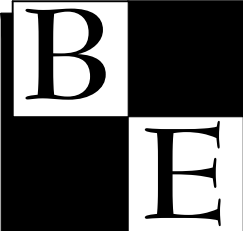


PLANS FOR CHEROKEE ADDITION HOUSING AUTHORITY OF THE CHEROKEE NATION

DRAWING INDEX

- C1 COVER SHEET
- C2 LOCATION
- C3 SITE PLAN
- C4 GRADING & DRAINAGE PLAN
- C4a BUILDING LAYOUT
- C5 ROAD PROFILES
- C6 ROAD PROFILES
- C7 UTILITY PLAN
- C8 WATER DETAILS
- C9 SITE DETAILS
- C10 SITE DETAILS


Brown Engineering, P.C.
 Civil & Environmental Engineering

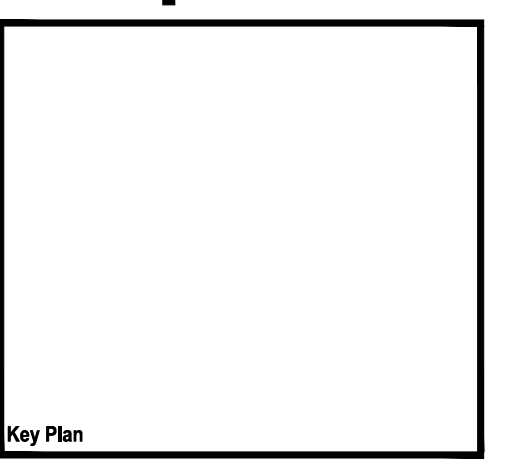
P.O. Box 579 Stillwater, Oklahoma 74076-0579
 PHONE: (405) 372-4848 FAX: (405) 372-7055
 CA NO. 2659



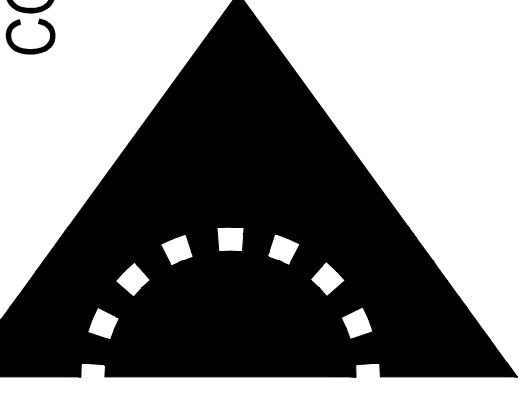
No.	Description	Date


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 Stillwater, Oklahoma 74076-0579
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 Consultants

CHEROKEE ADDITION
 HOUSING AUTHORITY
 OF THE CHEROKEE NATION
 COLLINSVILLE, OK



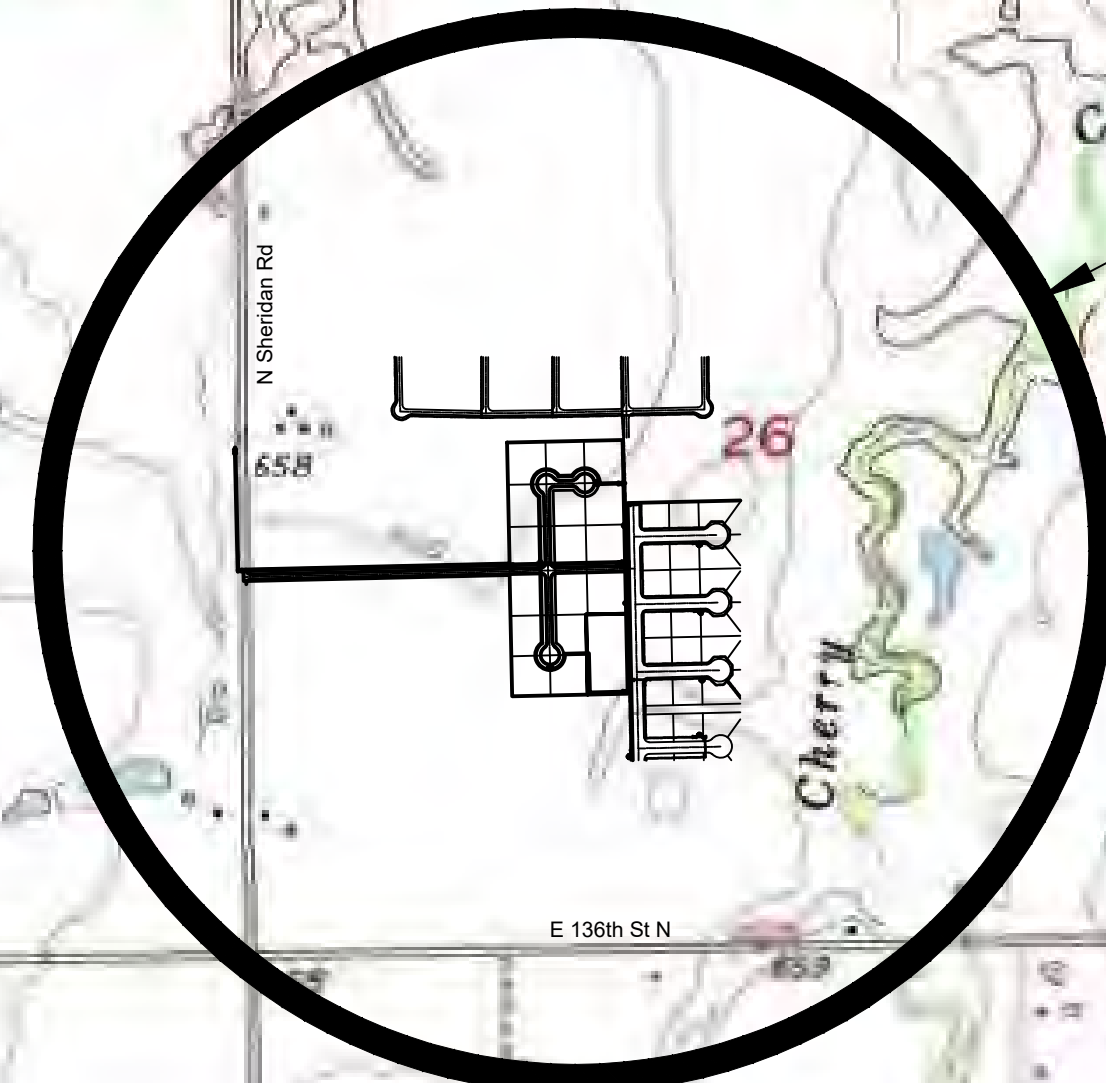
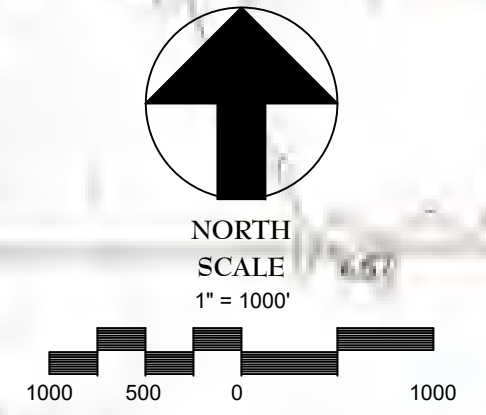
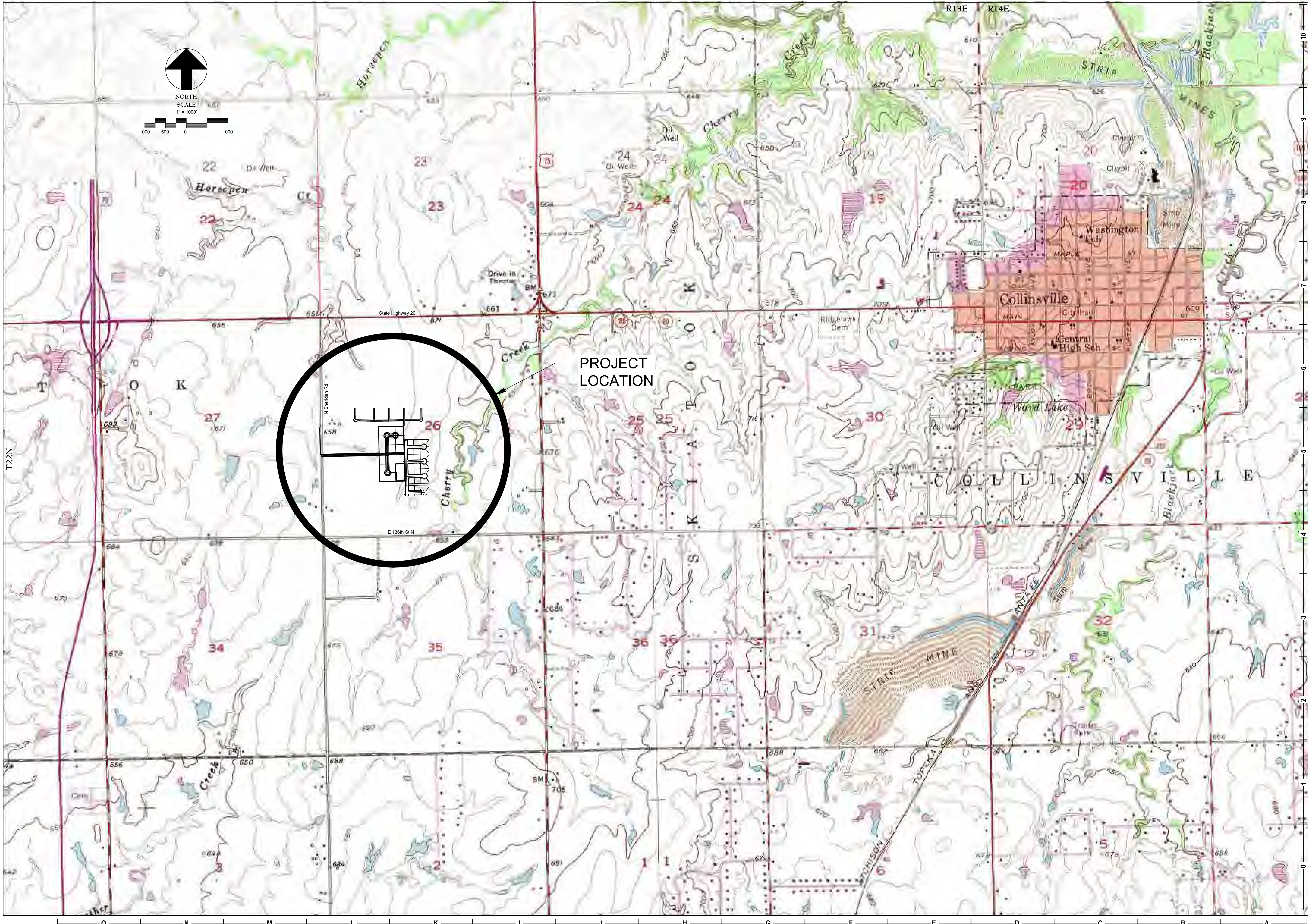
CONSTRUCTION
 DOCUMENTS



SHEET TITLE: COVER
 DRAWN BY: DLD
 CHECKED BY: MDB
 ISSUE DATE: 5-15-2023

C1

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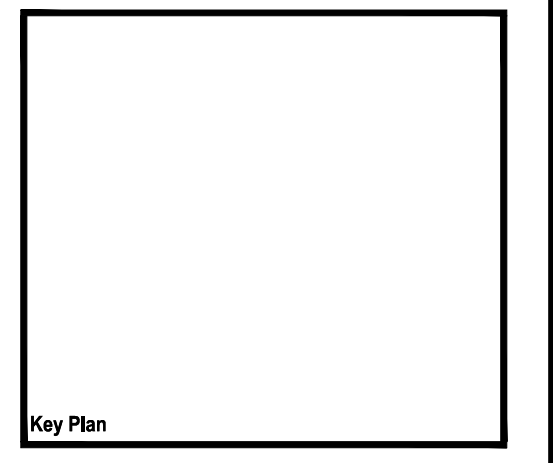
PROJECT
LOCATION



No.	Description	Date

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 FAX: (405) 372-7055
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CHEROKEE ADDITION
 HOUSING AUTHORITY
 OF THE CHEROKEE NATION
 COLLINSVILLE, OK



CONSTRUCTION DOCUMENTS

SHEET TITLE: LOCATION
 DRAWN BY: DLD
 CHECKED BY: MDB
 ISSUE DATE: 5-15-2023
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CHEROKEE ADDITION

A SUBDIVISION IN THE CITY OF COLLINSVILLE, TULSA COUNTY, OKLAHOMA BEING A PART OF SECTION TWENTY-SIX (26), TOWNSHIP TWENTY-THREE (23) NORTH, RANGE THIRTEEN (13) EAST OF THE INDIAN BASE AND MERIDIAN

OWNER / DEVELOPER

Cherokee Nation Housing Authority

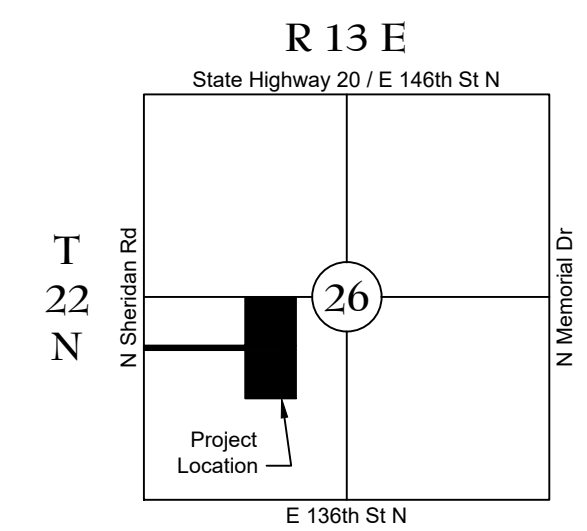
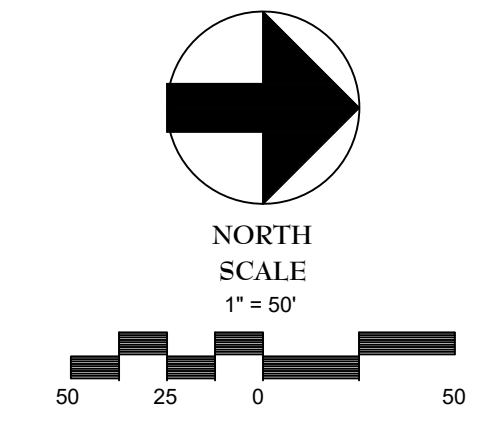
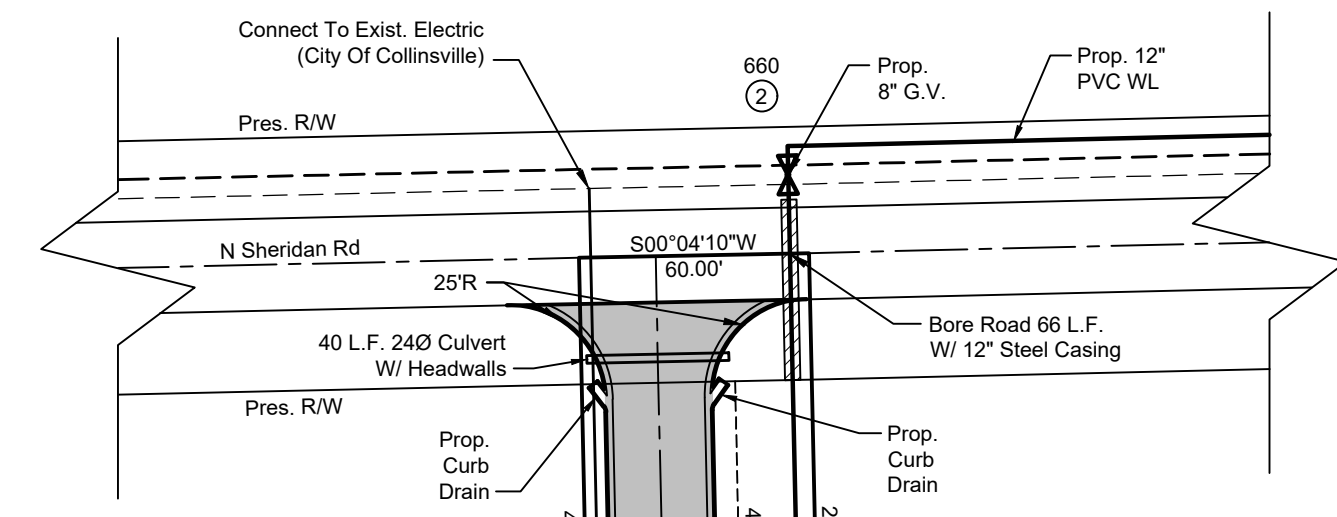
ENGINEER

