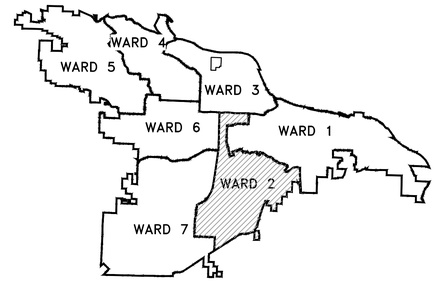
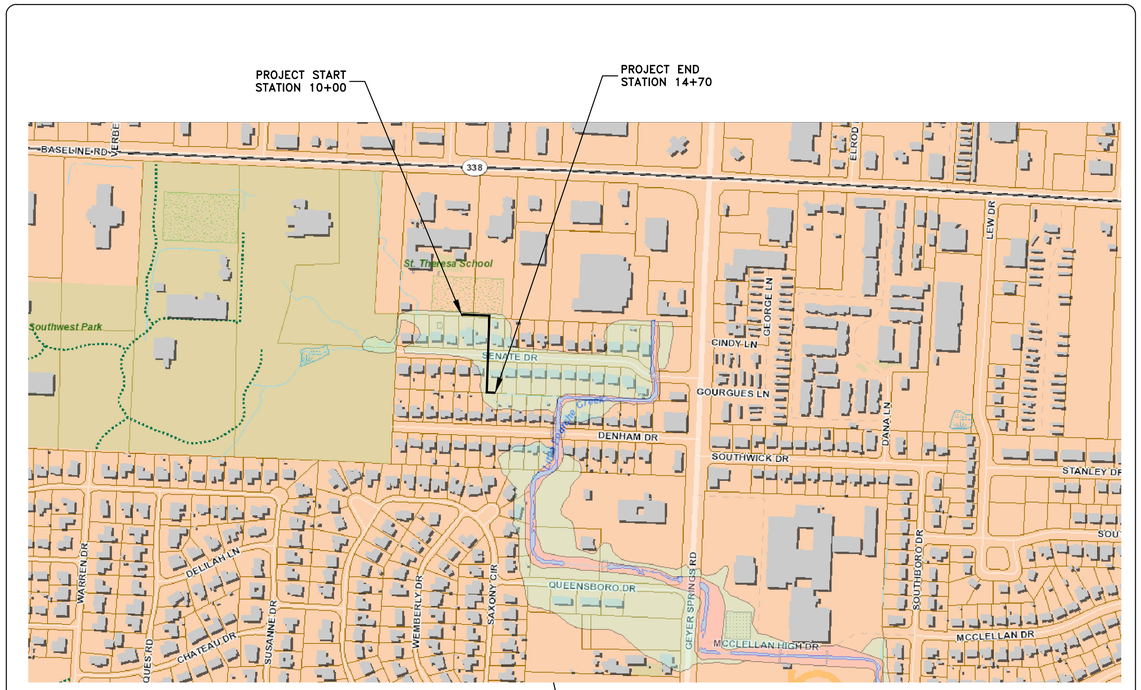
Project 02-17-DR-65
SENATE DRIVE DRAINAGE IMPROVEMENTS



PROJECT LOCATION – WARD 2



PROJECT LOCATION

SHEET NO.	TITLE
C1	COVER SHEET
C2	LEGEND & QUANTITIES
C3	CHANNEL PLAN & PROFILE
C4	TYPICAL SECTION & SPECIAL DETAILS
C5	ROADWAY PLAN AND PROFILE
C6	CULVERT DETAILS
C7	SEWER PLAN & PROFILE
C8	WATER PLAN & DETAILS
C9	PROPERTY OWNERSHIP AND FIELD TIES / LAYOUT SHEET
C10	EROSION CONTROL PHASE 1
C11	EROSION CONTROL PHASE 2
C12	EROSION CONTROL PHASE 3
C13	MAINTENANCE OF TRAFFIC PLAN

100%
SUBMITTAL

811 Know what's **below.** **Call** before you dig.

2019-2021
BOND PROGRAM

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201

ftn Associates Ltd.
water resources / environmental consultants
3 Innwood Circle, Suite 220
Little Rock, Arkansas 72211
FTN Project No. 04010-1938-001

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
COVER SHEET

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS – LICENSED PROFESSIONAL ENGINEER – No. 14253 – KENNETH LOYD FARMER III – 3/19/21

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	N.T.S.
PROJECT NO.	CLR 02-17-DR-65
SHEET NO.	C1

	Senate Drive Drainage Improvements		
	Final Design		
	March 19, 2021		
ITEM #	**ITEM DESCRIPTION**	**UNIT**	**QUANTITY**
	Senate Drive Drainage Improvements		
2.01	Site Preparation, Including Mobilization	LS	1
3.01	Unclassified Excavation	CY	500
3.06	Borrow Material	CY	20
4.01	Aggregate Base Course (Class 7)	TON	140
5.01	Tack Coat	GAL	15
6.01	ACHM Surface Course	TON	18
6.20	ACHM Binder Course	TON	18
8.03	Concrete Curb and Gutter (Class 4)	LF	86
9.03	Concrete Flume	SF	140
11.01	Reinforced Concrete Pre-Cast Box Culvert (6'x4')	LF	102
11.06	Reinforced Concrete Headwall, Wingwalls, Flowable Fill between Boxes	CY	20
11.10	Reinforced Concrete Channel	CY	135
14.02	Soil Sodding (Special, Includes 4" Topsoil)	SY	700
16.01	Maintenance of Traffic	LS	1
18.45	Grouted Riprap	CY	50
19.01	Final Cleanup	LS	1
24.05	Rock Dam	CY	20
25.04	Fence Chain Link (4')	LF	580
26.10	Trench and Excavation Safety	LS	1
28.00	Guard Rail	LF	68
28.01	Guard Rail Anchor Posts	EA	8
816.00	Filter Fabric	SY	800

EXISTING

- IRON ROD — IR
- PK NAIL — PK
- R.R. SPIKE — RR(Sp)
- CONC. MONUMENT — CM
- WATER VALVE — WV
- WATER METER — WM
- FIRE HYDRANT — FH
- GAS METER — GM
- GAS VALVE — GV
- CLEAN-OUT — CO
- GUARD POST (BOLLARD) — GP
- SIGN POST
- BENCHMARK
- STORM SEWER MANHOLE (D)
- SANITARY SEWER MANHOLE (S)
- TELEPHONE MANHOLE (T)
- ELECTRIC MANHOLE (E)
- TELEPHONE BOX (T)
- ELECTRIC BOX (E)
- CABLE BOX (C)
- UTILITY POLE
- GUY WIRE
- LIGHT POLE
- POST OR POLE (TYPE AS NOTED)
- MAILBOX
- DECIDUOUS TREE
- EVERGREEN/CONIFEROUS TREE
- BUSH
- PROPERTY LINE
- SETBACK LINE
- EASEMENT LINE
- CURB
- FENCE — X — X — X —
- OVERHEAD ELECTRIC — OE — OE —
- OVERHEAD TELEPHONE — OT — OT —
- OVERHEAD CABLE — OC — OC —
- UNDERGROUND TELEPHONE — UGT —
- UNDERGROUND ELECTRIC — UGE —
- UNDERGROUND CABLE — UGC —
- WATER LINE — 8"W —
- SEWER LINE — 8"SS —
- GAS LINE — 4"G —
- STORM SEWER/CULVERT — 24" CMP/RCP/DIP
- EDGE OF WOODS
- CONTOUR LINE — 650 —
- RIPRAP
- PROPOSED CHAIN LINK FENCE — x — x — x — x —

PROPOSED

- PROPOSED CONTOUR — 25
- PROPOSED SPOT ELEVATION — 25.00
- PROPOSED SPOT CURB ELEVATION — 25.50 / 25.00
- STORM SEWER – PIPE
- STORM SEWER – MITERED END SECTION
- STORM SEWER – GRATE INLET
- STORM SEWER – JUNCTION BOX (D) (D)
- STORM SEWER – FLARED END SECTION
- STORM SEWER – HEADWALL
- STORM SEWER – SINGLE WING (D)
- STORM SEWER – DOUBLE WING (D)
- STORM SEWER – AREA INLET (D)
- GRADE BREAK LINE
- HIGH POINT — HP
- LOW POINT — LP
- CUT LINE — C —
- FILL LINE — F —
- SANITARY SEWER PIPE — SAN —
- SANITARY SEWER MANHOLE (S)
- PROPOSED CURB
- PROPOSED CONCRETE
- CONSTRUCTION – ENTRANCE/EXIT (CO)
- CHECK DAM (CD)
- DIVERSION BERM (DI)
- DOWNDRAIN STRUCTURE – TEMPORARY (DN)
- ROCK DAM (RD)
- SEDIMENT BARRIER – SILT FENCE (SD1)
- SEDIMENT BARRIER – GRAVEL RING (SD2)
- SEDIMENT BARRIER – BLOCK & GRAVEL (SD3)
- SEDIMENT BARRIER – BLOCK (SD4)
- TEMPORARY SEDIMENT BASIN (SB1)
- SILT FENCE – TYPE A (SFA)
- SILT FENCE – TYPE B (SFB)
- SILT FENCE – TYPE C (SFC)
- STORM DRAIN OUTLET PROTECTION (ST)
- SURFACE ROUGHENING (SU)
- DISTURBED AREA STABILIZATION –TEMPORARY STABILIZATION [TS1]
- DISTURBED AREA STABILIZATION –TEMPORARY GRASSING [TS2]
- DISTURBED AREA STABILIZATION –PERMANENT GRASSING [TS3]
- MATTING/BLANKETS [Mb]

100%
SUBMITTAL

FTN ASSOCIATES, LTD. No. 63 — CERTIFICATE OF AUTHORIZATION — ARKANSAS

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
LEGEND & QUANTITIES

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 14253 — KENNETH LOYD FARMER — 3/19/21

