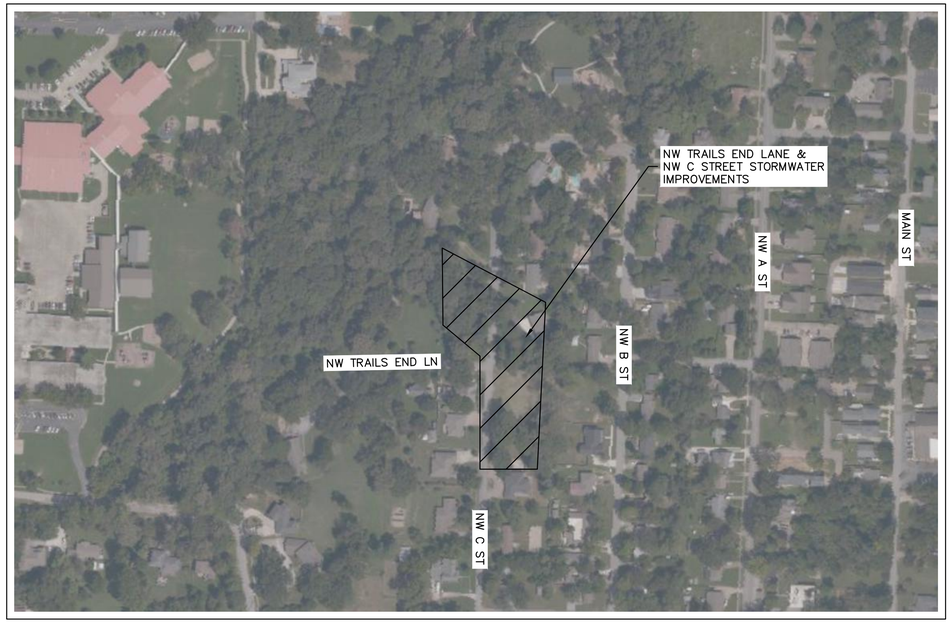
NW TRAILS END LANE AND NW C STREET STORMWATER IMPROVEMENTS

CITY OF BENTONVILLE, BENTON COUNTY, ARKANSAS

MUNIS# 21EN0011



SECTION 30, T-20-N, R-30-W
BENTON COUNTY, ARKANSAS

VICINITY MAP

0' 100' 200' 400'
SCALE IN FEET

LEGEND

○	FOUND MONUMENT (AS NOTED)	⟵	GUY WIRE
●	SET 1/2" REBAR W/PLASTIC CAP, "LC 366"	IRR	IRRIGATION VALVE
■	SET 5/8" REBAR w/aluminum cap, "LC 366"	☼	LIGHT POLE
AC	AIR CONDITIONER	MLB	MAIL BOX
	BENCHMARK	(M)	MEASURED
⊗	BOLLARD	◉	MONITORING WELL
B	BREAKER Box	(P)	PLATTED
⊙	BUSH		POWER POLE
E	CABLE BOX	LPPT	POWER POLE W/LIGHT
CV	CABLE Vault	RD	ROOF DRAIN
	CAMERA		SANITARY CLEANOUT
COL	COLUMN	S	SANITARY MANHOLE
	CONIFEROUS Tree	D	STORM MANHOLE
	DECIDUOUS TREE		SIGN
(D)	DEEDED		SCHEDULE B-II EXCEPTION
E	ELECTRIC BOX	SPH	SPRINKLER HEAD
ER	ELECTRIC BOX		STEEL POST
E	ELECTRIC MANHOLE		TELEPHONE CABINET
EM	ELECTRIC METER	TP	TELEPHONE PEDESTAL
ELO	ELECTRICAL OUTLET	T	TELEPHONE RISER
EV	ELECTRIC VAULT	T	TELEPHONE MANHOLE
	FIRE DEPT. CONNECTION	TC	TRAFFIC CONTROL BOX
	FIRE HYDRANT	TS	TRAFFIC SIGNAL BOX
F	FIBER OPTIC BOX		TRAFFIC SIGNAL POLE
FO	FIBER OPTIC PEDESTAL		TRANSFORMER
	FLARED END SECTION		VENT PIPE
GAS	GAS MARKER	W	WATER MANHOLE
GM	GAS METER	WM	WATER METER
GV	GAS VALVE	WV	WATER VALVE
GV	GAS VAULT		WOOD POST
	GRATE INLET	SCV	SPRINKLER CONTROL VALVE
	GREASE TRAP	⊗	TREE REMOVAL

LOG	LIMITS OF GRADING
	EXISTING CENTER LINE
PL	PROPERTY LINE
	PROPOSED RIGHT-OF-WAY
ROW	EXISTING RIGHT-OF-WAY
	EXISTING SUBDIVISION LINE
	PROPOSED TEMPORARY EASEMENT
	PROPOSED PERMANENT EASEMENT
	EXISTING EASEMENT
1370	EXISTING CONTOUR
1371	EXISTING CONTOUR
SS	EXISTING SANITARY LINE
SD	EXISTING STORM LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
P-UG	EXISTING UNDERGROUND POWER
TEL	EXISTING UNDERGROUND TELEPHONE
CATV	EXISTING UNDERGROUND CABLE/TV
FO	EXISTING UNDERGROUND FIBER OPTIC
T	EXISTING UNDERGROUND TRAFFIC
P-OH	EXISTING OVERHEAD ELECTRIC
TEL-OH	EXISTING OVERHEAD TELEPHONE
CATV-OH	EXISTING OVERHEAD CABLE/TV
X	EXISTING WOVEN WIRE FENCE
	EXISTING CHAIN LINK FENCE
	EXISTING WOOD FENCE
	EXISTING TREE LINE

ABBREVIATIONS

M.G.	MATCH GRADE
PVMT.	PAVEMENT
TC	TOP OF CURB
EP	EDGE OF PAVEMENT
G	GUTTER
EL.	ELEVATION
R/W	RIGHT-OF-WAY
ROW	RIGHT-OF-WAY
TCE	TEMPORARY CONSTRUCTION EASEMENT
ESMT.	EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
(R)	REMOVAL
CONST.	CONSTRUCT
TBM	TEMPORARY BENCHMARK
C.P.	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
CONC.	CONCRETE
AGG.	AGGREGATE
N.T.S.	NOT TO SCALE
B-B	BACK OF CURB TO BACK OF CURB

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE BASED ON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT ALL EXISTING UTILITIES IN THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANIES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION AND FOR PROTECTION OF SERVICES DURING CONSTRUCTION.

UTILITY CONTACTS

NATURAL GAS
Black Hills Energy
1301 Federal Way
P.O. Box 2129
Lowell, AR 72745
Contact: Josh Knight
Phone: (479)721-4543
Email: joshua.knight@blackhillscorp.com

WATER
City of Bentonville
3200 S.W. Municipal Drive
Bentonville, AR 72712
Contact: PRESTON NEWBILL
(Manager Technical Services)
Phone: (479)271-3140
Email: pnewbill@bentonvillear.com

TELEPHONE
AT&T
627 White Road
Springdale, AR 72766
Contact: Brent Baldwin
Phone: (479)200-9022
Email: bb6585@att.com

FIRE DEPARTMENT
City of Bentonville
800 SW A Street
Bentonville, AR 72712
Contact: Brent Boydston
(Fire Chief)
Phone: (479)271-5927
Email: bboydston@bentonvillear.com

CABLE TELEVISION
COX Communications
Contact: Michael Moore
Phone: (479)871-3473
Email: michael.moore3@cox.com

ELECTRIC
City of Bentonville
3200 S.W. Municipal Drive
Bentonville, AR 72712
Contact: Charlie Barnes
Phone: (479)271-3159
Email: cbarnes@bentonvillear.com

WASTEWATER
City of Bentonville
1901 NE A Street
Bentonville, AR
Contact: Nancy Busen
Phone: (479)271-3160
Email: nbusen@bentonvillear.com

DEPARTMENT OF HEALTH
Arkansas Department Of Health
Division of Engineer, Slot 37
4815 W. Markham
Little Rock, AR 72205
Contact: Adam Parker (District 1)
Phone: (501)661-2623
Email: adam.parker@arkansas.gov

BENTONVILLE ENGINEERING

INDEX OF SHEETS

60% REVIEW

PREPARED & SUBMITTED BY

CERTIFICATE OF AUTHORIZATION
Olsson Inc.
No.1010
ARKANSAS ENGINEER

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302 E. MILLSAP RD
FAYETTEVILLE, AR 72703
TEL 479.443.3404
www.olsson.com

PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

TITLE SHEET

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
drawing no.:
date: 03.17.2022

SHEET 1 of 15

DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\W_TTL01_D2104210.dwg USER: cschreiber
DATE: Mar 17, 2022 1:17pm XREFS: W_PTBLK_D2104210 W_PALGN_D2104210

GENERAL NOTES:

