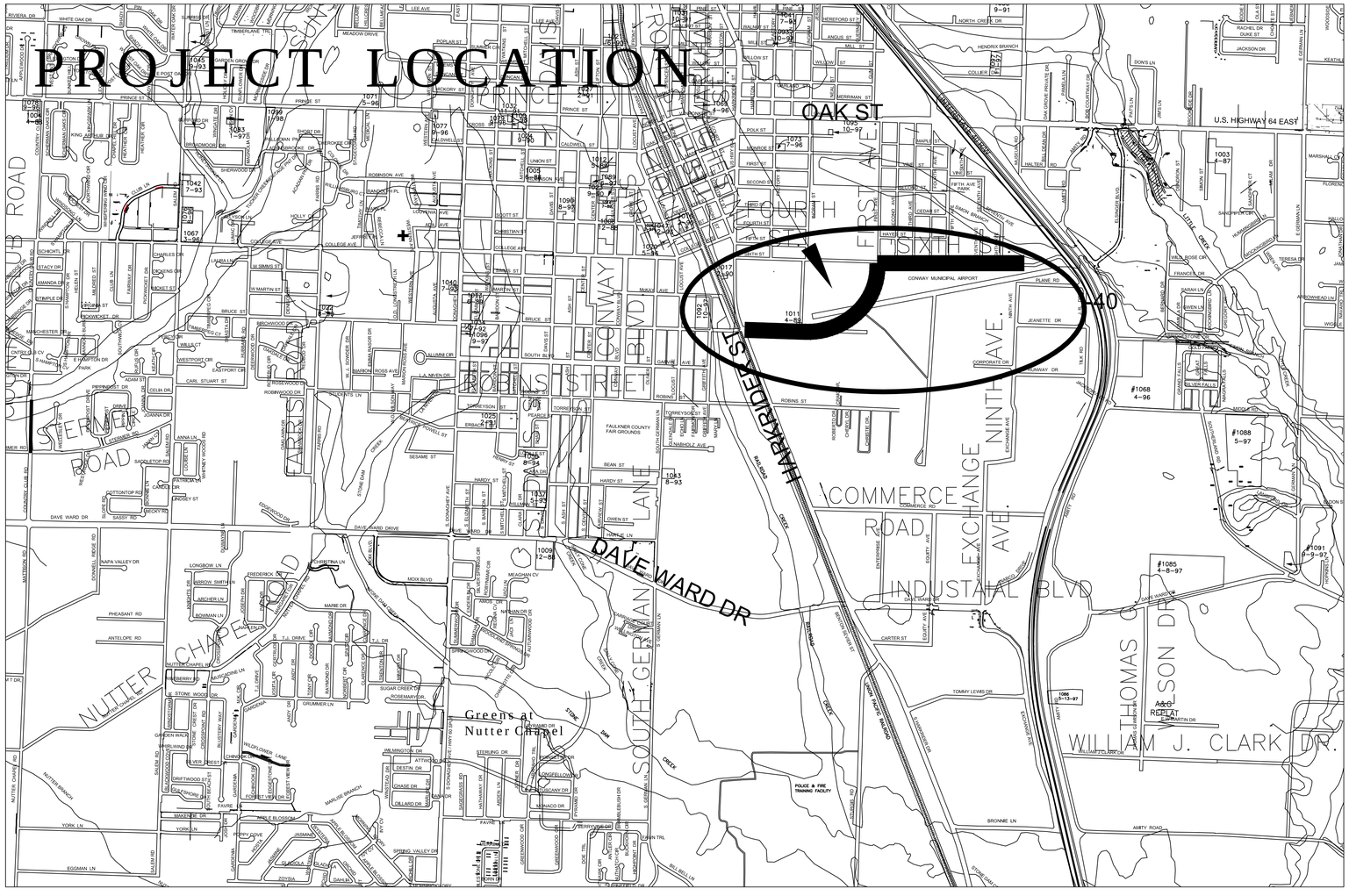
BRUCE ST & 6TH ST IMPROVEMENTS

HARKRIDER ST TO 8TH AVE
STREET AND DRAINAGE IMPROVEMENTS

FAULKNER COUNTY



VICINITY MAP

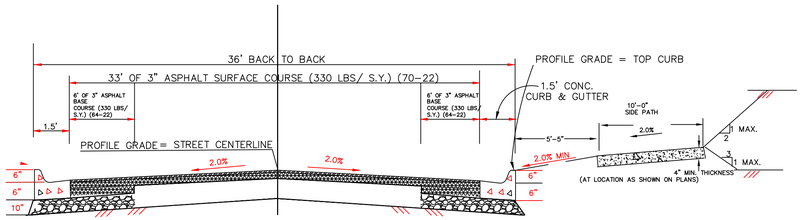
SHEET INDEX

N

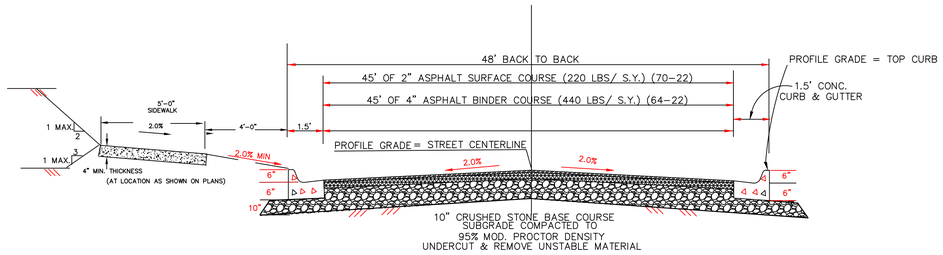
CITY OF CONWAY
STREET AND ENGINEERING
DEPARTMENT
100 E. ROBINS ST.
CONWAY, AR 72032

OCTOBER 2015

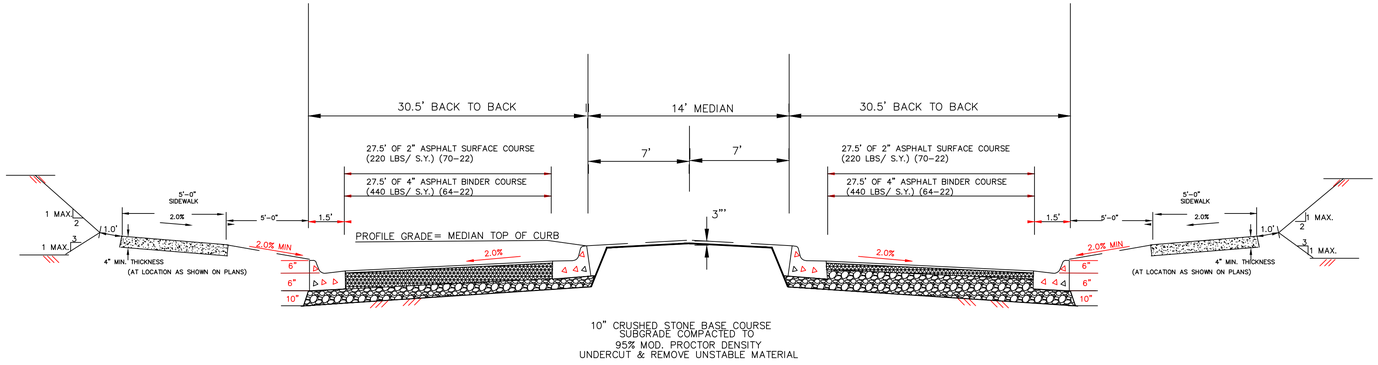
CONSTRUCTION SET



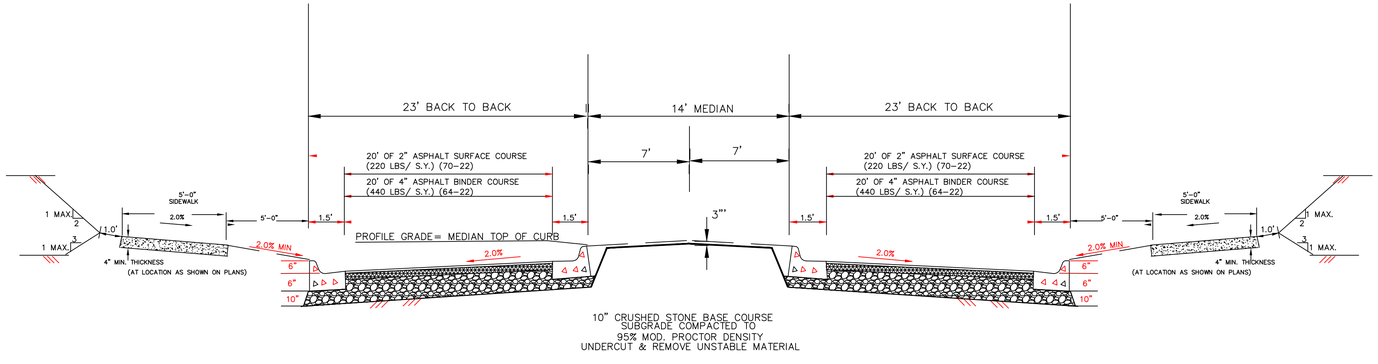
9TH AVENUE STATION 0+00 TO END



BRUCE STREET STATION 0+00 TO 9+74.82



6TH STREET STATION 35+00 TO 65+96.00



BRUCE STREET STATION 12+28.18 TO 31+00

GENERAL CONSTRUCTION REQUIREMENTS:

1. THE STREET DEPARTMENT SHALL BE NOTIFIED 24 HOURS PRIOR TO PLACEMENT OF ANY FILL MATERIAL, INSTALLATION OF STORM DRAINAGE PIPE OR DRAINAGE STRUCTURES, CONCRETE CURB & GUTTER, PLACEMENT OF CRUSHED STONE OR ASPHALT. THE SUBGRADE SHALL BE APPROVED BY THE CONWAY STREET DEPARTMENT PRIOR TO PLACEMENT OF CURB AND GUTTER OR CRUSHED STONE.

2. EARTHWORK EQUIPMENT SHALL INCLUDE AN APPROPRIATE SIZE VIBRATORY SHEEPS FOOT COMPACTOR, WATER TRUCK AND MOTOR PATROL.

3. ALL FILL MATERIAL PLACED WITHIN THE LIMITS OF THE STREET (BACK OF CURB TO BACK OF CURB) SHALL BE PLACED IN LIFT THICKNESSES NOT EXCEEDING 8" AND EACH LIFT COMPACTED WITH A SHEEPS FOOT ROLLER (COMPACTION WITH TRACK EQUIPMENT OR OTHER EQUIPMENT NOT SPECIFICALLY DESIGNED FOR EARTHWORK COMPACTION IS NOT SUITABLE) TO 95% MODIFIED PROCTOR DENSITY. FILL MATERIAL SHALL BE APPROVED BY THE CONWAY STREET DEPARTMENT PRIOR TO USE IN STREET FILLS (NO TOP SOIL OR ORGANIC MATERIAL SHALL BE INCLUDED IN THE FILL MATERIAL). THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE PLUS OR MINUS 3% OF OPTIMUM. ALL EARTHWORK SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 210 AND 212 OF ARKANSAS STATE HIGHWAY DEPARTMENT'S "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION".

4. THE SUBGRADE (BACK OF CURB TO BACK OF CURB) SHALL BE PREPARED IN ACCORDANCE WITH SECTION 212 OF THE ARKANSAS STATE HIGHWAY DEPARTMENT'S "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION". PRIOR TO PLACEMENT OF THE CRUSHED STONE BASE COURSE THE SUBGRADE MUST BE VERIFIED TO CONFORM TO THE PROPER SHAPE AND GRADE AND MUST FIELD DEMONSTRATE THAT IT IS FIRM AND UNYIELDING TO THE PASSAGE OF EQUIPMENT OVER THE SUBGRADE.

5. ALL STORM DRAINAGE PIPE SHALL BE RCP CLASS III UNLESS SPECIFICALLY APPROVED OTHERWISE.

6. CRUSHED STONE BASE COURSE SHALL CONFORM TO THE REQUIREMENT FOR CLASS 7 AGGREGRATE BASE COURSE AS DESCRIBED IN SECTION 303-AGREGATE BASE COURSE OF THE ARKANSAS HIGHWAY DEPARTMENT'S "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION". THE CRUSHED STONE BASE COURSE GRADATION SHALL CONFORM TO THE ABOVE REFERENCED SPECIFICATION FOR THIS MATERAIL AFTER THE MATERIAL HAS BEEN PLACED AND COMPACTED. SAMPLES OF THE INPLACE MATERIAL MAY BE OBTAINED AND TESTED BY THE OWNER TO ASSURE COMFORMANCE TO THE SPECIFICATEION. MATERIAL NOT CONFORMING TO THE SPECIFICATIONS SHALL BE REMOVED AND REPLACED. IN ADDITION, THE CRUSHED STONE BASE COURSE MATERAIL SHALL HAVE A MINIMUM CBR (CALIFORNIA BEARING RATIO) OF 75 AS DESCRIBED IN THE PROJECT SPECIFICATIONS.

7. ALL MUD, SOIL AND LOOSE GRAVEL SHALL BE REMOVED FROM THE CRUSHED STONE BASE AND CONCRETE CURB AND GUTTER PRIOR TO PLACEMENT OF ASPHALT.

10. STORM DRAINAGE PIPES, DITCHES AND DRAINAGE STRUCTURES MUST BE FREE OF SEDIMENTS, TRASH, DEBRIS AND PONDING WATER PRIOR TO FINAL APPROVAL OF THE STREETS.

8. PRIOR TO THE PLACEMENT OF CONCRETE FOR CURB INLETS, BOX CULVERTS OR OTHER CONCRETE STRUCTURES, THE CONTRACTOR SHALL PROVIDE 24 HOUR NOTICE OF HIS DESIRE TO PLACE CONCRETE AND REQUEST THAT THE CITY INSPECT HIS REINFORCING STEEL AND FORMING TO VERIFT CONFORMANCE WITH THE PLANS. CONCRETE PLACED WITHOUT CITY INSPECTION TO VERIFY REINFORCING STEEL PLACEMENT AND CONCRETE THICKNESS WILL NOT BE ACCEPTED AND SHALL BE TORN OUT AND RECONSTRUCTED WITH APPROPRIATE CITY APPROVAL.

9. CONSTRUCTION SHALL NOT COMMENCE ON THIS PROJECT UNTIL A STORM WATER POLLUTION PREVENTION PLAN HAS BEEN PROPERLY IMPLEMENTED

10. THE CONTRACTOR SHALL PROVIDE APPROPRIATE ADVANCED WARNING DEVICES, BARRICADES, BARRELS AND OTHER MEASURES AS NEEDED TO PROPERLY CONTROL AND ADVISE TRAFFIC.

11. ALL WHEEL CHAIR RAMPS TO BY TYPE 3 UNLESS OTHERWISE NOTED

12. ALL CURB INLETS TO BE TYPE MO UNLESS OTHERWISE NOTED

QUALITY CONTROL REQUIREMENTS

THE CITY WILL SECURE THE SERVICES OF AN INDEPENDENT TESTING CONSULTANT AND PROVIDE TEST AND CERTIFICATIONS IN ACCORDANCE WITH THE FOLLOWING:

STREET SUBGRADE:
1. Required minimum density 95% Modified Proctor Density. Field density test shall be performed on each lift of fill placed in the street subgrade and on utility and storm drainage pipe trenches.
2. Street subgrade density test are required for every 800 feet of street subgrade for each lift (8" Maximum) of embankment or fill material placed.
3. The location of the testing will be randomly identified in the field by the City Engineer or his designated representative. The field density test shall be performed in the presence of the City's Designated Representative.
4. If a subgrade density test is less than the minimum required a test is required on the recompacted area as well as an additional test at a location designated by the City Engineer within 300 feet of the substandard area.
5. The contractor shall pay for the retesting along with additional test required due tot he failure.