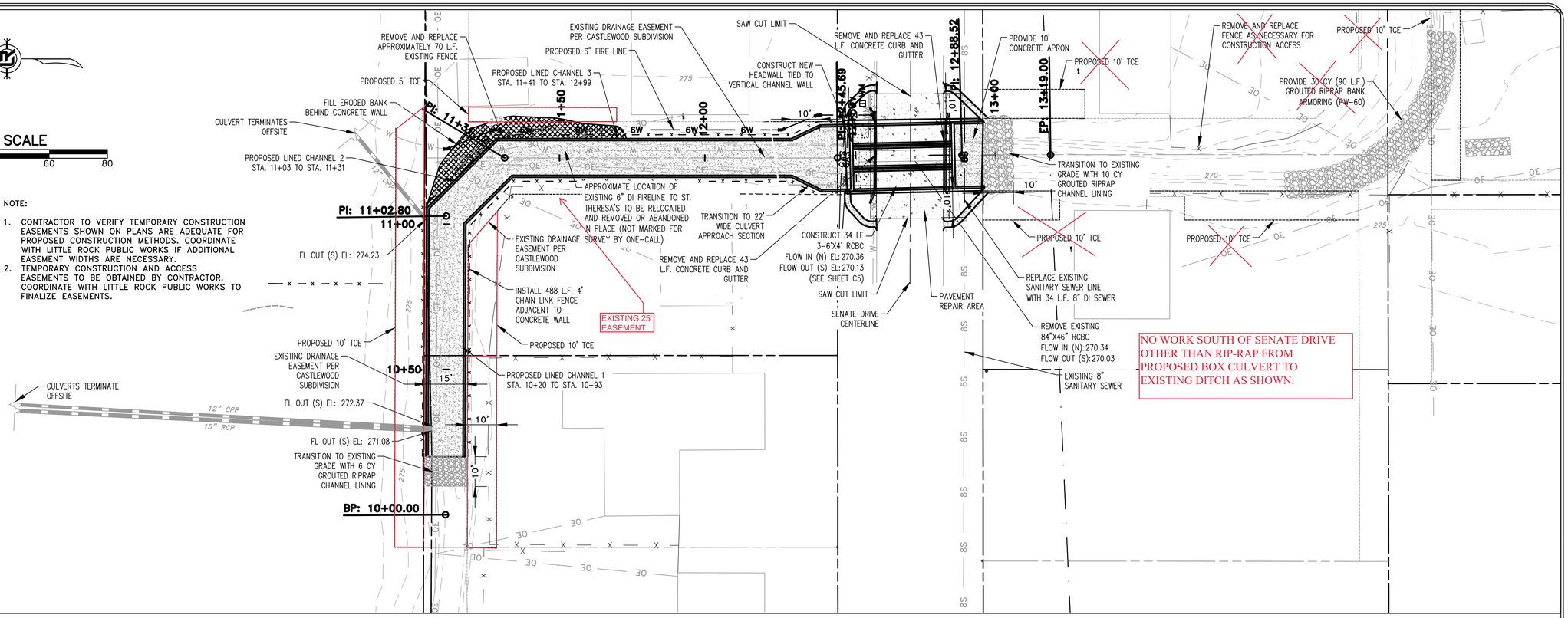
DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	N.T.S.
PROJECT NO.	CLR 02-17-DR-65
SHEET NO.	C2

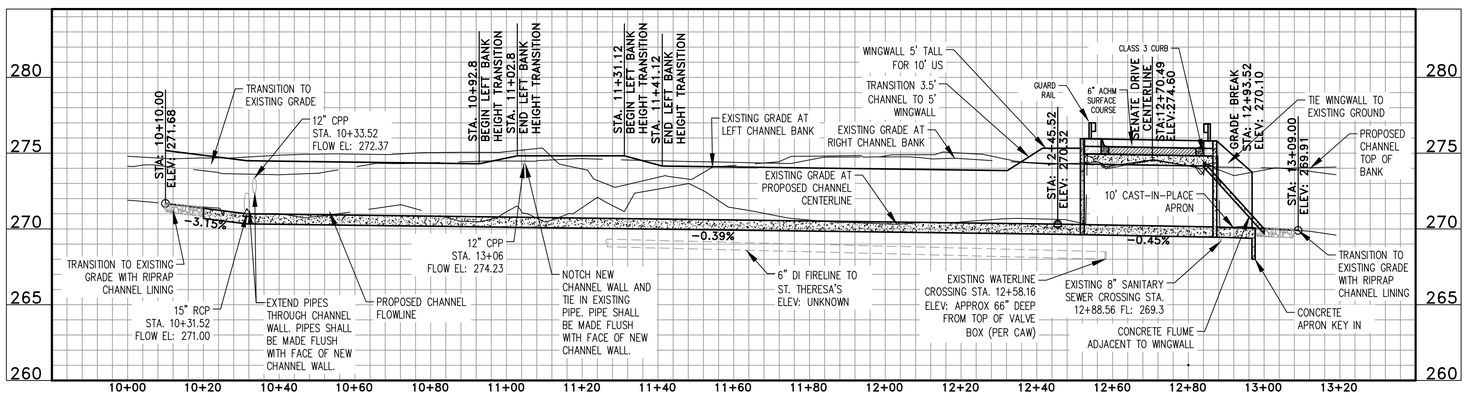
GRAPHIC SCALE

0 10 20 40 60 80

NOTE:

1. CONTRACTOR TO VERIFY TEMPORARY CONSTRUCTION EASEMENTS SHOWN ON PLANS ARE ADEQUATE FOR PROPOSED CONSTRUCTION METHODS. COORDINATE WITH LITTLE ROCK PUBLIC WORKS IF ADDITIONAL EASEMENT WIDTHS ARE NECESSARY.
2. TEMPORARY CONSTRUCTION AND ACCESS EASEMENTS TO BE OBTAINED BY CONTRACTOR. COORDINATE WITH LITTLE ROCK PUBLIC WORKS TO FINALIZE EASEMENTS.





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FTN ASSOCIATES, LTD. No. 63 CERTIFICATE OF AUTHORIZATION ARKANSAS

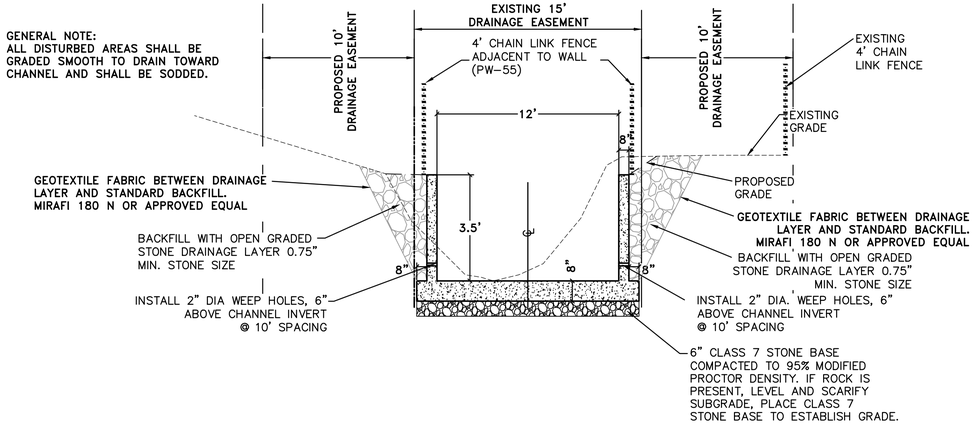
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
PROPOSED CHANNEL
PLAN - PROFILE
STA. 10+00 TO 13+19

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

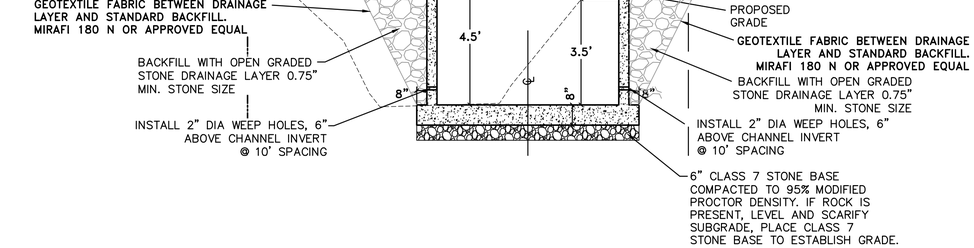
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER III
3/19/21

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=20'
PROJECT NO.	CLR 02-17-DR-65
SHEET NO.	C3



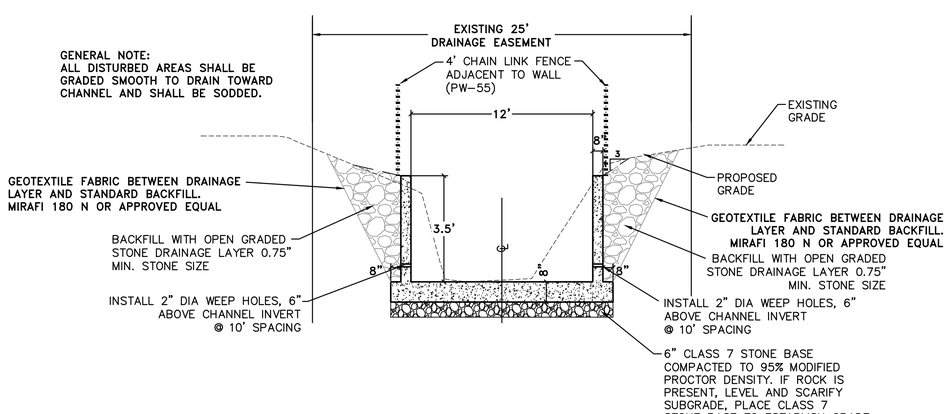
TYPICAL SECTION – PROPOSED LINED CHANNEL 1

Sta 10+20 to 10+93



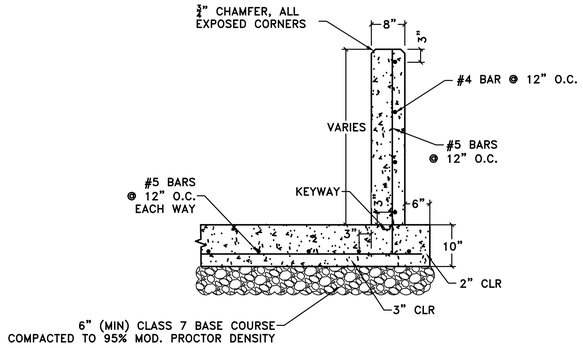
TYPICAL SECTION – PROPOSED LINED CHANNEL 2