1. ALL WORK PRESENTED, IMPLIED, AND/OR COMPLETED AS A PART OF THIS PLAN SET SHALL CONFORM TO THE LATEST EDITION OF THE STANDARD SPECIFICATIONS OF THE CITY OF BENTONVILLE UNLESS SPECIFICALLY STATED OTHERWISE. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS (APPROVED BY CITY OF BENTONVILLE) AND ONE (1) COPY OF ALL APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS ON THE SITE AT ALL TIMES.
2. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", 1(800)344-7483, AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!
3. THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS.
5. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION CREW AND THE GENERAL PUBLIC AND THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.
7. THE JOB SITE SHALL BE A DRUG FREE WORK PLACE, CONSUMPTION OF ALCOHOLIC BEVERAGES ON THE JOB SITE IS STRICTLY PROHIBITED.
8. ALL SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE 2011 PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL IN ACCORDANCE WITH CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND SPECIFICATIONS.
10. ALL ELEVATIONS ARE TO NORTH AMERICAN VERTICAL DATUM (N.A.V.D. 1988).
11. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DO A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.
12. THE CONTRACTOR SHALL SUBMIT WRITTEN REQUEST TO THE ENGINEER FOR APPROVAL OF ALL AREAS TO BE USED FOR STAGING, MOBILIZATION, EQUIPMENT AND MATERIAL STORAGE AND GENERAL PROJECT CONSTRUCTION MANAGEMENT. REQUEST SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE NOTICE TO PROCEED.
13. NO EQUIPMENT OR MATERIAL SHALL BE DEPOSITED ON PRIVATE PROPERTY WITHOUT WRITTEN PERMISSION. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES RESULTING FROM SUCH ACTS AND SHALL REMOVE THE MATERIAL AND RESTORE THE PROPERTY AT THE EXPENSE OF THE CONTRACTOR.
14. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 7:00 PM UNLESS APPROVED OR DIRECTED BY THE ENGINEER.
15. THE CITY OF BENTONVILLE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL DEMOLITION AND REMOVAL ITEMS SUCH AS SIGNAGE, POLES, SIGNAL EQUIPMENT, ETC. THE CONTRACTOR SHALL COORDINATE WITH PUBLIC WORKS FOR A TIME AND LOCATION TO DELIVER THOSE ITEMS TO THE CITY. CONSTRUCTION DEBRIS SUCH AS BROKEN CONCRETE, EXCESS FILL, ETC. SHALL BECOME THE PROPERTY OF THE CONTRACTOR. MATERIAL SHALL BE COMPLETELY REMOVED FROM THE SITE PRIOR TO ACCEPTANCE OF THE PROJECT. ALL MATERIAL SHALL BE DISPOSED OF IN A MANNER THAT IS IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
16. UNLESS SPECIFICALLY STATED OTHERWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING METERS, VALVES, VALVE BOXES, BUILDING DRAINS, STORM AND SANITARY MANHOLES, ETC., TO MATCH FINISHED GRADE. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL SANITARY SERVICE LINES WHERE REQUIRED TO MAINTAIN CONTINUOUS SERVICE. THE CONTRACTOR SHALL CONTACT CITY OF BENTONVILLE TO COORDINATE THE ADJUSTMENT OF EXISTING WATER FACILITIES.
17. THE CONTRACTOR SHALL PROTECT EXISTING RIGHT-OF-WAY AND SURVEY MONUMENTS. ANY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF ARKANSAS.
18. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SCHEDULE OF OPERATIONS AT THE BEGINNING OF EACH WEEK.
19. ANY ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY.
20. THE CONTOUR LINES & SPOT ELEVATIONS SHOWN ARE TO FINISH GRADE FOR SURFACE OF PAVEMENT, TOP OF SIDEWALKS AND CURBS, TOP OF FLOOR SLABS, ETC. REFER TO TYPICAL SECTIONS AND DETAILS FOR SLAB AND AGGREGATE BASE THICKNESS TO DEDUCT FOR GRADING LINE ELEVATIONS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PUBLIC STREETS IN THE VICINITY OF THE JOB SITE CLEAN AND FREE OF ROCKS, SOIL AND DEBRIS. CLEAN STREETS OF CONSTRUCTION DEBRIS DAILY.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF SURFACE EROSION DURING CONSTRUCTION AND UNTIL THE OWNER ACCEPTS THE WORK AS COMPLETE. THE CONTRACTOR SHALL UTILIZE AND COMPLY WITH ALL REQUIREMENT OF THE CITY OF BENTONVILLE'S LAND DISTURBANCE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). ALL EROSION AND SEDIMENT CONTROL PLANS SHALL BE INCORPORATED IN THE SWPPP. CONTRACTOR SHALL MAINTAIN THE SWPPP THROUGHOUT THE PROJECT AND COMPLETE THE REQUIRED DOCUMENTATION UNTIL THE SITE IS STABILIZED AND ACCEPTED BY THE ENGINEER.
23. CONSTRUCTION ACCESS TO THE SITE SHALL BE LIMITED TO THE APPROVED TEMPORARY CONSTRUCTION ENTRANCE(S) AT THE EXIT OF THE WORK SITE AS DETERMINED BY THE CONTRACTOR. TEMPORARY CONSTRUCTION ENTRANCE SHALL HAVE SHOT ROCK FOR ITS SURFACE. THE CONTRACTOR SHALL UPDATE SWPPP FOR EACH PHASE OF THE PROJECT TO SHOW THE LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE AND CONCRETE CLEAN OUT.
24. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD BY THE CONTRACTOR.
25. CONTRACTOR TO PROTECT ANY STORM INLETS FROM SEDIMENT THAT TAKE STORM WATER FROM THE AREA OF CONSTRUCTION.
26. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN.
27. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BERMS, SILT FENCES, OR OTHER MEANS TO PREVENT ERODED MATERIALS FROM REACHING ADJACENT PROPERTIES. IN THE EVENT THE PREVENTION MEASURES ARE NOT EFFECTIVE, THE CONTRACTOR SHALL REMOVE ANY DEBRIS, SILT, OR MUD AND RESTORE THE PROPERTIES TO ORIGINAL OR BETTER CONDITION.
28. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DOWNSTREAM EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION. EROSION CONTROL PROCEDURES SHALL BE IN PLACE PRIOR TO BEGINNING GRADING ACTIVITIES.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SEDIMENT CONTROL BARRIERS DURING CONSTRUCTION OR UNTIL THEY ARE RELEASED FROM THIS RESPONSIBILITY BY THE ENGINEER.
30. THE CONTRACTOR SHALL CLEAN OUT ALL EXISTING AND PROPOSED INLETS, PIPES AND MANHOLES OF DEBRIS AND SEDIMENTATION AT COMPLETION OF SITEWORK. THIS WORK SHALL BE DONE TO THE SATISFACTION OF THE OWNER & ENGINEER.
31. STRIPPINGS ARE TO BE STOCKPILED. FOLLOWING THE COMPLETION OF THE GRADING, THIS TOPSOIL SHALL BE USED AS FILL MATERIAL ON AREAS BETWEEN THE SIDEWALK AND BACK OF CURB. IF STOCKPILE IS INACTIVE FOR MORE THAN 14 DAYS, STABILIZE OR PROTECT THE PERIMETER AS PER SPECIFICATIONS.
32. ALL HERBACEOUS VEGETATION SHALL BE REMOVED FROM WITHIN THE LIMITS OF THE GRADING AND REDISTRIBUTED WITH THE TOPSOIL.
33. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN IN THE PLANS, NO STEEPER THAN 1 FOOT VERTICAL IN 3 FEET HORIZONTAL EXCEPT WHERE NOTED ON THE PLANS.
34. ALL BACKFILL SHALL BE TAMPED. BACKFILL WITHIN THE RIGHT-OF-WAY SHALL BE COMPACTED TO 95% MAX. DENSITY AS PER ASTM-D698 (STANDARD PROCTOR COMPACTION).
35. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY DUE TO ACTUAL LOCATION OF EXISTING FACILITIES.
36. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER EXISTING LINES NOT SHOWN WITHIN THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIRS OF SUCH STRUCTURES WHEN BROKEN OR OTHERWISE DAMAGED BY CONSTRUCTION ACTIVITIES.
37. NO SEPARATE MEASUREMENTS AND PAYMENT WILL BE MADE FOR TRENCH EXCAVATION AND BACKFILL REQUIRED FOR STORM SEWER CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF MATERIAL FROM STORM SEWER TRENCHING.
38. CONTRACTOR SHALL PROTECT ALL EXISTING BUILDINGS DURING CONSTRUCTION. PRIOR TO BEGINNING THE CONTRACTOR SHALL COLLECT CONSTRUCTION PHOTOS/VIDEOS OF ALL EXISTING STRUCTURES WITHIN 50 FT OF LIMITS OF CONSTRUCTION TO DOCUMENT EXISTING STRUCTURE CONDITIONS.
39. CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE CONVEYANCE DURING CONSTRUCTION.
40. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRECAST CONCRETE STRUCTURES AND PIPE FOR REVIEW AND APPROVAL BY THE PROJECT ENGINEER. THE SHOP DRAWINGS MUST BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF ARKANSAS. THE CONTRACTOR MUST RECEIVE APPROVAL OF THE SUBMITTED SHOP DRAWINGS PRIOR TO FABRICATION. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION.
41. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS TO ALL BUSINESSES AT ALL TIMES IN ACCORDANCE WITH THE CITY OF BENTONVILLE, ADA, PROWAG, AND MUTCD REQUIREMENTS, INCLUDING TEMPORARY ACCESS AND SAFETY REQUIREMENTS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THIS ITEM IS SUBSIDIARY TO OTHER BID ITEMS.
42. NO EQUIPMENT, MATERIALS, AND/OR DEBRIS SHALL BE STORED WITHIN THE TREE DRIPLINE (IN ALL DIRECTIONS).
43. NO PRUNING SHALL BE PERFORMED EXCEPT BY OR IN THE PRESENCE OF AN APPROVED LICENSED ARBORIST.
44. ALL STORM SEWER PIPE LENGTHS ARE MEASURED FROM THE INSIDE FACE OF THE DOWNSTREAM STRUCTURE TO THE INSIDE FACE OF UPSTREAM STRUCTURE ALONG THE CENTERLINE, (FOR BIDDING AND PAYMENT PURPOSE ONLY)
45. THE LOCATION POINT FOR ALL STORM SEWER STRUCTURES SHALL BE CENTER OF STRUCTURE AND ALL DIMENSIONS ARE INSIDE OF STRUCTURE WIDTHS AS INDICATED ON PLAN SHEETS.
46. TRIPLE AND DOUBLE INLETS TO HAVE OPENING ALLOWING DRAINAGE BETWEEN THE TWO STRUCTURES, OPEN AREA TO BE GREATER THAN OR EQUAL TO DOWNSTREAM OPENING AREA.
47. GROSS EARTHWORK QUANTITIES ARE CALCULATED FROM THE EXISTING GRADE SURFACE TO THE FINISHED GRADE SURFACE AND DO NOT INCLUDE ADDITIONS FOR GRANULAR BACKFILL, STORM SEWER, CURB AND GUTTER, ETC.

SUMMARY OF QUANTITIES:

Base Bid Quantities			
Item No.	Desctiption	No. Unit	Unit Type
1	Insurance and Bonding	LS	1
2	Mobilization	LS	1
3	Temporary Traffic Control	LS	1
4	Erosion and Sediment Control	LS	1
5	Tree Removal, Clearing & Grubbing	LS	1
6	Demolition	LS	1
7	Mountable Curb & Gutter	LF	500
8	Concrete Driveway Replacement	SY	50
9	Asphaltic Pavement Replacement	SY	721
10	Riprap	SY	16
11	Haul-In Fill	CY	370
12	Seeding	AC	0.03
13	7'X5' Triple Neenah R-3295-L	EACH	2
14	7'X4' Triple Neenah R-3295-L	EACH	3
15	4'X4' Junction Box	EACH	1
16	5'X5' Junction Box	EACH	1
17	6'X6' Junction Box	EACH	1
18	36" RCP FES	EACH	1
19	36" RCP	LF	119
20	24" RCP	LF	102
21	18" RCP	LF	238

olsson
302 E. MILLSAP RD
FAYETTEVILLE, AR 72703
TEL 479.443.3404
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PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

GENERAL NOTES

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
drawing no.:
date: 03.17.2022