CRUSHED STONE BASE COURSE
1. Field density test (95% minimum) are required on the compacted crushed stone base course for every 1,500 feet of base course (Test location determined by city).
2. Plant certification and test results shall be submitted verifying the material conforms to the gradation and AHTD specification for the material specified. In addition, the supplier of crushed stone base course shall provide a current CBR test confirming a minimum CBR of 75. The city may elect to obtain field samples to verify the CBR and gradation test.
3. Material not meeting the specification shall be removed and replaced with suitable material.
3. The thickness of the material shall be field verified for every 1,500 feet of street constructed.
4. The compacted inplace gradation of the materail shall conform to the gradation as specified for Class 7 Aggregate Base Course in the AHTD Standard Specification for Highway Constructions.

For Notification of Needed Inspection Contact:
City of Conway
Street and Engineering Department
100 East Robins
Conway, Arkansas 72032
Phone 501-450-6165 Fax 501-513-3566

COORDINATION OF THE WORK

The contractor shall provide compentent and experienced field personnel to coordinate the work and verify that the contractor is conforming to the Plans and Specifications.
THE CITY IS NOT RESPONSIBLE FOR COORDINATION OF THE PROJECT WORK.

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
CONWAY, ARKANSAS
ROADWAY IMPROVEMENTS

TYPICAL STREET SECTIONS

REVISIONS

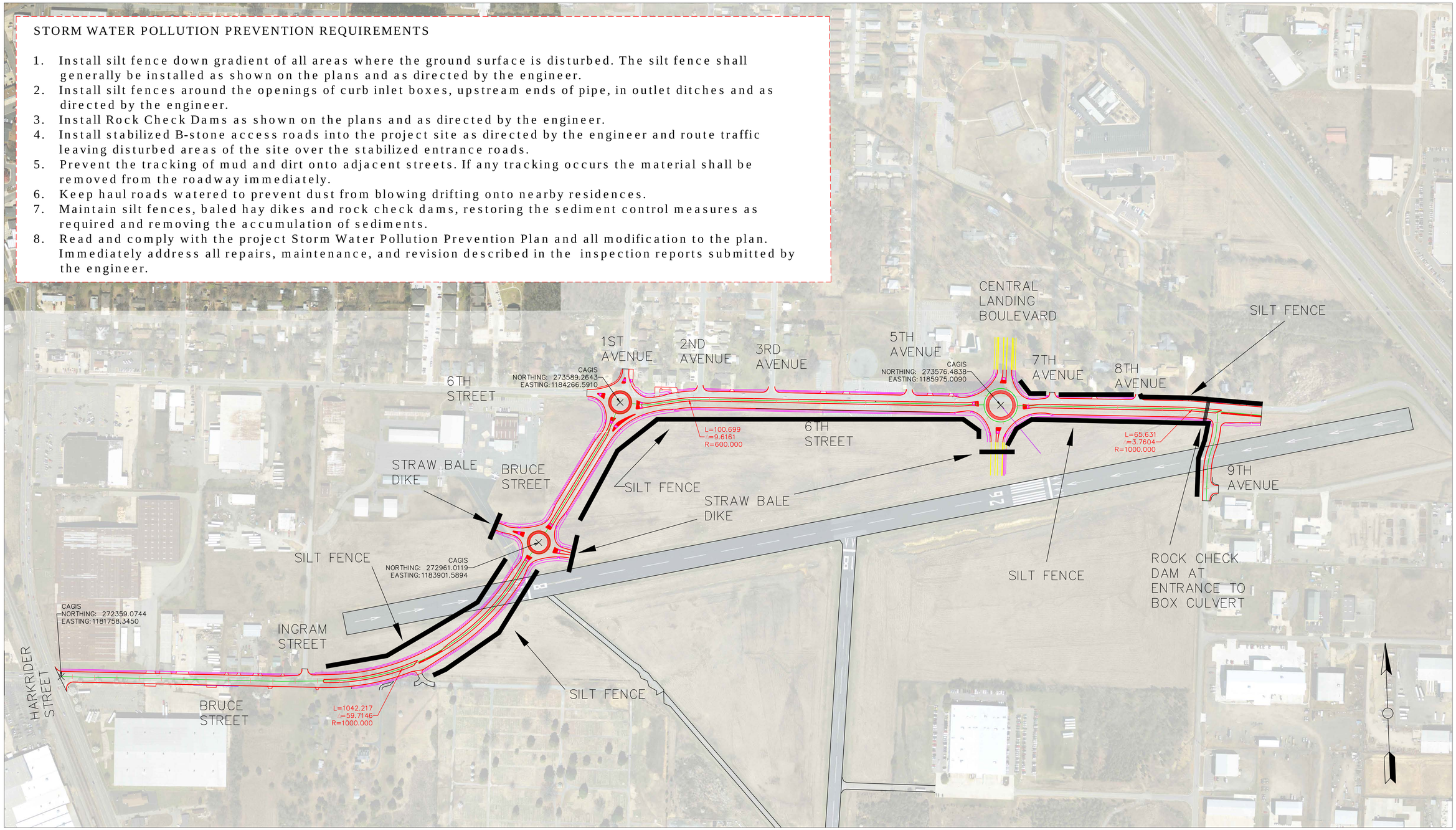
DRAWN BY:	JTB
CHECKED BY:	BFV
DATE:	8/10/2015
SCALE:	NTS

SHEET #: 2

6th st Improvements- Cantrell Field-15-08-09-MAIN.dwg
8/10/2015

STORM WATER POLLUTION PREVENTION REQUIREMENTS

1. Install silt fence down gradient of all areas where the ground surface is disturbed. The silt fence shall generally be installed as shown on the plans and as directed by the engineer.
2. Install silt fences around the openings of curb inlet boxes, upstream ends of pipe, in outlet ditches and as directed by the engineer.
3. Install Rock Check Dams as shown on the plans and as directed by the engineer.
4. Install stabilized B-stone access roads into the project site as directed by the engineer and route traffic leaving disturbed areas of the site over the stabilized entrance roads.
5. Prevent the tracking of mud and dirt onto adjacent streets. If any tracking occurs the material shall be removed from the roadway immediately.
6. Keep haul roads watered to prevent dust from blowing drifting onto nearby residences.
7. Maintain silt fences, baled hay dikes and rock check dams, restoring the sediment control measures as required and removing the accumulation of sediments.
8. Read and comply with the project Storm Water Pollution Prevention Plan and all modification to the plan. Immediately address all repairs, maintenance, and revision described in the inspection reports submitted by the engineer.

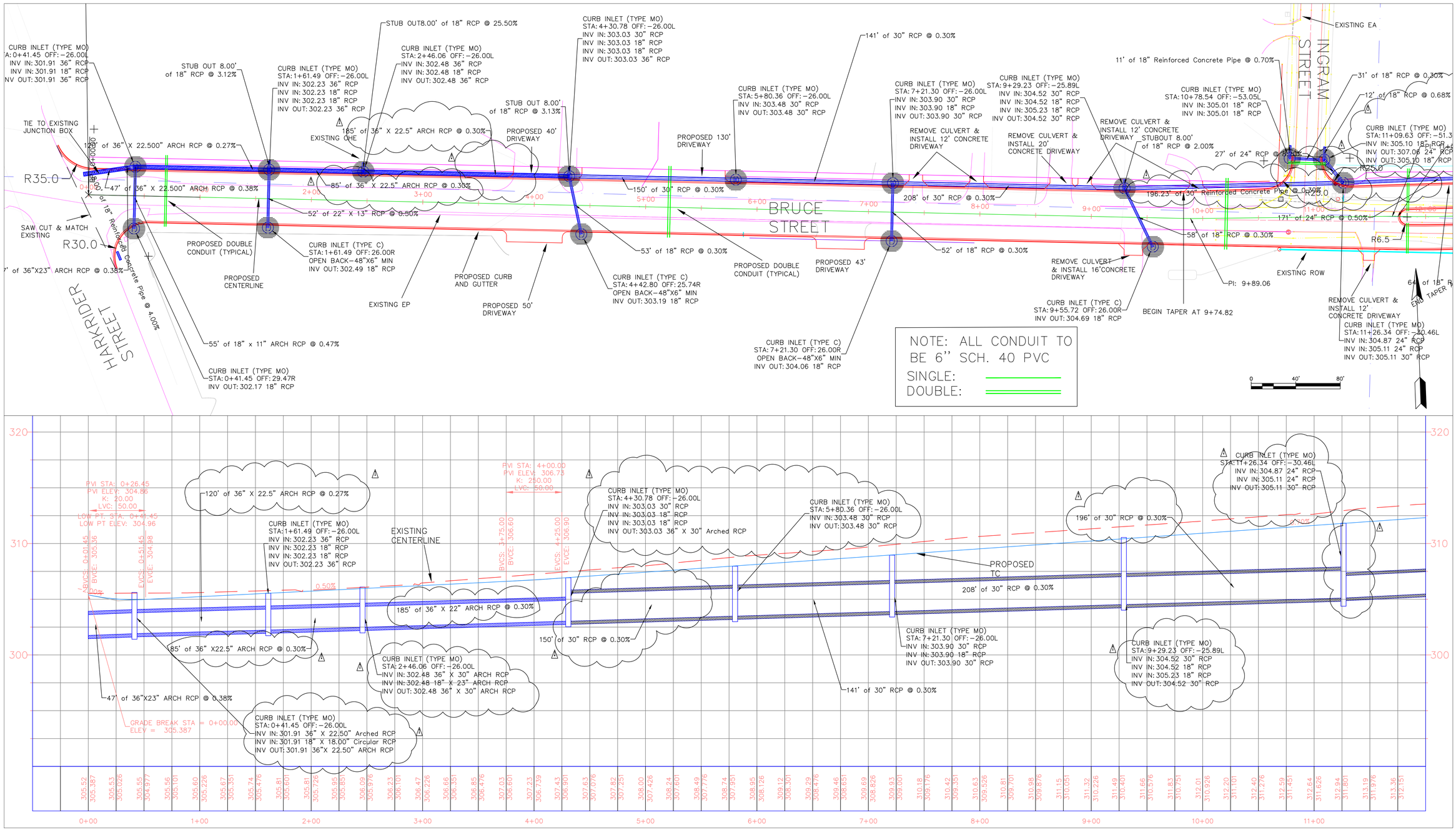


CITY OF CONWAY, ARKANSAS STREET & ENGINEERING DEPARTMENT 100 EAST ROBINS CONWAY, ARKANSAS 72034 501-450-6165	BRUCE ST AND 6TH ST IMPROVEMENTS HARKRIDER ST TO 8TH AVE CONWAY, ARKANSAS	OVERALL LAYOUT AND EROSION CONTROL PLAN	REVISIONS	DRAWN BY: JTB CHECKED BY: BFV DATE: 8/10/2015 SCALE: 1"=40'

SHEET #: 3

15-102 - Bruce and 6th - 15-08-10 Set.dwg

8/10/2015



CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

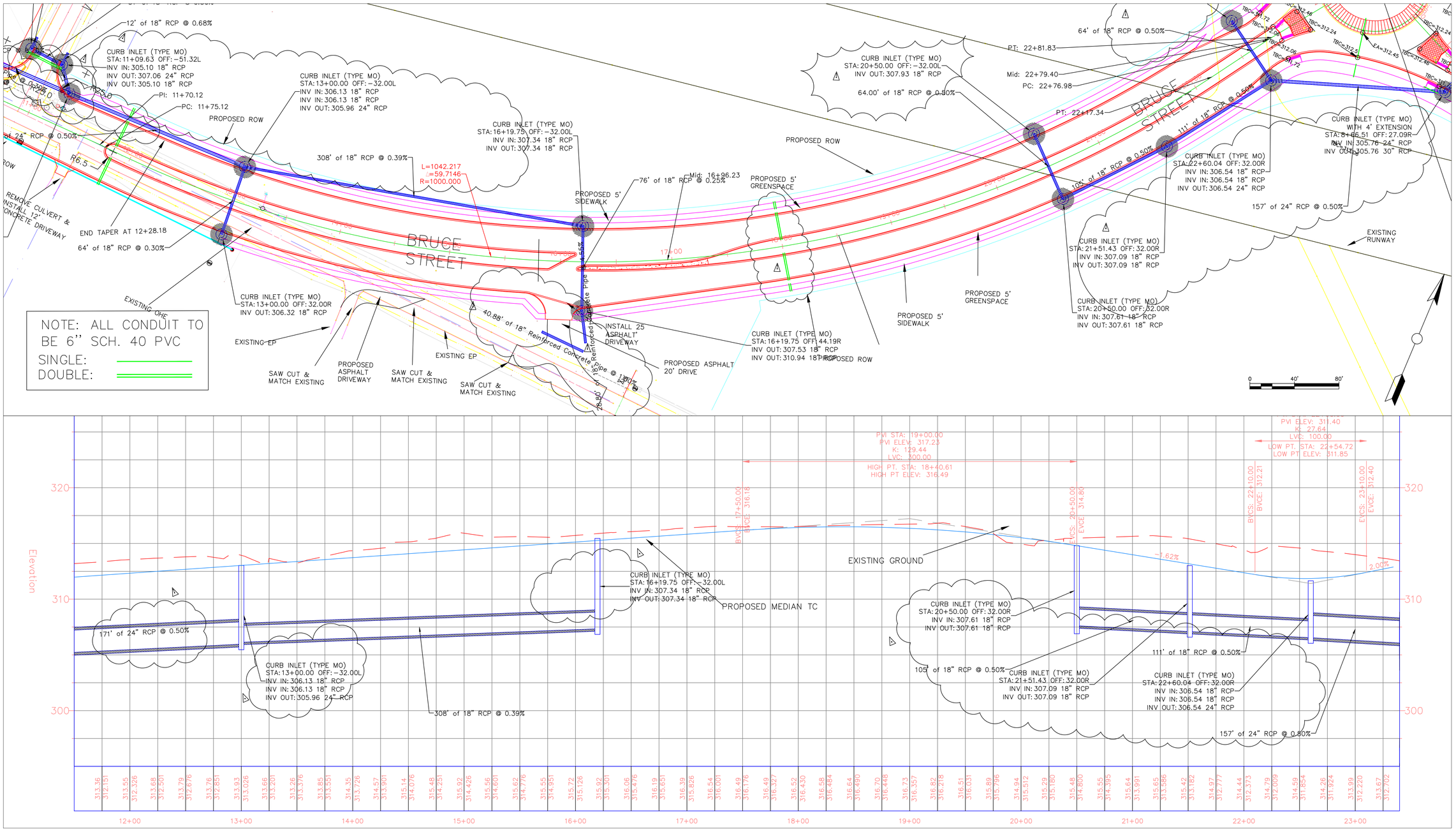
PLAN & PROFILE
BRUCE STREET
STATION 0+00 TO STATION 12+00

