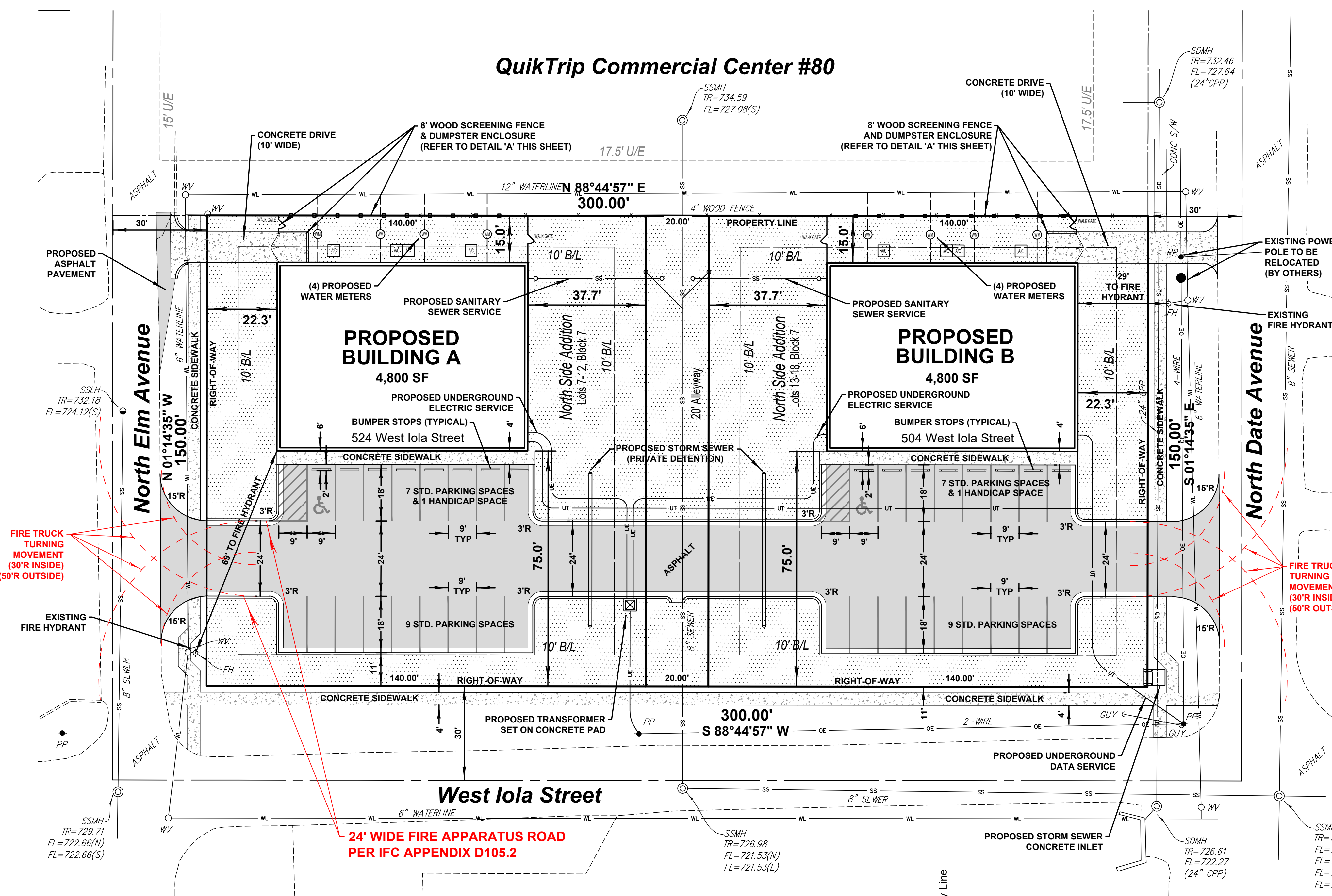


QuikTrip Commercial Center #80



Site Summary

DROD (Downtown Residential Overlay District)

GROSS LOT AREA (2 LOTS & ALLEYWAY):	45,000 SF (1.033 AC)
NET LOT AREA (WEST):	21,000 SF (0.482 AC)
NET LOT AREA (EAST):	21,000 SF (0.482 AC)
PROPOSED BUILDING AREA (BUILDING A):	4,800 SF
PROPOSED BUILDING AREA (BUILDING B):	4,800 SF
PROPOSED BUILDING AREA (TOTAL):	9,600 SF (22.9%)
PROPOSED BUILDING HEIGHT:	13'-10"
PROPOSED BUILDING CONSTRUCTION:	TYPE II-B

Parking Summary (BUILDING A)

PROPOSED BUILDING AREA:	4,800 SF
REQUIRED PARKING SPACES (1/300 SF):	16
TOTAL STANDARD PARKING SPACES PROVIDED:	16
TOTAL HANDICAP PARKING SPACES PROVIDED:	1
TOTAL PARKING SPACES PROVIDED:	17

Parking Summary (BUILDING B)

PROPOSED BUILDING AREA:	4,800 SF
REQUIRED PARKING SPACES (1/300 SF):	16
TOTAL STANDARD PARKING SPACES PROVIDED:	16
TOTAL HANDICAP PARKING SPACES PROVIDED:	1
TOTAL PARKING SPACES PROVIDED:	17

Impervious Calculations

GROSS LOT AREA (2 LOTS & ALLEYWAY):	45,000 SF (1.033 AC)
TOTAL DISTURBED AREA:	1.2 AC
* EXISTING IMPERVIOUS AREA:	2,442 SF
* PROPOSED IMPERVIOUS AREA:	24,974 SF (55.5%)
INCREASED IMPERVIOUS AREA:	22,532 SF

* AS MEASURED INSIDE PROPERTY BOUNDARY

Exterior Lighting

NO PROPOSED LIGHT POLES WILL BE ASSOCIATED WITH THIS PROJECT. REFER TO ARCHITECTURAL FOR LIGHT FIXTURES ASSOCIATED WITH PROPOSED BUILDING.

Legal Description

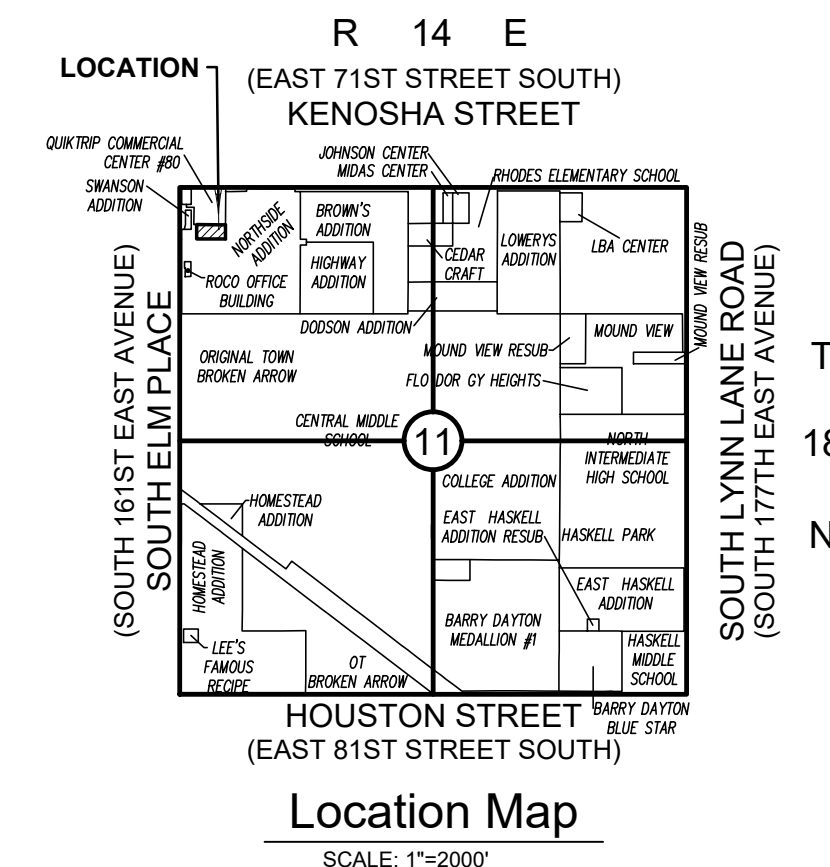
LOTS 7 THROUGH 12, BLOCK 7 AND LOTS 13 THROUGH 18, BLOCK 7, NORTH SIDE ADDITION, AN ADDITION TO THE CITY OF BROKEN ARROW, TULSA COUNTY, STATE OF OKLAHOMA ACCORDING TO THE RECORDED PLAT THEREOF (#509).

ADS Benchmark (TUL 11)

3" ALUMINUM CAP-FLUSH-SET IN CONCRETE-STAMPED "TUL 11", SET EAST OF SOUTH 161ST EAST AVENUE, AND IN THE MEDIAN BETWEEN B.A. EXPRESSWAY, AND EAST BOUND OFF RAMP TO SOUTH 161ST EAST AVENUE. MONUMENT IS ON THE SOUTH SIDE OF HILL AT PEAK. ELEVATION = 815.125' (NAVD1988)

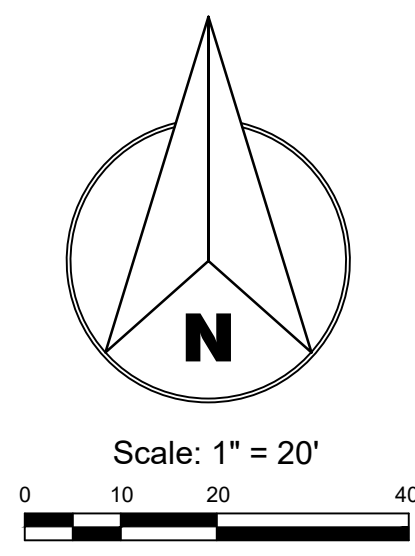
Freestanding Signs

NO PROPOSED FREESTANDING SIGNS WILL BE ASSOCIATED WITH THIS PROJECT.



Legend

A/C	AIR CONDITIONER UNIT/PAD
4GAI	4-GRATE AREA INLET
AMH	ACCESS MANHOLE
B/L	BUILDING SETBACK LINE
B/W	BARBED WIRE FENCE
BC	BOTTOM OF CURB
BM	BENCHMARK
BOP	BEGINNING OF PROJECT
CL	CHAIN LINK FENCE
CCI	CONCRETE CURB INLET
CIC	CAST IRON CURB INLET
CONC.	CONCRETE
CPED	CABLE/TY PEDESTAL
CY	CUBIC YARDS
EOP	END OF PROJECT
ELEC	ELECTRIC
EPED	ELECTRIC PEDESTAL
ESMT	EASEMENT
EX	EXISTING
F/E	FENCE EASEMENT
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FLT	THROAT FLOWLINE
FP	FLAG POLE
GLT	GROUND LIGHT
GM	GAS METER
GRSR	GAS RISER
GUY	DOWN GUY
GV	GAS VALVE
HDPE	HIGH DENSITY POLYETHYLENE
IPF	IRON PIN FOUND
LF	LINEAR FEET
LNA	LIMITS OF NO ACCESS
LP	LIGHT POLE
MA/E	MUTUAL ACCESS EASEMENT
MB	MAILBOX
OD/E	OVERLAND DRAINAGE ESMT
OE	OVERHEAD ELECTRIC
OL	ORNAMENTAL LIGHT
PG	PROPOSED GRADE
PP	POWER POLE
RW/E	RESTRICTED WL EASEMENT
RCP	REINFORCED CONC. PIPE
RET. WALL	RETAINING WALL
S/W	SIDEWALK
SD	STORM DRAIN
SDMH	STORMWATER MANHOLE
SF	SQUARE FEET
SGAI	SINGLE GRATE AREA INLET
SPHD	SPRINKLER HEAD
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSLH	SANITARY SEWER LAMPHOLE
SSMH	SANITARY SEWER MANHOLE
SY	SQUARE YARD
TC	TOP OF CURB
TG	TOP OF GRATE
TP	TOP OF PAVING
TPED	TELEPHONE PEDESTAL
TR	TOP OF RIM
TS	TRAFFIC SIGN
TW	TOP OF WALL
U/E	UTILITY EASEMENT
UG	UNDERGROUND GAS LINE
UTMH	UTILITY MANHOLE
W/DIP	WITH UNDERGROUND RISER
WL	WATERLINE
WLMH	WATERLINE MANHOLE
WM	WATER METER
WRSR	WATER SPIGOT
WV	WATER VALVE



Sheet Index

COVER SHEET	C1
CONSTRUCTION NOTES & EROSION CONTROL DETAILS	C2
DEMOLITION PLAN	C3
OVERALL GRADING & EROSION CONTROL PLAN	C4
DETAILED GRADING PLAN	C5
DRAINAGE AREA MAPS	C6
DETENTION FACILITY PLAN	C7
PAVING PLAN	C8
UTILITY PLAN	C9
CONCRETE DROP INLET DETAILS	C10

Owner / Developer

PRIMUS PROPERTIES, LLC
919 WEST ELMIRA STREET
BROKEN ARROW, OKLAHOMA 74012
PHONE: (918) 408-2311
MR. WILLIAM LEET

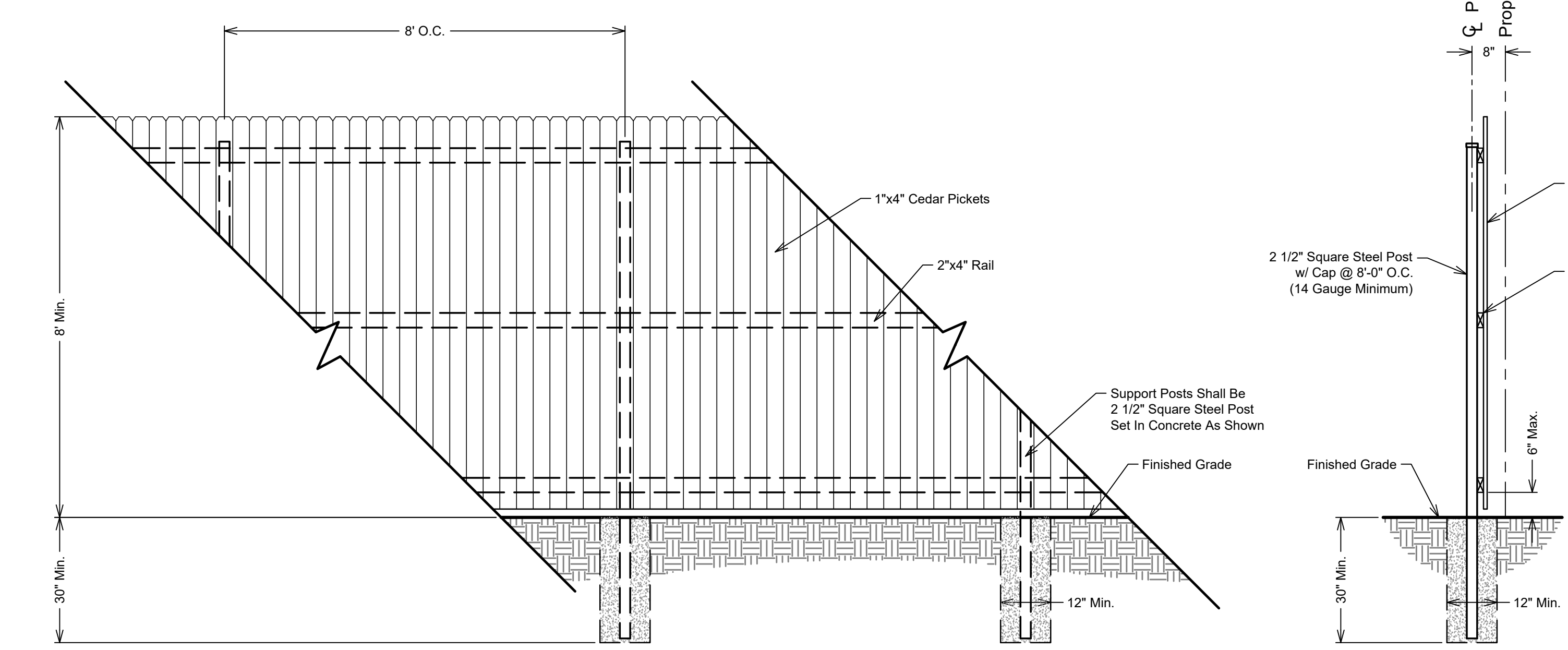
Engineer

ENGINEERED BY DESIGN, PLLC
P.O. BOX 15567
DEL CITY, OKLAHOMA 73155
PHONE: (816) 809-8253
ahale@engineeredbydesign.pro
C.A. # 7655 EXPIRES 6-30-2020

Surveyor

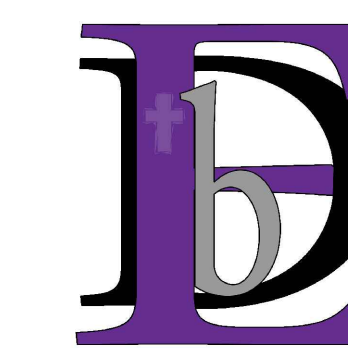
ATLAS LAND OFFICE, INC
202 SOUTH MAIN STREET
WAGONER, OKLAHOMA 74467
PHONE: (918) 485-9987
EMAIL: info@atlaslandoffice.com
C.A. # 8060 EXPIRES: 6-30-2020

Detention Determination
DD-051118-19



(A) Screening Fence Detail
SCALE: NONE

CONSULTANTS



ENGINEERED BY DESIGN

Engineered by Design, PLLC
P.O. Box 15567 Del City, OK 73155
Ph: 816-809-8253
CA# 7655 - Expires 6/30/2020



20 East Dawes Avenue
Bixby, Oklahoma 74008
Phone: (918) 798-8356

PROJECT NAME

Primus Properties
Iola Street Office

Broken Arrow, OK
Project No. 2068

SEAL

REVISIONS

NOTES

ISSUE DATE

10/11/2018

SCALE

1"=20'

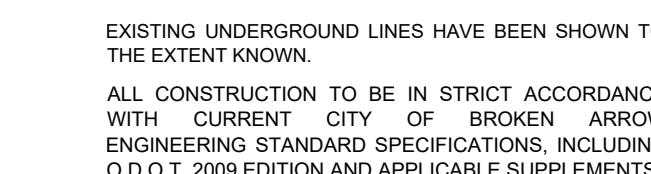
SHEET NAME

SITE PLAN

SHEET NO.

