

| 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. | BB0901 | 1 | 66 | |
| | | | | ② WAGON WHEEL RD. INTCHNG. IMPVTS. (S) | | | | |

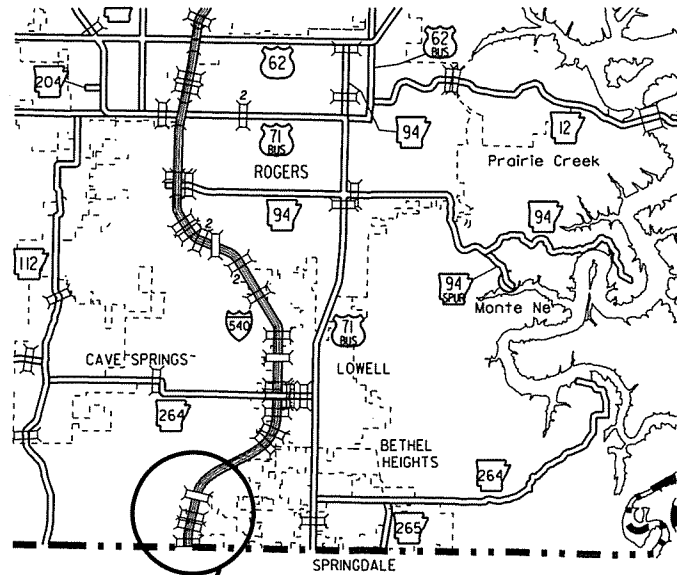
"A FULLY CONTROLLED ACCESS FACILITY"
 ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
 CONSTRUCTION PLANS FOR STATE HIGHWAY

WAGON WHEEL RD.
 INTCHNG. IMPVTS. (S)

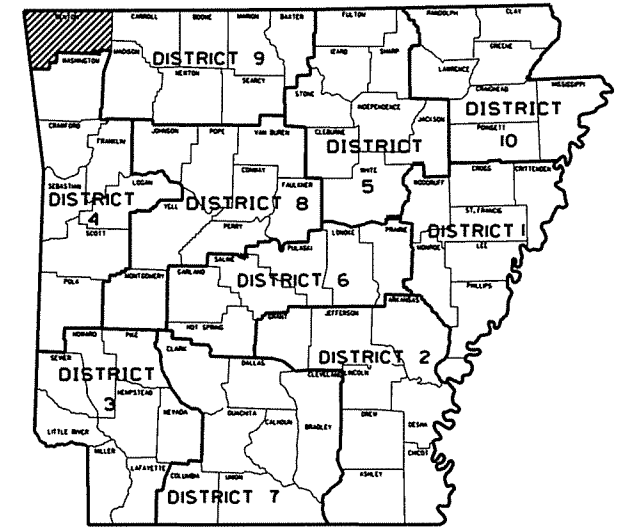
BENTON COUNTY
 ROUTE 540 SECTION 5

JOB BB0901

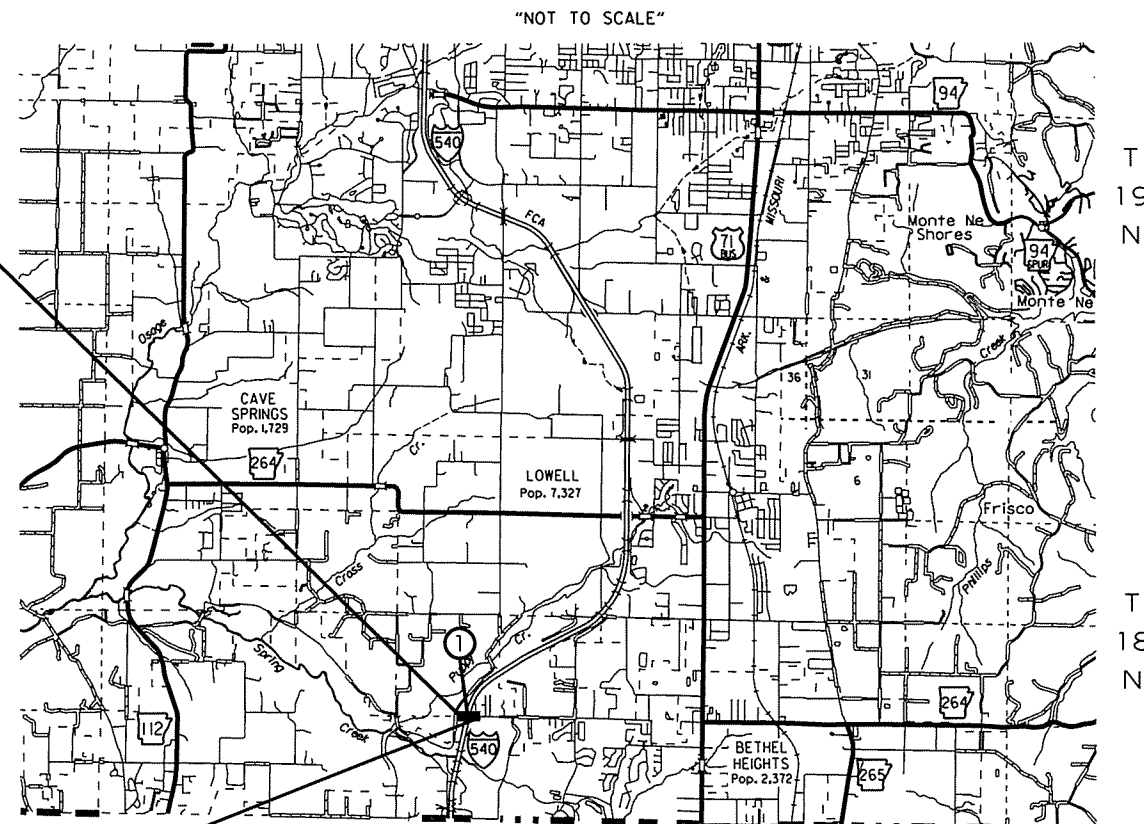
FED. AID PROJ. BIM-B540(210)



PROJECT LOCATION VICINITY MAP



ARK. HWY. DIST. NO. 9



• DESIGN TRAFFIC DATA •

| | | |
|--------------------------|-------|--------|
| DESIGN YEAR | ----- | 2034 |
| 2014 ADT | ----- | 10,000 |
| 2034 ADT | ----- | 14,000 |
| 2034 DHV | ----- | 1540 |
| DIRECTIONAL DISTRIBUTION | ----- | 0.60 |
| TRUCKS | ----- | 3% |
| DESIGN SPEED | ----- | 30 MPH |

STA. 26+09.75
 BEGIN JOB BB0901

STA. 36+52.73
 END JOB BB0901

BRIDGE STRUCTURES

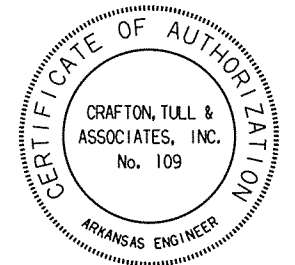
- ① BR. END STA. 29+49.57
 BRIDGE NO. 05947 IN PLACE
 276' -2⁵/₁₆" CONT. COMP. W-BEAM UNIT
 28' -0" CLEAR ROADWAY
 BR. END STA. 32+25.76

| | | |
|----------------------|----------------------|---------------------|
| BEGINNING OF PROJECT | MID-POINT OF PROJECT | END OF PROJECT |
| LAT. = N 36°13'34" | LAT. = N 36°13'34" | LAT. = N 36°13'34" |
| LONG. = W 94°10'50" | LONG. = W 94°10'44" | LONG. = W 94°10'37" |

| | | | | |
|-------------------------|---------|---------|-------|-------|
| GROSS LENGTH OF PROJECT | 1042.98 | FEET OR | 0.198 | MILES |
| NET " " ROADWAY | 766.79 | " " | 0.145 | " |
| NET " " BRIDGES | 276.19 | " " | 0.052 | " |
| NET " " PROJECT | 1042.98 | " " | 0.198 | " |

P.E. BB0901
 NON-PART.

4.29-14



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INDEX OF SHEETS

2 INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES

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| 13-14 | PERMANENT PAVEMENT MARKING DETAILS | | | |
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| 38 | SPAN DETAILS SHEET (2 of 4) (FOR INFORMATION ONLY) | 05947 | 54998 | |
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NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

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 |
| 108-1 | LIQUIDATED DAMAGES |
| 410-1 | CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES |
| 620-1 | MULCH COVER |
| JOB BB0901 | ANTENNA SUPPORT |
| JOB BB0901 | BRIDGE DECK REPAIR |
| JOB BB0901 | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT |
| JOB BB0901 | CABINET DRAWER ASSEMBLY |
| JOB BB0901 | CONCRETE PULL BOX |
| JOB BB0901 | EDGE CARD VIDEO PROCESSOR |
| JOB BB0901 | ELECTRICAL CONDUCTORS FOR LUMINAIRES |
| JOB BB0901 | ELECTRICAL CONDUCTORS-IN-CONDUIT |
| JOB BB0901 | EMPLOYMENT REPORTING |
| JOB BB0901 | GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION |
| JOB BB0901 | HIGH PERFORMANCE PAVEMENT MARKING |
| JOB BB0901 | HYDRODEMOLITION |
| JOB BB0901 | INTERNET BIDDING |
| JOB BB0901 | LATEX MODIFIED CONCRETE OVERLAY |
| JOB BB0901 | LED TRAFFIC SIGNAL HEAD |
| JOB BB0901 | LUMINAIRE ASSEMBLY (CUTOFF TYPE) |
| JOB BB0901 | MAINTENANCE OF TRAFFIC |
| JOB BB0901 | MANAGEMENT OF HYDRODEMOLITION WASTEWATER |
| JOB BB0901 | NESTING SITES OF MIGRATORY BIRDS |
| JOB BB0901 | PORTABLE TRAFFIC SIGNAL SYSTEM |
| JOB BB0901 | SEQUENCE OF CONSTRUCTION |
| JOB BB0901 | SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES) |
| JOB BB0901 | SPECIAL SAFETY REQUIREMENTS FOR BRIDGES |
| JOB BB0901 | STREET NAME SIGN (MAST ARM MOUNTED) |
| JOB BB0901 | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS |
| JOB BB0901 | SYSTEM LOCAL CONTROLLER |
| JOB BB0901 | UTILITY ADJUSTMENTS |
| JOB BB0901 | VIDEO DETECTOR (COLOR) |
| JOB BB0901 | WARM MIX ASPHALT |



5-01-14

GENERAL NOTES

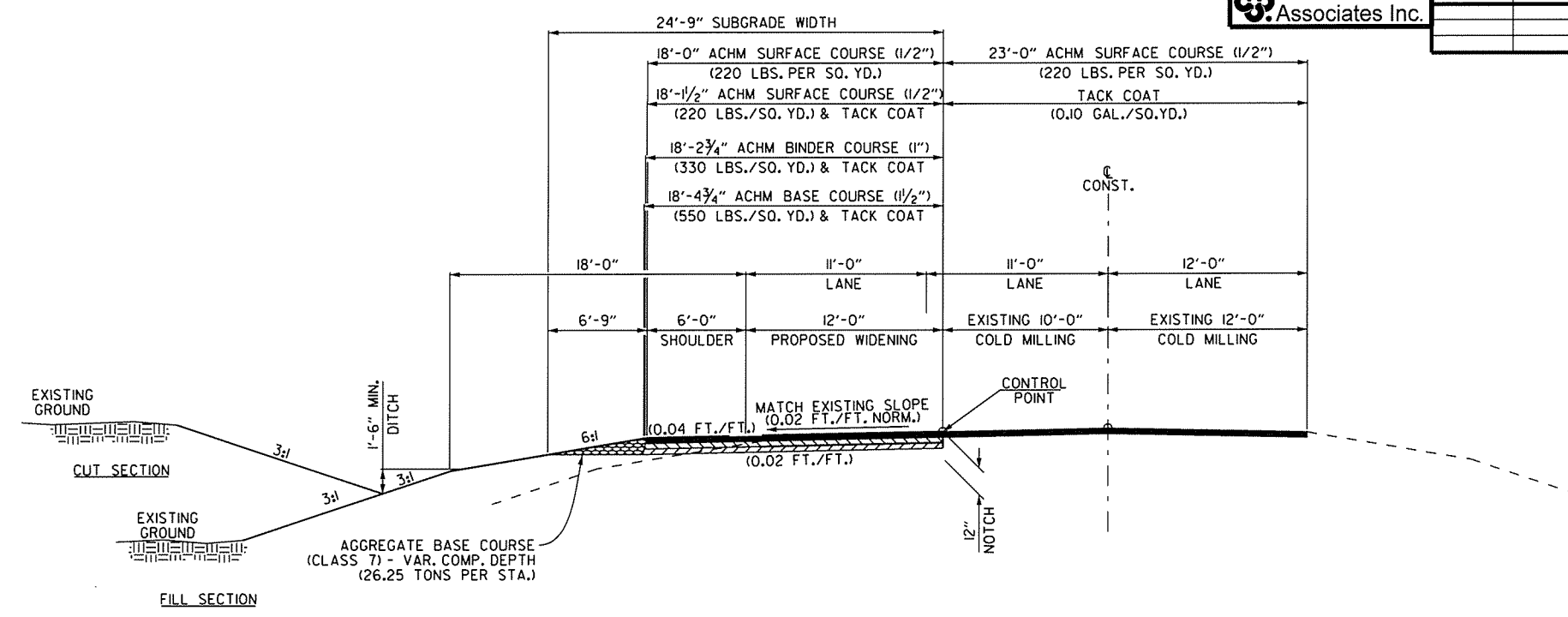
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 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.
- ANY REQUIRED EROSION CONTROL MEASURES FROM WASTING MATERIAL WILL BE AT CONTRACTOR'S EXPENSE.
- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- THE CONTRACTOR SHALL CONTACT ALL FIBER OPTIC COMPANIES INVOLVED ON THIS PROJECT AT LEAST 5 WORKING DAYS BEFORE CONSTRUCTION, INCLUDING REMOVING AND INSTALLING ANY FENCING, AND TAKE EVERY PRECAUTION NECESSARY TO AVOID CONFLICT WITH THE FIBER OPTIC CABLES. THE CONTRACTOR SHALL TELEPHONE ARKANSAS ONE-CALL SYSTEM AT 800-482-8998 TO DETERMINE THE LOCATION OF THE BURIED FIBER OPTIC CABLES.

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2 TYPICAL SECTIONS OF IMPROVEMENT



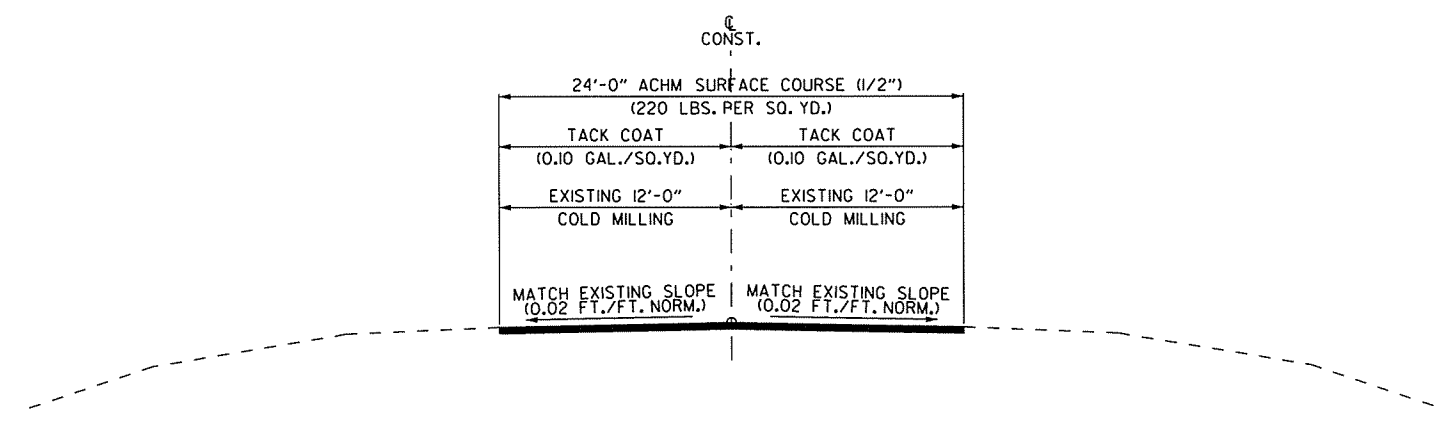
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TYPICAL SECTION OF IMPROVEMENT
AUXILIARY LANE - WAGON WHEEL ROAD
NOTCH & WIDENING

STA. 26+19.59 TO STA. 27+87.51

NOTE:
TRANSITION TO EXISTING TYPICAL SECTION
FROM STA. 27+87.51 TO STA. 28+77.51



TYPICAL SECTION OF IMPROVEMENT
WAGON WHEEL ROAD
2" MILL AND INLAY

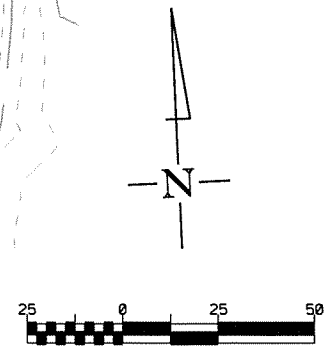
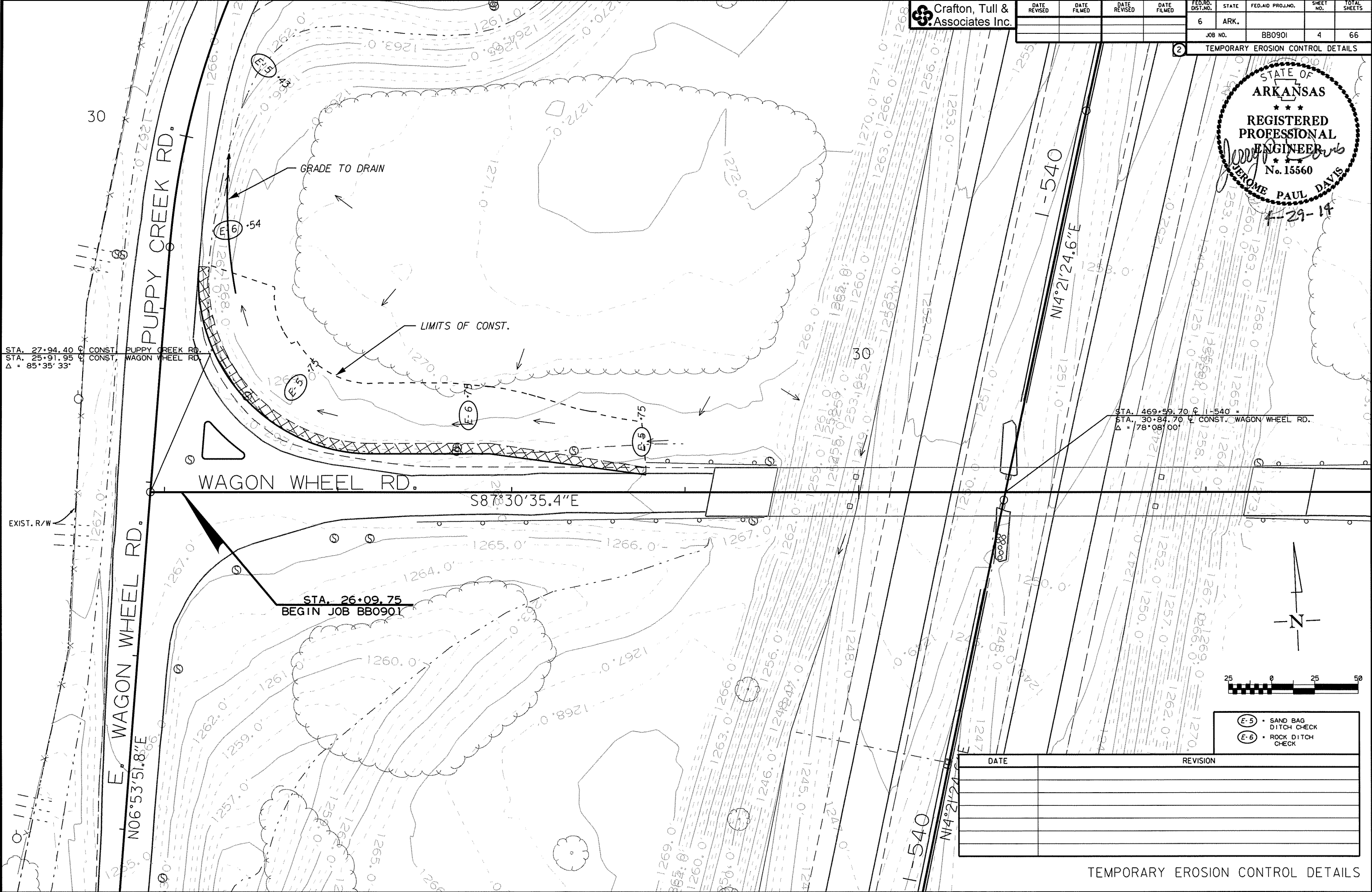
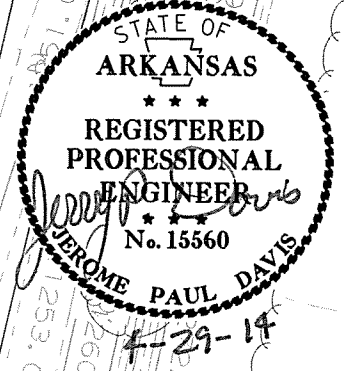
STA. 28+77.51 TO STA. 29+14.52 (BRIDGE 05947 APPROACH SLAB)
STA. 32+60.56 (BRIDGE 05947 APPROACH SLAB) TO STA. 34+79.30

NOTE:
VARIABLE INTERSECTION WIDTH FROM
STA. 34+79.30 TO STA. 36+52.73

TYPICAL SECTION NOTES:

- REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
- 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.
- THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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| | | | | | | TEMPORARY EROSION CONTROL DETAILS | | |



- (E-5) • SAND BAG DITCH CHECK
- (E-6) • ROCK DITCH CHECK

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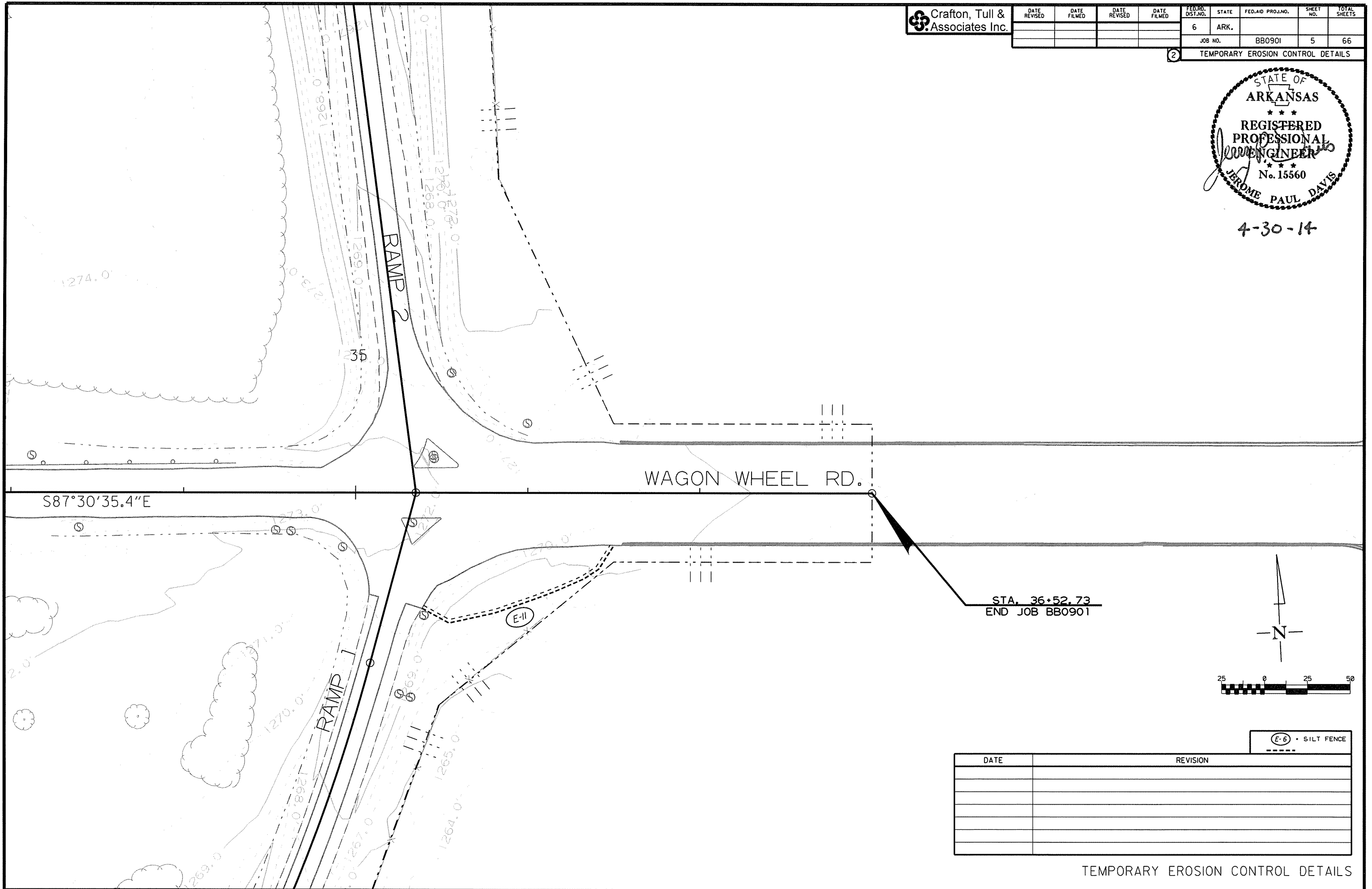
TEMPORARY EROSION CONTROL DETAILS

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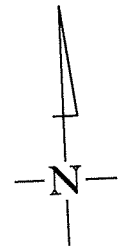
2 TEMPORARY EROSION CONTROL DETAILS



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STA. 36+52.73
END JOB BB0901



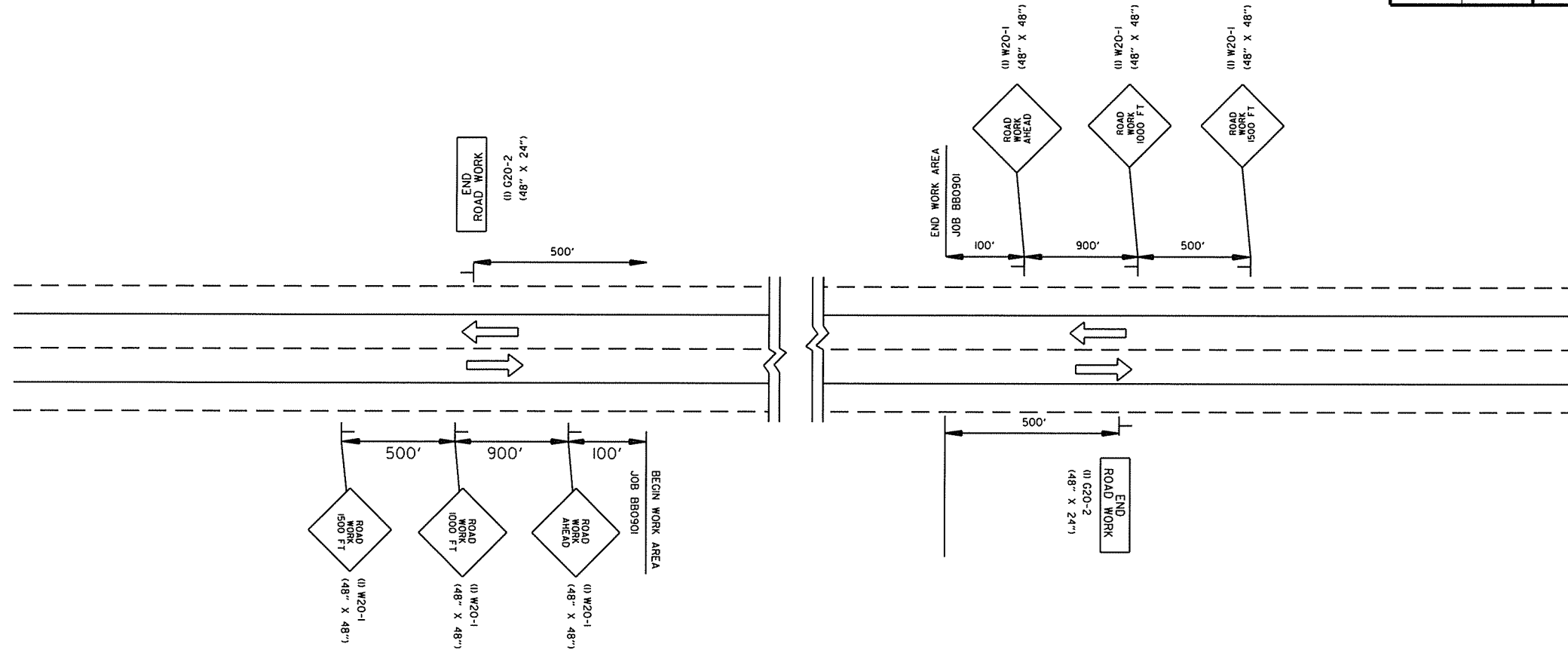
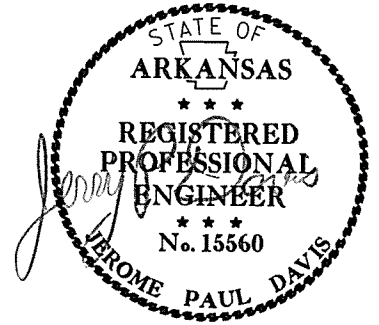
(E-6) - SILT FENCE

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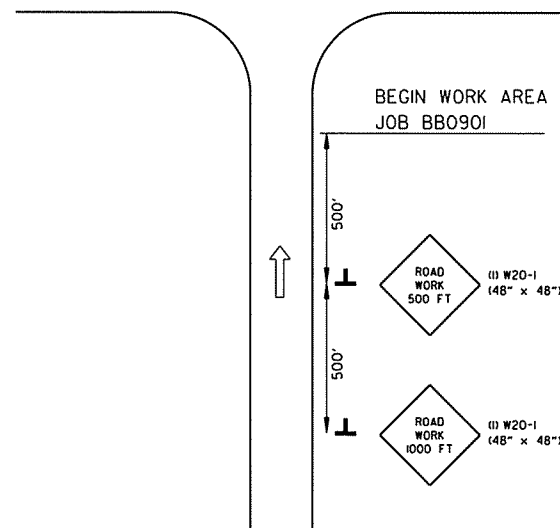
TEMPORARY EROSION CONTROL DETAILS

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MAINTENANCE OF TRAFFIC DETAILS



ADVANCE SIGNS AT BEGINNING AND END OF JOB



ADVANCE SIGNS AT EXIT RAMP

- STAGE 1.
- 1) INSTALL ADVANCE WARNING SIGNS.
 - 2) REPAIR BRIDGE DECK.
- STAGE 2.
- 1) NOTCH AND WIDEN WAGON WHEEL RD. LT.
 - 2) WIDENING WILL NOT INCLUDE FINAL LIFT OF ASPHALT IN STAGE 2.
- STAGE 3.
- 1) 2" MILL AND INLAY.
 - 2) OPEN AND OPERATIONAL INCLUDING: SIGNAL INSTALLATION, STRIPING, CLEAN UP AND OPENING COMPLETED ROADWAY TO FULL TWO WAY TRAFFIC UTILIZING ALL LANES.
- NOTE: NO TRAFFIC SHALL BE PERMITTED ON COLD MILLED SURFACE.

