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|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 1 | 72 |

(2) HWY. 18/MAIN ST./HIGHLAND DR. INTERS. IMPVTS. (JONESBORO) (S)

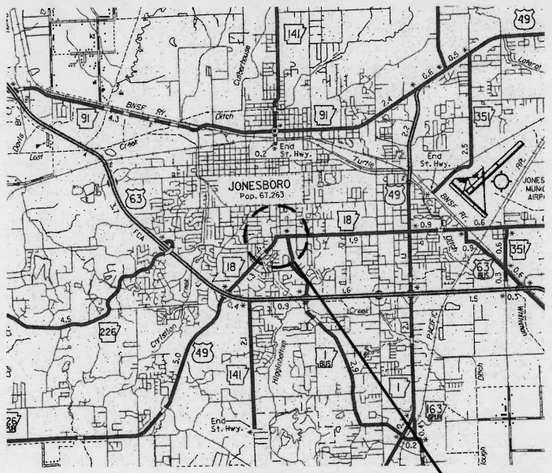
ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

# HWY. 18/MAIN ST./HIGHLAND DR. INTERS. IMPVTS. (JONESBORO) (S)

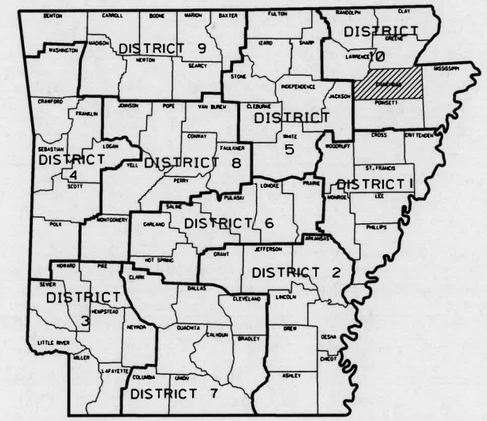
CRAIGHEAD COUNTY
ROUTE 18 SECTION 4
F.A.P. ACSTPC-9227(55)

## JOB 100872

NOT TO SCALE




VICINITY MAP




ARKANSAS HIGHWAY DISTRICT 10

DESIGN TRAFFIC DATA

| | |
|---|---|
| DESIGN YEAR | 2040 |
| 2020 ADT | 24,738 |
| 2040 ADT | 32,826 |
| 2040 DHV | 3,611 |
| DIRECTIONAL DISTRIBUTION | 60% |
| TRUCKS | 1% |
| DESIGN SPEED | 40 MPH |

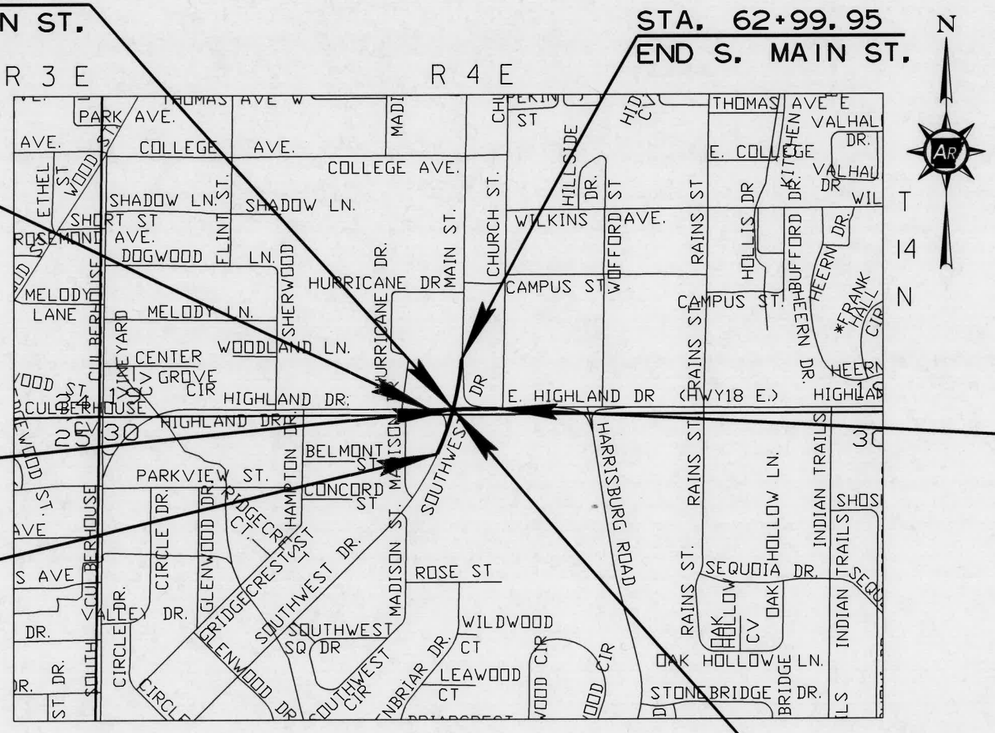
STA. 59+62.47
BEGIN S. MAIN ST.

STA. 62+99.95
END S. MAIN ST.

STA. 12+28.51
BEGIN W. HIGHLAND DR.

STA. 13+80.11
END W. HIGHLAND DR.

HWY. 18 STA. 56+49.35
BEGIN JOB 100872
LOG MILE = 1.026




HWY. 18 STA. 23+00.00
END JOB 100872
LOG MILE 1.142

STA. 59+62.47
END HWY. 18
STA. 20+00.00
BEGIN HWY. 18
LOG MILE = 1.085

| | BEGIN | MID-POINT | END |
|---|---|---|---|
| LATITUDE | N35°49' 14" | N35°49' 17" | N35°49' 17" |
| LONGITUDE | W90°42' 22" | W90°42' 21" | W90°42' 17" |

| | | | |
|---|---|---|---|
| GROSS LENGTH OF PROJECT | 613.12 | FEET OR 0.116 | MILES |
| NET LENGTH OF ROADWAY | 613.12 | FEET OR 0.116 | MILES |
| NET LENGTH OF BRIDGES | 000.00 | FEET OR 0.000 | MILES |
| NET LENGTH OF PROJECT | 613.12 | FEET OR 0.116 | MILES |

STATE OF ARKANSAS
LICENSED
PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

CERTIFICATE OF AUTHORIZATION
FISHER & ARNOLD INC.
No. 248
ARKANSAS

5/27/2020
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|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 2 | 72 |
| | | | | (2) | INDEX OF SHEETS & STANDARD DRAWINGS | | | |

# INDEX OF SHEETS


| SHEET NO. | | TITLE |
|---|---|---|
| 1 | | TITLE SHEET |
| 2 | | INDEX OF SHEETS AND STANDARD DRAWINGS |
| 3 | | GOVERNING SPECIFICATIONS AND GENERAL NOTES |
| 4 | 7 | TYPICAL SECTIONS OF IMPROVEMENT |
| 8 | 13 | SPECIAL DETAILS |
| 14 | 16 | TEMPORARY EROSION CONTROL DETAILS |
| 17 | 23 | MAINTENANCE OF TRAFFIC DETAILS |
| 24 | 25 | PERMANENT PAVEMENT MARKING DETAILS |
| 26 | 30 | QUANTITIES |
| 31 | 32 | SUMMARY OF QUANTITIES AND REVISIONS |
| 33 | | SURVEY CONTROL DETAILS |
| 34 | 37 | PLAN AND PROFILE SHEETS |
| 38 | | SUMMARY OF SIGNALIZATION QUANTITIES |
| 39 | | TRAFFIC SIGNAL NOTES |
| 40 | | TRAFFIC SIGNAL QUANTITIES |
| 41 | | SYSTEM MAP |
| 42 | 57 | SIGNALIZATION PLAN SHEETS |
| 58 | 72 | CROSS SECTIONS |


NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

STATE OF ARKANSAS
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RICHARD E. GAFFORD
05/27/2020

## ROADWAY STANDARD DRAWINGS

| DRWG.NO. | TITLE | DATE |
|---|---|---|
| CG-1 | CURBING DETAILS | 11-29-07 |
| DR-1 | DETAILS OF DRIVEWAYS & ISLANDS | 11-07-19 |
| FPC-9 | DETAILS OF DROP INLETS & JUNCTION BOXES | 11-16-01 |
| FPC-9E | DETAILS OF DROP INLETS (TYPE C) | 08-22-02 |
| FPC-9M | DETAILS OF DROP INLET (TYPE MO) | 08-22-02 |
| FPC-9S | DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST) | 07-26-12 |
| PCC-1 | CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING | 02-27-14 |
| PCM-1 | METAL PIPE CULVERT FILL HEIGHTS & BEDDING | 02-27-14 |
| PM-1 | PAVEMENT MARKING DETAILS | 02-27-20 |
| PU-1 | DETAILS OF PIPE UNDERDRAIN | 12-08-16 |
| SD-5 | CONTROLLER CABINET UTILITY DRAWER | 09-12-13 |
| SD-6 | HEAVY DUTY PULL BOX | 11-16-17 |
| SD-7 | SPAN WIRE ASSEMBLY WOOD POLE | 11-16-17 |
| SD-8 | SIGNAL HEAD PLACEMENT | 12-08-16 |
| SD-9 | SERVICE POINT | 11-07-19 |
| SD-11 | STEEL POLE WITH MAST ARM | 11-16-17 |
| SE-2 | TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC | 11-07-19 |
| TC-1 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 11-07-19 |
| TC-2 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 11-07-19 |
| TC-3 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | 02-27-20 |
| TC-4 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | 11-07-19 |
| TC-5 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER | 11-07-19 |
| TEC-1 | TEMPORARY EROSION CONTROL DEVICES | 11-16-17 |
| WR-1 | WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS | 11-10-05 |

INDEX OF SHEETS & STANDARD DRAWINGS

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 3 | 72 |
| | | | | (2) | GOVERNING SPECIFICATIONS & GENERAL NOTES | | | |

# GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL 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 |
| 100-3_____ | CONTRACTOR'S LICENSE |
| 100-4_____ | DEPARTMENT NAME CHANGE |
| 102-2_____ | ISSUANCE OF PROPOSALS |
| 108-1_____ | LIQUIDATED DAMAGES |
| 108-2_____ | WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER |
| 210-1_____ | UNCLASSIFIED EXCAVATION |
| 303-1_____ | AGGREGATE BASE COURSE |
| 306-1_____ | QUALITY CONTROLAND ACCEPTANCE |
| 400-1_____ | TACK COATS |
| 400-4_____ | DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES |
| 400-5_____ | PERCENT AIR VOIDS FOR ACHM MIX DESIGNS |
| 400-6_____ | LIQUID ANTI-STRIP ADDITIVE |
| 404-3_____ | DESIGN OF ASPHALT MIXTURES |
| 410-1_____ | CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES |
| 410-2_____ | DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS |
| 505-1_____ | PORTLAND CEMENT CONCRETE DRIVEWAY |
| 600-2_____ | INCIDENTAL CONSTRUCTION |
| 603-1_____ | LANE CLOSURE NOTIFICATION |
| 604-1_____ | RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| 604-3_____ | TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH) |
| 620-1_____ | MULCH COVER |
| 621-1_____ | FILTER SOCKS |
| 632-1_____ | CONCRETE ISLAND |
| 633-1_____ | CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING |
| 634-1_____ | CURBING |
| 700-2_____ | TRAFFIC CONTROL FACILITIES |
| JOB 100872__ | ACTUATED CONTROLLER |
| JOB 100872__ | AIRPORT CLEARANCE REQUIREMENTS |
| JOB 100872__ | BIDDING REQUIREMENTS AND CONDITIONS |
| JOB 100872__ | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT |
| JOB 100872__ | BROADBAND INTERNET SERVICE FOR FIELD OFFICE |
| JOB 100872__ | CABINET DRAWER ASSEMBLY |
| JOB 100872__ | CARGO PREFERENCE ACT REQUIREMENTS |
| JOB 100872__ | CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE |
| JOB 100872__ | CONCRETE WALKS (TYPE SPECIAL) |
| JOB 100872__ | DELAY IN RIGHT OF WAY OCCUPANCY |
| JOB 100872__ | DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES |
| JOB 100872__ | EDGE CARD VIDEO PROCESSOR |
| JOB 100872__ | ELECTRICAL CONDUCTORS FOR LUMINAIRES |
| JOB 100872__ | ELECTRICAL CONDUCTORS-IN-CONDUIT |
| JOB 100872__ | EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION |
| JOB 100872__ | FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT |
| JOB 100872__ | IP VIDEO DETECTION SYSTEM |
| JOB 100872__ | LED COUNTDOWN PEDESTRIAN SIGNAL HEAD |
| JOB 100872__ | LED LUMINARIE ASSEMBLY (BUG U0 TYPE) |
| JOB 100872__ | LED TRAFFIC SIGNAL HEAD |
| JOB 100872__ | LOCAL RADIO WITH ANTENNA RELOCATION |
| JOB 100872__ | MANDATORY ELECTRONIC CONTRACT |
| JOB 100872__ | MANDATORY ELECTRONIC DOCUMENT SUBMITTAL |
| JOB 100872__ | OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS |
| JOB 100872__ | PAN-TILT-ZOOM CAMERA SYSTEM |
| JOB 100872__ | RELOCATION OF TRAFFIC SIGNAL HEAD |
| JOB 100872__ | REMOVAL OF TRAFFIC SIGNAL EQUIPMENT |
| JOB 100872__ | RETROREFLECTIVE BACKPLATES |
| JOB 100872__ | SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES) |
| JOB 100872__ | SHORING FOR CULVERTS |
| JOB 100872__ | SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT |
| JOB 100872__ | SOIL STABILIZATION |
| JOB 100872__ | STREET NAME SIGN (MAST ARM MOUNTED) |
| JOB 100872__ | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS |
| JOB 100872__ | SYSTEM LOCAL CONTROLLER |
| JOB 100872__ | THERMOPLASTIC PAVEMENT MARKING (YIELD LINE) |
| JOB 100872__ | TRAFFIC SIGNAL CONTROLLER (MODIFICATION) |
| JOB 100872__ | UTILITY ADJUSTMENTS |
| JOB 100872__ | VIDEO DETECTOR (COLOR) |
| JOB 100872__ | VIDEO DETECTOR ROTATION |
| JOB 100872__ | WARM MIX ASPHALT |
| JOB 100872__ | WELLHEAD PROTECTION |

## GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. 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.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. 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 ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
06/29/2020

GOVERNING SPECIFICATIONS & GENERAL NOTES

6/29/2020
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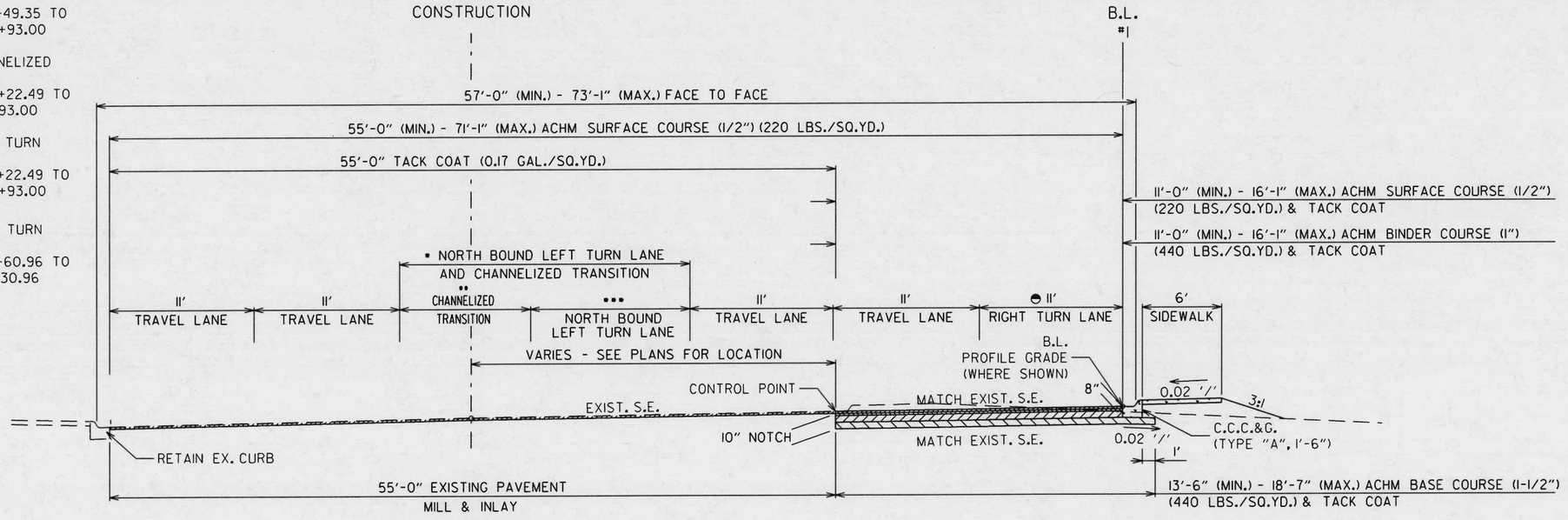
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 4 | 72 |

(2) TYPICAL SECTIONS OF IMPROVEMENT

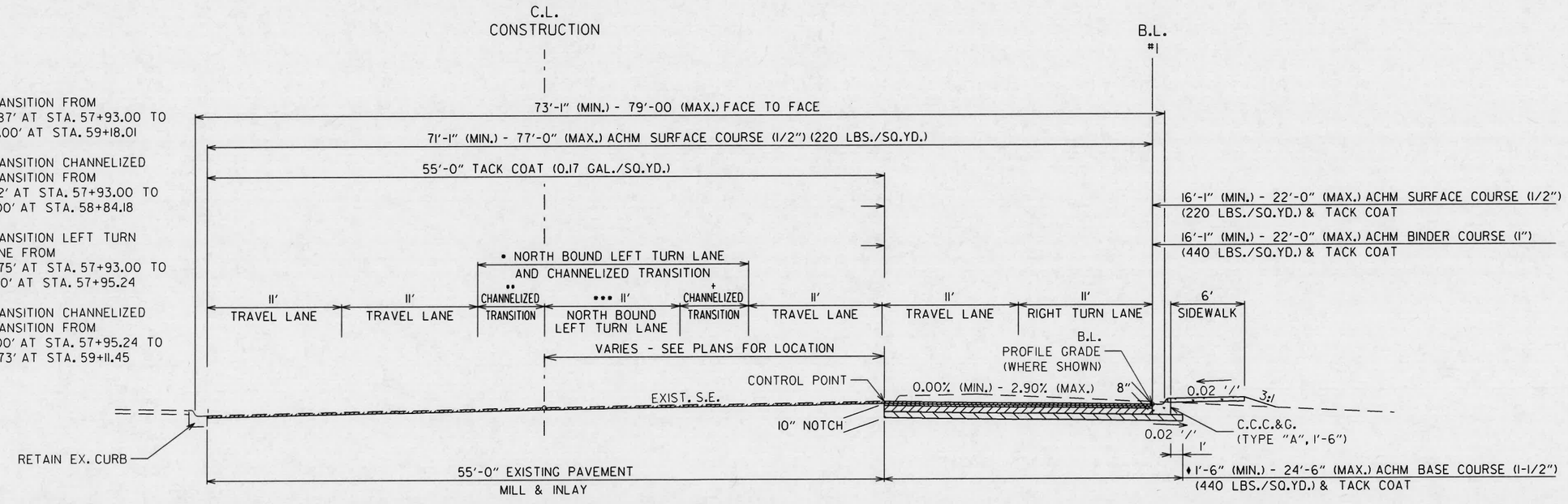
- TRANSITION FROM 11.00' AT STA. 56+49.35 TO 16.87' AT STA. 57+93.00
- •• TRANSITION CHANNELIZED TRANSITION FROM 13.98' AT STA. 57+22.49 TO 6.12' AT STA. 57+93.00
- ••• TRANSITION LEFT TURN LANE FROM 0.00' AT STA. 57+22.49 TO 10.75' AT STA. 57+93.00
- ◓ TRANSITION RIGHT TURN LANE FROM 0.00' AT STA. 56+60.96 TO 11.00' AT STA. 57+30.96




## TYPICAL SECTION

HWY. 18/SOUTHWEST DR. (1)
FROM: STA. 56+49.35 TO: STA. 57+93.00

- TRANSITION FROM 16.87' AT STA. 57+93.00 TO 22.00' AT STA. 59+18.01
- •• TRANSITION CHANNELIZED TRANSITION FROM 6.12' AT STA. 57+93.00 TO 0.00' AT STA. 58+84.18
- ••• TRANSITION LEFT TURN LANE FROM 10.75' AT STA. 57+93.00 TO 11.00' AT STA. 57+95.24
- \+ TRANSITION CHANNELIZED TRANSITION FROM 0.00' AT STA. 57+95.24 TO 10.73' AT STA. 59+11.45




## TYPICAL SECTION

HWY. 18/SOUTHWEST DR. (2)
FROM: STA. 57+93.00 TO: STA. 59+62.47

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

♦ REFER TO SPECIAL DETAIL FOR P.C.C. BASE FOR ANY WIDENING AREAS LESS THAN 4'-0" IN WIDTH.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# TYPICAL SECTIONS OF IMPROVEMENT

5/27/2020
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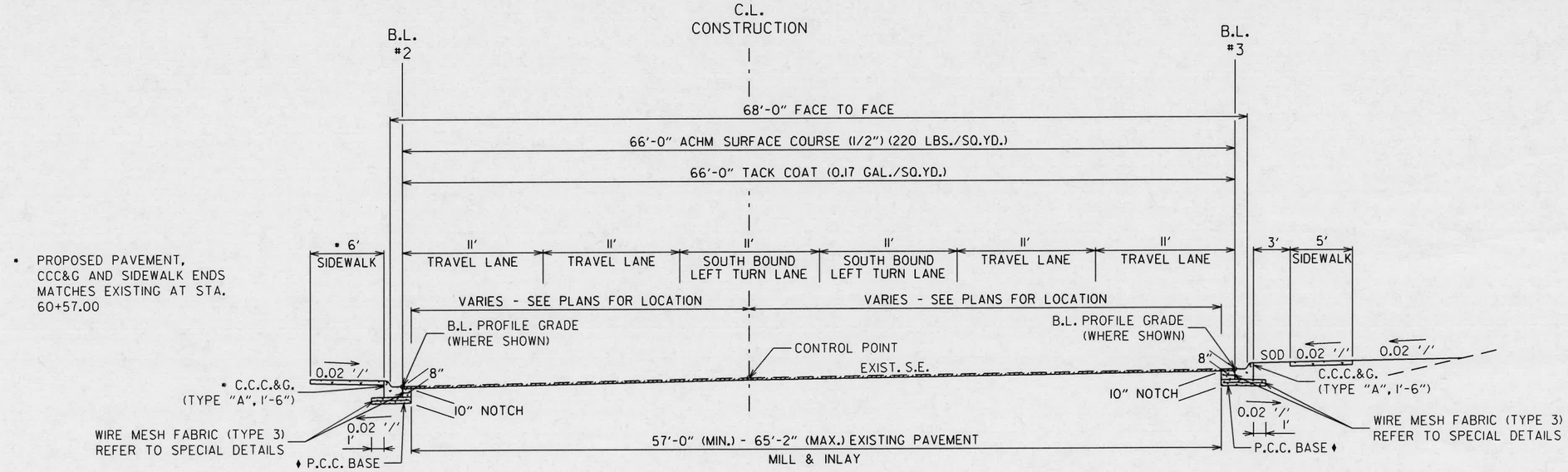
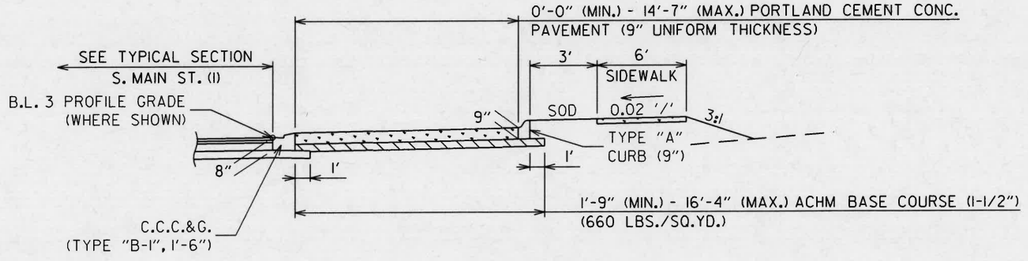
(2) TYPICAL SECTIONS OF IMPROVEMENT


• PROPOSED PAVEMENT, CCC&G AND SIDEWALK ENDS MATCHES EXISTING AT STA. 60+57.00

## TYPICAL SECTION

S. MAIN ST. (1)
FROM: STA. 59+62.47 TO: STA. 61+29.41




## TRUCK APRON SECTION

S. MAIN ST.
FROM: STA. 60+27.71 TO: STA. 60+84.58

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

♦ REFER TO SPECIAL DETAIL FOR P.C.C. BASE FOR ANY WIDENING AREAS LESS THAN 4'-0" IN WIDTH.

# TYPICAL SECTIONS OF IMPROVEMENT

5/27/2020
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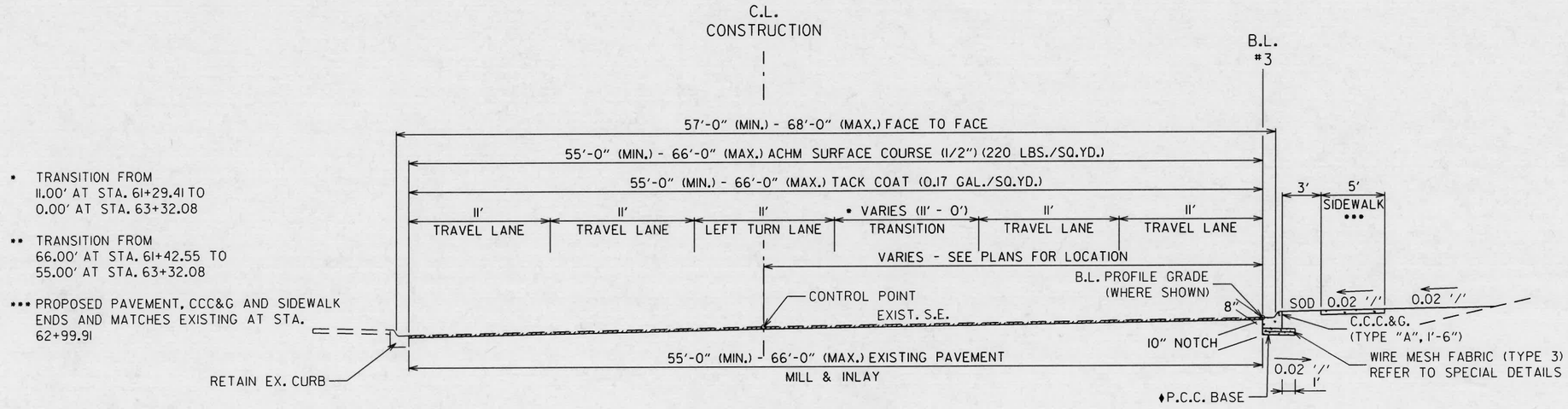
(2) TYPICAL SECTIONS OF IMPROVEMENT


TYPICAL SECTION

S. MAIN ST. (2)

FROM: STA. 61+29.41 TO: STA. 62+99.95

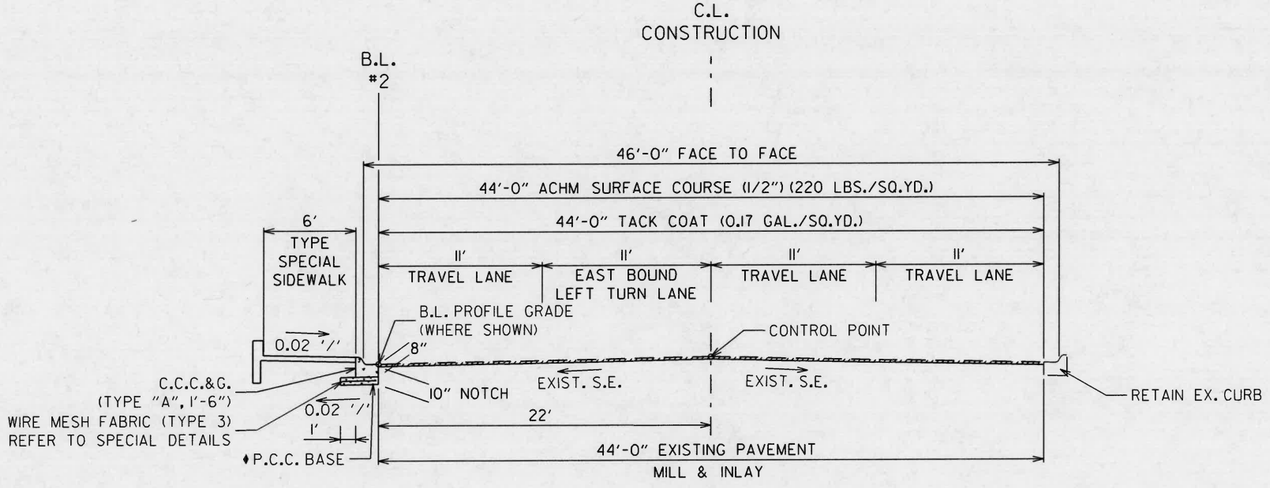
• TRANSITION FROM 11.00' AT STA. 61+29.41 TO 0.00' AT STA. 63+32.08

•• TRANSITION FROM 66.00' AT STA. 61+42.55 TO 55.00' AT STA. 63+32.08

••• PROPOSED PAVEMENT, CCC&G AND SIDEWALK ENDS AND MATCHES EXISTING AT STA. 62+99.91

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.




TYPICAL SECTION

WEST HIGHLAND DR.

FROM: STA. 12+28.51 TO: STA. 13+80.11

♦ REFER TO SPECIAL DETAIL FOR P.C.C. BASE FOR ANY WIDENING AREAS LESS THAN 4'-0" IN WIDTH.

# TYPICAL SECTIONS OF IMPROVEMENT

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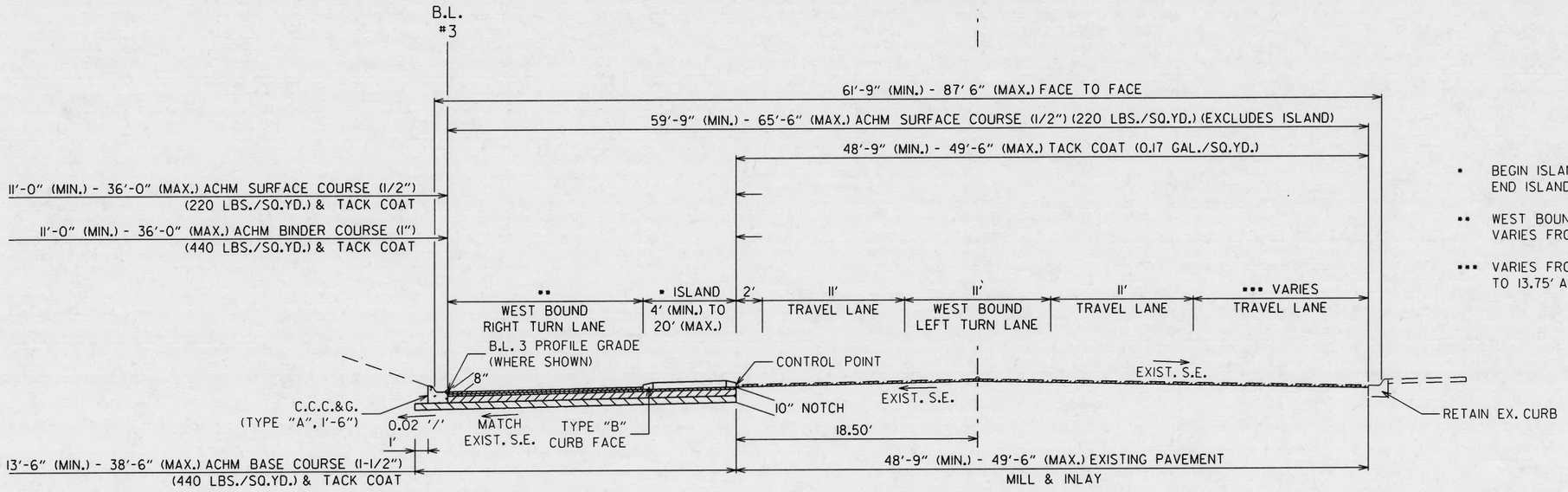
| | | | | JOB NO. | | 100872 | 7 | 72 |

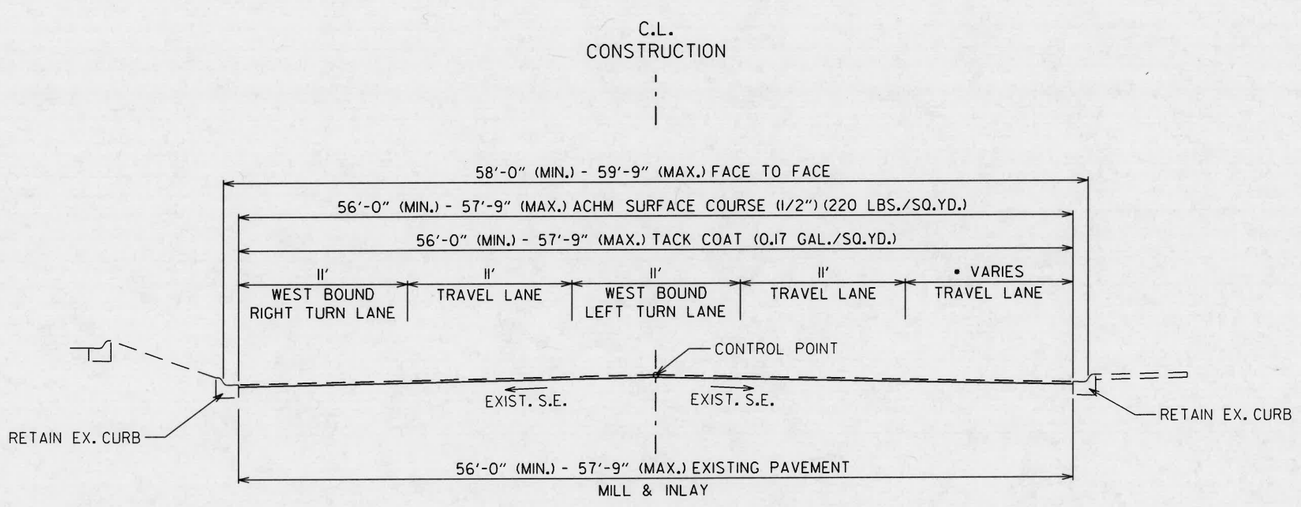
(2) TYPICAL SECTIONS OF IMPROVEMENT




- BEGIN ISLAND AT STA. 20+49.62
  END ISLAND AT STA. 21+15.67
- •• WEST BOUND RIGHT TURN LANE WIDTH VARIES FROM 11' (MIN.) TO 16' (MAX.)
- ••• VARIES FROM 14.50' AT STA. 20+92.71 TO 13.75' AT STA. 21+41.67

## TYPICAL SECTION

HWY. 18/EAST HIGHLAND DR. (1)
FROM: STA. 20+49.62 TO: STA. 21+41.67




- VARIES FROM 13.75' AT STA. 21+41.67 TO 12.00' AT STA. 23+00.00

## TYPICAL SECTION

HWY. 18/EAST HIGHLAND DR. (2)
FROM: STA. 21+41.67 TO: STA. 23+00.00

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# TYPICAL SECTIONS OF IMPROVEMENT

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | JOB NO. | | 100872 | 8 | 72 |

(2) SPECIAL DETAILS

| LOCATION TABLE | | | |
|---|---|---|---|
| NAME | ALIGNMENT | STATION | OFFSET |
| A | SOUTHWEST DR. | 59+11.55 | 58.74' RT. |
| B | E. HIGHLAND ST. | 20+67.22 | 46.66' RT. |
| C | E. HIGHLAND ST. | 20+78.32 | 48.77' RT. |
| D | E. HIGHLAND ST. | 20+76.52 | 44.09' RT. |
| E | E. HIGHLAND ST. | 21+14.28 | 38.09' RT. |
| F | E. HIGHLAND ST. | 21+16.81 | 38.06' RT. |
| G | E. HIGHLAND ST. | 21+16.72 | 32.15' RT. |
| H | S. MAIN ST. | 59+83.60 | 42.91' LT. |
| J | S. MAIN ST. | 59+87.78 | 41.50' LT. |
| K | S. MAIN ST. | 59+97.96 | 42.62' LT. |
| L | S. MAIN ST. | 60+02.63 | 40.61' LT. |
| M | S. MAIN ST. | 60+03.61 | 39.31' LT. |
| N | S. MAIN ST. | 60+16.03 | 33.14' LT. |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

N

END TYPE 'A' CCC&G & SIDEWALK
STA. 60+57.00, 26.64' LT.
S. MAIN ST.

STA. 60+07.96, 26.64' LT.
S. MAIN ST.

STA. 59+96.78, 28.15' LT.
S. MAIN ST.

BEGIN TYPE 'A' C.C.C.&G.
STA. 12+34.60, 43.03' LT.
W. HIGHLAND ST.

TYPE SPECIAL SIDEWALK

R 80'
R 40'
R 15'
R 5'
R 5'

STA. 12+54.69, 23.00' LT.
W. HIGHLAND ST.

STA. 13+27.74, 23.00' LT.
W. HIGHLAND ST.

STA. 13+17.68, 23.00' LT.
W. HIGHLAND ST.

13

20

60

S. MAIN ST.

W. HIGHLAND DR.

N89°12'30"E

END TYPE 'B-1' CCC&G
BEGIN TYPE 'A' CCC&G
STA. 60+84.58, 41.36' RT.
S. MAIN ST.

TYPE 'A' CCC&G

TYPE 'B-1' CCC&G

TYPE 'A' CONCRETE CURB

STA. 60+47.24, 41.36' RT.
S. MAIN ST.

R 60'
R 20'
6'

STA. 20+74.93, 49.96' LT.
E. HIGHLAND ST.

STA. 60+13.68, 44.40' RT.
S. MAIN ST.

STA. 20+83.82, 47.48' LT.
E. HIGHLAND ST.

BEGIN TYPE 'B-1' CCC&G
STA. 21+12.47, 39.52' LT.
E. HIGHLAND ST.

R 2'
24.17'
60.08'
16'

STA. 60+11.72, 42.36' RT.
S. MAIN ST.

STA. 60+04.35, 42.36' RT.
S. MAIN ST.

STA. 20+79.62, 32.04' LT.
E. HIGHLAND ST.

STA. 21+14.21, 22.43' LT.
E. HIGHLAND ST.

STA. 59+95.48, 42.36' RT.
S. MAIN ST.

TYPE "B" CURB FACE

R 2'
R 2'
R 2'

STA. 20+70.46, 18.50' LT.
E. HIGHLAND ST.

STA. 21+13.67, 18.50' LT.
E. HIGHLAND ST.

STA. 20+51.62, 18.50' LT.
E. HIGHLAND ST.

21

HWY. 18 \ E. HIGHLAND DR.

BEGIN TYPE 'A' CCC&G
STA. 21+42.54, 31.16' LT.
E. HIGHLAND ST.

BEGIN TYPE 'A' CCC&G
STA. 12+28.51, 22.25' RT.
W. HIGHLAND ST.

STA. 13+17.68, 24.00' RT.
W. HIGHLAND ST.

STA. 13+26.84, 24.00' RT.
W. HIGHLAND ST.

STA. 12+96.68, 24.00' RT.
W. HIGHLAND ST.

STA. 59+19.23, 42.00' LT.
SOUTHWEST DR.

STA. 12+95.38, 27.52' RT.
W. HIGHLAND ST.

R 2'
R 2'
16.87'
33.75'
20'
R 105'
R 85'

TYPE "B" CURB FACE

STA. 59+09.20, 42.00' LT.
SOUTHWEST DR.

STA. 58+91.19, 42.00' LT.
SOUTHWEST DR.

STA. 58+89.66, 45.32' LT.
SOUTHWEST DR.

59

HWY. 18 / SOUTHWEST DR.

STA. 20+70.26, 36.22' RT.
E. HIGHLAND ST.

STA. 20+92.73, 32.08' RT.
E. HIGHLAND ST.

A
B
C
D
E
F
G

STA. 59+30.99, 61.13' RT.
SOUTHWEST DR.

R 70

STA. 58+96.92, 49.66' RT.
SOUTHWEST DR.

# SPECIAL DETAILS
## INTERSECTION LAYOUT

5/27/2020
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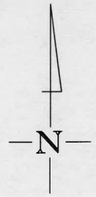
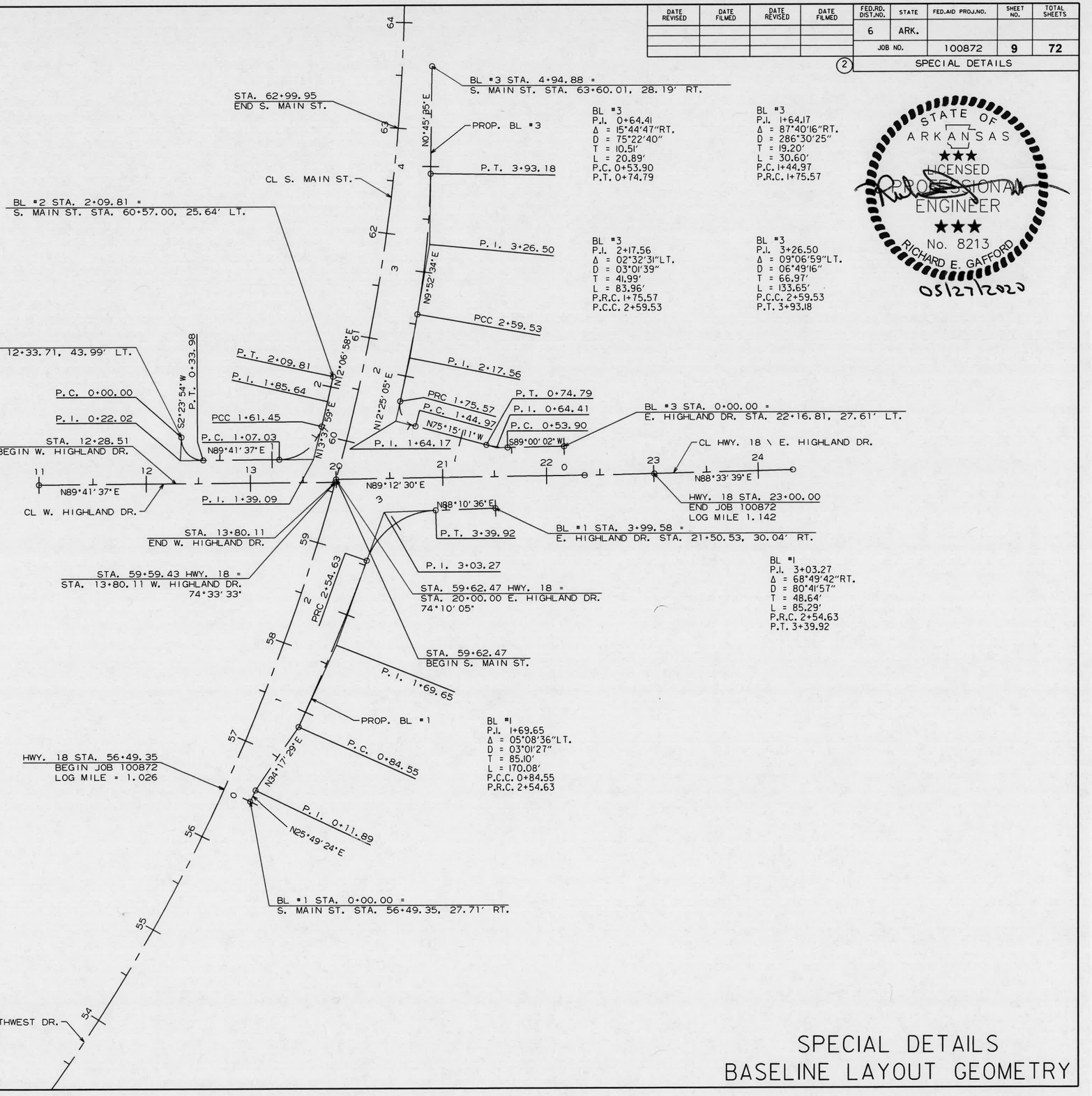
(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020






**GEOMETRY TABLE - BL #1**

| POINT | ADJACENT ALIGNMENT | STATION | OFFSET | SIDE (LT./RT.) |
|---|---|---|---|---|
| P.I. 0+11.89 | SOUTHWEST DR. | 56+61.06 | 27.98' | RT. |
| P.C. 0+84.64 | SOUTHWEST DR. | 57+31.15 | 41.88' | RT. |
| P.I. 1+71.27 | SOUTHWEST DR. | 58+15.48 | 48.54' | RT. |
| P.R.C. 2+57.59 | SOUTHWEST DR. | 58+99.94 | 46.21' | RT. |
| P.I. 3+03.35 | SOUTHWEST DR. | 59+44.26 | 51.22' | RT. |
| P.T. 3+38.89 | E. HIGHLAND DR. | 20+89.94 | 31.13' | RT. |

**GEOMETRY TABLE - BL #2**

| POINT | ADJACENT ALIGNMENT | STATION | OFFSET | SIDE (LT./RT.) |
|---|---|---|---|---|
| P.C. 0+00.00 | W. HIGHLAND DR. | 12+33.71 | 43.99' | LT. |
| P.I. 0+22.02 | W. HIGHLAND DR. | 12+32.67 | 22.00' | LT. |
| P.T. 0+33.98 | W. HIGHLAND DR. | 12+54.69 | 22.00' | LT. |
| P.C. 1+07.03 | W. HIGHLAND DR. | 13+27.74 | 22.00' | LT. |
| P.I. 1+39.09 | S. MAIN ST. | 59+75.45 | 25.36' | LT. |
| P.C.C. 1+61.45 | S. MAIN ST. | 60+07.96 | 25.64' | LT. |
| P.I. 1+85.64 | S. MAIN ST. | 60+32.48 | 25.48' | LT. |
| P.T. 2+09.81 | S. MAIN ST. | 60+57.00 | 25.64' | LT. |

**GEOMETRY TABLE - BL #3**

| POINT | ADJACENT ALIGNMENT | STATION | OFFSET | SIDE (LT./RT.) |
|---|---|---|---|---|
| P.C. 0+53.90 | E. HIGHLAND DR. | 21+62.91 | 27.42' | LT. |
| P.I. 0+64.41 | E. HIGHLAND DR. | 21+52.40 | 27.38' | LT. |
| P.T. 0+74.79 | E. HIGHLAND DR. | 21+42.27 | 30.19 | LT. |
| P.C. 1+44.97 | E. HIGHLAND DR. | 20+74.66 | 48.99 | LT. |
| P.I. 1+64.17 | S. MAIN ST. | 60+28.45 | 40.46' | RT. |
| P.R.C. 1+75.57 | S. MAIN ST. | 60+47.24 | 40.36' | RT. |
| P.I. 2+17.56 | S. MAIN ST. | 60+88.33 | 40.83' | RT. |
| P.C.C. 2+59.53 | S. MAIN ST. | 61+29.41 | 40.36' | RT. |
| P.I. 3+26.50 | S. MAIN ST. | 61+94.92 | 41.54' | RT. |
| P.T. 3+93.18 | S. MAIN ST. | 62+60.18 | 34.45' | RT. |

# SPECIAL DETAILS
# BASELINE LAYOUT GEOMETRY

5/27/2020
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| | | | | 6 | ARK. | | | |
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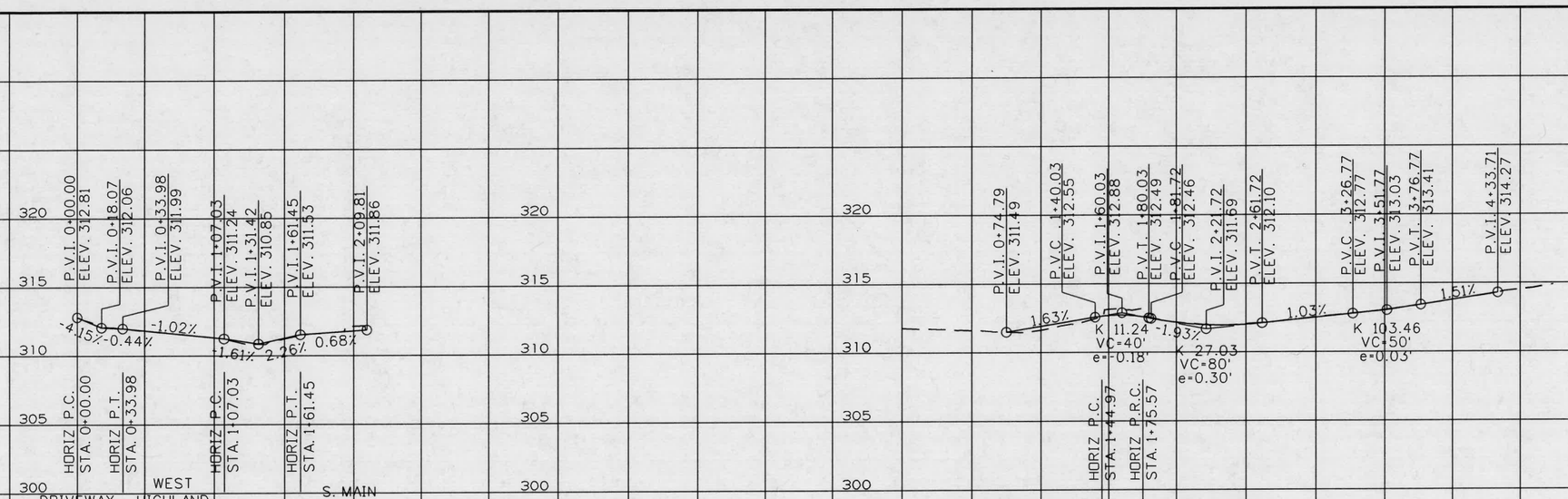
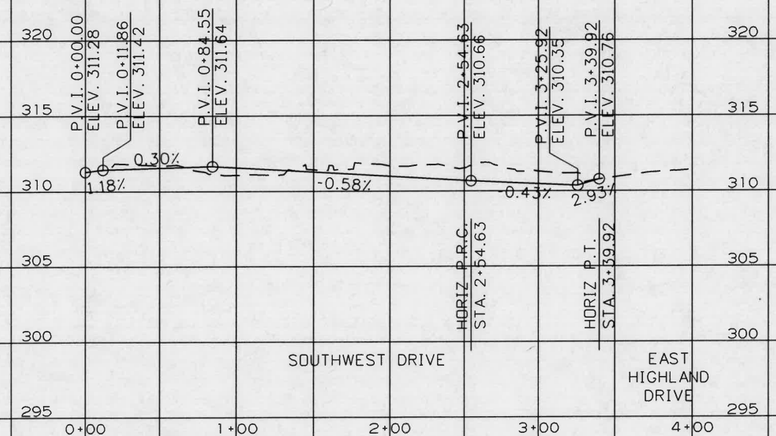
(2) SPECIAL DETAILS




PROFILE - BL 2
EDGE OF PAVEMENT
NORTH WEST QUADRANT OF INTERSECTION




PROFILE - BL 3
EDGE OF PAVEMENT
NORTH EAST QUADRANT OF INTERSECTION




PROFILE - BL 1
EDGE OF PAVEMENT
SOUTH EAST QUADRANT OF INTERSECTION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2021

VERT. 10'
0
0 HORIZ. 100'

# SPECIAL DETAILS
# BASELINE PROFILES

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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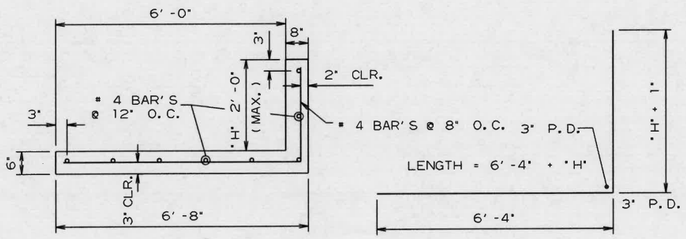
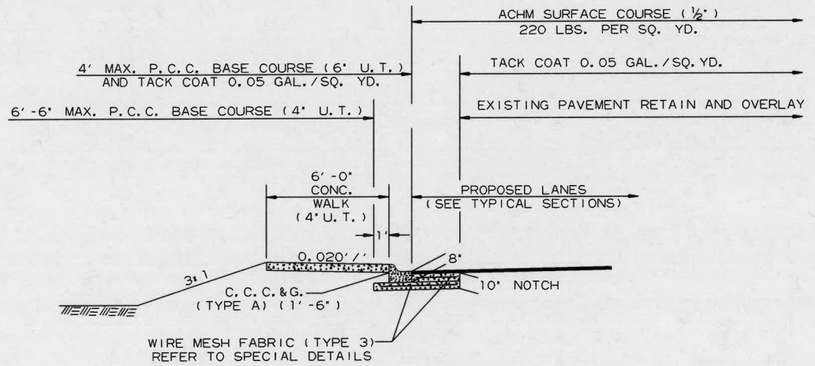
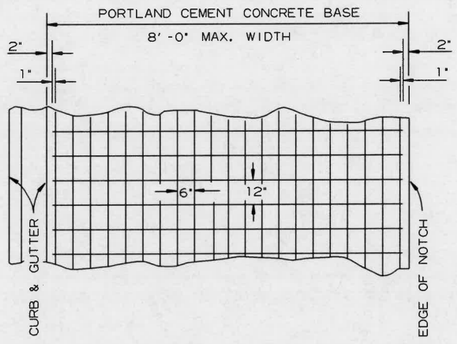
| | | | | JOB NO. | | 100872 | 11 | 72 |
| | | | | (2) | | SPECIAL DETAILS | | |




CONCRETE WALK (TYPE SPECIAL) DETAILS
MAX HEIGHT 2'-0"




P.C.C. BASE WIDENING DETAIL

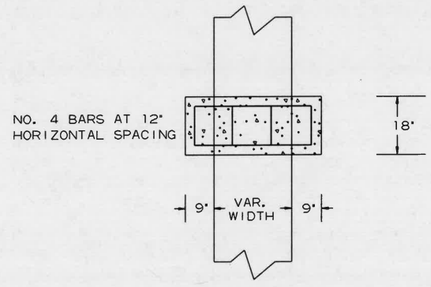



6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ.YD.

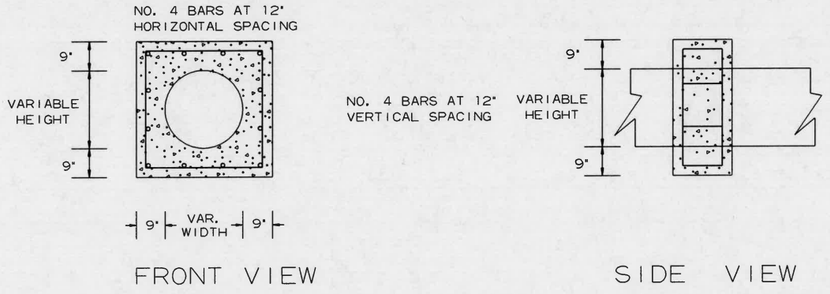
NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (10" U.T.)

DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)




TOP VIEW




FRONT VIEW SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

5/27/2020
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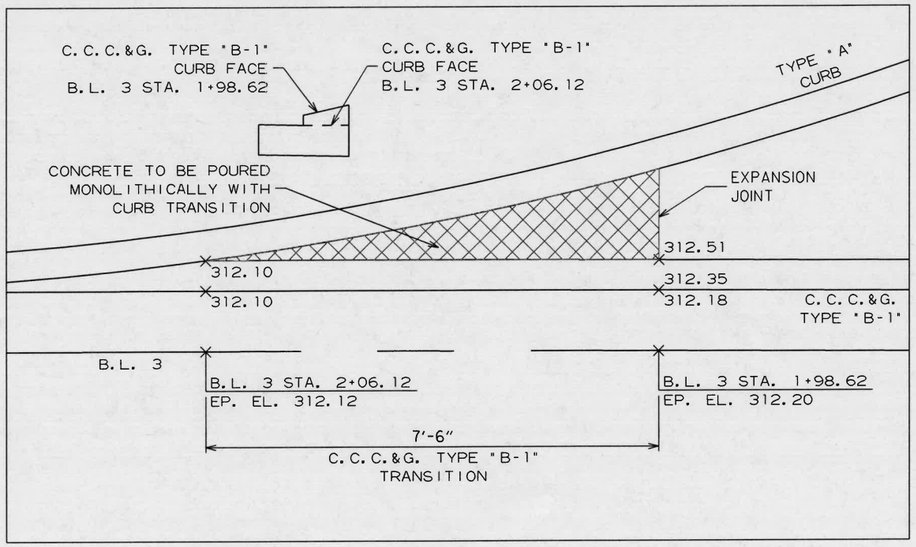
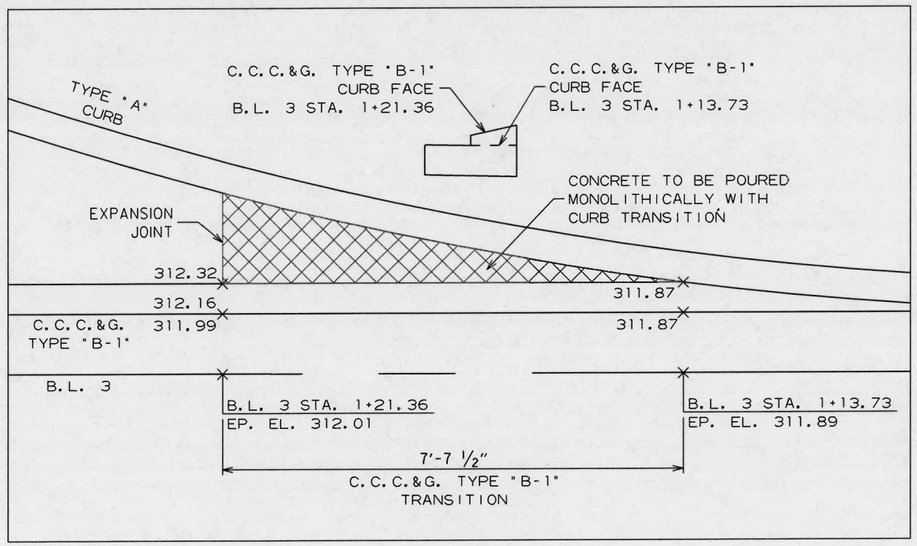
| | | | | JOB NO. | | 100872 | 12 | 72 |

(2) SPECIAL DETAILS




## DETAIL 'B'
SCALE: N.T.S.



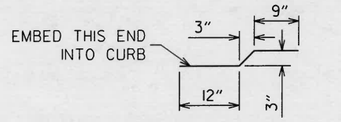

## DETAIL 'A'
SCALE: N.T.S.

## TABLE 'A'

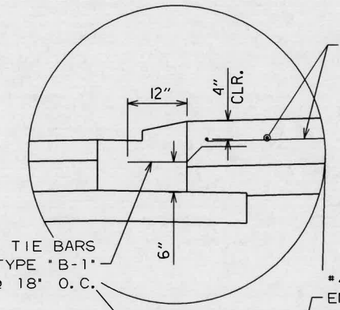
SAWED CONTRACTION JOINT LOCATIONS
ALONG B.L. 3 (1.50' RT.)

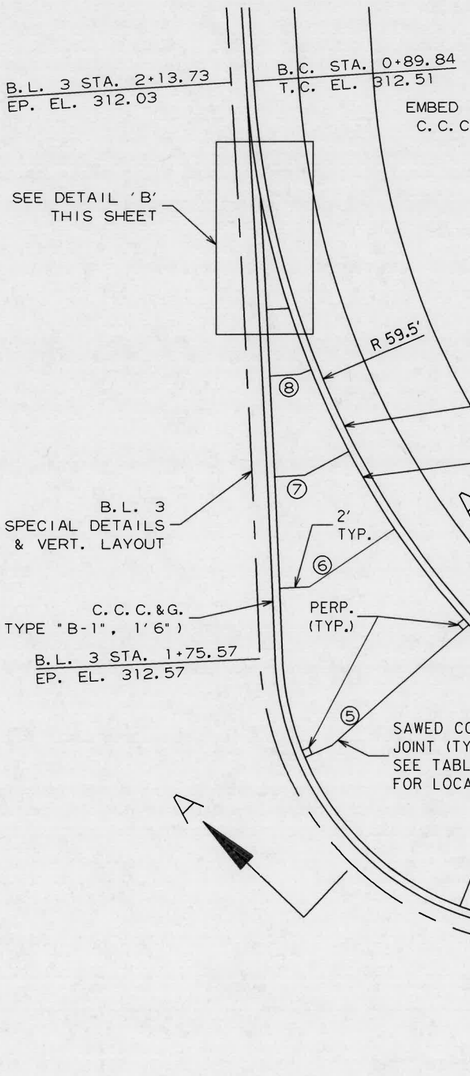
| | | | |
|---|---|---|---|
| ① | 1+26.31 | ⑤ | 1+68.22 |
| ② | 1+32.75 | ⑥ | 1+80.18 |
| ③ | 1+38.75 | ⑦ | 1+87.55 |
| ④ | 1+52.34 | ⑧ | 1+94.23 |

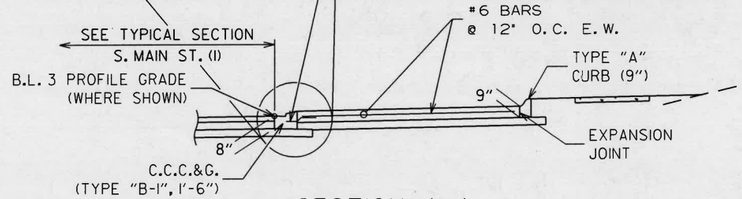
NOTE:
SEE STANDARD DRAWING CPTJ-6A FOR DETAIL OF SAWED CONTRACTION JOINT & DETAIL OF EXPANSION JOINT.