REVISIONS

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 11/23/2015
SCALE: 1"=40'

SHTEET #: 4

6th st Improvements - Roundabout grades2.dwg
8/10/2015



CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN & PROFILE
BRUCE STREET
STATION 12+00 TO STATION 23+40

REVISIONS
1 11/23/2015

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 11/23/2015
SCALE: 1"=40'
SHEET #: 5

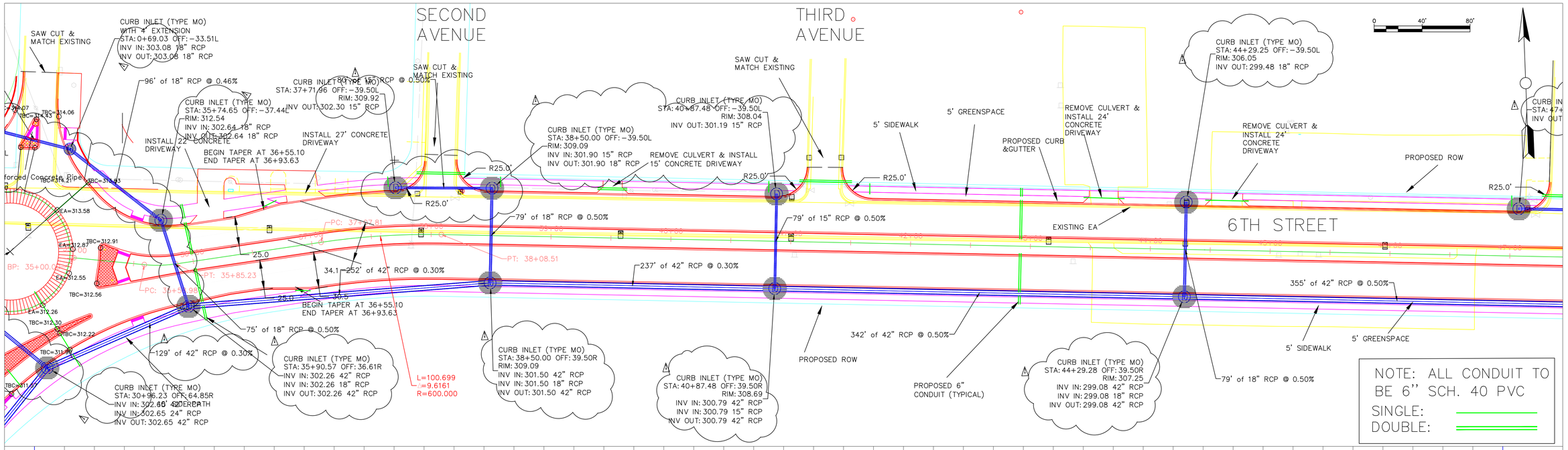
8/10/2015 6th st Improvements - Roundabout grades2.dwg

CITY OF CONWAY, ARKANSAS STREET & ENGINEERING DEPARTMENT 100 EAST ROBINS CONWAY, ARKANSAS 72034 501-450-6165	BRUCE ST AND 6TH ST IMPROVEMENTS HARKRIDER ST TO 8TH AVE CONWAY, ARKANSAS	PLAN & PROFILE BRUCE STREET STATION 25+00 TO STATION 31+24.83	REVISIONS △ 11/23/2015

DRAWN BY: JTB	SHEET #: 6
CHECKED BY: BFV	
DATE: 11/23/2015	
SCALE: 1"=40'	

6th st Improvements - Roundabout grades2.dwg

8/10/2015



8/10/2015 6th st Improvements - Roundabout grades2.dwg

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

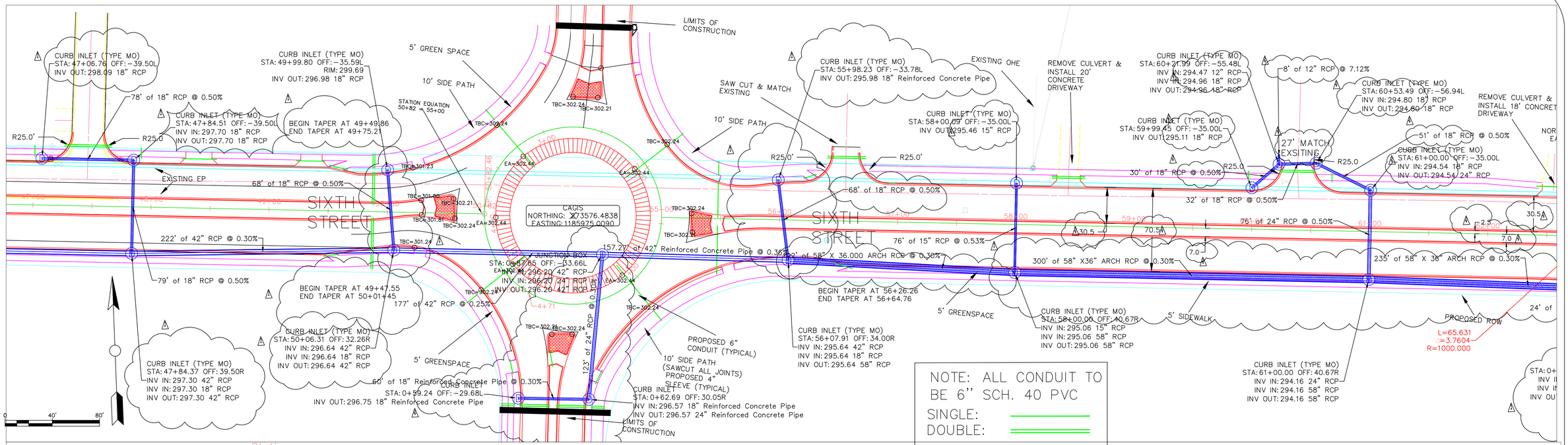
BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

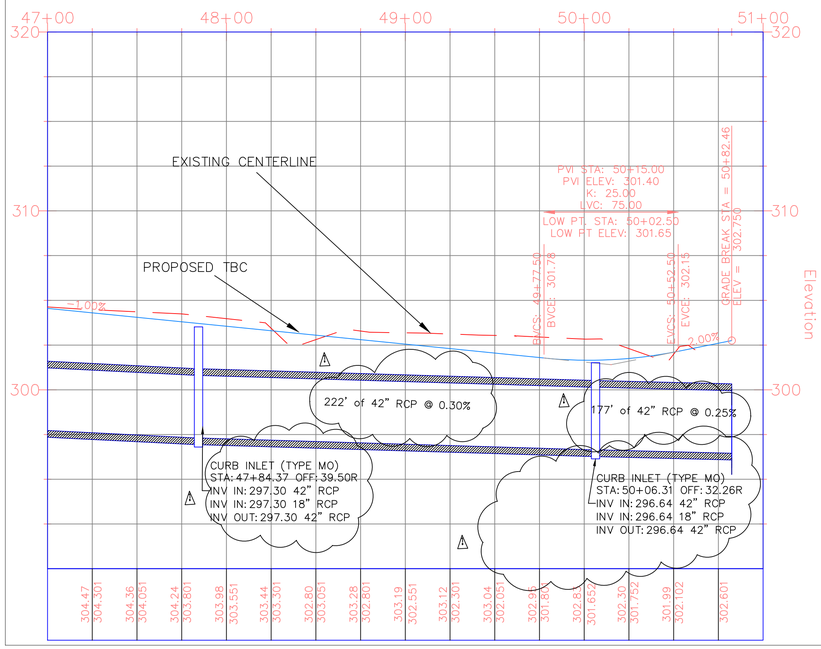
PLAN & PROFILE
6TH STREET
STATION 35+00 TO STATION 46+00

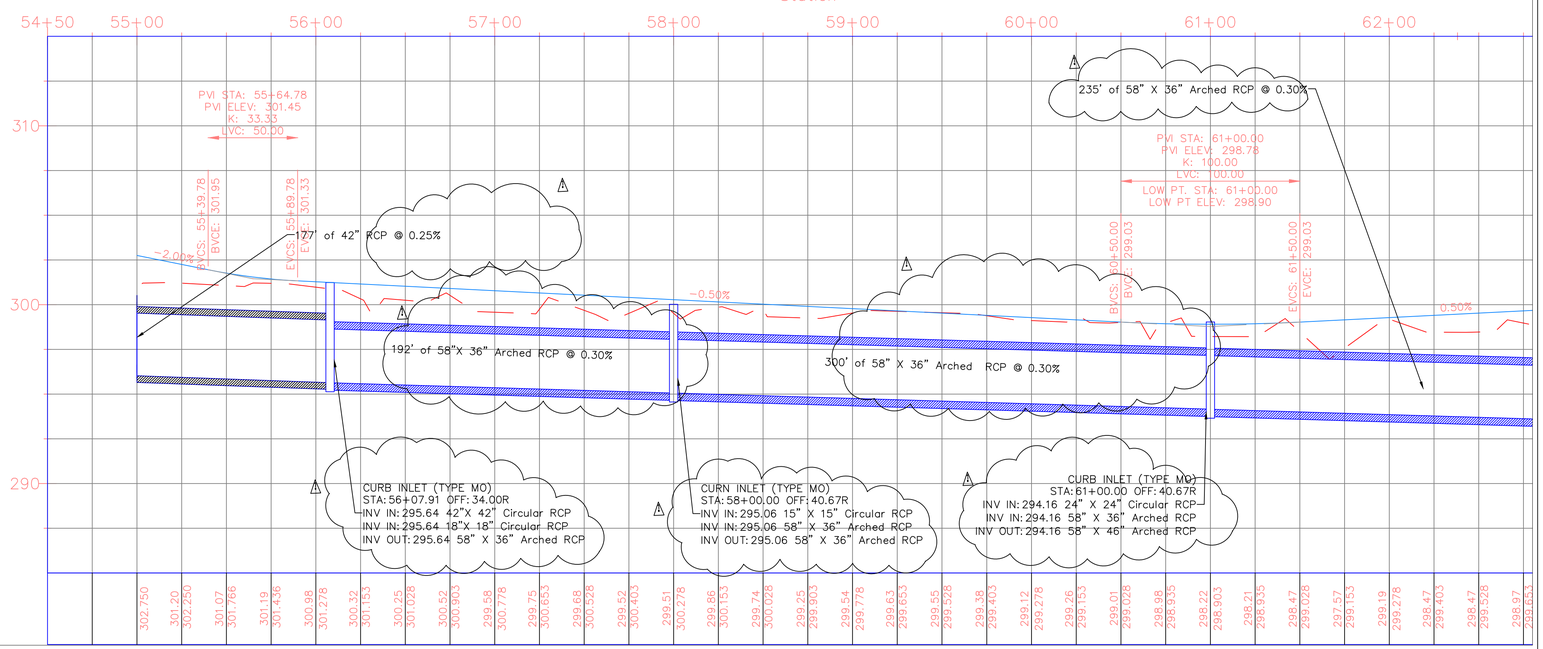
REVISIONS
Δ 11/23/2015

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 11/23/2015
SCALE: 1"=40'

SHEET #: 7







6th st Improvements – Narrow median– 7-28-16.dwg

8/10/2015

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

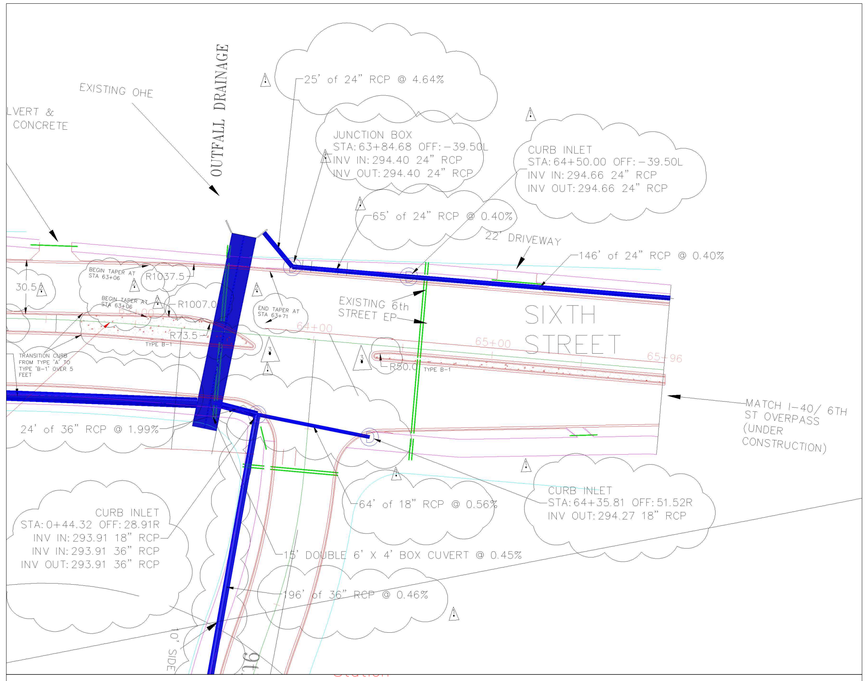
BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN & PROFILE
6TH STREET
STATION 47+00 TO STATION 62+00

REVISIONS
11/23/2015
07/27/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

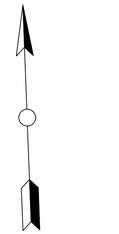
SHEET #: 8



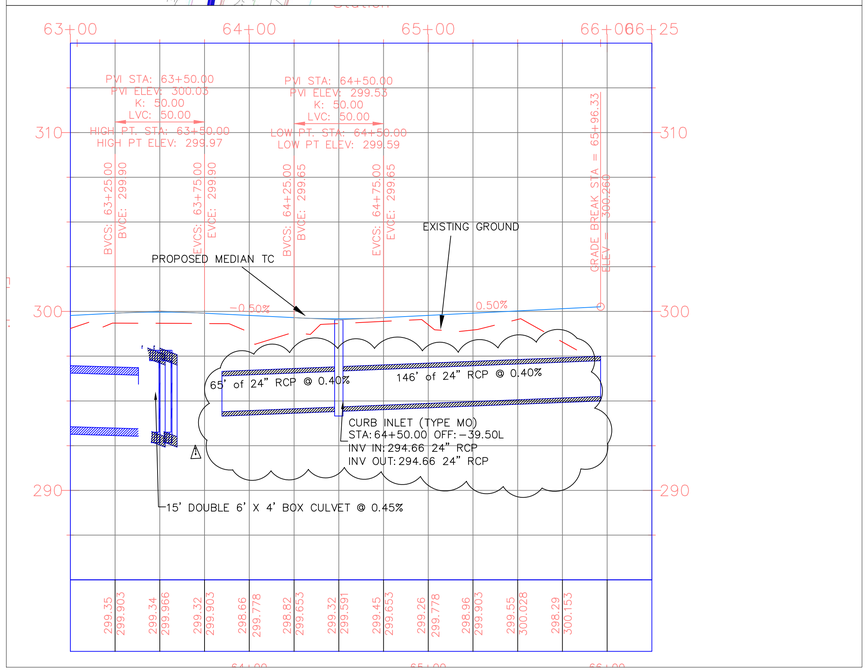
NOTE: ALL CONDUIT TO BE 6" SCH. 40 PVC

SINGLE: ———

DOUBLE: ═══



0 40' 80'



CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN & PROFILE
6TH STREET
STATION 63+00 TO STATION 66+25

REVISIONS
1 11/23/2015
2 07/27/2016
3 11/28/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

SHEET #: 9

6th st Improvements - Narrow median-
10-19-16- copy A.dwg

8/10/2015

NOTE: ALL CONDUIT TO BE 6" SCH. 40 PVC
SINGLE:
DOUBLE:

NOTE: ALL SLEEVES TO BE 4" SCH. 40 PVC
EXTEND THRU CONCRETE & BASE COURSE

LIMITS OF CONSTRUCTION AT STA 6+35.00

BEGIN TAPER AT 6+60.48
END TAPER AT 6+89.51

PROPOSED ROW

PROPOSED 4" SLEEVE (TYPICAL)

PROPOSED 6" CONDUIT (TYPICAL)

R300.0'

R70.0'

R90.0'

TBC=311.72

TBC=312.06

TBC=312.5

TBC=312.22

TBC=312.24

TBC=312.06

TBC=311.72

11.1'

R0.5'

19.5'

TBC=312.58

R2.5'

15.1'

TBC=312.46

EA=312.45

R2.5'

TBC=312.46

R120.0'

R100.0'

R1.5'

TBC=312.24

R66.5'

TBC=312.24

R0.5'

EA=312.45

R56.0'

R60.0'

TBC=312.5

R50.0'

R0.5'

R52.5

EA=312.45

TBC=312.24

TBC=311.77

TBC=311.47

TBC=312.5

R2.5

TBC=312.05

TBC=311.75

R2.5'

TBC=312.46

EA=312.45

TBC=312.46

R0.5'

R400.0'

TBC=311.75

TBC=312.24

R120.0'

TBC=312.5

TBC=311.47

TBC=311.72

TBC=312.06

R100.0'

TBC=312.06

R300.0'

TBC=311.72

R70.0'

BEGIN TAPER AT 22+19.14
END TAPER AT 22+68.34

TAPER AT 22+19.34
PER AT 22+68.34

10' SIDE PATH (SAW CUT ALL JOINTS)

BEGIN TAPER AT 7+67.15
END TAPER AT 7+05.65

10' SIDE PATH (SAW BEGIN TAPER AT 25+
CUT ALL JOINTS) END TAPER AT 26+31.