Michael D. Brown, P.E.
Brown Engineering, P.C.
3916 W. Lakeview Rd.
Stillwater, OK 74075
Phone: (405) 372-4848
Email: mike@brownengineering.net

SURVEYOR

UTILITY PROVIDERS

POWER: CITY OF COLLINSVILLE
WATER: WASHINGTON RWD #3
SEWER: SEPTIC SYSTEMS
GAS: NO PROVIDER NEEDED



SECTION 26,
T22N, R13E

LOCATION MAP
SCALE: 1" = 2500'

No.	Description	Date

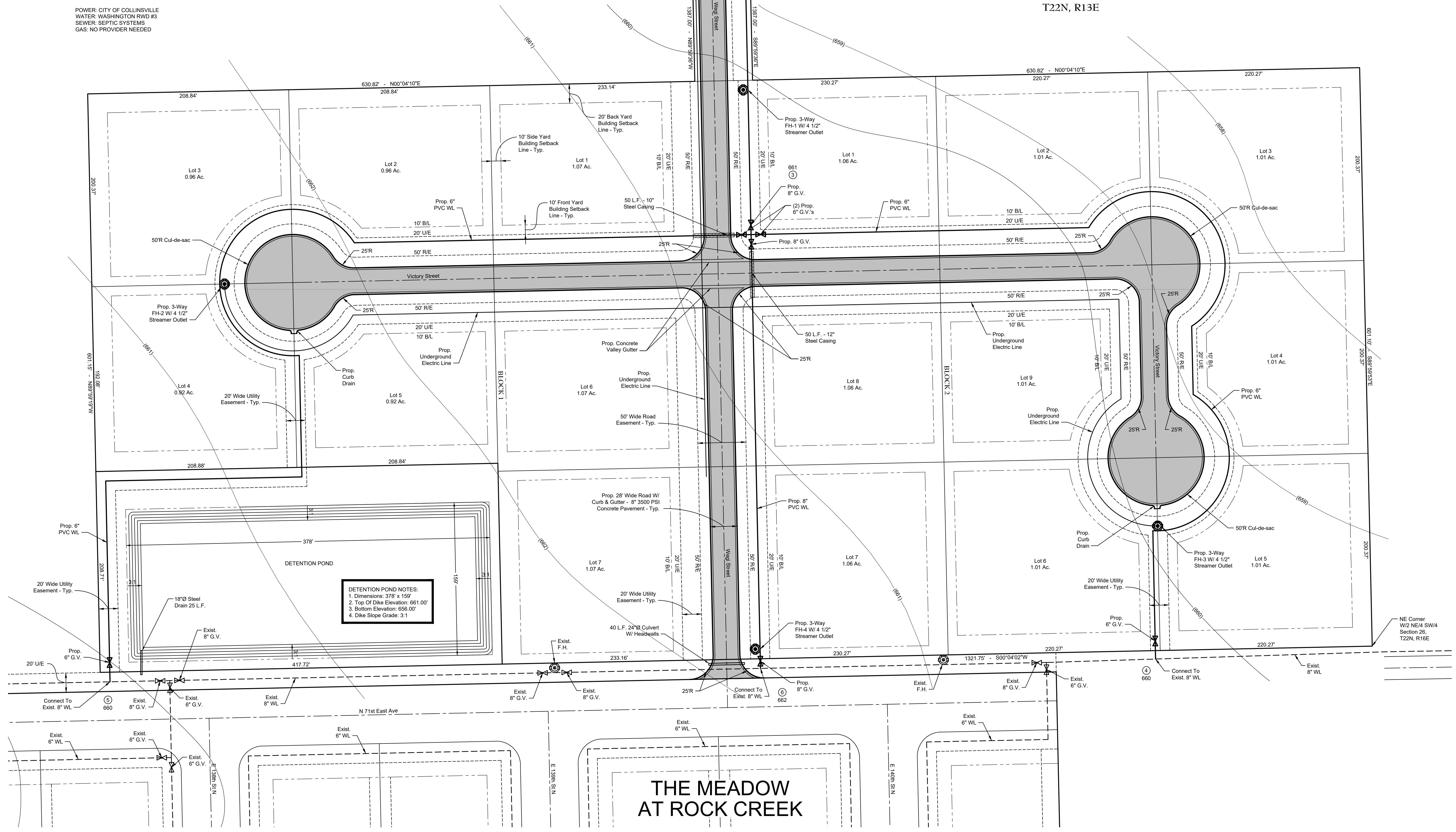
B E

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Stillwater, Oklahoma 74076-0579
PHONE: (405) 372-4848
FAX: (405) 372-7055
CA NO. 2659

CHEROKEE ADDITION

HOUSING AUTHORITY
OF THE CHEROKEE NATION

COLLINSVILLE, OK



DETENTION POND NOTES:
1. Dimensions: 378' x 159'
2. Top Of Dike Elevation: 661.00'
3. Bottom Elevation: 656.00'
4. Dike Slope Grade: 3:1

THE MEADOW
AT ROCK CREEK

Key Plan

Professional Engineer Seal for Michael Dean Brown, No. 22128, State of Oklahoma.

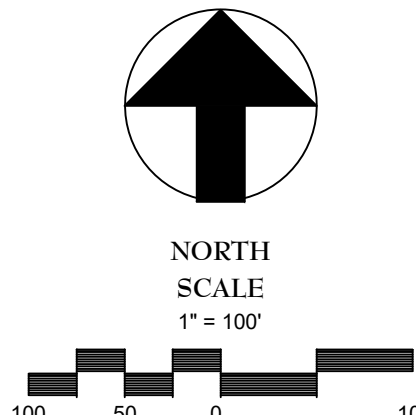
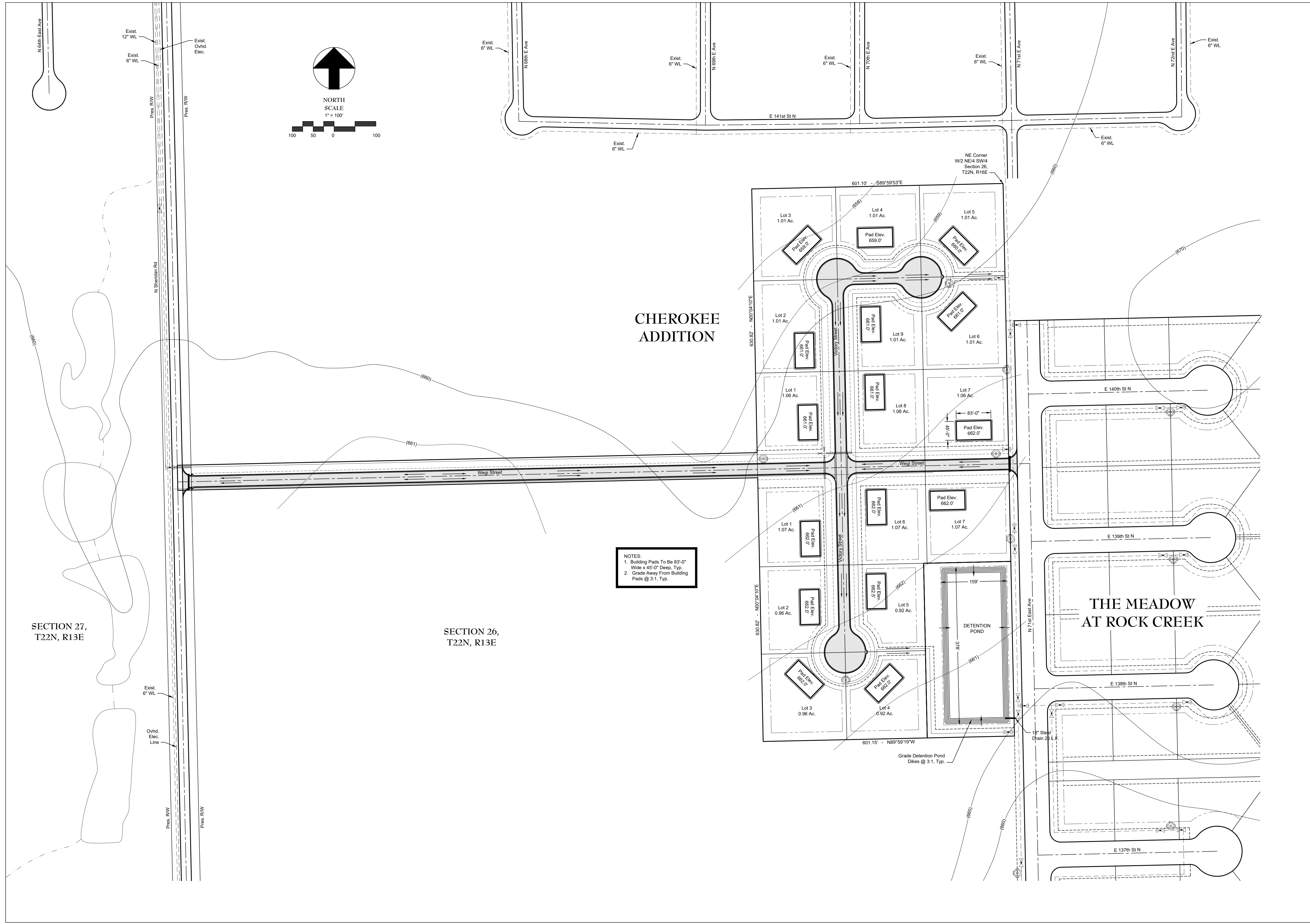
CONSTRUCTION DOCUMENTS

SHEET TITLE: SITE PLAN

DRAWN BY: DLD
CHECKED BY: MDB
ISSUE DATE: 5-15-2023

C3

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NOTES:
 1. Building Pads To Be 83'-0" Wide x 45'-0" Deep, Typ.
 2. Grade Away From Building Pads @ 3:1, Typ.

TriArch
 Purpose. Driven. Architecture.
 618 E. 2nd St.
 Tulsa, OK 74103
 918.743.2724 (t) | 918.743.2725 (f)

No.	Description	Date

REVISIONS

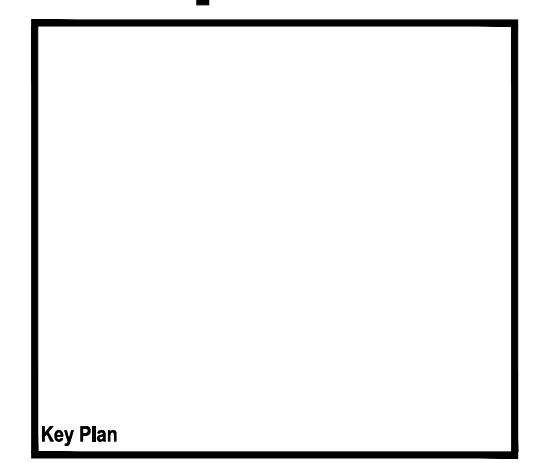
BE
 BROWN ENGINEERING, P.C.
 P.O. Box 579
 Stillwater, Oklahoma 74076-0579
 PHONE: (405) 372-4848
 FAX: (405) 372-7055
 CA NO. 2659

Consultants

CHEROKEE ADDITION

HOUSING AUTHORITY
 OF THE CHEROKEE NATION

COLLINSVILLE, OK



Seal 5-15-2023

CONSTRUCTION DOCUMENTS

SHEET TITLE: GRADING & DRAINAGE

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C4

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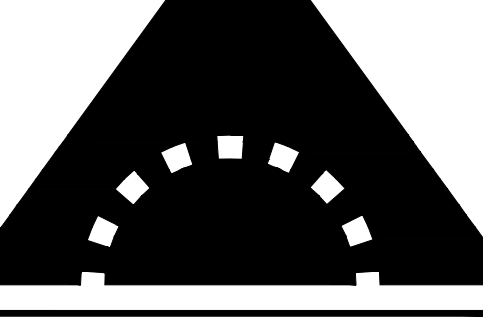
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CHEROKEE ADDITION
HOUSING AUTHORITY
OF THE CHEROKEE NATION
COLLINSVILLE, OK

