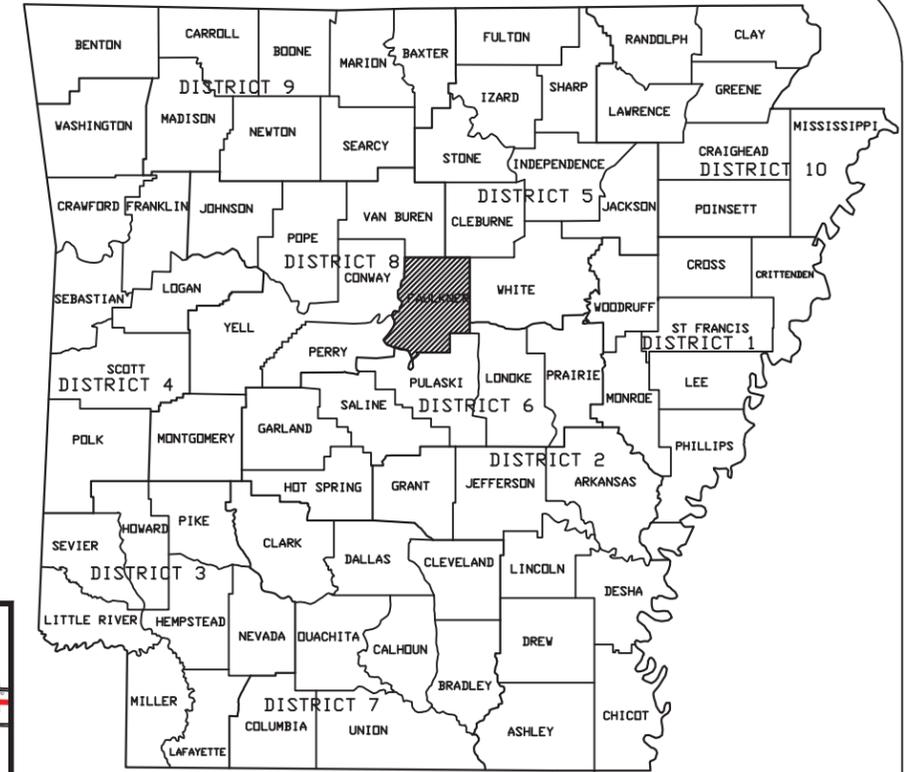


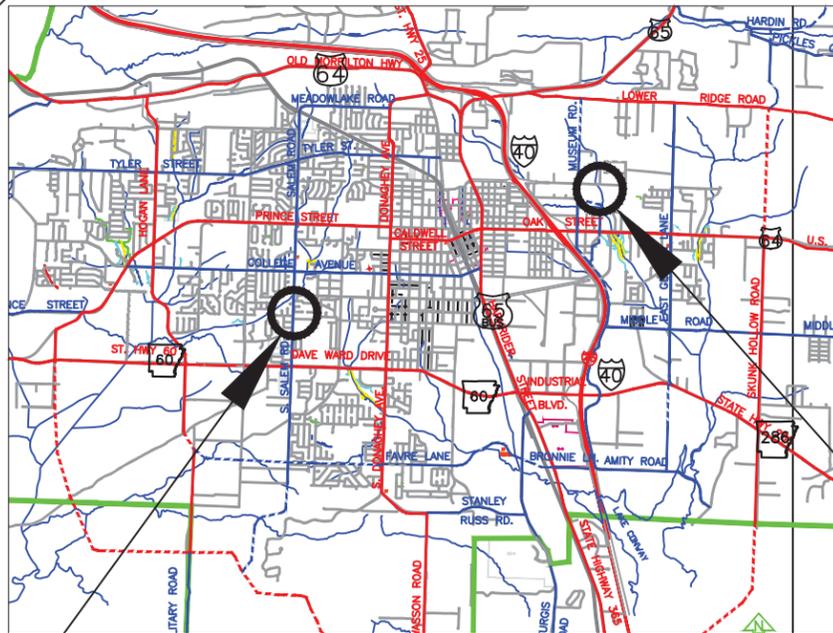
CONWAY SRTS I (2011)



FAULKNER COUNTY
F.A.P. NO. SRSI - 1402(92)
AHTD JOB 080456



ARK. HWY. DIST. NO. 8



VICINITY MAP

SITE #1, 2, & 4
LOCATIONS

MID-POINT OF SITE #1
LAT. 35° 04' 57" NORTH
LON. 92° 28' 18" WEST

SITE #4
Salem Road

BEGIN-POINT OF SITE #1
LAT. 35° 04' 38" NORTH
LON. 92° 28' 25" WEST

MID-POINT OF SITE #1
LAT. 35° 04' 38" NORTH
LON. 92° 28' 20" WEST

SITE #1
Celia Drive

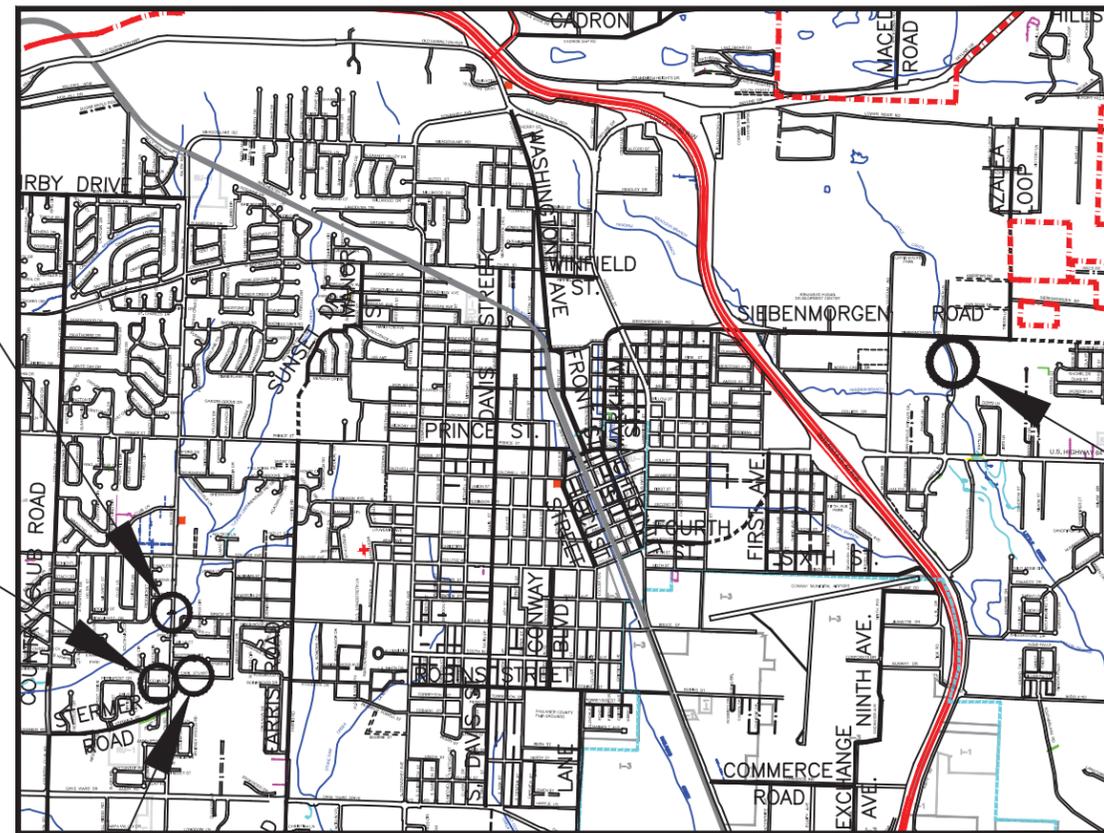
END-POINT OF SITE #1
LAT. 35° 04' 38" NORTH
LON. 92° 28' 19" WEST

BEGIN-POINT OF SITE #2
LAT. 35° 04' 40" NORTH
LON. 92° 28' 18" WEST

MID-POINT OF SITE #2
LAT. 35° 04' 40" NORTH
LON. 92° 28' 11" WEST

END-POINT OF SITE #2
LAT. 35° 04' 40" NORTH
LON. 92° 28' 03" WEST

SITE #2
Carl Stuart Rd.



NOT TO SCALE

SITE #3
Bob Courtway Dr.

BEGIN-POINT OF SITE #3
LAT. 35° 05' 46" NORTH
LON. 92° 24' 48" WEST

MID-POINT OF SITE #3
LAT. 35° 05' 49" NORTH
LON. 92° 24' 50" WEST

END-POINT OF SITE #3
LAT. 35° 05' 55" NORTH
LON. 92° 24' 51" WEST



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

CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

TITLE SHEET

| NO. | REVISION/ISSUE | DATE |
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| DRAWN BY: BJV | SHEET |
| CHECKED BY: EJP | 1 |
| DATE: 6/2/16 | |
| SCALE: N.T.S. | |

INDEX OF SHEETS

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| 6 | CARL STUART DRIVE SIDEWALK IMPROVEMENTS | |
| 7 | CARL STUART DRIVE SIDEWALK IMPROVEMENTS | |
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| TC-1 | STANDARD TRAFFIC CONTROLS | 9-12-15 |
| TEC-1 | TEMPORARY EROSION CONTROL DEVICES | 12-15-11 |
| WR-1 | WHEELCHAIR RAMPS | 11-10-05 |

GENERAL NOTES:

- ALL UTILITIES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- CONTRACTOR RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS. MAIL SERVICE SHALL NOT BE INTERRUPTED.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATION.
- ALL PARTS OF THIS DESIGN & INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS (EXCEPT WHERE SUPERCEDED BY PROVIDED SPECIAL PROVISIONS), A.D.A. STANDARDS FOR ACCESSIBLE DESIGN, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
- CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES OR SERVICE LINES CROSSED OR EXPOSED BY CONSTRUCTION OPERATIONS. WHERE EXISTING UTILITIES OR SERVICE LINES ARE CUT, BROKEN, OR DAMAGED, THE CONTRACTOR SHALL REPLACE OR REPAIR THE UTILITIES OR SERVICE LINES WITH THE SAME TYPE OF ORIGINAL MATERIAL AND CONSTRUCTION, OR BETTER, AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO PROJECT FREE OF MUD AND DEBRIS. BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED WHERE NECESSARY FOR STORM WATER MANAGEMENT POLLUTION PREVENTION PLAN AS DIRECTED BY THE ENGINEER.
- RIGHT-OF-WAY FILED WITH FAULKNER COUNTY CIRCUIT CLERK 02/17/1989, BOOK 'G', PAGE 51.
- DISTURBED AREA UNDER ONE ACRE AND THEREFORE NO EROSION CONTROL MEASURES OR PERMITS REQUIRED

SIDEWALK IMPROVEMENT SUMMARY

| ITEM NO. | ITEM | QUANTITY | UNIT |
|--------------|------------------------------|----------|------|
| SP & 201-209 | SITE PREPARATION | 1 | L.S. |
| SP & 210-216 | EARTHWORK | 1 | L.S. |
| SP & 501 | CONCRETE SIDEWALK | 1400 | S.Y. |
| 603 | MAINTENANCE OF TRAFFIC | 1 | L.S. |
| SP & 606 | 18" R.C. PIPE CULVERTS | 8 | L.F. |
| SP & 606 | 30" R.C. PIPE CULVERTS | 8 | L.F. |
| SP & 609 | DROP INLET (TYPE C) | 2 | L.S. |
| 621 | SILT FENCE | 1000 | L.F. |
| 621 | WATTLE (12") | 100 | L.F. |
| SP & 624 | SOLID SODDING | 1100 | S.Y. |
| 635 | ROADWAY CONSTRUCTION CONTROL | 1 | L.S. |
| SP & 641 | WHEELCHAIR RAMP | 100 | S.Y. |

GOVERNING SPECIFICATIONS

| NUMBER | TITLE |
|-----------|---|
| ERRATA | ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS |
| FHWA-1273 | REQUIRED CONTRACT PROVISIONS FEDERAL AID CONSTRUCTION CONTRACTS |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS |
| FHWA-1273 | SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140) |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS |
| FHWA-1273 | SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS |
| FHWA-1273 | SUPPLEMENT - WAGE RATE DETERMINATION |
| FHWA-1273 | SUPPLEMENT - REVISIONS OF FHWA-1273 FOR OFF-SYSTEM PROJECTS |
| SS 100-3 | DISADVANTAGED BUSINESS ENTERPRISE IN HIGHWAY CONSTRUCTION |
| AHTD SP-1 | REVISED STANDARD DOT TITLE VI ASSURANCE - OCTOBER 2011 |
| 1 | STANDARD SPECIFICATIONS |
| 2 | SITE PREPARATION |
| 3 | EARTHWORK |
| 4 | UNCLASSIFIED EXCAVATION |
| 5 | CONCRETE SIDEWALKS AND WHEELCHAIR RAMPS |
| 6 | CONCRETE AND REINFORCING STEEL |
| 7 | PIPE CULVERTS |
| 8 | INLETS AND JUNCTION BOXES |
| 9 | SEEDING AND SOD |
| 10 | LED TRAFFIC SIGNAL HEAD |
| 11 | LED COUNTDOWN PEDESTRIAN SIGNAL HEAD |
| 12 | ELECTRICAL CONDUCTORS-IN-CONDUIT |
| 13 | SERVICE POINT ASSEMBLY |
| 14 | CONCRETE PULL BOX |
| 15 | TRAFFIC SIGNAL MAST ARMS AND POLES |



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CONWAY, ARKANSAS

SHEET INDEX
GENERAL NOTES
SIDEWALK IMPROVEMENT QUANTITIES

| NO. | REVISION/ISSUE | DATE |
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CHECKED BY: EJP
DATE: 6/2/16
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SHEET

2

CONCRETE WALKS

| STATION | STATION | LOCATION | LENGTH | CONCRETE WALK |
|----------|----------|-----------------------------|---------|---------------|
| | | | LIN. FT | SQ. YDS |
| 0+00.00 | 0+00.00 | W. OF C.L. JOANNA DR. | 16.0 | 9 |
| 0+37.68 | 0+68.34 | N. OF C.L. CELIA DR. | 31.0 | 17 |
| 0+88.77 | 1+71.54 | N. OF C.L. CELIA DR. | 83.0 | 46 |
| 1+90.73 | 2+42.23 | N. OF C.L. CELIA DR. | 52.0 | 29 |
| 2+60.44 | 2+83.40 | N. OF C.L. CELIA DR. | 23.0 | 13 |
| 3+00.79 | 3+49.61 | N. OF C.L. CELIA DR. | 49.0 | 27 |
| 3+69.05 | 4+55.20 | N. OF C.L. CELIA DR. | 87.0 | 48 |
| 4+73.24 | 5+05.46 | N. OF C.L. CELIA DR. | 33.0 | 18 |
| 0+00.00 | 1+78.49 | S. OF C.L. CARL STUART DR. | 179.0 | 99 |
| 2+22.63 | 2+94.23 | S. OF C.L. CARL STUART DR. | 72.0 | 40 |
| 3+37.20 | 5+06.10 | S. OF C.L. CARL STUART DR. | 169.0 | 94 |
| 5+60.25 | 6+15.41 | S. OF C.L. CARL STUART DR. | 56.0 | 31 |
| 9+68.18 | 12+20.45 | S. OF C.L. CARL STUART DR. | 253.0 | 141 |
| 12+63.00 | 12+68.00 | S. OF C.L. CARL STUART DR. | 5.0 | 3 |
| 0+00.00 | 3+17.85 | E. OF C.L. BOB COURTWAY DR. | 318.0 | 177 |
| 3+57.90 | 12+00.00 | E. OF C.L. BOB COURTWAY DR. | 843.0 | 468 |
| TOTAL: | | | 2269.0 | 1261 |

EROSION CONTROL

| STATION | STATION | LOCATION | SILT FENCE | WATTLE (12") | SOLID SODDING |
|---------|----------|--------------------|------------|--------------|---------------|
| | | | LIN. FT. | LIN. FT. | SQ. YD. |
| 0+00.00 | 5+13.00 | CELIA DRIVE | 200 | 20 | 250 |
| 0+00.00 | 12+55.00 | CARL STUART DRIVE | 400 | 20 | 450 |
| 0+00.00 | 12+00.00 | BOB COURTWAY DRIVE | 400 | 60 | 400 |
| TOTAL: | | | 1000 | 100 | 1100 |

WHEEL CHAIR RAMPS

| STATION | LOCATION | TYPE 2 | TYPE 3 | TYPE 5 |
|----------|-----------------------------|---------|---------|---------|
| | | SQ. YD. | SQ. YD. | SQ. YD. |
| 0+00.00 | W. OF C.L. JOANNA DR. | | | 5 |
| 0+33.50 | N. OF C.L. CELIA DR. | 8 | | |
| 0+42.60 | N. OF C.L. CELIA DR. | 8 | | |
| 1+80.00 | S. OF C.L. CARL STUART DR. | | 9 | |
| 2+20.00 | S. OF C.L. CARL STUART DR. | | 4 | |
| 2+95.00 | S. OF C.L. CARL STUART DR. | | 4 | |
| 3+40.00 | S. OF C.L. CARL STUART DR. | | 4 | |
| 5+10.00 | S. OF C.L. CARL STUART DR. | | 4 | |
| 5+60.00 | S. OF C.L. CARL STUART DR. | | 4 | |
| 12+25.00 | S. OF C.L. CARL STUART DR. | | 3 | |
| 12+60.00 | S. OF C.L. CARL STUART DR. | | 3 | |
| 3+25.00 | E. OF C.L. BOB COURTWAY DR. | | 4 | |
| 3+55.00 | E. OF C.L. BOB COURTWAY DR. | | 4 | |
| TOTAL: | | 16 | 43 | 5 |

DRAINAGE STRUCTURES

| STATION | LOCATION | RCP CLASS III (LIN. FT.) | | STRAIGHT TYPE HEADWALL | DROP INLET |
|---------|-----------------------------|--------------------------|-----|------------------------|------------|
| | | 18" | 30" | | |
| | | LINEAL FEET | | EACH | EACH |
| 5+65.00 | S. OF C.L. CARL STUART DR. | | 8 | | |
| 7+65.00 | E. OF C.L. BOB COURTWAY DR. | 6 | | | |
| 5+65.00 | S. OF C.L. CARL STUART DR. | | | 1 | |
| 7+65.00 | E. OF C.L. BOB COURTWAY DR. | | | | 1 |
| TOTAL: | | 6 | 8 | 1 | 1 |



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CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

