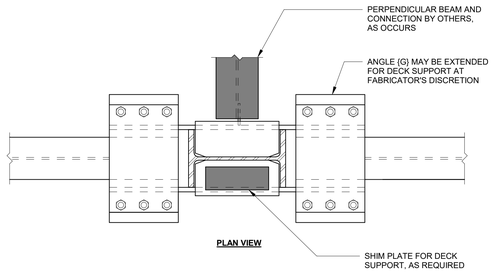
3 NARROW CONFIGURATION DECK SUPPORT DETAIL
N.T.S.



2 SLAB EDGE DETAIL
N.T.S.



5 DECK SUPPORT ANGLE DETAIL
N.T.S.



1 DECK SUPPORT DETAIL
N.T.S.

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PROFESSIONAL SEAL:
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TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS

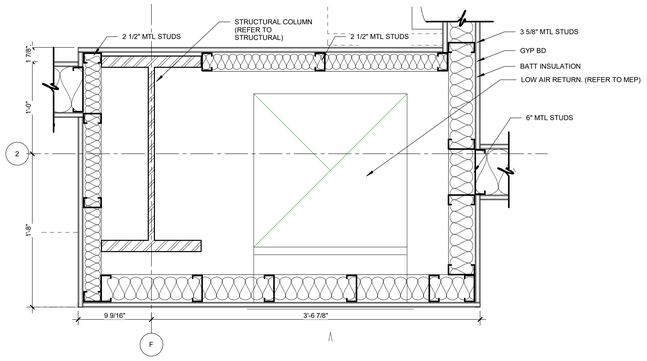
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: S8.08

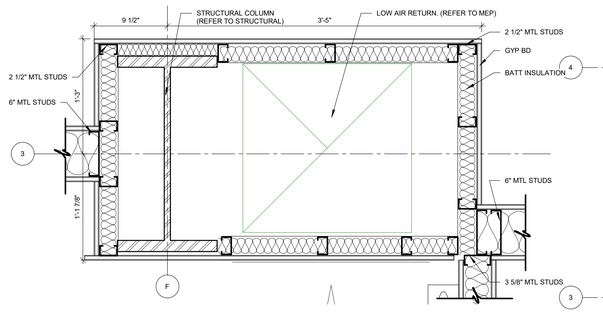
SIDEPLATE MISC DETAILS AND COORDINATION ITEMS

GENERAL NOTES - FLOOR PLAN

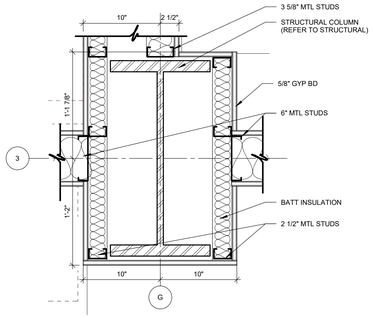
1. ALL EXTERIOR DIMENSIONS ARE FROM FACE OF EXTERIOR STUD, U.N.O
2. ALL INTERIOR DIMENSIONS ARE FROM FACE OF FINISH WALL, U.N.O.
3. REFER TO SHEET A1.60 - A1.65 TOILET AND SHOWER PLANS / ELEVATIONS / ACCESSORIES
4. REFER TO SHEET A2.00 - A2.01 FOR PARTITION TYPES AND FRAMING DETAILS



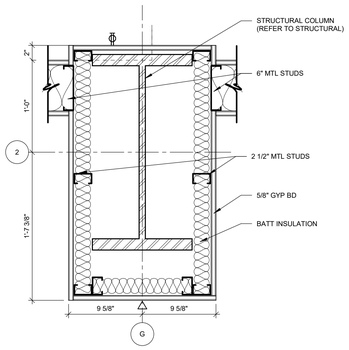
05 PLAN DETAIL @ COLUMN
1 1/2" = 1'-0"



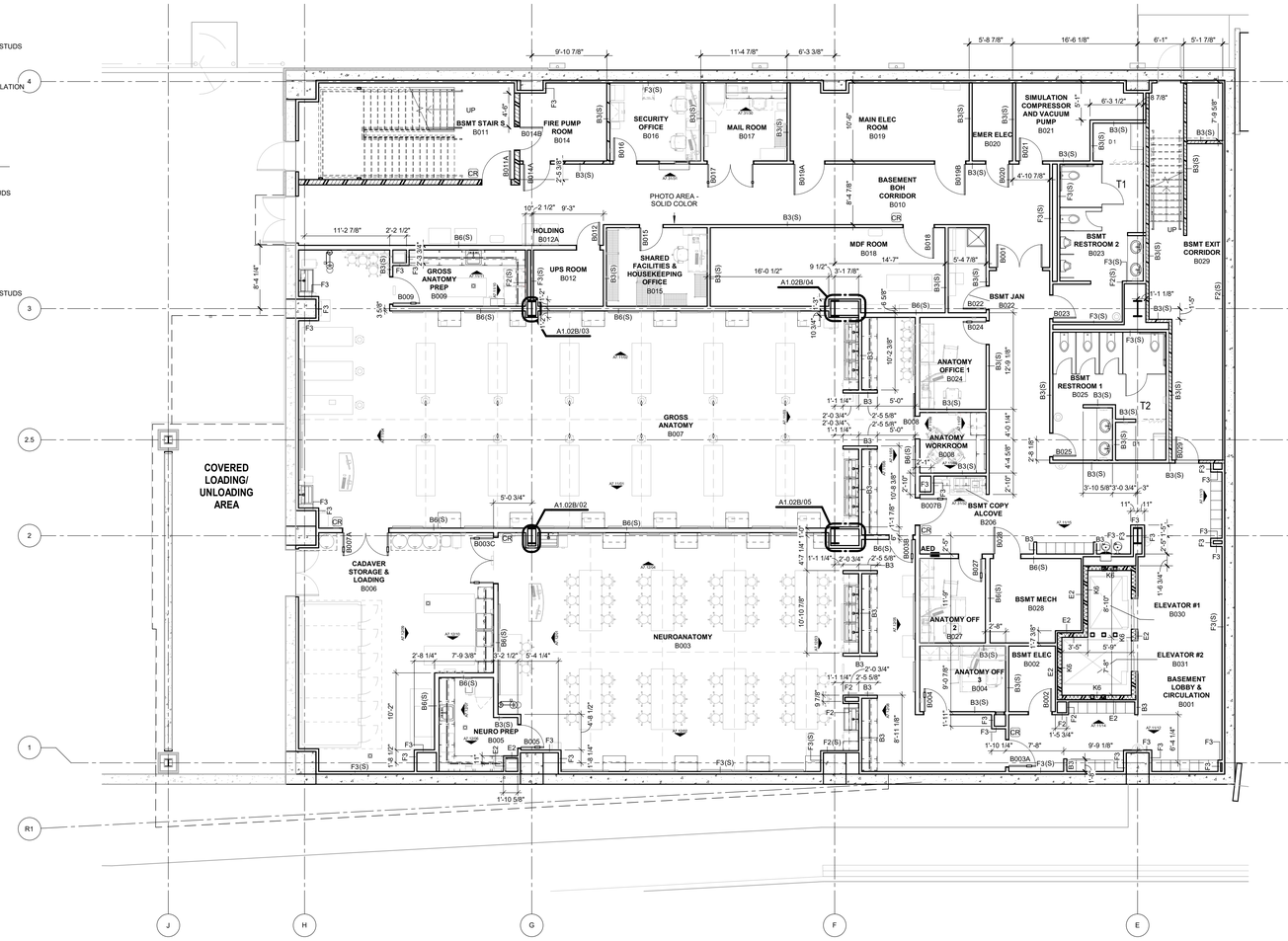
04 PLAN DETAIL @ COLUMN
1 1/2" = 1'-0"



03 PLAN DETAIL @ COLUMN
1 1/2" = 1'-0"



02 PLAN DETAIL @ COLUMN
1 1/2" = 1'-0"



01 FLOOR PLAN BASEMENT LEVEL SECTOR 02
1/8" = 1'-0"

PLAN NORTH

TRUE NORTH

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PROFESSIONAL SEAL:

CONSULTANT LOGO:

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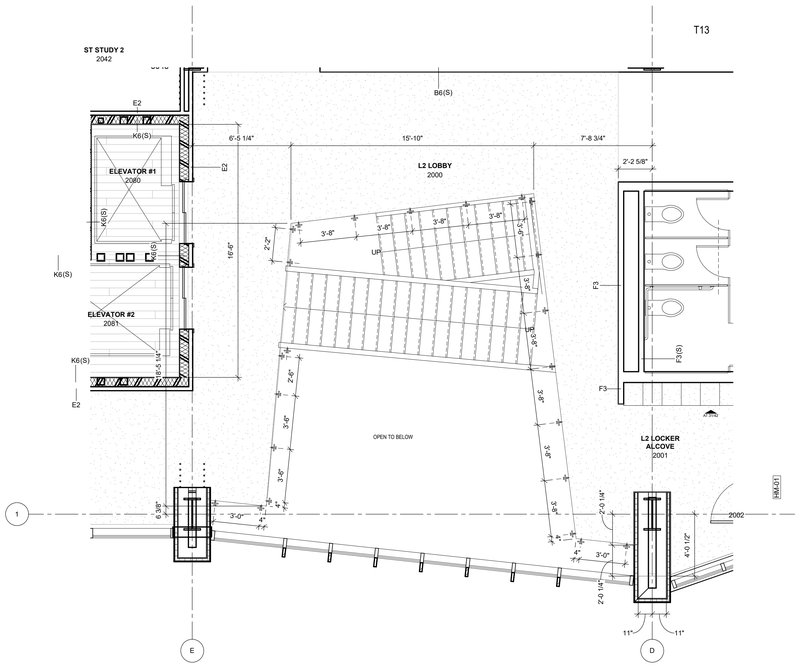
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

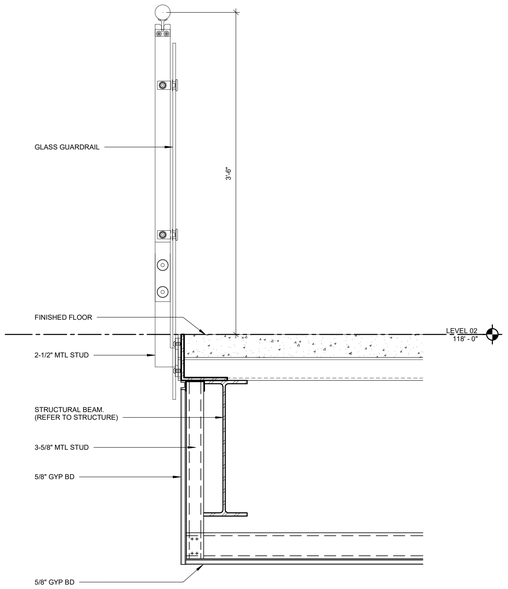
PROJECT PHASE:
65% CONSTRUCTION DOCUMENTS

REVISIONS		
#	DATE	DESCRIPTION

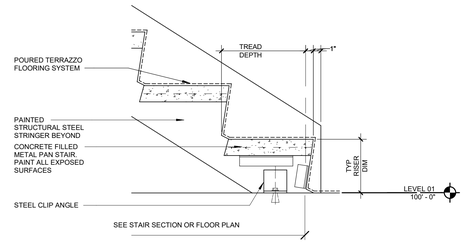
DATE: 06-14-19
JOB NUMBER: 17-13
SHEET NUMBER: A1.02B
FLOOR PLAN BASEMENT LEVEL SECTOR 02



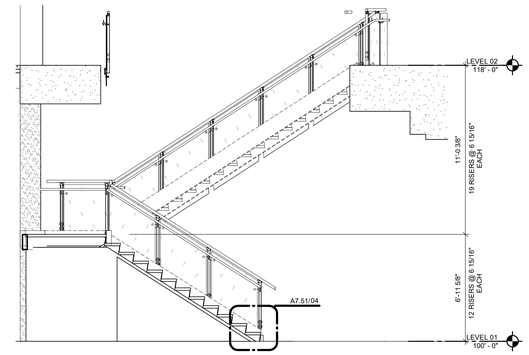
09 FLOOR PLAN LEVEL 02 - BALCONY PLAN
1/4" = 1'-0"



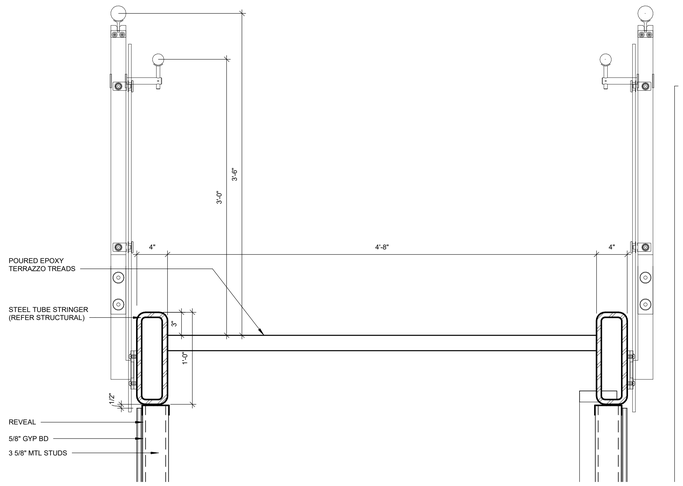
07 SECTION @ BALCONY
1 1/2" = 1'-0"



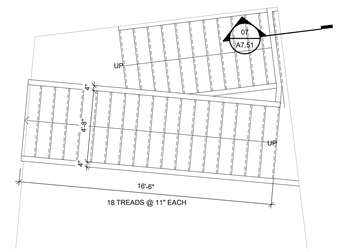
04 SECTION DETAIL @ LOBBY STAIR BOTTOM LANDING
1 1/2" = 1'-0"



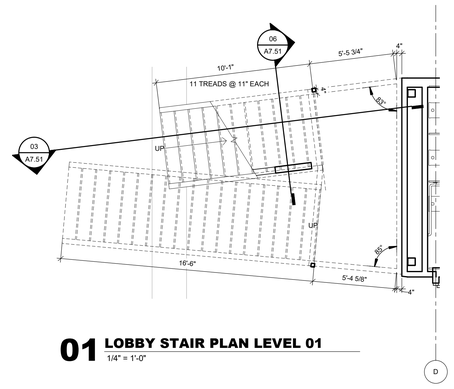
03 LOBBY STAIR SECTION
1/4" = 1'-0"



06 LOBBY STAIR SECTION DETAIL
1 1/2" = 1'-0"

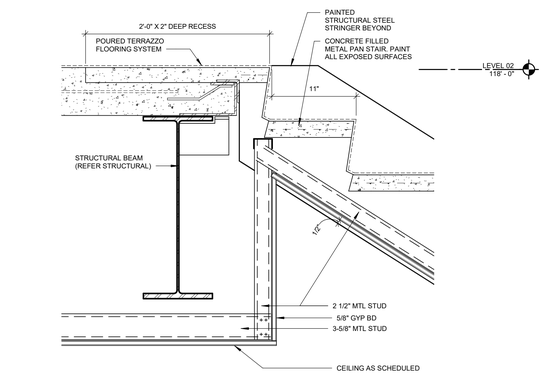


02 LOBBY STAIR PLAN LEVEL 02
1/4" = 1'-0"



01 LOBBY STAIR PLAN LEVEL 01
1/4" = 1'-0"

08 SECTION @ BALCONY
1 1/2" = 1'-0"



05 SECTION DETAIL @ LOBBY STAIR TOP LANDING
1 1/2" = 1'-0"

James R. Childers
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CLIENT:

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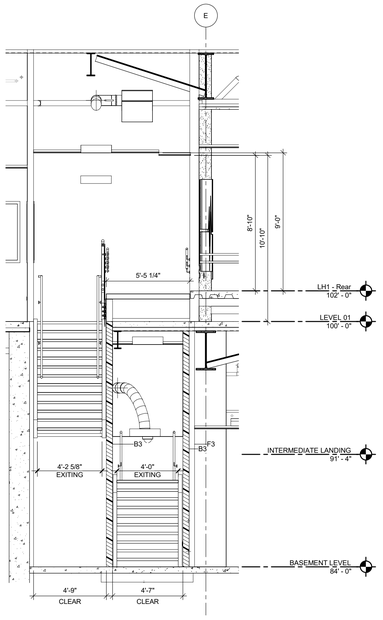
KEY PLAN:

PROJECT PHASE:
65% CONSTRUCTION DOCUMENTS

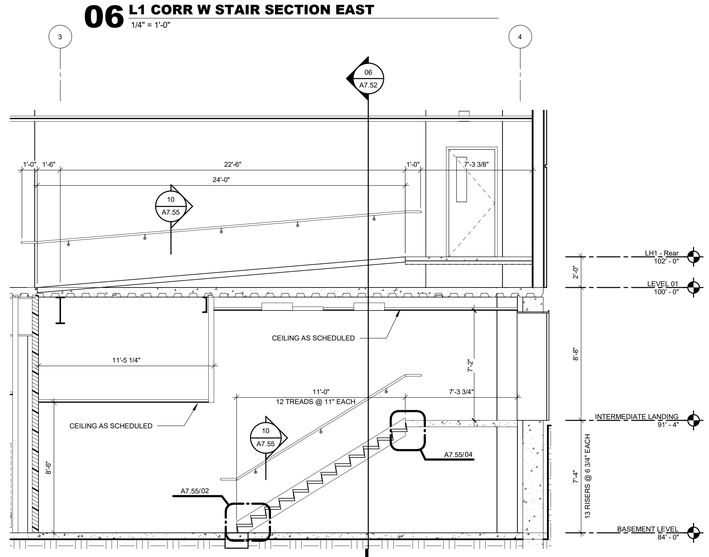
REVISIONS		
#	DATE	DESCRIPTION

DATE: 07-15-19
JOB NUMBER: 17-13
SHEET NUMBER: A7.51

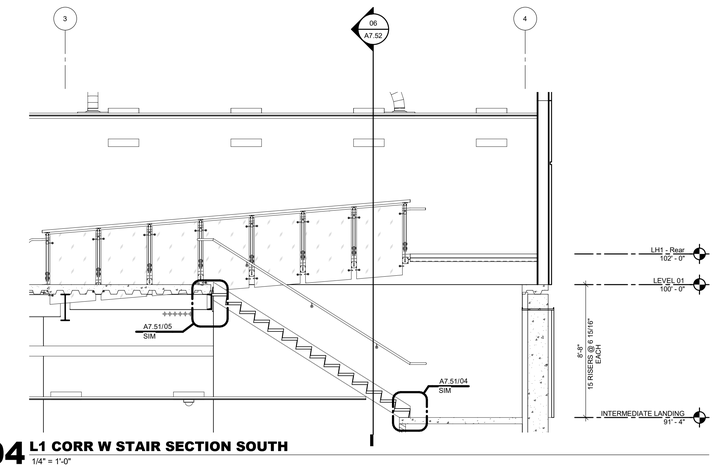
LOBBY STAIR / BALCONY DETAIL



06 L1 CORR W STAIR SECTION EAST
1/4" = 1'-0"



05 L1 CORR W STAIR SECTION SOUTH 1
1/4" = 1'-0"



04 L1 CORR W STAIR SECTION SOUTH
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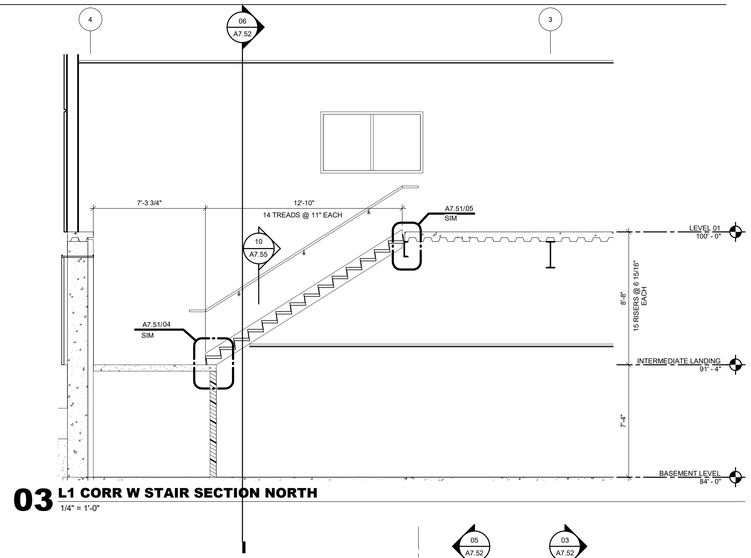
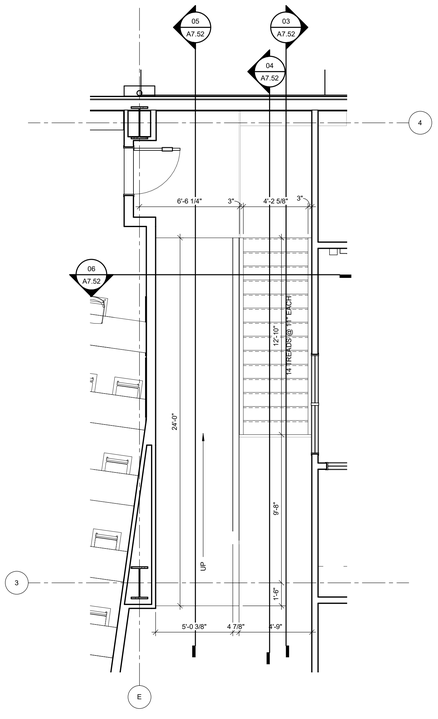
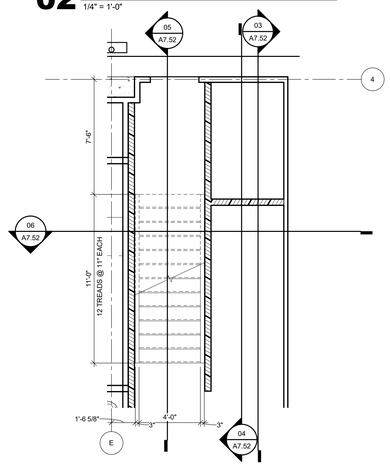


03 L1 CORR W STAIR SECTION NORTH
1/4" = 1'-0"



02 L1 CORR W STAIR PLAN
1/4" = 1'-0"



01 BASEMENT EXIT CORRIDOR STAIR
1/4" = 1'-0"

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REVISIONS		
#	DATE	DESCRIPTION

DATE: 06-10-19
JOB NUMBER: 17-13
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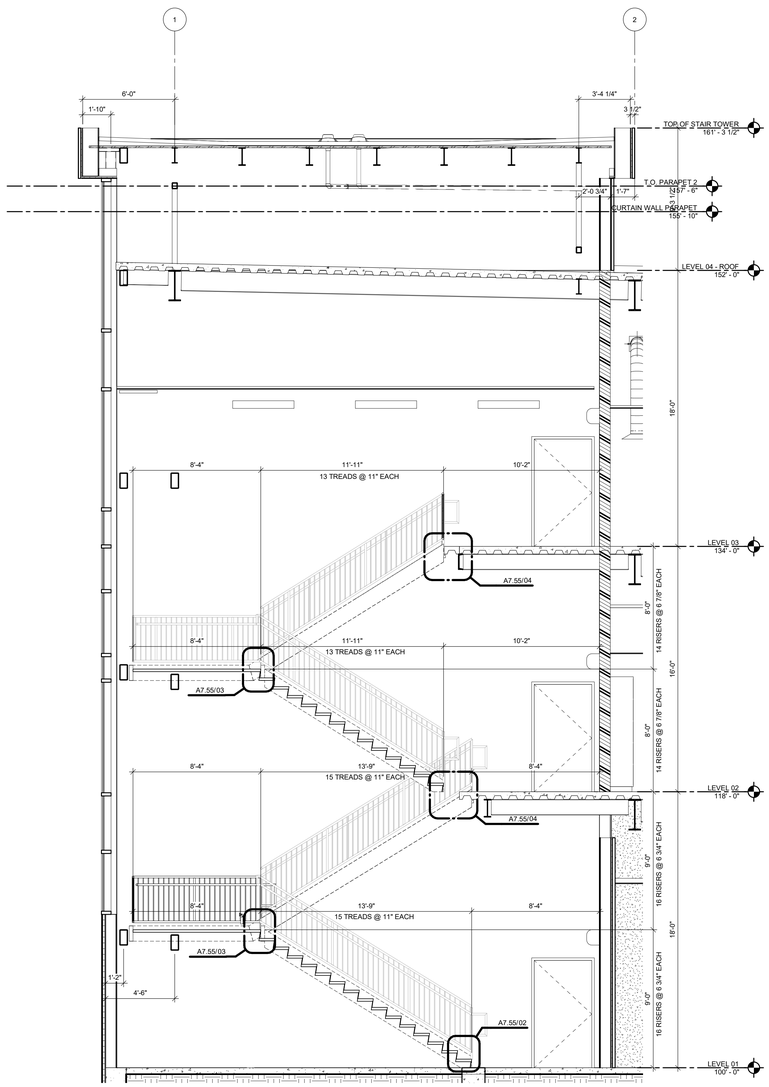
L1 CORR W STAIR / RAMP DETAILS



04 NORTH STAIR SECTION
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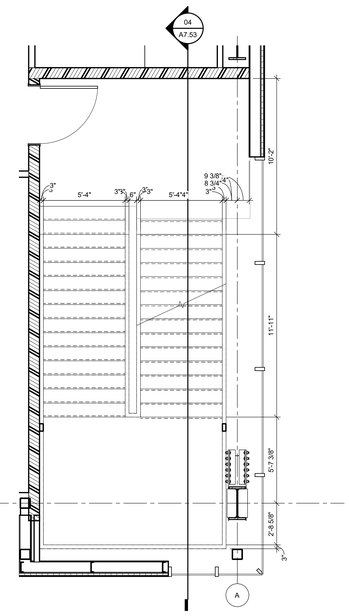
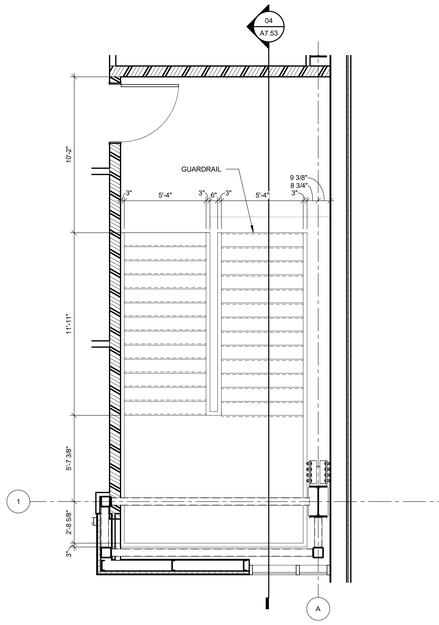
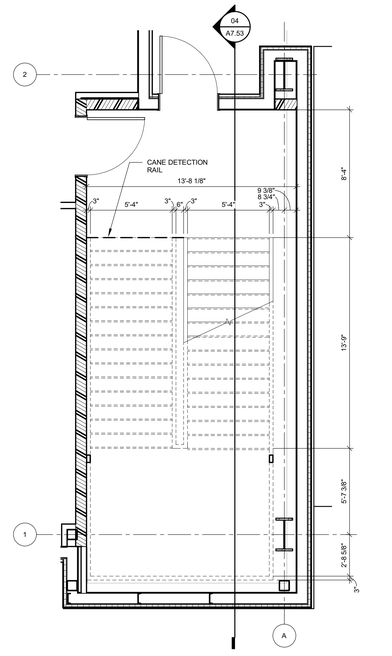


02 NORTH STAIR LEVEL 02
1/4" = 1'-0"



03 NORTH STAIR LEVEL 03
1/4" = 1'-0"



01 NORTH STAIR LEVEL 01
1/4" = 1'-0"

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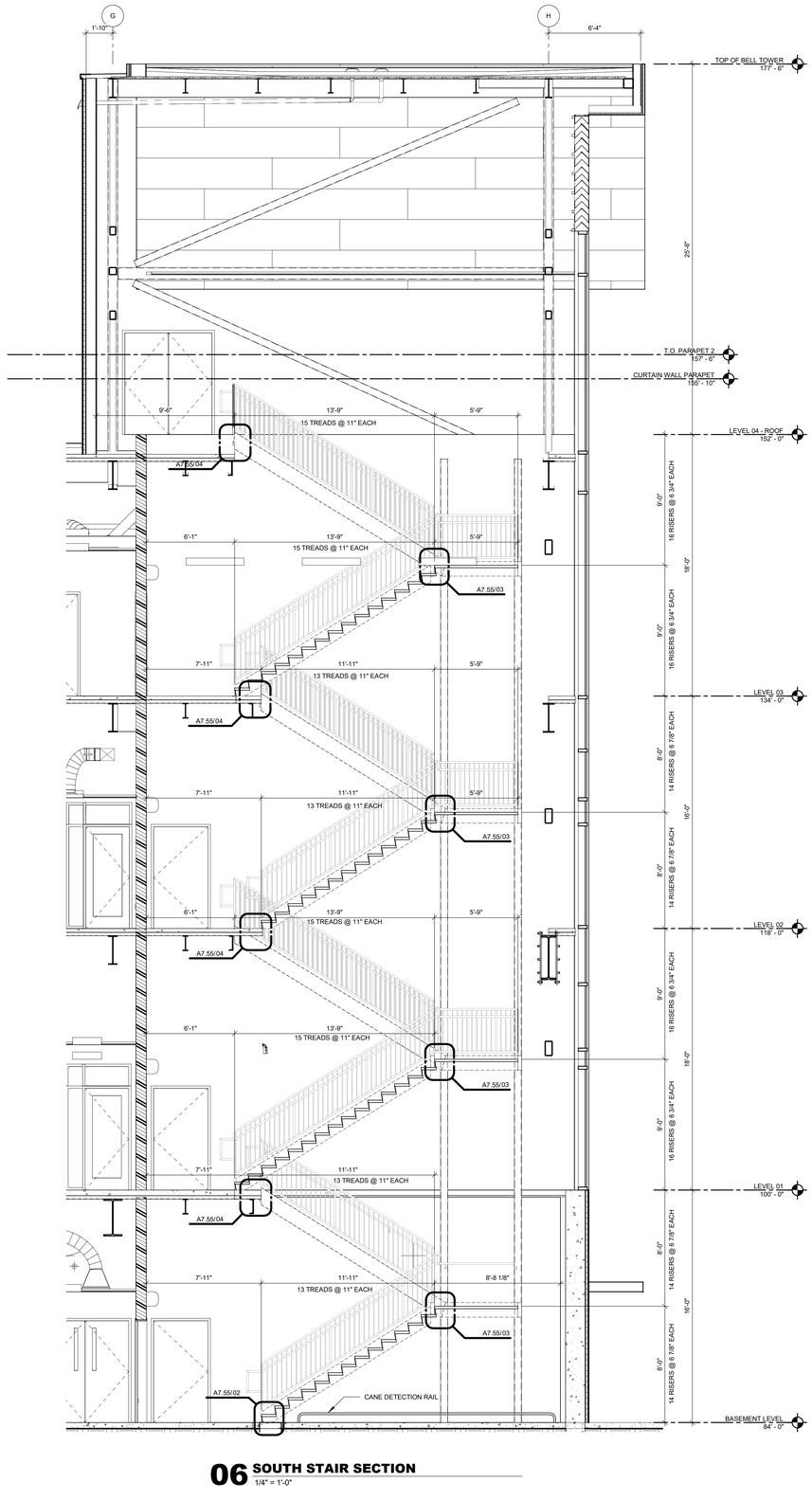
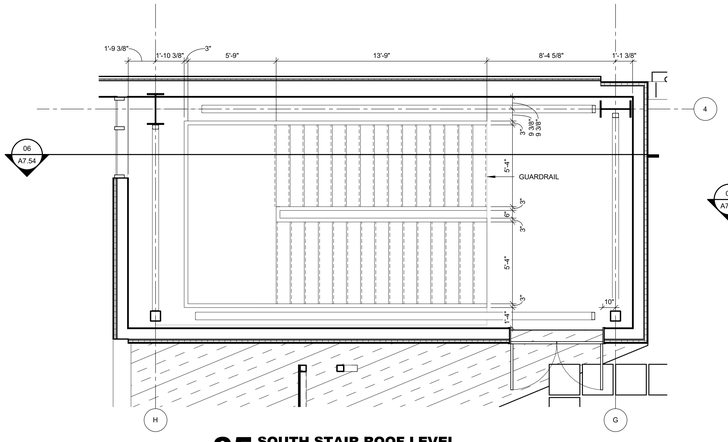
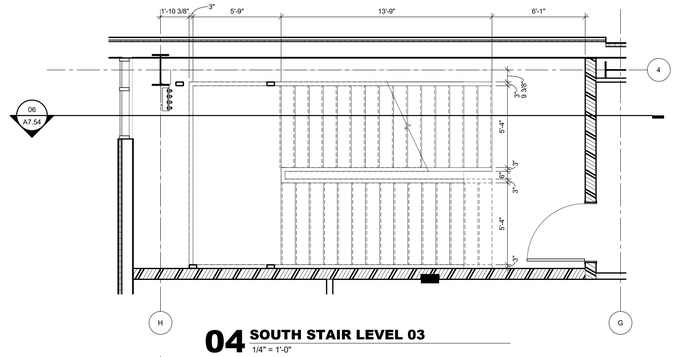
NORTH STAIR PLANS AND SECTION