C1

CASE NUMBER: ST18-123



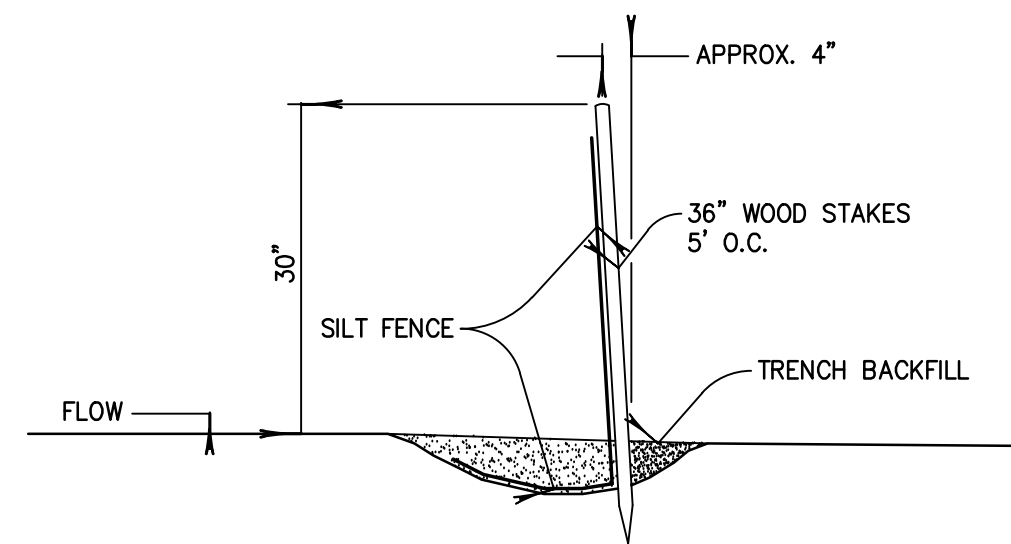
EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF BROKEN ARROW ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2009 EDITION AND APPLICABLE SUPPLEMENTS.

General Construction Notes

- ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF BROKEN ARROW STANDARDS AND SPECIFICATIONS.
- EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN AND LOCATIONS HAVE BEEN VERIFIED BY THE OWNERS OF SAID LINES. THE EXACT LOCATIONS AND NOTIFICATIONS OF THE PROPER AGENCY IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO ANY EXCAVATION.
- AFTER CONSTRUCTION IS COMPLETE, ALL DISTURBED AREAS SHALL BE RESEEDED ACCORDING TO CITY OF BROKEN ARROW, OKLAHOMA, SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDED AREAS UNTIL GROWTH IS ESTABLISHED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY WORK ORDERS AND PERMITS FROM THE CITY OF BROKEN ARROW, INCLUDING PROVISIONS OF BONDS AND INSURANCE AS REQUIRED.
- ALL WASTE OR SPOIL SHALL BE TAKEN TO A CITY APPROVED SITE OR SPREAD IN AREAS OUTSIDE OF THE STREET RIGHTS-OF-WAY AS DIRECTED BY THE OWNER AND ENGINEER PER BID DOCUMENTS.
- A RIGHT-OF-WAY PERMIT WILL BE REQUIRED FOR ALL WORK IN THE CITY OF BROKEN ARROW RIGHT-OF-WAY.
- ALL GRADES ARE BASED ON NAVD 1988 U.S.G.S. VERTICAL DATUM.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL FOR ANY WORK WITHIN STREET RIGHT OF WAY. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION AND CITY OF BROKEN ARROW STANDARDS AND SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER TRAFFIC CONTROL IS IN PLACE FOR CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROPERLY MAINTAINING TRAFFIC CONTROL DEVICES THROUGHOUT THE DURATION OF THE WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS TO THE CITY OF BROKEN ARROW AS REQUIRED.
- ENGINEER'S STATEMENT THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS. ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF BROKEN ARROW (COT).

Grading & Paving Notes

- ALL UTILITY CONSTRUCTION SHALL BE COMPLETED PRIOR TO SUBGRADE PREPARATION.
- SUBGRADE SHALL BE FREE OF ALL ORGANIC MATTER, TREATED, AND COMPACTED.
- THE PAVING CONTRACTOR SHALL ADJUST ALL VALVE BOXES TO GRADE AFTER PAVING HAS BEEN COMPLETED.
- REFER TO 2009 ODOT SPECIFICATION SECTION 610 FOR SIDEWALK CONSTRUCTION.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHTS-OF-WAY AND EASEMENTS SHALL BE IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF BROKEN ARROW.
- MAXIMUM CROSS SLOPE OF SIDEWALK AT ANY LOCATION CANNOT EXCEED 2%. MAXIMUM LONGITUDINAL SLOPE OF SIDEWALK AT ANY LOCATION CANNOT EXCEED 5%.

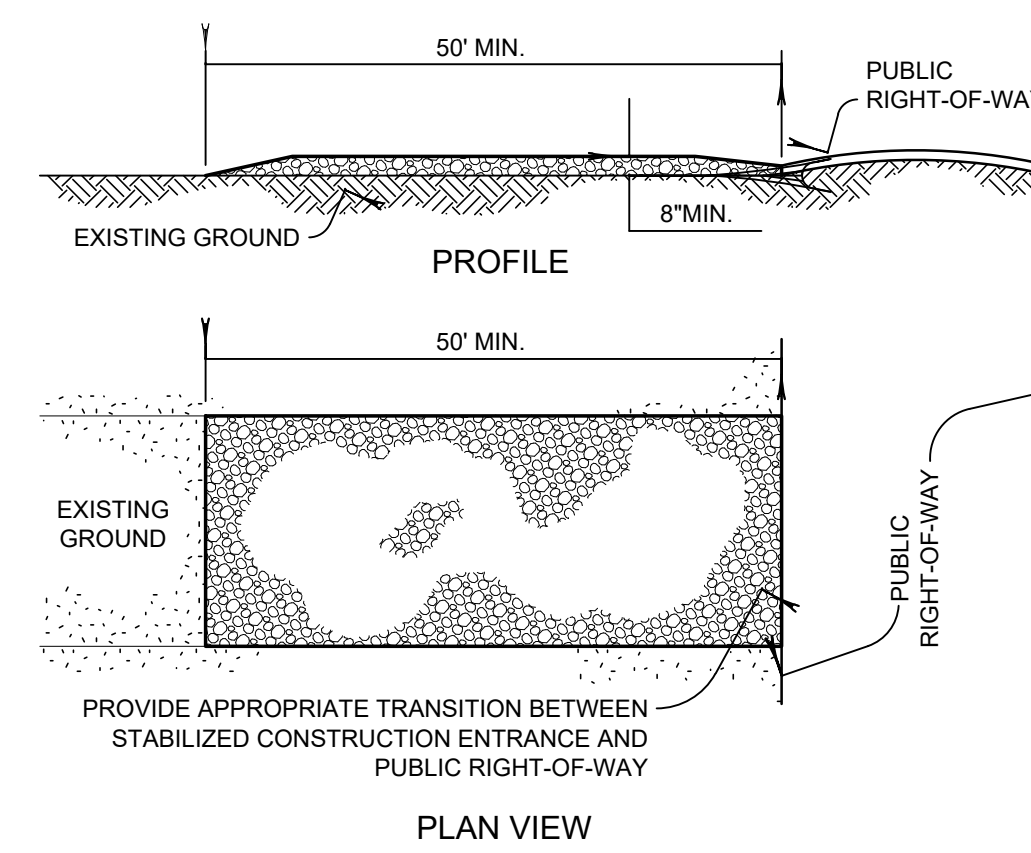


Notes:

- WOOD POSTS SHALL BE ANGLED SLIGHTLY TOWARD RUNOFF SOURCE.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN AND BACKFILLED.
- THE TRENCH SHOULD BE 6" DEEP BY 3" TO 4" WIDE TO ALLOW SILT FENCE TO BE LAID IN AND BACKFILLED.
- SILT FENCE SHALL BE FASTENED TO POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL POSTS.
- INSPECTION SHALL BE FREQUENT & REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY.
- SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THERE USEFULNESS SO AS NOT TO IMPEDE STORMWATER FLOW OR DRAINAGE.
- TRAPPED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND LOCATION WHICH WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6" AND DISPOSED OF AS IN NOTE 7 ABOVE.

A Silt Fence Detail

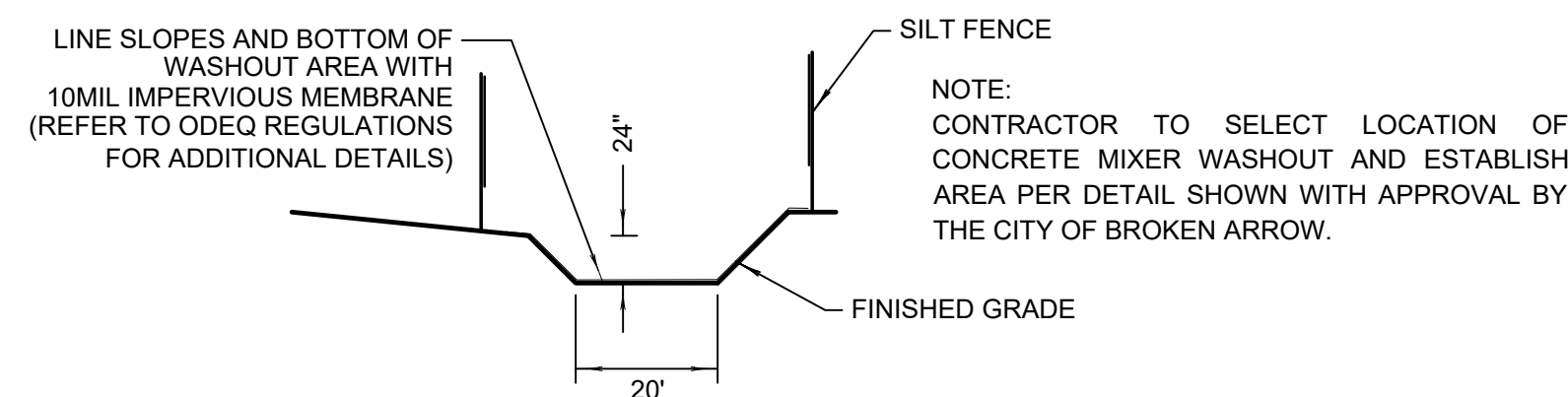
SCALE: NONE



- STONE SIZE AASHTO DESIGNATION M 43, SIZE NO. 2 (3" TO 4"). USE CRUSHED STONE.
- LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
- THICKNESS - NOT LESS THAN EIGHT(8) INCHES.
- WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE OWNER.

B Stabilized Construction Entrance

SCALE: NONE



SECTION A-A Concrete Washout Detail

SCALE: NONE

Note

THE OWNER/DEVELOPER, THEMSELVES OR THROUGH THE USE OF INDIVIDUAL CONTRACTORS, SHALL BE HELD TOTALLY RESPONSIBLE FOR COMPLYING WITH ANY OR ALL APPLICABLE EROSION AND SEDIMENTATION CONTROL AND POLLUTION PREVENTION REQUIREMENTS ESTABLISHED BY FEDERAL, STATE AND LOCAL AGENCIES OR ANY OTHER GOVERNING AGENCY SPECIFICALLY RELATED TO THE PROJECT. THE LOCATION, INSTALLATION, AND MAINTENANCE OF ALL EROSION CONTROL PRACTICES ON THIS PROJECT SHALL BE DONE IN COMPLETE ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (FOR THE PROJECT) AND OPDES GENERAL PERMIT OKR-10.

Temporary Erosion Control

SMALL GRAINS SUCH AS OATS, RYE, WHEAT, SUDANS AND SORGHUMS ARE THE MOST FEASIBLE TEMPORARY VEGETATION TO CONTROL EROSION. THE PRACTICE IS EFFECTIVE FOR AREAS WHERE THE SOIL IS LEFT EXPOSED FOR A PERIOD OF 6 TO 12 MONTHS. THE TIME PERIOD MAY BE SHORTER DURING PERIODS OF EROSION RAINFALL.

- PRIOR TO SEEDING, NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, ETC., SHALL BE INSTALLED.
- TEMPORARY VEGETATIVE PRACTICE IS USUALLY APPLIED PRIOR TO THE COMPLETION OF FINAL GRADING OF THE SITE.
- IF THE AREA TO BE SEEDED HAS BEEN RECENTLY LOOSENEED TO THE EXTENT THAT AN ADEQUATE SEEDED EXISTS, NO ADDITIONAL TREATMENT IS REQUIRED. HOWEVER IF THE AREA TO BE SEEDED IS PACKED, CRUSTED, AND/OR HARD, THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCING OR OTHER SUITABLE MEANS.
- FERTILIZER SHALL BE APPLIED AT A RATE OF 600 POUNDS PER ACRE OR 15 POUNDS PER 1000 SQUARE FOOT USING 10-20-10 OR EQUAL.
- SEEDING OPTIONS ARE AS FOLLOWS:

PLANT	ACRE	QUANTITY PER 1000 S.F.	PLANTING DATE	DEPTH
ANNUAL ELBON RYE	40 LBS	0.90 LBS	09/15 TO 11/30	1/4 IN.
WHEAT	2 BU.	3.00 LBS	08/15 TO 11/30	2 IN.
OATS	2 BU.	3.00 LBS	08/15 TO 11/30	2 IN.
SORGHUM	3 BU.	2.50 LBS	08/15 TO 11/30	2 IN.
SUDAN	60 LBS	1.40 LBS	03/01 TO 09/15	2 IN.
	40 LBS	0.90 LBS	04/01 TO 09/15	2 IN.

- SEEDING IMPLEMENTS SHOULD BE USED AT RIGHT ANGLES TO THE GENERAL SLOPE TO MINIMIZE EROSION.
- 1 TO 3 MONTHS AFTER PLANTING, THE SEEDED SITE SHALL BE TOP DRESSED WITH 8 POUNDS PER 1000 SQUARE FEET OR 350 POUNDS PER ACRE OF 33-0-0.
- AREAS WHICH DO NOT DEVELOP A SUFFICIENT COVER SHALL BE REPLANTED.
- THE SEEDED AREA SHALL BE WATERED WHEN FEASIBLE AND NEEDED.

Permanent Erosion Control

BERMUDA GRASS, KENTUCKY 31, TALL FESCUE AND WEEPING LOVEGRASS ARE SOME OF THE TYPES OF PERMANENT VEGETATION THAT MAY BE EFFECTIVELY USED TO CONTROL EROSION.

- PRIOR TO SEEDING, NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, ETC., SHALL BE INSTALLED.
- THE SUBGRADE SHALL BE LOOSENEED EVENLY TO A DEPTH OF 2 TO 3 INCHES AND 10-20-10 FERTILIZER (10 POUNDS PER 1000 SQUARE FOOT OR 450 POUNDS PER ACRE) SHALL BE MIXED WITH THE LOOSENEED SURFACE SOIL BY DISCING OR OTHER SUITABLE MEANS.
- SEEDING OPTIONS ARE AS FOLLOWS:

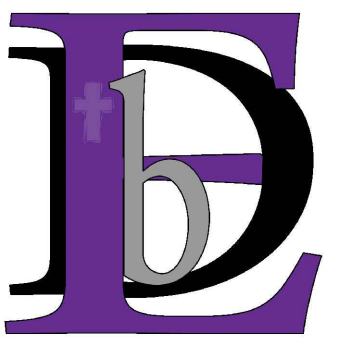
PLANT	ACRE	QUANTITY PER 1000 S.F.	PLANTING DATE	DEPTH
BERMUDA	10 LBS	0.25 LBS	04/01 TO 08/15	1/2 IN.
FESCUE	40 LBS	0.90 LBS	09/01 TO 11/01	1/2 IN.
LOVEGRASS	40 LBS	0.90 LBS	04/01 TO 08/30	1/2 IN.

- SEEDING IMPLEMENTS SHOULD BE USED AT RIGHT ANGLES TO THE GENERAL SLOPE TO MINIMIZE EROSION.
- MULCH SHALL BE USED WHERE NEEDED.
- THE AREA SHALL BE WATERED DAILY OR AS OFTEN AS NECESSARY TO MAINTAIN ADEQUATE SOIL MOISTURE UNTIL THE PLANTS GROW 1/2 TO 1 INCH.



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
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CONSULTANTS



ENGINEERED BY DESIGN

Engineered by Design, PLLC
P.O. Box 15567 Del City, OK 73155
Ph: 816-809-8253
CA# 7655 - Expires 6/30/2020



DEVELOPMENT ANALYSIS
PROJECT MANAGEMENT
DRAFTING & DESIGN

20 East Dawes Avenue
Bixby, Oklahoma 74008
Phone: (918) 798-8356

PROJECT NAME

Primus Properties Iola Street Office

Broken Arrow, OK
Project No. 2068

SEAL

REVISIONS

NOTES

ISSUE DATE

10/11/2018

SCALE

1"=20'

SHEET NAME

CONSTRUCTION
NOTES & EROSION
CONTROL DETAILS

SHEET NO.