PEDESTRIAN HYBRID BEACON
NOTES & QUANTITIES

| NO. | REVISION/ISSUE | DATE |
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| DRAWN BY: BFV | SHEET 3 |
| CHECKED BY: EJP | |
| DATE: 6/2/16 | |
| SCALE: N.T.S. | |

PEDESTRIAN HYBRID BEACON NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2014) NATIONAL ELECTRICAL CODE, NFPA 101 (2012) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2C/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH NEW LOAD SWITCH REPRESENTED ON EACH NEW SIGNAL POLE.
5. CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL NEW PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. NEW CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE DETAILS MAY BE USED.
9. NEW TRAFFIC SIGNAL POLES SHALL BE ROUND TAPERED, BLACK POWDER COATED. NEW TRAFFIC SIGNAL MAST ARMS SHALL BE CURVED, BLACK POWDER COATED. BACKPLATES SHALL BE SUPPLIED FOR ALL NEW SIGNAL HEADS.
10. NEW FOUNDATION FOR ALL NEW OR RELOCATED POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
11. ALL NEW BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL NEW CONDUIT SHALL BE 3" NMC DIAMETER UNLESS SPECIFIED ON PLANS.
12. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES AND NOTIFY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
13. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
14. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6' SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
15. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 4'. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
16. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
17. TERMINAL TRIPS SHALL BE PROVIDED FOR EACH NEW TRAFFIC SIGNAL POLE PER ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
18. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
19. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY AN ENGINEER OR ASSIGNED CITY PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
20. P.E. CERTIFIED SHOP DRAWINGS FOR MAST ARMS AND POLES MUST BE SUBMITTED FOR APPROVAL. CERTIFICATION SHALL ALSO INDICATE COMPLIANCE WITH AHTD MATERIALS REQUIREMENTS AND CONFORMANCE TO AASHTO DESIGN REQUIREMENTS FOR 90 MPH WIND LOADING SIGNALS, MASTS AND SIGNS AS INDICATED.
21. ALL TRAFFIC SIGNAL POLES, MAST ARMS AND FOUNDATION DESIGNS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS, FOR 90 MPH WIND ZONE TO SUPPORT FIXED SIGNALS WITH ACTUAL AREAS AS CALLED FOR BY SIGNAL PLACEMENT AS SHOWN ON THESE PLANS.
22. TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH AND CONNECTED TO THE CITY'S EXISTING EAGLE/SIEMENS TACTICS COORDINATION SYSTEM.
23. CONTRACTOR SHALL FIELD VERIFY ALL POLE AND MAST ARM LOCATIONS WITH REGARD TO HORIZONTAL PLACEMENT FOR CLEARANCE FROM UTILITIES AND OTHER APPURTENANCES AND VERIFY VERTICAL CLEARANCE FOR POLE SHAFT AND MAST ARM FOR ABSENCE OF CONFLICT WITH OVERHEAD UTILITIES AND OTHER APPURTENANCES. CONTRACTOR SHALL OBTAIN APPROVAL OF PERMITTING JURISDICTIONS PRIOR TO ORDERING POLES AND MAST ARMS. IF DEVIATION FROM THIS PLAN IS NECESSARY, ENGINEER SHALL BE NOTIFIED AND FINAL REVISED LOCATIONS OF POLES AND MAST ARMS SHALL BE DOCUMENTED.

PEDESTRIAN HYBRID BEACON QUANTITIES

| ITEM NO. | ITEM | QUANTITY | UNIT |
|----------|--|----------|------|
| SP & 701 | SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (4 PHASES) | 1 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED (3 SECTION, 1 WAY) | 4 | EACH |
| SP & 707 | COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED | 2 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 200 | L.F. |
| 708 | TRAFFIC SIGNAL CABLE (20C/14 A.W.G.) | 250 | L.F. |
| 710 | NON-METALLIC CONDUIT (1.25") | 100 | L.F. |
| 710 | NON-METALLIC CONDUIT (3") | 300 | L.F. |
| 710 | NON-METALLIC CONDUIT (3" BORED) | 300 | L.F. |
| SP & 711 | CONCRETE PULL BOX (TYPE 2 HD) | 6 | EACH |
| SP & 714 | TRAFFIC SIGNAL MAST ARM (22') AND POLE (36') WITH FOUNDATION | 1 | EACH |
| SP & 714 | TRAFFIC SIGNAL MAST ARM (22') AND POLE (21') WITH FOUNDATION | 1 | EACH |
| 733 | VIDEO CABLE | 250 | L.F. |
| SP & 733 | VIDEO DETECTOR (CLR) | 1 | EACH |
| SP & 733 | VIDEO DETECTOR (PTZ) | 2 | EACH |
| SP & 733 | VIDEO PROCESSOR UNIT, EDGE CARD (2 CAMERA) | 1 | EACH |
| SP | SERVICE PEDESTAL | 1 | EACH |
| SP | LUMINAIRE ASSEMBLY* | 1 | EACH |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G) | 100 | L.F. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., ECG) | 300 | L.F. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EDG) | 100 | L.F. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G., EDG) | 250 | L.F. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 250 | L.F. |
| SP | SERVICE PROVIDED BY THE CONWAY CORPORATION AND INSTALLED BY THE CONTRACTOR | | EACH |



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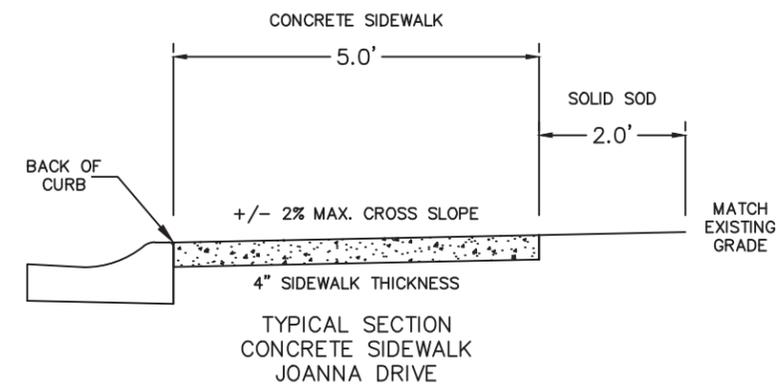
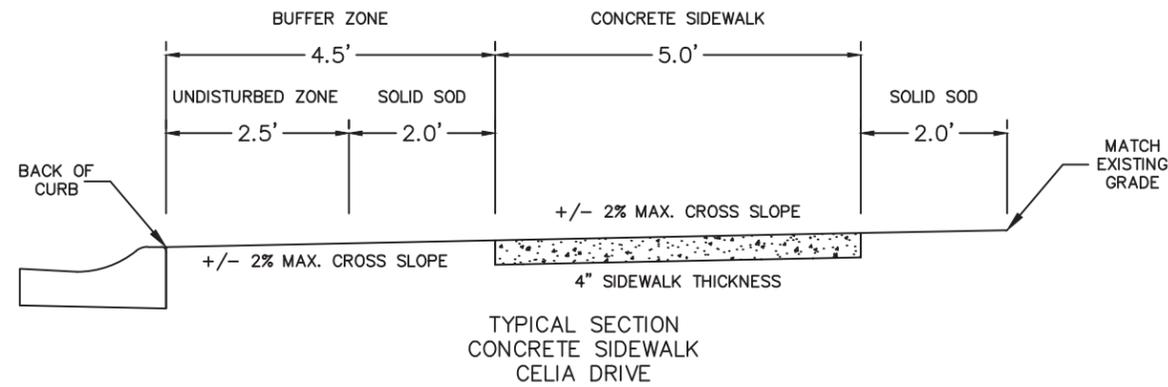
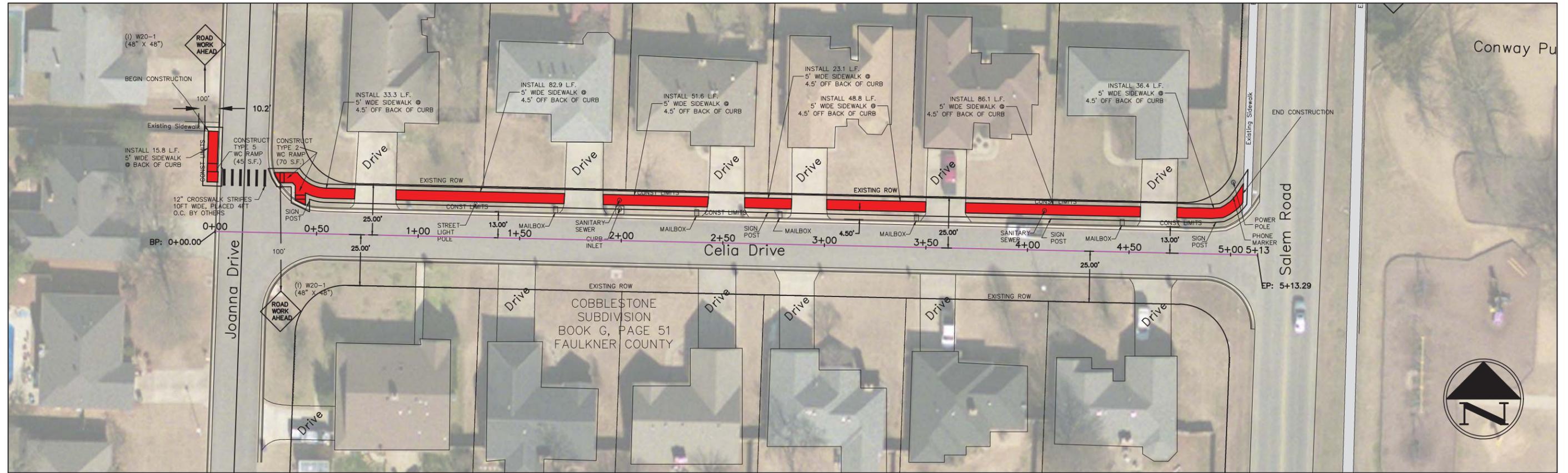
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| | | |

| | |
|-----------------|----------------|
| DRAWN BY: BFV | SHEET 4 |
| CHECKED BY: EJP | |
| DATE: 6/2/16 | |
| SCALE: N.T.S. | |





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

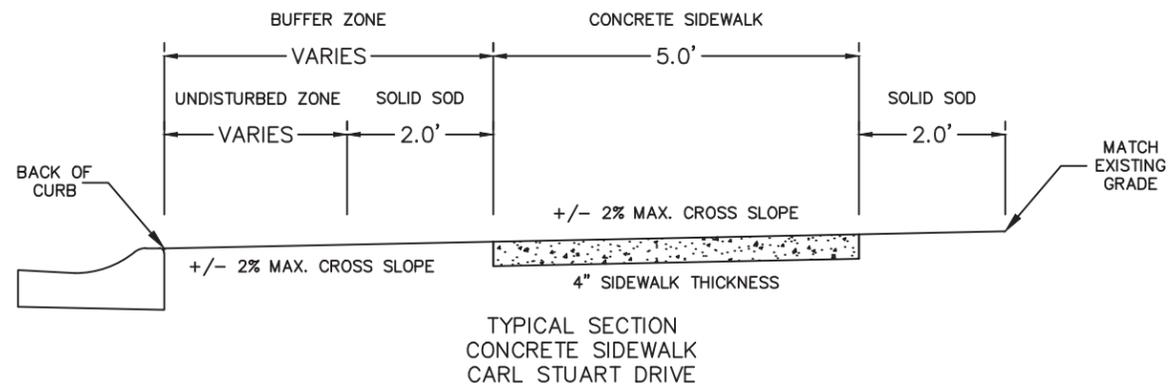
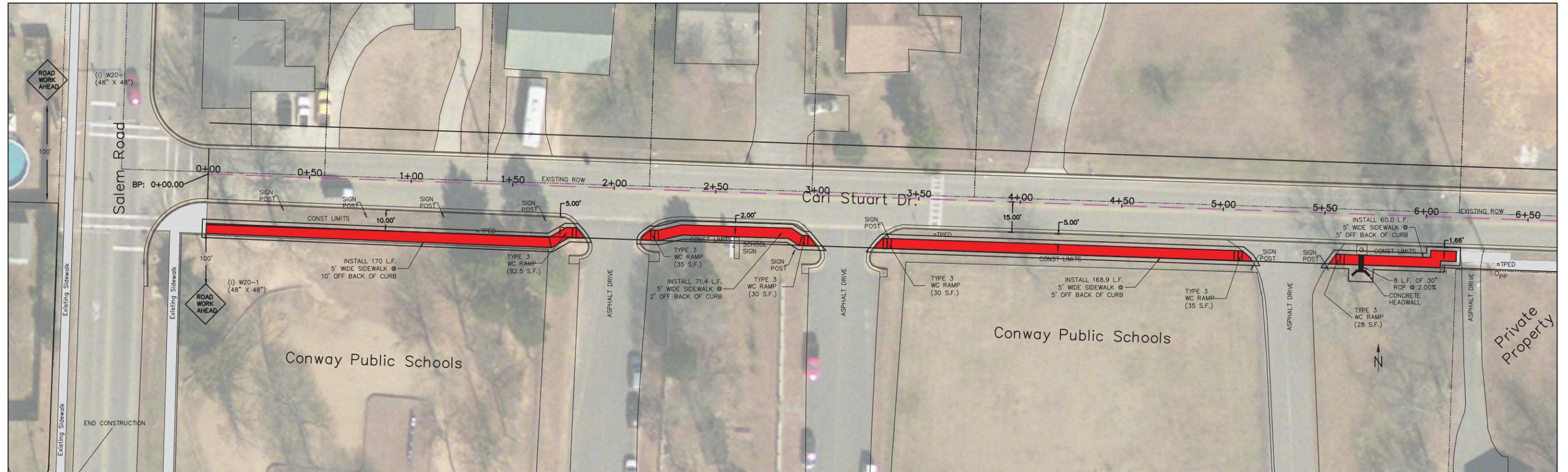
CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

SITE #1
CELIA DRIVE
SIDEWALK IMPROVEMENTS

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |
| | | |
| | | |

DRAWN BY: BFV
CHECKED BY: EJP
DATE: 6/2/16
SCALE: 1"=50'

SHEET
5



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

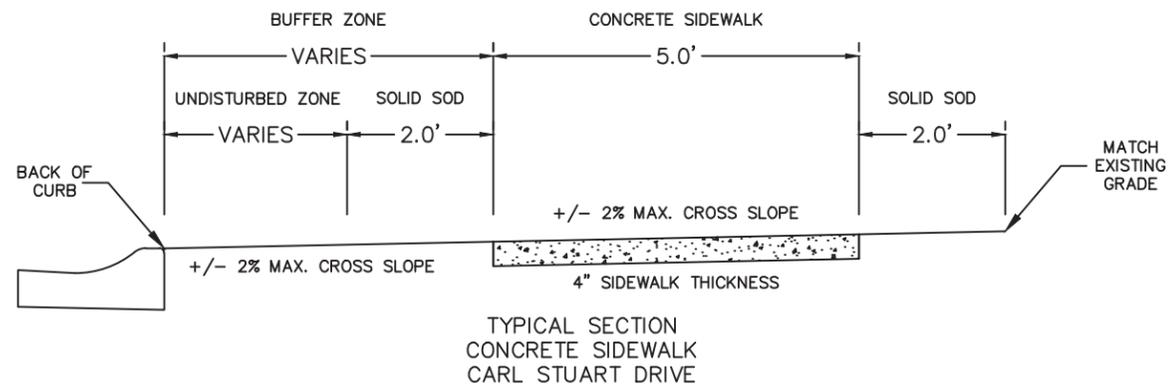
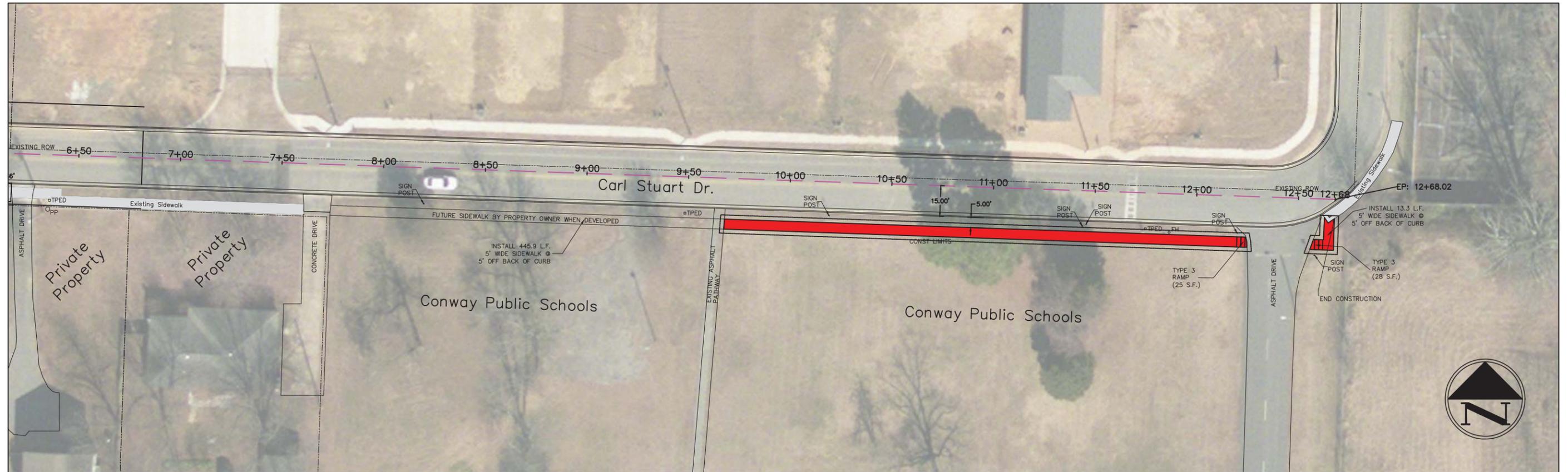
CONWAY SRTS 1 (2011)
 AHTD JOB #080456
 CONWAY, ARKANSAS

SITE #2
 CARL STUART DRIVE
 SIDEWALK IMPROVEMENTS

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |
| | | |
| | | |

DRAWN BY: BFV
 CHECKED BY: EJP
 DATE: 6/2/16
 SCALE: 1"=50'