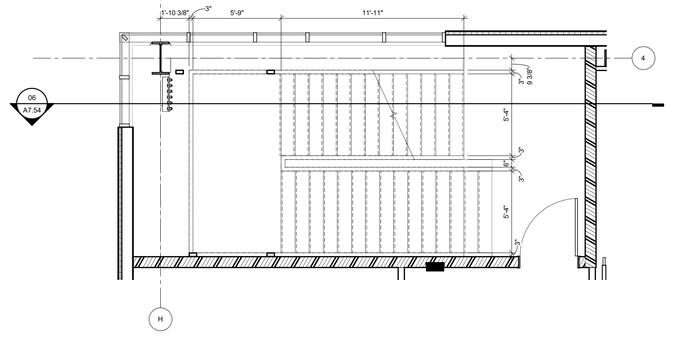
06 SOUTH STAIR SECTION
1/4" = 1'-0"



05 SOUTH STAIR ROOF LEVEL
1/4" = 1'-0"



04 SOUTH STAIR LEVEL 03
1/4" = 1'-0"



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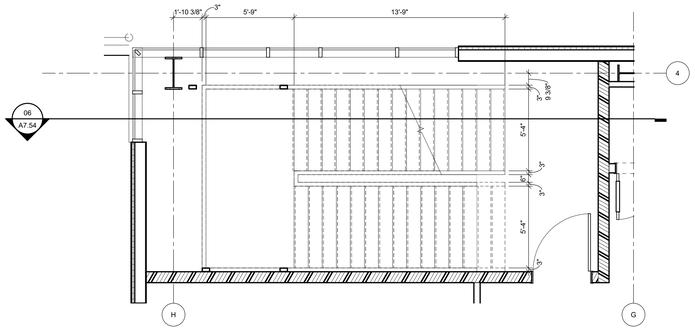
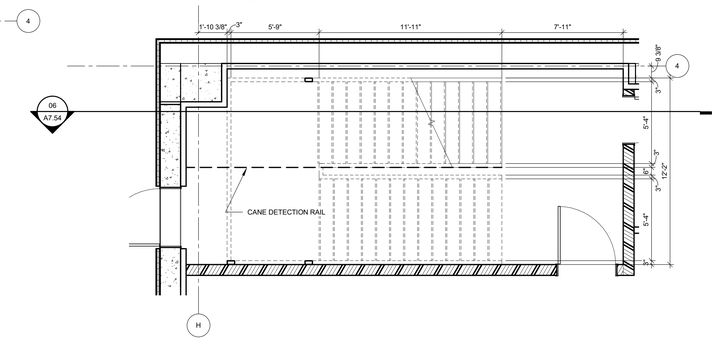
1/4" = 1'-0"



02 SOUTH STAIR LEVEL 01
1/4" = 1'-0"



01 SOUTH STAIR BASEMENT LEVEL
1/4" = 1'-0"

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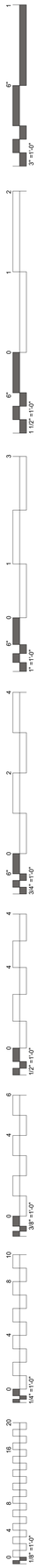
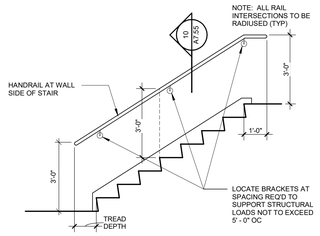
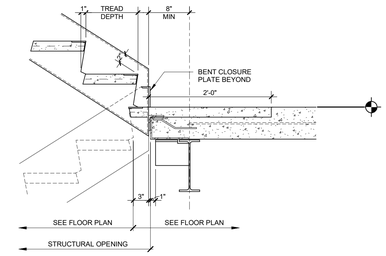
SOUTH STAIR PLANS AND SECTION



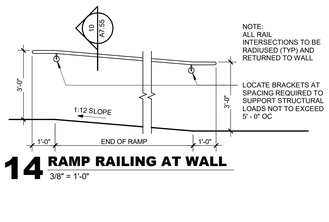
10 HANDRAIL MOUNTING AT GYP BOARD WALL
1 1/2" = 1'-0"



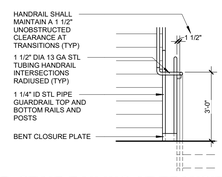
09 STAIR RAILING AT WALL
3/8" = 1'-0"



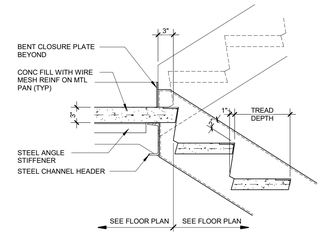
FLOOR LANDING AT 04 CONCRETE ON METAL DECK
1" = 1'-0"



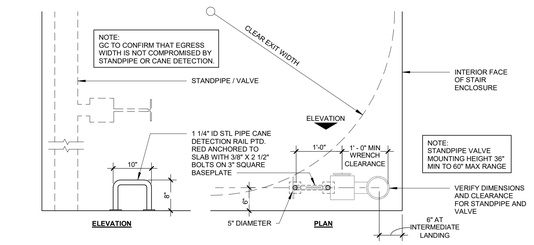
14 RAMP RAILING AT WALL
3/8" = 1'-0"



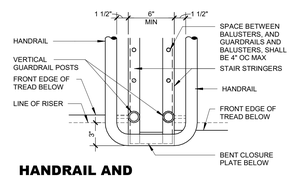
08 STAIR RAILING AT TRANSITION
3/8" = 1'-0"



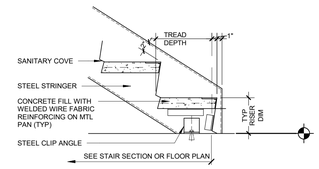
03 INTERMEDIATE LANDING
1" = 1'-0"



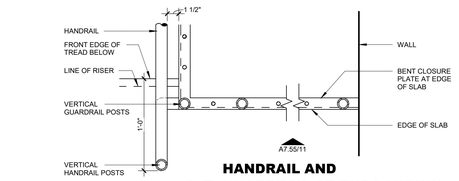
13 TYPICAL STANDPIPE
3/4" = 1'-0"



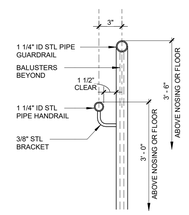
HANDRAIL AND 07 GUARDRAIL AT LANDING PLAN
1 1/2" = 1'-0"



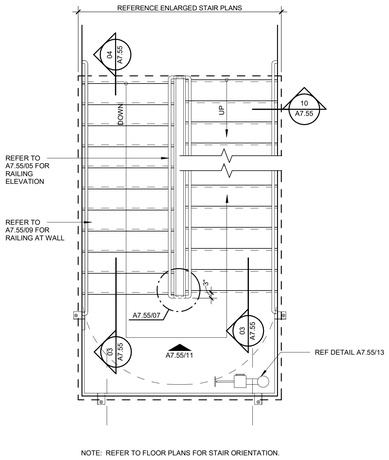
02 STRINGER TO SLAB CONNECTION
1" = 1'-0"



HANDRAIL AND 12 GUARDRAIL AT TOP LANDING
1 1/2" = 1'-0"

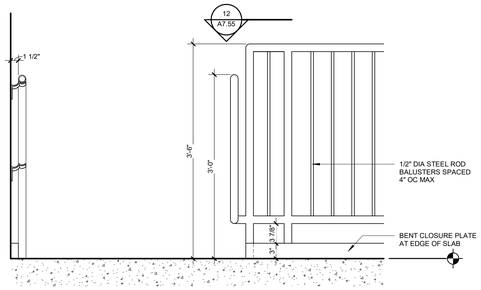


06 HANDRAIL AND GUARDRAIL SECTION
1 1/2" = 1'-0"

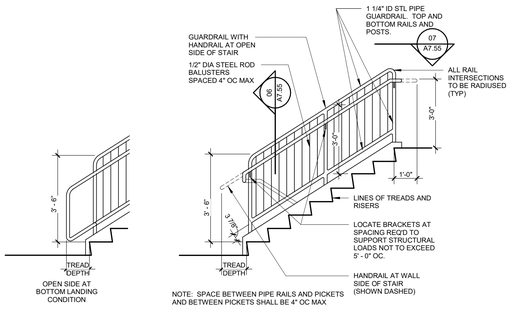


NOTE: REFER TO FLOOR PLANS FOR STAIR ORIENTATION.

01 STAIR PLAN REFERENCE
3/8" = 1'-0"



11 RAILING AND GUARDRAIL AT TOP LANDING
1" = 1'-0"



NOTE: SPACE BETWEEN PIPE RAILS AND PICKETS AND BETWEEN PICKETS SHALL BE 4" OC MAX

05 STAIR RAILING ELEVATION
3/8" = 1'-0"

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REVISIONS		
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DATE: 06-14-19
JOB NUMBER: 17-13

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A7.55

STEEL STAIR SECTIONS AND DETAILS

GENERAL ELECTRICAL NOTES

1	DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW ALL GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS.
2	SPECIAL ATTENTION SHALL BE GIVEN TO ALL RACEWAYS WITHIN FINISHED AREAS WITHOUT CEILINGS AND EXPOSED TO STRUCTURE. IN GENERAL, ALL RACEWAYS SHALL BE CONCEALED WITHIN WALLS, ABOVE STRUCTURE FINISH, OR BELOW FLOOR SLABS WHEN SPECIFIED. WHERE EXPOSED CONDITIONS ARE NECESSARY OR UNAVOIDABLE DUE TO OTHER CONDITIONS, THE BID SHALL INCLUDE ANY REASONABLE MEANS TO MINIMIZE THE AMOUNT OF SURFACE MOUNTED EQUIPMENT. PRIOR TO ROUGH-IN, COORDINATE ALL EXPOSED RACEWAY AND BOX CONDITIONS WITH ARCHITECT PRIOR TO CONSTRUCTION OF WALLS, ROOF DECK, OR FLOOR SLABS. ATTACHMENT TO ROOF DECK OR JOIST WEBBINGS IS NOT ALLOWED. MAINTAIN A MINIMUM SPACING OF 1-1/2" FROM CONDUIT TO ROOF DECK. IN AREAS WHERE EXPOSED RACEWAYS ARE REQUIRED, INSTALL SYSTEMS SQUARE AND TIGHT TO STRUCTURE AND PAINT TO MATCH THE STRUCTURE PER ARCHITECT AND/OR OWNER SPECIFICATIONS. FAILURE TO PROPERLY COORDINATE THE ROUTING OF EXPOSED RACEWAYS MAY RESULT IN RELOCATION OF SUCH RACEWAYS AT NO ADDITIONAL COST TO THE OWNER.
3	OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE-RESISTANT-RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANCE RATING. PROVIDE PENETRATION FIRE STOPPING WITH RATINGS DETERMINED PER ASTM E 814 OR UL 1479. FIRE STOPPING SHALL NOT BE LESS THAN FIRE RESISTANCE RATING OF CONSTRUCTED PENETRATIONS.
4	FIELD VERIFY LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, INCLUDING POWER POLES, TELEPHONE PEDESTALS, OVERHEAD AND UNDERGROUND FEEDERS, METERS, PANELS, DEVICES, ETC. PROVIDE FOR COORDINATION WITH EXISTING EQUIPMENT.
5	ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE, STATE LAWS, ALL AUTHORITIES HAVING JUISDICTION, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
6	THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIAL, AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
7	CONTRACTOR TO CONFIRM EXACT LOCATION OF EXISTING AND NEW EQUIPMENT.
8	THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING SYSTEMS (AS REQUIRED) IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
9	ALL ELECTRIC MATERIALS AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND U.L. OR EQUALLY LISTED.
10	SUBMIT TO THE OWNER CERTIFICATES OF INSPECTIONS IN DUPLICATE FROM AN APPROVED INSPECTION AGENCY UPON COMPLETION.
11	THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES AS REQUIRED.
12	THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND QUALIFIED PERSONNEL OR FIRM TO PERFORM ALL REQUIRED TESTS.
13	ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE MECHANICAL WORK AS CALLED FOR IN MECHANICAL SPECIFICATIONS AND PLANS.
14	THE TYPE OF CONDUIT SHALL BE AS FOLLOWS FOR ALL FEEDERS AND DISTRIBUTION CIRCUITS, UNLESS OTHERWISE SPECIFIED. APPLICATION - TYPE OF CONDUIT BURIED IN CONCRETE OR OUTDOORS - PVC WITH RIGID GALVANIZED STEEL ELBOWS SERVICE ENTRANCE - GALVANIZED RIGID STEEL OR SERVICE UTILITY SPECIFICATIONS.
15	UNDERGROUND UTILITIES/FEEDERS/BRANCH CIRCUITS/ETC. SHALL NOT BE ROUTED THROUGH OR WITHIN 25 FEET OF ANY AREAS DEDICATED FOR FUTURE BUILDING ADDITION.
16	FURNISH AND INSTALL MATERIALS FOR A TEMPORARY CONSTRUCTION SERVICE AS REQUIRED.
17	FURNISH AND INSTALL A COMMUNICATION SERVICE CONDUIT(S) PER TELEPHONE SERVICE PROVIDER SPECIFICATION. STUB UP AT DESIGNATED EQUIPMENT BOARD.
18	FURNISH AND INSTALL A CABLE TV SERVICE CONDUIT(S) PER CABLE TV PROVIDER SPECIFICATIONS. STUB AT SERVICE POINT.
19	REFER TO SITE UTILITIES PLAN AND COORDINATE ENTIRE INSTALLATION WITH CABLE TV SERVICE PROVIDER.
20	REFER TO SITE UTILITIES PLAN AND COORDINATE ENTIRE INSTALLATION WITH COMMUNICATION SERVICE PROVIDER.

ABBREVIATIONS

AC	ABOVE COUNTER	IG	ISOLATED GROUND
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRICAL CODE
E	EXISTING	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
EC	ELECTRICAL CONTRACTOR	NIC	NOT IN CONTRACT
EP	EXPLOSION PROOF	NL	NIGHT LIGHT
GFI	GROUND FAULT CIRCUIT INTERRUPTER	UG	UNDERGROUND
GR	GROUND	UON	UNLESS OTHERWISE NOTED
HP	HORSE POWER	WP	WEATHERPROOF
		WR	WEATHER RESISTANT

RECEPTACLES

FLOOR BOX; LEGRAND WIREMOLD SERIES RFB4E-OG OR RFB6E-OG. PROVIDE BOX AND HOUSING.

PANELS AND MISC.

LIGHT OR POWER PANEL

4x4 JUNCTION BOX.

EQUIPMENT DISCONNECT: SHOWN FOR REFERENCE ONLY.

8.8 Utility Trenches

New utility trenches servicing the new structures are anticipated to be required. These trenches are often times sources of moisture migration into the structure. A relatively impervious material (clay with little rock, etc.) should be placed within the utility trench, surrounding the utility immediately outside the structure to reduce the potential for moisture migration into the structure via utility trenches. The "trench plug" should extend out from the structure a minimum of 5 ft. horizontally, and be placed in a controlled manner in accordance with Section 8.3 above.

8.3 Compaction Requirements

Item	Description
Subgrade Scarification Depth	At least 8 inches
Fill Lift Thickness	12-inches (loose) using the minimum compactor referenced below
Compaction Requirements[1]	Six (6) passes (3 each direction) minimum using a self-propelled vibratory compactor with a minimum drum diameter of 48-inches for granular soils, or 95% Standard Proctor Density (ASTM D698) for materials containing sufficient fines content.
Moisture Content	• ± 2% optimum moisture for CL, SC, GC, GW & SW Soil Types; and • 0 to 4% above optimum for CH Soil Types.
Field Density Testing Frequency (if material type allows)	• Building Areas – One (1) test every 2500 sq. ft. per fill lift; • Pavement Areas – One (1) test every 5000 sq. ft. per fill lift; and • No less than three (3) tests per each fill lift.