Key Plan



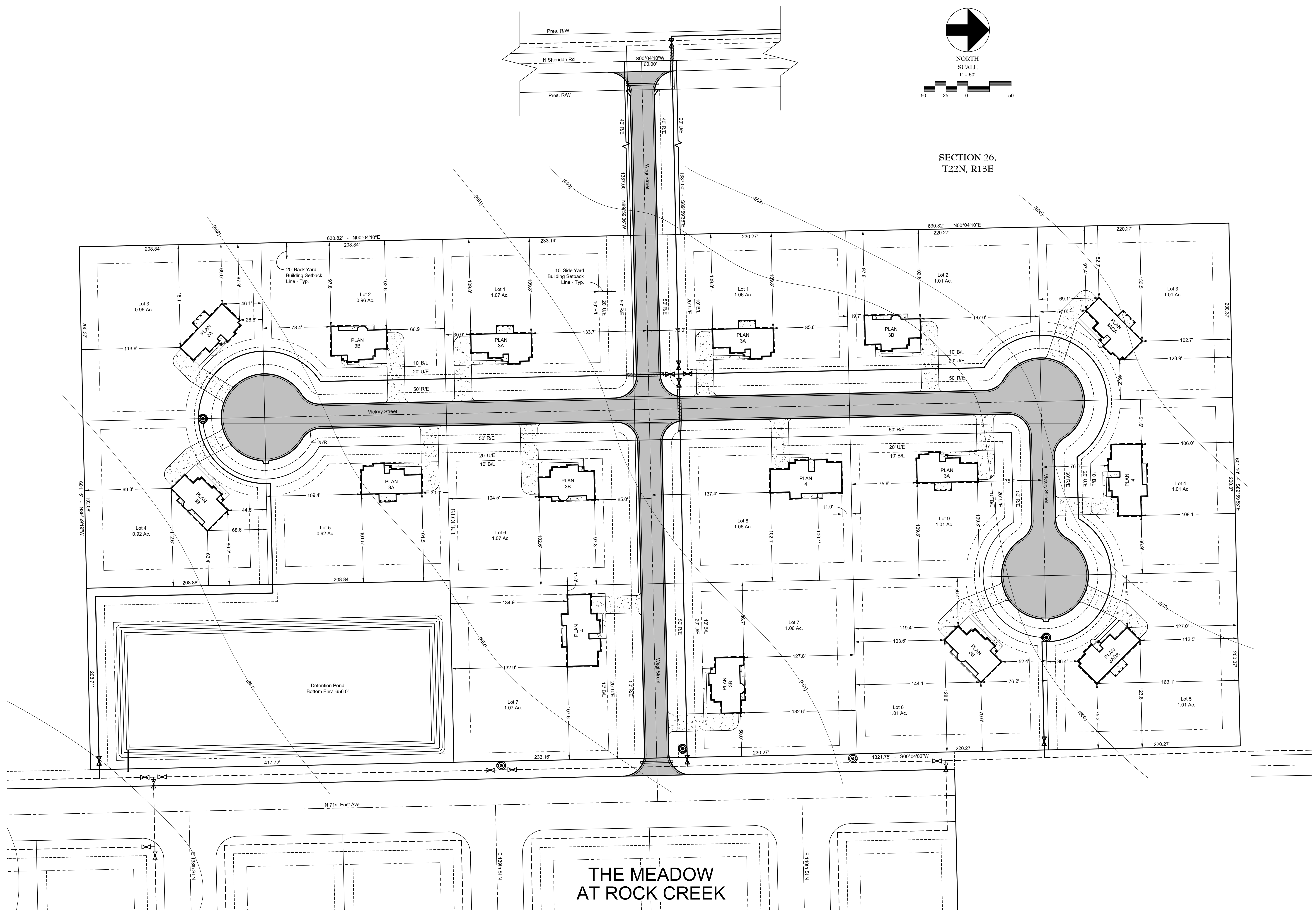
CONSTRUCTION DOCUMENTS



SHEET TITLE: BUILDING LAYOUT

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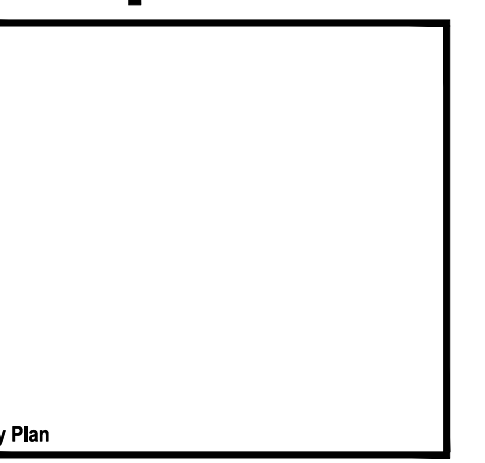
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CHEROKEE ADDITION

HOUSING AUTHORITY
OF THE CHEROKEE NATION

COLLINSVILLE, OK



Seal 5-15-2023

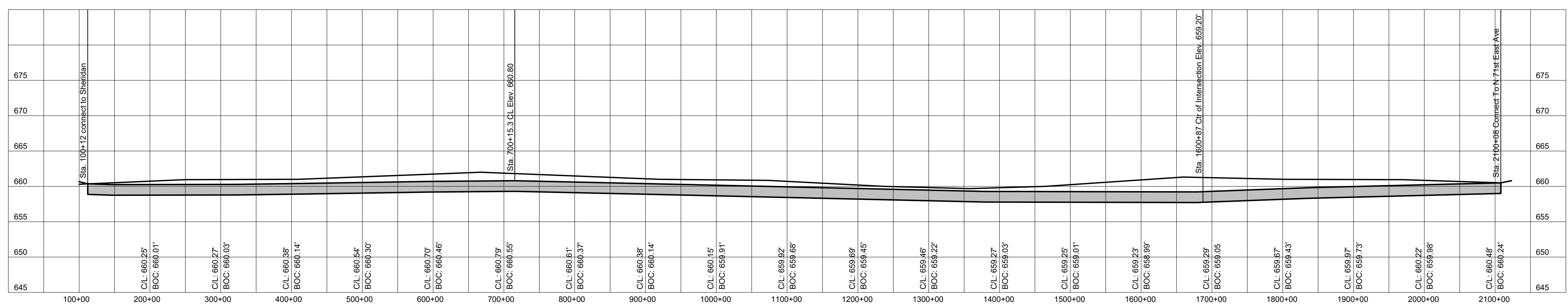
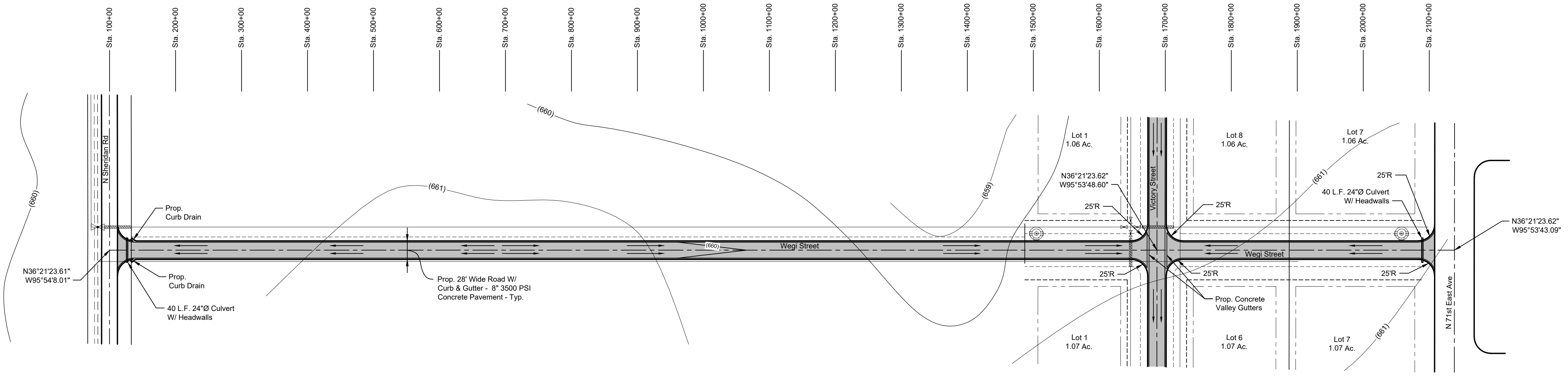
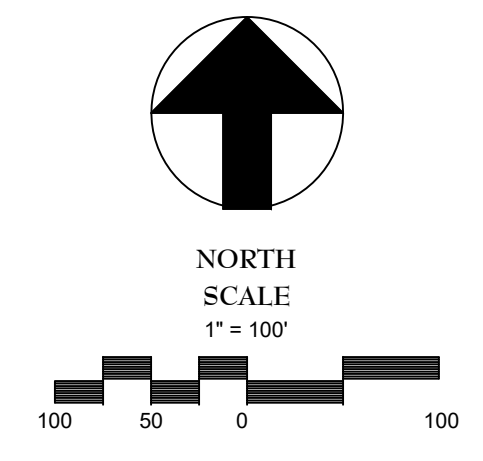
MICHAEL DEAN BROWN
22128
PROFESSIONAL ENGINEER
OKLAHOMA

CONSTRUCTION DOCUMENTS

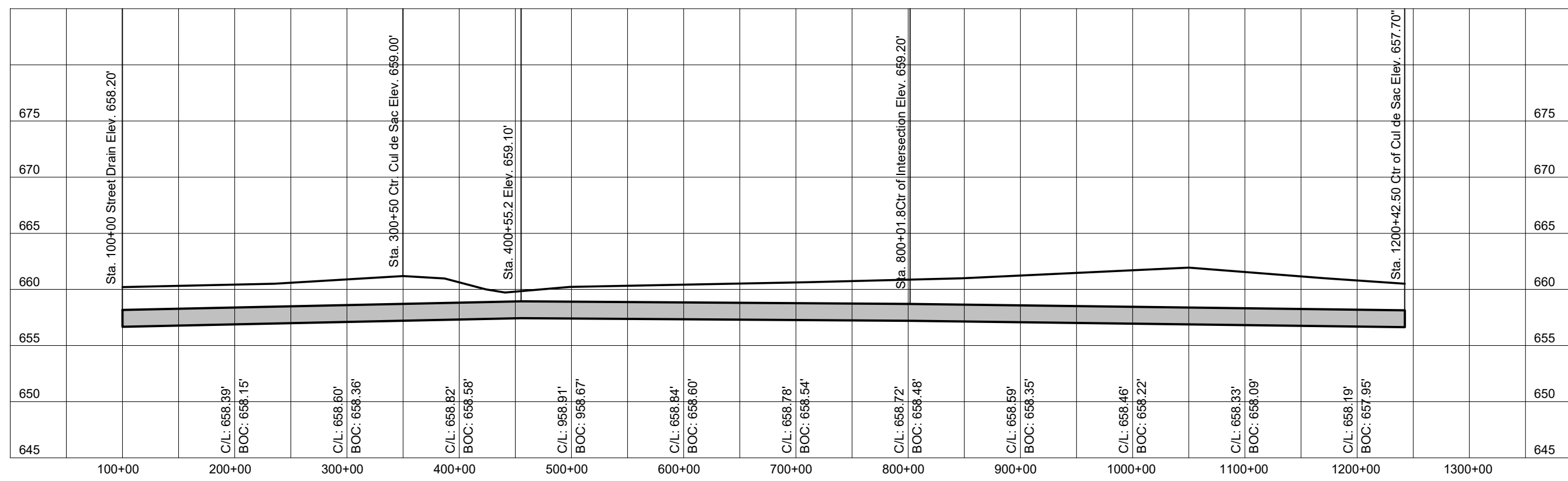
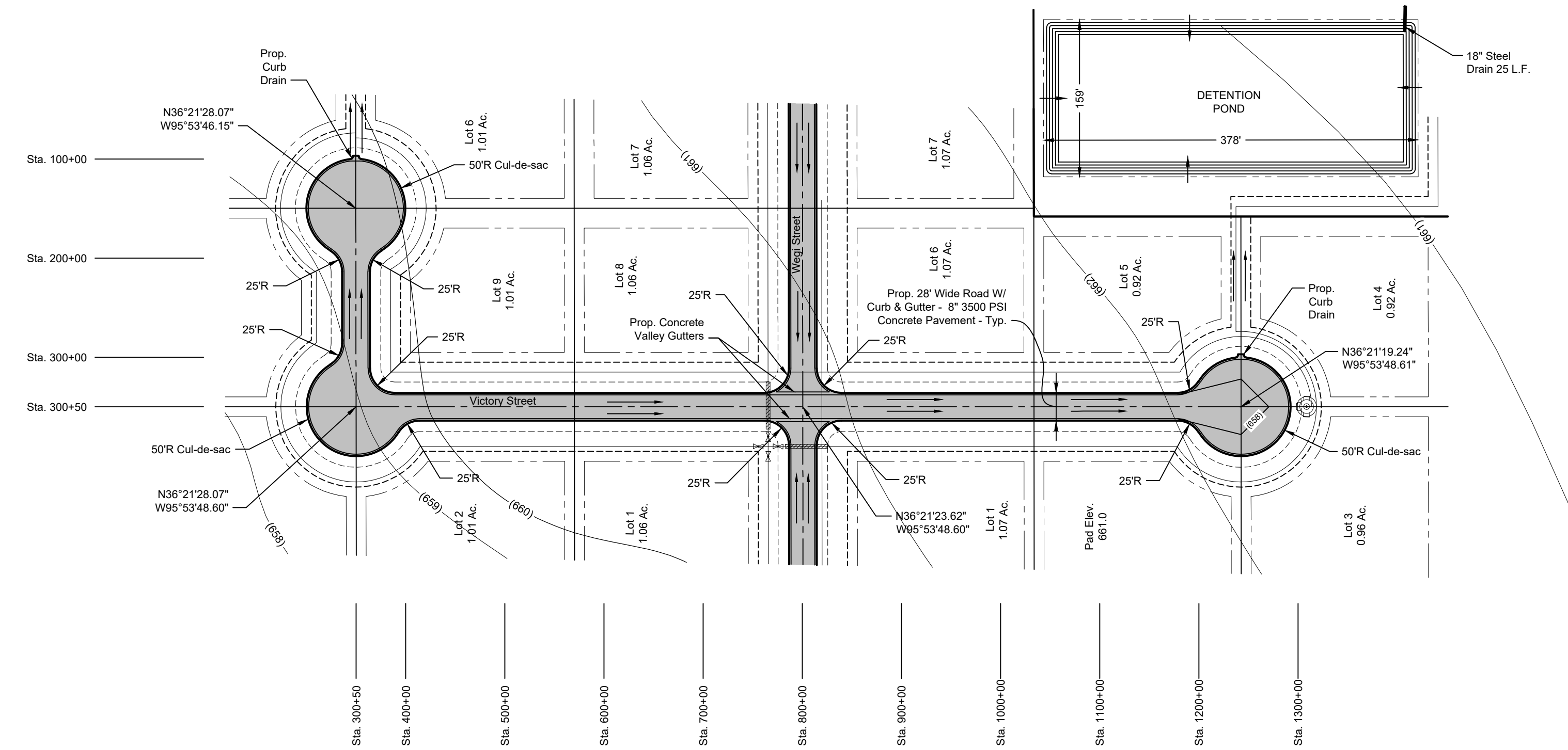
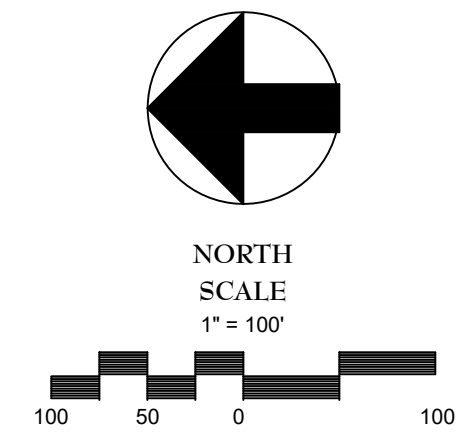
SHEET TITLE: ROAD PROFILE

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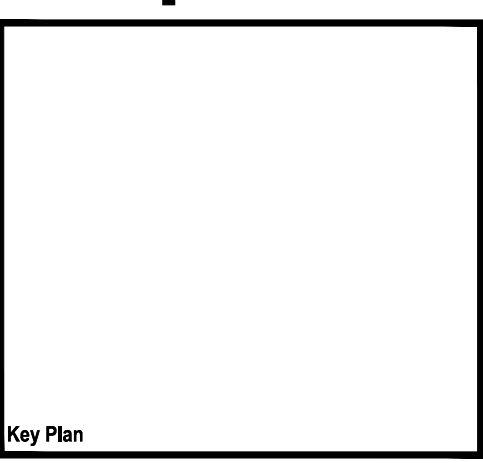
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CHEROKEE ADDITION

HOUSING AUTHORITY
 OF THE CHEROKEE NATION

COLLINSVILLE, OK



Professional Engineer Seal for Michael Dean Brown, No. 22128, State of Oklahoma.