SHEET
 6



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

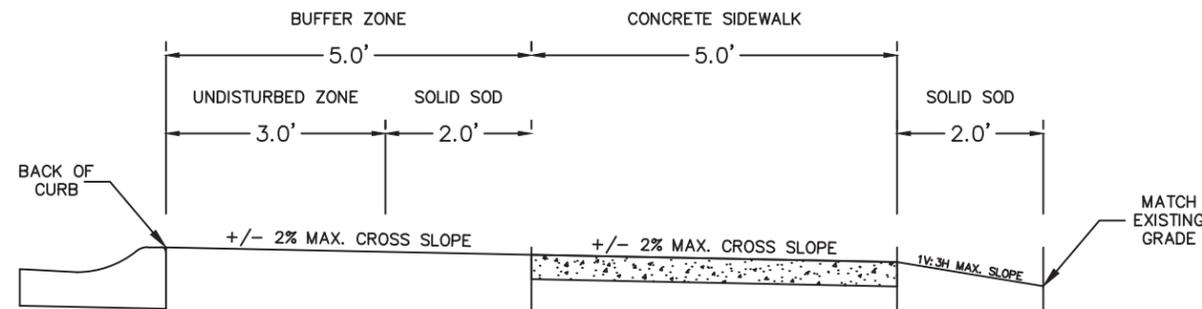
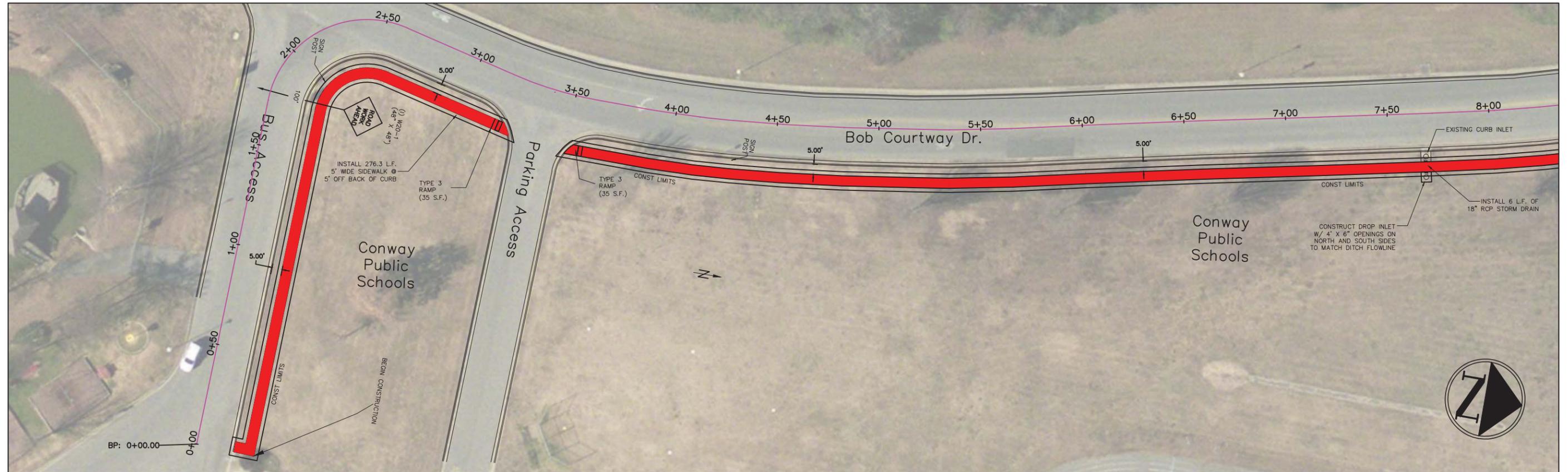
CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

SITE #2
CARL STUART DRIVE
SIDEWALK IMPROVEMENTS

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |
| | | |
| | | |

DRAWN BY: BFV
CHECKED BY: EJP
DATE: 6/2/16
SCALE: 1"=50'

SHEET
7



TYPICAL SECTION
CONCRETE SIDEWALK
BOB COURTWAY DRIVE



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

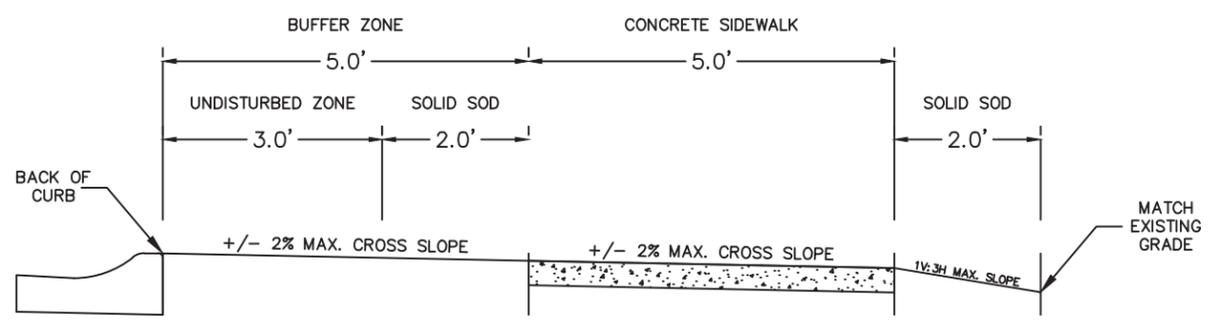
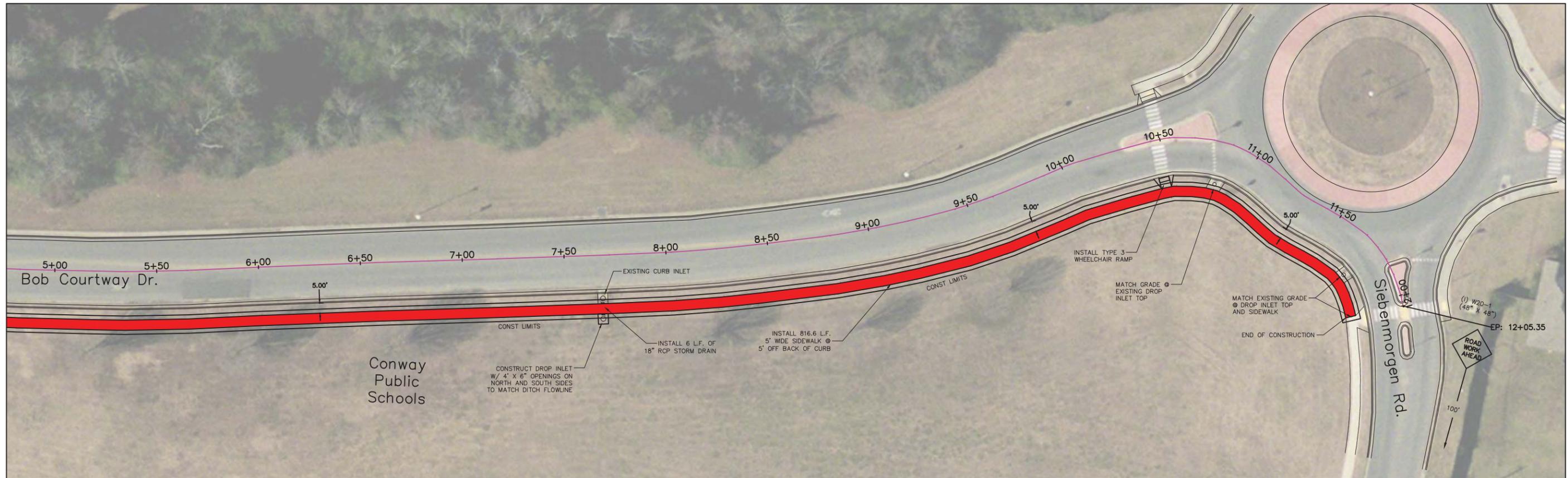
CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

SITE #3
BOB COURTWAY DRIVE
SIDEWALK IMPROVEMENTS

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |
| | | |
| | | |

DRAWN BY: BFV
CHECKED BY: EJP
DATE: 6/2/16
SCALE: 1"=50'

SHEET
8



TYPICAL SECTION
CONCRETE SIDEWALK
BOB COURTWAY DRIVE



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

CONWAY SRTS 1 (2011)
AHTD JOB #080456
CONWAY, ARKANSAS

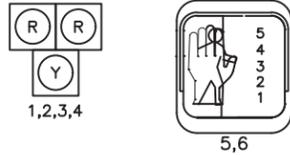
SITE #3
BOB COURTWAY DRIVE
SIDEWALK IMPROVEMENTS

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |
| | | |
| | | |

DRAWN BY: BFV
CHECKED BY: EJP
DATE: 6/2/16
SCALE: 1"=50'

SHEET
9

SIGNAL FACES

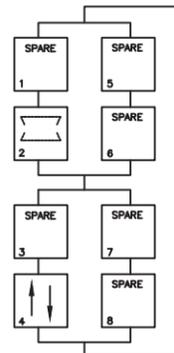


- NOTES:**
1. ALL NEW SIGNAL HEADS SHALL HAVE BACKPLATES.
 2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
 3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A. STANDARDS.

| SIGNAL FACES | SALEM RD & TUCKER CREEK | | | | | FLASH SEQ. |
|--------------|-------------------------|------|----|------|-----|------------|
| | CLR. | CLR. | 2 | CLR. | 4 | |
| 1,2,3,4 | FY | SY | SR | FR | BLK | FY |
| 4,5 | DW | DW | W | FDW | DW | BLK |

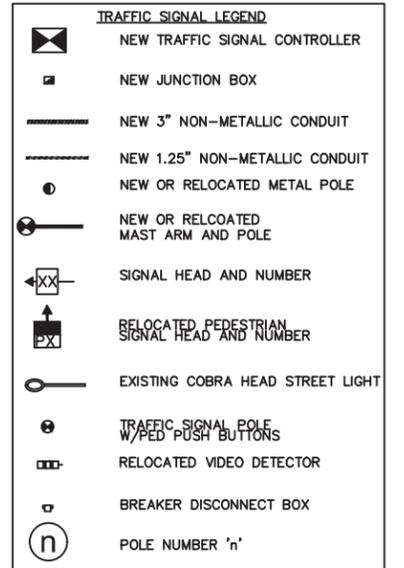
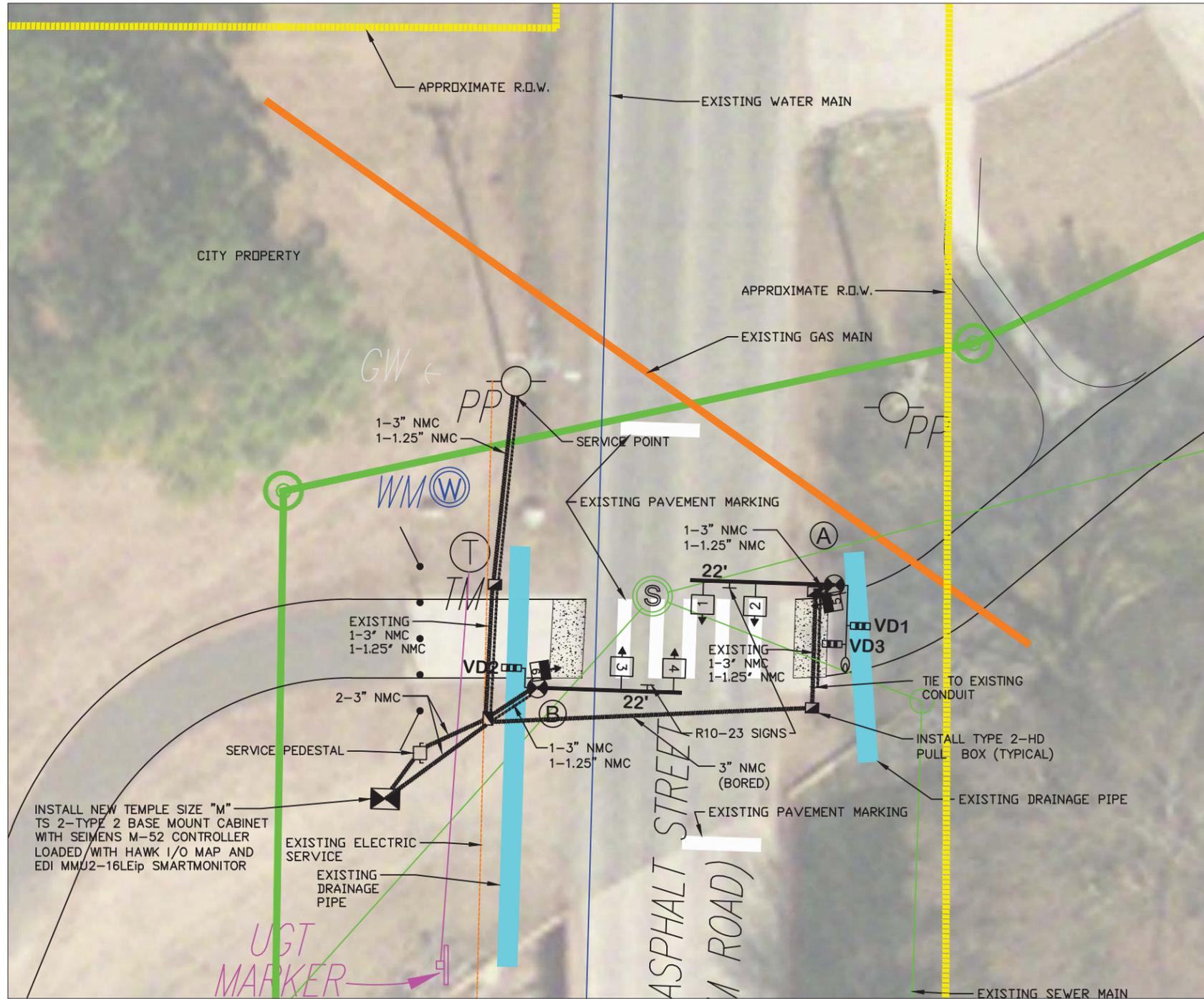
| # | DETECTOR DESCRIPTION |
|-----|------------------------|
| VD1 | PEDESTRIAN DETECTOR #1 |
| VD2 | PEDESTRIAN DETECTOR #2 |
| VD3 | PTZ CAMERA |

PHASING DIAGRAM



POLE - MAST ARM SCHEDULE

| POLE | POLE FOUNDATION TYPE | MAST ARM LENGTH | POLE HEIGHT | MA DEGREES CW FROM HANDHOLE | STREETLIGHT ARM LENGTH | SL DEGREES CW FROM HANDHOLE | LATITUDE | LONGITUDE |
|---------|----------------------|-----------------|-------------|-----------------------------|------------------------|-----------------------------|------------|-------------|
| A (New) | AHTD | 22' | 35' | 180° | 8' | 90° | 35.0817410 | -92.4716746 |
| B (New) | AHTD | 22' | 21' | 180° | N/A | N/A | 35.0816850 | -92.4718939 |



DESIGN PARAMETERS
 POSTED SPEED LIMIT:
 35 MPH NORTHBOUND AND SOUTHBOUND APPROACHES
 N/A FOR EASTBOUND AND WESTBOUND APPROACHES
 NO RAILROAD TRACKS
 NO PARKING
 NO FIRE STATION
 4' CLEAR ZONE (FROM EDGE OF ASPHALT) ALONG SALEM ROAD

SIGNAGE AND STRIPING TO BE INSTALLED BY THE CITY OF CONWAY.

SEQUENCE FOR PEDESTRIAN HYBRID BEACON TO CONFORM WITH FIGURE 4F-3 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION

CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING LOCATION AND USABILITY OF EXISTING NMC.



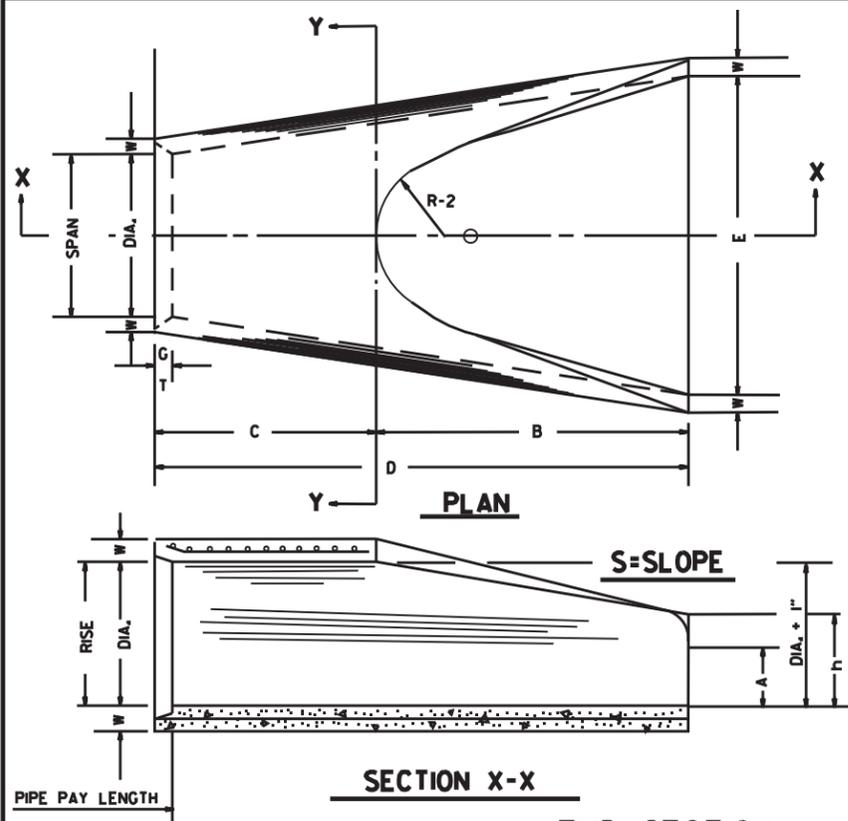
CITY OF CONWAY, ARKANSAS
 STREET & ENGINEERING DEPARTMENT
 100 EAST RONBINS
 CONWAY, ARKANSAS 72034
 501-450-6165

CONWAY SRTS 1 (2011)
 AHTD JOB #080456
 CONWAY, ARKANSAS

SITE #4
 PEDESTRIAN HYBRID BEACON
 SIGNAL PLAN

| NO. | REVISION/ISSUE | DATE |
|-----|----------------|------|
| | | |

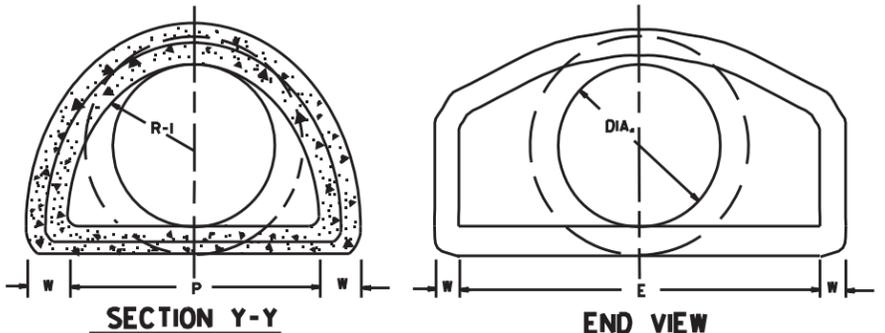
| | |
|-----------------|-------|
| DRAWN BY: BFV | SHEET |
| CHECKED BY: EJP | 10 |
| DATE: 6/2/16 | |
| SCALE: 1"=20' | |