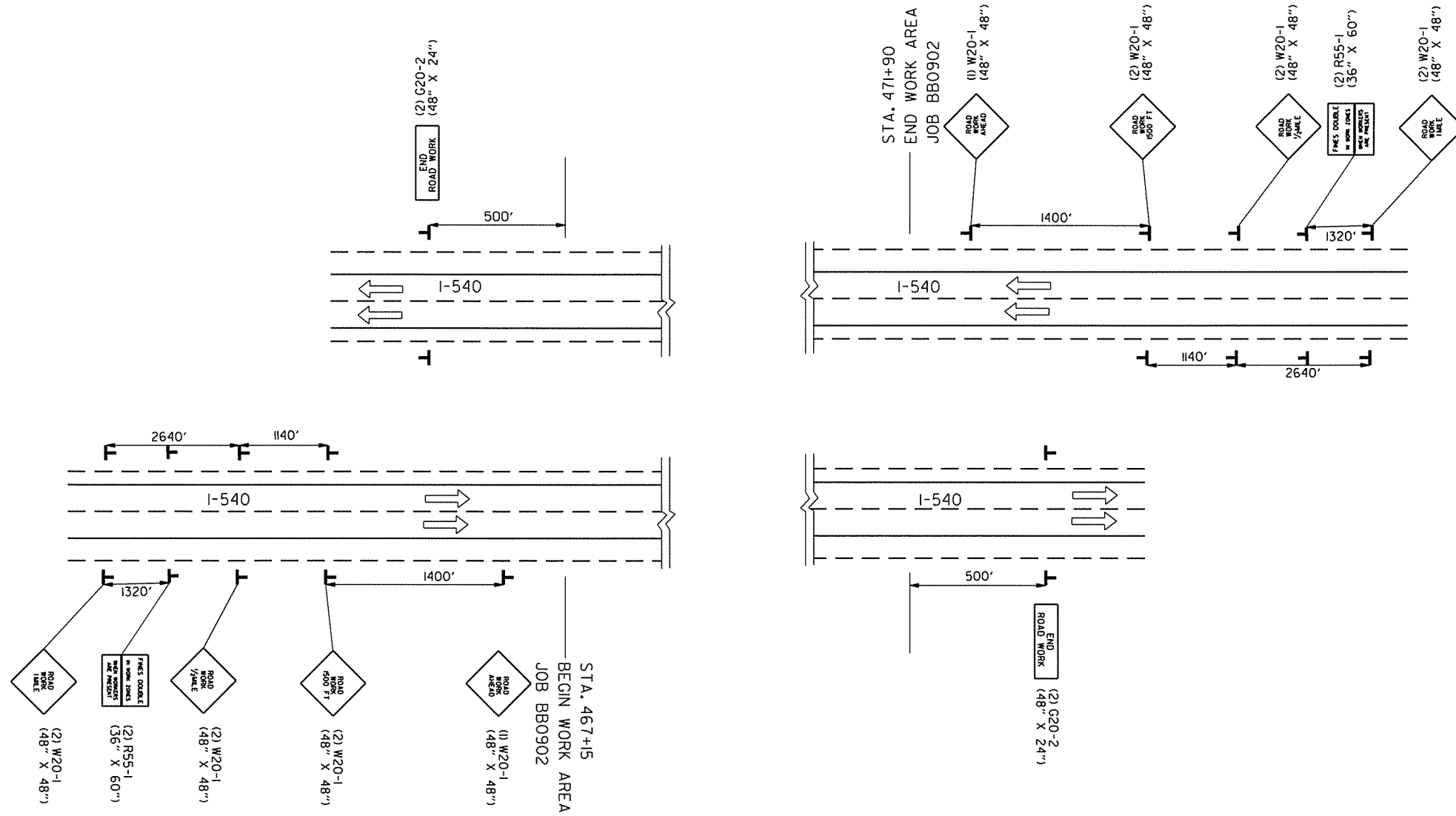
MAINTENANCE OF TRAFFIC
ADVANCE SIGNS AT JOB ENDS
ALL STAGES

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② MAINTENANCE OF TRAFFIC DETAILS



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MAINTENANCE OF TRAFFIC
ADVANCE SIGNS ON I-540 AT BRIDGE
ALL STAGES

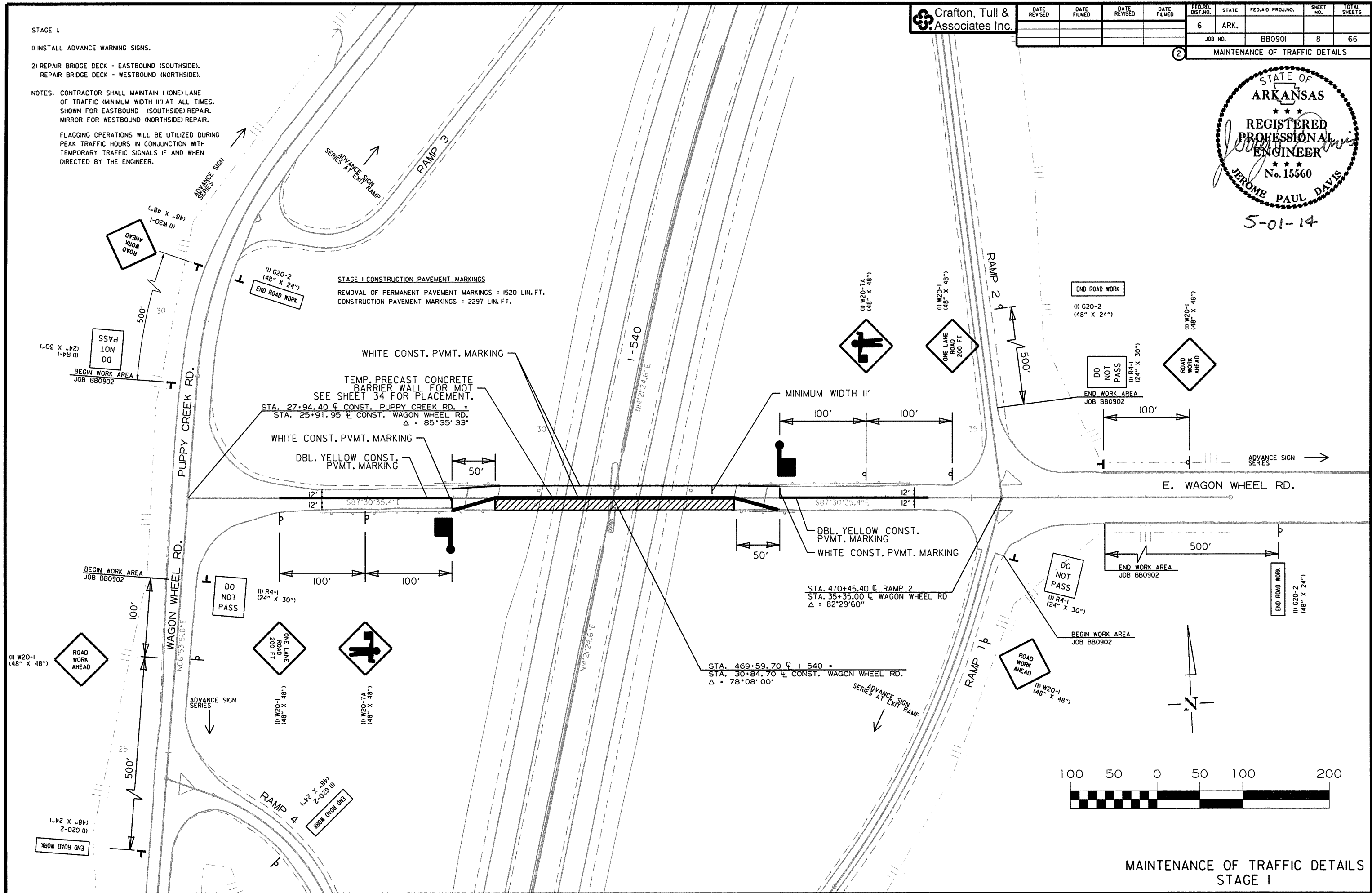
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2 MAINTENANCE OF TRAFFIC DETAILS



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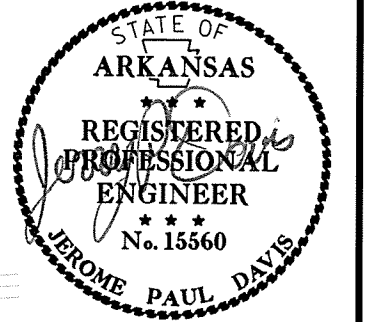
- STAGE I
- 1) INSTALL ADVANCE WARNING SIGNS.
 - 2) REPAIR BRIDGE DECK - EASTBOUND (SOUTHSIDE).
REPAIR BRIDGE DECK - WESTBOUND (NORTHSIDE).
- NOTES: CONTRACTOR SHALL MAINTAIN 1 (ONE) LANE OF TRAFFIC (MINIMUM WIDTH 11') AT ALL TIMES. SHOWN FOR EASTBOUND (SOUTHSIDE) REPAIR. MIRROR FOR WESTBOUND (NORTHSIDE) REPAIR.
- FLAGGING OPERATIONS WILL BE UTILIZED DURING PEAK TRAFFIC HOURS IN CONJUNCTION WITH TEMPORARY TRAFFIC SIGNALS IF AND WHEN DIRECTED BY THE ENGINEER.



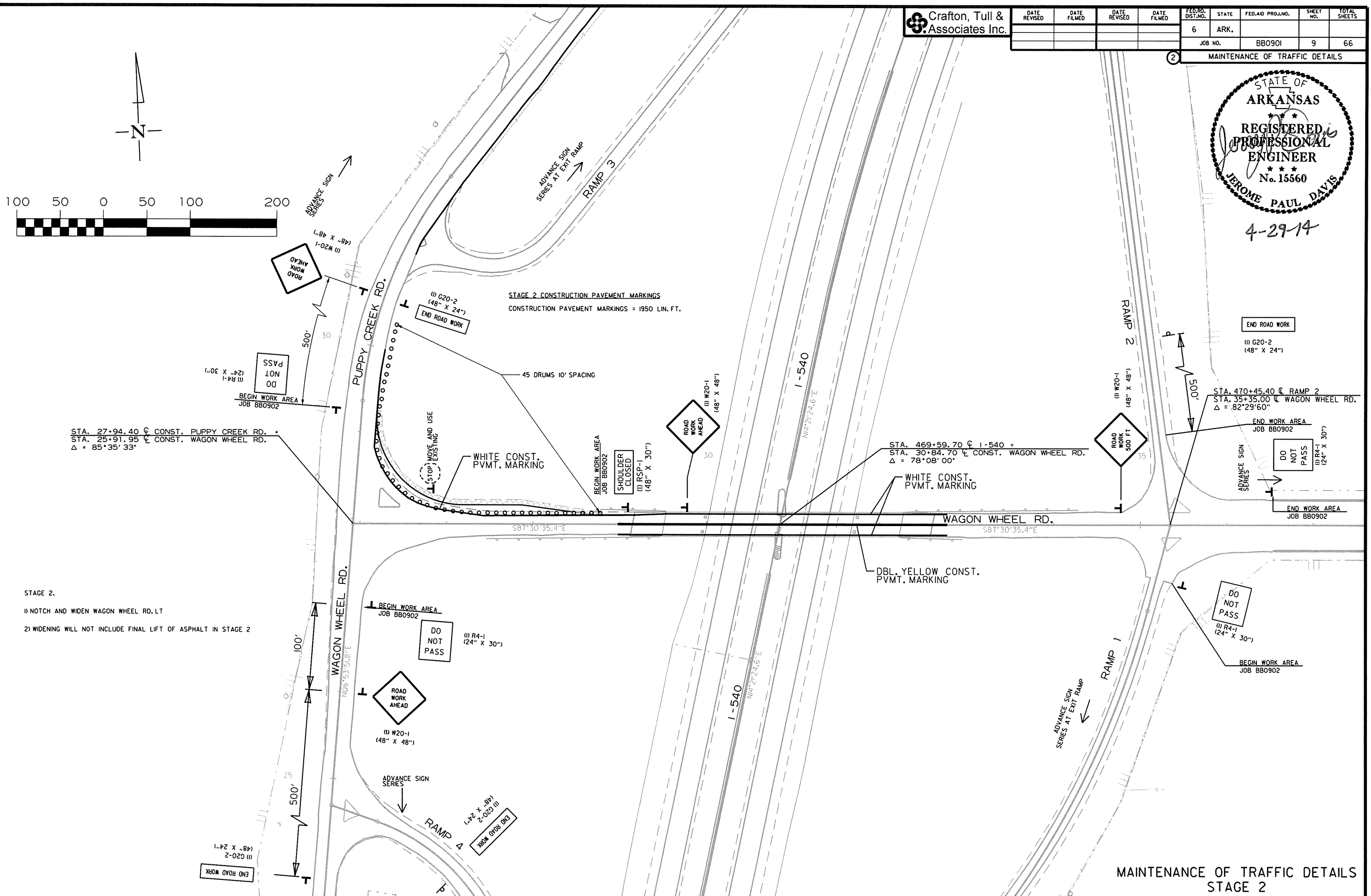
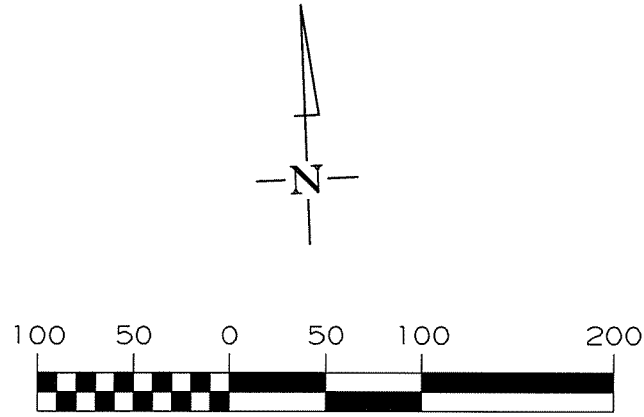
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MAINTENANCE OF TRAFFIC DETAILS



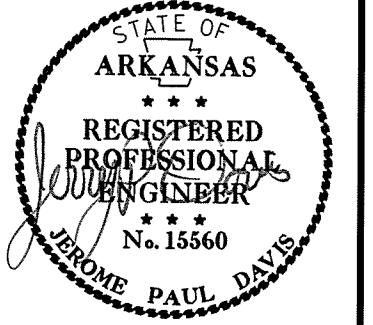
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MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

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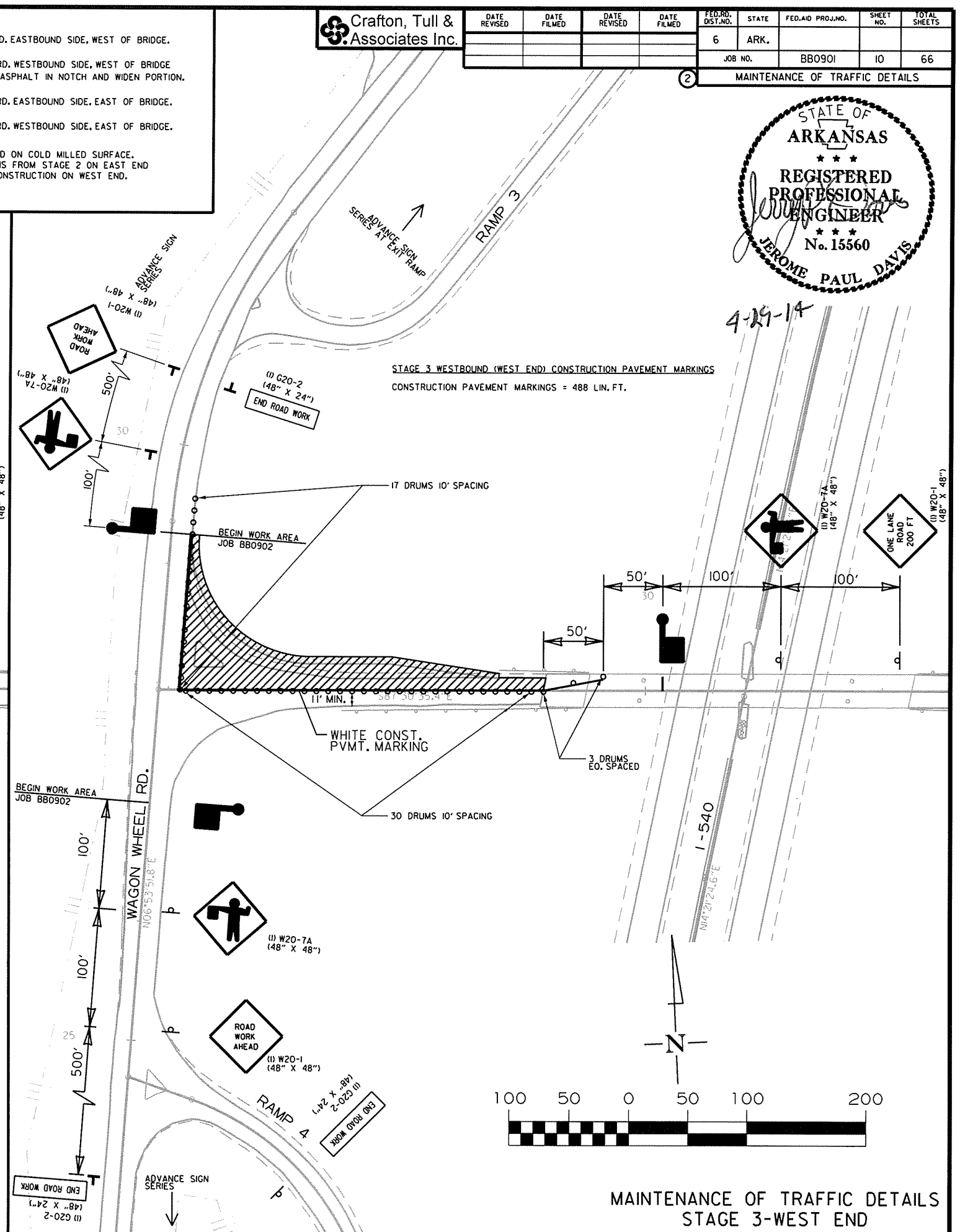
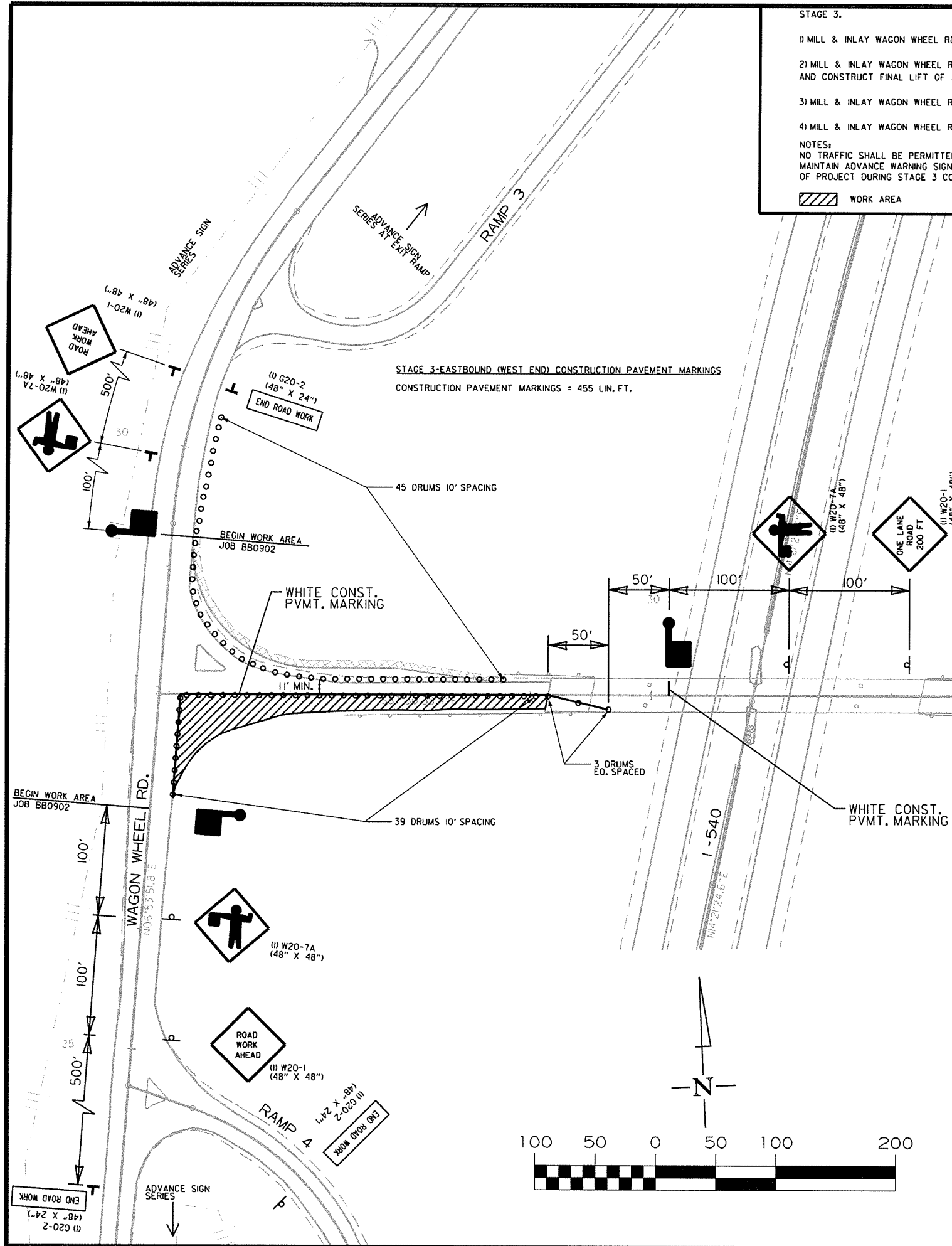
2 MAINTENANCE OF TRAFFIC DETAILS



- STAGE 3.
- MILL & INLAY WAGON WHEEL RD. EASTBOUND SIDE, WEST OF BRIDGE.
 - MILL & INLAY WAGON WHEEL RD. WESTBOUND SIDE, WEST OF BRIDGE AND CONSTRUCT FINAL LIFT OF ASPHALT IN NOTCH AND WIDEN PORTION.
 - MILL & INLAY WAGON WHEEL RD. EASTBOUND SIDE, EAST OF BRIDGE.
 - MILL & INLAY WAGON WHEEL RD. WESTBOUND SIDE, EAST OF BRIDGE.

NOTES:
NO TRAFFIC SHALL BE PERMITTED ON COLD MILLED SURFACE.
MAINTAIN ADVANCE WARNING SIGNS FROM STAGE 2 ON EAST END OF PROJECT DURING STAGE 3 CONSTRUCTION ON WEST END.

WORK AREA



4-29-14

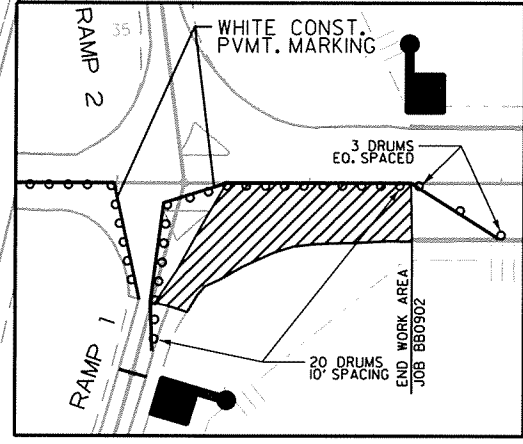
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| | | | | JOB NO. | BB0901 | | II | 66 |

② MAINTENANCE OF TRAFFIC DETAILS

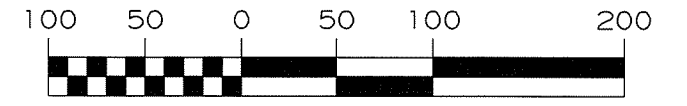
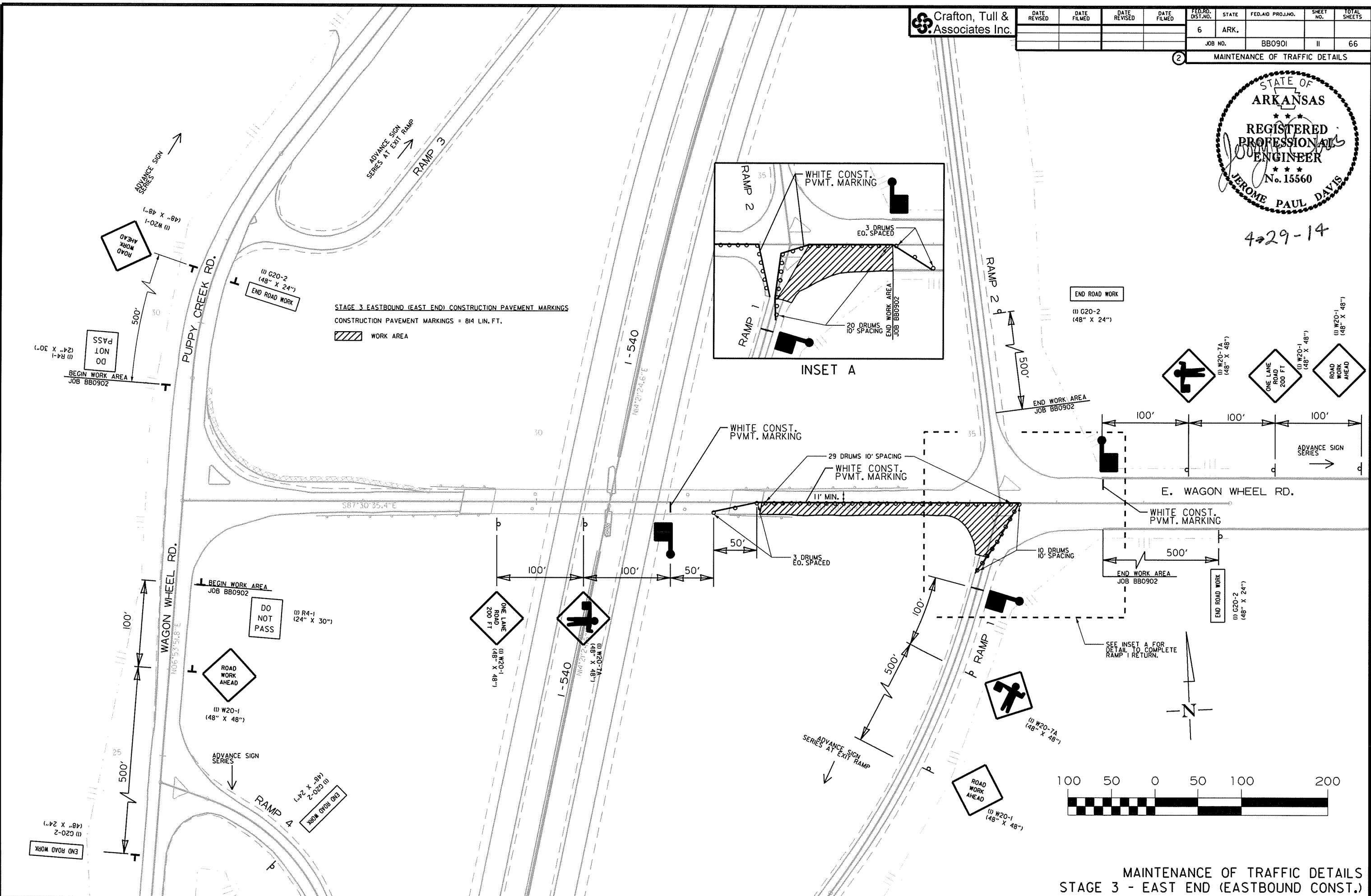


4229-14

STAGE 3 EASTBOUND (EAST END) CONSTRUCTION PAVEMENT MARKINGS
 CONSTRUCTION PAVEMENT MARKINGS = 814 LIN. FT.
 WORK AREA



INSET A



MAINTENANCE OF TRAFFIC DETAILS
 STAGE 3 - EAST END (EASTBOUND CONST.)