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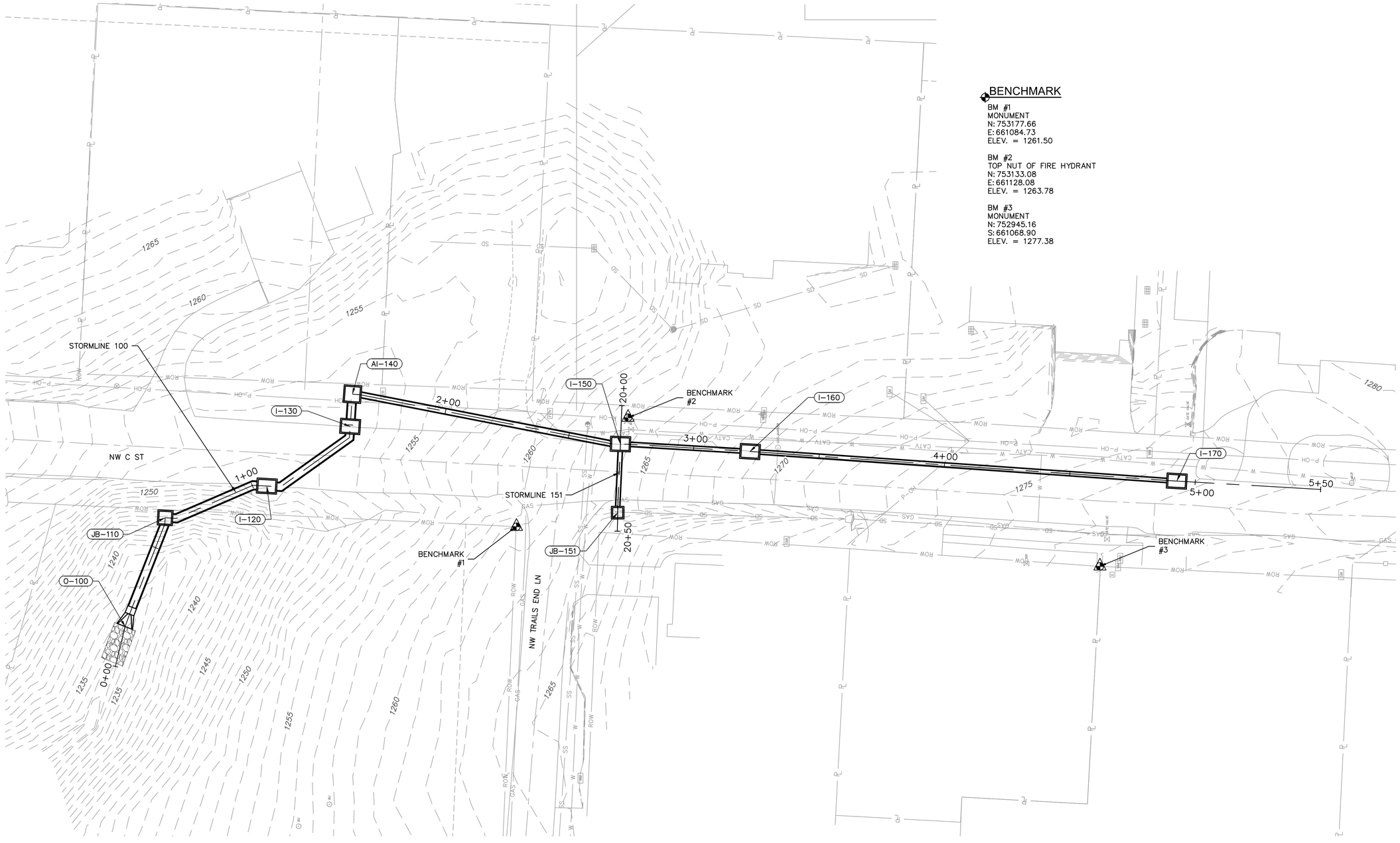
DATE: Mar 17, 2022 1:17pm XREFS: W_PTBLK_D2104210

BENCHMARK

BM #1
MONUMENT
N: 753177.66
E: 661084.73
ELEV. = 1261.50

BM #2
TOP NUT OF FIRE HYDRANT
N: 753133.08
E: 661128.08
ELEV. = 1263.78

BM #3
MONUMENT
N: 752945.16
S: 661068.90
ELEV. = 1277.38



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PRELIMINARY PLANS NOT FOR CONSTRUCTION

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		REVISIONS

SURVEY CONTROL & ALIGNMENT

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
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DATE: Mar 17, 2022 1:19pm XREFS: V_XBNDY_D2104210 V_XTOPO_D2104210 W_PTBLK_D2104210 W_PBASE_D2104210

EASEMENT INFORMATION			
PARCEL NUMBER	OWNER/ OWNER ADDRESS	PERMANENT DRAINAGE EASEMENT	TEMPORARY CONSTRUCTION EASEMENT
1	BLACK APPLE CREEK, LLC PO BOX 1860 BENTONVILLE, AR 72712	1,295 SF	2,128 SF
2	JMH, LLC 2714 OTIS CORLEY DR BENTONVILLE, AR 72712	--	842 SF
3	JMH, LLC 2714 OTIS CORLEY DR BENTONVILLE, AR 72712	--	835 SF
4	FERGUSON FAMILY TRUST 301 NW RED BARN CIR UNIT 33 BENTONVILLE, AR 72712	--	96 SF
5	RICARDO DE ALMEIDA VAZ, BRUNO & GONCALVES CARREIRO DO OLIVEIRA, MARINA 401 TRAILS END LN BENTONVILLE, AR 72712	--	84 SF

LEGEND

PERMANENT DRAINAGE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

N

0' 15' 30' 60'
SCALE IN FEET

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

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RIGHT OF WAY EASEMENT PLAN

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
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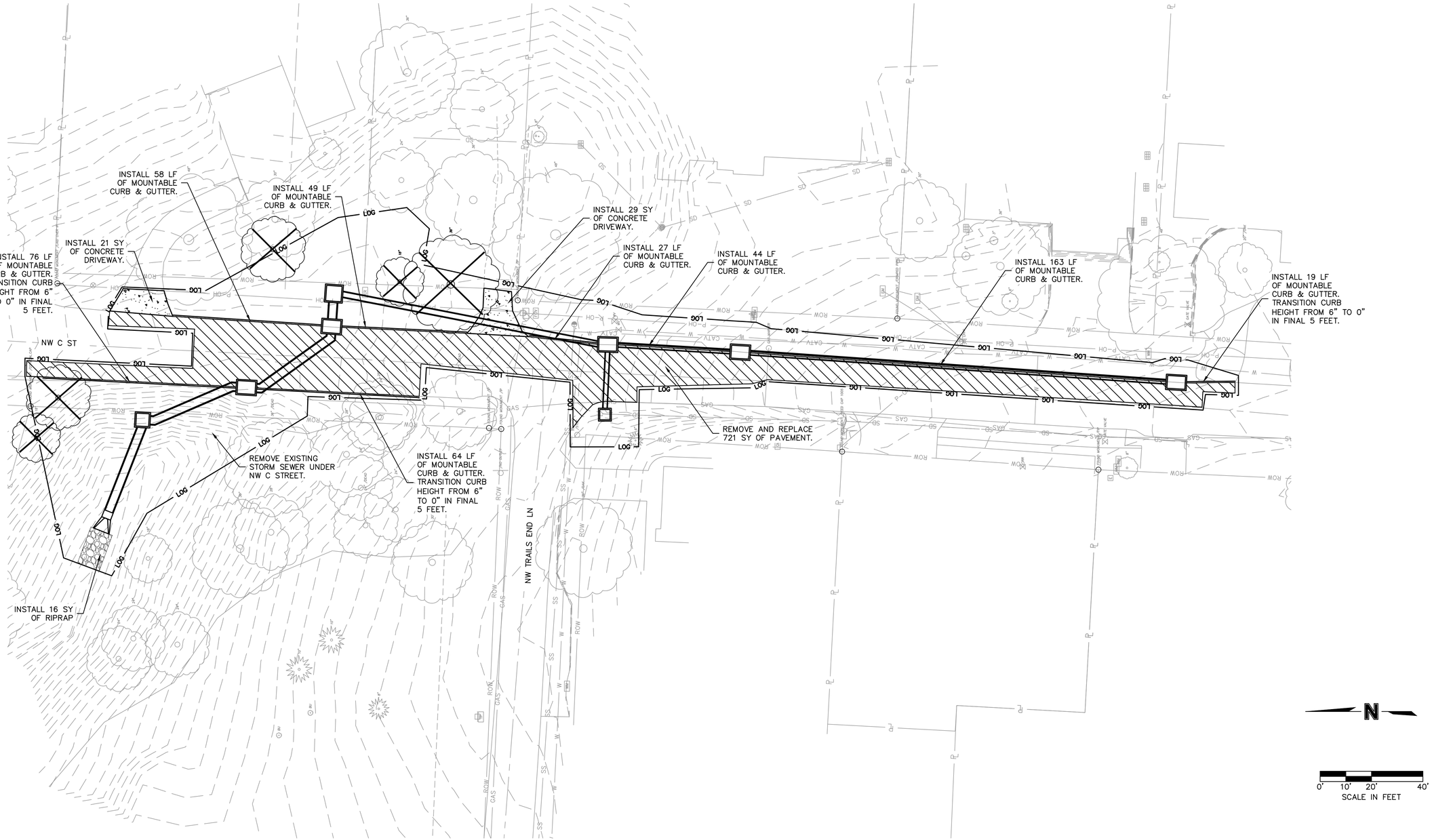

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

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		REVISIONS

PAVEMENT REPAIR PLAN

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
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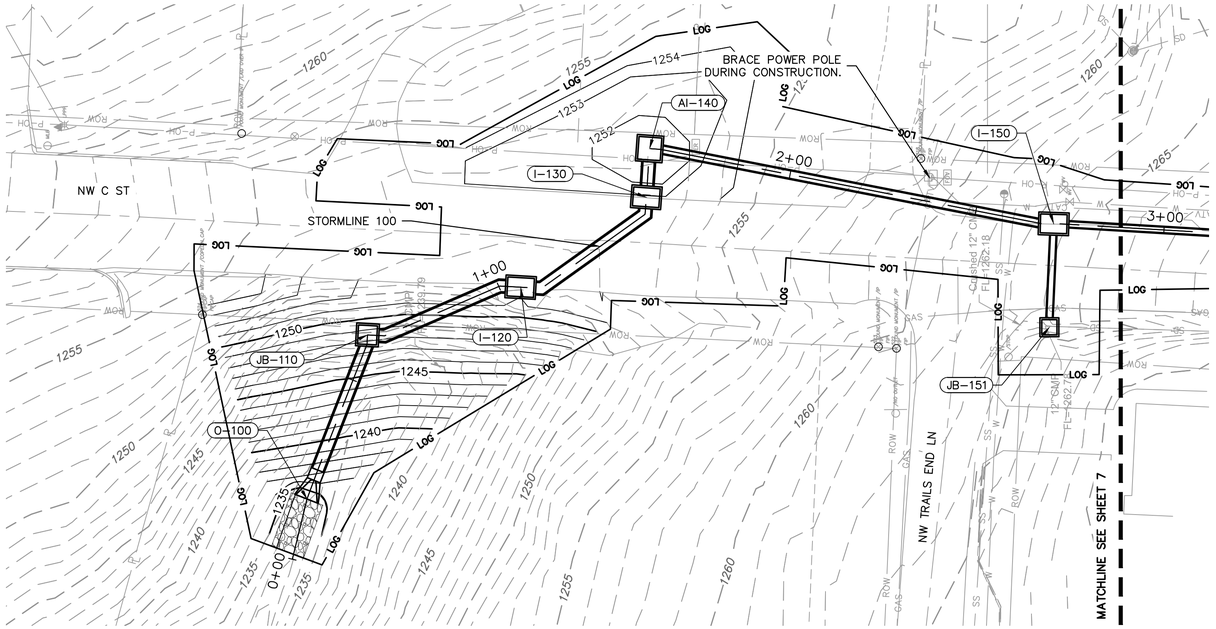
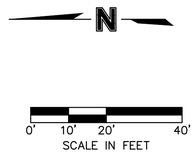
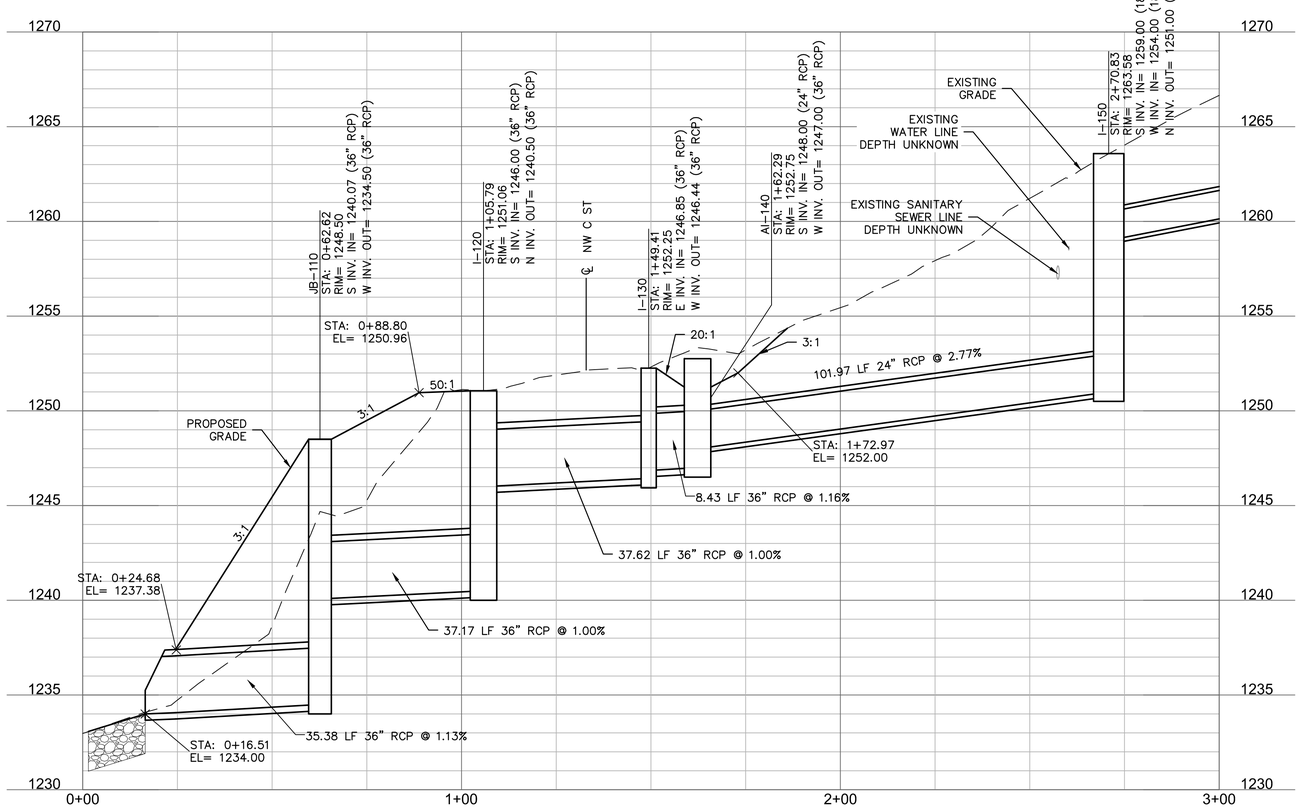
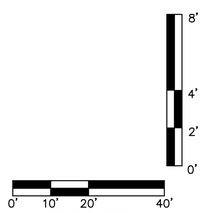