Sta 11+03 to 11+31

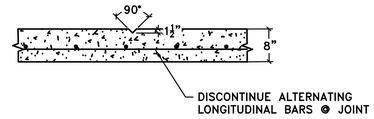


TYPICAL SECTION – PROPOSED LINED CHANNEL 3

Sta 11+41 to 12+99

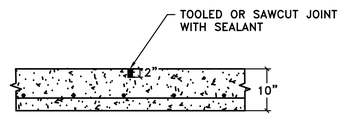


TYPICAL REINFORCEMENT – CONCRETE CHANNEL

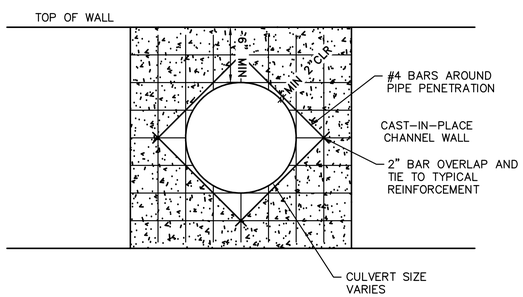


PLAN VIEW CONTROL JOINT (FACE OF WALL)

NOTE:
WEEP HOLES BETWEEN JOINTS



SECTION CONTROL JOINT (CHANNEL BOTTOM)



TYPICAL REINFORCEMENT – PIPE PENETRATI

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REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
TYPICAL SECTIONS & SPECIAL DETAILS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER
3/19/21

CERTIFICATE OF AUTHORIZATION
FTN ASSOCIATES, LTD.
No. 63
ARKANSAS

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	AS SHOWN
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C4

GRAPHIC SCALE

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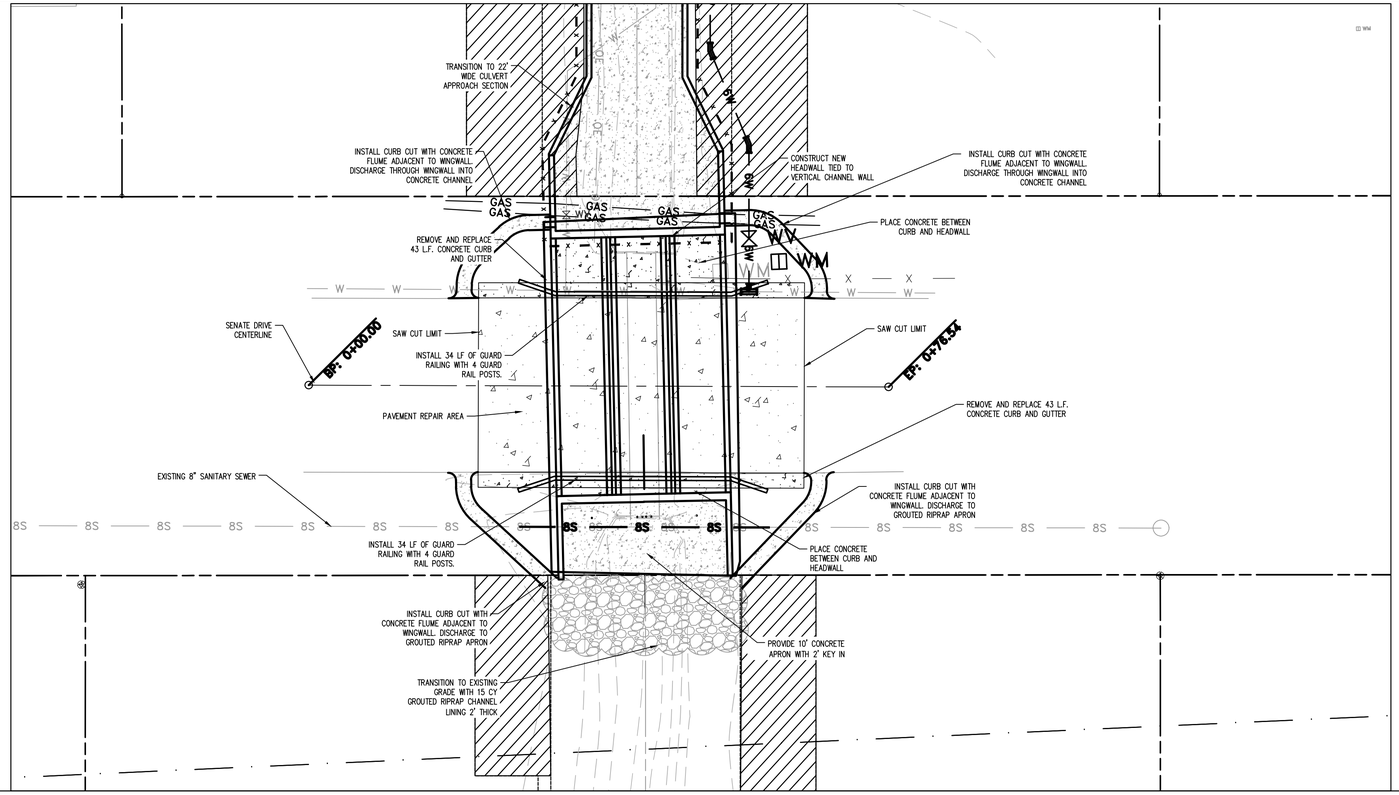
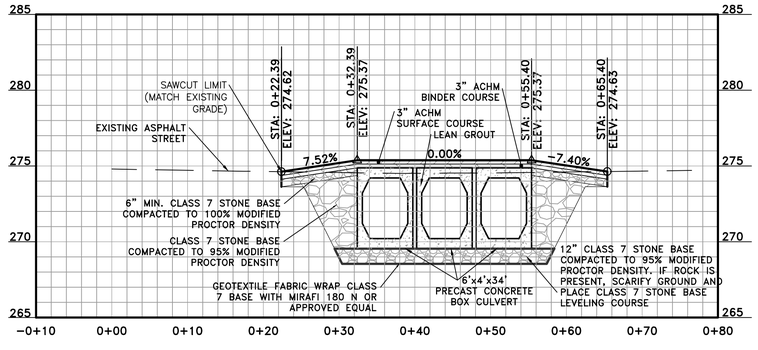




LEAN GROUT REQUIREMENTS:

1. PORTLAND CEMENT SHALL BE TYPE 1 AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
2. SAND SHALL MEET THE REQUIREMENTS OF ASTM C 33 FINE AGGREGATE.
3. THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
4. THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENT.
5. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL VOIDS.

NOTE:

1. PRECAST REINFORCED CONCRETE BOX CULVERTS JOINTS SHALL BE INSTALLED WITH PREFORMED FLEXIBLE PLASTIC JOINT MATERIAL (RAM-NEK OR APPROVED EQUAL). INSTALL PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PLACE THE JOINT SEALER SO THAT NO DIRT OR OTHER DELETERIOUS MATERIALS COME IN CONTACT WITH THE JOINT SEALING MATERIAL. PULL OR PUSH HOME THE CULVERT WITH ENOUGH FORCE TO PROPERLY SEAL THE JOINT. REMOVE ANY JOINT MATERIAL PUSHED OUT INTO THE INTERIOR OF THE PIPE THAT WOULD TEND TO OBSTRUCT THE FLOW. WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 60°F, STORE PREFORMED FLEXIBLE JOINT SEALANTS IN AN AREA WARMED TO ABOVE 70°F OR ARTIFICIALLY WARM TO THIS TEMPERATURE IN AN APPROVED MANNER. APPLY FLEXIBLE JOINT SEALANTS TO PIPE JOINTS IMMEDIATELY BEFORE PLACING PIPE IN TRENCH, AND THEN CONNECT PIPE TO PREVIOUSLY LAID PIPE. BACKFILL AFTER THE JOINT HAS BEEN INSPECTED AND APPROVED.

100% SUBMITTAL

CERTIFICATE OF AUTHORIZATION — FTN ASSOCIATES, LTD. No. 63 — ARKANSAS

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

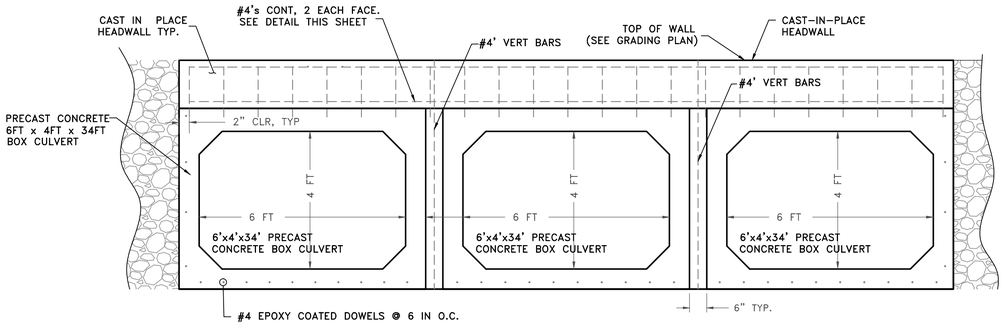
SENATE DRIVE DRAINAGE IMPROVEMENTS

ROADWAY PLAN AND PROFILE

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 14253 — KENNETH LOYD FARMER III — 3/19/21

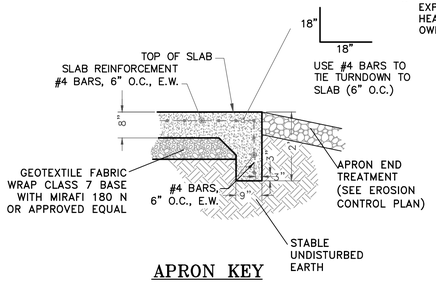
DRAWN BY	CKS
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=5'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C5



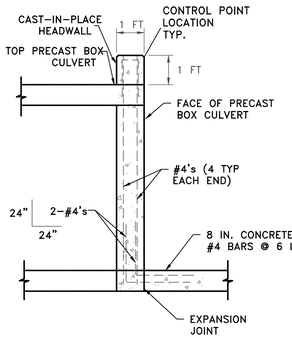
CULVERT PROFILE VIEW – HEADWALL, WINGWALLS, AND APRON CONNECTIONS

GENERAL NOTES:

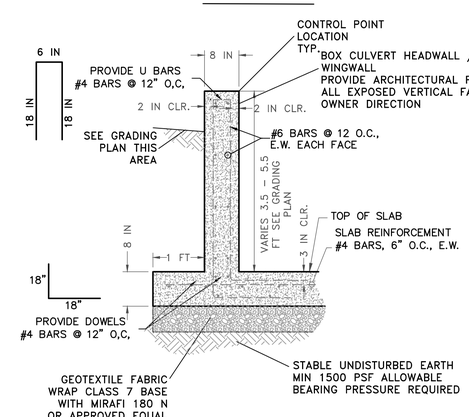
1. WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY #4 BARS CAST INTO PRECAST BOX CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING.
2. ALL EXPOSED CORNERS SHALL HAVE 3/4" CHAMFERS.
3. SEE GENERAL NOTES AND TECHNICAL SPECIFICATIONS FOR CONCRETE AND REINFORCING REQUIREMENTS.
4. PROVIDE ARCHITECTURAL FINISH ALL EXPOSED VERTICAL FACES OF HEADWALLS AND WINGWALLS PER OWNER DIRECTION.