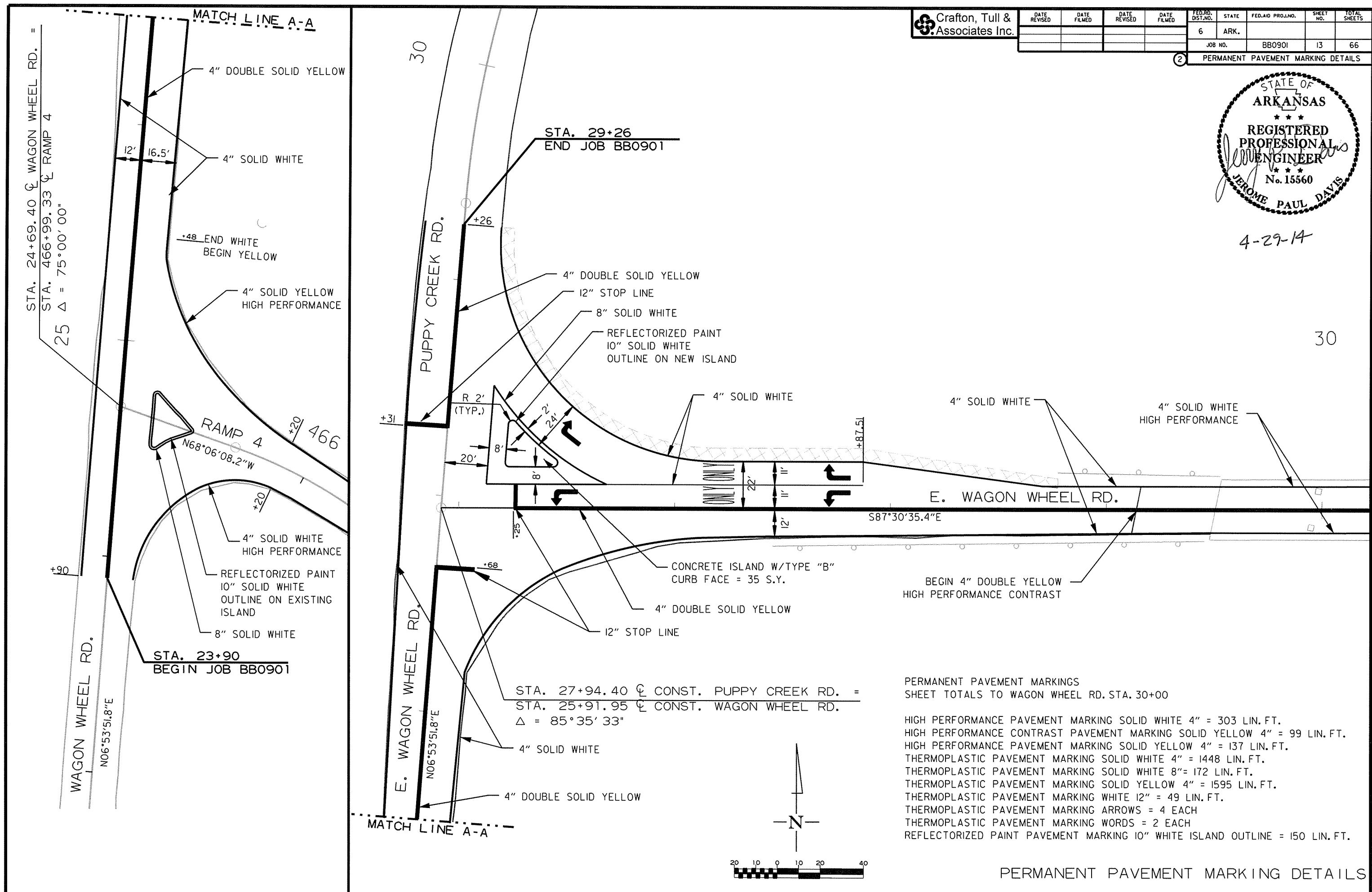
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | 13 | 66 | |

PERMANENT PAVEMENT MARKING DETAILS



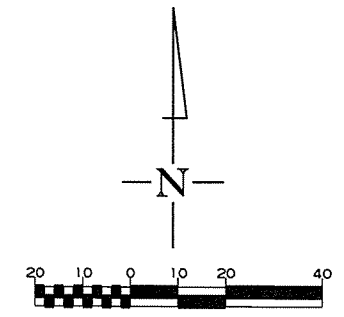
4-29-14

30



PERMANENT PAVEMENT MARKINGS
SHEET TOTALS TO WAGON WHEEL RD. STA. 30+00

- HIGH PERFORMANCE PAVEMENT MARKING SOLID WHITE 4" = 303 LIN. FT.
- HIGH PERFORMANCE CONTRAST PAVEMENT MARKING SOLID YELLOW 4" = 99 LIN. FT.
- HIGH PERFORMANCE PAVEMENT MARKING SOLID YELLOW 4" = 137 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID WHITE 4" = 1448 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID WHITE 8" = 172 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID YELLOW 4" = 1595 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE 12" = 49 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING ARROWS = 4 EACH
- THERMOPLASTIC PAVEMENT MARKING WORDS = 2 EACH
- REFLECTORIZED PAINT PAVEMENT MARKING 10" WHITE ISLAND OUTLINE = 150 LIN. FT.



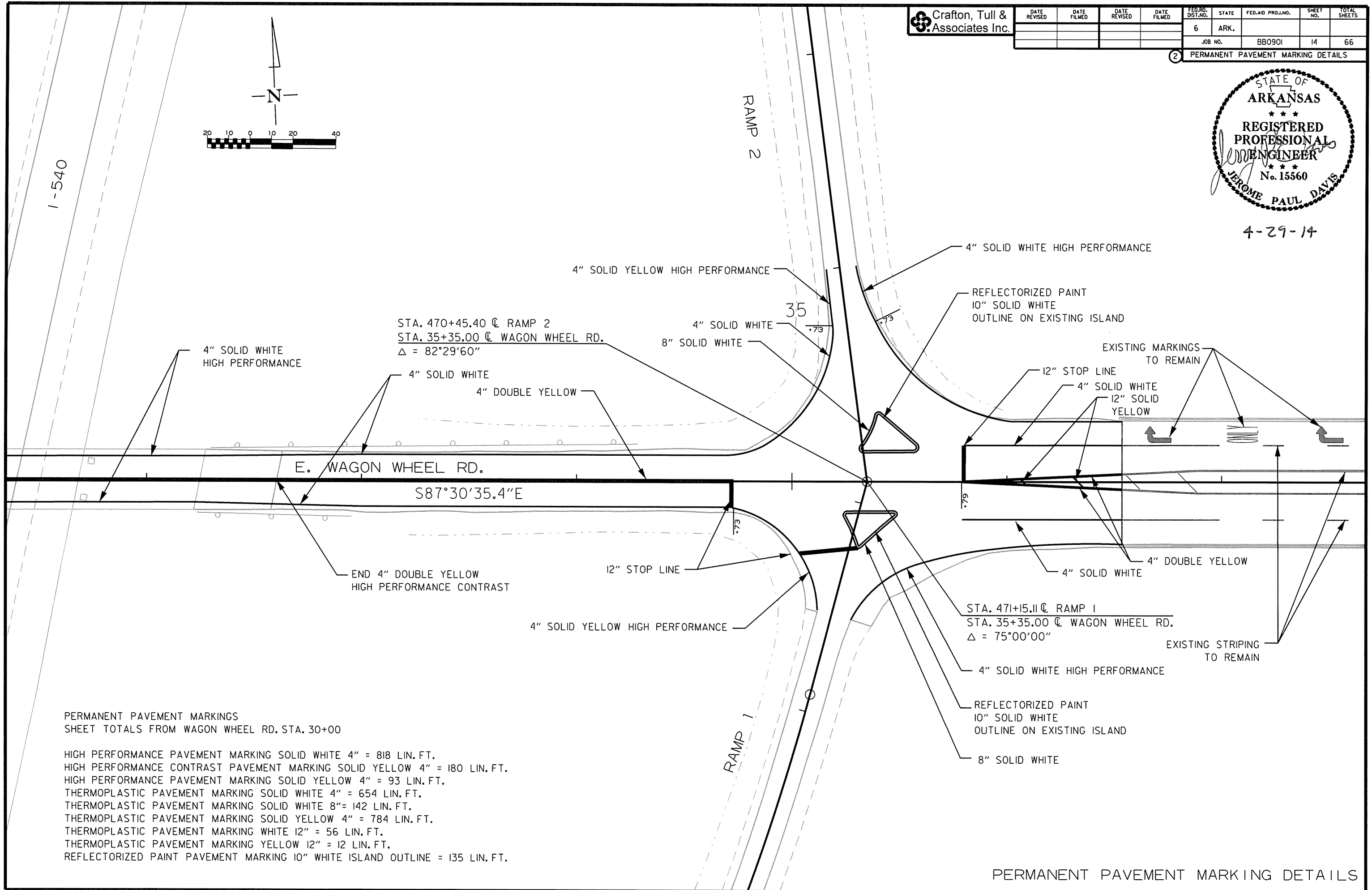
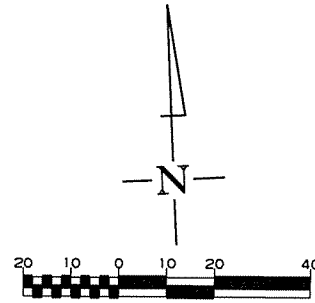
PERMANENT PAVEMENT MARKING DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| JOB NO. | | | | | | BB0901 | 14 | 66 |

PERMANENT PAVEMENT MARKING DETAILS



4-29-14



PERMANENT PAVEMENT MARKINGS
SHEET TOTALS FROM WAGON WHEEL RD. STA. 30+00

- HIGH PERFORMANCE PAVEMENT MARKING SOLID WHITE 4" = 818 LIN. FT.
- HIGH PERFORMANCE CONTRAST PAVEMENT MARKING SOLID YELLOW 4" = 180 LIN. FT.
- HIGH PERFORMANCE PAVEMENT MARKING SOLID YELLOW 4" = 93 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID WHITE 4" = 654 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID WHITE 8" = 142 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING SOLID YELLOW 4" = 784 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE 12" = 56 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING YELLOW 12" = 12 LIN. FT.
- REFLECTORIZED PAINT PAVEMENT MARKING 10" WHITE ISLAND OUTLINE = 135 LIN. FT.

PERMANENT PAVEMENT MARKING DETAILS

USER: 065109
 DESIGN FILE: G:\2103304.WgnWhlRd\TRANSP\dgn\misc\BB0901\PAVEMENT MARKINGS.dgn
 PLOTTED: 4/29/2014 12:55
 SCALE: 40:1

ADVANCE WARNING SIGNS AND DEVICES

| SIGN NUMBER | DESCRIPTION | SIGN SIZE | STAGE 1 | STAGE 2 | STAGE 3 | MAXIMUM NUMBER REQUIRED | TOTAL SIGNS REQUIRED | | FURNISHING AND INSTALLING PRECAST CONC. BARRIER | RELOCATING PRECAST CONCRETE BARRIER | TRAFFIC DRUMS | PORTABLE CHANGEABLE MESSAGE SIGN | PORTABLE TRAFFIC SIGNAL SYSTEM |
|----------------|--|-----------|---------|---------|---------|-------------------------|----------------------|------------|---|-------------------------------------|---------------|----------------------------------|--------------------------------|
| | | | | | | | LIN. FT.-EACH | NO. | | | | | |
| W20-1 | ROAD WORK 1 MILE | 48"x48" | 3 | 3 | 3 | 3 | 3 | 48 | | | | | |
| W20-1 | ROAD WORK 1/2 MILE | 48"x48" | 3 | 3 | 3 | 3 | 3 | 48 | | | | | |
| W20-1 | ROAD WORK 1500 FT. | 48"x48" | 5 | 5 | 5 | 5 | 5 | 80 | | | | | |
| W20-1 | ROAD WORK 1000 FT. | 48"x48" | 5 | 5 | 5 | 5 | 5 | 80 | | | | | |
| W20-1 | ROAD WORK 500 FT. | 48"x48" | 2 | 2 | 2 | 2 | 2 | 32 | | | | | |
| W20-1 | ROAD WORK AHEAD | 48"x48" | 6 | 6 | 6 | 6 | 6 | 96 | | | | | |
| W20-1 | ONE LANE ROAD 200' | 48"x48" | 2 | | 2 | 2 | 2 | 32 | | | | | |
| W20-7A | FLAGMAN | 48"x48" | 2 | | 3 | 3 | 3 | 48 | | | | | |
| G20-2 | END ROAD WORK | 48"x24" | 7 | 7 | 7 | 7 | 7 | 56 | | | | | |
| R55-1 | FINES DOUBLE IN WORK ZONES | 36"x60" | 2 | 2 | 2 | 2 | 2 | 30 | | | | | |
| RSP-1 | SHOULDER CLOSED | 48"x30" | | 1 | 1 | 1 | 1 | 10 | | | | | |
| R4-1 | DO NOT PASS | 48"x60" | 4 | 4 | 4 | 4 | 4 | 80 | | | | | |
| | PORTABLE CHANGEABLE MESSAGE SIGN | | 5 | 5 | 5 | 5 | | | | | 300 | | |
| | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER | | 380 | | | 380 | | | 380 | | | | |
| | RELOCATING PRECAST CONCRETE BARRIER | | 380 | | | | | | 380 | | | | |
| | TRAFFIC DRUMS | | | 45 | 87 | 87 | | | | 87 | | | |
| | PORTABLE TRAFFIC SIGNAL SYSTEM | | 1 | 1 | 1 | 1 | | | | | | 1.00 | |
| TOTALS: | | | | | | | | 640 | 380 | 380 | 87 | 300 | 1.00 |



4-30-14

THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

EROSION CONTROL

| LOCATION | PERMANENT EROSION CONTROL | | | | | TEMPORARY EROSION CONTROL | | | | | | |
|---|---------------------------|-------------|-------------|-------------|----------------------------|---------------------------|-------------|-------------|-----------------------------|------------------------|-------------------|---------------------------------|
| | SEEDING | LIME | MULCH COVER | WATER | SECOND SEEDING APPLICATION | TEMPORARY SEEDING | MULCH COVER | WATER | SAND BAG DITCH CHECKS (E-5) | ROCK DITCH CHECK (E-6) | SILT FENCE (E-11) | * SEDIMENT REMOVAL AND DISPOSAL |
| | ACRE | TON | ACRE | M. GAL. | ACRE | ACRE | ACRE | M. GAL. | BAG | CU. YD. | LIN. FT. | CU. YD. |
| ENTIRE JOB | 0.14 | 0.28 | 0.14 | 14.3 | 0.14 | 0.14 | 0.14 | 14.3 | 60 | 36 | 130 | 4 |
| ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 0.06 | 0.12 | 0.06 | 6.1 | 0.06 | 0.06 | 0.06 | 6.1 | 5 | 2 | 46 | |
| TOTALS: | 0.20 | 0.40 | 0.20 | 20.4 | 0.20 | 0.20 | 0.20 | 20.4 | 65 | 38 | 176 | 4 |

BASIS OF ESTIMATE:
 LIME.....2 TONS / ACRE OF SEEDING
 WATER.....102.0 M.G./ACRE OF SEEDING

SAND BAG DITCH CHECKS.....20 BAGS / LOCATION
 ROCK DITCH CHECK.....22 BAGS/LOCATION
 WATER..... 20.4 M.G./ACRE OF TEMPORARY SEEDING

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 ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

QUANTITIES

② QUANTITIES

EARTHWORK

| STATION | STATION | LOCATION | UNCLASSIFIED EXCAVATION | COMPACTED EMBANKMENT |
|----------------|---------|---|-------------------------|----------------------|
| | | | CU. YD. | CU. YD. |
| 26+20 | 28+78 | WIDENING FOR AUXILIARY LANE - WAGON WHEEL ROAD | 1101 | |
| | | | | |
| | | | | |
| | | | | |
| | | ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | | 500 * |
| TOTALS: | | | 1101 | 500 |

NOTE: EARTHWORK QUANTITIES AT THE LOCATIONS SHOWN ABOVE SHALL BE PAID FOR AS PLAN QUANTITY.
 * QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
 COMPACTION WILL BE AT THE SATISFACTION OF THE ENGINEER.



5-01-14

CONCRETE ISLAND

| STATION | STATION | LOCATION | CURB FACE TYPE | CONCRETE ISLAND |
|---------------|---------|---------------------|----------------|-----------------|
| | | | | SQ. YD. |
| 26+22 | 26+46 | WAGON WHEEL RD. LT. | "B" | 35 |
| | | | | |
| | | | | |
| TOTAL: | | | | 35 |

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 | THERMOPLASTIC PAVEMENT MARKINGS | | | | | | HIGH PERFORMANCE CONTRAST PAVEMENT MARKING | HIGH PERFORMANCE PAVEMENT MARKING | | | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") | |
|--|---------|---------|---------|------------|--|--------------------------------|--|---------------------------------|--------|-------|-------|--------|-------|--|-----------------------------------|--------|----------|--|-------|
| | | | | | | | | 4" | | 8" | 12" | | WORDS | | ARROWS | 4" | 4" | | 4" |
| | | | | | | | | WHITE | YELLOW | WHITE | WHITE | YELLOW | | | | YELLOW | YELLOW | | WHITE |
| LIN. FT. - EACH | | | | | LIN. FT. | | | LIN. FT. | | | | EACH | | LIN. FT. | | | LIN. FT. | | |
| REMOVAL OF PERMANENT PAVEMENT MARKINGS | 1520 | | | | 1520 | | | | | | | | | | | | | | |
| REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | 238 | 1500 | 1724 | | | | 3462 | | | | | | | | | | | | |
| CONSTRUCTION PAVEMENT MARKINGS | 2059 | 450 | 925 | | | 3434 | | | | | | | | | | | | | |
| HIGH PERFORMANCE CONTRAST PAVEMENT MARKING-YELLOW (4") | | | | 279 | | | | | | | | | 279 | | | | | | |
| HIGH PERFORMANCE PAVEMENT MARKING-WHITE (4") | | | | 1121 | | | | | | | | | | | | | | 1121 | |
| HIGH PERFORMANCE PAVEMENT MARKING-YELLOW(4") | | | | 230 | | | | | | | | | | 230 | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-WHITE (4") | | | | 2102 | | | | 2102 | | | | | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-WHITE (12") | | | | 105 | | | | | | | | | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-WHITE (8") | | | | 314 | | | | | | 314 | | | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-YELLOW (12") | | | | 12 | | | | | | | | | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-YELLOW (4") | | | | 2379 | | | | | | | | 2379 | | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING- WORDS | | | | 2 | | | | | | | | | 2 | | | | | | |
| THERMOPLASTIC PAVEMENT MARKING-ARROWS | | | | 4 | | | | | | | | | | 4 | | | | | |
| REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") | | | | 285 | | | | | | | | | | | | | | 285 | |
| TOTALS: | | | | | 1520 | 3434 | 3462 | 2102 | 2379 | 314 | 105 | 12 | 2 | 4 | 279 | 230 | 1121 | 285 | |

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

QUANTITIES



5-1-14

BASE AND SURFACING

| STATION | STATION | LOCATION | LENGTH FEET | AGGREGATE BASE COURSE (CLASS 7) | | ACHM SURFACE COURSE (1/2") | | | | ACHM SURFACE COURSE (1/2") | | | | ACHM BINDER COURSE (1") | | | | ACHM BASE COURSE (1 1/2") | | | | TACK COAT | | | |
|----------------|----------|---------------------|----------------|---------------------------------|--------------|----------------------------|----------------|-----------------|---------------|----------------------------|---------------|-----------------|--------------|-------------------------|---------------|-----------------|--------------|---------------------------|---------------|-----------------|---------------|---------------|----------------|-----------------|--------------|
| | | | | TON / STATION | TON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 76-22 TON | AVG. WID. FEET | SQ. YD. | POUND / SQ. YD. | PG 76-22 TON | AVG. WID. FT. | SQ. YD. | POUND / SQ. YD. | PG 70-22 TON | AVG. WID. FT. | SQ. YD. | POUND / SQ. YD. | PG 70-22 TON | AVG. WID. FT. | SQ. YD. | GALLONS SQ. YD. | GALLONS |
| 26+19.59 | 27+87.51 | LT LANE WIDENING | 206.50 | 26.25 | 54.21 | 18.00 | 413.00 | 220.00 | 45.43 | 18.13 | 416.00 | 220.00 | 45.76 | 18.23 | 418.30 | 330.00 | 69.02 | 18.40 | 422.18 | 550.00 | 116.10 | 54.76 | 1256.48 | 0.03 | 37.69 |
| 27+87.51 | 28+77.51 | LT. LANE TAPER | 90.00 | 26.25 | 23.63 | 12.10 | 121.00 | 220.00 | 13.31 | 12.23 | 122.30 | 220.00 | 13.45 | 12.33 | 123.30 | 330.00 | 20.34 | 12.50 | 125.00 | 550.00 | 34.38 | 37.06 | 370.60 | 0.03 | 11.12 |
| 26+09.75 | 29+14.52 | 2" INLAY W/O BRIDGE | 304.77 | | | 37.50 | 1269.88 | 220.00 | 139.69 | | | | | | | | | | | | | | | | |
| 32+60.56 | 34+79.30 | 2" INLAY E/O BRIDGE | 218.74 | | | 24.10 | 585.74 | 220.00 | 64.43 | | | | | | | | | | | | | | | | |
| 34+79.30 | 36+52.73 | INTERSECTION | 173.43 | | | VAR. | 1605.20 | 220.00 | 176.57 | | | | | | | | | | | | | | | | |
| TOTALS: | | | | | 77.84 | | 3994.82 | | 439.43 | | 538.30 | | 59.21 | | 541.60 | | 89.36 | | 547.18 | | 150.48 | | 1627.08 | | 48.81 |

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
 ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER

COLD MILLING ASPHALT PAVEMENT

| STATION | STATION | LOCATION | AVG. WIDTH FEET | COLD MILLING ASPHALT PAVEMENT SQ. YD. | TACK COAT (0.1 GAL / SQ. YD.) |
|----------------|----------|-----------------------------|--------------------|--|----------------------------------|
| | | | | | GAL. |
| 26+09.75 | 29+14.52 | WAGON WHEEL ROAD W/O BRIDGE | 37.5 | 1270.0 | 127.0 |
| 32+60.56 | 34+79.30 | WAGON WHEEL ROAD E/O BRIDGE | 24.1 | 585.6 | 58.6 |
| 34+79.30 | 36+52.73 | INTERSECTION | VAR. | 1605.2 | 160.5 |
| TOTALS: | | | | 3460.8 | 346.1 |

A.C.H.M. PATCHING OF EXISTING ROADWAY

| DESCRIPTION | TON |
|---|-----------|
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 50 |
| TOTAL: | 50 |

NOTE: QUANTITY IS ESTIMATED. SEE SECTION 104.3 OF THE STANDARD SPECIFICATIONS.

A.C.H.M. PATCHING FOR MAINTENANCE OF TRAFFIC

| LOCATION | ASPH. CONC. PATCHING FOR M.O.T. | TACK COAT |
|---|---------------------------------|-----------|
| | TON | GALLON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 25 | 50 |
| TOTALS: | 25 | 50 |

NOTE: QUANTITY IS ESTIMATED. SEE SECTION 104.3 OF THE STANDARD SPECIFICATIONS

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

| | | | | | | | | |
|--------------|-------------|--------------|-------------|----------------------|--------|--------------------|-----------|--------------|
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 18 | 66 |
| | | | | ① 05947 - QUANTITIES | | - 54993 | | |

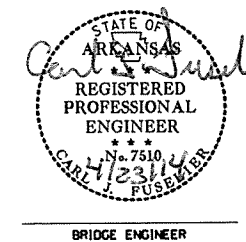
SCHEDULE OF BRIDGE QUANTITIES - JOB BB0901

| LOG MILE | ② UNIT OF STRUCTURE | ITEM NO. | 802 | 803 | 803 | 804 | 809 | SP JOB BB0901 | SP JOB BB0901 | SP JOB BB0901 |
|---------------------------|---------------------------|----------|----------|--------------------------------------|--------------------------------------|---------------------------------------|------------------------|-----------------|--------------------|--|
| | | ITEM | GROOVING | CLASS 1 PROTECTIVE SURFACE TREATMENT | CLASS 3 PROTECTIVE SURFACE TREATMENT | REINFORCING STEEL - BRIDGE (GRADE 60) | SILICONE JOINT SEALANT | HYDRODEMOLITION | BRIDGE DECK REPAIR | LATEX MODIFIED CONCRETE OVERLAY (1 1/2" THICK) |
| | | UNIT | SQ. YD. | GAL. | LIN. FT. | LBS. | LIN. FT. | SQ. YD. | SQ. FT. | SQ. YD. |
| 75.21 | EXISTING BRIDGE NO. 05947 | | 762 | 17.0 | 548 | 500 | 59 | 853 | 1,151 | 855 |
| TOTALS FOR JOB NO. BB0901 | | | 762 | 17.0 | 548 | 500 ① | 59 | 853 | 1,151 | 855 |

② Bridge deck has no existing asphalt overlay.

① Quantity shown is for estimating and bidding purposes only. Actual quantity, if any, will be determined in the field.

AILEEN SCHUBEL
DESIGN SECTION SUPERVISOR



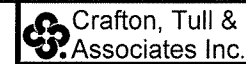
**SCHEDULE OF BRIDGE QUANTITIES
WAGON WHEEL RD. INTCHNG. IMPVTS. (S)
BENTON COUNTY**

ROUTE 540 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K W Y DATE: 3/13/14 FILENAME: bbb0901.qldgn
 CHECKED BY: AMS DATE: 4/23/14 SCALE: _____
 DESIGNED BY: _____ DATE: _____
BRIDGE NO. 05947 **DRAWING NO. 54993**

SURVEY CONTROL COORDINATES

Project Name: s090331
 Date: 4/16/2012
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
 PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. PROJ. NO. | STATE | FED. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|-------|----------------|-----------|--------------|
| | | | | 6 | ARK. | | 20 | 66 |

2 SURVEY CONTROL DETAILS

| Point Name | Northing | Easting | Elev | Feature | Description |
|------------|-------------|-------------|---------|---------|--|
| 91 | 708188.9316 | 678352.3369 | 1310.74 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 92 | 707160.6438 | 678314.6864 | 1304.34 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 93 | 705873.8972 | 678268.2609 | 1282.84 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 94 | 705077.5535 | 678235.7066 | 1267.48 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 95 | 704299.1318 | 678203.3794 | 1271.48 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 96 | 703629.4554 | 678131.5351 | 1285.55 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 97 | 703074.5172 | 677985.6666 | 1284.55 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 98 | 702004.9825 | 677464.3042 | 1291.64 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 99 | 701370.7345 | 676955.1799 | 1308.79 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 100 | 700851.5602 | 676354.0909 | 1310.26 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 101 | 700465.5549 | 675714.1856 | 1311.70 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 102 | 700195.6915 | 675140.4283 | 1312.33 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 103 | 699876.8548 | 674433.7470 | 1310.04 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 104 | 699633.3729 | 673897.7233 | 1304.81 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 105 | 699300.6563 | 673165.6804 | 1293.52 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 106 | 698974.0278 | 672530.3800 | 1292.35 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 107 | 698645.1214 | 671950.2715 | 1273.24 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 108 | 698323.5724 | 671395.5823 | 1258.77 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 109 | 698036.7540 | 670902.7747 | 1253.22 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 110 | 697624.0839 | 670411.2557 | 1253.83 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 111 | 697072.6646 | 669984.2869 | 1257.33 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 112 | 700403.4065 | 676149.9076 | 1315.70 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 113 | 700629.7808 | 676518.7832 | 1314.68 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 114 | 700176.7232 | 675752.3604 | 1318.24 | CTL | 5/8" Rebar with 2' Aluminum Cap |
| 510 | 698898.7791 | 672516.3079 | 1289.53 | GPS | 5/8" Rebar with 2' Aluminum Cap AHTD GPS 040051 |
| 511 | 697703.5968 | 670588.4147 | 1251.04 | GPS | 5/8" Rebar with 2' Aluminum Cap AHTD GPS 040051A |
| 512 | 705599.8001 | 678469.4071 | 1273.40 | GPS | 5/8" Rebar with 2' Aluminum Cap AHTD GPS 040052 |
| 513 | 703836.6020 | 678245.3223 | 1282.04 | GPS | 5/8" Rebar with 2' Aluminum Cap AHTD GPS 040052A |
| 908 | 701254.3835 | 676862.7721 | 1310.07 | BM | OVERPASS SOUTH BOUND LANE |
| 910 | 700434.1495 | 675535.8992 | 1312.53 | BM | CPS IN POWER POLE |
| 911 | 699270.2079 | 673244.6677 | 1290.31 | BM | DROP INLET |
| 912 | 697858.7129 | 670783.3865 | 1249.26 | BM | CHISLED SQUARE IN CENTER OF MEDIAN |
| 913 | 695571.9114 | 669214.3680 | 1261.45 | BM | CPS IN POWER POLE |
| 1150 | 704821.8086 | 678212.4446 | 1263.24 | CTL | 8" SPIKE |
| 1151 | 704955.4241 | 678492.7580 | 1265.76 | CTL | 8" SPIKE |
| 1152 | 704342.0615 | 678446.4384 | 1271.85 | CTL | 8" SPIKE |
| 1153 | 703567.6178 | 678390.4784 | 1300.29 | CTL | 8" SPIKE |
| 1154 | 704724.7044 | 678014.7242 | 1248.23 | CTL | 8" SPIKE |
| 1155 | 704701.1356 | 678213.0473 | 1264.96 | CTL | 8" SPIKE |
| 1156 | 704562.1869 | 678210.1868 | 1266.42 | CTL | 8" SPIKE |
| 1157 | 703514.5219 | 678052.5793 | 1292.64 | CTL | 8" SPIKE |
| 1158 | 702545.6172 | 677746.2962 | 1274.46 | CTL | 8" SPIKE |
| 1159 | 702571.2855 | 677948.5548 | 1278.40 | CTL | 8" SPIKE |
| 1160 | 702401.3560 | 678259.9867 | 1260.96 | CTL | 8" SPIKE |
| 1161 | 704459.6236 | 678209.0046 | 1268.06 | CTL | 8" SPIKE |
| 1162 | 701945.1692 | 676854.1319 | 1300.56 | CTL | 8" SPIKE |
| 1163 | 701214.6019 | 676603.9026 | 1300.92 | CTL | 8" SPIKE |
| 1164 | 701021.9181 | 676405.5241 | 1305.45 | CTL | 8" SPIKE |
| 1165 | 701089.2883 | 677214.0377 | 1304.97 | CTL | 8" SPIKE |
| 1166 | 701465.8632 | 676881.8076 | 1296.94 | CTL | 8" SPIKE |
| 1167 | 701636.2835 | 676881.9637 | 1302.62 | CTL | 8" SPIKE |
| 1169 | 700960.5558 | 677005.8480 | 1286.66 | CTL | 8" SPIKE |
| 1170 | 700826.9696 | 677071.6879 | 1288.53 | CTL | 8" SPIKE |
| 1171 | 700513.7623 | 676699.1743 | 1314.16 | CTL | 8" SPIKE |
| 1172 | 700332.5608 | 676637.0919 | 1319.03 | CTL | 8" SPIKE |
| 1173 | 700234.7364 | 676639.3102 | 1320.93 | CTL | 8" SPIKE |
| 1174 | 700105.6922 | 675497.6679 | 1304.32 | CTL | 8" SPIKE |
| 1175 | 699609.5617 | 675443.3798 | 1327.74 | CTL | 8" SPIKE |
| 7585 | 696811.8393 | 670011.4491 | 1257.19 | CTL | PK NAIL |