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

| DIA. | WALL | A | B | C | D | E | S | DIA. + 1" | P | R-1 | R-2 | G-T | WT. | h |
|------|--------|--------|-----------|------------|-----------|-------|----|-----------|---------|---------|-----|--------|-------|------------|
| 18" | 2 1/2" | 9" | 2'-3" | 3'-10" | 6'-1" | 3'-0" | 3d | 19" | 29" | 15 1/2" | 12" | 2" | 1000 | 1'-0 1/2" |
| 24" | 3" | 9 1/2" | 3'-7 1/2" | 2'-6" | 6'-1 1/2" | 4'-0" | 3d | 25" | 33 3/8" | 16 1/8" | 14" | 2 1/2" | 1600 | 1'-1 1/2" |
| 30" | 3 1/2" | 1'-0" | 4'-6" | 1'-7 1/4" | 6'-1 3/4" | 5'-0" | 3d | 31" | 37" | 18 1/2" | 15" | 3 1/4" | 1940 | 1'-4 1/2" |
| 36" | 4" | 1'-3" | 5'-3" | 2'-10 1/4" | 8'-1 1/2" | 6'-0" | 3d | 37" | 47 1/8" | 24 1/8" | 20" | 3 1/2" | 4100 | 1'-8" |
| 42" | 4 1/2" | 1'-9" | 5'-3" | 2'-11" | 8'-2" | 6'-6" | 3d | 43" | 53 1/8" | 27 1/2" | 22" | 3 1/2" | 5380 | 2'-2 1/2" |
| 48" | 5" | 2'-0" | 6'-0" | 2'-2" | 8'-2" | 7'-0" | 3d | 49" | 56 1/2" | 28 1/2" | 22" | 3 1/2" | 6550 | 2'-6" |
| 54" | 5 1/2" | 2'-4" | 6'-6" | 1'-10" | 8'-4" | 7'-6" | 3d | 55" | 65 1/2" | 33 1/8" | 24" | 4" | 8750 | 2'-10 1/2" |
| 60" | 6" | 2'-10" | 6'-6" | 1'-10" | 8'-4" | 8'-0" | 3d | 61" | 72 1/2" | 36 1/8" | 24" | 4" | 9270 | 3'-5" |
| 72" | 7" | 3'-10" | 6'-6" | 1'-10" | 8'-4" | 9'-0" | 3d | 73" | 77 1/8" | 38 1/8" | 24" | 5" | 13250 | 4'-6" |



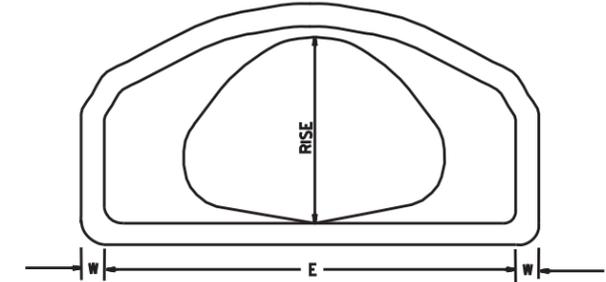
SECTION Y-Y END VIEW

NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

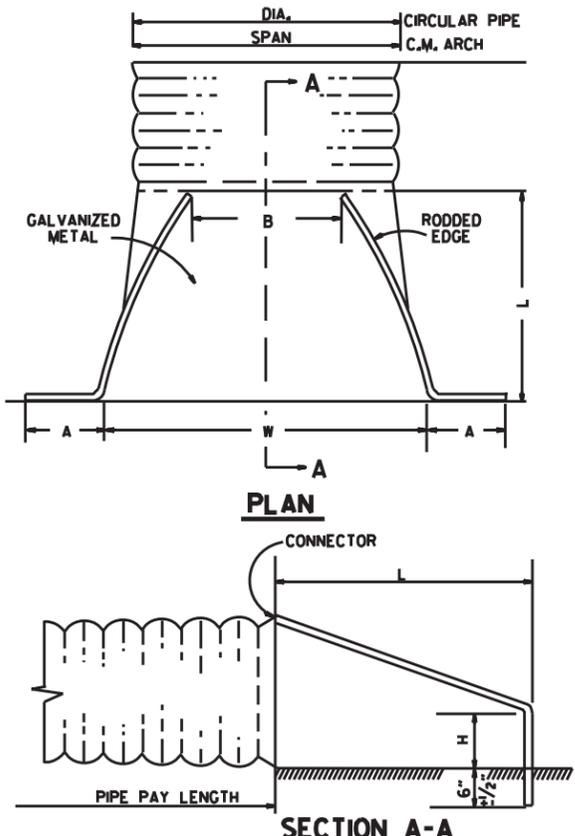
ARCH PIPE

| EQUIV. DIA. | SPAN | | RISE | | W | A | B | C | D | E | P | R2 | G-T | S |
|-------------|--------------|-------------|--------------|-------------|--------|---------|-------|------------|-----------|--------|---------|-----|--------|--------|
| | AASHTO M 206 | AHD NOMINAL | AASHTO M 206 | AHD NOMINAL | | | | | | | | | | |
| 15 | 18 | 18 | 11 | 11 | 2" | 4" | 2'-0" | 4'-0" | 6'-0" | 3'-0" | 29" | 12" | 1 1/2" | 2 1/2d |
| 18 | 22 | 22 | 13 1/2 | 14 | 2 1/2" | 5" | 2'-0" | 4'-1" | 6'-1" | 3'-6" | 32 1/8" | 13" | 2 1/2" | 2 1/2d |
| 21 | 26 | 26 | 15 1/2 | 16 | 3" | 7" | 2'-3" | 3'-10" | 6'-1" | 4'-0" | 34 1/8" | 14" | 2 1/2" | 2 1/2d |
| 24 | 28 1/2 | 29 | 18 | 18 | 3" | 9" | 2'-3" | 3'-10" | 6'-1" | 5'-0" | 36 1/8" | 15" | 2 1/2" | 2 1/2d |
| 30 | 36 1/4 | 36 | 22 1/2 | 23 | 3 1/2" | 10" | 3'-1" | 3'-0 1/2" | 6'-1 1/2" | 6'-0" | 47 1/8" | 20" | 3" | 2 1/2d |
| 36 | 43 1/4 | 44 | 26 1/2 | 27 | 4" | 10 1/2" | 4'-0" | 2'-1 1/2" | 6'-1 1/2" | 6'-6" | 54 1/8" | 22" | 3 1/2" | 2 1/2d |
| 42 | 51 1/8 | 51 | 31 1/2 | 31 | 4 1/2" | 11 1/2" | 4'-7" | 1'-10 1/4" | 6'-5 1/4" | 7'-2" | 59 1/2" | 23" | 3 3/4" | 2 1/2d |
| 48 | 58 1/2 | 59 | 36 | 36 | 5" | 1'-3" | 5'-3" | 2'-10 1/4" | 8'-1 1/4" | 7'-10" | 70 1/8" | 24" | 4 1/4" | 2 1/2d |
| 54 | 65 | 65 | 40 | 40 | 5 1/2" | 1'-7" | 5'-3" | 2'-11" | 8'-2" | 8'-6" | 72 1/8" | 24" | 4 1/4" | 2 1/2d |
| 60 | 73 | 73 | 45 | 45 | 6" | 1'-10" | 5'-6" | 2'-8" | 8'-2" | 9'-0" | 77 1/8" | 24" | 5" | 2 1/2d |

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



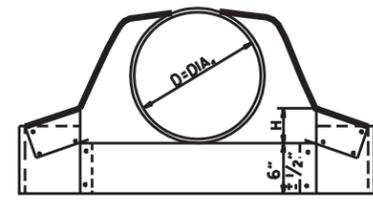
END VIEW CONCRETE ARCH PIPE



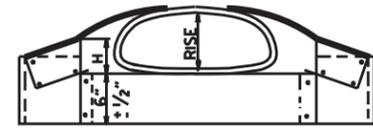
SECTION A-A

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



CIRCULAR PIPE



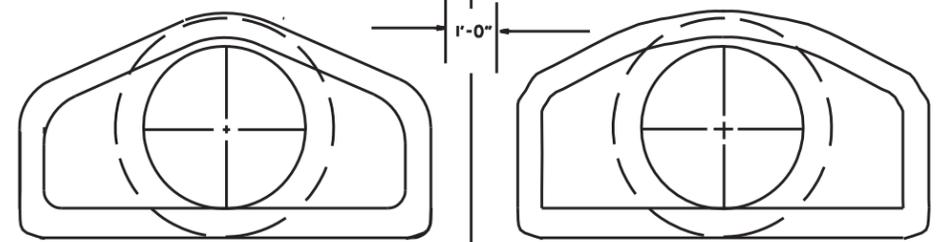
C.M. ARCH PIPE

CIRCULAR PIPE

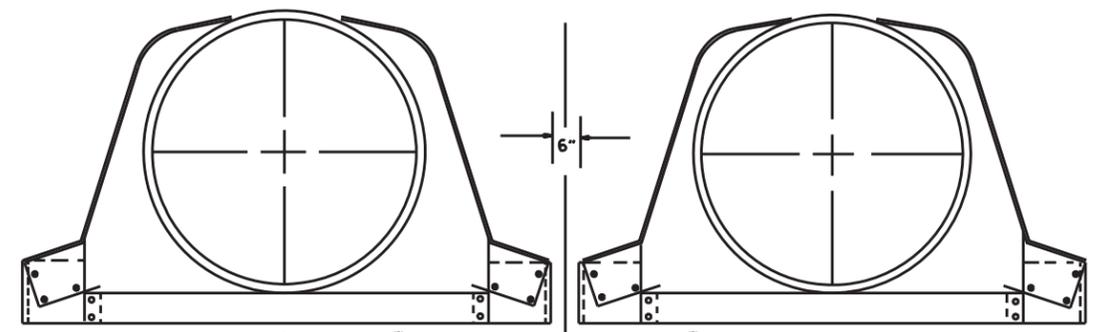
| D. DIA. | GAUGE | A 1" ± | B. MAX. | H 1" ± | L 1 1/2" ± | W ± 2" | S |
|---------|-------|--------|---------|--------|------------|--------|--------|
| 12 | 16 | 6 | 6 | 6 | 21 | 24 | 2 1/2d |
| 15 | 16 | 7 | 8 | 6 | 26 | 30 | 2 1/2d |
| 18 | 16 | 8 | 10 | 6 | 31 | 36 | 2 1/2d |
| 21 | 16 | 9 | 12 | 6 | 36 | 42 | 2 1/2d |
| 24 | 16 | 10 | 13 | 6 | 41 | 48 | 2 1/2d |
| 30 | 14 | 12 | 16 | 8 | 51 | 60 | 2 1/2d |
| 36 | 14 | 14 | 19 | 9 | 60 | 72 | 2 1/2d |
| 42 | 12 | 16 | 22 | 11 | 69 | 84 | 2 1/2d |
| 48 | 12 | 18 | 27 | 12 | 78 | 90 | 2 1/2d |
| 54 | 12 | 18 | 30 | 12 | 84 | 102 | 2d |
| 60 | 12 | 18 | 33 | 12 | 87 | 114 | 1 1/2d |
| 66 | 12 | 18 | 36 | 12 | 87 | 120 | 1 1/2d |
| 72 | 12 | 18 | 39 | 12 | 87 | 126 | 1 1/3d |

C.M. ARCH PIPE

| EQUIV. DIA. | SPAN | RISE | A 1" ± | B MAX. | H 1" ± | L 1 1/2" ± | W ± 2" | S | GAUGE |
|-------------|------|------|--------|--------|--------|------------|--------|--------|-------|
| 15" | 17 | 13 | 7 | 9 | 6 | 19 | 30 | 2 1/2d | 16 |
| 18" | 21 | 15 | 7 | 10 | 6 | 23 | 36 | 2 1/2d | 16 |
| 21" | 24 | 18 | 8 | 12 | 6 | 28 | 42 | 2 1/2d | 16 |
| 24" | 28 | 20 | 9 | 14 | 6 | 32 | 48 | 2 1/2d | 16 |
| 30" | 35 | 24 | 10 | 16 | 6 | 39 | 60 | 2 1/2d | 14 |
| 36" | 42 | 29 | 12 | 18 | 8 | 46 | 75 | 2 1/2d | 14 |
| 42" | 49 | 33 | 13 | 21 | 9 | 53 | 85 | 2 1/2d | 12 |
| 48" | 57 | 38 | 18 | 26 | 12 | 63 | 90 | 2 1/2d | 12 |
| 54" | 64 | 43 | 18 | 30 | 12 | 70 | 102 | 2 1/2d | 12 |
| 60" | 71 | 47 | 18 | 33 | 12 | 77 | 114 | 2 1/2d | 12 |



MULTIPLE R.C. PIPE CULVERTS



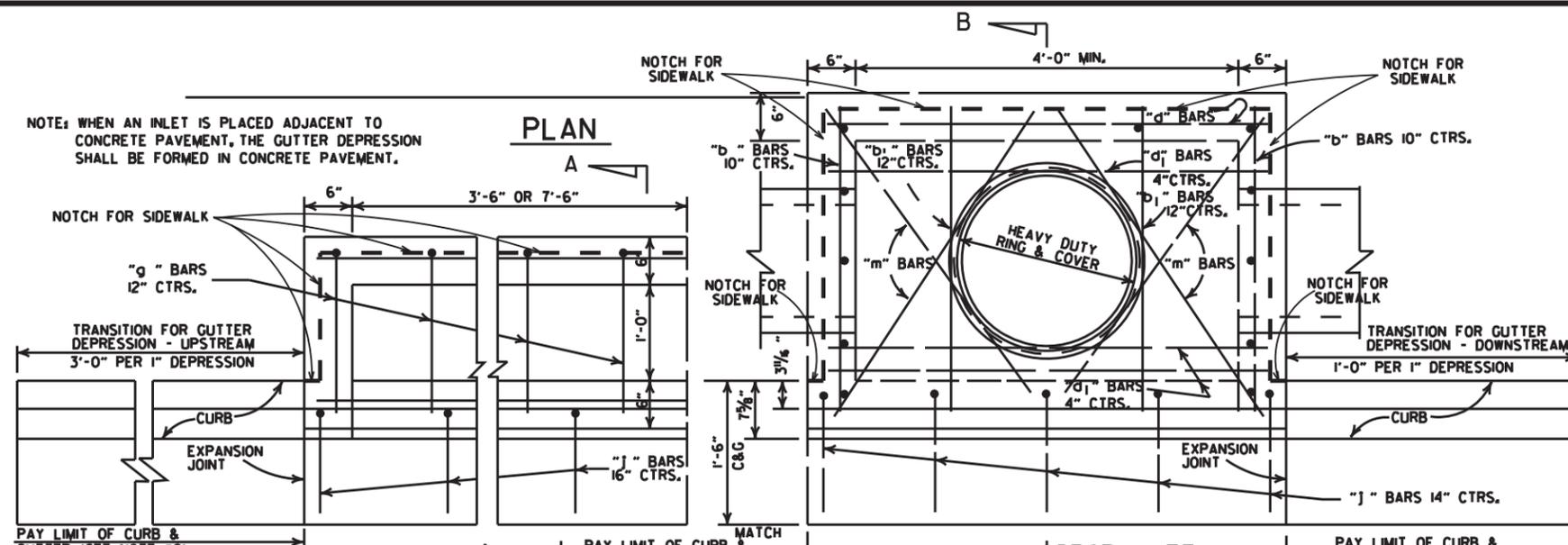
MULTIPLE C.M. PIPE CULVERTS

| | | | |
|----------|---|-------------|-----------------------------------|
| 10-18-96 | REVISED ASTM REF. TO AASHTO | | |
| 5-15-80 | REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S. | 664-5-15-80 | ARKANSAS STATE HIGHWAY COMMISSION |
| 7-14-78 | C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES | 752-7-14-78 | |
| 8-22-75 | ADDED MULTIPLE PIPE CULVERTS | 517-8-22-75 | FLARED END SECTION |
| 12-5-74 | REMOVED NOTE RE REINF. FOR R.C. F.E.S. | 500-12-5-74 | |
| 5-24-73 | CMP END SECTION, SHOW PIPE PAY LENGTH | 627-5-24-73 | |
| 10-2-72 | REVISED AND REDRAWN | 760-10-2-72 | STANDARD DRAWING FES-2 |
| DATE | REVISION | FIG. NO. | |

4'-0" LENGTH DROP INLET DROP INLET EXTENSION

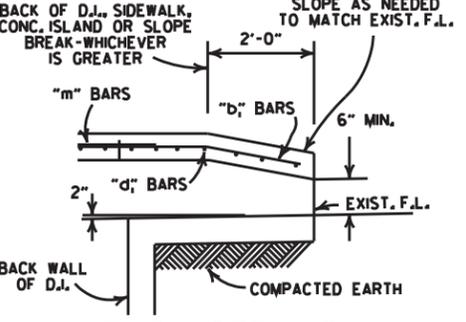
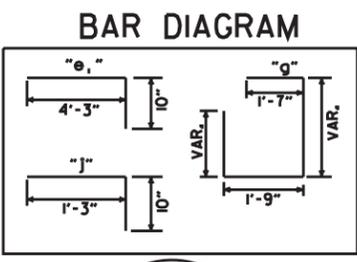
| PIPE SIZE | MIN. WIDTH | HEIGHT 5'-0" | | PLUS OR MINUS PER LIN. FT. OF HEIGHT | | 4'-0" | | 8'-0" | |
|-----------|------------|------------------------|---------------------|--------------------------------------|---------------------|---|---------------------|------------------------|---------------------|
| | | CLASS A CONC. CU. YDS. | REINF. STEEL POUNDS | CLASS A CONC. CU. YDS. | REINF. STEEL POUNDS | CLASS A CONC. CU. YDS. | REINF. STEEL POUNDS | CLASS A CONC. CU. YDS. | REINF. STEEL POUNDS |
| 18" | 2'-6" | 1.77 | 156 | 0.28 | 22 | | | | |
| 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 | | | | |
| 42" | 4'-4" | 2.95 | 250 | 0.34 | 30 | | | | |
| 48" | 4'-10" | 3.21 | 265 | 0.36 | 32 | | | | |
| | | | | | | DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED. | | | |
| | | | | | | 0.04 | 3 | | |