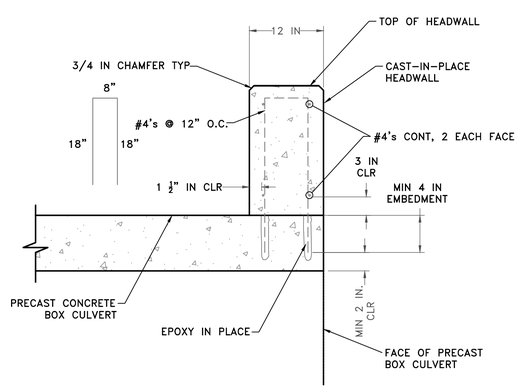
APRON KEY



HEADWALL

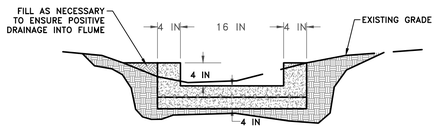


WINGWALL

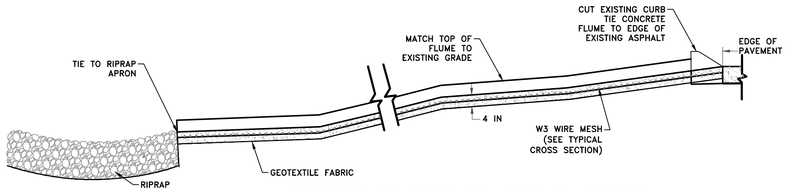


HEADWALL ANCHORING

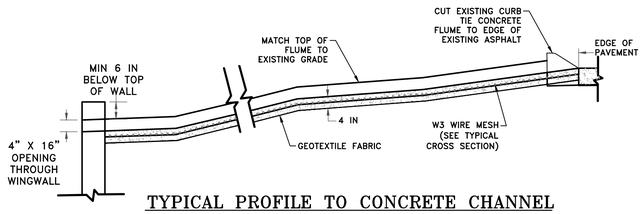
PRECAST CONCRETE BOX AND HEADWALL DETAILS



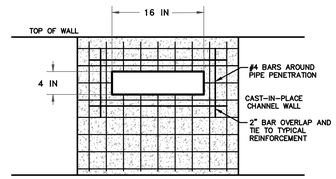
TYPICAL SECTION



TYPICAL PROFILE TO RIPRAP APRON



TYPICAL PROFILE TO CONCRETE CHANNEL



TYPICAL REINFORCEMENT – FLUME PENETRATIONS

CONCRETE FLUME DETA

100% SUBMITTAL

FTN ASSOCIATES, LTD. No. 63 CERTIFICATE OF AUTHORIZATION ARKANSAS

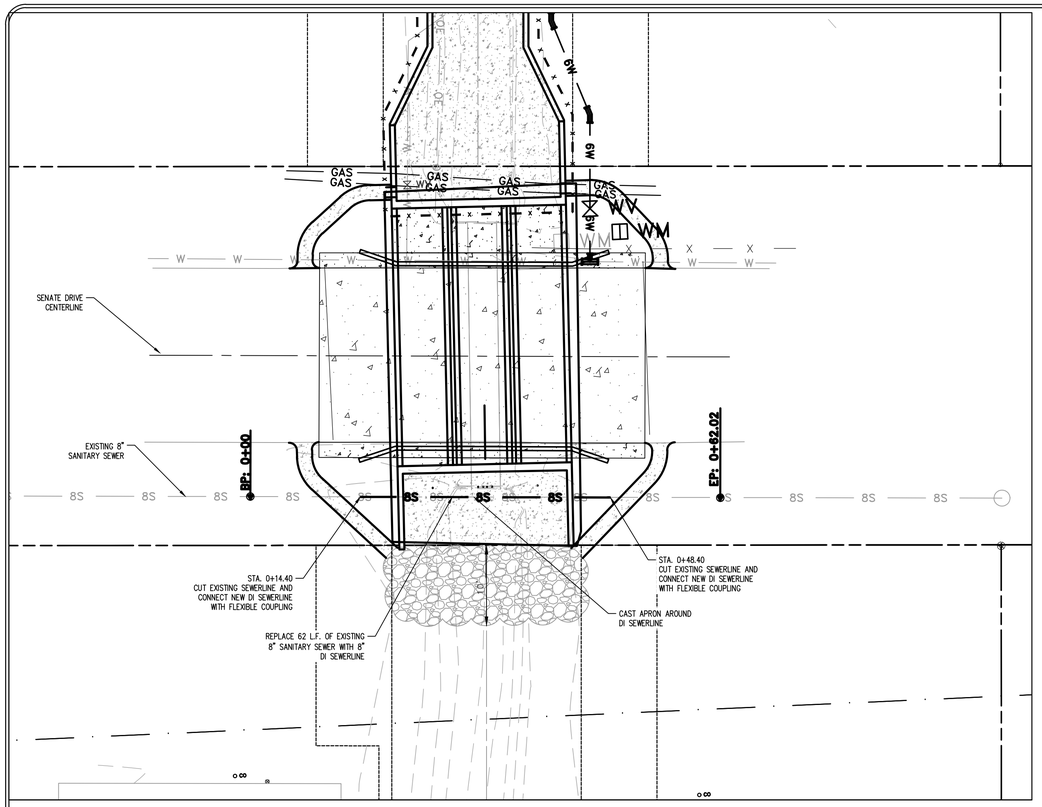
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
CULVERT PLAN & SECTION

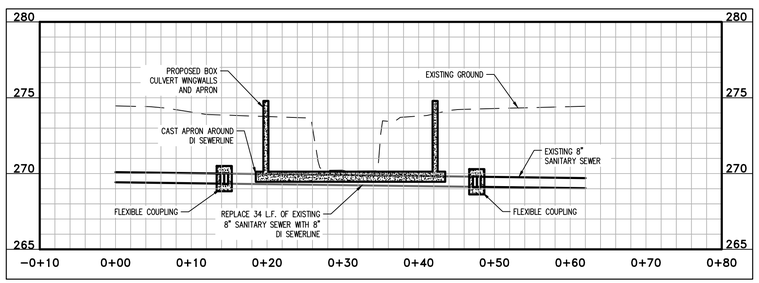
DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 14253 KENNETH LOYD FARMER III 3/19/21

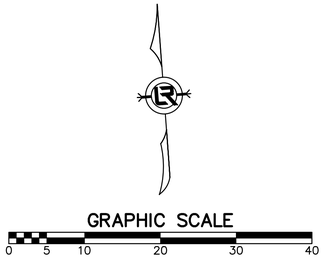
DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	AS SHOWN
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C6

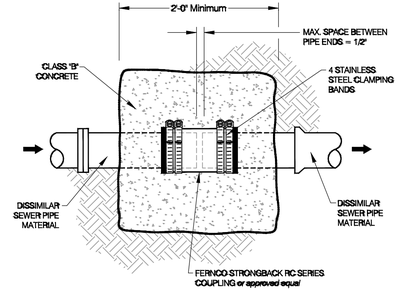


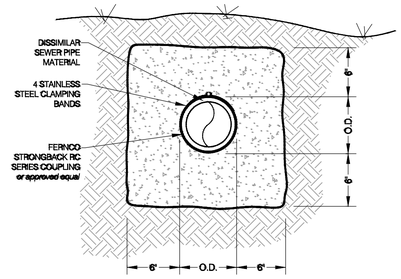
SANITARY SEWER PLAN VIEW



SANITARY SEWER PROFILE VIEW





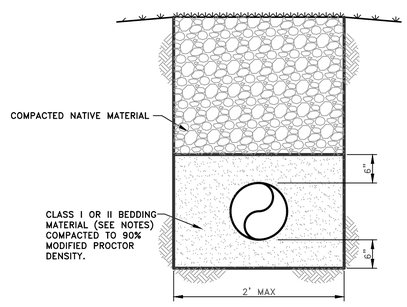


FLEXIBLE COUPLING DETAIL

SCALE: N.T.S.

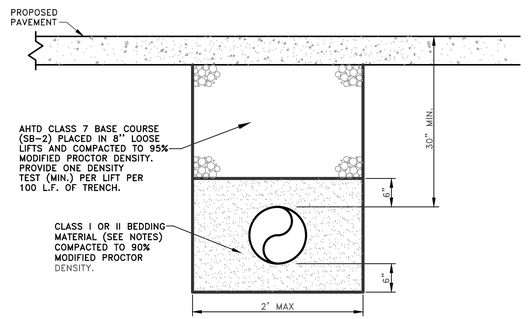
NOTES:

1. CLASS I BEDDING MATERIAL–PER ASTM D2487 AND SHALL CONSIST OF MANUFACTURED ANGULAR, GRANULAR MATERIAL
2. CLASS II BEDDING MATERIAL–PER ASTM D2487 AND:
   A) SOIL TYPE GW–WELL–GRADED GRAVELS AND GRAVEL SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE RETAINED ON NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE. CLEAN.
   B) SOIL TYPE GP–POORLY GRADED GRAVELS AND GRAVEL–SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE RETAINED ON NO. 4 SIEVE. MORE THAN 95% RETAINED ON NO. 200 SIEVE CLEAN.



BEDDING AND BACKFILL FOR PVC SANITARY SEWER PIPE (LAWN AREAS) DETAIL

SCALE: N.T.S.



BEDDING AND BACKFILL FOR PVC SANITARY SEWER PIPE (PAVED AREAS) DETAIL

SCALE: N.T.S.

