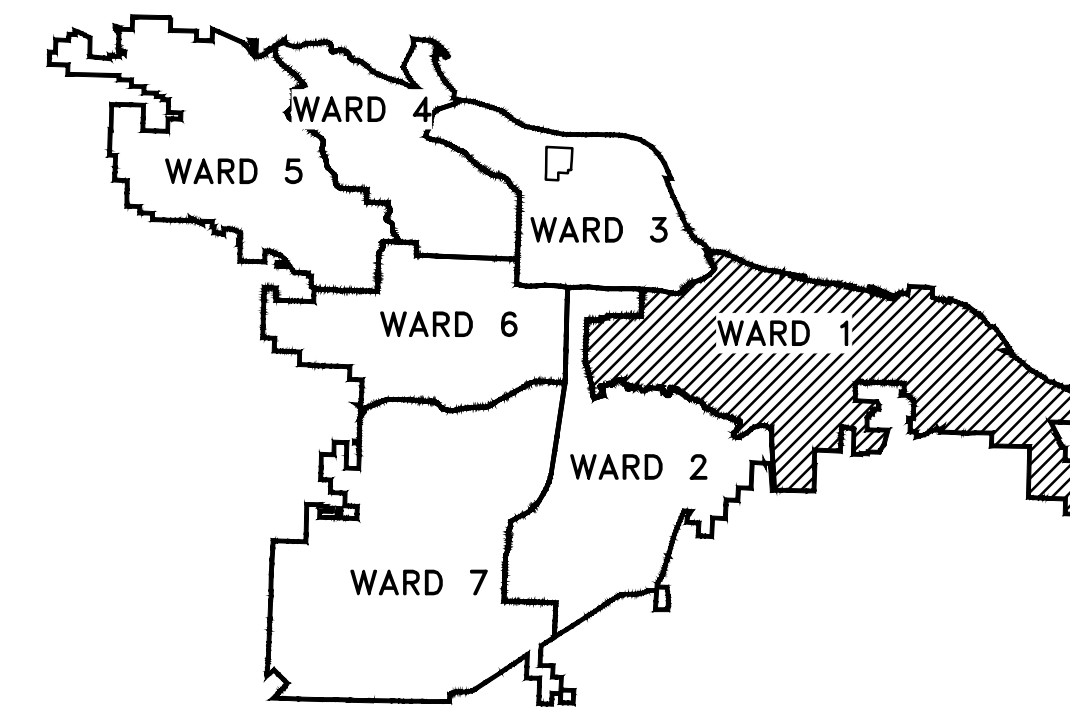


01-15-DR-8

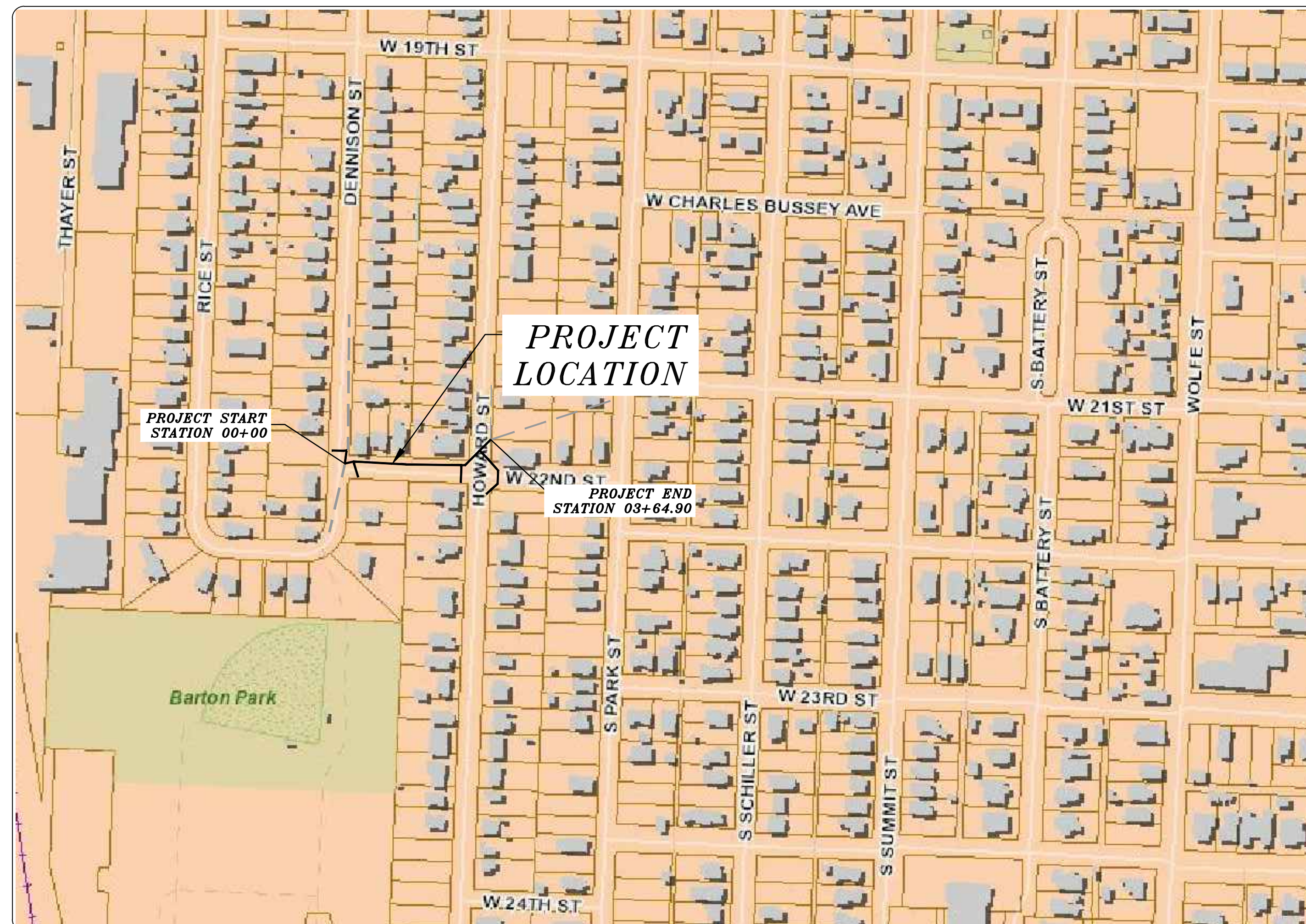
HOWARD & 22ND STREET

DRAINAGE IMPROVEMENTS

(DENNISON STREET TO HOWARD STREET)



PROJECT LOCATION – WARD 1



SHEET NO.	TITLE
C1	COVER SHEET
C2	QUANTITIES, GENERAL NOTES, LEGEND
C3	FIELD TIES/LAYOUT SHEET
C4	DRAINAGE PLAN TO BE REMOVED
C5	DRAINAGE PLAN AND PROFILE (1)
C6	DRAINAGE PLAN AND PROFILE (2)
C7	DRIVEWAY/SIDEWALK PLAN
C8	EROSION CONTROL PLAN
C9	MAINTENANCE OF TRAFFIC



2019-2021
BOND PROGRAM

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



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REVISIONS	DATE
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CITY OF LITTLE ROCK, ARKANSAS
HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