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



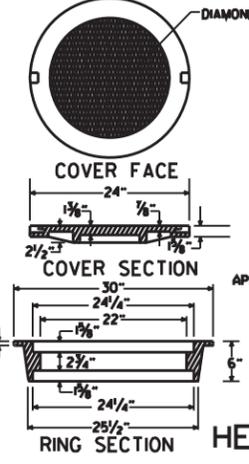
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

| INSIDE DIA. PIPE INCHES | CLASS A CONC. CU. YDS. | REINF. STEEL POUNDS |
|-------------------------|------------------------|---------------------|
| 18 | 0.05 | 2 |
| 24 | 0.09 | 3 |
| 30 | 0.13 | 4 |
| 42 | 0.24 | 8 |



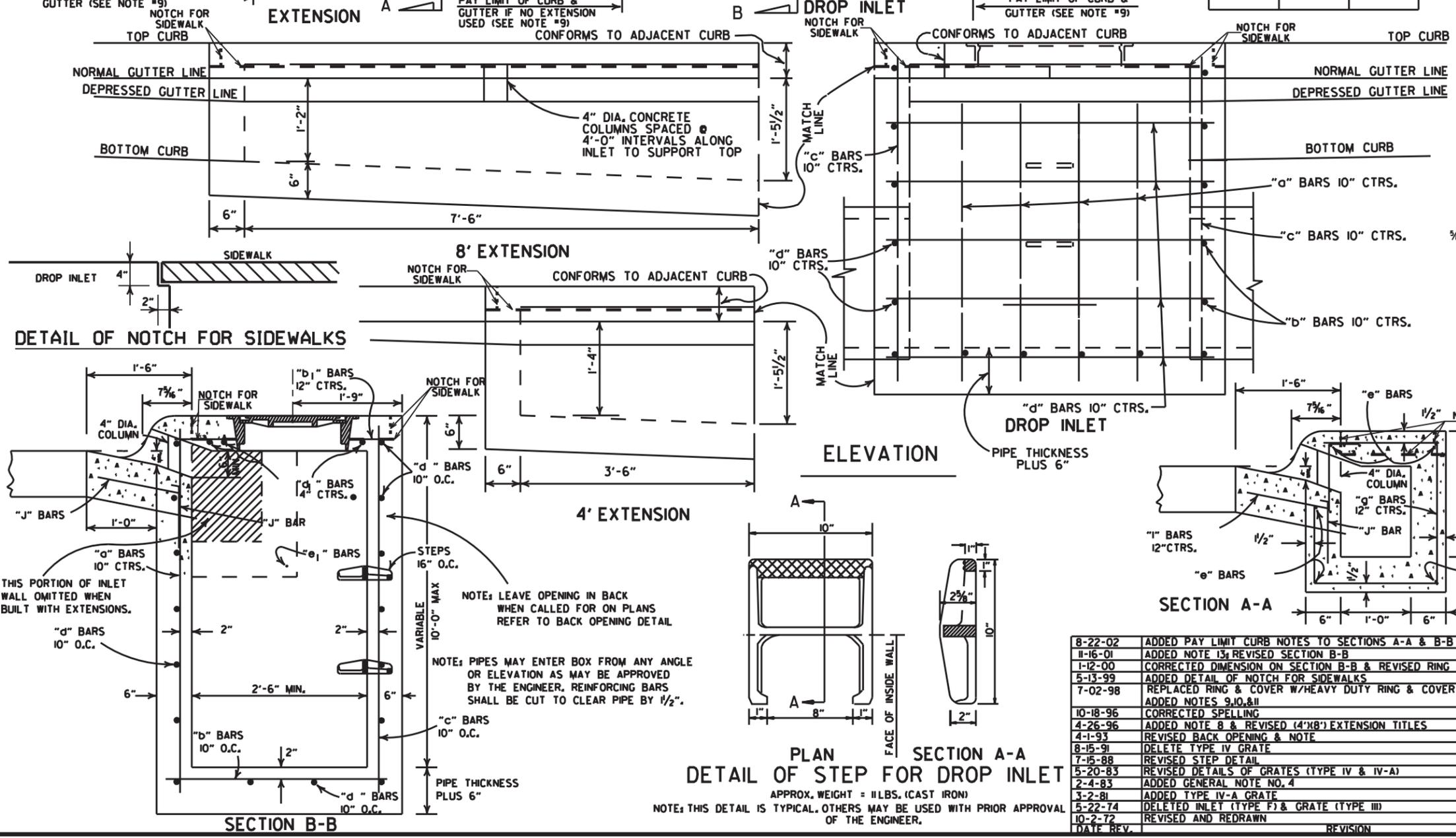
BACK OPENING

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).



HEAVY DUTY RING & COVER

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" 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 1/2" 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

PLAN SECTION A-A
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.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

| EQUIV. DIA. | SPAN | | RISE | |
|-------------|--------------|--------------|--------------|--------------|
| | AASHTO M 206 | AHTD NOMINAL | AASHTO M 206 | AHTD NOMINAL |
| INCHES | INCHES | | | |
| 15 | 18 | 18 | 11 | 11 |
| 18 | 22 | 22 | 13½ | 14 |
| 21 | 26 | 26 | 15½ | 16 |
| 24 | 28½ | 29 | 18 | 18 |
| 30 | 36¼ | 36 | 22½ | 23 |
| 36 | 43¾ | 44 | 26¾ | 27 |
| 42 | 51½ | 51 | 31¾ | 31 |
| 48 | 58½ | 59 | 36 | 36 |
| 54 | 65 | 65 | 40 | 40 |
| 60 | 73 | 73 | 45 | 45 |
| 72 | 88 | 88 | 54 | 54 |
| 84 | 102 | 102 | 62 | 62 |
| 90 | 115 | 115 | 72 | 72 |
| 96 | 122 | 122 | 77½ | 77 |
| 108 | 138 | 138 | 87½ | 87 |
| 120 | 154 | 154 | 96¾ | 97 |
| 132 | 168¾ | 169 | 106½ | 107 |

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

| EQUIV. DIA. | AASHTO M 207 | |
|-------------|--------------|------|
| | SPAN | RISE |
| INCHES | INCHES | |
| 18 | 23 | 14 |
| 24 | 30 | 19 |
| 27 | 34 | 22 |
| 30 | 38 | 24 |
| 33 | 42 | 27 |
| 36 | 45 | 29 |
| 39 | 49 | 32 |
| 42 | 53 | 34 |
| 48 | 60 | 38 |
| 54 | 68 | 43 |
| 60 | 76 | 48 |
| 66 | 83 | 53 |
| 72 | 91 | 58 |
| 78 | 98 | 63 |
| 84 | 106 | 68 |

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(ii).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

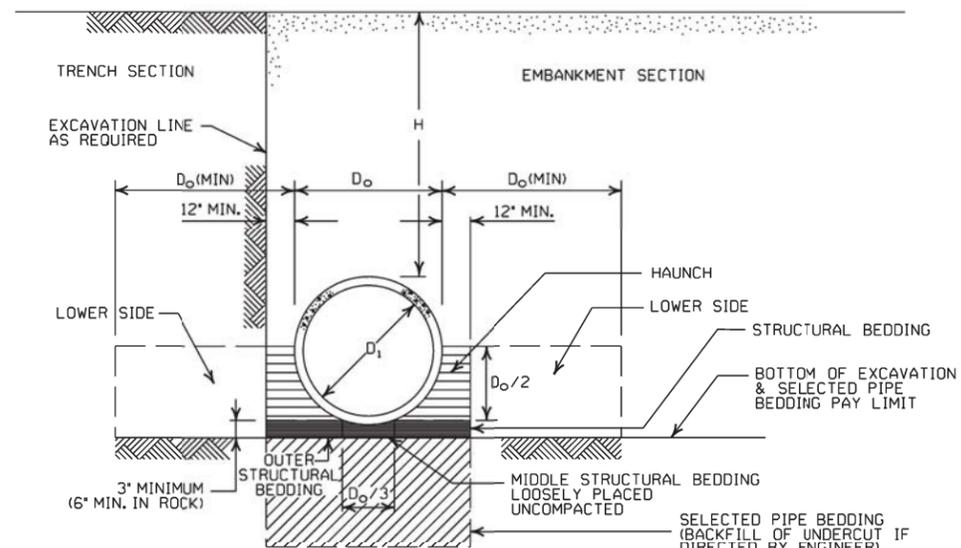
- LEGEND -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D_o = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- [Symbol] = UNDISTURBED SOIL

| INSTALLATION TYPE | MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING |
|-------------------|--|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7) |
| TYPE 2 | SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL * |
| TYPE 3 ** | AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL |

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH, IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M10, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | | | |
|-------------------|---------------|-----|----------|---------|
| | CLASS III | | CLASS IV | CLASS V |
| PIPE ID (IN.) | FEET | | | |
| 12-15 | 2 | 2.5 | 2 | 1 |
| 18-24 | 2.5 | 3 | 2 | 1 |
| 27-33 | 3 | 4 | 2 | 1 |
| 36-42 | 3.5 | 5 | 2 | 1 |
| 48 | 4.5 | 5.5 | 2 | 1 |
| 54-60 | 5 | 7 | 2 | 1 |
| 66-78 | 6 | 8 | 2 | 1 |
| 84-108 | 7.5 | 8 | 2 | 1 |

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | | |
|-------------------|---------------|----------|---------|
| | CLASS III | CLASS IV | CLASS V |
| TYPE 1 | 21 | 32 | 50 |
| TYPE 2 | 16 | 25 | 39 |
| TYPE 3 | 12 | 20 | 30 |

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|-------------------|---------------|----------|
| | CLASS III | CLASS IV |
| TYPE 2 OR TYPE 3 | FEET | |
| | 2.5 | 1.5 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|-------------------|---------------|----------|
| | CLASS III | CLASS IV |
| TYPE 2 | 13 | 21 |
| TYPE 3 | 10 | 16 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

| DATE | REVISION | DATE FILMED |
|----------|--|-------------|
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REVISED FOR LRFD DESIGN SPECIFICATIONS | |
| 5-18-00 | REVISED TYPE 3 BEDDING & ADDED NOTE | |
| 3-30-00 | REVISED INSTALLATIONS | |
| 11-06-97 | ISSUED | |

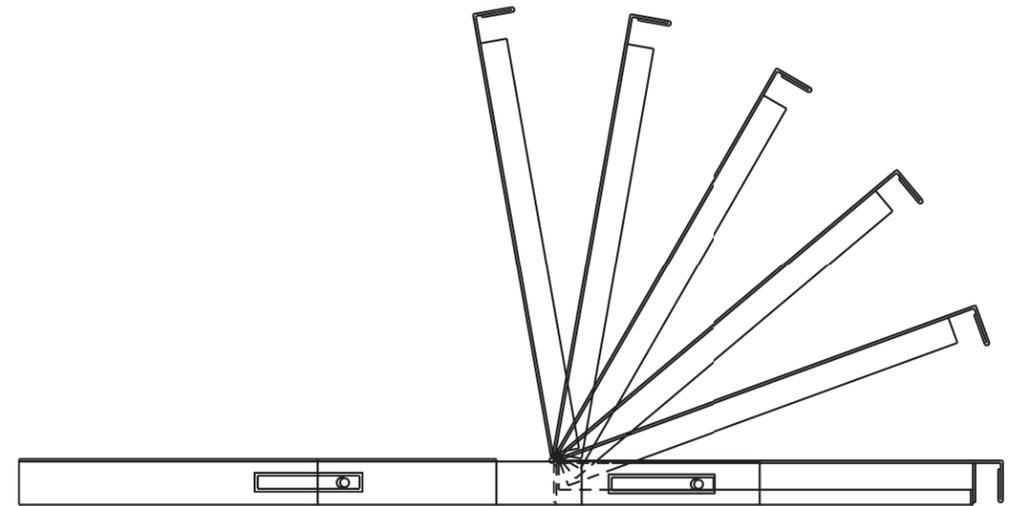
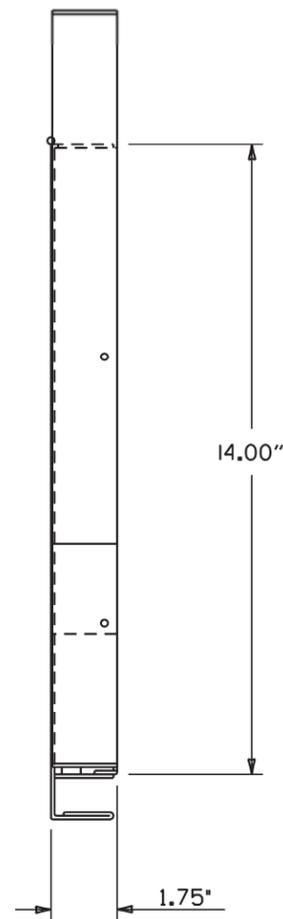
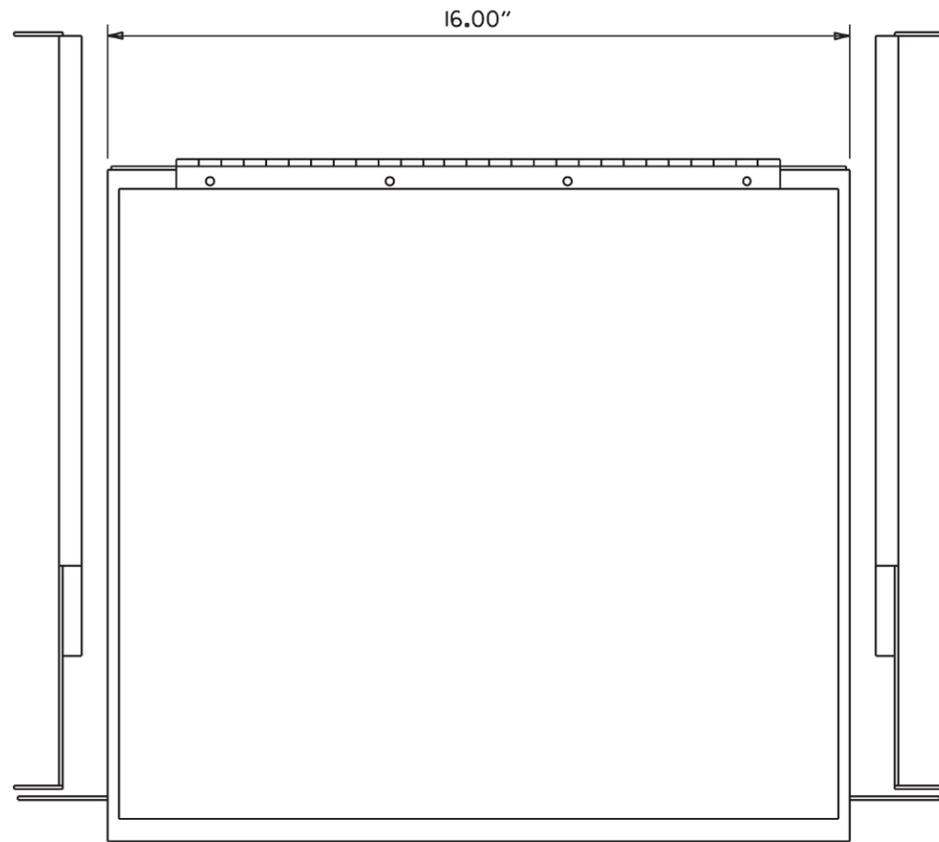
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

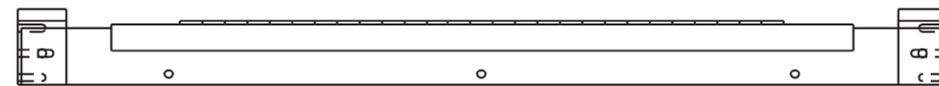
STANDARD DRAWING PCC-1



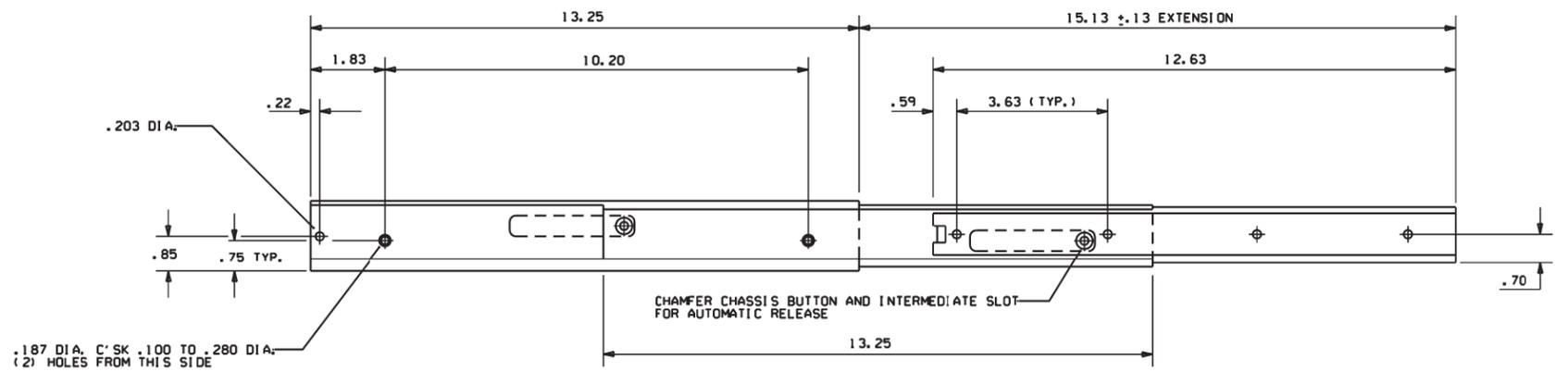
DRAWER PLAN VIEW



- NOTES:
 1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
 2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
 3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