C2



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DESIGN**

Engineered by Design, PLLC
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Ph: 816-809-8253
CA# 7655 - Expires 6/30/2020



DEVELOPMENT ANALYSIS
PROJECT MANAGEMENT
DRAWING & DESIGN

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Bixby, Oklahoma 74008
Phone: (918) 798-8356

PROJECT NAME

**Primus Properties
Iola Street Office**

Broken Arrow, OK
Project No. 2068

SEAL

REVISIONS

NOTES

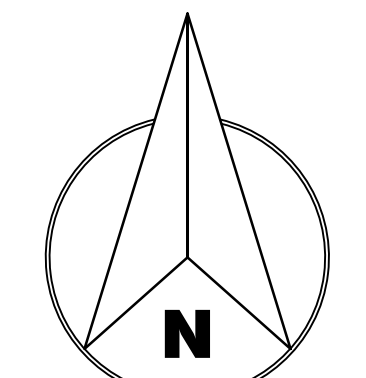
ISSUE DATE 10/11/2018

SCALE 1"=20'

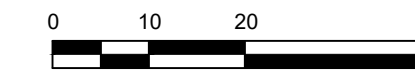
SHEET NAME
DEMOLITION PLAN

SHEET NO.

C3



Scale: 1" = 20'



Site Benchmark #1

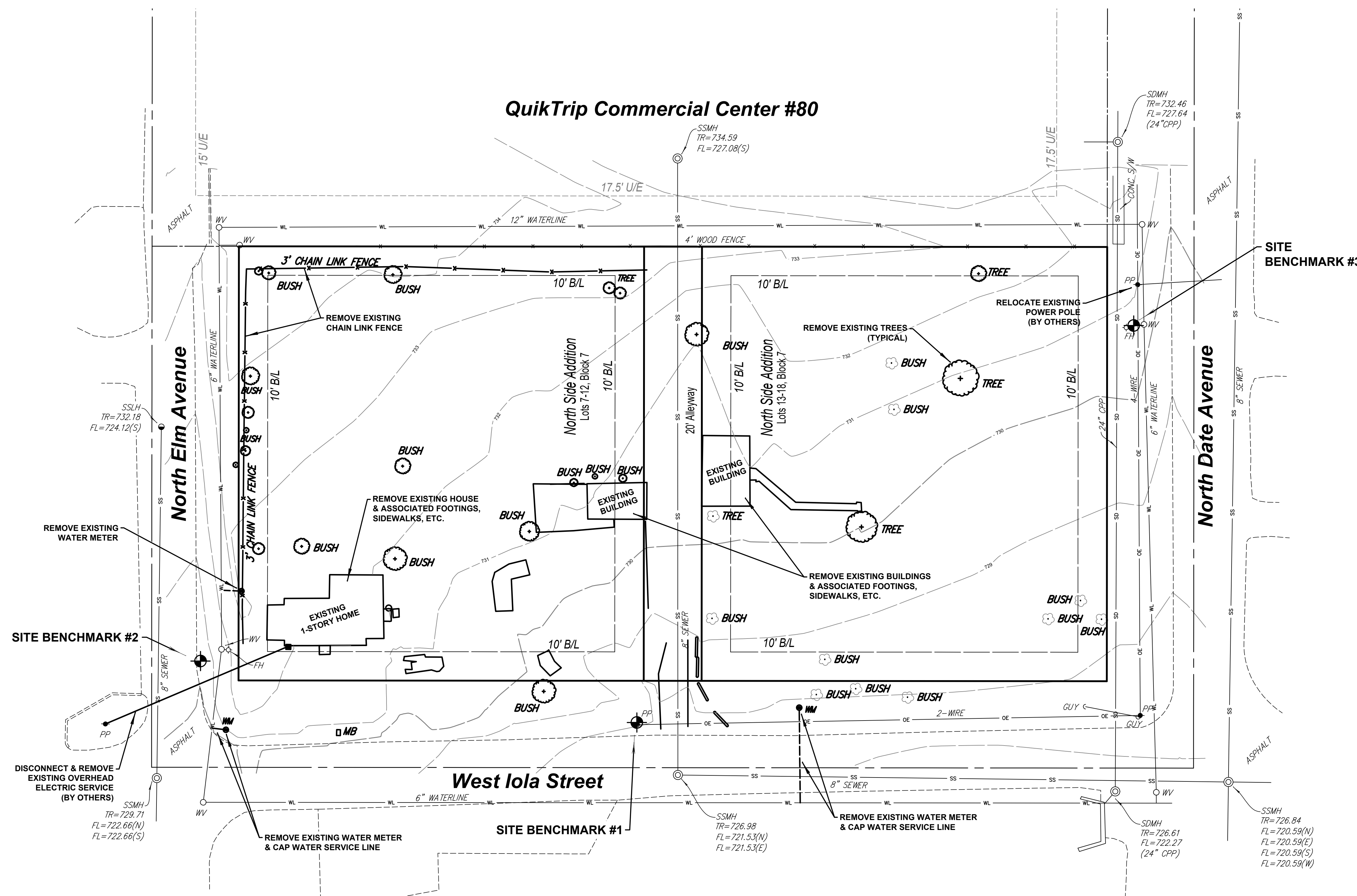
3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
N=393186.031 / E=2619950.979

Site Benchmark #2

60d NAIL SET ON NORTH SIDE OF EXISTING POWER POLE.
ELEVATION = 729.308' (NAVD 1988)
N=393044.999 / E=2619782.457

Site Benchmark #3

3/8" IRON PIN. ELEVATION = 730.548' (NAVD 1988)
N=393062.791 / E=2619631.258



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF BROKEN ARROW ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2009 EDITION AND APPLICABLE SUPPLEMENTS.



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DESIGN**

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Ph: 816-809-8253
CA# 7655 - Expires 6/30/2020



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Bixby, Oklahoma 74008
Phone: (918) 798-8356

PROJECT NAME

**Primus Properties
Iola Street Office**

Broken Arrow, OK
Project No. 2068

SEAL

REVISIONS

NOTES

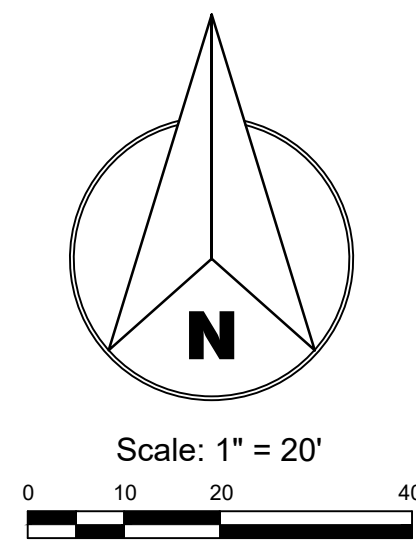
ISSUE DATE
10/11/2018

SCALE
1"=20'

SHEET NAME
OVERALL GRADING &
EROSION CONTROL
PLAN

SHEET NO.

C4



Site Benchmark #1

3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
N=393186.031 / E=2619950.979

Site Benchmark #2

60d NAIL SET ON NORTH SIDE OF EXISTING POWER POLE.
ELEVATION = 729.308' (NAVD 1988)
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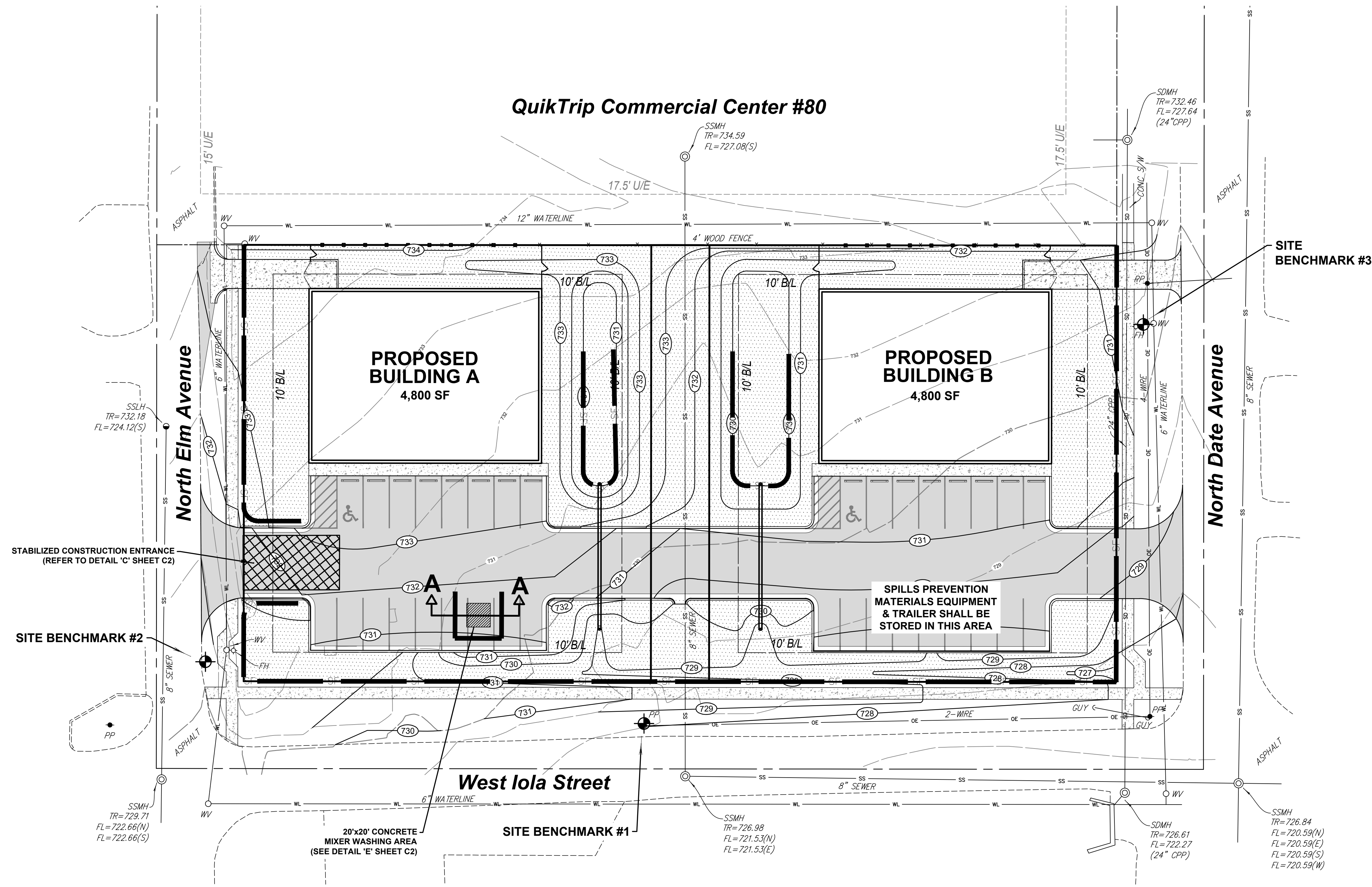
Sheet Legend

- 650 PROPOSED CONTOURS
- 645 EXISTING CONTOURS
- SF SILT FENCE (REFER TO DETAIL 'A' SHEET C2)



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
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QuikTrip Commercial Center #80

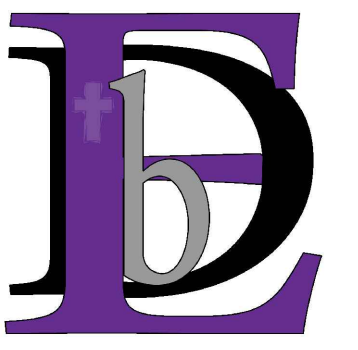


Construction Schedule

EARTHWORK	AUGUST 2018
SITEWORK	SEPTEMBER 2018
PAVING & SIDEWALKS	OCTOBER 2018
CLEANUP & STABILIZATION	DECEMBER 2018

**TOTAL AREA DISTURBED:
1.2 ACRES**

**ALL NON-PAVED DISTURBED
AREAS TO BE SOLID SLAB SOD
UPON COMPLETION OF CONSTRUCTION**



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DESIGN**

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NOTES

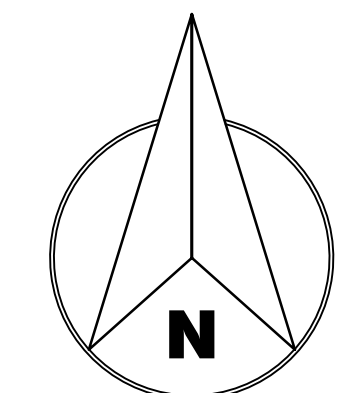
ISSUE DATE 10/11/2018

SCALE 1"=20'

SHEET NAME
**DETAILED
GRADING PLAN**

SHEET NO.

C5

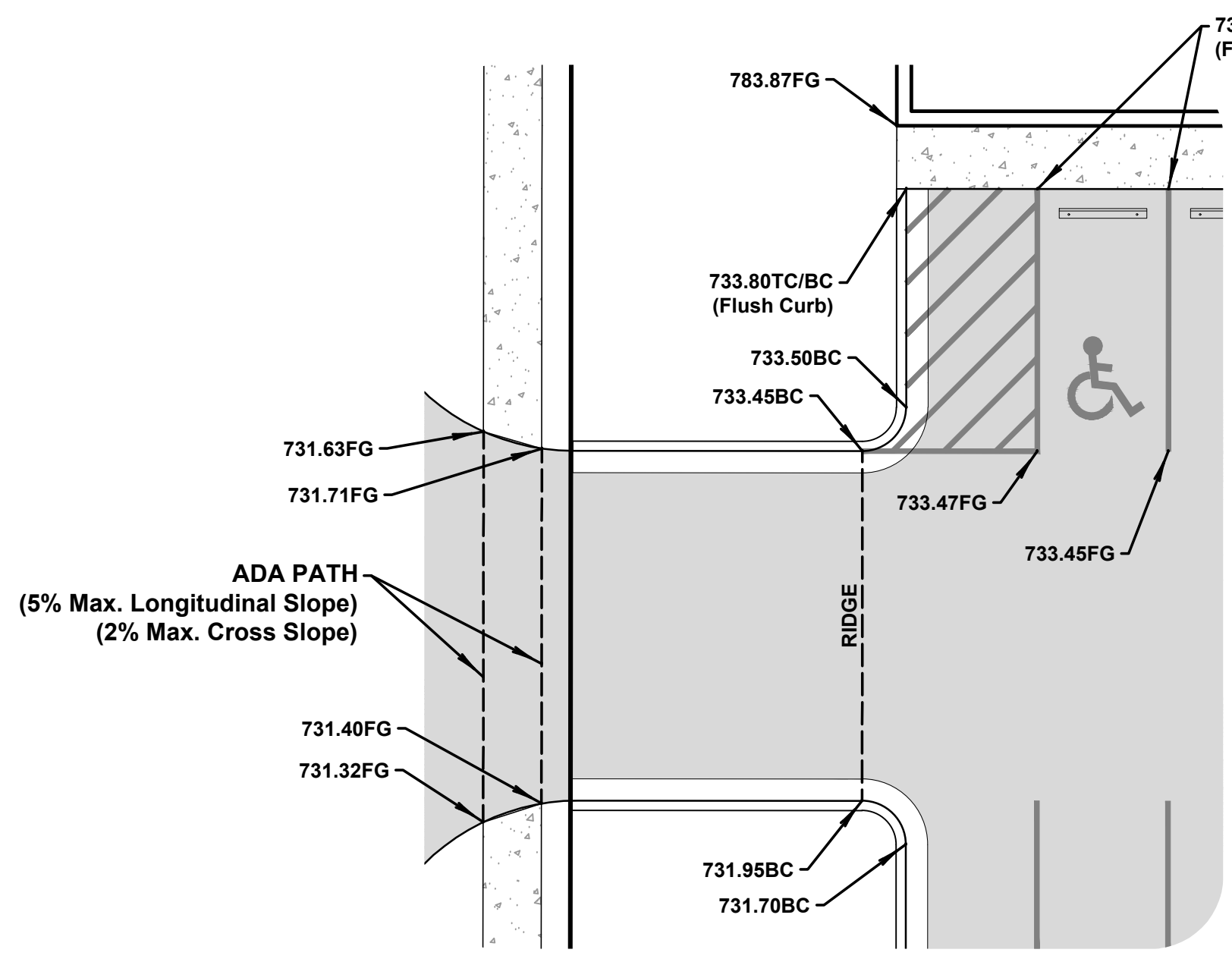
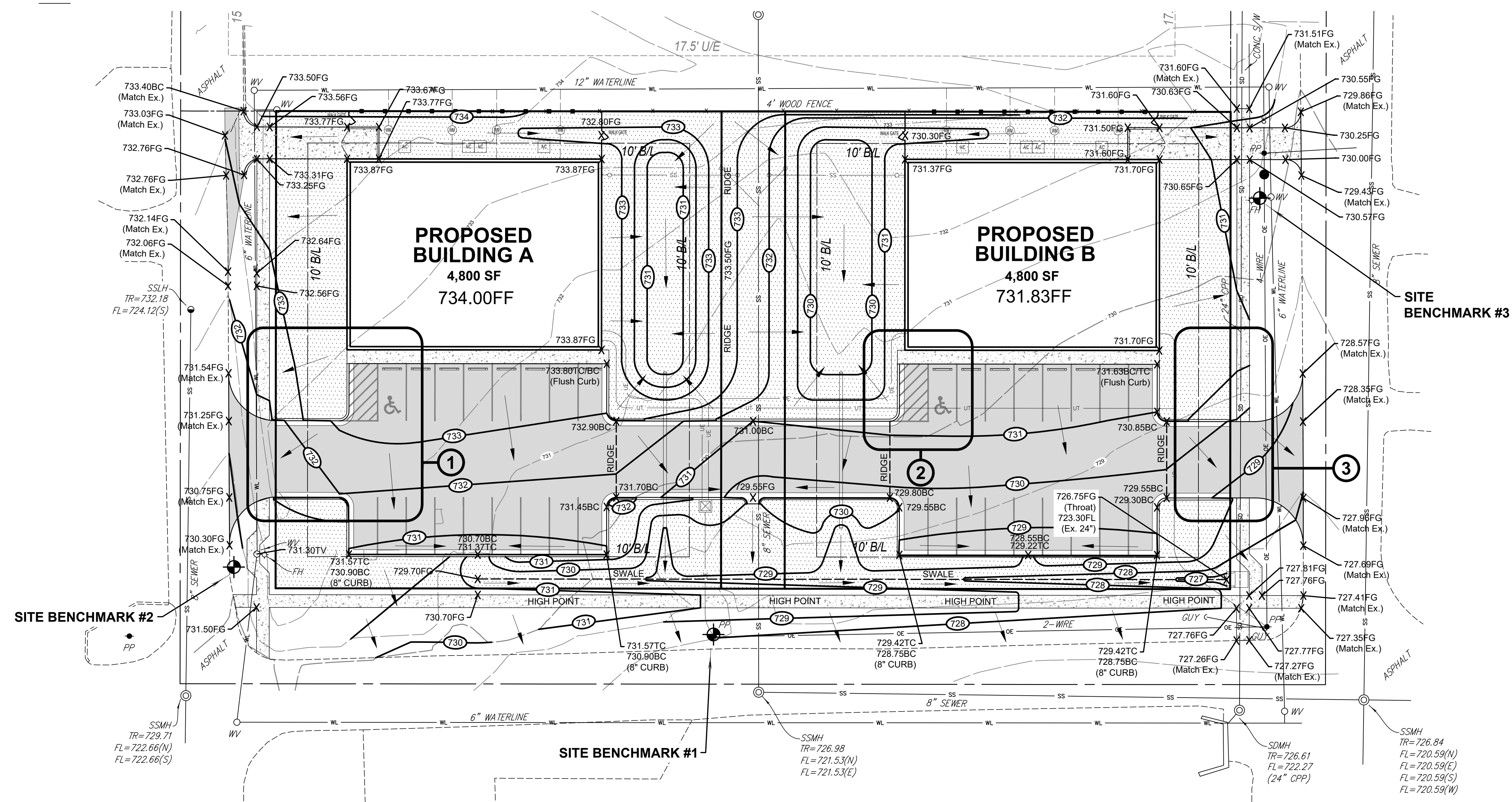