COVER SHEET

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



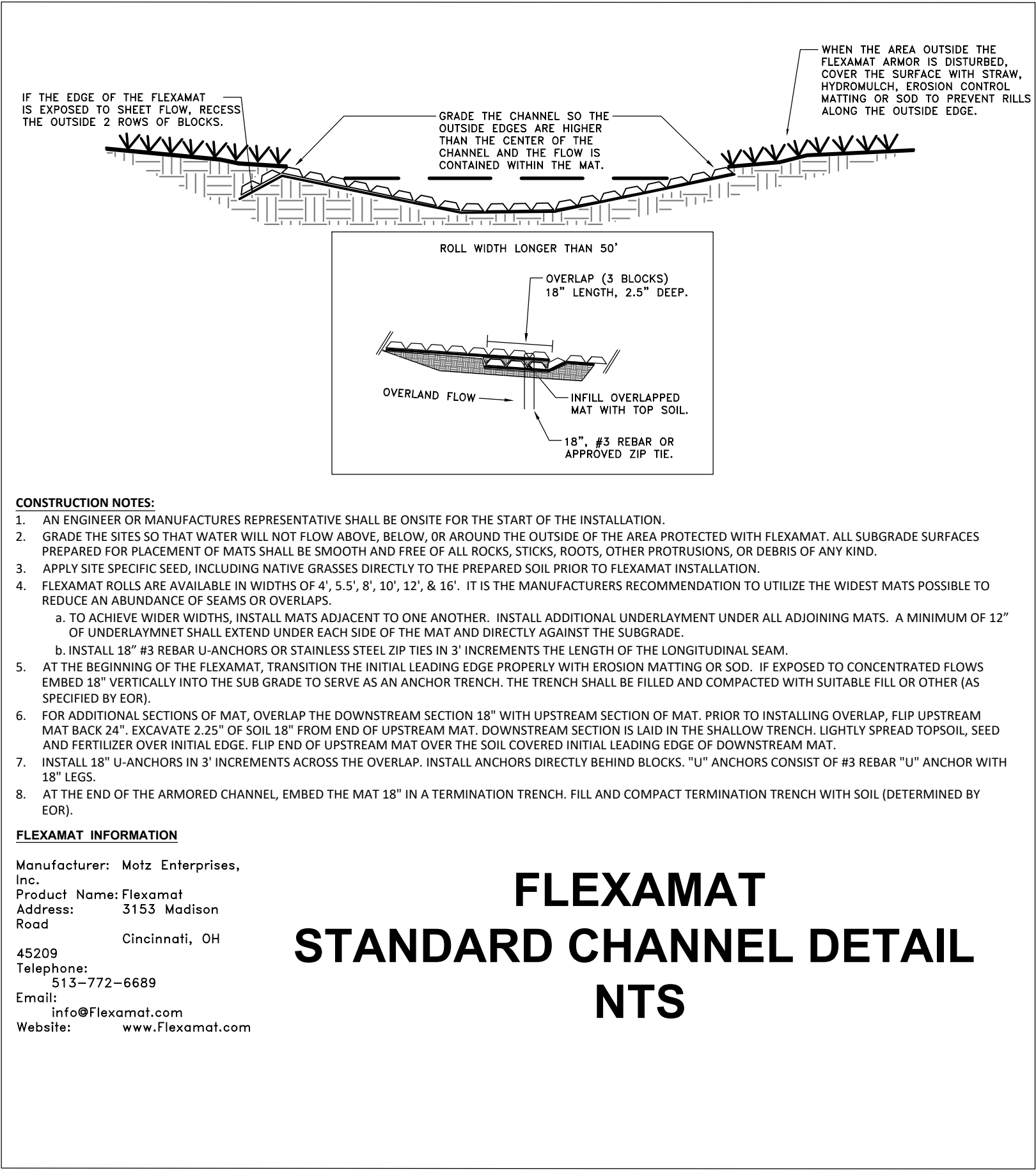
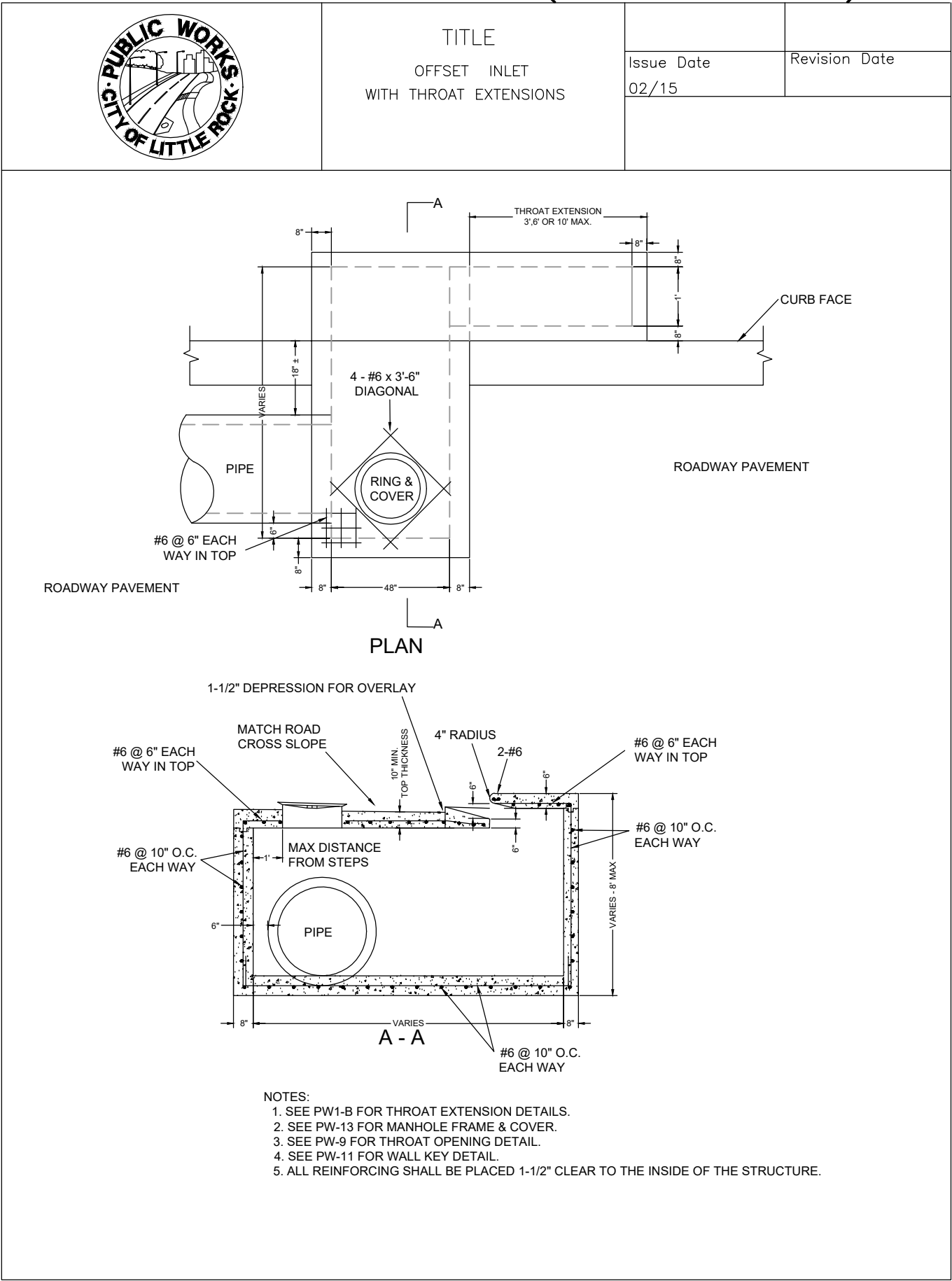
90%
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SET

DRAWN BY	HV
DESIGNED	HV
CHECKED	AHR
DATE	9/4/2019
SCALE	NO SCALE
PROJECT NO.	CLR # 01-15-DR-8
SHEET NO.	C1

CLR PROJECT # 01-15-DR-8			
HOWARD STREET DRAINAGE IMPROVEMENTS			
5/29/2019			
ITEM NO.	DESCRIPTION OF ITEMS	CONTRACT QUANTITY	UNIT
2.01	SITE PREPARATION	1	L.S.
4.01	AGGREGATE BASE COURSE	679	TON
7.06	CONCRETE DRIVEWAY (6" THICK), STANDARD FINISH	1330	S.F.
8.03	CONCRETE CURB & GUTTER (CLASS 3)	533	L.F.
9.04	CONCRETE SIDEWALK (4" THICK)	114	S.F.
10.01	JUNCTION BOX	4	EA
10.03	CURB INLET - 4' X 12'	1	EA
10.04	CURB INLET - 4' BOX	3	EA
10.04R	CURB INLET - 4' BOX OFFSET INLET	4	EA
10.06	CURB INLET - 6' BOX	2	EA
10.07	WING 3' EXTENSION	12	EA
10.10	WING 6' EXTENSION	2	EA
11.06	REINFORCED PRECAST CONCRETE HEADWALL	1	EA
11.41	FLEXAMAT PERMANENT EROSION CONTROL	360	S.F.
13.15C	STORM DRAIN PIPE, 15" CROSS DRAIN	132	LF
13.15S	STORM DRAIN PIPE, 15" SIDE DRAIN	77	LF
13.18C	STORM DRAIN PIPE, 18" CROSS DRAIN	34	LF
13.48C	STORM DRAIN PIPE, 48" CROSS DRAIN	109	LF
13.48S	STORM DRAIN PIPE, 48" SIDE DRAIN	285	LF
13.62	TIE INTO EXISTING CONCRETE PIPE	3	EA
14.01	SOLID SODDING (BERMUDA)	195	S.Y.
14.02	SOLID SODDING, SPECIAL (ST. AUGUSTINE)	161	S.Y.
16.01	MAINTENANCE OF TRAFFIC	1	L.S.
17.01	PAVEMENT REPAIRS	136	SY
18.01	REMOVE AND REPLACE FENCE	10	L.F.
19.01	FINAL CLEAN UP	1	L.S.
24.11	SILT FENCE, TYPE A (SFA)	695	L.F.
24.03	SEDIMENT BARRIER, SILT FENCE (SD1)	11	EA
26.10	TRENCH & EXCAVATION SAFETY	1	L.S.

NOTES AND DETAILS:

OFFSET CURB INLET (TYPE SPECIAL)



FLEXAMAT
STANDARD CHANNEL DETAIL
NTS

EXISTING		PROPOSED
IRON ROD	○ IR	PROPOSED CONTOUR
PK NAIL	○ PK	PROPOSED SPOT ELEVATION
R.R. SPIKE	○ RR(Sp)	PROPOSED SPOT CURB ELEVATION
CONC. MONUMENT	□ CM	STORM SEWER – PIPE
WATER VALVE	⊗ WV	STORM SEWER – MITERED END SECTION
WATER METER	□ WM	STORM SEWER – GRATE INLET
FIRE HYDRANT	⊗ FH	STORM SEWER – JUNCTION BOX
GAS METER	⊗ GM	STORM SEWER – FLARED END SECTION
GAS VALVE	⊗ GV	STORM SEWER – HEADWALL
CLEAN-OUT	○ CO	STORM SEWER – SINGLE WING
GUARD POST (BOLLARD)	● GP	STORM SEWER – DOUBLE WING
SIGN POST	⊕	STORM SEWER – AREA INLET
BENCHMARK	⊕	GRADE BREAK LINE
STORM SEWER MANHOLE	⊕	HIGH POINT
SANITARY SEWER MANHOLE	⊕	LOW POINT
TELEPHONE MANHOLE	⊕	CUT LINE
ELECTRIC MANHOLE	⊕	FILL LINE
TELEPHONE BOX	⊕	SANITARY SEWER PIPE
ELECTRIC BOX	⊕	SANITARY SEWER MANHOLE
CABLE BOX	⊕	PROPOSED CURB
UTILITY POLE	⊕	PROPOSED CONCRETE
GUY WIRE	⊕	CONSTRUCTION – ENTRANCE/EXIT
LIGHT POLE	⊕	CHECK DAM
POST OR POLE (TYPE AS NOTED)	⊕	DIVERSION BERM
MAILBOX	⊕	DOWNDRAIN STRUCTURE – TEMPORARY
DECIDUOUS TREE	⊕	ROCK DAM
EVERGREEN/CONIFEROUS TREE	⊕	SEDIMENT BARRIER – SILT FENCE
BUSH	⊕	SEDIMENT BARRIER – GRAVEL RING
PROPERTY LINE	⊕	SEDIMENT BARRIER – BLOCK & GRAVEL
SETBACK LINE	⊕	SEDIMENT BARRIER – BLOCK
EASEMENT LINE	⊕	TEMPORARY SEDIMENT BASIN
CURB	⊕	SILT FENCE – TYPE A
FENCE	⊕	SILT FENCE – TYPE B
OVERHEAD ELECTRIC	⊕	SILT FENCE – TYPE C
OVERHEAD TELEPHONE	⊕	STORM DRAIN OUTLET PROTECTION
OVERHEAD CABLE	⊕	SURFACE ROUGHENING
UNDERGROUND TELEPHONE	⊕	DISTURBED AREA STABILIZATION – TEMPORARY STABILIZATION
UNDERGROUND ELECTRIC	⊕	DISTURBED AREA STABILIZATION – TEMPORARY GRASSING
UNDERGROUND CABLE	⊕	DISTURBED AREA STABILIZATION – PERMANENT GRASSING
WATER LINE	⊕	MATting/BLANKETS
SEWER LINE	⊕	
GAS LINE	⊕	
STORM SEWER/CULVERT	⊕	
EDGE OF WOODS	⊕	
CONTOUR LINE	⊕	