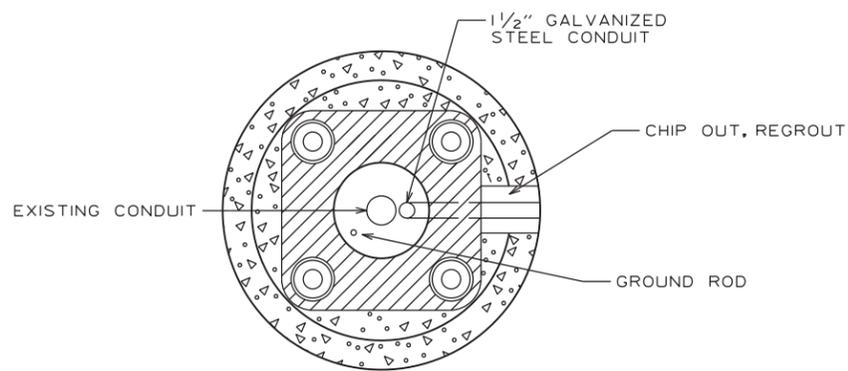
FRONT VIEW



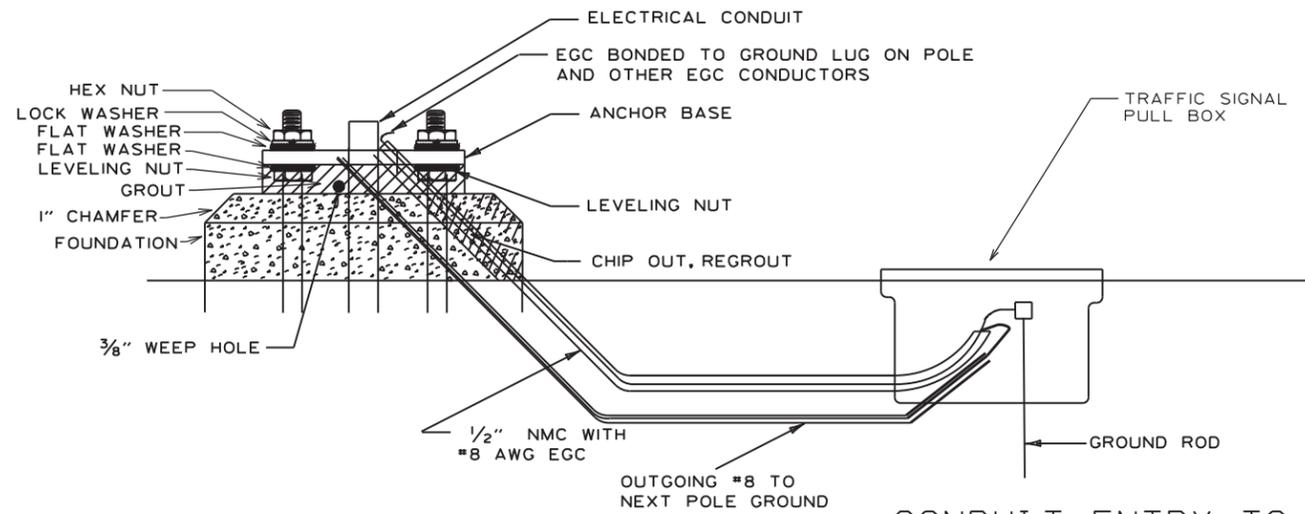
RIGHT SIDE ASSEMBLY

| | | | |
|---------|----------------------------|-----------|--|
| | | | ARKANSAS STATE HIGHWAY COMMISSION |
| | | | CONTROLLER CABINET UTILITY DRAWER |
| 9-12-13 | ISSUED AS STANDARD DRAWING | | |
| 6-15-05 | ISSUED | | |
| DATE | REVISION | DATE FILM | STANDARD DRAWING SD-5 |

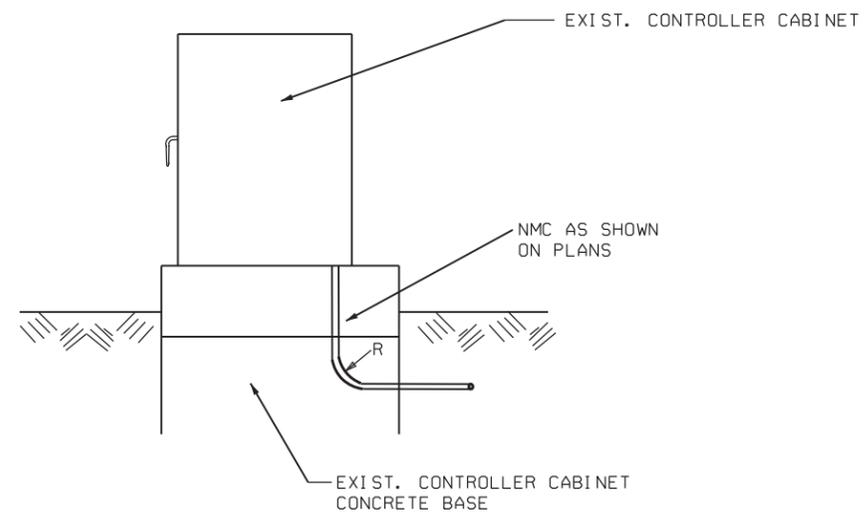
CONDUIT ENTRY TO EXISTING POLE BASE



ANCHOR BASE

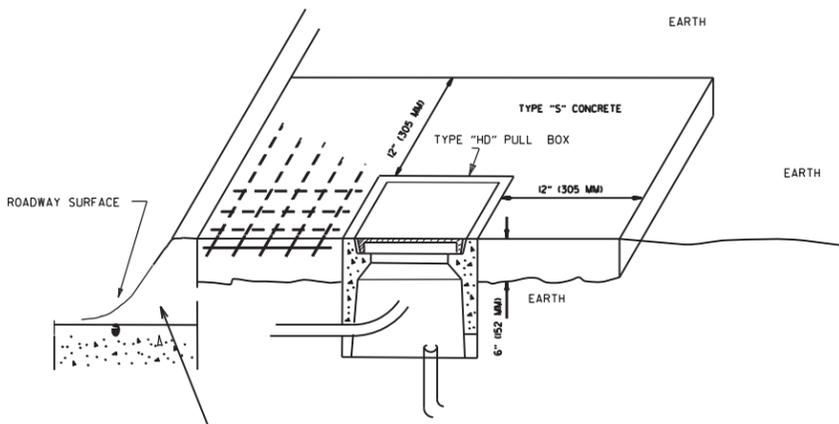


CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



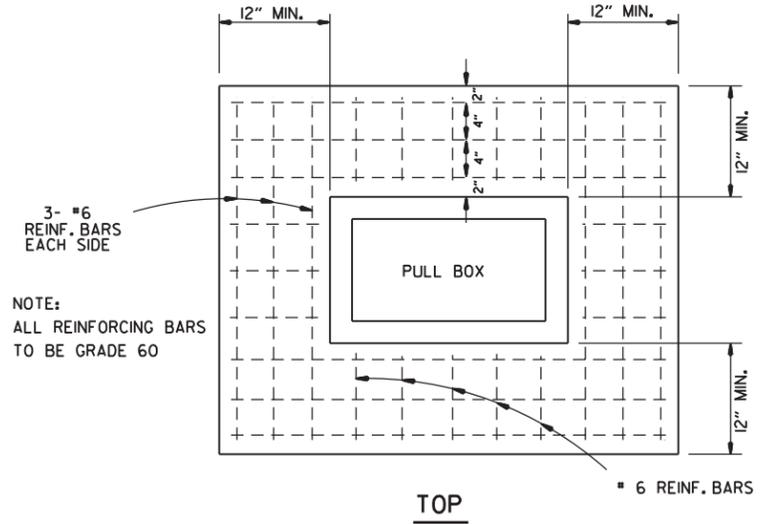
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

TYPE "HD" CONCRETE PULL BOX DETAIL

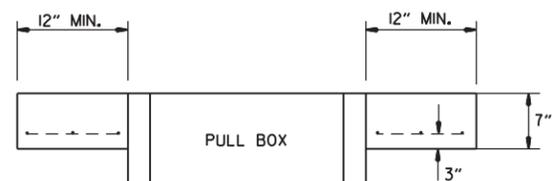


2" CLEAR FROM TOP (TOLERANCE +/- 0.5 ")

NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 7" (178 MM) IN DEPTH, ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.



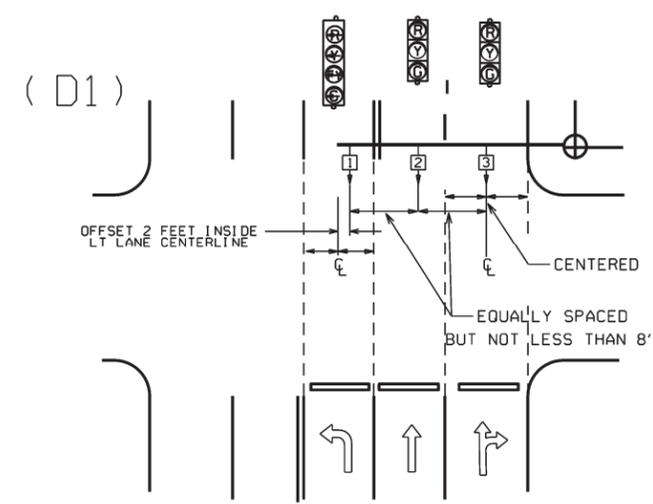
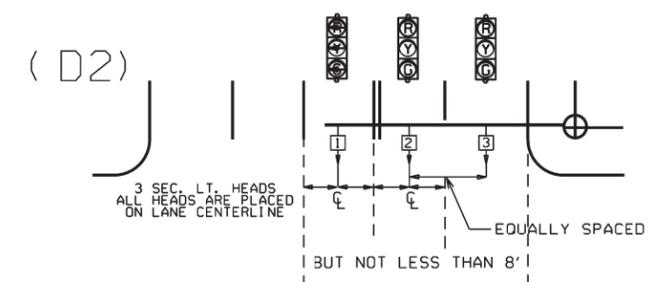
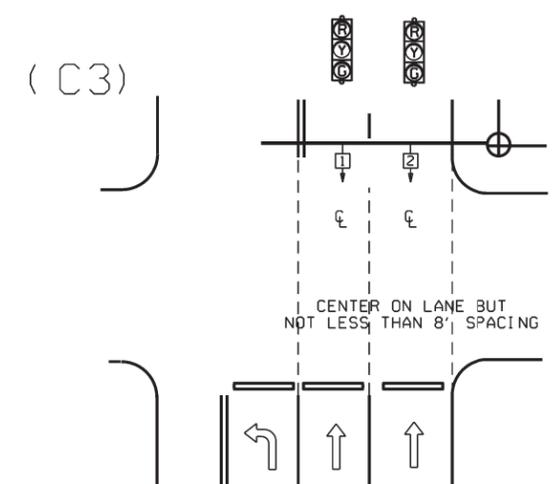
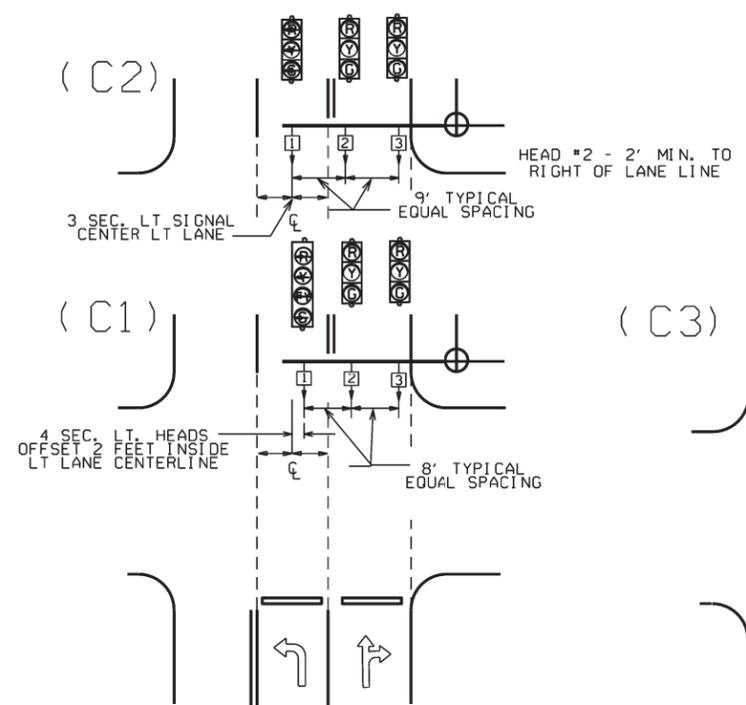
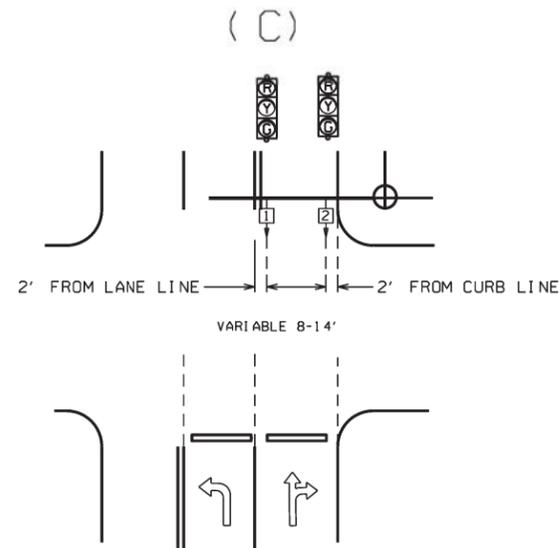
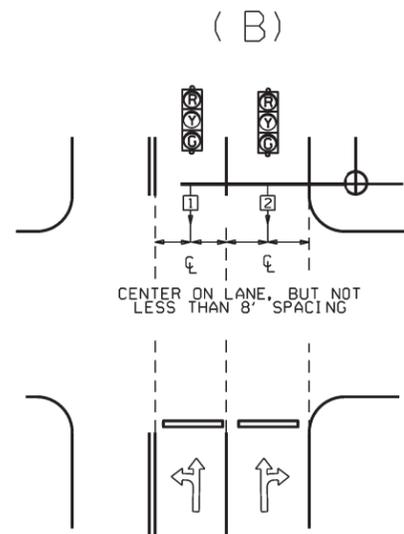
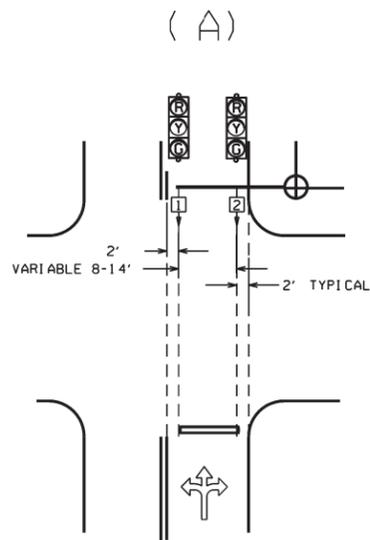
NOTE: ALL REINFORCING BARS TO BE GRADE 60



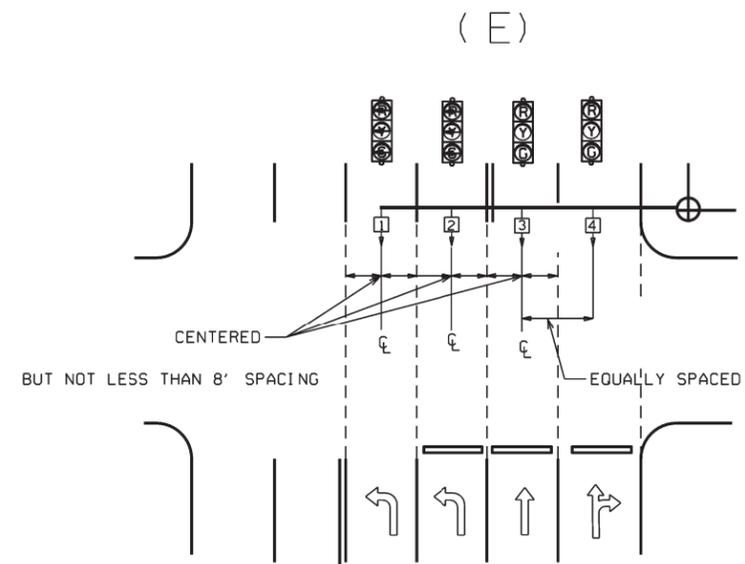
ELEVATION

| DATE | REVISION | DATE FILM |
|----------|---------------------------------|-----------|
| 9-2-15 | REVISED PULL BOX DEPTH | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | ADDED & REVISED CONDUIT ENTRY | |
| 6-23-04 | REVISED CLEARANCE AT CURB ENTRY | |
| 1-4-02 | ADDED REINFORCING TO BOX APRON | |
| 7-2-01 | REVISED | |
| 12-27-99 | REVISED NOTES | |
| 11-18-98 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION
HEAVY DUTY PULL BOX
STANDARD DRAWING SD-6



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.



GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.
4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.
6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

℄ = CENTER OF LANE FROM APPROACH SIDE

| | | | |
|---------|----------------------------|-----------|-----------------------------------|
| | | | ARKANSAS STATE HIGHWAY COMMISSION |
| 9-12-13 | ISSUED AS STANDARD DRAWING | | SIGNAL HEAD PLACEMENT |
| 3-11-10 | 2009 MUTCD | | |
| 12-9-99 | ISSUED | | STANDARD DRAWING SD-8 |
| DATE | REVISION | DATE FILM | |

NOTES, PED AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM 'TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)' SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12' TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM 'TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)' TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12' TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSH-BUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS: DESIGN SPECIFICATIONS, AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL * 2' X 0' X 2' * 6"; 20 LB. REMAINING HEADS SPACED A 8 FT. * 3 SEC., 56 LB., TWO (5 SEC.): 14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING 2 HEADS FOR ARMS 10 TO 16 FT., 2 HEADS FOR ARMS 10 TO 16 FT., INCLUDING LB., 3 HEADS FOR 18 TO 24 FT. ARMS, 4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) * VARIABLE ARM LENGTH (MAX.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

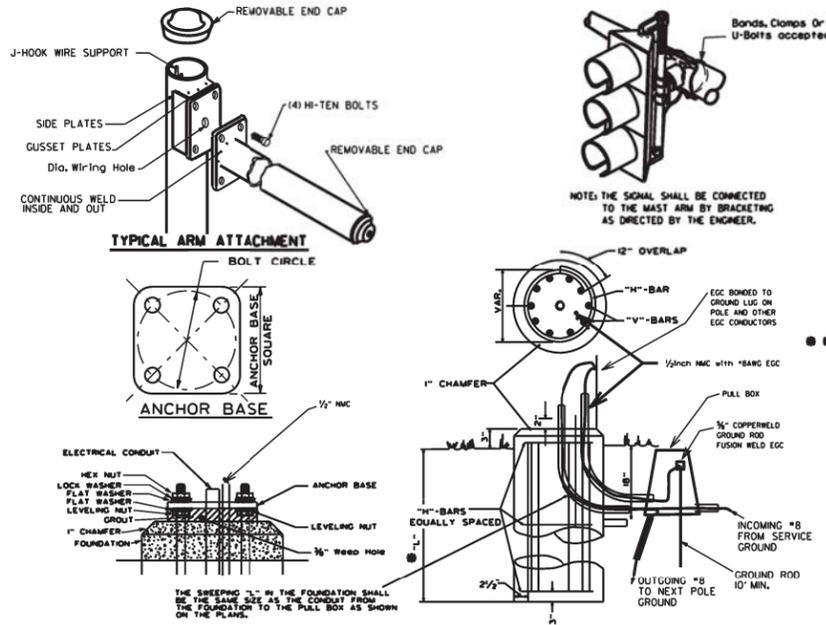
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.