STORMLINE 100 (0+00 - 3+00)





STRUCTURES	
ID	DESCRIPTION
AI–140	6' X 6' JUNCTION BOX 1+62.29, 0.00' STORMLINE 100 RIM= 1252.75 INV IN = 1248.00 (24" RCP) INV OUT = 1247.00 (36" RCP) N: 753242.794; E: 661137.472
I–120	7' X 5' DOUBLE NEENAH R–3295–L 1+05.79, 0.00' STORMLINE 100 RIM= 1251.06 INV IN = 1246.00 (36" RCP) INV OUT = 1240.50 (36" RCP) N: 753276.841; E: 661100.886
I–130	7' X 5' DOUBLE NEENAH R–3295–L 1+49.41, 0.00' STORMLINE 100 RIM= 1252.25 INV IN = 1246.85 (36" RCP) INV OUT = 1246.44 (36" RCP) N: 753243.674; E: 661124.618
I–150	7' X 4' DOUBLE NEENAH R–3295–L 2+70.83, 0.00' STORMLINE 100 RIM= 1263.58 INV IN = 1259.00 (18" RCP) INV IN = 1254.00 (18" RCP) INV OUT = 1251.00 (24" RCP) N: 753136.153; E: 661117.621
JB–110	5' X 5' – JUNCTION BOX 0+62.62, 0.00' STORMLINE 100 RIM= 1248.50 INV IN = 1240.07 (36" RCP) INV OUT = 1234.50 (36" RCP) N: 753317.277; E: 661088.284
O–100	36" FES 0+16.37, 0.00' STORMLINE 100 RIM= 0.00 N: 753333.222; E: 661044.991

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS

PLAN AND PROFILE
STORMLINE 100 0+00 - 3+00

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

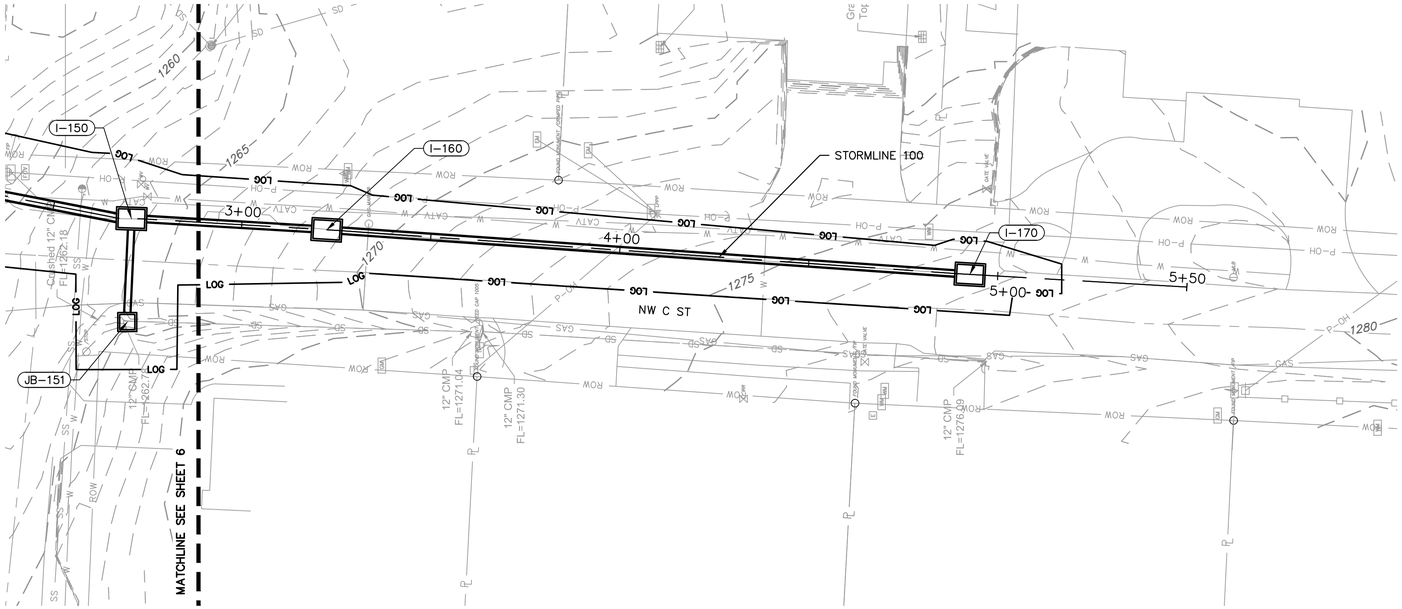
2022

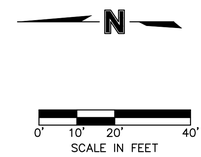
BENTONVILLE, AR

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
drawing no.:
date: 03.17.2022

SHEET
6 of 15

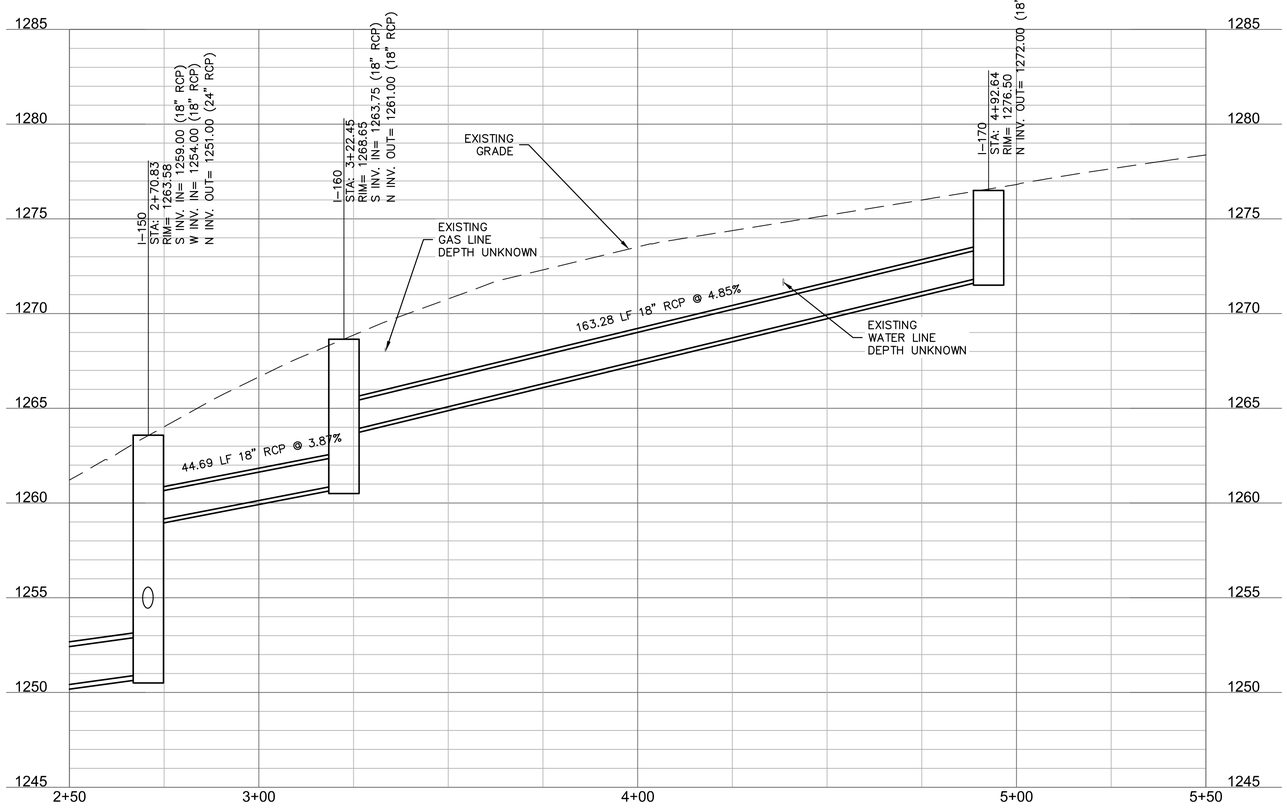
DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\W_STM01_D2104210.dwg USER: cschreiber
DATE: Mar 17, 2022 1:20pm XREFS: V_XBND1_D2104210 V_XTOPO_D2104210 W_PTBLK_D2104210 W_PBASE_D2104210

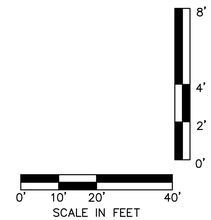




STRUCTURES	
ID	DESCRIPTION
I–160	7' X 4' DOUBLE NEENAH R–3295–L 3+22.45, 0.01' RT STORMLINE 100 RIM= 1268.65 INV IN = 1263.75 (18" RCP) INV OUT = 1261.00 (18" RCP) N: 753084.618; E: 661114.654
I–170	7' X 4' DOUBLE NEENAH R–3295–L 4+92.64, 0.00' STORMLINE 100 RIM= 1276.50 INV OUT = 1272.00 (18" RCP) N: 752914.839; E: 661102.878

STORMLINE 100 (2+50 - 5+50)





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PRELIMINARY PLANS NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

PLAN AND PROFILE
STORMLINE 100 2+50 - 5+50

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
drawing no.:
date: 03.17.2022