## #4 TIE BAR DETAIL
SCALE: N.T.S.


## SECTION A-A
SCALE: N.T.S.

TRUCK APRON BACK OF CURB
PI = 0+55.99
Δ = 86°30'57" RT.
D = 96°18'00"
T = 55.99'
L = 89.84'
PC = 0+00.00
PT = 0+89.84

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# SPECIAL DETAILS
## TRUCK APRON

5/27/2020
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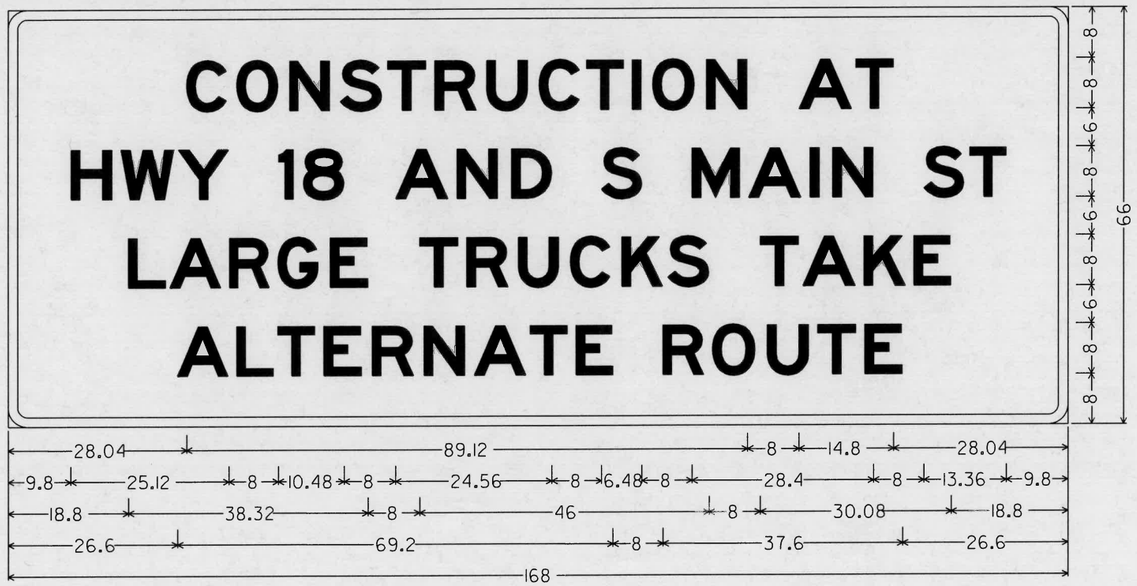
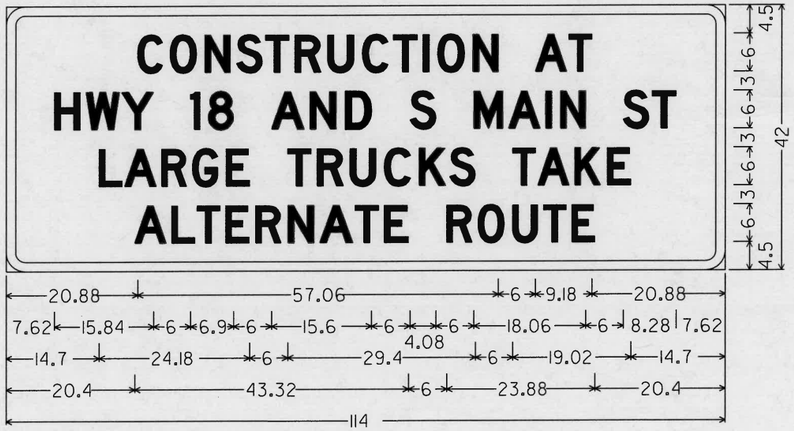
| | | | | JOB NO. | | 100872 | 13 | 72 |
| | | | | (2) | SPECIAL DETAILS | | | |



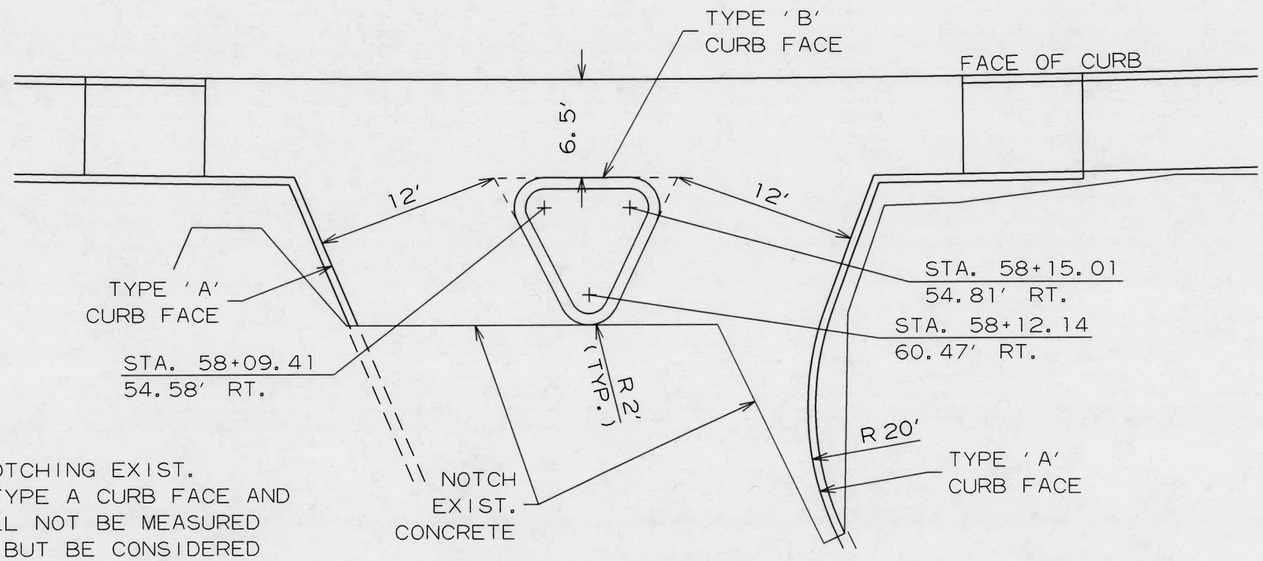

3.00" Radius, 1.50" Border, Black on Orange;
[CONSTRUCTION AT] E 2K; [HWY 18 AND S MAIN ST] E 2K; [LARGE TRUCKS TAKE] E 2K;
[ALTERNATE ROUTE] E 2K;

SPECIAL SIGN 'A'
LAYOUT DETAIL




3.00" Radius, 1.50" Border, Black on Orange;
[CONSTRUCTION AT] D 2K; [HWY 18 AND S MAIN ST] D 2K;
[LARGE TRUCKS TAKE] D 2K; [ALTERNATE ROUTE] D 2K;

SPECIAL SIGN 'B'
LAYOUT DETAIL




NOTE:
COSTS OF NOTCHING EXIST. CONCRETE, TYPE A CURB FACE AND ISLAND SHALL NOT BE MEASURED SEPARATELY BUT BE CONSIDERED INCIDENTAL TO THE COST OF THE DRIVEWAY.

McDONALD'S DRIVEWAY
ISLAND LAYOUT DETAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

SPECIAL DETAILS

5/27/2020
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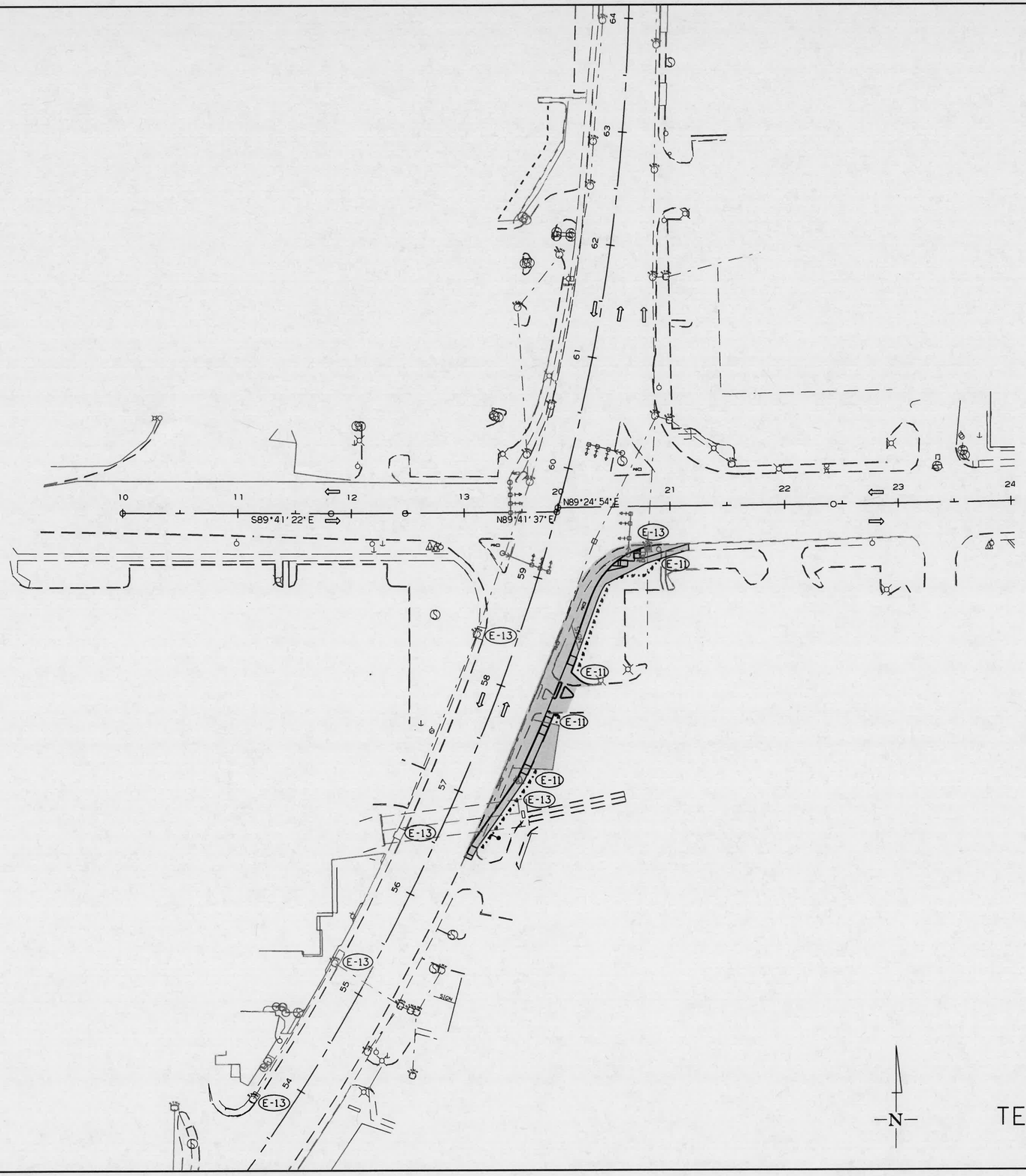
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 14 | 72 |

(2) TEMPORARY EROSION CONTROL DETAILS




MAIN ST.

| | | | |
|---|---|---|---|
| (E-11) | SILT FENCE | | LIN. FT |
| | STA. 56+60 TO 57+50 | RT. | 90 |
| | STA. 57+81 TO 57+94 | RT. | 15 |
| | STA. 58+34 TO 59+47 | RT. | 145 |
| (E-13) | COMPOST FILTER SOCK DROP INLET PROTECTION | | LIN. FT |
| | STA. 53+73 | LT. | 11 |
| | STA. 55+17 | LT. | 15 |
| | STA. 56+44 | LT. | 12 |
| | STA. 57+03 | RT. | 30 |
| | STA. 58+38 | LT. | 12 |

E. HIGHLAND ST.

| | | | |
|---|---|---|---|
| (E-13) | COMPOST FILTER SOCK DROP INLET PROTECTION | | LIN. FT |
| | STA. 20+80 | RT. | 10 |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

REVISIONS

| DATE OF REVISION | REVISION |
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LEGEND

(E-13) COMPOST FILTER SOCK DROP INLET PROTECTION

(E-11) SILT FENCE

WORK ZONE

N

# TEMPORARY EROSION CONTROL DETAILS

## STAGE I

5/27/2020
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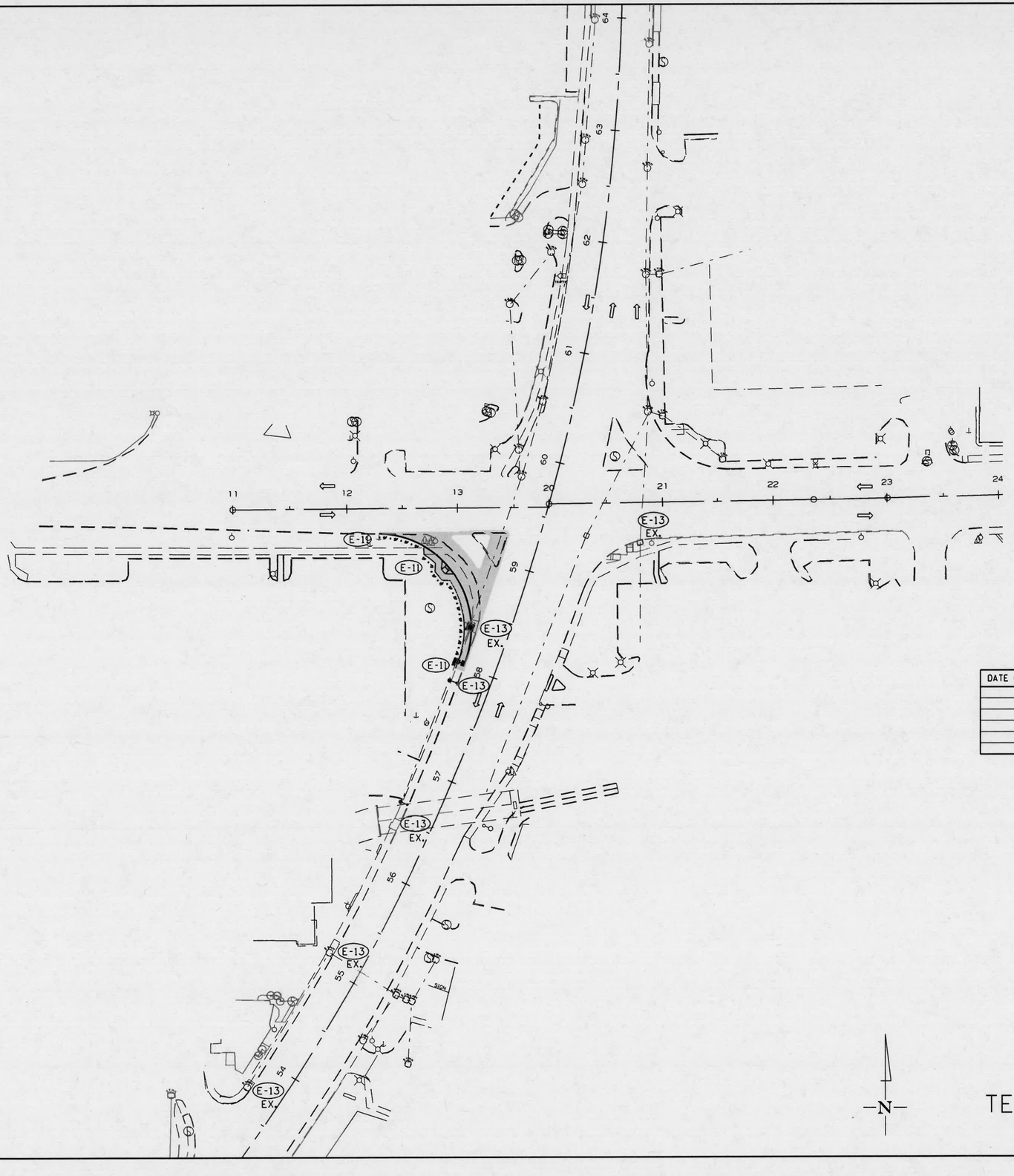
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 15 | 72 |

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020




MAIN ST.

| | | | |
|---|---|---|---|
| (E-11) SILT FENCE | | | LIN. FT |
| STA. 57+39 TO 58+24 | LT. | | 116 |

| | | | |
|---|---|---|---|
| (E-13) COMPOST FILTER SOCK DROP INLET PROTECTION | | | LIN. FT |
| STA. 53+73 | LT. | | EX. |
| STA. 55+17 | LT. | | EX. |
| STA. 56+44 | LT. | | EX. |
| STA. 58+03 | LT. | | 10 |
| STA. 58+38 | LT. | | EX. |

E. HIGHLAND ST.

| | | | |
|---|---|---|---|
| (E-13) COMPOST FILTER SOCK DROP INLET PROTECTION | | | LIN. FT |
| STA. 20+80 | RT. | | EX. |

W. HIGHLAND ST.

| | | | |
|---|---|---|---|
| (E-11) SILT FENCE | | | LIN. FT |
| STA. 12+28 TO 12+65 | RT. | | 40 |

REVISIONS

| DATE OF REVISION | REVISION |
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| | |

LEGEND

- (E-13) COMPOST FILTER SOCK DROP INLET PROTECTION
- (E-11) SILT FENCE
- (E-13 EX.) COMPOST FILTER SOCK DROP INLET PROTECTION (FROM PREVIOUS STAGE)
- WORK ZONE

N

# TEMPORARY EROSION CONTROL DETAILS
## STAGE 2

5/27/2020
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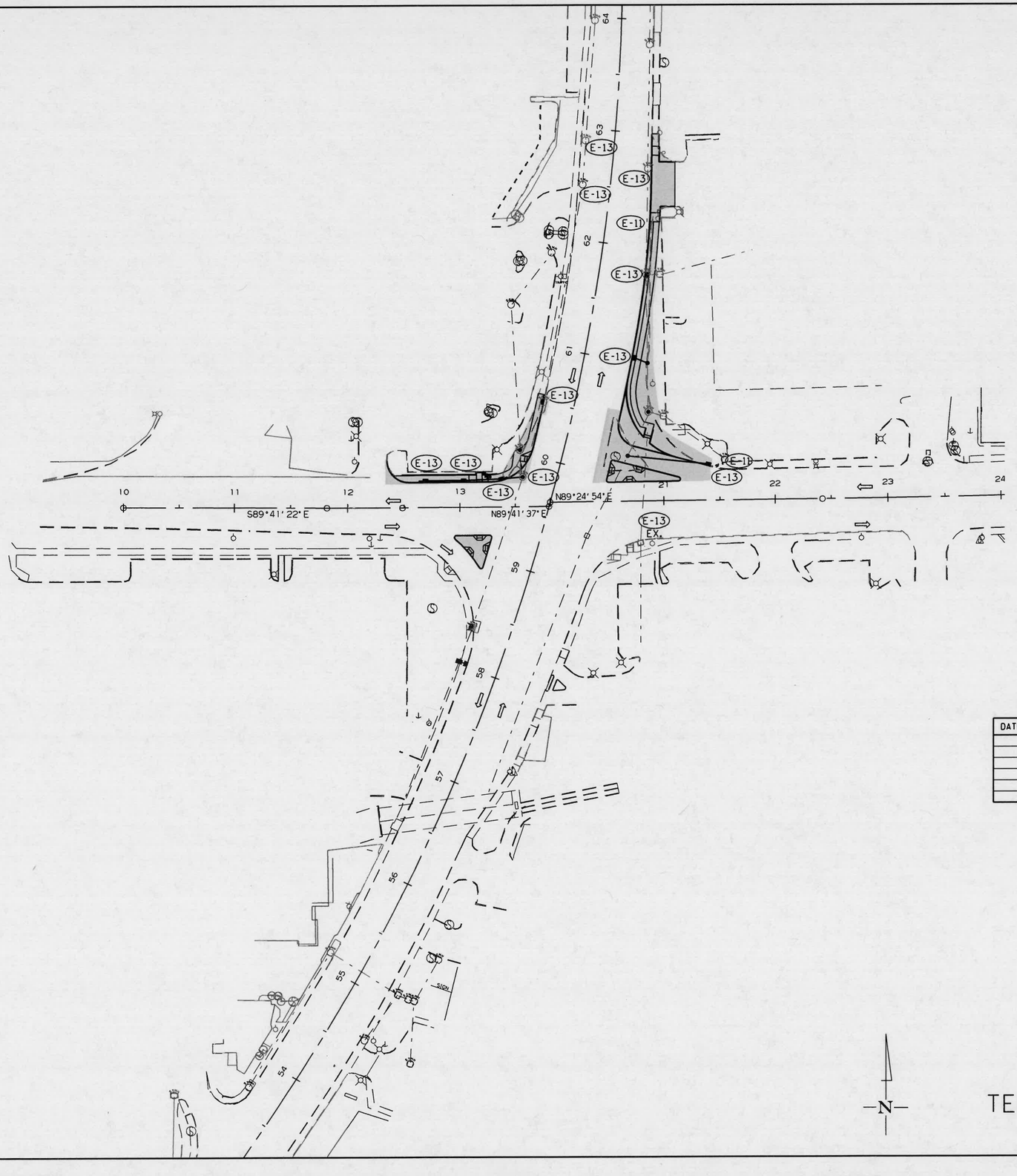
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 16 | 72 |

(2) TEMPORARY EROSION CONTROL DETAILS




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

MAIN ST.

| | | | |
|---|---|---|---|
| E-11 | SILT FENCE | | LIN. FT |
| | STA. 60+39 TO 62+24 | RT. | 200 |

| | | | |
|---|---|---|---|
| E-13 | COMPOST FILTER SOCK DROP INLET PROTECTION | | LIN. FT |
| | STA. 59+80 | LT. | 20 |
| | STA. 60+50 | LT. | 11 |
| | STA. 61+04 | RT. | 10 |
| | STA. 61+77 | RT. | 10 |
| | STA. 62+50 | LT. | 20 |
| | STA. 62+70 | RT. | 20 |
| | STA. 62+89 | LT. | 20 |

E. HIGHLAND ST.

| | | | |
|---|---|---|---|
| E-11 | SILT FENCE | | LIN. FT |
| | STA. 20+89 TO 21+54 | LT. | 90 |

| | | | |
|---|---|---|---|
| E-13 | COMPOST FILTER SOCK DROP INLET PROTECTION | | LIN. FT |
| | STA. 20+80 | RT. | EX. |
| | STA. 21+40 | LT. | 10 |

W. HIGHLAND ST.

| | | | |
|---|---|---|---|
| E-13 | COMPOST FILTER SOCK DROP INLET PROTECTION | | LIN. FT |
| | STA. 12+69 | LT. | 15 |
| | STA. 13+04 | LT. | 11 |
| | STA. 13+38 | LT. | 11 |

REVISIONS

| DATE OF REVISION | REVISION |
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LEGEND

- (E-13) COMPOST FILTER SOCK DROP INLET PROTECTION
- (E-11) SILT FENCE
- (E-13) EX. COMPOST FILTER SOCK DROP INLET PROTECTION (FROM PREVIOUS STAGE)
- WORK ZONE

N

# TEMPORARY EROSION CONTROL DETAILS
## STAGE 3

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 17 | 72 |
| | | | | (2) | MAINTENANCE OF TRAFFIC DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
01/27/2020

| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | ADVANCE WARNING ARROW PANEL |
| | PRECAST CONCRETE BARRIER |

THE FOLLOWING DESCRIBES THE VARIOUS PHASES AND SEQUENCE OF CONSTRUCTION OPERATIONS FOR HWY. 18 AND S. MAIN ST.:

STAGE (ALL):

PLACE ADVANCE WARNING SIGNS (W20-1 AND G20-2).

STAGE 1:

INSTALL A TEMPORARY TRAFFIC SIGNAL WITH WOOD POLES ON THE SOUTHEAST AND NORTHEAST CORNERS FOR THE EASTBOUND MOVEMENT. INSTALL TEMPORARY 3" PVC CONDUIT TO RUN SIGNAL WIRES FROM THE TEMPORARY WOOD POLE TO THE EXISTING CONTROLLER CABINET IN THE SOUTHEAST CORNER. SEE TEMPORARY SIGNAL LAYOUT - STAGE 1 SHEET FOR DETAILS. MODIFY THE OUTSIDE EASTBOUND LANE ON W. HIGHLAND ST. TO RIGHT TURN ONLY. TEMPORARILY CLOSE THE OUTSIDE EASTBOUND LANE ON E. HIGHLAND ST. SHIFT THE NORTHBOUND LANES ALONG HWY. 18/SOUTHWEST DR. AND CONSTRUCT THE PAVEMENT WIDENING, SIDEWALK, CURB RAMPS, PED POLE, ETC. STUB OUT NECESSARY CONDUIT FROM THE PED POLE TO THE PROPOSED CONTROLLER CABINET LOCATION IN THE SOUTHEAST CORNER. REMOVE EXISTING SIGNAL POLE ON SOUTHEAST CORNER AFTER THE TEMPORARY SIGNAL IS TURNED ON. TRUCK TRAFFIC SHOULD BE DETOURED VIA HWY. 49 AND HWY. 63. (SEE MAINTENANCE OF TRAFFIC DETAILS STAGE 1, 2, & 3 DETOUR ROUTE (TRUCKS) FOR DETOUR).

STAGE 2:

SHIFT THE NORTHBOUND LANES ALONG HWY. 18/SOUTHWEST DR. TO ALLOW FOR CONSTRUCTION CLEARANCES. CLOSE THE RIGHT TURN LANE ON W. HIGHLAND DR. TO TRAVEL SOUTH ON HWY. 18/SOUTHWEST DR. AND REMOVE AND REPLACE THE SOUTHWEST CORNER CURB AND GUTTER, PAVEMENT, SIDEWALK, ETC. TRUCK TRAFFIC SHOULD STILL BE DETOURED VIA HWY. 49 AND HWY. 63. NO ADDITIONAL TEMPORARY SIGNAL LAYOUT MODIFICATIONS REQUIRED FOR THIS STAGE.

STAGE 3:

SHIFT LANES ON E. AND W. HIGHLAST DR. TO ALLOW FOR CONSTRUCTION CLEARANCES. CLOSE THE RIGHT TURN LANE ON E. HIGHLAND ST. TO TRAVEL NORTH ON S. MAIN ST. LOCAL TRAFFIC SHOULD BE DETOURED VIA CHURCH ST. TRUCK TRAFFIC SHOULD STILL BE DETOURED VIA HWY. 49 AND HWY. 63 AS WELL AS HWY. 91. REMOVE AND REPLACE EXISTING AND TEMPORARY SIGNALS WITH PROPOSED SIGNALS. INSTALL PROPOSED CONTROLLER CABINET. SEE TEMPORARY SIGNAL LAYOUT - STAGE 3 SHEETS FOR DETAILS. CONSTRUCT NORTHWEST AND NORTHEAST CORNER CURB AND GUTTER, ISLAND, PAVEMENT, SIDEWALK, ETC. COMPLETE ISLAND AND CURB RAMP CONSTRUCTION ON SOUTHWEST CORNER.

STAGE (FINAL):

MILL AND INLAY ENTIRE SURFACE. INSTALL PERMANENT PAVEMENT MARKINGS.

BUMP — (4) W8-1 30" X 30"

ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

5/27/2020
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# MAINTENANCE OF TRAFFIC DETAILS
## NOTES

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 18 | 72 |

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

SOUTH HWY. 18 DETOUR M4-9L 30" X 24"

CONSTRUCTION AT HWY 18 AND S MAIN ST LARGE TRUCKS TAKE ALTERNATE ROUTE

SPECIAL SIGN 'B' 114" X 42" (SEE SPECIAL DETAILS)

END DETOUR M4-8A 24" X 18"

END DETOUR M4-8 24" X 18"

EAST HWY. 18 DETOUR M4-9R 30" X 24"

DETOUR HWY. 18 SOUTH M4-9L 30" X 24"

SPECIAL SIGN 'A'

SPECIAL SIGN 'B'

DETOUR HWY. 18 EAST M4-8 30" X 15"

DETOUR HWY. 18 SOUTH M4-9R 30" X 24"

EAST HWY. 18 DETOUR M4-9R 30" X 24"

SOUTH HWY. 18 DETOUR M4-9R 30" X 24"

DETOUR HWY. 18 EAST M4-9R 30" X 24"

CONSTRUCTION AT HWY 18 AND S MAIN ST LARGE TRUCKS TAKE ALTERNATE ROUTE

SPECIAL SIGN 'A' & 'B' 168" X 66"(A) & 114" X 42"(B) (SEE SPECIAL DETAILS)

| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | ADVANCE WARNING ARROW PANEL |

N

0 1 MILE 2 MILES

SCALE 1" = 1 MILE

# MAINTENANCE OF TRAFFIC DETAILS
## STAGE 1, 2, & 3 DETOUR ROUTE (TRUCKS)

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 19 | 72 |

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

NORTH
S. MAIN ST.
DETOUR
M4-9R
30" X 24"

NORTH
S. MAIN ST.
DETOUR
M4-9L
30" X 24"

END DETOUR
M4-8A
24" X 18"

NORTH
S. MAIN ST.
DETOUR
M4-9L
30" X 24"

NORTH
S. MAIN ST.
DETOUR
M4-9R
30" X 24"

END DETOUR
M4-8A
24" X 18"

NORTH
S. MAIN ST.
DETOUR
M4-9R
30" X 24"

NORTH
S. MAIN ST.
DETOUR
M4-9L
30" X 24"

CONSTRUCTION AT
HWY 18 AND S MAIN ST
LARGE TRUCKS TAKE
ALTERNATE ROUTE

SPECIAL SIGN 'B'
114" X 42"
(SEE SPECIAL DETAILS)

| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | ADVANCE WARNING ARROW PANEL |

N
0 1 MILE 2 MILES
SCALE
1" = 1 MILE

# MAINTENANCE OF TRAFFIC DETAILS
## STAGE 3 DETOUR ROUTE
## (TRUCKS & LOCAL)

5/27/2020
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 20 | 72 |

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
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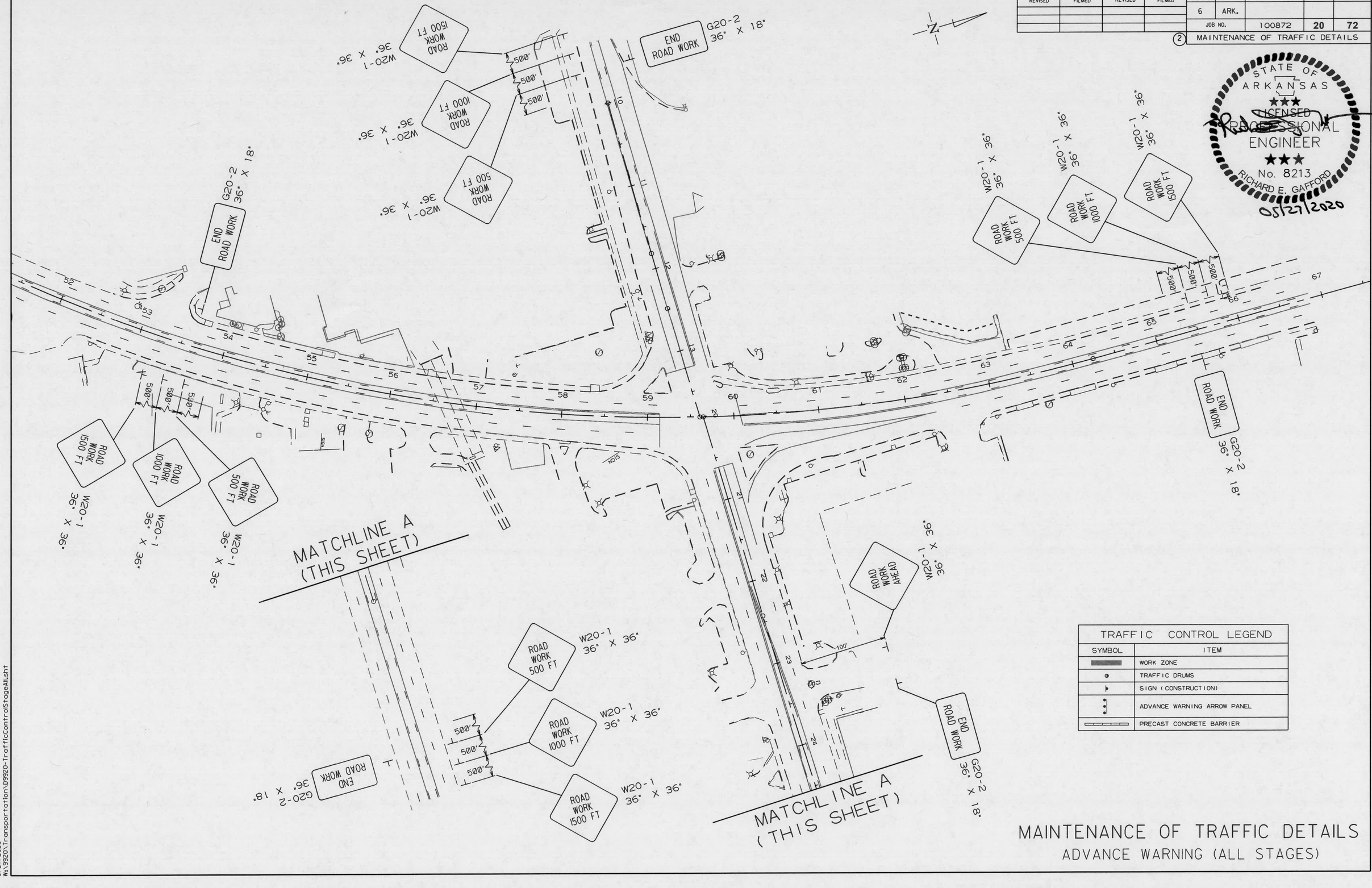
05/27/2020




| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | ADVANCE WARNING ARROW PANEL |
| | PRECAST CONCRETE BARRIER |

# MAINTENANCE OF TRAFFIC DETAILS
## ADVANCE WARNING (ALL STAGES)

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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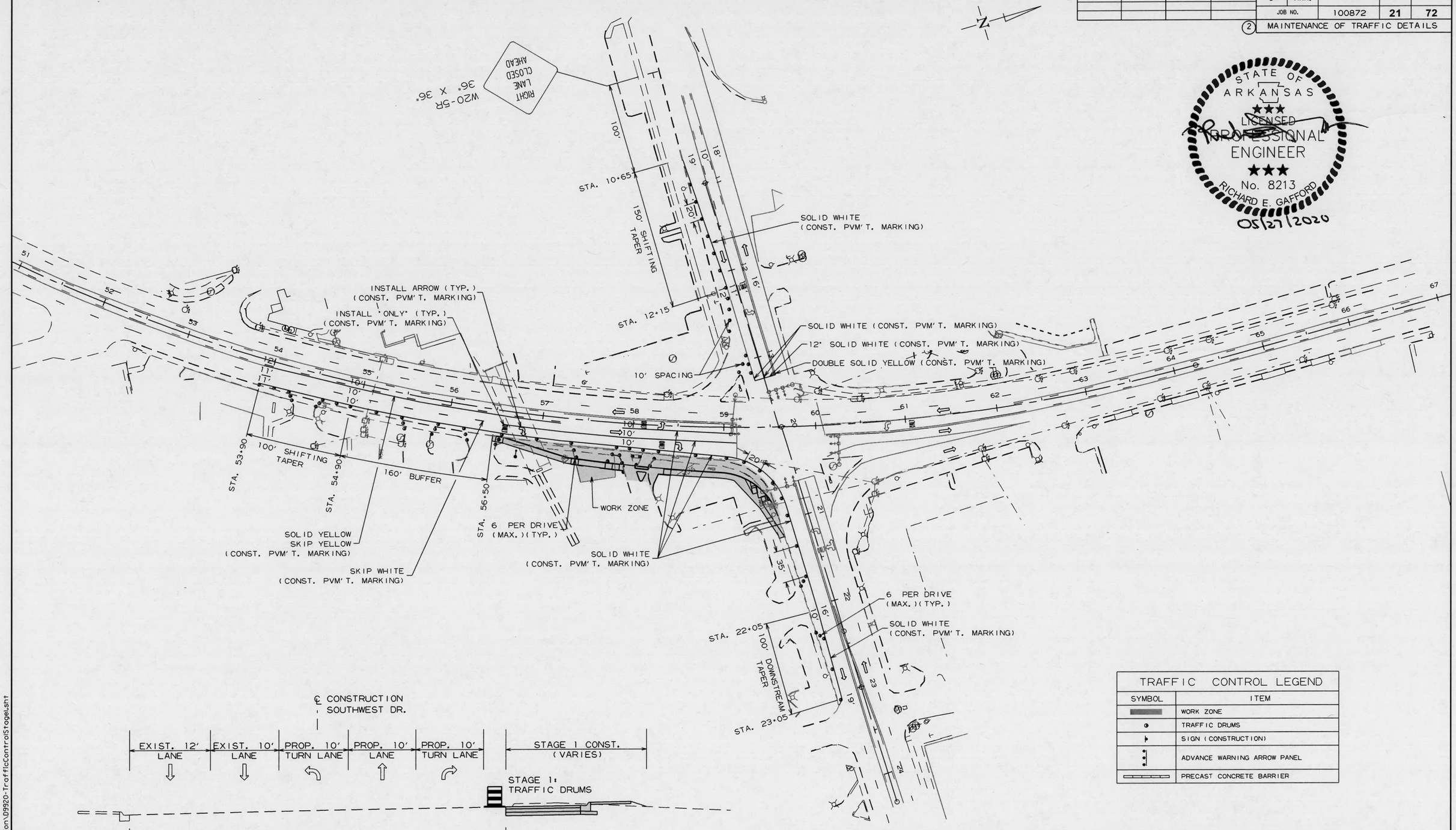
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 21 | 72 |
| | | | | (2) | MAINTENANCE OF TRAFFIC DETAILS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020




| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | ADVANCE WARNING ARROW PANEL |
| | PRECAST CONCRETE BARRIER |

# MAINTENANCE OF TRAFFIC DETAILS
## STAGE 1

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 22 | 72 |
| | | | | (2) | MAINTENANCE OF TRAFFIC DETAILS | | | |

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ENGINEER
No. 8213
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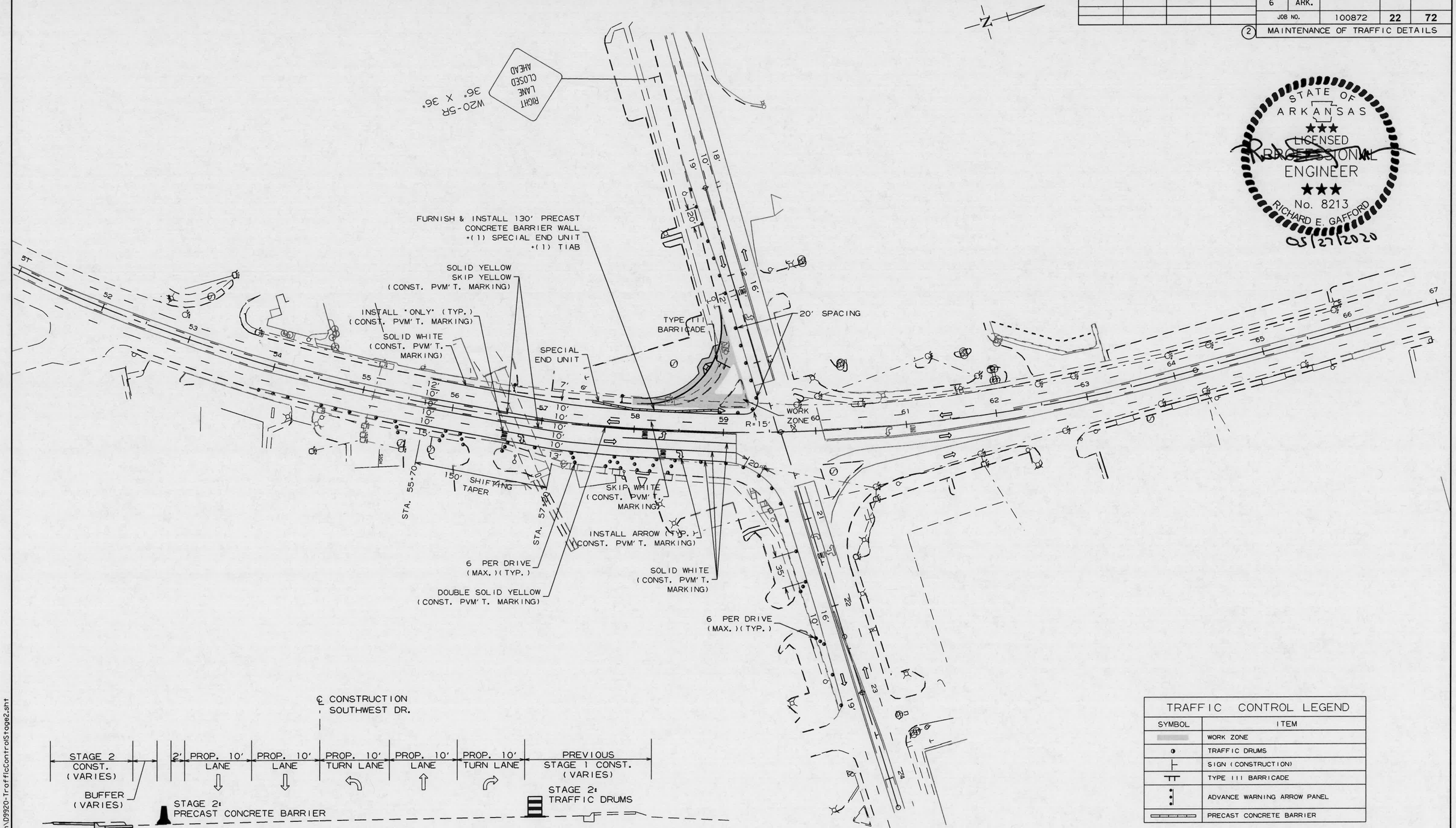
05/27/2020




| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | TYPE III BARRICADE |
| | ADVANCE WARNING ARROW PANEL |
| | PRECAST CONCRETE BARRIER |

# MAINTENANCE OF TRAFFIC DETAILS
## STAGE 2

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 23 | 72 |

(2) MAINTENANCE OF TRAFFIC DETAILS

℄ CONSTRUCTION
W. HIGHLAND DR.

PARKING LOT | STAGE 3 CONST. (VARIES) | 6' BUFFER | 2' | PROP. 11' LANE | PROP. 11' LANE | PROP. 12' LANE

STAGE 3:
PRECAST CONCRETE BARRIER

EXIST. PAVEMENT
(LOOKING EAST)

W1-4R 36" X 36"

125'

STA. 9+80

250' SHIFTING TAPER

SOLID YELLOW
SKIP YELLOW
(CONST. PVM'T. MARKING)

SPECIAL END UNIT

STA. 11+30

100' DOWNSTREAM TAPER

STA. 12+30

SOLID WHITE
(CONST. PVM'T. MARKING)

INSTALL 'ONLY' (TYP.)
(CONST. PVM'T. MARKING)

6 PER DRIVE (MAX.)(TYP.)

12' SOLID WHITE
(CONST. PVM'T. MARKING)

INSTALL ARROW (TYP.)
(CONST. PVM'T. MARKING)

DOUBLE SOLID YELLOW
(CONST. PVM'T. MARKING)

SOLID WHITE
(CONST. PVM'T. MARKING)

WORK ZONE

R=15'

R=10'

20' SPACING

SOLID WHITE
(CONST. PVM'T. MARKING)

TYPE III BARRICADE

STA. 21+55

SHIFTING 100' TAPER

STA. 22+55

6 PER DRIVE (MAX.)(TYP.)

DOUBLE SOLID YELLOW
(CONST. PVM'T. MARKING)

DOUBLE SOLID YELLOW
(CONST. PVM'T. MARKING)

STA. 22+05

SKIP WHITE
(CONST. PVM'T. MARKING)

SHIFTING 150' TAPER

LEFT TURN LANE 215' TAPER

STA. 23+55

SOLID WHITE
(CONST. PVM'T. MARKING)

STA. 24+20

MATCHLINE A
(THIS SHEET)

RELOCATE 130' PRECAST CONCRETE BARRIER
FURNISH & INSTALL 134' PRECAST
CONCRETE BARRIER WALL
+(1) SPECIAL END UNIT
+(1) TIAB

ADVANCE WARNING ARROW PANEL (96" X 84")

W4-2R 36" X 36"

W20-5R 36" X 36"

RIGHT LANE CLOSED AHEAD

STA. 63+40

350'

320' MERGING TAPER

STA. 62+20

40'

100' DOWNSTREAM TAPER

STA. 63+20

SOLID WHITE
(CONST. PVM'T. MARKING)

6 PER DRIVE (MAX.)(TYP.)

WORK ZONE

MATCHLINE A
(THIS SHEET)

40'

320' MERGING TAPER

SOLID WHITE
(CONST. PVM'T. MARKING)

ADVANCE WARNING ARROW PANEL (96" X84")

STA. 26+75

350'

W4-2R 36" X 36"

W20-5R 36" X 36"

RIGHT LANE CLOSED AHEAD

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

| TRAFFIC CONTROL LEGEND | |
|---|---|
| SYMBOL | ITEM |
| | WORK ZONE |
| | TRAFFIC DRUMS |
| | SIGN (CONSTRUCTION) |
| | TYPE III BARRICADE |
| | ADVANCE WARNING ARROW PANEL |
| | PRECAST CONCRETE BARRIER |

℄ CONSTRUCTION
S. MAIN ST.

BUFFER (VARIES) | EXIST. 11' LANE | EXIST. 11' TURN LANE | PROP. 11' LANE | BUFFER (VARIES) | STAGE 3 CONST. (VARIES)

STAGE 3:
TRAFFIC DRUMS

STAGE 3:
TRAFFIC DRUMS

EXIST. PAVEMENT
(LOOKING NORTH)

# MAINTENANCE OF TRAFFIC DETAILS
## STAGE 3

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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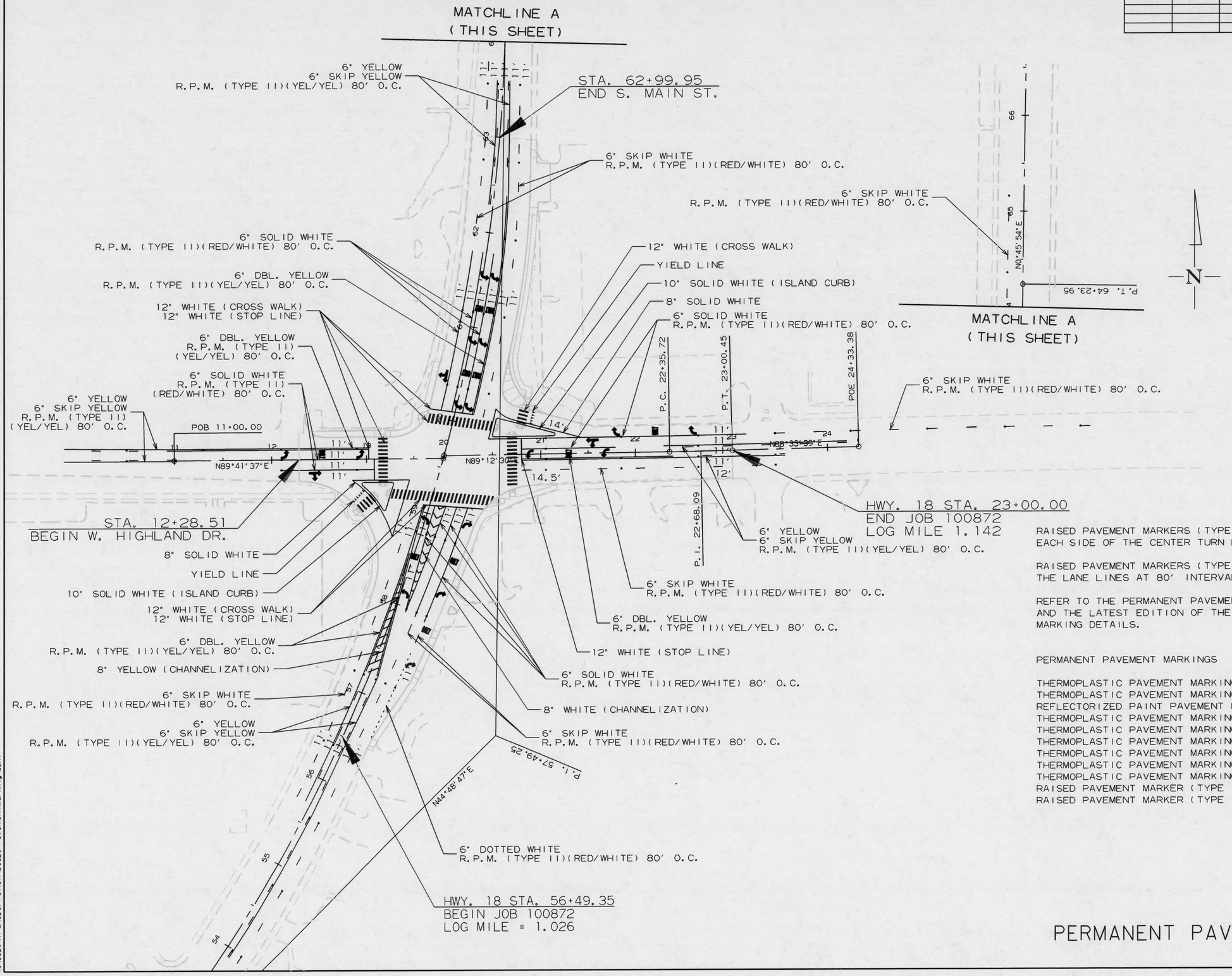
| | | | | JOB NO. | | 100872 | 24 | 72 |

(2) PERMANENT PAVEMENT MARKING DETAILS




RAISED PAVEMENT MARKERS (TYPE II)(YELLOW/YELLOW) ARE TO BE PLACED EACH SIDE OF THE CENTER TURN LANE AT 80' INTERVALS.

RAISED PAVEMENT MARKERS (TYPE II)(WHITE/RED) ARE TO BE PLACED ON THE LANE LINES AT 80' INTERVALS.

REFER TO THE PERMANENT PAVEMENT MARKING DETAILS, STD. DRWG. PM-1, AND THE LATEST EDITION OF THE MUTCD FOR ADDITIONAL PAVEMENT MARKING DETAILS.

PERMANENT PAVEMENT MARKINGS

THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 2074 L.F.
THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 477 L.F.
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") = 256 L.F.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 952 L.F.
THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 3544 L.F.
THERMOPLASTIC PAVEMENT MARKING YELLOW (8") = 100 L.F.
THERMOPLASTIC PAVEMENT MARKING (YIELD LINE) = 32 L.F.
THERMOPLASTIC PAVEMENT MARKING (WORDS) = 10 EA.
THERMOPLASTIC PAVEMENT MARKING (ARROWS) = 20 EA.
RAISED PAVEMENT MARKER (TYPE II)(RED/WHITE) = 47 EA.
RAISED PAVEMENT MARKER (TYPE II)(YEL/YEL) = 28 EA.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# PERMANENT PAVEMENT MARKING DETAILS

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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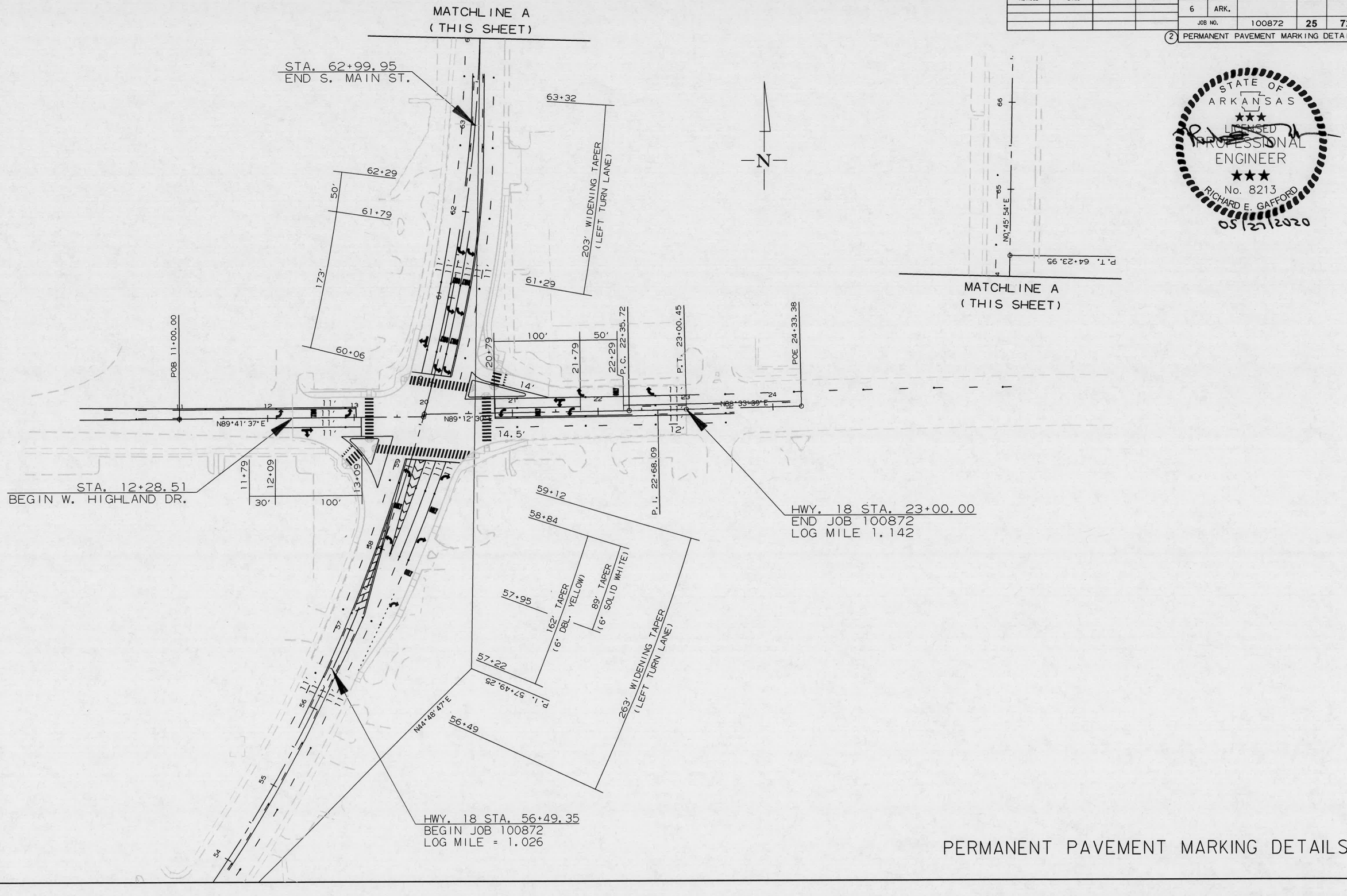
| | | | | JOB NO. | | 100872 | 25 | 72 |

(2) PERMANENT PAVEMENT MARKING DETAILS




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

PERMANENT PAVEMENT MARKING DETAILS

5/27/2020
W:\9920\Transportation\09920-PavementMarking-2.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 26 | 72 |
| | | | | (2) | | QUANTITIES | | |


## ADVANCE WARNING SIGNS AND DEVICES

| SIGN NUMBER | DESCRIPTION | SIGN SIZE | STAGE 1 | STAGE 2 | STAGE 3 | MAXIMUM NUMBER REQUIRED | TOTAL SIGNS REQUIRED | | VERTICAL PANELS | TRAFFIC DRUMS | BARRICADES (TYPE III) | | FURNISHING & INSTALLING PRECAST CONC. BARRIER | RELOCATING PRECAST CONCRETE BARRIER | TEMPORARY IMPACT ATTENUATION BARRIER | TEMP. IMPACT ATTEN.BARR. (RELOCATE) | TEMP. IMPACT ATTEN.BARR. (REPAIR) | * ADVANCE WARNING ARROW PANEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LIN. FT. - EACH | | | | NO. | SQ. FT. | EACH | | RIGHT | LEFT | LIN. FT. | | | EACH | | DAY |
| W20-1 | ROAD WORK 1500 FT. | 36"X36" | 4 | 4 | 4 | 4 | 4 | 36.0 | | | | | | | | | | |
| W20-1 | ROAD WORK 1000 FT. | 36"X36" | 4 | 4 | 4 | 4 | 4 | 36.0 | | | | | | | | | | |
| W20-1 | ROAD WORK 500 FT. | 36"X36" | 4 | 4 | 4 | 4 | 4 | 36.0 | | | | | | | | | | |
| W20-1 | ROAD WORK AHEAD | 36"X36" | 1 | 1 | 1 | 1 | 1 | 9.0 | | | | | | | | | | |
| G20-2 | END ROAD WORK | 36"x18" | 5 | 5 | 5 | 5 | 5 | 22.5 | | | | | | | | | | |
| W20-5R | RIGHT LANE CLOSED AHEAD | 36"x36" | 1 | 1 | 2 | 2 | 2 | 18.0 | | | | | | | | | | |
| W1-4R | REVERSE CURVE RT. | 36"x36" | | | 1 | 1 | 1 | 9.0 | | | | | | | | | | |
| W4-2R | RT. LANE ENDS | 36"x36" | | | 2 | 2 | 2 | 18.0 | | | | | | | | | | |
| W8-1 | BUMP | 30"x30" | 4 | 4 | 4 | 4 | 4 | 25.0 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| M3-1 | CARDINAL DIRECTION AUXILIARY - NORTH | 12"x24" | | | 7 | 7 | 7 | 14.0 | | | | | | | | | | |
| M3-2 | CARDINAL DIRECTION AUXILIARY - EAST | 12"x24" | 6 | 6 | 6 | 6 | 6 | 12.0 | | | | | | | | | | |
| M3-3 | CARDINAL DIRECTION AUXILIARY - SOUTH | 12"x24" | 5 | 5 | 5 | 5 | 5 | 10.0 | | | | | | | | | | |
| SPECIAL | ROADWAY NAME (S. MAIN ST.) | 12"X42" | | | 7 | 7 | 7 | 24.5 | | | | | | | | | | |
| SPECIAL | ROADWAY NAME (HWY. 18) | 12"X30" | 11 | 11 | 11 | 11 | 11 | 27.5 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| M4-8A | END DETOUR | 24"x18" | 2 | 2 | 4 | 4 | 4 | 12.0 | | | | | | | | | | |
| M4-8 | DETOUR | 30"x15" | 1 | 1 | 1 | 1 | 1 | 3.1 | | | | | | | | | | |
| M4-9R | DETOUR ARROW RT. | 30"x24" | 8 | 8 | 12 | 12 | 12 | 60.0 | | | | | | | | | | |
| M4-9L | DETOUR ARROW LT. | 30"x24" | 2 | 2 | 5 | 5 | 5 | 25.0 | | | | | | | | | | |
| SPECIAL A | DETOUR INFORMATION SIGN (INTERSTATE) | 168"X66" | 1 | 1 | 1 | 1 | 1 | 77.0 | | | | | | | | | | |
| SPECIAL B | DETOUR INFORMATION SIGN | 114"x42" | 2 | 2 | 2 | 2 | 2 | 66.5 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | VERTICAL PANELS | | 15 | 15 | 15 | 15 | | | 15 | | | | | | | | | |
| | TRAFFIC DRUMS | | 72 | 71 | 73 | 73 | | | | 73 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | TYPE III BARRICADE-RT. (8') | | | 1 | 1 | 1 | | | | | 8 | | | | | | | |
| | TYPE III BARRICADE-LT. (8') | | | 1 | 1 | 1 | | | | | | 8 | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | | | 130 | 134 | 264 | | | | | | | 264 | | | | | |
| | RELOCATING PRECAST CONCRETE BARRIER | | | | 130 | 130 | | | | | | | | 130 | | | | |
| | TEMPORARY IMPACT ATTENUATION BARRIER | | | 1 | | 1 | | | | | | | | | 1 | | | |
| | TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATE) | | | | 1 | 1 | | | | | | | | | | 1 | | |
| | TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) | | | 1 | 1 | 2 | | | | | | | | | | | 2 | |
| | ADVANCE WARNING ARROW PANEL | | | | 1 | 1 | | | | | | | | | | | | 180 |
| | | | | | | | | | | | | | | | | | | |
| **TOTALS:** | | | | | | | | 541.1 | 15 | 73 | 8 | 8 | 264 | 130 | 1 | 1 | 2 | 180 |

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE SIDE OF THE PROJECT AND BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

5/27/2020
W:\9920\Transportation\09920-Quantities.sht

QUANTITIES

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 27 | 72 |
| | | | | (2) | QUANTITIES | | | |

## REMOVAL AND DISPOSAL OF ITEMS

| STATION | STATION | LOCATION | CURB | CURB AND GUTTER | CONCRETE ISLANDS | CONCRETE DRIVEWAYS | WALKS | SIGN FOUNDATIONS | SIGNS | SPRINKLER SYSTEM |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | LIN. FT. | LIN. FT. | SQ. YD. | SQ. YD. | SQ. YD. | EACH | EACH | EACH |
| 56+49 | 56+61 | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | | | 10 | | | | |
| 56+61 | 57+27 | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | 67 | | | 47 | | | |
| 57+27 | 58+48 | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | 85 | | 164 | | | | |
| 57+96 | 58+33 | LT. SIDE HWY. 18 (SOUTHWEST DR.) | | 36 | | | 23 | | | |
| 58+06 | | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | | 12 | | | | | |
| 58+21 | | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | | | | | 1 | 1 | |
| 58+40 | 59+30 | LT. SIDE HWY. 18 (SOUTHWEST DR.) | | 144 | 59 | | 59 | | | |
| 58+48 | 59+50 | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | 119 | | | 77 | | | |
| 58+69 | | RT. SIDE HWY. 18 (SOUTHWEST DR.) | | | | | | | 1 | |
| 59+90 | 63+00 | RT. SIDE S. MAIN ST. | 452 | | | | 5 | | | |
| 62+60 | | RT. SIDE S. MAIN ST. | | | | | | | | |
| 59+75 | 60+57 | LT. SIDE S. MAIN ST. | | | 16 | | 50 | | | |
| 60+05 | 60+50 | RT. SIDE S. MAIN ST. (IN ISLAND) | | | | | | 1 | 1 | 1 |
| | | | | | | | | | | |
| 12+33 | 13+61 | LT. SIDE W. HIGHLAND DR. | 20 | | | 8 | | | | |
| | | | | | | | | | | |
| 20+66 | 21+17 | RT. SIDE HWY. 18 (E. HIGHLAND DR.) | | 23 | | | 33 | 1 | | |
| | | | | | | | | | | |
| TOTALS: | | | 472 | 474 | 87 | 182 | 294 | 3 | 3 | 1 |

## EARTHWORK

| STATION | STATION | LOCATION / DESCRIPTION | UNCLASSIFIED EXCAVATION | COMPACTED EMBANKMENT | * SOIL STABILIZATION |
|---|---|---|---|---|---|
| | | | CU. YD. | | TON |
| 54+91.05 | 59+62.47 | HWY. 18 (SOUTHWEST DR.) - STAGE 1 | 234 | 18 | |
| 54+91.05 | 59+62.47 | HWY. 18 (SOUTHWEST DR.) - STAGE 2 | 91 | 6 | |
| 59+62.47 | 62+99.85 | S. MAIN ST. - STAGE 3 | 171 | 112 | |
| 12+28.51 | 13+50.00 | W. HIGHLAND DR. - STAGE 2 | 124 | 5 | |
| 12+28.51 | 13+50.00 | W. HIGHLAND DR. - STAGE 3 | 24 | 9 | |
| 20+50.00 | 23+00.00 | HWY. 18 (E. HIGHLAND DR.) - STAGE 1 | 35 | 7 | |
| 20+50.00 | 23+00.00 | HWY. 18 (E. HIGHLAND DR.) - STAGE 3 | 80 | 36 | |
| ENTIRE | PROJECT | UNDERCUT FOR UNSUITABLE EXISTING MATERIAL | 633 | 633 | |
| | | | | | |
| ENTIRE | PROJECT | APPROACHES | 5 | 60 | |
| | | | | | |
| * ENTIRE | PROJECT | TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | | | 20 |
| | | | | | |
| TOTALS: | | | 1397 | 886 | 20 |

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

## REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

| STATION | DESCRIPTION | JUNCTION BOXES | DROP INLETS |
|---|---|---|---|
| | | EACH | EACH |
| 58+38 | LT. SIDE HWY. 18 | | 1 |
| 59+80 | LT. SIDE S. MAIN ST. | | 1 |
| 60+50 | LT. SIDE S. MAIN ST. | 1 | |
| 61+77 | RT. SIDE S. MAIN ST. | | 1 |
| 20+79 | RT. SIDE HWY. 18 | | 1 |
| | | | |
| TOTALS: | | 1 | 4 |

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## SOIL LOG

| STATION | LATITUDE | | | LONGITUDE | | | LOCATION | DEPTH | LIQUID LIMIT | PLASTICITY INDEX | AASHTO CLASSIFICATION | COLOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DEG | MIN | SEC | DEG | MIN | SEC | | FEET | | | | |
| 56+10 | 35 | 49 | 13.69 | 90 | 42 | 21.54 | HWY. 18, 58' RT. | 6 | - | - | A-6* | RED |
| | | | | | | | | 10 | - | - | A-6* | BROWN |
| | | | | | | | | | | | | |
| 57+80 | 35 | 49 | 15.05 | 90 | 42 | 20.68 | HWY. 18, 58' RT. | 10 | 45 | 27 | A-7-6 (29) | BROWN |
| | | | | | | | | | | | | |
| 59+05 | 35 | 49 | 16.13 | 90 | 42 | 20.08 | HWY. 18, 70, RT. | 3.5 | 29 | 13 | A-6 (2) | BROWN/RED |
| | | | | | | | | 10 | 34 | 15 | A-6 (15) | BROWN |
| | | | | | | | | | | | | |
| 62+20 | 35 | 49 | 19.37 | 90 | 42 | 19.31 | S. MAIN ST., 58' RT. | 6 | - | - | A-6* | BROWN |
| | | | | | | | | 10 | - | - | A-2-4* | RED |
| | | | | | | | | | | | | |
| 63+15 | 35 | 49 | 20.33 | 90 | 42 | 19.05 | S. MAIN ST., 68' RT. | 6 | 41 | 23 | A-7-6 (24) | BROWN |
| | | | | | | | | 8 | - | - | A-2-6* | RED |
| | | | | | | | | 10 | - | - | A-2-4* | RED |

* BASED ON VISUAL CLASSIFICATION, NO TESTS PERFORMED.