CONSTRUCTION DOCUMENTS

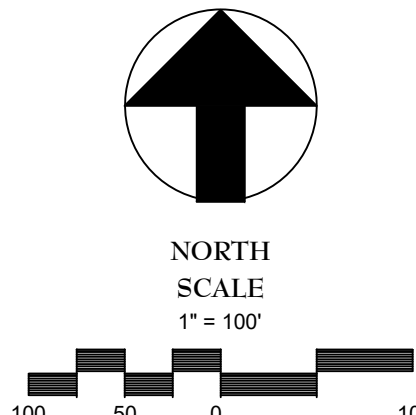
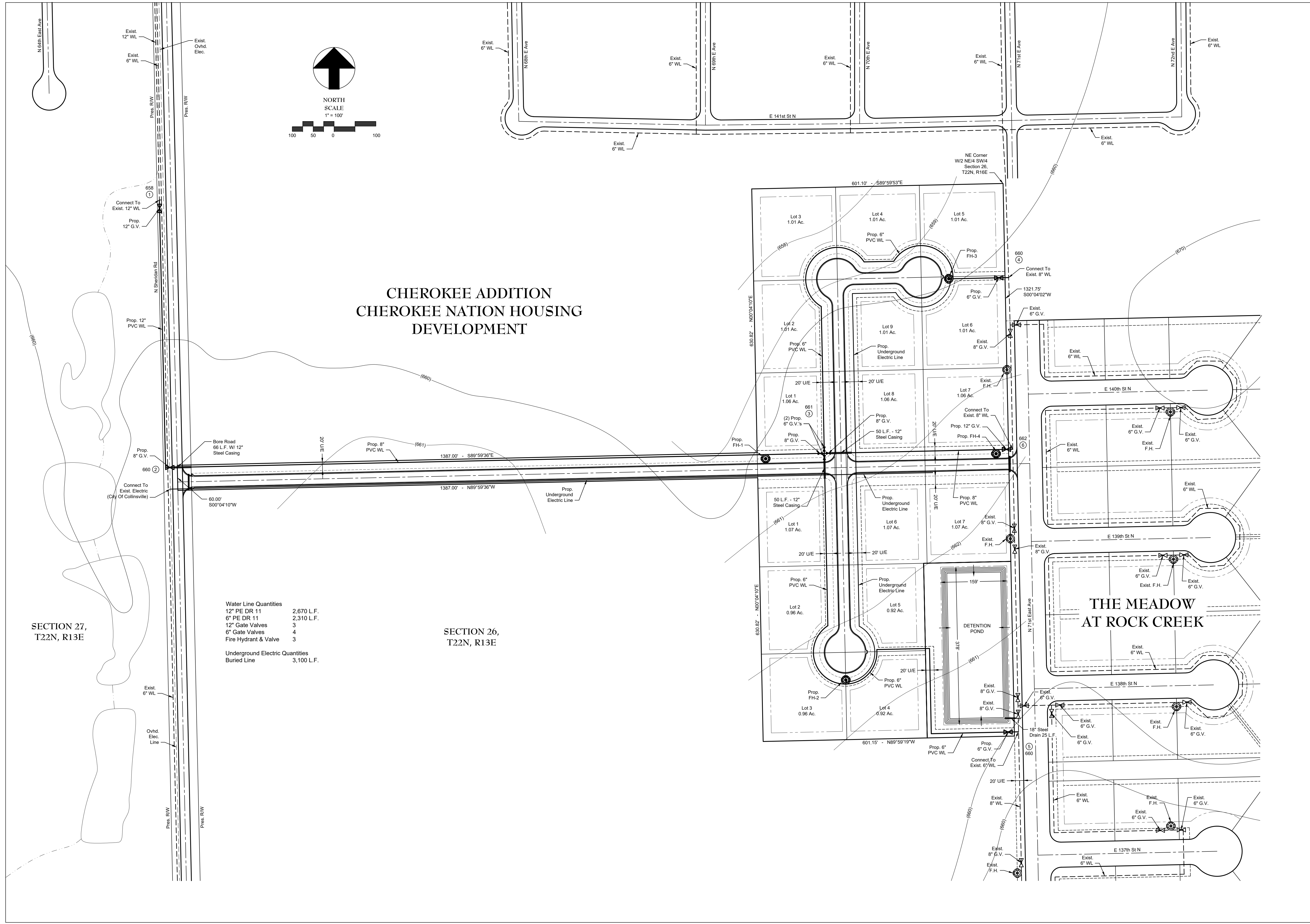
SHEET TITLE: **ROAD PROFILE**

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**CHEROKEE ADDITION
CHEROKEE NATION HOUSING
DEVELOPMENT**

**THE MEADOW
AT ROCK CREEK**

Water Line Quantities

12" PE DR 11	2,870 L.F.
6" PE DR 11	2,310 L.F.
12" Gate Valves	3
6" Gate Valves	4
Fire Hydrant & Valve	3

Underground Electric Quantities

Buried Line	3,100 L.F.
-------------	------------

SECTION 27,
T22N, R13E

SECTION 26,
T22N, R13E

TriArch
Purpose. Driven. Architecture.

618 E. 2nd St.
Stillwater, OK 74078
918.743.2724 (local)
918.743.2729 (TX)

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Consultants

CHEROKEE ADDITION

HOUSING AUTHORITY
OF THE CHEROKEE NATION

COLLINSVILLE, OK

Key Plan

CONSTRUCTION DOCUMENTS

SHEET TITLE: **UTILITY PLAN**

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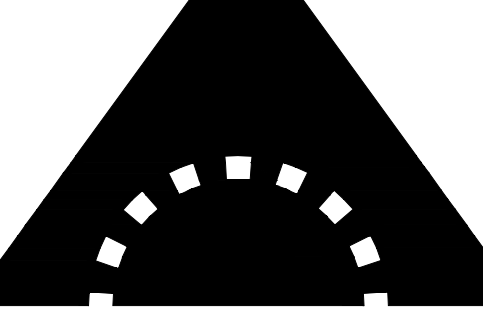
CHEROKEE ADDITION
HOUSING AUTHORITY
OF THE CHEROKEE NATION
COLLINSVILLE, OK

Key Plan



Seal 5-15-2023

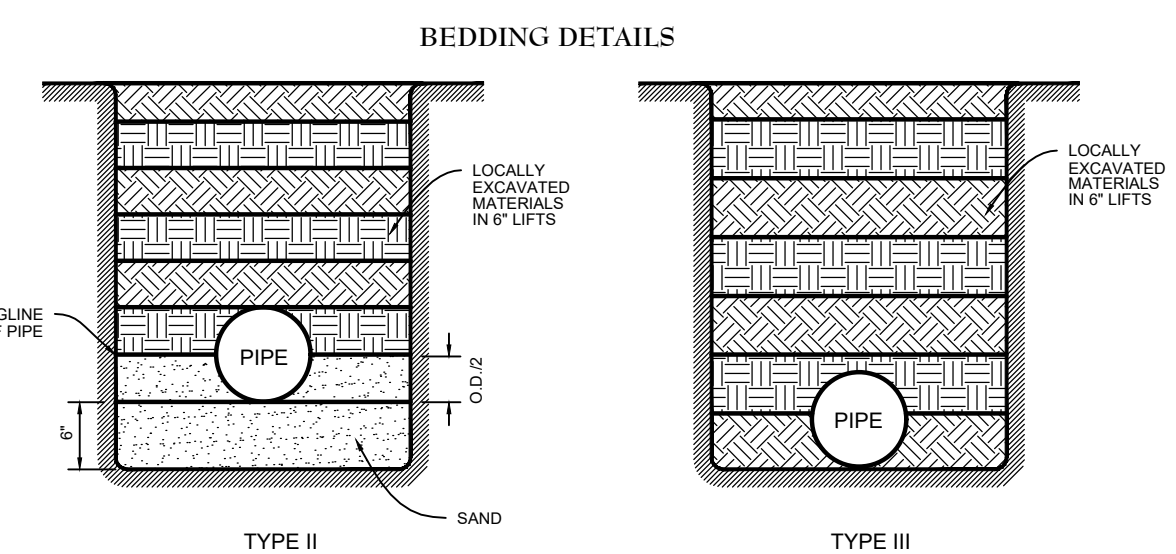
CONSTRUCTION DOCUMENTS



SHEET TITLE: **WATER DETAILS**

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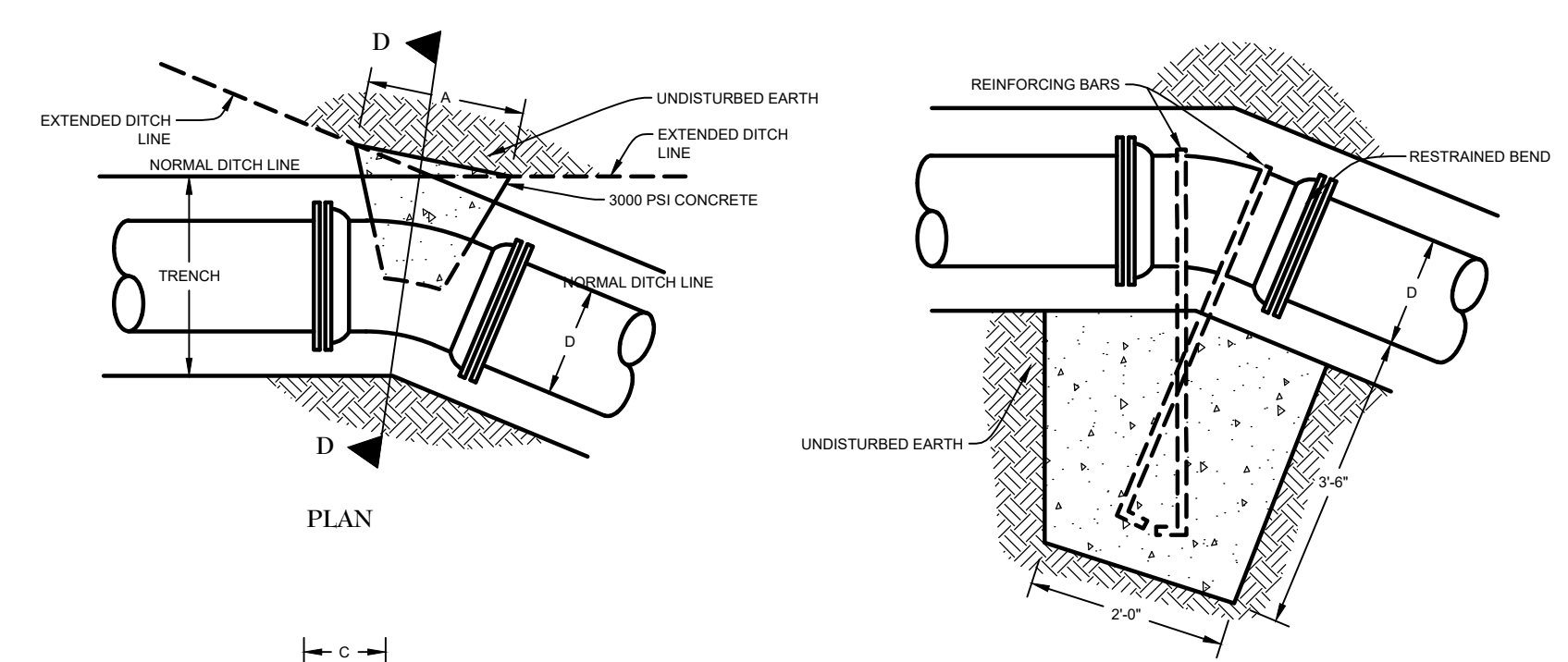
C8



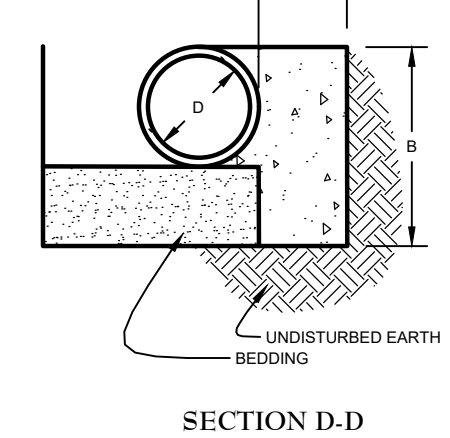
UNLESS OTHERWISE SPECIFIED, TYPE III SHALL BE USED FOR P.V.C. AND FOR DUCTILE IRON, EXCEPT WHEN ROCK AND/OR STONES ARE ENCOUNTERED THEN TYPE II SHALL BE USED. PIPE SHALL BE LAID IN ACCORDANCE WITH CURRENT AWWA STANDARDS. LOCALLY EXCAVATED MATERIALS MAY BE USED IN ROCK AREA IF THE SOIL IS FREE OF STONES.