Scale: 1" = 20'
0 10 20 40

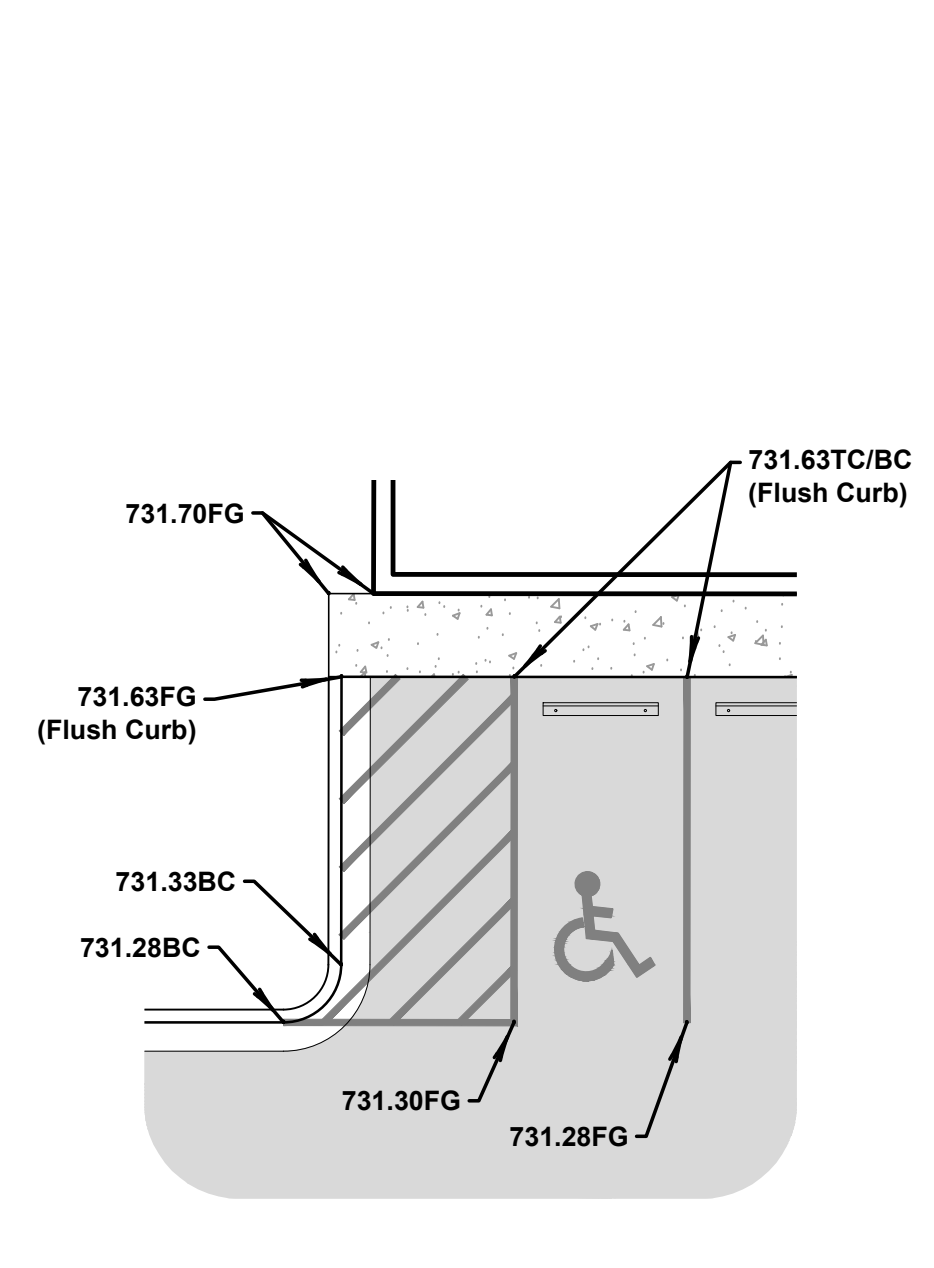
- Site Benchmark #1**
3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
N=393186.031 / E=2619950.979
- Site Benchmark #2**
60d NAIL SET ON NORTH SIDE OF EXISTING POWER POLE.
ELEVATION = 729.308' (NAVD 1988)
N=393044.999 / E=2619782.457
- Site Benchmark #3**
3/8" IRON PIN. ELEVATION = 730.548' (NAVD 1988)
N=393062.791 / E=2619631.258

Sheet Legend

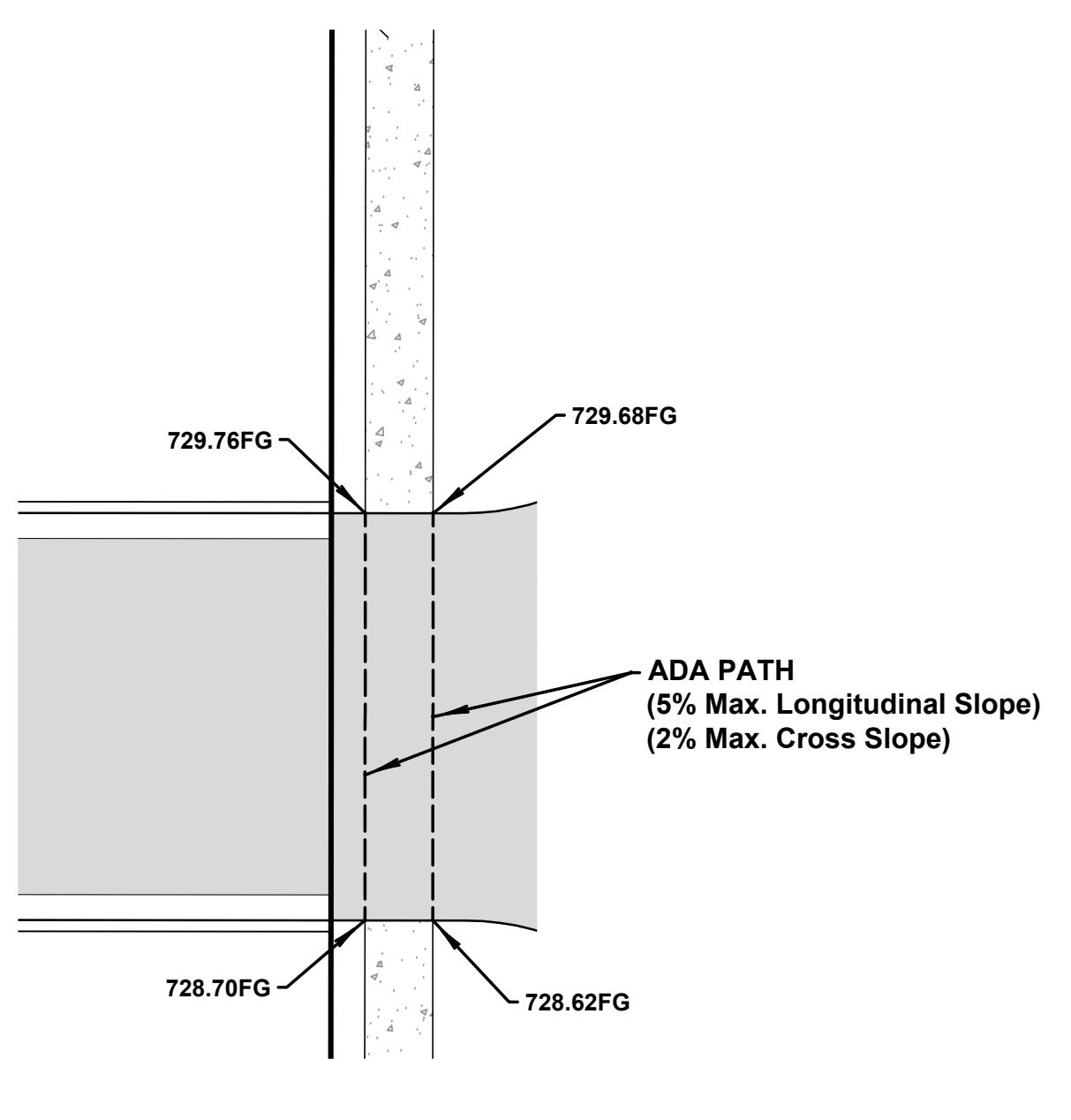
- 775.00BC BOTTOM OF CURB ELEVATION
- 774.50TC TOP OF CURB ELEVATION
- 774.75TP TOP OF PAVEMENT ELEVATION
- 774.25FG FINISHED GRADE ELEVATION
- ➔ FLOW DIRECTION
- ① ADA GRADING DETAIL (REFER TO DETAILS THIS SHEET)



① ADA Grading Detail
SCALE: 1"=10'



② ADA Grading Detail
SCALE: 1"=10'

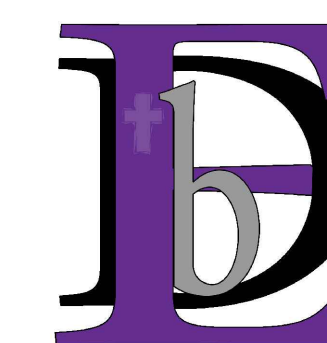


③ ADA Grading Detail
SCALE: 1"=10'



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF BROKEN ARROW ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2009 EDITION AND APPLICABLE SUPPLEMENTS.

CONSULTANTS



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DEVELOPMENT ANALYSIS
PROJECT MANAGEMENT
DRAFTING & DESIGN

20 East Dawes Avenue
Bixby, Oklahoma 74008
Phone: (918) 798-8356

PROJECT NAME

**Primus Properties
Iola Street Office**

Broken Arrow, OK
Project No. 2068

SEAL

REVISIONS

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ISSUE DATE 10/11/2018

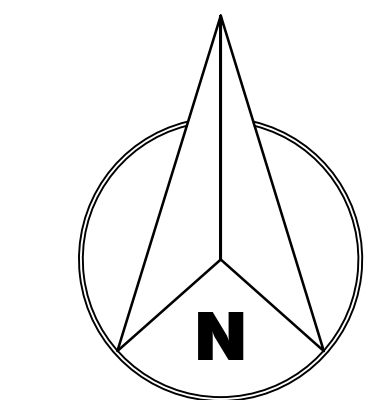
SCALE 1"=20'

SHEET NAME

DRAINAGE
AREA MAPS

SHEET NO.

C6



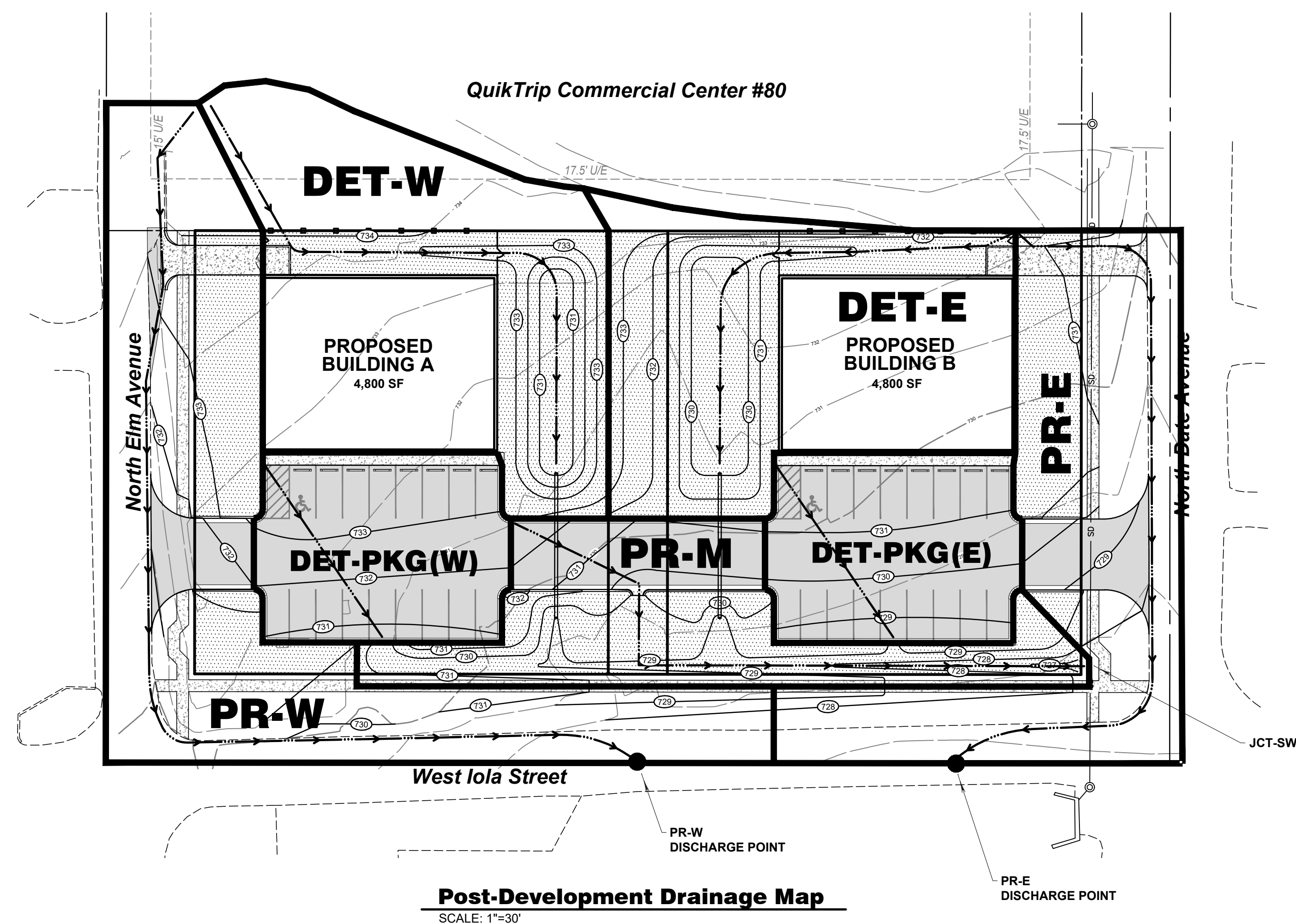
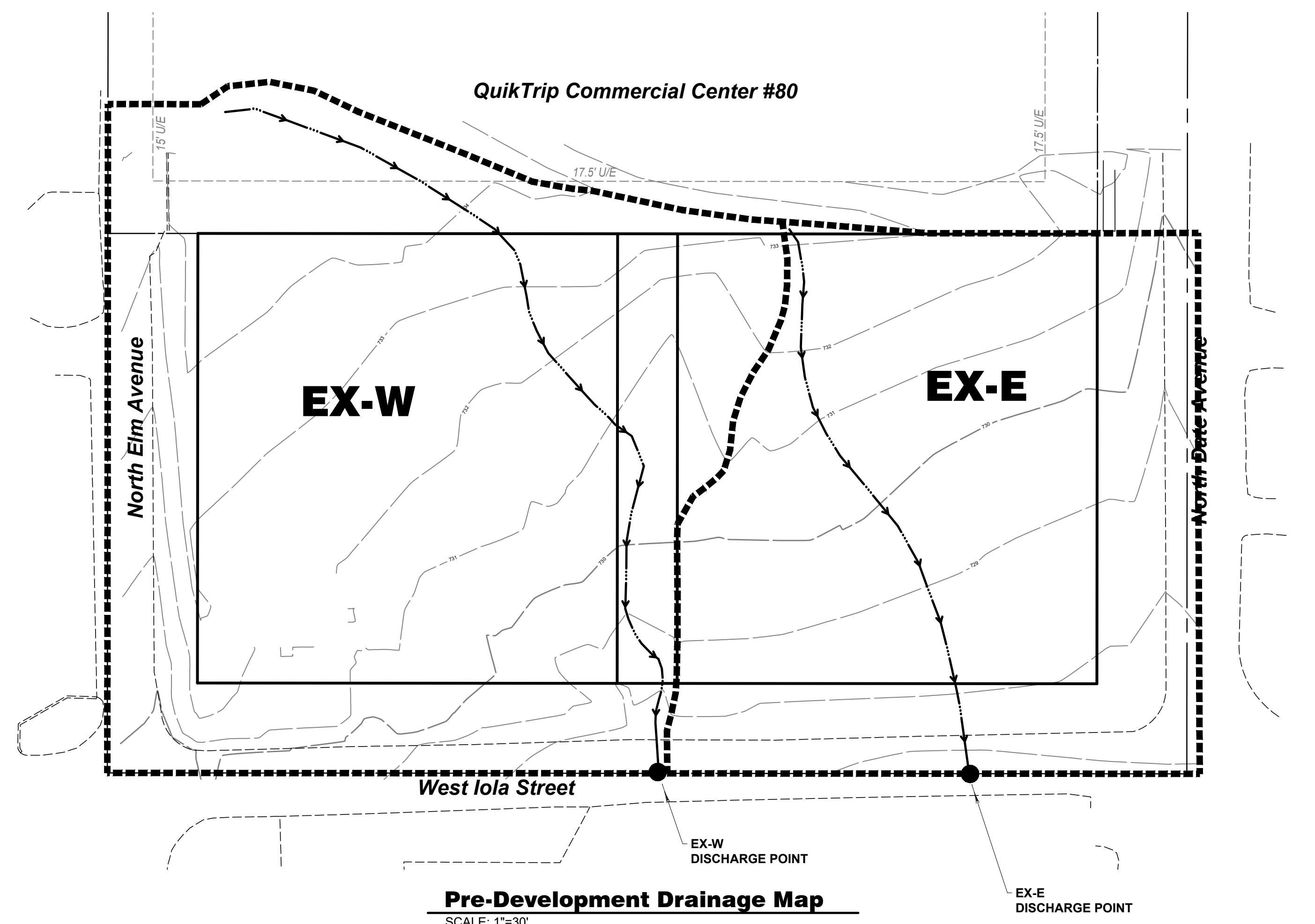
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Sheet Legend