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.
Z- AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

## CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

| DESCRIPTION | STAGE 1 | STAGE 2 | STAGE 3 | END OF JOB | REMOVAL OF PERMANENT PAVEMENT MARKINGS | CONSTRUCTION PAVEMENT MARKINGS | | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | RAISED PAVEMENT MARKERS | | REFLECTORIZED PAINT PAVEMENT MARKING | THERMOPLASTIC PAVEMENT MARKING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | WORDS | ARROWS | | TYPE II (WHITE/RED) | TYPE II (YEL/YEL) | 10" WHITE | 6" WHITE | 6" YELLOW | 8" WHITE | 8" YELLOW | 12" WHITE | YIELD LINE | WORDS | ARROWS |
| | LIN. FT. - EACH | | | | LIN. FT. | EACH | | LIN. FT. | EACH | | | LIN. FT. | | | | | | EACH | |
| REMOVAL OF PERMANENT PAVEMENT MARKINGS | 939 | 640 | 1998 | | 3577 | | | | | | | | | | | | | | |
| CONSTRUCTION PAVEMENT MARKINGS (WORDS) | 3 | 3 | 2 | | | 8 | | | | | | | | | | | | | |
| CONSTRUCTION PAVEMENT MARKINGS (ARROWS) | 3 | 3 | 3 | | | | 9 | | | | | | | | | | | | |
| REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | 1857 | 1972 | 4644 | | | | | 8473 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) | | | | 47 | | | | | 47 | | | | | | | | | | |
| RAISED PAVEMENT MARKERS TYPE II (YEL/YEL) | | | | 28 | | | | | | 28 | | | | | | | | | |
| REFLECTORIZED PAINT PAVEMENT MARKING (10") | | | | 256 | | | | | | | 256 | | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING WHITE (6") | | | | 2074 | | | | | | | | 2074 | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING YELLOW (6") | | | | 3544 | | | | | | | | | 3544 | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING WHITE (8") | | | | 477 | | | | | | | | | | 477 | | | | | |
| THERMOPLASTIC PAVEMENT MARKING YELLOW (8") | | | | 100 | | | | | | | | | | | 100 | | | | |
| THERMOPLASTIC PAVEMENT MARKING WHITE (12") | | | | 952 | | | | | | | | | | | | 952 | | | |
| THERMOPLASTIC PAVEMENT MARKING (YIELD LINE) | | | | 32 | | | | | | | | | | | | | 32 | | |
| THERMOPLASTIC PAVEMENT MARKING (WORDS) | | | | 10 | | | | | | | | | | | | | | 10 | |
| THERMOPLASTIC PAVEMENT MARKING (ARROWS) | | | | 20 | | | | | | | | | | | | | | | 20 |
| | | | | | | | | | | | | | | | | | | | |
| TOTALS: | | | | | 3577 | 8 | 9 | 8473 | 47 | 28 | 256 | 2074 | 3544 | 477 | 100 | 952 | 32 | 10 | 20 |

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NOTE: NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

QUANTITIES

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 28 | 72 |
| | | | | (2) | QUANTITIES | | | |

## WHEELCHAIR RAMPS

| STATION | LOCATION | TYPE 1 | TYPE 3 | TYPE 4 |
|---|---|---|---|---|
| | | SQ.YD. | | |
| 58+82 | LT. OF HWY 18 | | | 24.4 |
| 59+09 | LT. OF HWY 18 ON ISLAND | | | 4.3 |
| 59+32 | RT. OF HWY 18 | 50.9 | | |
| 59+97 | LT. OF MAIN ST. | | | 38.1 |
| 60+04 | RT. OF MAIN ST. ON ISLAND | | | 4.7 |
| 60+39 | RT. OF MAIN ST. | | 7.9 | |
| 13+08 | RT. OF W. HIGHLAND ON ISLAND | | | 3.9 |
| 13+18 | RT. OF W. HIGHLAND ON ISLAND | | | 3.9 |
| 13+18 | LT. OF W. HIGHLAND | | | 13.3 |
| 20+70 | LT. OF HWY 18 ON ISLAND | | | 4.3 |
| 20+79 | LT. OF HWY 18 ON ISLAND | | | 4.3 |
| 20+84 | LT. OF HWY 18 ON TRUCK APRON | | | 4.3 |
| TOTALS: | | 50.9 | 7.9 | 105.5 |

## CONCRETE WALKS

| STATION | STATION | LOCATION | LENGTH | CONCRETE WALKS |
|---|---|---|---|---|
| | | | LIN. FT. | SQ.YD. |
| 56+61 | 57+35 | RT. OF HWY. 18 | 74 | 49 |
| 58+44 | 59+13 | RT. OF HWY. 18 | 69 | 46 |
| 57+96 | 58+76 | LT. OF HWY. 18 | 80 | 53 |
| 12+69 | 12+84 | RT. OF W. HIGHLAND ST. | 15 | 10 |
| 60+16 | 60+57 | LT. OF MAIN ST. | 41 | 27 |
| 60+46 | 62+24 | RT. OF MAIN ST. | 178 | 119 |
| 62+90 | 63+00 | RT. OF MAIN ST. | 10 | 7 |
| | | | | |
| TOTAL: | | | | 311 |

## CONCRETE WALKS (TYPE SPECIAL)

| STATION | STATION | LOCATION | LENGTH | CONCRETE WALKS |
|---|---|---|---|---|
| | | | LIN. FT. | SQ.YD. |
| 12+48 | 13+34 | LT. OF W. HIGHLAND ST. | 86 | 57 |
| | | | | |
| TOTAL: | | | | 57 |

## 4" PIPE UNDERDRAIN

| STATION | STATION | LOCATIONS | 4" PIPE UNDERDRAINS |
|---|---|---|---|
| | | | LIN. FT. |
| * ENTIRE PROJECT TO BE USED IF AND | | | 500 |
| WHERE DIRECTED BY THE ENGINEER | | | |
| | | | |
| TOTAL: | | | 500 |

* NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

## CONCRETE COMBINATION CURB AND GUTTER

| STATION | STATION | LOCATION | TYPE A (1' 6") |
|---|---|---|---|
| | | | LIN. FT. |
| 56+61 | 59+35 | RT. OF HWY. 18 (SOUTHWEST DR.) | 297 |
| 57+96 | 58+76 | LT. OF HWY. 18 (SOUTHWEST DR.) | 84 |
| 60+16 | 60+48 | LT. OF S. MAIN ST. | 32 |
| 60+85 | 61+02 | RT. OF S. MAIN ST. | 17 |
| 61+07 | 61+75 | RT. OF S. MAIN ST. | 68 |
| 61+83 | 63+00 | RT. OF S. MAIN ST. | 117 |
| 12+35 | 12+63 | LT. OF W. HIGHLAND ST. | 41 |
| 12+75 | 13+00 | LT. OF W. HIGHLAND ST. | 25 |
| 13+26 | 13+45 | LT. OF W. HIGHLAND ST. | 19 |
| 12+28 | 12+84 | RT. OF W. HIGHLAND ST. | 61 |
| 20+53 | 20+67 | RT. OF HWY. 18 (E. HIGHLAND ST.) | 16 |
| 20+73 | 20+77 | RT. OF HWY. 18 (E. HIGHLAND ST.) | 4 |
| 20+82 | 20+93 | RT. OF HWY. 18 (E. HIGHLAND ST.) | 11 |
| 21+12 | 21+43 | LT. OF HWY. 18 (E. HIGHLAND ST.) | 31 |
| TOTAL: | | | 823 |

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## CONCRETE ISLAND

| STATION | LOCATION | CURB FACE TYPE | CONCRETE ISLAND |
|---|---|---|---|
| | | | SQ.YD. |
| 59+05 | LT. OF HWY. 18 | B | 62 |
| 60+04 | RT. OF S. MAIN ST. | B | 88 |
| | | | |
| | | | |
| TOTAL: | | | 150 |

## BENCH MARKS

| STATION | LOCATION | BENCH MARKS |
|---|---|---|
| | | EACH |
| 56+44.26 | TOP OF DROP INLET ON LEFT | 1 |
| | | |
| TOTAL: | | 1 |

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

## EROSION CONTROL

| STATION | STATION | LOCATION | PERMANENT EROSION CONTROL | | | | | | TEMPORARY EROSION CONTROL | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SEEDING | LIME | MULCH COVER | WATER | SECOND SEEDING APPLICATION | SOLID SODDING | TEMPORARY SEEDING | MULCH COVER | WATER | FILTER SOCK (12") (E-13) | SILT FENCE (E-11) | *SEDIMENT REMOVAL & DISPOSAL |
| | | | ACRE | TON | ACRE | M.GAL. | ACRE | SQ.YD. | ACRE | ACRE | M.GAL. | LIN. FT. | LIN. FT. | CU. YD. |
| ENTIRE | PROJECT | CLEARING AND GRUBBING | | | | | | | | | | | | |
| ENTIRE | PROJECT | STAGE 1 | 0.02 | 0.04 | 0.02 | 3.0 | 0.02 | 78.0 | 0.02 | 0.02 | 0.4 | 90 | 250 | 13 |
| ENTIRE | PROJECT | STAGE 2 | 0.02 | 0.04 | 0.02 | 3.1 | 0.02 | 82.0 | 0.02 | 0.02 | 0.4 | 10 | 156 | 6 |
| ENTIRE | PROJECT | STAGE 3 | 0.11 | 0.22 | 0.11 | 17.9 | 0.11 | 529.0 | 0.11 | 0.11 | 2.2 | 158 | 290 | 17 |
| | | | | | | | | | | | | | | |
| *ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. | | | 0.04 | 0.08 | 0.04 | 6.0 | 0.04 | 172.3 | 0.04 | 0.04 | 0.8 | 65 | 174 | 9 |
| | | | | | | | | | | | | | | |
| TOTALS: | | | 0.19 | 0.38 | 0.19 | 30.0 | 0.19 | 861.3 | 0.19 | 0.19 | 3.8 | 323 | 870 | 45 |

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

5/27/2020
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QUANTITIES

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 29 | 72 |
| | | | | (2) | | QUANTITIES | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

## CONCRETE BASE

| STATION | STATION | LOCATION | LENGTH | PORTLAND CEMENT CONCRETE BASE | | | |
|---|---|---|---|---|---|---|---|
| | | | | AVG. WID. (6" U.T.) | 6" U.T. | AVG. WID. (4" U.T.) | 4" U.T. |
| | | | FEET | FEET | SQ. YD. | FEET | SQ. YD. |
| 56+49.35 | 56+81.76 | RT. SIDE HWY. 18 (SOUTHWEST DR.) | 32.41 | 1.46 | 5.26 | 3.96 | 14.26 |
| 57+96.40 | 58+32.05 | LT. SIDE HWY. 18 (SOUTHWEST DR.) | 35.65 | 1.35 | 5.35 | 3.85 | 15.25 |
| 12+28.50 | 12+52.79 | RT. SIDE W. HIGHLAND DR. | 24.29 | 1.62 | 4.37 | 4.12 | 11.12 |
| 12+33.41 | 12+54.69 | LT. SIDE W. HIGHLAND DR. | 21.28 | 4.74 | 11.21 | 7.24 | 17.12 |
| 12+54.69 | 13+27.74 | LT. SIDE W. HIGHLAND DR. | 73.05 | | | 2.50 | 20.29 |
| 13+27.74 | 13+46.29 | LT. SIDE W. HIGHLAND DR. | 18.55 | 1.44 | 2.97 | 3.94 | 8.12 |
| 20+73.60 | 20+92.70 | RT. SIDE HWY. 18 (E. HIGHLAND DR.) | 19.10 | 2.36 | 5.01 | 4.86 | 10.31 |
| 59+89.16 | 60+07.96 | LT. SIDE S. MAIN ST. | 18.80 | 1.42 | 2.97 | 3.92 | 8.19 |
| 60+07.96 | 60+39.00 | LT. SIDE S. MAIN ST. | 31.04 | | | 2.50 | 8.62 |
| 60+39.00 | 60+57.00 | LT. SIDE S. MAIN ST. | 18.00 | 3.20 | 6.40 | 5.70 | 11.40 |
| 60+57.00 | 62+99.95 | RT. SIDE S. MAIN ST. | 242.95 | | | 2.50 | 67.49 |
| **TOTALS:** | | | | | **43.54** | | **192.17** |

## ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

| LOCATION | TON | TACK COAT |
|---|---|---|
| | | GALLON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE | 6 | 12 |
| DIRECTED BY THE ENGINEER | | |
| | | |
| **TOTALS:** | **6** | **12** |

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

## DRIVEWAYS & TURNOUTS

| STATION | SIDE | LOCATION | WIDTH | **MODIFIED CURB | | PORTLAND CEMENT CONCRETE DRIVEWAY | ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22) | | AGGREGATE BASE COURSE (CLASS 7) |
|---|---|---|---|---|---|---|---|---|---|
| | | | FEET | STATION | STATION | SQ. YD. | SQ. YD. | TON | TON |
| 57+58 | RT. | HWY. 18 (SOUTHWEST DR.) | 18 | 57+35 | 57+81 | 40.89 | 26.80 | 2.95 | 10.94 |
| 58+12 | RT. | HWY. 18 (SOUTHWEST DR.) | 38 | 57+79 | 58+45 | 100.01 | | | |
| 62+57 | RT. | S. MAIN ST. | 40 | 62+23 | 62+91 | 60.44 | 65.73 | 7.23 | 26.84 |
| | | | | | | | | | |
| * ENTIRE PROJECT TEMPORARY DRIVES | | | | | | | | | 30.00 |
| | | | | | | | | | |
| **TOTALS:** | | | | | | **201.34** | **92.53** | **10.18** | **67.78** |

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

* QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

** FOR INFORMATION ONLY

## COLD MILLING ASPHALT PAVEMENT

| STATION | STATION | LOCATION | AVG. WIDTH | COLD MILLING ASPHALT PAVEMENT |
|---|---|---|---|---|
| | | | FEET | SQ. YD. |
| 56+49.35 | 59+62.47 | HWY. 18 (SOUTHWEST DR.) | 56.97 | 1982.05 |
| 59+62.47 | 62+99.95 | S. MAIN ST. | 61.88 | 2320.36 |
| 12+28.51 | 13+53.29 | W. HIGHLAND DR. | 43.08 | 597.28 |
| 20+33.38 | 23+00.00 | HWY. 18 (E. HIGHLAND DR.) | 55.43 | 1642.08 |
| | | | | |
| | | | | |
| **TOTAL:** | | | | **6541.77** |

NOTE: AVERAGE MILLING DEPTH 2".

QUANTITIES

5/27/2020
W:\9920\Transportation\09920-Quantities.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 30 | 72 |
| | | | | (2) | | QUANTITIES | | |

## STRUCTURES

| STATION | DESCRIPTION | PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 | | DROP INLETS | | JUNCT. BOXES ADJUSTED TO GRADE | JUNCT. BOXES | STD. DWG. NOS. |
|---|---|---|---|---|---|---|---|---|
| | | | | TYPE | EXT. | | | |
| | | 18" | 24" | MO | 4' | | (TYPE ST) | |
| | | LIN. FT. | | | | EACH | | |
| 58+03 | CONSTRUCT DROP INLET ON LT. | 6 | | 1 | | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| 58+03 | CONSTRUCT JUNCTION BOX ON LT. | | | | | | 1 | FPC-9S |
| 58+36 | CONSTRUCT JUNCTION BOX ON LT. | | | | | | 1 | FPC-9S |
| 59+80 | CONSTRUCT JUNCTION BOX ON LT. | | | | | | 1 | FPC-9S |
| 60+03 | MODIFY JUNCTION BOX ON LT. | | | | | 1 | | FPC-9 |
| 60+20 | CONSTRUCT JUNCTION BOX ON RT. | | | | | | 1 | FPC-9S |
| 60+50 | CONSTRUCT DROP INLET ON LT. | | | 1 | 1 | | | FPC-9E, FPC-9M |
| 60+61 | MODIFY DROP INLET ON RT. | | | | | 1 | | FPC-9 |
| 61+02 | CONSTRUCT JUNCTION BOX ON RT. | | | | | | 1 | FPC-9S |
| 61+04 | CONSTRUCT DROP INLET ON RT. | 12 | | 1 | | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| 61+77 | CONSTRUCT DROP INLET ON RT. | | | 1 | 1 | | | FPC-9E, FPC-9M |
| | | | | | | | | |
| 12+69 | CONSTRUCT DROP INLET ON LT. | 34 | | 1 | 2 | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| 13+03 | CONSTRUCT DROP INLET ON LT. | 45 | | 1 | 1 | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| 13+50 | CONSTRUCT DROP INLET ON LT. | | 8 | 1 | 1 | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| | | | | | | | | |
| 20+79 | CONSTRUCT DROP INLET ON RT. | | | 1 | | | | FPC-9E, FPC-9M |
| 21+40 | CONSTRUCT DROP INLET ON LT. | 72 | | 1 | | | | FPC-9E, FPC-9M, PCC-1, PCM-1 |
| | | | | | | | | |
| **TOTALS:** | | **169** | **8** | **9** | **6** | **2** | **5** | |

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

## SELECTED PIPE BEDDING

| LOCATION | SELECTED PIPE BEDDING |
|---|---|
| | CU.YD. |
| ENTIRE PROJECT TO BE USED IF | |
| AND WHERE DIRECTED BY THE | 20 |
| ENGINEER | |
| | |
| | |
| **TOTAL:** | **20** |

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

## PORTLAND CEMENT CONCRETE PAVEMENT

| STATION | STATION | LOCATION | LENGTH | ACHM BASE COURSE (1 1/2") 660 LBS. PER SQ. YD. | | | PORTLAND CEMENT CONCRETE PAVEMENT | |
|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WID. | SQ. YD. | TON | AVG. WID. | 9" U.T. |
| | | | FEET | FEET | | | FEET | SQ. YD. |
| 60+27.71 | 60+84.58 | RT. SIDE S. MAIN ST. | 56.87 | 11.93 | 75.38 | 24.88 | 10.62 | 67.11 |
| | | | | | | | | |
| **TOTALS:** | | | | | **75.38** | **24.88** | | **67.11** |

BASIS OF ESTIMATE:
ACHM BASE COURSE (1 1/2").....96.1% MIN. AGGR.....3.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

## BASE AND SURFACING

| STATION | STATION | LOCATION | LENGTH | TACK COAT (0.05 GAL. PER SQ. YD.) | | | TACK COAT (0.17 GAL. PER SQ. YD.) | | | TOTAL GALLONS | ACHM BASE COURSE (1 1/2") | | | | ACHM BINDER COURSE (1") | | | | ACHM SURFACE COURSE (1/2") | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TOTAL WID. | SQ.YD. | GALLON | TOTAL WID. | SQ.YD. | GALLON | | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 70-22 | AVG. WID. | SQ.YD. | POUND / SQ.YD. | PG 70-22 | TOTAL PG 70-22 |
| | | | FEET | FEET | | | FEET | | | | FEET | | | TON | FEET | | | TON | FEET | | | TON | FEET | | | TON | TON |
| **MAIN LANES** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56+49.35 | 57+30.96 | HWY. 18 (SOUTHWEST DR.) | 81.61 | 7.05 | 63.93 | 3.20 | 55.00 | 498.73 | 84.78 | 87.98 | 8.89 | 80.61 | 440.00 | 17.73 | 7.05 | 63.93 | 440.00 | 14.06 | 7.05 | 63.93 | 220.00 | 7.03 | 61.29 | 555.76 | 220.00 | 61.13 | 68.16 |
| 57+30.96 | 57+93.00 | HWY. 18 (SOUTHWEST DR.) | 62.04 | 15.40 | 106.16 | 5.31 | 55.53 | 382.79 | 65.07 | 70.38 | 17.95 | 123.74 | 440.00 | 27.22 | 15.40 | 106.16 | 440.00 | 23.36 | 15.40 | 106.16 | 220.00 | 11.68 | 70.73 | 487.57 | 220.00 | 53.63 | 65.31 |
| 57+93.00 | 59+18.01 | HWY. 18 (SOUTHWEST DR.) | 125.01 | 15.05 | 209.04 | 10.45 | 59.81 | 830.76 | 141.23 | 151.68 | 17.18 | 238.63 | 440.00 | 52.50 | 15.05 | 209.04 | 440.00 | 45.99 | 15.05 | 209.04 | 220.00 | 22.99 | 74.86 | 1039.81 | 220.00 | 114.38 | 137.37 |
| 59+18.01 | 59+62.47 | HWY. 18 (SOUTHWEST DR.) | 44.46 | 2.25 | 11.12 | 0.56 | 76.17 | 376.28 | 63.97 | 64.53 | 2.25 | 11.12 | 440.00 | 2.45 | 2.25 | 11.12 | 440.00 | 2.45 | 2.25 | 11.12 | 220.00 | 1.22 | 78.42 | 387.39 | 220.00 | 42.61 | 43.83 |
| 59+62.47 | 60+57.00 | S. MAIN ST. | 94.53 | 7.34 | 77.09 | 3.85 | 58.92 | 618.86 | 105.21 | 109.06 | 7.60 | 79.83 | 440.00 | 17.56 | 7.34 | 77.09 | 440.00 | 16.96 | 7.34 | 77.09 | 220.00 | 8.48 | 66.26 | 695.95 | 220.00 | 76.55 | 85.03 |
| 60+57.00 | 61+29.41 | S. MAIN ST. | 72.41 | | | | 66.27 | 533.18 | 90.64 | 90.64 | | | | | | | | | | | | | 66.27 | 533.18 | 220.00 | 58.65 | 58.65 |
| 61+29.41 | 62+99.95 | S. MAIN ST. | 170.54 | | | | 63.76 | 1208.18 | 205.39 | 205.39 | | | | | | | | | | | | | 63.76 | 1208.18 | 220.00 | 132.90 | 132.90 |
| 12+28.51 | 13+50.00 | W. HIGHLAND DR. | 121.49 | | | | 44.78 | 604.48 | 102.76 | 102.76 | | | | | | | | | | | | | 44.78 | 604.48 | 220.00 | 66.49 | 66.49 |
| 20+49.62 | 21+42.23 | HWY. 18 (E. HIGHLAND DR.) | 92.61 | 24.14 | 248.40 | 12.42 | 51.72 | 532.20 | 90.47 | 102.89 | 26.04 | 267.95 | 440.00 | 58.95 | 24.14 | 248.40 | 440.00 | 54.65 | 24.14 | 248.40 | 220.00 | 27.32 | 75.86 | 780.60 | 220.00 | 85.87 | 113.19 |
| 21+42.23 | 23+00.00 | HWY. 18 (E. HIGHLAND DR.) | 157.77 | | | | 57.02 | 999.56 | 169.93 | 169.93 | | | | | | | | | | | | | 57.02 | 999.56 | 220.00 | 109.95 | 109.95 |
| 59+75.37 | 59+89.16 | RADIUS: NW CORNER OF INTERSECTION | 13.79 | 10.37 | 15.89 | 0.79 | | | | 0.79 | 13.28 | 20.35 | 440.00 | 4.48 | 10.38 | 15.90 | 440.00 | 3.50 | 10.38 | 15.90 | 220.00 | 1.75 | 14.21 | 21.77 | 220.00 | 2.39 | 4.14 |
| 60+28.45 | 60+47.24 | RADIUS: NE CORNER OF INTERSECTION | 18.79 | 4.18 | 8.73 | 0.44 | | | | 0.44 | 8.26 | 17.25 | 440.00 | 3.80 | 4.19 | 8.75 | 440.00 | 1.93 | 4.19 | 8.75 | 220.00 | 0.96 | 4.19 | 8.75 | 220.00 | 0.96 | 1.92 |
| 58+32.05 | 59+28.48 | RADIUS: SW CORNER OF INTERSECTION | 96.43 | 32.53 | 348.54 | 17.43 | | | | 17.43 | 35.46 | 379.93 | 440.00 | 83.58 | 32.53 | 348.54 | 440.00 | 76.68 | 32.53 | 348.54 | 220.00 | 38.34 | 32.97 | 353.26 | 220.00 | 38.86 | 77.20 |
| 58+96.96 | 59+44.06 | RADIUS: SE CORNER OF INTERSECTION | 47.10 | 7.60 | 39.77 | 1.99 | 1.29 | 6.75 | 1.15 | 3.14 | 11.02 | 57.67 | 440.00 | 12.69 | 7.60 | 39.77 | 440.00 | 8.75 | 7.60 | 39.77 | 220.00 | 4.37 | 9.25 | 48.41 | 220.00 | 5.33 | 9.70 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **TOTALS:** | | | | | **1128.67** | **56.44** | | **6591.77** | **1120.60** | **1177.04** | | **1277.08** | | **280.96** | | **1128.70** | | **248.33** | | **1128.70** | | **124.14** | | **7724.67** | | **849.70** | **973.84** |

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.1% MIN. AGGR.....3.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

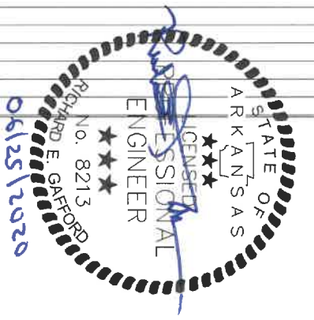
QUANTITIES

5/27/2020
W:\19920\Transportation\D9920-Quantities.sht

## SUMMARY OF QUANTITIES

| ITEM NUMBER | ITEM | | QUANTITY | UNIT |
|---|---|---|---|---|
| 202 | REMOVAL AND DISPOSAL OF CURB | | 472 | LIN. FT. |
| 202 | REMOVAL AND DISPOSAL OF CURB AND GUTTER | | 474 | LIN. FT. |
| 202 | REMOVAL AND DISPOSAL OF CONCRETE ISLANDS | | 87 | SQ. YD. |
| 202 | REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS | | 182 | SQ. YD. |
| 202 | REMOVAL AND DISPOSAL OF WALKS | | 294 | SQ. YD. |
| 202 | REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS | | 3 | EACH |
| 202 | REMOVAL AND DISPOSAL OF JUNCTION BOXES | | 1 | EACH |
| 202 | REMOVAL AND DISPOSAL OF DROP INLETS | | 4 | EACH |
| 202 | REMOVAL AND DISPOSAL OF SIGNS | | 3 | EACH |
| 202 | REMOVAL AND DISPOSAL OF SPRINKLER SYSTEM | | 1 | EACH |
| SS & 210 | UNCLASSIFIED EXCAVATION | | 1397 | CU. YD. |
| 210 | COMPACTED EMBANKMENT | | 886 | CU. YD. |
| SP & 210 | SOIL STABILIZATION | | 20 | TON |
| SS & 303 | AGGREGATE BASE COURSE (CLASS 7) | | 68 | TON |
| 309 | PORTLAND CEMENT CONCRETE BASE (4" UNIFORM THICKNESS) | | 192 | SQ. YD. |
| 309 | PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS) | | 44 | SQ. YD. |
| SS & 401 | TACK COAT | | 1189 | GAL. |
| SP, SS, & 405 | MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2") | | 294 | TON |
| SP, SS, & 405 | ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2") | | 12 | TON |
| SP, SS, & 406 | MINERAL AGGREGATE IN ACHM BINDER COURSE (1") | | 238 | TON |
| SP, SS, & 406 | ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1") | | 10 | TON |
| SP, SS, & 407 | MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2") | | 932 | TON |
| SP, SS, & 407 | ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") | | 1 | TON |
| SP, SS, & 407 | ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2") | | 51 | TON |
| 412 | COLD MILLING ASPHALT PAVEMENT | | 6542 | SQ. YD. |
| SP, SS, & 414 | ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC | | 6 | TON |
| SP & 501 | PORTLAND CEMENT CONCRETE PAVEMENT (9" UNIFORM THICKNESS) | | 67 | SQ. YD. |
| SS & 505 | PORTLAND CEMENT CONCRETE DRIVEWAY | | 201.34 | SQ. YD. |
| 601 | MOBILIZATION | | 1.00 | LUMP SUM |
| SP & 602 | FURNISHING FIELD OFFICE | | 1 | EACH |
| SS & 603 | MAINTENANCE OF TRAFFIC | | 1.00 | LUMP SUM |
| SS & 604 | SIGNS | | 541 | SQ. FT. |
| SS & 604 | BARRICADES | | 16 | LIN. FT. |
| SS & 604 | TRAFFIC DRUMS | | 73 | EACH |
| SS & 604 | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | | 264 | LIN. FT. |
| SS & 604 | RELOCATING PRECAST CONCRETE BARRIER | | 130 | LIN. FT. |
| 604 | CONSTRUCTION PAVEMENT MARKINGS (WORDS) | | 8 | EACH |
| 604 | CONSTRUCTION PAVEMENT MARKINGS (ARROWS) | | 9 | EACH |
| 604 | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | | 8473 | LIN. FT. |
| 604 | REMOVAL OF PERMANENT PAVEMENT MARKINGS | | 3577 | LIN. FT. |
| SS & 604 | ADVANCE WARNING ARROW PANEL | | 180 | DAY |
| SS & 604 | VERTICAL PANELS | | 15 | EACH |
| * 606 | 18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) | (ALTERNATE NO. 1) | 169 | LIN. FT. |
| * 606 | 18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE | (ALTERNATE NO. 2) | 169 | LIN. FT. |
| * 606 | 24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) | (ALTERNATE NO. 1) | 8 | LIN. FT. |
| * 606 | 24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE | (ALTERNATE NO. 2) | 8 | LIN. FT. |
| 606 | SELECTED PIPE BEDDING | | 20 | CU. YD. |
| SS & 609 | DROP INLETS (TYPE MO) | | 9 | EACH |
| SS & 609 | JUNCTION BOXES (TYPE ST) | | 5 | EACH |
| SS & 609 | DROP INLET EXTENSIONS (4') | | 6 | EACH |
| 610 | JUNCTION BOXES ADJUSTED TO GRADE | | 2 | EACH |
| SS & 611 | 4" PIPE UNDERDRAINS | | 500 | LIN. FT. |
| 620 | LIME | | 1 | TON |
| 620 | SEEDING | | 0.19 | ACRE |
| SS & 620 | MULCH COVER | | 0.38 | ACRE |
| 620 | WATER | | 33.8 | M. GAL. |
| 621 | TEMPORARY SEEDING | | 0.19 | ACRE |
| 621 | SILT FENCE | | 870 | LIN. FT. |
| 621 | SEDIMENT REMOVAL AND DISPOSAL | | 45 | CU. YD. |
| SS & 621 | FILTER SOCK (12") | | 323 | LIN. FT. |
| 623 | SECOND SEEDING APPLICATION | | 0.19 | ACRE |
| 624 | SOLID SODDING | | 861 | SQ. YD. |
| SS & 632 | CONCRETE ISLAND | | 150 | SQ. YD. |
| SS & 633 | CONCRETE WALKS | | 311 | SQ. YD. |
| SP, SS, & 633 | CONCRETE WALKS (TYPE SPECIAL) | | 57 | SQ. YD. |
| SS & 634 | CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6") | | 823 | LIN. FT. |
| 635 | ROADWAY CONSTRUCTION CONTROL | | 1.00 | LUMP SUM |
| 641 | WHEELCHAIR RAMPS (TYPE 1) | | 51 | SQ. YD. |
| 641 | WHEELCHAIR RAMPS (TYPE 3) | | 8 | SQ. YD. |
| 641 | WHEELCHAIR RAMPS (TYPE 4) | | 106 | SQ. YD. |
| SP & 701 | SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES) | | 2 | EACH |
| SP | TRAFFIC SIGNAL CONTROLLER (MODIFICATION) | | 2 | EACH |
| SP | ETHERNET SWITCH, T100 HARDENED (8-PORT) | | 2 | EACH |
| SP | E-NET CABLE (EXTERIOR CAT 5E) | | 130 | LIN. FT. |
| SP | LOCAL RADIO WITH ANTENNA RELOCATION | | 1 | EACH |
| SP | BATTERY BACKUP SYSTEM | | 1 | EACH |
| SP | PTZ CAMERA SYSTEM | | 2 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | | 21 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | | 5 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY) | | 2 | EACH |
| SP | RELOCATION OF TRAFFIC SIGNAL HEAD | | 9 | EACH |
| SP & 707 | COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED | | 10 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | | 4455 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | | 1891 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (20C/14 A.W.G.) | | 653 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.) | | 922 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.) | | 355 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | | 125 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | | 878 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | | 40 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (2") | | 155 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | | 20 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | | 238 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | | 661 | LIN. FT. |
| 711 | CONCRETE PULL BOX (TYPE 1 HD) | | 2 | EACH |
| 711 | CONCRETE PULL BOX (TYPE 2 HD) | | 10 | EACH |
| SS & 713 | SPAN WIRE ASSEMBLY | | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46') | | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50') | | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58') | | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (66') | | 1 | EACH |
| SP | LED LUMINAIRE ASSEMBLY | | 4 | EACH |
| SS & 715 | TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION | | 7 | EACH |
| SP | SERVICE POINT ASSEMBLY (2 CIRCUITS) | | 2 | EACH |
| SP | REMOVAL OF TRAFFIC SIGNAL EQUIPMENT | | 1.00 | LUMP SUM |
| 716 | TREATED WOOD POLE (CLASS 2, 45') | | 6 | EACH |
| 718 | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") | | 256 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (6") | | 2074 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (8") | | 477 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (12") | | 952 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING YELLOW (6") | | 3544 | LIN. FT. |
| 719 | THERMOPLASTIC PAVEMENT MARKING YELLOW (8") | | 100 | LIN. FT. |

* DENOTES ALTERNATE BID ITEMS.




SUMMARY OF QUANTITIES

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |

| FED.AID PROJ. NO. | STATE | JOB NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | 100872 | 31 | 72 |

SUMMARY OF QUANTITIES

## SUMMARY OF QUANTITIES

| ITEM NUMBER | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| 719 | THERMOPLASTIC PAVEMENT MARKING (WORDS) | 10 | EACH |
| 719 | THERMOPLASTIC PAVEMENT MARKING (ARROWS) | 20 | EACH |
| SP & 719 | THERMOPLASTIC PAVEMENT MARKING (YIELD LINE) | 32 | LIN. FT. |
| 721 | RAISED PAVEMENT MARKERS (TYPE II) | 75 | EACH |
| SP | 18" STREET NAME SIGN | 6 | EACH |
| SS & 731 | TEMPORARY IMPACT ATTENUATION BARRIER | 1 | EACH |
| SS & 731 | TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) | 2 | EACH |
| SS & 731 | TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) | 1 | EACH |
| SP | VIDEO DETECTOR ROTATION | 8 | EACH |
| SP & 733 | VIDEO DETECTOR (CLR) | 8 | EACH |
| SP & 733 | VIDEO DETECTOR (IP) | 9 | EACH |
| 733 | VIDEO CABLE | 2133 | LIN. FT. |
| SP & 733 | VIDEO CABLE (EXTERIOR CAT 5E) | 1866 | LIN. FT. |
| 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| SP & 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| SP & 733 | VIDEO PROCESSOR, EDGE CARD (2 CAMERA) | 4 | EACH |
| SP & 733 | VEHICLE DETECTOR RACK (16 CHANNEL) | 2 | EACH |
| SP & 733 | CENTRAL CONTROL UNIT (8 CHANNEL) | 2 | EACH |
| SP & 733 | VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA) | 5 | EACH |
| SP | NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS) | 1 | EACH |
| | | | |
| | | | |

## REVISIONS

| DATE | REVISION | SHEET NUMBER |
|---|---|---|
| | | |
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SUMMARY OF QUANTITIES AND REVISIONS

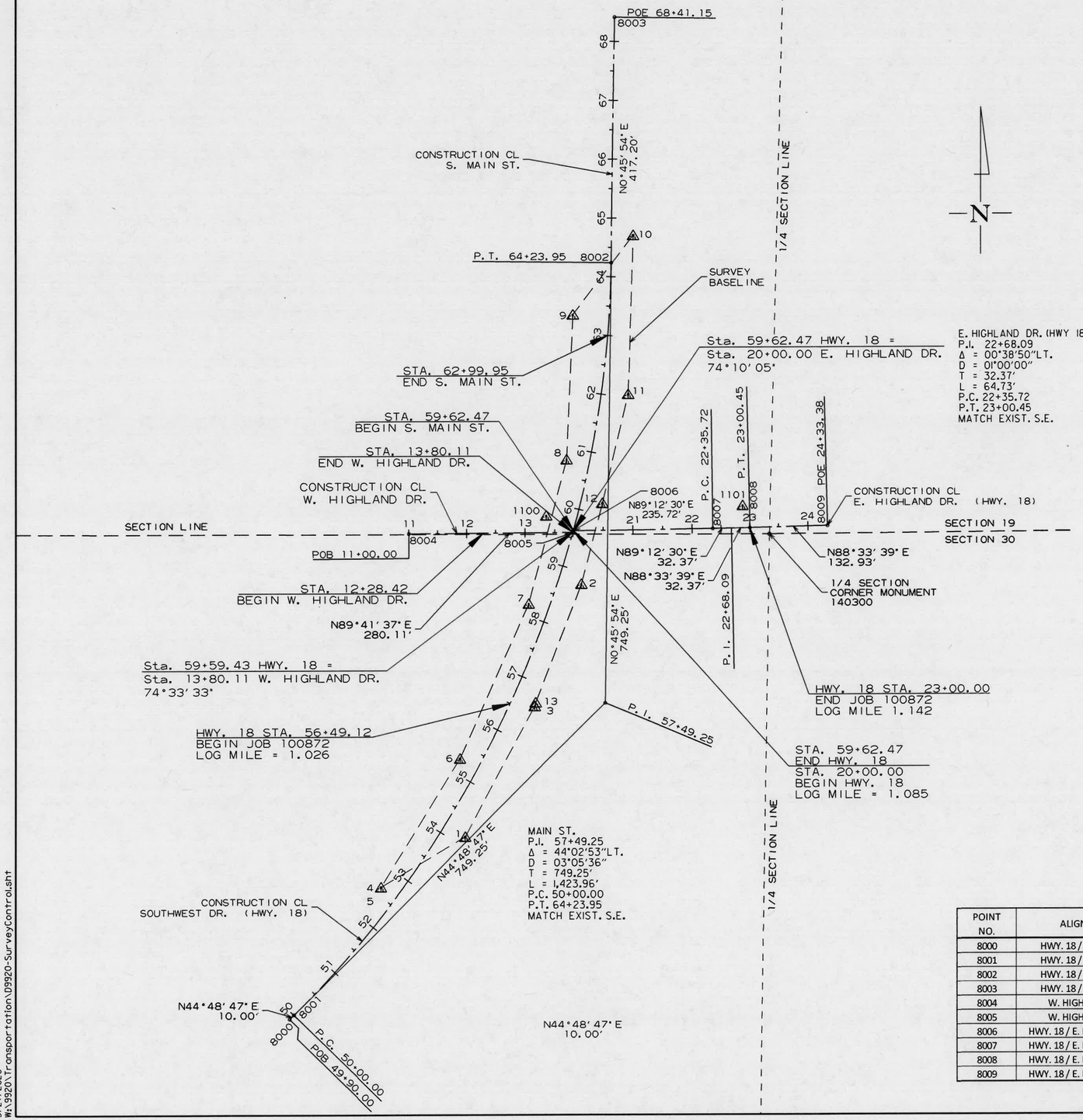
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
RICHARD E. GAFFORD
No. 8213
06/25/2020

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.-AID DIST. NO. | STATE | FED.-AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | 100872 | 32 | 72 |

2 SUMMARY OF QUANTITIES AND REVISIONS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 33 | 72 |

(2) SURVEY CONTROL DETAIL




STATE OF ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

SURVEY CONTROL COORDINATES

PROJECT NAME: 100872
DATE: NOVEMBER 02, 2016
COORDINATE SYSTEM: ARKANSAS STATE PLANE NORTH ZONE (0301)
BASED ON THE CITY OF JONESBORO GPS CONTINUOUSLY OPERATING REFERENCE STATION
CORS ID - ARJB
PID - DO9379
NAD 83 (2011) POSITION 35 50 52.51427 (N) 090 44 49.86696 (W)
VERTICAL ORDER - FIRST CLASS II

| | | North | East | Units | Scale Factor | Converg. |
|---|---|---|---|---|---|---|
| SPC AR N | - | 553,647.04 | 1,683,611.35 | sFT | 0.99994649 | +0 43 44.4 |

| | | Elev Factor | x | Scale Factor | = | Combined Factor |
|---|---|---|---|---|---|---|
| SPC AR N | - | 0.99999011 | x | 0.99994649 | = | 0.99993660 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | North | 543623.503 | East | 1695838.979 | Elevation: | 311.230 | Code | ctl cps |
| Point 02 | North | 544054.182 | East | 1696035.859 | Elevation: | 311.748 | Code | ctl SIR |
| Point 03 | North | 543846.298 | East | 1695957.922 | Elevation: | 311.690 | Code | ctl SIR |
| Point 04 | North | 543538.067 | East | 1695694.013 | Elevation: | 308.050 | Code | ctl MAG |
| Point 05 | North | 543538.053 | East | 1695694.018 | Elevation: | 307.953 | Code | ctl SIR |
| Point 06 | North | 543757.178 | East | 1695830.375 | Elevation: | 309.240 | Code | CTL CPS |
| Point 07 | North | 544020.780 | East | 1695947.686 | Elevation: | 311.248 | Code | ctl cps |
| Point 08 | North | 544266.296 | East | 1696011.032 | Elevation: | 314.370 | Code | CTL CPS |
| Point 09 | North | 544512.572 | East | 1696021.612 | Elevation: | 314.680 | Code | ctl cps |
| Point 10 | North | 544647.427 | East | 1696122.100 | Elevation: | 318.175 | Code | CTL CPS |
| Point 11 | North | 544377.142 | East | 1696113.864 | Elevation: | 313.530 | Code | ctl rbr |
| Point 12 | North | 544191.606 | East | 1696070.568 | Elevation: | 312.850 | Code | CTL CPS |
| Point 13 | North | 543852.557 | East | 1695959.524 | Elevation: | 311.724 | Code | CTL SIR |
| Point 1100 | North | 544170.410 | East | 1695976.703 | Elevation: | 311.117 | Code | CTL |
| Point 1101 | North | 544187.110 | East | 1696309.459 | Elevation: | 314.771 | Code | CTL |

LOCAL SITE TYPE: GRID
PROJECTION: Lambert Conformal Conic 2 Parallel
DATUM: NAD 1983 (CONUS)
GEOID FILE: G12AUS

| CONTROL POINT COURSES | | | |
|---|---|---|---|
| FROM | TO | BEARING | DISTANCE |
| 4 | 1 | N 59° 29' 13" E | 168.27' |
| 4 | 6 | N 31° 53' 45" E | 258.08' |
| 6 | 7 | N 23° 59' 26" E | 288.53' |
| 7 | 8 | N 14° 28' 03" E | 253.56' |
| 8 | 9 | N 2° 27' 36" E | 246.50' |
| 9 | 10 | N 36° 41' 31" E | 168.18' |
| 1 | 3 | N 28° 05' 47" E | 252.56' |
| 3 | 13 | N 14° 21' 24" E | 6.46' |
| 13 | 2 | N 20° 44' 12" E | 201.63' |
| 2 | 12 | N 14° 10' 29" E | 141.74' |
| 12 | 11 | N 13° 08' 07" E | 190.52' |
| 11 | 10 | N 1° 44' 43" E | 270.41' |

| POINT NO. | ALIGNMENT | TYPE | STATION | NORTHING | EASTING |
|---|---|---|---|---|---|
| 8000 | HWY. 18 / S. MAIN ST. | POB | 49+90.00 | 543312.7362 | 1695540.2549 |
| 8001 | HWY. 18 / S. MAIN ST. | PC | 50+00.00 | 543319.8294 | 1695547.3020 |
| 8002 | HWY. 18 / S. MAIN ST. | PT | 64+23.95 | 544600.5367 | 1696085.3707 |
| 8003 | HWY. 18 / S. MAIN ST. | POE | 68+41.15 | 545017.6951 | 1696090.9403 |
| 8004 | W. HIGHLAND DR. | POB | 11+00.00 | 544140.1828 | 1695741.1890 |
| 8005 | W. HIGHLAND DR. | POE | 13+80.11 | 544141.6809 | 1696021.2941 |
| 8006 | HWY. 18 / E. HIGHLAND DR. | POB | 20+00.00 | 544144.6187 | 1696022.0860 |
| 8007 | HWY. 18 / E. HIGHLAND DR. | PC | 22+35.72 | 544147.8757 | 1696257.7854 |
| 8008 | HWY. 18 / E. HIGHLAND DR. | PT | 23+00.45 | 544149.1358 | 1696322.5054 |
| 8009 | HWY. 18 / E. HIGHLAND DR. | POE | 24+33.38 | 544152.4739 | 1696455.3847 |

SURVEY CONTROL DETAIL

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 34 | 72 |
| | | | | (2) | PLAN AND PROFILE SHEETS | | | |

STA. 58+03.00 CONSTRUCT
DROP INLET 28.00' LT.
AND 18" x 6' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 58+03 LT.
DROP INLET H= 5'-8"
TYPE MO INLET = 4' DIA.
TYPE C INLET = 4'X3'
18" R.C. PIPE (CLASS III)(TYPE 3)= 6 LIN. FT.
18" SLPCCS PIPE (TYPE 2)= 6 LIN. FT.

STA. 58+03.00 CONSTRUCT
JUNCTION BOX 35.77' LT.
CONNECT TO EXISTING 48" R.C. PIPE
JUNCTION BOX H= 8'-5"
TYPE ST JB = 5' X 3'

STA. 58+36.02 IN PLACE
DROP INLET 34.57' LT.
AND 48" X 170' R.C. PIPE OUTLET
REMOVE DROP INLET AND CONSTRUCT
JUNCTION BOX H= 8'-3"
CONNECT TO EXISTING 48" PIPE OUTLET
TYPE ST JUNCTION BOX = 6' X 6'

STA. 59+80.04 IN PLACE
DROP INLET 29.70' LT.
AND 42" X 140' R.C. PIPE OUTLET
REMOVE DROP INLET AND CONSTRUCT
JUNCTION BOX H = 6'-7"
CONNECT TO EXISTING 42" PIPE OUTLET
TYPE ST JUNCTION BOX = 5' X 3'

STA. 60+03.03 IN PLACE
TYPE E JUNCTION BOX 37.94' LT.
AND 14" X 24' R.C. PIPE OUTLET
ADJUST TO GRADE

STA. 56+69.91 IN PLACE
2 @ 12' X 5' R.C. BOX CULVERT
RETAIN

STA. 60+50.42 IN PLACE
JUNCTION BOX 26.64' LT.
AND 42" X 67' R.C. PIPE OUTLET
REMOVE JUNCTION BOX AND CONSTRUCT
DROP INLET H = 7'-6"
WITH 4' EXTENSION
TYPE MO INLET = 5' DIA.
TYPE C INLET = 4' X 6'

STA. 62+49.55 IN PLACE
DROP INLET 24.18' LT.
AND 36" X 194' R.C. PIPE OUTLET
RETAIN

STA. 62+89.37 IN PLACE
DROP INLET 25.46' LT.
AND 36" X 38' R.C. PIPE OUTLET
RETAIN

STA. 58+82 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT.
= 24.44 SQ. YD.

STA. 59+09 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT.
= 4.33 SQ. YD.

STA. 59+97 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT.
= 38.08 SQ. YD.

STATE OF ARKANSAS
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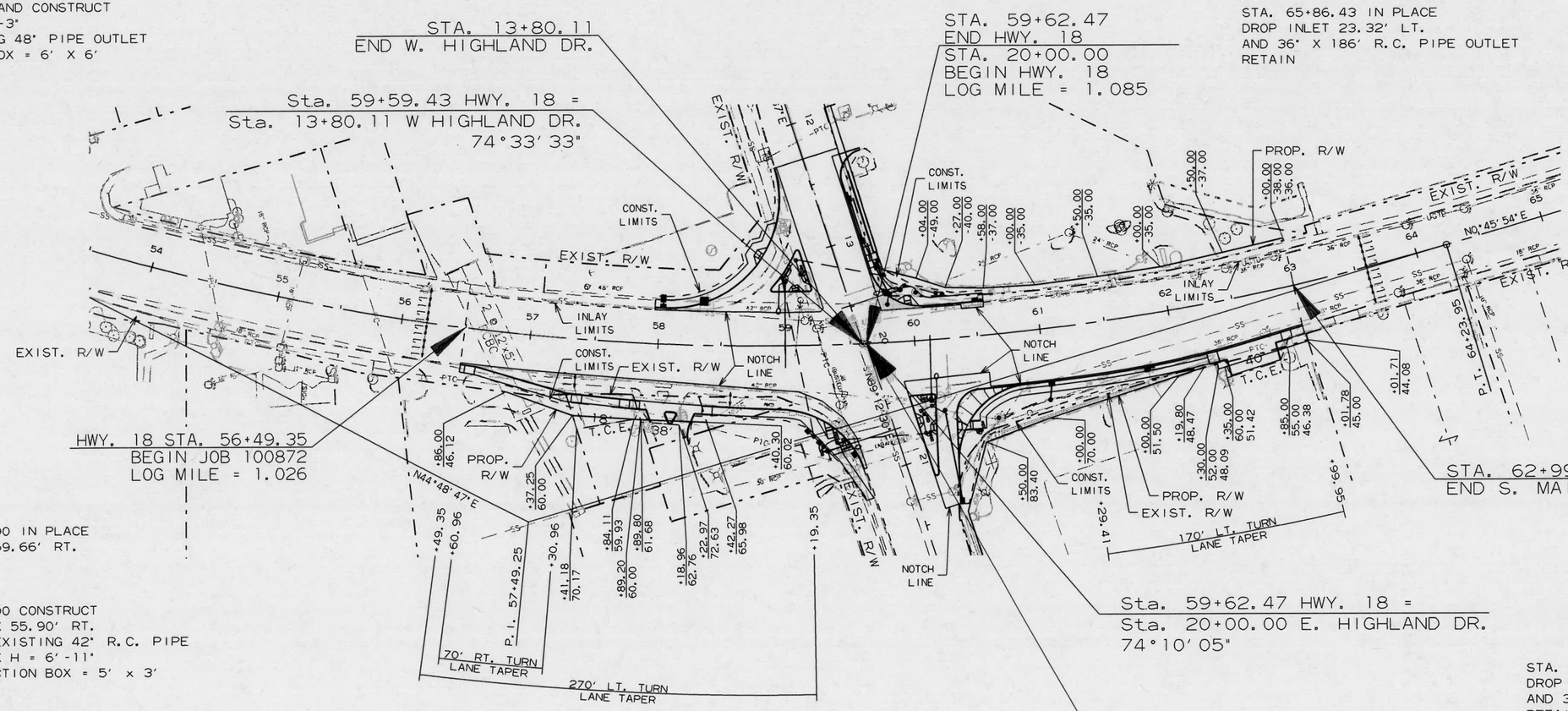
STA. 63+97.84 IN PLACE
DROP INLET 23.52' LT.
AND 36" X 105' R.C. PIPE OUTLET
RETAIN

STA. 65+86.43 IN PLACE
DROP INLET 23.32' LT.
AND 36" X 186' R.C. PIPE OUTLET
RETAIN




MAIN ST.
P.I. 57+49.25
Δ = 44°02'53"LT.
D = 03°05'36"
T = 749.25'
L = 1,423.96'
P.C. 50+00.00
P.T. 64+23.95
MATCH EXIST. S.E.

STA. 57+02.90 IN PLACE
DROP INLET 59.66' RT.
RETAIN

STA. 60+20.00 CONSTRUCT
JUNCTION BOX 55.90' RT.
CONNECT TO EXISTING 42" R.C. PIPE
JUNCTION BOX H = 6'-11"
TYPE ST JUNCTION BOX = 5' x 3'

STA. 60+60.77 IN PLACE
DROP INLET 65.22' RT.
AND 42" X 113' R.C. PIPE OUTLET
MODIFY DROP INLET AND ADJUST TO GRADE
USING TYPE ST JUNCTION BOX

STA. 61+01.97 CONSTRUCT
JUNCTION BOX 55.77' RT.
CONNECT TO EXISTING 36" R.C. PIPE
H= 6'-2"
TYPE ST JUNCTION BOX = 4' x 3'

STA. 61+04.30 CONSTRUCT
DROP INLET 41.36' RT.
AND 18" x 12' PIPE OUTLET
CONNECT TO J.B. @ STA. 61+01.97 RT.
DROP INLET H = 4'-4"
TYPE MO INLET= 4' DIA.
TYPE C INLET= 4' x 3'
18" R.C. PIPE (CLASS III)(TYPE 3)= 12 LIN. FT.
18" SLPCCS (TYPE 2)= 12 LIN. FT.

STA. 61+77.15 IN PLACE
DROP INLET 40.57' RT.
AND 36" X 113' R.C. PIPE OUTLET
REMOVE DROP INLET AND CONSTRUCT
DROP INLET H = 5'-1"
WITH 4' EXTENSION
CONNECT TO EXISTING 36" PIPE OUTLET
TYPE MO INLET= 5' DIA.
TYPE C INLET= 4' X 3'

STA. 62+69.40 IN PLACE
DROP INLET 31.63' RT.
AND 36" X 93' R.C. PIPE OUTLET
RETAIN

STA. 63+77.91 IN PLACE
DROP INLET 25.54' RT.
AND 36" X 109' R.C. PIPE OUTLET
RETAIN

STA. 64+27.84 IN PLACE
DROP INLET 24.61' RT.
AND 36" X 49' R.C. PIPE OUTLET
RETAIN

STA. 65+37.83 IN PLACE
DROP INLET 25.57' RT.
AND 18" X 108' R.C. PIPE OUTLET
RETAIN

STA. 57+57.83 CONSTRUCT
APPROACH ON RT. = 20 CU. YD.

STA. 58+12.23 CONSTRUCT
APPROACH ON RT. = 20 CU. YD.

STA. 62+56.74 CONSTRUCT
APPROACH ON RT. = 20 CU. YD.

STA. 59+32 CONSTRUCT
TYPE 1 WHEELCHAIR RAMP ON RT.
= 50.88 SQ. YD.

STA. 60+04 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT.
= 4.66 SQ. YD.

STA. 60+39 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT.
= 7.90 SQ. YD.

5/27/2020
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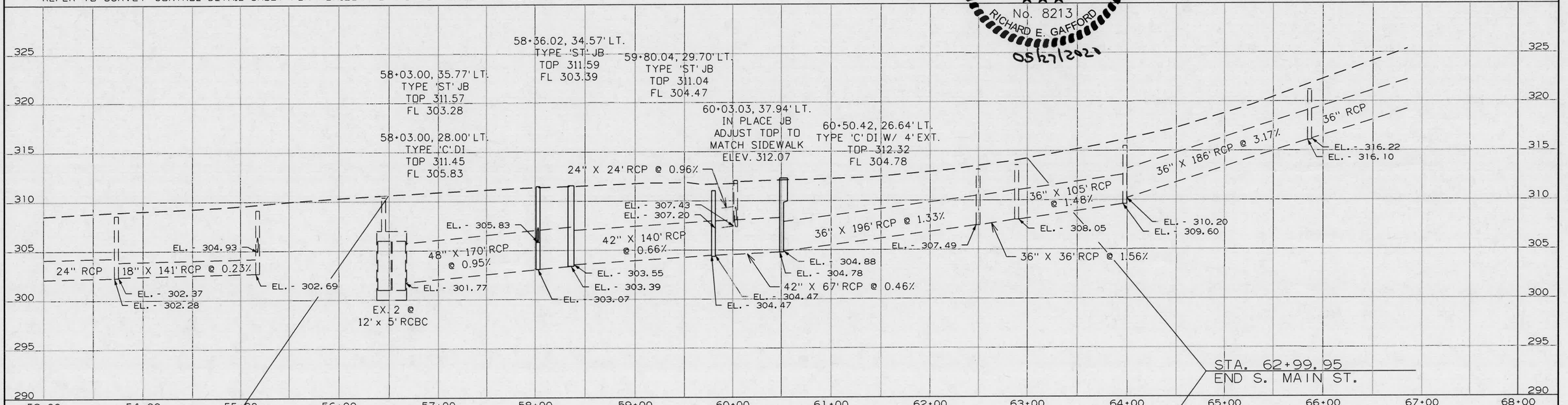
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 35 | 72 |
| | | | | (2) | PLAN AND PROFILE SHEETS | | | |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

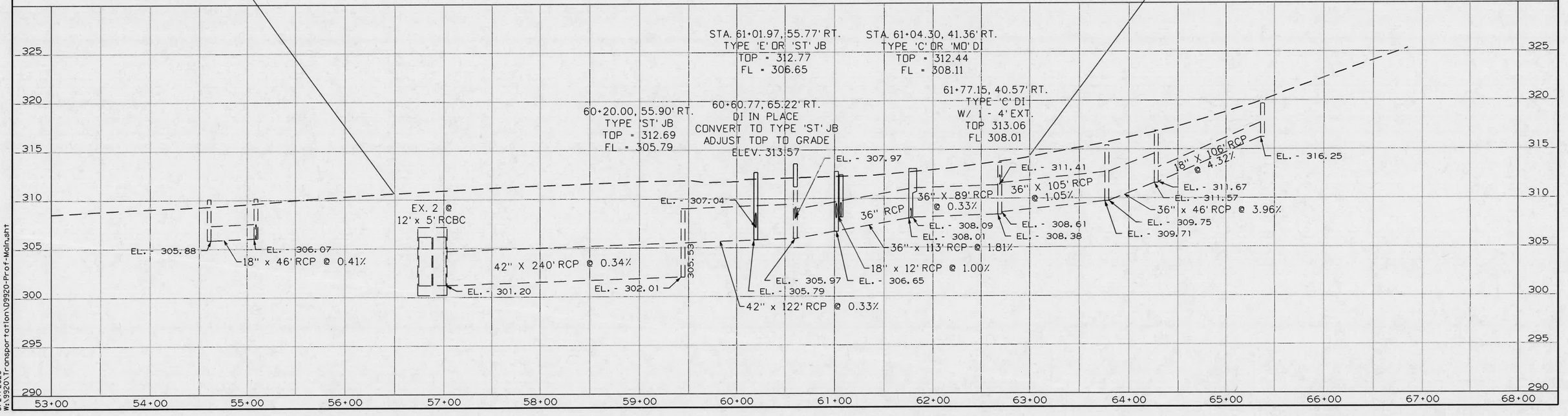
REFER TO SURVEY CONTROL DETAIL SHEET FOR HORIZONTAL AND VERTICAL CONTROL DATA.

## LEFT SIDE S. MAIN ST




STA. 56+49.35
BEGIN JOB 100872
LOG MILE 1.026

## RIGHT SIDE S. MAIN ST

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 36 | 72 |
| | | | | (2) | PLAN AND PROFILE SHEETS | | | |

STA. 12+69.05 CONSTRUCT
DROP INLET 23.00' LT
WITH 4' EXT. LT & RT.
AND 18" X 34' PIPE OUTLET
CONNECT TO DROP INLET @ STA. 13+03.50 LT.
DROP INLET H= 4'-9"
TYPE MO INLET= 4' DIA.
TYPE C INLET= 4' x 3'
18" R.C. PIPE (CLASS III)(TYPE 3) = 34 LIN. FT.
18" SLPCCS (TYPE 2) = 34 LIN. FT.

STA. 13+03.50 CONSTRUCT
DROP INLET 23.00' LT.
WITH 4' EXT.
AND 18" X 45' PIPE OUTLET
CONNECT TO DROP INLET @ STA. 13+49.76 LT.
DROP INLET H= 4'-10"
TYPE MO INLET= 4' DIA.
TYPE C INLET= 4' x 3'
18" R.C. PIPE (CLASS III)(TYPE 3)= 45 LIN. FT.
18" SLPCCS (TYPE 2) = 45 LIN. FT.

STA. 13+49.76 CONSTRUCT
DROP INLET 29.60' LT.
WITH 4' EXT.
AND 24" X 8' PIPE OUTLET
CONNECT TO J.B. @ STA. 59+20.04 LT.
DROP INLET H= 5'-2"
TYPE MO INLET= 4' DIA.
TYPE C INTLET= 4' x 3'
24" R.C. PIPE (CLASS III)(TYPE 3)= 8 LIN. FT.
24" SLPCCS (TYPE 2)= 8 LIN. FT.

STA. 20+70 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT.
= 4.31 SQ. YD.

STA. 20+79 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT.
= 4.31 SQ. YD.

E. HIGHLAND DR. (HWY 18)
P.I. 22+68.09
Δ = 00°38'50"LT.
D = 01°00'00"
T = 32.37'
L = 64.73'
P.C. 22+35.72
P.T. 23+00.45
MATCH EXIST. S.E.

STATE OF ARKANSAS
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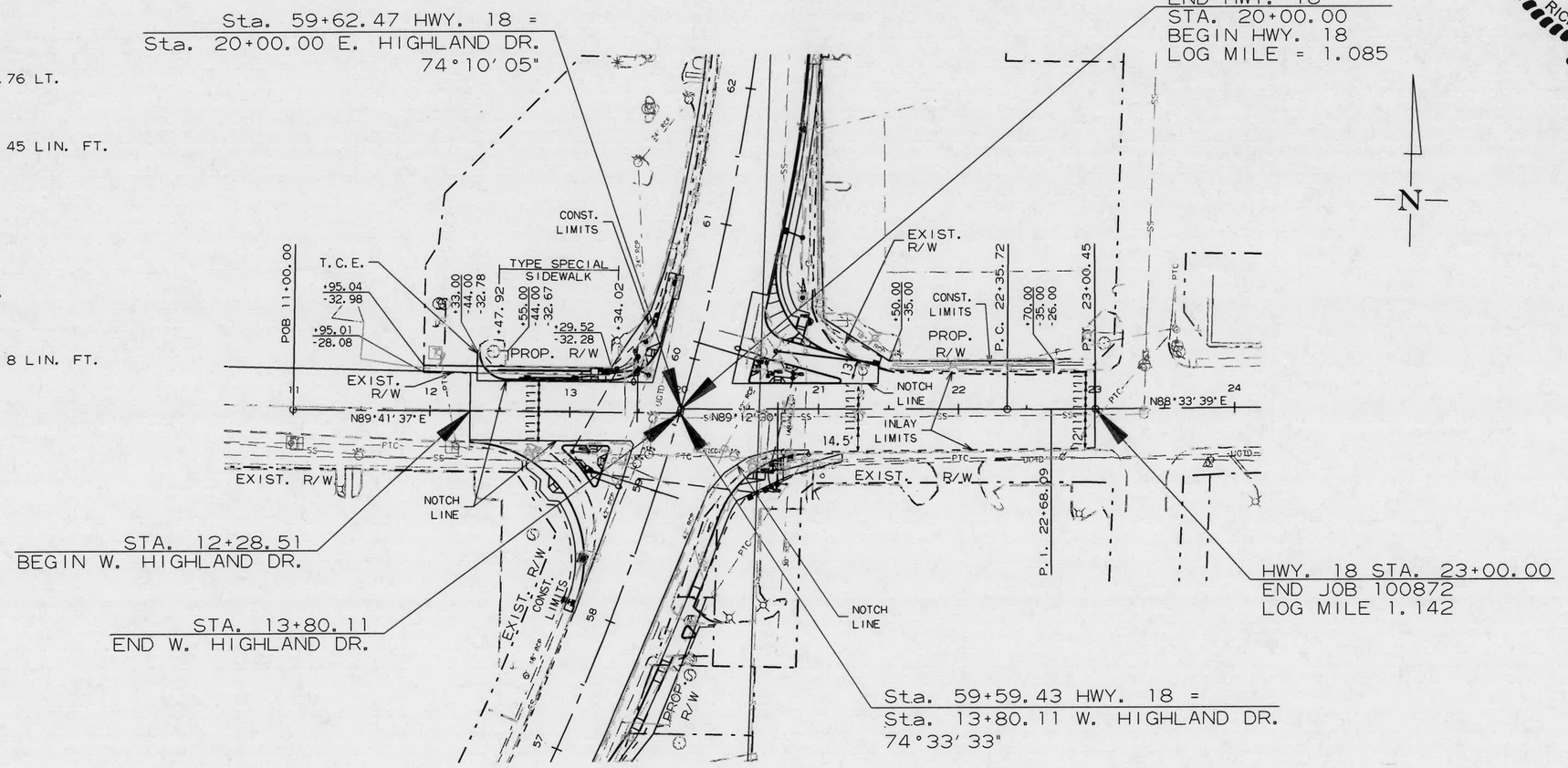


STA. 13+08 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT.
= 3.88 SQ. YD.

STA. 13+18 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT.
= 3.88 SQ. YD.

STA. 13+18 CONSTRUCT
TYPE 1 WHEELCHAIR RAMP ON LT.
= 13.33 SQ. YD.