TRENCH SCHEDULE

PIPE DIAMETER IN INCHES	TRENCH WIDTH IN FEET
2	2.0
3	2.0
4	2.0
6	2.0
8	2.2
10	2.2
12	2.2
15	2.6
18	2.9
21	3.3
24	3.8

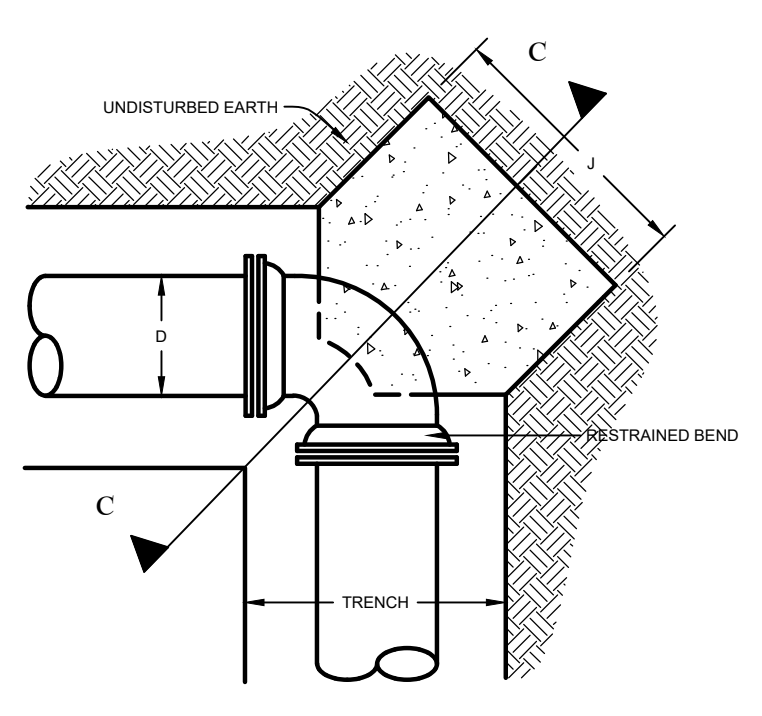


SECTION FOR VERTICAL BENDS
45 DEG., 22 1/2 DEG., 11 1/4 DEG. BENDS

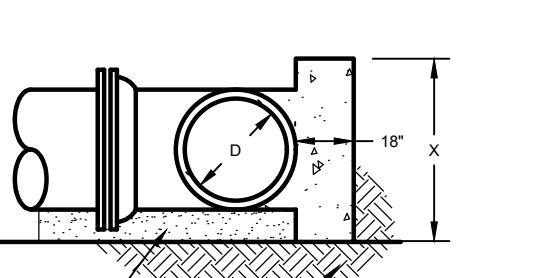


DIMENSIONS FOR CONCRETE ANCHORAGES

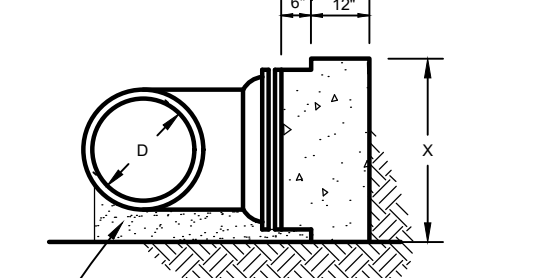
PIPE DIA.	TRENCH WIDTH	45 DEG. BEND			22 1/2 DEG. BEND			11 1/4 DEG. BEND			TEE OR PLUG		
		A	B	C	A	B	C	A	B	C	X	Y	J
36	60	7'-0"	3'-0"	2'-6"	6'-0"	3'-0"	2'-6"	6'-0"	3'-0"	2'-6"	4'-0"	3'-4"	6'-5"
30	54	5'-6"	2'-6"	2'-0"	4'-6"	2'-6"	2'-0"	4'-6"	2'-6"	2'-0"	3'-6"	3'-0"	5'-8"
24	44	3'-9"	2'-6"	1'-10"	2'-6"	2'-6"	1'-1"	2'-6"	2'-6"	1'-0"	3'-3"	3'-0"	4'-9"
20	39	2'-9"	2'-2"	1'-8"	2'-0"	2'-2"	1'-1"	2'-0"	2'-2"	1'-1"	3'-0"	2'-0"	4'-1"
18	37	2'-3"	2'-0"	1'-6"	2'-0"	2'-0"	1'-1"	2'-0"	2'-0"	1'-1"	2'-3"	2'-0"	3'-9"
16	35	2'-0"	1'-10"	1'-5"	2'-0"	1'-10"	1'-1"	2'-0"	1'-10"	1'-1"	1'-6"	2'-0"	3'-6"
12	30	2'-0"	1'-6"	1'-4"	2'-0"	1'-6"	1'-0"	2'-0"	1'-6"	1'-0"	1'-0"	2'-0"	3'-0"
10	28	2'-0"	1'-4"	1'-4"	2'-0"	1'-4"	1'-0"	2'-0"	1'-4"	1'-0"	1'-0"	1'-0"	2'-8"
8	26	2'-0"	1'-2"	1'-4"	1'-10"	1'-2"	1'-0"	1'-8"	1'-2"	1'-1"	1'-0"	1'-6"	2'-4"
6	24	2'-0"	1'-1"	1'-4"	1'-8"	1'-1"	1'-0"	1'-6"	1'-1"	1'-1"	8"	1'-4"	2'-1"



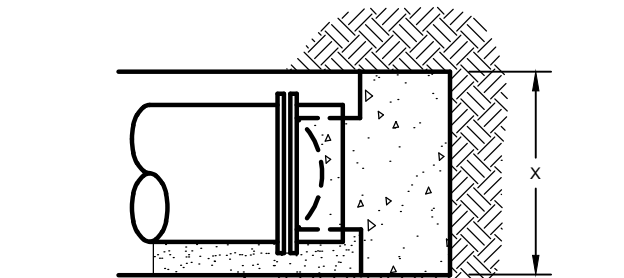
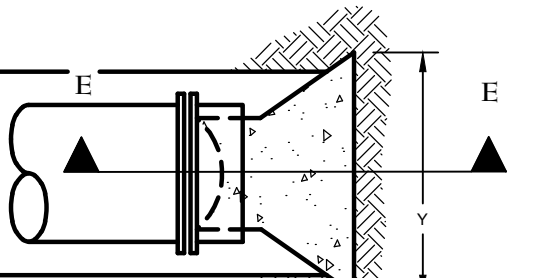
SECTION C-C
90 DEG. BENDS



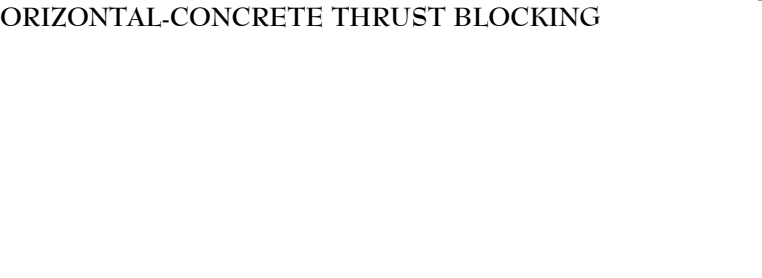
SECTION B-B



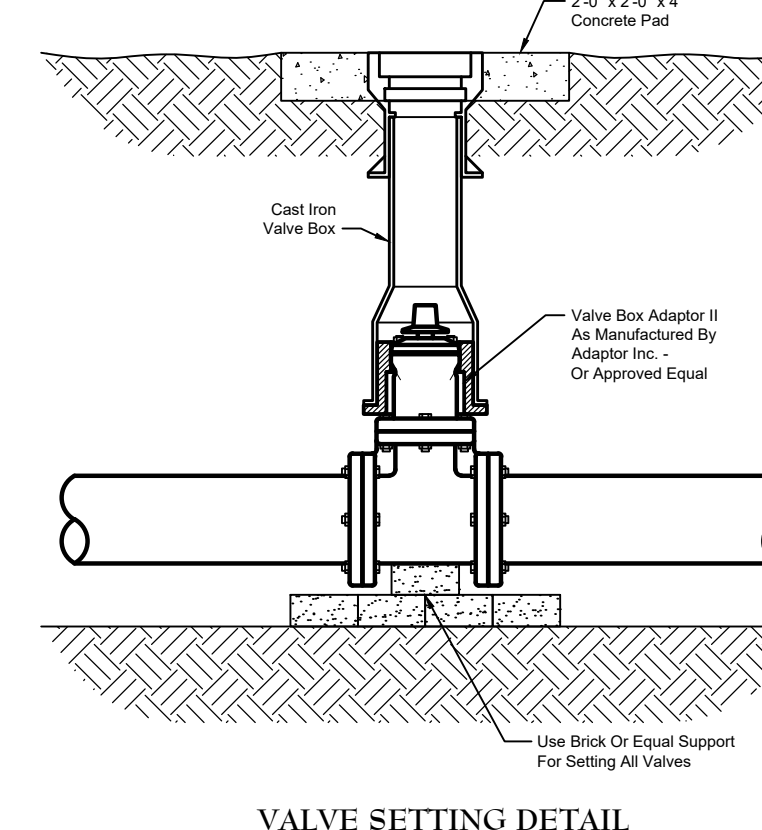
SECTION A-A



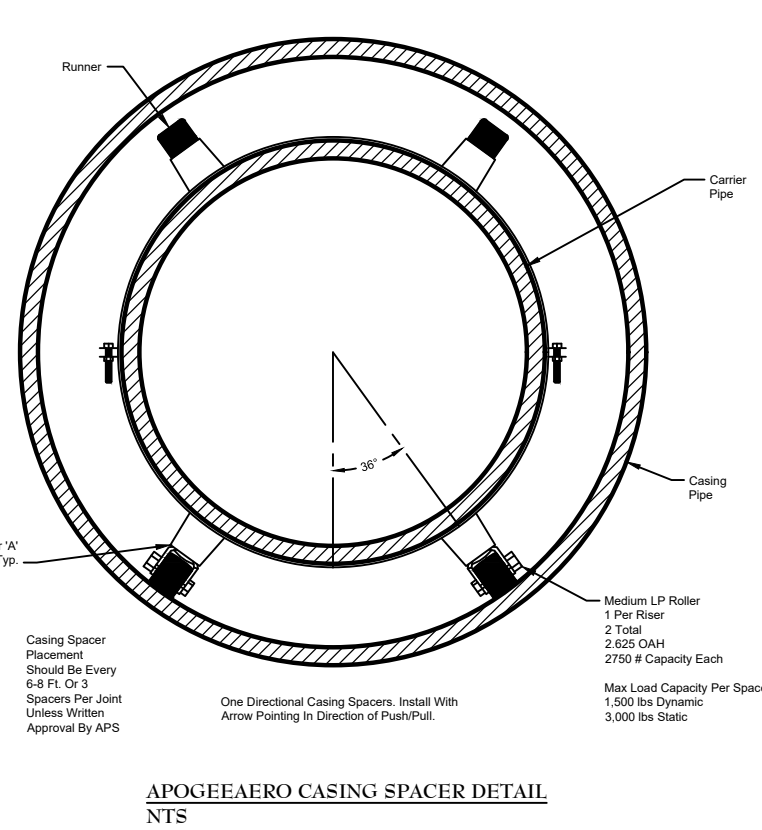
TEES
SECTION E-E



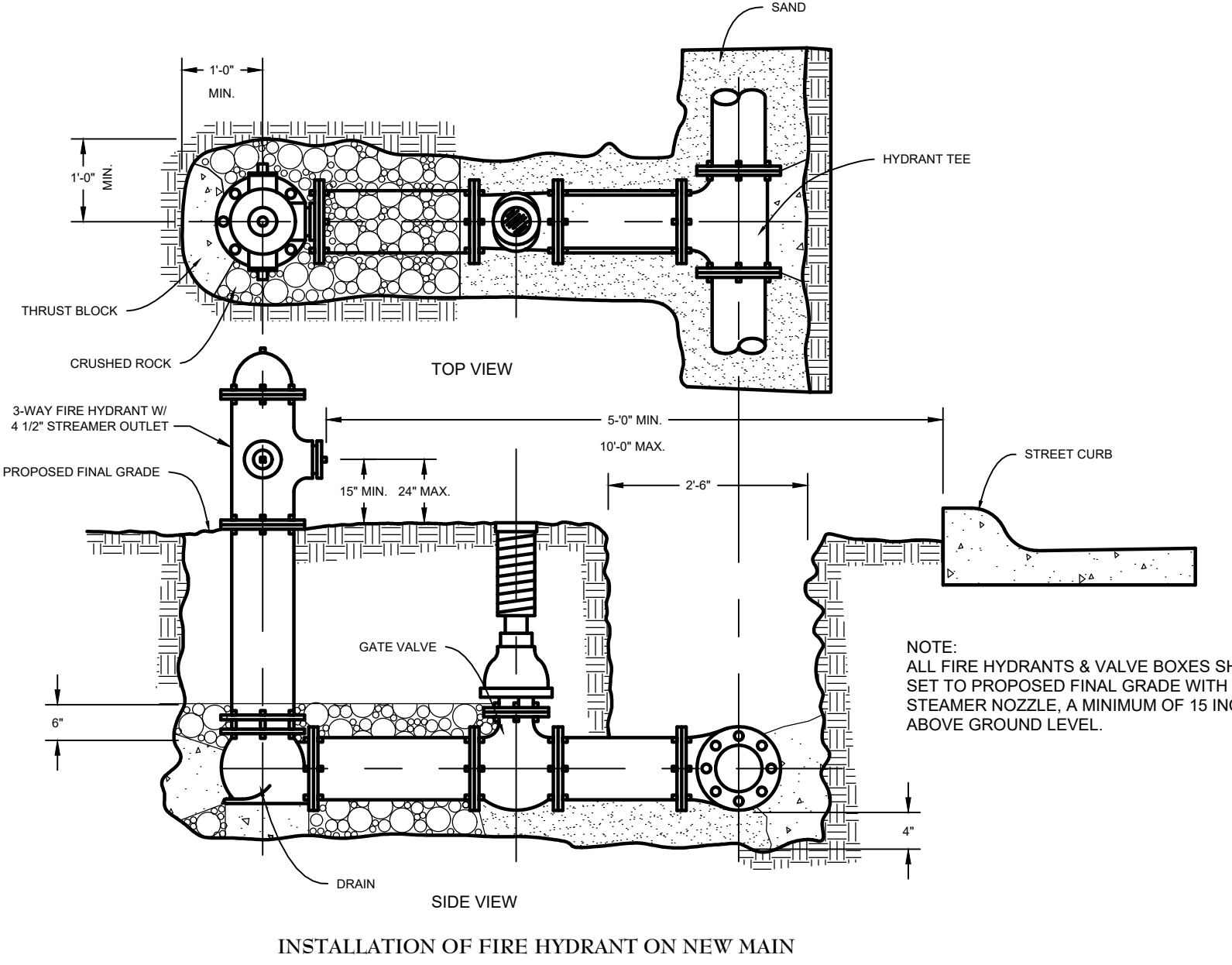
HORIZONTAL-CONCRETE THRUST BLOCKING



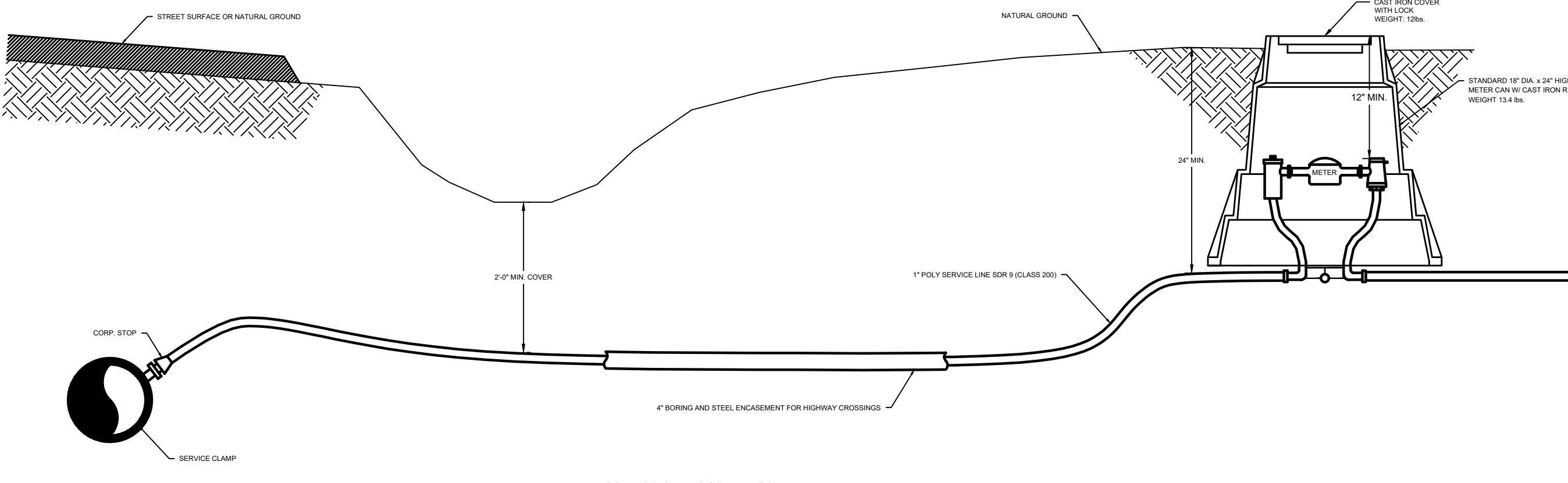
VALVE SETTING DETAIL
1" = 1'-0"