1. We recommend that engineered fill (including scarified compacted subgrade) be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

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Robert Brandon Pinkerton
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OKLAHOMA
05/10/2019

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PROJECT NO. 18163R
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KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

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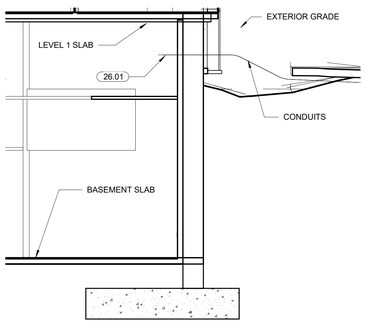
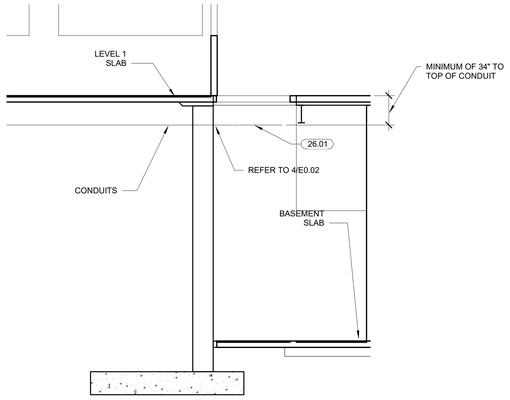
#	DATE	DESCRIPTION

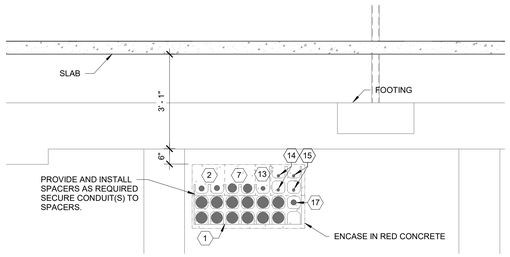
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: E0.00
ELECTRICAL NOTES AND LEGEND



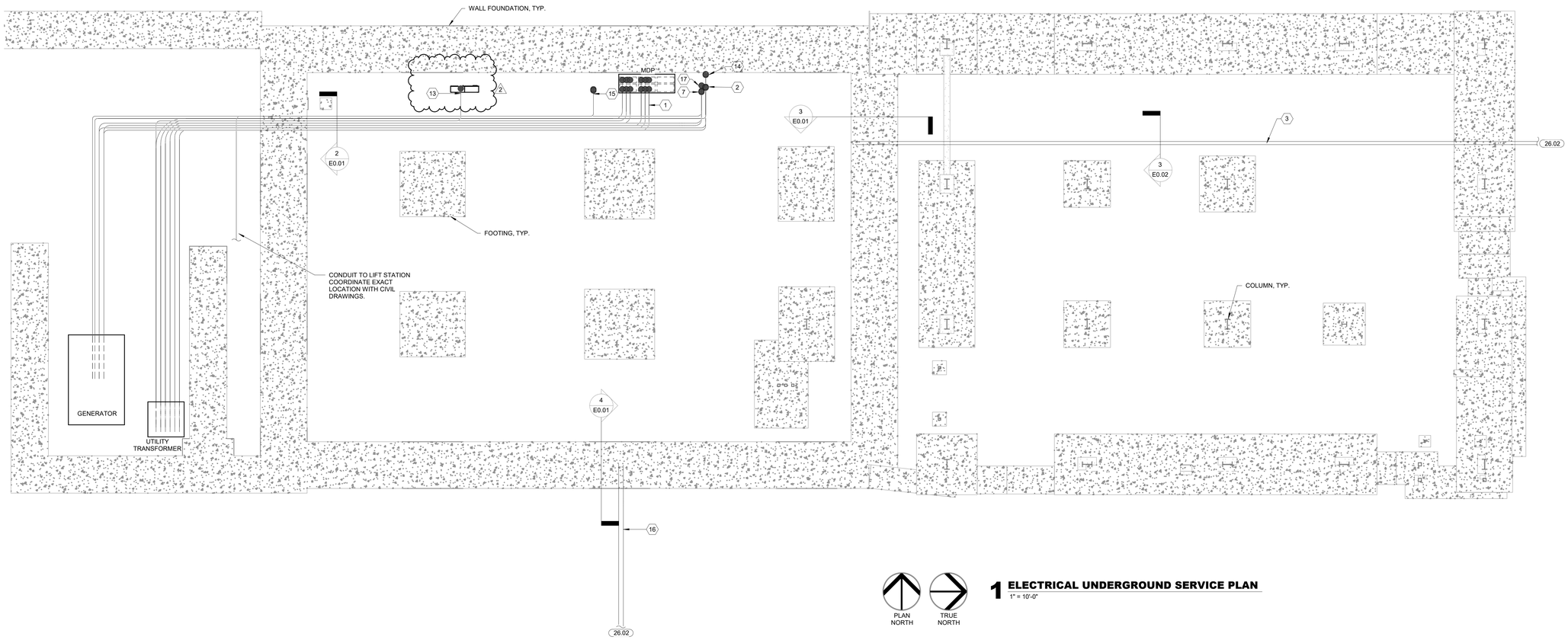
4 EAST BOUND CONDUITS
N.T.S.



3 NORTH BOUND CONDUITS
N.T.S.



2 DUCT BANK DETAIL
N.T.S.



1 ELECTRICAL UNDERGROUND SERVICE PLAN
1" = 10'-0"

SITE UNDERGROUND NOTES

PRIOR TO CONSTRUCTION, COORDINATE UNDERGROUND SERVICE CONDUITS AND FEEDERS WITH ALL OTHER TRADES, INCLUDING BUT NOT LIMITED TO: EASEMENTS, UNDERGROUND UTILITY LINES (COMMUNICATION, ELECTRIC, GAS, WATER), AND STRUCTURAL FOOTINGS AND FOUNDATIONS.

PRIOR TO FOOTING CONSTRUCTION, E.C. SHALL BURY ALL CONDUITS BETWEEN THE INTERIOR AND EXTERIOR OF THE BUILDING. COORDINATE WITH STRUCTURAL DRAWINGS TO DETERMINE REQUIRED BURIAL DEPTH.

ELECTRICAL EQUIPMENT IS SHOWN FOR LOCATION ONLY AND ARE NOT IN THIS CONTRACT.

CONDUIT RUNS ARE DIAGRAMMATICALLY SHOWN. FINAL ROUTING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR.

CONDUIT SCHEDULE

MARK (#)	ORIGINATION	TERMINATION	NUMBER OF CONDUITS	Size
1	UTILITY TRANSFORMER	MDP	12	4"ø
2	GENERATOR	ATS-1	2	2"ø
3	LOW VOLTAGE SERVICE POINT	MDF ROOM	2	4"ø
4	MDP	H0B	1	2"ø
5	MDP	ATS-1	2	2"ø
6	ATS-1	EDP	2	2"ø
7	GENERATOR	ATS-2	2	3"ø
8	MDP	H0A	1	2"ø
9	MDP	ATS-2	2	3"ø
10	MDP	H1C	1	2"ø
11	MDP	H1B	1	2"ø
12	MDP	ELECTRICAL CHASE	4	2"ø
13	UTILITY TRANSFORMER	FIRE PUMP CONTROLLER	1	1 1/2"ø
14	GENERATOR	EMERGENCY ELECTRICAL ROOM	2	1"ø
15	GENERATOR	MAIN ELECTRICAL ROOM	2	1"ø
16	LOW VOLTAGE SERVICE POINT	MDF ROOM	2	4"ø
17	LIFT STATION	MAIN ELECTRICAL ROOM	1	2"ø

KEYNOTES

26.01 CONDUITS TO BE STUBBED THROUGH WALL, PROVIDE AMPLE SPACING FOR TRANSITION FROM UNDERGROUND TO OVERHEAD OR SPACING TO SET PULL BOX ATLEAST 12". FIRE CAULK AROUND PENETRATIONS. INSTALL SLEEVING PER SPECIFICATION 260544. COORDINATE LOCATION OF PENETRATIONS WITH ALL TRADES.

26.02 CONDUITS FOR CONNECTION TO UTILITIES. COORDINATE WITH OWNER AND CIVIL DRAWINGS FOR TERMINATION OF CONDUITS.

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06/17/19

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AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:
02 01

PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
2	05-17-19	Bid Package 04 ASI 02

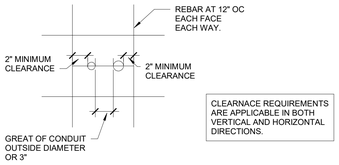
DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: E0.01
UNDERGROUND ELECTRICAL PLAN

UNDERGROUND PLAN NOTES

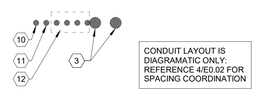
CONDUITS TO BE STUBBED UP ABOVE SLAB, PROVIDE AMPLE SPACING FOR TRANSITION FROM RIDGID TO EMT. ELECTRICAL PANELS SHOWN ARE STRICTLY PRELIMINARY AND ARE SUBJECT TO CHANGE.
ELECTRICAL EQUIPMENT IS SHOWN FOR LOCATION ONLY AND ARE NOT IN THIS CONTRACT.
CONDUITS PENETRATING FOOTING WALL ARE TO BE LOCATED AT LEAST 8" ABOVE FOOTING. INSTALL SLEEVING PER SPECIFICATION 260544.

CONDUIT SCHEDULE

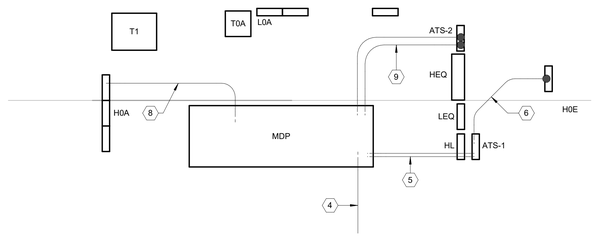
MARK	ORIGINATION	TERMINATION	NUMBER OF CONDUITS	Size
1	UTILITY TRANSFORMER	MDP	12	4"ø
2	GENERATOR	ATS-1	2	2"ø
3	LOW VOLTAGE SERVICE POINT	MDF ROOM	2	4"ø
4	MDP	H0B	1	2"ø
5	MDP	ATS-1	2	2"ø
6	ATS-1	EDP	2	2"ø
7	GENERATOR	ATS-2	2	3"ø
8	MDP	H0A	1	2"ø
9	MDP	ATS-2	2	3"ø
10	MDP	H1C	1	2"ø
11	MDP	H1B	1	2"ø
12	MDP	ELECTRICAL CHASE	4	2"ø
13	UTILITY TRANSFORMER	FIRE PUMP CONTROLLER	1	1 1/2"ø
14	GENERATOR	EMERGENCY ELECTRICAL ROOM	2	1"ø
15	GENERATOR	MAIN ELECTRICAL ROOM	2	1"ø
16	LOW VOLTAGE SERVICE POINT	MDF ROOM	2	4"ø
17	LIFT STATION	MAIN ELECTRICAL ROOM	1	2"ø



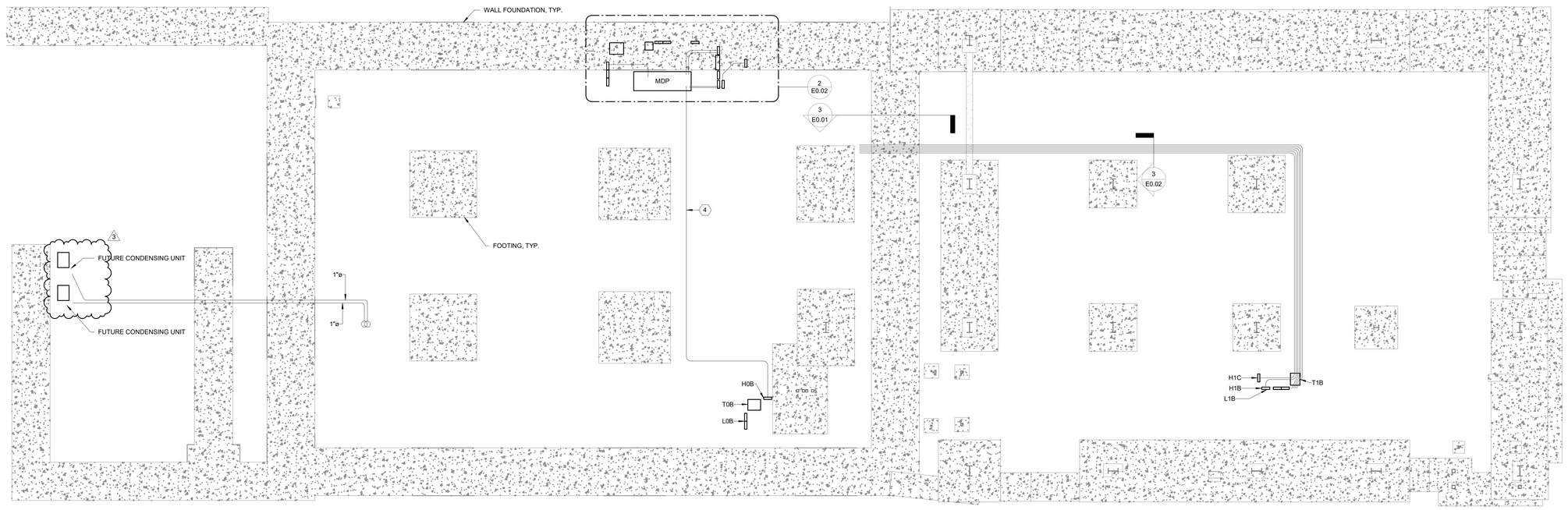
4 FONDATION WALL REBAR LAYOUT
N.T.S.



3 ELECTRICAL FEEDER ELEVATION
N.T.S.



2 ENLARGED UNDERSLAB ELECTRICAL ROOM
1/4" = 1'-0"



1 ELECTRICAL UNDERGROUND/UNDERSLAB FEEDER PLAN
1" = 10'-0"

PLAN NORTH

TRUE NORTH

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07-31-2019

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KEY PLAN:

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

REVISIONS		
#	DATE	DESCRIPTION
3	07-31-19	BID PACKAGE 04 ASI 04

DATE:	JOB NUMBER:
07-31-19	17-13

SHEET NUMBER:
E0.02

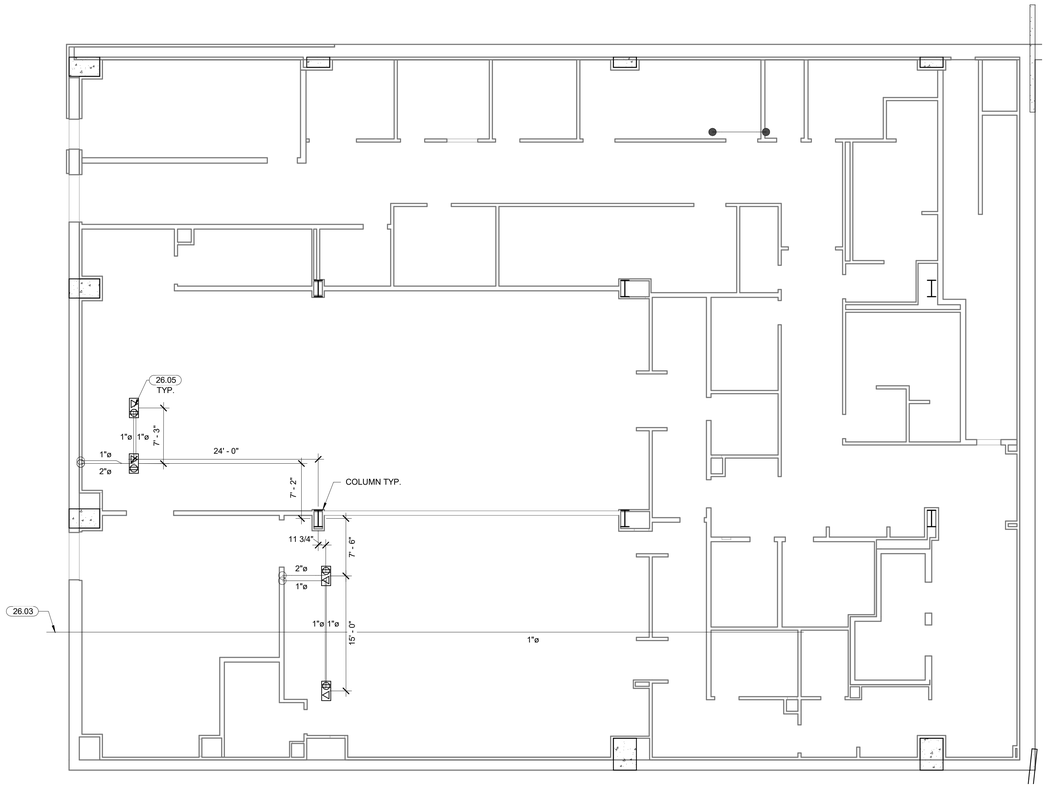
UNDERGROUND ELECTRICAL FEEDER PLAN

IN-SLAB PLAN NOTES

CONDUITS TO BE STUBBED UP ABOVE SLAB, PROVIDE AMPLE SPACING FOR TRANSITION FROM RIDGID TO EMT. ELECTRICAL PANELS SHOWN ARE STRICTLY PRELIMINARY AND ARE SUBJECT TO CHANGE.
CONDUITS PENETRATING FOOTING WALL ARE TO BE LOCATED AT LEAST 8" ABOVE FOOTING. INSTALL SLEEVING PER SPECIFICATION 260544.