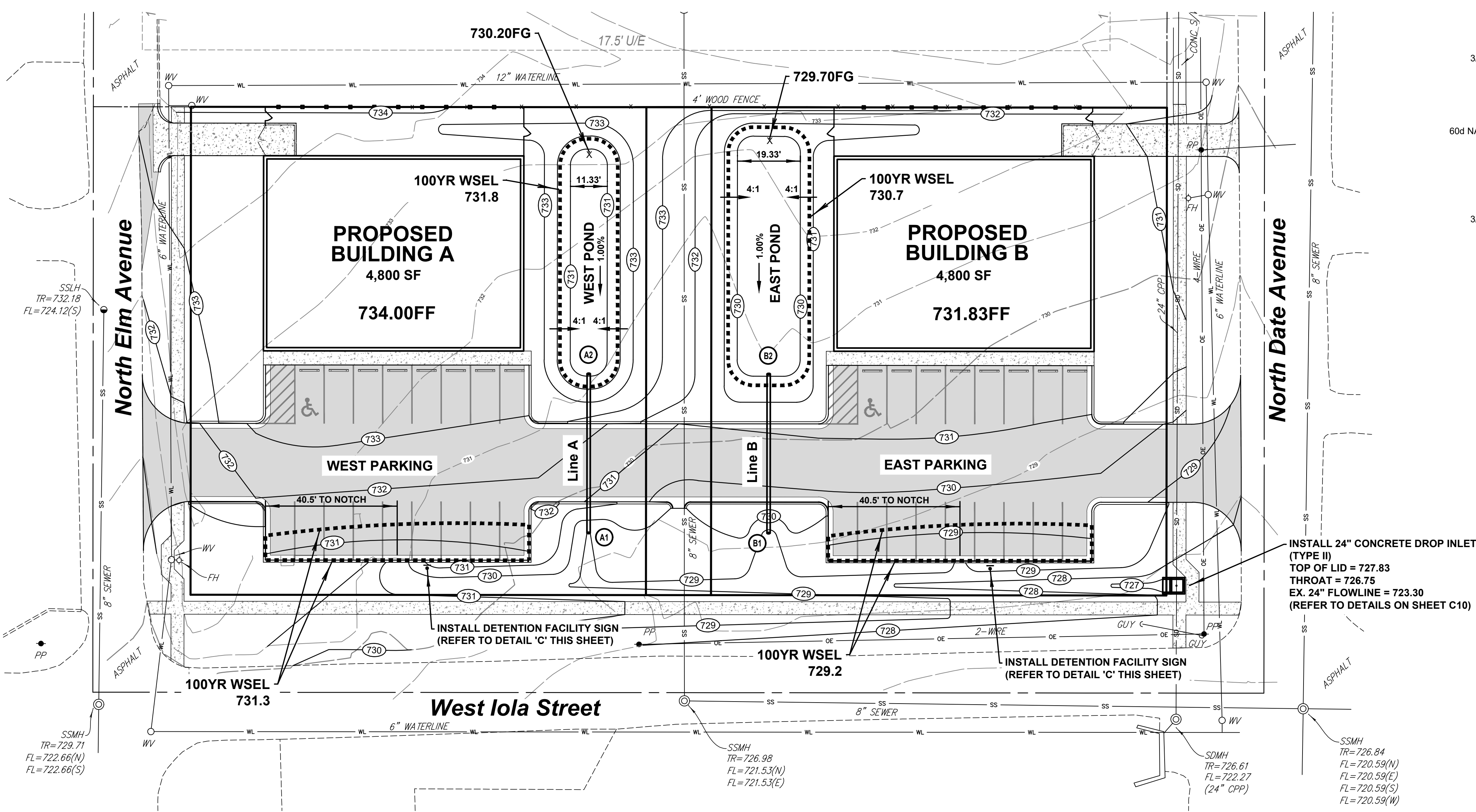
- X** DRAINAGE AREA LABEL
- DRAINAGE AREA BOUNDARY
- OVERLAND / WATERWAY DRAINAGE PATH
- >** PAVEMENT DRAINAGE PATH

NOTE:

FOR ADDITIONAL DETAILS, REFER TO
DRAINAGE REPORT PREPARED BY
ENGINEERED BY DESIGN, PLLC



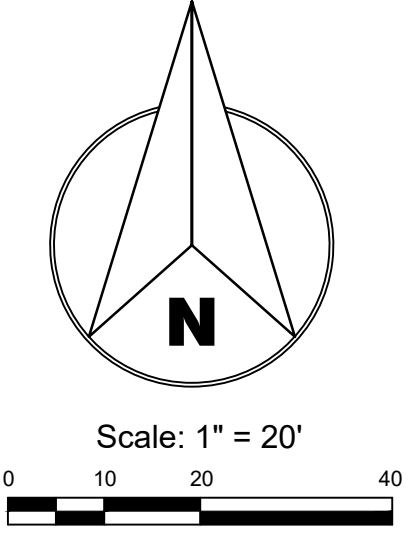
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Site Benchmark #1
3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
N=393186.031 / E=2619950.979

Site Benchmark #2
60d NAIL SET ON NORTH SIDE OF EXISTING POWER POLE.
ELEVATION = 729.308' (NAVD 1988)
N=393044.999 / E=2619782.457

Site Benchmark #3
3/8" IRON PIN. ELEVATION = 730.548' (NAVD 1988)
N=393062.791 / E=2619631.258



Sheet Legend

(A2) STORM SEWER STRUCTURE LABEL

West Pond

Stage-Storage-Discharge Results

Storm Event	WSEL Stage (ft)	Storage (CF)	Flow Info (cfs)	
			Qin	Qout
1-Yr	730.4	161.0	0.8	0.6
2-Yr	730.6	267.0	1.1	0.8
5-Yr	731.0	396.0	1.6	1.0
10-Yr	731.2	511.0	1.9	1.0
25-Yr	731.4	826.0	2.3	1.1
50-Yr	731.6	1138.0	2.6	1.1
100-Yr	731.8	1485.0	2.9	1.2
500-Yr	732.2	1893.0	3.6	1.3

East Pond

Stage-Storage-Discharge Results

Storm Event	WSEL Stage (ft)	Storage (CF)	Flow Info (cfs)	
			Qin	Qout
1-Yr	729.9	360.0	0.7	0.4
2-Yr	730.0	455.0	1.0	0.5
5-Yr	730.2	780.0	1.4	0.6
10-Yr	730.3	132.0	1.7	0.7
25-Yr	730.4	1250.0	2.0	0.7
50-Yr	730.5	1543.0	2.3	0.8
100-Yr	730.7	1878.0	2.6	0.9
500-Yr	731.0	2169.0	3.1	1.0

West Parking

Stage-Storage-Discharge Results

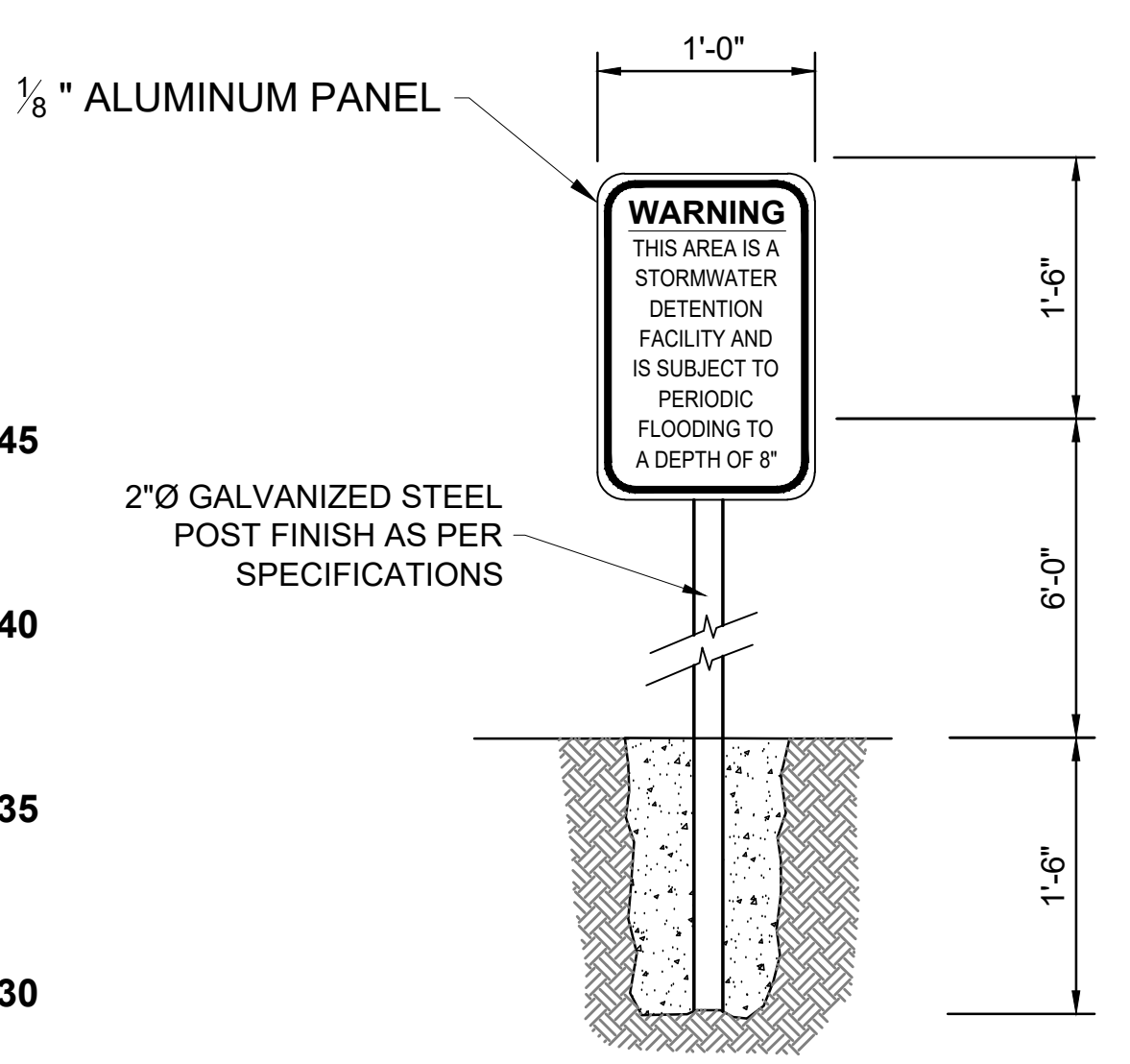
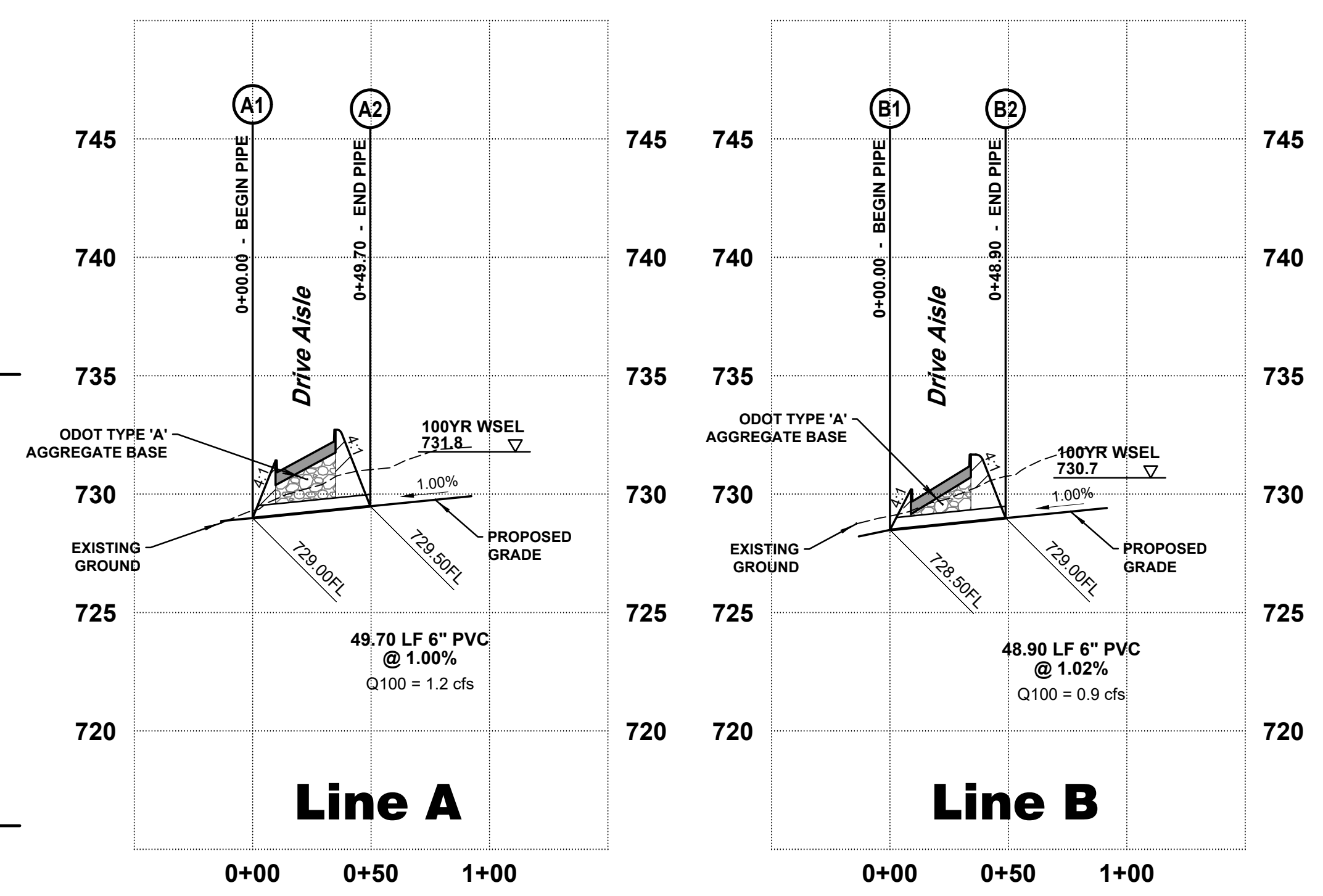
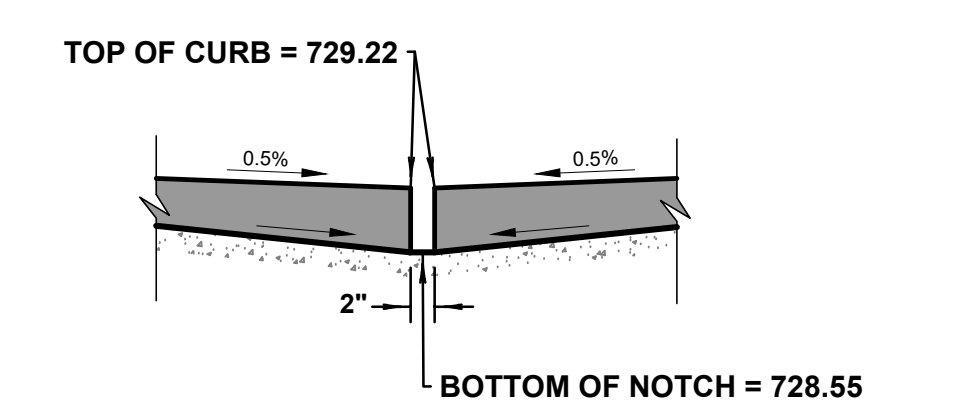
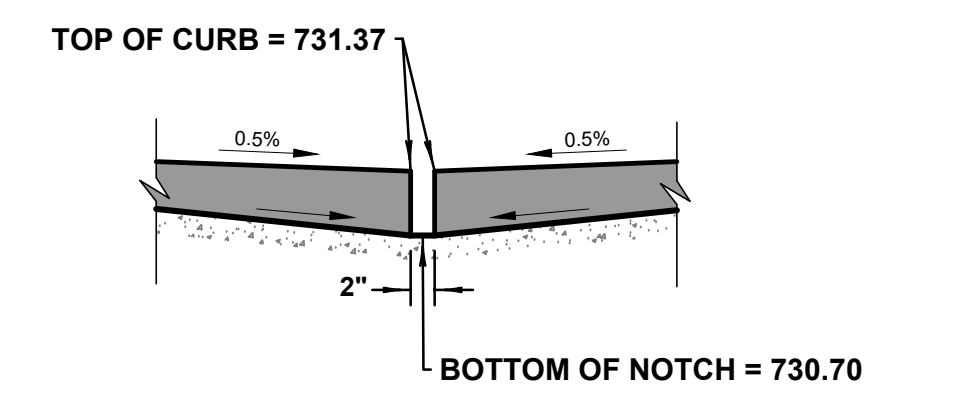
Storm Event	WSEL Stage (ft)	Storage (CF)	Flow Info (cfs)	
			Qin	Qout
1-Yr	731.1	93.0	0.5	0.4
2-Yr	731.2	135.0	0.6	0.5
5-Yr	731.2	165.0	0.8	0.6
10-Yr	731.3	185.0	0.9	0.8
25-Yr	731.3	210.0	1.1	0.9
50-Yr	731.3	235.0	1.2	1.1
100-Yr	731.3	260.0	1.3	1.2
500-Yr	731.4	295.0	1.5	1.5

East Parking

Stage-Storage-Discharge Results

Storm Event	WSEL Stage (ft)	Storage (CF)	Flow Info (cfs)	
			Qin	Qout
1-Yr	729.0	93.0	0.5	0.4
2-Yr	729.1	135.0	0.6	0.5
5-Yr	729.1	165.0	0.8	0.6
10-Yr	729.2	185.0	0.9	0.8
25-Yr	729.2	210.0	1.1	0.9
50-Yr	729.2	235.0	1.2	1.1
100-Yr	729.2	260.0	1.3	1.2
500-Yr	729.3	295.0	1.5	1.5

DETENTION FACILITIES, STORM SEWER AND APPURTENANCES TO THE STORM SEWER ALONG DATE AVENUE WILL BE PRIVATE AND MAINTAINED BY THE PROPERTY OWNER.