APOGEEAERO CASING SPACER DETAILS

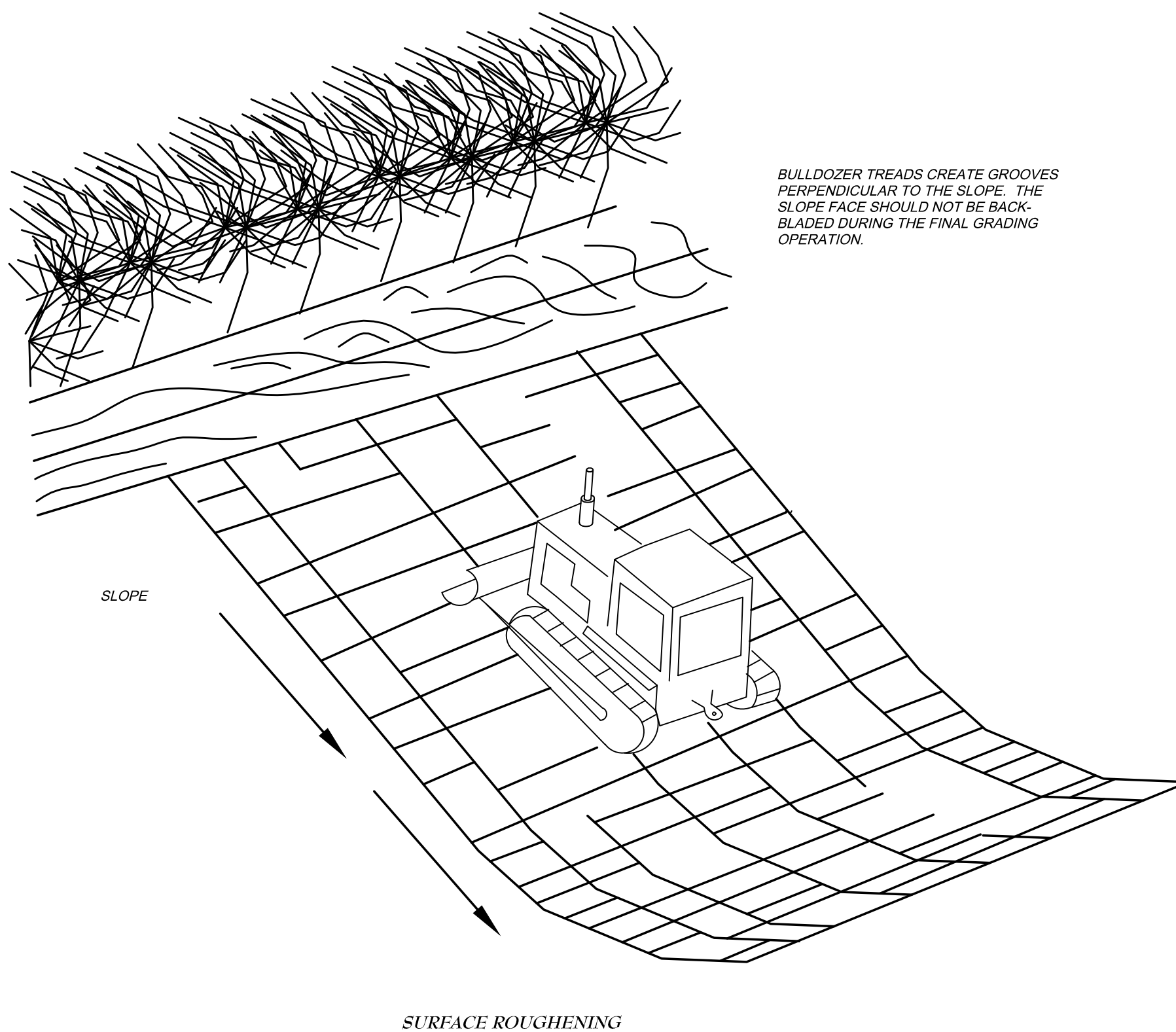
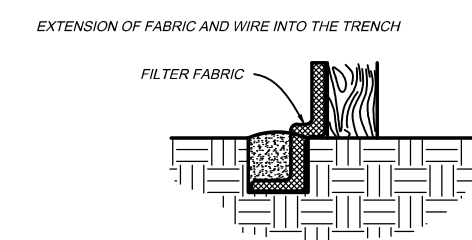
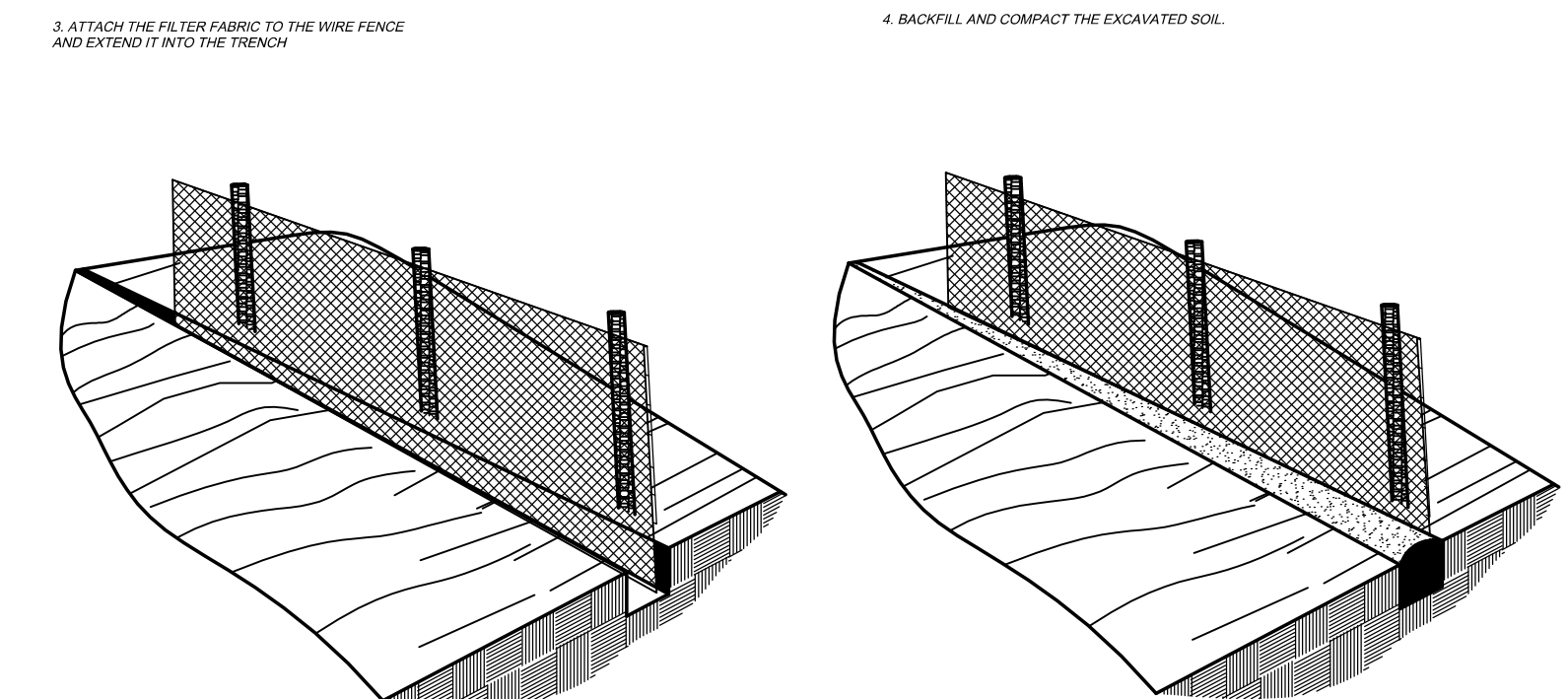
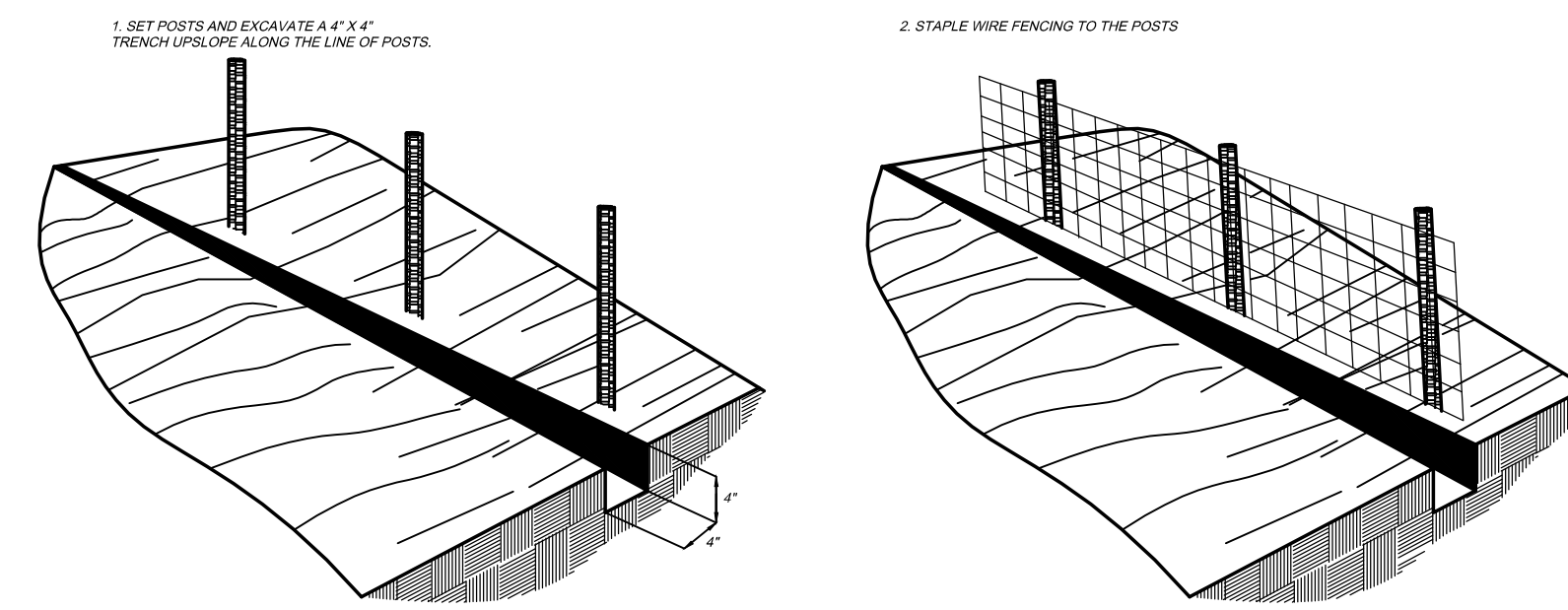
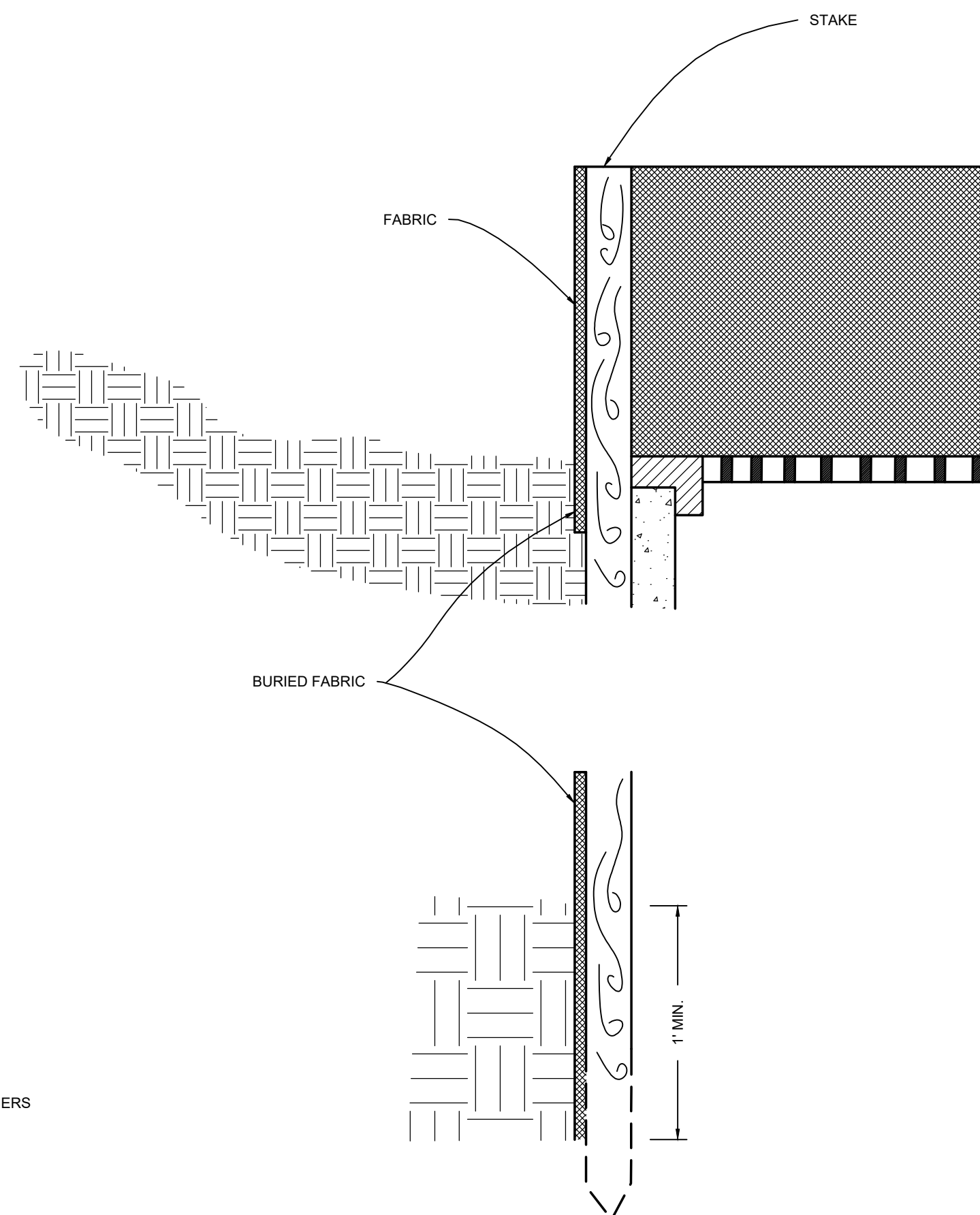
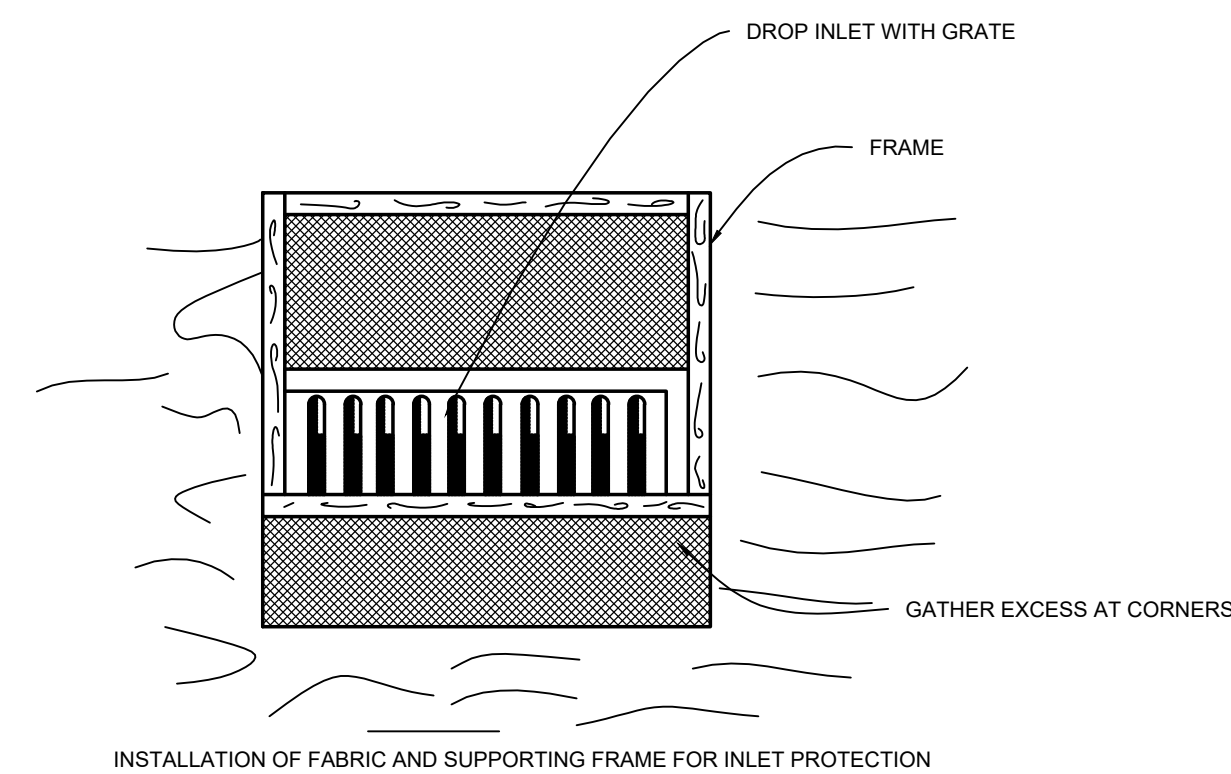
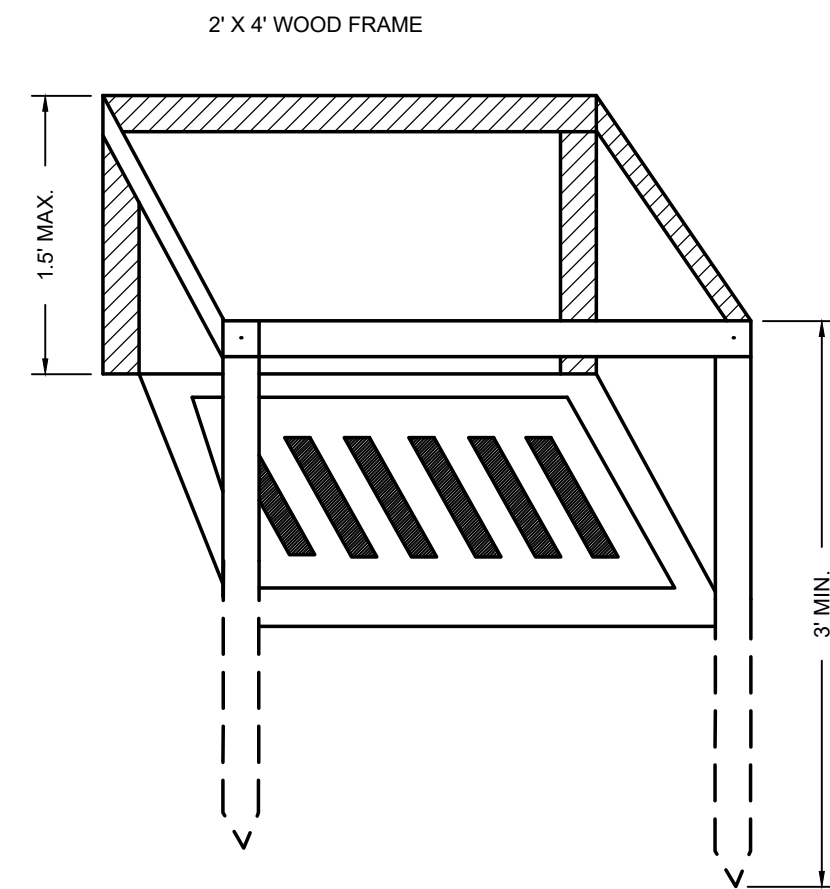