SHEET
7 of 15

DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\W_STM01_D2104210.dwg USER: cschreiber
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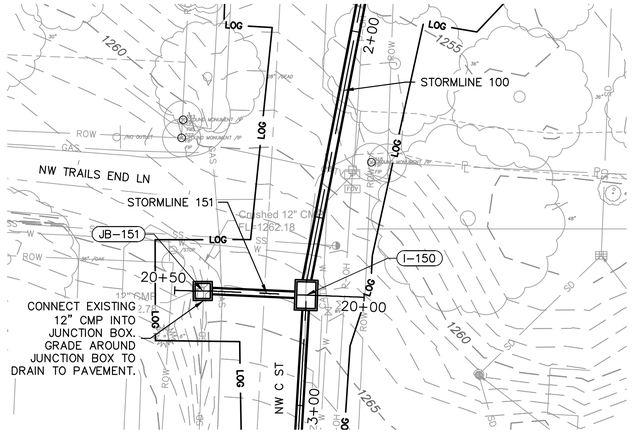
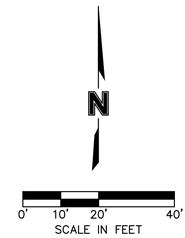
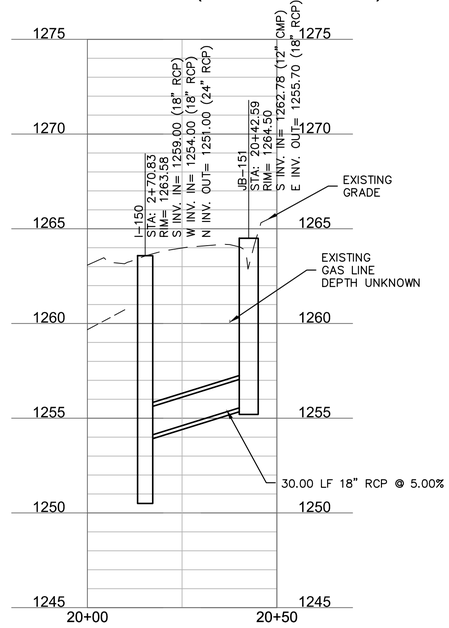
W_PALGN_D2104210

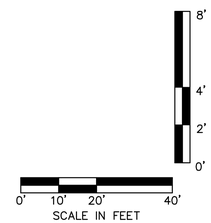


STRUCTURES	
ID	DESCRIPTION
JB-151	4' X 4' – JUNCTION BOX 20+42.59, 0.00' STORMLINE 151 RIM= 1264.50 INV IN = 1262.78 (12" CMP) INV OUT = 1255.70 (18" RCP) N: 753137.268; E: 661090.320



STORMLINE 151 (20+00 - 20+50)





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PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

PLAN AND PROFILE
STORMLINE 131 & STORMLINE 141

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: ADB
designed by: ADB
checked by: EJS
project no.: D21-04210
drawing no.:
date: 03.17.2022

SHEET
8 of 15

DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\W_STM01_D2104210.dwg USER: cschreiber
DATE: Mar 17, 2022 1:20pm XREFS: V_XBND1_D2104210 V_XTOPO_D2104210 W_PTBLK_D2104210 W_PBASE_D2104210

GENERAL NOTES:

1. ROADWAY CLOSURES SHALL OCCUR IN STAGES AND/OR TEMPORARY ACCESS PROVIDED SO THAT PRIVATE ACCESS IS MAINTAINED AT ALL TIMES. ACCESS TO TRAILS END LANE SHALL BE MAINTAINED AT ALL TIMES.

2. ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND THE CITY OF BENTONVILLE "MINIMUM STANDARD SPECIFICATIONS FOR STREETS". WHERE THE CITY OF BENTONVILLE SPECIFICATIONS ARE NOT APPLICABLE, ARKANSAS DEPARTMENT OF TRANSPORTATION (ARDOT) STANDARDS SHALL ALSO APPLY.

3. ADDITIONAL REQUIREMENTS ON STANDARD TRAFFIC CONTROL DETAIL SHEETS PROVIDED HEREIN SHALL ALSO APPLY.

4. AS WITH ALL CONSTRUCTION ACTIVITIES, TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. ANY ALTERNATE TRAFFIC CONTROL AND/OR DETOUR PLANS SHALL RECEIVE WRITTEN APPROVAL FROM THE CITY ENGINEER PRIOR TO COMMENCEMENT.

CONSTRUCTION NOTES:

1. FULL CLOSURE OF C STREET FOR STORM CROSSING INSTALLATION. SHEET DETAIL 4 ON SHEET 15. CLOSURE SHALL OCCUR INDEPENDENTLY FROM CLOSURE DESCRIBED IN NOTE 2 BELOW.

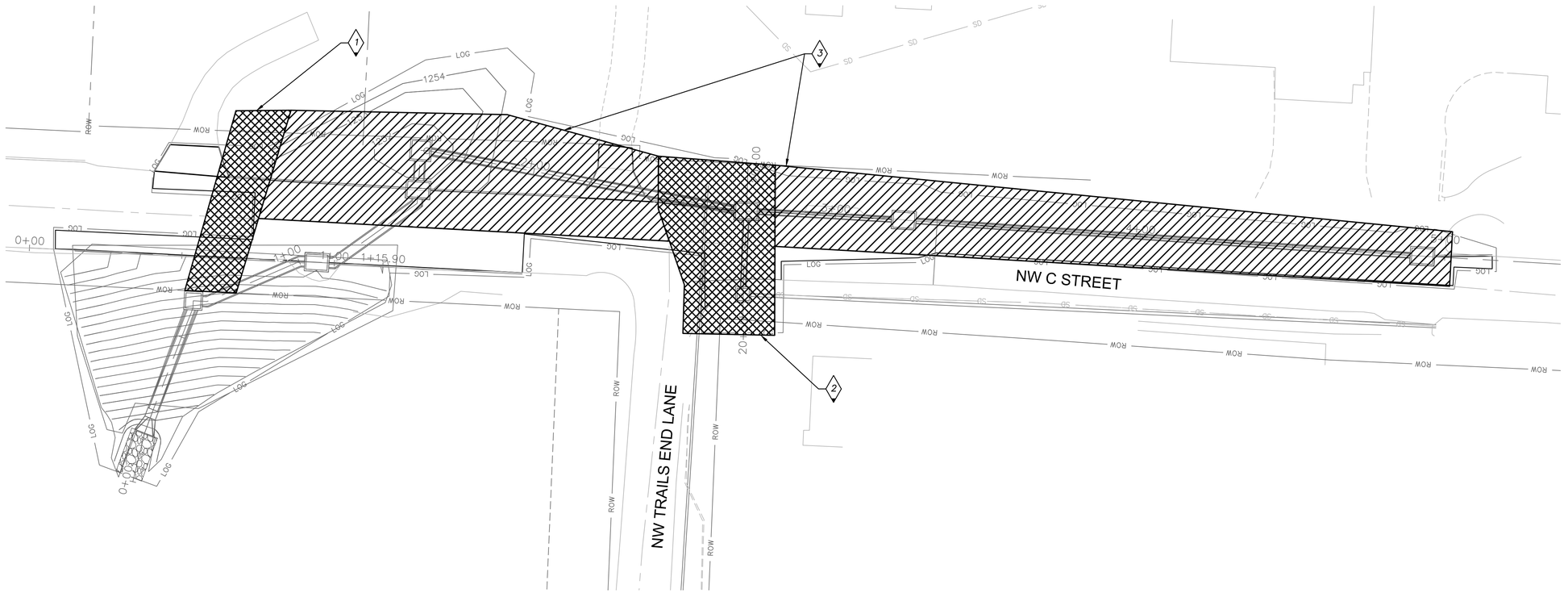
2. FULL CLOSURE OF C STREET FOR STORM CROSSING INSTALLATION. SHEET DETAIL 4 ON SHEET 15.CLOSURE SHALL OCCUR INDEPENDENTLY FROM CLOSURE DESCRIBED IN NOTE 1 ABOVE.

3. LANE CLOSURE OF C STREET WITH FLAGGER OPERATIONS. SEE DETAIL E ON SHEET 11.

LEGEND

WORK AREA (FULL CLOSURE)

WORK AREA (LANE CLOSURE)



N

0' 10' 20' 40'
SCALE IN FEET

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
		REVISIONS	

TRAFFIC CONTROL PLAN SHEET
NW TRAILS END & NW C STREET

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: TLH
checked by: JAB
approved by: KR
QA/QC by: TF
project no.: D21-04210
drawing no.: F_TRFC_D0214210
date: 03.17.2022

SHEET
9 of 15

DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\TRFC\F_TRFC_D0214210.dwg USER: cschreiber
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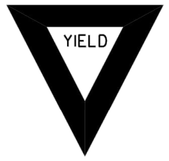
R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

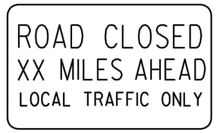
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W2I-5a

STD. 36"X36"
FWY. 48"X48"

WI-1

STD. 36"X36"
FWY. 48"X48"

WI-2

STD. 36"X36"
FWY. 48"X48"

WI-3

STD. 48"X48"

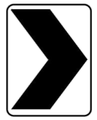
WI-4

STD. 48"X48"

WI-6

STD. 48"X24"
SPECIAL 60"X30"

WI-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

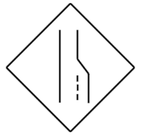
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W2I-2

STD. 30"X30"
SPECIAL 36"X36"

W2I-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

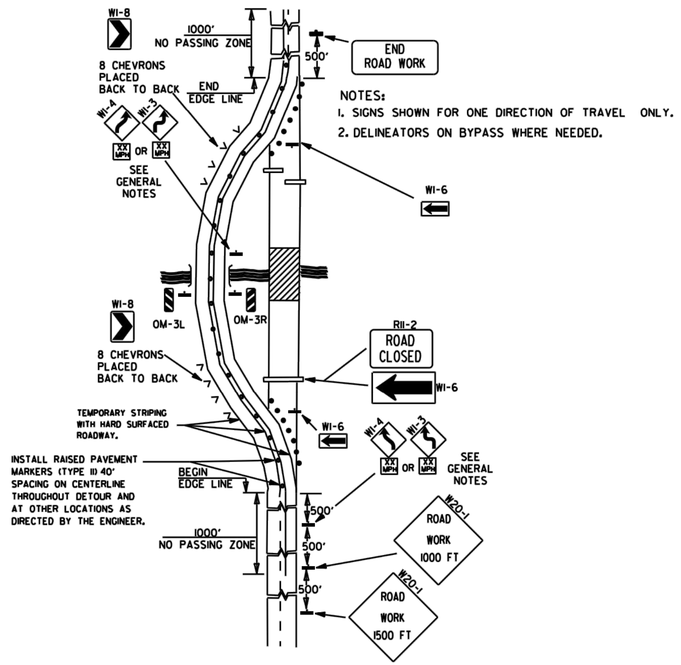
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