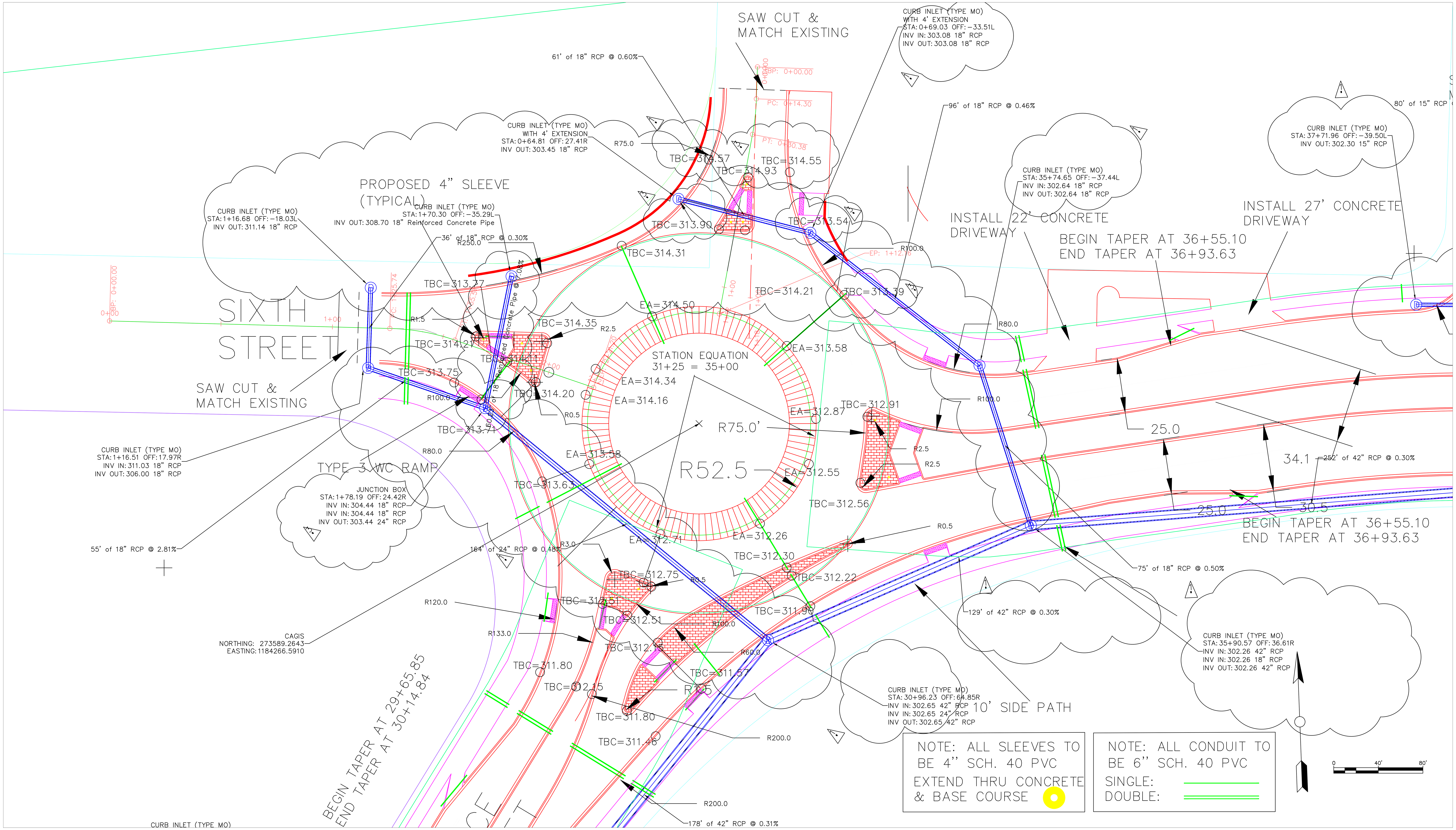
12' WIDE X 12" MIN. THICKNESS CONCRETE TRUCK APRON
RED TINTED CONCRETE WITH 1/4" DEEP GROVES @ 6" C-C

LIMITS OF CONSTRUCTION AT STA 9+00.00

0 40' 80'

CITY OF CONWAY, ARKANSAS STREET & ENGINEERING DEPARTMENT 100 EAST ROBINS CONWAY, ARKANSAS 72034 501-450-6165	BRUCE ST AND 6TH ST IMPROVEMENTS HARKRIDER ST TO 8TH AVE CONWAY, ARKANSAS
PLAN VIEW BRUCE AND EQUITY ROUNDABOUT	REVISIONS 1 11/23/2015
DRAWN BY: JTB CHECKED BY: BFV DATE: 11/23/2015 SCALE: 1"=40'	SHTEET #: 10

8/10/2015 6th st Improvements - Roundabout grades2.dwg



6th st Improvements - Narrow median-
10-19-16- copy A.dwg

8/10/2015

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN SHEET
BRUCE AND 6TH ROUNDABOUT

REVISIONS
1 11/23/2015
2 11/28/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

SHEET #: 11

NOTE: ALL CONDUIT TO BE 6'' SCH. 40 PVC
SINGLE:
DOUBLE:

NOTE: ALL SLEEVES TO BE 4'' SCH. 40 PVC EXTEND THRU CONCRETE & BASE COURSE

LIMITS OF CONSTRUCTION

5' GREEN SPACE

10' SIDE PATH

STATION EQUATION 50+82 = 55+00

CURB INLET (TYPE MO)
STA: 49+99.80 OFF: -35.59L
RIM: 299.69
INV OUT: 296.98 18" RCP

BEGIN TAPER AT 49+49.86
END TAPER AT 49+75.21

R80.0' R0.5' R0.5' R110.0' R0.5' R150.0' R150.0'

TBC=302.24 TBC=302.21 R1.5' R2.5'

TBC=302.24

R175.0'

TBC=301.23

R200.0' R200.0' R2.5'

68' of 18" RCP @ 0.50%

TBC=301.80 TBC=302.21

TBC=301.81 TBC=302.24 R1.5'

R100.0' R100.0'

TBC=301.24

222' of 42" RCP @ 0.30%

SIXTH STREET

EA=302.44 EA=302.44 EA=302.44

3+00 4+00

CAGIS:
NORTHING: 1273576.4838
EASTING: 1185975.0090

R65.5

JUNCTION BOX
STA: 0+87.65 OFF: -33.66L
INV IN: 296.20 42" RCP
INV IN: 296.20 24" RCP
INV OUT: 296.20 42" RCP

EA=302.44 EA=302.44

R80.0'

TBC=302.24

0+00 4+71

177' of 42" RCP @ 0.25%

R2.5' TBC=302.21 TBC=302.24 R1.5'

123' of 24" RCP @ 0.30%

R150.0' R150.0'

5' GREENSPACE

R150.0'

60' of 18" Reinforced Concrete Pipe @ 0.30%

CURB INLET
STA: 0+59.24 OFF: -29.68L
INV OUT: 296.75 18" Reinforced Concrete Pipe

R80.0'

CURB INLET
STA: 0+62.69 OFF: 30.05R
INV IN: 296.57 18" Reinforced Concrete Pipe
INV OUT: 296.57 24" Reinforced Concrete Pipe

LIMITS OF CONSTRUCTION

CURB INLET (TYPE MO)
STA: 50+06.31 OFF: 32.26R
INV IN: 296.64 42" RCP
INV IN: 296.64 18" RCP
INV OUT: 296.64 42" RCP

BEGIN TAPER AT 49+47.55
END TAPER AT 50+01+45

SAW CUT & MATCH EXISTING

10' SIDE PATH

R80.0' R25.0' R25.0'

CURB INLET (TYPE MO)
STA: 55+98.23 OFF: -33.78L
INV OUT: 295.98 18" Reinforced Concrete Pipe

0 40' 80'

68' of 18" RCP @ 0.50%

R100.0' R100.0' R0.5' R0.5' R0.5' R0.5'

R1.5' TBC=302.24 TBC=302.24 R2.5'

R200.0'

SIXTH STREET

76' of

192' of 58" X 36.000" ARCH RCP @ 0.30%

152.27' of 42" Reinforced Concrete Pipe @ 0.36%

R180.0'

BEGIN TAPER AT 56+26.26
END TAPER AT 56+64.76

5' G

PROPOSED 6" CONDUIT (TYPICAL)

10' SIDE PATH (SAWCUT ALL JOINTS)

PROPOSED 4" SLEEVE (TYPICAL)

CURB INLET (TYPE MO)
STA: 56+07.91 OFF: 34.00R
INV IN: 295.64 42" RCP
INV IN: 295.64 18" RCP
INV OUT: 295.64 58" RCP

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

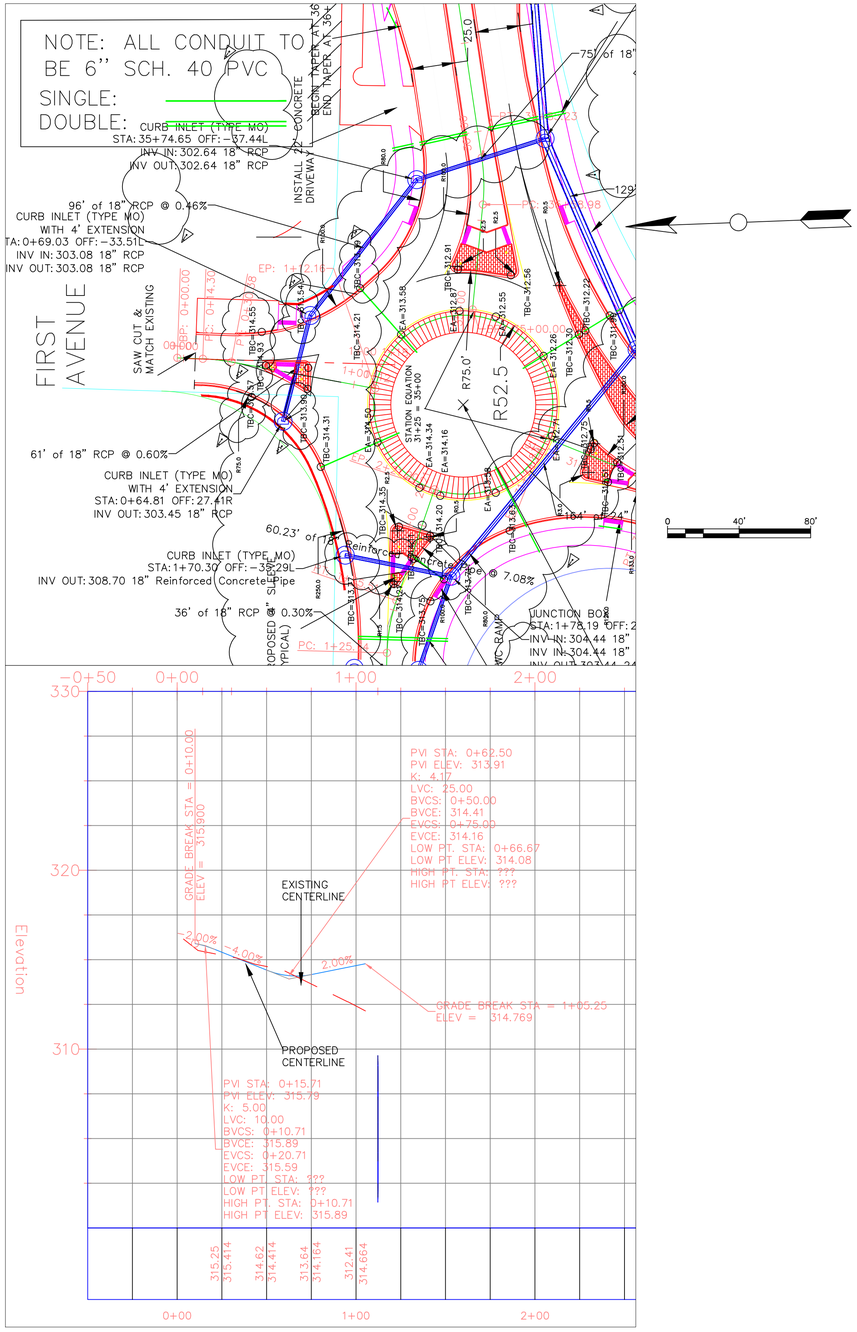
PLAN VIEW
6TH ST AND CENTRAL LANDING BLVD ROUNDABOUT

REVISIONS
1 11/23/2015
2 07/27/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

SHEET #: 12

6th st Improvements - Narrow median-
7-28-16.dwg
8/10/2015



CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN & PROFILE
1ST AVENUE
STATION 0+00 TO STATION 1+12

REVISIONS
1 11/23/2015
2 11/28/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