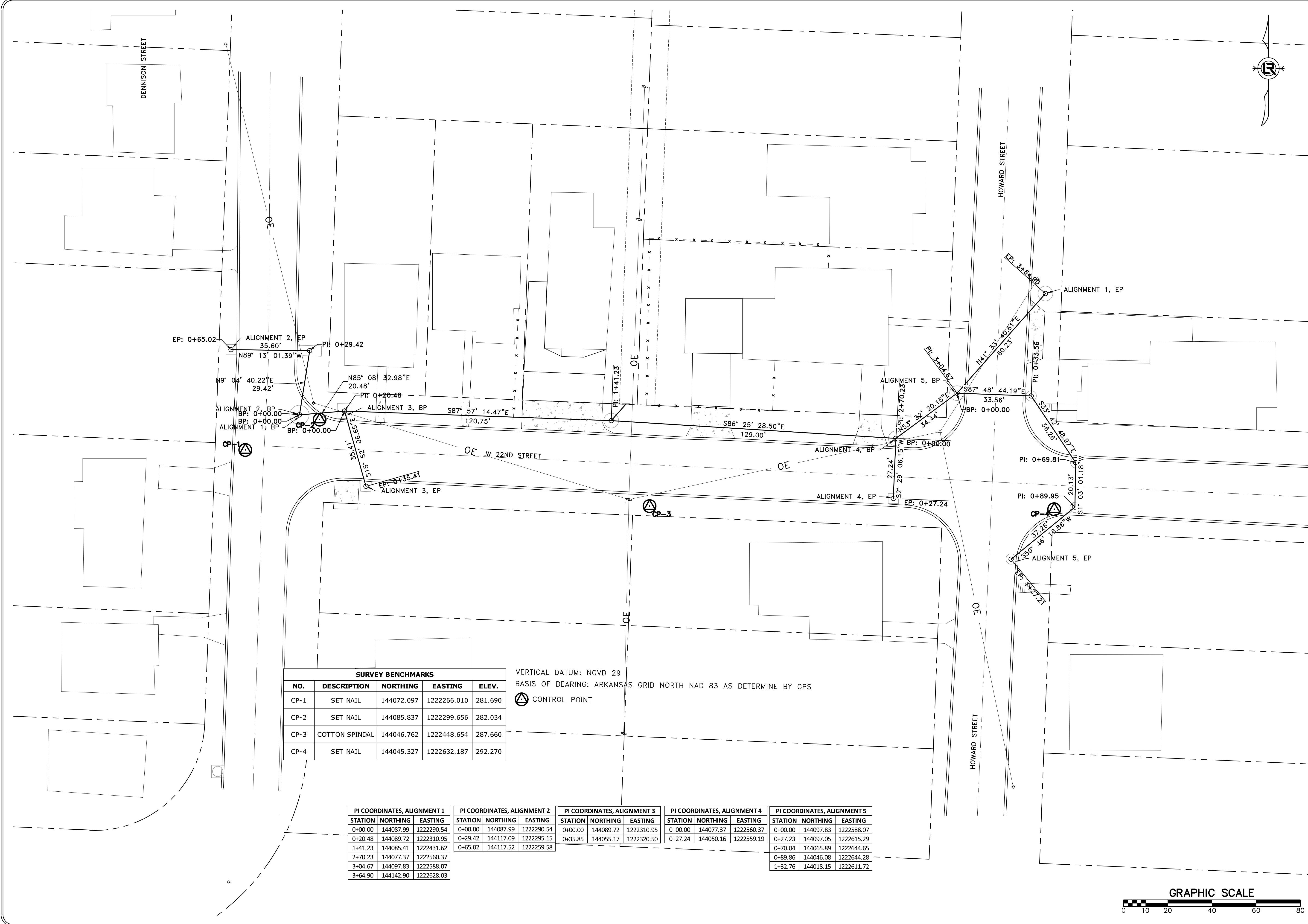
REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS	GENERAL NOTES, LEGEND AND QUANTITIES
HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS	

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

90% REVIEW SET

DRAWN BY HV DESIGNED HV CHECKED AHR DATE 9/4/2019 SCALE NO SCALE PROJECT NO. CLR # 01-15-DR-8 SHEET NO. C2



SURVEY BENCHMARKS				
NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
CP-1	SET NAIL	144072.097	1222266.010	281.690
CP-2	SET NAIL	144085.837	1222299.656	282.034
CP-3	COTTON SPINDAL	144046.762	1222448.654	287.660
CP-4	SET NAIL	144045.327	1222632.187	292.270

VERTICAL DATUM: NGVD 29
BASIS OF BEARING: ARKANSAS GRID NORTH NAD 83 AS DETERMINE BY GPS
⊕ CONTROL POINT

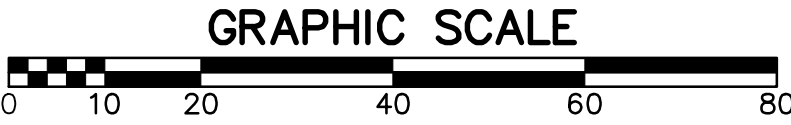
PI COORDINATES, ALIGNMENT 1		
STATION	NORTHING	EASTING
0+00.00	144087.99	1222290.54
0+20.48	144089.72	1222310.95
1+41.23	144085.41	1222431.62
2+70.23	144077.37	1222560.37
3+04.67	144097.83	1222588.07
3+64.90	144142.90	1222628.03

PI COORDINATES, ALIGNMENT 2		
STATION	NORTHING	EASTING
0+00.00	144087.99	1222290.54
0+29.42	144117.09	1222295.15
0+65.02	144117.52	1222259.58

PI COORDINATES, ALIGNMENT 3		
STATION	NORTHING	EASTING
0+00.00	144089.72	1222310.95
0+35.85	144055.17	1222320.50

PI COORDINATES, ALIGNMENT 4		
STATION	NORTHING	EASTING
0+00.00	144077.37	1222560.37
0+27.24	144050.16	1222559.19

PI COORDINATES, ALIGNMENT 5		
STATION	NORTHING	EASTING
0+00.00	144097.83	1222588.07
0+27.23	144097.05	1222615.29
0+70.04	144065.89	1222644.65
0+89.86	144046.08	1222644.28
1+32.76	144018.15	1222611.72



REVISIONS		DATE
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CITY OF LITTLE ROCK, ARKANSAS

HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

PLAN EXISTING (TO BE REMOVED)

DEPARTMENT OF PUBLIC WORKS

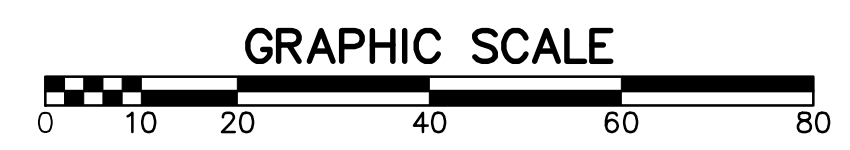
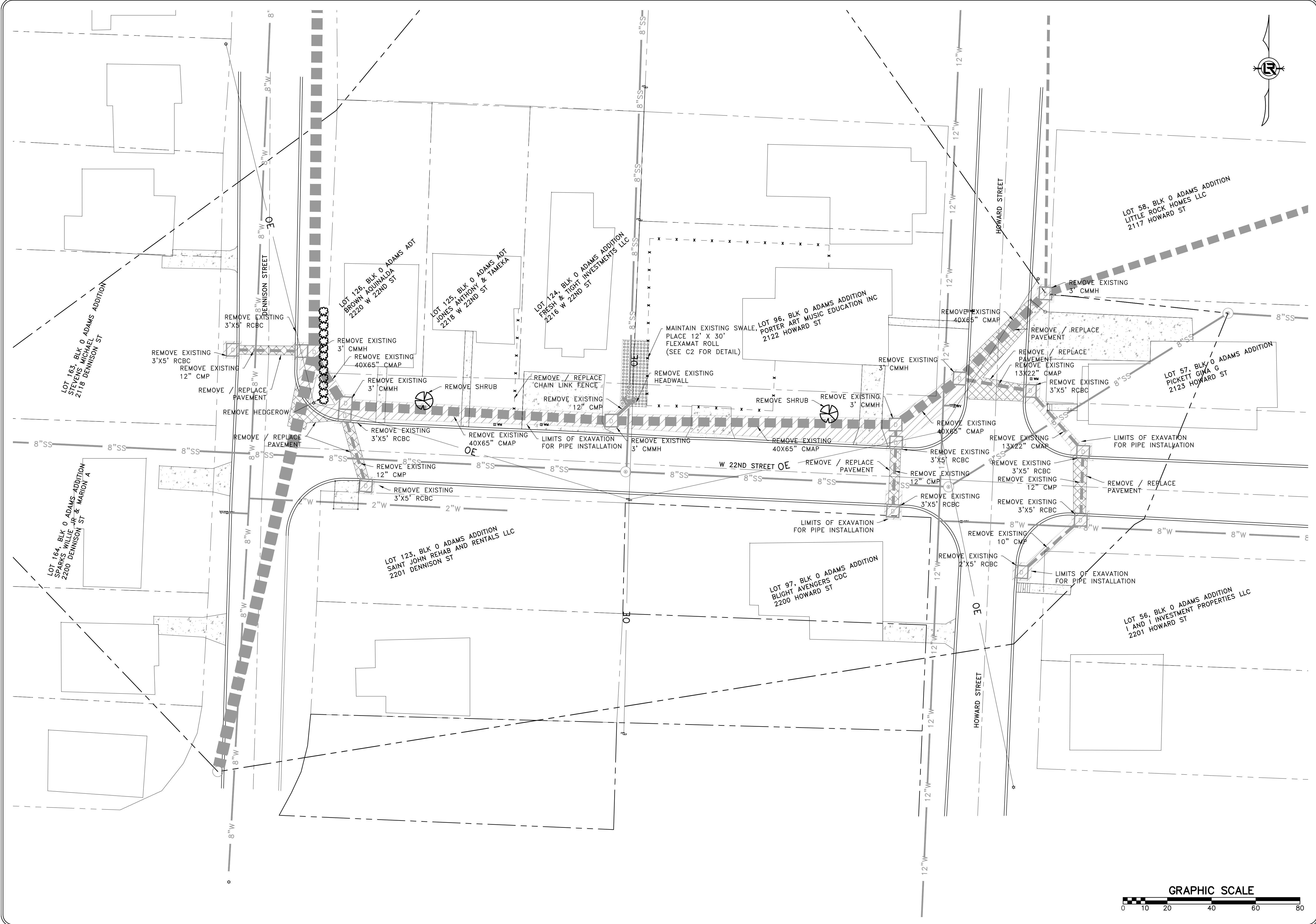
CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

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REVIEW
SET

DRAWN BY
HV
DESIGNED
HV
CHECKED
AHR
DATE
9/4/2019
SCALE
1" = 20'
PROJECT NO.
CLR # 01-15-DR-8
SHEET NO.
C3



REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS

HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

PLAN EXISTING (TO BE REMOVED)