KEYNOTES

26.03	CONDUITS TO BE STUBBED AND CAPPED 3 FEET FROM BUILDING FOR FUTUTRE SITE LIGHTING.
26.05	ELECTRICAL CONTRACTOR TO PROVIDE INSLAB HOUSING, INTERIOR DEVICES TO BE INSTALLED AT A LATER DATE.



PLAN NORTH

TRUE NORTH

1 UNDERGROUND BRANCH CIRCUIT PLAN BASEMENT LEVEL SECTOR 02
1/8" = 1'-0"

1 3" = 1'-0"
2 1 1/2" = 1'-0"
3 1" = 1'-0"
4 3/4" = 1'-0"
1/2" = 1'-0"
3/8" = 1'-0"
1/4" = 1'-0"
1/8" = 1'-0"

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KEY PLAN:

PROJECT PHASE:

BID PACKAGE 04

REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19

JOB NUMBER: 17-13

SHEET NUMBER:

E0.03

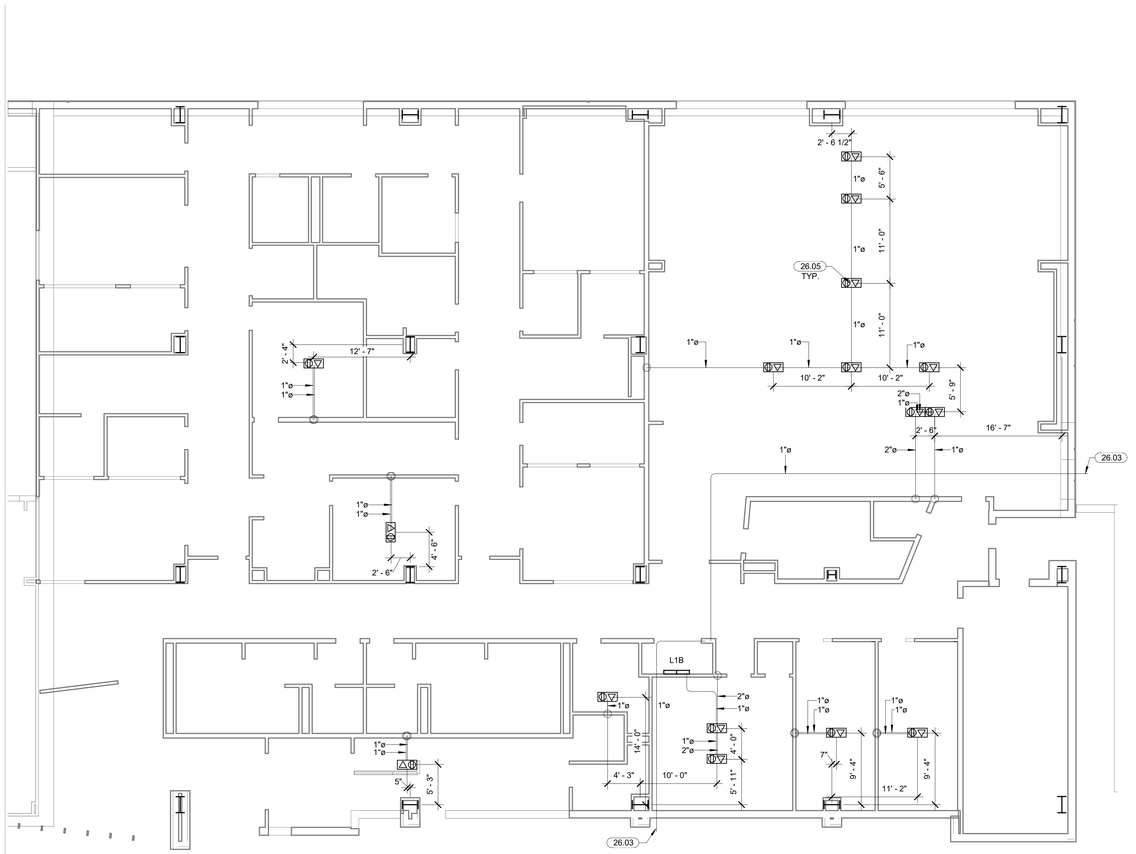
UNDERGROUND BRANCH CIRCUIT PLAN BASEMENT LEVEL SECTOR 02

IN-SLAB PLAN NOTES

CONDUITS TO BE STUBBED UP ABOVE SLAB, PROVIDE AMPLE SPACING FOR TRANSITION FROM RIDGID TO EMT. ELECTRICAL PANELS SHOWN ARE STRICTLY PRELIMINARY AND ARE SUBJECT TO CHANGE.
CONDUITS PENETRATING FOOTING WALL ARE TO BE LOCATED AT LEAST 8" ABOVE FOOTING. INSTALL SLEEVING PER SPECIFICATION 26054.

KEYNOTES

26.03	CONDUITS TO BE STUBBED AND CAPPED 3 FEET FROM BUILDING FOR FUTUTRE SITE LIGHTING.
26.05	ELECTRICAL CONTRACTOR TO PROVIDE INSLAB HOUSING, INTERIOR DEVICES TO BE INSTALLED AT A LATER DATE.



PLAN NORTH

TRUE NORTH

1 UNDERGROUND BRANCH CIRCUIT PLAN LEVEL 01 SECTOR 01

1/8" = 1'-0"

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Robert Brandon Pinkerton
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TAHLEQUAH, OKLAHOMA

KEY PLAN:

02 01

PROJECT PHASE:

BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION

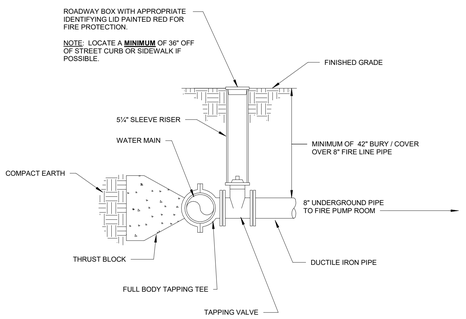
DATE: 05-10-19

JOB NUMBER: 17-13

SHEET NUMBER:

E0.04

ELECTRICAL UNDERGROUND BRANCH CIRCUIT LEVEL 01 SECTOR 01



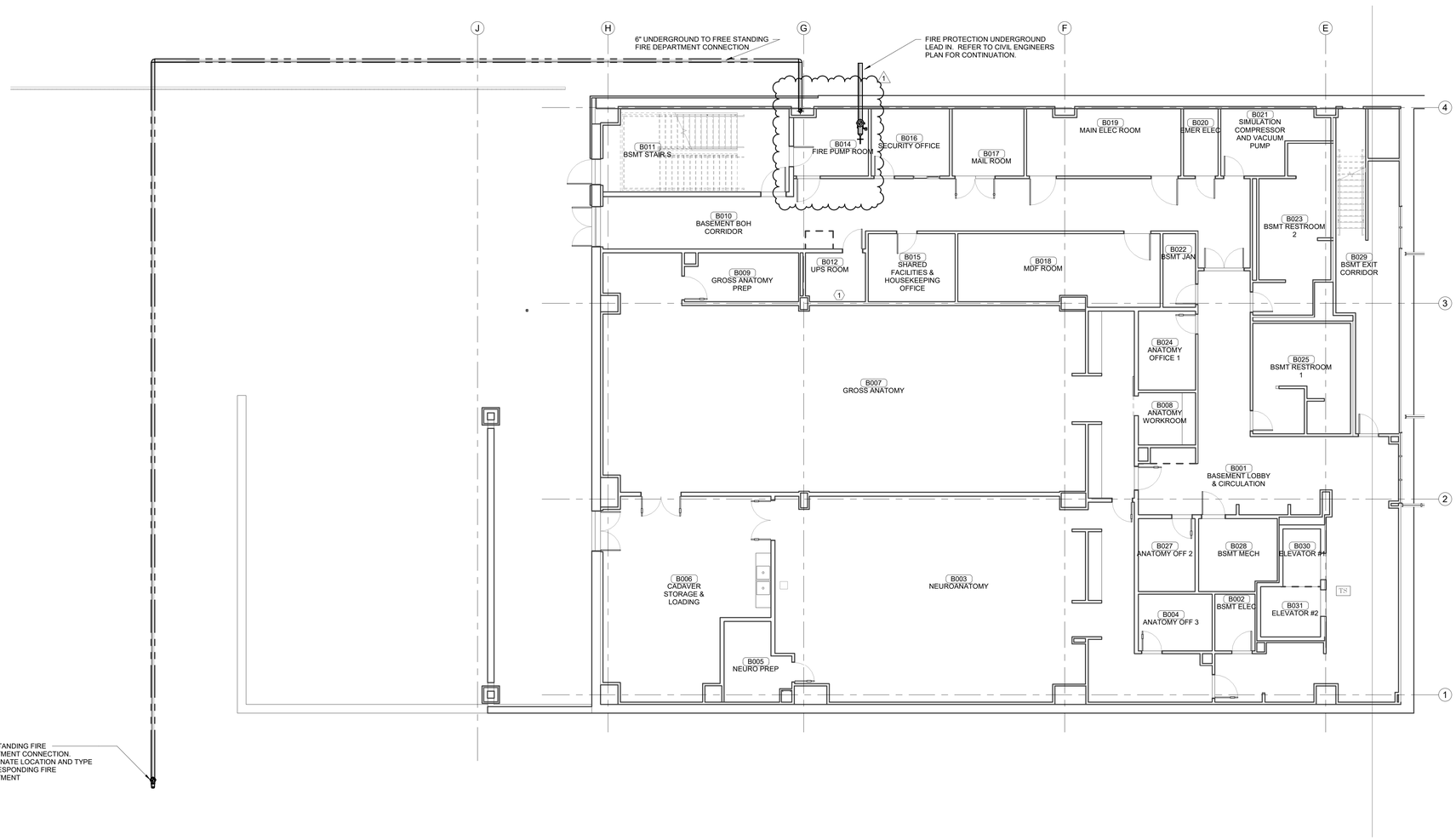
2 CITY CONNECTION DETAIL WITH ROADWAY BOX

NOT TO SCALE:

UNDERGROUND NOTES

1. COORDINATE UNDERGROUND FIRE PROTECTION LINES WITH ALL OTHER BURIED UTILITIES (I.E., ELECTRICAL (INCLUDING FOOTINGS / PIERS FOR LIGHT POLES), DOMESTIC WATER, SANITARY SEWER, STORM DRAINS, ETC.).
2. ALL UNDERGROUND WATER LINE INSTALLATIONS, INCLUDING THAT FOR THE FIRE DEPARTMENT CONNECTION, SHALL COMPLY WITH THE REQUIREMENTS OF THE OKLAHOMA DEPARTMENT OF HEALTH, WITH RESPECT TO INSTALLATION DISTANCES FROM SANITARY SEWER AND STORM DRAIN LINES. INSTALL CASING AS MAY BE REQUIRED. REFER TO THE CIVIL ENGINEERS SITE UTILITY PLAN FOR DETAILED LOCATIONS AND ROUTINGS OF ALL UNDERGROUND UTILITIES.
3. NEW UTILITY TRENCHES SERVICING THE NEW STRUCTURES ARE ANTICIPATED TO BE REQUIRED. THESE TRINCHES ARE OFTEN SOURCES OF MOISTURE INTO THE STRUCTURE. A RELATIVELY IMPERVIOUS MATERIAL (CLAY WITH LITTLE ROCK, ETC.) SHOULD BE PLACED WITHIN THE UTILITY TRENCH, SURROUNDING THE UTILITY IMMEDIATELY OUTSIDE THE STRUCTURE VIA UTILITY TRENCHES. THE "TRENCH PLUG" SHOULD EXTEND OUT FROM THE STRUCTURE A MINIMUM OF 5 FT. HORIZONTALLY, AND BE PLACED IN A CONTROLLED MANNER IN ACCORDANCE WITH SECTION 8.3 FOR UTILITY TRENCHES.

NOTICE: THIS DRAWING IS FOR REFERENCE AND INFORMATION ONLY. THESE PIPE ROUTINGS HAVE NOT BEEN COORDINATED WITH EXISTING BURIED UTILITIES (SANITARY, STORM, ELECTRICAL, CHILLED WATER, HEATING WATER, STEAM, ETC.). REFER TO CIVIL ENGINEERS SITE UTILITY PLAN FOR ACTUAL LOCATIONS AND FINAL ROUTINGS. COORDINATE WITH ALL OTHER BURIED UTILITIES AT ALL TIMES. MAINTAIN PROPER BURY DEPTHS.



1 FIRE PROTECTION PLAN - UNDERGROUND

1/8" = 1'-0"

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KEY PLAN:

02 01

PROJECT PHASE:

BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
1	06-17-19	ASI 02

DATE: 05/10/19
JOB NUMBER: 17-13
SHEET NUMBER: FP2.01
FIRE PROTECTION - UNDERGROUND PLAN

MECHANICAL PIPING & INSULATION SCHEDULE

NOTE: ALL EXTERIOR INSULATED PIPING TO BE PROVIDED WITH ALUMINUM JACKET.

SERVICE	PIPING TYPE	INSULATION TYPE	INSULATION THICKNESS	INSULATION THICKNESS NOMINAL PIPE SIZE <1	1 TO <1-1/2	1-1/2 TO <4	4 TO <8	≥8
EQUIPMENT DRAINS, COOLING CONDENSATE LINES, AND OVERFLOWS	TYPE "L" HARD COPPER	ELASTOMERIC	3/8" IF INTERIOR SPACE N/A EXTERIOR SPACE	0.5	0.5	1.0	1.0	1.0
REFRIGERANT PIPING	COPPER REFRIGERANT PIPING	ELASTOMERIC	1" ON SUCTION LINE	0.5	1.0	1.0	1.0	1.5
ALL OUTDOOR INSULATED PIPING	PROVIDE WITH EMBOSSED ALUMINUM JACKET OVER SCHEDULED INSULATION	PER SCHEDULE	N/A					

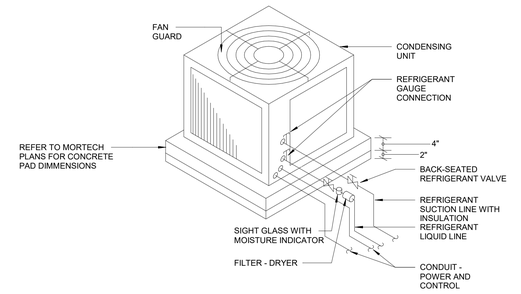
SITE UNDERGROUND NOTES

PRIOR TO CONSTRUCTION, COORDINATE UNDERGROUND REFRIGERANT PIPING CONDUITS WITH ALL OTHER TRADES, INCLUDING BUT NOT LIMITED TO: EASEMENTS, UNDERGROUND UTILITY LINES (COMMUNICATION, ELECTRIC, GAS, WATER), AND STRUCTURAL FOOTINGS AND FOUNDATIONS.

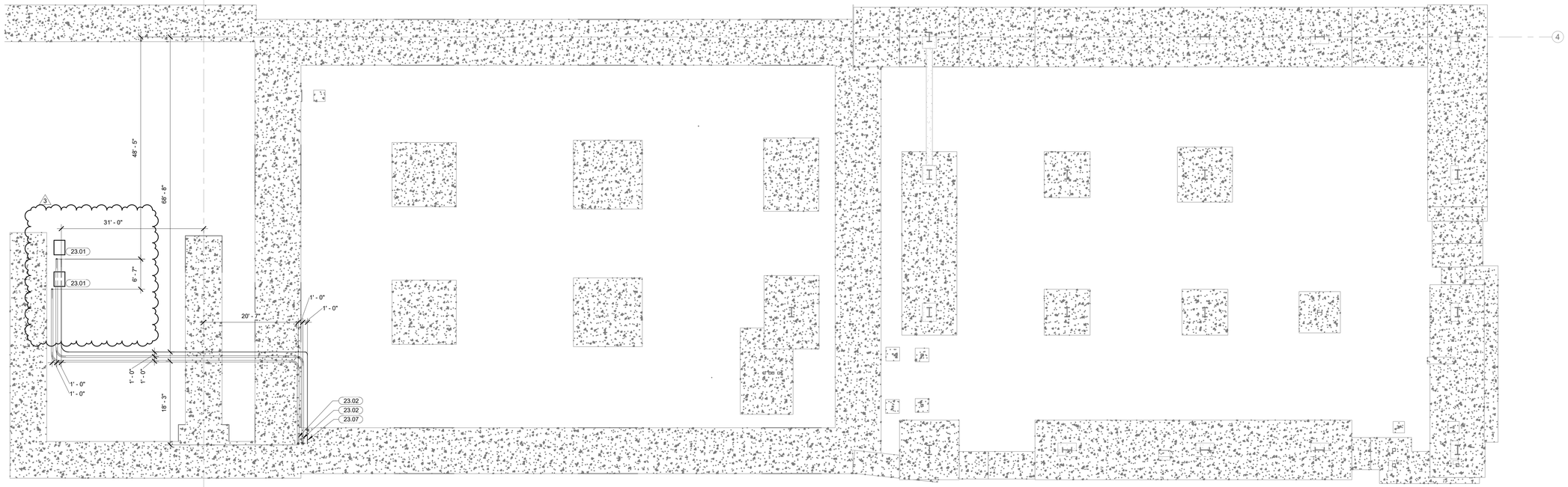
PRIOR TO FOOTING CONSTRUCTION, M.C. SHALL BURY ALL REFRIGERANT PIPING CONDUITS BETWEEN THE INTERIOR AND EXTERIOR OF THE BUILDING. COORDINATE WITH STRUCTURAL DRAWINGS TO DETERMINE REQUIRED BURIAL DEPTH.