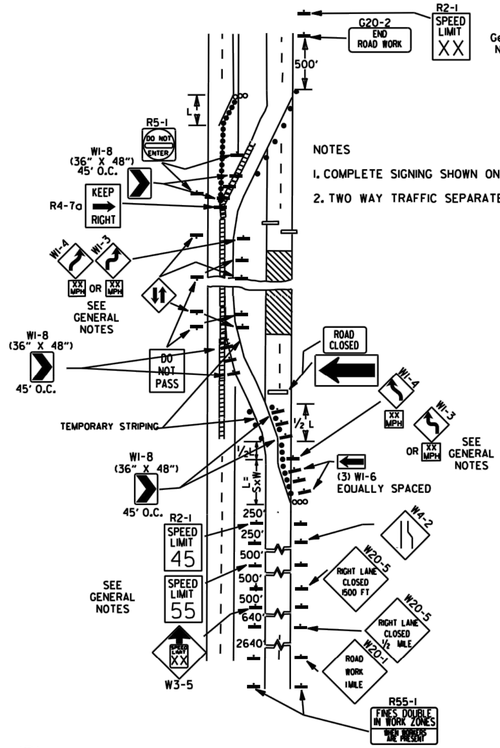
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



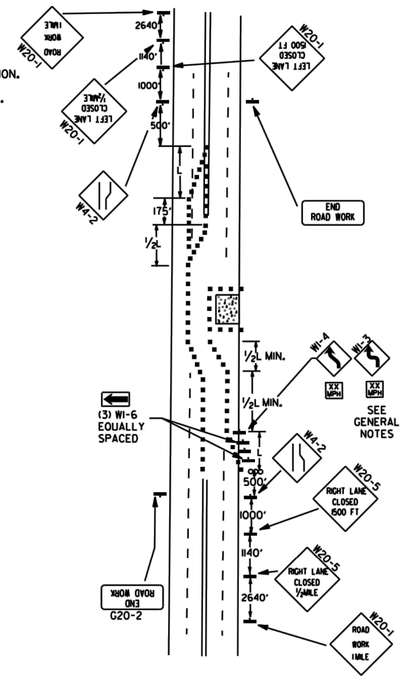
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

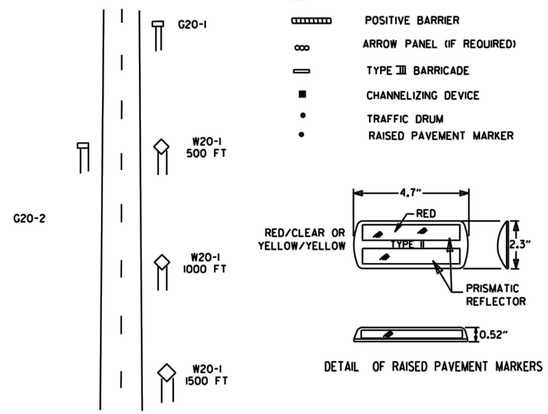


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

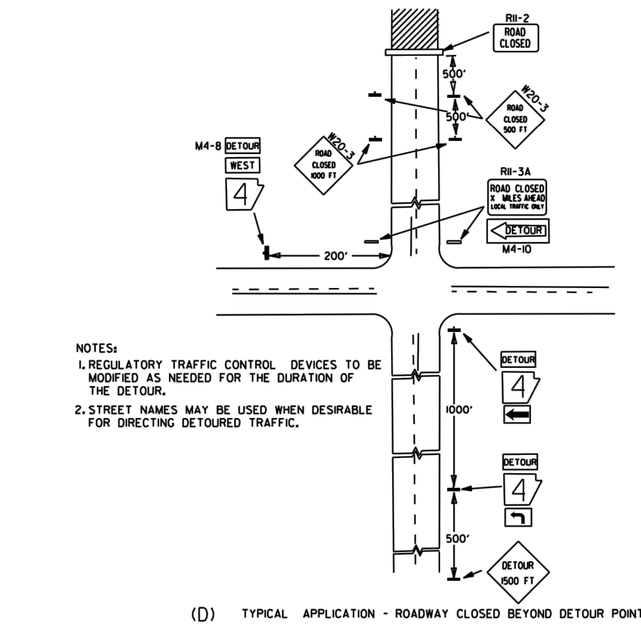
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

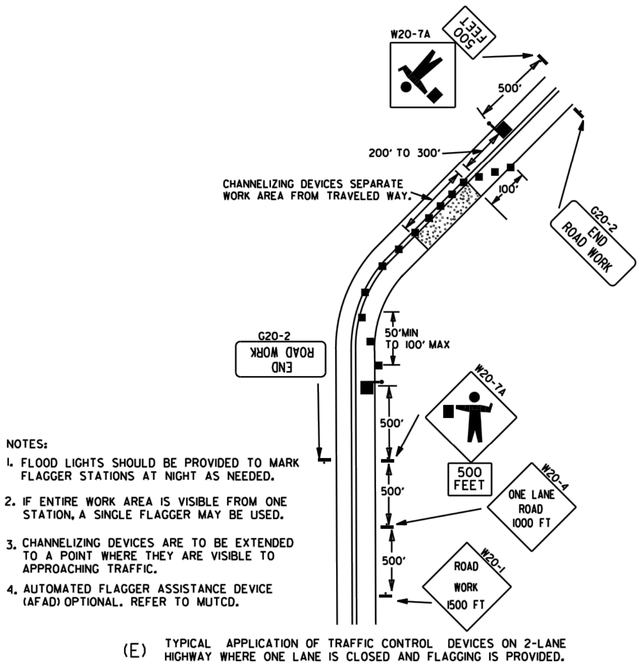
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



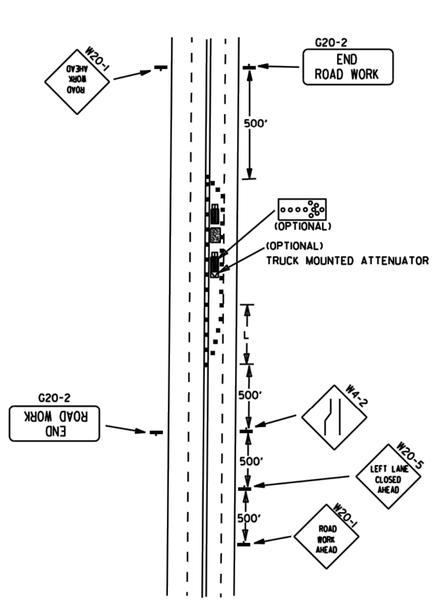
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



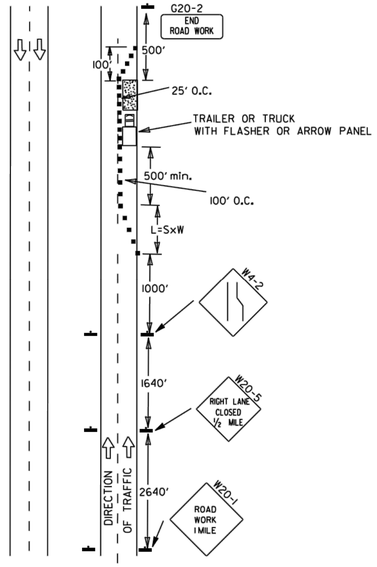
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

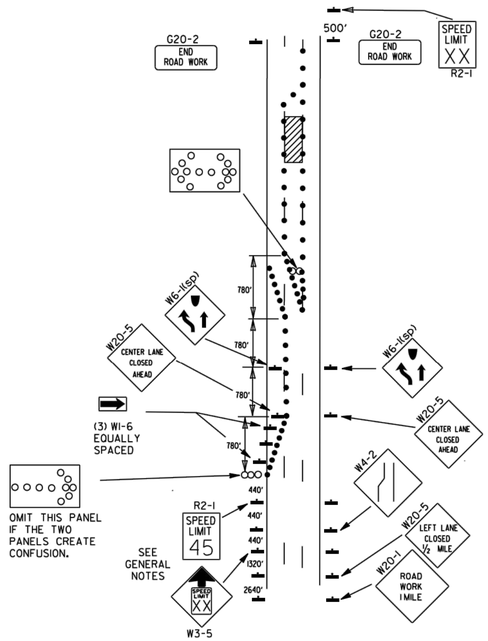
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2

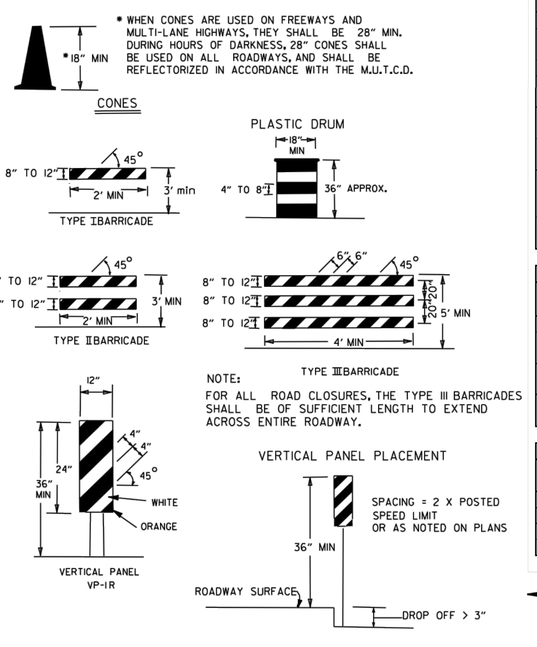


(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

CHANNELIZING DEVICES



NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

VERTICAL PANEL PLACEMENT

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[3]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

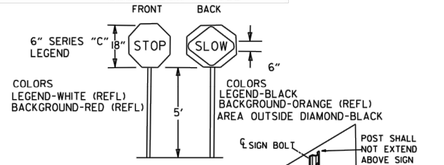
INTERSTATE AND NON-INTERSTATE

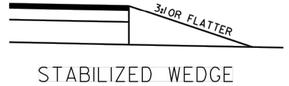
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

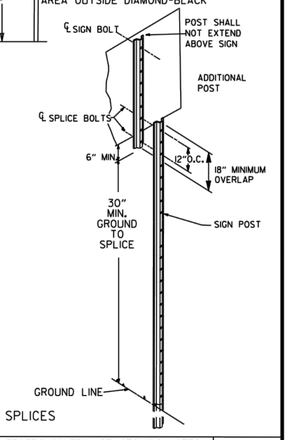
STOP SLOW PADDLE





STABILIZED WEDGE

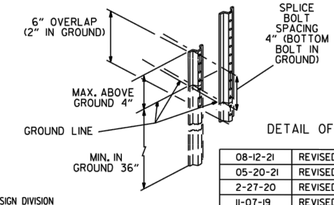
NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

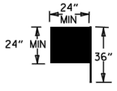
NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES

FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

KEY:

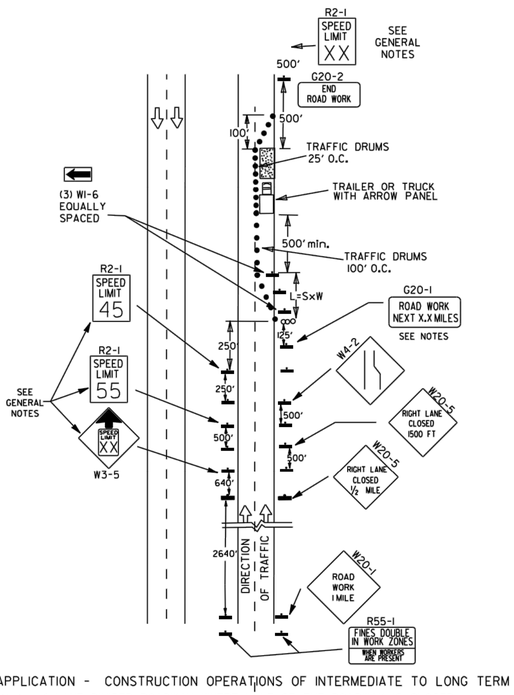
ooo ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