DEPARTMENT OF PUBLIC WORKS

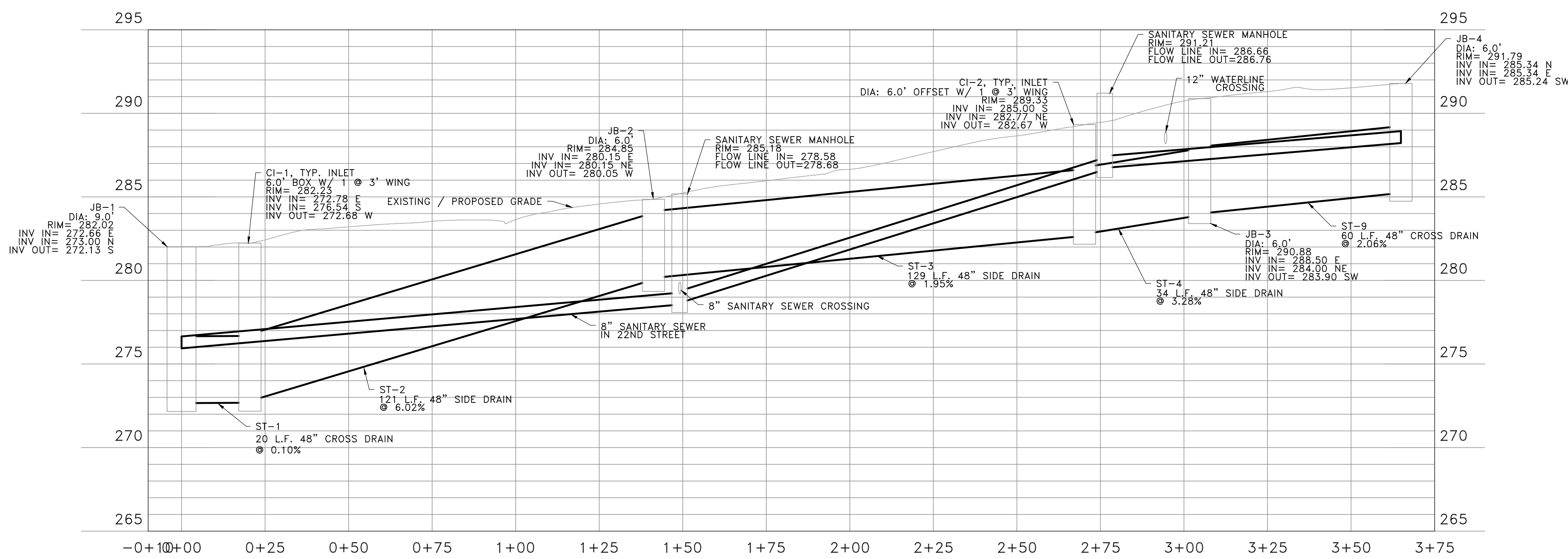
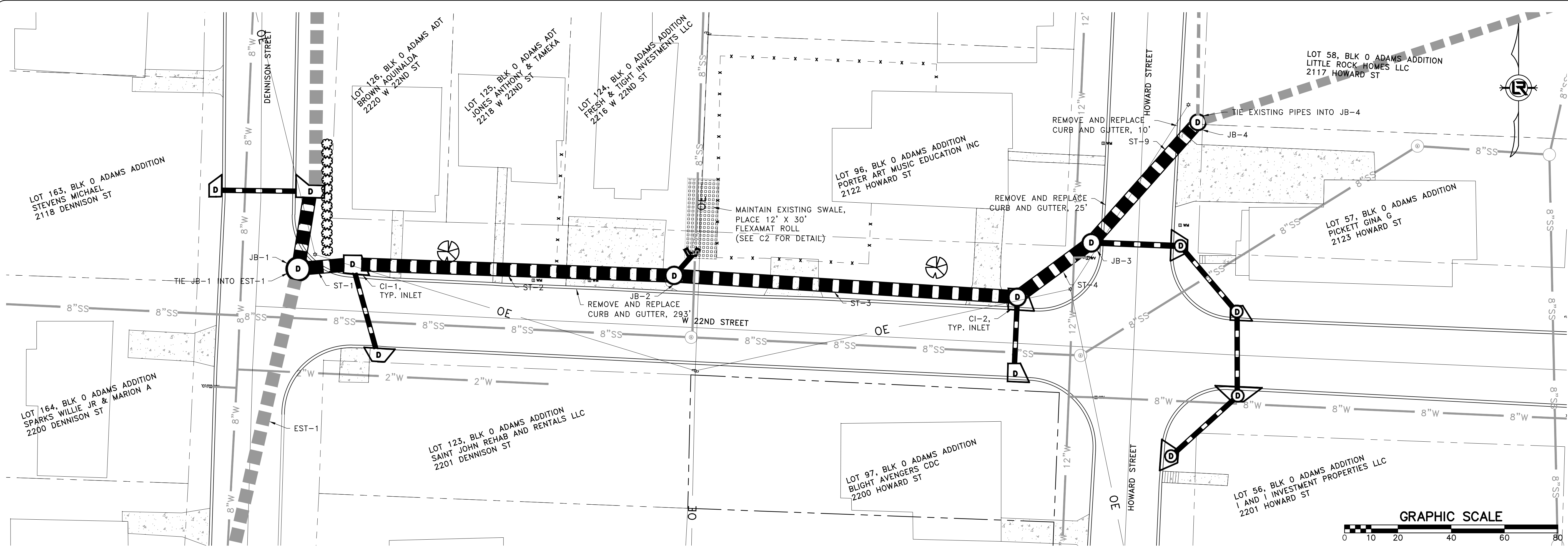
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LITTLE ROCK, ARKANSAS 72201