100% SUBMITTAL

CERTIFICATE OF AUTHORIZATION
FTN ASSOCIATES, LTD.
No. 63
ARKANSAS

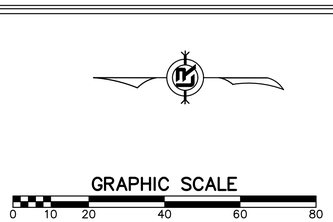
REVISIONS	DATE

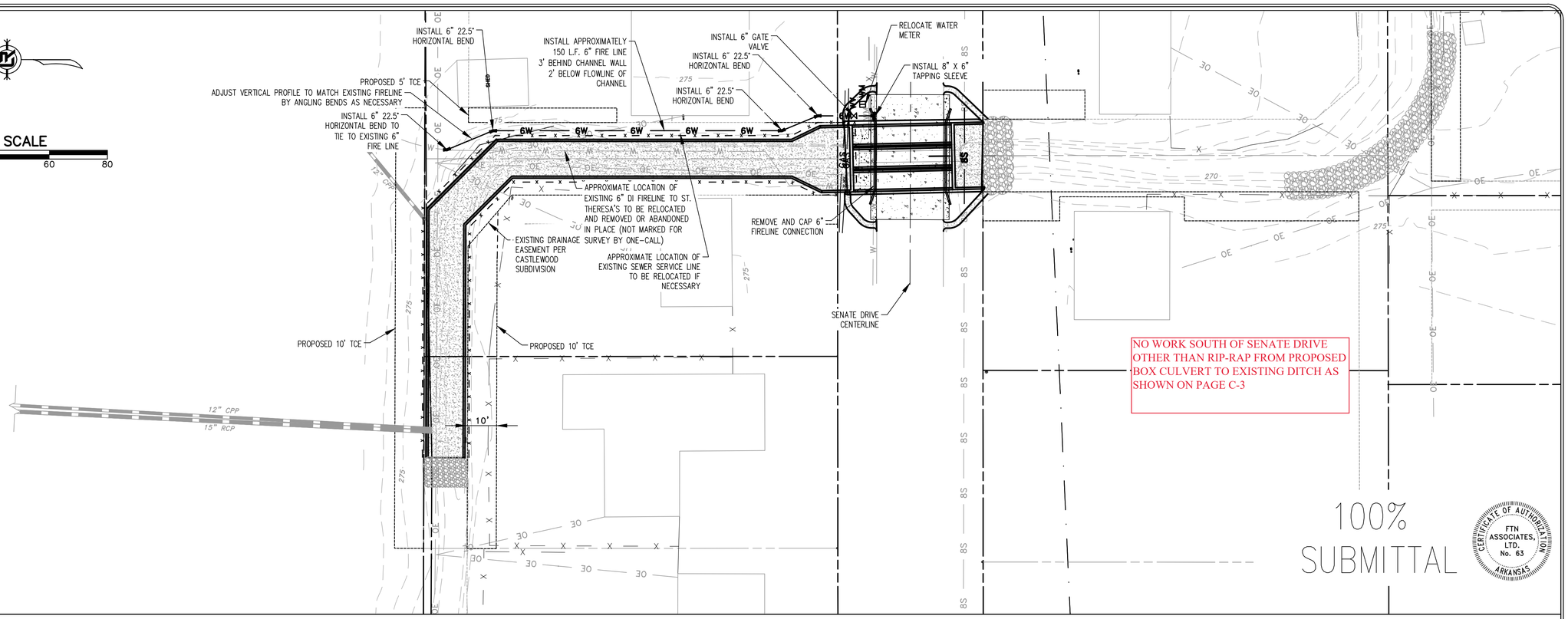
CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
PROPOSED SEWER MODIFICATIONS
PLAN & PROFILE - DETAILS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER
3/19/21

DRAWN BY	CKS
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=10'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C7





NO WORK SOUTH OF SENATE DRIVE OTHER THAN RIP-RAP FROM PROPOSED BOX CULVERT TO EXISTING DITCH AS SHOWN ON PAGE C-3

100% SUBMITTAL

FTN ASSOCIATES, LTD. No. 63 CERTIFICATE OF AUTHORIZATION ARKANSAS

REVISIONS	DATE

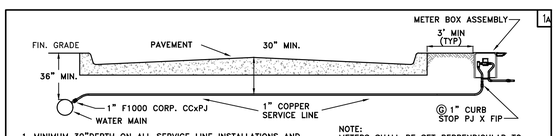
CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
PROPOSED WATERLINE
PLAN - DETAILS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 14253 KENNETH LOYD FARMER III 3/19/21

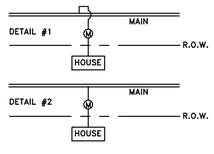
DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=20'
PROJECT NO.	CLR 02-17-DR-65
SHEET NO.	C8

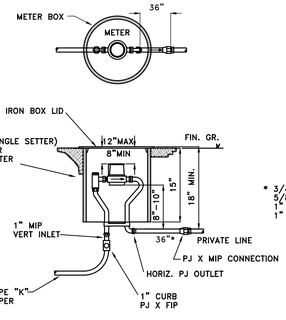
1A



1. MINIMUM 30"DEPTH ON ALL SERVICE LINE INSTALLATIONS AND LINE SHALL BE EXTENDED A TYPICAL 3' BEHIND CURB.
2. CORPORATION STOP SHALL BE INSTALLED AT MAIN WHERE SERVICE LINE IS TAPPED INTO MAIN AND CURB STOP AT END OF SERVICE LINE.
3. ALL SERVICE LINES SHALL BE 1" SEAMLESS, SOFT TEMPERED, TYPE "K" COPPER.
4. WHEN COPPER SERVICE LINE ARE TAPPED ONTO NON METALLIC MAINS, TRACER WIRE ON NON METALLIC MAIN SHALL BE WRAPPED AROUND TAPPING CORP. SEVERAL TURNS.
5. ANYTHING THAT HAS TO BE REMOVED TO FACILITATE NEW CONSTRUCTION SHALL BE DELIVERED TO CENTRAL ARKANSAS WATER CLEARWATER OPERATIONS CENTER
6. INSTALL METER BOX ASSEMBLY 3' BEHIND CURB UNLESS OTHERWISE DIRECTED BY C. A. W. (CITY AND COUNTY STREETS).
7. INSTALL METER BOX ASSEMBLY WITHIN 1' OF R. O. W. LINE, UNLESS OTHERWISE DIRECTED BY C. A. W. (FOR STATE HIGHWAYS).

NOTE:
METERS SHALL BE SET PERPENDICULAR TO STREET WITH OUTLETS GOING TOWARDS THE HOUSE OR BUSINESS



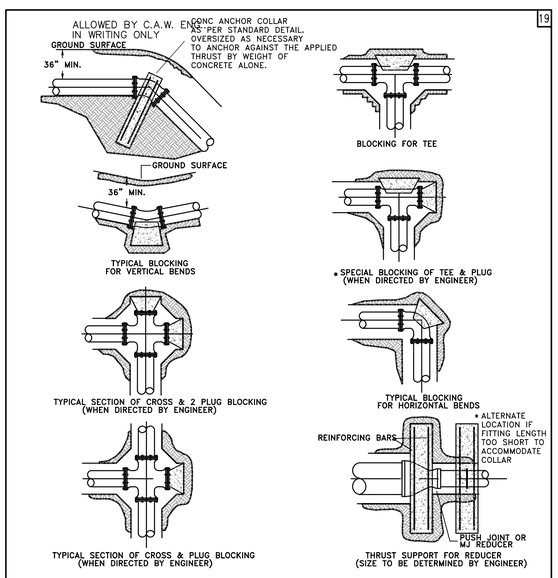


* 3/4" COPPER FOR 5/8" & 3/4" SETTERS; 1" COPPER FOR 1" SETTERS

5/8", 3/4", 1" STANDARD SINGLE METER BOX AND SETTING

01 Std mtr set.dwg
2006 Revision

19



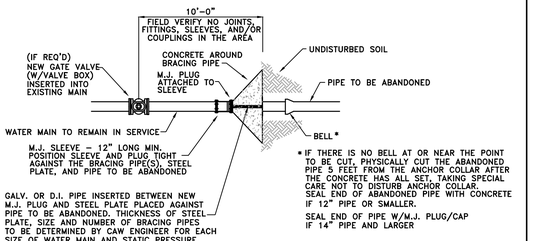
NOTES ON THRUST BLOCKING
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL.
2. * WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON THRUST DUE TO STATIC PRESSURE + 50% OR TEST PRESSURE, WHICH EVER IS GREATER. (THRUST = 2AP SIN WHERE A = AREA OF PIPE P = WATER PRESSURE)
4. WHEN BLOCKING AGAINST PLUG, PLUG SHALL BE COVERED TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES.

STANDARD THRUST BLOCKING

19 Thrust Blocking det.dwg
2004 Revision

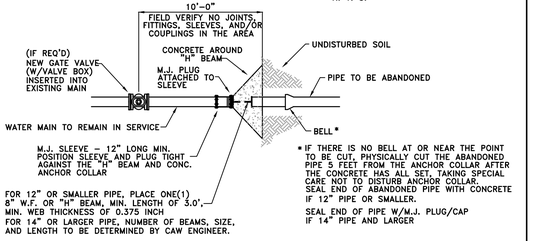
17

NOTES:
1. NEW VALVE SHALL BE INSTALLED ONLY IF SHOWN IN THE CONSTRUCTION PLAN.
2. IF WATER MAIN CAN BE TEMPORARILY SHUT DOWN, NEW INSERTED VALVE SHALL BE CUT IN BY CONTRACTOR.
3. IF WATER MAIN CAN NOT BE TEMPORARILY SHUT DOWN PRIOR TO CUT AND PLUG, NEW INSERTED VALVE SHALL BE INSTALLED BY C.A.W. USING HYDRO-TAP METHOD.
4. SEE C.A.W. STANDARD DETAILS FOR MINIMUM DIMENSIONS OF ANCHOR COLLAR.



* IF THERE IS NO BELL AT OR NEAR THE POINT TO BE CUT, PHYSICALLY CUT THE ABANDONED PIPE 5 FEET FROM THE ANCHOR COLLAR AFTER THE CONCRETE HAS ALL SET, TAKING SPECIAL CARE NOT TO DISTURB ANCHOR COLLAR. SEAL END OF ABANDONED PIPE WITH CONCRETE IF 12" PIPE OR SMALLER.
SEAL END OF PIPE W/M.J. PLUG/CAP IF 14" PIPE AND LARGER

STANDARD CUT AND PLUG DETAIL NO. 1
N. T. S.