NOTE:
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Select design
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Bixby, Oklahoma 74008
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PROJECT NAME
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Iola Street Office
Broken Arrow, OK
Project No. 2068

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ISSUE DATE
10/11/2018

SCALE
1"=20'

SHEET NAME
DETENTION FACILITY PLAN

SHEET NO.

C7

QuikTrip Commercial Center #80

Site Benchmark #1

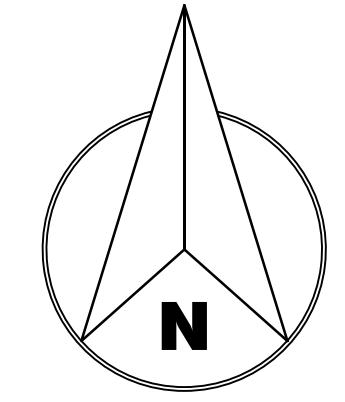
3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
N=393186.031 / E=2619950.979

Site Benchmark #2

60d NAIL SET ON NORTH SIDE OF EXISTING POWER POLE.
ELEVATION = 729.308' (NAVD 1988)
N=393044.999 / E=2619782.457

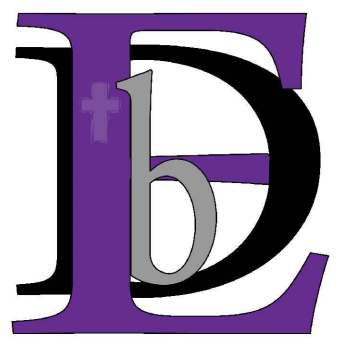
Site Benchmark #3

3/8" IRON PIN. ELEVATION = 730.548' (NAVD 1988)
N=393062.791 / E=2619631.258



Scale: 1" = 20'

CONSULTANTS



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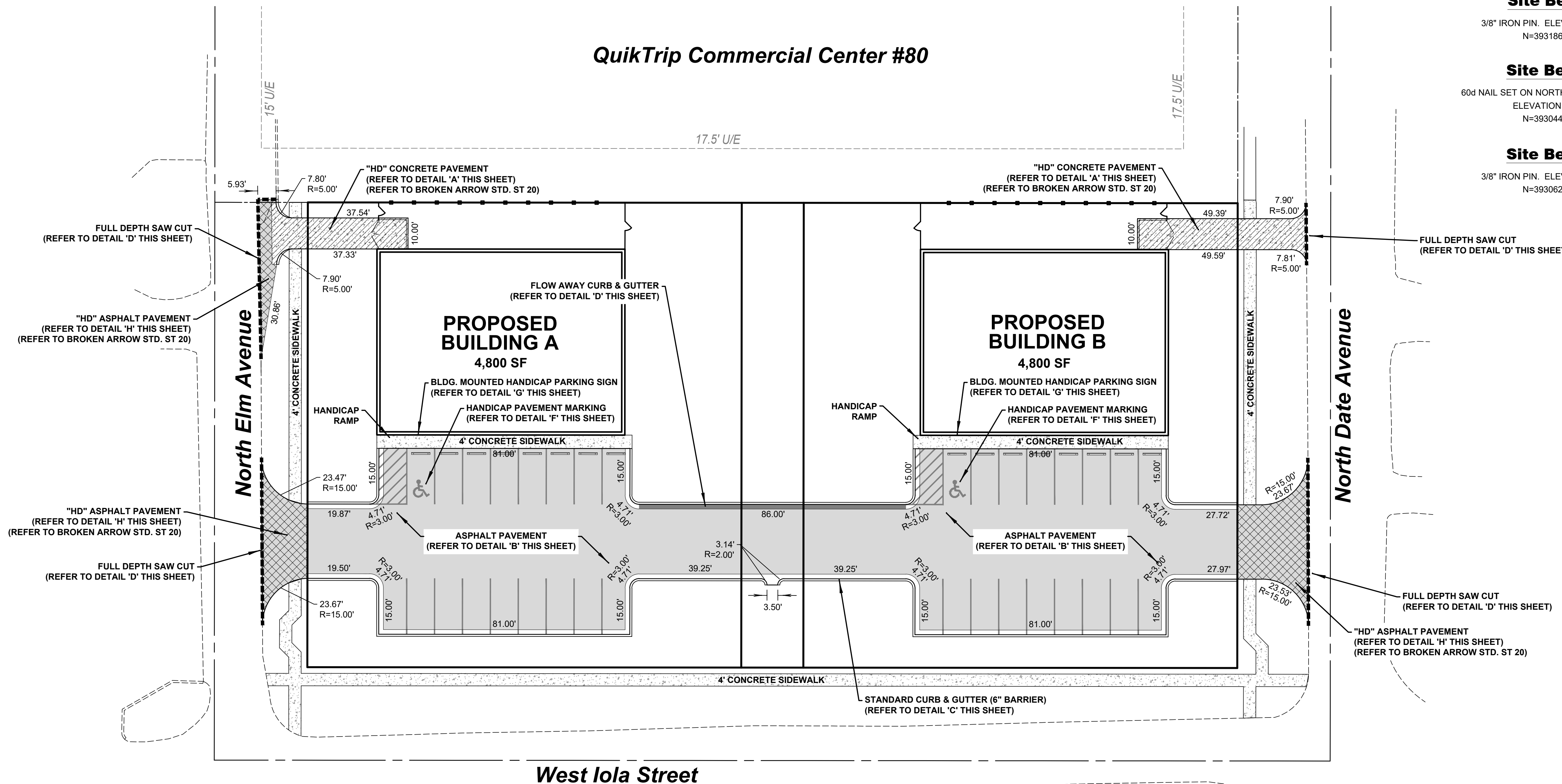
1"=20'

SHEET NAME

PAVING PLAN

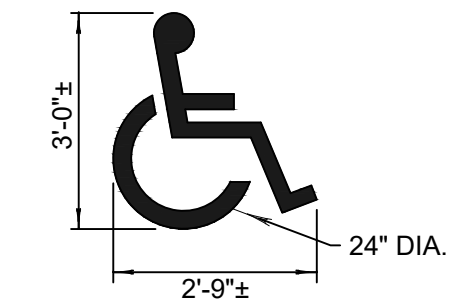
SHEET NO.

C8



Sheet Legend

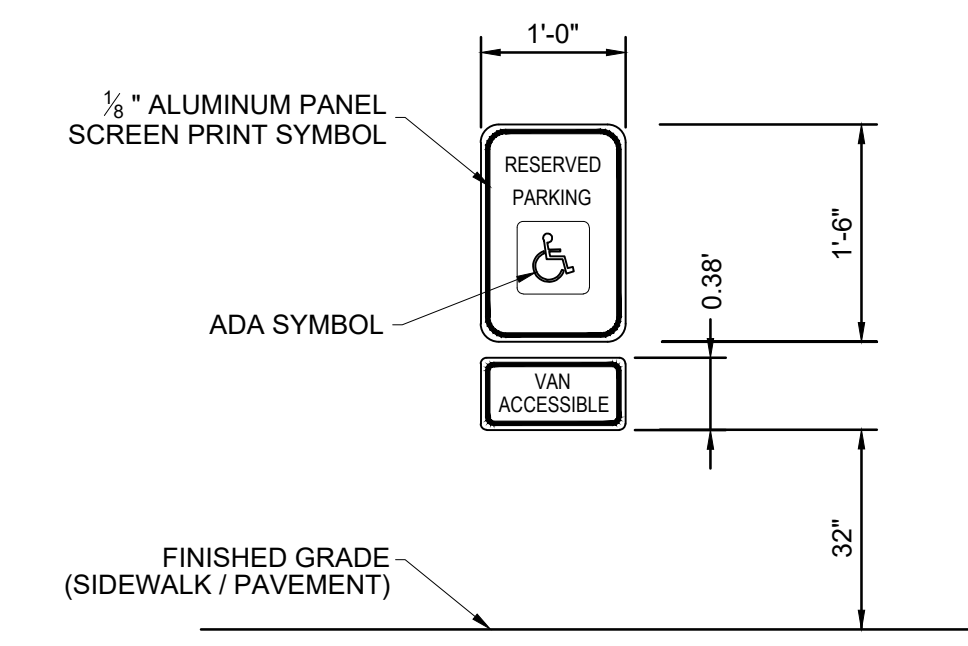
- FLOW AWAY CURB (REFER TO DETAIL 'D' THIS SHEET)
- "HD" CONCRETE PAVEMENT SECTION (REFER TO DETAIL 'A' THIS SHEET)
- ASPHALT PAVEMENT SECTION (REFER TO DETAIL 'B' THIS SHEET)
- "HD" ASPHALT PAVEMENT SECTION (REFER TO DETAIL 'H' THIS SHEET)



HANDICAPPED PARKING IDENTIFICATION LOGO TO BE CENTERED AND PAINTED ON STALL (SEE PLAN FOR LOCATION)

F Handicap Pavement Marking

SCALE: NONE

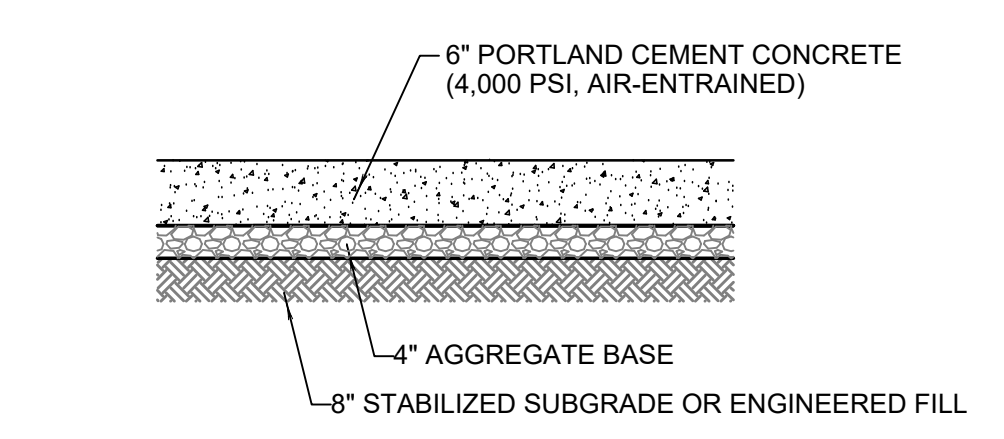


NOTE:

1. BE CENTERED IN THE ADA SPACE.
2. HAVE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY ON THEM ONE OF THE SIGNS SHALL HAVE THE STATEMENT "VAN ACCESSIBLE" BELOW THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
3. SIGN TO BE MINIMUM OF 32 INCHES ABOVE SIDEWALK / PAVEMENT.