90%
REVIEW
SET

DRAWN BY	HV
DESIGNED	HV
CHECKED	AHR
DATE	9/4/2019
SCALE	1" = 20'
PROJECT NO.	CLR # 01-15-DR-8
SHEET NO.	C4



REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS

HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

DRAINAGE PLAN & PROFILE

DEPARTMENT OF PUBLIC WORKS

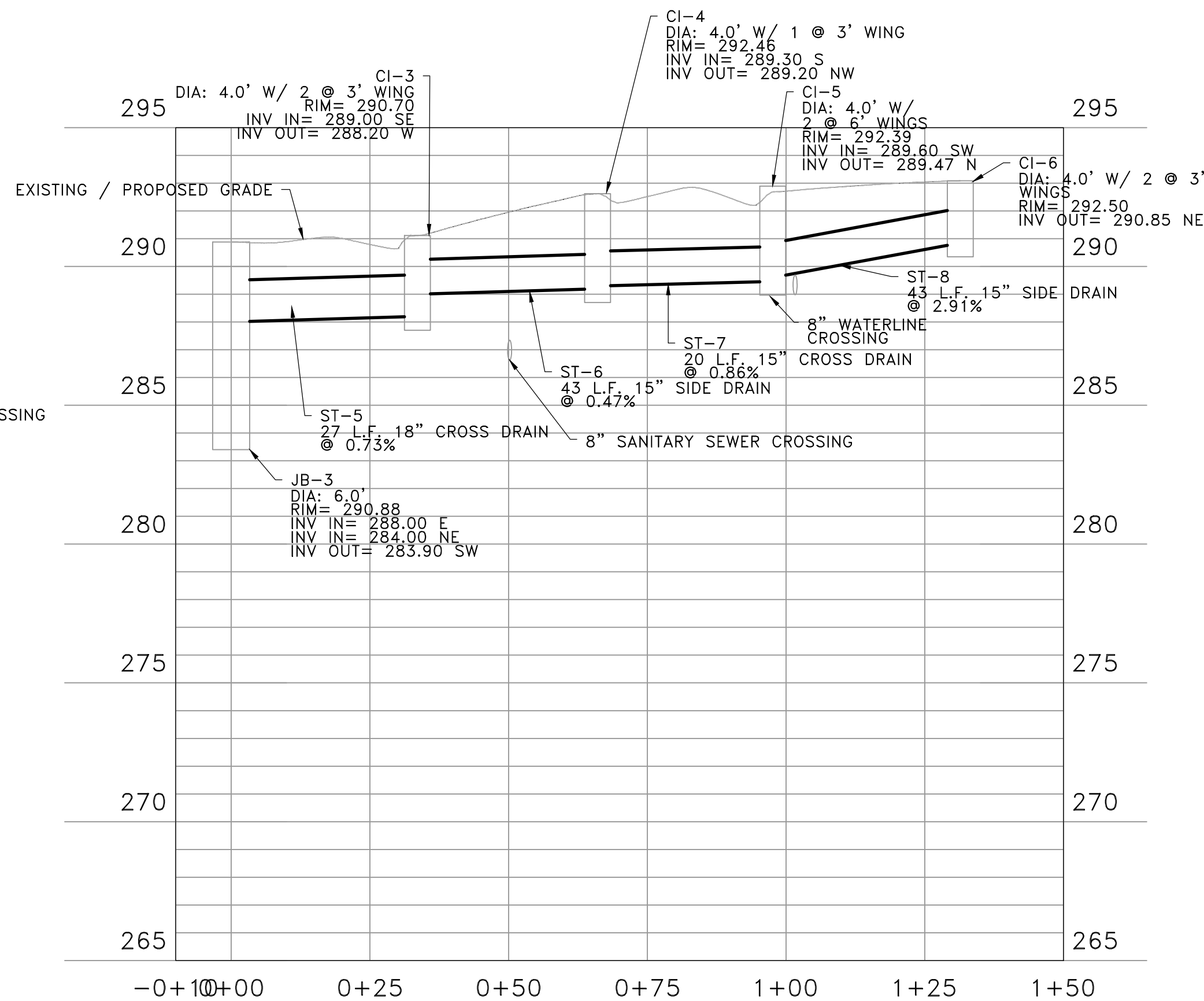
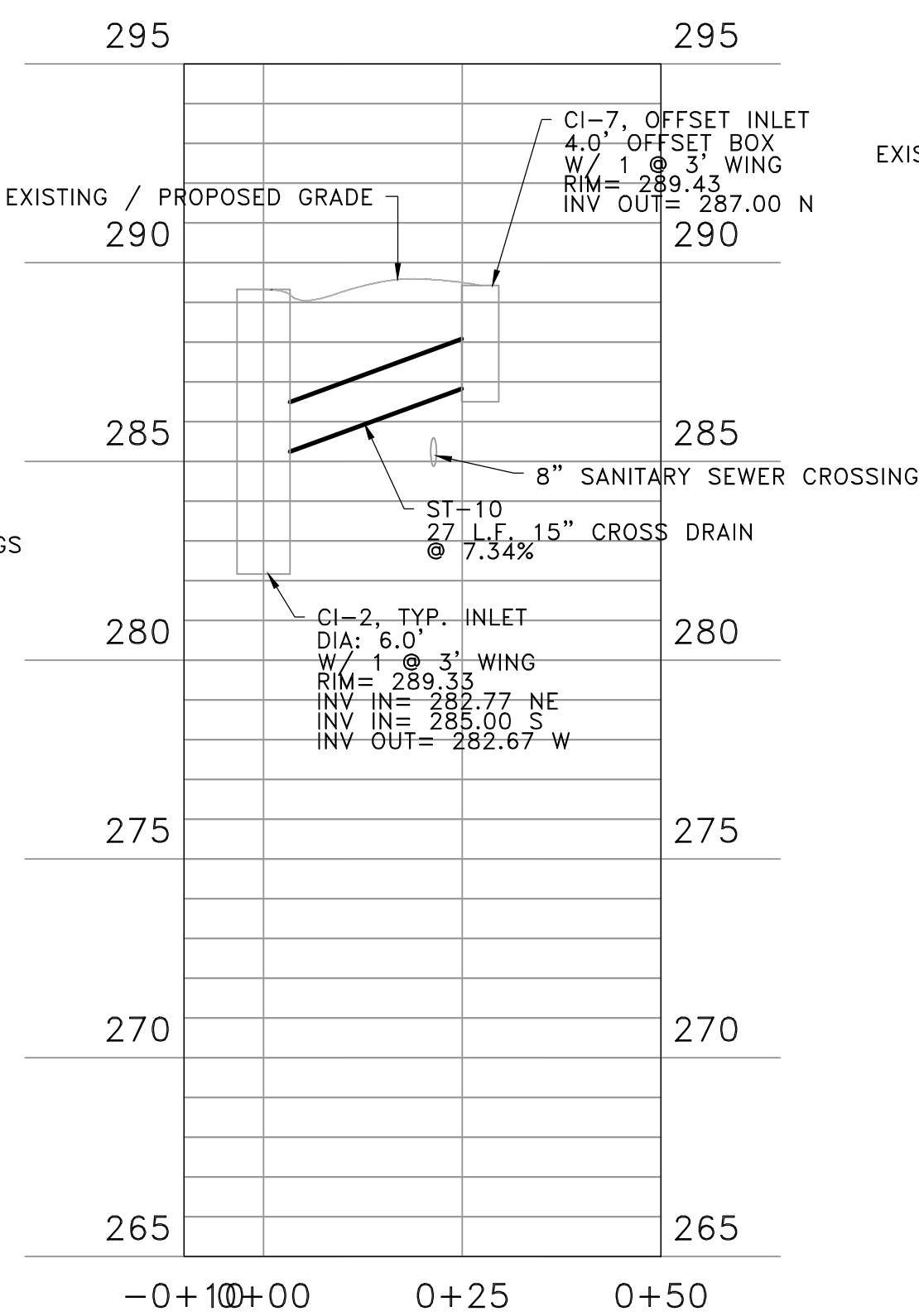
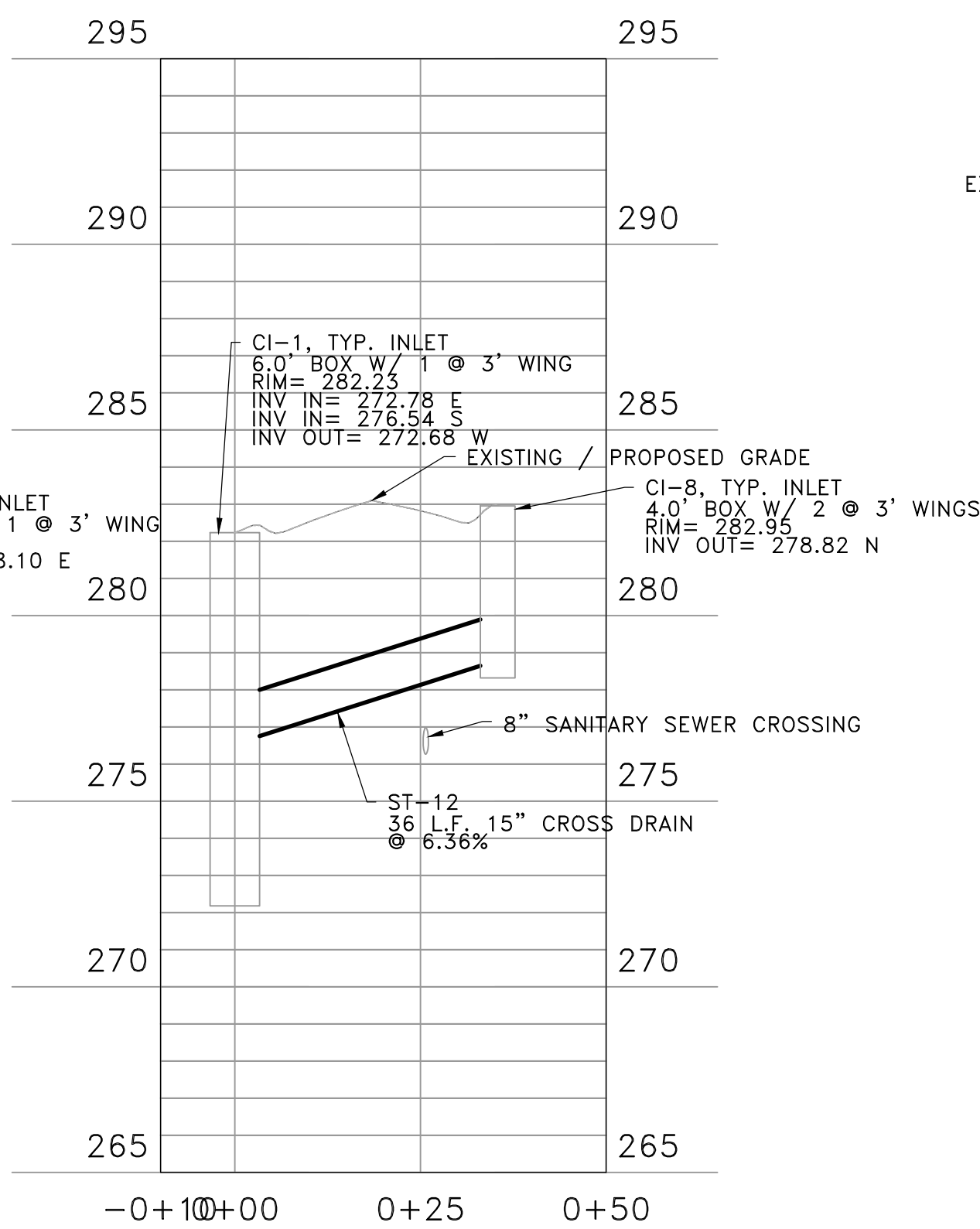
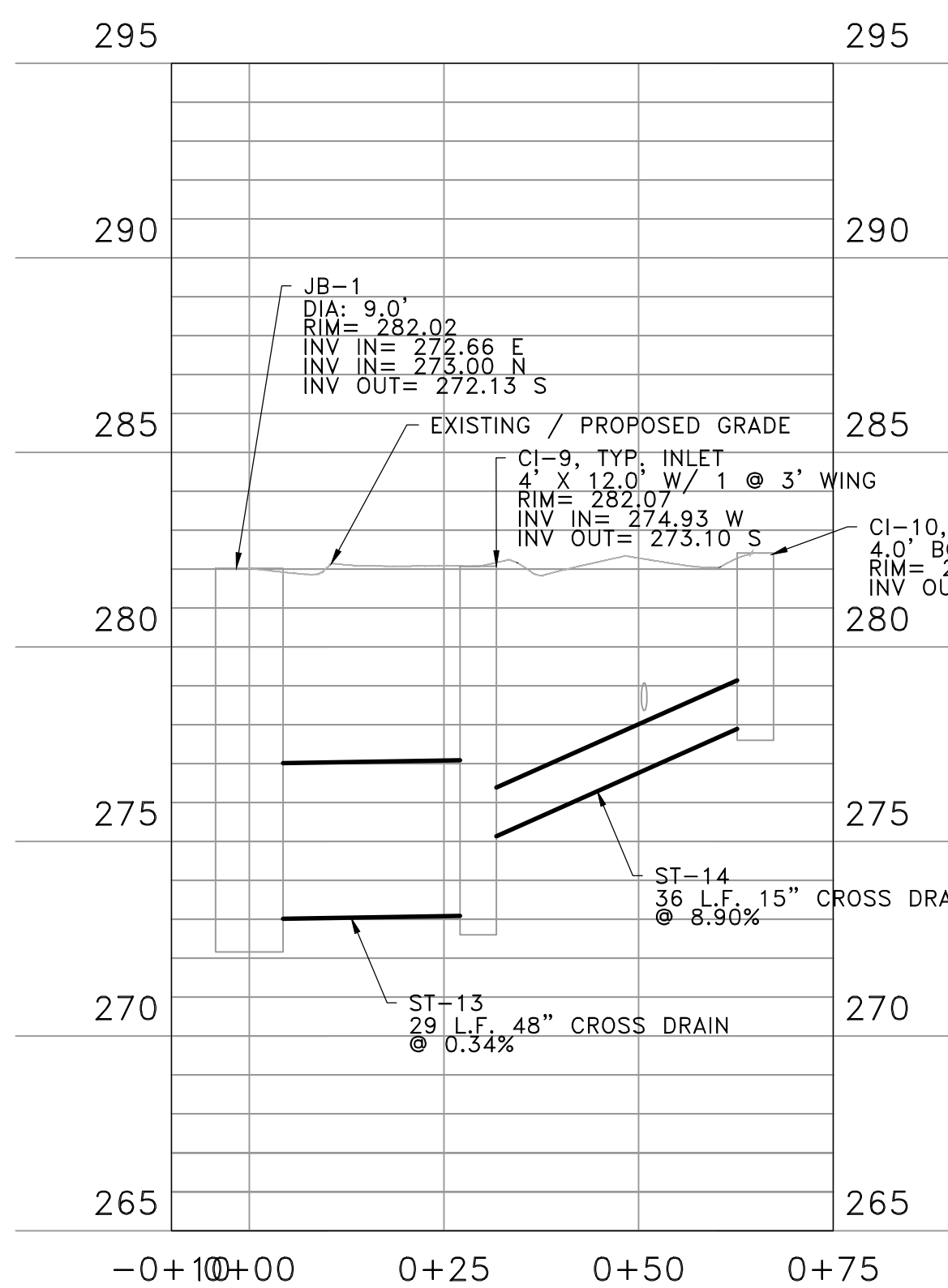
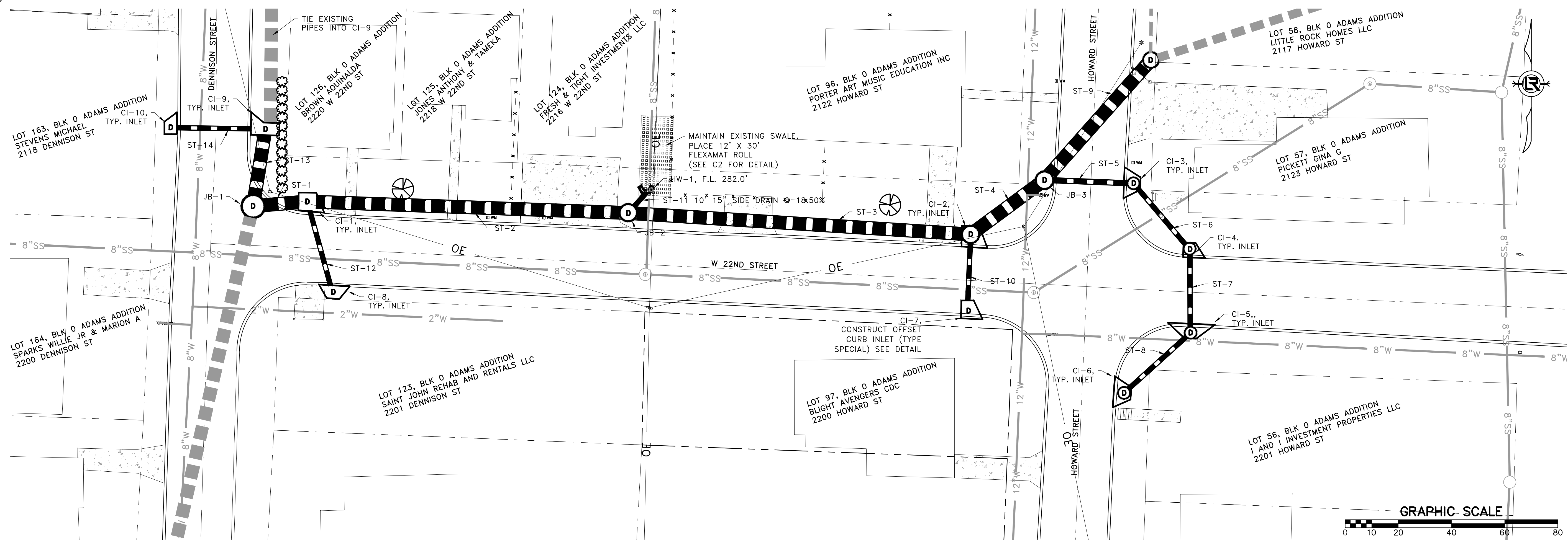
CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