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2' Aluminum Cap stamped
 *(standard markings common to all caps), or as indicated
 (other markings indicated in the point description of the individual point).
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
 A PROJECT CAF OF 0.9999455889 HAS BEEN USED TO COMPUTE THE GROUND COORDINATES LISTED ABOVE.
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
 GRID DISTANCE = GROUND DISTANCE X CAF.
 GRID COORDINATES ARE STORED UNDER FILE NAME S001966G1.CTL
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
 AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL
 IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
 REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 040052-040052A AND 040047-040047A
 CONVERGENCE ANGLE: 01-15-36.86 LEFT AT LT:36-17-41.57 LG:094-09-56.64
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

CL Wagon Wheel Rd

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|----------|-------------|
| 8000 | POB | 25+91.95 | 696098.0463 |
| 8001 | POE | 37+99.97 | 696045.5605 |

CL I-540

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|-----------|-------------|
| 8002 | POB | 453+00.00 | 694468.7674 |
| 8003 | PI | 469+55.10 | 696072.1803 |
| 8004 | PC | 471+83.71 | 696293.6488 |
| 8005 | CC | | 695583.3167 |
| 8006 | PT BK = | 494+58.69 | EQUATION |
| | AHD | 494+30.57 | 698060.6834 |
| | | | 671089.5998 |

CL Puppy Creek Rd

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|-----------|-------------|
| 8008 | POB | 20+99.83 | 695408.5044 |
| 8009 | PC | 29+35.60 | 696238.2270 |
| 8010 | CC | | 696180.8847 |
| 8011 | PT BK = | 32+17.13 | EQUATION |
| | AHD | 470+56.60 | 696492.1158 |
| 8012 | POE | 482+00.15 | 697359.3353 |
| | | | 670079.3487 |

RAMP 4 (CL R-4)

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|-----------|-------------|
| 8013 | PC | 455+08.50 | 694685.2617 |
| 8014 | CC | | 695158.8220 |
| 8015 | PT | 458+90.17 | 695061.9779 |
| 8016 | PC | 463+58.88 | 695530.0890 |
| 8017 | CC | | 695541.7103 |
| 8018 | PT | 466+42.92 | 695754.3581 |
| 8019 | POE | 466+99.33 | 695775.3995 |
| | | | 669166.0245 |

RAMP 2 (CL R-2)

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|-----------|-------------|
| 8029 | POB | 470+45.40 | 696057.0727 |
| 8030 | PC | 477+07.90 | 696717.0457 |
| 8031 | CC | | 696775.9099 |
| 8032 | PT | 481+74.88 | 697159.478 |
| | | | 670206.5588 |

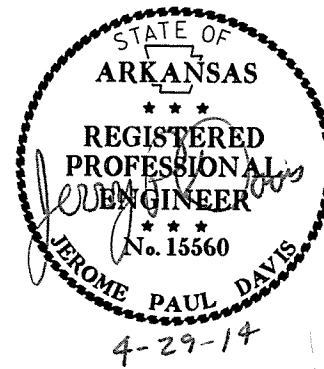
RAMP 1 (CL R-1)

| POINT NAME | STATION | NORTHING | EASTING |
|------------|---------|-----------|-------------|
| 8020 | PC | 453+04.80 | 694461.8100 |
| 8021 | CC | | 693988.2412 |
| 8022 | PT | 454+95.08 | 694643.4923 |
| 8023 | PC | 458+68.08 | 694993.8523 |
| 8024 | CC | | 694557.0183 |
| 8025 | PT | 462+88.63 | 695358.124 |
| 8026 | PC | 466+22.00 | 695617.2346 |
| 8027 | CC | | 696272.6847 |
| 8028 | PT | 470+12.91 | 695959.5976 |
| 8029 | POE | 471+15.11 | 696057.0727 |
| | | | 670147.2155 |



4-29-14

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 21 | 66 |
| | | | | JOB NO. BB0901 | | 21 | | 66 |
| 2 SURVEY CONTROL DETAILS | | | | | | | | |



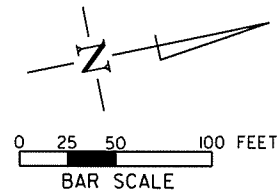
RAMP 4 CURVE DATA
 P.I. 456+99.97
 $\Delta = 11^{\circ}27'00.0''$ LT.
 D = 3'00'00"
 T = 191.47'
 L = 381.67'
 P.C. 455+08.50
 P.T. 458+90.17

RAMP 4 CURVE DATA
 P.I. 465+22.38
 $\Delta = 71^{\circ}00'31.9''$ LT.
 D = 25'00'00"
 T = 163.50'
 L = 284.04'
 P.C. 463+58.88
 P.T. 466+42.92

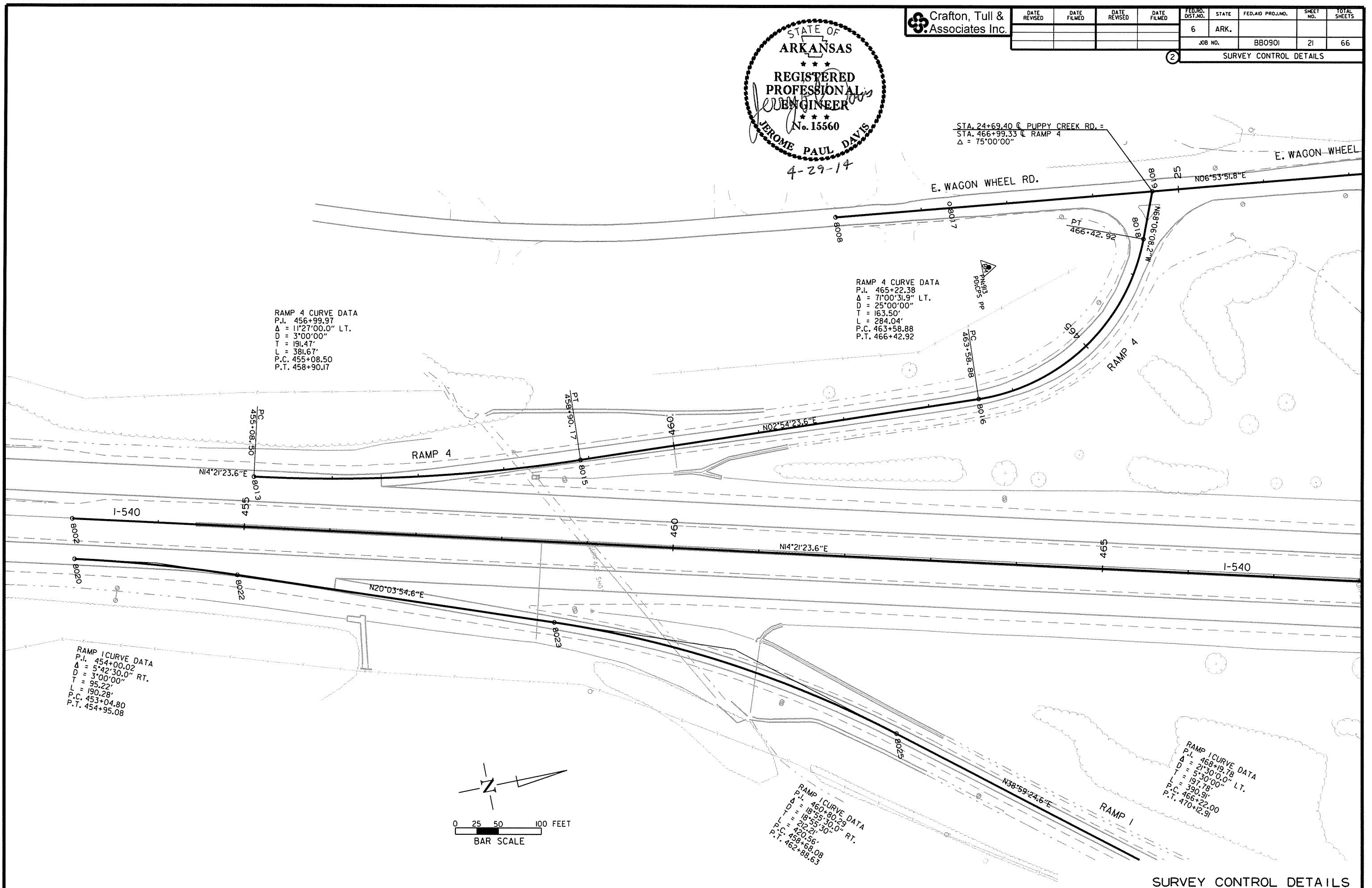
RAMP 1 CURVE DATA
 P.I. 454+00.02
 $\Delta = 5^{\circ}42'30.0''$ RT.
 D = 3'00'00"
 T = 95.22'
 L = 190.28'
 P.C. 453+04.80
 P.T. 454+95.08

RAMP 1 CURVE DATA
 P.I. 460+90.29
 $\Delta = 18^{\circ}55'30.0''$ RT.
 D = 2'00'00"
 T = 420.21'
 L = 458.56'
 P.C. 458+68.08
 P.T. 462+88.63

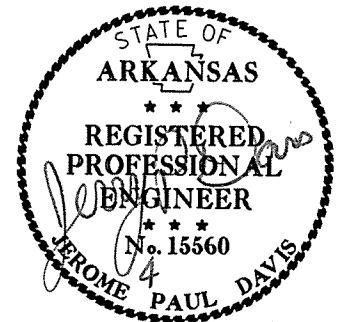
RAMP 1 CURVE DATA
 P.I. 468+19.78
 $\Delta = 21^{\circ}30'0.0''$ LT.
 D = 5'30'00"
 T = 197.18'
 L = 390.91'
 P.C. 466+22.00
 P.T. 470+12.91



STA. 24+69.40 @ PUPPY CREEK RD. =
 STA. 466+99.33 @ RAMP 4
 $\Delta = 75^{\circ}00'00''$



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 22 | 66 |
| | | | | JOB NO. BB0901 | | | | |
| 2 SURVEY CONTROL DETAILS | | | | | | | | |

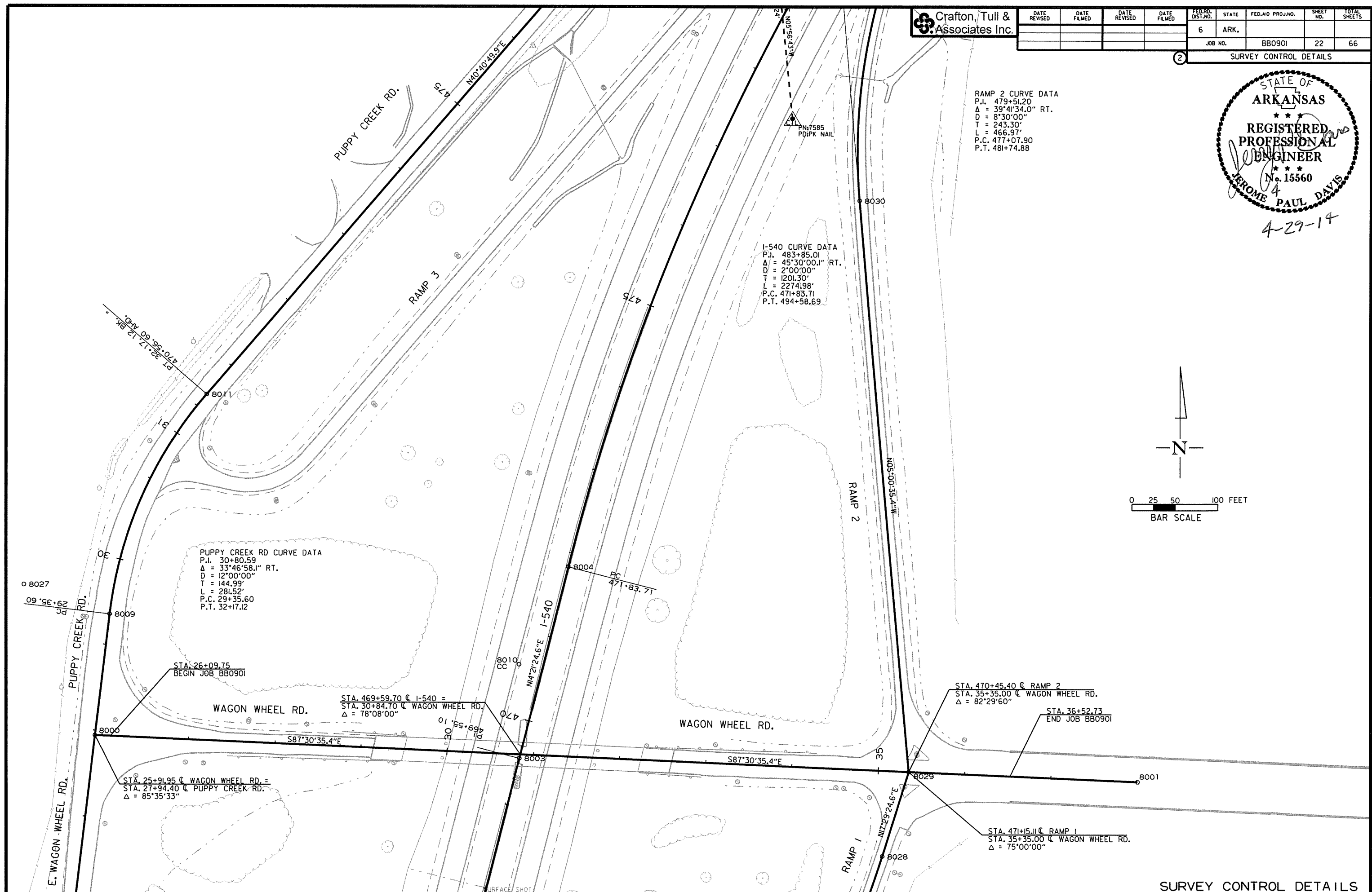
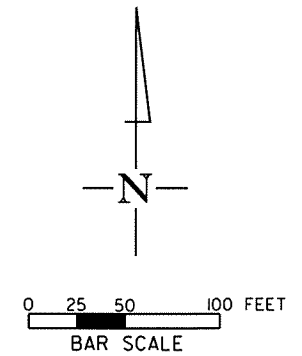


4-29-14

RAMP 2 CURVE DATA
 P.I. 479+51.20
 $\Delta = 39^{\circ}41'34.0''$ RT.
 D = 8'30'00"
 T = 243.30'
 L = 466.97'
 P.C. 477+07.90
 P.T. 481+74.88

I-540 CURVE DATA
 P.I. 483+85.01
 $\Delta = 45^{\circ}30'00.1''$ RT.
 D = 2'00'00"
 T = 1201.30'
 L = 2274.98'
 P.C. 471+83.71
 P.T. 494+58.69

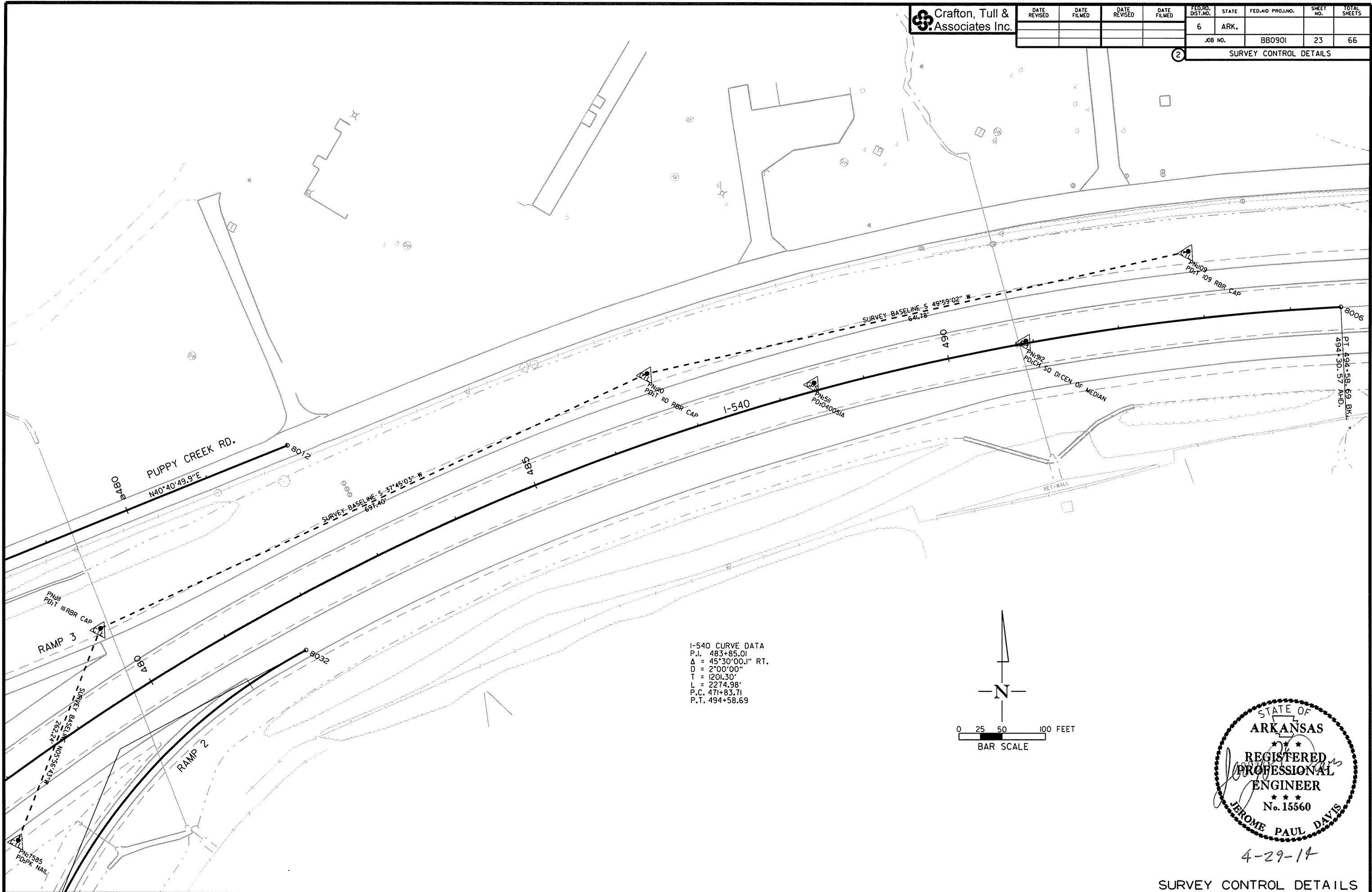
PUPPY CREEK RD CURVE DATA
 P.I. 30+80.59
 $\Delta = 33^{\circ}46'58.1''$ RT.
 D = 12'00'00"
 T = 144.99'
 L = 281.52'
 P.C. 29+35.60
 P.T. 32+17.12



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 SCALE: 100%

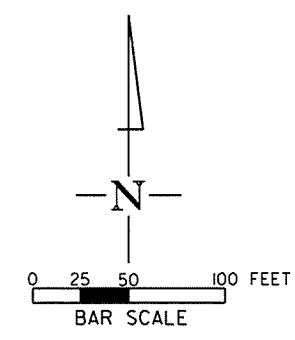
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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 23 | 66 |

2 SURVEY CONTROL DETAILS



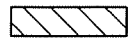

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 PLOTTED: 4/29/2014 08:34
 SCALE: 100:1

I-540 CURVE DATA
 P.I. 483+85.01
 $\Delta = 45^{\circ}30'00.1'' RT.$
 $D = 2^{\circ}00'00''$
 $T = 1201.30'$
 $L = 2274.98'$
 P.C. 471+83.71
 P.T. 494+58.69

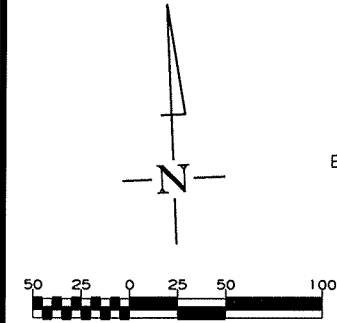


4-29-14

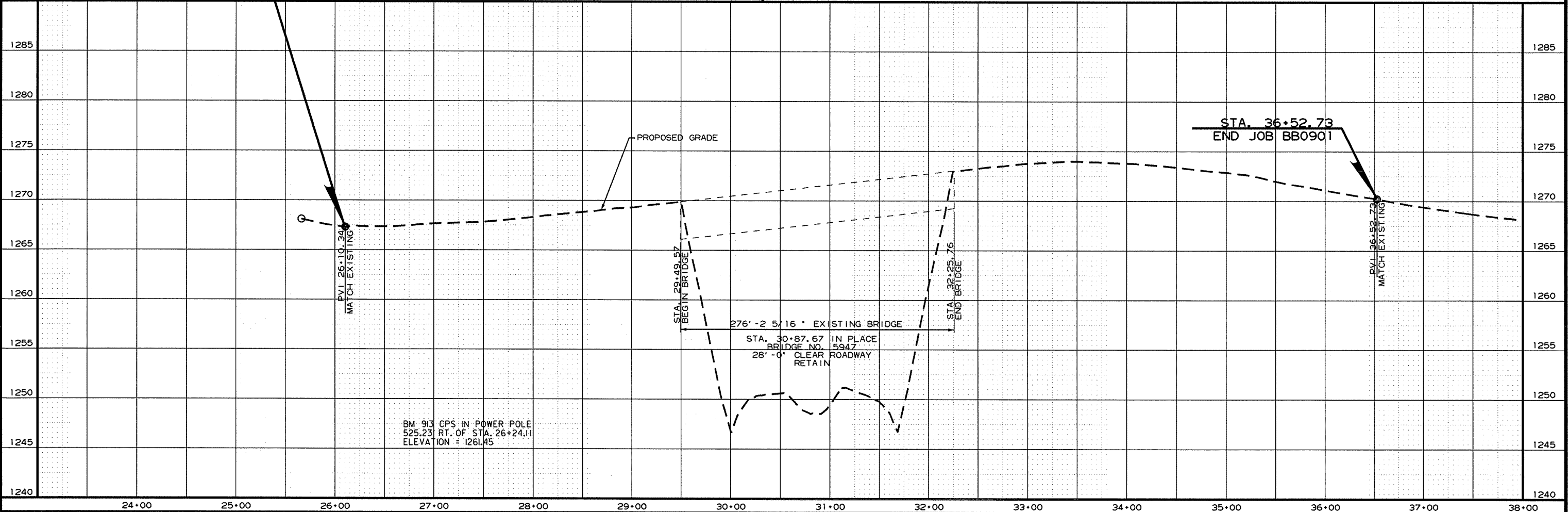
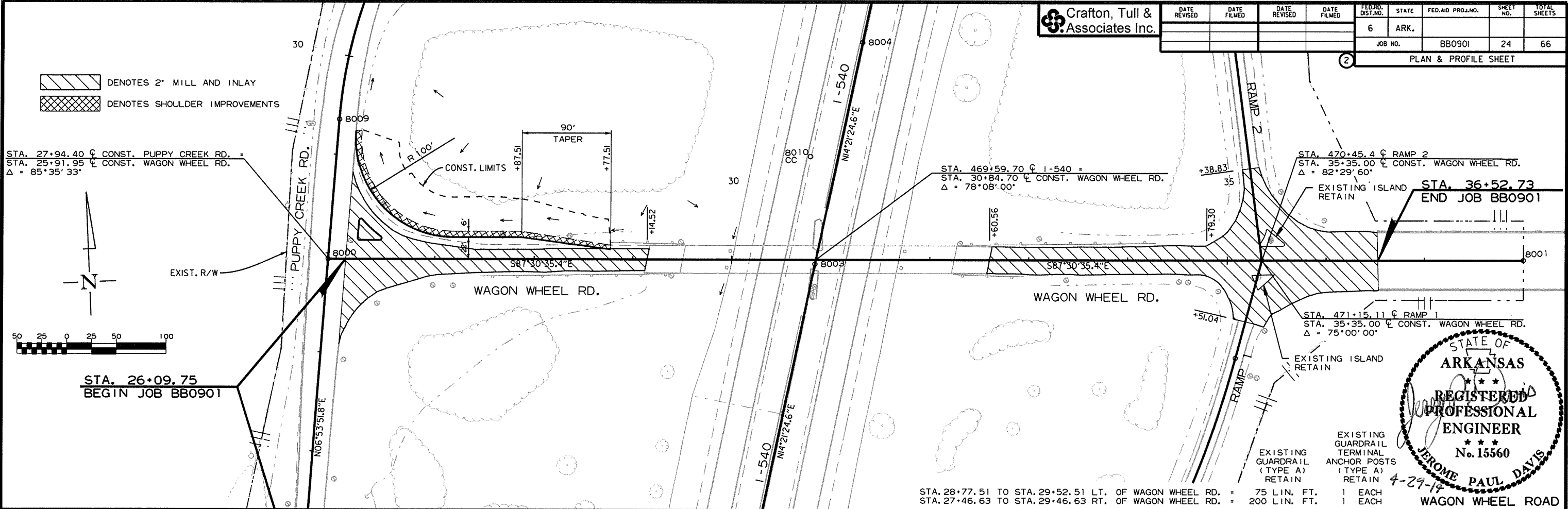
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 24 | 66 |
| | | | | JOB NO. | | BBO901 | | |
| (2) PLAN & PROFILE SHEET | | | | | | | | |

 DENOTES 2" MILL AND INLAY
 DENOTES SHOULDER IMPROVEMENTS

STA. 27+94.40 C CONST. PUPPY CREEK RD. =
 STA. 25+91.95 C CONST. WAGON WHEEL RD.
 $\Delta = 85^{\circ}35'33"$



STA. 26+09.75
 BEGIN JOB BBO901



| 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. | | BB0901 | 25 | 66 |

2 TRAFFIC SIGNAL NOTES

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2014) NATIONAL ELECTRICAL CODE, NFPA 101(2012) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL 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 MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/*12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET SHALL HAVE 16 LOAD BAYS 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 ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
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 MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
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 SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
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.

TRAFFIC SIGNAL NOTES: (CONT'D).

16. 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, 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 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTORS" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
17. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 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.
18. 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.
19. CONNECTION OF TRAFFIC SIGNAL DISPLAYS TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP TO BE INSTALLED IN EACH POLE BEHIND THE HAND-HOLE COVER AT THE BASE OF POLE. THE TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT THE POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 -- TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
21. ONE VIDEO PROGRAMMING 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.
22. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY 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.
23. 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).
24. CONTROLLERS SHALL BE COMPATIBLE WITH CITY'S TRAFFIC SIGNAL MANAGEMENT SOFTWARE, CLMATS.
25. CONTROLLERS SHALL BE EQUIPPED WITH ETHERNET COMMUNICATIONS.
26. RADIOS SUPPLIED SHALL BE COMPATIBLE WITH THE EXISTING COMMUNICATIONS NETWORK.