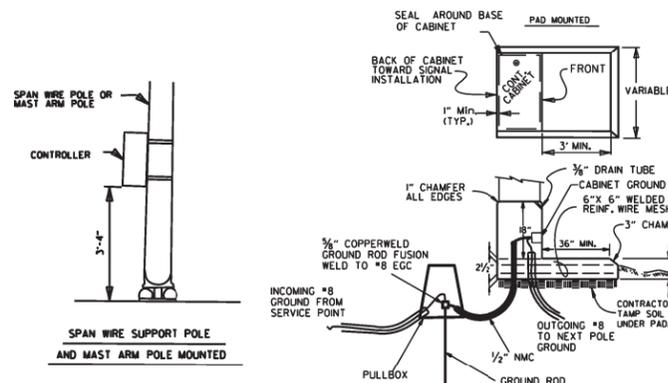


THE GROUND ROD SHALL BE FUSION WELDED TO A 1/2" X 8 A.W.G. SOLID COPPER GROUND WIRE ATTACHED TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

| ARM LENGTH | FDN. DIAMETER | DEPTH 'L' | STEEL | | |
|-----------------------|---------------|-----------|----------------|-------|-------|
| | | | VERT. | HORZ. | O/C. |
| PED | 30" | 7'-0" | 12-#7 (6'-6") | 10-#4 | 8.44' |
| 2' to 12' | 30" | 10'-6" | 12-#7 (10'-0") | 15-#4 | 8.42' |
| over 12' to 20' | 30" | 11'-6" | 12-#7 (11'-0") | 16-#4 | 8.66' |
| over 20' to 35' | 36" | 12'-6" | 13-#8 (12'-0") | 17-#4 | 8.88' |
| over 35' to 50' | 36" | 13'-6" | 13-#8 (13'-0") | 19-#4 | 8.56' |
| over 50' to 72' | 42" | 14'-6" | 18-#8 (14'-0") | 20-#4 | 8.74' |
| Twins to 20' | 30" | 16'-0" | 12-#6 (15'-6") | 22-#4 | 8.76' |
| Twins over 20' to 44' | 36" | 16'-0" | 13-#8 (15'-6") | 22-#4 | 8.76' |
| Twins over 44' to 50' | 42" | 16'-0" | 18-#8 (15'-6") | 22-#4 | 8.76' |
| Twins over 50' to 72' | 42" | 16'-6" | 18-#8 (16'-0") | 23-#4 | 8.64' |



CONTROLLER CABINET MOUNTING DETAILS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX. NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS 'S' OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS 'S' OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

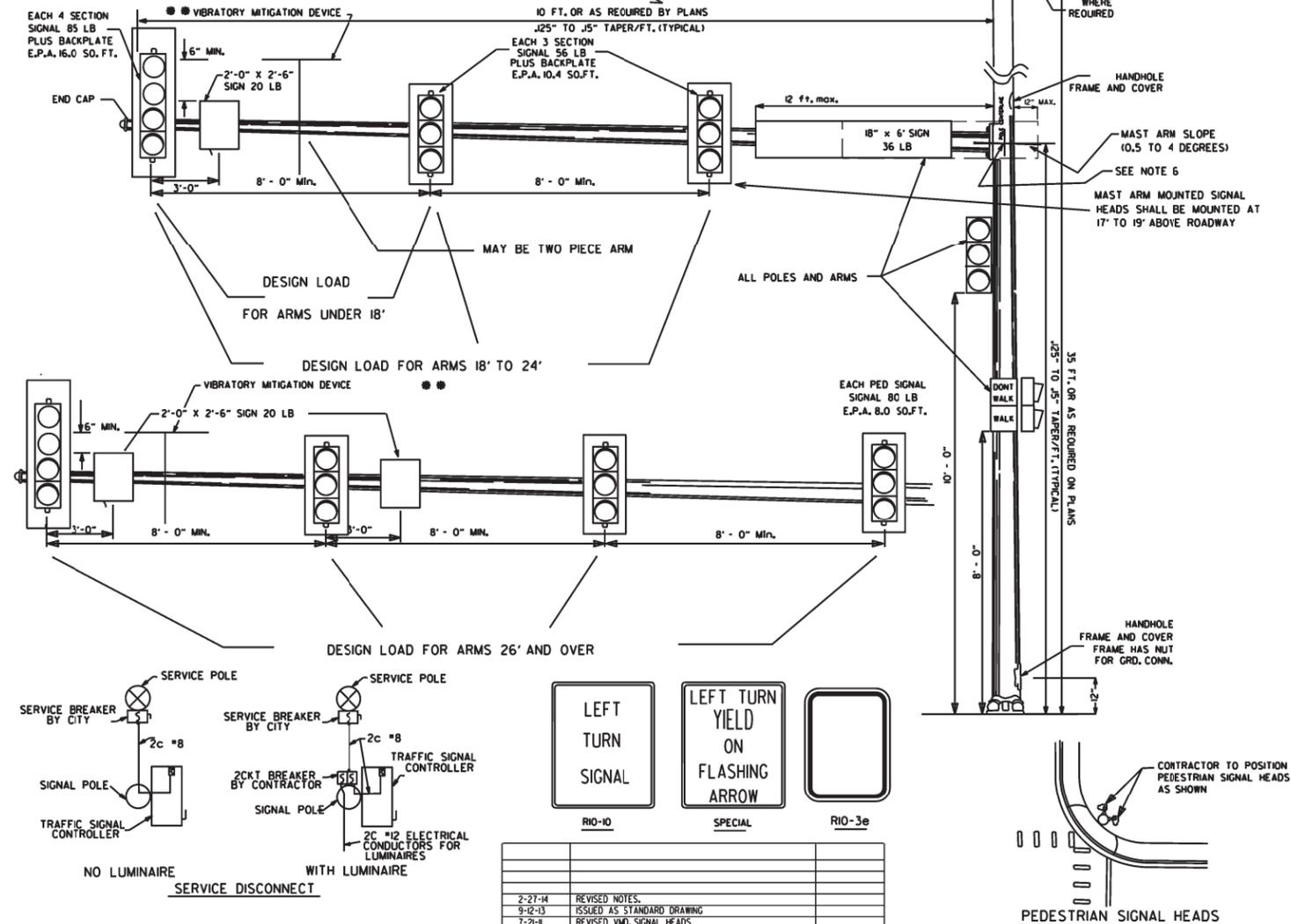
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3, MINIMUM STRUCTURAL REQUIREMENTS.

WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.25" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

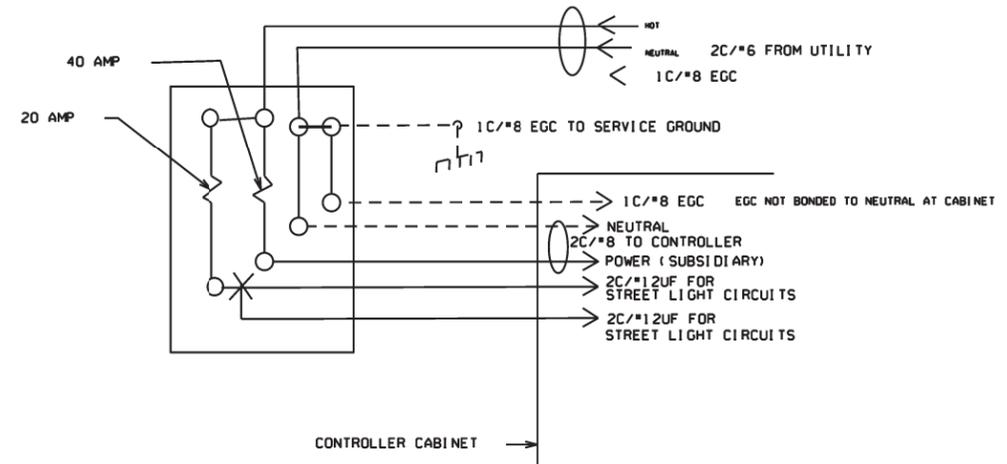
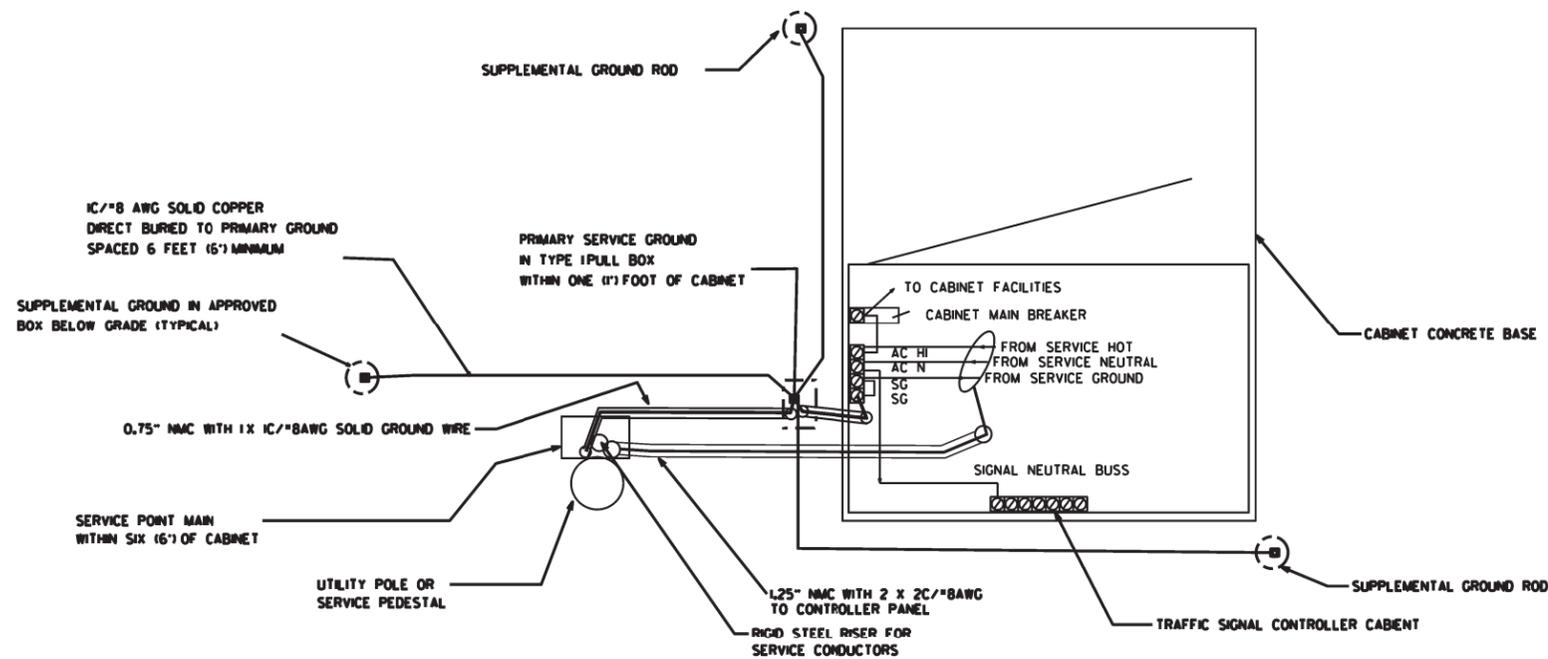


| DATE | REVISION | DATE | FILM |
|----------|---|------|------|
| 2-27-14 | REVISED NOTES | | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | | |
| 7-21-11 | REVISED VMD, SIGNAL HEADS | | |
| 5-21-09 | REVISED GROUNDING | | |
| 7-31-08 | REVISED GROUNDING | | |
| 4-25-08 | ADDED VIBRATORY MITIGATION DEVICE & NOTES | | |
| 4-18-08 | REVISED AASHTO NOTES | | |
| 4-17-08 | REVISED TO 2007 AASHTO STANDARDS | | |
| 10-12-04 | REVISED CABINET ORIENTATION | | |
| 6-23-04 | REVISED | | |
| 5-11-04 | REV. NOTE 7/AASHTO REQUIREMENTS | | |
| 6-11-01 | REV. NOTES & POLE MAST ARM SLOPE | | |
| 4-11-01 | REVISED POLE TAPERS | | |
| 4-25-00 | REV. NOTES & SIGNAL HEAD PLACEMENT | | |
| 8-22-99 | REVISED FOUNDATION DETAILS | | |
| 8-17-98 | REVISED DETAILS AND NOTES | | |
| 1-20-92 | ISSUED | | |

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11



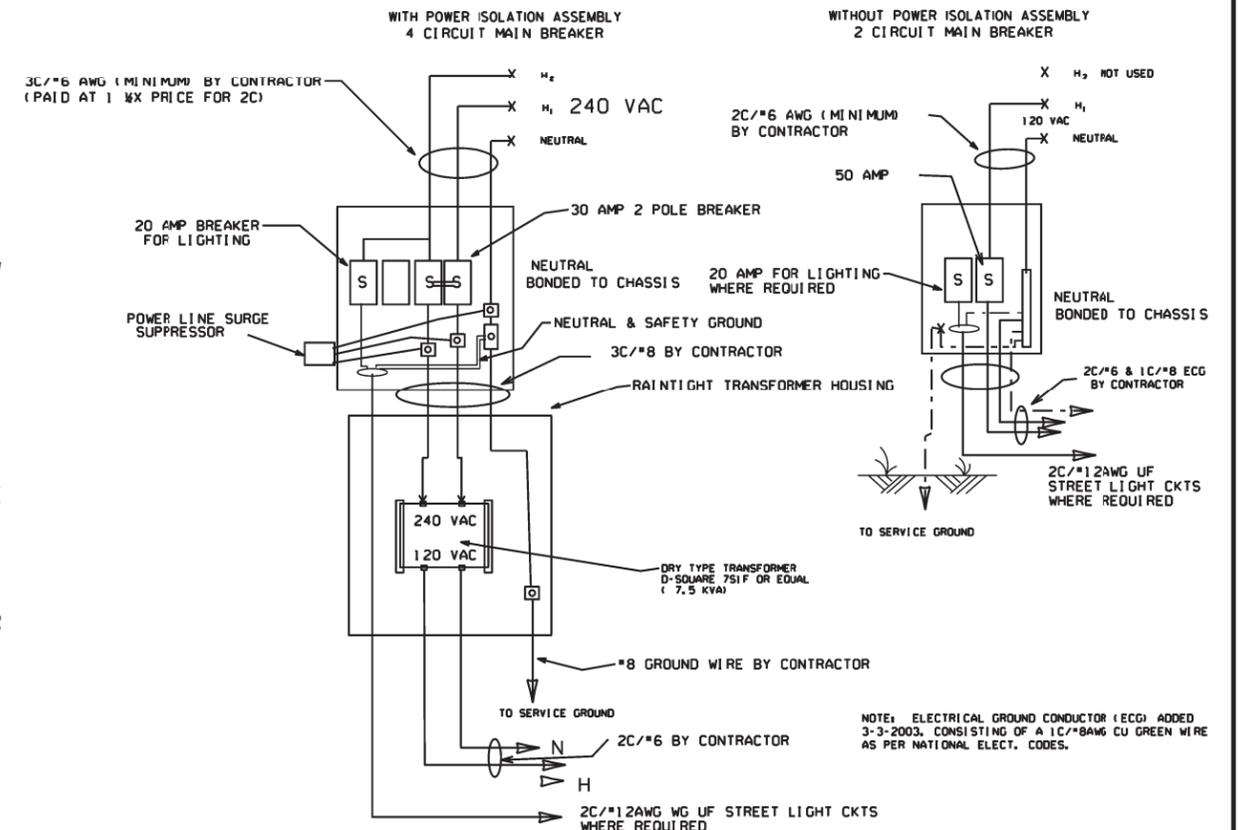
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

1. LOCATION OF SERVICE: TO MEET THE REQUIREMENTS FOR SAFETY AND MAXIMIZE LIGHTNING PROTECTION, THE "SERVICE POINT MAIN" FROM THE UTILITY PRIMARY SERVICE POINT MUST BE WITHIN SIX (6') FEET OF THE TRAFFIC SIGNAL CONTROLLER CABINET. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE OR PEDISTAL WITH EXTERNAL RAIN TIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

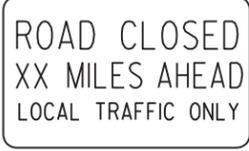
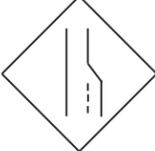
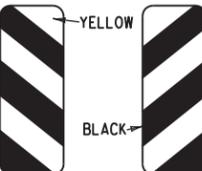
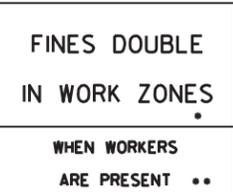
2. METER LOOP: ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

3. SUPPLEMENTAL GROUND RODS: SUPPLEMENTAL GROUND RODS ARE FUSION WELDED TO 1 C/#8AWG. SOLID COPPER GROUND WIRE. ATTACHMENT TO PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. RODS ARE LOCATED IN A BOX APPROVED BY THE ENGINEER MEETING THE SAME LOADING REQUIREMENTS AS SECTION 711 CONCRETE PULL BOX OF THE STANDARD SPECIFICATION, WITH THE EXCEPTION TO DIMENSIONS. BOX MAY BE EITHER ROUND OR SQUARE APPROXIMATELY SIX (6") INCHES MINIMUM INSIDE DIMENSIONS AND SIX (6") INCHES DEPTH. (STRONGWELL PC0608BA06 WITH PC0608CA00 LID OR EQUAL)