STA. 20+79.35 IN PLACE
DROP INLET 32.90' RT.
AND 30" R.C. PIPE OUTLET
REMOVE DI AND CONSTRUCT
DROP INLET H= 4'-5"
CONNECT TO EXISTING 30" R.C. PIPE OUTLET
TYPE MO INLET= 4' DIA
TYPE C INLET= 4' X 3'

STA. 21+40.13 CONSTRUCT
DROP INLET 31.83' LT
AND 18" X 72' PIPE OUTLET
CONNECT TO J.B. @ STA 60+60.77 RT.
DROP INLET H= 4'-3"
TYPE MO INLET= 4' DIA.
TYPE C INLET= 4' X 3'
18" R.C. PIPE (CLASS III)(TYPE 3)= 72 LIN. FT.
18" SLPCCS (TYPE 2)= 72 LIN. FT.

5/27/2020
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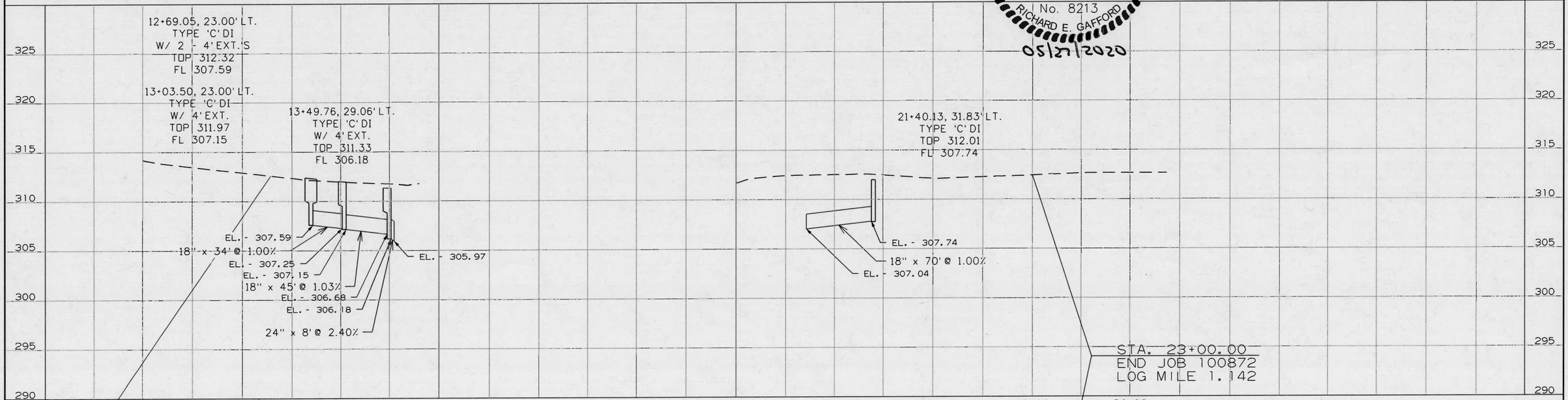
| | | | | JOB NO. | | 100872 | 37 | 72 |
| | | | | (2) | PLAN AND PROFILE SHEETS | | | |

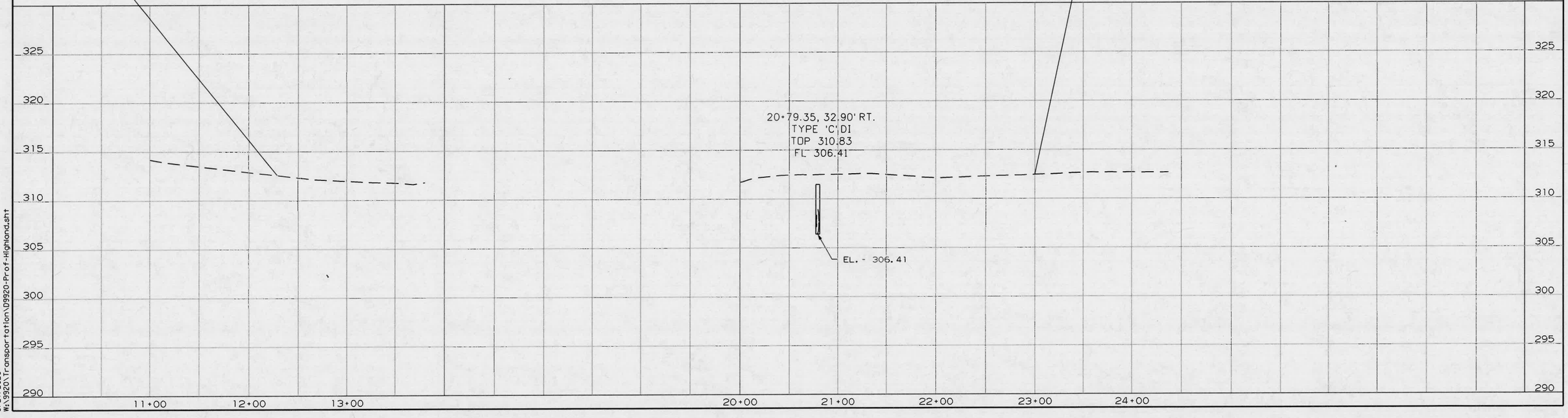
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

REFER TO SURVEY CONTROL DETAIL SHEET FOR HORIZONTAL AND VERTICAL CONTROL DATA.

## LEFT SIDE HIGHLAND DR




## RIGHT SIDE HIGHLAND DR




5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 38 | 72 |

(2) SUMMARY OF SIGNALIZATION QUANTITIES

# SUMMARY OF TRAFFIC SIGNAL QUANTITIES

| | ITEM NO. | ITEM | QUANTITY | UNIT |
|---|---|---|---|---|
| | SP & 701 | SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES) | 2 | EACH |
| | SP | TRAFFIC SIGNAL CONTROLLER (MODIFICATION) | 2 | EACH |
| | SP | ETHERNET SWITCH, T100 HARDENED (8-PORT) | 2 | EACH |
| | SP | E-NET CABLE (EXTERIOR CAT 5E) | 130 | LIN. FT. |
| | SP | LOCAL RADIO WITH ANTENNA RELOCATION | 1 | EACH |
| | SP | BATTERY BACKUP SYSTEM | 1 | EACH |
| | SP | PTZ CAMERA SYSTEM | 2 | EACH |
| | SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 21 | EACH |
| | SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 5 | EACH |
| | SP & 706 | TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY) | 2 | EACH |
| | SP | RELOCATION OF TRAFFIC SIGNAL HEAD | 9 | EACH |
| | SP & 707 | COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED | 10 | EACH |
| | 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 4455 | LIN. FT. |
| | 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 1891 | LIN. FT. |
| | 708 | TRAFFIC SIGNAL CABLE (20C/14 A.W.G.) | 653 | LIN. FT. |
| | SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.) | 922 | LIN. FT. |
| | SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.) | 355 | LIN. FT. |
| | SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 125 | LIN. FT. |
| | SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 878 | LIN. FT. |
| | 709 | GALVANIZED STEEL CONDUIT (1.25") | 40 | LIN. FT. |
| | 709 | GALVANIZED STEEL CONDUIT (2") | 155 | LIN. FT. |
| | 710 | NON-METALLIC CONDUIT (1.25") | 20 | LIN. FT. |
| | 710 | NON-METALLIC CONDUIT (2") | 238 | LIN. FT. |
| | 710 | NON-METALLIC CONDUIT (3") | 661 | LIN. FT. |
| | 711 | CONCRETE PULL BOX (TYPE 1 HD) | 2 | EACH |
| | 711 | CONCRETE PULL BOX (TYPE 2 HD) | 10 | EACH |
| | SS & 713 | SPAN WIRE ASSEMBLY | 1 | EACH |
| | SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46') | 1 | EACH |
| | SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50') | 1 | EACH |
| | SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58') | 1 | EACH |
| | SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (66') | 1 | EACH |
| | SP | LED LUMINAIRE ASSEMBLY | 4 | EACH |
| | SS & 715 | TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION | 7 | EACH |
| | SP | SERVICE POINT ASSEMBLY (2 CIRCUITS) | 2 | EACH |
| | SP | REMOVAL OF TRAFFIC SIGNAL EQUIPMENT | 1.00 | LUMP SUM |
| | 716 | TREATED WOOD POLE (CLASS 2, 45') | 5 | EACH |
| | SP | 18" STREET NAME SIGN | 6 | EACH |
| | SP | VIDEO DETECTOR ROTATION | 8 | EACH |
| | SP & 733 | VIDEO DETECTOR (CLR) | 8 | EACH |
| * | SP & 733 | VIDEO DETECTOR (IP) | 9 | EACH |
| | 733 | VIDEO CABLE | 2133 | LIN. FT. |
| | SP & 733 | VIDEO CABLE (EXTERIOR CAT 5E) | 1866 | LIN. FT. |
| | 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| | SP & 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| | SP & 733 | VIDEO PROCESSOR, EDGE CARD (2 CAMERA) | 4 | EACH |
| | SP & 733 | VEHICLE DETECTOR RACK (16 CHANNEL) | 2 | EACH |
| | SP & 733 | CENTRAL CONTROL UNIT (8 CHANNEL) | 2 | EACH |
| * | SP & 733 | VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA) | 5 | EACH |
| | SP | NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS) | 1 | EACH |

* ONE SPARE VIDEO DETECTOR (IP) AND ONE SPARE VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA) SHALL BE SUPPLIED.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 39 | 72 |
| | | | | (2) | TRAFFIC SIGNAL NOTES | | | |

# TRAFFIC SIGNAL NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2017) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. 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/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, 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/ COUNTY'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, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. 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 LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC 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 PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

8. 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 STANDARD DRAWINGS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL 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 STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.

15. 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.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. 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.

19. 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.

20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN PULL BOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECT TAG SHALL BE ATTACHED TO EACH CABLE.

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.

30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHER STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 40 | 72 |
| | | | | (2) | TRAFFIC SIGNAL QUANTITIES | | | |

## STAGE 1 TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| SP & 701 | SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES) | 1 | EACH |
| SP | ETHERNET SWITCH, T100 HARDENED (8-PORT) | 1 | EACH |
| SP | E-NET CABLE (EXTERIOR CAT 5E) | 45 | LIN. FT. |
| SP | LOCAL RADIO WITH ANTENNA RELOCATION | 1 | EACH |
| SP | PTZ CAMERA SYSTEM | 1 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 9 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 3 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 600 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 1600 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.) | 40 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.) | 45 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 40 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 40 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (2") | 135 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | 20 | LIN. FT. |
| SS & 713 | SPAN WIRE ASSEMBLY | 1 | EACH |
| SP | SERVICE POINT ASSEMBLY (2 CIRCUITS) | 1 | EACH |
| SP | REMOVAL OF TRAFFIC SIGNAL EQUIPMENT | 0.50 | LUMP SUM |
| 716 | TREATED WOOD POLE (CLASS 2, 45') | 5 | EACH |
| SP & 733 | VIDEO DETECTOR (CLR) | 8 | EACH |
| 733 | VIDEO CABLE | 2133 | LIN. FT. |
| 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| SP & 733 | VIDEO PROCESSOR, EDGE CARD (2 CAMERA) | 4 | EACH |
| SP & 733 | VEHICLE DETECTOR RACK (16 CHANNEL) | 1 | EACH |

STAGE 1 NOTES:
INSTALL TEMPORARY SIGNAL (SPAN WIRE) THAT CAN OPERATE FOR ALL STAGES OF CONSTRUCTION. RELOCATE EXISTING ANTENNA FROM EXISTING MAST ARM POLE IN NORTH EAST CORNER TO TEMPORARY SIGNAL POLE B. INSTALL FULLY FUNCTIONING VIDEO DETECTION SYSTEM.
AFTER TEMPORARY SIGNAL IS OPERATIONAL REMOVE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

## STAGE 2 TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| SP | TRAFFIC SIGNAL CONTROLLER (MODIFICATION) | 1 | EACH |
| SP | RELOCATION OF TRAFFIC SIGNAL HEAD | 3 | EACH |
| SP | VIDEO DETECTOR ROTATION | 2 | EACH |

STAGE 2 NOTES:
STAGE 1 TEMPORARY TRAFFIC SIGNAL TO REMAIN IN OPERATION.
ADJUST NORTHBOUND VIDEO DETECTION ZONES.
ROTATE VIDEO DETECTORS V1 AND V6.
RELOCATE EXISTING SIGNAL HEADS 10, 11, 12 AS SHOWN ON PLANS.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

## STAGE 3 TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| SP | TRAFFIC SIGNAL CONTROLLER (MODIFICATION) | 1 | EACH |
| SP | RELOCATION OF TRAFFIC SIGNAL HEAD | 6 | EACH |
| SP | VIDEO DETECTOR ROTATION | 6 | EACH |

STAGE 3 NOTES:
ADJUST SOUTH, EAST, AND WEST VIDEO DETECTION ZONES TO MATCH LOCATIONS SHOWN ON PLANS.
ROTATE VIDEO DETECTORS V2, V5, V3, V8, V4, AND V7.
RELOCATE EXISTING SIGNAL HEADS 1-3 AND 7-9 AS SHOWN ON PLANS.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

## PERMANENT TRAFFIC SIGNAL QUANTITIES

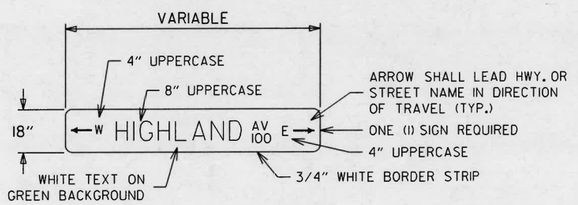
| ITEM NO. | ITEM | QUANTITY | UNIT |
|---|---|---|---|
| SP & 701 | SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES) | 1 | EACH |
| SP | ETHERNET SWITCH, T100 HARDENED (8-PORT) | 1 | EACH |
| SP | E-NET CABLE (EXTERIOR CAT 5E) | 85 | LIN. FT. |
| SP | BATTERY BACKUP SYSTEM | 1 | EACH |
| SP | PTZ CAMERA SYSTEM | 1 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 12 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 2 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY) | 2 | EACH |
| SP & 707 | COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED | 10 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 3855 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 291 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (20C/14 A.W.G.) | 653 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.) | 882 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.) | 310 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 85 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 878 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (2") | 20 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 238 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 661 | LIN. FT. |
| 711 | CONCRETE PULL BOX (TYPE 1 HD) | 2 | EACH |
| 711 | CONCRETE PULL BOX (TYPE 2 HD) | 10 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46') | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50') | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58') | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (66') | 1 | EACH |
| SP | LED LUMINAIRE ASSEMBLY | 4 | EACH |
| SS & 715 | TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION | 7 | EACH |
| SP | SERVICE POINT ASSEMBLY (2 CIRCUITS) | 1 | EACH |
| SP | REMOVAL OF TRAFFIC SIGNAL EQUIPMENT | 0.50 | LUMP SUM |
| SP | 18" STREET NAME SIGN | 6 | EACH |
| * SP & 733 | VIDEO DETECTOR (IP) | 9 | EACH |
| SP & 733 | VIDEO CABLE (EXTERIOR CAT 5E) | 1866 | LIN. FT. |
| SP & 733 | VIDEO MONITOR (CLR) | 1 | EACH |
| SP & 733 | VEHICLE DETECTOR RACK (16 CHANNEL) | 1 | EACH |
| SP & 733 | CENTRAL CONTROL UNIT (8 CHANNEL) | 2 | EACH |
| * SP & 733 | VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA) | 5 | EACH |
| SP | NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS) | 1 | EACH |

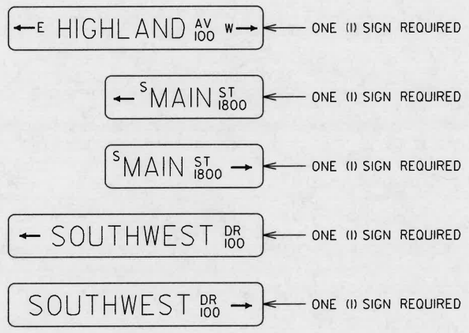
* ONE SPARE VIDEO DETECTOR (IP) AND ONE SPARE VIDEO PROCESSOR, EDGE CARD IP (2 CAMERA) SHALL BE SUPPLIED.

PERMANENT SIGNAL NOTES:
THE STAGE 3 TEMPORARY SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
INSTALL PERMANENT TRAFFIC SIGNAL AND REMOVE ALL STAGE 1-3 TEMPORARY TRAFFIC SIGNAL COMPONENTS.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

## OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED




NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ALODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY/COUNTY.
3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
4. THE C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

5/27/2020
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|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 41 | 72 |
| | | | | (2) | | SYSTEM MAP | | |

STATE OF ARKANSAS
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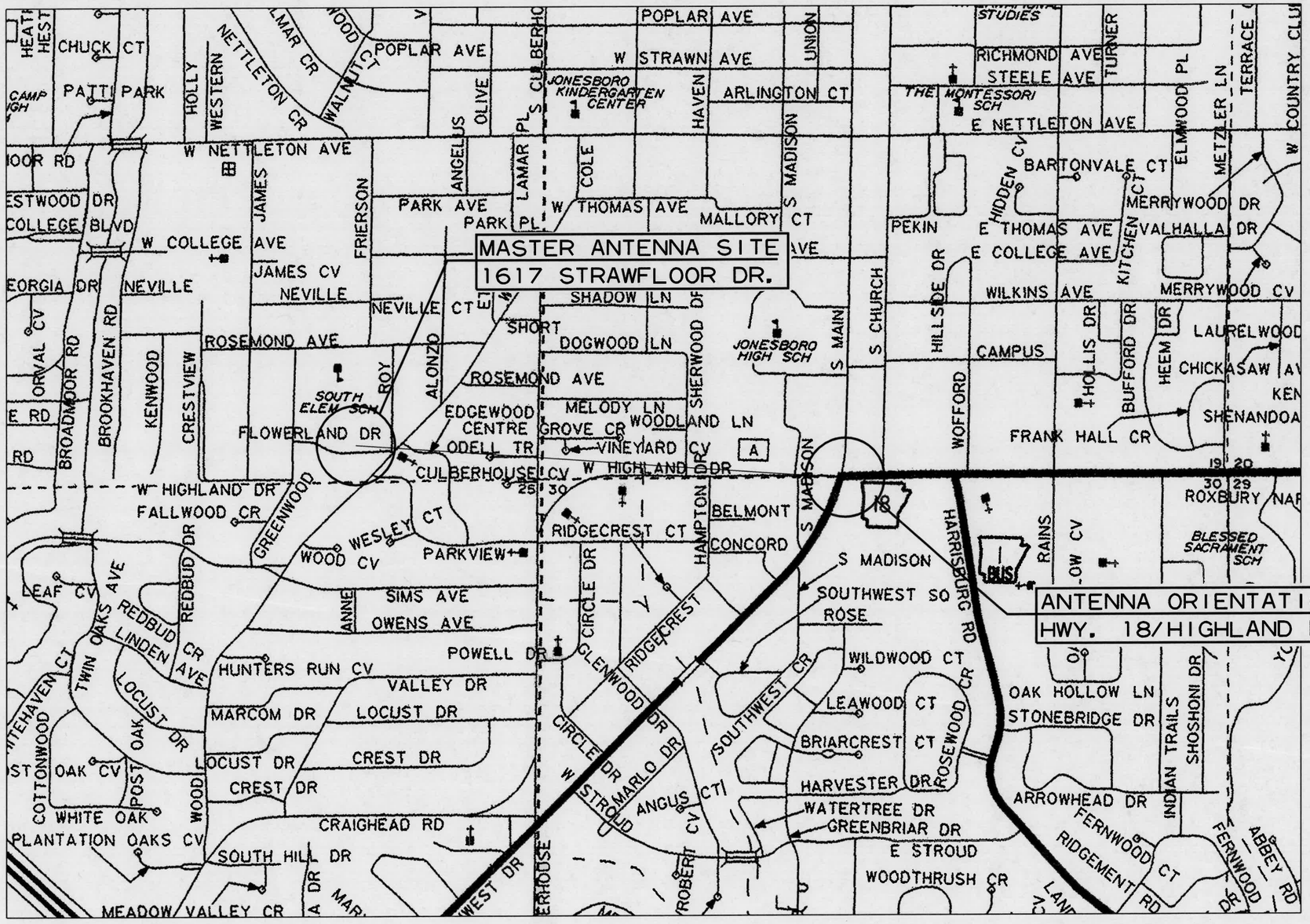
RICHARD E. GAFFORD
05/27/2020




NOTES:
1. ALL ANTENNA ORIENTATIONS SHALL BE VERIFIED BY THE CITY OF JONESBORO.

5/27/2020
W:\9320\Transportation\D9920-System Map.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 42 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 1 TEMPORARY POLE LOCATIONS AND DIMENSIONS

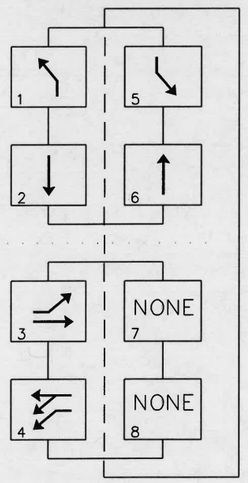
| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

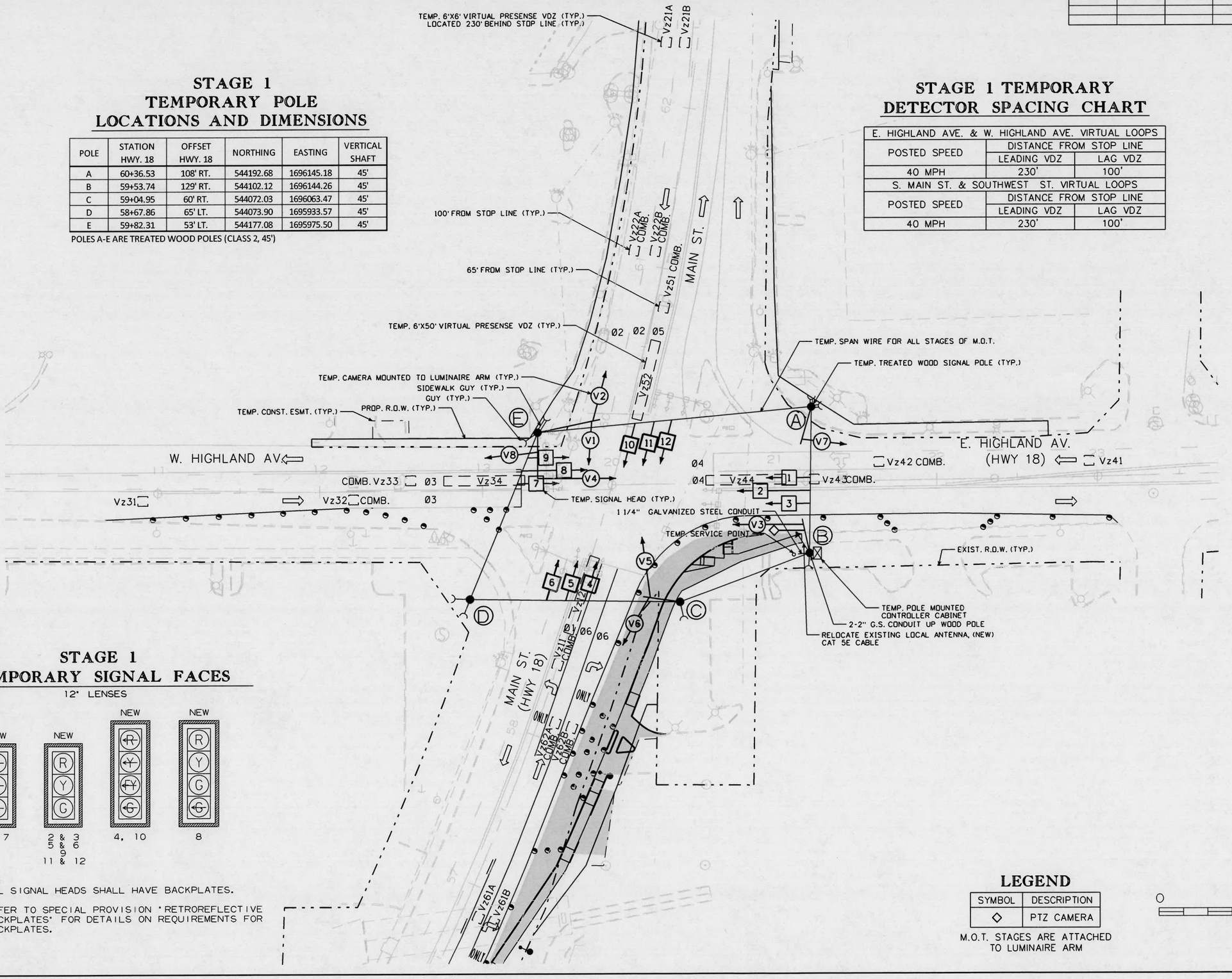
POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

# STAGE 1 TEMPORARY DETECTOR SPACING CHART

| E. HIGHLAND AVE. & W. HIGHLAND AVE. VIRTUAL LOOPS | | |
|---|---|---|
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |
| S. MAIN ST. & SOUTHWEST ST. VIRTUAL LOOPS | | |
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |


# STAGE 1 TEMPORARY PHASE DIAGRAM




# STAGE 1 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 60' 120'

SCALE 1" = 60'

N

5/27/2020
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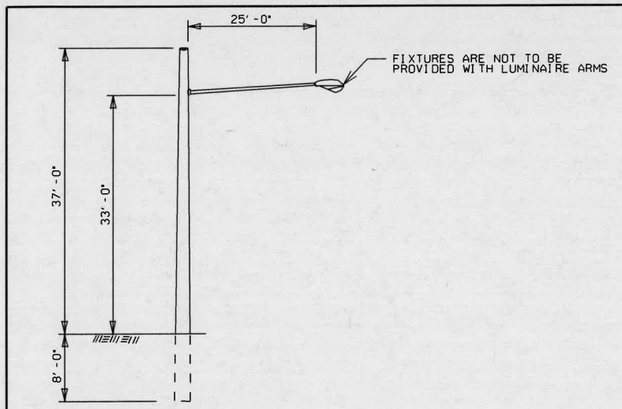
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 43 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

100' FROM STOP LINE (TYP.)
65' FROM STOP LINE (TYP.)
TEMP. 6'X50' VIRTUAL PRESENSE VDZ (TYP.)
TEMP. CAMERA MOUNTED TO LUMINAIRE ARM (TYP.)
SIDEWALK GUY (TYP.)
GUY (TYP.)
PROP. R.O.W. (TYP.)
TEMP. CONST. ESMT. (TYP.)
Vz22A COMB.
Vz22B COMB.
Vz51 COMB.
MAIN ST.
Vz52
Ø2 Ø2 Ø5
TEMP. SPAN WIRE FOR ALL STAGES OF M.O.T.
TEMP. TREATED WOOD SIGNAL POLE (TYP.)
W. HIGHLAND AV.
E. HIGHLAND AV. (HWY 18)
Vz42 COMB.
Vz41
Ø4
Ø4 Vz44
Vz43 COMB.
COMB. Vz33 Ø3 Vz34
Vz31
Vz32 COMB. Ø3
TEMP. SIGNAL HEAD (TYP.)
1 1/4" GALVANIZED STEEL CONDUIT
TEMP. POLE MOUNTED CONTROLLER CABINET
TEMP. SERVICE POINT
EXIST. R.O.W. (TYP.)
2-2" G.S. CONDUIT UP WOOD POLE
RELOCATE EXISTING LOCAL ANTENNA, (NEW) CAT 5E CABLE
Vz12
Ø1 Vz11 COMB.
Ø6 Ø6
MAIN ST. (HWY 18)
ONLY
ONLY
Vz62A COMB.
Vz62B COMB.
V1 V2 V3 V4 V5 V6 V7 V8
A B C D E
1 2 3 4 5 6 7 8 9 10 11 12

## STAGE 1 TEMPORARY POLE LOCATIONS AND DIMENSIONS

| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 40' 80'
SCALE 1" = 40'

N

5/27/2020
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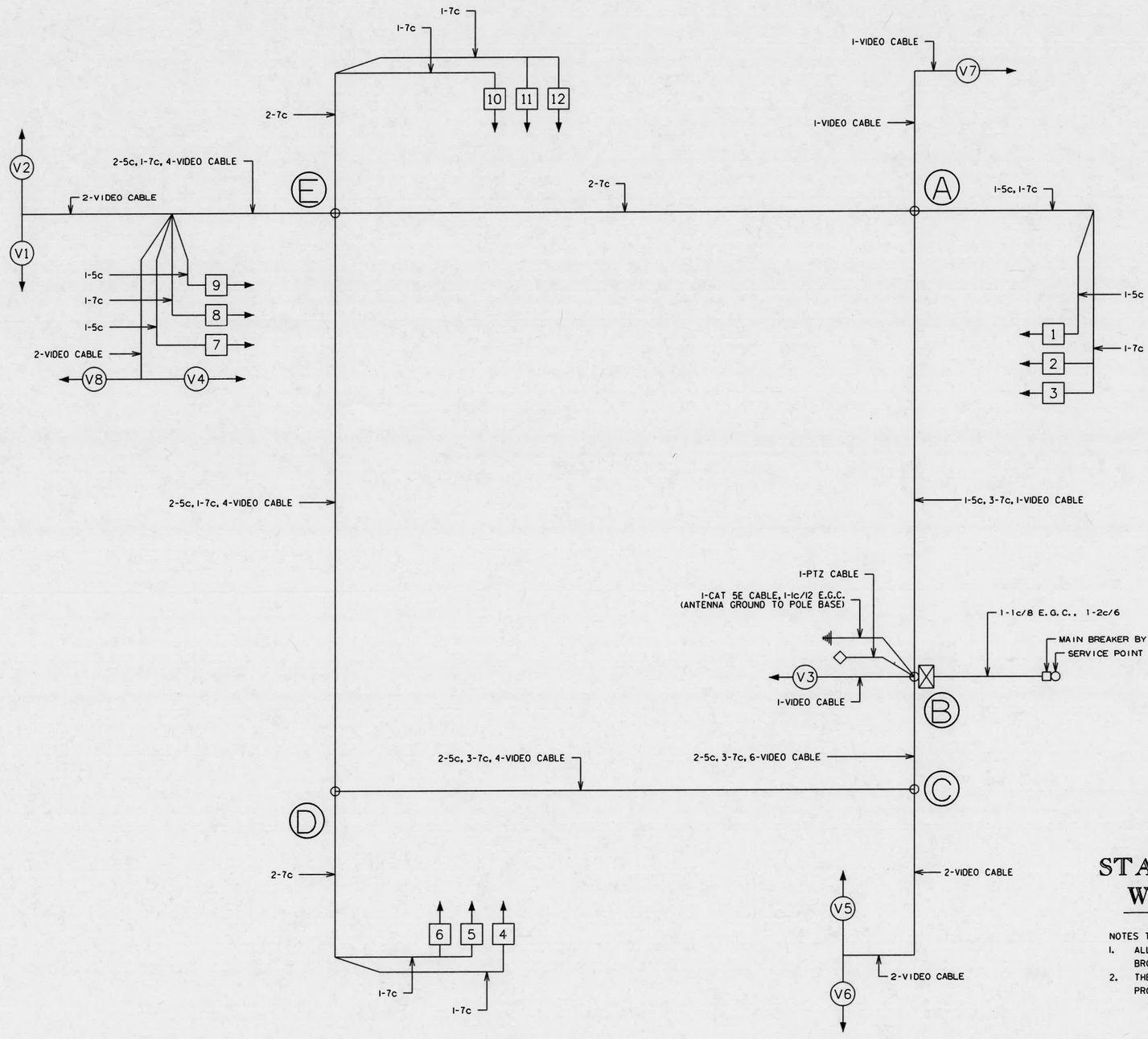
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 44 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# STAGE 1 TEMPORARY WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

5/27/2020
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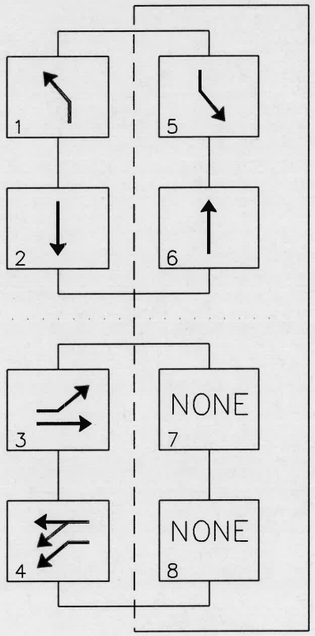
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 45 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 1 TEMPORARY PHASE DIAGRAM




# STAGE 1 TEMPORARY DETECTOR CHART

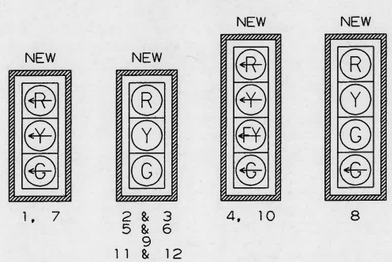
| DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | | VIDEO DET. TUBE LENGTH | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LOCAL | | MSTR. SYS. DET. # | | |
| DETECTOR I.D. # | DIRECTION & LOCATION | TYPE | DET. # | CAB. TRM # | AMP CHN. # | CON. INP. # | PHS. | SYS. DET. # | | | |
| Vz11 | NB LEFT FAR | COMB. | - | - | 1 | V9 | 1 | 1 | - | - | CAMERA V1 |
| Vz12 | NB LEFT NEAR | LOCAL | - | - | 2 | V1 | 1 | - | - | - | CAMERA V1 |
| Vz21A&B | SB FAR | LOCAL | - | - | 5 | V2 | 2 | - | - | - | CAMERA V2 |
| Vz22A&B | SB NEAR | COMB. | - | - | 6 | V10 | 2 | 2 | - | - | CAMERA V5 |
| Vz31 | EB FAR | LOCAL | - | - | 9 | V8 | 3 | - | - | - | CAMERA V8 |
| Vz32 | EB NEAR | COMB. | - | - | 10 | V16 | 3 | 3 | - | - | CAMERA V3 |
| Vz33 | EB LEFT FAR | COMB. | - | - | 11 | V11 | 3 | 3 | - | - | CAMERA V3 |
| Vz34 | EB LEFT NEAR | LOCAL | - | - | 12 | V3 | 3 | - | - | - | CAMERA V3 |
| Vz41 | WB FAR | LOCAL | - | - | 13 | V4 | 4 | - | - | - | CAMERA V7 |
| Vz42 | WB NEAR | COMB. | - | - | 14 | V12 | 4 | 4 | - | - | CAMERA V4 |
| Vz43 | WB LEFT FAR | COMB. | - | - | 15 | V15 | 4 | 4 | - | - | CAMERA V4 |
| Vz44 | WB LEFT NEAR | LOCAL | - | - | 16 | V7 | 4 | - | - | - | CAMERA V4 |
| Vz51 | SB LEFT FAR | COMB. | - | - | 7 | V13 | 5 | 5 | - | - | CAMERA V5 |
| Vz52 | SB LEFT NEAR | LOCAL | - | - | 8 | V5 | 5 | - | - | - | CAMERA V5 |
| Vz61A&B | NB FAR | LOCAL | - | - | 3 | V6 | 6 | - | - | - | CAMERA V6 |
| Vz62A&B | NB NEAR | COMB. | - | - | 4 | V14 | 6 | 6 | - | - | CAMERA V1 |

CONTROLLER INPUT ABBREVIATIONS
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

SPARE AMP CHN. # = NONE


# STAGE 1 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

# STAGE 1 TEMPORARY INTERVAL CHART

| SIGNAL FACES | S. MAIN ST. / HIGHLAND AV. | | | | | | | | | | | | | FLASH SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1+5 | CLR. | 1+6 | CLR. | 2+5 | CLR. | 2+6 | CLR. | 3 | CLR. | 4 | CLR. | | |
| 1 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | ~~R~~ | ~~R~~ | | ~~R~~ |
| 2&3 | R | R | R | R | R | R | R | R | G | ** | R | R | | R |
| 4 | ~~G~~ | * | ~~FY~~ | *** | ~~G~~ | * | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 5&6 | R | R | R | R | G | ** | G | ** | R | R | R | R | | R |
| 7 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | | ~~R~~ |
| 8 | R | R | R | R | R | R | R | R | R | R | ~~G~~ G | * | | R |
| 9 | R | R | R | R | R | R | R | R | R | R | G | ** | | R |
| 10 | ~~G~~ | * | ~~G~~ | * | ~~FY~~ | *** | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 11&12 | R | R | G | ** | R | R | G | ** | R | R | R | R | | R |

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE.

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE.

*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE.

5/27/2020
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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 46 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 2 TEMPORARY POLE LOCATIONS AND DIMENSIONS

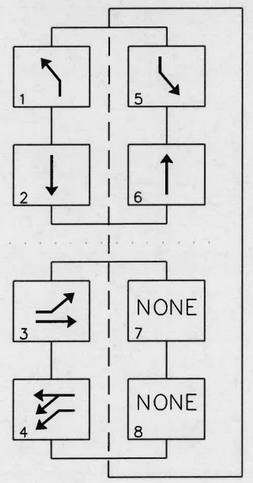
| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

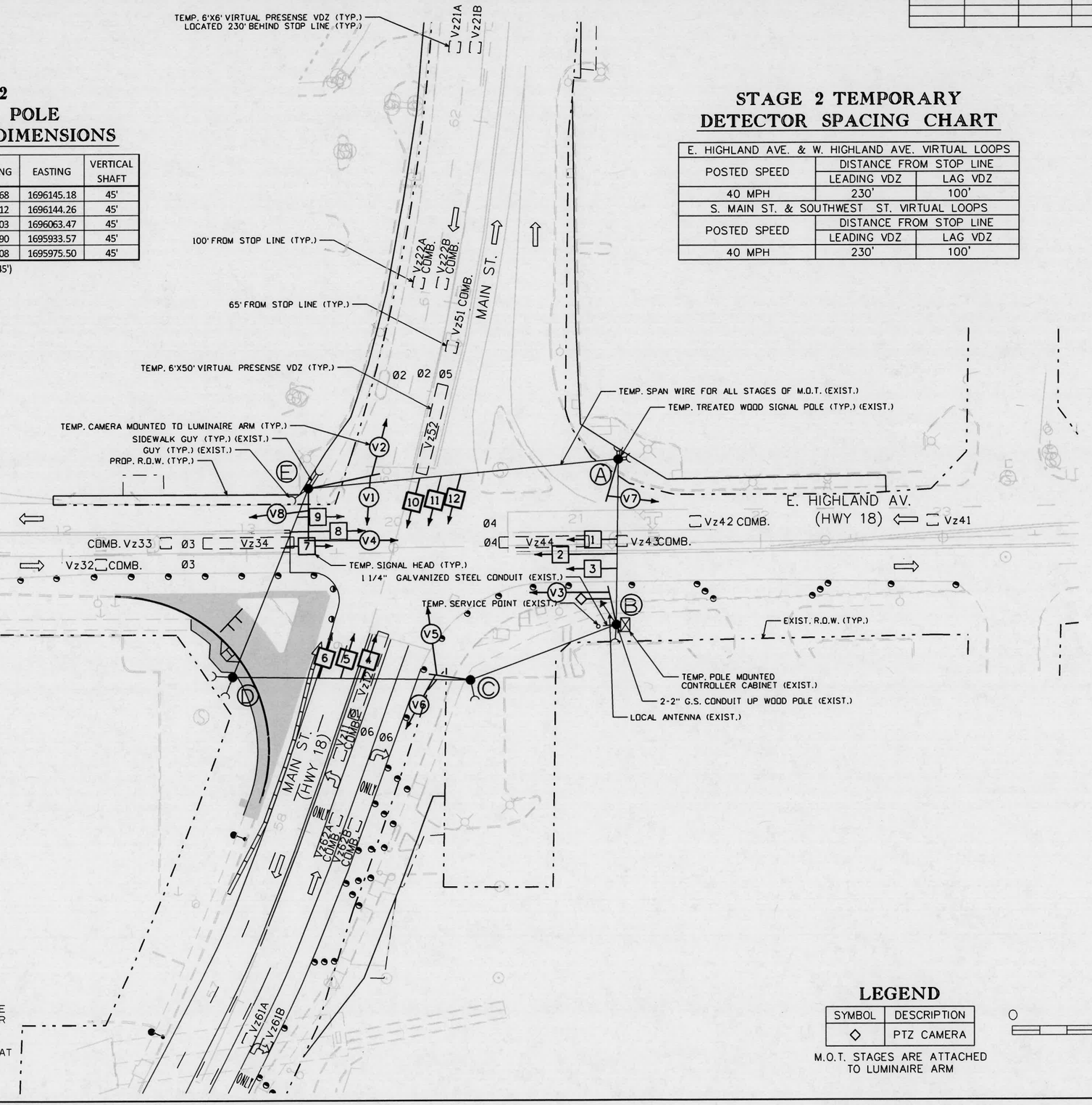
POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

# STAGE 2 TEMPORARY DETECTOR SPACING CHART

| E. HIGHLAND AVE. & W. HIGHLAND AVE. VIRTUAL LOOPS | | |
|---|---|---|
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |
| S. MAIN ST. & SOUTHWEST ST. VIRTUAL LOOPS | | |
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |

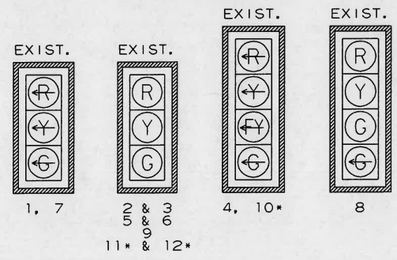

# STAGE 2 TEMPORARY PHASE DIAGRAM




# STAGE 2 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. AN ASTERISK (*) IDENTIFIES SIGNAL HEADS THAT SHALL BE ADJUSTED IN THIS STAGE OF M.O.T.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 60' 120'

SCALE 1" = 60'

N

5/27/2020
W:\3920\Transportation\D3920-SignalLayout-Temporary-Stage2-60scale.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
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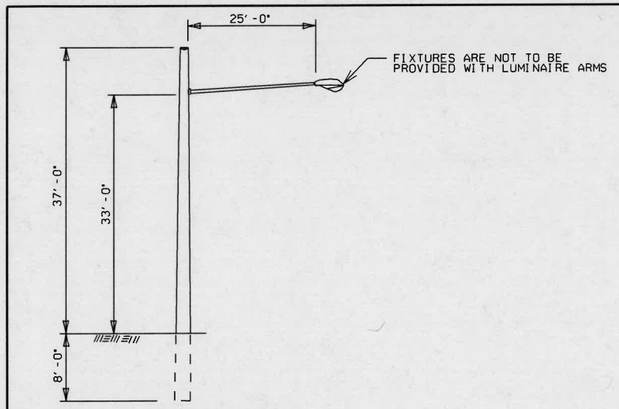
| | | | | JOB NO. | | 100872 | 47 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS ( OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES.
THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

100' FROM STOP LINE (TYP.)
65' FROM STOP LINE (TYP.)
TEMP. 6'X50' VIRTUAL PRESENSE VDZ (TYP.)
TEMP. CAMERA MOUNTED TO LUMINAIRE ARM (TYP.)
SIDEWALK GUY (TYP.)
GUY (TYP.)
PROP. R.O.W. (TYP.)
TEMP. CONST. ESMT. (TYP.)
TEMP. SPAN WIRE FOR ALL STAGES OF M.O.T. (EXIST.)
TEMP. TREATED WOOD SIGNAL POLE (TYP.) (EXIST.)
TEMP. SIGNAL HEAD (TYP.)
1 1/4" GALVANIZED STEEL CONDUIT (EXIST.)
TEMP. SERVICE POINT (EXIST.)
TEMP. POLE MOUNTED CONTROLLER CABINET (EXIST.)
EXIST. R.O.W. (TYP.)
2-2" G.S. CONDUIT UP WOOD POLE (EXIST.)
LOCAL ANTENNA (EXIST.)
W. HIGHLAND AV.
E. HIGHLAND AV. (HWY 18)
MAIN ST. (HWY 18)
Vz22A COMB.
Vz22B COMB.
Vz51 COMB.
Vz52
Vz31
Vz32 COMB.
COMB. Vz33
Vz34
Vz41
Vz42 COMB.
Vz43 COMB.
Vz44
Vz61 COMB.
Vz62A COMB.
Vz62B COMB.
Ø2 Ø2 Ø5
Ø3
Ø4
Ø1
Ø6
ONLY
V1 V2 V3 V4 V5 V6 V7 V8
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E

## STAGE 2 TEMPORARY POLE LOCATIONS AND DIMENSIONS

| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

## LEGEND

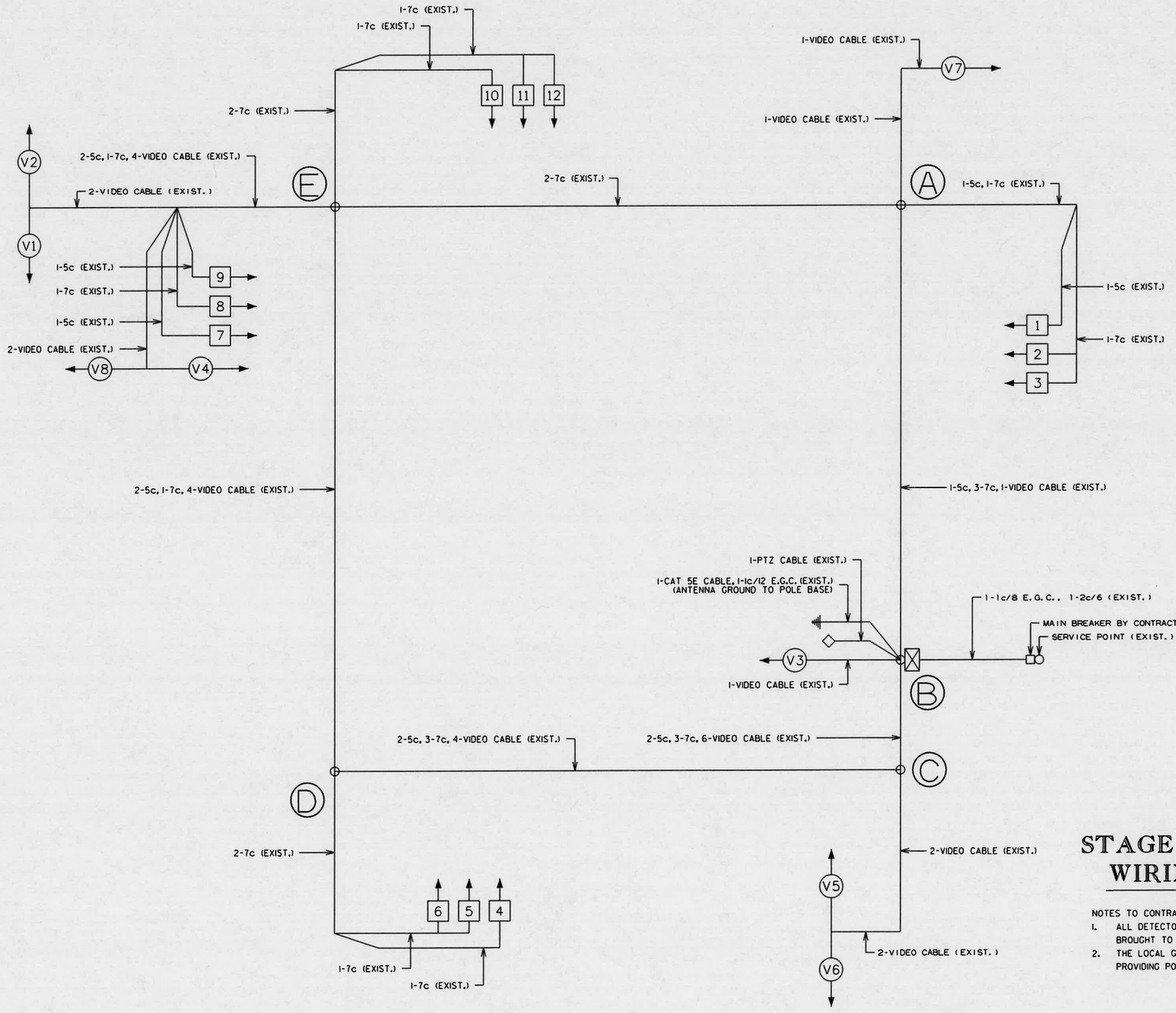
| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 40' 80'
SCALE 1" = 40'
N

5/27/2020
W:\9920\Transportation\09920-SignalLayout-Temporary-Stage2-40scale.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 48 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




STATE OF ARKANSAS
REVISED
PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# STAGE 2 TEMPORARY WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

## LEGEND

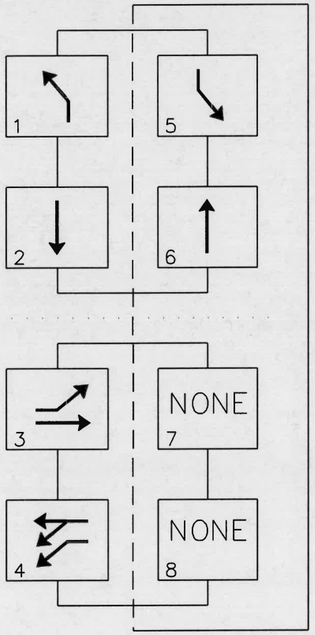
| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

5/27/2020
W:\9920\Transportation\D9920-SignalLayout-Temporary-Stage2-Wiring.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 49 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 2 TEMPORARY PHASE DIAGRAM




# STAGE 2 TEMPORARY DETECTOR CHART

| DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | | VIDEO DET. TUBE LENGTH | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LOCAL | | | | |
| DETECTOR I.D. # | DIRECTION & LOCATION | TYPE | DET. # | CAB. TRM # | AMP CHN. # | CON. INP. # | PHS. | SYS. DET. # | MSTR. SYS. DET. # | | |
| Vz11 | NB LEFT FAR | COMB. | - | - | 1 | V9 | 1 | 1 | - | - | CAMERA V1 |
| Vz12 | NB LEFT NEAR | LOCAL | - | - | 2 | V1 | 1 | - | - | - | CAMERA V1 |
| Vz21A&B | SB FAR | LOCAL | - | - | 5 | V2 | 2 | - | - | - | CAMERA V2 |
| Vz22A&B | SB NEAR | COMB. | - | - | 6 | V10 | 2 | 2 | - | - | CAMERA V5 |
| Vz31 | EB FAR | LOCAL | - | - | 9 | V8 | 3 | - | - | - | CAMERA V8 |
| Vz32 | EB NEAR | COMB. | - | - | 10 | V16 | 3 | 3 | - | - | CAMERA V3 |
| Vz33 | EB LEFT FAR | COMB. | - | - | 11 | V11 | 3 | 3 | - | - | CAMERA V3 |
| Vz34 | EB LEFT NEAR | LOCAL | - | - | 12 | V3 | 3 | - | - | - | CAMERA V3 |
| Vz41 | WB FAR | LOCAL | - | - | 13 | V4 | 4 | - | - | - | CAMERA V7 |
| Vz42 | WB NEAR | COMB. | - | - | 14 | V12 | 4 | 4 | - | - | CAMERA V4 |
| Vz43 | WB LEFT FAR | COMB. | - | - | 15 | V15 | 4 | 4 | - | - | CAMERA V4 |
| Vz44 | WB LEFT NEAR | LOCAL | - | - | 16 | V7 | 4 | - | - | - | CAMERA V4 |
| Vz51 | SB LEFT FAR | COMB. | - | - | 7 | V13 | 5 | 5 | - | - | CAMERA V5 |
| Vz52 | SB LEFT NEAR | LOCAL | - | - | 8 | V5 | 5 | - | - | - | CAMERA V5 |
| Vz61A&B | NB FAR | LOCAL | - | - | 3 | V6 | 6 | - | - | - | CAMERA V6 |
| Vz62A&B | NB NEAR | COMB. | - | - | 4 | V14 | 6 | 6 | - | - | CAMERA V1 |

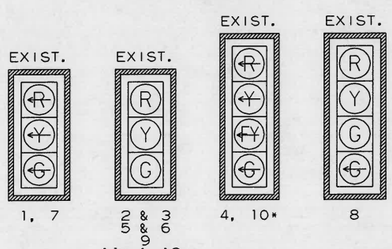
CONTROLLER INPUT ABBREVIATIONS
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

SPARE AMP CHN. # = NONE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# STAGE 2 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. AN ASTERISK (*) IDENTIFIES SIGNAL HEADS THAT SHALL BE ADJUSTED IN THIS STAGE OF M.O.T.

# STAGE 2 TEMPORARY INTERVAL CHART

| SIGNAL FACES | S. MAIN ST. / HIGHLAND AV. | | | | | | | | | | | | | FLASH SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1+5 | CLR. | 1+6 | CLR. | 2+5 | CLR. | 2+6 | CLR. | 3 | CLR. | 4 | CLR. | | |
| 1 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | ~~R~~ | ~~R~~ | | ~~R~~ |
| 2&3 | R | R | R | R | R | R | R | R | G | ** | R | R | | R |
| 4 | ~~G~~ | * | ~~FY~~ | *** | ~~G~~ | * | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 5&6 | R | R | R | R | G | ** | G | ** | R | R | R | R | | R |
| 7 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | | ~~R~~ |
| 8 | R | R | R | R | R | R | R | R | R | R | G ~~G~~ | * | | R |
| 9 | R | R | R | R | R | R | R | R | R | R | G | ** | | R |
| 10 | ~~G~~ | * | ~~G~~ | * | ~~FY~~ | *** | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 11&12 | R | R | G | ** | R | R | G | ** | R | R | R | R | | R |

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE.

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE.

*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE.

5/27/2020
W:\9920\Transportation\09920-SignalLayout-Temporary-Stage2-Charts.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 50 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 3 TEMPORARY POLE LOCATIONS AND DIMENSIONS

| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

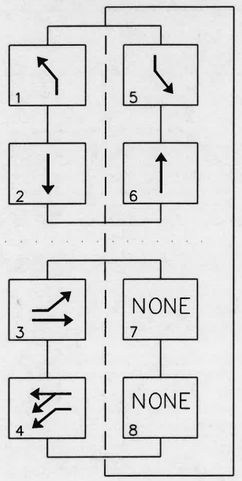
POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

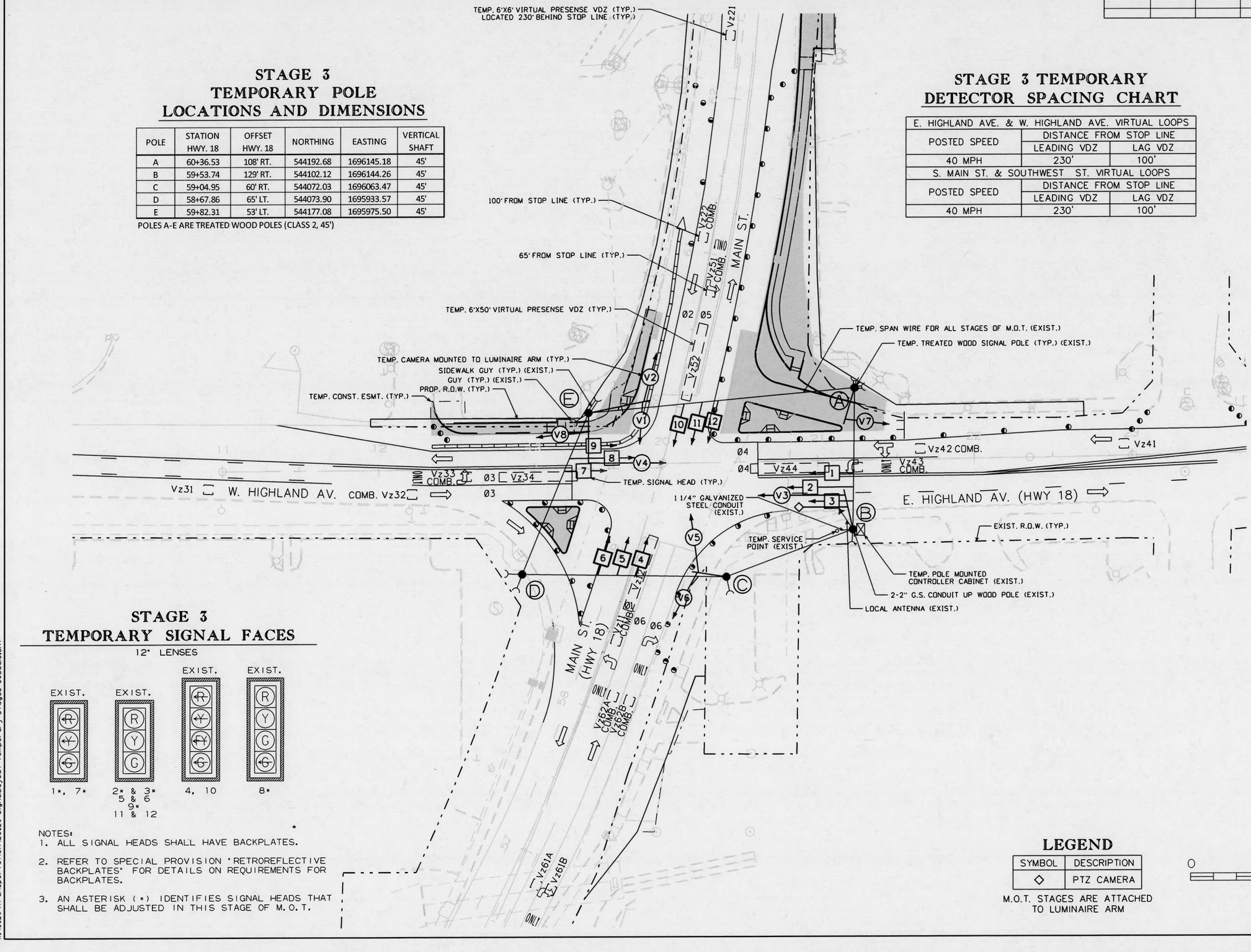
# STAGE 3 TEMPORARY DETECTOR SPACING CHART

| E. HIGHLAND AVE. & W. HIGHLAND AVE. VIRTUAL LOOPS | | |
|---|---|---|
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |
| S. MAIN ST. & SOUTHWEST ST. VIRTUAL LOOPS | | |
| POSTED SPEED | DISTANCE FROM STOP LINE | |
| | LEADING VDZ | LAG VDZ |
| 40 MPH | 230' | 100' |

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/20/2020

# STAGE 3 TEMPORARY PHASE DIAGRAM




# STAGE 3 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. AN ASTERISK (*) IDENTIFIES SIGNAL HEADS THAT SHALL BE ADJUSTED IN THIS STAGE OF M.O.T.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

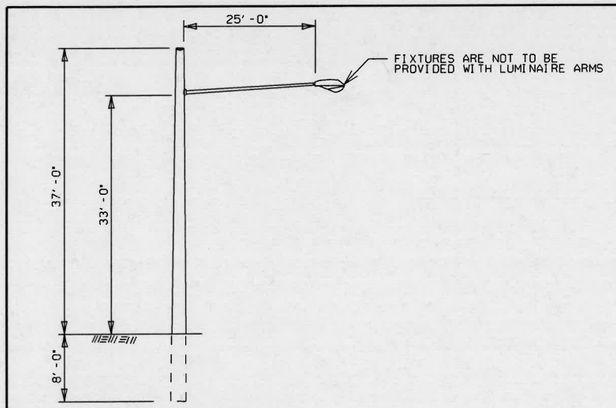
M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 60' 120'
SCALE 1" =60'

N

5/27/2020
W:\9920\Transportation\D9920-SignalLayout-Temporary-Stage3-60scale.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 51 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

100' FROM STOP LINE (TYP.)
65' FROM STOP LINE (TYP.)
TEMP. 6'X50' VIRTUAL PRESENSE VDZ (TYP.)
TEMP. CAMERA MOUNTED TO LUMINAIRE ARM (TYP.)
SIDEWALK GUY (TYP.) (EXIST.)
GUY (TYP.) (EXIST.)
PROP. R.O.W. (TYP.)
TEMP. CONST. ESMT. (TYP.)
TEMP. SPAN WIRE FOR ALL STAGES OF M.O.T. (EXIST.)
TEMP. TREATED WOOD SIGNAL POLE (TYP.) (EXIST.)
TEMP. SIGNAL HEAD (TYP.)
1 1/4" GALVANIZED STEEL CONDUIT (EXIST.)
TEMP. SERVICE POINT (EXIST.)
EXIST. R.O.W. (TYP.)
TEMP. POLE MOUNTED CONTROLLER CABINET (EXIST.)
2-2" G.S. CONDUIT UP WOOD POLE (EXIST.)
LOCAL ANTENNA (EXIST.)