4/30/14

LOCATION: I-540 AT WAGON WHEEL RD.
 CITY: SPRINGDALE
 COUNTY: BENTON
 DISTRICT: 9 SCALE: N/A DRAWN BY: rch

USER: 1656
 DESIGN FILE: R:\647673\TRAFFIC SIGNALS\WAGON_WHEEL_RD_NOTESHT.DGN
 MODEL: WAGON WHEEL ROAD SIGNALS
 SCALE: 20'
 PLOTTED: 04/29/14 11:39

| 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. | BB0901 | 26 | 66 | |

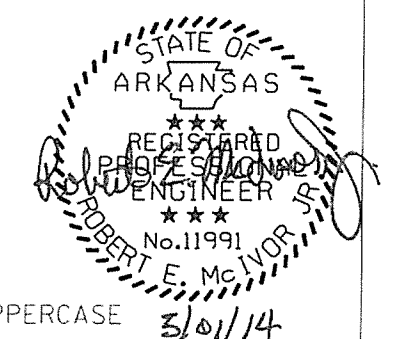
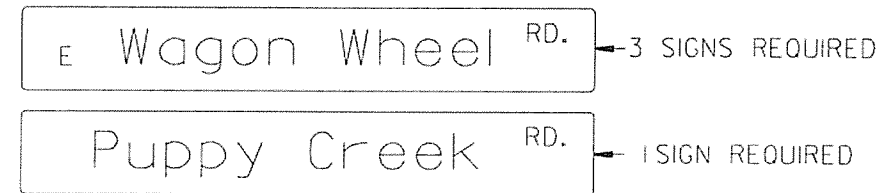
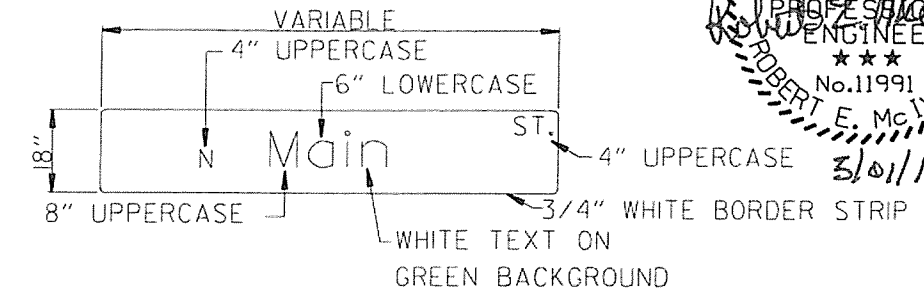
② TRAFFIC SIGNAL QUANTITIES

TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | PUPPY CREEK RD | NB RAMPS | TOTAL QUANTITY | UNIT |
|----------|--|----------------|----------|----------------|----------|
| SP & 701 | SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASES) | 1 | 1 | 2 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 6 | 8 | 14 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/ 14 A.W.G.) | 360 | 460 | 820 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (12C/ 14 A.W.G.) | 388 | 328 | 716 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (20C/ 14 A.W.G.) | 0 | 22 | 22 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 10 | 10 | 20 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 18 | 20 | 38 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 193 | 209 | 402 | LIN. FT. |
| SP & 711 | CONCRETE PULL BOX (TYPE 2 HD) | 3 | 3 | 6 | EACH |
| 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52') | 1 | | 1 | EACH |
| 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (34' - 32') | 1 | | 1 | EACH |
| 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40') | | 1 | 1 | EACH |
| 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38') | | 1 | 1 | EACH |
| 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30' - 20') | | 1 | 1 | EACH |
| 733 | VIDEO CABLE | 864 | 871 | 1735 | LIN. FT. |
| SP & 733 | VIDEO DETECTOR (CLR) | 4 | 7 | 11 | EACH |
| SP & 733 | VIDEO EDGE CARD EXTENDER | 1 | 1 | 2 | EACH |
| 733 | VIDEO MONITOR (CLR) | 1 | 1 | 2 | EACH |
| SP & 733 | VIDEO PROCESSOR, EDGE CARD (2 CAMERA) | 2 | 4 | 6 | EACH |
| SP & 733 | VEHICLE DETECTOR RACK (16 CHANNEL) | 1 | 1 | 2 | EACH |
| SP | ANTENNA SUPPORT (SHOE BASE, 50' HT.) | | 1 | 1 | EACH |
| SP | ETHERNET SWITCH, T100 HARDENED (8-PORT) | 1 | 1 | 2 | EACH |
| SP | E-NET CABLE (EXTERIOR CAT 5) | 75 | 75 | 150 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 85 | 384 | 469 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/ 8 A.W.G., EGC) | 250 | 343 | 593 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/ 6 A.W.G.) | 22 | 25 | 47 | LIN. FT. |
| SP | LOCAL RADIO (E-NET 5.8) WITH ANTENNA | 1 | 1 | 2 | EACH |
| SP | LUMINAIRE ASSEMBLY | 1 | 2 | 3 | EACH |
| SP | SERVICE POINT ASSEMBLY (2 CIRCUITS) | 1 | 1 | 2 | EACH |
| SP | 18" STREET NAME SIGN | 3 | 1 | 4 | EACH |

• QUANTITY INCLUDES ONE SPARE EDGE CARD AND ONE SPARE VIDEO DETECTOR TO BE PROVIDED TO THE CITY OF SPRINGDALE.

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



NOTES:

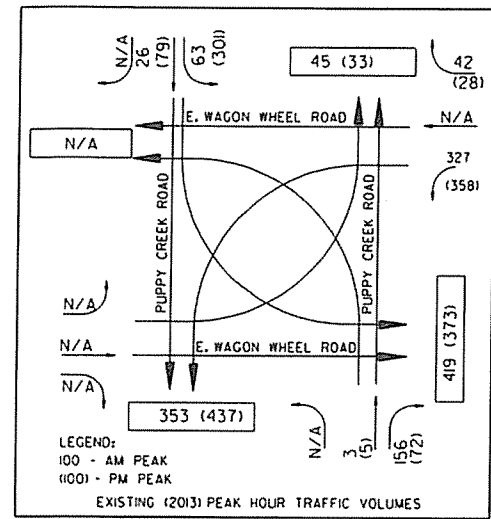
- REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE- AND BUBBLE-FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
- ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. 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.
- WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEAR SIDE LEFT POLE. SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
- THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

LOCATION: I-540 AT WAGON WHEEL RD.
 CITY: SPRINGDALE
 COUNTY: BENTON
 DISTRICT: 9 SCALE: N/A DRAWN BY: JC

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. PROJ. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 27 | 66 |

2 SIGNALIZATION PLAN SHEET

TRAFFIC FLOW DIAGRAM



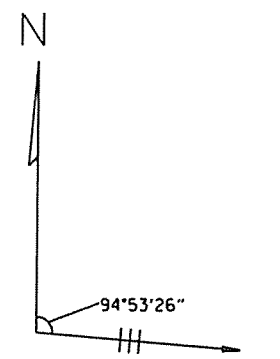
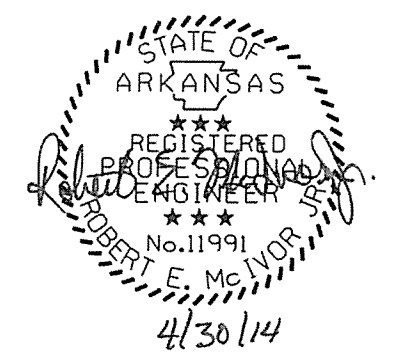
PUPPY CREEK POLE LOCATIONS

| POLE | LOCATION & STATION | OFFSET | X, Y COORDINATES |
|------|----------------------------|---------|------------------------|
| A | E. WAGON WHEEL RD. - 26+48 | 74' LT. | 669,264.25, 696169.02 |
| B | PUPPY CREEK RD. - 27+71 | 34' LT. | 669,168.09, 696,078.64 |

PUPPY CREEK POLE DIMENSIONS

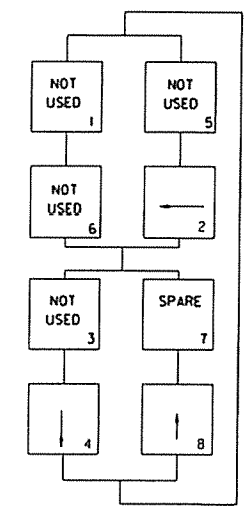
| POLE | MAST ARM | MAST ARM ANGLE | POLE HEIGHT | LUM. ARMS | LUM. ANGLE |
|------|----------|----------------|-------------|-----------|------------|
| A | 52 | 270° | 35 | 15 | 270° |
| B | 32.34 | 90°, 180° | 21 | | |

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.



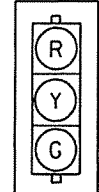
ANTENNA ORIENTATION ORIENTED TO THE SYSTEM MASTER ANTENNA AT NW. CONER OF E. WAGON WHEEL RD AT I-540 NB RAMPS.

WAGON WHEEL ROAD AT PUPPY CREEK ROAD PHASING DIAGRAM



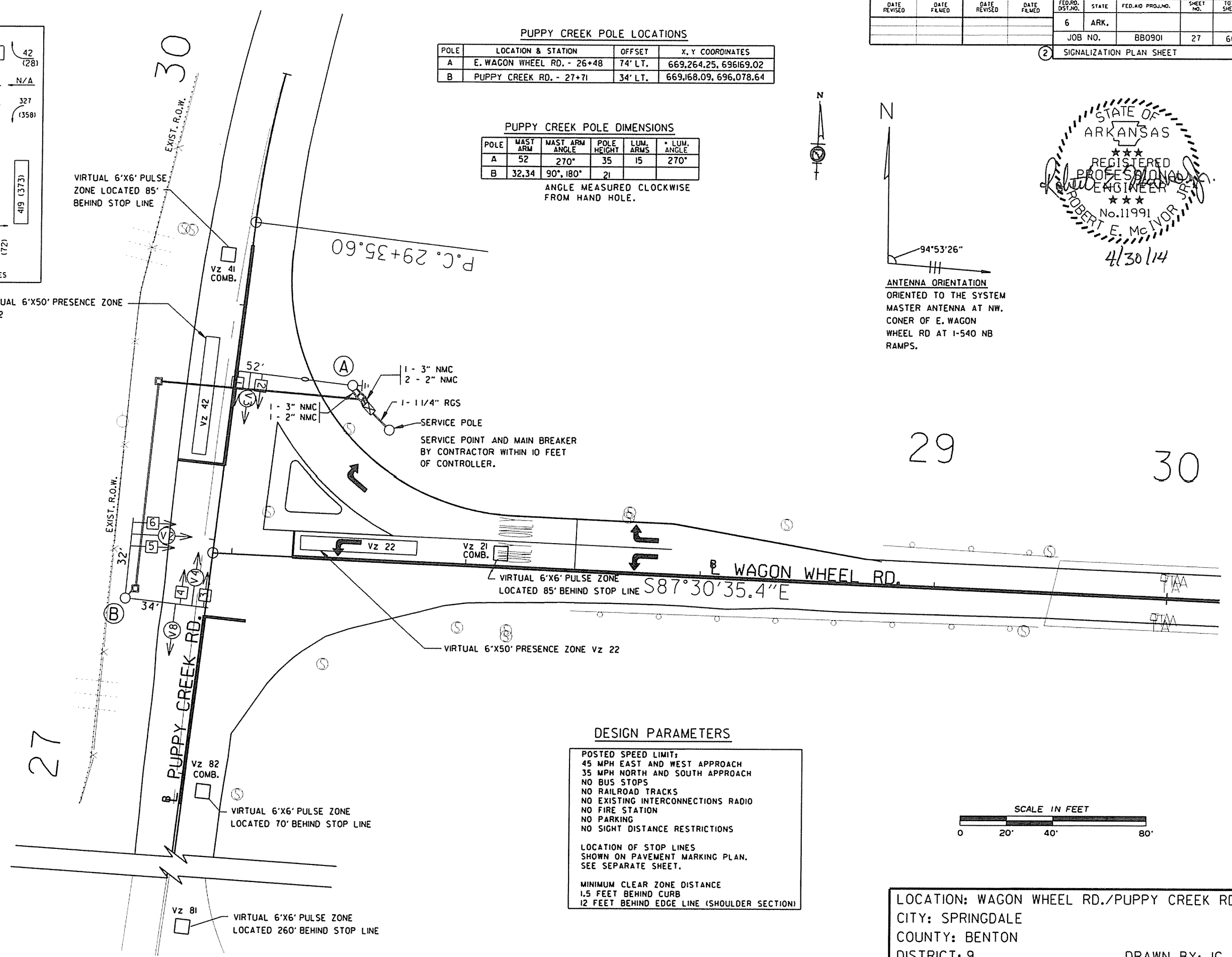
SIGNAL FACES

12" LENSES



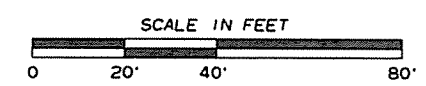
18.2
38.4
58.6

- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - SEE TRAFFIC SIGNAL NOTES FOR CONSTRUCTION STAGING INFORMATION.
 - ALL CONDUITS ARE TO BE 3" NMC UNLESS IDENTIFIED OTHERWISE.



DESIGN PARAMETERS

- POSTED SPEED LIMIT: 45 MPH EAST AND WEST APPROACH, 35 MPH NORTH AND SOUTH APPROACH
- NO BUS STOPS
- NO RAILROAD TRACKS
- NO EXISTING INTERCONNECTIONS RADIO
- NO FIRE STATION
- NO PARKING
- NO SIGHT DISTANCE RESTRICTIONS
- LOCATION OF STOP LINES SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.
- MINIMUM CLEAR ZONE DISTANCE: 1.5 FEET BEHIND CURB, 12 FEET BEHIND EDGE LINE (SHOULDER SECTION)

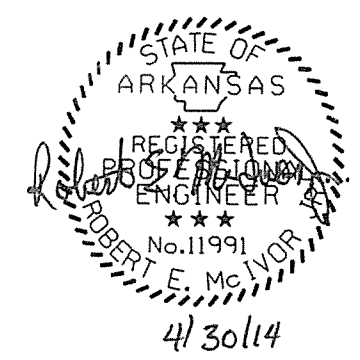
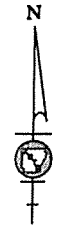
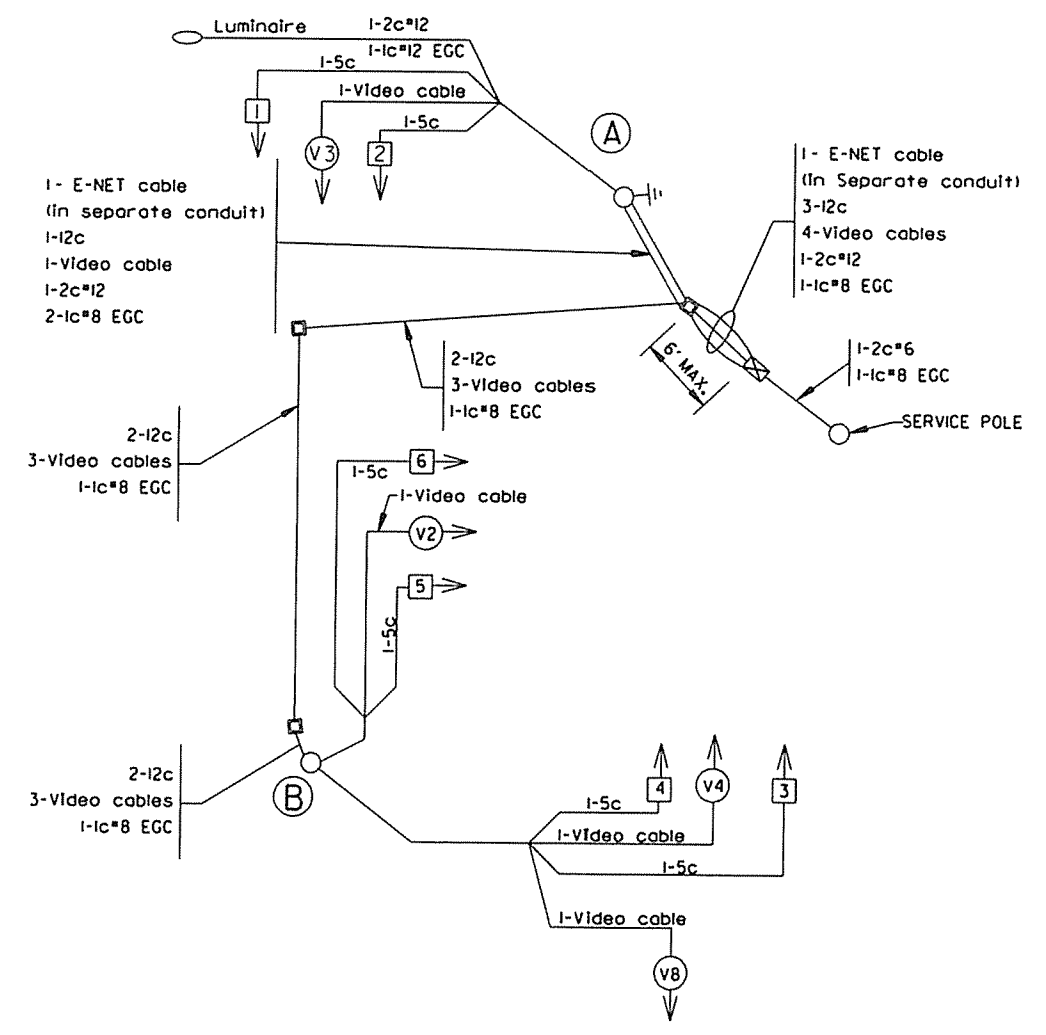


LOCATION: WAGON WHEEL RD./PUPPY CREEK RD.
CITY: SPRINGDALE
COUNTY: BENTON
DISTRICT: 9
DRAWN BY: JC

USER: 11656
 DESIGN FILE: R:\647673\TRAFFIC SIGNALS\WAGON WHEEL\PUPPY_CREEK_RD_SIGNAL.DGN
 PLOTTED: 04/30/14 15:30
 MODEL: PUPPY CREEK SIGNAL
 SCALE: 20:1

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 28 | 66 |

2 SIGNALIZATION PLAN SHEET



WIRING DIAGRAM

WAGON WHEEL ROAD
AT PUPPY CREEK ROAD

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.
3. A SEPARATE SOLID GROUND WIRE BETWEEN ALL POLES, CABINET AND GROUND RODS IS REQUIRED AS SHOWN ON THE STANDARD DRAWINGS. ALL BONDS BETWEEN RODS AND GROUNDING CONDUCTORS ARE TO BE FUSION WELDS.

LOCATION: WAGON WHEEL RD./PUPPY CREEK RD.
CITY: SPRINGDALE
COUNTY: BENTON
DISTRICT: 9 SCALE: N/A DRAWN BY: rch

USER: 11656
DESIGN FILE: R:\647673\TRAFFIC SIGNALS\WAGON WHEEL\PUPPY_CREEK_RD_DIAGRAM.DGN
PLOTTED: 04/30/14 15:28
SCALE: 20:1
MODEL: PUPPY CREEK SIGNAL

| | | | | | | | | |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| 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. | BB0901 | | 29 | 66 |

② SIGNALIZATION PLAN SHEET

INTERVAL CHART

| SIGNAL | WAGON WHEEL RD/PUPPY CREEK RD. | | | | FLASH |
|--------|--------------------------------|------|-----|------|-------|
| FACES | 2 | CLR. | 4+8 | CLR. | SEQ. |
| 1&2 | R | R | G | Y | R |
| 3&4 | R | R | G | Y | R |
| 5&6 | G | Y | 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



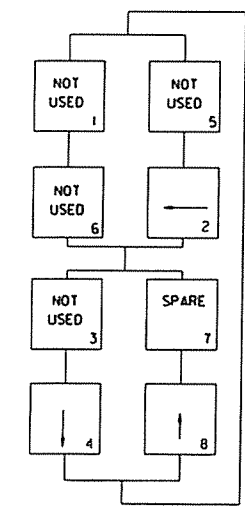
4/30/14

| DETECTOR SYSTEM DESCRIPTION: JOB BB0901 | | | | | | | | | | | |
|---|--------------------|-------|--------|-----------------------------|-------------|-------------|---------------------|---------------|----------|--------------|--------------------------------|
| WAGON WHEEL RD./PUPPYCREEK RD. DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | COMMENTS | TUBE LENGTHS | |
| DET. ID* | LOCATION DIRECTION | TYPE | DET. # | CAB. TRM. # | AMP. CHN. # | CON. INP. # | PHS | SYSTEM DET. # | | | MASTER SYSTEM DETECTOR NUMBERS |
| Vz21 | WB ADVANCE | COMB. | | | 1 | V10 | 2 | 2 | | CAMERA V2 | 23" |
| Vz22 | WB PRESENCE | LOCAL | | | 2 | V2 | 2 | | | CAMERA V2 | 23" |
| Vz41 | SB ADVANCE | COMB. | | | 3 | V12 | 4 | 4 | | CAMERA V4 | 23" |
| Vz42 | SB PRESENCE | LOCAL | | | 4 | V5 | 4 | | | CAMERA V4 | 23" |
| Vz81 | NB ADVANCE | LOCAL | | | 5 | V8 | 8 | | | CAMERA V8 | 23" |
| Vz82 | NB NEAR | COMB. | | | 6 | V16 | 8 | 8 | | CAMERA V3 | 23" |

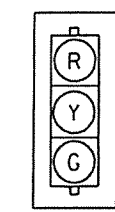
SPARE: 7, 8, 9-16

CONTROLLER INPUT ABBREVIATION:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

WAGON WHEEL ROAD AT PUPPY CREEK ROAD PHASING DIAGRAM



SIGNAL FACES
12" LENSES



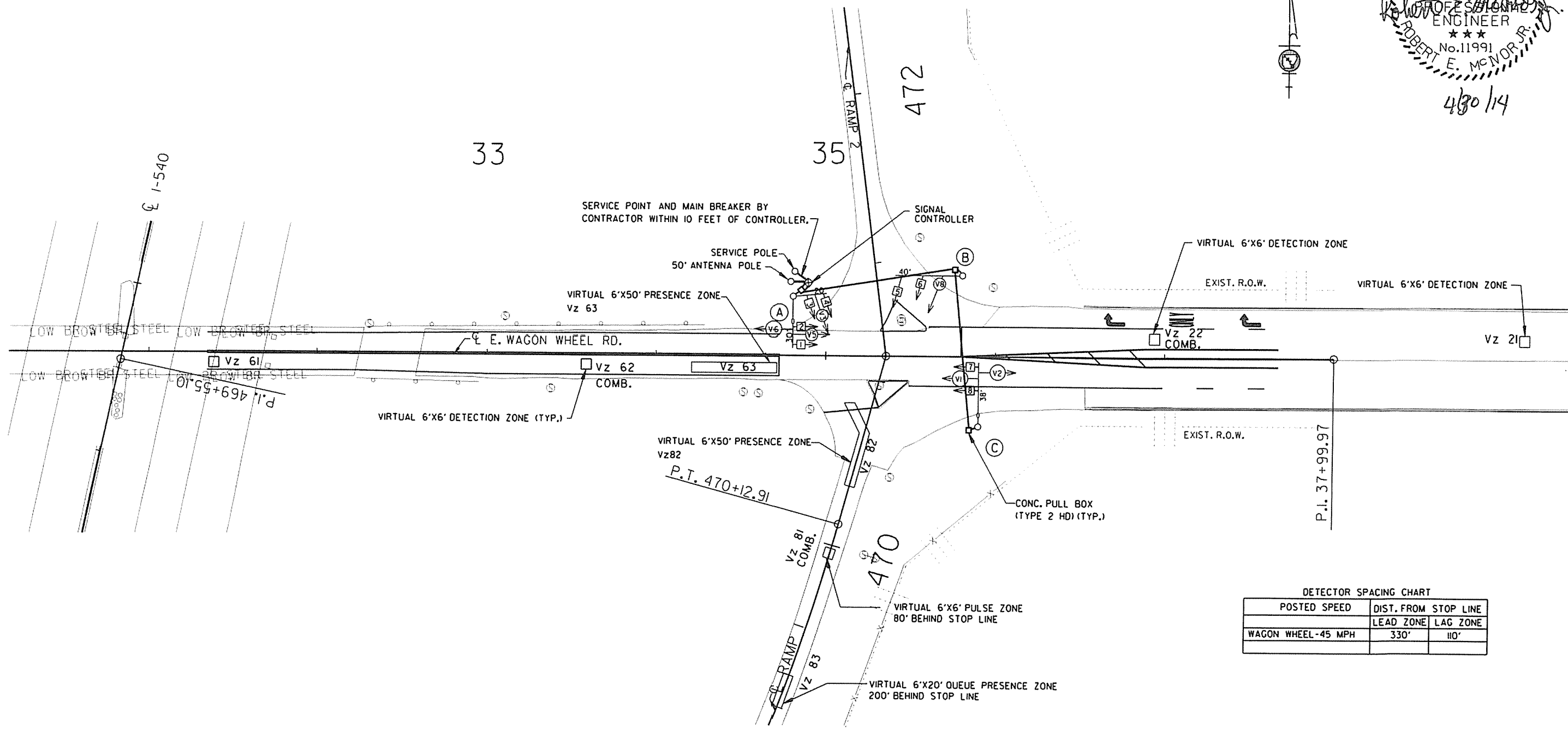
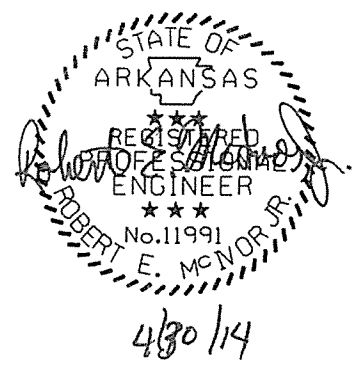
1&2
3&4
5&6

LOCATION: WAGON WHEEL RD./PUPPY CREEK RD.
CITY: SPRINGDALE
COUNTY: BENTON
DISTRICT: 9 SCALE: N/A DRAWN BY: JC

USER: 11656
DESIGN FILE: R:\647673\TRAFFIC SIGNALS\WAGON WHEEL\PUPPY_CREEK_RD_INTERVAL.DGN
PLOTTED: 04/30/14 15:29
MODEL: PUPPY CREEK SIGNAL
SCALE: 20'

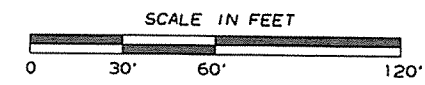
| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|------------|--------------|------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 30 | 66 |

2 SIGNALIZATION PLAN SHEET



DETECTOR SPACING CHART

| POSTED SPEED | DIST. FROM STOP LINE | |
|--------------------|----------------------|----------|
| | LEAD ZONE | LAG ZONE |
| WAGON WHEEL-45 MPH | 330' | 110' |

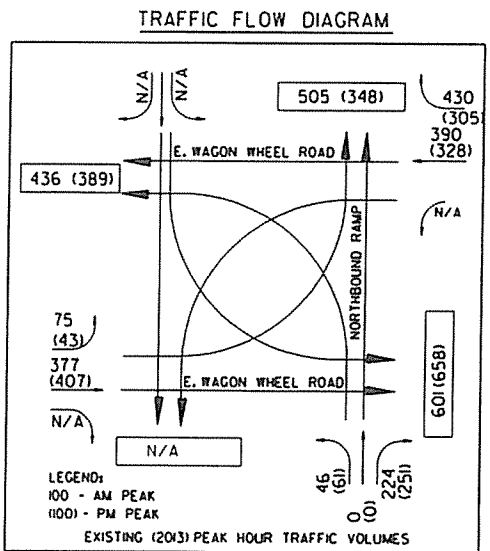


LOCATION: I-540 NB RAMPS/WAGON WHEEL RD.
 CITY: SPRINGDALE
 COUNTY: BENTON
 DISTRICT: 9
 DRAWN BY: rch

USER: 11656
 DESIGN FILE: R:\1647673\TRAFFIC SIGNALS\WAGON WHEEL\WAGON_WHEEL_RD_SIGNAL_30_SCALE.DGN
 PLOTTED: 04/30/14 15:37
 MODEL: WAGON WHEEL SIGNAL
 SCALE: 1" = 30'

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|------------|--------------|------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 31 | 66 |

SIGNALIZATION PLAN SHEET



DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST AND WEST APPROACH
35 MPH NORTHBOUND APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS RADIO
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB
12 FEET BEHIND EDGE LINE (SHOULDER SECTION)

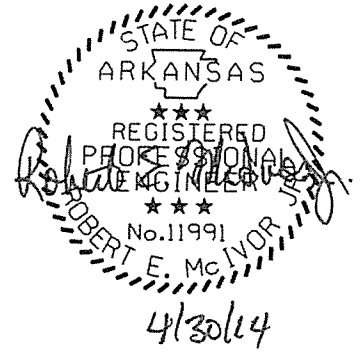
I-540/WAGON WHEEL POLE LOCATIONS

| POLE | LOCATION & STATION | OFFSET | X, Y COORDINATES |
|------|----------------------------|---------|------------------------|
| A | E. WAGON WHEEL - 34+80.4 | 34' LT. | 670,093.90, 696,093.71 |
| B | E. WAGON WHEEL - 35+79.83 | 47' LT. | 670,194.04, 696,020.05 |
| C | E. WAGON WHEEL - 35+90.070 | 41' RT. | 670,200.38, 696,013.72 |

I-540/WAGON WHEEL POLE DIMENSIONS

| POLE | MAST ARM | MAST ARM ANGLE | POLE HEIGHT | LUM. ARMS | LUM. ANGLE |
|------|----------|----------------|-------------|-----------|------------|
| A | 20', 30' | 175', 270' | 35' | 15' | 270' |
| B | 40' | 180' | 21' | | |
| C | 38' | 180' | 35' | 25' | 180' |

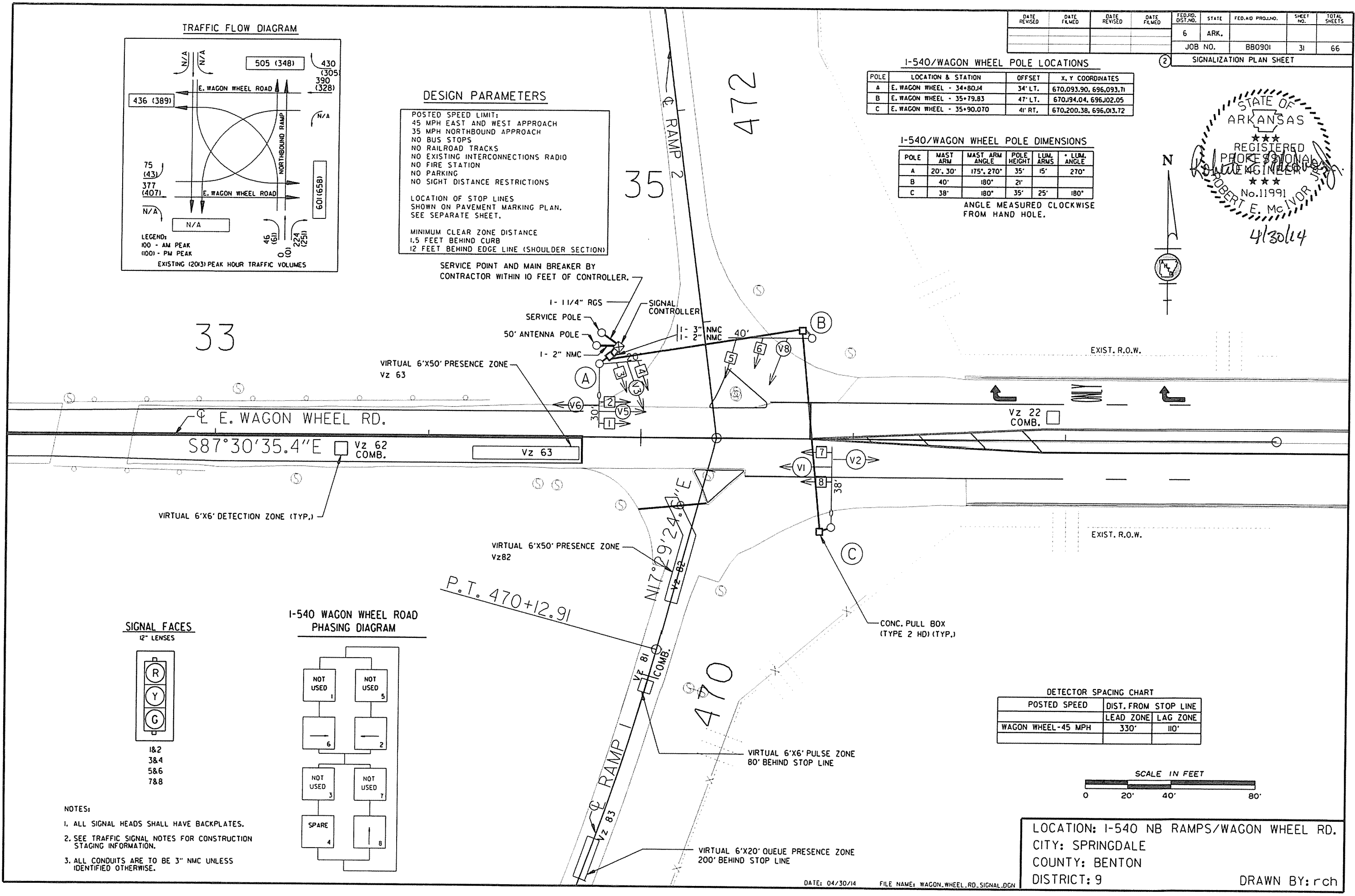
ANGLE MEASURED CLOCKWISE FROM HAND HOLE.