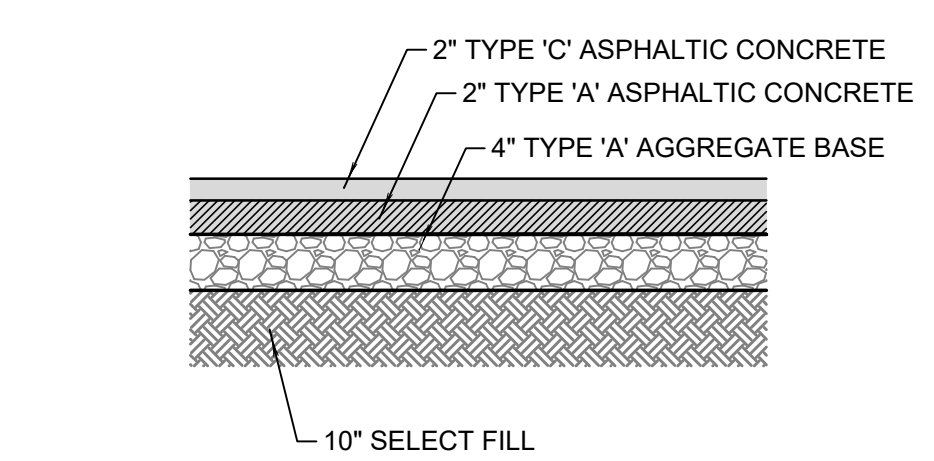
G ADA Parking Sign Detail

SCALE: NONE



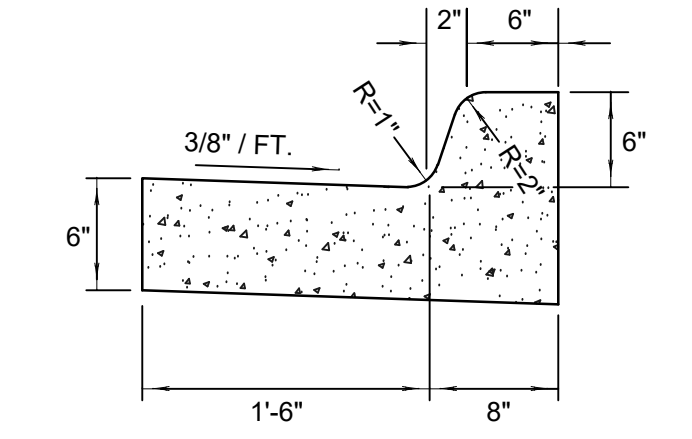
A "HD" Concrete Pavement Section

SCALE: NONE



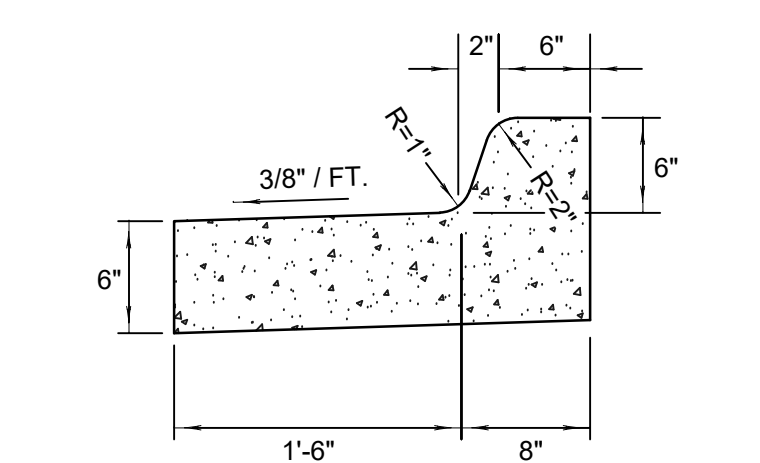
B Asphalt Pavement Section

SCALE: NONE



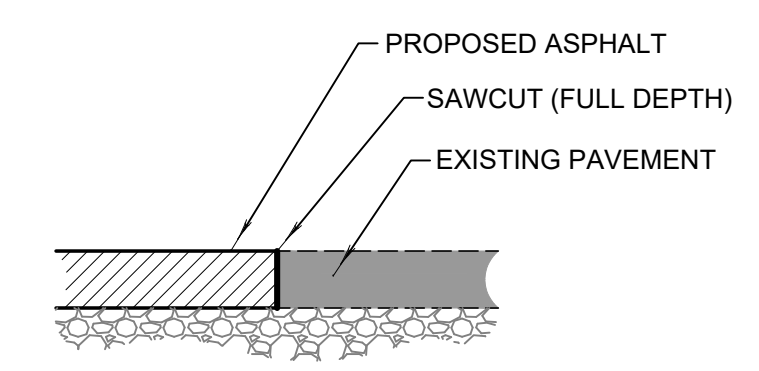
C 6" Barrier Curb & Gutter

SCALE: NONE



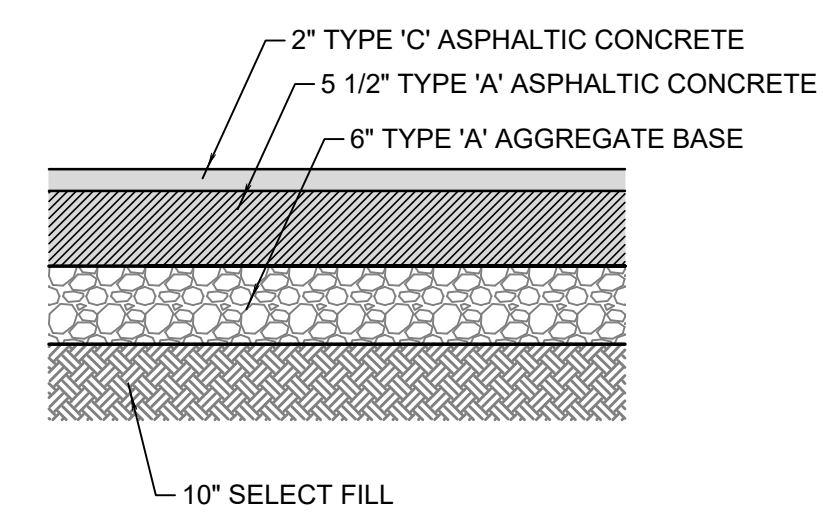
D (Flow Away) 6" Barrier Curb & Gutter

SCALE: NONE



E Butt Joint Detail

SCALE: NONE



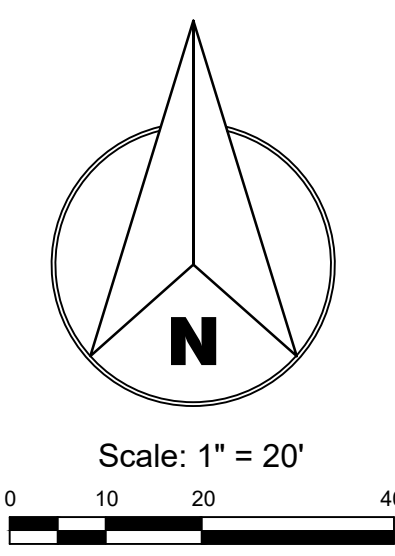
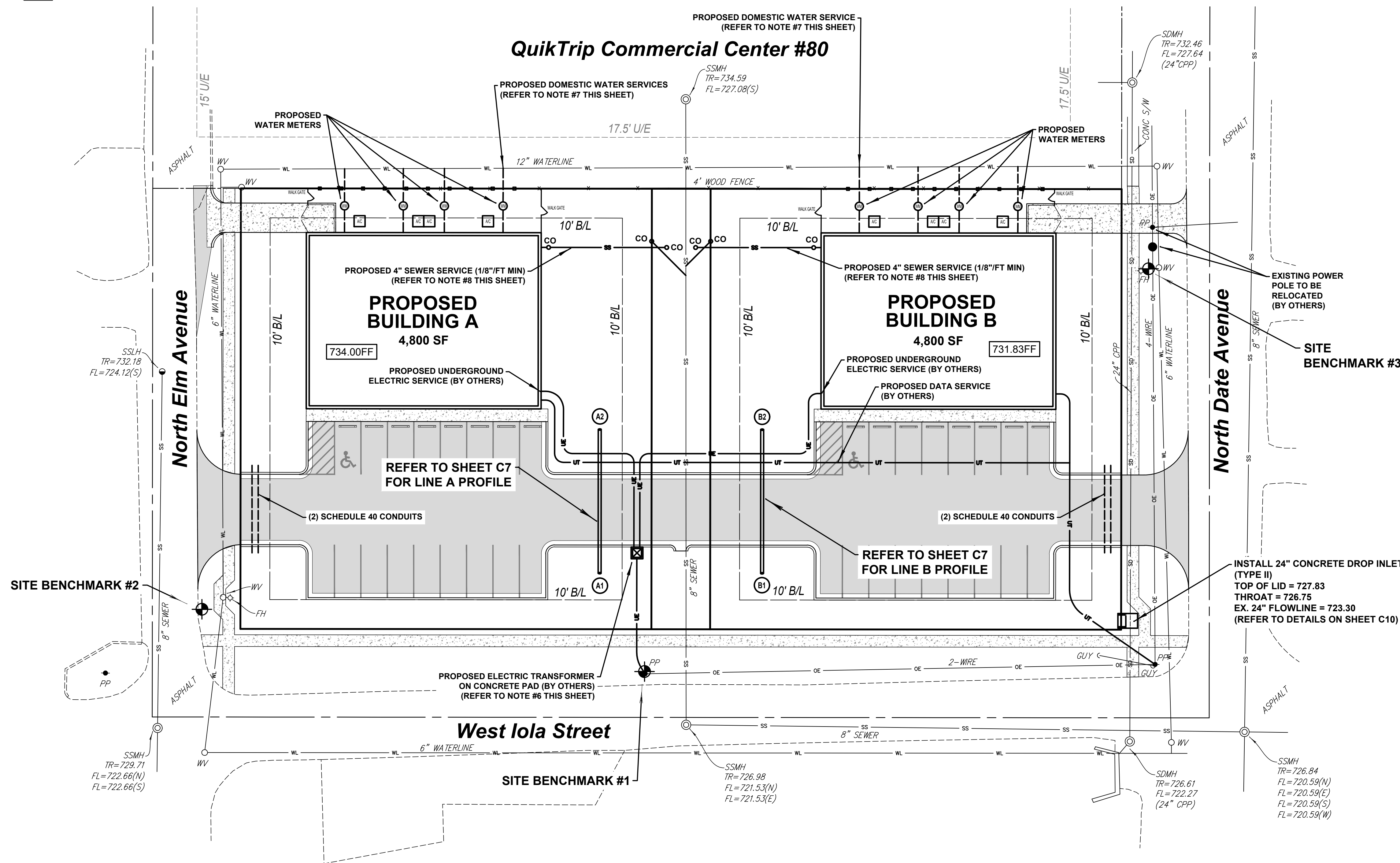
H "HD" Asphalt Pavement Section

SCALE: NONE



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ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF BROKEN ARROW ENGINEERING STANDARD SPECIFICATIONS, INCLUDING O.D.O.T. 2009 EDITION AND APPLICABLE SUPPLEMENTS.

QuikTrip Commercial Center #80



Sheet Legend

CO SANITARY SEWER CLEANOUT

Site Benchmark #1

3/8" IRON PIN. ELEVATION = 730.558' (NAVD 1988)
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Site Benchmark #2

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Site Benchmark #3

3/8" IRON PIN. ELEVATION = 730.548' (NAVD 1988)
N=393062.791 / E=2619631.258

Utility Notes

- ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE CITY OF BROKEN ARROW STANDARDS AND SPECIFICATIONS.
- ALL TRENCHES SHALL BE BACKFILLED PER UTILITY COMPANY SPECIFICATIONS AND COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY UNLESS OTHERWISE INDICATED.
- CONSULT MEP PLANS FOR CONTINUATION OF UTILITY LINES INTO BUILDING. VERIFY LOCATIONS OF UTILITY ENTRY, INVERT ELEVATIONS AND SIZE OF REQUIRED SERVICE LINES.
- NOT ALL EXISTING UNDERGROUND UTILITIES MAY BE SHOWN ON THIS PLAN. THE EXACT LOCATIONS AND NOTIFICATIONS OF THE PROPER AGENCY ARE THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR SHALL COORDINATE WITH TELEPHONE COMPANY FOR TELEPHONE SERVICE. A 4" SCHEDULE 40 WHITE PVC WITH PULL LINE SHALL BE INSTALLED AS SHOWN. SWEEPING 90'S SHALL BE USED AT THE POLE AND BUILDING. A MINIMUM COVER OF 24" SHALL BE MAINTAINED AT ALL LOCATIONS.
- THE CONTRACTOR SHALL COORDINATE WITH AEP / PSO FOR ELECTRICAL SERVICE. A 4" SCHEDULE 40 GRAY PVC WITH PULL LINE SHALL BE INSTALLED AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR THE TRANSFORMER PAD, ALL CONDUIT AND TRENCHING, AND ALL SECONDARY WIRING NECESSARY. THE METER SHALL BE BUILDING MOUNTED AND LOCATED AS DIRECTED BY AEP / PSO. PSO WILL PROVIDE ALL PRIMARY WIRE AND THE TRANSFORMER.
- THE CONTRACTOR SHALL PROVIDE A DOMESTIC WATER SERVICE AS SHOWN. A MINIMUM COVER OF 36" SHALL BE MAINTAINED AT ALL LOCATIONS. ALL FLUSHING, TESTING, AND CHLORINATION SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE CITY OF BROKEN ARROW ACCORDING TO THEIR SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TESTING AND CHLORINATION.
- THE CONTRACTOR SHALL PROVIDE A SANITARY SEWER SERVICE AS SHOWN. ALL FLUSHING AND TESTING SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE CITY OF BROKEN ARROW ACCORDING TO THEIR SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TESTING. ALL EXTERIOR CLEANOUT PLUGS SHALL BE BRASS OR STAINLESS STEEL CONFORMING TO ASTM A74. ANY CLEANOUTS AND PLUGS WITHIN PAVED AREAS AND SIDEWALKS SHALL BE HS-20 LOAD RATED.

Sheet Legend

(A2) STORM SEWER STRUCTURE LABEL



EXISTING UNDERGROUND LINES HAVE BEEN SHOWN TO THE EXTENT KNOWN.
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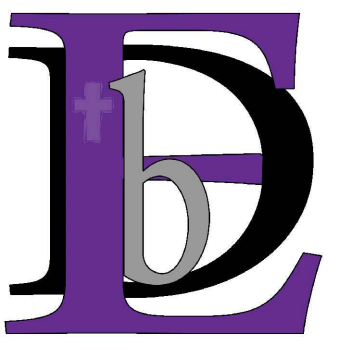
SCALE 1"=20'

SHEET NAME

UTILITY PLAN

SHEET NO.