SHEET #: 13

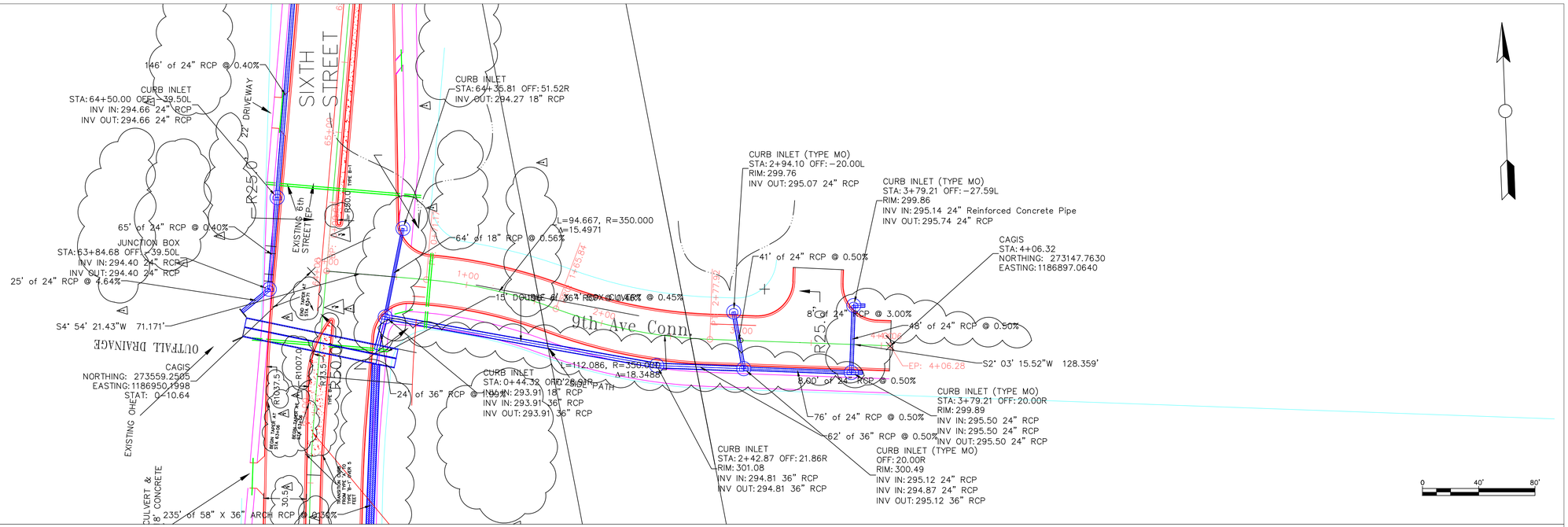
6th st Improvements - Narrow median- 10-19-16- copy A.dwg

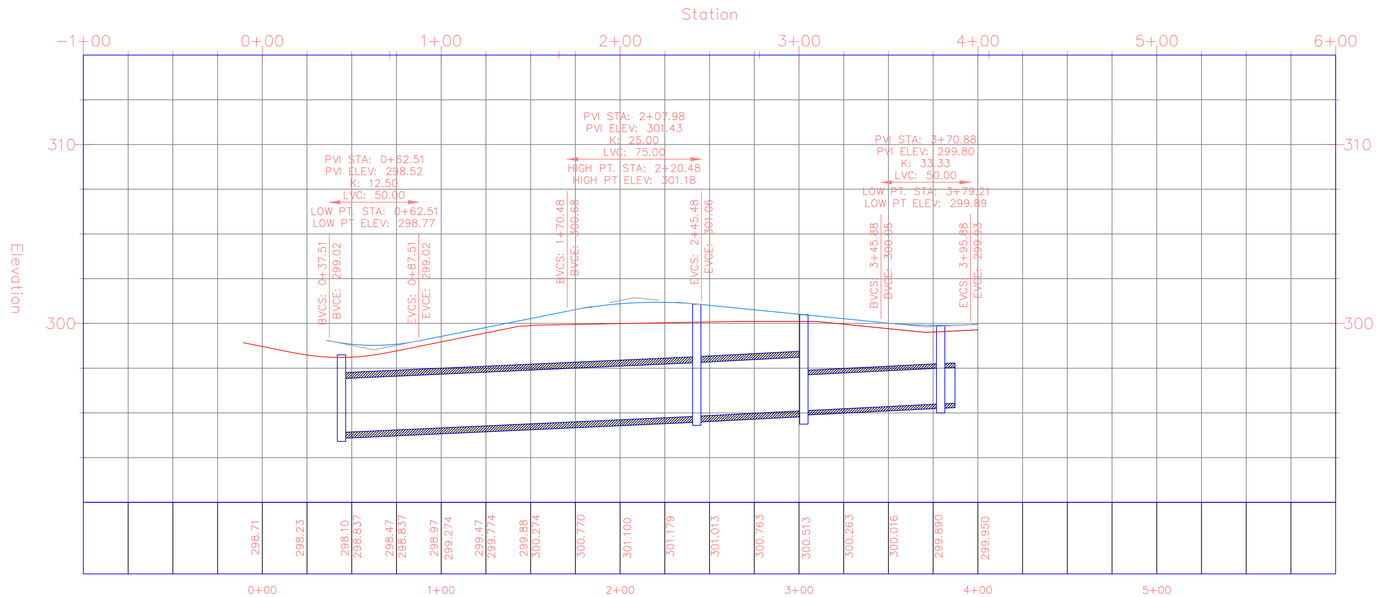
8/5/2015

NOTE: ALL CONDUIT TO BE 6'' SCH. 40 PVC

SINGLE:

DOUBLE:





6th st Improvements – Narrow median– 10–19–16– copy A.dwg

8/10/2015

CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501–450–6165

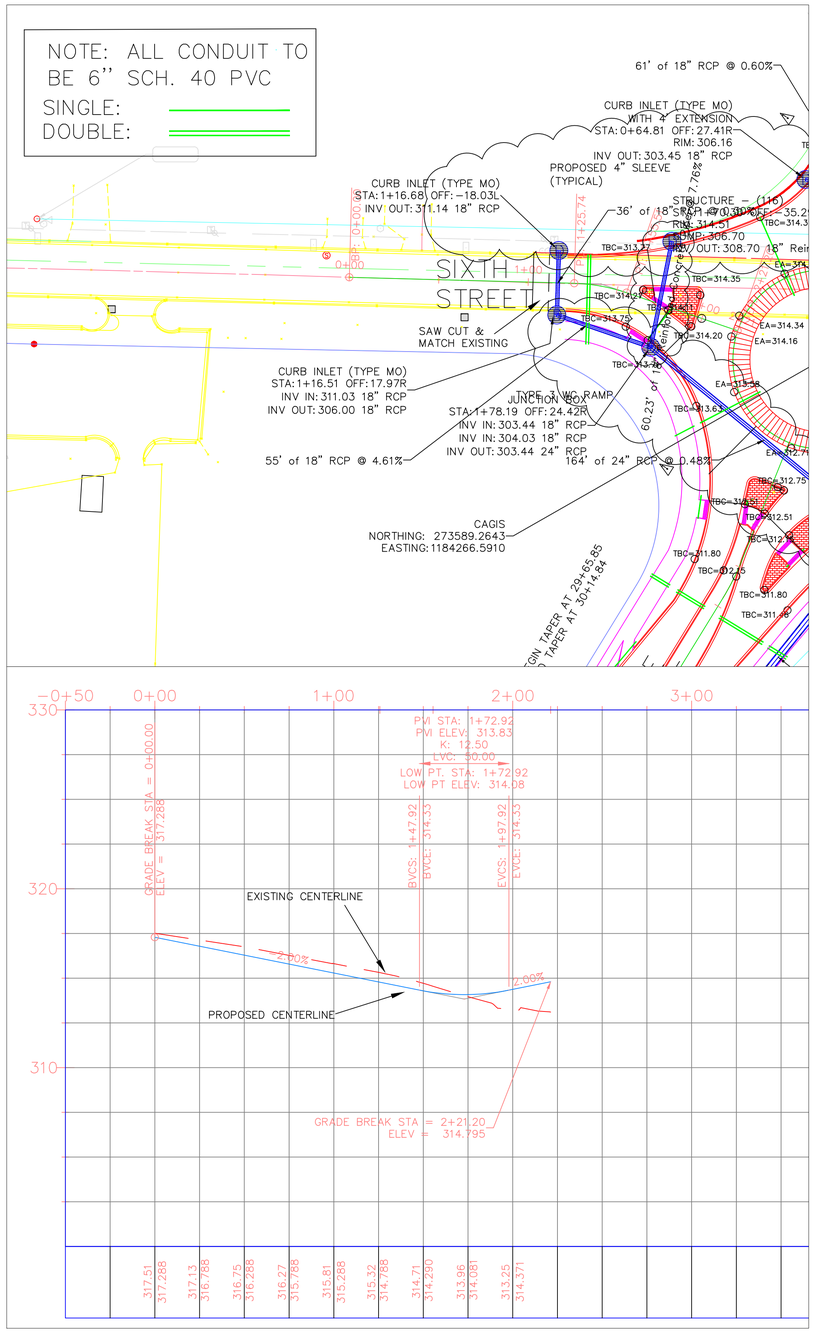
BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

PLAN & PROFILE
9th AVENUE
STATION 0+00 TO STATION 4+06.28

REVISIONS
1 11/23/2015
2 07/27/2016
3 11/28/2016

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 08/10/2015
SCALE: 1"=40'

SHEET #: 14



CITY OF CONWAY, ARKANSAS
STREET & ENGINEERING DEPARTMENT
100 EAST ROBINS
CONWAY, ARKANSAS 72034
501-450-6165

BRUCE ST AND 6TH ST IMPROVEMENTS
HARKRIDER ST TO 8TH AVE
CONWAY, ARKANSAS

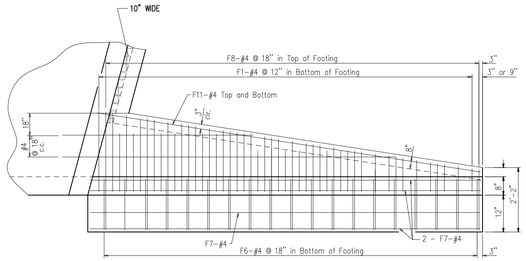
PLAN & PROFILE
6TH STREET (WEST OF 1ST AVE)
STATION 0+00 TO STATION 2+21

REVISIONS
⚠ 11/23/2015

DRAWN BY: JTB
CHECKED BY: BFV
DATE: 11/23/2015
SCALE: 1"=40'

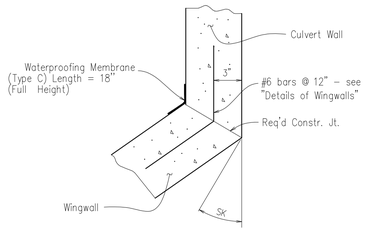
SHEET #: 15

8/10/2015 6th st Improvements - Roundabout grades2.dwg



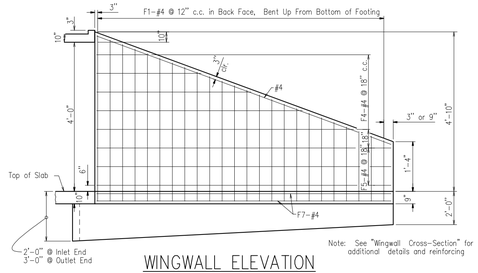
PLAN – PARALLEL WINGWALLS

Showing Footing Reinforcement



WINGWALL ATTACHMENT

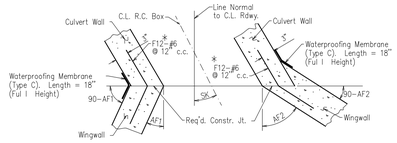
See "Details of Wingwalls" for additional information and wingwall details.



Note: See "Wingwall Cross-Section" for additional details and reinforcing

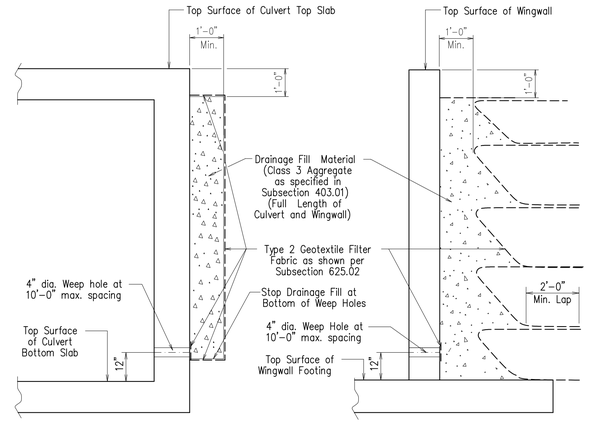
WINGWALL ELEVATION

Showing Back Face Reinforcement



CONSTRUCTION JOINTS

Flared Wingwal Is Shown



VERTICAL FABRIC ALTERNATE

(Shown for Culvert, Similar for Wingwall)

WRAPPED FABRIC ALTERNATE

(Shown for Wingwall, Similar for Culvert)

For Details of Excavation and Pay Limits, see Standard Drawing RCB–2.

WINGWALL & CULVERT DRAINAGE DETAIL

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have ¾" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

Weep Holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

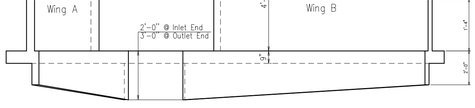
Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

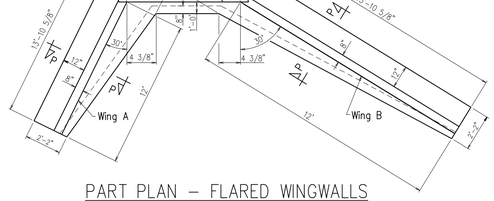
When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class S Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

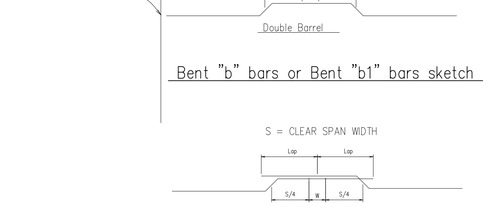


END ELEVATION

Flared Wingwal Is Shown



PART PLAN – FLARED WINGWALLS

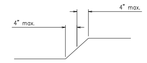


Bent "b" bars or Bent "b1" bars sketch

Lap Detail

For Bent "b" bars and Bent "b1" bars

At the Contractor's option in lieu of providing Bent "b" or Bent "b1" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "b1" bar.



Bent "b" bars or Bent "b1 " bars Bending Diagram

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel – Roadway (Gr. 60)."

② Bar Lap – Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'–0" in length.

③

MID–SECTION

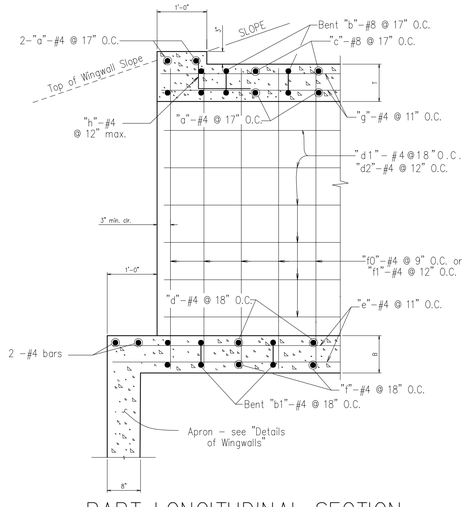
BAR LAP TABLE

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

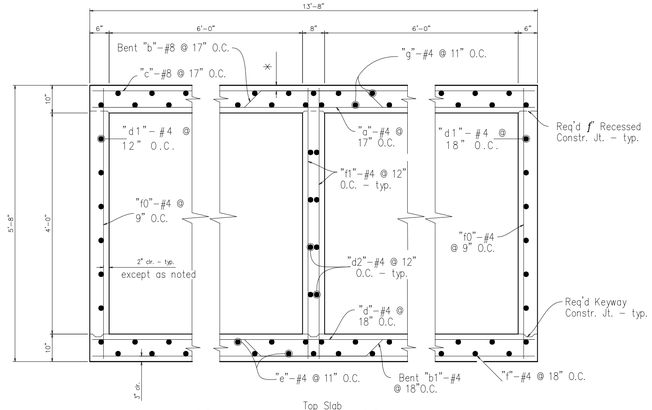
The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.
Unless otherwise noted, all dimensions are in inches.