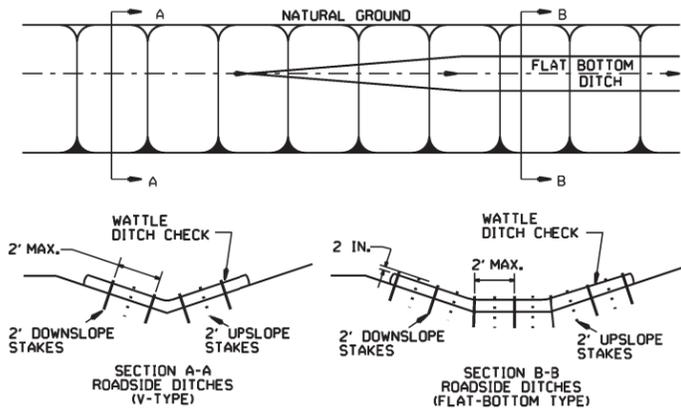
NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

| | | | |
|---------|----------------------------|------|--|
| | | | ARKANSAS STATE HIGHWAY COMMISSION |
| | | | SERVICE POINT INSTALLATION WITH SUPPLEMENTAL GROUNDING ARRAY |
| 9-12-13 | ISSUED AS STANDARD DRAWING | | |
| 1-17-08 | ISSUED | | |
| DATE | REVISION | DATE | FILM |
| | | | STANDARD DRAWING SD-12 |

| | | | | | | | |
|--|---|---|---|--|---|---|--|
| <p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p> | <p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p> | <p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p> | <p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p> | <p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>ADVANCE DISTANCES (XXXX)</p> <p>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</p> <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> 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. 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. 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. 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. 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. 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. 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. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 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. 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. <p>• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</p> |
| <p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>R11-2</p>  <p>48"x30"</p> | <p>R11-3A</p>  <p>60"x30"</p> | <p>R11-4</p>  <p>60"x30"</p> | <p>RSP-1</p>  <p>48"x30"</p> | <p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | |
| <p>WI-3</p>  <p>STD. 48"x48"</p> | <p>WI-4</p>  <p>STD. 48"x48"</p> | <p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p> | <p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p> | <p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | |
| <p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p> | <p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W13-1</p>  <p>STD. 24"x24"</p> | <p>W20-1</p>  <p>STD. 48"x48"</p> | <p>W20-2</p>  <p>STD. 48"x48"</p> | <p>W20-3</p>  <p>STD. 48"x48"</p> |
| <p>W20-4</p>  <p>STD. 48"x48"</p> | <p>W20-5</p>  <p>STD. 48"x48"</p> | <p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W24-1</p>  <p>STD. 36"x36"</p> | <p>WI-4b</p>  <p>STD. 48"x48"</p> | <p>R56-1</p>  <p>STD. 18"x18"</p> |
| <p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>G20-1</p>  <p>60"x24"</p> | <p>G20-2</p>  <p>48"x24"</p> | <p>OM-3L OM-3R</p>  <p>12"x36"</p> | <p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p> | <p>M4-10</p>  <p>48"x18"</p> | <p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p> |

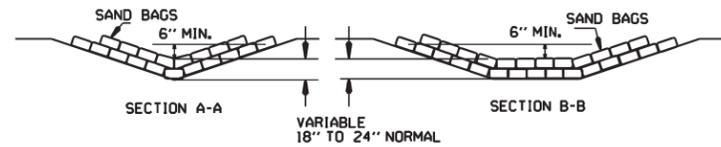
| | | |
|----------|---|--------|
| 9-2-15 | REVISED REDUCED SPEED LIMIT AHEAD SIGNS | |
| | REVISED ROAD WORK NEXT XX MILES | |
| 12-15-11 | REVISED W24-1 | |
| 11-17-10 | DELETED W8-9g & ADDED W8-9 | |
| 10-15-09 | ADDED REFERENCE TO MASH & ADDED SIGN W24-1 | |
| 4-17-08 | REVISED SIGN DESIGNATIONS | |
| 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 | |
| DATE | REVISION | FILMED |

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

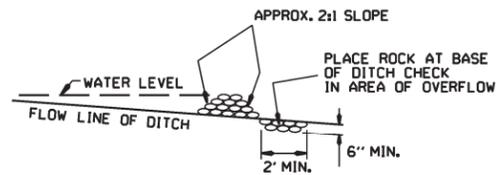


WATTLE DITCH CHECK (E-1)

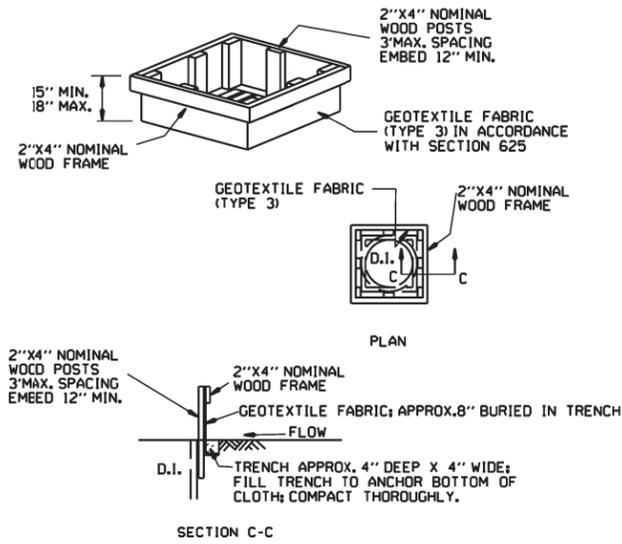
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



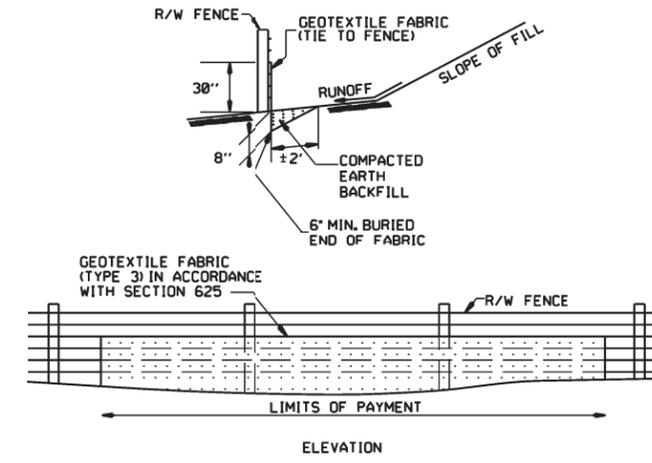
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)

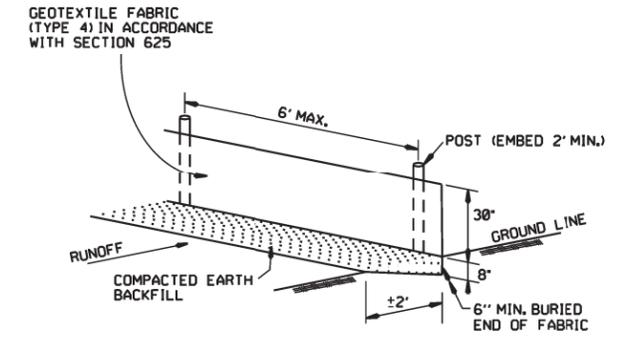


DROP INLET SILT FENCE (E-7)



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

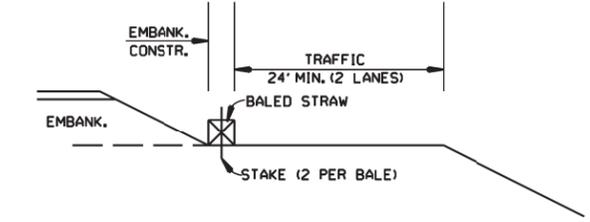
GENERAL NOTES
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



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.

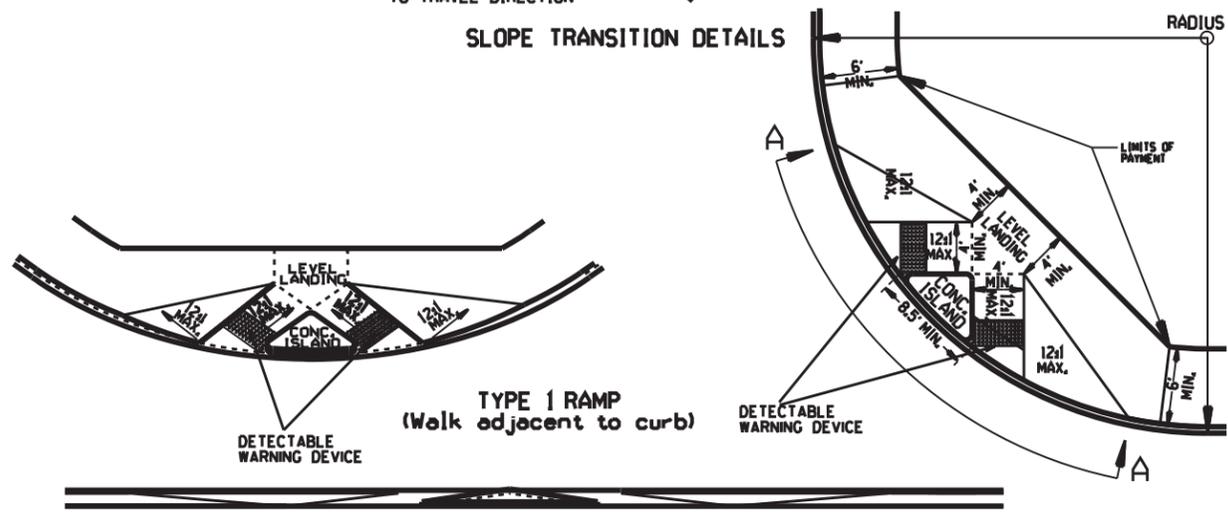
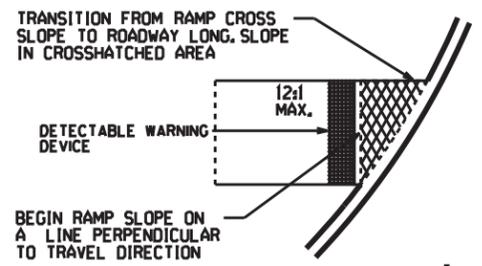
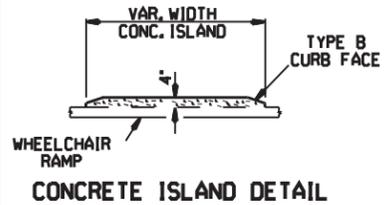
GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL 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)

| | | |
|---------|--|-------------|
| 2-15-11 | DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK | |
| 1-18-98 | 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 | |
| 0-1-92 | REDRAWN | |
| 8-2-76 | ISSUED R.D.M. | 298-7-28-76 |
| DATE | REVISION | FILMED |

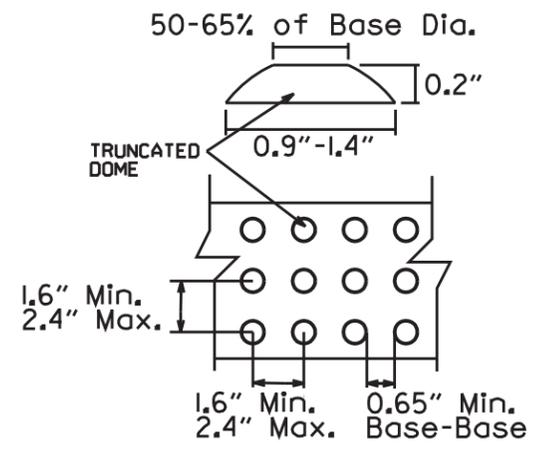
ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES
STANDARD DRAWING TEC-1



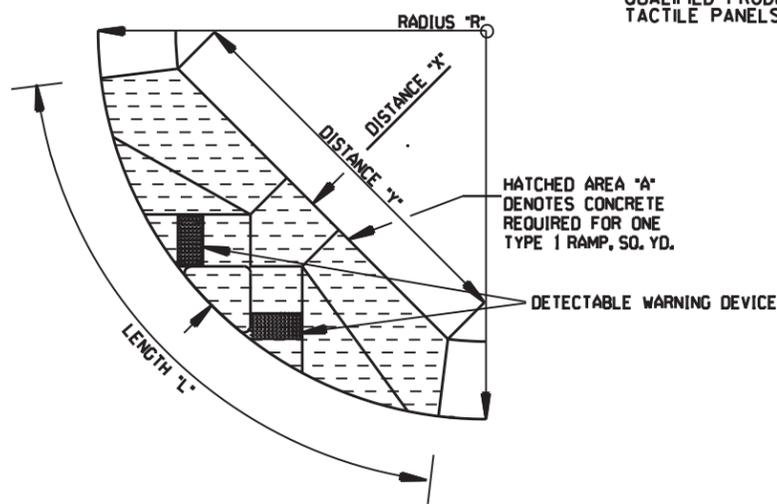
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

| RADIUS "R" FEET | DISTANCE "X" FEET | DISTANCE "Y" FEET | LENGTH "L" FEET | RAMP AREA "A" 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 |

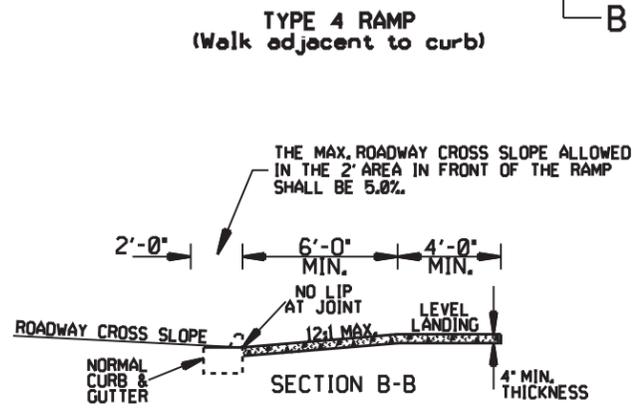
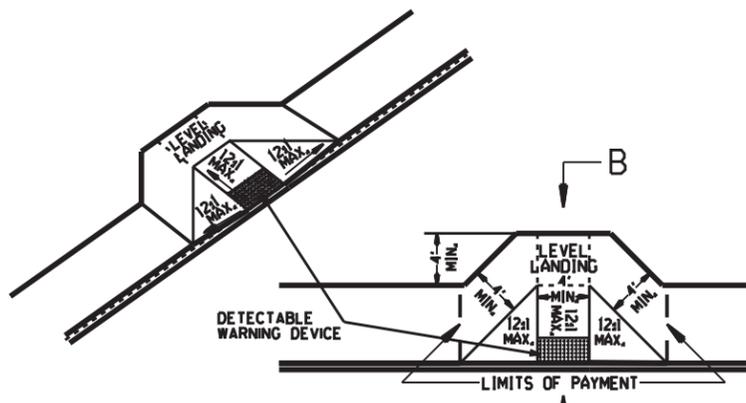
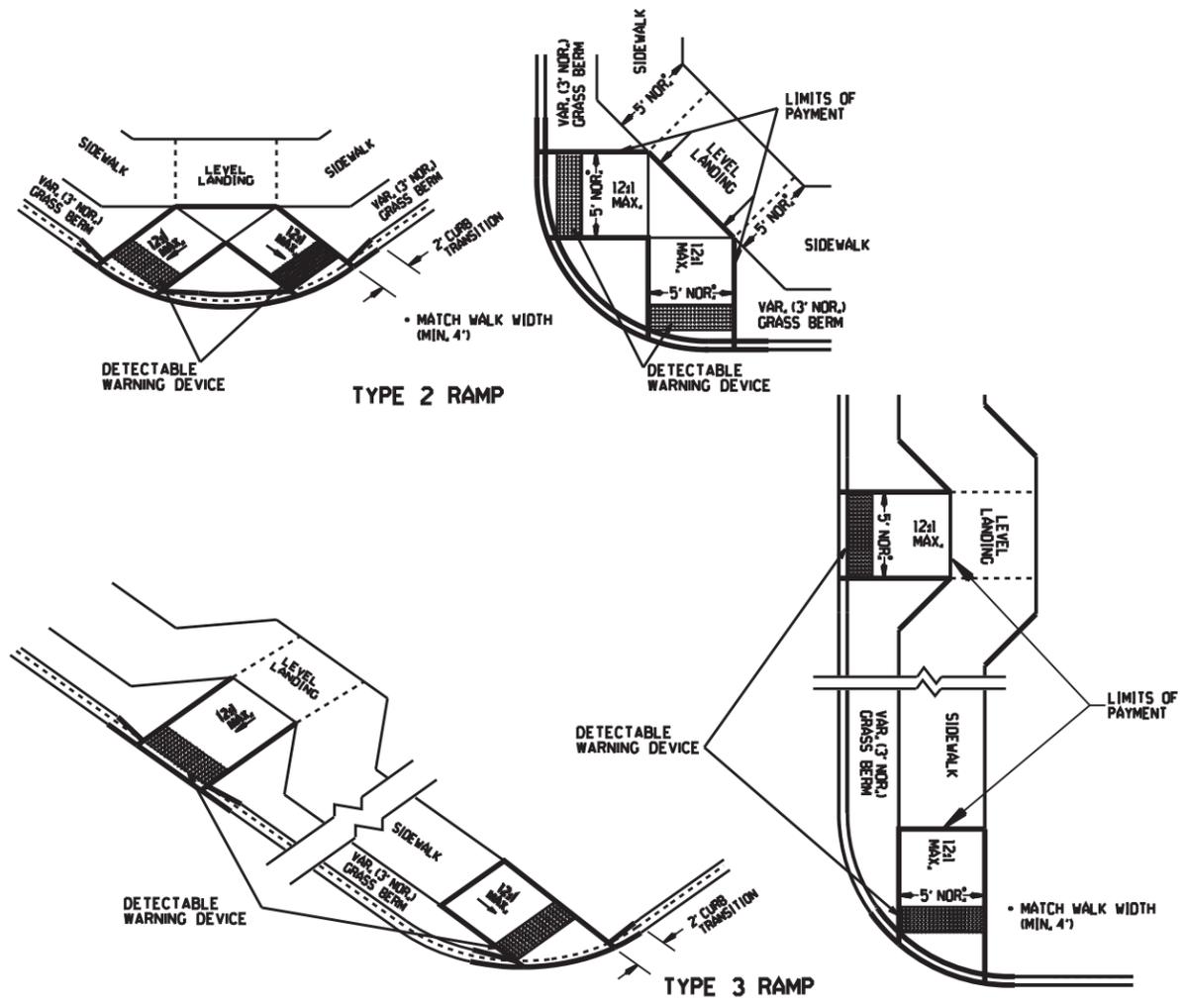
GENERAL NOTES FOR DETECTABLE WARNING DEVICES
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB. TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN. DOMES SHALL 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



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:
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

| CHOICE | TYPE | DESCRIPTION |
|---------------|--------|---|
| 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 FILED |
|----------|------------------------------------|-------------|
| 8-10-05 | 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. | |
| 8-18-98 | 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 | INCL. "CONC. ISL." 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