C9



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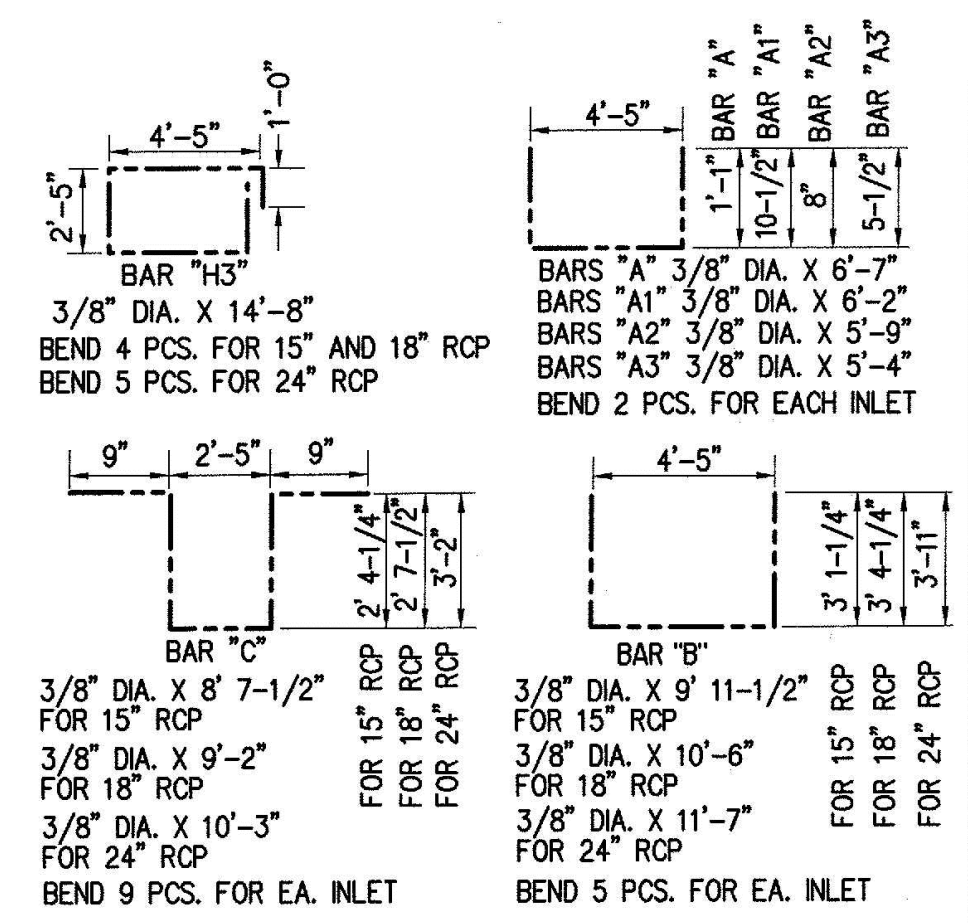
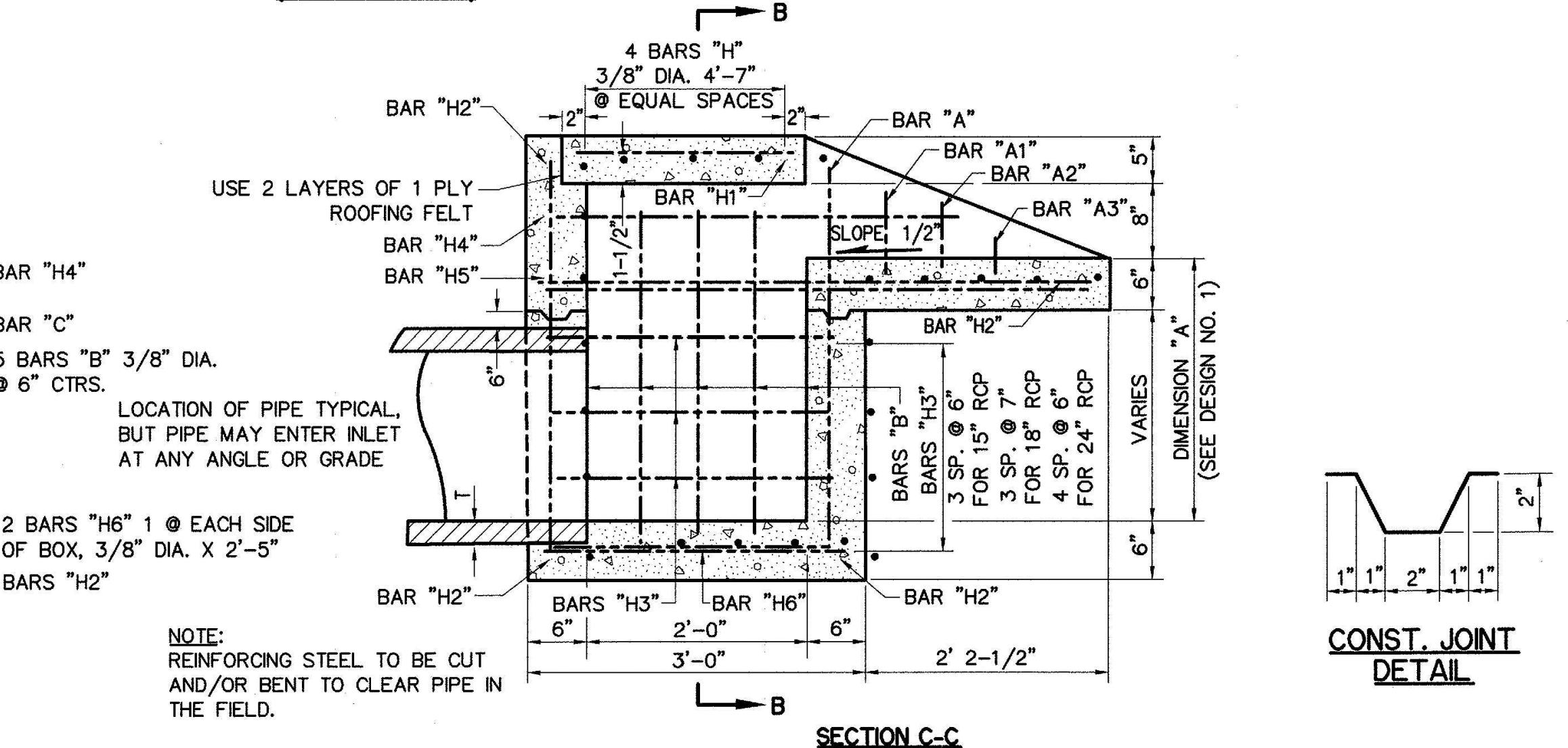
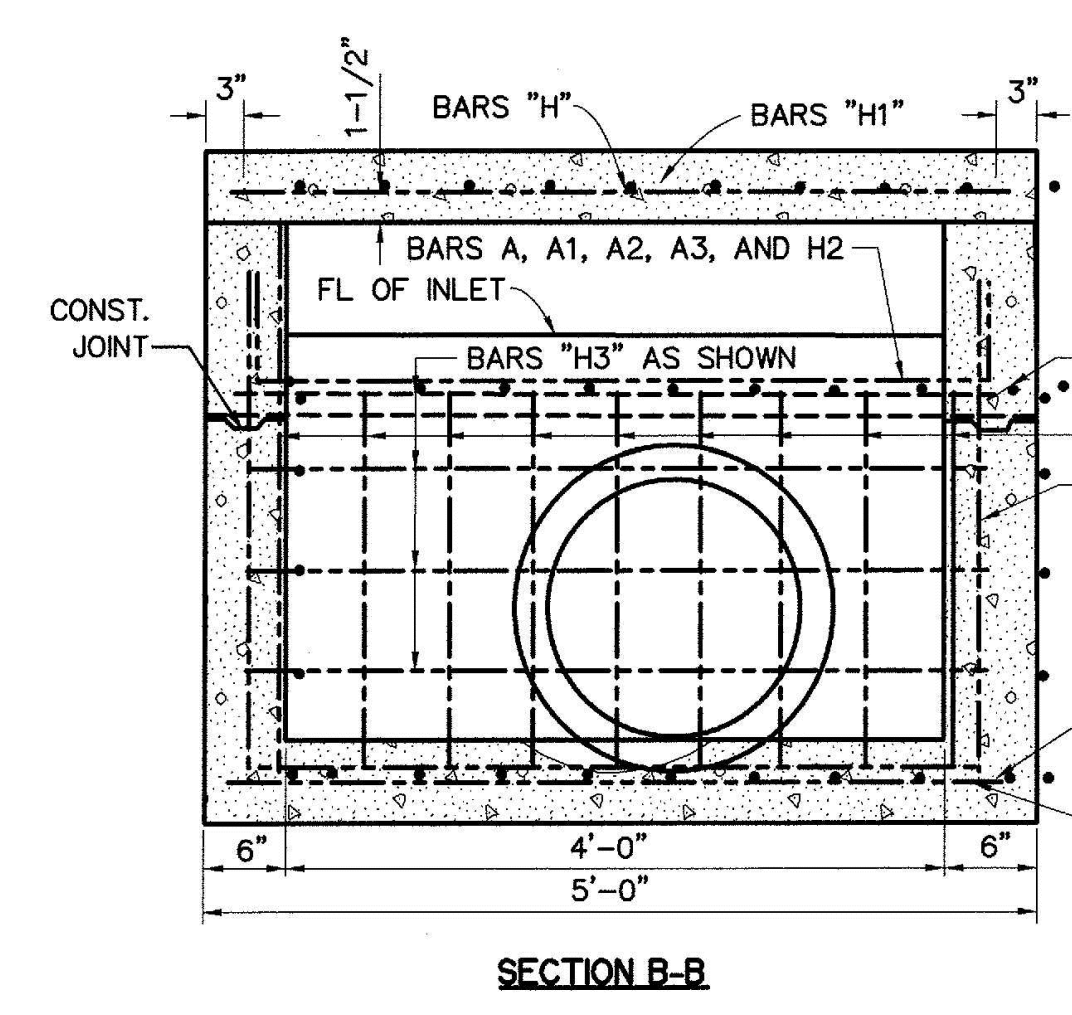
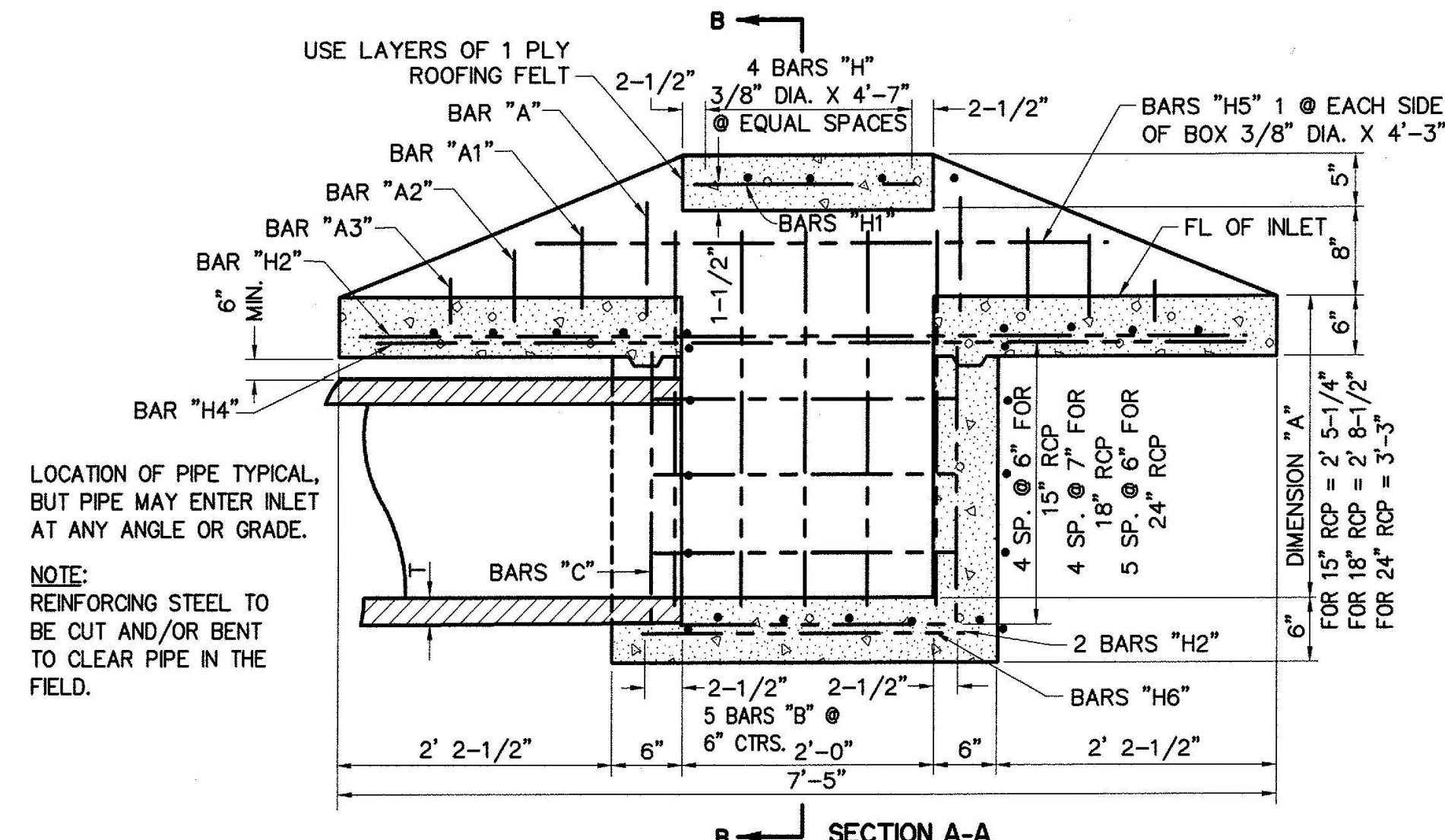
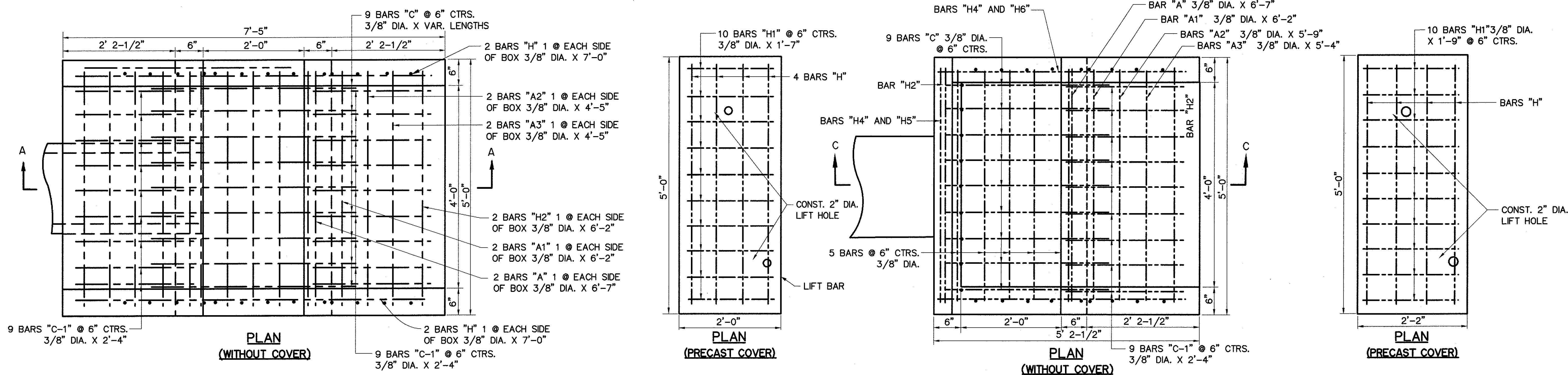
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SHEET NAME

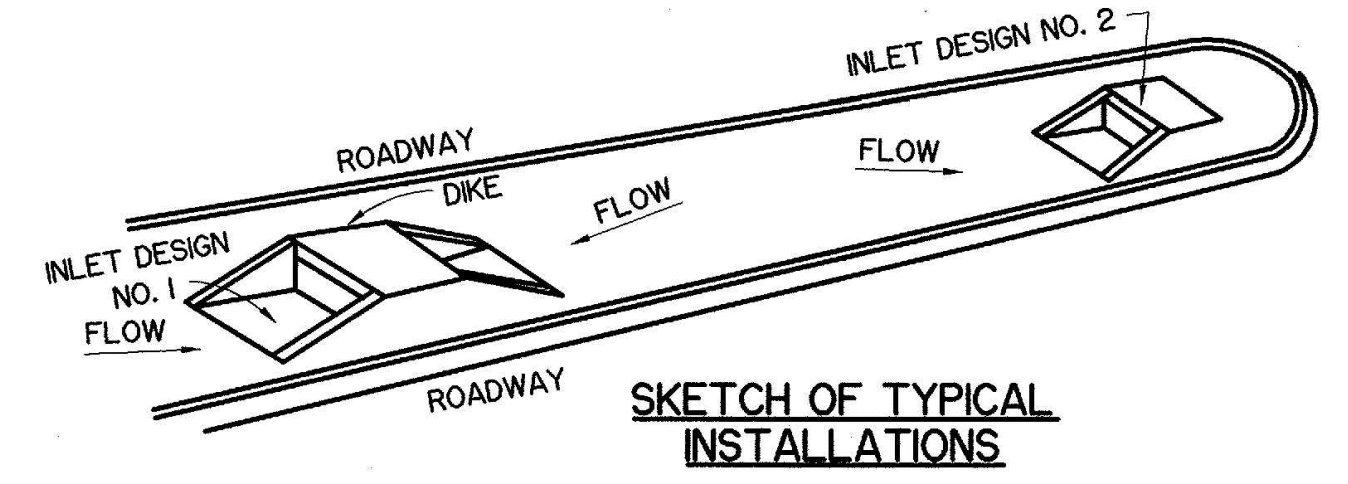
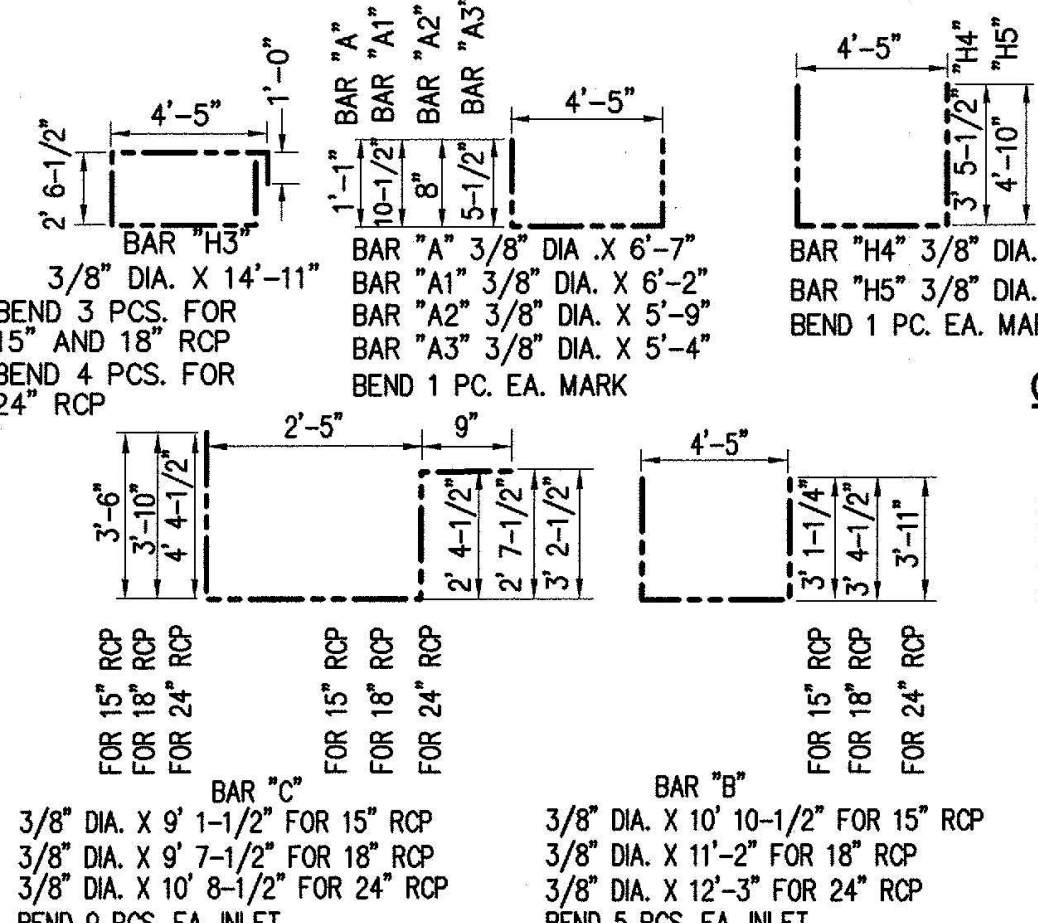
CONCRETE DROP
 INLET DETAILS

SHEET NO.

C10



DESIGN NO. 1						DESIGN NO. 2													
15" RCP			18" RCP			24" RCP			15" RCP			18" RCP			24" RCP				
MARK	NO. PCS.	SHAPE	LENGTH	MARK	NO. PCS.	SHAPE	LENGTH	MARK	NO. PCS.	SHAPE	LENGTH	MARK	NO. PCS.	SHAPE	LENGTH	MARK	NO. PCS.	SHAPE	LENGTH
A	2	BENT	6'-7"	2	BENT	6'-7"	2	BENT	6'-7"	A	1	BENT	6'-7"	1	BENT	6'-7"	1	BENT	6'-7"
A1	2	BENT	6'-2"	2	BENT	6'-2"	2	BENT	6'-2"	A	1	BENT	6'-2"	1	BENT	6'-2"	1	BENT	6'-2"
A2	2	BENT	5'-9"	2	BENT	5'-9"	2	BENT	5'-9"	A	1	BENT	5'-9"	1	BENT	5'-9"	1	BENT	5'-9"
A3	2	BENT	5'-4"	2	BENT	5'-4"	2	BENT	5'-4"	A	1	BENT	5'-4"	1	BENT	5'-4"	1	BENT	5'-4"
B	5	BENT	10'-7-1/2"	5	BENT	11'-2"	5	BENT	12'-3"	B	5	BENT	10'-7-1/2"	5	BENT	11'-2"	5	BENT	12'-3"
C	9	BENT	8'-7-1/2"	9	BENT	9'-2"	9	BENT	10'-3"	C	9	BENT	9'-1-1/2"	9	BENT	9'-7-1/2"	9	BENT	10'-8-1/2"
CI	18	STR.	2'-4"	18	STR.	2'-4"	18	STR.	2'-4"	CI	18	STR.	2'-4"	18	STR.	2'-4"	18	STR.	2'-4"
H	4	STR.	4'-7"	4	STR.	4'-7"	4	STR.	4'-7"	H	4	STR.	4'-7"	4	STR.	4'-7"	4	STR.	4'-7"
H1	10	STR.	1'-7"	10	STR.	1'-7"	10	STR.	1'-7"	H1	10	STR.	1'-9"	10	STR.	1'-9"	10	STR.	1'-9"
H2	4	STR.	4'-5"	4	STR.	4'-5"	4	STR.	4'-5"	H2	4	STR.	4'-7"	4	STR.	4'-7"	4	STR.	4'-7"
H3	4	BENT	14'-8"	4	BENT	14'-8"	5	BENT	14'-8"	H3	3	BENT	14'-11"	3	BENT	14'-11"	4	BENT	14'-11"
H4	2	STR.	7'-0"	2	STR.	7'-0"	2	STR.	7'-0"	H4	1	BENT	11'-4"	1	BENT	11'-4"	1	BENT	11'-4"
H5	2	STR.	4'-3"	2	STR.	4'-3"	2	STR.	4'-3"	H5	1	BENT	14'-1"	1	BENT	14'-1"	1	BENT	14'-1"
H6	2	STR.	2'-5"	2	STR.	2'-5"	2	STR.	2'-5"	H6	2	STR.	2'-5"	2	STR.	2'-5"	2	STR.	2'-5"



GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF TULSA STANDARD SPECIFICATIONS.
2. ALL EXPOSED CONCRETE SURFACES TO BE CORROUNDUM FINISHED.
3. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 1/2" CHAMFER.
4. ALL REINFORCING STEEL TO BE 3/8" DIAMETER DEFORMED BARS.
5. FOR EACH FOOT ADDITIONAL HEIGHT, ADD 2'-0" TO BARS "B" AND "C," BARS "H3" AT 6" CTR. TO CTR.

QUANTITIES

ITEM	15" RCP	18" RCP	24" RCP	ITEM	15" RCP	18" RCP	24" RCP
CLASS 'A' CONCRETE	1.67 C.Y.	1.73 C.Y.	1.77 C.Y.	CLASS 'A' CONCRETE	1.52 C.Y.	1.59 C.Y.	1.64 C.Y.
REINFORCING STEEL	135 LBS.	141 LBS.	147 LBS.	REINFORCING STEEL	118 LBS.	121 LBS.	132 LBS.

QUANTITIES PER FT. OF VERT. HT. - CLASS 'A' CONG. - 0.26 C.Y. - REINFORCING STEEL - 21.79 LBS. (SEE NOTES)