PART LONGITUDINAL SECTION

(Non–Skewed Ends)

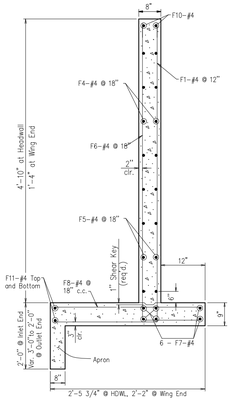
* 2" clr. for fill depth (D) greater than 2 ft.
2" clr. for fill depth (D) equal to or less than 2 ft.



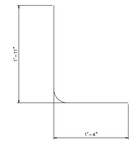
Top Slab
Straight "c" bars shall alternate with Bent "b" bars in top.
Straight "a" bars shall alternate with Bent "b" bars in bottom.

Bottom Slab
Straight "d" bars shall alternate with Bent "b1" bars in top.
Straight "f" bars shall alternate with Bent "b1" bars in bottom.

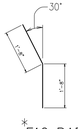
TYPICAL SECTION M–M



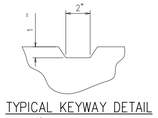
WINGWALL SECTION P–P



F1 & F6 BARS

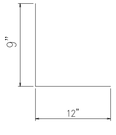


*F12 BAR



TYPICAL KEYWAY DETAIL

All Construction Joints



"h" bars sketch

SHEET 1 OF 1

GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF WINGWALLS

SPECIAL DETAILS

R1-1 STOP — STANDARD 30"X30", EXPRESSWAY 36"X36", SPECIAL 48"X48"

R1-2 YIELD — STD. 36"X36"X36", EXPWY. 48"X48"X48", FWY. 60"X60"X60"

R2-1 SPEED LIMIT 50 — STD. 24"X30", EXPWY. 36"X48", FWY. 48"X60"

R2-5A REDUCED SPEED AHEAD — STD. 24"X30", EXPWY. 36"X48", FWY. 48"X60"

R2-5C SPEED ZONE AHEAD — STD. 24"X30", EXPWY. 36"X48", FWY. 48"X60"

R4-1 DO NOT PASS — STD. 24"X30", EXPWY. 36"X48", FWY. 48"X60"

R4-2 PASS WITH CARE — STD. 24"X30", EXPWY. 36"X48", FWY. 48"X60"

R5-1 DO NOT ENTER — STD. 30"X30", EXPWY. 36"X36", SPECIAL 48"X48"

R11-2 ROAD CLOSED — 48"X30"

R11-3A ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY — 60"X30"

R11-4 ROAD CLOSED TO THRU TRAFFIC — 60"X30"

RSP-1 SHOULDER CLOSED — 48"X30"

W1-1 — STD. 36"X36", FWY. 48"X48"

W1-2 — STD. 36"X36", FWY. 48"X48"

W1-3 — STD. 48"X48"

W1-4 — STD. 48"X48"

W1-6 — STD. 48"X24", SPECIAL 60"X30"

W1-8 — 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 ROAD NARROWS — STD. 36"X36", SPECIAL 48"X48"

W6-3 — EXPWY. 36"X36", SPECIAL 48"X48"

W8-7 LOOSE GRAVEL — EXPWY. 36"X36", FWY. 48"X48"

W9-2 LANE ENDS MERGE RIGHT — STD. 36"X36", FWY. 48"X48"

W13-1 XX M.P.H. — STD. 24"X24"

W20-1 ROAD WORK XXXX — STD. 48"X48"

W20-2 DETOUR XXXX — STD. 48"X48"

W20-3 ROAD CLOSED XXXX — STD.48"X48"

W20-4 ONE LANE ROAD XXXX — STD. 48"X48"

W20-5 RIGHT LANE CLOSED XXXX — STD. 48"X48"

W20-7a — 500 FEET W6-2 24" — STD. 36"X36", FWY. 48"X48"

W21-2 FRESH OIL — STD. 30"X30" SPECIAL 36"X36"

W21-5 SHOULDER WORK — STD. 30"X30" SPECIAL 36"X36"

W24-1 — STD. 36"X36"

W1-4b — STD. 48"X48"

R56-1 CONTROLLED ACCESS HWY. NO EXIT — STD. 18"X18"

W8-11 UNEVEN LANES — STD. 36"X36", FWY. 48"X48"

W8-9 LOW SHOULDER — STD. 36"X36", FWY. 48"X48"

G20-1 ROAD WORK NEXT X.X MILES — 60"X24"

G20-2 END ROAD WORK — 48"X24"

OM-3L OM-3R — YELLOW / BLACK — 12"X36"

M4-9 DETOUR — STD. 30"X24", SPECIAL 48"X36", SPECIAL 60"X48"

M4-10 DETOUR — 48"X18"

R55-1 FINES DOUBLE IN WORK ZONES WHEN WORKERS ARE PRESENT ** — 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:

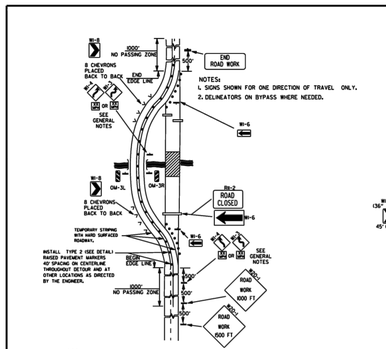
1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE 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 5' 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 FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, 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 500' BUT NOT MORE THAN 1MILE 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 #7 & 15, BUT MEET THE REQUIREMENTS OF NCHRP-350, MAY BE USED. THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

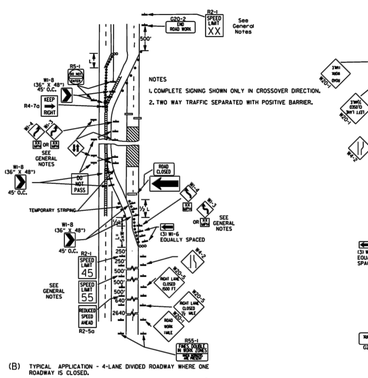
12-15-6	REVISED W24-1
1-17-12	DELETED W8-9a & ADDED W8-9
04-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1
4-17-08	REVISED SIGN DESIGNATIONS
1-18-04	REVISED NOTES
10-9-03	REVISED NOTE 1
1-16-3	REVISED NOTE 7
9-28-00	REVISED NOTE
4-8-99	ADDED NOTE
8-26-97	REVISED NOTE 5
4-03-97	REVISED NOTE 5
01-19-16	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7
01-12-15	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
8-15-9	DRAWN AND PLACED IN USE

DATE — REVISION — FILMED

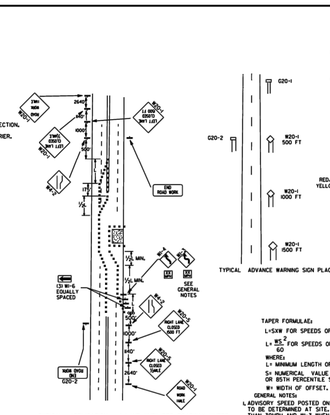
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



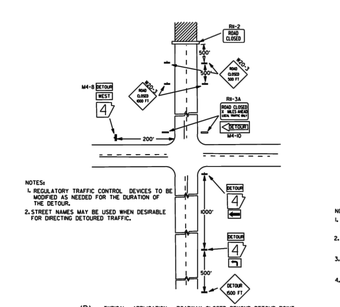
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



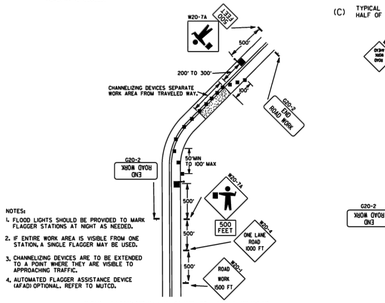
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



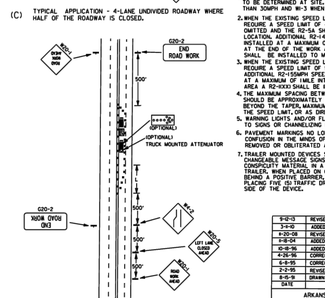
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



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



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

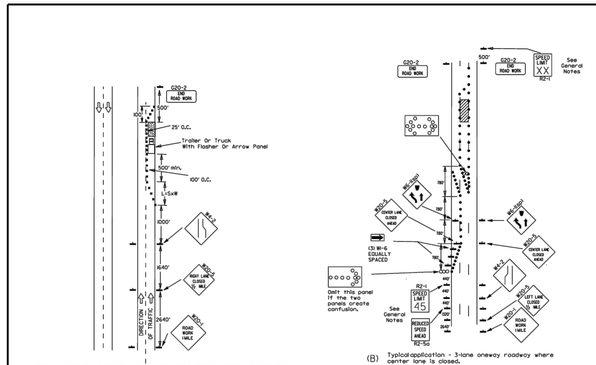


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS
3-1-10	ADDED W9-2V
1-20-08	REVISED SIGN DESIGNATIONS
1-18-04	ADDED GENERAL NOTE
10-16-96	ADDED R55-1
4-26-96	CORRECTED 1st BEHIND G20-2
6-8-95	CORRECTED SIGN KENT. ON W-4A — 6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993
8-15-9	DRAWN AND PLACED IN USE

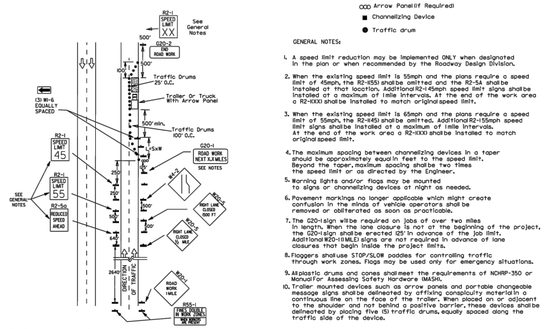
DATE — REVISION — FILMED

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.

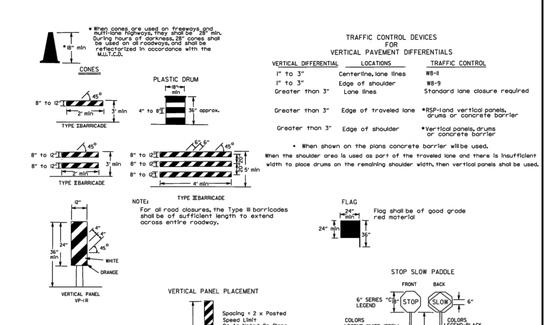


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

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(45) shall be installed. The R2-5A shall be omitted. Additional R2-1(45mph) 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 marking 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 zone closure is not at the beginning of the project, the G20-1 sign shall be erected 1251 in advance of the job limit. Additional W20-11(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 NCHRP-350 or 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.

Channelizing devices

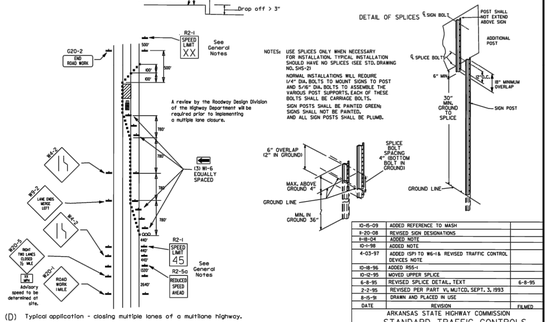


TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	WB-9
1" to 3"	Edge of shoulder	WB-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

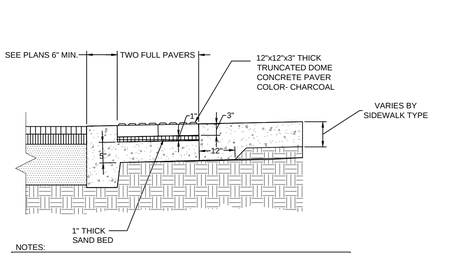


(D) Typical application - closing multiple lanes of a multilane highway.

10-15-09	ADDED REFERENCE TO MASH
9-20-08	REVISED SIGN DESIGNATIONS
8-18-04	ADDED NOTE
10-1-98	ADDED NOTE
4-03-97	ADDED ISM TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE
10-16-96	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
8-15-9	DRAWN AND PLACED IN USE

DATE — REVISION — FILMED

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3

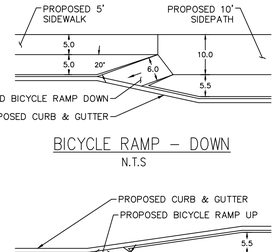


NOTES:

1. PAVERS TO BE SURROUNDED WITH 6" CONCRETE BAND FOR EDGE RESTRAINT.
2. JOINT SAND SHALL BE POLYMERIC.
3. PAVER SHALL BE PAVESTONE OR APPROVED EQUAL

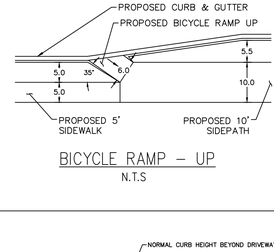
TRUNCATED DOME PAVERS

N.T.S.