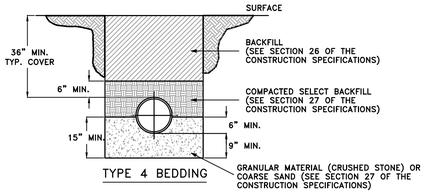


* IF THERE IS NO BELL AT OR NEAR THE POINT TO BE CUT, PHYSICALLY CUT THE ABANDONED PIPE 5 FEET FROM THE ANCHOR COLLAR AFTER THE CONCRETE HAS ALL SET, TAKING SPECIAL CARE NOT TO DISTURB ANCHOR COLLAR. SEAL END OF ABANDONED PIPE WITH CONCRETE IF 12" PIPE OR SMALLER.
SEAL END OF PIPE W/M.J. PLUG/CAP IF 14" PIPE AND LARGER

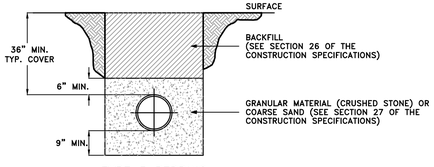
STANDARD CUT AND PLUG DETAIL NO. 2
N. T. S.

17 Cut & Plug.dwg
2003 Revision

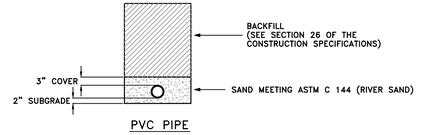
23



TYPE 4 BEDDING



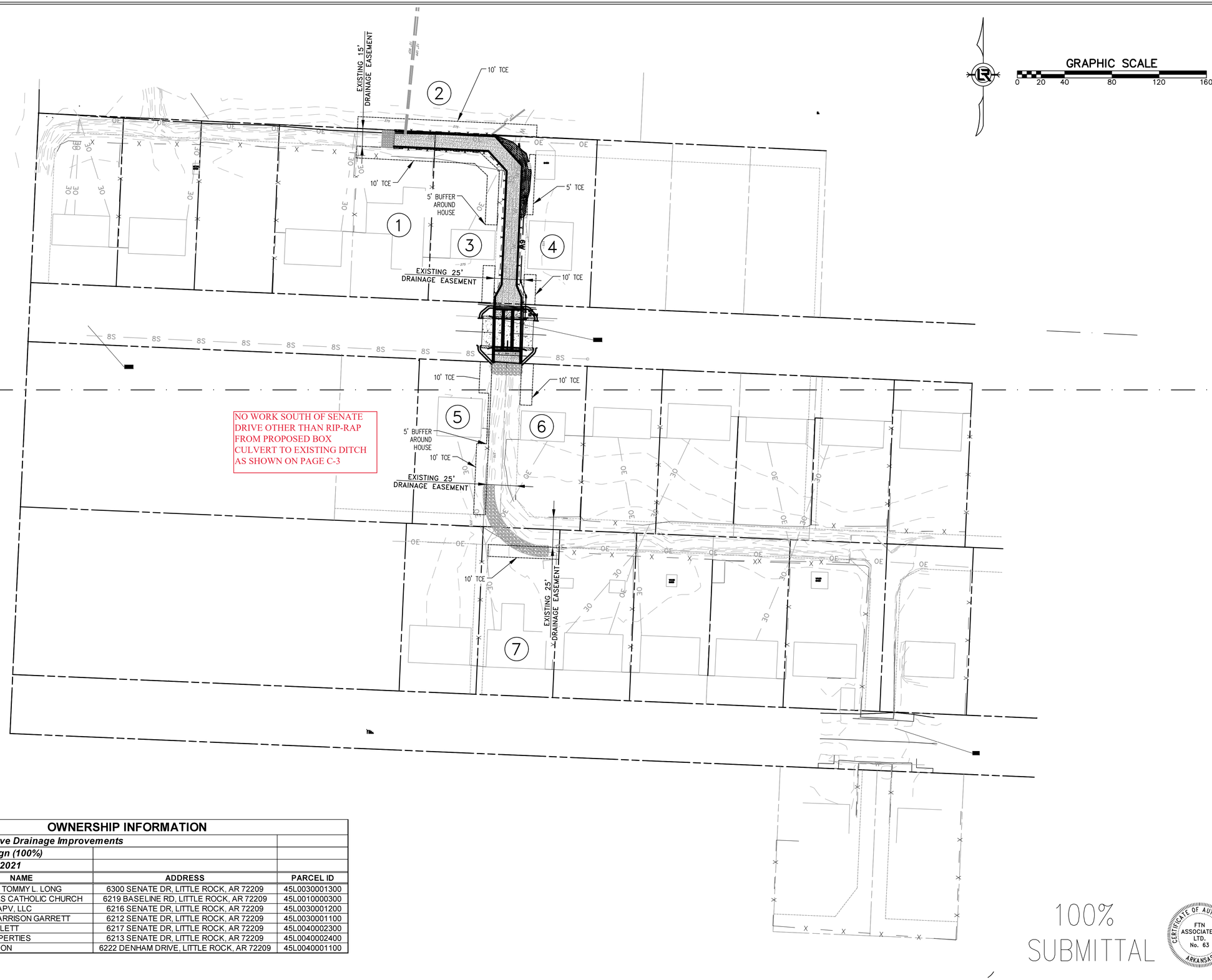
TYPE 5 BEDDING



PVC PIPE

BEDDING & BACKFILL DETAILS

24 Pvc_4&5 Bed det.dwg
2003 Revision



OWNERSHIP INFORMATION

	Senate Drive Drainage Improvements		
	Final Design (100%)		
	March 19, 2021		
PARCEL #	**NAME**	**ADDRESS**	**PARCEL ID**
1	BRENDA J. & TOMMY L. LONG	6300 SENATE DR, LITTLE ROCK, AR 72209	45L0030001300
2	ST THERESAS CATHOLIC CHURCH	6219 BASELINE RD, LITTLE ROCK, AR 72209	45L0010000300
3	DAYSWORKAPV, LLC	6216 SENATE DR, LITTLE ROCK, AR 72209	45L0030001200
4	STERLING HARRISON GARRETT	6212 SENATE DR, LITTLE ROCK, AR 72209	45L0030001100
5	SHAIKIA MALLETT	6217 SENATE DR, LITTLE ROCK, AR 72209	45L0040002300
6	PINTER PROPERTIES	6213 SENATE DR, LITTLE ROCK, AR 72209	45L0040002400
7	TAMMIE MASON	6222 DENHAM DRIVE, LITTLE ROCK, AR 72209	45L0040001100

100% SUBMITTAL

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS

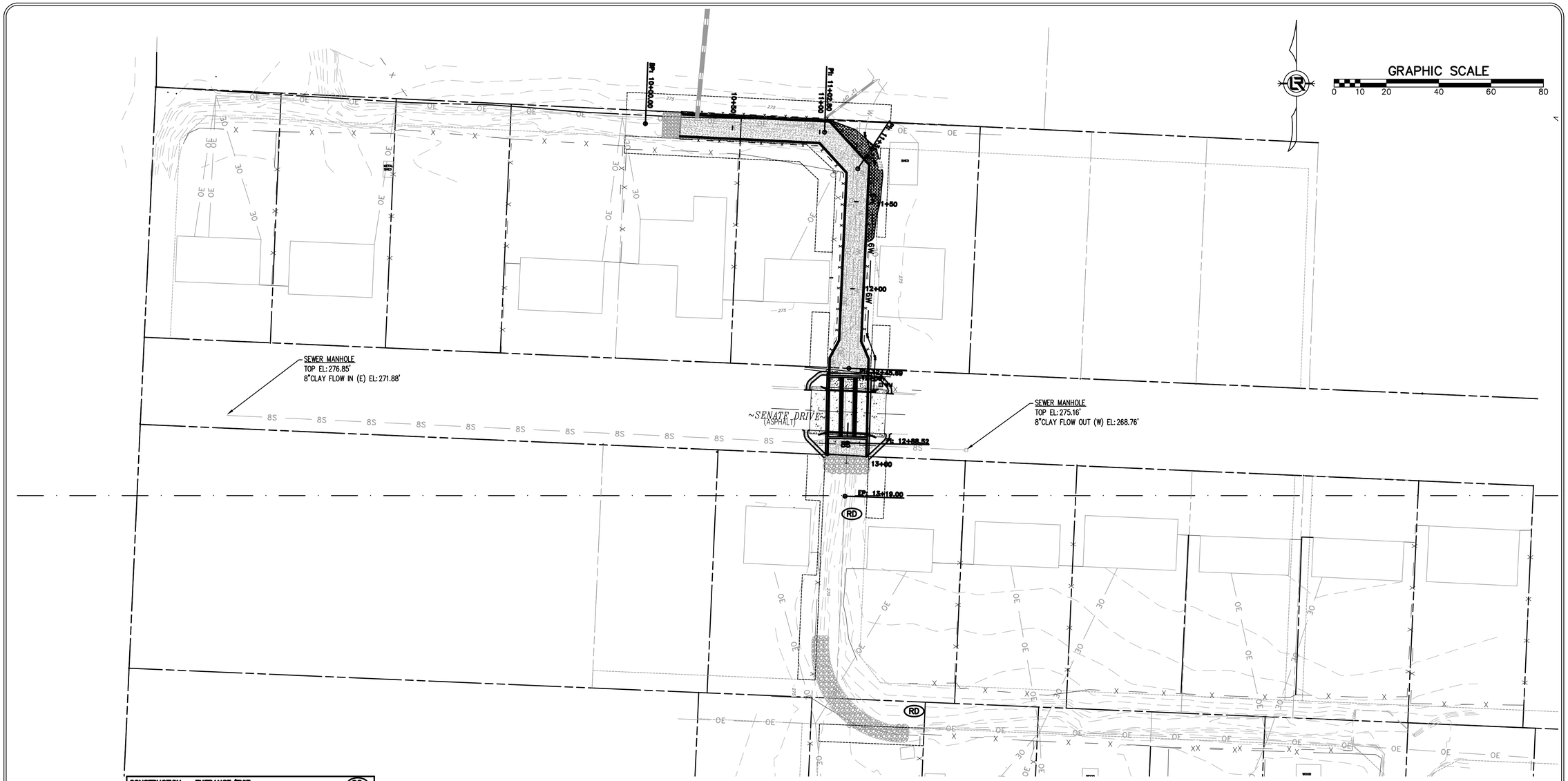
PROPERTY OWNERSHIP AND FIELD TIES / LAYOUT SHEET