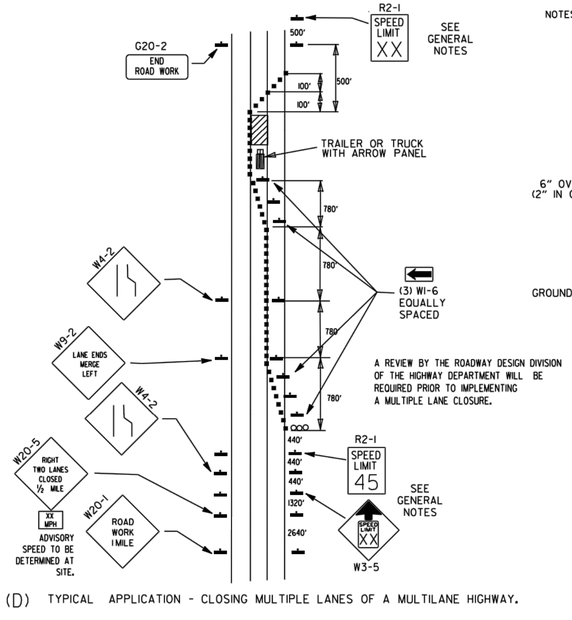
● TRAFFIC DRUM

GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

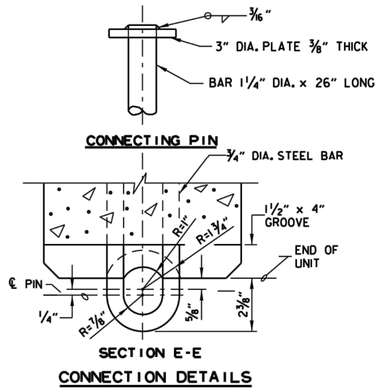
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

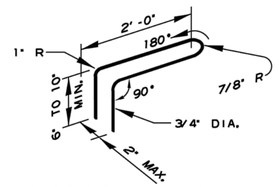
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

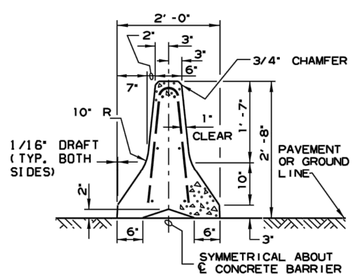
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"



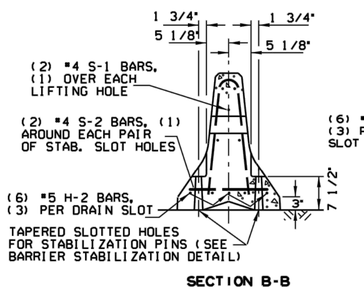
CONNECTION DETAILS



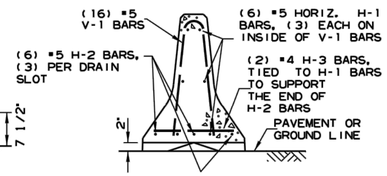
CONNECTION LOOP



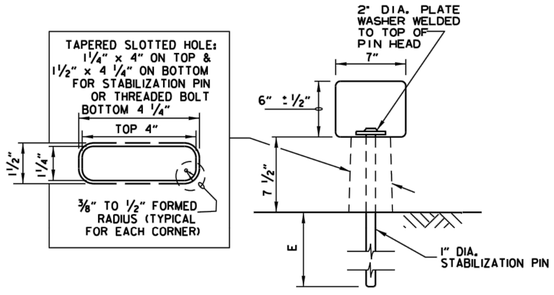
SECTION A-A



SECTION B-B



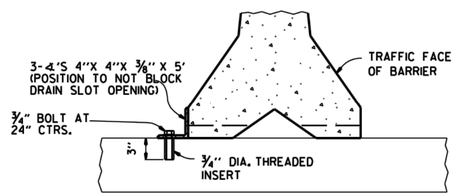
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

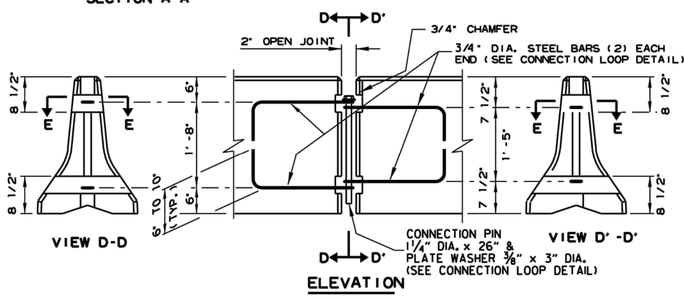
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

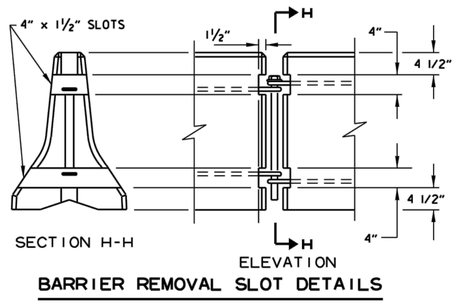
BRIDGE DECKS



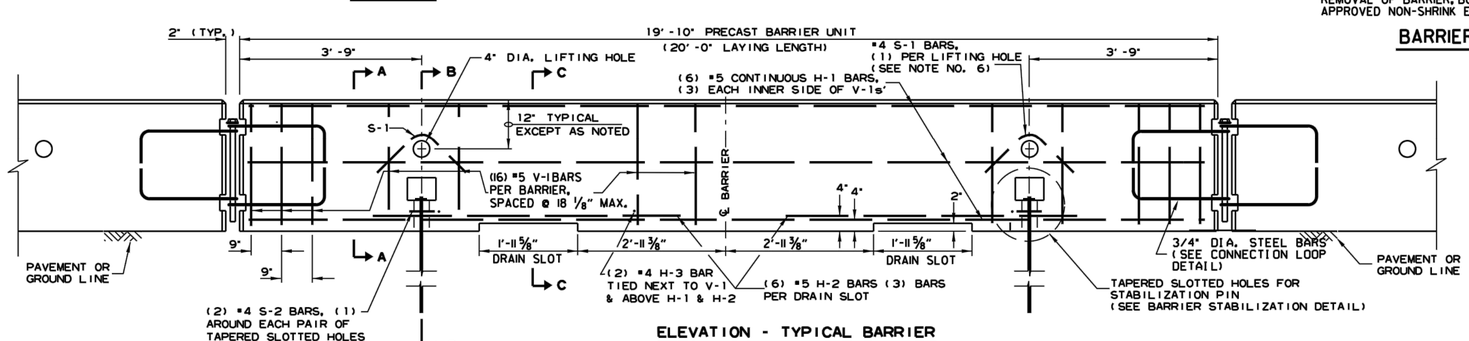
VIEW D-D

VIEW D'-D'

ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

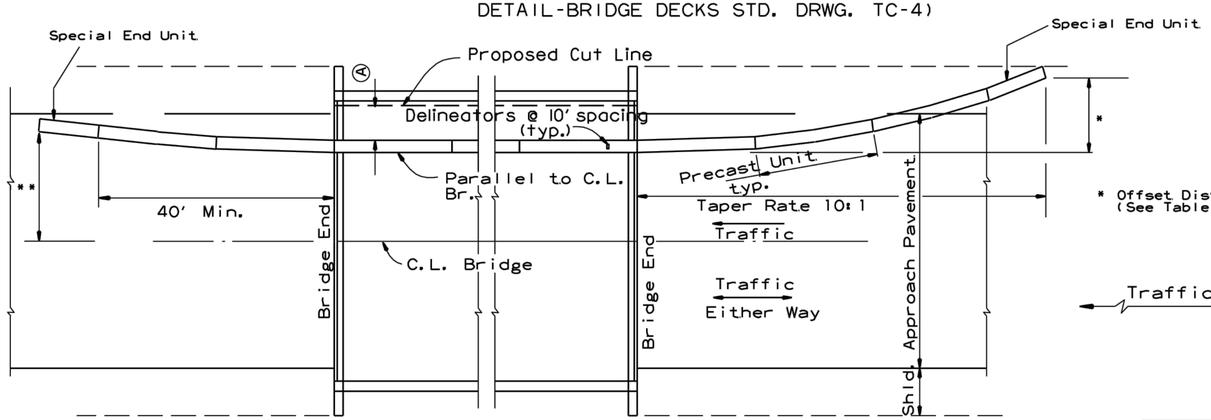
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

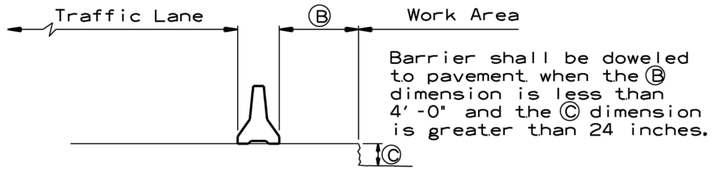


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

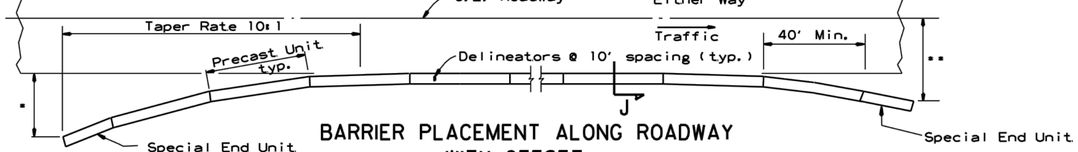
* Offset Distance (See Table)



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

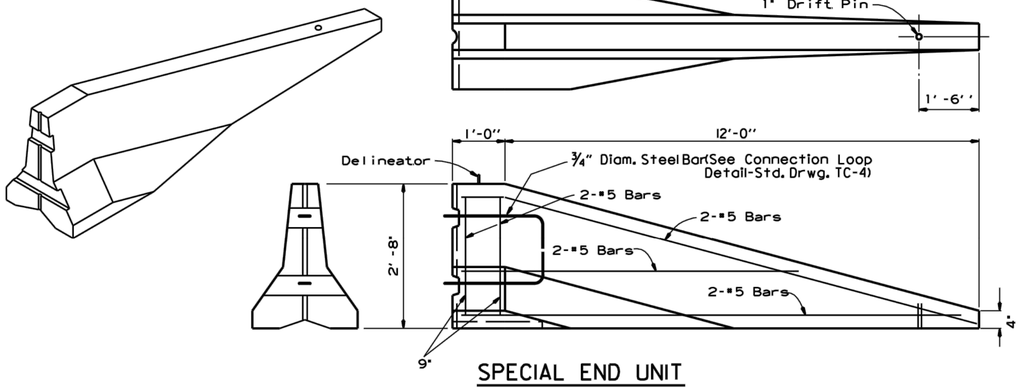
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

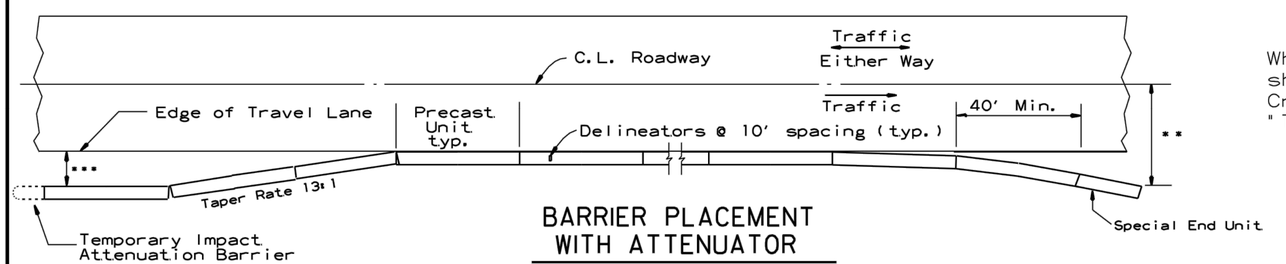
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