INSTALLATION OF FIRE HYDRANT ON NEW MAIN



SERVICE CONNECTION DETAIL

- NOTES:
- The Contractor is responsible for obtaining all permits necessary to complete construction.
 - All construction to meet most current Oklahoma Department of Environmental Quality Standards.
 - Existing paving disturbed during construction of utilities must be repaired to ODOT standards.
 - Utility trenches which cross existing or proposed paving must be compacted to 95% standard proctor density.
 - All PVC pipe to be SDR-21 Class 200 unless otherwise instructed by the Engineer. In no case shall the wall thickness of the pipe be less than 0.09 inches.
 - All Ductile Iron pipe shall be class 50 unless otherwise instructed by the Engineer.
 - All PVC push-on Joints shall be integrally formed, rubber Gasket.
 - A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe.
 - All water mains shall be covered with atleast 30 inches of earth or with sufficient insulation to prevent freezing.
 - All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints that prevent movement.
 - Water mains shall be pressure and leakage tested in accordance with AWWA C600. Leakage shall not exceed ten gallons per inch diameter per mile of pipe per 24 hours at 150 psi testing pressure.
 - All mains and appurtenances shall be disinfected in accordance with current AWWA standards. Following disinfection in accordance with AWWA standards, obtain safe bacteriological samples on 2 consecutive days before placing the water line into service.
 - Water mains shall be located at least 10 feet horizontally from any existing or proposed sewer lines, storm sewers, raw water lines, oil and gas lines, and buried electric lines.
 - PVC water lines shall be located at least 50 feet horizontally from any gasoline storage tank.
 - Water lines shall be located at 15 feet from all parts of septic tanks and absorption fields, or other sewage treatment and disposal systems.
 - Water mains crossing sewers shall be laid to provide a minimum vertical distance of 24 inches between the outside of the water main and the outside of the sewer.
 - Bores with HDPE pipe must be in the ground for at least 24 hours prior to connection to PVC pipe.
 - Best Management Practices will be included in the contract documents regarding soil erosion. Silt fences will be required as necessary at the construction site. Bare Ground will be returned to grass by seeding or slab sodding.



EROSION CONTROL NOTES:

1. ALL EROSION CONTROL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF (CITY) PUBLIC WORKS DEPARTMENT SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A STABILIZED CONSTRUCTION ENTRANCE AND FOR CLEANING OF VEHICLE WHEELS IN ACCORDANCE WITH THE (CITY) PUBLIC WORKS DEPARTMENT SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), NOTICE OF INTENT (NOI) PERMIT, AND ALL APPLICABLE REQUIREMENTS.
4. STRAW BALE DIKES AND SILT FENCES. THE PLACEMENT OF STRAW BALES SHALL BE IN ACCORDANCE WITH CITY STANDARDS. STRAW BALE DIKES AND SILT FENCES SHALL BE STAKED DOWN. SILT FENCE SHALL BE PLACED ON THE DOWNSTREAM SIDE OF THE STRAW BALE DIKE. BALES AND FENCING WHICH BECOME DAMAGED SHALL BE REPLACED PROMPTLY. DEPOSITS OF SILT WHICH BUILD UP BEHIND DIKES MAY BE DISKED INTO THE SITE BEFORE PLACEMENT OF TEMPORARY COVER. AFTER TEMPORARY COVER IS PLACED OR AFTER LANDSCAPING COMMENCES, SILT SHALL PERIODICALLY BE REMOVED AND DISPOSED OF ON-SITE.
5. THE CONTRACTOR SHALL DISPOSE OF ALL STRAW BALE DIKES AS SOON AS PERMANENT EROSION CONTROL MEASURES ARE IMPLEMENTED.

TEMPORARY EROSION CONTROL:
ALL DISTURBED EARTH SURFACES WHICH ARE NOT PAVED OR BUILDING PADS SHALL BE LANDSCAPED OR REVEGETATED WITH A TEMPORARY COVER, DEPENDING ON THE PLANTING SEASON AS OUTLINED BELOW.

PLANT TYPE	PER ACRE	PER 1000 SQ. FT.	PLANTING DATE	DEPTH OF SEEDING
ANNUAL RYEGRASS	40 LBS.	0.9 LBS.	08/15 - 11/30	1/4 INCH
ELBON RYE	2 BU.	3.0 LBS.	08/15 - 11/30	2 INCH
WHEAT	2 BU.	3.0 LBS.	08/15 - 11/30	2 INCH
OATS	3 BU.	2.5 LBS.	08/15 - 11/30	2 INCH
SORGHUM	60 LBS.	1.4 LBS.	03/01 - 09/15	2 INCH
SUDAN GRASS	60 LBS.	0.9 LBS.	04/01 - 09/15	2 INCH

1. PRIOR TO SEEDING, NEEDED EROSION CONTROL PRACTICES SHALL BE INSTALLED.
2. THE SUBGRADE SHALL BE LOOSENED EVENLY TO A DEPTH OF 2 TO 3 INCHES AND 10-20-10 FERTILIZER (10 LBS. PER 1000 SQ. FT. OR 450 LBS. PER ACRE) SHALL BE MIXED WITH THE LOOSENED SOIL BY DISKING OR OTHER SUITABLE MEANS.
3. SOIL SHALL BE TESTED AND LIME TREATED IF REQUIRED.
4. SEEDS MAY BE DRILLED OR BROADCAST UNIFORMLY.
5. SEEDING IMPLEMENTS SHOULD BE USED AT RIGHT ANGLES TO THE SLOPE TO MINIMIZE EROSION.
6. MULCH SHALL BE USED ON ALL SLOPES GREATER THAN 5 PERCENT OR AS NEEDED.
7. THE AREA SHALL BE WATERED DAILY OR AS OFTEN AS NECESSARY TO MAINTAIN ADEQUATE SOIL MOISTURE UNTIL THE PLANTS EXCEED 1 INCH IN HEIGHT.

PERMANENT EROSION CONTROL PRACTICES:
BERMUDA GRASS SOLID SLAB SOD THAT COULD BE EFFECTIVELY USED TO CONTROL EROSION SHALL BE USED ON THIS PROJECT IN ALL DISTURBED AREAS.

1. SOIL SHALL BE LOOSENED EVENLY TO A DEPTH OF 2 TO 3 INCHES AND 10-20-10 FERTILIZER (10 LBS. SQ. FT. OR 450 LBS PER ACRE) SHALL BE MIXED WITH THE LOOSENED SURFACE SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. SOIL SHALL BE TESTED FOR PH AND SHALL BE TREATED WITH LIME AS REQUIRED.
3. THE AREA SHALL BE WATERED DAILY OR AS OFTEN AS NECESSARY TO MAINTAIN ADEQUATE SOIL MOISTURE UNTIL FINAL ACCEPTANCE.
4. SODDED AREAS SHALL BE PREPARED AND HAVE BERMUDA SOD PLACED IN ACCORDANCE WITH DOT SPECIFICATIONS AND PROJECT SPECIFICATIONS.

No.	Description	Date

B E
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Stillwater, Oklahoma 74076-0579
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FAX: (405) 372-7055
CA NO. 2659

CHEROKEE ADDITION
HOUSING AUTHORITY
OF THE CHEROKEE NATION
COLLINSVILLE, OK

Key Plan

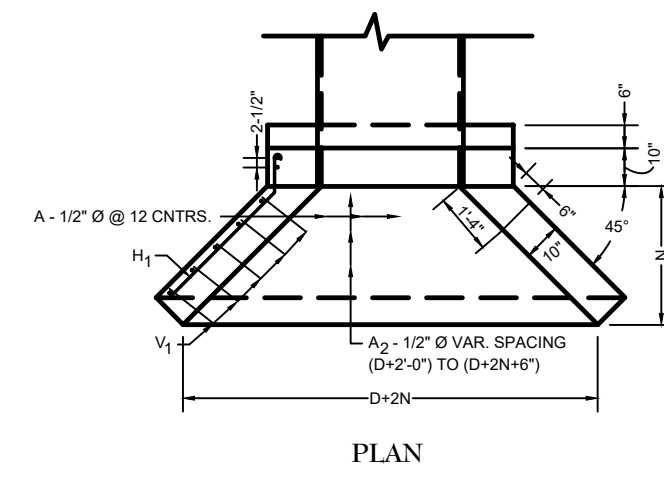
Professional Engineer Seal for Michael Dean Brown, Oklahoma State Board of Professional Engineers, License No. 22128, dated 5-15-2023.