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER III
3/19/21

CERTIFICATE OF AUTHORIZATION
FTN ASSOCIATES, LTD.
No. 63
ARKANSAS

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=40'
PROJECT NO.	CLR 02-17-DR-65
SHEET NO.	C9



CONSTRUCTION – ENTRANCE/EXIT	CO
CHECK DAM	CD
DIVERSION BERM	DI
DOWNDRAIN STRUCTURE – TEMPORARY	DN
ROCK DAM	RD
SEDIMENT BARRIER – SILT FENCE	SD1
SEDIMENT BARRIER – GRAVEL RING	SD2
SEDIMENT BARRIER – BLOCK & GRAVEL	SD3
SEDIMENT BARRIER – BLOCK	SD4
TEMPORARY SEDIMENT BASIN	SB1
SILT FENCE – TYPE A	SFA
SILT FENCE – TYPE B	SFB
SILT FENCE – TYPE C	SFC
STORM DRAIN OUTLET PROTECTION	ST
SURFACE ROUGHENING	SU
DISTURBED AREA STABILIZATION –TEMPORARY STABILIZATION	TS1
DISTURBED AREA STABILIZATION –TEMPORARY GRASSING	TS2
DISTURBED AREA STABILIZATION –PERMANENT GRASSING	TS3
MATTING/BLANKETS	Mb

CONSTRUCTION EROSION CONTROL BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA–POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF–SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

PHASE 1

1. INSTALL SWPPP INFORMATION SIGN.
2. INSTALL AND STABILIZE HYDRAULIC CONTROL STRUCTURES (DIKES, SWALES, CHECK DAMS, ETC.). CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL HYDRAULIC CONTROL DEVICES.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. HALT ALL ACTIVITIES AND CONTACT THE CITY OF LITTLE ROCK TO PERFORM INSPECTION AND ACCEPTANCE OF BMP'S.

100% SUBMITTAL

CERTIFICATE OF AUTHORIZATION FTN ASSOCIATES, LTD. No. 63 ARKANSAS

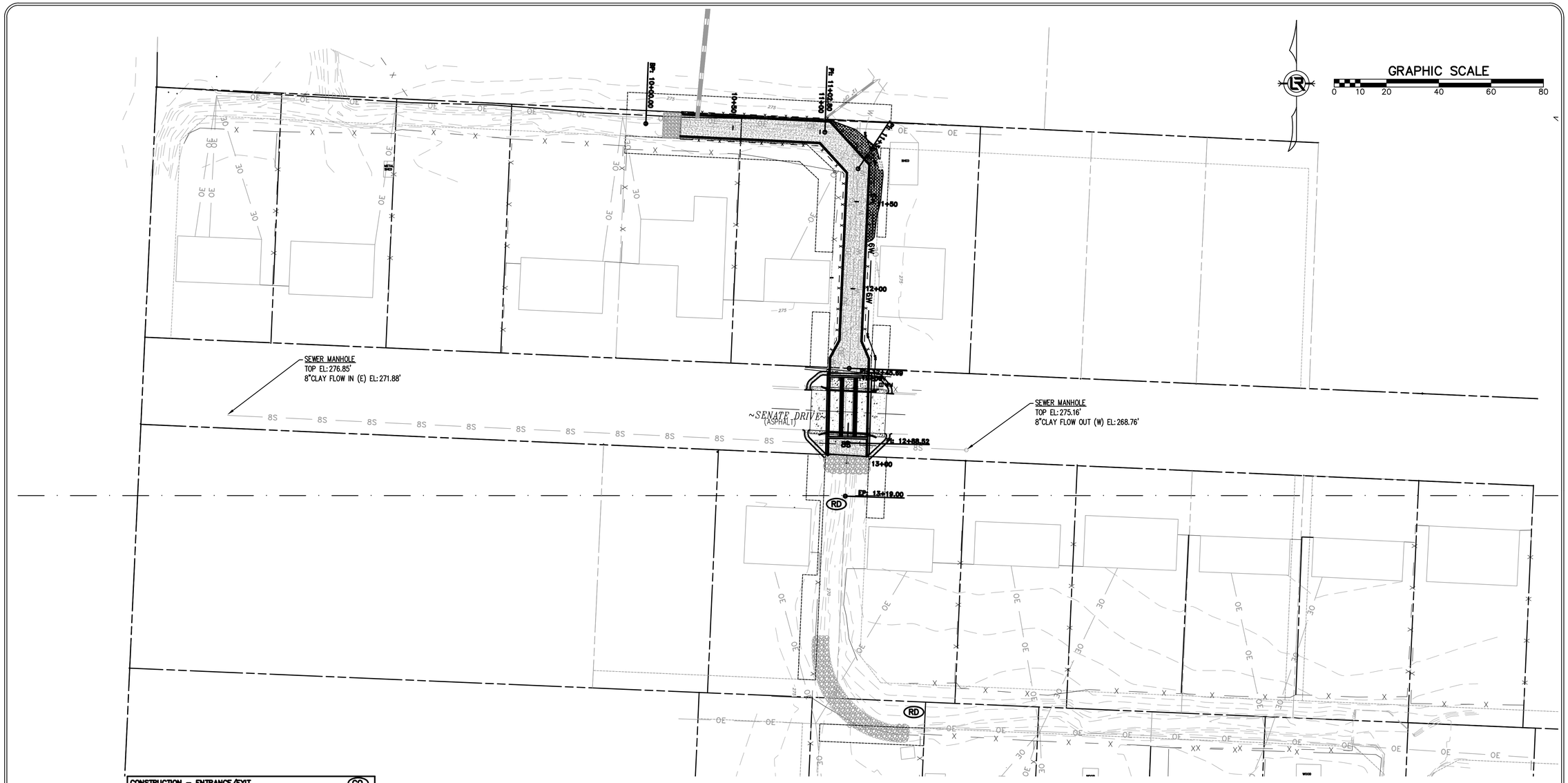
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
EROSION CONTROL PHASE 1

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER
3/19/21

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=20'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C10



CONSTRUCTION – ENTRANCE/EXIT	CO
CHECK DAM	CD
DIVERSION BERM	DI
DOWNDRAIN STRUCTURE – TEMPORARY	DN
ROCK DAM	RD
SEDIMENT BARRIER – SILT FENCE	SD1
SEDIMENT BARRIER – GRAVEL RING	SD2
SEDIMENT BARRIER – BLOCK & GRAVEL	SD3
SEDIMENT BARRIER – BLOCK	SD4
TEMPORARY SEDIMENT BASIN	SB1
SILT FENCE – TYPE A	SFA
SILT FENCE – TYPE B	SFB
SILT FENCE – TYPE C	SFC
STORM DRAIN OUTLET PROTECTION	ST
SURFACE ROUGHENING	SU
DISTURBED AREA STABILIZATION –TEMPORARY STABILIZATION	TS1
DISTURBED AREA STABILIZATION –TEMPORARY GRASSING	TS2
DISTURBED AREA STABILIZATION –PERMANENT GRASSING	TS3
MATTING/BLANKETS	Mb

CONSTRUCTION EROSION CONTROL BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA–POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF–SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

PHASE 2

1. BEGIN SITE DEMOLITION, CLEARING AND GRUBBING.
2. CONTINUE GRADING THE SITE.
3. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS & INLETS.
4. PREPARE SUBGRADE, ROAD BASE AND CURBS AND GUTTERS.
5. CONSTRUCT ROADWAY TRANSITIONS.
6. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.

100% SUBMITTAL

CERTIFICATE OF AUTHORIZATION FTN ASSOCIATES, LTD. No. 63 ARKANSAS

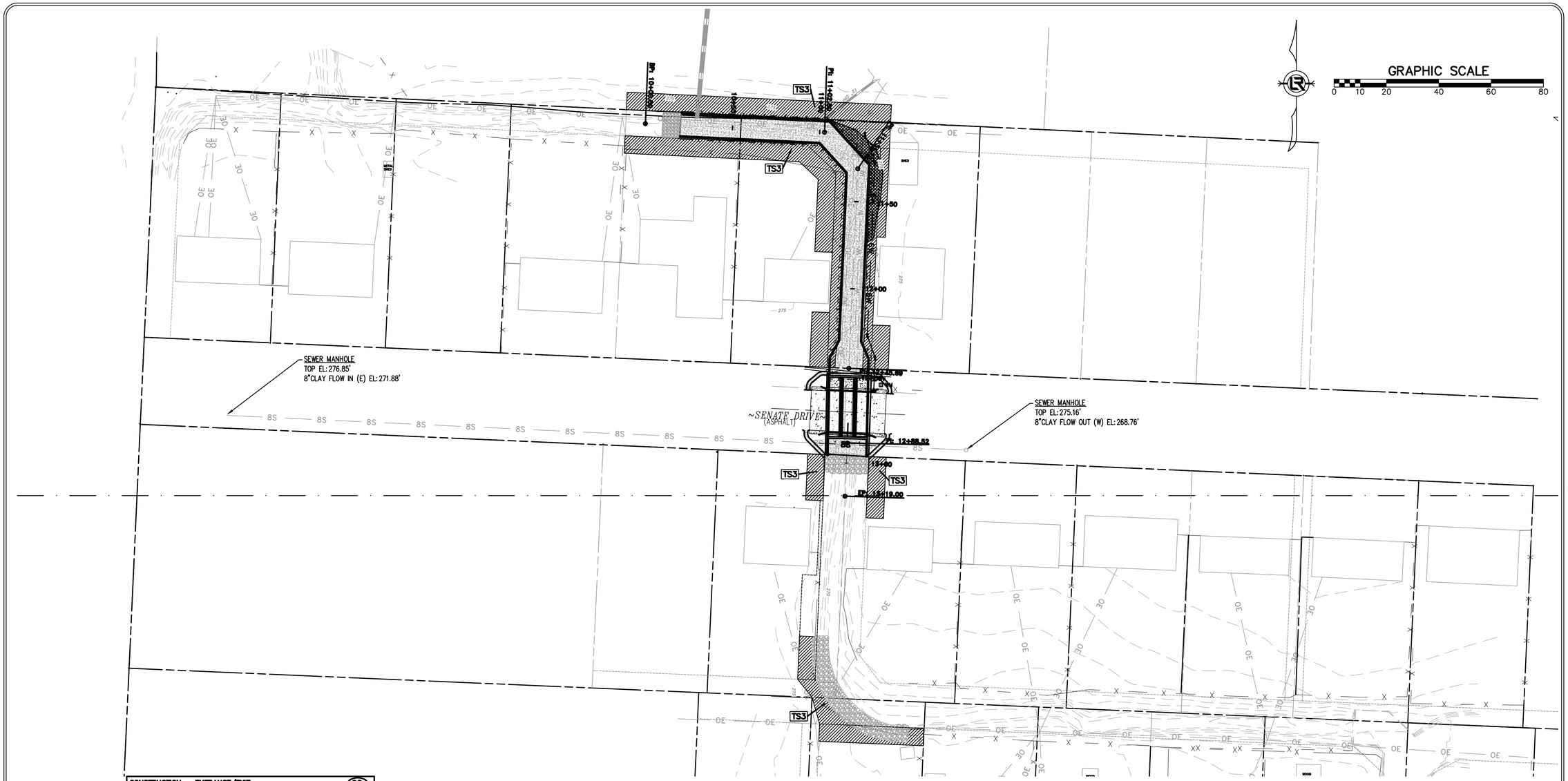
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
EROSION CONTROL PHASE 2