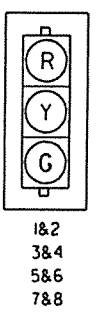
33

472

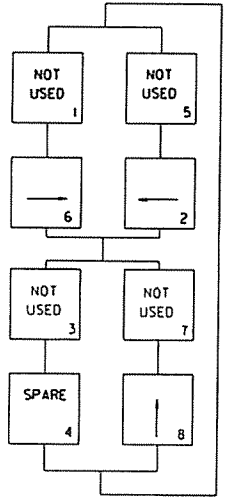
35



SIGNAL FACES
12" LENSES

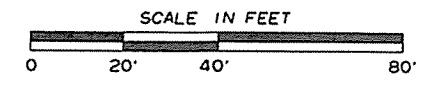


I-540 WAGON WHEEL ROAD PHASING DIAGRAM



DETECTOR SPACING CHART

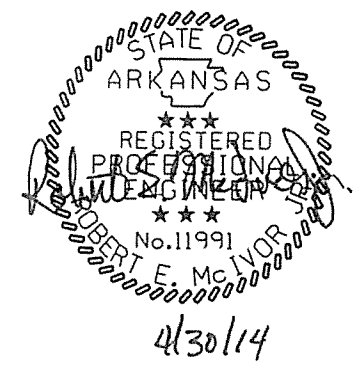
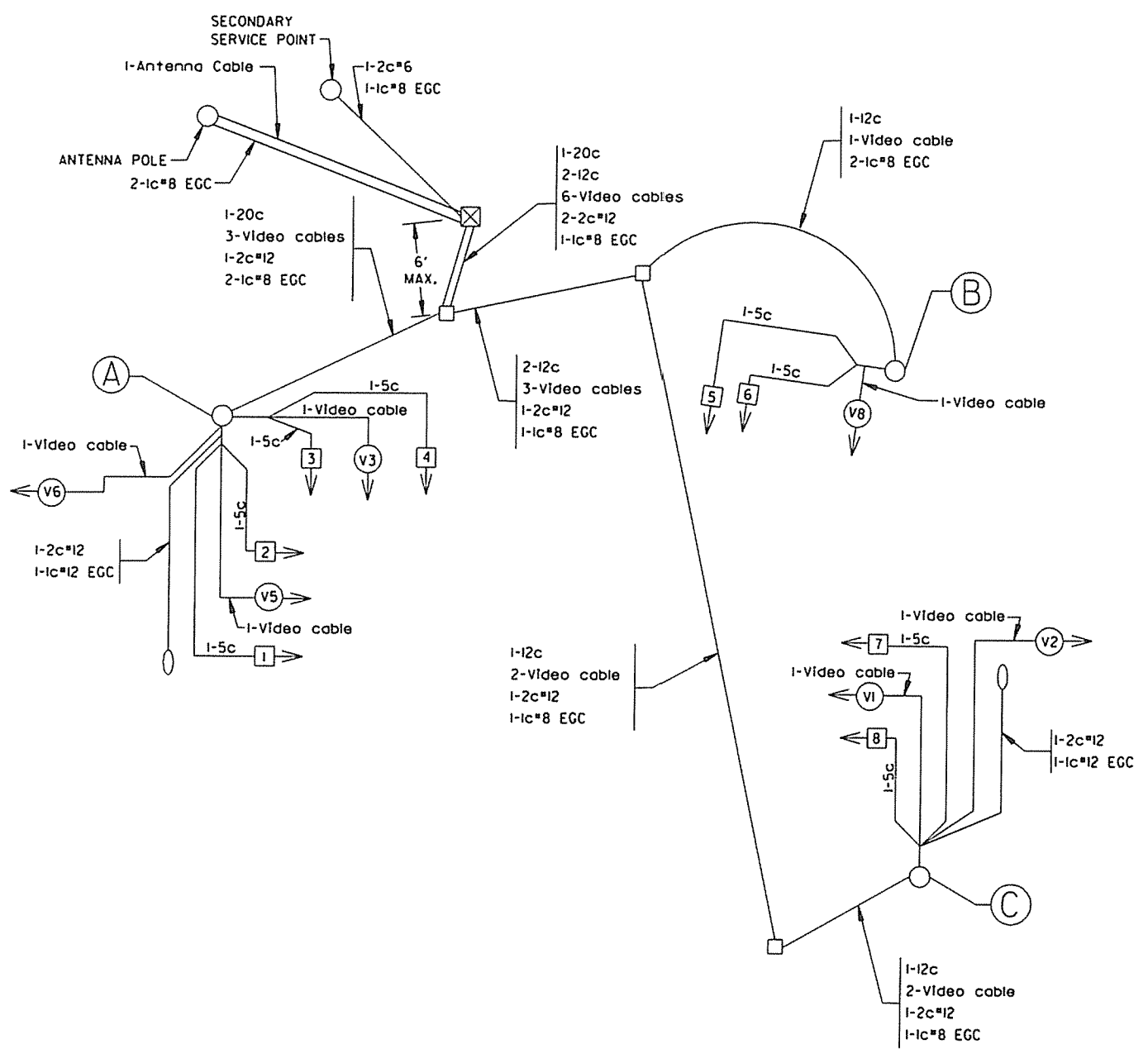
| POSTED SPEED | DIST. FROM STOP LINE | |
|--------------------|----------------------|----------|
| | LEAD ZONE | LAG ZONE |
| WAGON WHEEL-45 MPH | 330' | 110' |



LOCATION: I-540 NB RAMP/WAGON WHEEL RD.
CITY: SPRINGDALE
COUNTY: BENTON
DISTRICT: 9
DRAWN BY: rch

- NOTES:**
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - SEE TRAFFIC SIGNAL NOTES FOR CONSTRUCTION STAGING INFORMATION.
 - ALL CONDUITS ARE TO BE 3" NMC UNLESS IDENTIFIED OTHERWISE.

| 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. | BB0901 | | 32 | 66 |
| ② SIGNALIZATION PLAN SHEET | | | | | | | | |



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.
3. A SEPARATE SOLID GROUND WIRE BETWEEN ALL POLES, CABINET AND GROUND RODS IS REQUIRED AS SHOWN ON THE STANDARD DRAWINGS. ALL BONDS BETWEEN RODS AND GROUNDING CONDUCTORS ARE TO BE FUSION WELDS.

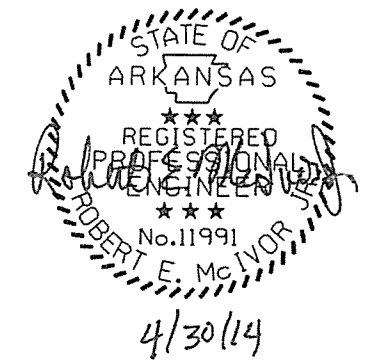
WIRING DIAGRAM
 WAGON WHEEL ROAD
 AT RAMP I-540 NORTHBOUND RAMPS

LOCATION: I-540 NB RAMPS/WAGON WHEEL RD.
 CITY: SPRINGDALE
 COUNTY: BENTON
 DISTRICT: 9 SCALE: N/A DRAWN BY: rch

USER: 11656
 DESIGN FILE: R:\647673\TRAFFIC SIGNALS\WAGON WHEEL RD. DIAGRAM.DGN
 PLOTTED: 04/30/14 15:15
 MODEL: WAGON WHEEL RD. SIGNALS
 SCALE: 20x

| 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. | BB0901 | | 33 | 66 |

2 SIGNALIZATION PLAN SHEET

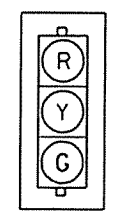


INTERVAL CHART

| SIGNAL FACES | I-540 NB RAMPS/WAGON WHEEL RD. | | | | FLASH |
|--------------|--------------------------------|------|-----|------|-------|
| | 2+6 | CLR. | 3+8 | CLR. | SEO. |
| 1&2 | G | Y | R | R | R |
| 3&4 | R | R | G | Y | R |
| 5&6 | R | R | G | Y | R |
| 7&8 | G | Y | R | R | R |

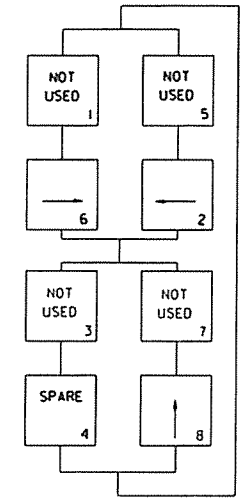
- DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
- DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
- DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

SIGNAL FACES
12" LENSES



1&2
3&4
5&6
7&8

I-540 WAGON WHEEL ROAD PHASING DIAGRAM



| DETECTOR SYSTEM DESCRIPTION: JOB BB0901 | | | | | | | | | | | | |
|--|----------|---------------|-------|-----------------------------|-------------|-------------|---------------------|-----|---------------|----------|--------------|--------------------------------|
| I-540 NB RAMPS AT WAGON WHEEL RD. DETECTOR ASSIGNMENTS | | | | HARDWARE INPUTS BY SUPPLIER | | | PROGRAM ASSIGNMENTS | | | COMMENTS | TUBE LENGTHS | |
| DET. ID# | LOCATION | DIRECTION | TYPE | DET. # | CAB. TRM. # | AMP. CHN. # | CON. INP. # | PHS | SYSTEM DET. # | | | MASTER SYSTEM DETECTOR NUMBERS |
| Vz21 | WB | ADVANCE | LOCAL | | | 1 | V2 | 2 | | | CAMERA V2 | 74" |
| Vz22 | WB | NEAR | COMB. | | | 2 | V10 | 2 | 2 | | CAMERA V5 | 23" |
| Vz61 | EB | ADVANCE | LOCAL | | | 5 | V6 | 6 | 6 | | CAMERA V6 | 74" |
| Vz62 | EB | NEAR | COMB. | | | 6 | V14 | 6 | | | CAMERA V1 | 23" |
| Vz63 | EB | PRESENCE | LOCAL | | | 7 | V4 | 6 | | | CAMERA V1 | 23" |
| Vz81 | NB | ADVANCE | COMB. | | | 9 | V8 | 8 | 8 | | CAMERA V8 | 74" |
| Vz82 | NB | PRESENCE | LOCAL | | | 10 | V16 | 8 | | | CAMERA V8 | 74" |
| Vz83 | NB | PRESENCE-ONLY | LOCAL | | | 11 | V3 | 8 | | | CAMERA V3 | 23" |

SPARE: 3, 4, 8, 12-16

CONTROLLER INPUT ABBREVIATION:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: USE VIRTUAL ZONE 83 TO CALL PHASE 8 MAX GREEN 2. SET FOR PRESENCE-ONLY WITH A SIX-SECOND DELAY.

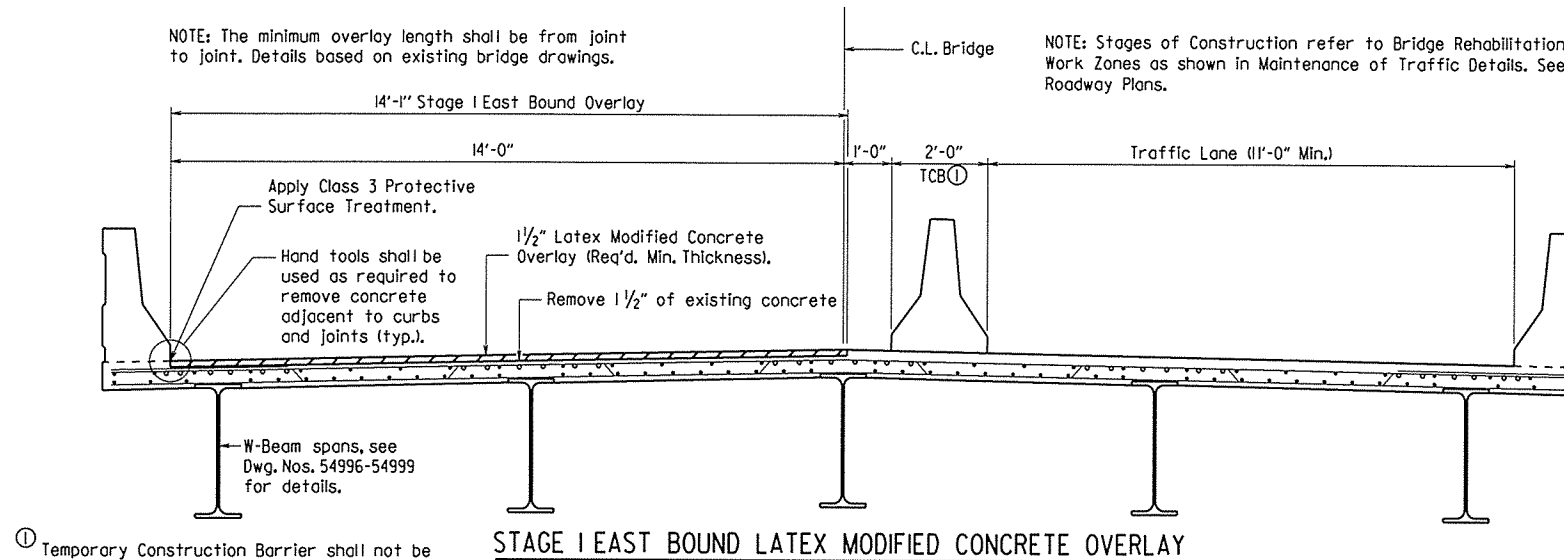
LOCATION: I-540 NB RAMPS/WAGON WHEEL RD.
CITY: SPRINGDALE
COUNTY: BENTON
DISTRICT: 9 SCALE: N/A DRAWN BY: rch

USER: 11656
 DESIGN FILE: R:\67673\TRAFFIC SIGNALS\WAGON WHEEL RD. INTERVAL.DGN
 PLOTTED: 04/30/14 15:44
 MODEL: WAGON WHEEL RD. SIGNALS
 SCALE: 1" = 20'

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|-----------------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | 34 | 66 | |
| | | | | 05947 - LMC OVERLAY - 54994 | | | | |

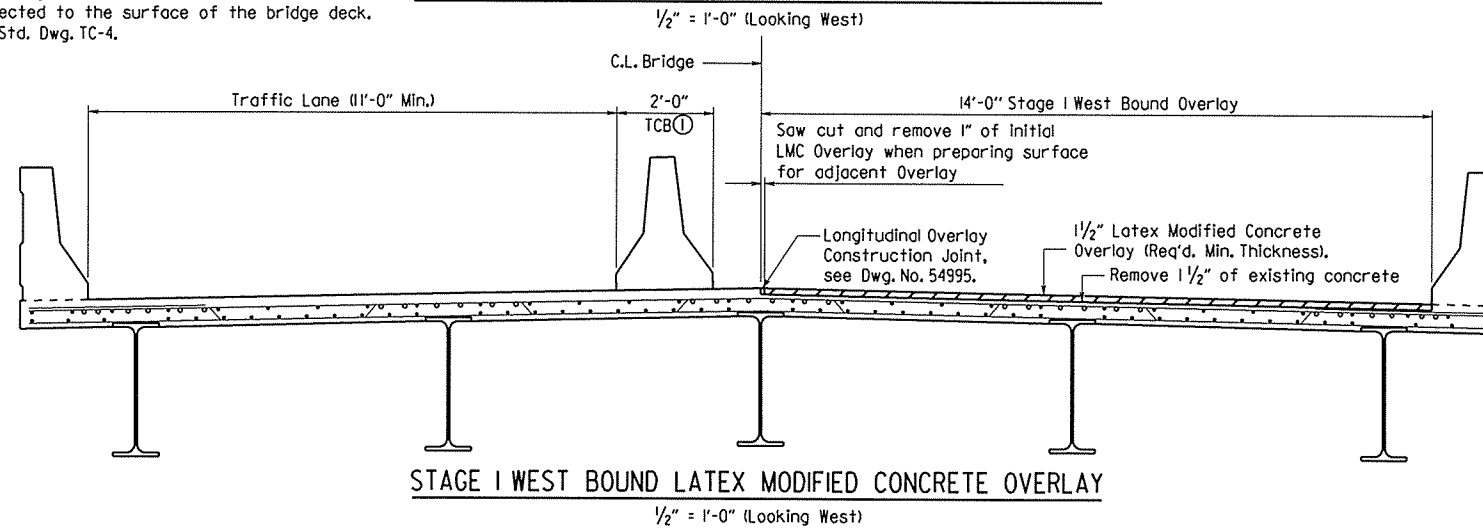
NOTE: The minimum overlay length shall be from joint to joint. Details based on existing bridge drawings.

NOTE: Stages of Construction refer to Bridge Rehabilitation Work Zones as shown in Maintenance of Traffic Details. See Roadway Plans.

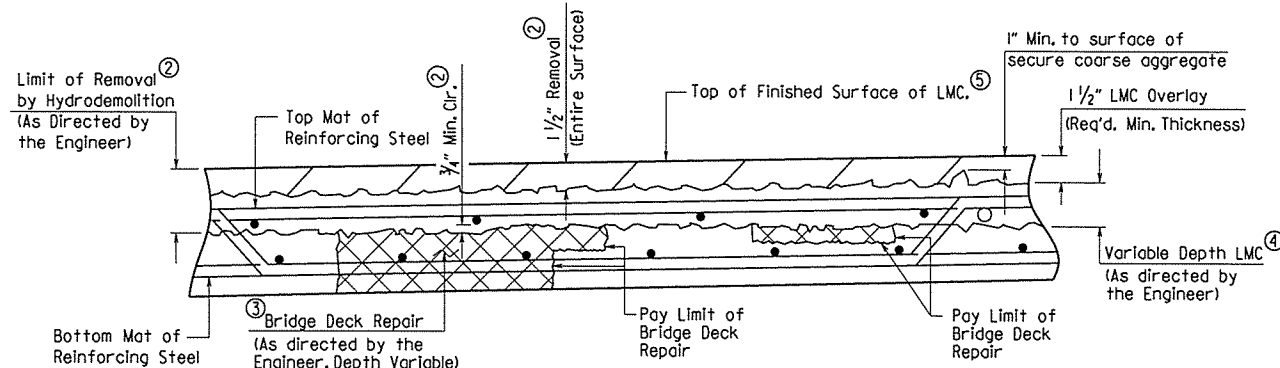


① Temporary Construction Barrier shall not be connected to the surface of the bridge deck. See Std. Dwg. TC-4.

STAGE I EAST BOUND LATEX MODIFIED CONCRETE OVERLAY



STAGE I WEST BOUND LATEX MODIFIED CONCRETE OVERLAY



DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY

No Scale

② Removal of unsound concrete beyond 1/2" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and the top mat of reinforcing steel is destroyed, then the concrete shall be removed to a minimum of 3/4" clearance below the bar.

③ Areas requiring additional repair, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

⑤ Finished Surface of LMC Overlay shall match existing concrete deck surfaces unless increase is required to maintain minimum required LMC Overlay thickness and a minimum of 1/2" cover to reinforcing steel.

④ Depth Varies to achieve minimum clearance below top mat of reinforcing steel, where required.

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications. Unless otherwise noted in the plans Section and Subsection refer to the Standard Specifications.

Drawing shows details and dimensions of existing structures based on the original bridge plans. The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and fit the new work to the existing structure.

The operation or placement of equipment and/or materials on the subject bridges necessary for the completion of this work shall be subject to the provisions of Subsection 105.14. Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

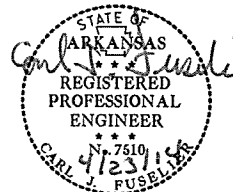
HYDRODEMOLITION: The entire area of the existing bridge deck shall receive hydrodemolition in accordance with the Special Provision Job BB0901 "Hydrodemolition" to a planned depth of 1/2" below the existing bridge deck surface. Deteriorated concrete below this depth shall be removed up to the limits detailed and at the direction of the Engineer. These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item Special Provision Job BB0901 "Hydrodemolition". Prior to hydrodemolition, cold milling of the concrete deck to a maximum depth of 1" will be allowed unless there will be a conflict with the existing reinforcing.

LATEX MODIFIED CONCRETE OVERLAY: The entire area of the existing bridge deck shall receive a Latex Modified Concrete (LMC) Overlay to a planned depth of 1/2" below the existing bridge deck surface, in accordance with the Special Provision Job BB0901 "Latex Modified Concrete Overlay". These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BB0901 "Latex Modified Concrete Overlay (1/2" Thick)". Areas of the existing bridge deck removed at the direction of the Engineer to a depth greater than 1/2" below the existing bridge deck surface shall be filled with LMC concurrent to the placement of the 1/2" LMC Overlay. This material shall be measured and paid for in accordance with Special Provision Job BB0901 "Latex Modified Concrete Overlay".

BRIDGE DECK: The LMC Overlay surface shall be given a grooved finish as specified for final finishing in Subsection 802.19 for Class 7 Grooved Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: The longitudinal joint between the LMC Overlay and the adjacent existing concrete curb or roll shall be given a Class 3 Protective Surface Treatment as specified in Section 803 and in accordance with Special Provision Job BB0901 "Latex Modified Concrete Overlay". Transverse or longitudinal construction joints separating adjacent overlay placements shall be prepared and sealed in accordance with the joint details on Dwg. No. 54995.

The roadway surface of the completed LMC Overlay shall be given a Class 1 Protective Surface Treatment as specified in Section 803.



BRIDGE ENGINEER

**SHEET 1 OF 2
DETAILS OF LATEX MODIFIED
CONCRETE OVERLAY**

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

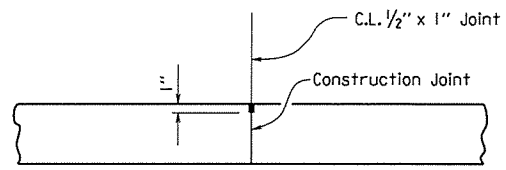
LITTLE ROCK, ARK.

DRAWN BY: K W Y DATE: 3/12/14 FILENAME: bbb0901_lmc.dgn

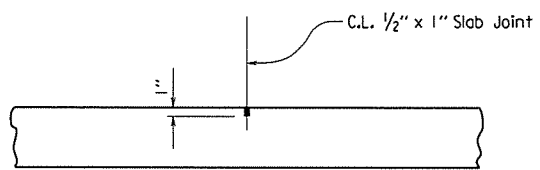
CHECKED BY: AMS DATE: 4/23/14 SCALE: as noted

DESIGNED BY: DATE: BRIDGE NO. 05947 DRAWING NO. 54994

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|-----------------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 35 | 66 |
| | | | | 05947 - LMC OVERLAY - 54995 | | | | |



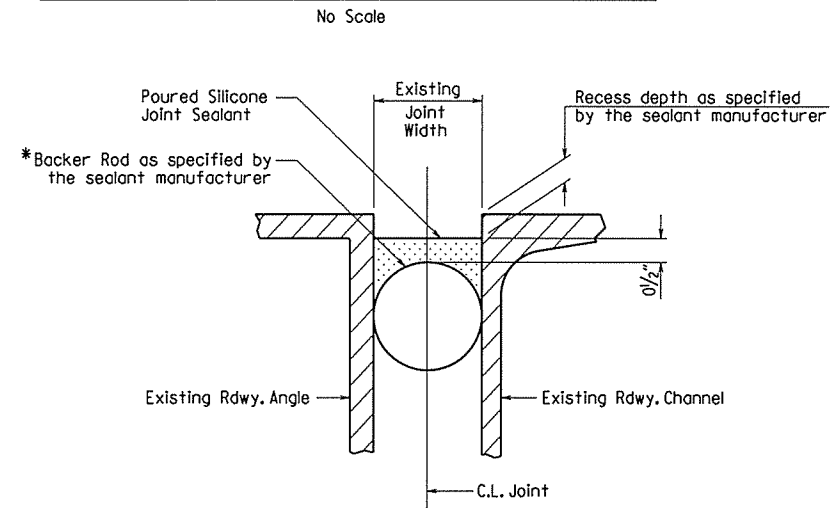
Use 1/2" X 1" Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer Rod shall not be installed. Joint Sealer shall be measured and paid for as LMC Overlay. Sealant must be gray or other color similar to concrete.



Use 1/2" X 1" Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer rod shall not be installed. Joint Sealer shall be measured and paid for as LMC Overlay. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be placed at all pouring sequence construction joints and are required at existing slab joint locations.

Slab joints and longitudinal construction joints shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the Overlay.

LONGITUDINAL OVERLAY CONSTRUCTION JOINT DETAIL



Backer rods shall be extended beyond the length of the poured joint in the initial joint rehabilitation area so that the two pieces can be properly spliced together prior to installing sealant for the adjacent joint rehabilitation. Manufacturer's recommendations shall be followed to prevent sealant leakage during rehabilitation work.

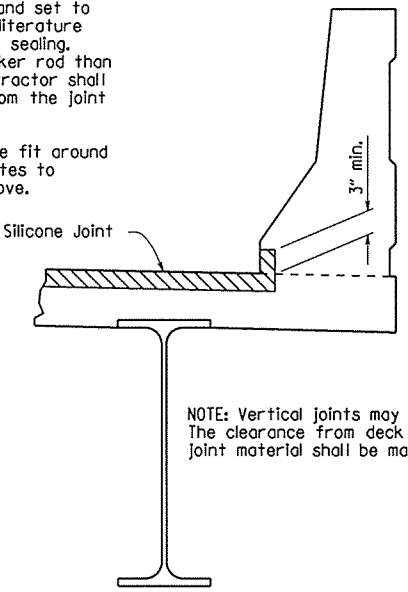
Existing Joint Seal shall be completely removed, backer rods placed, and Silicone Joint Sealant installed across the entire width of the bridge deck in accordance with these details and Manufacturer's instructions. Removal of existing Joint Seal will not be paid for directly, but shall be considered incidental to the item "Silicone Joint Sealant".

POURED SILICONE JOINT SEAL DETAILS

No Scale

*Backer rod shall be appropriately sized and set to the depth shown in the manufacturer's literature based on the joint width at the time of sealing. Except as noted, do not install more backer rod than can be sealed in the same day. The Contractor shall verify separation of the backer rod from the joint material after joint material has set.

Backer rod shall be notched or otherwise fit around any existing seal supports or bumper plates to maintain its proper depth as defined above.

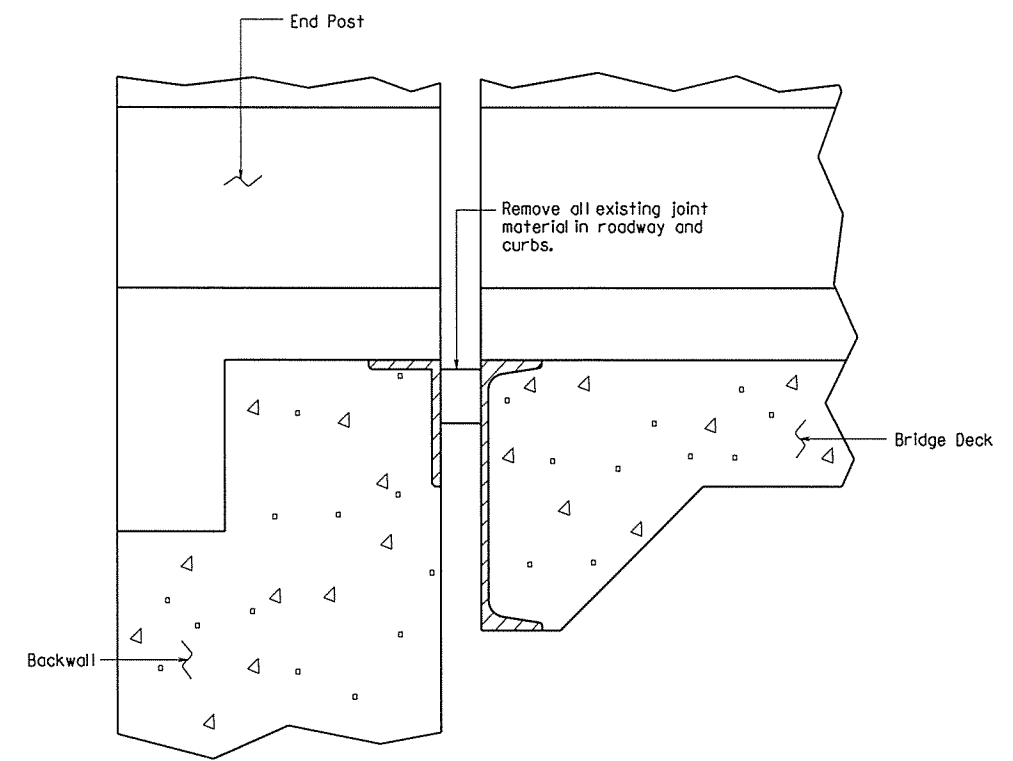


JOINT SEAL PLACEMENT AT CURB

No Scale

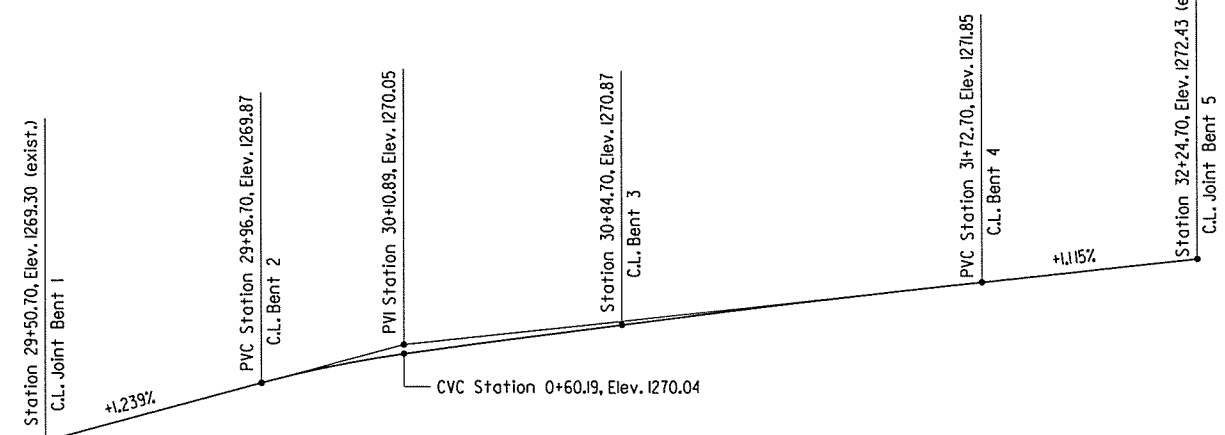
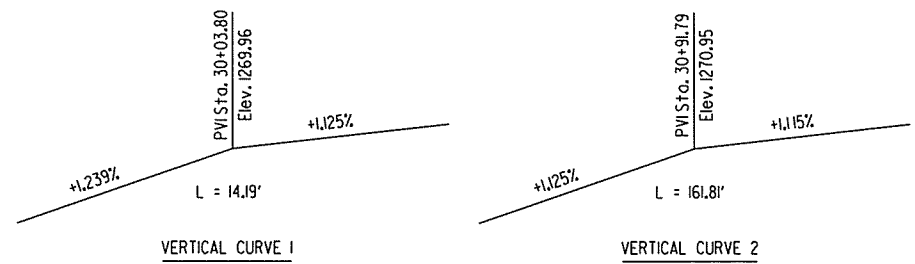
TRANSVERSE OVERLAY JOINT DETAIL

No Scale



JOINT REMOVAL DETAILS AT END BENTS

No Scale



NOTE: Inspection reports indicate less than 1 1/2" concrete cover to reinforcing steel in spans 2 & 3 is present. LMC thickening will be required to increase the reinforcing steel cover. The above vertical alignment is proposed to provide a smooth transition of the bridge deck surface. The unequal tangent vertical curve can be broken down into two equal tangent vertical curves as shown above. Elevations shown are along C.L. Bridge.