KEYNOTES

23.01	MORTECH CONDENSING UNITS. REFER TO MORTECH CONSTRUCTION DOCUMENTS. INSTALL PER MORTECH INSTRUCTIONS.
23.02	PROVIDE 6" UNDERGROUND SCHED 40 PVC CONDUITS FOR REFRIGERANT PIPING SERVING MORTECH CONDENSING UNITS AND INDOOR EVAPORATOR COILS. DIMENSIONS ARE APPROXIMATE FOR REFERENCE. COORDINATE EXACT DIMENSIONS WITH MORTECH AND BUILDING CONSTRUCTION PACKAGE PRIOR TO INSTALLING CONDUIT. INSTALL WITH LONG SWEEPING ELBOWS AND SEAL END OPENINGS WATER TITE. COORDINATE WITH STRUCTURAL FOOTING AND FOLLOW STRUCTURAL DETAILS FOR INSTALLATION OF PIPING MINIMUM 8" ABOVE THE TOP OF THE FOOTING.
23.07	PROVIDE 1" UNDERGROUND SCHED 40 PVC CONDUIT FOR CONTROL WIRING SERVING MORTECH CONDENSING UNITS. DIMENSIONS ARE APPROXIMATE FOR REFERENCE. COORDINATE EXACT DIMENSIONS WITH MORTECH AND BUILDING CONSTRUCTION PACKAGE PRIOR TO INSTALLING CONDUIT. INSTALL WITH LONG SWEEPING ELBOWS AND SEAL END OPENINGS WATER TIGHT. COORDINATE WITH STRUCTURAL FOOTING AND FOLLOW STRUCTURAL DETAILS FOR INSTALLATION OF PIPING MINIMUM 8" ABOVE THE TOP OF THE FOOTING.



2 AIR-COOLED CONDENSING UNIT
SCALE: N.T.S.



PLAN NORTH
TRUE NORTH

1 MECHANICAL UNDERGROUND SITE PLAN
1" = 10'-0"

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07-31-2019

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AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:
02 01

PROJECT PHASE:
100% CONSTRUCTION DOCUMENTS

REVISIONS		
#	DATE	DESCRIPTION
3	07-31-19	BID PACKAGE 04 ASI 04

DATE: 07-31-19
JOB NUMBER: 17-13
SHEET NUMBER: M0.00
UNDERGROUND MECHANICAL PLAN

12.0 BELOW GRADE SLABS

All slabs that are below exterior grade are considered below grade slabs. This condition is anticipated within the south half of the project site within the basement area. **In addition, any elevator pits, recessed mats, floor depressions, etc., are considered below grade slabs and the following recommendations do apply to these areas.**

Although shallow groundwater was not encountered within the borings drilled, site earthwork can, and often does, manipulate the shallow groundwater regime. In view of the possibility for perched groundwater at the project site, it is recommended that any portions of the structure below exterior grade, as described above, be designed and constructed recognizing the possibility of shallow groundwater. A French drain system should be installed under the below grade floor slabs to limit hydrostatic pressure below the slab. A drainage system constructed with coarse free-draining gravel with a minimum 6-inch thickness and perforated pipes wrapped in filter fabric and installed on 30-ft. centers below the free draining gravel is considered adequate. Groundwater collected by these perforated pipe drains should be removed to free discharge by gravity flow. If gravity flow cannot be provided a sump and pump system consisting of a wet well with a duplex pump arrangement is recommended. At least one (1) pump should turn on when groundwater levels are more than 24-inches below finish floor elevation.

A French drain should be installed underneath all below grade slabs. Lateral drain pipes installed on 30-ft. centers should be at least 4-inches in diameter, with perimeter collector pipes at least 6-inches in diameter. An impervious moisture barrier consisting of 6-mil. plastic sheeting or equivalent should be provided below all slab areas. A minimum 10-mil plastic sheeting is recommended beneath all slab areas with an intended use sensitive to slab moisture. Soil moisture should not be allowed to dry and desiccate or be saturated by inundation prior to slab placement.

12.1 Retaining Wall Backfill & Drainage

A foundation drain is recommended to be installed around the portion of the perimeter where the below grade slab is at or below exterior grade level in accordance with Section 1805 of the 2015 IBC. Below grade wall backfill should consist of free-draining crushed stone or alternatively, may consist of gravelly clays or clayey gravels. Crushed stone, if selected, must be imported from a quarry source whereas on-site soils suitable for wall backfill could probably be segregated and stockpiled during excavation. Depending upon the type of backfill selected and degree of wall restraint, the following table of lateral earth pressures are considered appropriate for wall design. **If a building floor slab is planned over the wall backfill, use of an imported free draining stone should be separated from the earth face of the excavation by using a nonwoven filter fabric.**

8.8 Utility Trenches

New utility trenches servicing the new structures are anticipated to be required. These trenches are often times sources of moisture migration into the structure. A relatively impervious material (clay with little rock, etc.) should be placed within the utility trench, surrounding the utility immediately outside the structure to reduce the potential for moisture migration into the structure via utility trenches. The "trench plug" should extend out from the structure a minimum of 5 ft. horizontally, and be placed in a controlled manner in accordance with Section 8.3 above.

8.3 Compaction Requirements

Item	Description
Subgrade Scarification Depth	At least 8 inches
Fill Lift Thickness	12-inches (loose) using the minimum compactor referenced below
Compaction Requirements[1]	Six (6) passes (3 each direction) minimum using a self-propelled vibratory compactor with a minimum drum diameter of 48-inches for granular soils, or 95% Standard Proctor Density (ASTM D698) for materials containing sufficient fines content.
Moisture Content	• ± 2% optimum moisture for CL, SC, GC, GW & SW Soil Types; and • 0 to 4% above optimum for CH Soil Types.
Field Density Testing Frequency (if material type allows)	• Building Areas – One (1) test every 2500 sq. ft. per fill lift; • Pavement Areas – One (1) test every 5000 sq. ft. per fill lift; and • No less than three (3) tests per each fill lift.

[1] We recommend that engineered fill (including scarified compacted subgrade) be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

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CLIENT:

College of Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS:		
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: M0.01
UNDERGROUND MECHANICAL NOTES

PLUMBING PIPE LEGEND

DESCRIPTION	TAG	LINETYPE
COLD WATER	CW	
CONDENSATE	CD	
FIRE	F	
FORCED MAIN	FM	
GAS	G	
HOT WATER	HW	
IRRIGATION	IR	
MEDICAL AIR	MA	
MEDICAL VACUUM	VAC	
SANITARY SEWER	SS	
VENT	V	

PLUMBING SYMBOL LEGEND

D.F.U.	DRAIN FIXTURE UNITS		HEAT TAPE
GPM	GALLONS PER MINUTE		FROST PROOF HOSE BIBB (FPHB-1)
F.L.	FLOW LINE INVERT	FD-1	FLOOR DRAIN
M	WATER/GAS METER	SWD-1	SAFE WASTE DRAIN
R	REGULATOR		FLOOR SINK
	PRESSURE REDUCING VALVE	WCO-1/ SCO-1	WALL CLEAN OUT/ STACK CLEAN OUT
	CONTINUATION	FCO	FLOOR CLEANOUT
	BALL VALVE	COTG-1/ TWCO-1	CLEAN OUT TO GRADE/ TWO-WAY CLEAN OUT
	MIXING VALVE	X / X	INDICATES DETAIL NUMBER / INDICATES SHEET NUMBER
UB-1/ SB-1	UTILITY BOX/ SUPPLY BOX	HOR. OR VERT.	BACKFLOW PREVENTER (RPZ-1)

ROUGH-IN AND MOUNTING HEIGHT SCHEDULE

NOTES:
1. ALL VENT LINE SIZES SHOWN ARE MINIMUM UNLESS SHOWN LARGER ON RISER DIAGRAMS.
2. SIZES SHOWN FOR WASTE ARE FOR RISERS ONLY.
3. ALL DRAIN AND VENT LINES BELOW SLAB SHALL BE 2" OR LARGER.
4. VENT LINES SHALL RISE 6" ABOVE FLOOD LEVEL RIM BEFORE OFFSETTING HORIZONTALLY, EXCEPT FOR INTERCEPTORS LOCATED OUTDOORS.
5. SIZES SHOWN APPLY UNLESS NOTED DIFFERENTLY ON PLANS.

FIXTURE	WASTE	VENT	COLD WATER	HOT WATER	HEIGHT OF INSTALLATION
FLOOR DRAINS/SINKS	2"	1-1/2"			
JANITOR'S SINK	3"	1-1/2"	1/2"	1/2"	
SHOWER	2"	1-1/2"	1/2"	1/2"	MIXING VALVE HANDLE AT 38" MIN. & 48" MAX. A.F.F. (STANDARD AND ADA) SHOWER HEAD: STANDARD 78" * ALL DIMENSIONS TO CENTERLINE OF SHOWER HEAD, ALL ROLL-IN SHOWERS WITH CONTROLS AND HAND SHOWERS LOCATED ON BACKWALL SHALL BE LOCATED WITHIN 15" LEFT OR RIGHT OF CENTERLINE

PIPING MATERIAL SCHEDULE

DESCRIPTION	MATERIAL
FORCED MAIN PIPING	SCHEDULE 40 GALVANIZED STEEL WITH SCREWED JOINTS.
UNDER GROUND GAS	APPROVED PLASTIC WITH COMPATIBLE FITTINGS CONFORMING WITH ASTM D 2513 AND SHALL BE INSTALLED IN ACCORDANCE WITH GAS CODE OR WITH SCH, 40 STEEL WITH MALLEABLE IRON FITTINGS OR WELDED JOINTS WITH BUTT WELD FITTINGS. MILL COAT PIPE WITH HIGH DENSITY POLYETHYLENE OVER ADHESIVE UNDERCOATING WRAP FIELD JOINTS AND FITTINGS WITH REPUBLIC "X-TRU-TAPE" OR EQUAL. PROVIDE WITH MARKER TAPE.
UNDERGROUND SANITARY SEWER AND VENT PIPING INSIDE BUILDING AND OUTSIDE BUILDING	PVC SCHEDULE 40 PIPE AND FITTINGS.
WATER SERVICE PIPE	WATER SERVICE PIPE SHALL CONFORM TO NSF 61 AND SHALL BE COPPER AND CONFORM TO THE STANDARDS LISTED IN TABLE 605.3 OF THE I.P.C

PLUMBING PIPING INSULATION SCHEDULE

		INSULATION THICKNESS NOMINAL PIPE SIZE				
DESCRIPTION	INSULATION TYPE	<1	1 TO <1-1/2	1-1/2 TO <4	4 TO <8	≥8
DOMESTIC COLD WATER PIPING BELOW GRADE	PVC OR HDPE JACKET ONLY, NO INSULATION	1	1	1.5	1.5	1.5
DOMESTIC HOT WATER AND HOT WATER RETURN PIPING BELOW GRADE	ELASTOMERIC OR FOAM. ENCAPSULATE WITH PVC OR HDPE JACKET	1	1	1.5	1.5	1.5

PLUMBING EQUIPMENT SCHEDULE

FIXTURE TAG	DESCRIPTION	MANUFACTURER	TRIM	ELECTRICAL REQUIREMENTS
FD-1	FLOOR DRAIN-SQUARE	MIFAB F1000-S	CAST IRON BODY, ANCHOR FLANGE, SECURED ROUND ADJUSTABLE STRAINER HEAD WITH HOLE GRATE, LOOSE GRATE AND SEDIMENT BUCKETS, MIFAB TRAP GUARD, REFER TO PLANS FOR SIZES	
FS-1	FLOOR SINK 12-1/2" CAST IRON RECEPTOR, 8" DEEP	J. R. SMITH 3150	CAST IRON FLANGED RECEPTOR, SEEPAGE HOLES, ACID RESISTANT COATED INTERIOR, NICKEL BRONZE RIM, LOOSE GRATE, ALUMINUM DOME BOTTOM STRAINER, GRATE, MIFAB TRAP GUARD	
JS-1	JANITOR'S SINK, FLOOR MOUNTED 24"x 24", ONE PIECE MOLDED CONSTRUCTION OF NATURAL CRUSHED STONE AND POLYESTER RESIN	MUSTEE CUSTODIAL FLOOR SINK MODEL 63M	PROVIDE SERVICE FAUCET # 63.600A CHROME PLATED BRASS ON 8" CENTER W/ VACUUM BREAKER, HOSE BRACKET 65.700, MOP HANGER 65.690, BUMPER GUARDS 63.401, WALL GUARDS 2 PANELS & 1 BRACKET 67.2424, SUPPLIED W/ CAST BRASS DRAIN, PROVIDE CHECK VALVES ON HOT AND COLD WATER LINES IN AN ACCESSIBLE LOCATION	
SP-1	SUMP PUMP	WEIL 1411-OSS	SUBMERSIBLE TYP PUMP, CONTROLS AND ALARM. 15 FOOT POER CORD, 2" OUTLET, CAPABLE OF 50 GPM AT 20 FEET, CHECK VALVE, OIL SMART PUMP SWITCH AND ALARM.	PUMP: 115V, 60HZ, 1PH, 1/2HP, 1750 RPM CONTROLS: OIL SMART ALARM 115V
TWCO-1	TWO WAY CLEANOUT, SPEEDI-SET OUTLET	J. R. SMITH 4237	UNFINISHED FLOOR DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED CAST IRON TOP, TAPERED THREAD BRONZE PLUG, REFER TO PLANS FOR SIZES	
YH-1	YARD HYDRANT	WOODFORD MODEL Y2	BACKFLOW PROTECTED, AUTOMATIC DRAINING, FREEZELESS YARD HYDRANT	