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER
3/19/21

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=20'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C11



CONSTRUCTION – ENTRANCE/EXIT	CO
CHECK DAM	CD
DIVERSION BERM	DI
DOWNDRAIN STRUCTURE – TEMPORARY	DN
ROCK DAM	RD
SEDIMENT BARRIER – SILT FENCE	SD1
SEDIMENT BARRIER – GRAVEL RING	SD2
SEDIMENT BARRIER – BLOCK & GRAVEL	SD3
SEDIMENT BARRIER – BLOCK	SD4
TEMPORARY SEDIMENT BASIN	SB1
SILT FENCE – TYPE A	SFA
SILT FENCE – TYPE B	SFB
SILT FENCE – TYPE C	SFC
STORM DRAIN OUTLET PROTECTION	ST
SURFACE ROUGHENING	SU
DISTURBED AREA STABILIZATION –TEMPORARY STABILIZATION	TS1
DISTURBED AREA STABILIZATION –TEMPORARY GRASSING	TS2
DISTURBED AREA STABILIZATION –PERMANENT GRASSING	TS3
MATTING/BLANKETS	Mb

CONSTRUCTION EROSION CONTROL BEST MANAGEMENT PRACTICES

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILERS, PARKING, LAY DOWN, PORTA–POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF–SITE AREA WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

PHASE 3

1. FINISH GRADE SIDE SLOPES & PREPARE SUBGRADES FOR SIDEWALKS, ETC.
2. PREPARE SITE FOR PAVING.
3. PAVE WHERE INDICATED ON PLANS. CONSTRUCT SIDEWALKS.
4. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
5. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL NON–PAVED AREAS.

100% SUBMITTAL

CERTIFICATE OF AUTHORIZATION FTN ASSOCIATES, LTD. No. 63 ARKANSAS

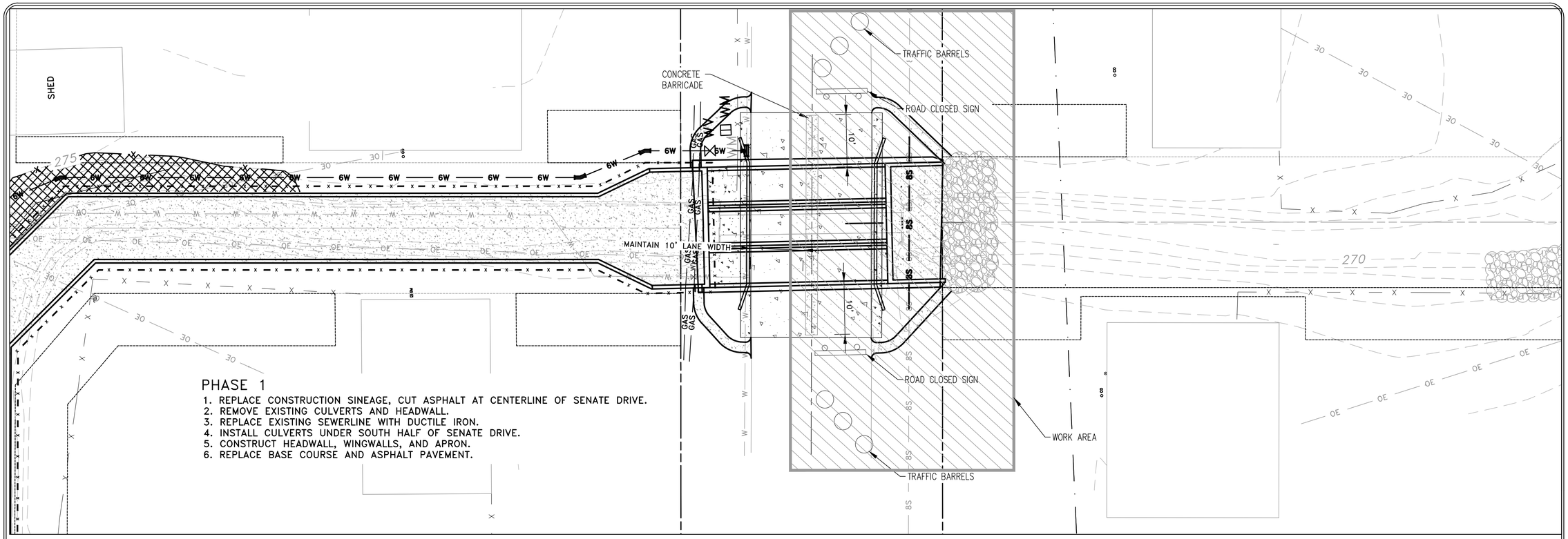
REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
SENATE DRIVE DRAINAGE IMPROVEMENTS
EROSION CONTROL PHASE 3

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

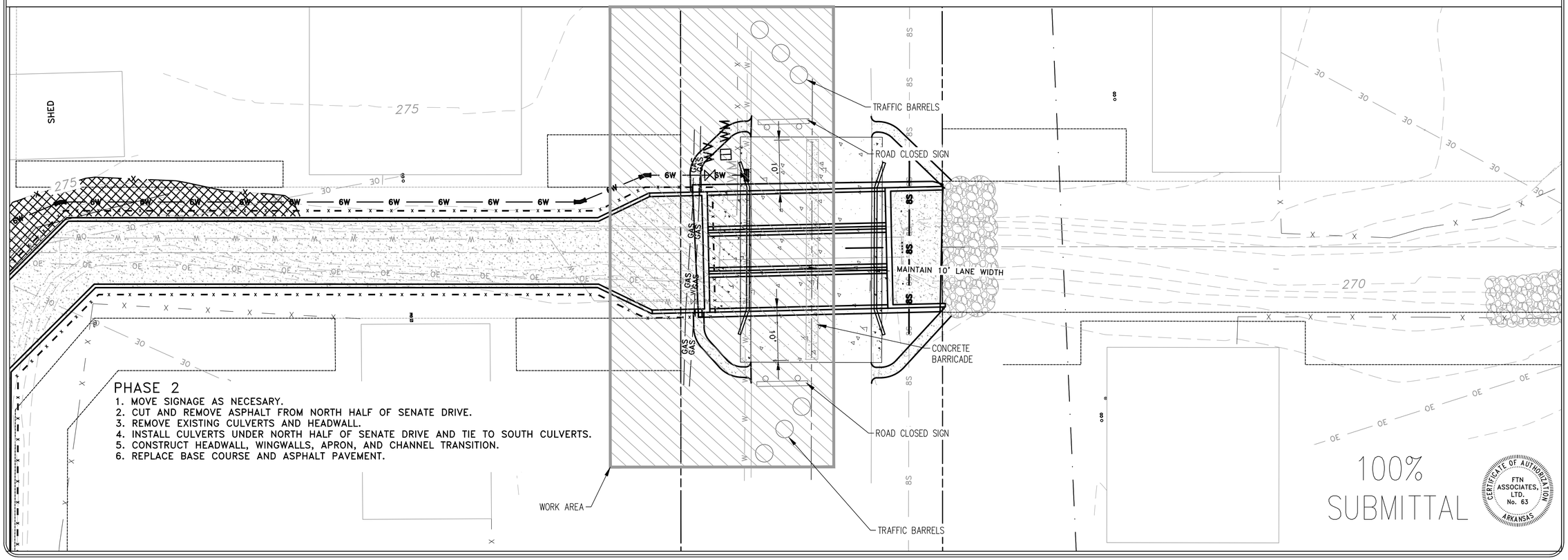
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER III
3/19/21

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=20'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C12



PHASE 1

1. REPLACE CONSTRUCTION SINEAGE, CUT ASPHALT AT CENTERLINE OF SENATE DRIVE.
2. REMOVE EXISTING CULVERTS AND HEADWALL.
3. REPLACE EXISTING SEWERLINE WITH DUCTILE IRON.
4. INSTALL CULVERTS UNDER SOUTH HALF OF SENATE DRIVE.
5. CONSTRUCT HEADWALL, WINGWALLS, AND APRON.
6. REPLACE BASE COURSE AND ASPHALT PAVEMENT.



PHASE 2

1. MOVE SIGNAGE AS NECESARY.
2. CUT AND REMOVE ASPHALT FROM NORTH HALF OF SENATE DRIVE.
3. REMOVE EXISTING CULVERTS AND HEADWALL.
4. INSTALL CULVERTS UNDER NORTH HALF OF SENATE DRIVE AND TIE TO SOUTH CULVERTS.
5. CONSTRUCT HEADWALL, WINGWALLS, APRON, AND CHANNEL TRANSITION.
6. REPLACE BASE COURSE AND ASPHALT PAVEMENT.

100% SUBMITTAL

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS

SENATE DRIVE DRAINAGE IMPROVEMENTS

MAINTANANCE OF TRAFIC PLAN

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14253
KENNETH LOYD FARMER III
3/19/21

CERTIFICATE OF AUTHORIZATION
FTN ASSOCIATES, LTD.
No. 63
ARKANSAS

DRAWN BY	JWM
DESIGNED	KLF
CHECKED	KLF
DATE	03/19/21
SCALE	1"=10'
PROJECT NO.	CLR #02-17-DR-65
SHEET NO.	C13