UNEQUAL TANGENT VERTICAL CURVE FOR LMC THICKENING

No Scale



BRIDGE ENGINEER

**SHEET 2 OF 2
DETAILS OF LATEX MODIFIED
CONCRETE OVERLAY**

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 3/12/14 FILENAME: bbb0901_lmc.dgn

CHECKED BY: AMS DATE: 4/23/14 SCALE: AS NOTED

DESIGNED BY: DATE: BRIDGE NO. 05947 DRAWING NO. 54995

PRINT DATE: 4/22/2014

For R/W Data - See Rdwy. Plans

| DATE REVISION | DATE REVISION | DATE REVISION | DATE REVISION | PER. ROAD NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---------------|---------------|---------------|---------------|---------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 36 | 66 |
| | | | | | LAYOUT | | | 54996 |

FOR INFORMATION ONLY

GENERAL NOTES

BENCH MARK: #53 "N.I.S." P.P. 289' RT. STA. 471+33, ELEV. 1274.28.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES I-77 WITH CURRENT INTERIM SPECIFICATIONS.

LIVE LOADING: HS20

METHOD OF DESIGN: LOAD FACTOR

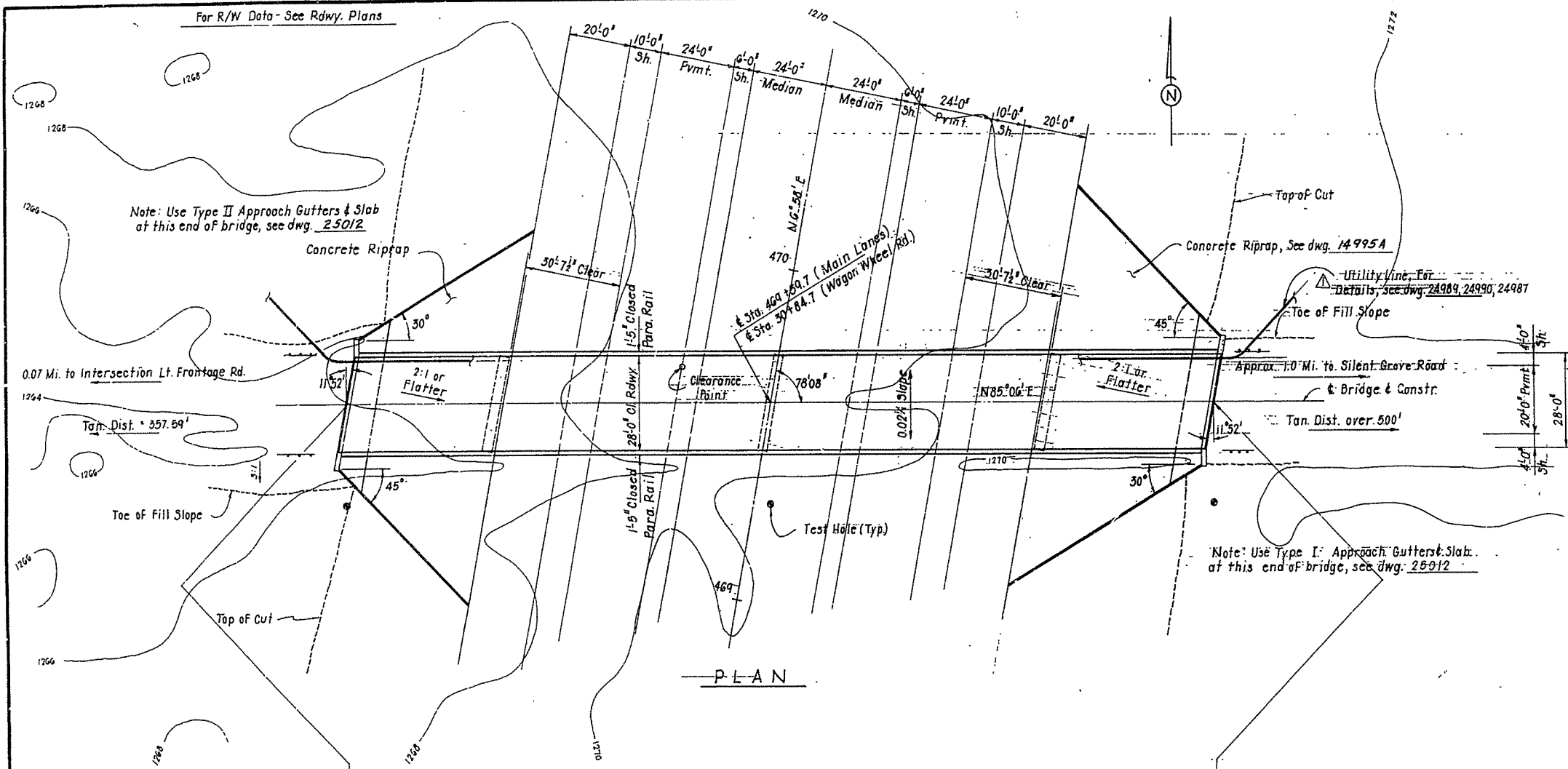
DETAIL DRAWINGS:

| DETAIL DRAWINGS: | DRAWING NO. |
|-----------------------------------|--------------------|
| END BENTS | 24987 |
| INTERMEDIATE BENTS | 24988 |
| SPANS | 24989: 11/11/24992 |
| EXCAVATION FOR STRUCTURES | 1891F |
| EMBANKMENT CONSTRUCTION | 1888A |
| PILING SPLICES | 14995A |
| PERMANENT STEEL BRIDGE DECK FORMS | 14991 |
| GUARD RAIL CONNECTION | GR-8A |
| TYPE C BRIDGE NAME PLATES | 2389A |
| APPROACH GUTTERS & SLAB | 25012 |
| SHOES | 25010, 25011 |

STEEL PILING: PILING FOR BENTS 1 & 5 SHALL BE HPI0X42 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE AND INTO THE MATERIAL DESIGNATED AS HARD GRAY LIMESTONE ON THE BORING LOG. LENGTHS OF PILING SHOWN ARE FOR ESTIMATING QUANTITIES ONLY. ORDER LENGTHS SHOWN, CUT-OFF OR BUILD-UP, IF NECESSARY TO BE PAID FOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PILES IN END BENTS TO BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF CAP IS IN PLACE.

FOOTINGS: FOOTINGS SHALL BE SET A MINIMUM OF 1.5' INTO MATERIAL DESIGNATED BY THE BORING LOG AS HARD GRAY LIMESTONE. FOUNDATIONS FOR FOOTINGS SHALL BE PREPARED IN ACCORDANCE WITH SECTION 801.04 OF THE STANDARD SPECIFICATIONS.

Confalling. Footing Pressure = 11.338 KSF, Group III, Bent 4



PLAN

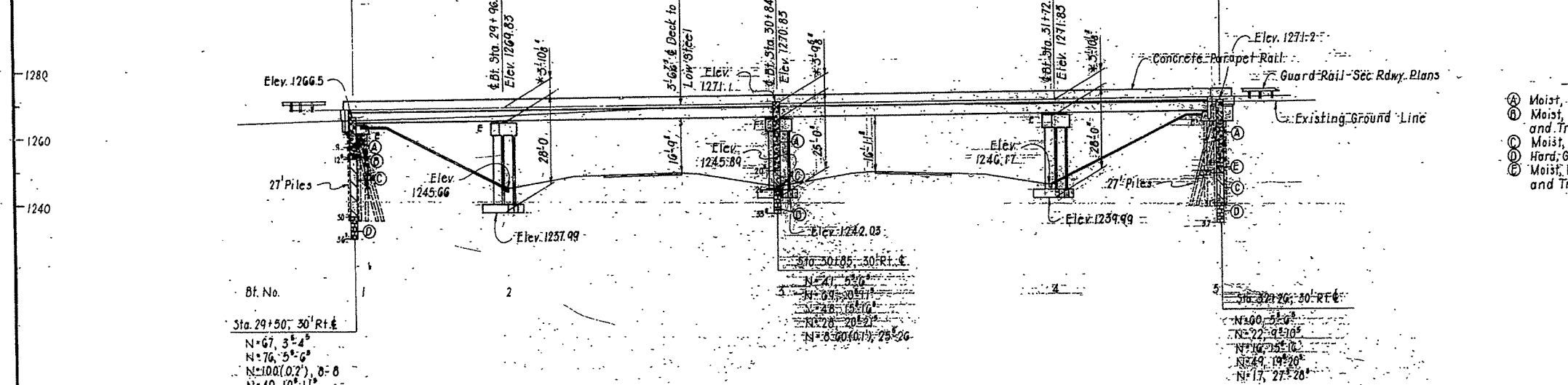
Total Length of Bridge = 276'-2 1/2"

274'-0" Continuous Composite W-Beam Unit (46', 88', 88', 52')

* Dimensioned at Bridge at Bent to Low Seat of Cap.

24' Jt. Beg. Bridge Sta. 29+49.57 Elev. 1269.29

24' Jt. End Bridge Sta. 32+25.76 Elev. 1272.44



ELEVATION

Bt. No.

| Sta. 29+50, 30' Rt. E |
|-----------------------|
| N=67, 3'-4" |
| N=76, 5'-6" |
| N=100(0.2), 8'-0" |
| N=40, 10'-11" |
| N=60(0.3), 12'-12" |
| N=41, 15'-10" |
| N=58, 19'-20" |
| N=60(0.2), 25'-25" |
| N=60(0.5), 29'-29" |

| Sta. 30+85, 30' Rt. E |
|-----------------------|
| N=41, 5'-6" |
| N=67, 3'-4" |
| N=28, 18'-10" |
| N=28, 20'-2" |
| N=80(0.1), 29'-26" |

| Sta. 32+26, 20' Rt. E |
|-----------------------|
| N=60, 5'-0" |
| N=77, 9'-10" |
| N=10, 2'-5'-10" |
| N=49, 19'-26" |
| N=17, 27'-20" |

APPROACH SLAB & GUTTER QUANT.

| Type | Bent | Concrete | Steel |
|------|------|----------|-------|
| II | | 4.75 | 3282 |
| I | 5 | 30.15 | 2022 |

BORING LEGEND

- Ⓐ Moist, Dense, White Cherty Gravel and Cobbles with very stiff, Reddish Brown Clay
- Ⓑ Moist, Dense, White Cherty Gravel and Cobbles with very stiff, Reddish Brown Clay and Tripoli Layers
- Ⓒ Moist, Stiff, Reddish Brown Clay with White Tripoli Layers
- Ⓓ Hard, Gray Limestone
- Ⓔ Moist, Medium Dense, White Cherty Gravel with Very Stiff, Reddish Brown Clay and Tripoli Layers

LAYOUT OF BRIDGE OVER
HWY 71 (WAGON WHEEL RD.)
ELM SPRINGS RD. - HWY. 264 (HWY. 71 RELOC.)

BENTON COUNTY
ROUTE 71 SEC. 18
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

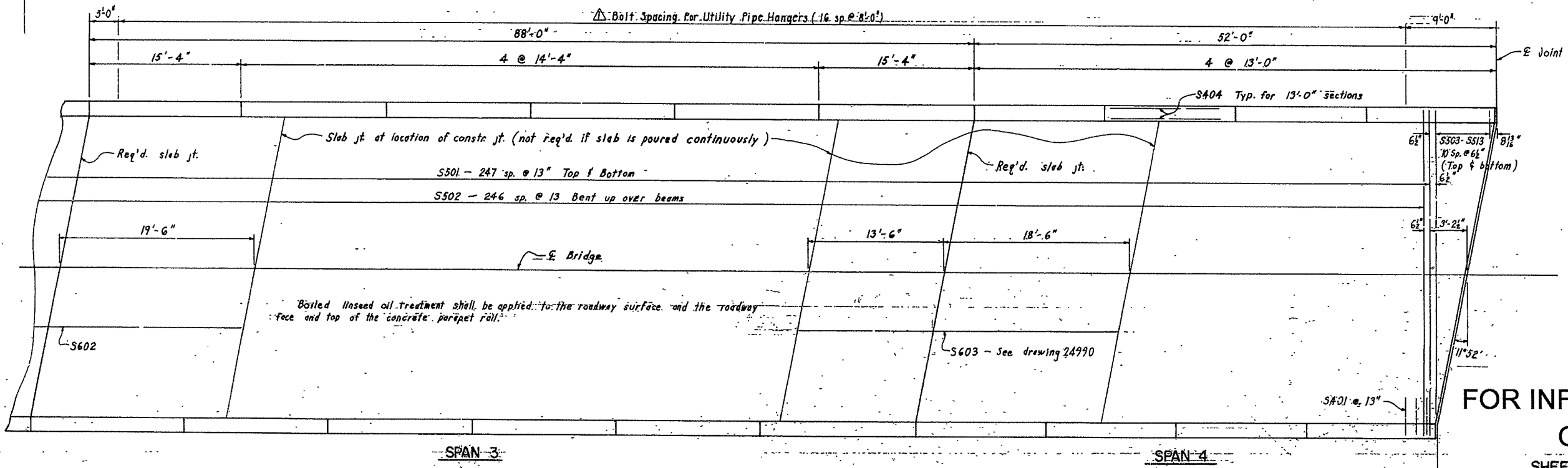
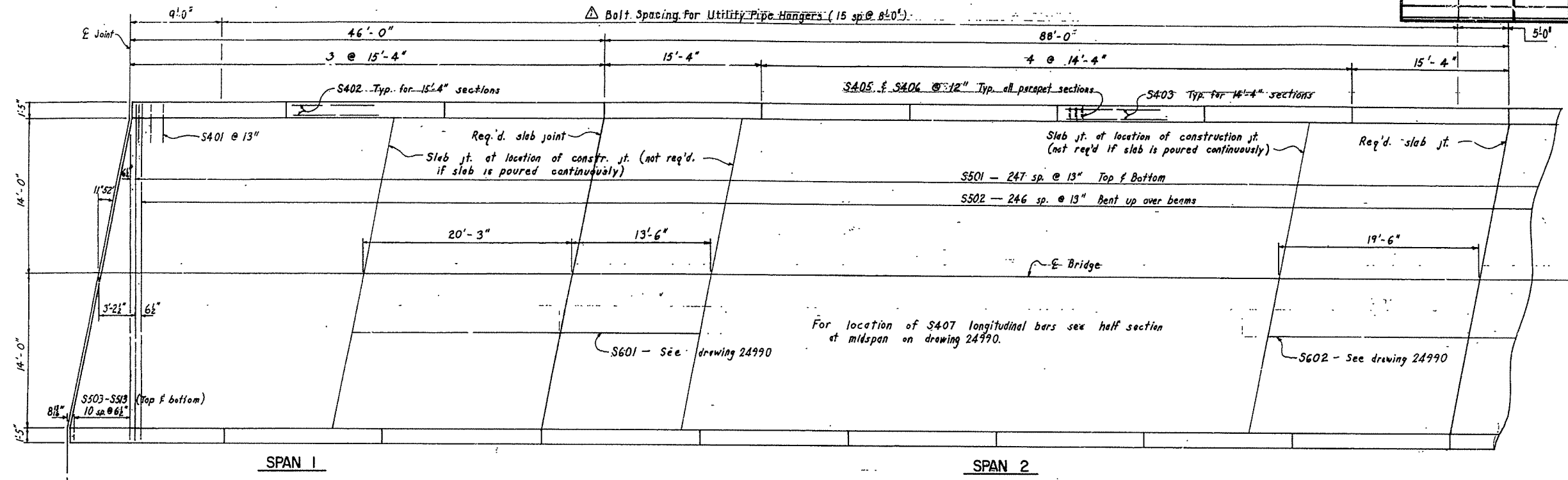
Revised: Added Utility Detail, 2-10-82, J.M.

Paul R. ...

BRIDGE NO. 05947
DRAWING NO. 54996

SCALE: 1" = 20'

| DATE REVISED | BY | DATE REVISED | BY | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|----|--------------|----|---------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 37 | 66 |
| | | | | 05947 | SPAN | | | 54997 |



PLAN

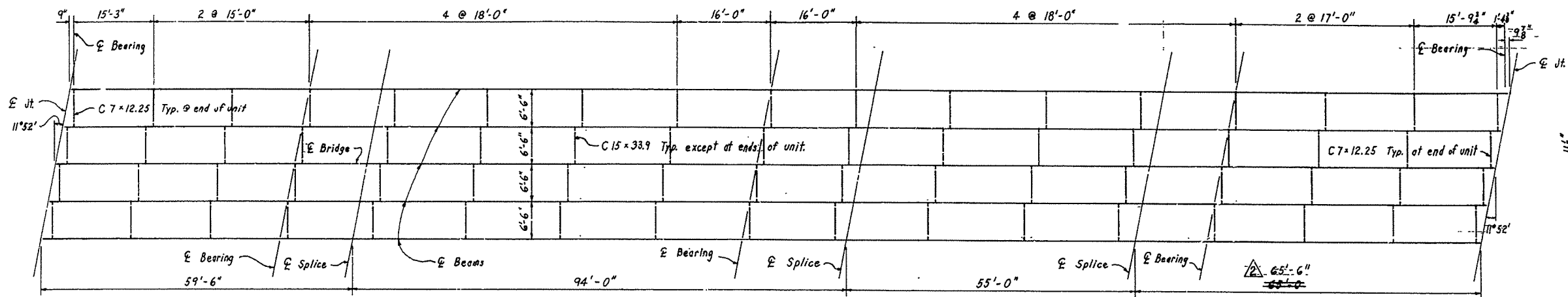
FOR INFORMATION ONLY
SHEET 1 OF 4

SPAN DETAILS
WAGON WHEEL ROAD
ELM SPRINGS RD - HWY 264 (HWY 71 RELOC.)
BENTON COUNTY
ROUTE 71 SEC 18
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

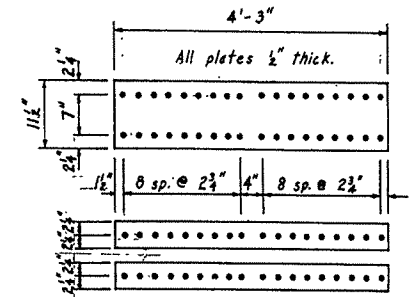
△ Revised Added Utility Details 2-16-82, L.M.

SCALE 1/4" = 1'-0"
BRIDGE NO. 05947 DRAWING NO. 54997

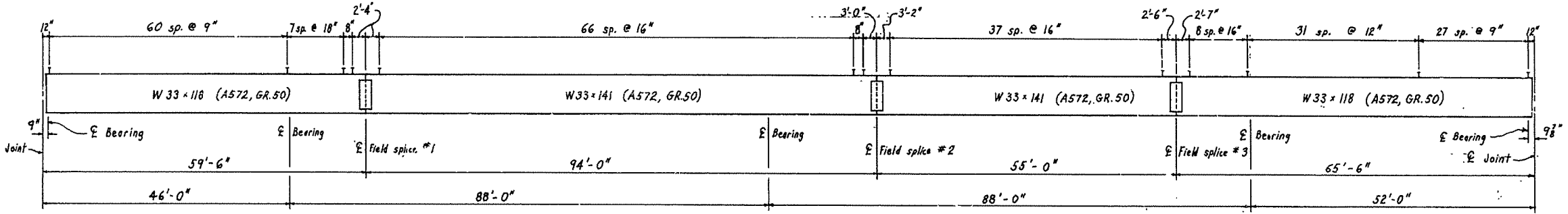
| DATE | DATE | DATE | DATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------|------|------|------|--------------------|-----------|--------------|
| | | | | 6 ARK. | | |
| | | | | JOB NO. BB0901 | 3B | 66 |
| | | | | 05947 SPAN | | 54998 |



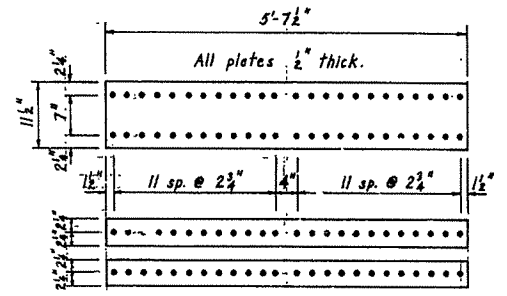
FRAMING PLAN
3/4" = 1'-0"



FLANGE SPLICE PLATES FOR SPLICES 1 & 3
3/4" = 1'-0"

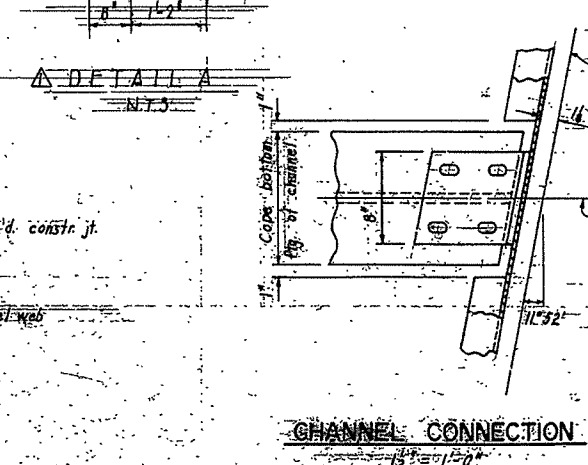
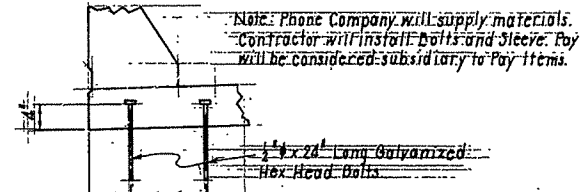


BEAM ELEVATION
3/4" = 1'-0"

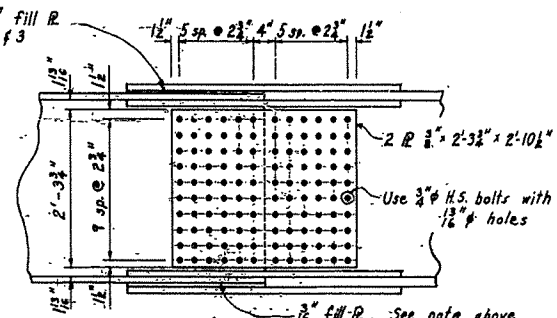


FLANGE SPLICE PLATES FOR SPLICE 2
3/4" = 1'-0"

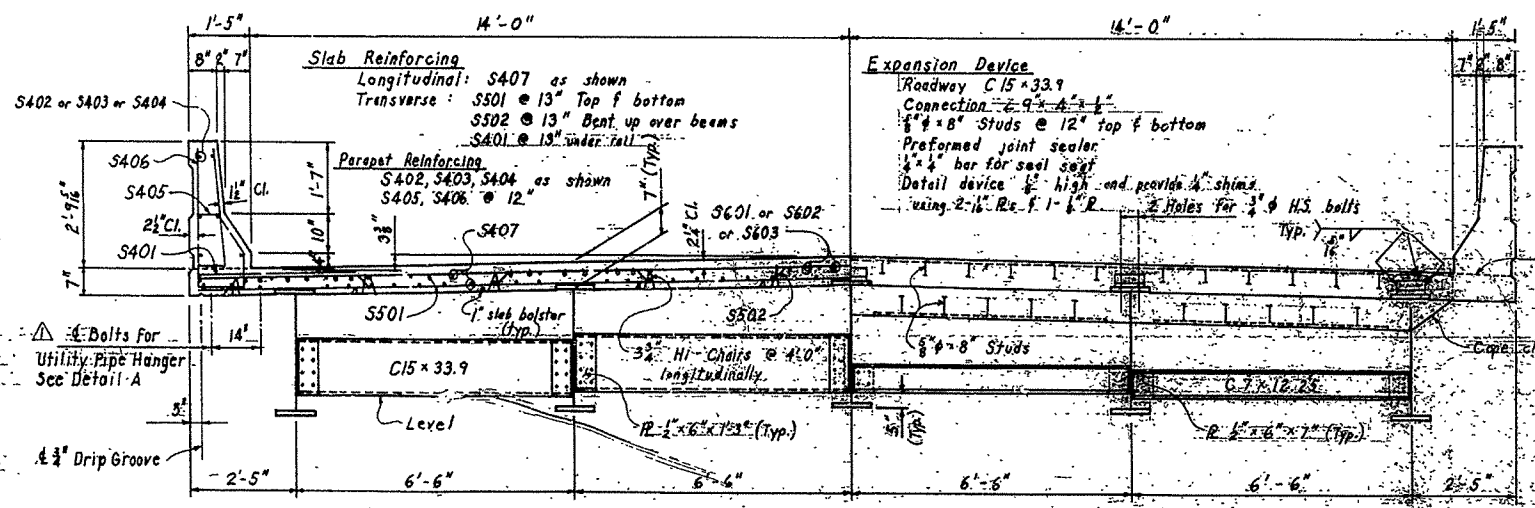
For details of shoes see drawings 25010 & 25011.