90%
REVIEW
SET

DRAWN BY
HV
DESIGNED
HV
CHECKED
AHR
DATE
9/4/2019
SCALE
H:1"=20', V:1"=5'
PROJECT NO.
CLR # 01-15-DR-8
SHEET NO.
C5



REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS

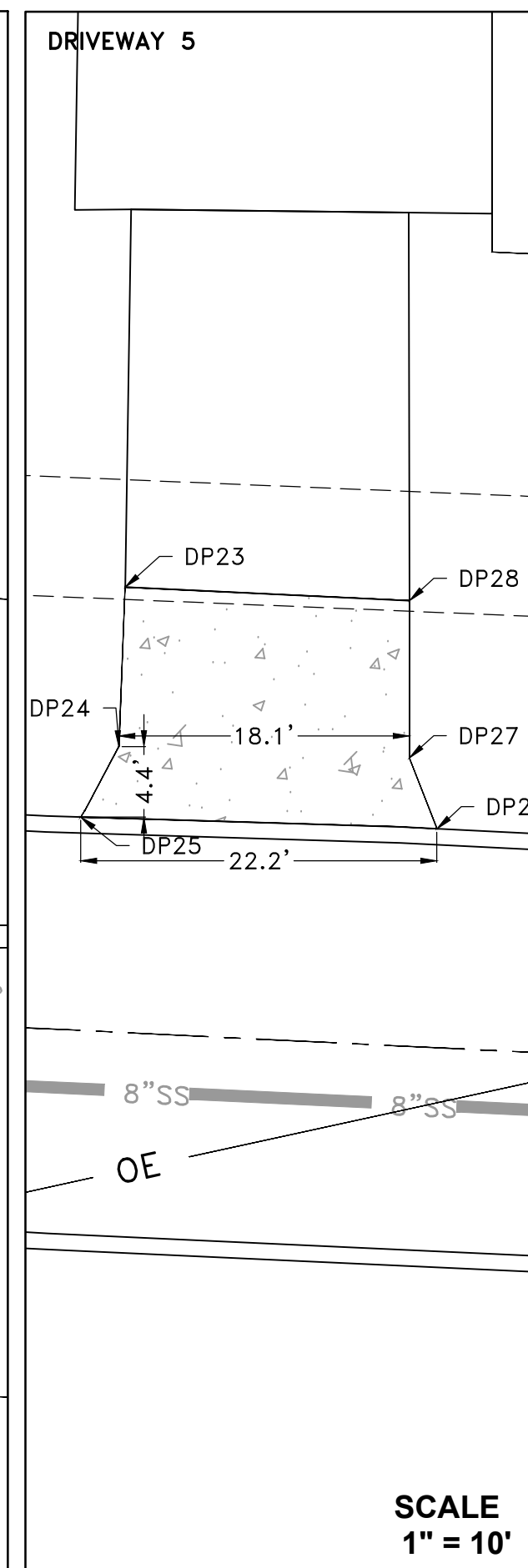
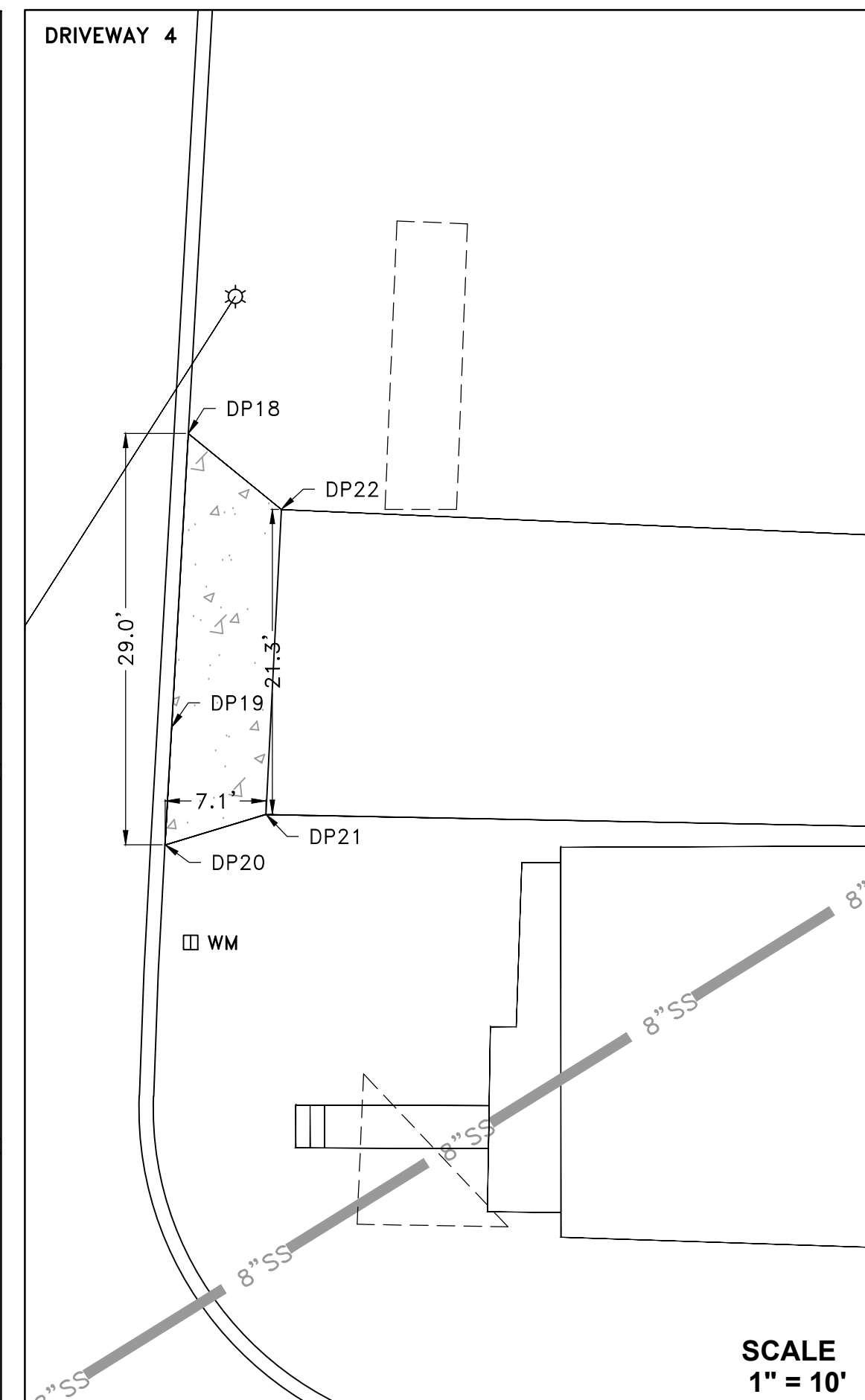
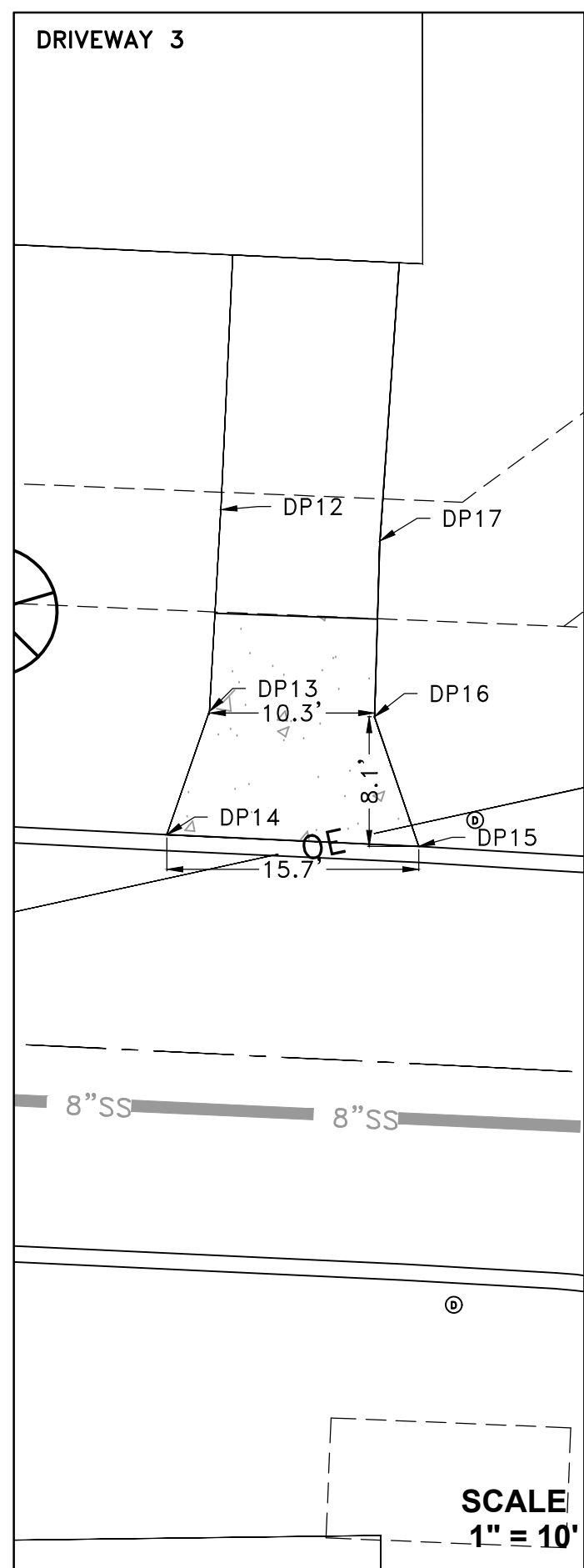
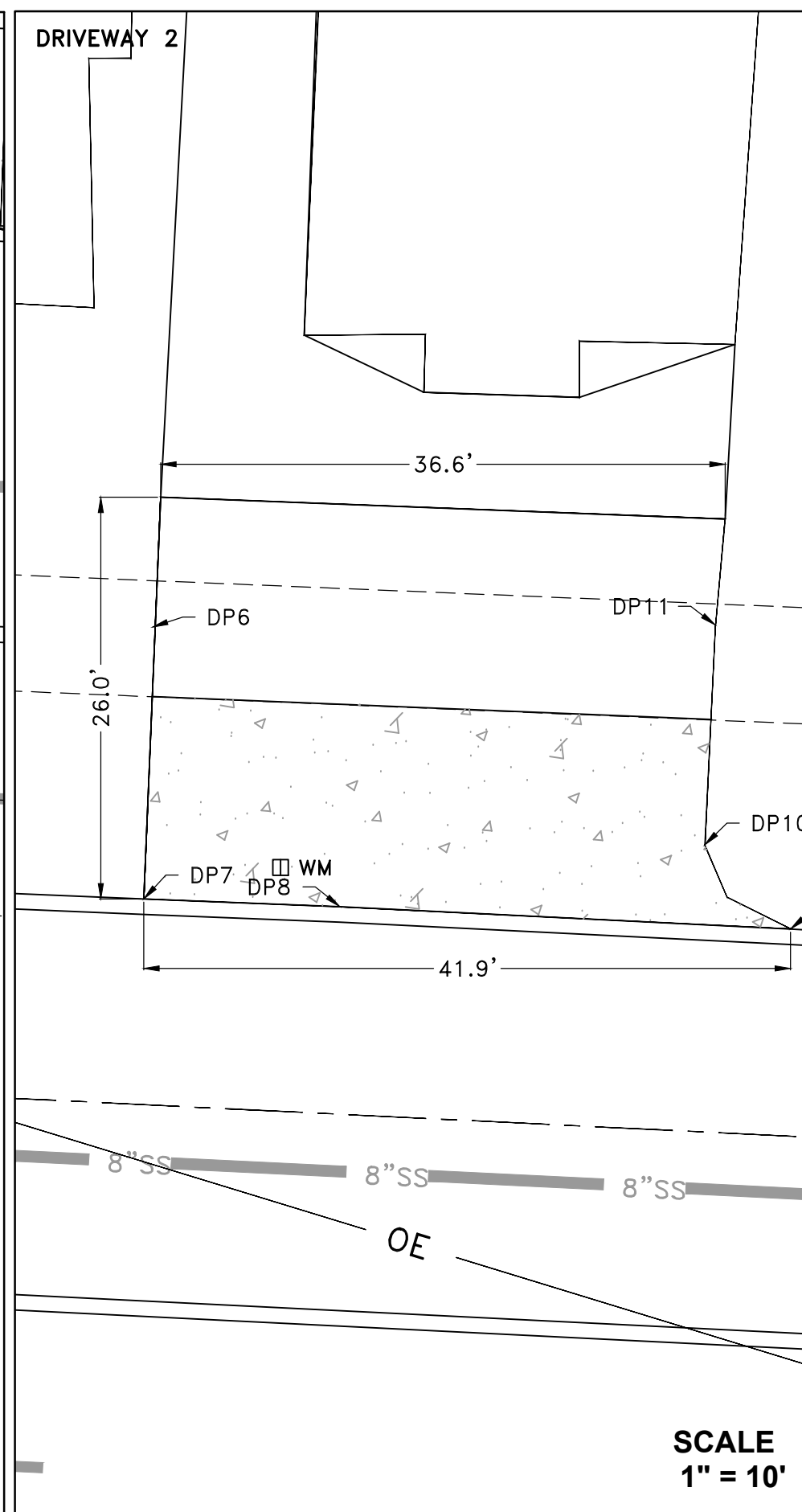
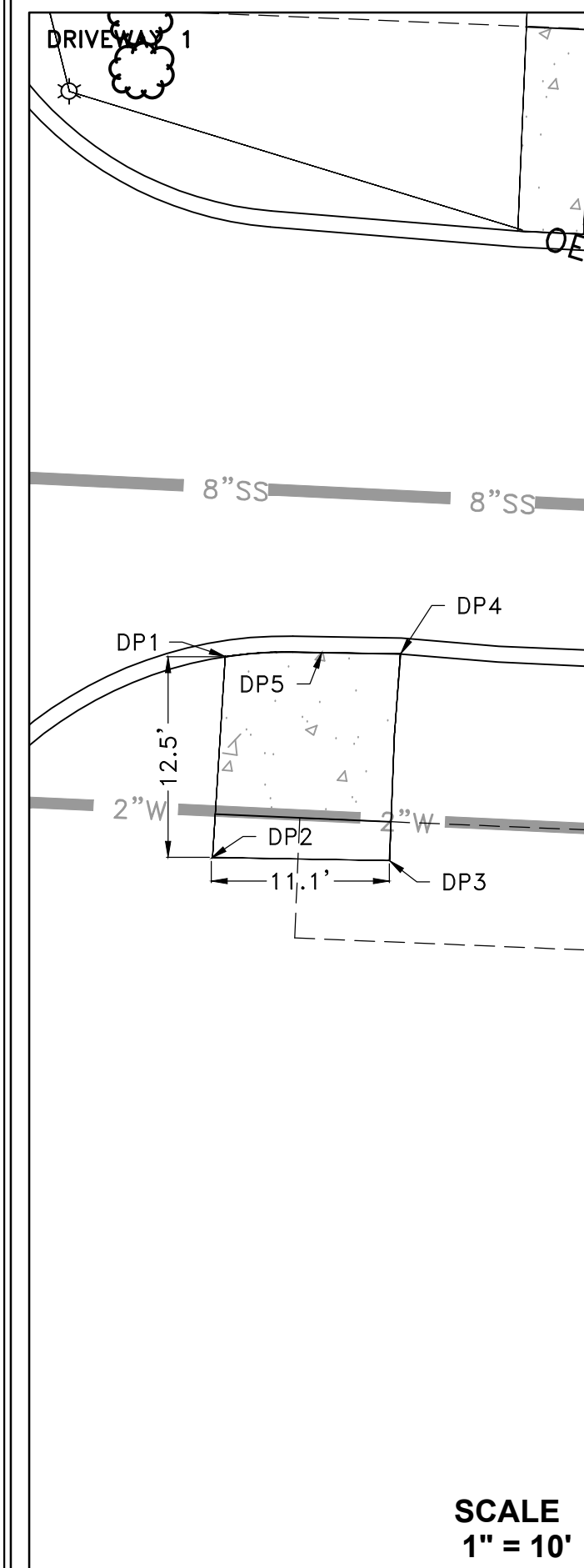
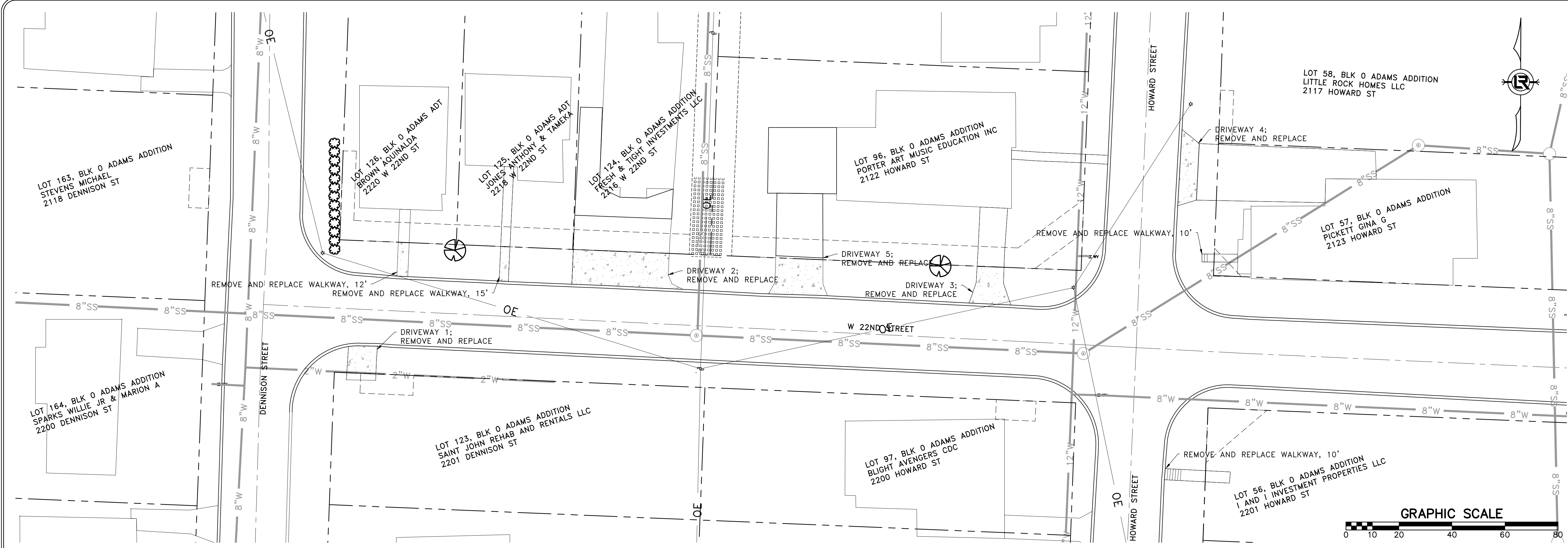
HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