Vz22 COMB.
Vz51 COMB.
Vz52
Vz31
W. HIGHLAND AV.
COMB. Vz32
Vz33 COMB.
Vz34
Vz41
Vz42 COMB.
Vz43 COMB.
Vz44
E. HIGHLAND AV. (HWY 18)
MAIN ST.
MAIN ST. (HWY 18)
Vz11 COMB.
Vz12
Vz62A COMB.
Vz62B COMB.
ONLY
Ø2 Ø5
Ø3
Ø4
Ø6

## STAGE 3 TEMPORARY POLE LOCATIONS AND DIMENSIONS

| POLE | STATION HWY. 18 | OFFSET HWY. 18 | NORTHING | EASTING | VERTICAL SHAFT |
|---|---|---|---|---|---|
| A | 60+36.53 | 108' RT. | 544192.68 | 1696145.18 | 45' |
| B | 59+53.74 | 129' RT. | 544102.12 | 1696144.26 | 45' |
| C | 59+04.95 | 60' RT. | 544072.03 | 1696063.47 | 45' |
| D | 58+67.86 | 65' LT. | 544073.90 | 1695933.57 | 45' |
| E | 59+82.31 | 53' LT. | 544177.08 | 1695975.50 | 45' |

POLES A-E ARE TREATED WOOD POLES (CLASS 2, 45')

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

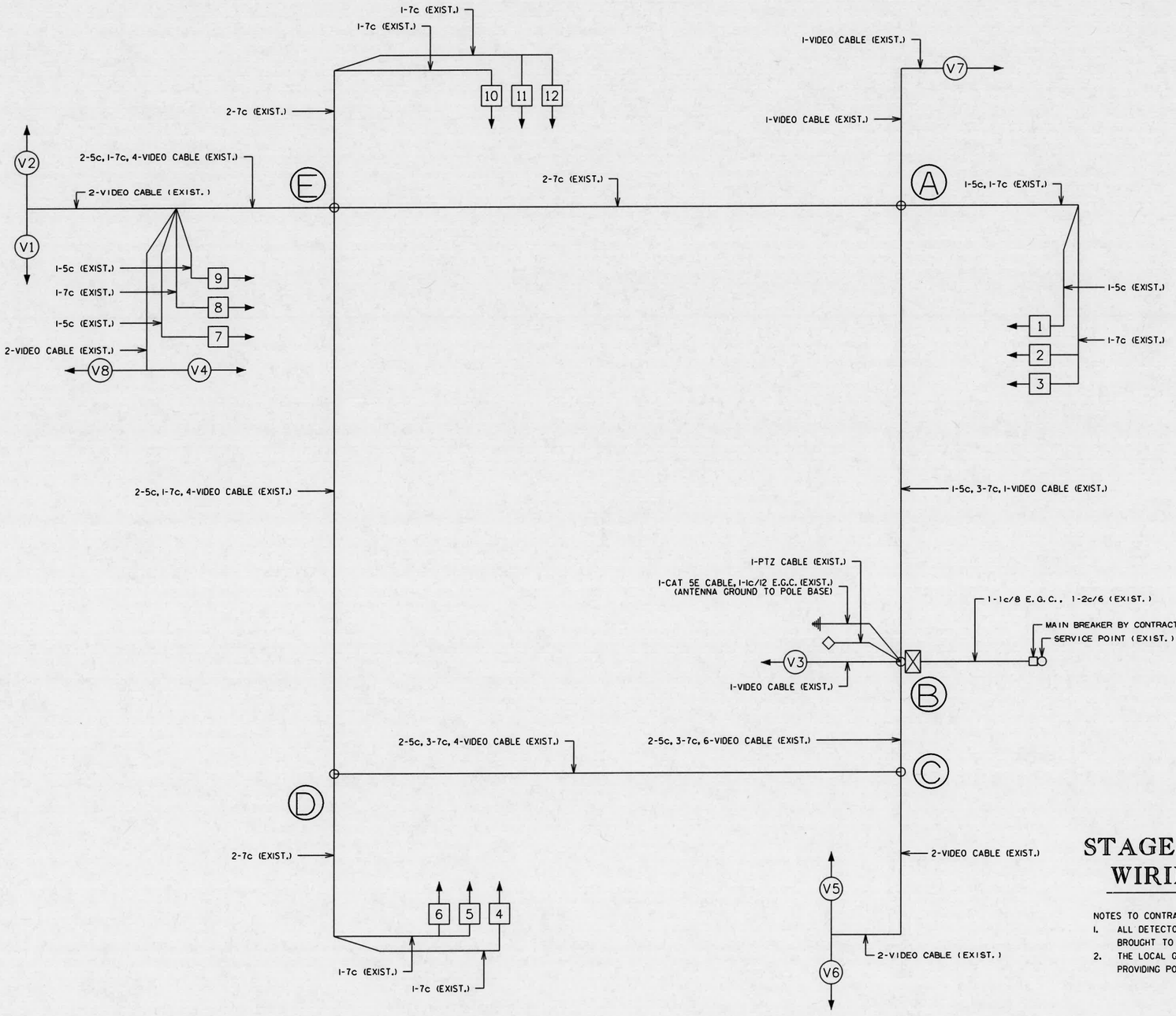
M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

0 40' 80'
SCALE 1" = 40'

N

5/27/2020
W:\9920\Transportation\D9920-SignalLayout-Temporary-Stage3-40scale.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 52 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |




STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# STAGE 3 TEMPORARY WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

## LEGEND

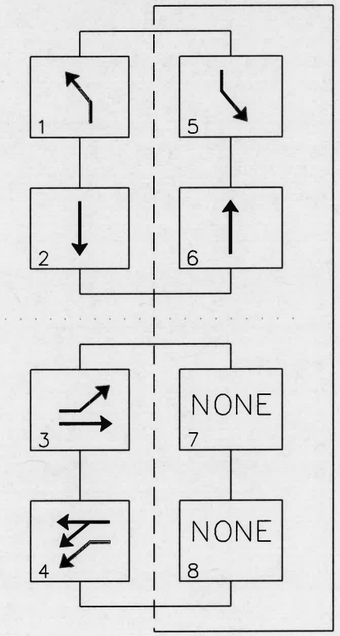
| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

M.O.T. STAGES ARE ATTACHED TO LUMINAIRE ARM

5/27/2020
W:\3920\Transportation\D9920-SignalLayout-Temporary-Stage3-Wiring.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 53 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# STAGE 3 TEMPORARY PHASE DIAGRAM




# STAGE 3 TEMPORARY DETECTOR CHART

| DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | | VIDEO DET. TUBE LENGTH | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LOCAL | | | | |
| DETECTOR I.D. # | DIRECTION & LOCATION | TYPE | DET. # | CAB. TRM # | AMP CHN. # | CON. INP. # | PHS. | SYS. DET. # | MSTR. SYS. DET. # | | |
| Vz11 | NB LEFT FAR | COMB. | - | - | 1 | V9 | 1 | 1 | - | - | CAMERA VI |
| Vz12 | NB LEFT NEAR | LOCAL | - | - | 2 | VI | 1 | - | - | - | CAMERA VI |
| Vz21 | SB FAR | LOCAL | - | - | 5 | V2 | 2 | - | - | - | CAMERA V2 |
| Vz22 | SB NEAR | COMB. | - | - | 6 | VI0 | 2 | 2 | - | - | CAMERA V5 |
| Vz31 | EB FAR | LOCAL | - | - | 9 | V8 | 3 | - | - | - | CAMERA V8 |
| Vz32 | EB NEAR | COMB. | - | - | 10 | VI6 | 3 | 3 | - | - | CAMERA V3 |
| Vz33 | EB LEFT FAR | COMB. | - | - | 11 | VII | 3 | 3 | - | - | CAMERA V3 |
| Vz34 | EB LEFT NEAR | LOCAL | - | - | 12 | V3 | 3 | - | - | - | CAMERA V3 |
| Vz41 | WB FAR | LOCAL | - | - | 13 | V4 | 4 | - | - | - | CAMERA V7 |
| Vz42 | WB NEAR | COMB. | - | - | 14 | VI2 | 4 | 4 | - | - | CAMERA V4 |
| Vz43 | WB LEFT FAR | COMB. | - | - | 15 | VI5 | 4 | 4 | - | - | CAMERA V4 |
| Vz44 | WB LEFT NEAR | LOCAL | - | - | 16 | V7 | 4 | - | - | - | CAMERA V4 |
| Vz51 | SB LEFT FAR | COMB. | - | - | 7 | VI3 | 5 | 5 | - | - | CAMERA V5 |
| Vz52 | SB LEFT NEAR | LOCAL | - | - | 8 | V5 | 5 | - | - | - | CAMERA V5 |
| Vz61A&B | NB FAR | LOCAL | - | - | 3 | V6 | 6 | - | - | - | CAMERA V6 |
| Vz62A&B | NB NEAR | COMB. | - | - | 4 | VI4 | 6 | 6 | - | - | CAMERA VI |

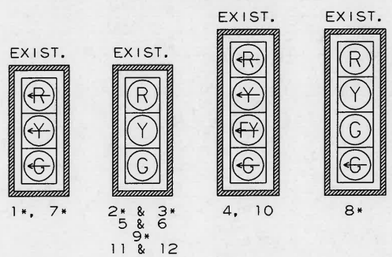
CONTROLLER INPUT ABBREVIATIONS
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

SPARE AMP CHN. # = NONE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

# STAGE 3 TEMPORARY SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. AN ASTERISK (*) IDENTIFIES SIGNAL HEADS THAT SHALL BE ADJUSTED IN THIS STAGE OF M.O.T.

# STAGE 3 TEMPORARY INTERVAL CHART

| SIGNAL FACES | S. MAIN ST. / HIGHLAND AV. | | | | | | | | | | | | | FLASH SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1+5 | CLR. | 1+6 | CLR. | 2+5 | CLR. | 2+6 | CLR. | 3 | CLR. | 4 | CLR. | | |
| 1 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | ~~R~~ | ~~R~~ | | ~~R~~ |
| 2&3 | R | R | R | R | R | R | R | R | G | ** | R | R | | R |
| 4 | ~~G~~ | * | ~~FY~~ | *** | ~~G~~ | * | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 5&6 | R | R | R | R | G | ** | G | ** | R | R | R | R | | R |
| 7 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | | ~~R~~ |
| 8 | R | R | R | R | R | R | R | R | R | R | G ~~G~~ | * | | R |
| 9 | R | R | R | R | R | R | R | R | R | R | G | ** | | R |
| 10 | ~~G~~ | * | ~~G~~ | * | ~~FY~~ | *** | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 11&12 | R | R | G | ** | R | R | G | ** | R | R | R | R | | R |

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE.

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE.

*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE.

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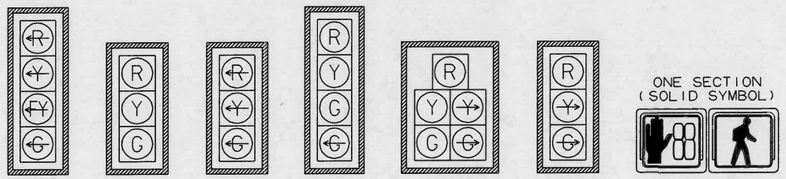
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 100872 | 54 | 72 |

(2) SIGNALIZATION PLAN SHEET

# SIGNAL FACES

12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. SIGNAL #15 SHALL BE INSTALLED WITH SIGN R10-10R.

## DETECTOR SPACING CHART

| E. & W. HIGHLAND AVE. VIRTUAL LOOPS | | |
|---|---|---|
| POSTED SPEED | DISTANCE FROM STOP LINE (THRU) | |
| | LEADING VDZ | LAGGING VDZ |
| 40 MPH | 230' | 100' |
| **S. MAIN ST. & SOUTHWEST ST. VIRTUAL LOOPS** | | |
| POSTED SPEED | DISTANCE FROM STOP LINE (THRU) | |
| | LEADING VDZ | LAGGING VDZ |
| 40 MPH | 230' | 100' |

STATE OF ARKANSAS
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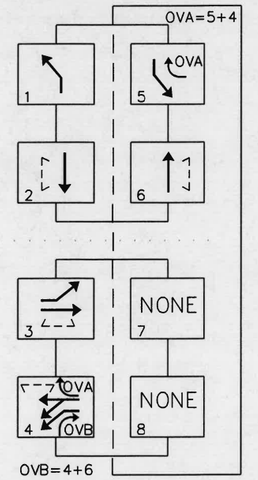
No. 8213
RICHARD E. GAFFORD
05/27/2020

## PHASING DIAGRAM







## POLE DIMENSIONS

| POLE | MAST ARM LENGTH | *MAST ARM ANGLE | VERTICAL SHAFT LENGTH | *LUM. ARM ANGLE | LUM. ARM LENGTH |
|---|---|---|---|---|---|
| A | 58' | 270° | 50' | 270° | 25' |
| B | 66' | 180° | 35' | 180° | 20' |
| C | 46' | 270° | 35' | 270° | 15' |
| D | 50' | 180° | 35' | 180° | 10' |
| E | N/A | N/A | 15' | N/A | N/A |
| F | N/A | N/A | 15' | N/A | N/A |
| G | N/A | N/A | 15' | N/A | N/A |
| H | N/A | N/A | 15' | N/A | N/A |
| I | N/A | N/A | 15' | N/A | N/A |
| J | N/A | N/A | 15' | N/A | N/A |
| K | N/A | N/A | 15' | N/A | N/A |

*ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

PERMANENT SIGNAL: ATTACH TO VERTICAL SHAFT OF POLE A

N

0 60' 120'
SCALE
1" =60'

5/27/2020
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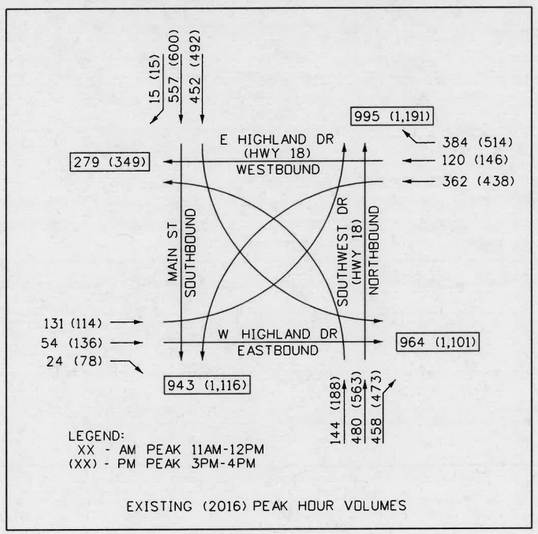
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 55 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# TRAFFIC FLOW DIAGRAM




## DESIGN PARAMETERS

DECTECTION DESGIN SPEED LIMIT:
40 MPH WEST APPROACH
40 MPH EAST APPROACH
40 MPH NORTH APPROACH
40 MPH SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO PARKING
NO FIRE STATION
LOCATION OF STOP LINES SHOWN ON PERMANENT MARKING PLAN (SEE SEPARATE SHEET).
3' MIN. CLEAR ZONE DISTANCE (BARRIER CURB SECTION)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020

## POLE LOCATIONS

| POLE | STATION MAIN ST (HWY. 18) | OFFSET MAIN ST (HWY. 18) | NORTHING | EASTING |
|---|---|---|---|---|
| A | 59+30.76 | 82.99' RT | 544091.16' | 1696093.37' |
| B | 59+00.20 | 50.05' LT | 544099.36' | 1695957.05' |
| C | 59+90.85 | 40.70' LT | 544182.04' | 1695989.77' |
| D | 60+10.33 | 47.50' RT | 544179.85' | 1696080.08' |
| E | 59+38.03 | 76.47' RT | 544100.24' | 1696089.17' |
| F | 59+12.52 | 55.47' LT | 544112.39' | 1695955.31' |
| G | 59+73.78 | 64.64' LT | 544171.94' | 1695962.46' |
| H | 60+24.17 | 34.90' LT | 544212.39' | 1696003.12' |
| I | 60+47.06 | 73.82' RT | 544210.90' | 1696114.25' |
| J | 60+07.66 | 72.20' RT | 544171.36' | 1696103.44' |
| K | 60+03.94 | 57.69' RT | 544171.06' | 1696088.44' |

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

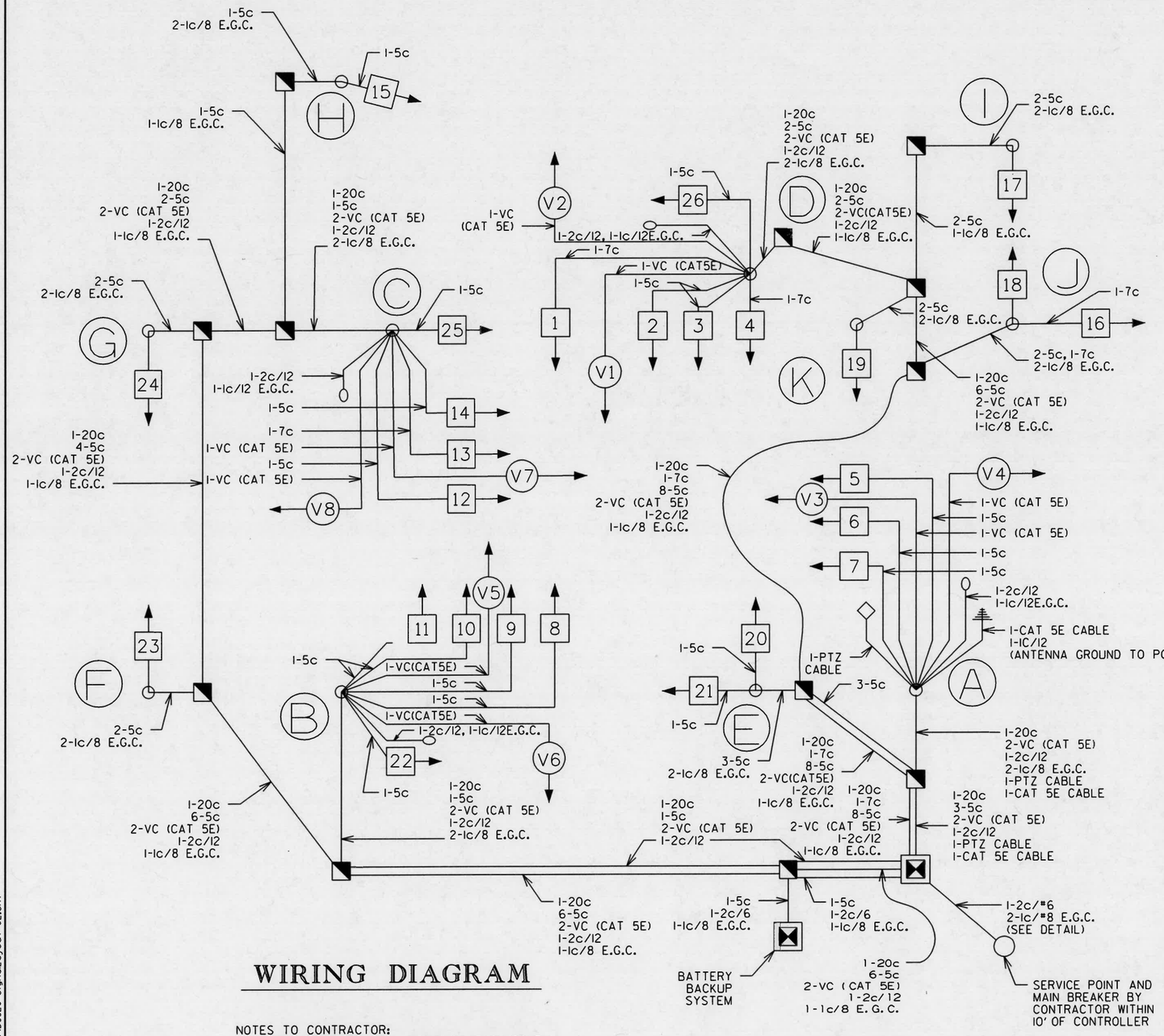
PERMANENT SIGNAL: ATTACH TO VERTICAL SHAFT OF POLE A

SCALE 1" =40'

5/27/2020
W:\9920\Transportation\09920-SignalLayout-01.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 56 | 72 |

(2) SIGNALIZATION PLAN SHEET

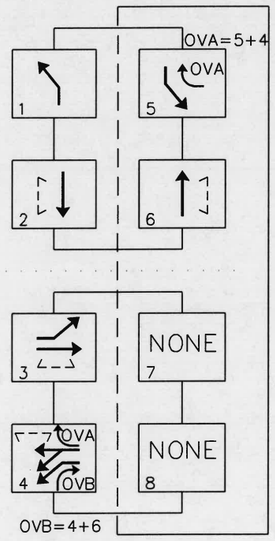



## WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE I-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

## PHASING DIAGRAM

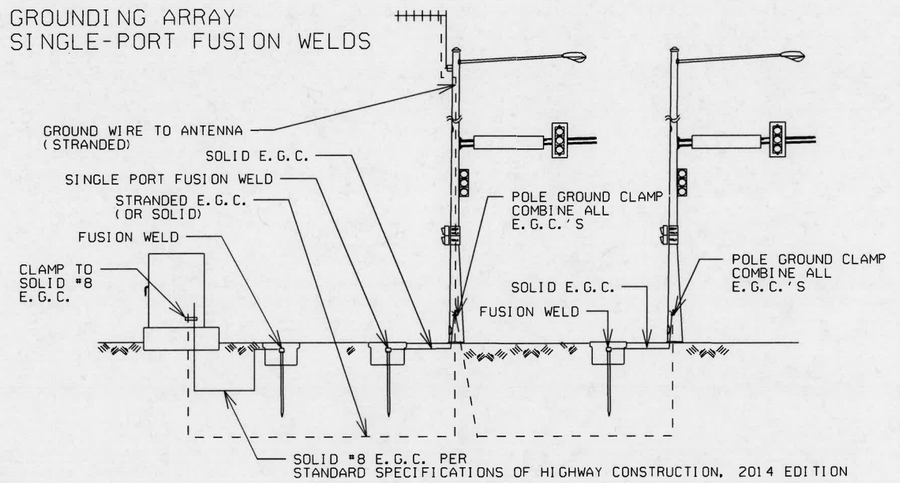



## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| ◇ | PTZ CAMERA |

PERMANENT SIGNAL: ATTACH TO VERTICAL SHAFT OF POLE A

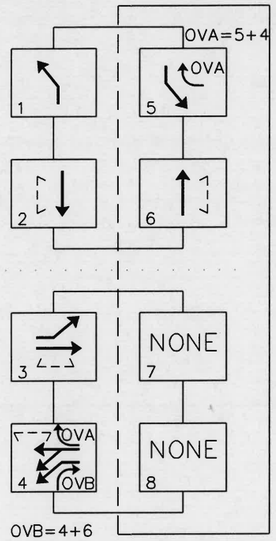
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 8213
RICHARD E. GAFFORD
05/27/2020




5/27/2020
W:\3920\Transportation\D9920-SignalLayout-02.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 57 | 72 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

# PHASE DIAGRAM




# DETECTOR CHART

| DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | | VIDEO DET. TUBE LENGTH | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LOCAL | | MSTR. SYS. DET. # | | |
| DETECTOR I.D. # | DIRECTION & LOCATION | TYPE | DET. # | CAB. TRM # | AMP CHN. # | CON. INP. # | PHS. | SYS. DET. # | | | |
| Vz11 | NB LEFT FAR | COMB. | - | - | 1 | V9 | 1 | 1 | - | 37" | CAMERA V1 |
| Vz12 | NB LEFT NEAR | LOCAL | - | - | 2 | V1 | 1 | - | - | 37" | CAMERA V1 |
| Vz21A&B | SB FAR | LOCAL | - | - | 5 | V2 | 2 | - | - | 74" | CAMERA V2 |
| Vz22A&B | SB NEAR | COMB. | - | - | 6 | V10 | 2 | 2 | - | 37" | CAMERA V5 |
| Vz31A&B | EB FAR | LOCAL | - | - | 9 | V8 | 3 | - | - | 74" | CAMERA V8 |
| Vz32A&B | EB NEAR | COMB. | - | - | 10 | V16 | 3 | 3 | - | 58" | CAMERA V3 |
| Vz33 | EB LEFT FAR | COMB. | - | - | 11 | V11 | 3 | 3 | - | 58" | CAMERA V3 |
| Vz34 | EB LEFT NEAR | LOCAL | - | - | 12 | V3 | 3 | - | - | 58" | CAMERA V3 |
| Vz41 | WB FAR | LOCAL | - | - | 13 | V4 | 4 | - | - | 74" | CAMERA V4 |
| Vz42 | WB NEAR | COMB. | - | - | 14 | V12 | 4 | 4 | - | 37" | CAMERA V7 |
| Vz43 | WB LEFT FAR | COMB. | - | - | 15 | V15 | 4 | 4 | - | 37" | CAMERA V7 |
| Vz44A&B | WB LEFT NEAR | LOCAL | - | - | 16 | V7 | 4 | - | - | 37" | CAMERA V7 |
| Vz51A&B | SB LEFT FAR | COMB. | - | - | 7 | V13 | 5 | 5 | - | 37" | CAMERA V5 |
| Vz52A&B | SB LEFT NEAR | LOCAL | - | - | 8 | V5 | 5 | - | - | 37" | CAMERA V5 |
| Vz61A&B | NB FAR | LOCAL | - | - | 3 | V6 | 6 | - | - | 74" | CAMERA V6 |
| Vz62A&B | NB NEAR | COMB. | - | - | 4 | V14 | 6 | 6 | - | 37" | CAMERA V1 |
| | | | | | | | | | | | |
| PB2A&B | W. HIGHLAND W. LEG | - | - | - | - | P2 | 2 | - | - | - | - |
| PB3A&B | MAIN S. LEG | - | - | - | - | P3 | 3 | - | - | - | - |
| PB4A&B | MAIN N. LEG | - | - | - | - | P4 | 4 | - | - | - | - |
| PB6A&B | E. HIGHLAND E. LEG | - | - | - | - | P6 | 6 | - | - | - | - |

CONTROLLER INPUT ABBREVIATIONS
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

SPARE AMP CHN. # = NONE


# INTERVAL CHART

| SIGNAL FACES | S. MAIN ST. / HIGHLAND AV. | | | | | | | | | | | | | FLASH SEQ. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1+5 | CLR. | 1+6 | CLR. | 2+5 | CLR. | 2+6 | CLR. | 3 | CLR. | 4 | CLR. | | |
| 1 | ~~G~~ | * | ~~G~~ | * | ~~FY~~ | *** | ~~FY~~ | *** | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 2&3 | R | R | G | ** | R | R | G | ** | R | R | R | R | | R |
| 4 | R | R | G ~~G~~ | ** * | R | R | G ~~G~~ | ** * | R | R | R ~~G~~ | R * | | R |
| 5 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | ~~R~~ | ~~R~~ | | ~~R~~ |
| 6&7 | R | R | R | R | R | R | R | R | G | ** | R | R | | R |
| 8&9 | ~~G~~ | * | ~~R~~ | ~~R~~ | ~~G~~ | * | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | | ~~R~~ |
| 10&11 | R | R | R | R | G | ** | G | ** | R | R | R | R | | R |
| 12 | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~G~~ | * | | ~~R~~ |
| 13 | R | R | R | R | R | R | R | R | R | R | G ~~G~~ | ** | | R |
| 14 | R | R | R | R | R | R | R | R | R | R | G | ** | | R |
| 15 | ~~G~~ | * | R | R | ~~G~~ | * | R | R | R | R | ~~G~~ | * | | R |
| 16 | R ~~G~~ | R * | R | R | R ~~G~~ | R * | R | R | R | R | G ~~G~~ | ** * | | R |
| 17&18 | DW | DW | W | FDW | DW | DW | W | FDW | DW | DW | DW | DW | | BLANK |
| 19&20 | DW | DW | W | FDW | DW | DW | W | FDW | DW | DW | DW | DW | | BLANK |
| 21&22 | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | DW | DW | | BLANK |
| 23&24 | DW | DW | DW | DW | W | FDW | W | FDW | DW | DW | DW | DW | | BLANK |
| 25&26 | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | | BLANK |

NOTE: "W" AND "FDW" ARE TO REMAIN "DW" IN ABSENSE OF A PEDESTRIAN CALL

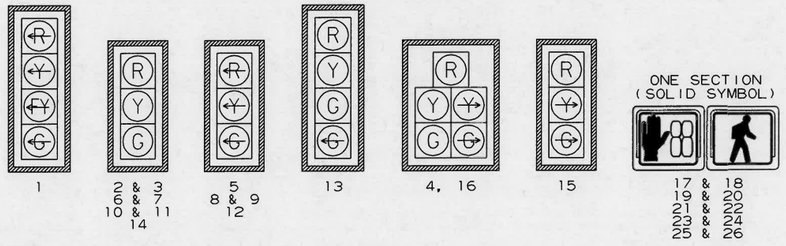
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE.

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE.

*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE.

# SIGNAL FACES

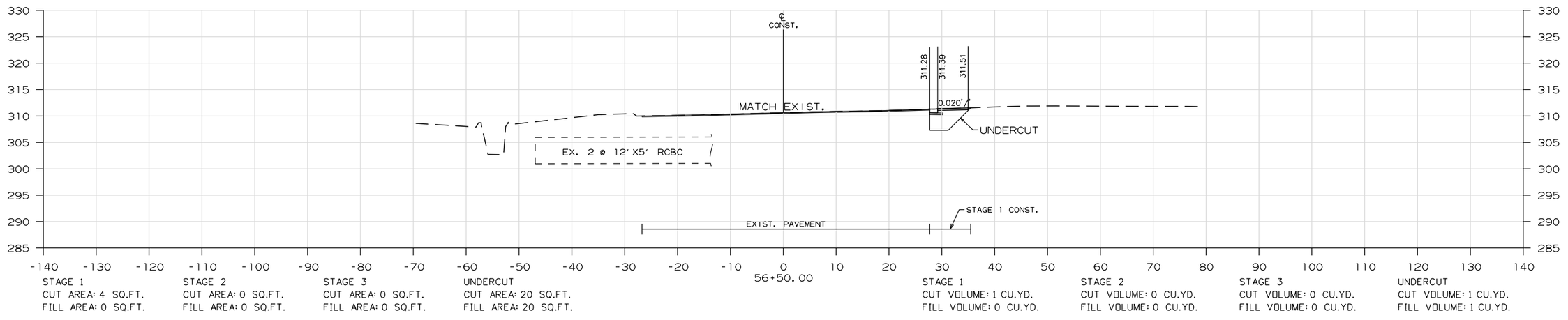
12" LENSES




NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.
5. SIGNAL #15 SHALL BE INSTALLED WITH SIGN R10-10R.

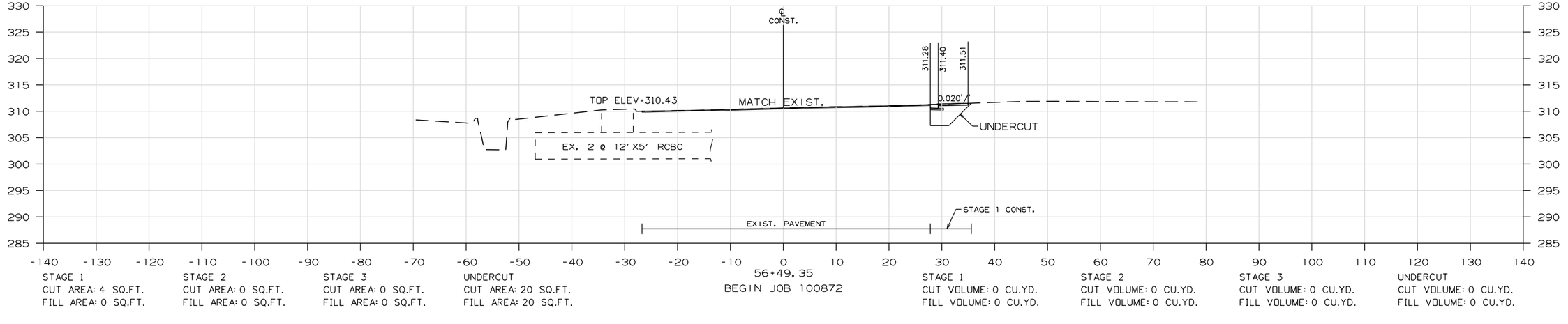
5/27/2020
W:\3920\Transportation\D9920-SignalLayout-03.sht

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 58 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




56+50.00

| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|
| CUT AREA: 4 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 20 SQ.FT. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 20 SQ.FT. |
| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
| CUT VOLUME: 1 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 1 CU.YD. |
| FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 1 CU.YD. |

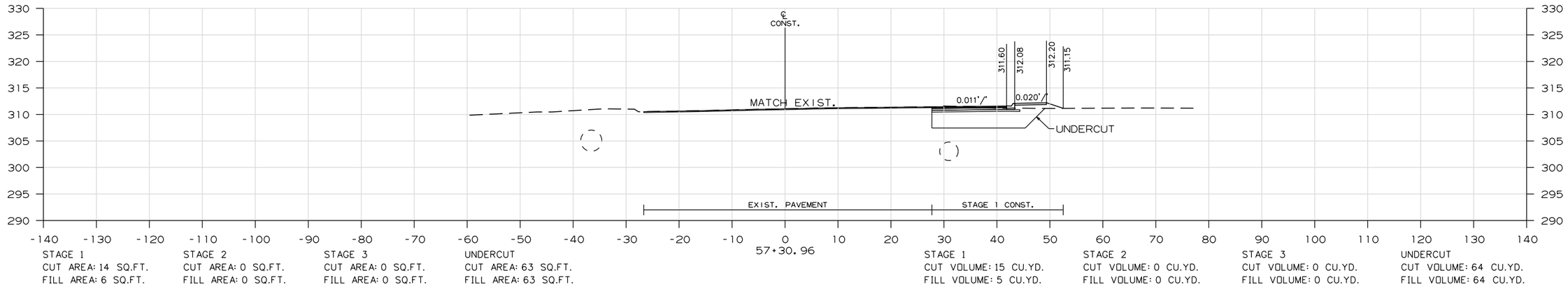



56+49.35
BEGIN JOB 100872

| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|
| CUT AREA: 4 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 20 SQ.FT. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 20 SQ.FT. |
| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
| CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. |

HWY. 18 / SOUTHWEST DR. CROSS SECTION STA. 56+49.35 TO STA. 56+50.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 59 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 14 SQ.FT.
FILL AREA: 6 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

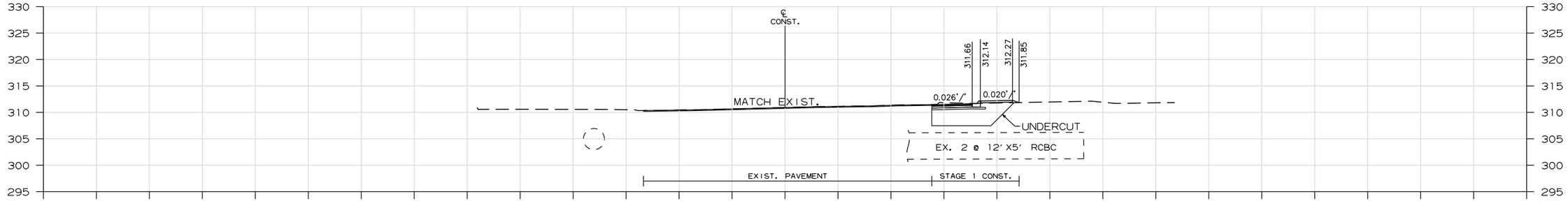
UNDERCUT
CUT AREA: 63 SQ.FT.
FILL AREA: 63 SQ.FT.

STAGE 1
CUT VOLUME: 15 CU.YD.
FILL VOLUME: 5 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 64 CU.YD.
FILL VOLUME: 64 CU.YD.




STAGE 1
CUT AREA: 11 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

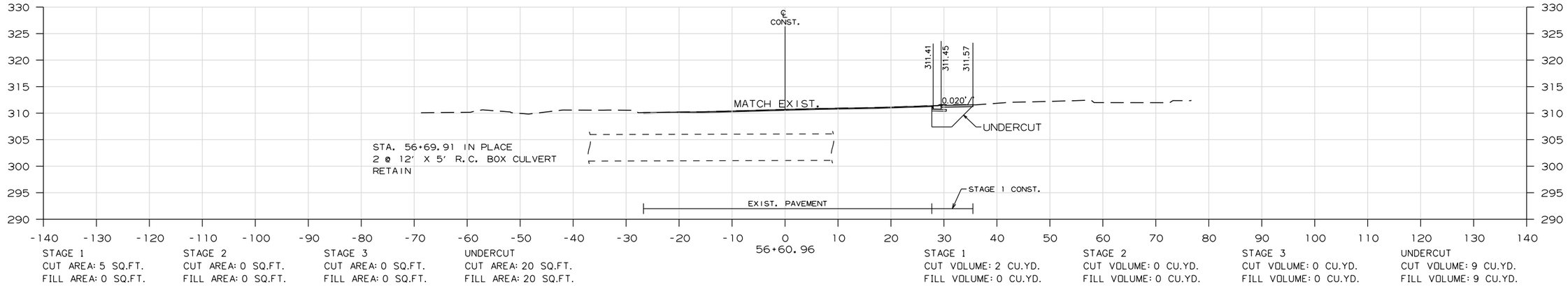
UNDERCUT
CUT AREA: 47 SQ.FT.
FILL AREA: 47 SQ.FT.

STAGE 1
CUT VOLUME: 12 CU.YD.
FILL VOLUME: 1 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 49 CU.YD.
FILL VOLUME: 49 CU.YD.




STAGE 1
CUT AREA: 5 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

UNDERCUT
CUT AREA: 20 SQ.FT.
FILL AREA: 20 SQ.FT.

STAGE 1
CUT VOLUME: 2 CU.YD.
FILL VOLUME: 0 CU.YD.

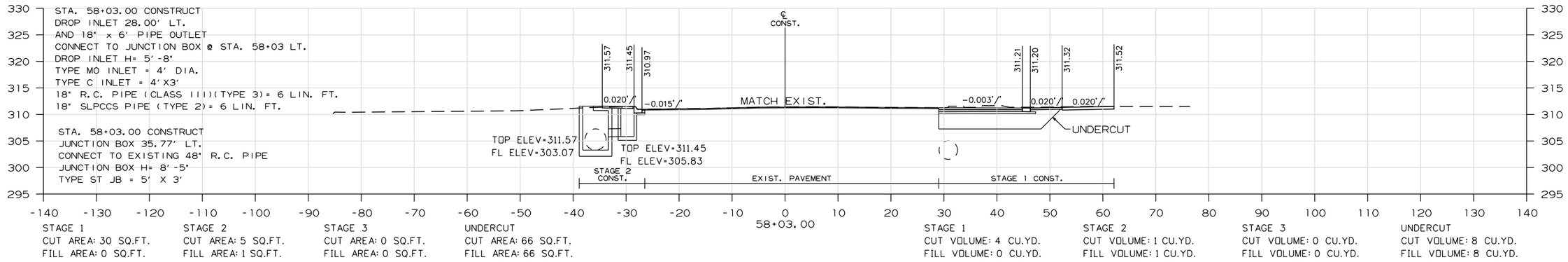
STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

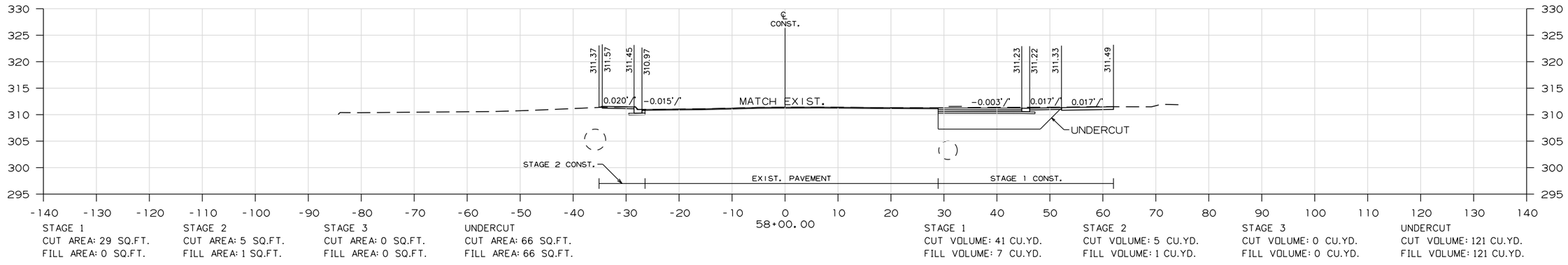
STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

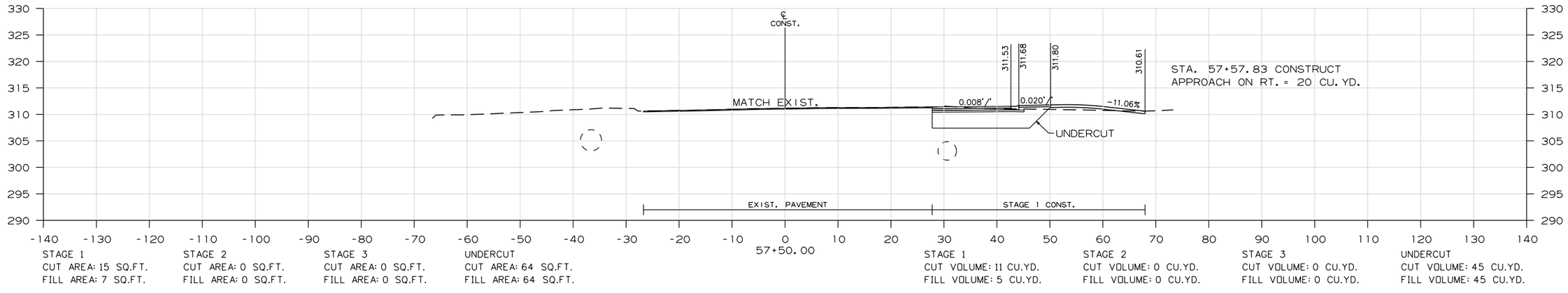
UNDERCUT
CUT VOLUME: 9 CU.YD.
FILL VOLUME: 9 CU.YD.

HWY. 18 / SOUTHWEST DR. CROSS SECTION STA. 56+60.96 TO STA. 57+30.96

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 60 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |

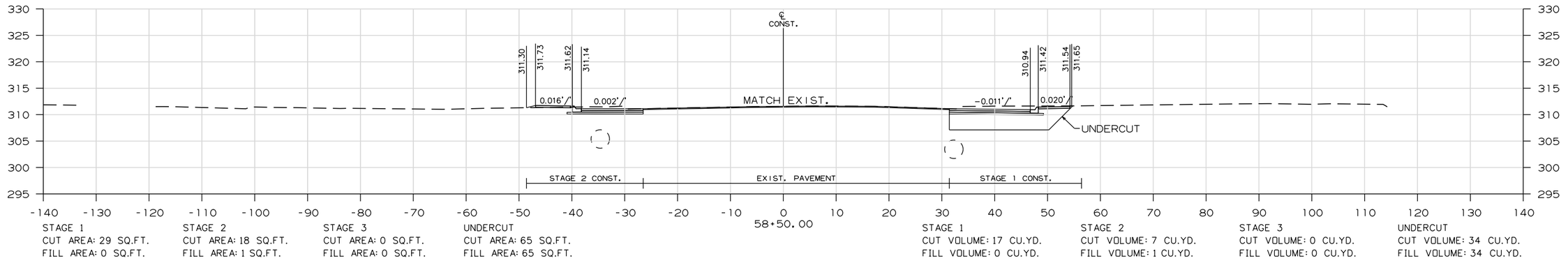



HWY. 18 / SOUTHWEST DR. CROSS SECTION STA. 57+50.00 TO STA. 58+03.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 61 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 29 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 18 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

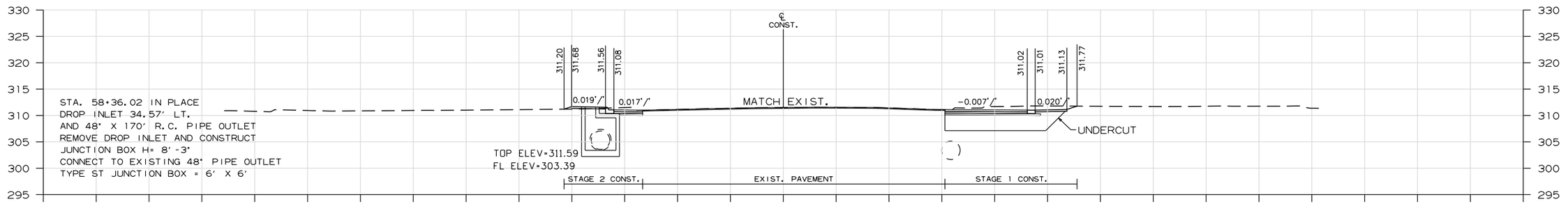
UNDERCUT
CUT AREA: 65 SQ.FT.
FILL AREA: 65 SQ.FT.

STAGE 1
CUT VOLUME: 17 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 7 CU.YD.
FILL VOLUME: 1 CU.YD.

STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 34 CU.YD.
FILL VOLUME: 34 CU.YD.




STAGE 1
CUT AREA: 33 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 9 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

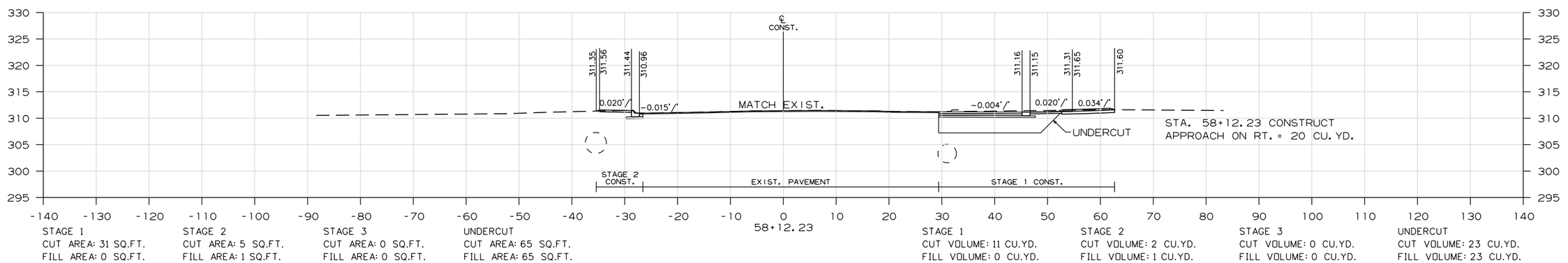
UNDERCUT
CUT AREA: 64 SQ.FT.
FILL AREA: 64 SQ.FT.

STAGE 1
CUT VOLUME: 29 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 7 CU.YD.
FILL VOLUME: 1 CU.YD.

STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 57 CU.YD.
FILL VOLUME: 57 CU.YD.




STAGE 1
CUT AREA: 31 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 5 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

UNDERCUT
CUT AREA: 65 SQ.FT.
FILL AREA: 65 SQ.FT.

STAGE 1
CUT VOLUME: 11 CU.YD.
FILL VOLUME: 0 CU.YD.

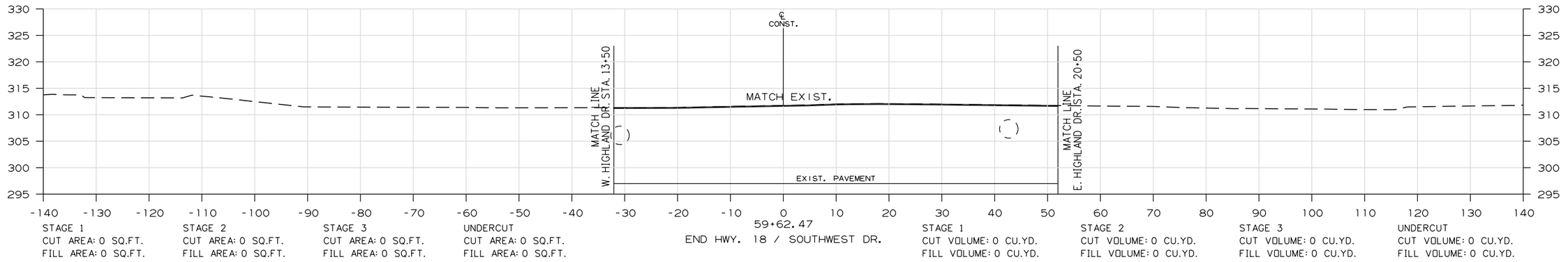
STAGE 2
CUT VOLUME: 2 CU.YD.
FILL VOLUME: 1 CU.YD.

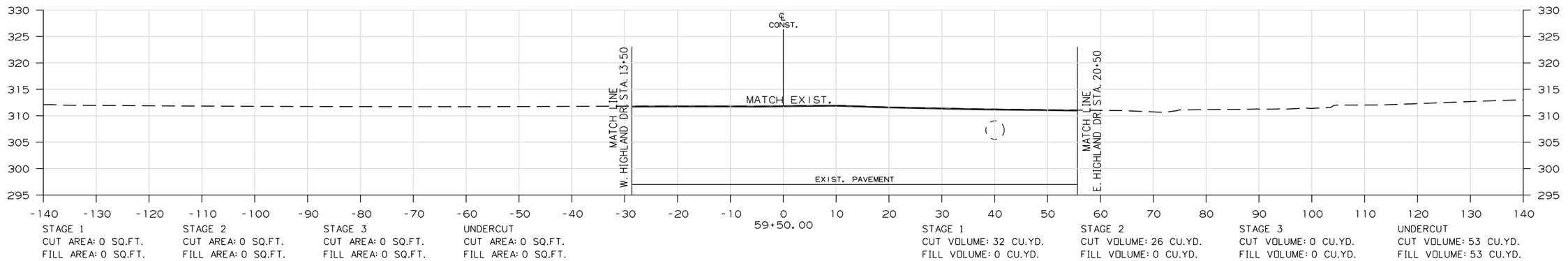
STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

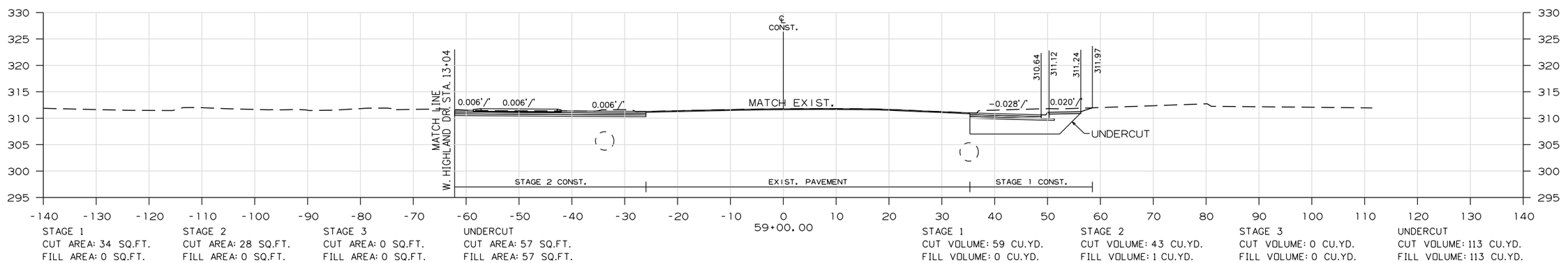
UNDERCUT
CUT VOLUME: 23 CU.YD.
FILL VOLUME: 23 CU.YD.

HWY. 18 / SOUTHWEST DR. CROSS SECTION STA. 58+12.23 TO STA. 58+50.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 62 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |

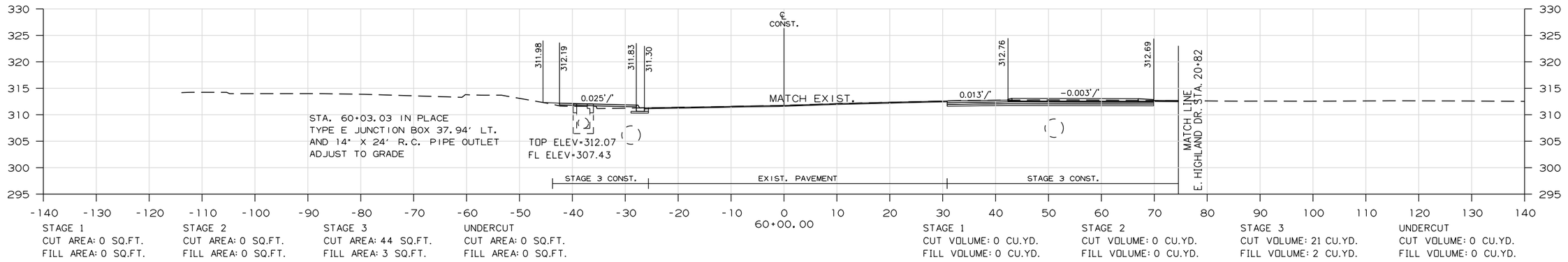


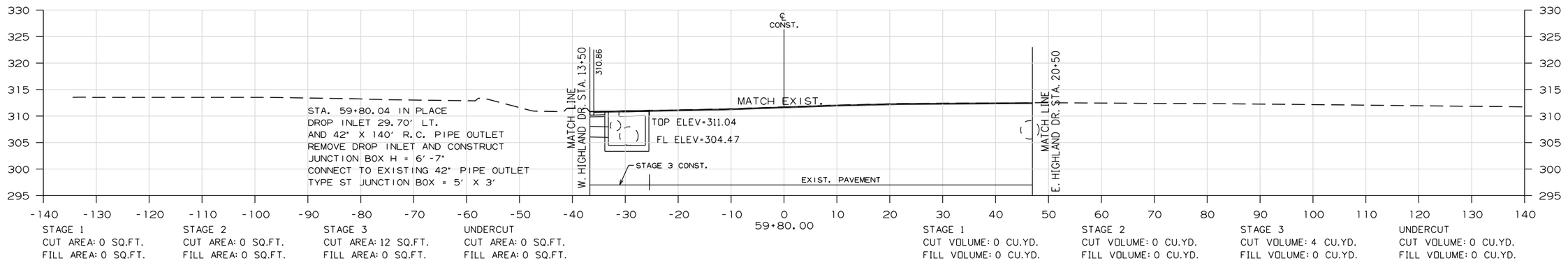



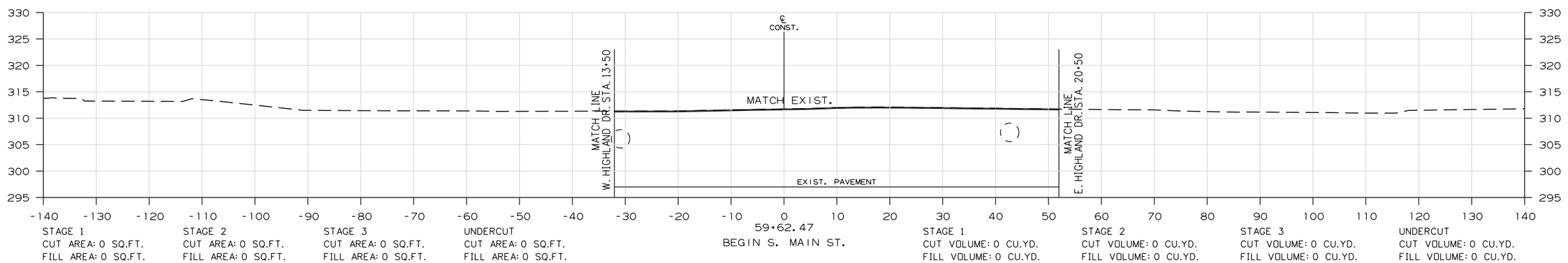




HWY. 18 / SOUTHWEST DR. CROSS SECTION STA. 59+00.00 TO STA. 59+62.47

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 63 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |

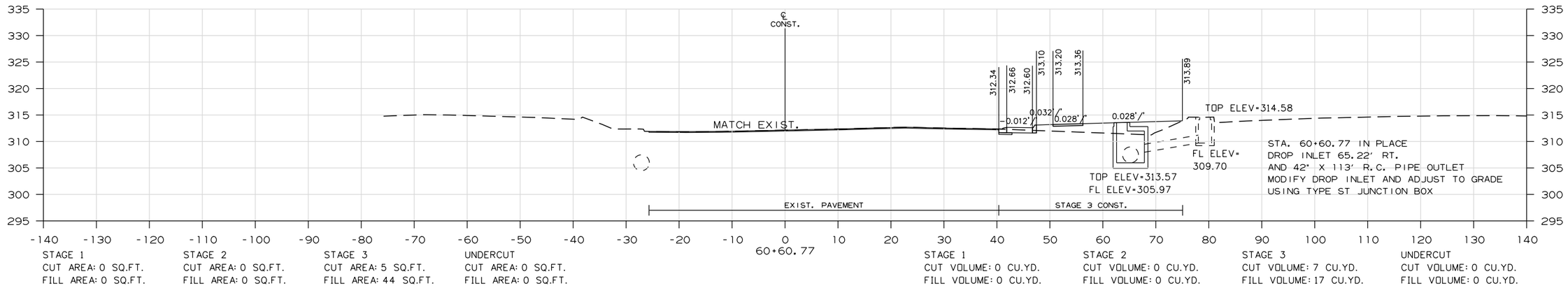



S. MAIN ST. CROSS SECTION STA. 59+62.47 TO STA. 60+00.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 64 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 5 SQ.FT.
FILL AREA: 44 SQ.FT.

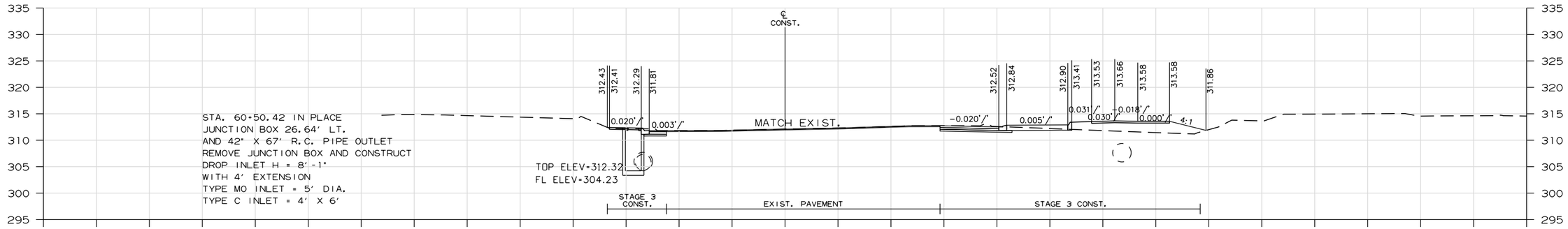
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 7 CU.YD.
FILL VOLUME: 17 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 27 SQ.FT.
FILL AREA: 40 SQ.FT.

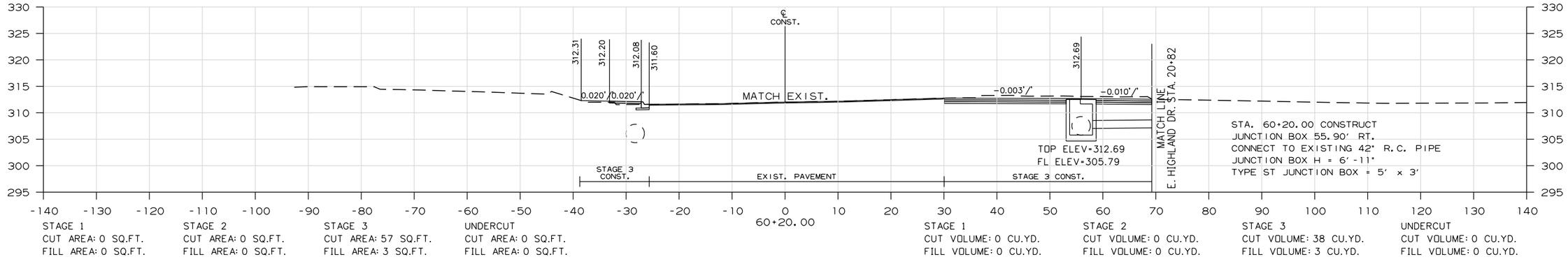
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 47 CU.YD.
FILL VOLUME: 24 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 57 SQ.FT.
FILL AREA: 3 SQ.FT.

UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

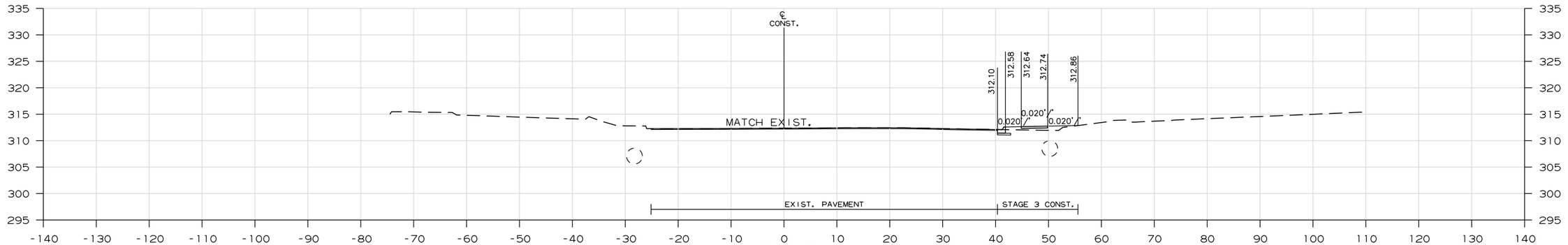
STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 38 CU.YD.
FILL VOLUME: 3 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

S. MAIN ST. CROSS SECTION STA. 60+20.00 TO STA. 60+60.77

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 65 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 2 SQ.FT.
FILL AREA: 7 SQ.FT.

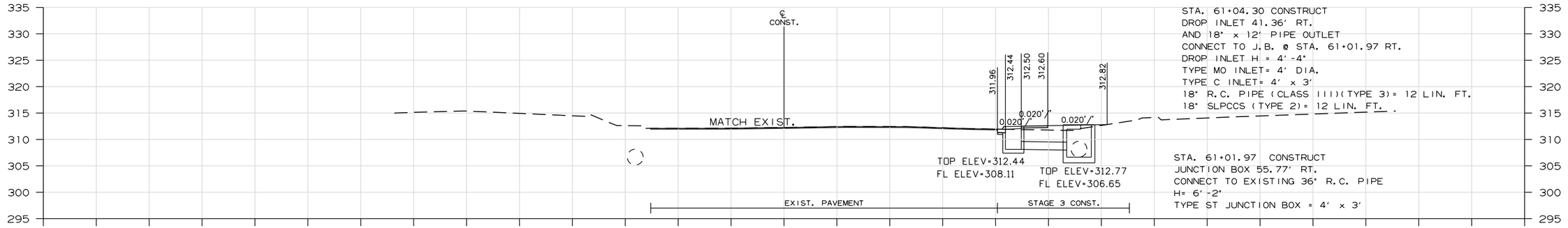
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 2 CU.YD.
FILL VOLUME: 9 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 2 SQ.FT.
FILL AREA: 11 SQ.FT.

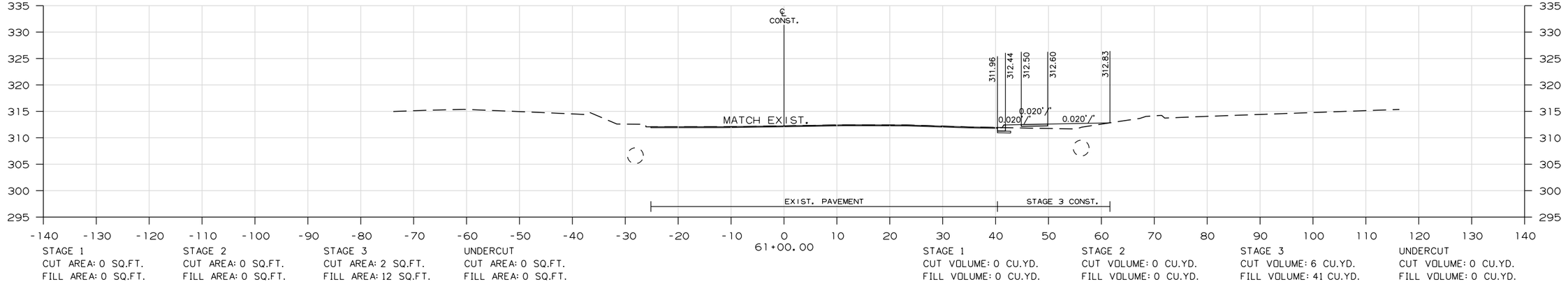
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 1 CU.YD.
FILL VOLUME: 2 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 2 SQ.FT.
FILL AREA: 12 SQ.FT.

UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

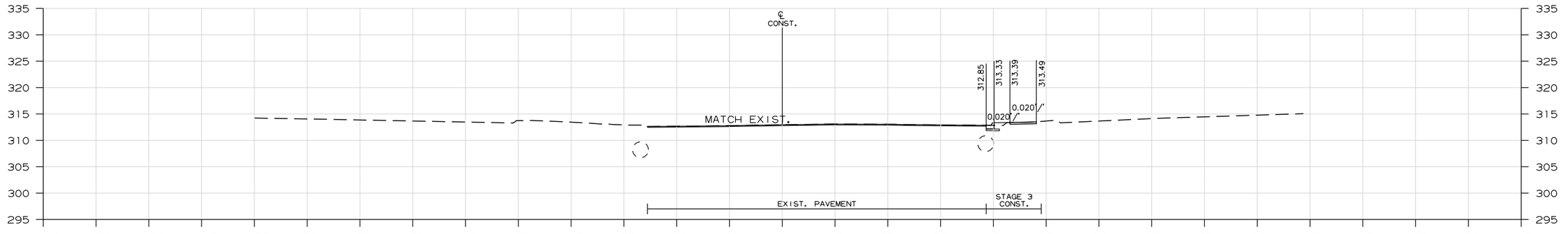
STAGE 3
CUT VOLUME: 6 CU.YD.
FILL VOLUME: 41 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

S. MAIN ST. CROSS SECTION STA. 61+00.00 TO STA. 61+29.41

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 66 | 72 |

(2) CROSS SECTIONS




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 4 SQ.FT.
FILL AREA: 2 SQ.FT.

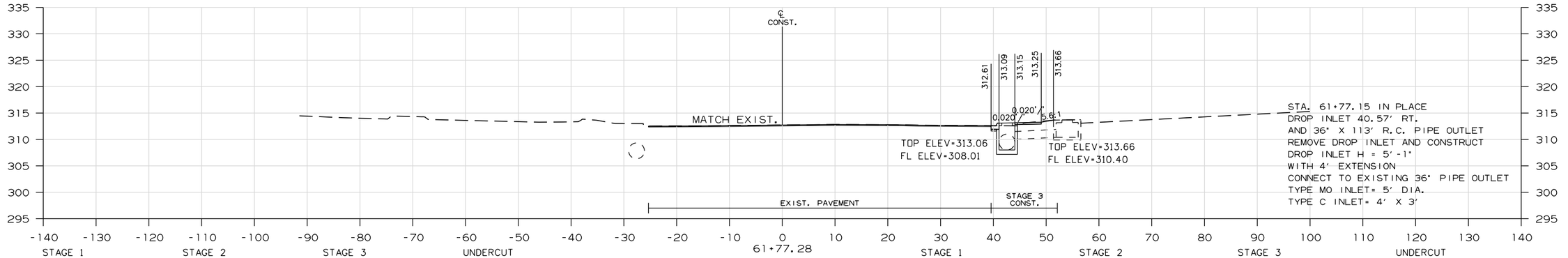
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 4 CU.YD.
FILL VOLUME: 2 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 4 SQ.FT.
FILL AREA: 2 SQ.FT.