CONSTRUCTION DOCUMENTS

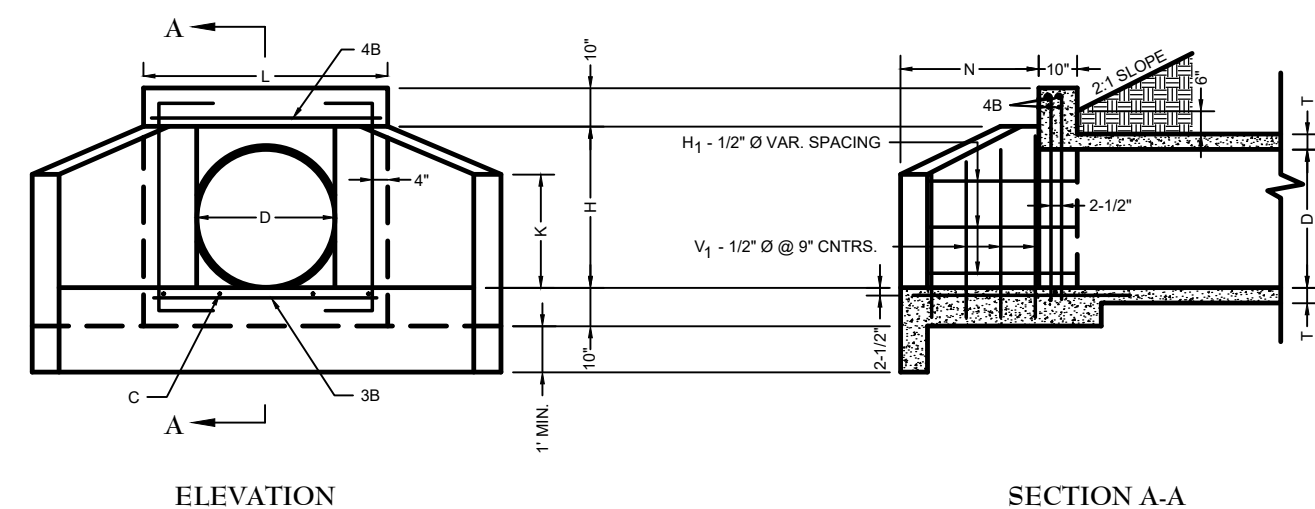
SHEET TITLE: **SITE DETAILS**
DRAWN BY: **MDB**
CHECKED BY: **MDB**
ISSUE DATE: **5-15-2023**

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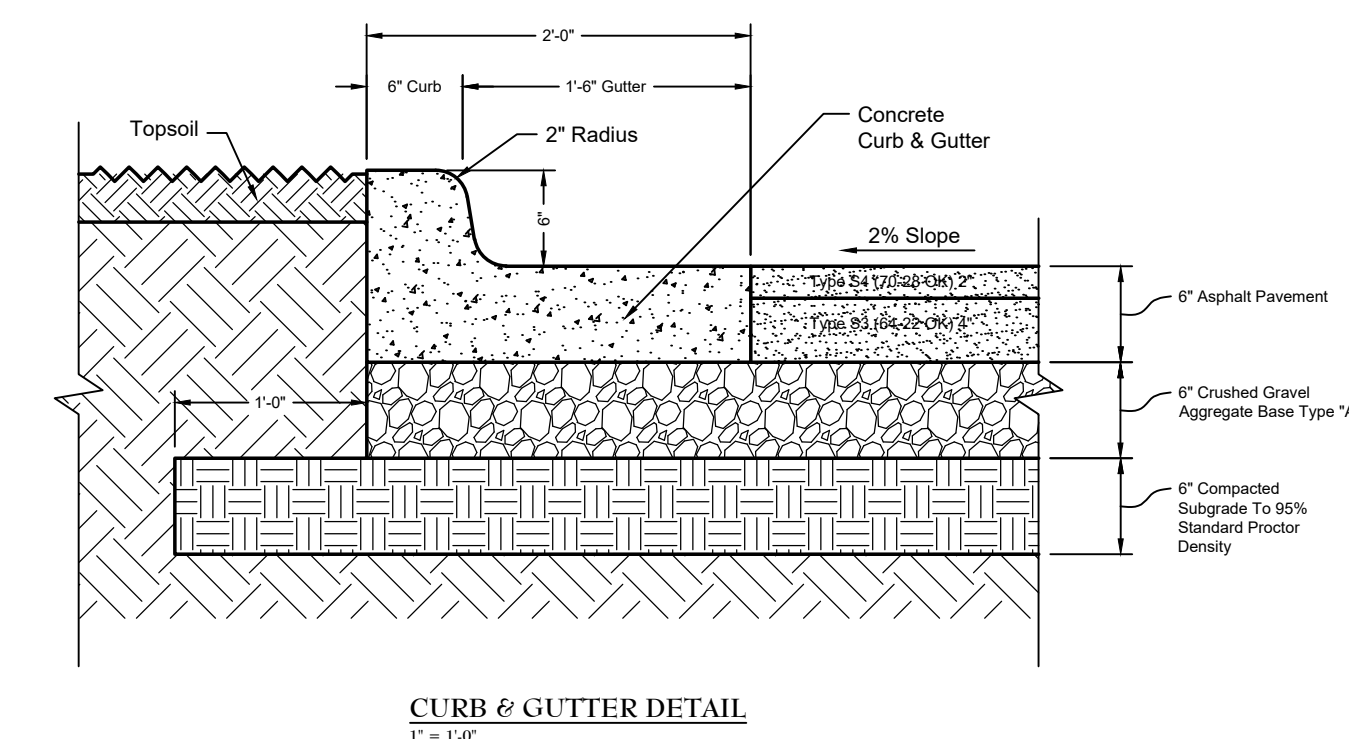
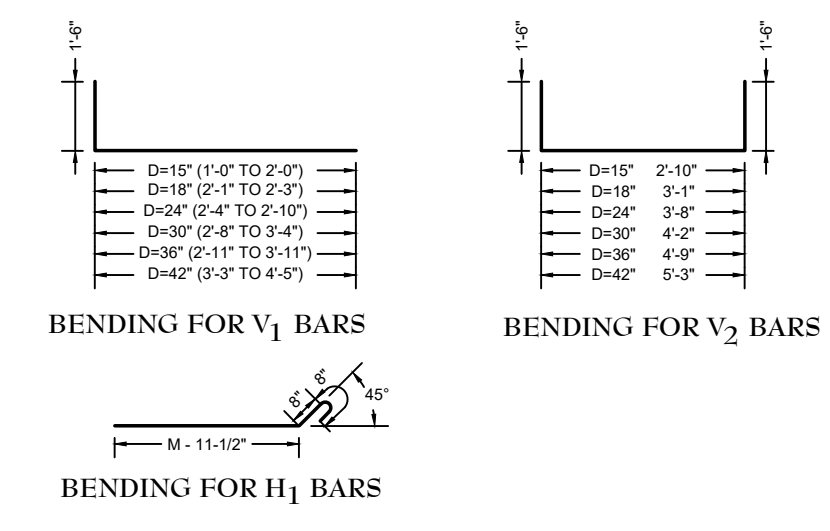
PLAN



ELEVATION

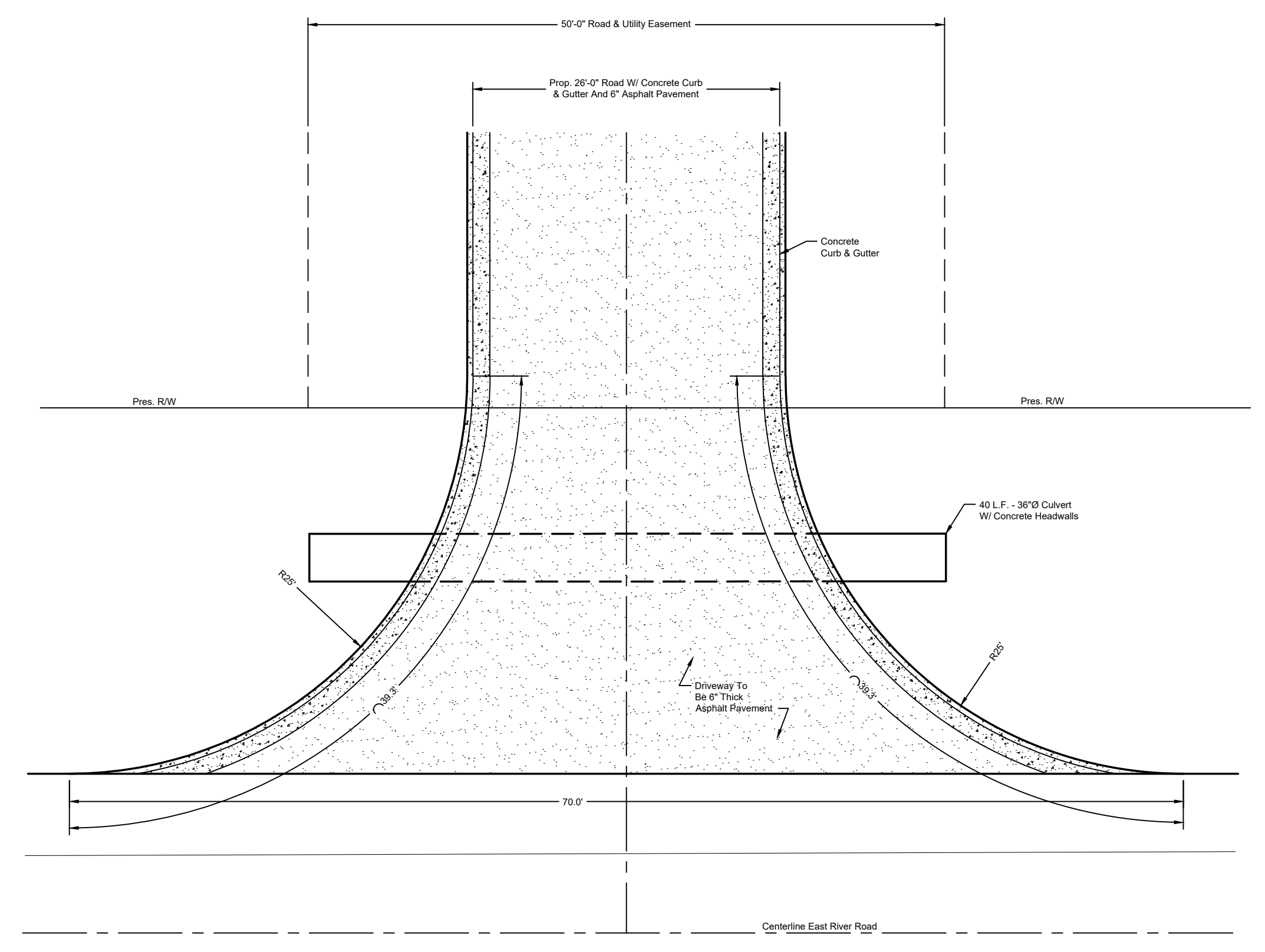
SECTION A-A

DIMENSIONS & QUANTITIES FOR HEADWALLS WITH 45° WINGS																					
D	AREA	T	H	K	L	M	N	REINFORCING STEEL												QUANTITIES*	
								A ₁ -12"Ø	A ₂ -12"Ø	B-12"Ø	C-12"Ø	H ₁ -12"Ø	V ₁ -12"Ø	V ₂ -12"Ø	CLASS "A"	REIN.					
NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	CONC. CY.	STEEL LBS.		
15"	1.23	2.14'	2-5.14'	1-5"	3-7"	1-9"	1-3"	4	1-2"	2	3-9"	7	3-3"	3	1-6"	4	3-9"	0.74	57		
18"	1.77	2.12'	2-8.12'	1-7"	3-10"	2-1.10"	1-6"	4	1-2"	2	4-3"	7	3-6"	3	1-6"	4	3-8"	0.91	61		
24"	3.14	3"	3-3"	1-10.10"	4-4"	2-10"	2-0"	5	1-4"	3	5-3"	7	4-0"	3	1-6"	6	4-1"	1.31	85		
30"	4.91	3.10'	3-8.10'	2-0"	4-10"	3-8.10"	2-6"	5	2-2"	3	6-3"	7	4-6"	4	1-6"	8	4-6"	1.77	104		
36"	7.07	4"	4-4"	2-5.10"	5-4"	4-3"	3-0"	5	2-8"	4	7-3"	7	5-0"	4	1-6"	6	4-7"	2.29	130		
42"	9.82	4.10'	4-10.10'	2-9"	5-10"	4-11.10"	3-6"	6	3-2"	4	8-3"	7	5-6"	4	1-6"	6	5-4"	2.89	151		

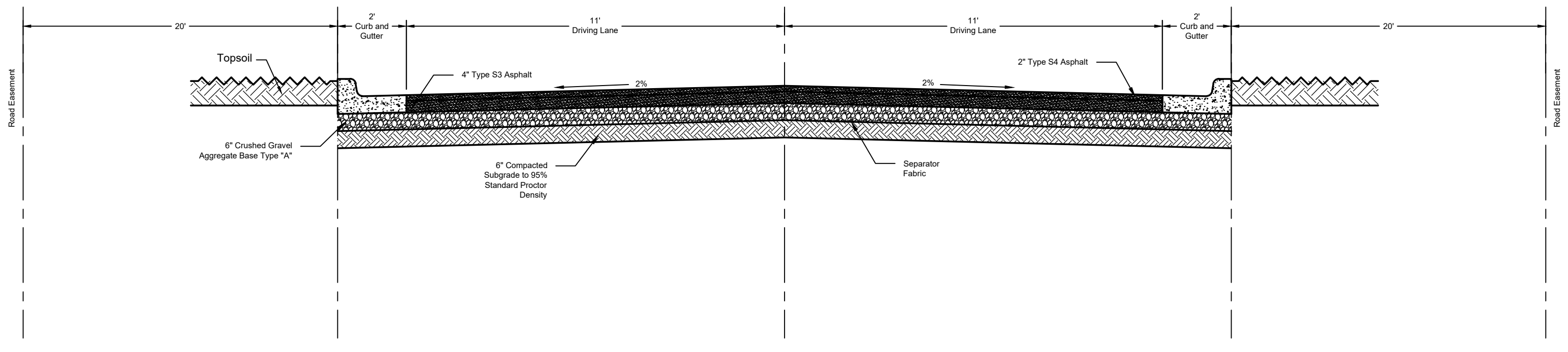


CURB & GUTTER DETAIL
1" = 1'-0"

CONCRETE HEADWALL WITH 45° WINGWALLS



SUBDIVISION ENTRANCE DETAIL
NOT TO SCALE



SUBDIVISION ROAD TYPICAL SECTION
NOT TO SCALE



No.	Description	Date

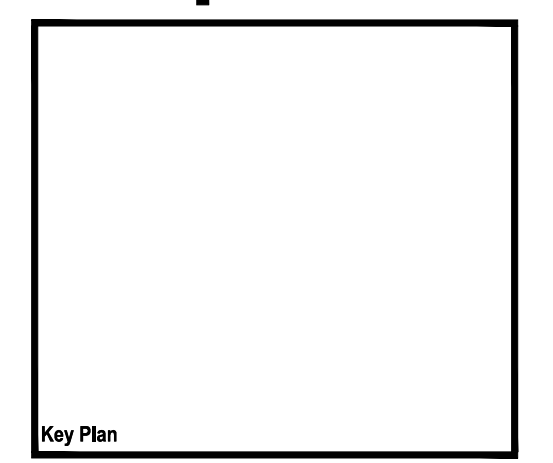
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CHEROKEE ADDITION

HOUSING AUTHORITY
OF THE CHEROKEE NATION

COLLINSVILLE, OK



Key Plan

Professional Engineer Seal for Michael Dean Brown, License No. 22128, State of Oklahoma.

Seal 5-15-2023

CONSTRUCTION DOCUMENTS

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