GENERAL PLUMBING NOTES

1	THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE REGULATIONS AND LOCAL PLUMBING INSPECTOR.
2	THE PIPING INDICATED ON THESE PLANS ARE DIAGRAMMATICAL. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, TEES, ELBOWS, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
3	THE CONTRACTOR SHALL OBTAIN AND PAY ALL FEES RELATED TO PERMITTING, INSPECTIONS, TAP-ON FEES, ETC.
4	THE CONTRACTOR SHALL COORDINATE ANY PLUMBING OR PIPING SYSTEM SHUTDOWN WITH THE OWNER 48 HOURS IN ADVANCE.
5	ALL DOMESTIC WATER, NATURAL GAS, COMPRESSED AIR, AND VACCUM PIPING SHOWN IS ABOVE CEILING, EXPOSED OVERHEAD, AND WITHIN WALLS UNLESS OTHERWISE NOTED. WATER HAMMER ARRESTORS SHALL BE INSTALLED AT DISHWASHERS, WASHING MACHINES, SUPPLY BOXES, AND QUICK CLOSING VALVES NOT LISTED. INSTALL WHA-1 AS CLOSE TO QUICK CLOSING VALVE AS POSSIBLE PER MANUFACTURES RECOMMENDATIONS. ISOLATION VALVES SHALL BE INSTALLED ON ALL SUPPLY FIXTURE GROUPS AND HOT WATER BALANCING VALVES.
6	FROST PROOF HOSE BIBBS AND SUPPLY PIPING SHALL BE INSTALLED ON THE INSIDE OF THE INSULATION. SEAL SHEATHING PENETRATION TO PREVENT AIR FROM REACHING THE VALVE.
7	ALL SANITARY WASTE PIPING SHOWN IS BELOW SLAB, BELOW FLOOR, OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING SHOWN IS ABOVE CEILING, EXPOSED OVERHEAD, OR WITHIN WALLS UNLESS OTHERWISE NOTED.
8	FLOOR DRAINS ARE TO BE THE SAME SIZE AS THE DRAIN LINE IT CONNECTS UNLESS NOTED OTHERWISE. IF SIZE IS NOT INDICATED ON DRAWINGS REFER TO PLUMBING ROUGH-IN SCHEDULE FOR PROPER SIZE.
9	FLUSH CONTROLS FOR HANDICAPPED WATER CLOSETS ARE TO BE MOUNTED TO THE OPEN SIDE OF THE TOILET AREAS.
10	CONTRACTOR SHALL COORDINATE AND PROVIDE ALL NECESSARY PIPING & PLUMBING FITTINGS, PIPING, MISCELLANEOUS ITEMS REQUIRED FOR A COMPLETE INSTALLATION OF ALL PLUMBING RELATED ITEMS.
11	ALL PIPING ON ROOF SHALL BE ANCHORED TO STEEL RIB FASTENERS APPROVED BY THE ROOF MANUFACTURER. INSTALL ANCHORS PER MANUFACTURERS RECOMMENDATION.
12	THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL UNDER SLAB PIPING WITH EXISTING STRUCTURAL FOUNDATIONS. UNDERGROUND UTILITY LOCATIONS SHALL BE VERIFIED PRIOR TO ANY WORK BEING PERFORMED. CONTRACTOR SHALL REPAIR OR REPLACE ALL PIPING NOT IN PROPER WORKING ORDER OR DAMAGED DURING INSTALLATION OF THE NEW UNDERGROUND PIPING.
13	ALL PLUMBING & PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY THE LOCAL CODE REQUIREMENTS AND PER MANUFACTURER'S RECOMMENDATIONS.
14	ALL PIPING PENETRATIONS THROUGH NEW, EXISTING WALL, OR FLOOR SHALL BE SEALED TO EQUAL THE RATING OF THE NEW, EXISTING WALL OR FLOOR.
15	THE PLUMBING SYSTEM SHALL BE TESTED AS REQUIRED BY LOCAL CODE OR BY THE REQUIREMENTS OF THE LOCAL PLUMBING INSPECTOR.
16	THE ENTIRE DOMESTIC WATER SYSTEM (EXISTING/NEW) SHALL BE DISINFECTED IN ACCORDANCE TO THE LOCAL CODE & HEALTH DEPARTMENT REQUIREMENTS.
17	DOMESTIC WATER AND SEWER LOCATED OUTSIDE OF FOOTING SHALL MAINTAIN A MINIMUM OF 10' SEPARATION UNLESS WRITTEN PERMISSION IS OBTAINED FROM LOCAL AUTHORITIES AND/OR PROPER CONTAMINATION PROVISIONS PER LOCAL CODE HAVE BEEN MET.
18	FINISHED FLOOR ELEVATION (F.F.E.) SHALL BE 0.00' FOR CALCULATION PURPOSES ONLY, UNLESS NOTED OTHERWISE.
19	THE BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED PER LOCAL CODE & PER AUTHORITY HAVING JURISDICTION REQUIREMENTS. NON-LEAD TYPE ONLY.
20	ALL VENT THRU ROOF (VTR'S) PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
21	ANY PVC PIPE PENETRATING A FIRE RATED ASSEMBLY SHALL BE EXTERNALLY SLEEVED WITH STEEL, FERROUS, OR COPPER MATERIALS, SECURELY FASTENED TO THE FIRE RATED ASSEMBLY. ANY SPACE BETWEEN THE SLEEVE AND THE FIRE RATED ASSEMBLY PENETRATED SHALL BE PROTECTED USING MATERIAL THAT CONFORMS TO ASTM E 814 OR UL 1479, SUCH AS FIRE STOP FS-1900 OR FLAME STOPPER 5000.
22	CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR DISHWASHER, WASHING MACHINE, REFRIGERATOR, ETC.
23	PROVIDE SHUT-OFF VALVES FOR PROPER OPERATION AND SERVICING OF DOMESTIC WATER DISTRIBUTION SYSTEM. LOCATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: AT EACH FIXTURE GROUP, AT EACH BRANCH TAKE-OFF FROM MAINS AND AT THE BASE OF EACH RISER. COORDINATE WITH ARCHITECTURAL PLAN FOR ACCESS DOOR LOCATIONS.
24	VALVES SHALL BE LOCATED 6" ABOVE ACCESSIBLE CEILING WHEN AT ALL POSSIBLE AND SHALL BE CLEAR OF ANY OBSTRUCTIONS FROM OTHER TRADES. MAINTENANCE SHALL BE ABLE TO ACCESS VALVES WITH STANDARD LADDER. SHOULD LOCATION NOT BE APPLICABLE CONTRACTOR SHALL PROVIDE A CONTROL CHAIN AND/OR ARM.
25	TEMPERED WATER, NOT EXCEEDING A MAXIMUM OF 110° F, SHALL BE DELIVERED FROM PUBLIC HANDWASHING FACILITIES THROUGH AN APPROVED WATER TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070.
26	IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE SITE CONTRACTOR TO CONFIRM THAT THE INVERTS AND LOCATIONS OF THE BUILDING UTILITIES ARE COMPATABLE WITH THE SITE UTILITIES PRIOR TO BEGINNING WORK.
27	CONTRACTOR SHALL PROVIDE A PRESSURE REDUCING VALVE (PRV-1) SHOULD THE WATER PRESSURE EXCEED 75 PSI. CONTRACTOR SHALL CONFIRM WITH ON SITE CONDITIONS AND LOCAL UTILITY.
28	ALL GAS PIPING ON ROOF SHALL BE PAINTED YELLOW, TYPICAL.

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KEY PLAN:

PROJECT PHASE:
BID PACKAGE 04

REVISIONS

#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: P0.00

PLUMBING DETAILS, LEGNEDS, NOTES AND SCHEDULES

12.0 BELOW GRADE SLABS

All slabs that are below exterior grade are considered below grade slabs. This condition is anticipated within the south half of the project site within the basement area. **In addition, any elevator pits, recessed mats, floor depressions, etc., are considered below grade slabs and the following recommendations do apply to these areas.**

Although shallow groundwater was not encountered within the borings drilled, site earthwork can, and often does, manipulate the shallow groundwater regime. In view of the possibility for perched groundwater at the project site, it is recommended that any portions of the structure below exterior grade, as described above, be designed and constructed recognizing the possibility of shallow groundwater. A French drain system should be installed under the below grade floor slabs to limit hydrostatic pressure below the slab. A drainage system constructed with coarse free-draining gravel with a minimum 6-inch thickness and perforated pipes wrapped in filter fabric and installed on 30-ft. centers below the free draining gravel is considered adequate. Groundwater collected by these perforated pipe drains should be removed to free discharge by gravity flow. If gravity flow cannot be provided a sump and pump system consisting of a wet well with a duplex pump arrangement is recommended. At least one (1) pump should turn on when groundwater levels are more than 24-inches below finish floor elevation.

A French drain should be installed underneath all below grade slabs. Lateral drain pipes installed on 30-ft. centers should be at least 4-inches in diameter, with perimeter collector pipes at least 6-inches in diameter. An impervious moisture barrier consisting of 6-mil. plastic sheeting or equivalent should be provided below all slab areas. A minimum 10-mil plastic sheeting is recommended beneath all slab areas with an intended use sensitive to slab moisture. Soil moisture should not be allowed to dry and desiccate or be saturated by inundation prior to slab placement.

12.1 Retaining Wall Backfill & Drainage

A foundation drain is recommended to be installed around the portion of the perimeter where the below grade slab is at or below exterior grade level in

accordance with Section 1805 of the 2015 IBC. Below grade wall backfill should consist of free-draining crushed stone or alternatively, may consist of gravelly clays or clayey gravels. Crushed stone, if selected, must be imported from a quarry source whereas on-site soils suitable for wall backfill could probably be segregated and stockpiled during excavation. Depending upon the type of backfill selected and degree of wall restraint, the following table of lateral earth pressures are considered appropriate for wall design. **If a building floor slab is planned over the wall backfill, use of an imported free draining stone should be separated from the earth face of the excavation by using a nonwoven filter fabric.**

8.8 Utility Trenches

New utility trenches servicing the new structures are anticipated to be required. These trenches are often times sources of moisture migration into the structure. A relatively impervious material (clay with little rock, etc.) should be placed within the utility trench, surrounding the utility immediately outside the structure to reduce the potential for moisture migration into the structure via utility trenches. The "trench plug" should extend out from the structure a minimum of 5 ft. horizontally, and be placed in a controlled manner in accordance with Section 8.3 above.

8.3 Compaction Requirements

Item	Description
Subgrade Scarification Depth	At least 8 inches
Fill Lift Thickness	12-inches (loose) using the minimum compactor referenced below
Compaction Requirements[1]	Six (6) passes (3 each direction) minimum using a self-propelled vibratory compactor with a minimum drum diameter of 48-inches for granular soils, or 95% Standard Proctor Density (ASTM D698) for materials containing sufficient fines content.
Moisture Content	• ± 2% optimum moisture for CL, SC, GC, GW & SW Soil Types; and • 0 to 4% above optimum for CH Soil Types.
Field Density Testing Frequency (if material type allows)	• Building Areas – One (1) test every 2500 sq. ft. per fill lift; • Pavement Areas – One (1) test every 5000 sq. ft. per fill lift; and • No less than three (3) tests per each fill lift.

[1] We recommend that engineered fill (including scarified compacted subgrade) be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.

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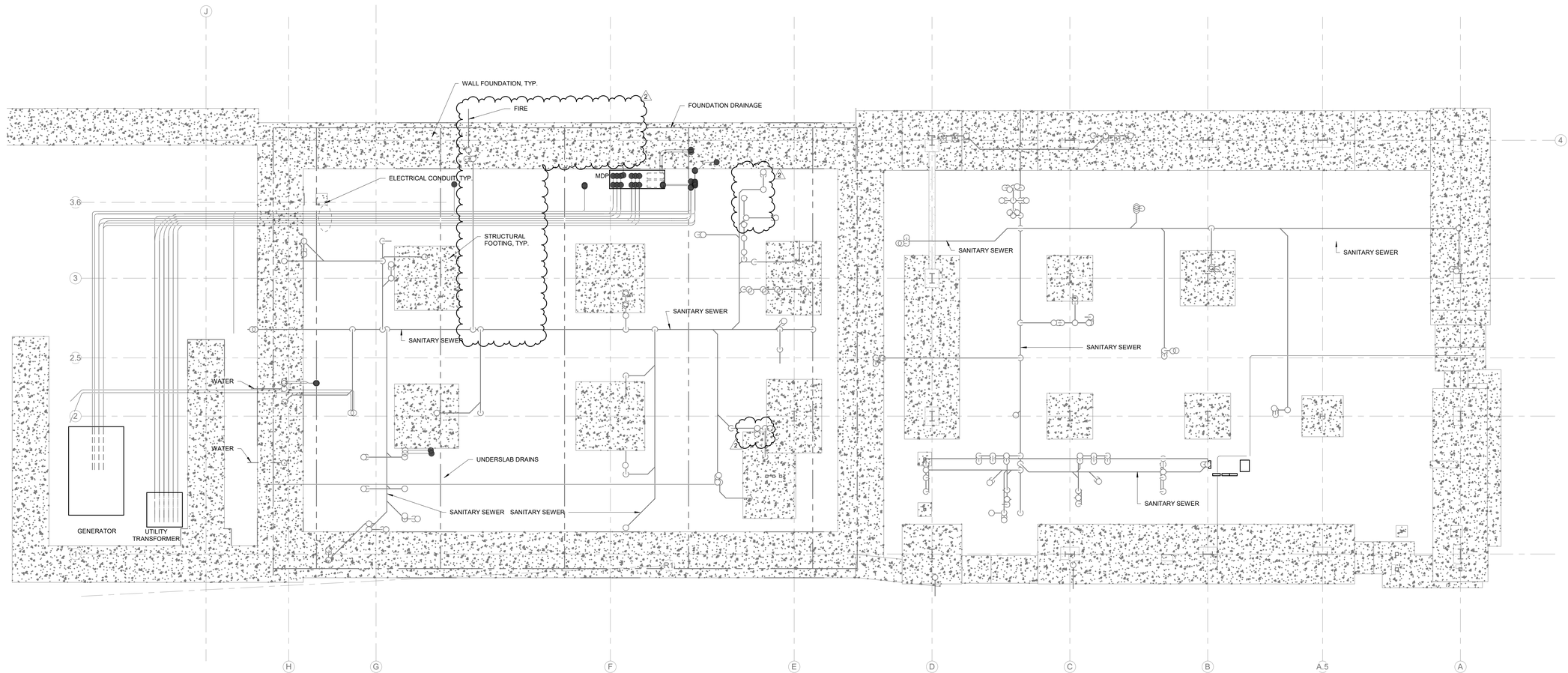
REVISIONS:
#	DATE	DESCRIPTION

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: P0.01
UNDERGROUND PLUMBING NOTES



1 PLUMBING UNDERGROUND COORDINATION PLAN

1" = 10'-0"

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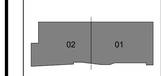

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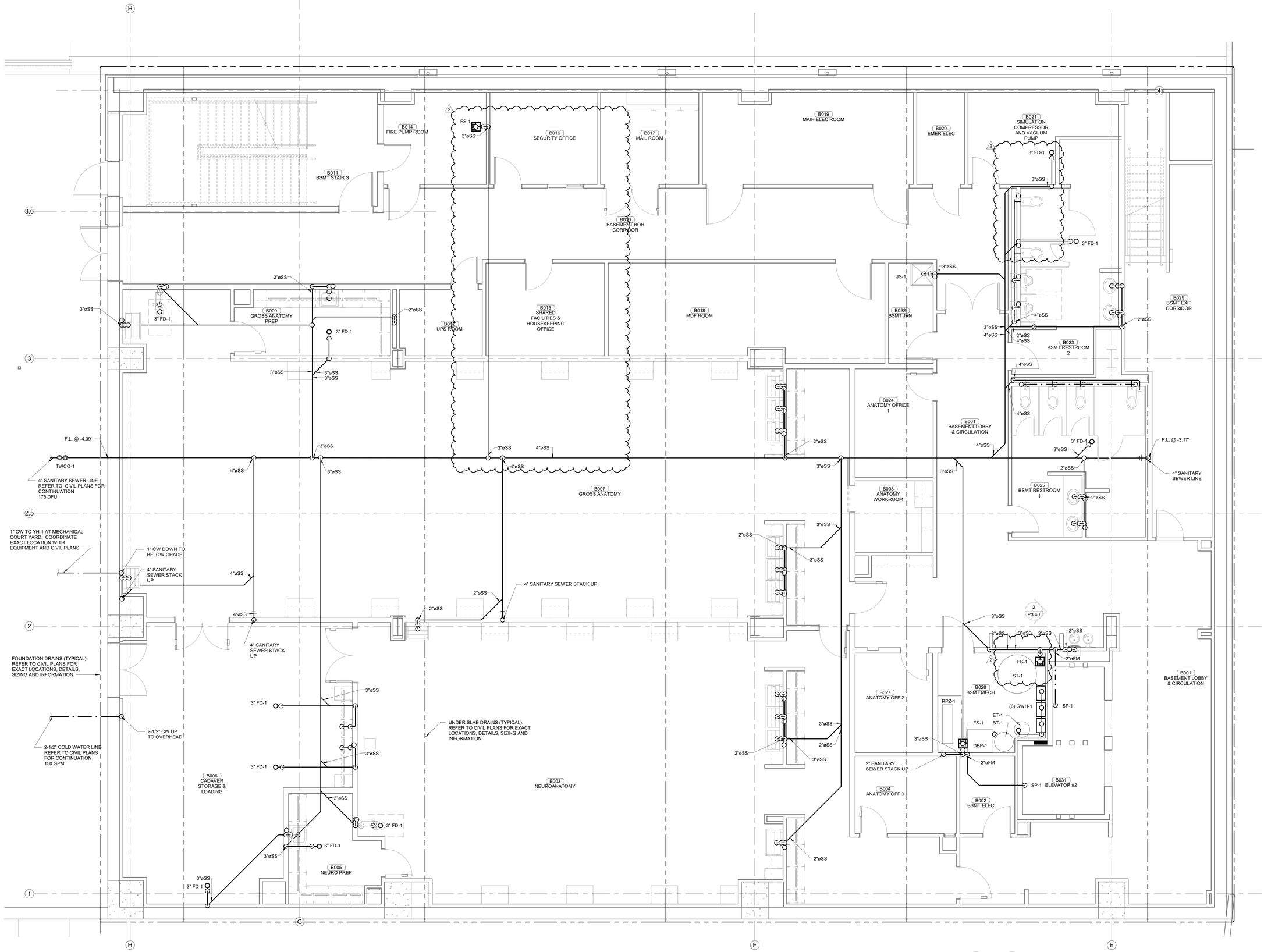
#	DATE	DESCRIPTION
1	05-24-19	Bid Package 04 ASI 01
2	06-17-19	Bid Package 04 ASI 02