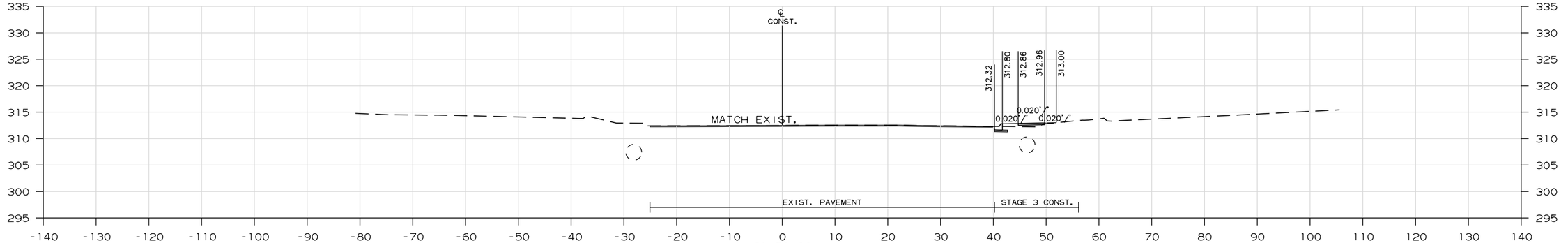
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 4 CU.YD.
FILL VOLUME: 4 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 2 SQ.FT.
FILL AREA: 4 SQ.FT.

UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

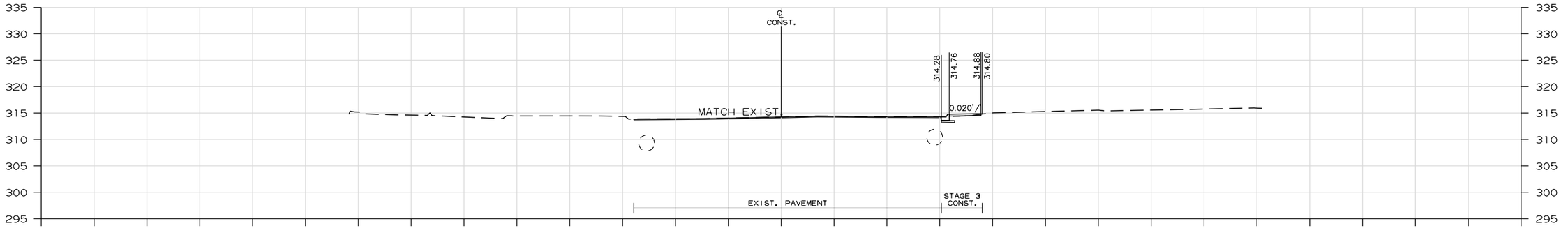
STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 2 CU.YD.
FILL VOLUME: 5 CU.YD.

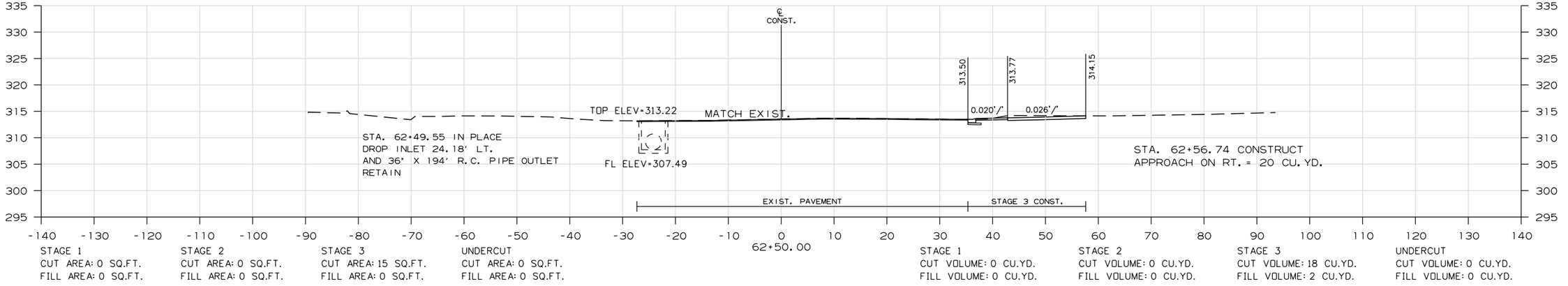
UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

S. MAIN ST. CROSS SECTION STA. 61+50.00 TO STA. 62+00.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 67 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |



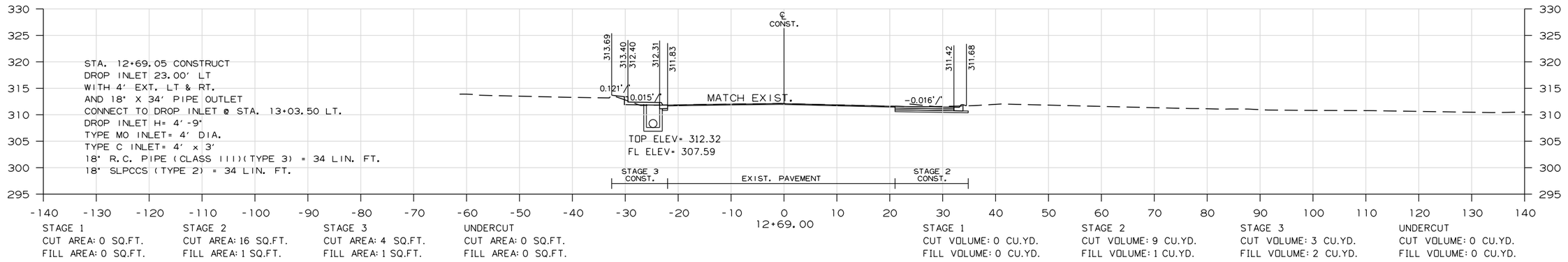

| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT | STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|---|---|---|---|
| CUT AREA: 0 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 3 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 17 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 1 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 1 CU.YD. | FILL VOLUME: 0 CU.YD. |



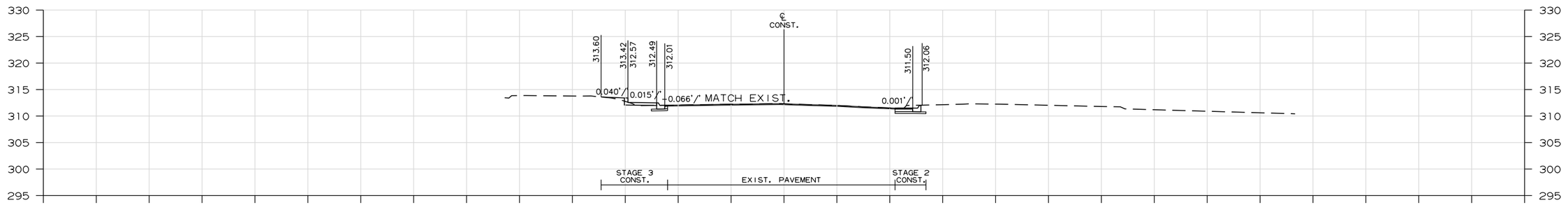

| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT | STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|---|---|---|---|
| CUT AREA: 0 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 15 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 18 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 2 CU.YD. | FILL VOLUME: 0 CU.YD. |

S. MAIN ST. CROSS SECTION STA. 62+50.00 TO STA. 62+99.95

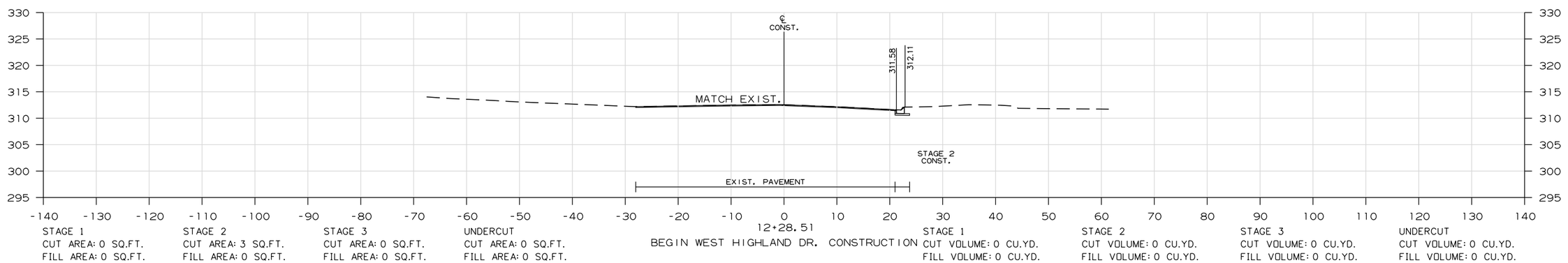
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 68 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT | STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|---|---|---|---|
| CUT AREA: 0 SQ.FT. | CUT AREA: 16 SQ.FT. | CUT AREA: 4 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 9 CU.YD. | CUT VOLUME: 3 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 1 SQ.FT. | FILL AREA: 1 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 1 CU.YD. | FILL VOLUME: 2 CU.YD. | FILL VOLUME: 0 CU.YD. |




| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT | STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|---|---|---|---|
| CUT AREA: 0 SQ.FT. | CUT AREA: 7 SQ.FT. | CUT AREA: 4 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 4 CU.YD. | CUT VOLUME: 2 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 2 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 1 CU.YD. | FILL VOLUME: 0 CU.YD. |

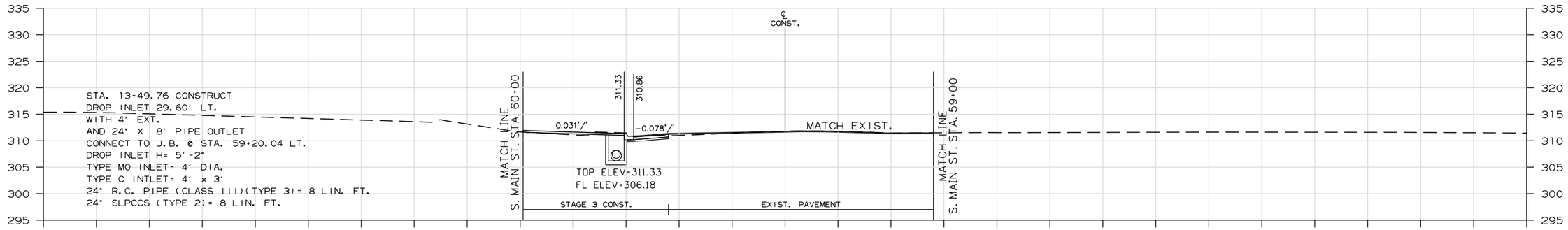



| STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT | STAGE 1 | STAGE 2 | STAGE 3 | UNDERCUT |
|---|---|---|---|---|---|---|---|
| CUT AREA: 0 SQ.FT. | CUT AREA: 3 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT AREA: 0 SQ.FT. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. | CUT VOLUME: 0 CU.YD. |
| FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL AREA: 0 SQ.FT. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. | FILL VOLUME: 0 CU.YD. |

WEST HIGHLAND DR. CROSS SECTION STA. 12+28.51 TO STA. 12+69.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 69 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |

STA. 13+80.11
END W. HIGHLAND DR.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 11 SQ.FT.
FILL AREA: 2 SQ.FT.

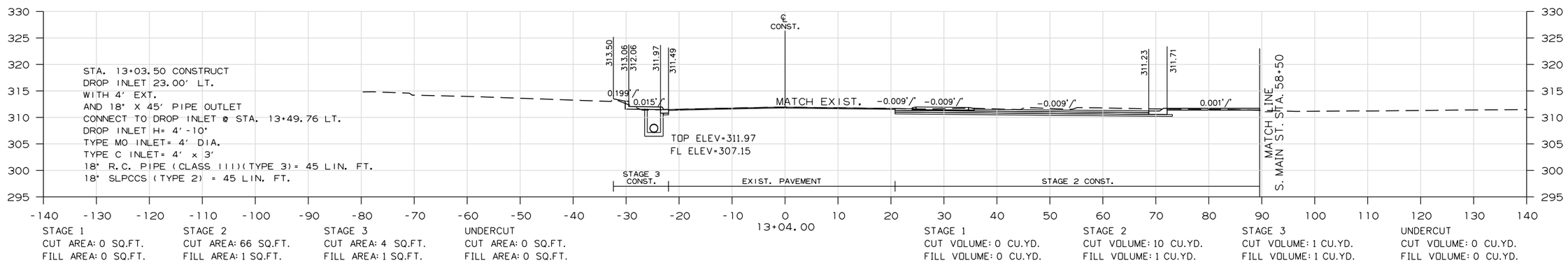
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 57 CU.YD.
FILL VOLUME: 1 CU.YD.

STAGE 3
CUT VOLUME: 13 CU.YD.
FILL VOLUME: 3 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 66 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 3
CUT AREA: 4 SQ.FT.
FILL AREA: 1 SQ.FT.

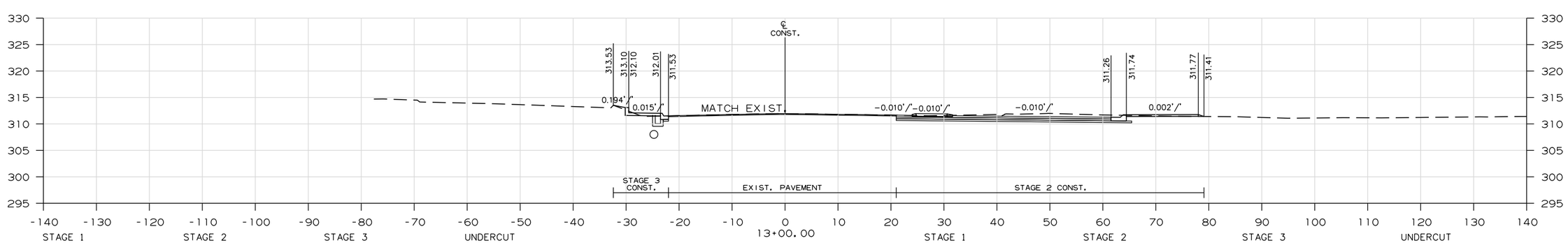
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 10 CU.YD.
FILL VOLUME: 1 CU.YD.

STAGE 3
CUT VOLUME: 1 CU.YD.
FILL VOLUME: 1 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 59 SQ.FT.
FILL AREA: 1 SQ.FT.

STAGE 3
CUT AREA: 4 SQ.FT.
FILL AREA: 1 SQ.FT.

UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

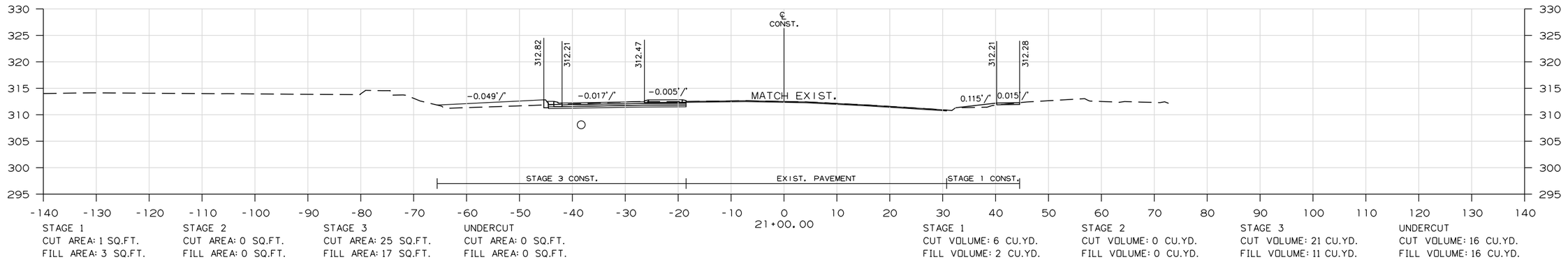
STAGE 2
CUT VOLUME: 44 CU.YD.
FILL VOLUME: 2 CU.YD.

STAGE 3
CUT VOLUME: 5 CU.YD.
FILL VOLUME: 2 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

WEST HIGHLAND DR. CROSS SECTION STA. 13+00.00 TO STA. 13+50.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 70 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 1 SQ.FT.
FILL AREA: 3 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 25 SQ.FT.
FILL AREA: 17 SQ.FT.

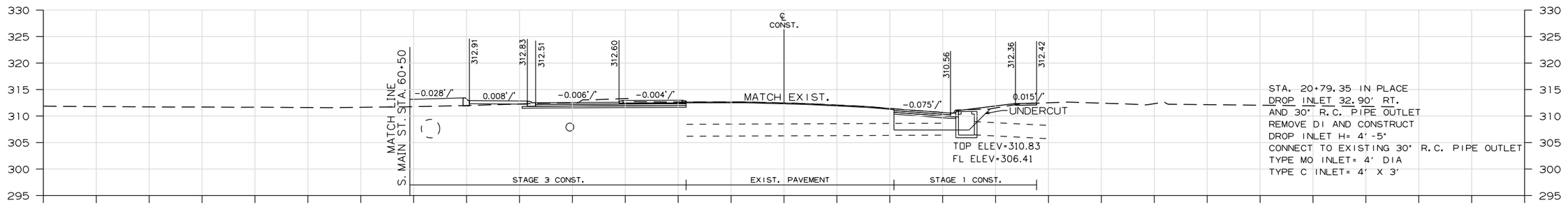
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 6 CU.YD.
FILL VOLUME: 2 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 21 CU.YD.
FILL VOLUME: 11 CU.YD.

UNDERCUT
CUT VOLUME: 16 CU.YD.
FILL VOLUME: 16 CU.YD.




STAGE 1
CUT AREA: 15 SQ.FT.
FILL AREA: 3 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 36 SQ.FT.
FILL AREA: 16 SQ.FT.

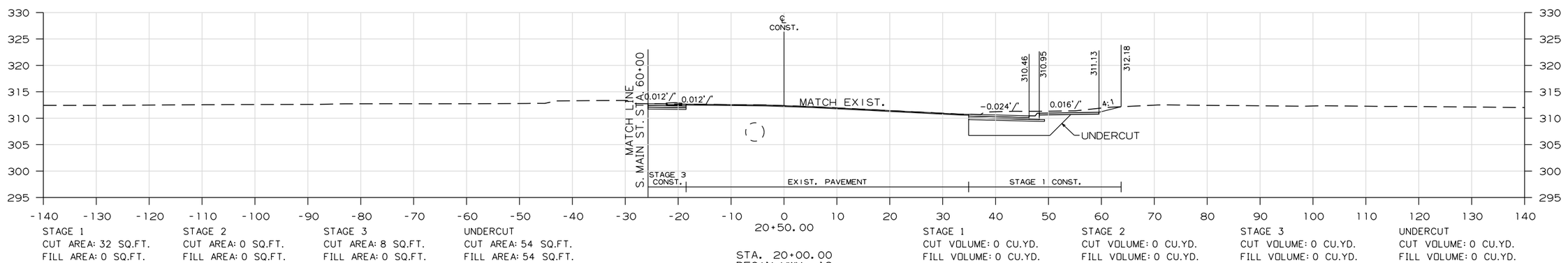
UNDERCUT
CUT AREA: 46 SQ.FT.
FILL AREA: 46 SQ.FT.

STAGE 1
CUT VOLUME: 28 CU.YD.
FILL VOLUME: 2 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 27 CU.YD.
FILL VOLUME: 10 CU.YD.

UNDERCUT
CUT VOLUME: 60 CU.YD.
FILL VOLUME: 60 CU.YD.




STAGE 1
CUT AREA: 32 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 8 SQ.FT.
FILL AREA: 0 SQ.FT.

UNDERCUT
CUT AREA: 54 SQ.FT.
FILL AREA: 54 SQ.FT.

STA. 20+00.00
BEGIN HWY. 18

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

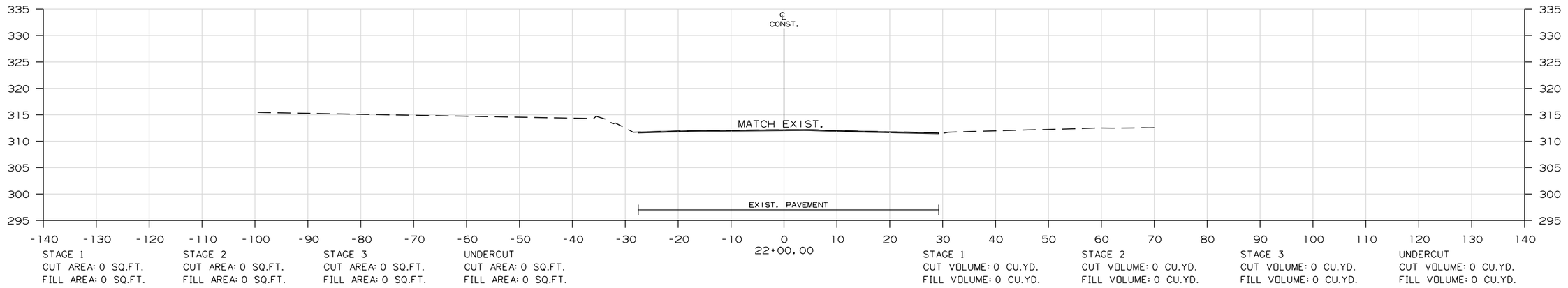
STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

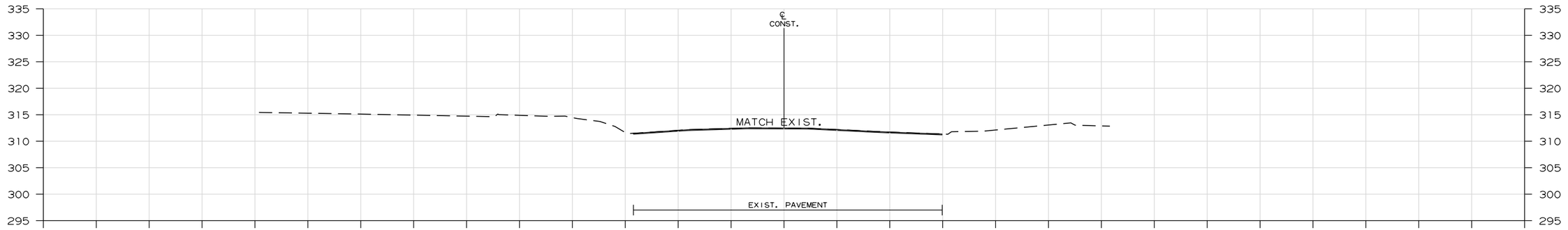
HWY. 18 / EAST HIGHLAND DR. CROSS SECTION STA. 20+50.00 TO STA. 21+00.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 71 | 72 |

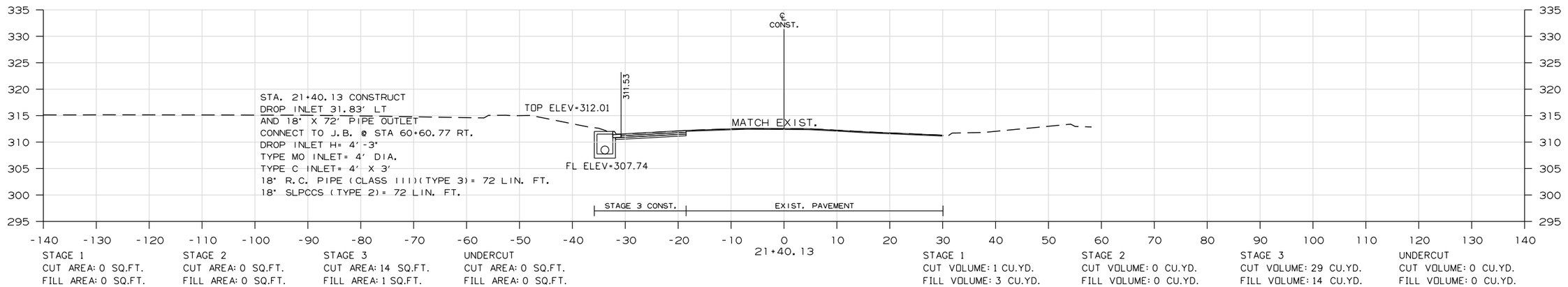
(2) CROSS SECTIONS




STAGE 1 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 2 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 3 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
UNDERCUT CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 1 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
STAGE 2 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
STAGE 3 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
UNDERCUT CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.



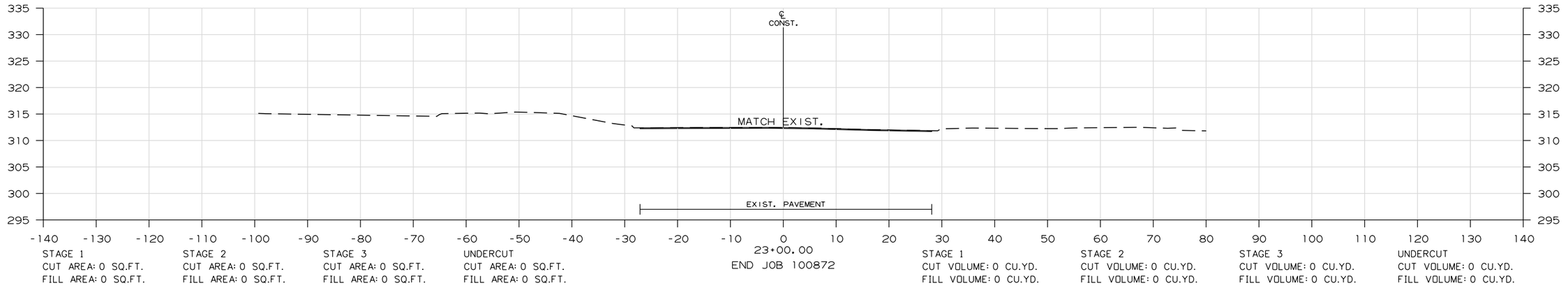

STAGE 1 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 2 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 3 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
UNDERCUT CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 1 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
STAGE 2 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
STAGE 3 CUT VOLUME: 3 CU.YD. FILL VOLUME: 1 CU.YD.
UNDERCUT CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.




STAGE 1 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 2 CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 3 CUT AREA: 14 SQ.FT. FILL AREA: 1 SQ.FT.
UNDERCUT CUT AREA: 0 SQ.FT. FILL AREA: 0 SQ.FT.
STAGE 1 CUT VOLUME: 1 CU.YD. FILL VOLUME: 3 CU.YD.
STAGE 2 CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.
STAGE 3 CUT VOLUME: 29 CU.YD. FILL VOLUME: 14 CU.YD.
UNDERCUT CUT VOLUME: 0 CU.YD. FILL VOLUME: 0 CU.YD.

HWY. 18 / EAST HIGHLAND DR. CROSS SECTION STA. 21+40.13 TO STA. 22+00.00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 100872 | 72 | 72 |
| | | | | (2) | CROSS SECTIONS | | | |




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

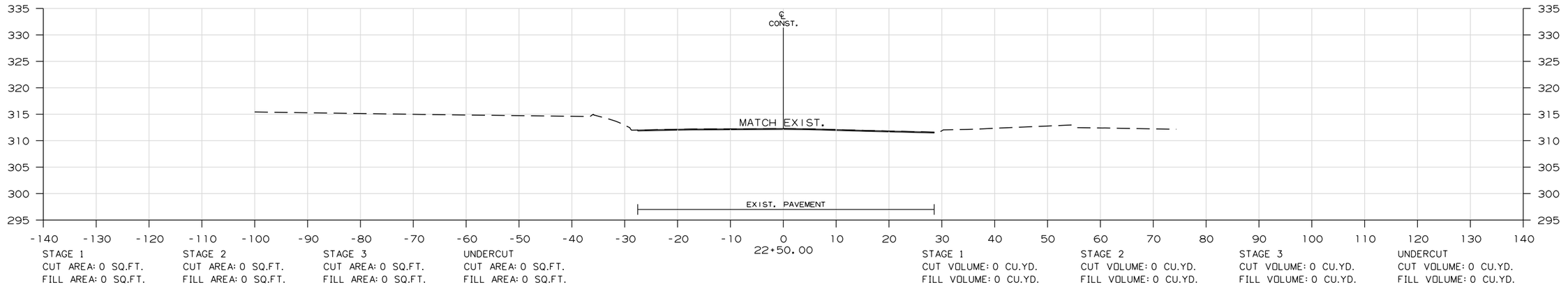
UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.




STAGE 1
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 2
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

STAGE 3
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

UNDERCUT
CUT AREA: 0 SQ.FT.
FILL AREA: 0 SQ.FT.

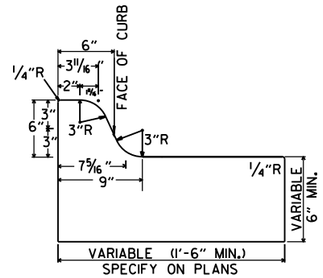
STAGE 1
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

STAGE 2
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

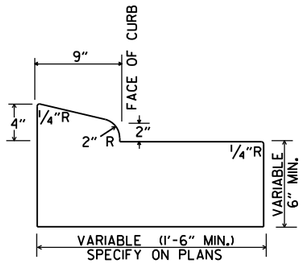
STAGE 3
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

UNDERCUT
CUT VOLUME: 0 CU.YD.
FILL VOLUME: 0 CU.YD.

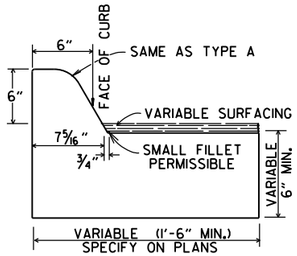
HWY. 18 / EAST HIGHLAND DR. CROSS SECTION STA. 22+50.00 TO STA. 23+00.00



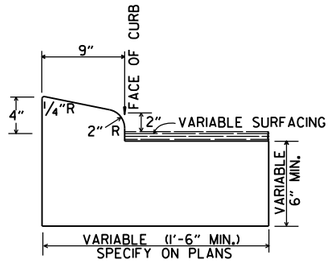

TYPE A



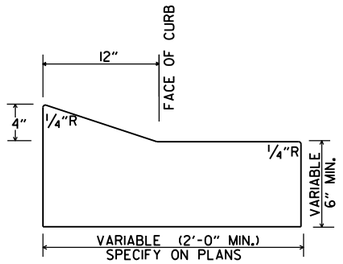

TYPE B-1



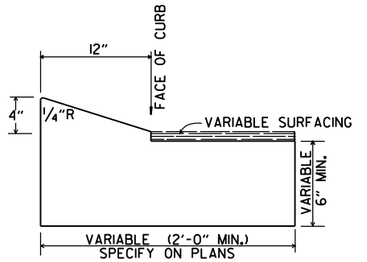

TYPE C




TYPE B-2

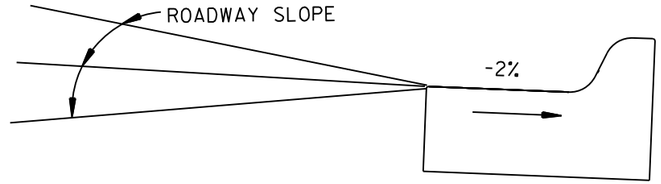



TYPE E-1



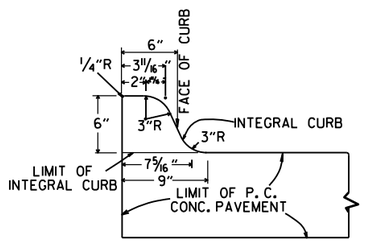

TYPE E-2

# CONCRETE COMBINATION CURB AND GUTTER

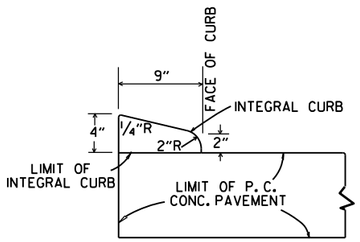



## DETAIL OF GUTTER SLOPE

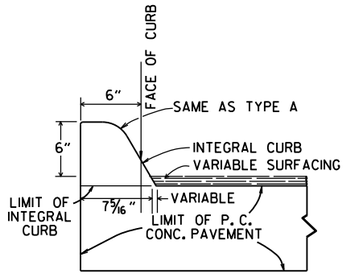
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.




TYPE A

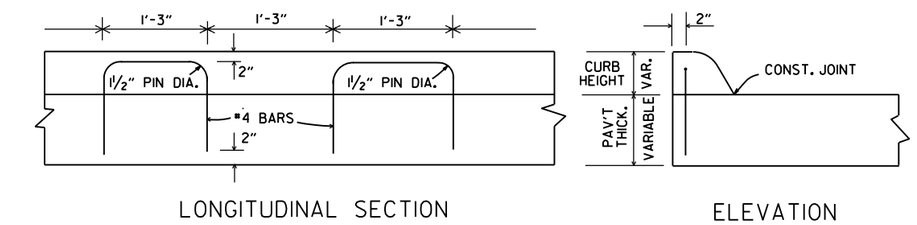



TYPE B




TYPE C

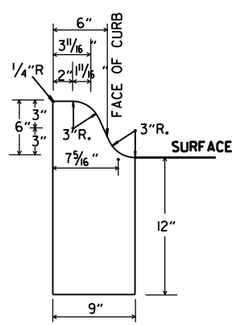
## INTEGRAL CURB



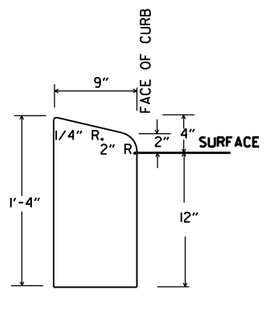

LONGITUDINAL SECTION

ELEVATION

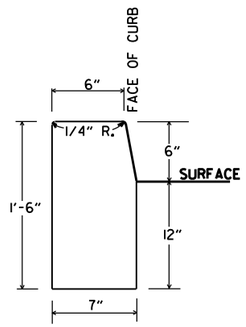
## ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



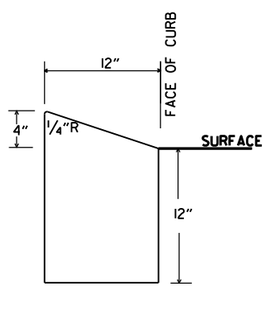

TYPE A




TYPE B

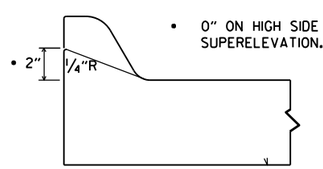



TYPE D




TYPE E

## CONCRETE CURB




NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

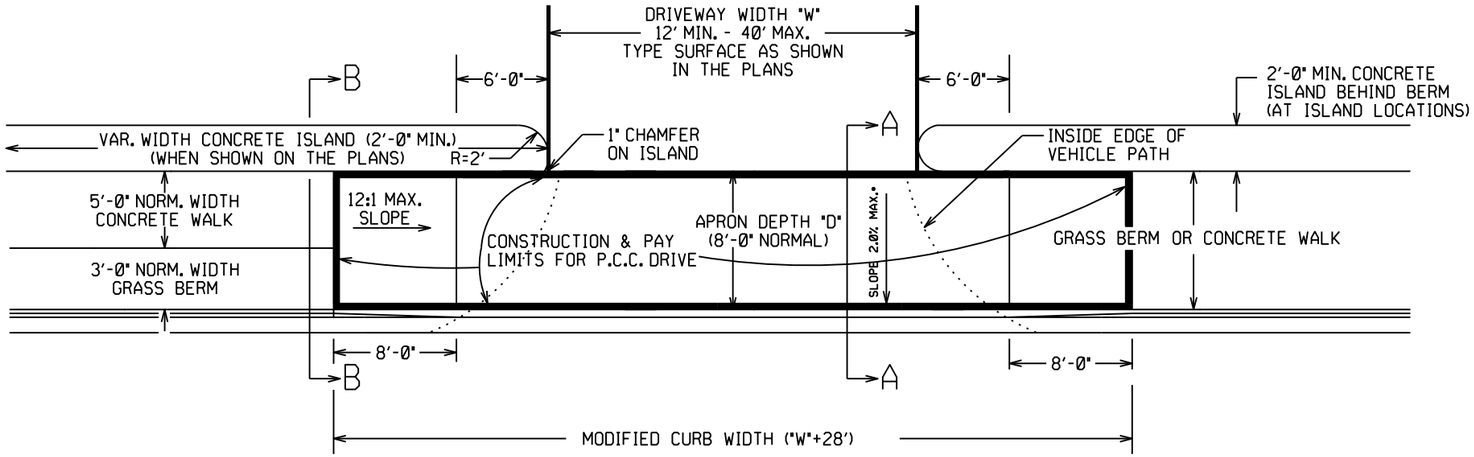
## DETAILS OF MODIFIED CURB

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 11-29-07 | REVISED GUTTER SLOPE & MODIFIED CURB DETAILS | |
| 11-10-05 | ADDED DETAILS OF TYPE E CURBS | |
| 11-16-01 | REVISED CONCRETE CURB TYPE B | |
| 11-18-98 | REVISED MODIFIED CURB | |
| 6-2-94 | ADDED NOTE TO SPECIAL MODIFIED CURB | |
| 8-5-93 | CORRECTED GUTTER SLOPE | 8-5-93 |
| 10-1-92 | ADDED DETAILS OF GUTTER SLOPE | 10-1-92 |
| 5-24-90 | ADDED DETAILS OF MODIFIED CURB | 5-24-90 |
| 11-30-89 | VARIBLE DEPTH TYPE A & B I | 11-30-89 |
| 7-15-88 | REVISED MODIFIED CURB | 630-7-15-88 |
| 11-1-73 | REVISED MODIFIED CURB | 500-11-1-73 |
| 10-2-72 | REVISED AND REDRAWN | 512-10-2-72 |

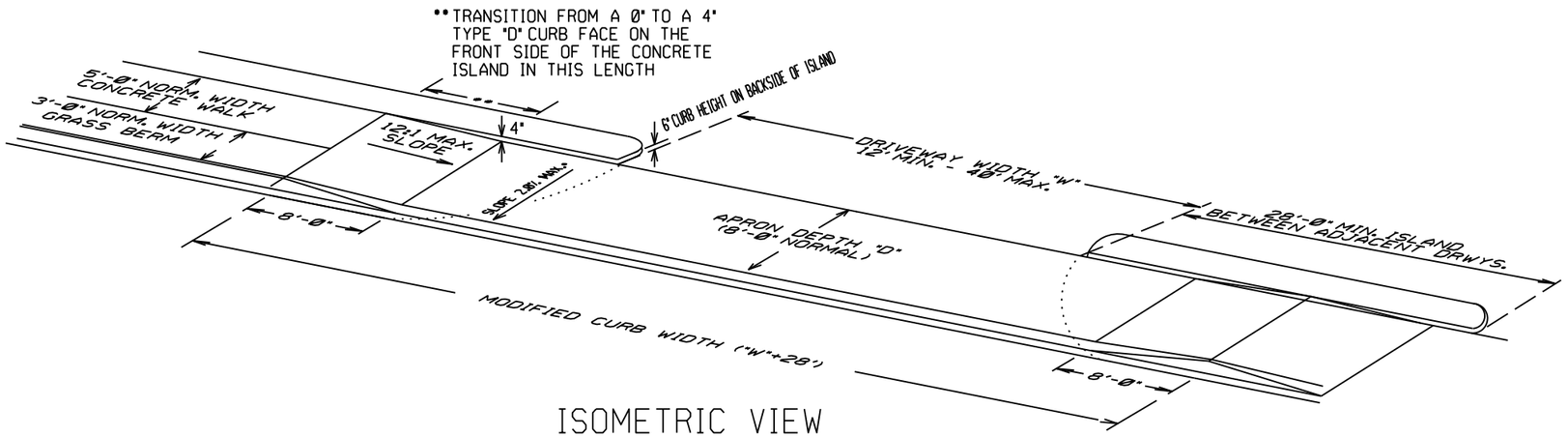
ARKANSAS STATE HIGHWAY COMMISSION

# CURBING DETAILS

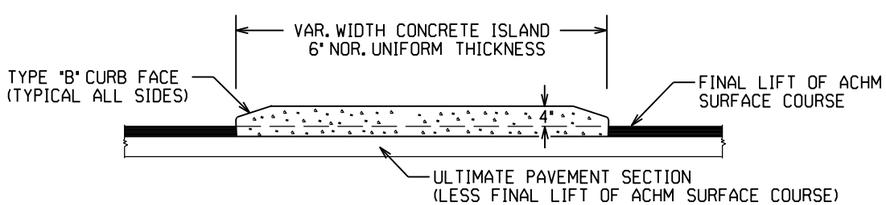
STANDARD DRAWING CG-1




PLAN VIEW

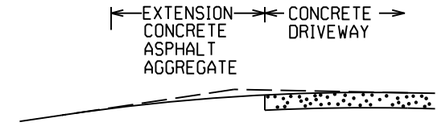



ISOMETRIC VIEW




CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".




EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

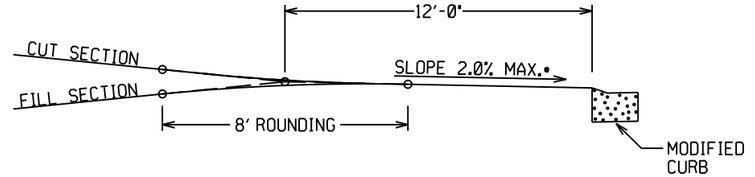
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

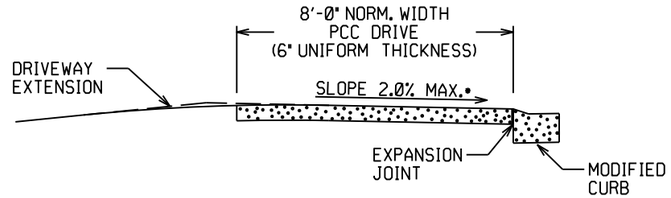
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

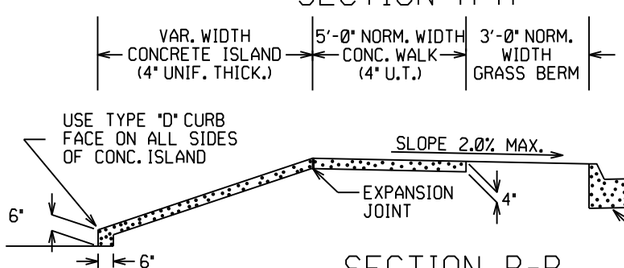



DRIVEWAY VERTICAL ALIGNMENT DETAILS

• NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.




SECTION A-A



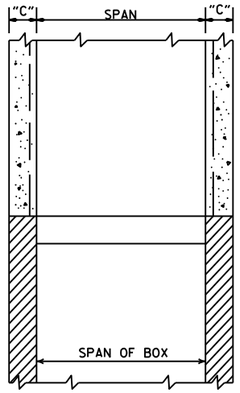

SECTION B-B
CURBED ISLAND BEHIND WALK

| DATE REV | DATE FILMED | DESCRIPTION |
|---|---|---|
| 11-07-19 | | REVISED WALK DETAILS |
| 2-27-14 | | REVISED PLAN & ISOMETRIC VIEW |
| 11-29-07 | | ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL |
| 11-10-05 | | REV. APRON SLOPE & DEPTH OF AGG. BASE. |
| 8-22-02 | | ADDED ISLAND DETAILS & NOTES |
| 3-30-00 | | REV. MOD. CURB WIDTH & TRANS. NOTE |
| 11-19-98 | | REVISED NOTES |
| 11-18-98 | | REDRAWN AND REISSUED |

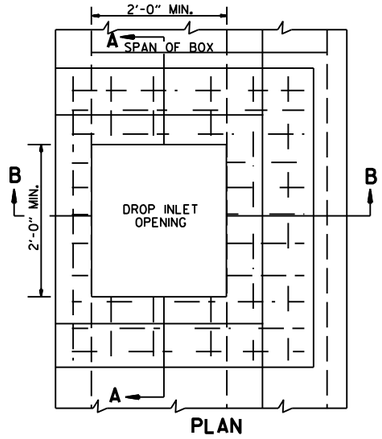
ARKANSAS STATE HIGHWAY COMMISSION

**DETAILS OF DRIVEWAYS & ISLANDS**

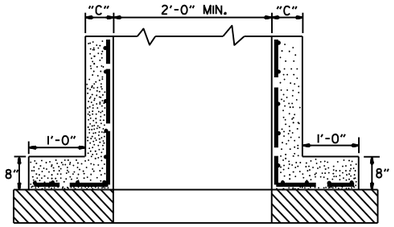
STANDARD DRAWING DR-1



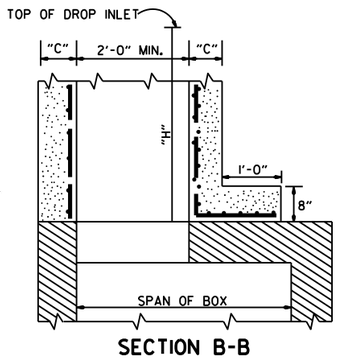

SECTION B-B




PLAN

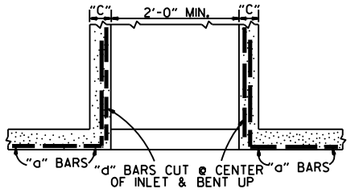



SECTION A-A

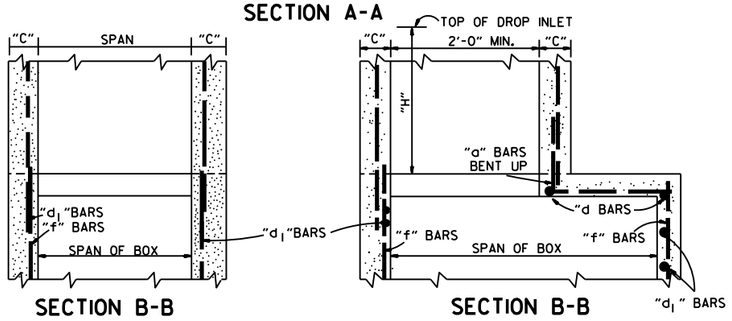



SECTION B-B

## METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



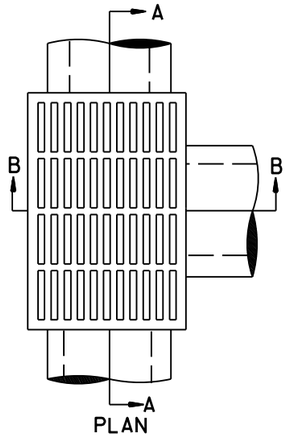

SECTION A-A



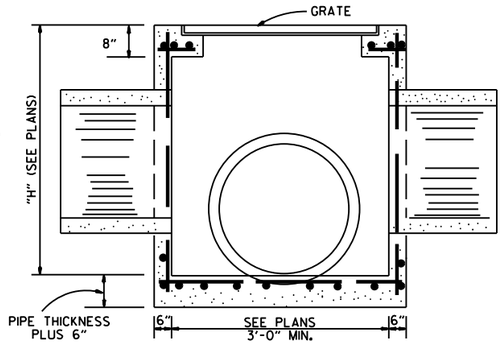

SECTION B-B SECTION B-B

## METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

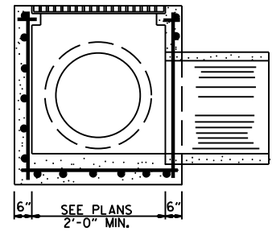



PLAN



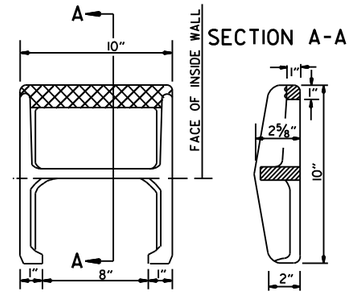

SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.




SECTION B-B

## DROP INLET (TYPE E)

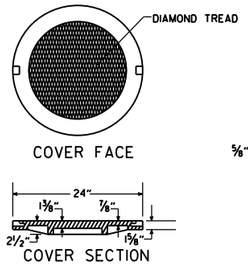



APPROX. WEIGHT = 11 LBS. (CAST IRON)

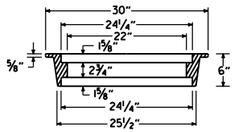
PLAN

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

## DETAIL OF STEP FOR DROP INLET



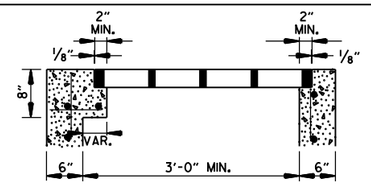

COVER SECTION



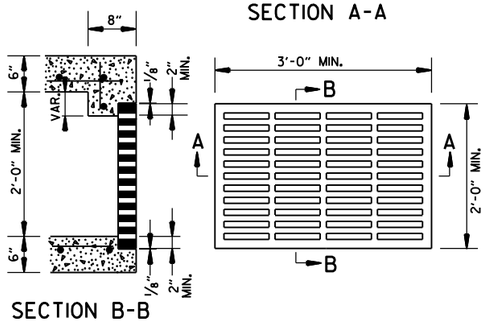

RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

## HEAVY DUTY RING & COVER



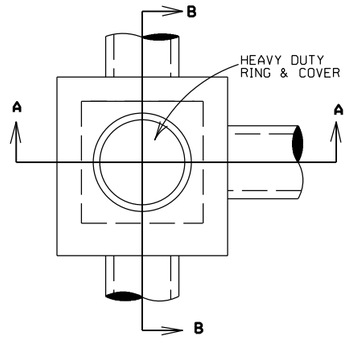

SECTION A-A



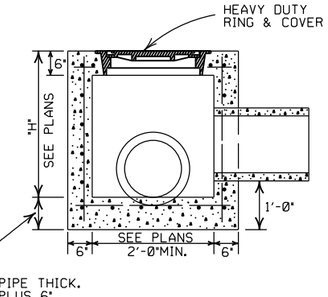

SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

## GRATE FOR TYPE E DROP INLET

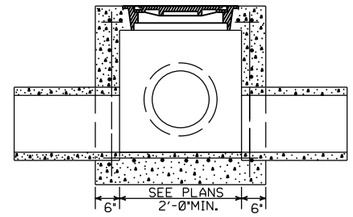



PLAN



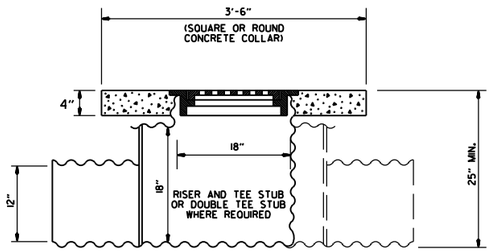

SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

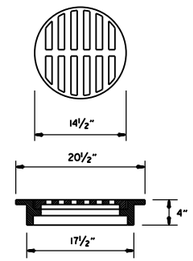



SECTION B-B

## JUNCTION BOX (TYPE E)




NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".




USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

## DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. 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.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. 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 |
|---|---|---|
| 11-16-01 | ADDED NOTE 10 | |
| 1-12-00 | REVISED HEAVY DUTY RING & COVER | |
| 7-02-98 | CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E) | |
| 6-26-97 | ADDED DIMENSION TO TYPE IV-A | |
| 10-18-96 | ADDED DETAIL OF YARD DRAIN | |
| 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 & JUNCTION BOXES

STANDARD DRAWING FPC-9

## 4'-0" LENGTH DROP INLET

| PIPE SIZE | MIN. WIDTH | HEIGHT 5'-0" CLASS A CONC. CU. YDS. | HEIGHT 5'-0" REINF. STEEL POUNDS | PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS. | PLUS OR MINUS PER LIN. FT. OF HEIGHT 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 |

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

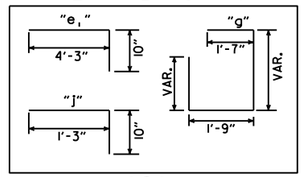
## DROP INLET EXTENSION

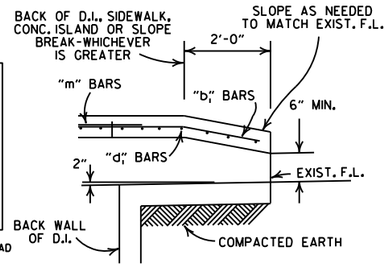
| 4'-0" CLASS A CONC. CU. YDS. | 4'-0" REINF. STEEL POUNDS | 8'-0" CLASS A CONC. CU. YDS. | 8'-0" REINF. STEEL POUNDS |
|---|---|---|---|
| 0.58 | 38 | 0.87 | 72 |
| | | | |
| | | | |
| DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED. | | | |
| 0.04 | 3 | | |
| | | | |

**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 |

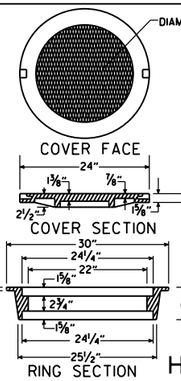
## BAR DIAMETER




## BACK OPENING

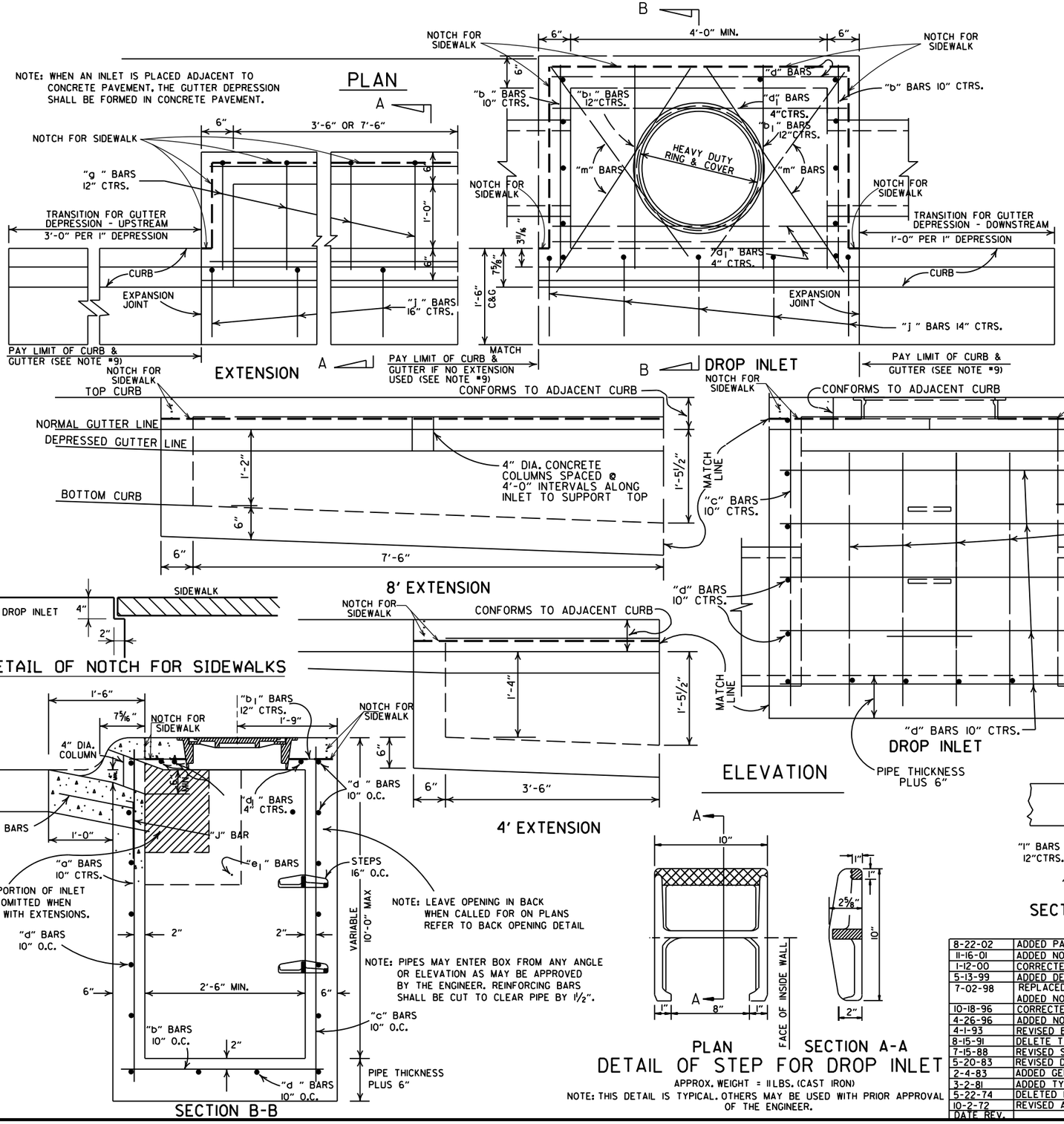
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).




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 (FPC-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"×2" 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.



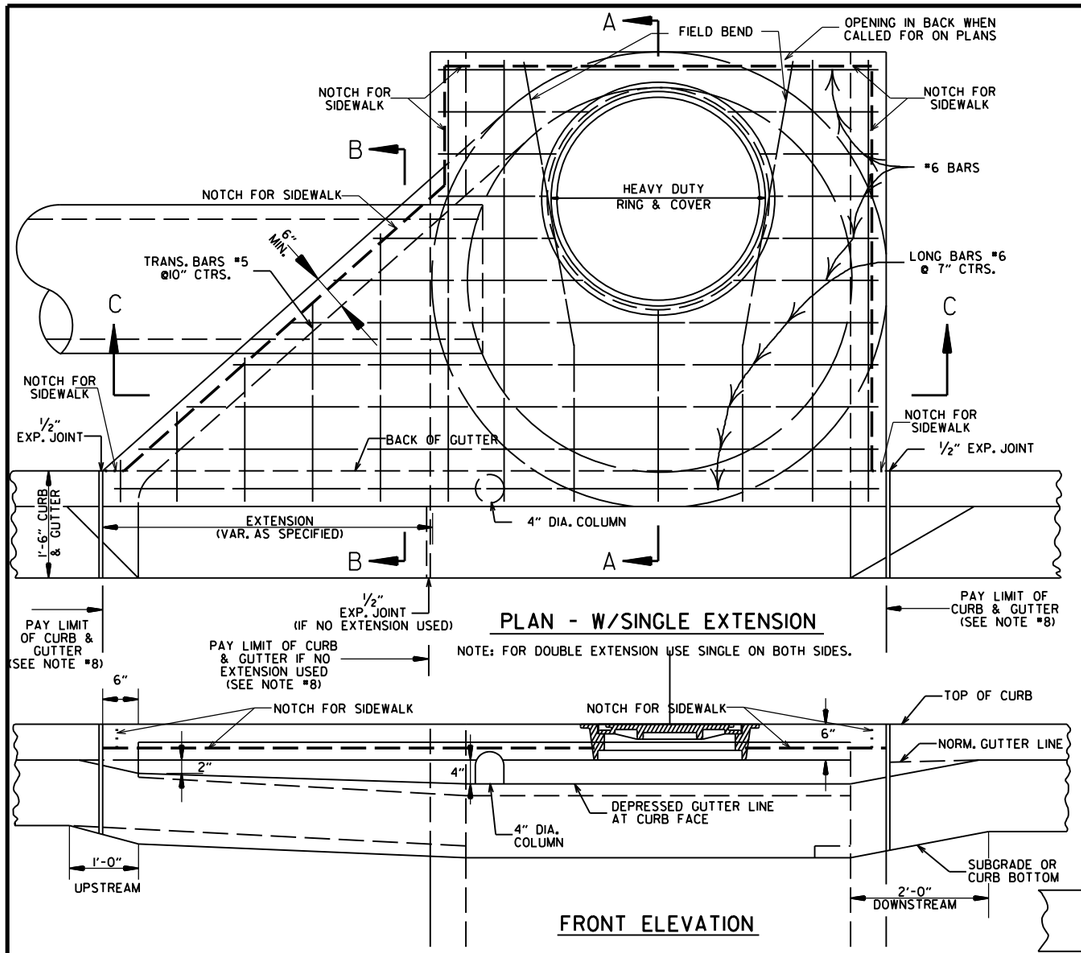

| DATE REV. | REVISION | DATE FILMED |
|---|---|---|
| 8-22-02 | ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B | |
| 11-16-01 | ADDED NOTE 13; REVISED SECTION B-B | |
| 1-12-00 | CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER | |
| 5-13-99 | ADDED DETAIL OF NOTCH FOR SIDEWALKS | |
| 7-02-98 | 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')(8') 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 | |

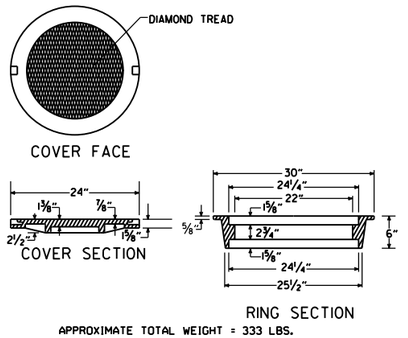
ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLETS

# (TYPE C)

STANDARD DRAWING FPC-9E

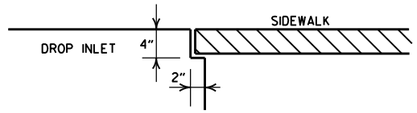


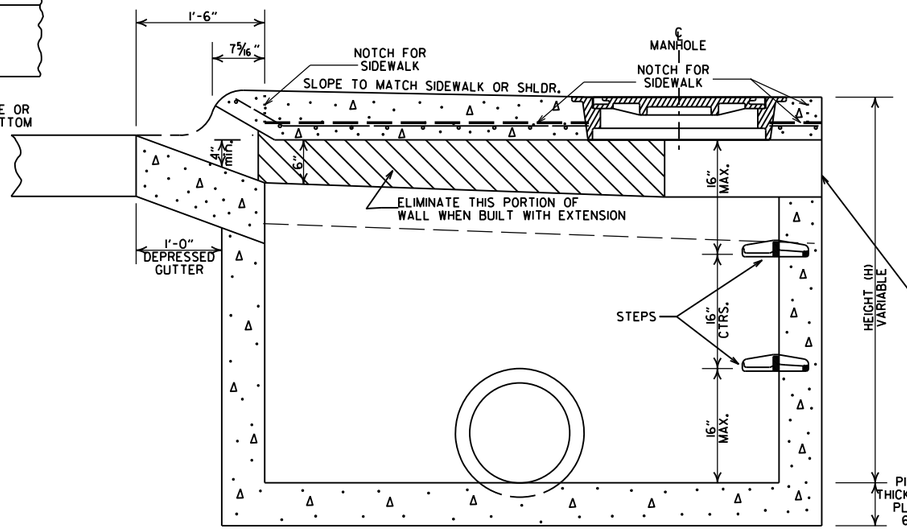

APPROXIMATE TOTAL WEIGHT = 333 LBS.