DRAINAGE PLAN & PROFILE

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

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DESIGNED	HV
CHECKED	AHR
DATE	9/4/2019
SCALE	H:1"=20', V:1"=5'
PROJECT NO.	CLR # 01-15-DR-8
SHEET NO.	C6



FOR THE REPAIR OF DRIVEWAYS
REFERENCE CITY OF LITTLE ROCK PUBLIC
WORKS STANDARD DETAILS – PW-30 &
PW-38

DRIVEWAY EDGE & ELEVATION				
DP NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
1	EDGE OF DW	144058.09	1222306.69	282.96
2	EDGE OF DW	144045.55	1222305.90	283.15
3	EDGE OF DW	144045.35	1222316.95	283.15
4	EDGE OF DW	144058.26	1222317.64	282.96
5	EDGE OF DW	144058.34	1222312.84	282.84
6	EDGE OF DW	144099.35	1222391.80	284.60
7	EDGE OF DW	144081.62	1222391.00	283.86
8	EDGE OF DW	144081.12	1222403.70	284.16
9	EDGE OF DW	144079.67	1222432.92	284.81
10	EDGE OF DW	144085.12	1222427.35	284.80
11	EDGE OF DW	144099.36	1222428.04	285.53
12	EDGE OF DW	144094.83	1222544.31	289.19
13	EDGE OF DW	144082.22	1222543.59	288.85
14	EDGE OF DW	144074.53	1222540.92	288.55
15	EDGE OF DW	144073.79	1222556.67	289.30
16	EDGE OF DW	144081.90	1222553.91	289.12
17	EDGE OF DW	144092.88	1222554.24	289.41
18	EDGE OF DW	144134.25	1222623.05	291.13
19	EDGE OF DW	144119.42	1222620.11	291.31
20	EDGE OF DW	144111.20	1222619.64	291.19
21	EDGE OF DW	144113.33	1222626.69	291.52
22	EDGE OF DW	144131.20	1222628.26	291.13
23	EDGE OF DW	144092.37	1222468.01	286.47
24	EDGE OF DW	144082.40	1222467.61	285.71
25	EDGE OF DW	144078.38	1222465.49	285.51
26	EDGE OF DW	144077.26	1222487.46	286.08
27	EDGE OF DW	144081.70	1222485.73	286.15
28	EDGE OF DW	144091.53	1222485.76	286.90

REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS

HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

DRIVEWAYS AND WALKWAYS TO BE REPAIRED

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

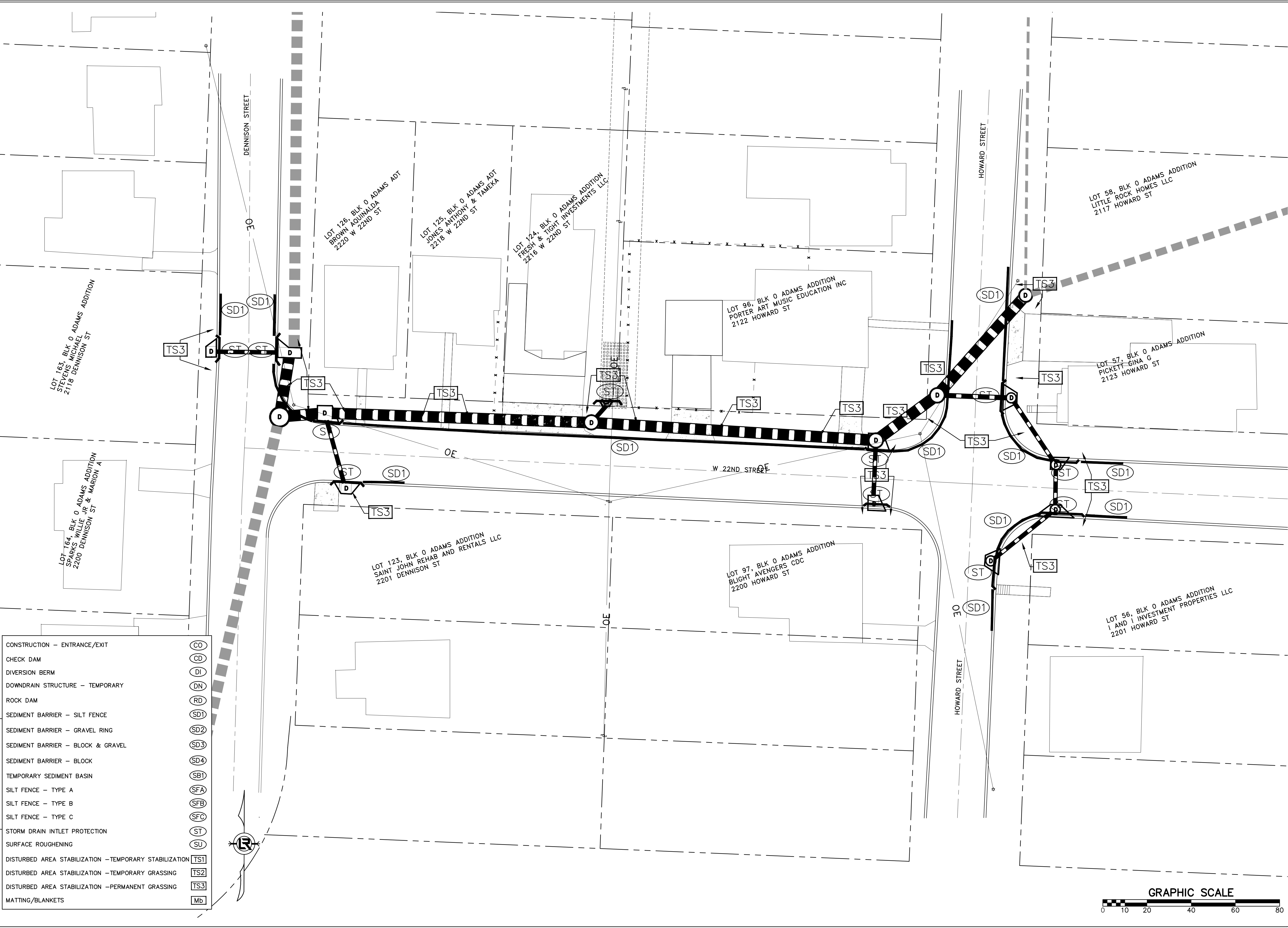
701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201

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HV
DESIGNED
HV
CHECKED
AHR
DATE
9/4/2019
SCALE
NOTED

PROJECT NO.
CLR # 01-15-DR-8
SHEET NO.
C7



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 INTLET 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)

REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS

HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN

DEPARTMENT OF PUBLIC WORKS

CIVIL ENGINEERING

701 W. MARKHAM

LITTLE ROCK, ARKANSAS 72201



90%

REVIEW

SET

DRAWN BY

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DESIGNED

HV

CHECKED

AHR

DATE

9/4/2019

SCALE

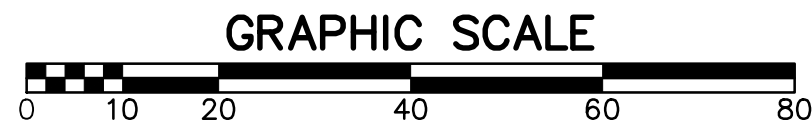
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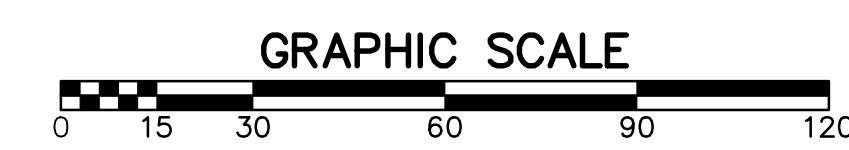
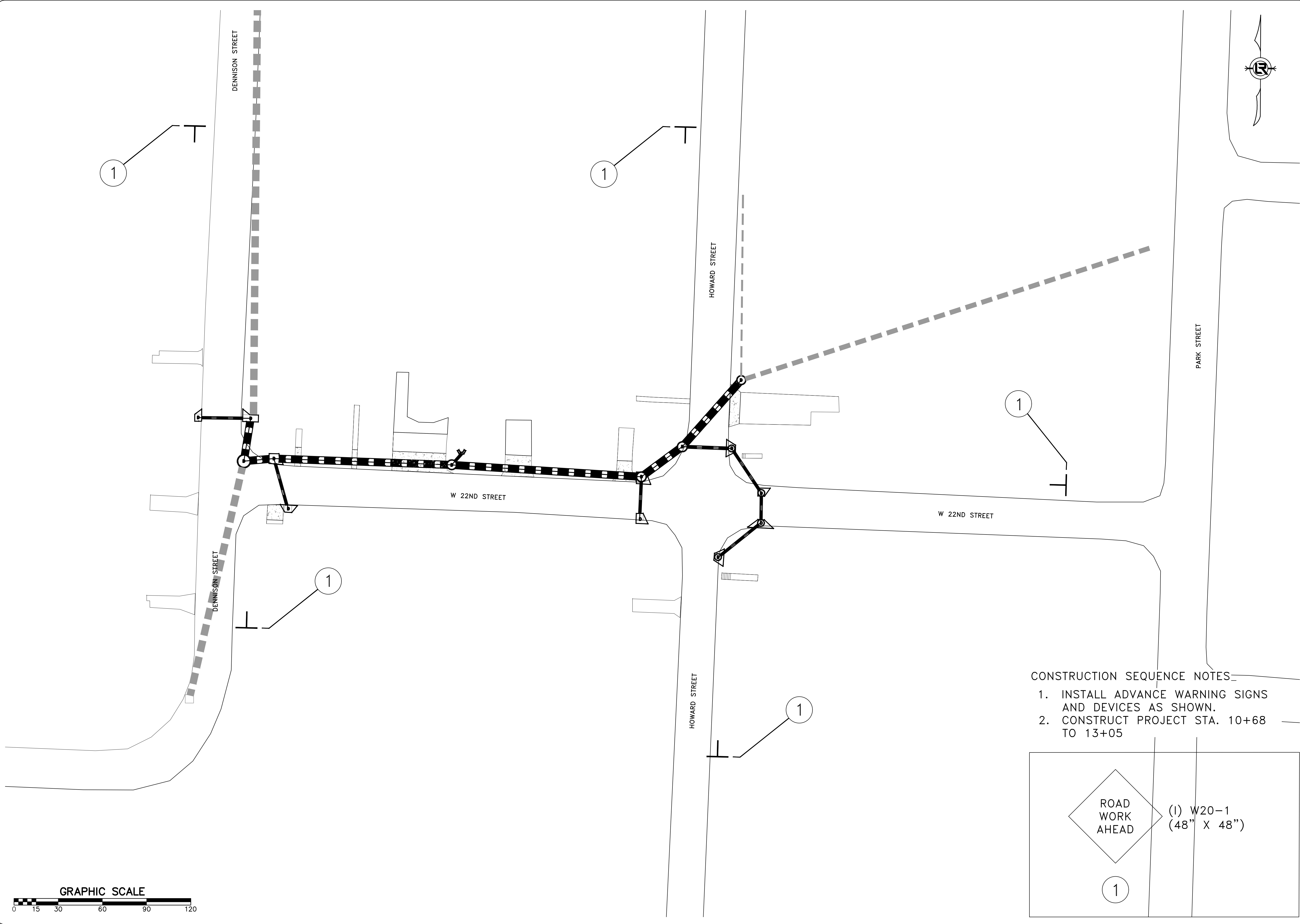
PROJECT NO.

CLR # 01-15-DR-8

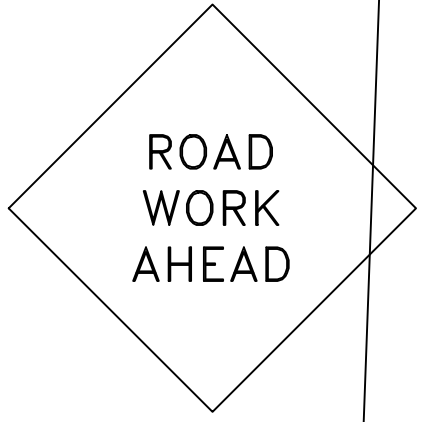
SHEET NO.

C8





- CONSTRUCTION SEQUENCE NOTES_
1. INSTALL ADVANCE WARNING SIGNS AND DEVICES AS SHOWN.
 2. CONSTRUCT PROJECT STA. 10+68 TO 13+05

 1	ROAD WORK AHEAD
	(I) W20-1 (48" X 48")

REVISIONS	DATE
90% REV	9/4/2019

CITY OF LITTLE ROCK, ARKANSAS	MAINTENANCE OF TRAFFIC
HOWARD & 22ND STREET DRAINAGE IMPROVEMENTS	

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

**90%
REVIEW
SET**

DRAWN BY HV
DESIGNED HV
CHECKED AHR
DATE 9/4/2019
SCALE 1" = 30'
PROJECT NO. CLR # 01-15-DR-8
SHEET NO. C9