General Notes

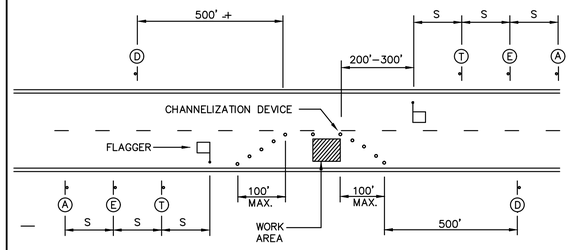
When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

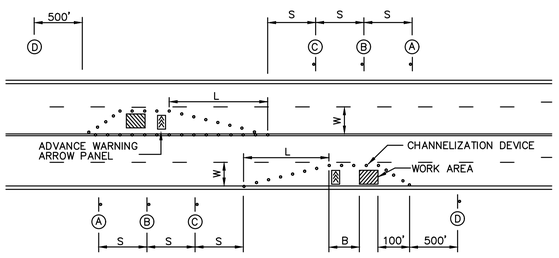
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

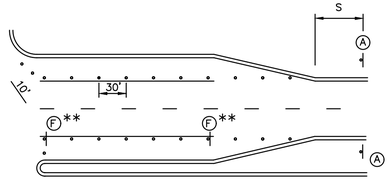
STANDARD DRAWING TC-5



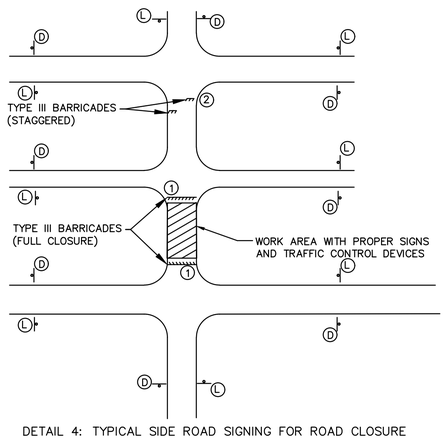
DETAIL 1: TYPICAL CLOSURE – TWO–LANE STREET



DETAIL 2: TYPICAL LANE CLOSURE – FOUR–LANE STREET

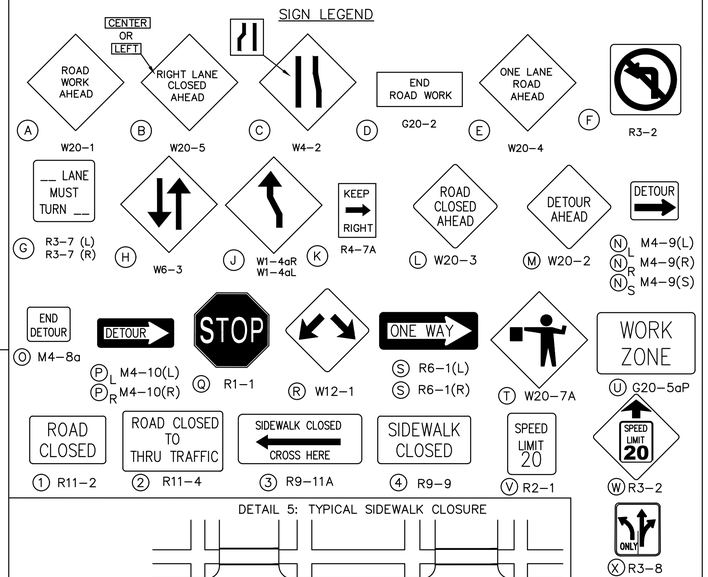


DETAIL 3: TYPICAL RIGHT–TURN LANE AND LEFT–TURN LANE CLOSURES

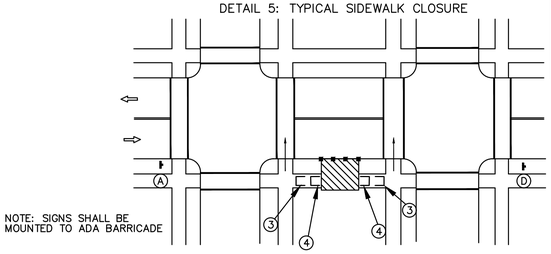


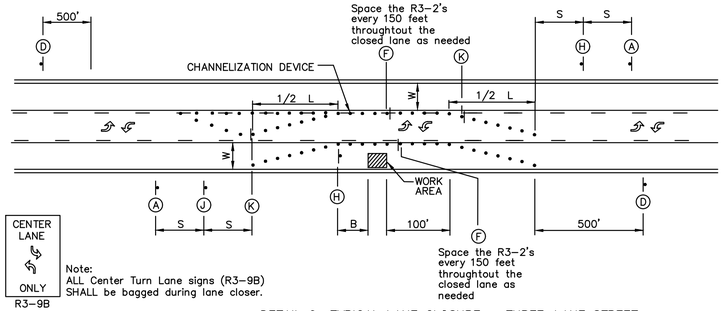
DETAIL 4: TYPICAL SIDE ROAD SIGNING FOR ROAD CLOSURE

SIGN LEGEND



DETAIL 5: TYPICAL SIDEWALK CLOSURE

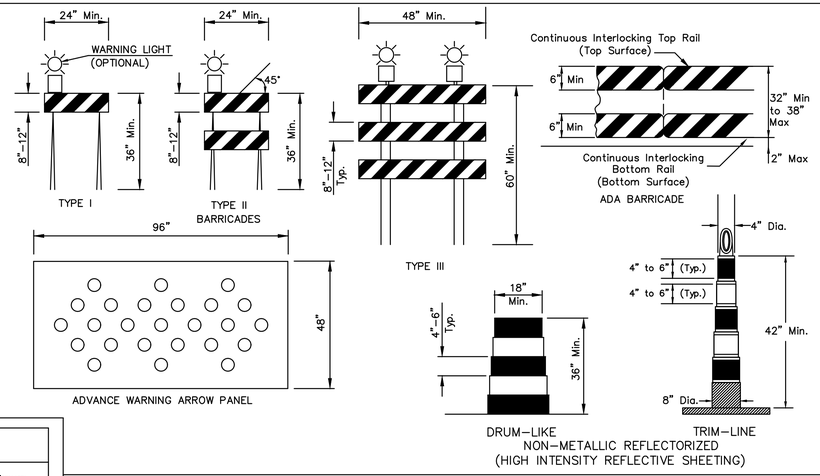




DETAIL 6: TYPICAL LANE CLOSURE – THREE–LANE STREET

GENERAL NOTES:

1. All signs, barricades, drums, markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (M.U.T.C.D.), most current edition.
2. All traffic control devices shall be standard in size, shape, color and message, in good condition, and reflectorized. All signs and barricades in place at night shall be reflectorized with high intensity sheeting. All signs shall be securely mounted with height and lateral location as described in the M.U.T.C.D.
3. Warning lights should be used on all channelization devices and warning signs per M.U.T.C.D. Type A Low–Intensity Flashing Warning lights should be mounted on warning signs as well as barricades where used singley to warn users of potentially hazardous areas during nighttime hours. Type B High–Intensity Flashing warning lights should be used during day and nighttime operations to increase awareness of potentially hazardous areas. Type C Steady–Burn lights should be mounted on barricades where used in series to delineate the edge of the travel way.
4. Advance Warning Arrow Panels shall be used for all lane closures on multi–lane streets but should not be used in lieu of proper traffic control signs, barricades and channelization devices.
5. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic or where construction activities impose a restriction on traffic, as directed by the Engineer in charge of construction. Where flaggers are used, advance signing shall be erected as shown above or as specified in the M.U.T.C.D. Flaggers shall meet the requirements in the M.U.T.C.D. in regard to character, training, attire and behavior.
6. Channelization devices used in the street shall be either drums, cones or Trimline channelizers.
7. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
8. The Contractor shall place as many barricades as needed to effectively shield pedestrians and traffic from exposed objects, excavations and construction activities. ADA Pedestrian Barricades shall be installed around all excavations left open during non–construction times or as directed by the Engineer in charge of construction.
9. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
10. Construction materials shall be kept off of sidewalks, consolidated in one location within City Right–Of–Way, and removed daily unless otherwise approved by the Engineer in charge of construction.
11. Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict traffic in any way between the hours of 7:00 a.m. and 8:30 a.m. or 4:30 p.m. and 6:00 p.m. unless prior approval has been given.
13. The Contractor shall be responsible for maintaining all traffic control devices on an around–the–clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
14. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered by the Engineer shall be considered subsidiary to the contract bid price.
15. Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
16. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or representative, the City/Controlling Jurisdiction may take one or more of the following actions:
    A) Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate
    B) Suspend all pay Estimates until deficiencies are corrected.
    C) Stop the work until deficiencies are corrected.
    D) Place the contractor in default.
17. The Contractor shall keep roadway closures due to construction activities to a minimum and provide advanced notice to affected users.
18. The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.
19. The Contractor may, if need arises or at the request of the Engineer, place reduced speed limit signing and work zone speed limit signing in advance of all active work zone areas. Work zone speed limit reduction shall not be greater than 10 mph throughout construction areas without advanced signing in place. Contractor shall cover or replace all speed limit signs in conflict with the work zone speed limit throughout the construction area.



Guidelines for length of longitudinal buffer space (B)	
Speed* (mph)	Length (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	300

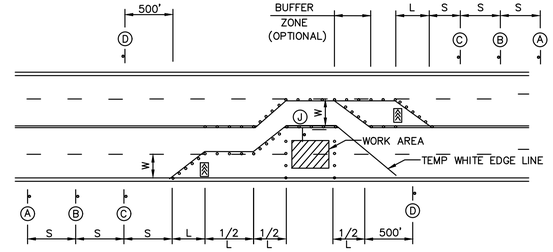
*Posted speed

SIGN SPACING(S)	
Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 – 45	350
≥ 55	500

MAXIMUM CHANNELIZATION SPACING IN FEET *		
Speed Limit M.P.H.	Along Taper	After Taper
20	20	40
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90
50	50	100
55	55	100

* The maximum distance in feet between devices in a taper should not exceed 1.0 times the speed limit in MPH.

TAPER DETAIL				
Speed Limit M.P.H.	Minimum Taper Length (L) Lane Width (W) 10	11	12	Minimum Number of Channelizing Devices for Taper
20	70	75	80	5
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13
50	500	550	600	13
55	550	605	660	13



DETAIL 7: TYPICAL LANE CLOSURE – FOUR–LANE STREET

olsson
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
www.olsson.com

PRELIMINARY PLANS NOT FOR CONSTRUCTION

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

STANDARD TRAFFIC CONTROL DETAIL SHEET
NW TRAILS END & NW C STREET

NW TRAILS END LANE & NW C STREET
PRELIMINARY PLANS

BENTONVILLE, AR

2022

drawn by: TLH
checked by: JAB
approved by: KR
QA/QC by: TF
project no.: D21-04210
drawing no.: F_TRFC_D0214210
date: 03.17.2022

SHEET 15 of 15

DWG: F:\2021\04001-04500\021-04210-D\40-Design\AutoCAD\Final Plans\Sheets\TRFC\DETAILS\F_TRFC_DTLS_D0214210.dwg USER: cschreiber
DATE: Mar 17, 2022 1:22pm XREFS: F_PTBLK_D2104210 F_TC-DETAILS_D0214210