## HEAVY DUTY RING & COVER

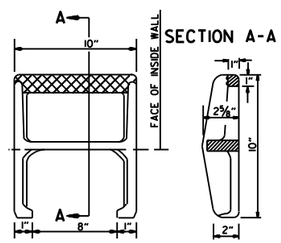
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON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




## DETAIL OF NOTCH FOR SIDEWALKS




SECTION A-A



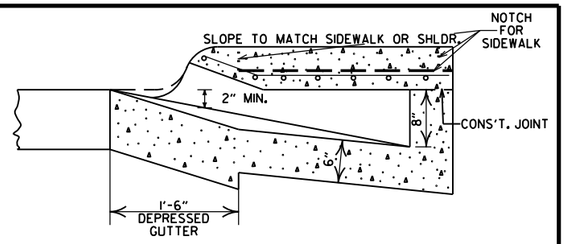

SECTION A-A

APPROX. WEIGHT = 11LBS. (CAST IRON)

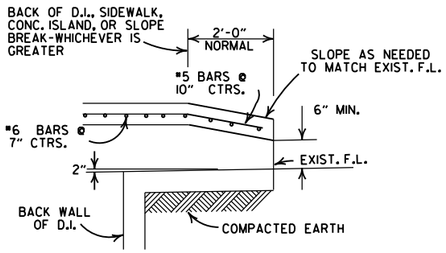
## PLAN

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

## DETAIL OF STEP FOR DROP INLET




SECTION B-B




## 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.

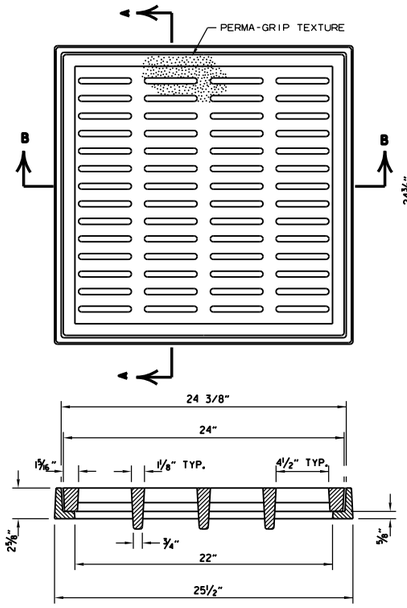
| DIA. OF D.I. | DIA. OF OUTLET PIPE | MINIMUM WALL THICKNESS | |
|---|---|---|---|
| | | CAST IN PLACE | PRECAST |
| 4' I.D. | 12" THRU 27" | 6" | 5" |
| 5' I.D. | 30" THRU 42" | 8" | 6" |
| 6' I.D. | 48" THRU 54" | 8" | 7" |

| 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 |
| 8-16-91 | REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL | 8-15-91 |
| 11-30-89 | ADDED NOTE NO. 12 | 11-30-89 |
| 5-23-89 | ADDED NOTE & MINIMUM WALL THICKNESS | 513-5-23-89 |
| 7-15-88 | ADDED EXTEND NOTE TO SECTION A-A | 629-7-15-88 |
| 1-14-87 | MODIFIED WALL THICKNESS | 783-1-14-87 |
| 6-12-87 | ISSUED | 4-6-12-87 |

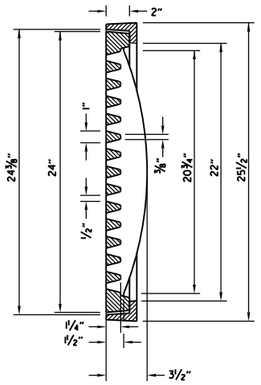
ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M




SECTION B-B

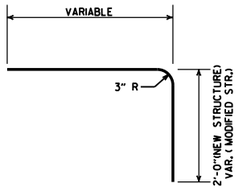



SECTION A-A

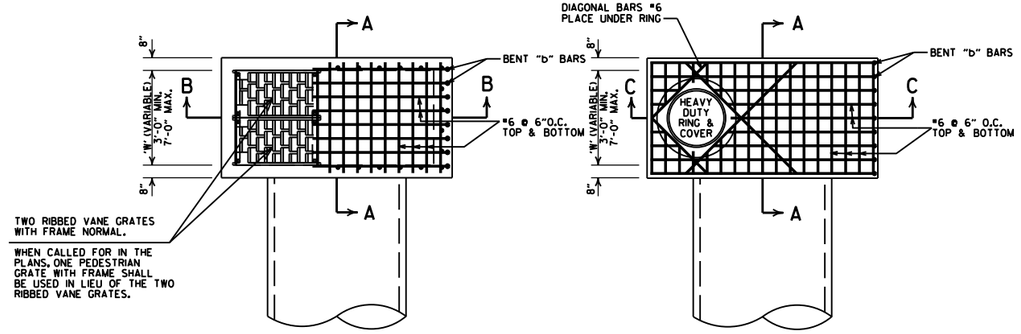
GENERAL NOTES ( PEDESTRIAN GRATE & FRAME )

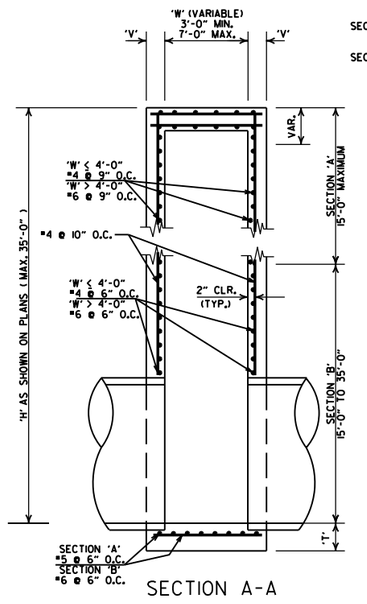
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 218 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

## DETAILS OF PEDESTRIAN GRATE AND FRAME




DETAIL OF BENT "b" BAR



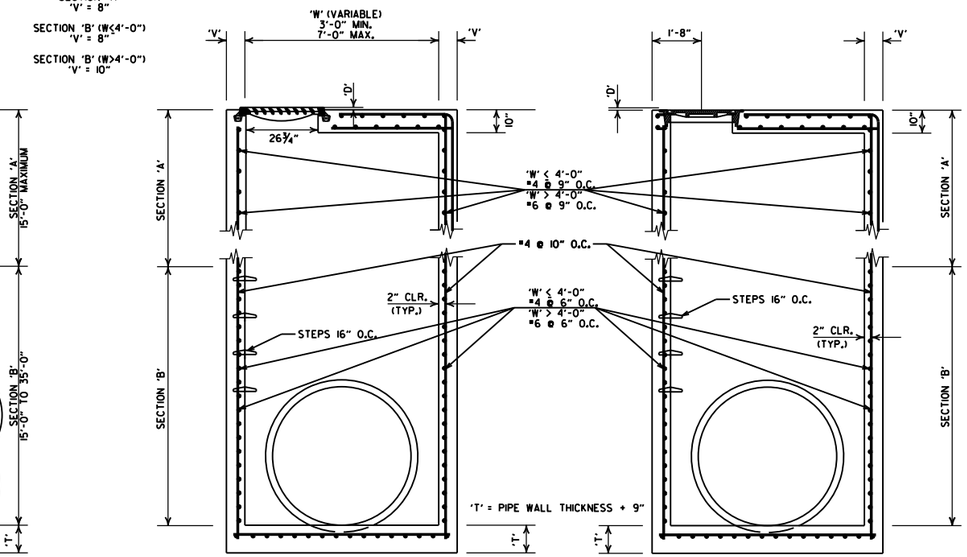

SECTION 'A'
'V' = 8"

SECTION 'B' (W≤4'-0")
'V' = 8"

SECTION 'B' (W>4'-0")
'V' = 10"

SECTION A-A

## DETAILS OF DROP INLET ( TYPE ST )




SECTION B-B

SECTION C-C

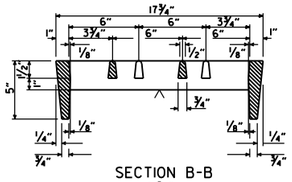
## DETAILS OF JUNCTION BOX ( TYPE ST )

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

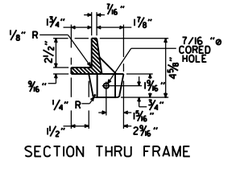
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

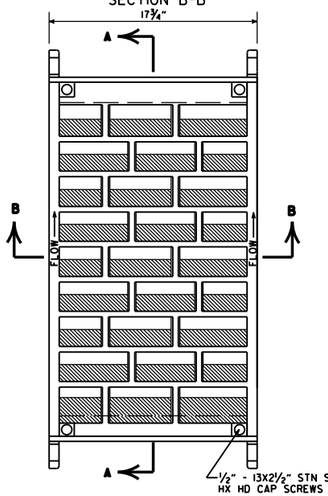
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. 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.

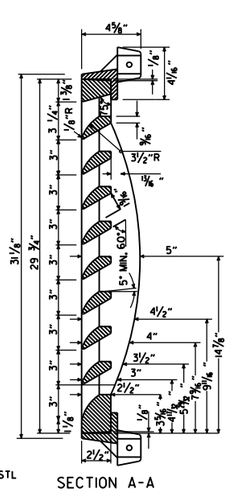



SECTION B-B




SECTION THRU FRAME



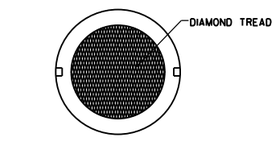




SECTION A-A

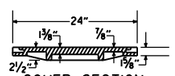
## DETAILS OF RIBBED VANE GRATE AND FRAME

GENERAL NOTES ( RIBBED VANE GRATE & FRAME )

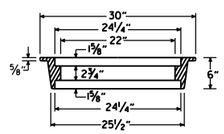
1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.




COVER FACE




COVER SECTION




RING SECTION

## HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

| DATE REVISED | DATE FILMED | DESCRIPTION |
|---|---|---|
| 7-26-12 | | REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS |
| 11-16-01 | | ADDED NOTE 4 |
| 1-12-00 | | REVISED HEAVY DUTY RING & COVER |
| 5-13-99 | | ADDED PEDESTRIAN FRAME & GRATE |
| 7-02-98 | | REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE |
| 10-18-96 | | REVISED ASTM REF. TO AASHTO |
| 10-1-92 | | REVISED & REISSUED |
| 8-15-91 | 8-15-91 | REVISED & REISSUED |

ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLET & JUNCTION BOX ( TYPE ST )

STANDARD DRAWING FPC-9S

## REINFORCED CONCRETE ARCH PIPE DIMENSIONS

| EQUIV. DIA. | SPAN | | RISE | |
|---|---|---|---|---|
| | AASHTO M 206 | ARDOT NOMINAL | AASHTO M 206 | ARDOT 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 | 43⅜ | 44 | 26⅝ | 27 |
| 42 | 51⅛ | 51 | 31⅜ | 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 | 87⅛ | 87 |
| 120 | 154 | 154 | 96⅞ | 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)(1).

**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.**

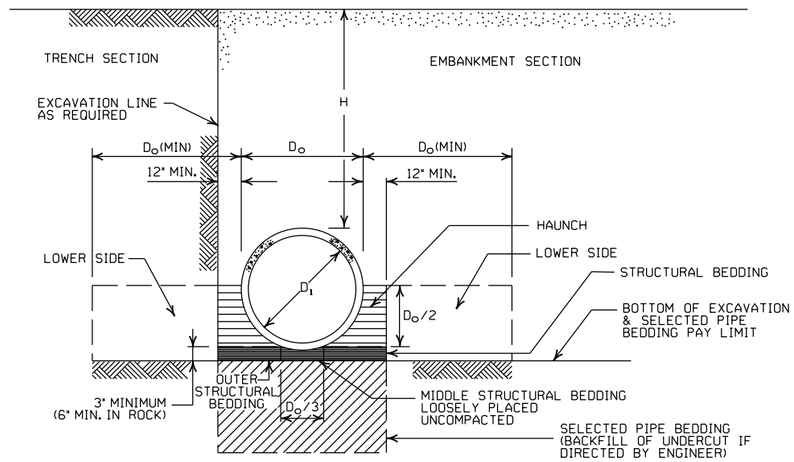
## - LEGEND -

$D_1$ = NORMAL INSIDE DIAMETER OF PIPE
$D_O$ = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= 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 DEPARTMENT OF TRANSPORTATION 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 M170, 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

| | CLASS OF PIPE | | | |
|---|---|---|---|---|
| | CLASS III | | CLASS IV | CLASS V |
| INSTALLATION TYPE | TYPE 1 OR 2 | TYPE 3 | ALL | ALL |
| 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 |
| | FEET | | |
| 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 |
| | FEET | |
| TYPE 2 OR TYPE 3 | 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 |
| | FEET | |
| 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

## CORRUGATED STEEL PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS (INCHES) | | | | |
| | | 0.064 | 0.079 | 0.109 | 0.138 | 0.168 |
| 2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | | |
| 12 | 1 | 84 | 91 | | | |
| 15 | 1 | 67 | 73 | | | |
| 18 | 1 | 56 | 61 | | | |
| 24 | 1 | 42 | 46 | 59 | | |
| 30 | 2 | 34 | 36 | 47 | | |
| 36 | 2 | | 30 | 39 | 41 | |
| 42 | 2 | | 43 | 67 | 70 | 73 |
| 48 | 2 | | 37 | 58 | 61 | 64 |
| ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM | | | | | | |
| 36 | 1 | 48 | 60 | 88 | 111 | 118 |
| 42 | 1 | 41 | 51 | 72 | 90 | 102 |
| 48 | 1 | 36 | 45 | 64 | 77 | 85 |
| 54 | 2 | 32 | 40 | 59 | 71 | 79 |
| 60 | 2 | 29 | 36 | 53 | 64 | 71 |
| 66 | 2 | 26 | 33 | 47 | 58 | 64 |
| 72 | 2 | 24 | 30 | 44 | 53 | 59 |
| 78 | 2 | | 28 | 41 | 49 | 54 |
| 84 | 2 | | 26 | 38 | 45 | 51 |
| 90 | 2 | | 24 | 35 | 43 | 45 |
| 96 | 2 | | 22 | 33 | 40 | 44 |
| 102 | 2 | | | 31 | 38 | 42 |
| 108 | 2 | | | 30 | 35 | 39 |
| 114 | 2 | | | 28 | 34 | 37 |
| 120 | 2 | | | 27 | 32 | 35 |

## CORRUGATED ALUMINUM PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS IN INCHES | | | | |
| | | 0.060 | 0.075 | 0.105 | 0.135 | 0.164 |
| | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | | |
| 12 | 1 | 45 | 45 | | | |
| 18 | 2 | 30 | 30 | 52 | | |
| 24 | 2 | 22 | 22 | 39 | 41 | |
| 30 | 2 | | 18 | 31 | 32 | 34 |
| 36 | 2.5 | | 15 | 26 | 27 | 28 |
| 42 | 2 | | | 43 | 43 | 44 |
| 48 | 2 | | | 40 | 41 | 43 |
| 54 | 2 | | | 35 | 37 | 38 |
| 60 | 2 | | | | 33 | 34 |
| 66 | 2 | | | | | 31 |
| 72 | 2 | | | | | 29 |

## 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. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL 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 METAL PIPE.

| INSTALLATION TYPE | MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) |
| TYPE 2 | SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③ |

③ SM-3 WILL NOT BE ALLOWED.

## EQUIVALENT METAL THICKNESSES AND GAUGES

| METAL THICKNESS IN INCHES | | | GAUGE NUMBER |
|---|---|---|---|
| STEEL | | | |
| ZINC COATED | UNCOATED | ALUMINUM | |
| 0.064 | 0.0598 | 0.060 | 16 |
| 0.079 | 0.0747 | 0.075 | 14 |
| 0.109 | 0.1046 | 0.105 | 12 |
| 0.138 | 0.1345 | 0.135 | 10 |
| 0.168 | 0.1644 | 0.164 | 8 |

## CORRUGATED METAL PIPE ARCHES

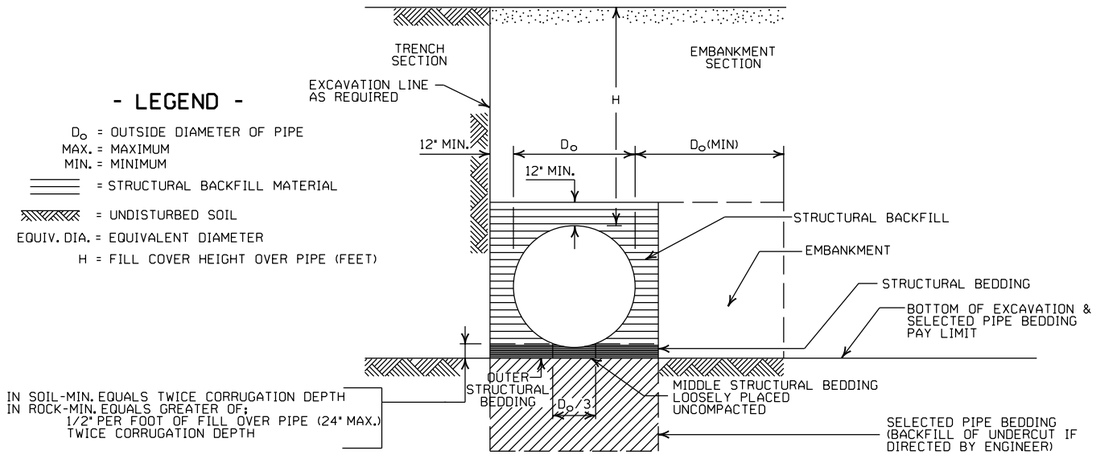
| EQUIV. DIA. (INCHES) | PIPE DIMENSION SPAN X RISE (INCHES) | MINUMUM CORNER RADIUS (INCHES) | STEEL | | | | ALUMINUM | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | MIN. THICKNESS REQUIRED INCHES | ① MIN. HEIGHT OF FILL, "H" (FT.) | MAX. HEIGHT OF FILL, "H" (FT.) | | MIN. THICKNESS REQUIRED INCHES | ① MIN. HEIGHT OF FILL, "H" (FT.) | MAX. HEIGHT OF FILL, "H" (FT.) | |
| | | | | INSTALLATION | INSTALLATION | | | INSTALLATION | INSTALLATION | |
| | | | | TYPE 1 | TYPE 1 | | | TYPE 1 | TYPE 1 | |
| | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | |
| 15 | 17x13 | 3 | 0.064 | 2 | 15 | | 0.060 | 2 | 15 | |
| 18 | 21x15 | 3 | 0.064 | 2 | 15 | | 0.060 | 2 | 15 | |
| 21 | 24x18 | 3 | 0.064 | 2.25 | 15 | | 0.060 | 2.25 | 15 | |
| 24 | 28x20 | 3 | 0.064 | 2.5 | 15 | | 0.075 | 2.5 | 15 | |
| 30 | 35x24 | 3 | 0.079 | 3 | 12 | | 0.075 | 3 | 12 | |
| 36 | 42x29 | 3½ | 0.079 | 3 | 12 | | 0.105 | 3 | 12 | |
| 42 | 49x33 | 4 | 0.079 | 3 | 12 | | 0.105 | 3 | 12 | |
| 48 | 57x38 | 5 | 0.109 | 3 | 13 | | 0.135 | 3 | 13 | |
| 54 | 64x43 | 6 | 0.109 | 3 | 14 | | 0.135 | 3 | 14 | |
| 60 | 71x47 | 7 | 0.138 | 3 | 15 | | 0.164 | 3 | 15 | |
| 66 | 77x52 | 8 | 0.168 | 3 | 15 | | | | | |
| 72 | 83x57 | 9 | 0.168 | 3 | 15 | | | | | |
| | | | ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | | | |
| | | | | INSTALLATION | | INSTALLATION | | | | |
| | | | | TYPE 2 | TYPE 1 | TYPE 2 | TYPE 1 | | | |
| 36 | 40x31 | 5 | 0.079 | 3 | 2 | 12 | 15 | | | |
| 42 | 46x36 | 6 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 48 | 53x41 | 7 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 54 | 60x46 | 8 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 60 | 66x51 | 9 | 0.079 | 3 | 2 | 13 | 15 | | | |
| 66 | 73x55 | 12 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 72 | 81x59 | 14 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 78 | 87x63 | 14 | 0.079 | 3 | 2 | 15 | 15 | | | |
| 84 | 95x67 | 16 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 90 | 103x71 | 16 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 96 | 112x75 | 18 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 102 | 117x79 | 18 | 0.109 | 3 | 2 | 15 | 15 | | | |
| 108 | 128x83 | 18 | 0.138 | 3 | 2 | 15 | 15 | | | |

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

- LEGEND -

$D_o$ = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)




## EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

## GENERAL NOTES

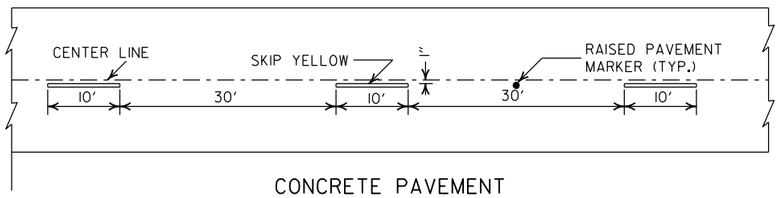
1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
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. 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."
9. 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 AS STRUCTURAL BACKFILL), 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."

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 2-27-14 | REVISED GENERAL NOTE 1. | |
| 12-15-11 | REVISED FOR LRFD DESIGN SPECS | |
| 3-30-00 | REVISED INSTALLATIONS | |
| 11-06-97 | ISSUED | |

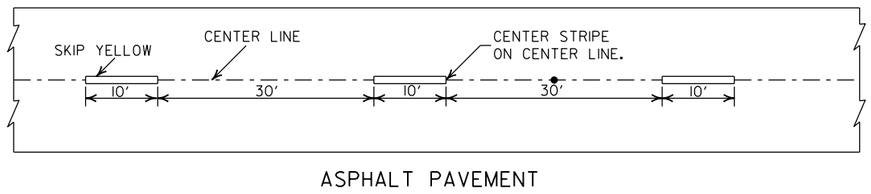
ARKANSAS STATE HIGHWAY COMMISSION

# METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

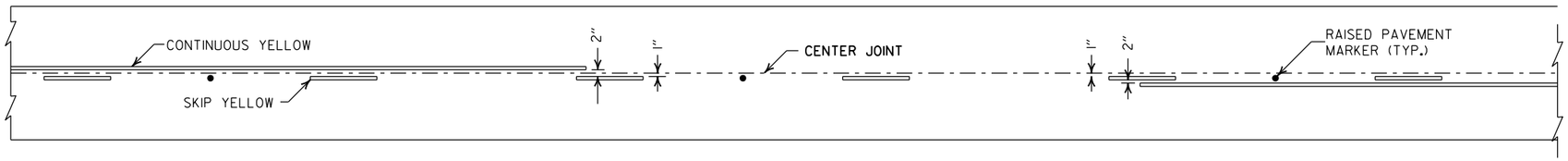



CONCRETE PAVEMENT

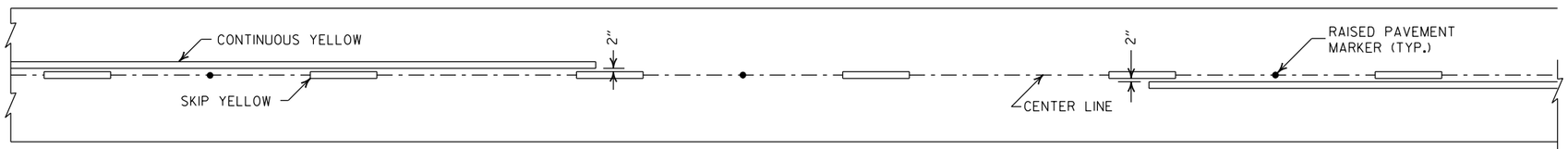



ASPHALT PAVEMENT

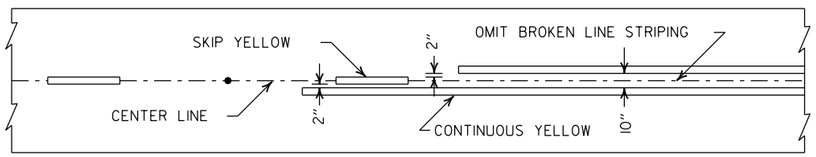
## BROKEN LINE STRIPING



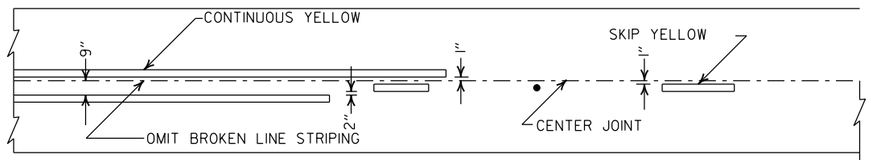

## SOLID LINE STRIPING ON CONCRETE PAVEMENT




## SOLID LINE STRIPING ON ASPHALT PAVEMENT

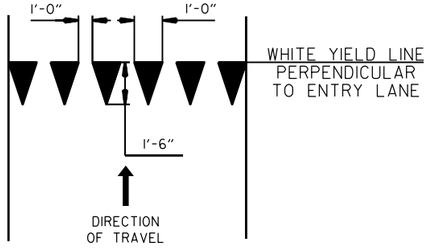



ASPHALT PAVEMENT

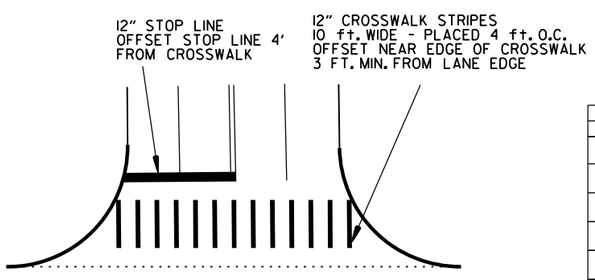



CONCRETE PAVEMENT

## STRIPING AT ADJACENT NO PASSING LANES

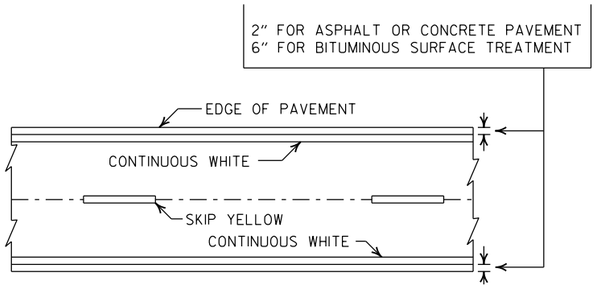



## YIELD LINE DETAIL




## CROSSWALK AND STOP LINE DETAILS

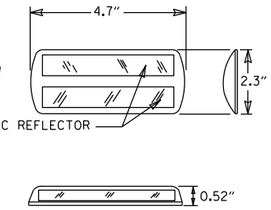
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.




## PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW




NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.

## DETAIL OF STANDARD RAISED PAVEMENT MARKERS

| DATE | REVISION | FILMED |
|---|---|---|
| 2-27-20 | REVISED STOP LINE DETAILS | |
| 6-1-17 | ADDED YIELD LINE DETAIL | |
| 5-12-16 | REVISED LINE WIDTHS, SPACING, & NOTES | |
| 9-12-13 | REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS | |
| 11-17-10 | REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS | |
| 11-18-04 | REVISED NOTE 2 & GENERAL NOTES | |
| 8-22-02 | ADDED CROSSWALK & STOPBAR DTLS. | |
| 7-02-98 | ADDED DETAILS OF STD. RAISED PAV'T. MARKERS | |
| 4-26-96 | REV. NOTES 3&4; ADDED R.P.M. | |
| 9-30-80 | DRAWN | 1-9-30-80 |

ARKANSAS STATE HIGHWAY COMMISSION

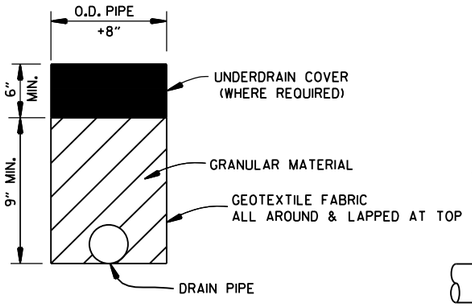
# PAVEMENT MARKING DETAILS

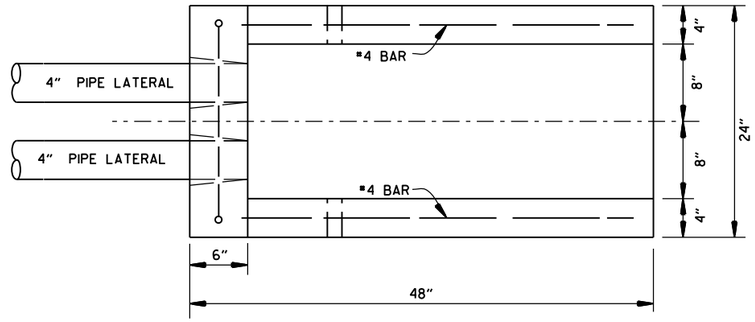
STANDARD DRAWING PM-1

NOTE:

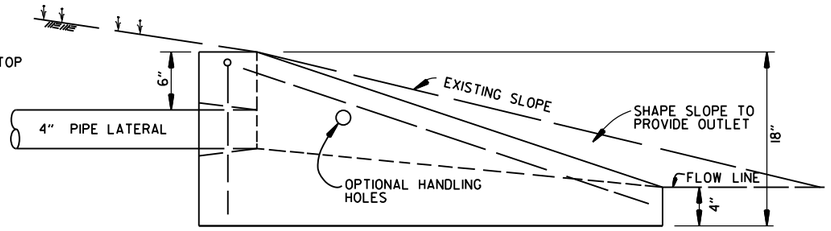
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

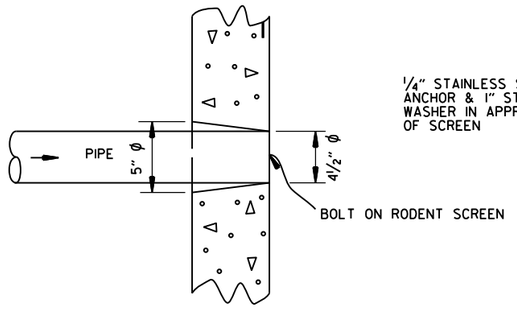


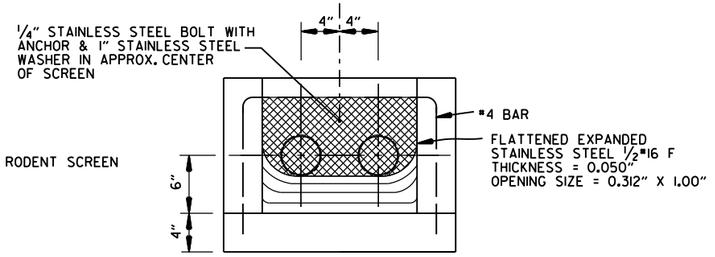

PLAN VIEW



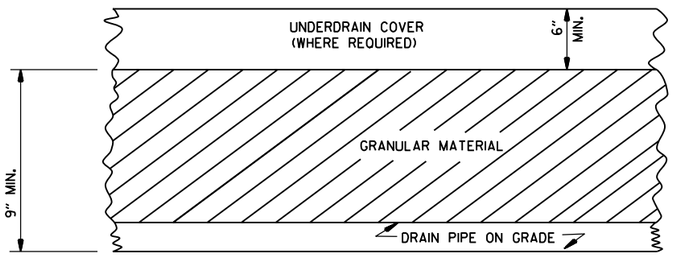

SIDE VIEW




DETAIL OF HOLE
FOR 4" PIPE




FRONT VIEW
(DETAIL OF RODENT SCREEN)




DETAILS OF PIPE UNDERDRAIN

## NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

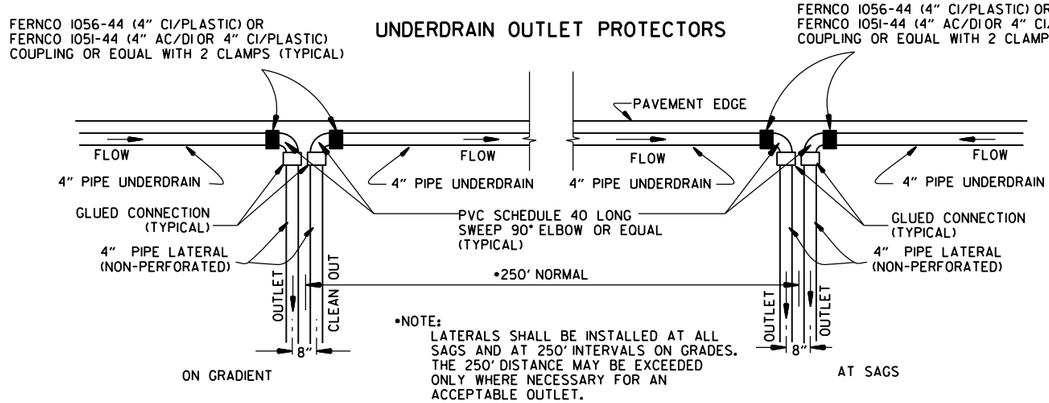
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

## UNDERDRAIN OUTLET PROTECTORS




DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

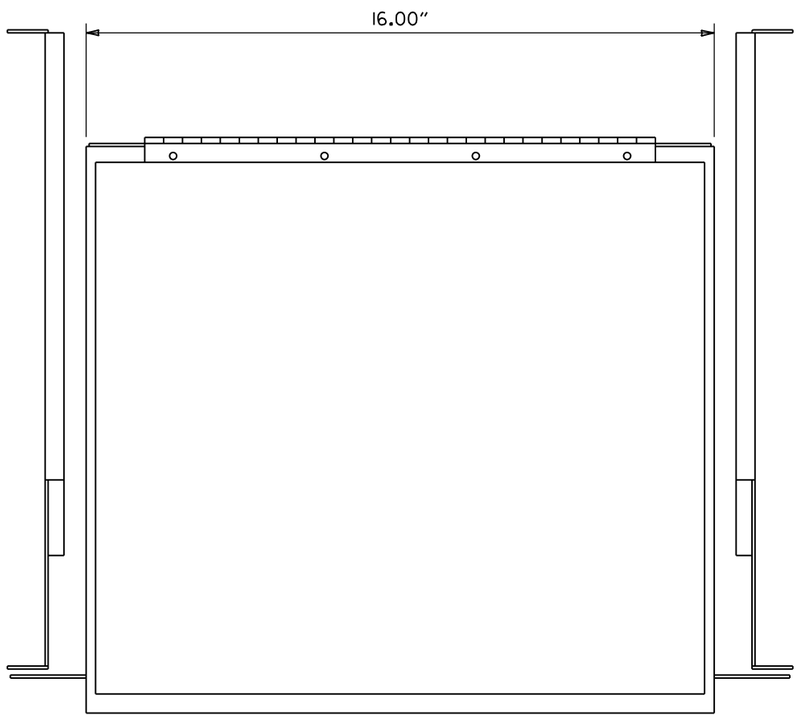
| DATE | REVISION | DATE FILMED |
|---|---|---|
| 12-8-16 | ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC | |
| 4-10-03 | REVISED NOTE 3 | |
| 1-12-00 | REVISED DETAIL OF UNDERDRAIN LATERALS | |
| 11-18-98 | REVISED NOTE | |
| 10-18-96 | REVISED MIN. DEPTH & GEOTEXTILE FABRIC | |
| 4-26-96 | ADDED LATERAL NOTE; 5½" TO 5" | |
| 11-22-95 | REVISED LATERALS | |
| 7-20-95 | REVISED LATERALS & ADDED NOTE | |
| 11- 3-94 | REVISED FOR DUAL LATERALS | 11- 3-94 |
| 10- 1-92 | SUBSTITUTED GEOTEXTILE | 10- 1-92 |
| 8-15-91 | ADDED POLYEDTHYLENE PIPE | 8-15-91 |
| 11- 8-90 | DELETED ALTERNATE NOTE | 11- 8-90 |
| 1-25-90 | ADDED 4" SNAP ADAPTER | 1-25-90 |
| 11-30-89 | DEL. (SUBGRADE); ADDED (WHERE REQUIRED) | 11-30-89 |
| 7-15-88 | ISSUED P.L.M. | 647-7-15-88 |

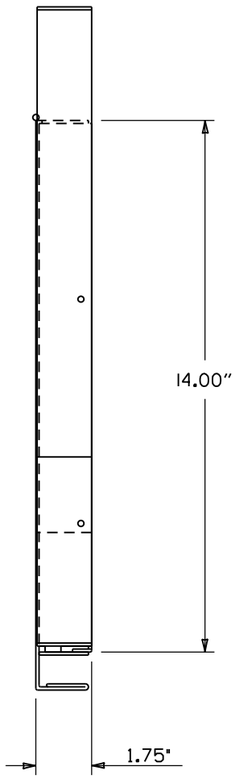
ARKANSAS STATE HIGHWAY COMMISSION

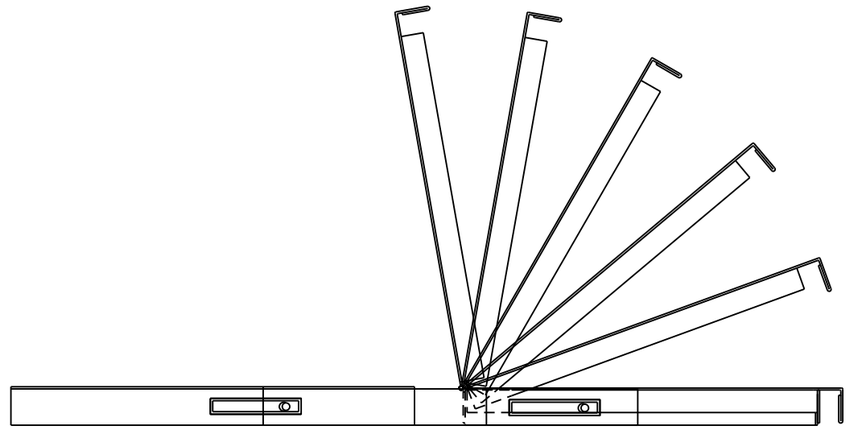
# DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

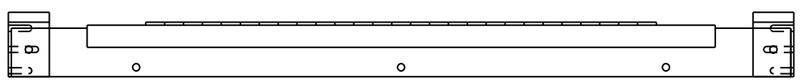
## DRAWER PLAN VIEW



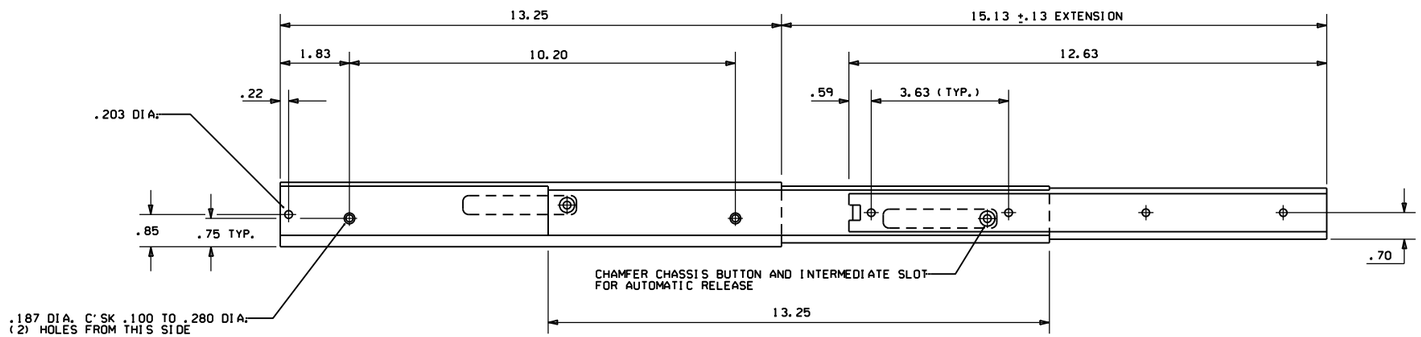



NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW




RIGHT SIDE ASSEMBLY

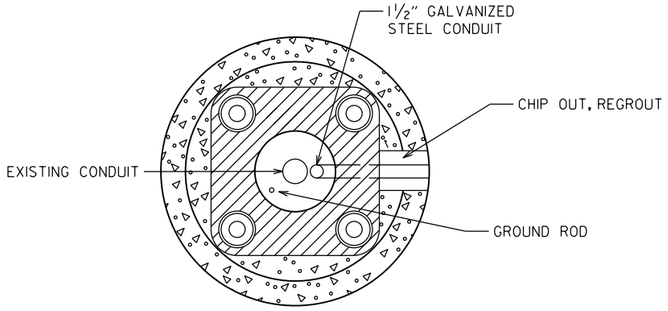
| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 6-15-05 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

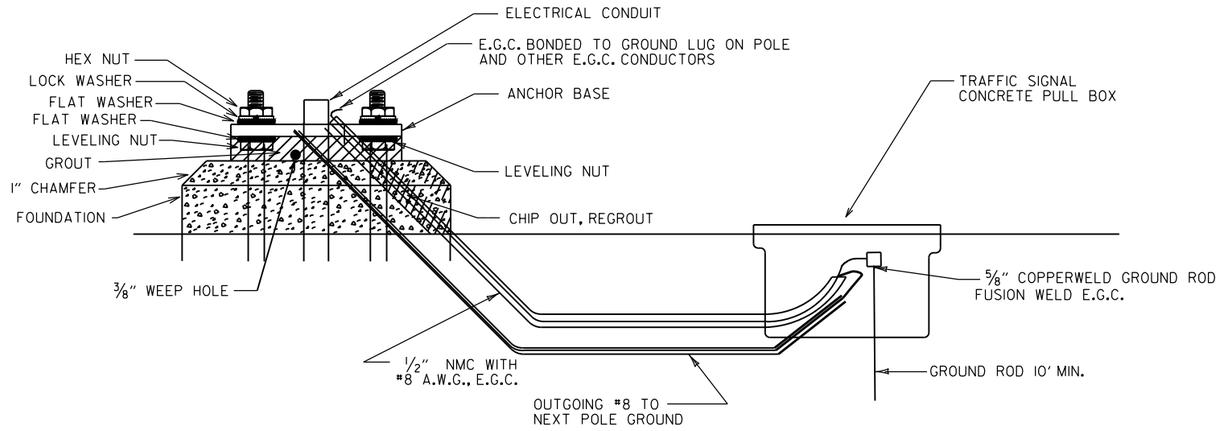
# CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

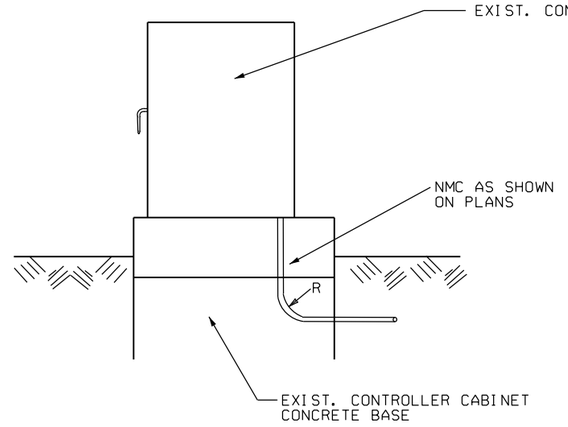
## CONDUIT ENTRY TO EXISTING POLE BASE



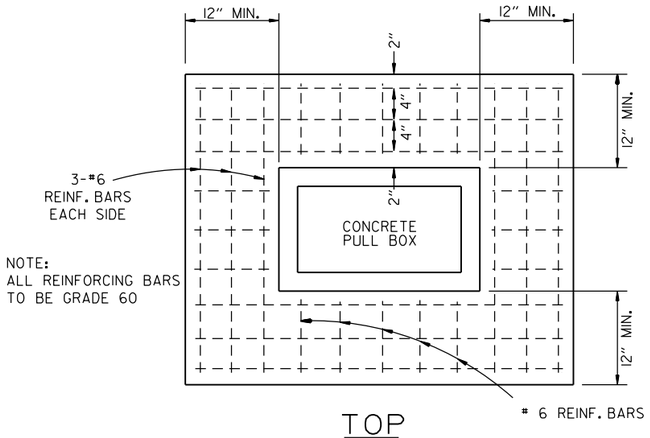

## ANCHOR BASE



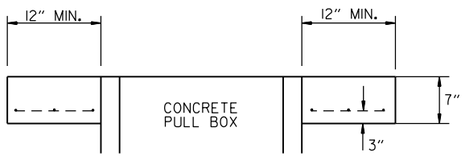

## CONDUIT ENTRY TO EXISTING CONTROLLER CABINET




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

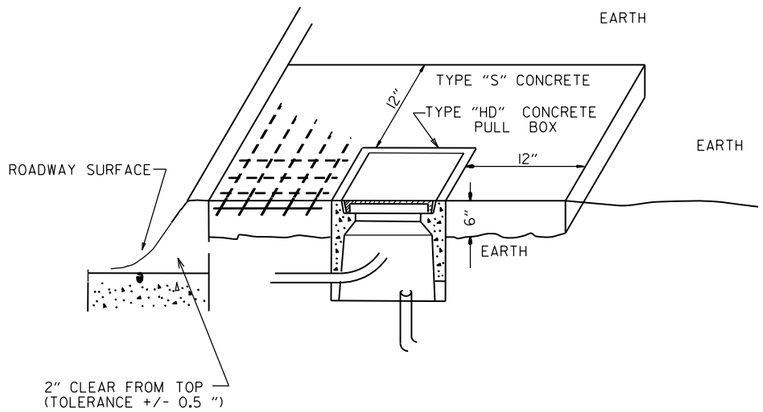



TOP




ELEVATION

## TYPE "HD" CONCRETE PULL BOX DETAIL



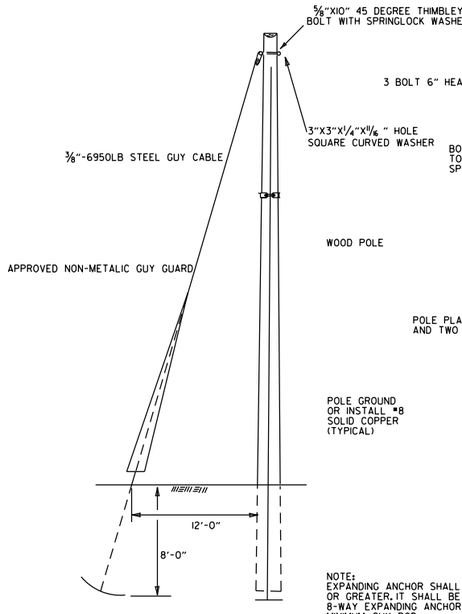

NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.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

| DATE | REVISION | FILMED |
|---|---|---|
| 11-16-17 | REVISED NOTES | |
| 09-02-15 | REVISED PULL BOX DEPTH | |
| 09-12-13 | ISSUED AS STANDARD DRAWING | |
| 05-21-09 | REVISED GROUNDING | |
| 07-31-08 | ADDED & REVISED CONDUIT ENTRY | |
| 06-23-04 | REVISED CLEARANCE AT CURB ENTRY | |
| 01-04-02 | ADDED REINFORCING TO BOX APRON | |
| 07-02-01 | REVISED | |
| 12-27-99 | REVISED NOTES | |
| 11-18-98 | ISSUED | |

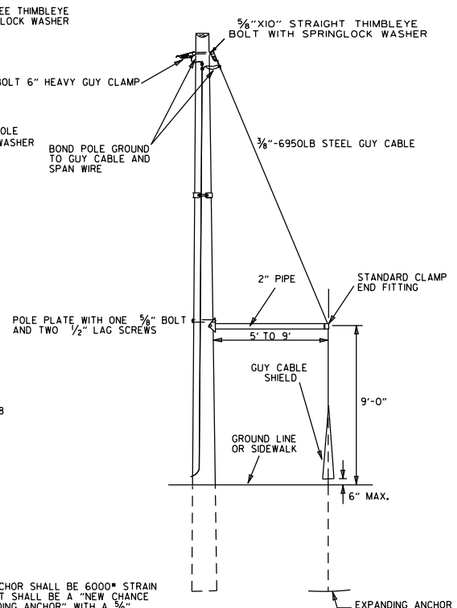
ARKANSAS STATE HIGHWAY COMMISSION

# HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



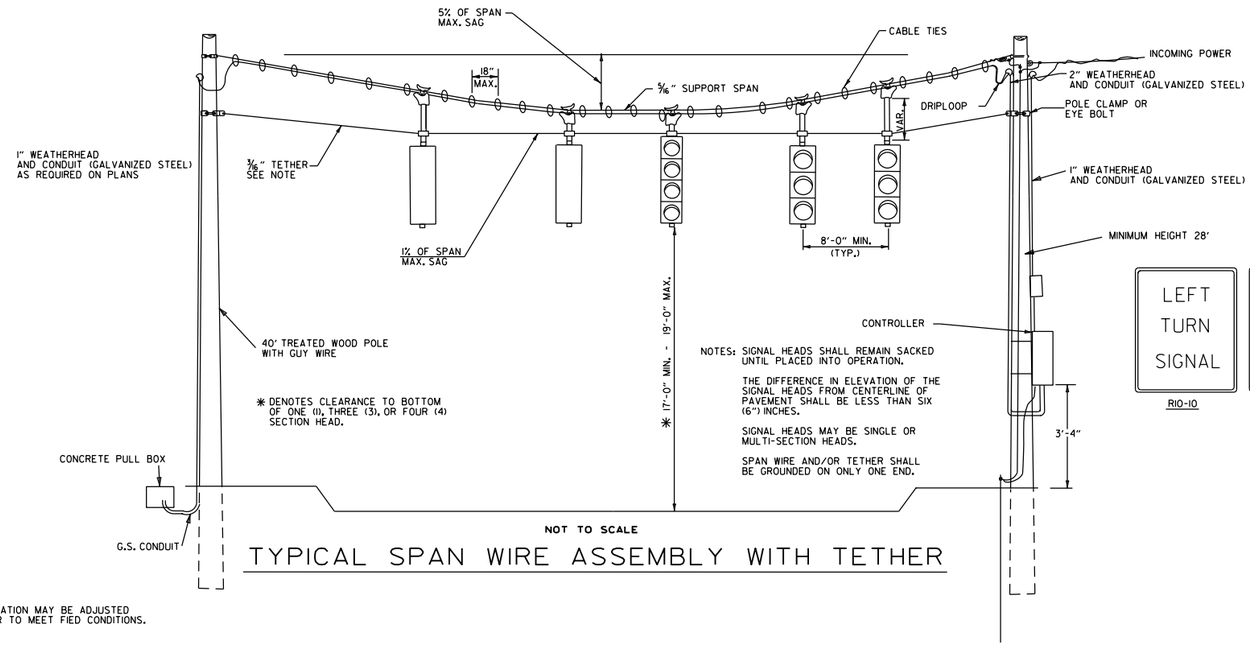

STANDARD GUY INSTALLATION




SIDEWALK GUY INSTALLATION

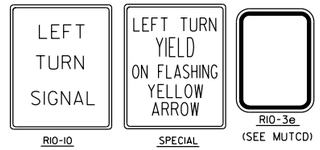
NOTE:
EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE 8-WAY EXPANDING ANCHOR", WITH A ⅝" MINIMUM GUY ROD.

NOTE:
CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIED CONDITIONS.




NOT TO SCALE

TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

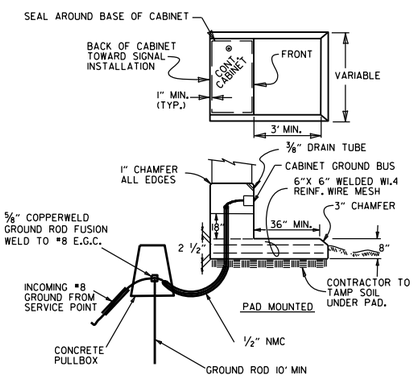



NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

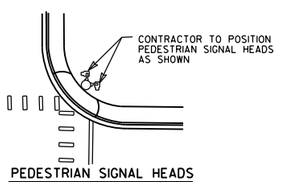
SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

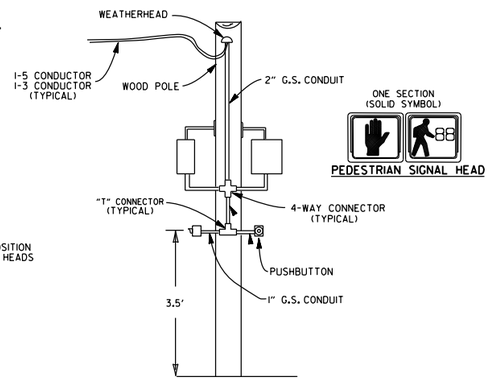
THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X ⅝" COPPERWELD GROUND ROD.




CONCRETE BASE MOUNTED CABINET DETAILS



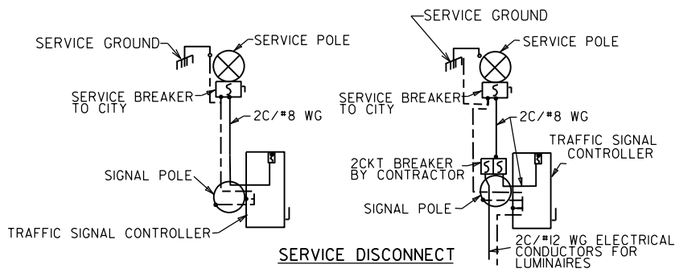

PEDESTRIAN SIGNAL HEADS




WOODEN POLE INSTALLATION OF PED HEADS




PEDESTRIAN SIGNAL HEAD




SERVICE DISCONNECT

NO LUMINAIRE WITH LUMINAIRE

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

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 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.

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

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

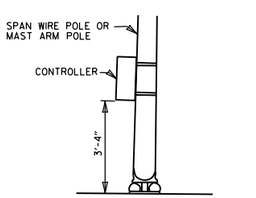
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. 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 THE 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.

CABINET NOTE:

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.




SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

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.

CONSTRUCTION SPECIFICATIONS: 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 THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

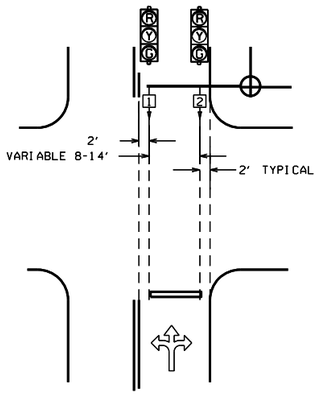
| DATE | REVISION | FILMED |
|---|---|---|
| 11-16-17 | REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL | |
| 02-27-14 | REVISED NOTES. | |
| 09-12-13 | ISSUED AS STANDARD DRAWING | |
| 07-21-11 | REVISED PEDESTRIAN SIGN & GROUNDING | |
| 04-17-08 | REVISED TO 2001 AASHTO STANDARDS | |
| 10-12-04 | REV. CABINET ORIENTATION & SIGNAL OPERATION | |
| 05-22-02 | REV. TYP. SPAN WIRE ASSEMBLY | |
| 12-27-99 | REVISED | |
| 11-18-98 | REVISION TO NOTES | |
| 11-21-95 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

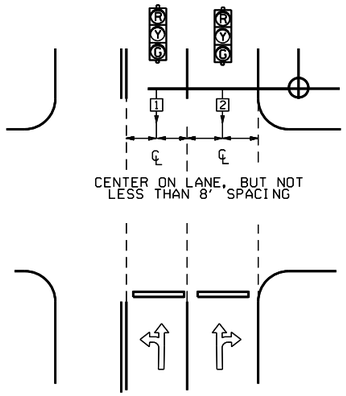
# SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

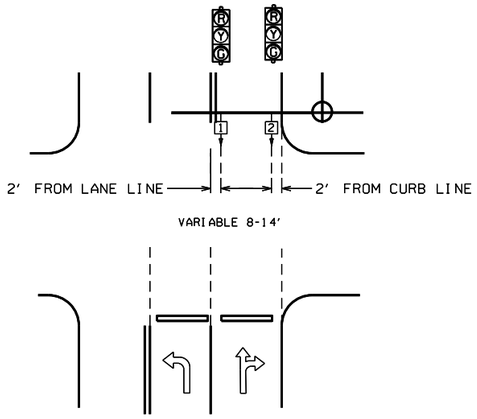
( A)



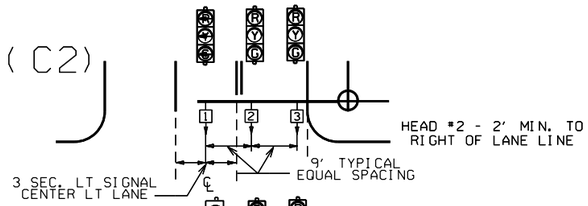

( B)



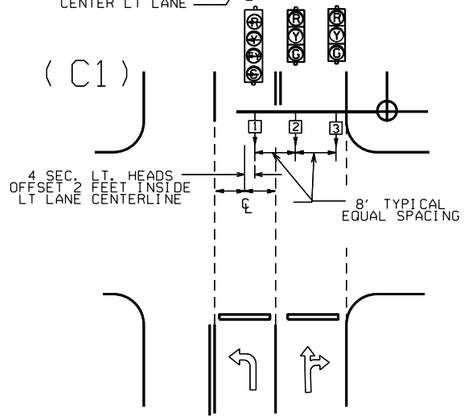

( C)



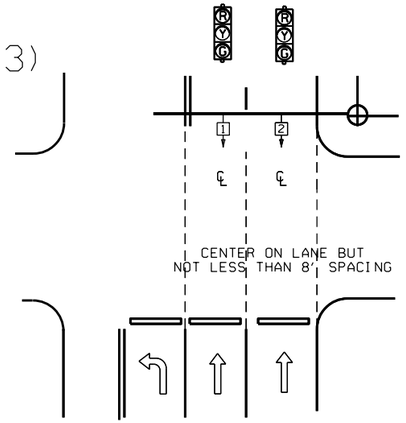

( C2)



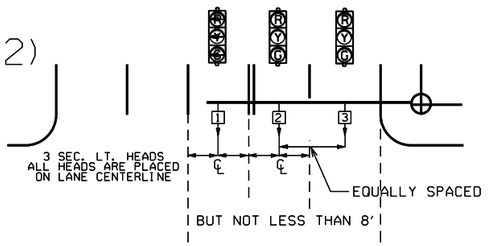

( C1 )



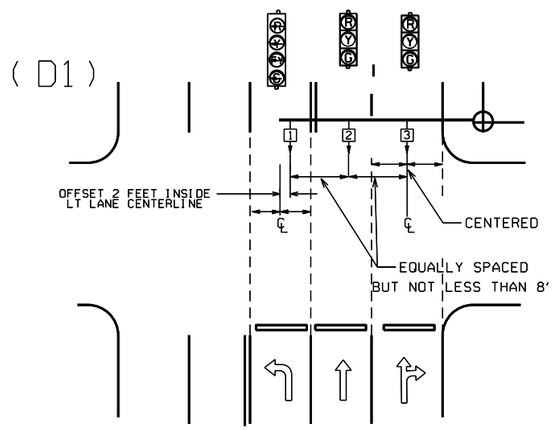

( C3)




( D2)

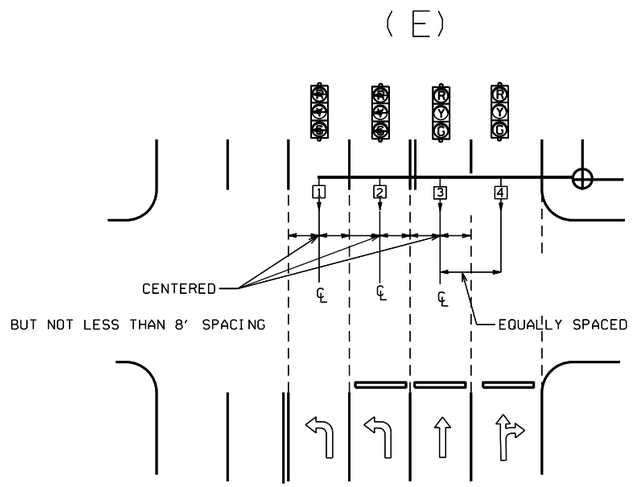



( D1 )




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.

( E)




℄ = CENTER OF LANE FROM APPROACH SIDE

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-5 OF 2009 MUTCD.

| | | |
|---|---|---|
| 12-8-16 | REVISED NOTE 6 | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 3-11-10 | 2009 MUTCD | |
| 12-9-99 | ISSUED | |
| DATE | REVISION | DATE FILM |

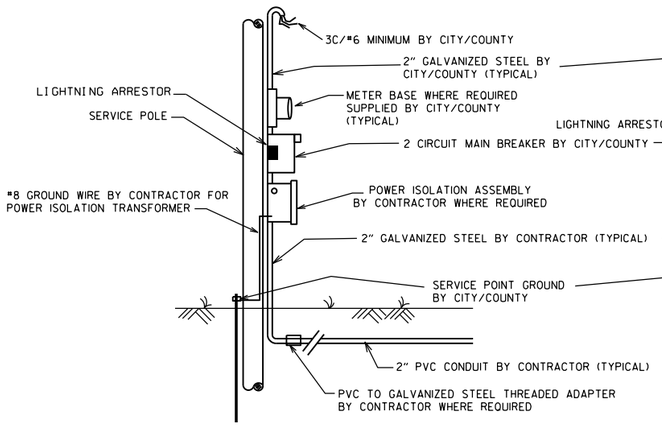
ARKANSAS STATE HIGHWAY COMMISSION

# SIGNAL HEAD PLACEMENT

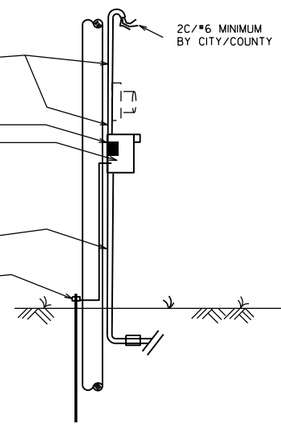
STANDARD DRAWING SD-8

# MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY




WITHOUT POWER ISOLATION ASSEMBLY




NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

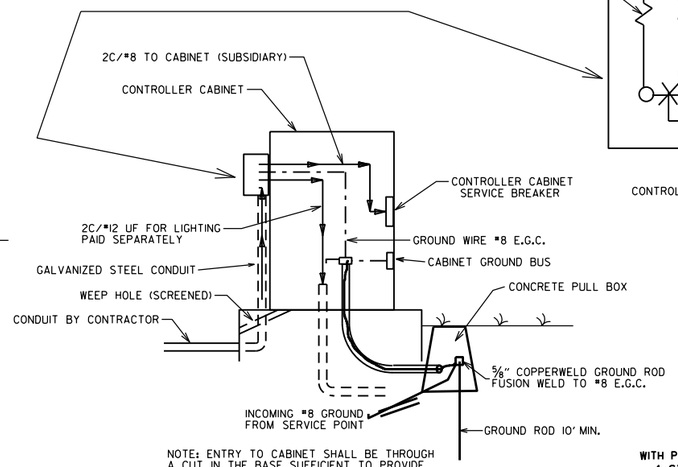
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. 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.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

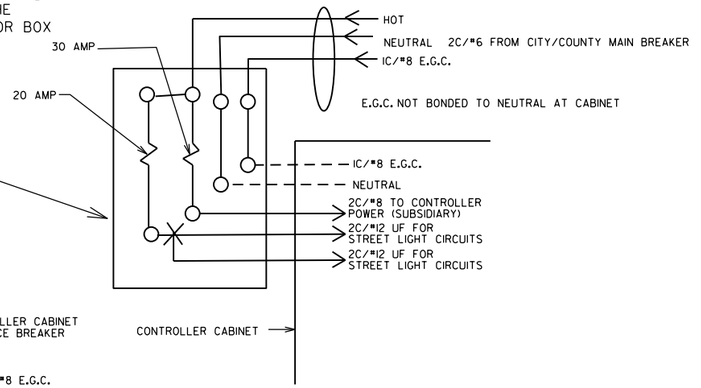
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP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

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

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



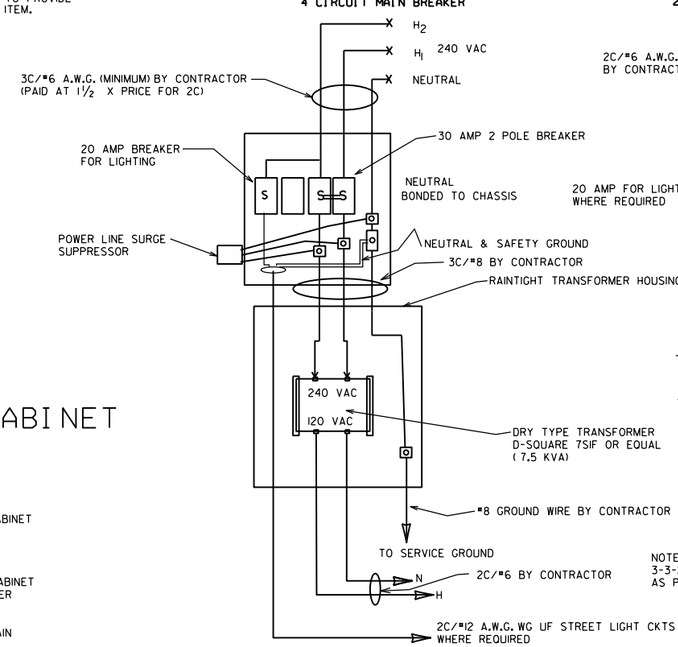

NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



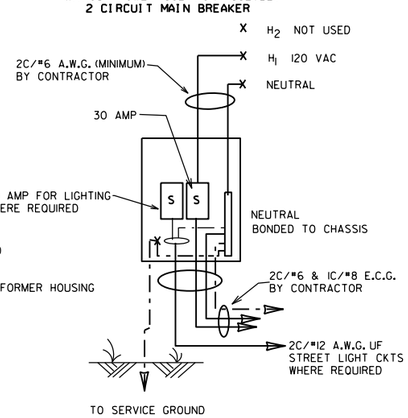

## MAIN BREAKER WIRING (TYPICAL)

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.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

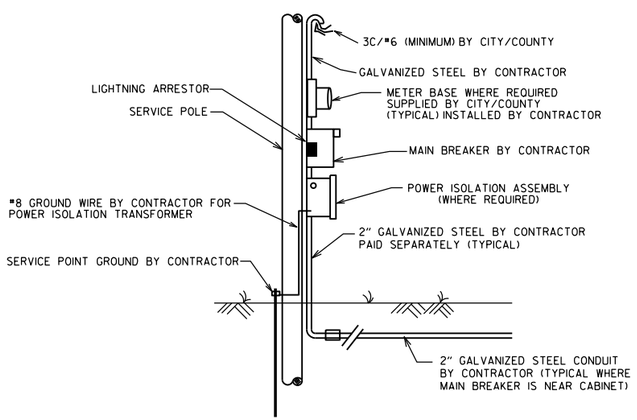


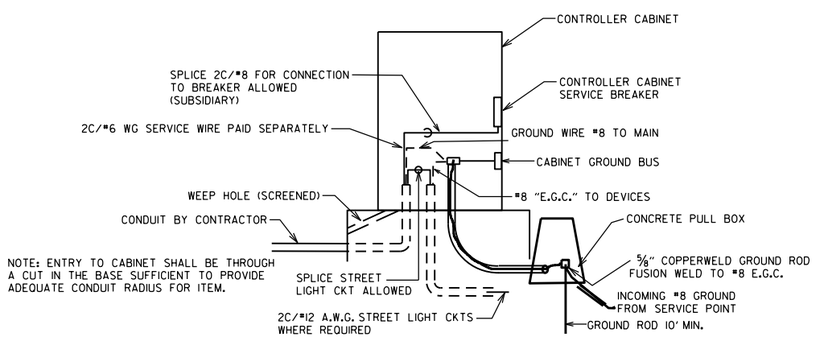

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER




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

# MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED




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

| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | REVISED | |
| 11-16-17 | REVISED NOTES | |
| 09-12-13 | ISSUED AS STANDARD DRAWING | |
| 04-18-13 | ADDED LIGHTNING ARRESTOR | |
| 05-21-09 | REVISED GROUNDING | |
| 07-31-08 | REVISED GROUNDING | |
| 03-03-03 | ADDED EGC NOTE | |
| 09-26-01 | REVISED | |
| 12-27-99 | REVISED | |
| 07-28-99 | REVISED | |
| 02-05-99 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN 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 PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

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 FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS 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 THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

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

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

CONSTRUCTION SPECIFICATIONS:
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 ½" 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, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.):
DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 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. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

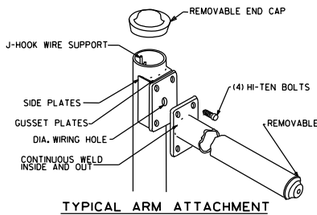
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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

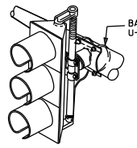
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

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 MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

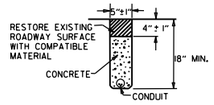
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



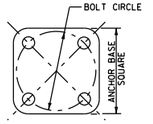

TYPICAL ARM ATTACHMENT



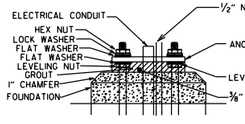

NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

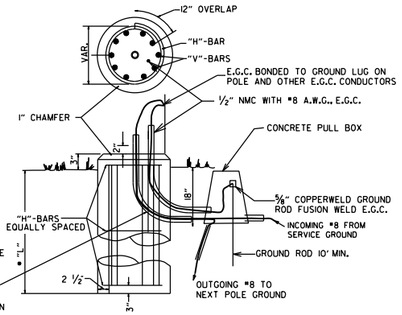



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)




ANCHOR BASE



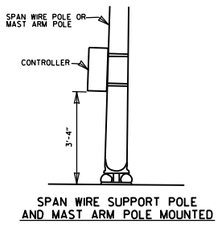

THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

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

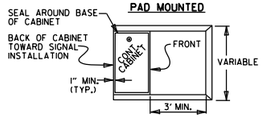
## TYPICAL FOUNDATION DETAILS

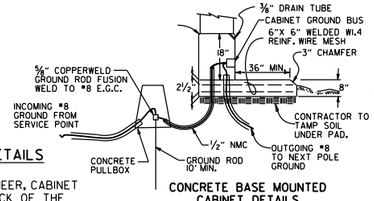
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

| ARM LENGTH | FOUNDATION DIAMETER | DEPTH "L"* | STEEL | | |
|---|---|---|---|---|---|
| | | | VERTICAL | HORIZONTAL | 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" |




SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED




CONCRETE BASE MOUNTED CABINET DETAILS

## CONTROLLER CABINET MOUNTING DETAILS

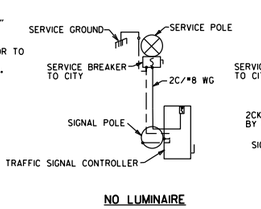
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

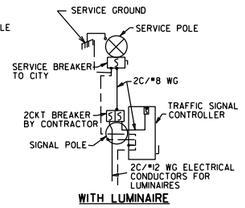
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

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 PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.