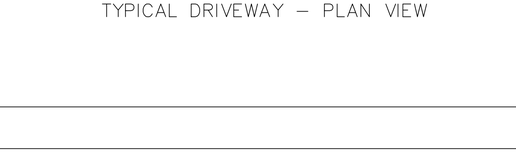
BICYCLE RAMP – DOWN

N.T.S

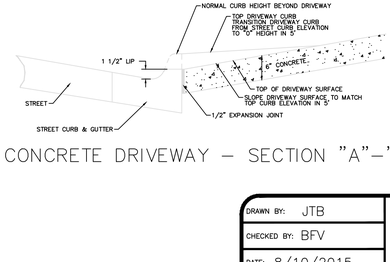


BICYCLE RAMP – UP

N.T.S



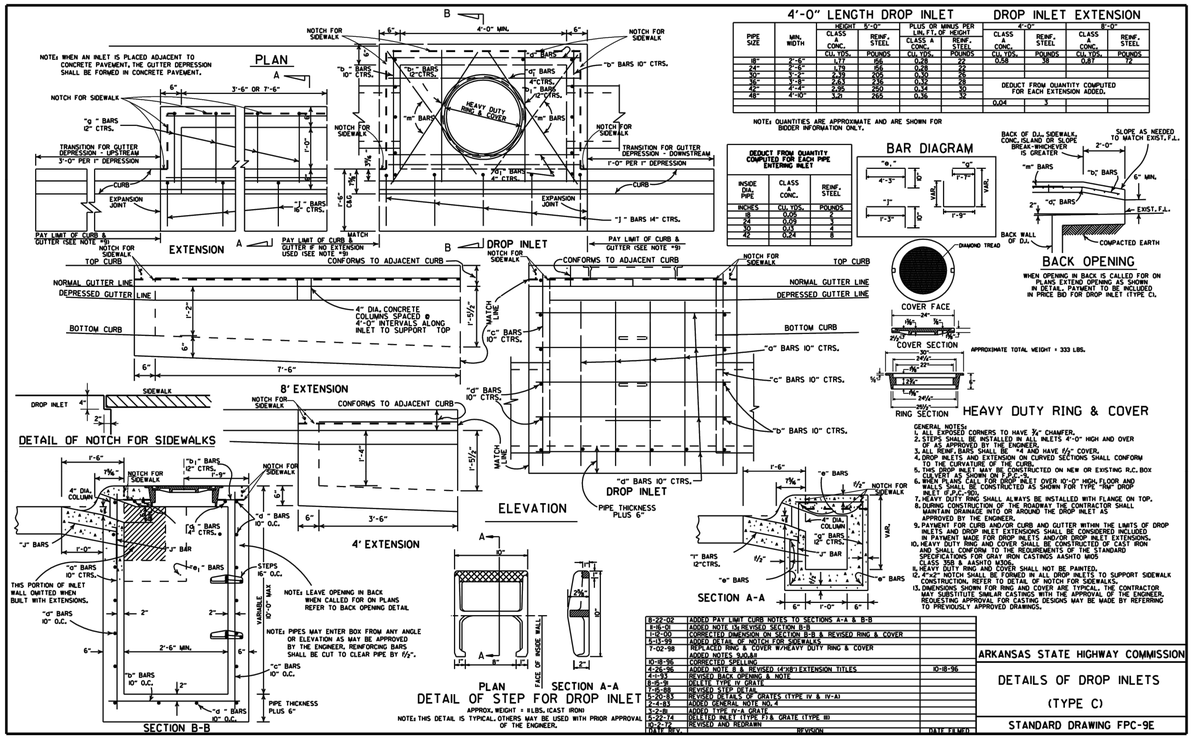
TYPICAL DRIVEWAY – PLAN VIEW



CONCRETE DRIVEWAY – SECTION "A"–"A"

DRAWN BY:	JTB
CHECKED BY:	BFV
DATE:	8/10/2015
SCALE:	NTS

SHTEET #: 17



APPROX. WEIGHT = 11 LBS. (CAST IRON)

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

4'-0" LENGTH DROP INLET — DROP INLET EXTENSION

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL	4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28	DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						0.04	3		

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4'X8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS
(TYPE C)

STANDARD DRAWING FPC-9E

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.

DETAIL OF NOTCH FOR SIDEWALKS

DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

		MINIMUM WALL THICKNESS	
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11; ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN. BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK. OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
3-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	513-3-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET
(TYPE MO)

STANDARD DRAWING FPC-9M

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.

RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.

THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD. SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD. "CONC. ISLD." IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1

NOTE:
THE CROSS SLOPE OF THE RAMPS AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE EXISTING WALK WIDTH OR 36", WHICHEVER IS GREATER.
MINOR MODIFICATIONS OF THESE DETAILS, AS APPPROVED BY THE ENGINEER, MAY BE MADE TO ADJUST TO LOCAL CONDITIONS.

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
10-9-03	REVISED GENERAL NOTES & ADDED NOTE.	
4-10-03	REVISED DETECTABLE WARNING DEVICE DETAIL	
8-22-02	ADDED DETECTABLE WARNING DEVICES DETAILS	
11-18-98	REV. FOURTH CHOICE NOTE	
8-12-98	REVISED TEXTURE	
7-02-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

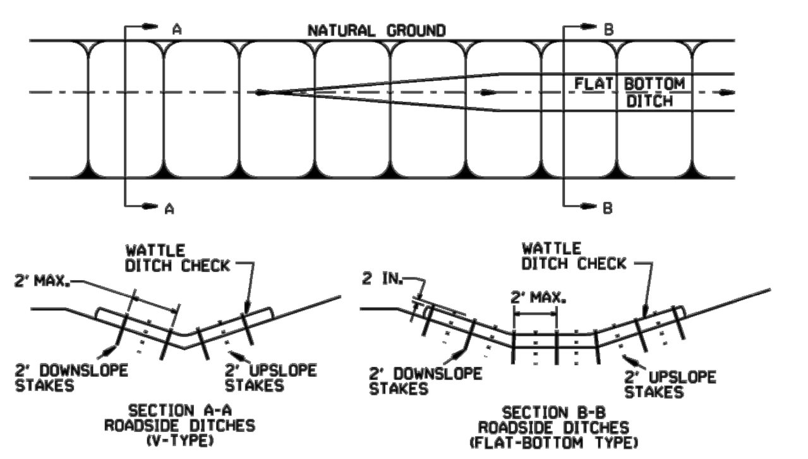
WHEELCHAIR RAMPS ALTERATIONS ONLY

STANDARD DRAWING WR-2

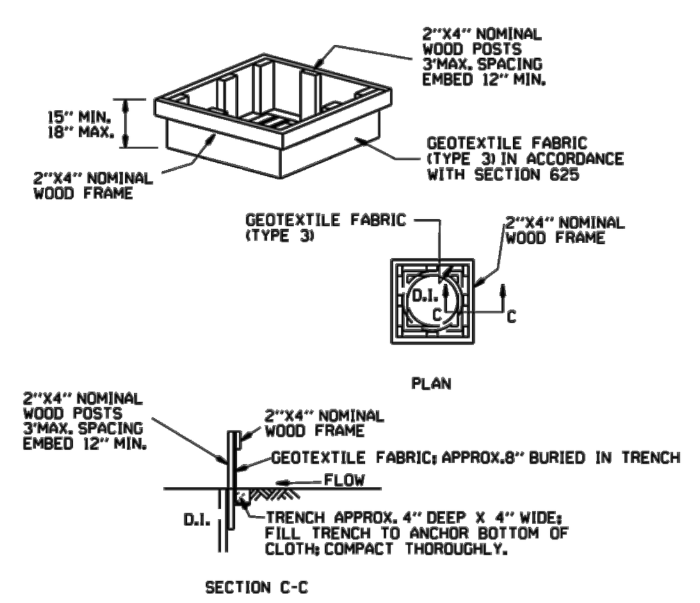
WATTLE DITCH CHECK (E-1)

GENERAL NOTES

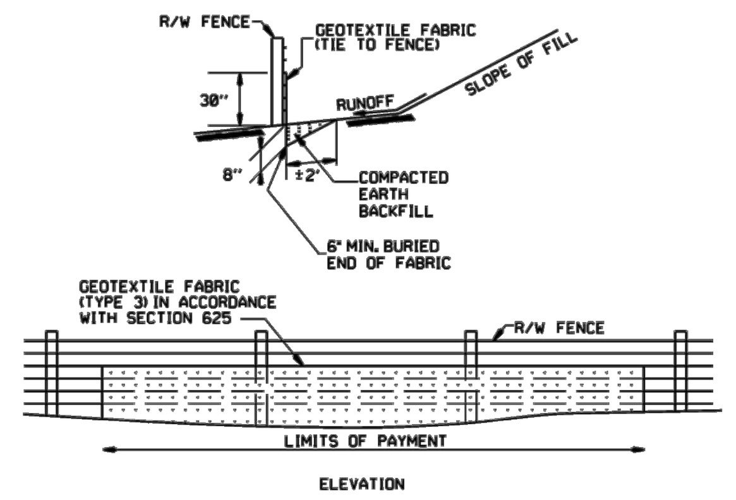
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



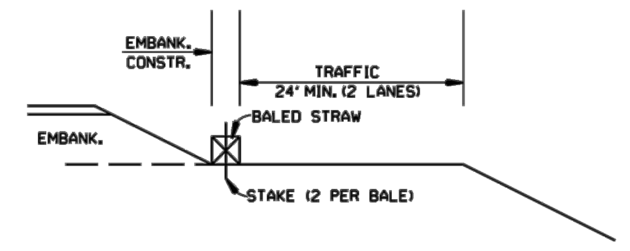
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

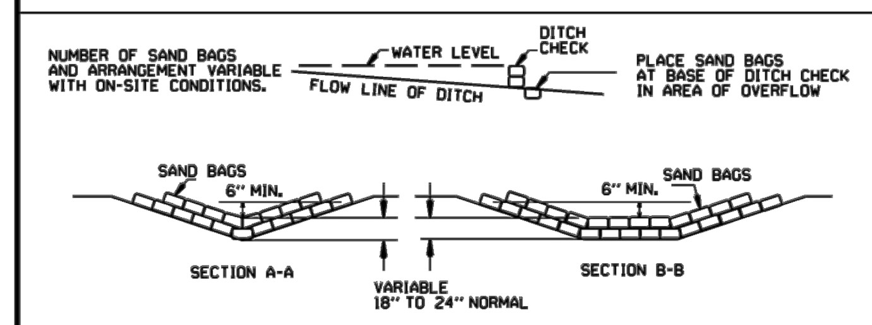
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

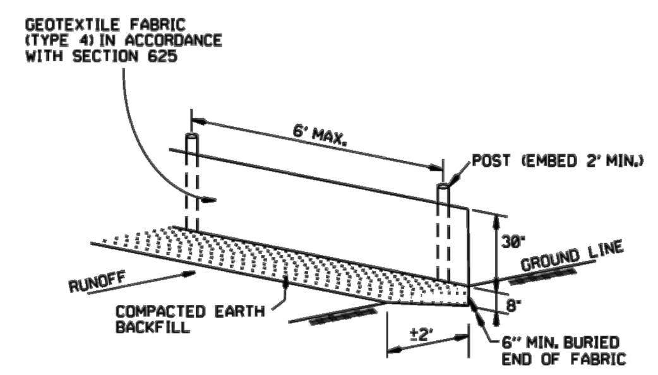
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



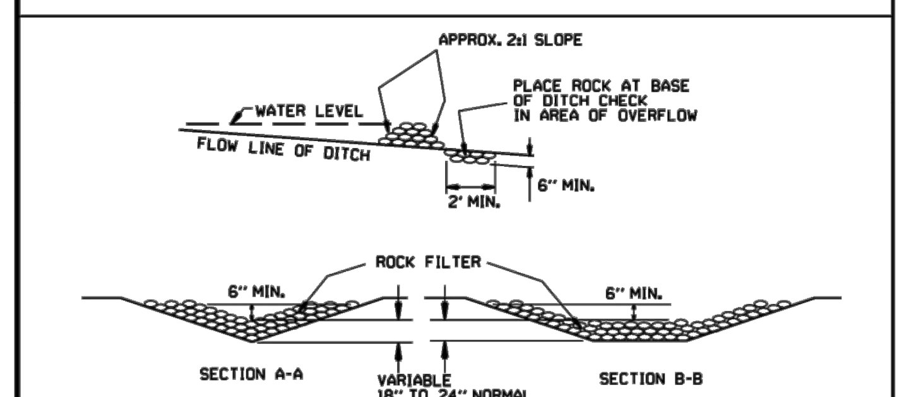
SAND BAG DITCH CHECK (E-5)



SILT FENCE (E-11)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



ROCK DITCH CHECK (E-6)

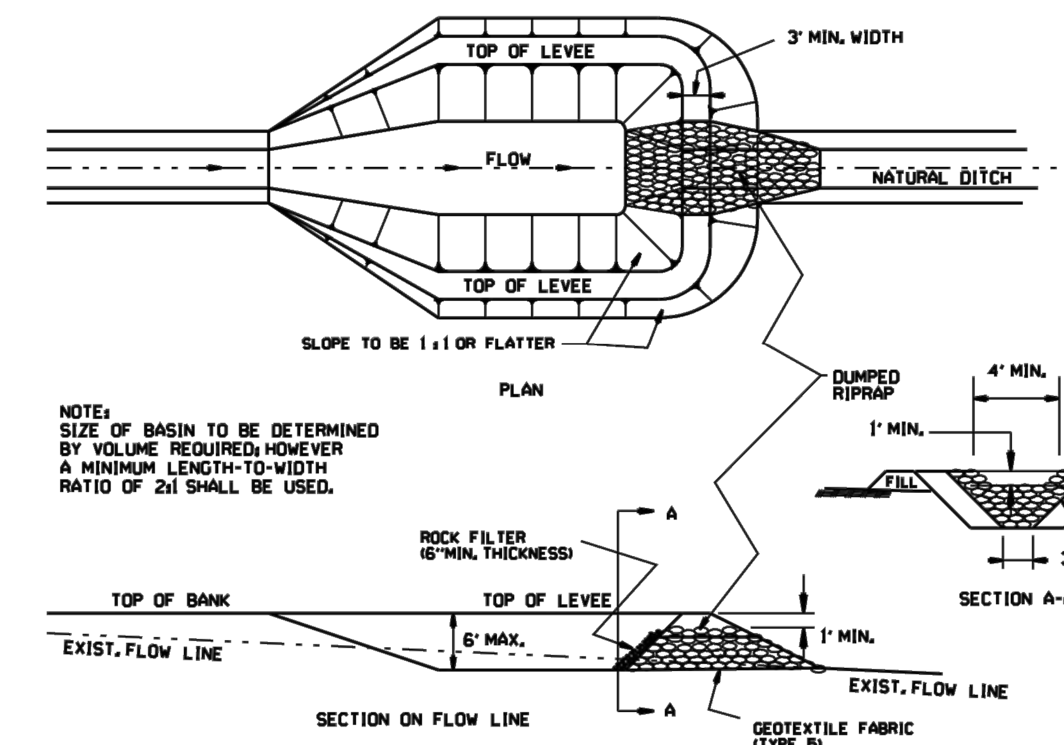
DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

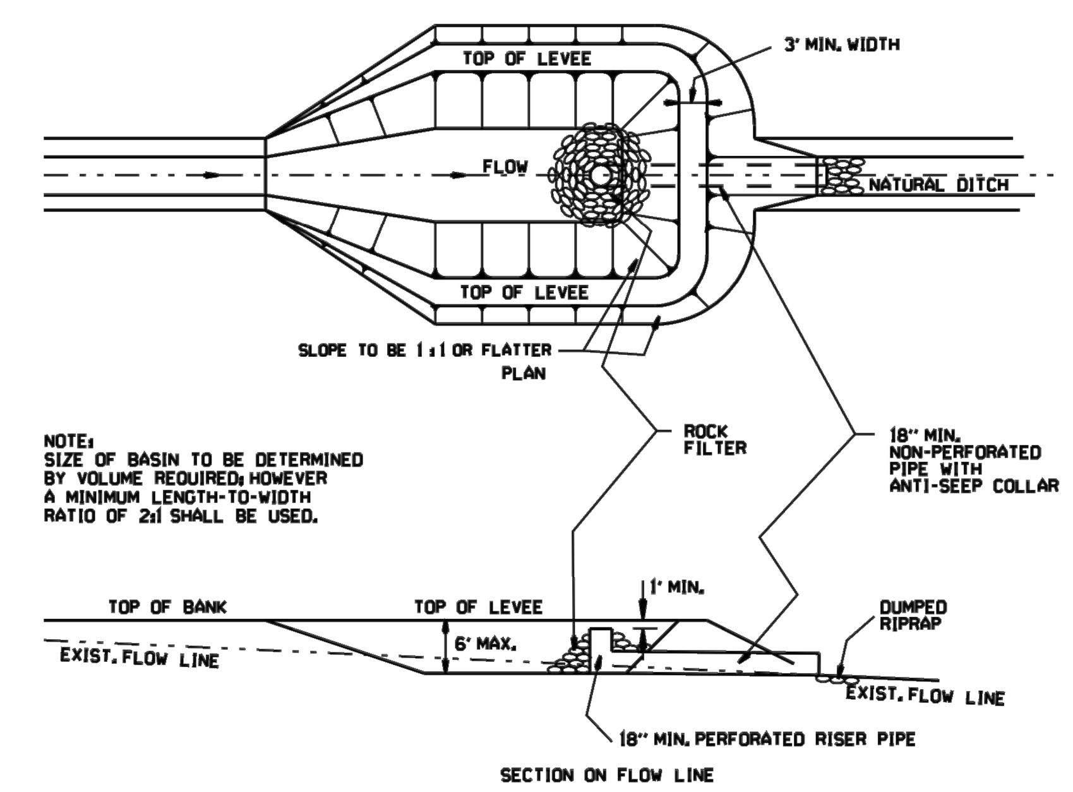
STANDARD DRAWING TEC-1

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



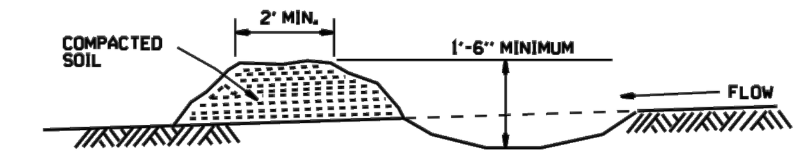
NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