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:

P0.02

UNDERGROUND FOOTING COORDINATION



PLAN NORTH

TRUE NORTH

1 PLUMBING PLAN - BASEMENT

1/4" = 1'-0"

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DATE: 05-10-19

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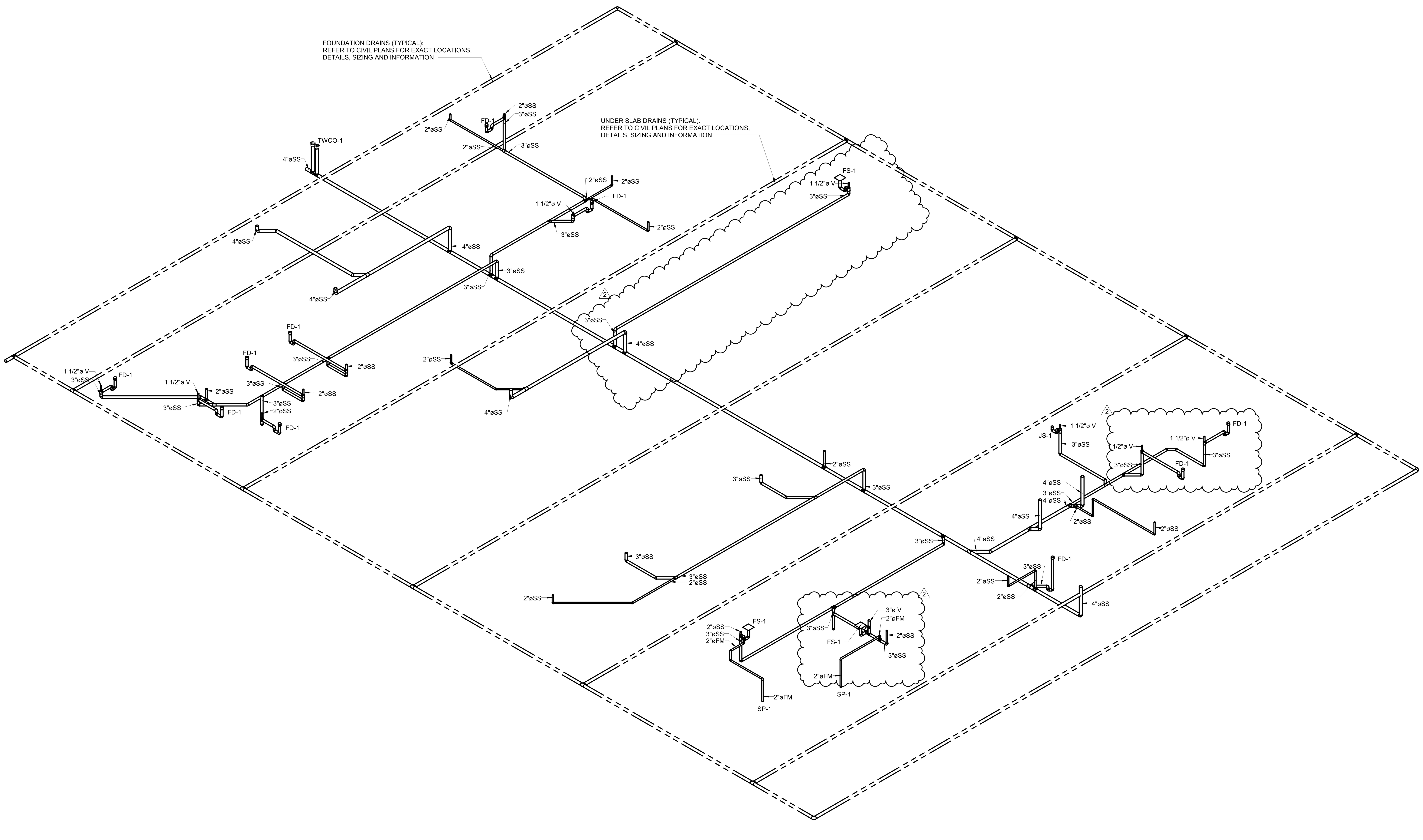
SHEET NUMBER: P0.03

UNDERGROUND BASEMENT PLUMBING PLAN



1 **UNDERGORUND PLUMBING VENT ISOMETRIC BASEMENT LEVEL**

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02 01

PROJECT PHASE:
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#	DATE	DESCRIPTION
1	05-24-19	Bid Package 04 ASI 01
2	06-17-19	Bid Package 04 ASI 02

DATE:	JOB NUMBER:
05-10-19	17-13

SHEET NUMBER:
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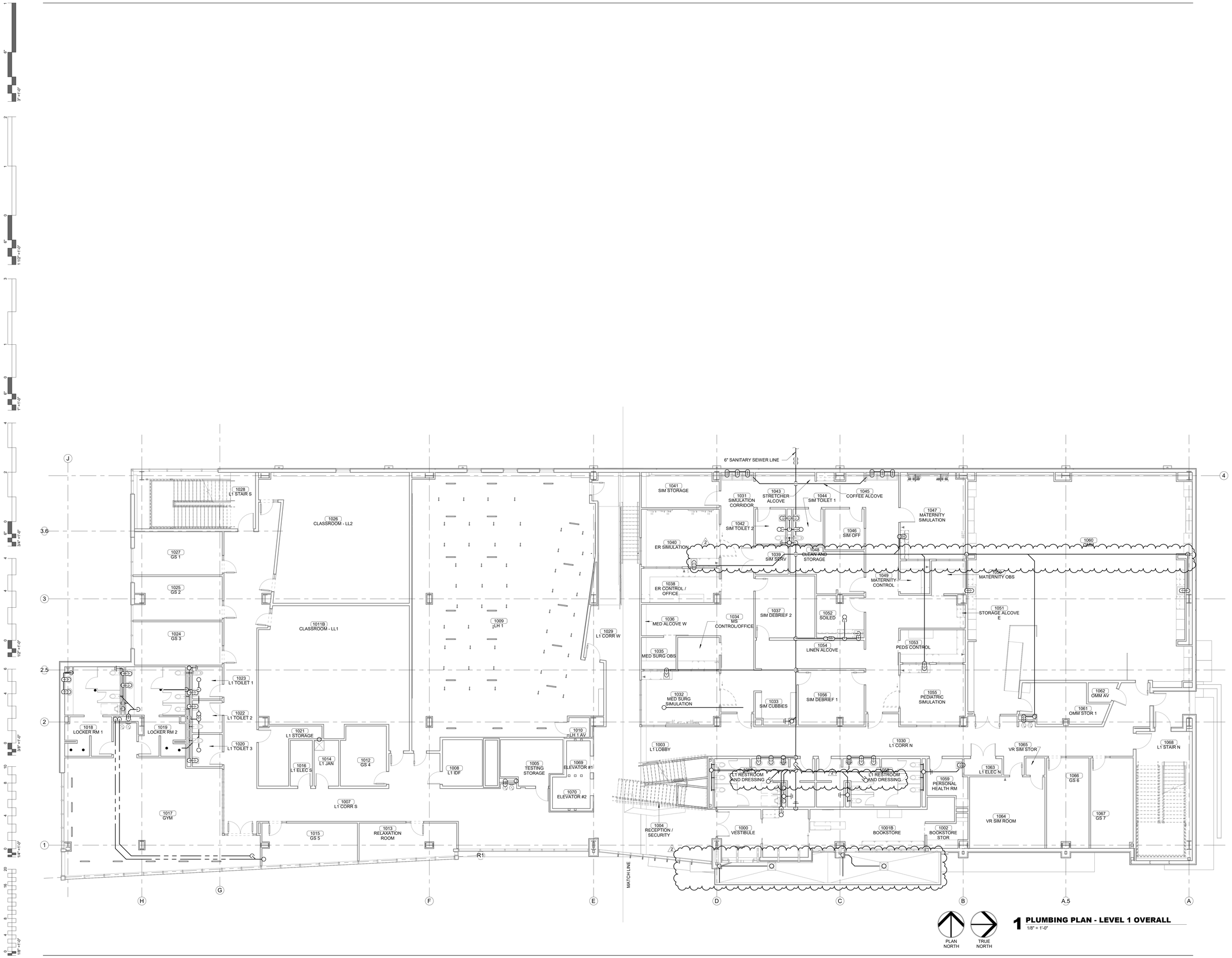
UNDERGROUND PLUMBING VENT/DRAIN ISOMETRIC BASEMENT



1 PLUMBING PLAN - LEVEL 1 OVERALL
1/8" = 1'-0"

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2	06-17-19	Bid Package 04 ASI 02

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: P0.05
UNDERGROUND LEVEL 01 - OVERALL PLAN

KEYNOTES

2

22.20 2-1/2" MEDIUM PRESSURE GAS LINE (2 PSI). COORDINATE EXACT LOCATION OF GAS METER WITH LOCAL GAS UTILITY. REFER TO CIVIL PLANS FOR CONTINUATION. 7449.4 MBH

6" BUILDING DRAIN LINEE. REFER TO CIVIL PLANS FOR CONTINUATION 243 DFU
TWCO-1
F.L. @ -10.33'
2"øSS
1041 SIM STORAGE
1043 STRETCHER ALCOVE
1031 SIMULATION CORRIDOR
1042 SIM TOILET 2
1044 SIM TOILET 1
1046 SIM OFF
3"øSS
2" FD-1
4"øSS
1040 ER SIMULATION
1047 MATERNITY SIMULATION
SANITARY SEWER STACK
2"øSS
1039 SIM SERV
6"øSS
4"øSS
1048 CLEAN AND STORAGE
1049 MATERNITY CONTROL
1050 MATERNITY OBS
1060 OMM
1038 ER CONTROL / OFFICE
1037 SIM DEBRIEF 2
1052 SOILED
1031 SIMULATION CORRIDOR
2" SANITARY SEWER STACK UP
1053 PEDS CONTROL
1035 MED SURG OBS
1034 MS CONTROL/OFFICE
1033 SIM CUBBIES
1056 SIM DEBRIEF 1
1055 PEDIATRIC SIMULATION
1032 MED SURG SIMULATION
4" SANITARY SEWER STACK UP
GAS METER
22.20
2 1/2"øMPG
1061 OMM STOR 1
1062 OMM AV
2" SANITARY SEWER STACK UP
1030 L1 CORR N
1068 L1 STAIR N
1057 L1 RESTROOM AND DRESSING
1058 L1 RESTROOM AND DRESSING
3" FD-1
WCO-1
1059 PERSONAL HEALTH RM
1063 L1 ELEC N
1065 VR SIM STOR
1066 GS 6
1067 GS 7
1064 VR SIM ROOM
3" SANITARY SEWER STACK UP
1004 RECEPTION / SECURITY
1003 L1 LOBBY
1000 VESTIBULE
1001B BOOKSTORE
1002 BOOKSTORE STOR
3" RD-1
3"øRD COORDINATE WITH CIVIL PLANS FOR CONTINUATION
MATCH LINE

PLAN NORTH / TRUE NORTH

1 PLUMBING PLAN - LEVEL 1 SECTOR 1
1/4" = 1'-0"

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KEY PLAN:
02
01

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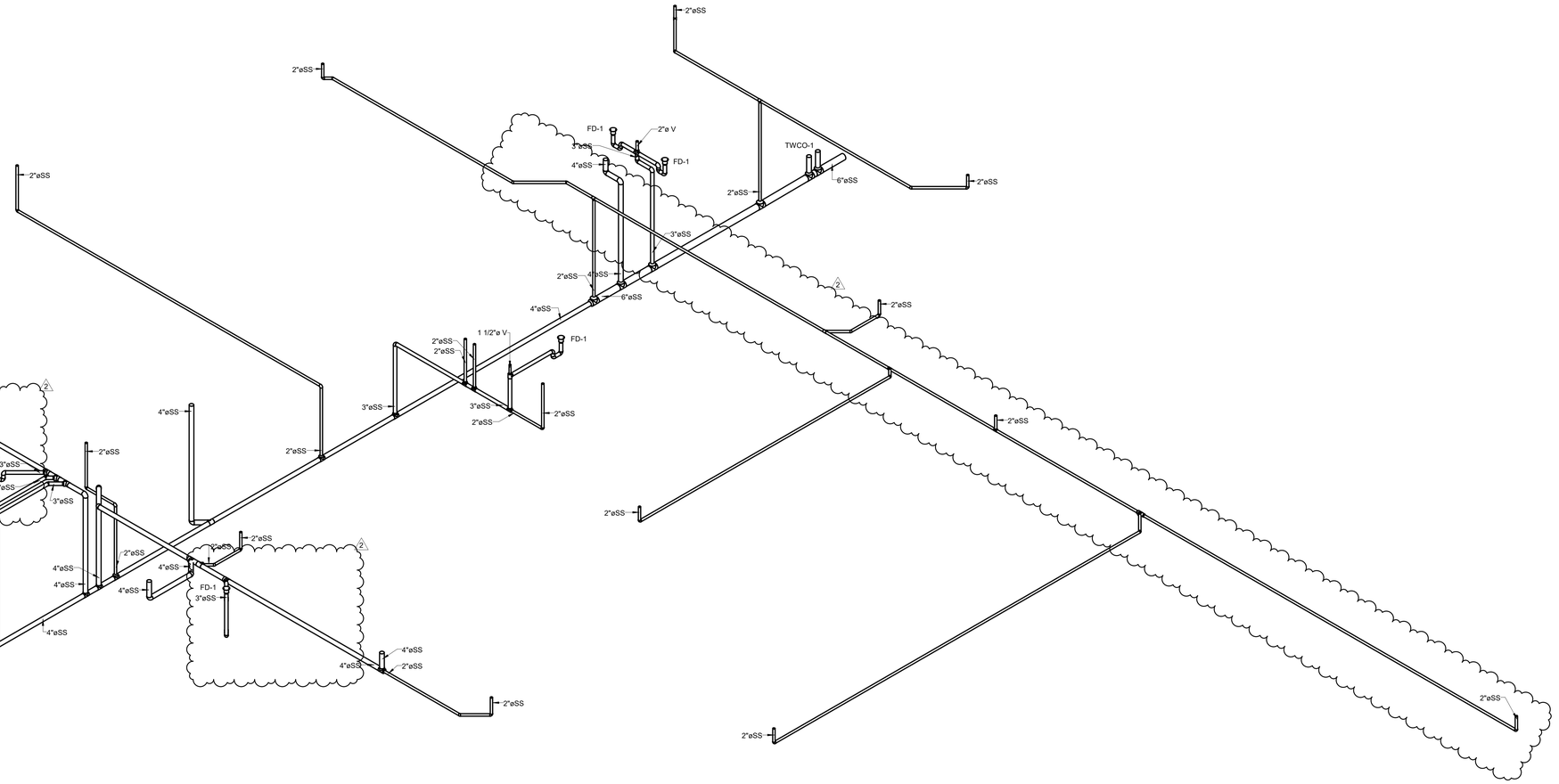
1	05-24-19	Bid Package 04 ASI 01
2	06-17-19	Bid Package 04 ASI 02

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: P0.06
UNDERGROUND LEVEL 01 PLUMBING PLAN



1 UNDERGROUND LEVEL 01 - PLUMBING VENT ISOMETRIC - SECTOR 01

James R. Childers Architect, Inc.
45 South 4th Street
Fort Smith, AR 72901
479-783-2480
www.childersarchitect.com

PROFESSIONAL SEAL:

LICENSED PROFESSIONAL ENGINEER
Shane Wells
28910
OKLAHOMA
CASTAMPED
06/17/19

CONSULTANT LOGO:

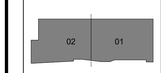
HP ENGINEERING
PROJECT NO. 18163R
100 % COMPLETE

HP ENGINEERING INC.
5214 W. VILLAGE PARKWAY
SUITE 122
ROGERS, AR 72758
(479) 899-6370
www.hpengineeringinc.com

CLIENT:

COLLEGE OF Osteopathic Medicine
AT THE CHEROKEE NATION
TAHLEQUAH, OKLAHOMA

KEY PLAN:



PROJECT PHASE:
BID PACKAGE 04

REVISIONS		
#	DATE	DESCRIPTION
2	06-17-19	Bid Package 04 Alt 02

DATE: 05-10-19
JOB NUMBER: 17-13
SHEET NUMBER: P0.07

UNDERGROUND PLUMBING VENT/DRAIN ISOMETRIC LEVEL 01