NO LUMINAIRE




WITH LUMINAIRE

SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

* 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 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION 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 0.125" 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 THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

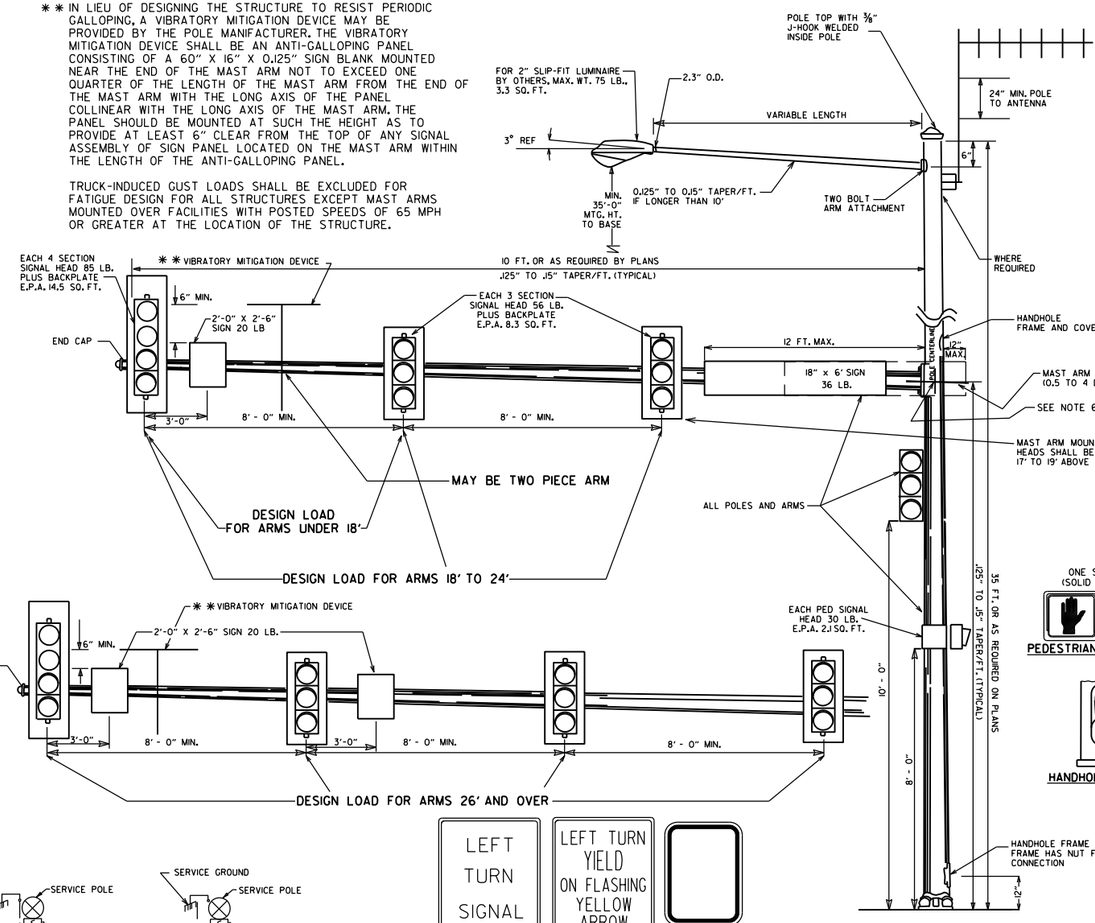
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

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 THE 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 ALTERATION IN FLASH SEQUENCE.

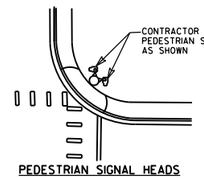
**SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.**




PEDESTRIAN SIGNAL HEAD

HANDHOLE TERMINAL

HANDHOLE FRAME AND COVER, FRAME HAS NUT FOR GROUND CONNECTION




PEDESTRIAN SIGNAL HEADS




R10-10




SPECIAL



R10-3e
(SEE MUTCD)

| DATE | REVISION | FILMED |
|---|---|---|
| 11-16-17 | REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL | |
| 02-27-14 | REVISED NOTES. | |
| 09-12-13 | ISSUED AS STANDARD DRAWING | |
| 12-08-16 | REVISED NOTES | |
| 02-27-14 | REVISED NOTES | |
| 09-12-13 | ISSUED AS STANDARD DRAWING | |
| 07-21-11 | REVISED VMD, SIGNAL HEADS | |
| 05-21-09 | REVISED GROUNDING | |
| 07-31-08 | REVISED GROUNDING | |
| 04-25-08 | ADDED VIBRATORY MITIGATION DEVICE & NOTES | |
| 04-18-08 | REVISED AASHTO NOTES | |
| 04-17-08 | REVISED TO 2001 AASHTO STANDARDS | |
| 10-12-04 | REVISED CABINET ORIENTATION | |
| 06-23-04 | REVISED | |
| 05-11-04 | REV. NOTE 3/AASHTO REQUIREMENTS | |
| 06-11-01 | REV. NOTES & POLE MAST ARM SLOPE | |
| 04-11-01 | REVISED POLE TAPERS | |
| 04-25-00 | REV. NOTES & SIGNAL HEAD PLACEMENT | |
| 11-22-99 | REVISED FOUNDATION DETAILS | |
| 11-17-98 | REVISED DETAILS AND NOTES | |
| 11-21-95 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

## SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

| DEGREE OF CURVE | 30 MPH | | | 35 MPH | | | 40 MPH | | | 45 MPH | | | 50 MPH | | | 55 MPH | | | 60 MPH | | | 65 MPH | | | 70 MPH | | | 75 MPH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | | e | Ls (FT) | |
| | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE | | MINIMUM | DESIRABLE |
| 0° 15' | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | |
| 0° 30' | NC | | | NC | | | NC | | | NC | | | NC | | | NC | | | RC | 96 | | RC | 96 | | RC | 96 | | 0.022 | 101 | |
| 0° 45' | NC | | | NC | | | NC | | | NC | | | RC | 96 | | RC | 96 | | 0.024 | 106 | | 0.026 | 110 | | 0.030 | 120 | | 0.032 | 125 | |
| 1° 00' | NC | | | NC | | | NC | | | RC | 90 | | 0.022 | 101 | | 0.026 | 110 | | 0.030 | 120 | | 0.034 | 130 | | 0.038 | 139 | 300 | 0.042 | 149 | 300 |
| 1° 15' | NC | | | NC | | | RC | 84 | | 0.022 | 95 | | 0.028 | 115 | | 0.032 | 125 | | 0.038 | 139 | | 0.042 | 149 | | 0.046 | 158 | | 0.052 | 173 | |
| 1° 30' | NC | | | RC | 78 | | 0.022 | 88 | | 0.028 | 108 | | 0.032 | 125 | | 0.038 | 139 | | 0.044 | 154 | | 0.050 | 168 | 300 | 0.056 | 182 | | 0.062 | 197 | |
| 1° 45' | RC | 72 | | RC | 78 | | 0.026 | 97 | | 0.030 | 113 | | 0.036 | 134 | | 0.044 | 154 | | 0.050 | 168 | 300 | 0.056 | 182 | | 0.064 | 202 | | 0.070 | 216 | |
| 2° 00' | RC | 72 | | 0.024 | 86 | | 0.028 | 101 | | 0.034 | 122 | | 0.042 | 149 | | 0.048 | 163 | | 0.056 | 182 | | 0.064 | 202 | | 0.070 | 216 | | 0.080 | 240 | |
| 2° 15' | RC | 72 | | 0.026 | 90 | | 0.032 | 109 | | 0.038 | 131 | | 0.046 | 158 | | 0.054 | 178 | 300 | 0.062 | 197 | | 0.070 | 216 | | 0.078 | 235 | 350 | 0.088 | 259 | 350 |
| 2° 30' | 0.022 | 75 | | 0.028 | 94 | | 0.034 | 113 | | 0.042 | 140 | | 0.050 | 168 | | 0.058 | 187 | | 0.068 | 211 | | 0.076 | 230 | | 0.086 | 254 | | 0.096 | 278 | |
| 2° 45' | 0.024 | 79 | | 0.030 | 98 | | 0.038 | 122 | | 0.046 | 149 | 200 | 0.054 | 178 | | 0.064 | 202 | | 0.072 | 221 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | 400 |
| 3° 00' | 0.026 | 83 | | 0.034 | 105 | | 0.040 | 126 | | 0.050 | 158 | | 0.058 | 187 | 250 | 0.068 | 211 | | 0.078 | 235 | | 0.088 | 259 | | 0.098 | 283 | 400 | D MAX = 2° 45' | | |
| 3° 15' | 0.028 | 86 | | 0.036 | 109 | | 0.044 | 134 | | 0.052 | 162 | | 0.062 | 197 | | 0.072 | 221 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | | | | |
| 3° 30' | 0.030 | 90 | | 0.038 | 113 | | 0.046 | 139 | 200 | 0.056 | 171 | | 0.066 | 206 | | 0.076 | 230 | | 0.086 | 254 | | 0.096 | 278 | 350 | D MAX = 3° 30' | | | | | |
| 3° 45' | 0.032 | 93 | | 0.040 | 117 | | 0.050 | 147 | | 0.058 | 176 | | 0.070 | 216 | | 0.080 | 240 | | 0.090 | 264 | | 0.098 | 283 | | | | | | | |
| 4° 00' | 0.034 | 97 | | 0.042 | 121 | 200 | 0.052 | 151 | | 0.062 | 185 | | 0.072 | 221 | | 0.084 | 250 | | 0.094 | 274 | 350 | 0.100 | 288 | | | | | | | |
| 4° 15' | 0.036 | 100 | | 0.044 | 125 | | 0.054 | 155 | | 0.064 | 189 | | 0.076 | 230 | | 0.086 | 254 | 350 | 0.096 | 278 | | D MAX = 4° 15' | | | | | | | | |
| 4° 30' | 0.036 | 100 | | 0.046 | 129 | | 0.056 | 160 | | 0.068 | 198 | | 0.078 | 235 | | 0.090 | 264 | | 0.098 | 283 | | | | | | | | | | |
| 4° 45' | 0.038 | 104 | 200 | 0.048 | 133 | | 0.060 | 168 | | 0.070 | 203 | | 0.082 | 245 | | 0.092 | 269 | | 0.100 | 288 | | | | | | | | | | |
| 5° 00' | 0.040 | 108 | | 0.050 | 137 | | 0.062 | 172 | | 0.072 | 207 | | 0.084 | 250 | | 0.094 | 274 | | D MAX = 5° 15' | | | | | | | | | | |
| 5° 30' | 0.044 | 115 | | 0.054 | 144 | | 0.066 | 181 | | 0.078 | 221 | 250 | 0.088 | 259 | | 0.098 | 283 | | | | | | | | | | | | |
| 6° 00' | 0.046 | 119 | | 0.058 | 152 | | 0.070 | 189 | | 0.082 | 230 | | 0.092 | 269 | | 0.100 | 288 | | | | | | | | | | | | |
| 6° 30' | 0.050 | 126 | | 0.062 | 160 | | 0.074 | 198 | | 0.086 | 239 | | 0.096 | 278 | 300 | D MAX = 6° 30' | | | | | | | | | | | | | |
| 7° 00' | 0.052 | 130 | | 0.064 | 164 | | 0.078 | 206 | | 0.090 | 248 | | 0.098 | 283 | | | | | | | | | | | | | | | |
| 7° 30' | 0.054 | 133 | | 0.068 | 172 | | 0.080 | 210 | | 0.092 | 252 | | 0.100 | 288 | | | | | | | | | | | | | | | |
| 8° 00' | 0.058 | 140 | | 0.070 | 176 | | 0.084 | 219 | | 0.094 | 257 | 300 | D MAX = 8° 25' | | | | | | | | | | | | | | | | |
| 8° 30' | 0.060 | 144 | | 0.072 | 179 | | 0.086 | 223 | 250 | 0.096 | 261 | | | | | | | | | | | | | | | | | | |
| 9° 00' | 0.062 | 148 | | 0.076 | 187 | | 0.088 | 227 | | 0.098 | 266 | | | | | | | | | | | | | | | | | | |
| 9° 30' | 0.064 | 151 | | 0.078 | 191 | | 0.092 | 235 | | 0.100 | 270 | | | | | | | | | | | | | | | | | | |
| 10° 00' | 0.066 | 155 | | 0.080 | 195 | | 0.094 | 240 | | D MAX = 10° 30' | | | | | | | | | | | | | | | | | | | |
| 11° 00' | 0.070 | 162 | | 0.084 | 203 | | 0.096 | 244 | | | | | | | | | | | | | | | | | | | | | |
| 12° 00' | 0.074 | 169 | | 0.088 | 211 | 250 | 0.098 | 248 | | | | | | | | | | | | | | | | | | | | | |
| 13° 00' | 0.076 | 173 | | 0.090 | 215 | | 0.100 | 252 | 300 | D MAX = 13° 45' | | | | | | | | | | | | | | | | | | | |
| 14° 00' | 0.080 | 180 | | 0.094 | 222 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15° 00' | 0.082 | 184 | | 0.096 | 226 | | | | | | | | | | | | | | | | | | | | | | | | |
| 16° 00' | 0.086 | 191 | | 0.098 | 230 | | | | | | | | | | | | | | | | | | | | | | | | |
| 17° 00' | 0.088 | 194 | | 0.100 | 234 | | | | | | | | | | | | | | | | | | | | | | | | |
| 18° 00' | 0.090 | 198 | 250 | D MAX = 19° 30' | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19° 00' | 0.092 | 202 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20° 00' | 0.094 | 205 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21° 00' | 0.096 | 209 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22° 00' | 0.096 | 209 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23° 00' | 0.098 | 212 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24° 00' | 0.098 | 212 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25° 00' | 0.100 | 216 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D MAX = 28° 30' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

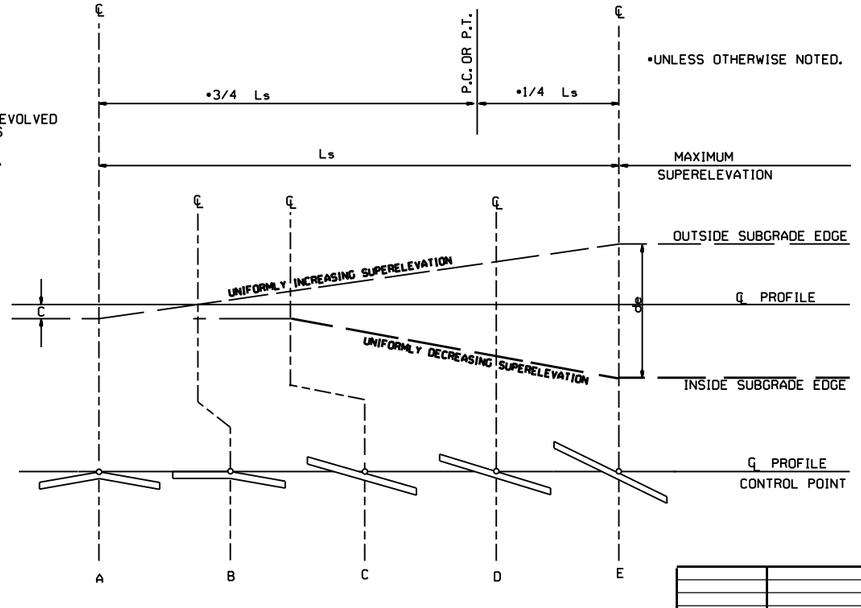
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

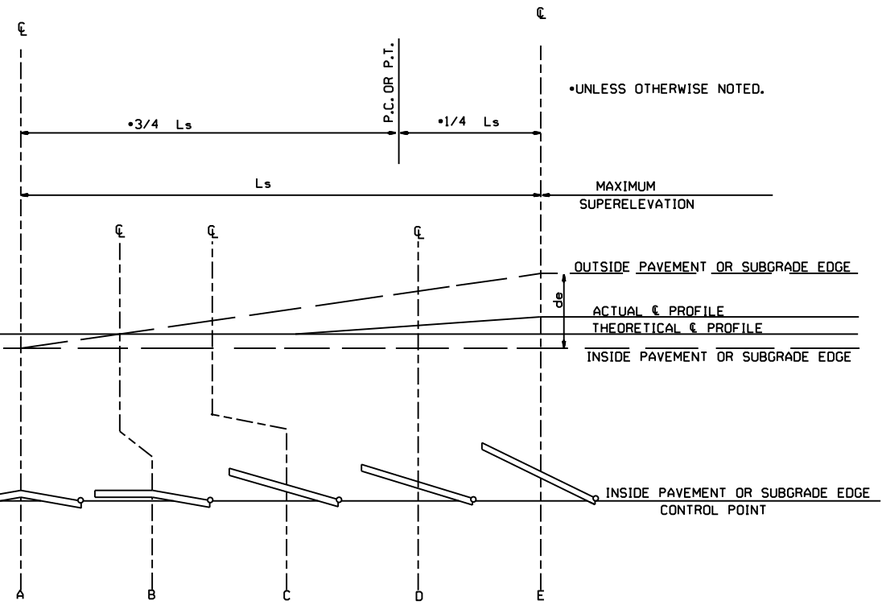
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$




STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE




STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

| DATE | REVISION | DATE FILLMED |
|---|---|---|
| 11-07-19 | REVISED SUPERELEVATION TABLE | |
| 10-18-96 | ADDED FORMULA | |
| 01-09-87 | ISSUED | 534-1-9-87 |

ARKANSAS STATE HIGHWAY COMMISSION

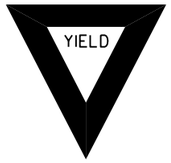
# TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1


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

R1-2




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

R2-1


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

W3-5


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

W3-5a


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

R4-1


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

R4-2


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

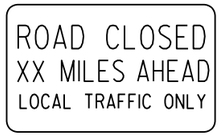
R5-1


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

R11-2


48"X30"

R11-3A




60"X30"

R11-4


60"X30"

W21-5a


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

W1-1

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

W1-2

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

W1-3

STD. 48"X48"

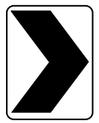
W1-4

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"

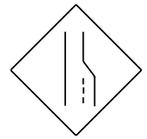
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1


STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7


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

W9-2


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

W13-1


STD. 24"X24"

W20-1


STD. 48"X48"

W20-2


STD. 48"X48"

W20-3


STD. 48"X48"

W20-4


STD. 48"X48"

W20-5


STD. 48"X48"

W20-7a


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

W21-2


STD. 30"X30"
SPECIAL 36"X36"

W21-5


STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1


STD. 18"X18"

W8-11


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

W8-9


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

G20-1


60"X24"

G20-2




48"X24"

OM-3L OM-3R




12"X36"

M4-9




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

M4-10




48"X18"

R55-1




36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

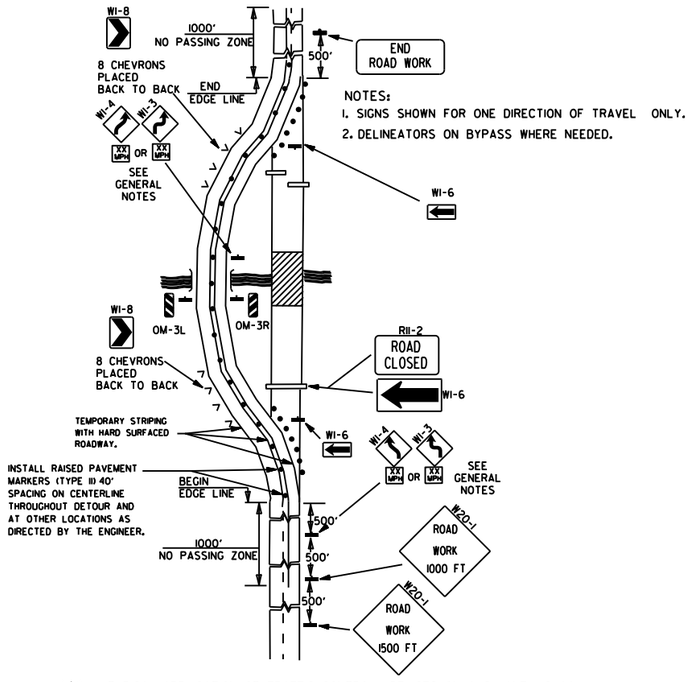
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

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

ARKANSAS STATE HIGHWAY COMMISSION

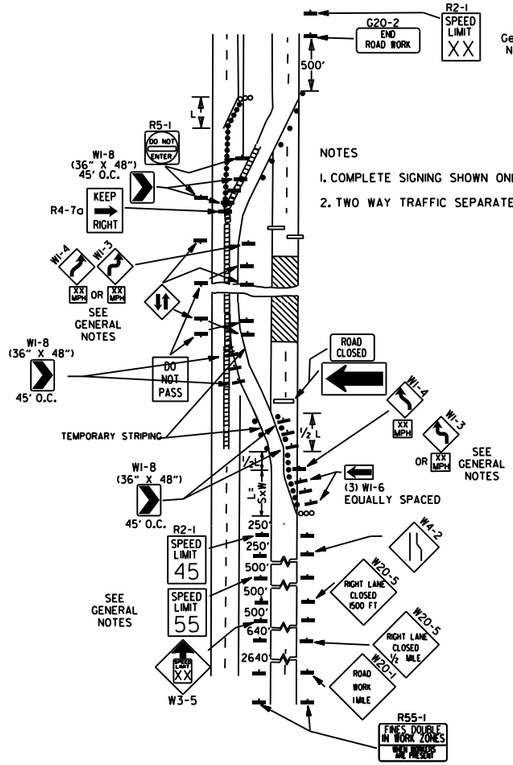
# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



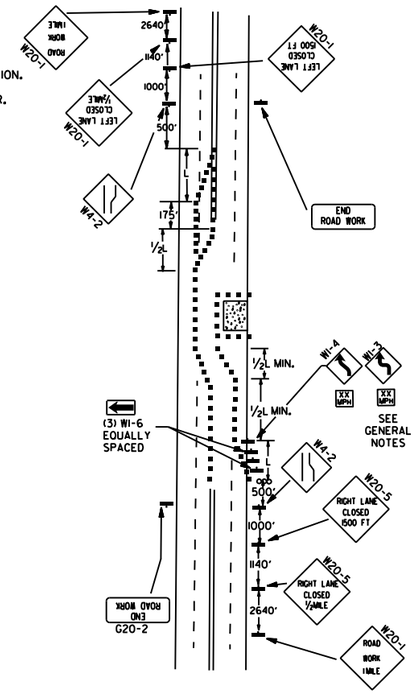

NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

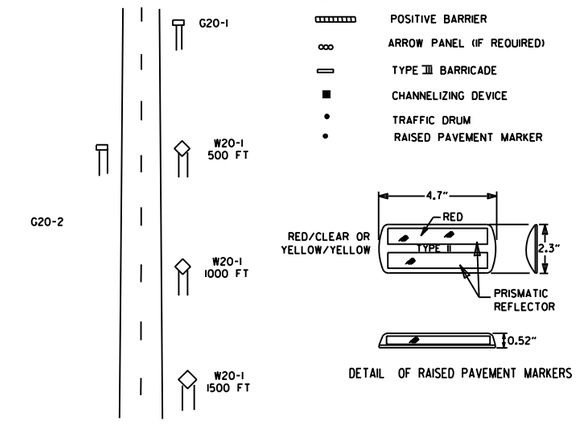



NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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




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




TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

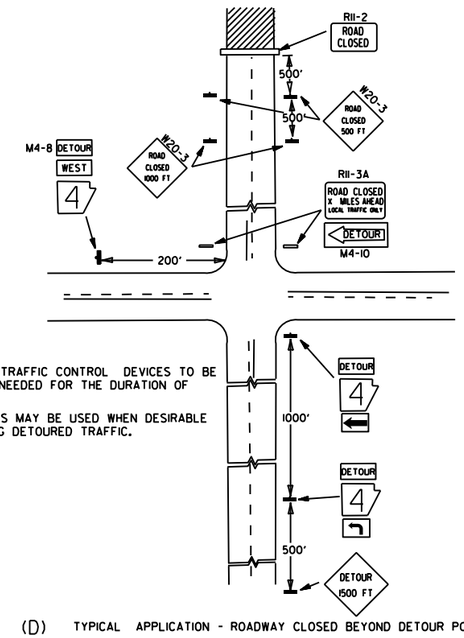
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

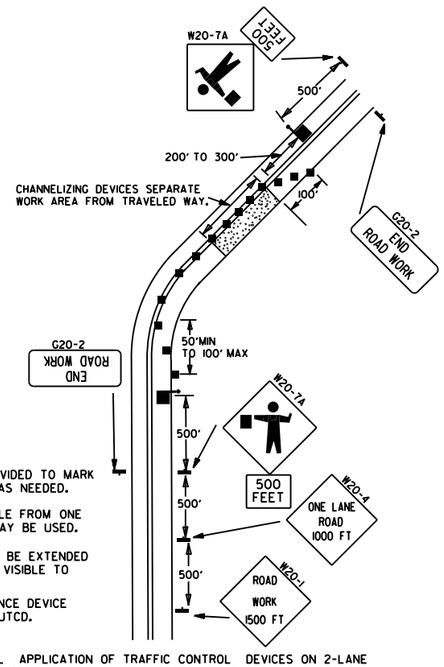
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



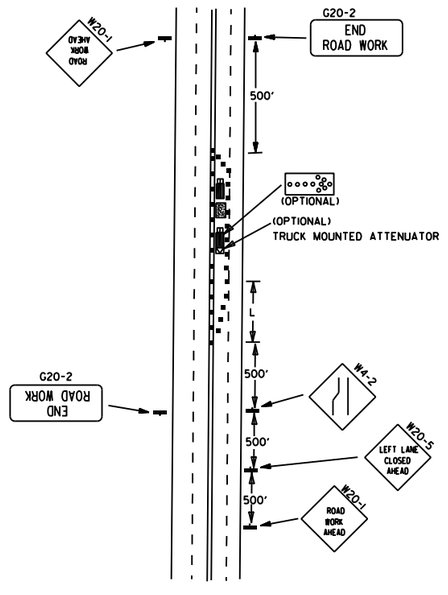

NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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




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

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



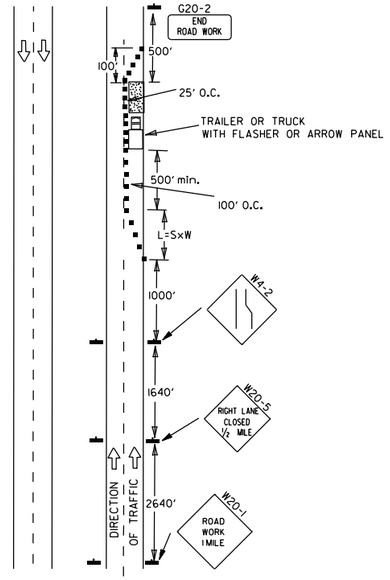

(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

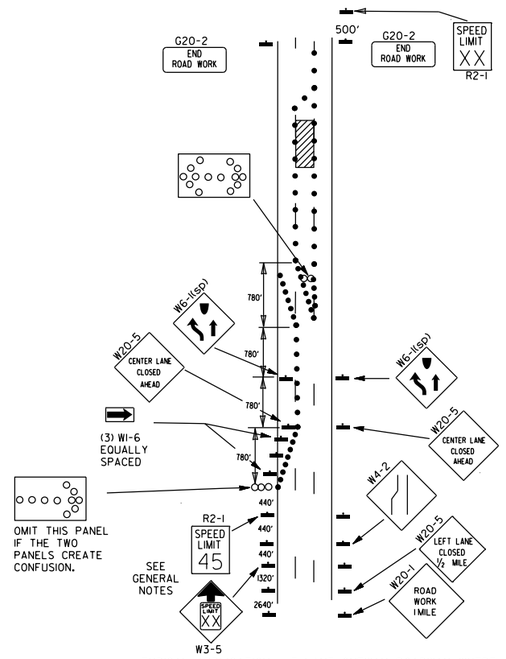
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

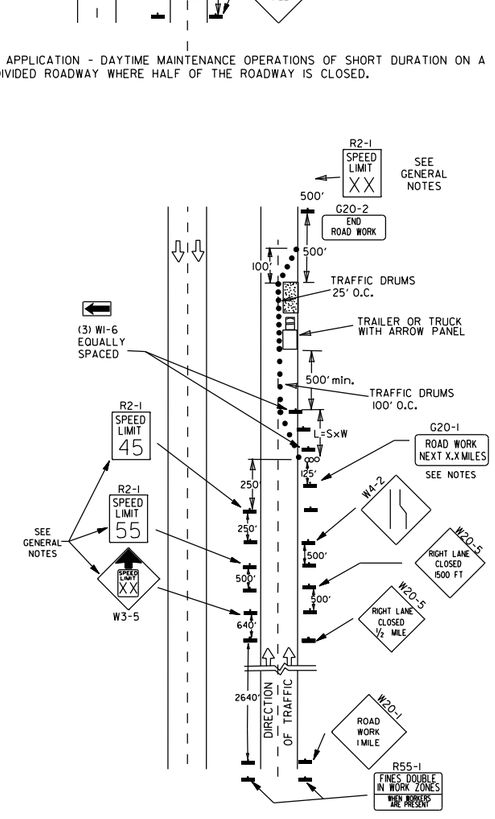
STANDARD DRAWING TC-2




(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.

KEY:

ooo ARROW PANEL (IF REQUIRED)

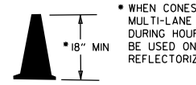
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

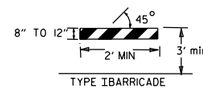
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

## CHANNELIZING DEVICES

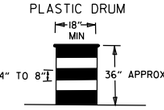


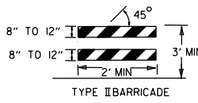

* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

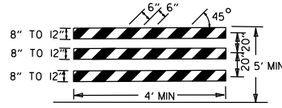
CONES




PLASTIC DRUM

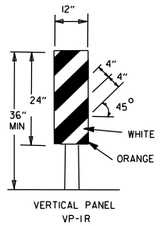


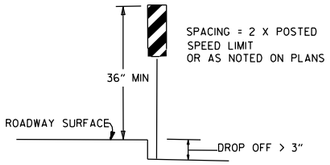




TYPE III BARRICADE

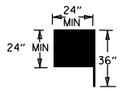
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



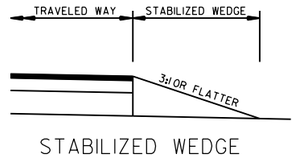

VERTICAL PANEL PLACEMENT




FLAG

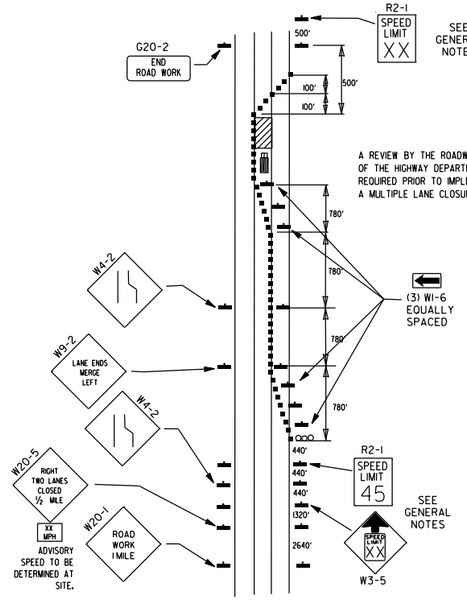



FLAG SHALL BE OF GOOD GRADE RED MATERIAL




STABILIZED WEDGE

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




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

### TRAFFIC CONTROL DEVICES

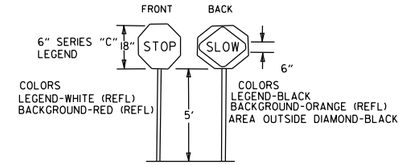
| NON-INTERSTATE | | | |
|---|---|---|---|
| VERTICAL DIFFERENTIAL | LOCATION | TRAFFIC CONTROL | |
| | | ≤ 45 MPH | > 45 MPH |
| ≤ 2" | CENTERLINE | W8-11 AND LANE STRIPING | W8-11 AND LANE STRIPING |
| > 2" | CENTERLINE | STANDARD LANE CLOSURE | STANDARD LANE CLOSURE |
| ≤ 3" | EDGE OF TRAVELED LANE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

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

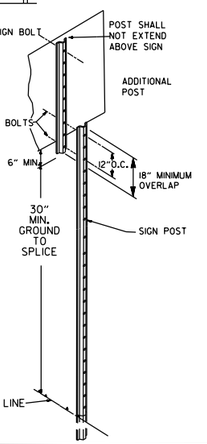
| INTERSTATE AND NON-INTERSTATE | | |
|---|---|---|
| FORESLOPE | HEIGHT | TRAFFIC CONTROL |
| 1:1 | > 2 FT | PRECAST CONCRETE BARRIER |
| 2:1 | ≤ 5 FT | TRAFFIC DRUMS |
| 2:1 | > 5 FT | PRECAST CONCRETE BARRIER |
| Flatter than 2:1 | N/A | TRAFFIC DRUMS |

GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

STOP SLOW PADDLE



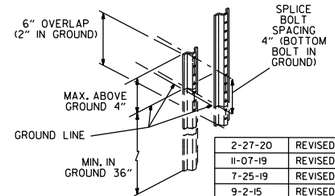

DETAIL OF SPLICES




NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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

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




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

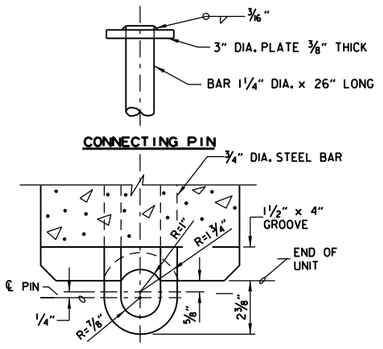
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

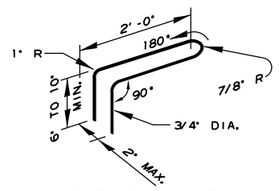
## REINFORCING BAR TABLE PER BARRIER UNIT

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

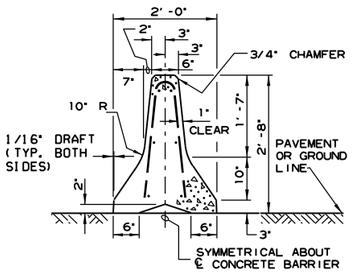



SECTION E-E

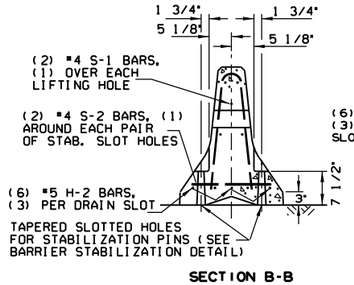
CONNECTION DETAILS



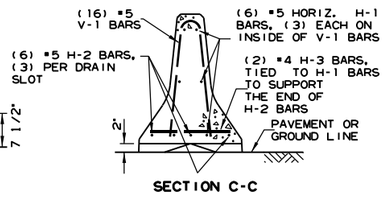

CONNECTION LOOP



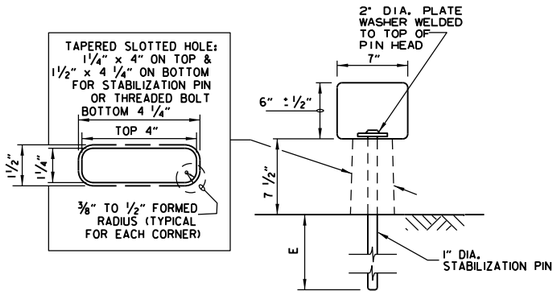

SECTION A-A




SECTION B-B



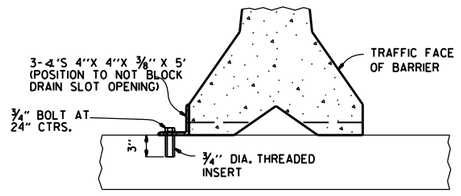

SECTION C-C




BARRIER STABILIZATION DETAIL

ROADWAY SECTION

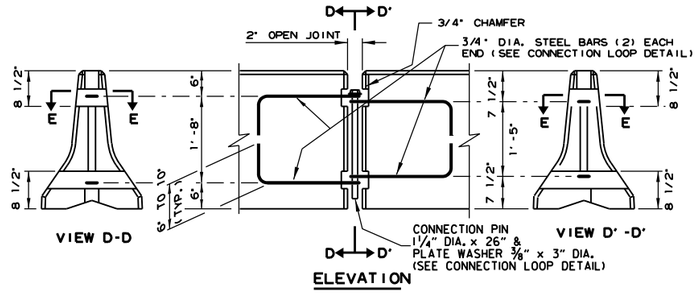
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



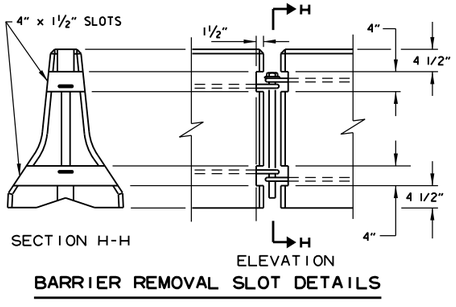

NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

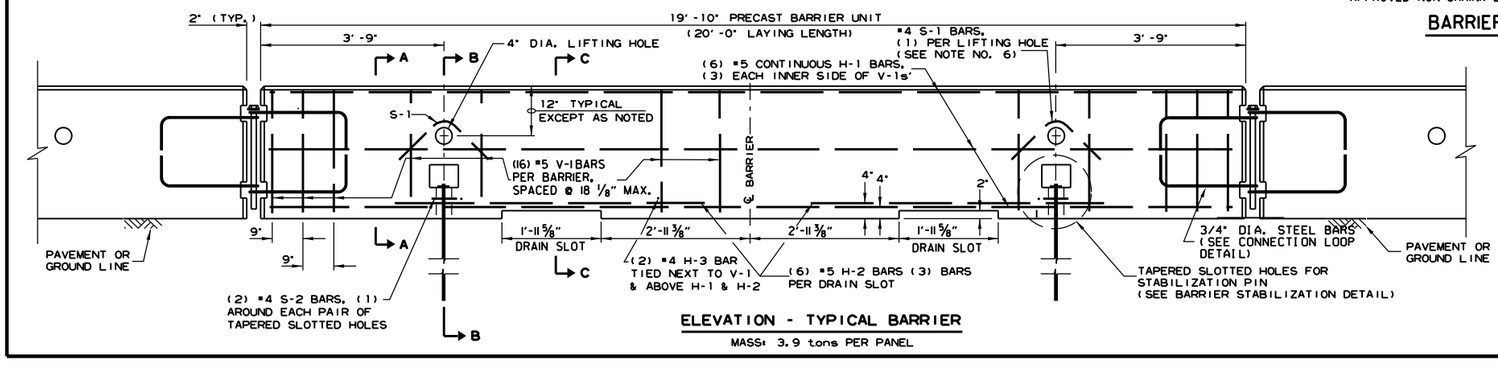
BRIDGE DECKS




ELEVATION




BARRIER REMOVAL SLOT DETAILS




ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

### GENERAL NOTES

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

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

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

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

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

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

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

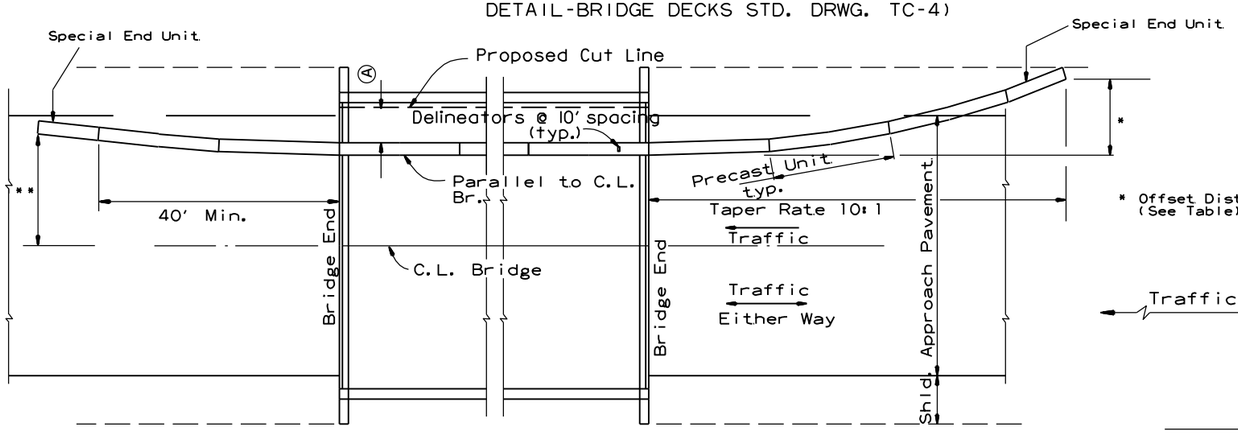
| DATE | REVISION | FILMED |
|---|---|---|
| 11-07-19 | REVISED NOTE 3 | |
| 2-27-14 | REVISED BARRIER STABILIZATION DETAIL | |
| 10-15-09 | ADDED REFERENCE TO WASH | |
| 8-5-09 | REV. NOTE 3 CONCERNING DRAIN SLOTS | |
| 11-29-07 | REVISED NOTE 3 | |
| 5-25-06 | DELETED GENERAL NOTE 7 | |
| 11-18-04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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

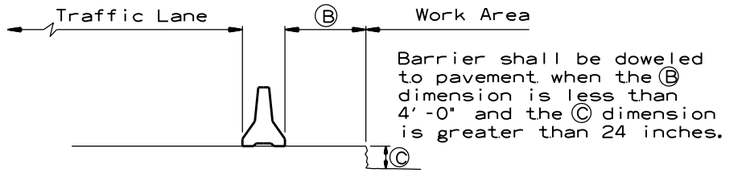
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)




* Offset Distance (See Table)

## BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

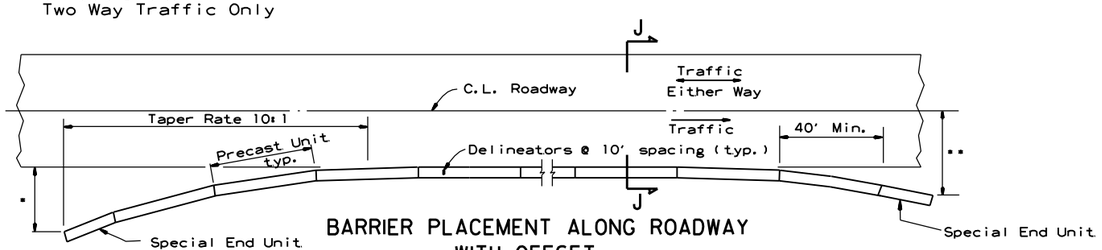



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

## SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only




## BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

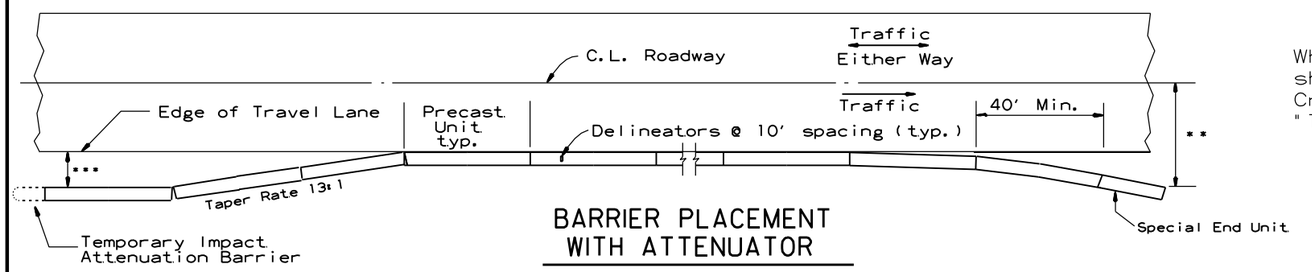
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

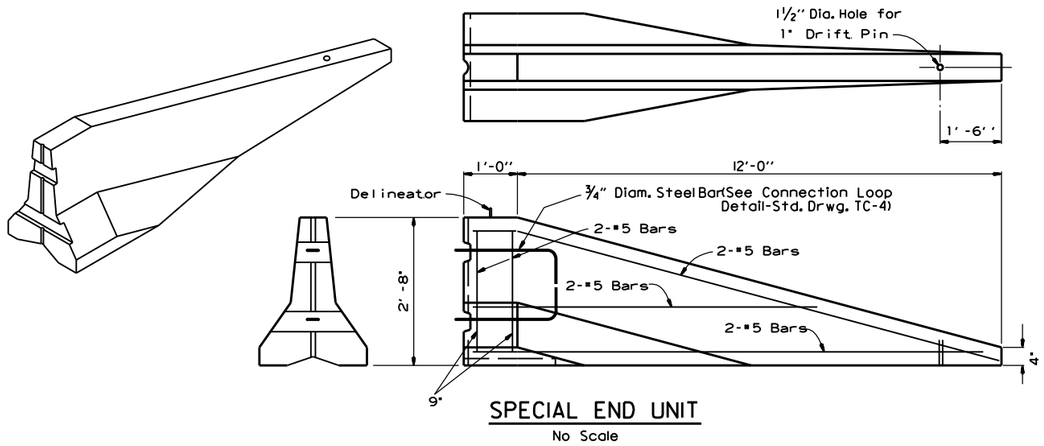



## BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

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




## SPECIAL END UNIT

No Scale

### General Notes

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

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

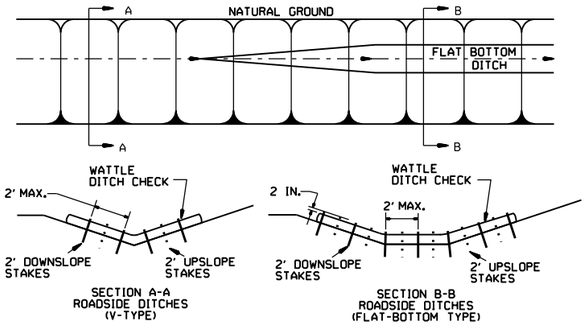
**ARKANSAS STATE HIGHWAY COMMISSION**

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

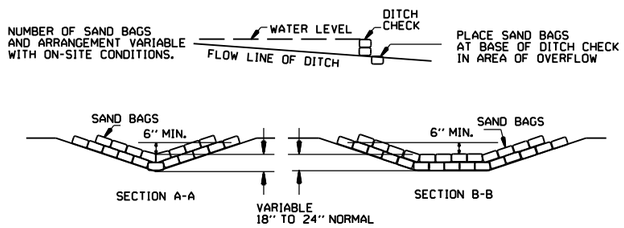
STANDARD DRAWING TC-5

GENERAL NOTES

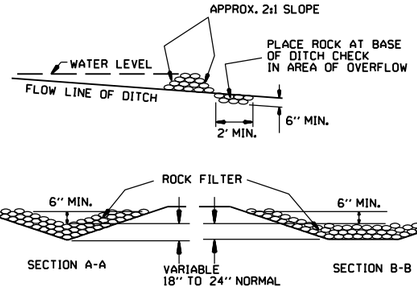
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.




## WATTLE DITCH CHECK (E-1)




## SAND BAG DITCH CHECK (E-5)

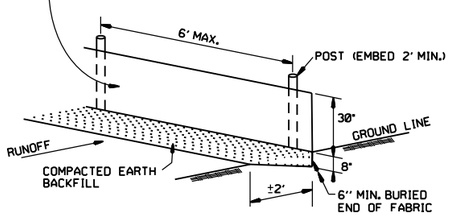



## ROCK DITCH CHECK (E-6)

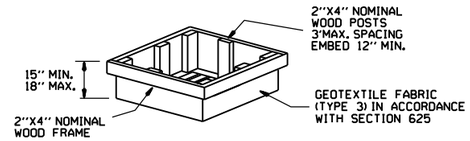
GENERAL NOTES

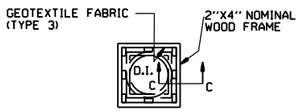
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

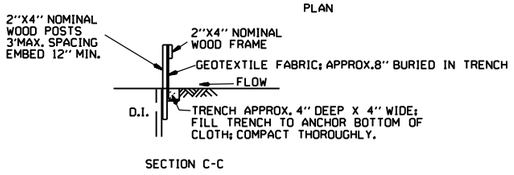
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



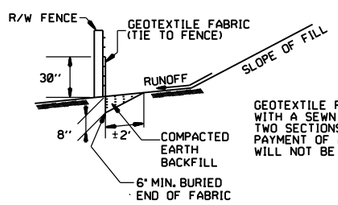

## SILT FENCE (E-11)



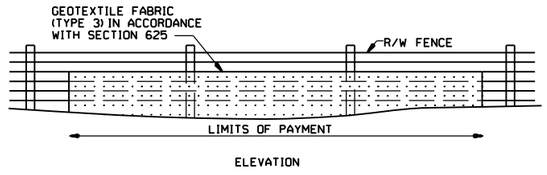




## DROP INLET SILT FENCE (E-7)




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.



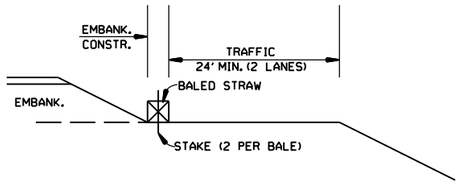

## SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

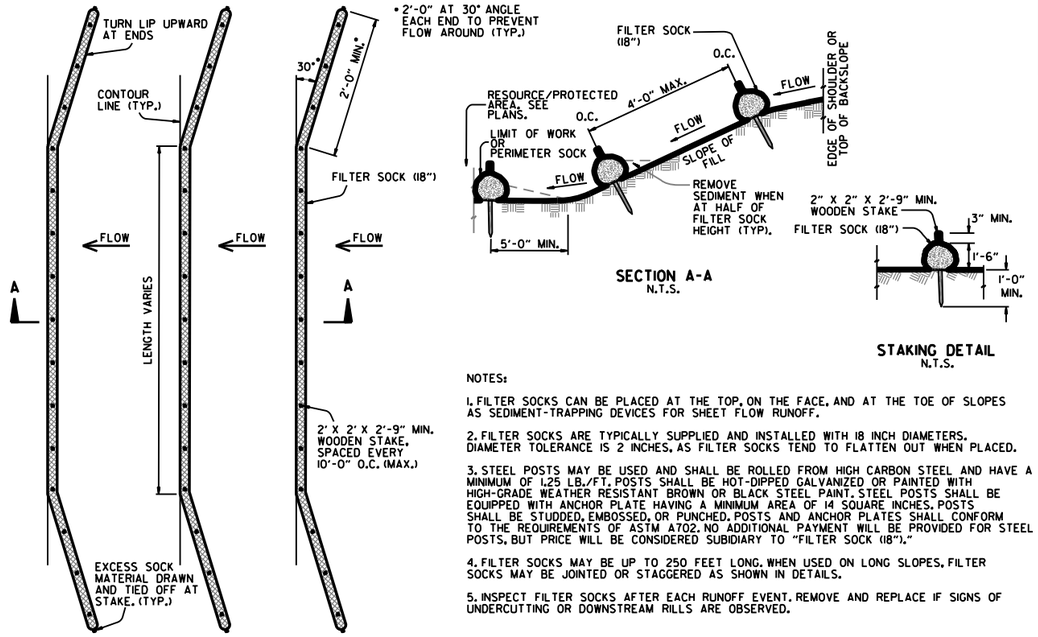
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)




NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

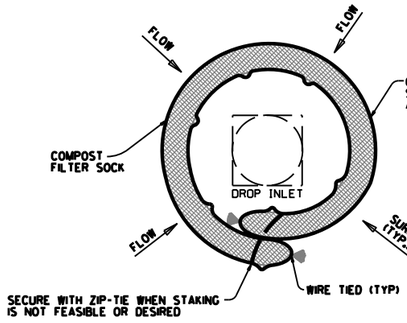
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

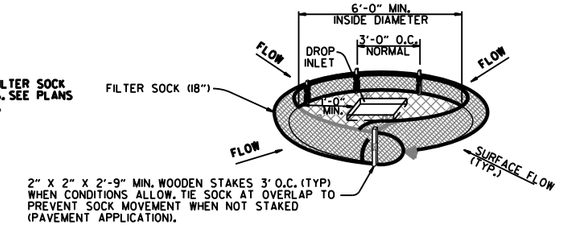
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

## FILTER SOCK ALONG SLOPE (E-3)




## DROP INLET PLAN VIEW
N.T.S.




## DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

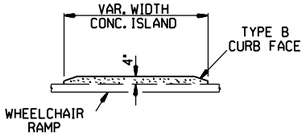
## COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

| DATE | REVISION | FILMED |
|---|---|---|
| 11-16-17 | ADDED FILTER SOCK E-3 AND E-13 | |
| 12-15-11 | DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK | |
| 11-18-98 | ADDED NOTES | |
| 07-02-98 | ADDED BALED STRAW FILTER BARRIER (E-2) | |
| 07-20-95 | REVISED SILT FENCE E-4 AND E-11 | 7-20-95 |
| 07-15-94 | REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC | |
| 06-02-94 | REVISED E-1,4,7 & 11; DELETED E-2 & 3 | 6-2-94 |
| 04-01-93 | REDRAWN | |
| 10-01-92 | REDRAWN | |
| 08-02-76 | ISSUED R.D.M. | 298-7-28-76 |

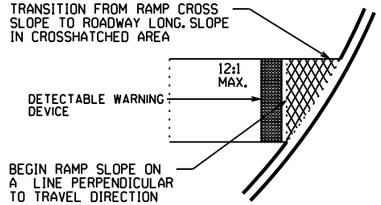
ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

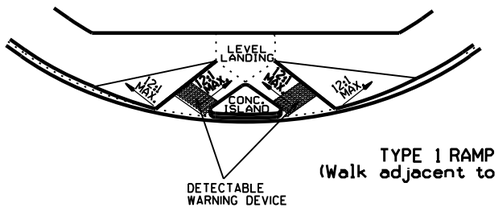
STANDARD DRAWING TEC-1



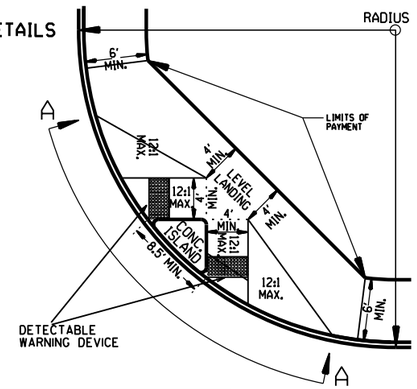

CONCRETE ISLAND DETAIL

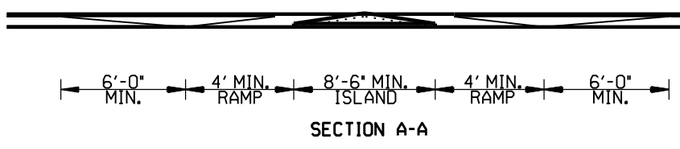



SLOPE TRANSITION DETAILS




TYPE 1 RAMP
(Walk adjacent to curb)

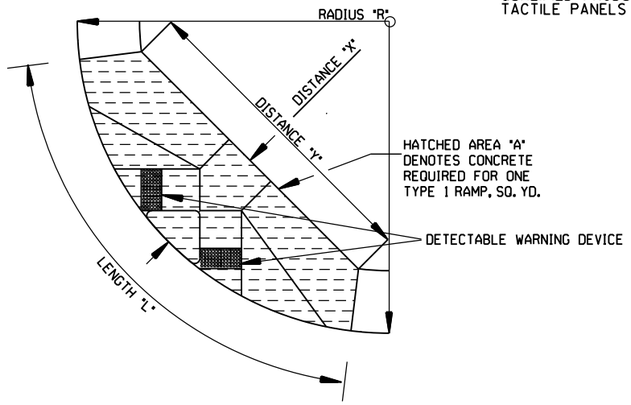



SECTION A-A

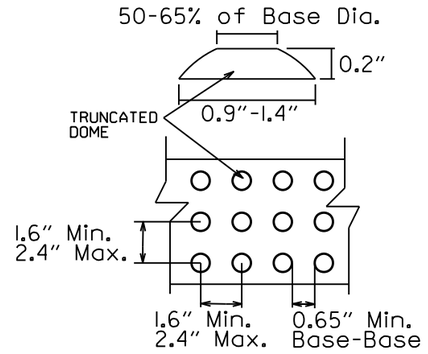
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

| 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

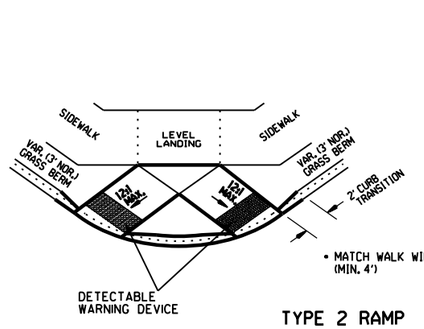
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT 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 ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



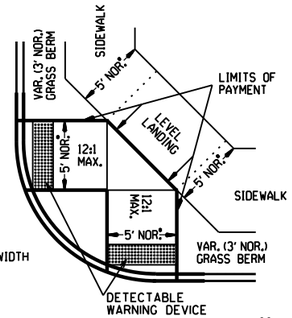

DETECTABLE WARNING DEVICE DETAIL

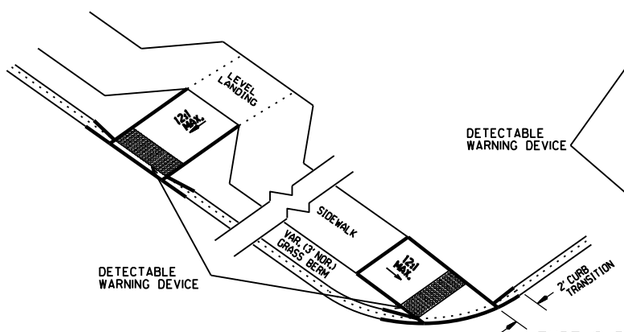
GENERAL NOTES:

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.

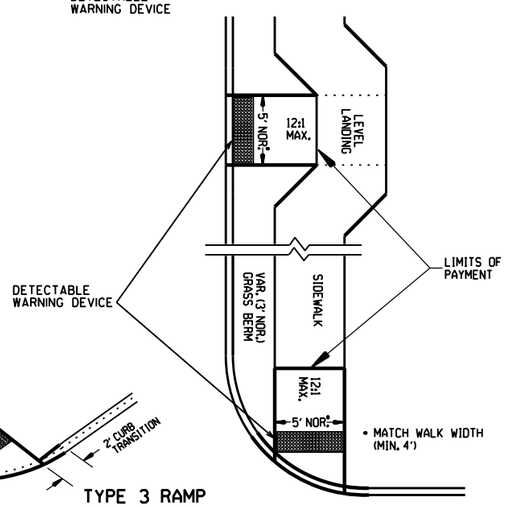



TYPE 2 RAMP

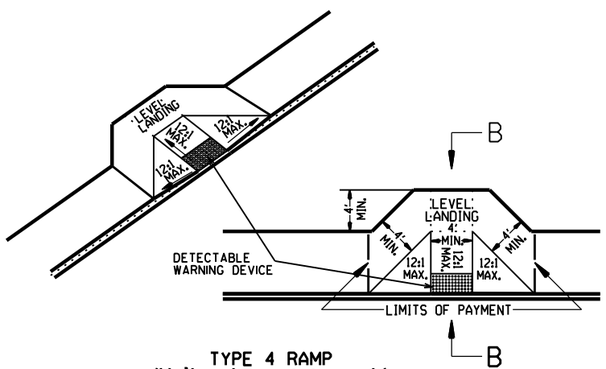


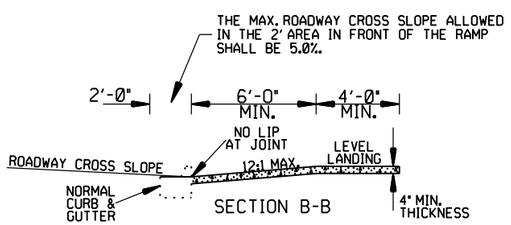

TYPE 3 RAMP




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




TYPE 4 RAMP
(Walk adjacent to curb)




SECTION B-B

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 | FROM8#TO12#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