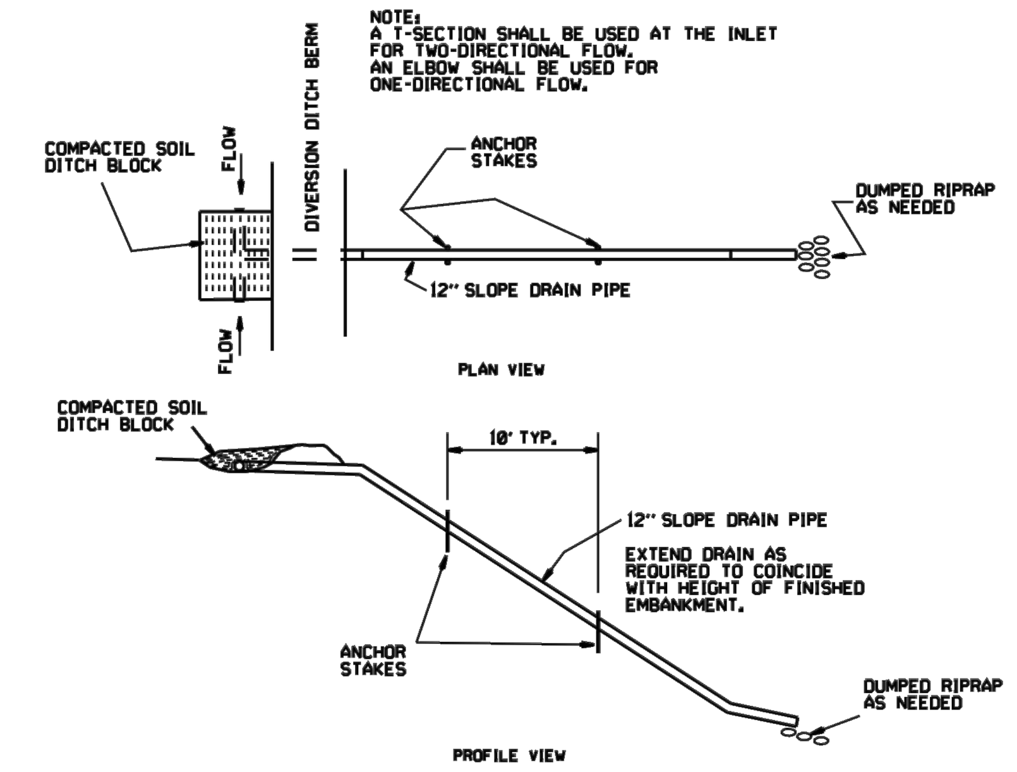
NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH PIPE OUTLET (E-10)

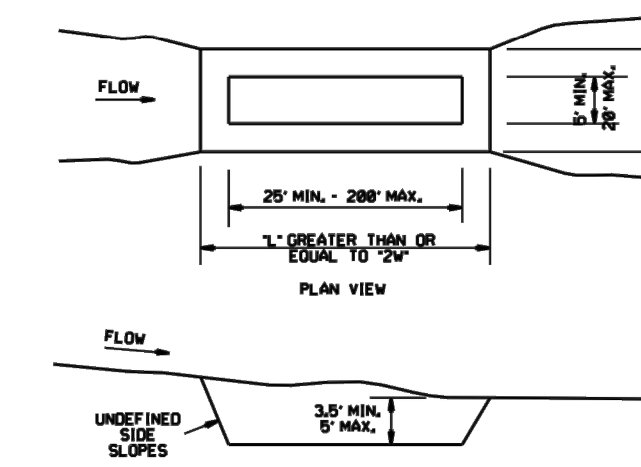


DIVERSION DITCH (E-8)

NOTE:
A T-SECTION SHALL BE USED AT THE INLET FOR TWO-DIRECTIONAL FLOW. AN ELBOW SHALL BE USED FOR ONE-DIRECTIONAL FLOW.



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

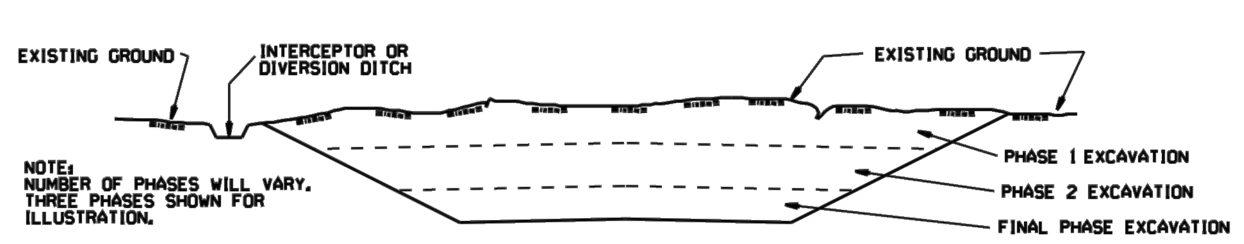
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY. THREE PHASES SHOWN FOR ILLUSTRATION.

GENERAL NOTE

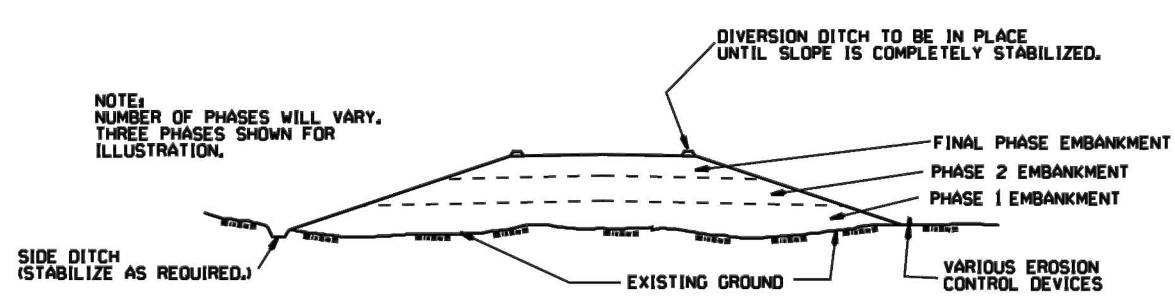
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

NOTE:
NUMBER OF PHASES WILL VARY. THREE PHASES SHOWN FOR ILLUSTRATION.



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

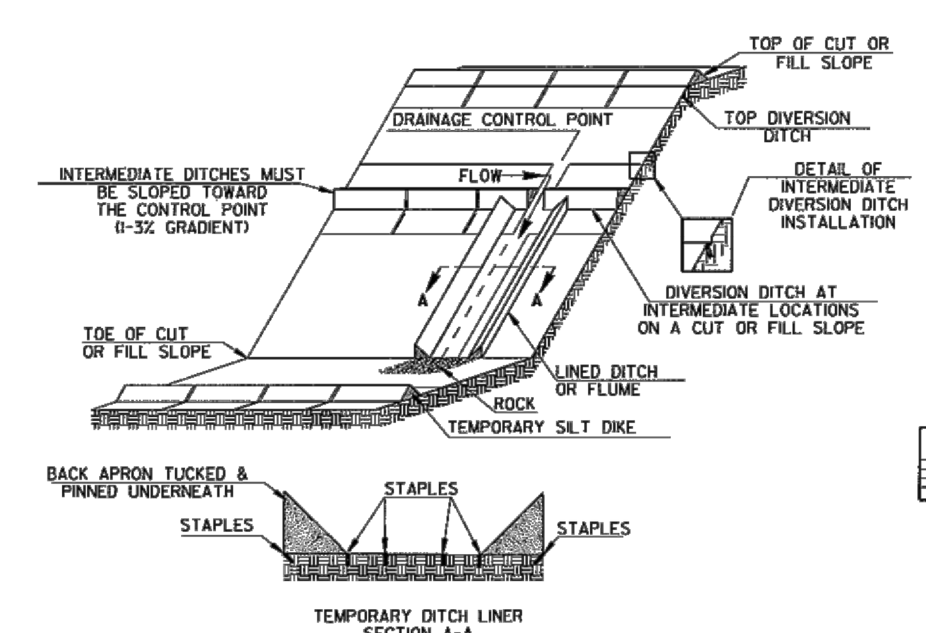
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

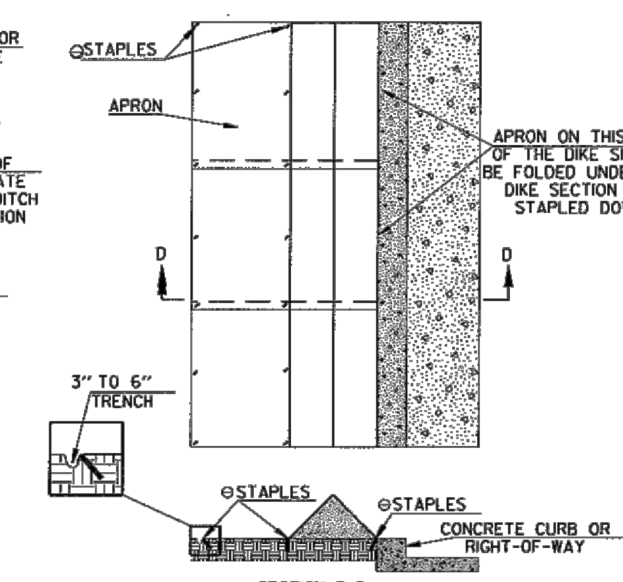
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

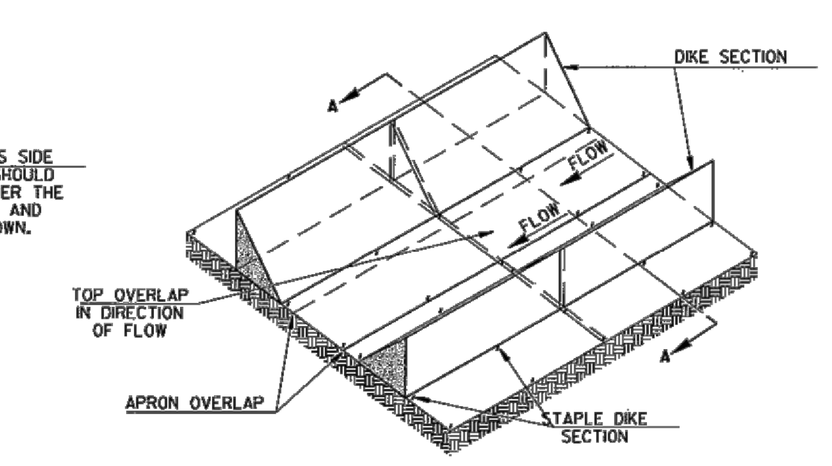
TRIANGULAR SILT DIKE INSTALLATION



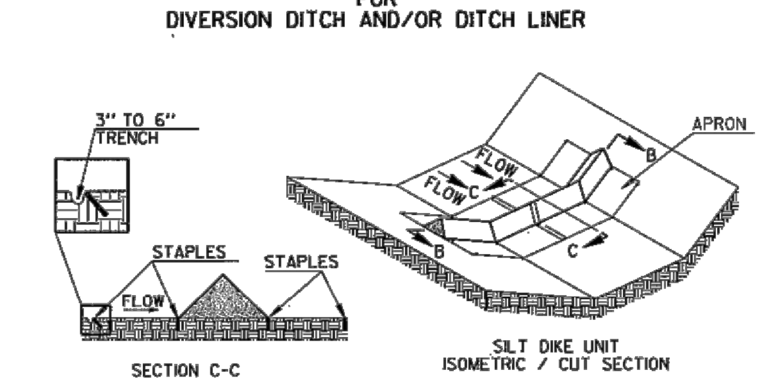
TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER

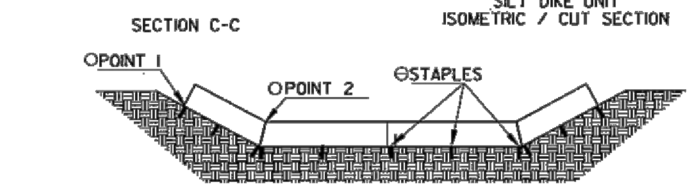


TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



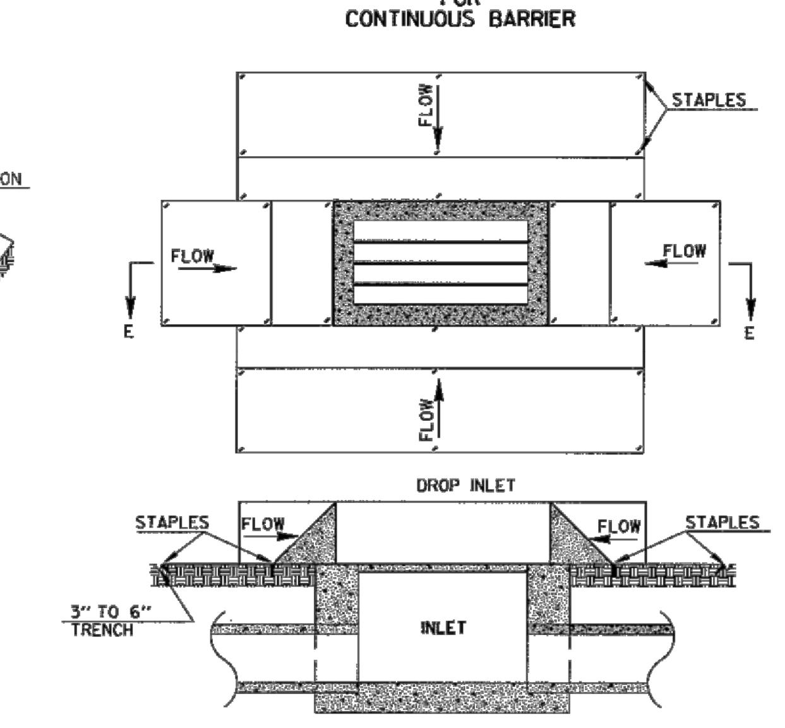
TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER





TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4