CHANNEL CONNECTION



SPLICE DETAILS
3/4" = 1'-0"



HALF SECTION AT MIDSPAN

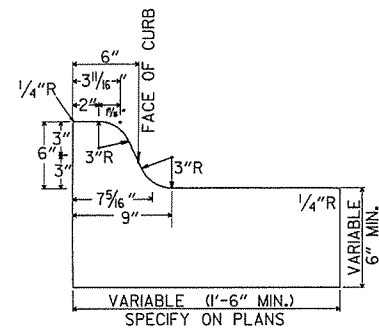
HALF SECTION AT END OF UNIT

ROADWAY SECTION

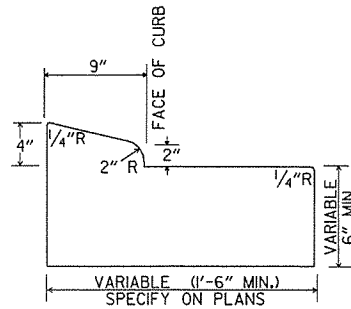
FOR INFORMATION ONLY

SHEET 2 OF 4
SPAN DETAILS
WAGON WHEEL ROAD
ELM SPRINGS RD. - HWY. 264 (HWY. 71 RELOC.)
BENTON COUNTY
ROUTE 71 - SEC. 18
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

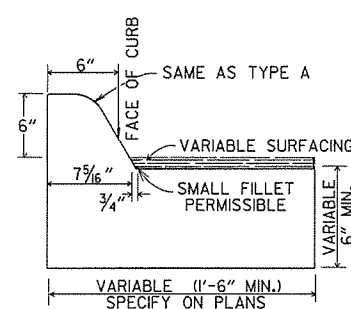
BRIDGE NO. 05947 DRAWING NO. 54998



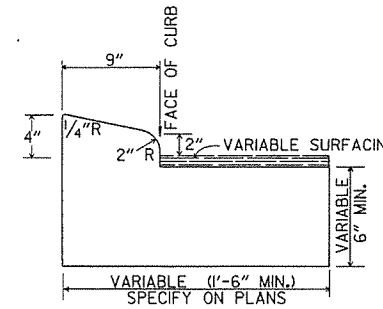
TYPE A



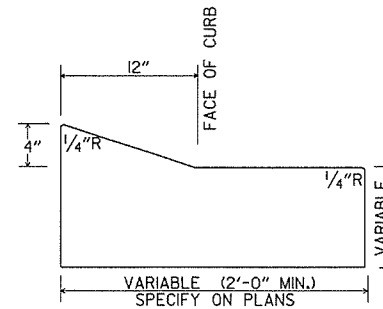
TYPE B-1



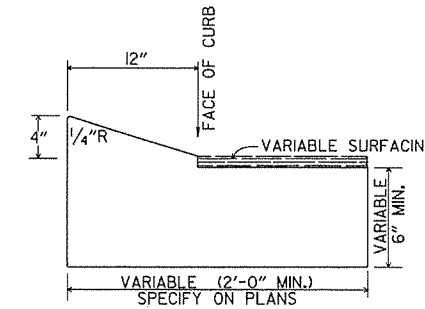
TYPE C



TYPE B-2

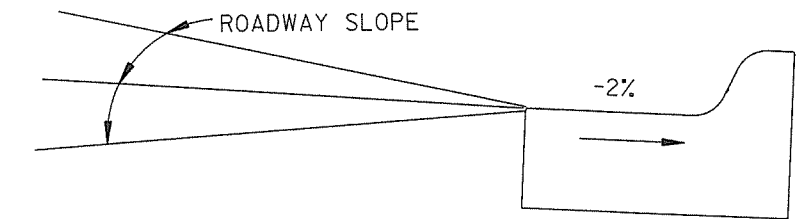


TYPE E-1

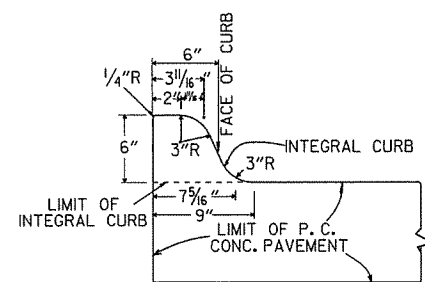


TYPE E-2

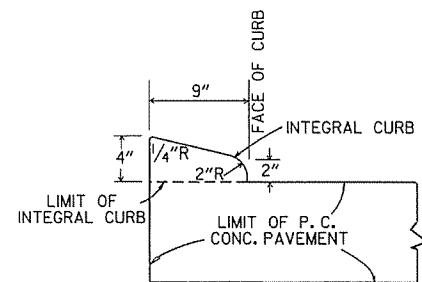
CONCRETE COMBINATION CURB AND GUTTER



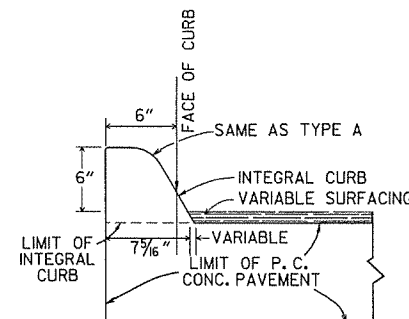
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

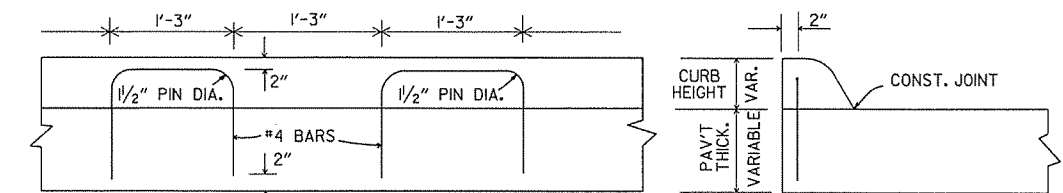


TYPE B



TYPE C

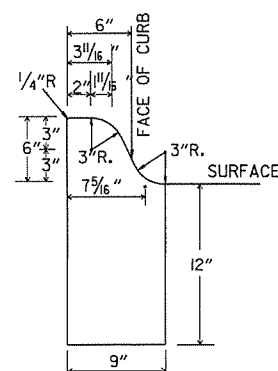
INTEGRAL CURB



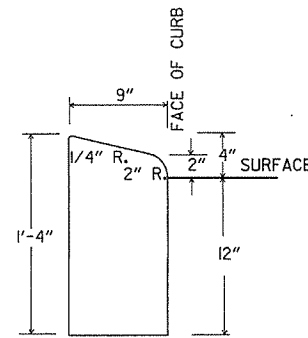
LONGITUDINAL SECTION

ELEVATION

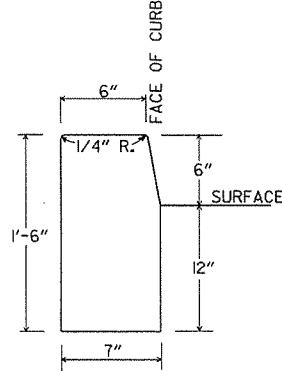
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



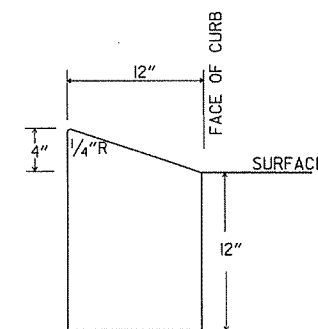
TYPE A



TYPE B

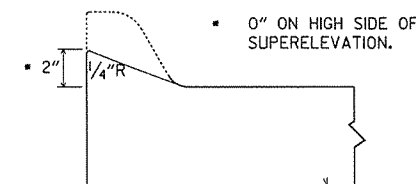


TYPE D



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.

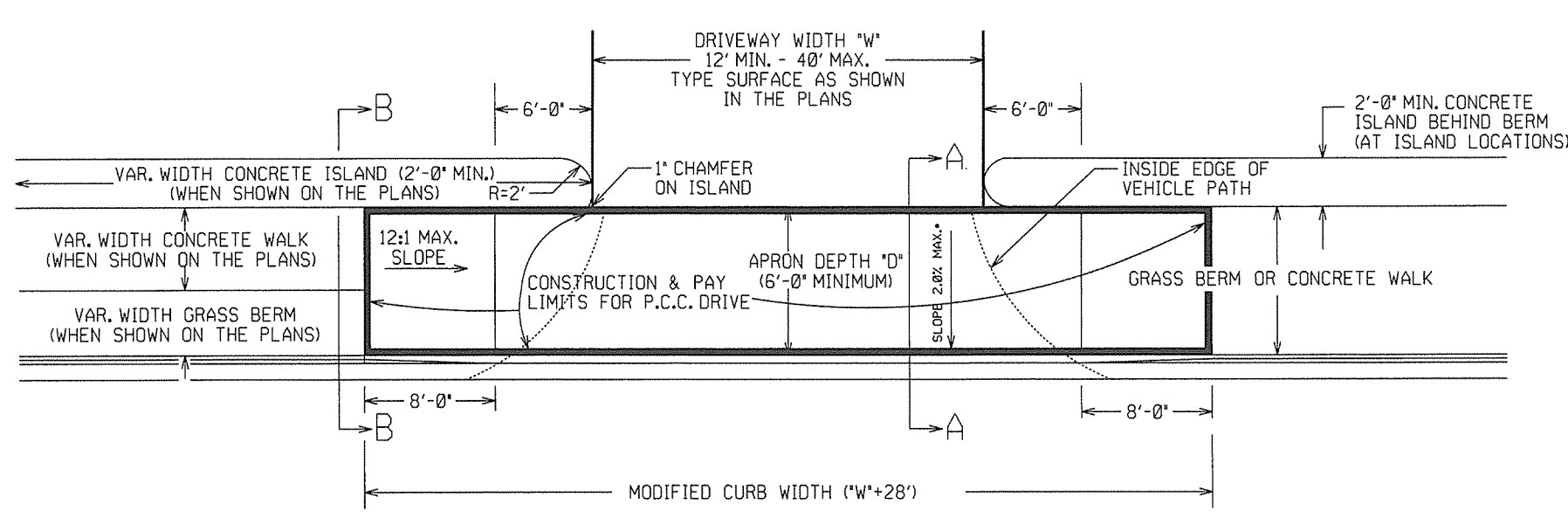
DETAILS OF MODIFIED CURB

| 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 | VARIABLE 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 |

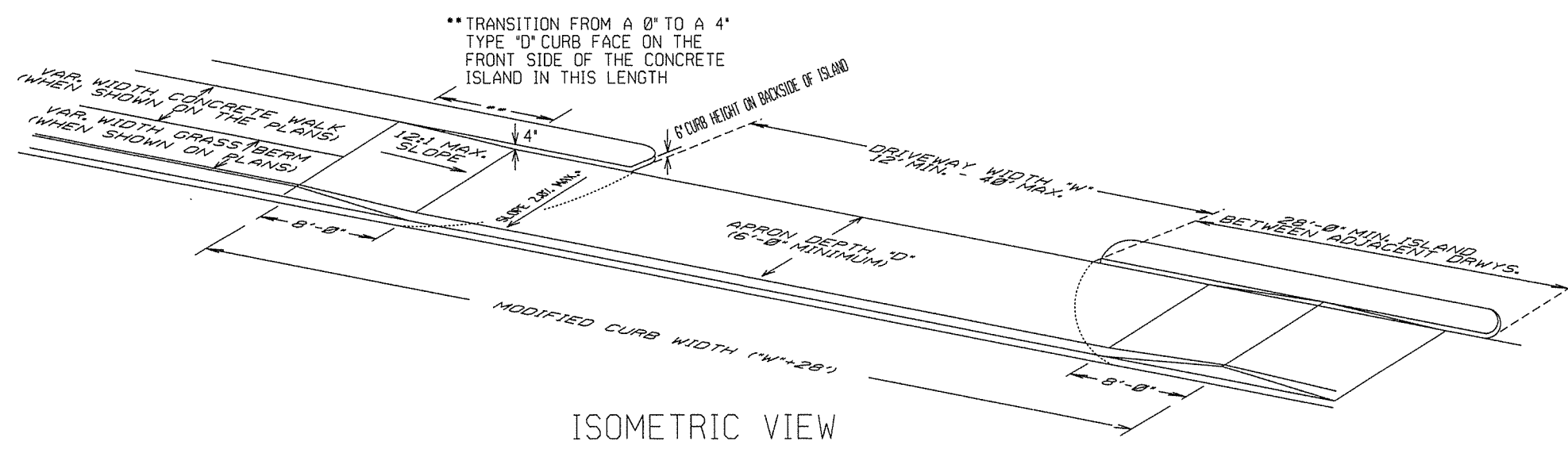
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

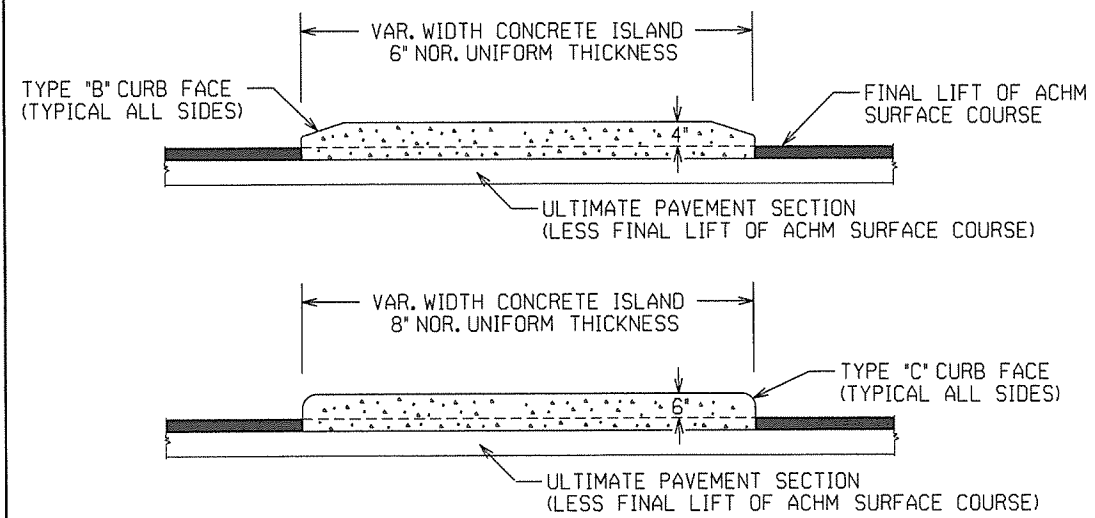


PLAN VIEW

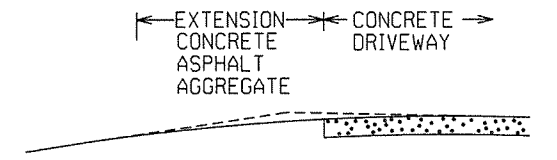


ISOMETRIC VIEW

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".



CURBED ISLANDS FOR CHANNELIZATION

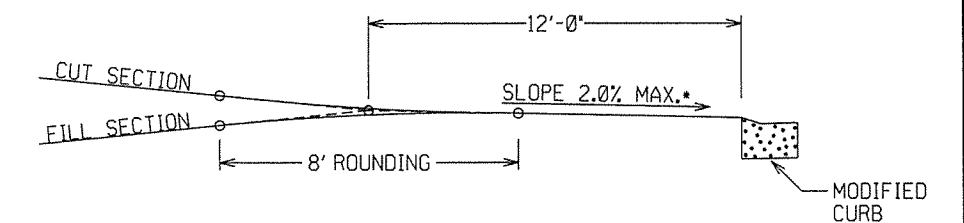


EXTENSION TYPICAL SECTIONS

- 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

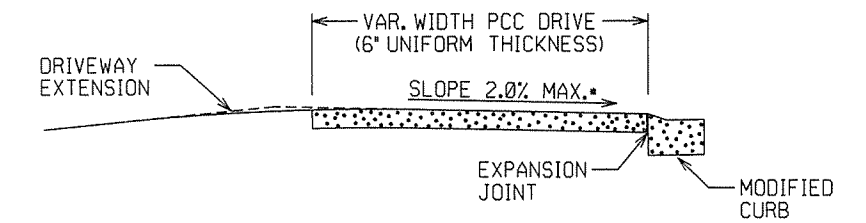
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

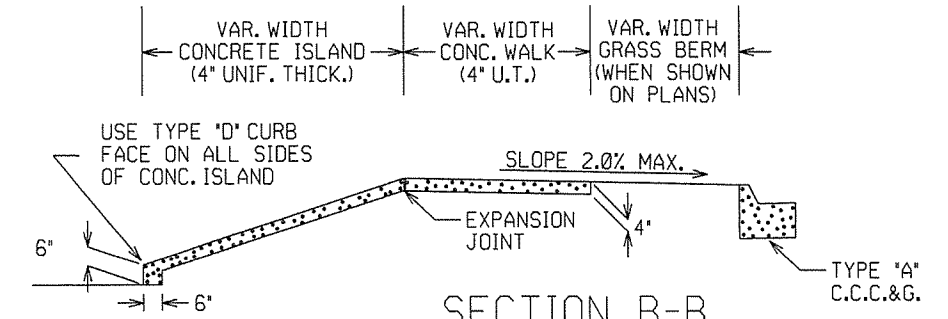


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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

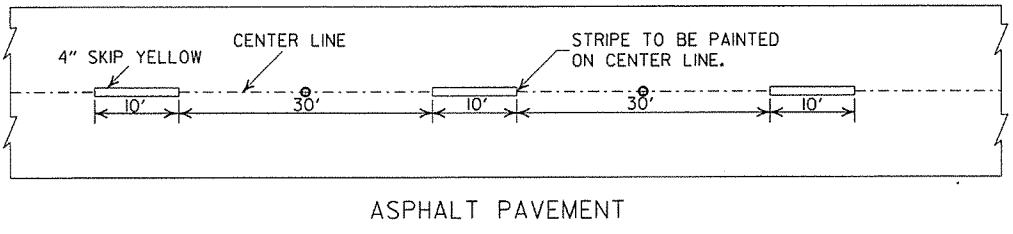
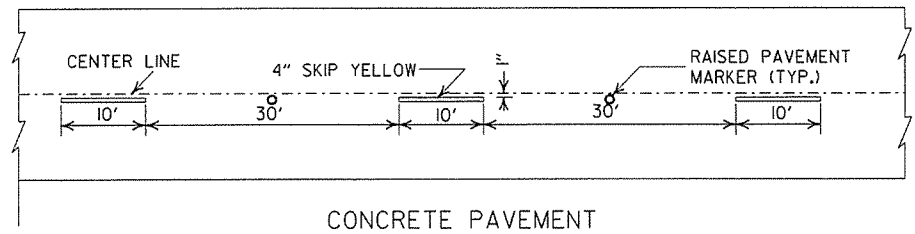


SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

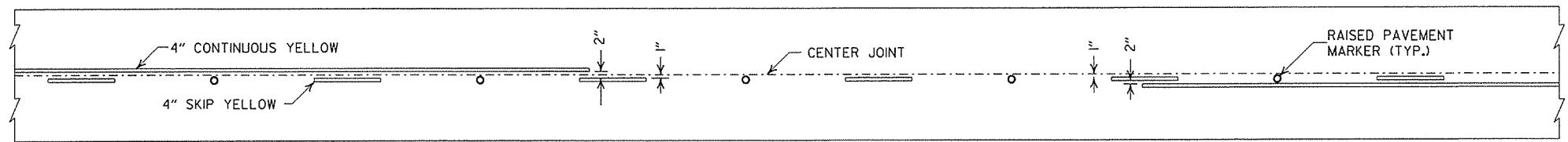
| DATE | REVISION | DESCRIPTION |
|----------|----------|---|
| 2-27-14 | | REVISED PLAN & ISOMETRIC VIEW |
| 11-29-07 | | ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL |
| 11-10-05 | | REV. APRON SLOPE & DEPTH OF AGG. BASE. |
| 8-22-02 |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



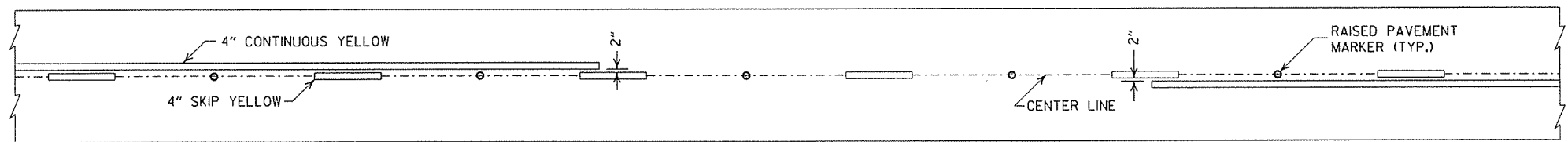
CONCRETE PAVEMENT

ASPHALT PAVEMENT

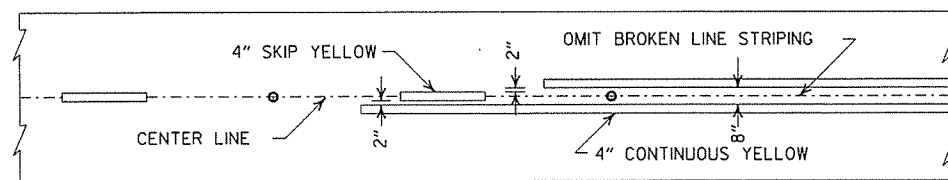
BROKEN LINE STRIPING



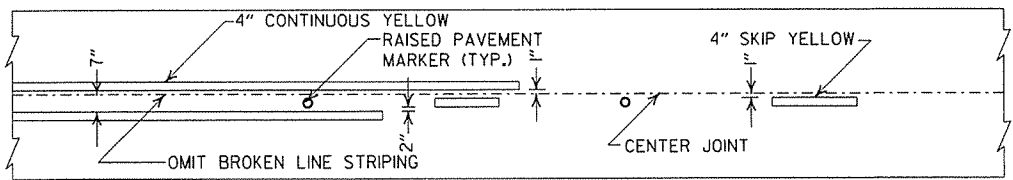
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

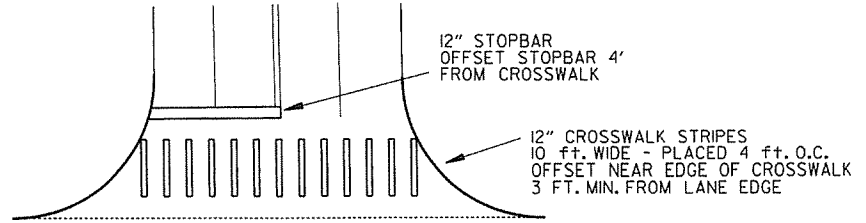


ASPHALT PAVEMENT



CONCRETE PAVEMENT

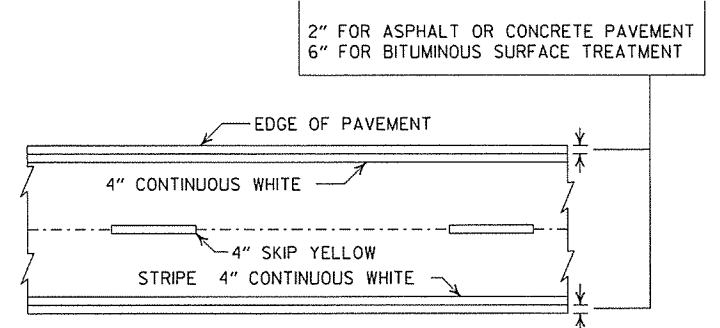
STRIPING AT ADJACENT NO PASSING LANES



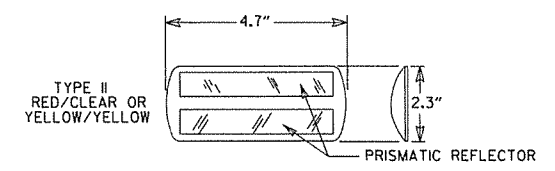
CROSSWALK AND STOPBAR DETAILS

NOTES:

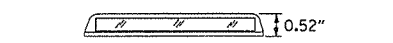
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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 AHTD QUALIFIED PRODUCTS LIST.

| DATE | REVISION | FILMED |
|----------|---|-----------|
| 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 | |

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

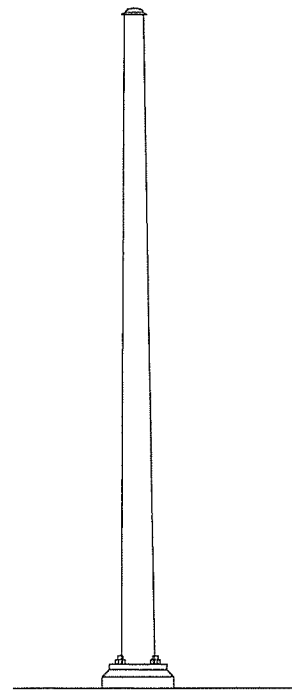
USE FATIGUE CATEGORY II.

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

BASE WIND SPEED: 90 MPH

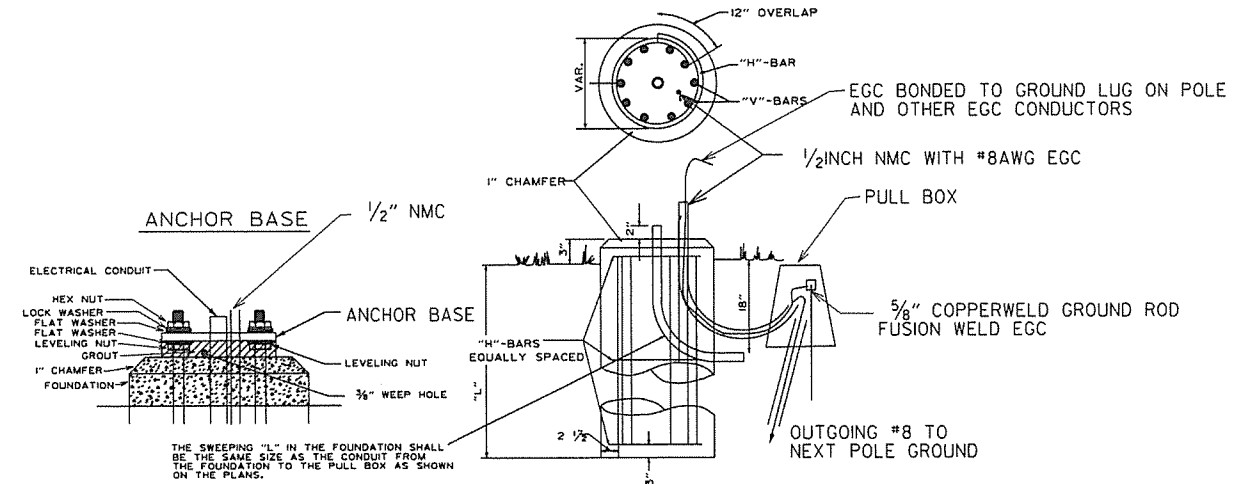
STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

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 ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX PAID FOR SEPARATELY AS SHOWN ON THE PLANS.



ANTENNA POLE

NOTE: COMMUNICATION CABLE SHIELD SHALL BE TIED TO GROUND AT ONLY ONE POINT (MASTER CABINET). THE SHIELD SHALL BE MAINTAINED CONTINUOUS (THROUGH ALL SPLICES). PLEASE REFER TO TESTING PROCEDURES IN SPECIAL PROVISIONS.



TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING.

| POLE HEIGHT | FOUNDATION DIAMETER | DEPTH * L' | VERTICAL | HORI ZONTAL | TIE SPACING |
|-------------|---------------------|------------|----------|-------------|-----------------|
| 20.0' | 30' | 5'-6" | 12-#7 | #4 | 5 SP @ 12" |
| 25.0' | 30' | 6'-0" | 12-#7 | #4 | 6 SP @ 11" |
| 30.0' | 30' | 6'-6" | 12-#7 | #4 | 6 SP @ 12" |
| 35.0' | 30' | 7'-0" | 12-#7 | #4 | 7 SP @ 11" |
| 40.0' | 30' | 7'-6" | 12-#7 | #4 | 7 SP @ 12" |
| 45.0' | 36' | 8'-6" | 13-#8 | #4 | 8 SP @ 12" |
| 50.0' | 36' | 9'-6" | 13-#8 | #4 | 9 SP @ 12" |
| 55.0' | 36' | 10'-0" | 13-#8 | #4 | 10 SP @ 11" |
| 60.0' | 36' | 10'-6" | 13-#8 | #4 | 10 SP @ 12" |
| 65.0' | 36' | 11'-0" | 13-#8 | #4 | 12 SP @ 10 1/2" |
| 70.0' | 36' | 11'-6" | 13-#8 | #4 | 11 SP @ 12" |
| 75.0' | 42' | 13'-0" | 18-#8 | #4 | 14 SP @ 10 1/2" |
| 80.0' | 42' | 13'-6" | 18-#8 | #4 | 13 SP @ 12" |
| 85.0' | 42' | 14'-6" | 18-#8 | #4 | 14 SP @ 12" |
| 90.0' | 42' | 15'-0" | 18-#8 | #4 | 18 SP @ 9 1/2" |

ALL CONCRETE SHALL BE CLASS "S" WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'C=3500 PSI. CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS CHAMFERED 3/4" UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 40 (YIELD STRENGTH=40,000 PSI).

PROVIDE 3" CLEAR TIES. DETAIL 3" TO FIRST TIE AT TOP OF SHAFT.

| | | |
|---------|----------------------------------|-----------|
| 2-27-14 | REVISED NOTES. | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | REVISED GROUNDING | |
| 4-18-08 | REVISED AASHTO NOTES | |
| 4-17-08 | REVISED TO 2001 AASHTO STANDARDS | |
| 9-6-00 | ISSUED | |
| DATE | REVISION | DATE FILM |

ARKANSAS STATE HIGHWAY COMMISSION

ANTENNA POLE

STANDARD DRAWING SD-1

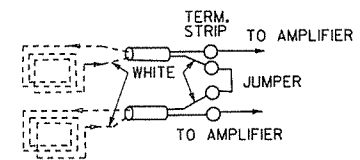
LOOP DETECTOR INSTALLATION AND TESTING

44

NOTES:

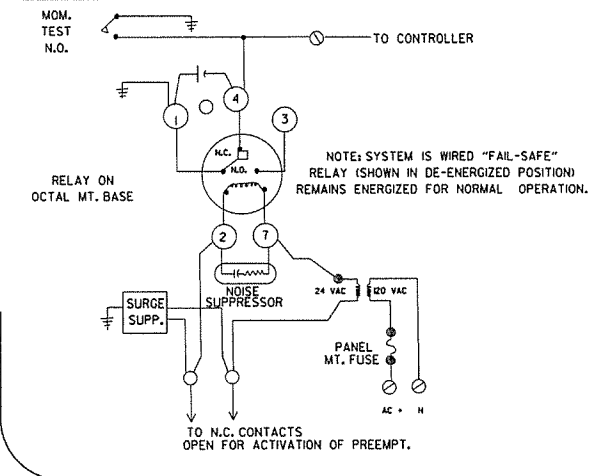
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS (2-4-2 CONFIGURATION) UNLESS OTHERWISE NOTED.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICE SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. DRAIN WIRE SHALL BE GROUNDED IN CABINET AND INSULATED AT LOOP TO FEEDER SPLICE.
3. THE LOOP TO FEEDER SPLICE, FEEDER JACKET AND JACKET OF LOOP WIRE IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. CONTRACTOR MAY MAKE CONNECTIONS TO SIGNAL CABLE AND LOOP TO FEEDER CONNECTION AT TERMINAL STRIPS MOUNTED TO POLE INSIDE HAND HOLD COVER AS SHOWN IN DETAIL. TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPARATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPARATE "FEEDER WIRE" UNLESS OTHERWISE NOTED. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE INCH (1") CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. WARRANTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE DETECTOR LOOP TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NOT MORE THAN 18" APART AND WEDGED INTO SLOT TO HOLD CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT BE ALLOWED WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED, CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MINIMUM OF TWO INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPARATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. 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 CONTROLLER. CONTROLLER CABINET SHALL BE WIRED SUCH POWER TO LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

SERIES CONNECTED LOOPS

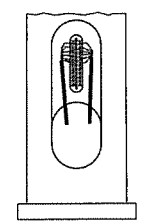


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

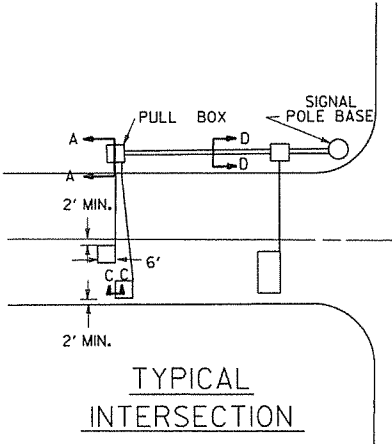
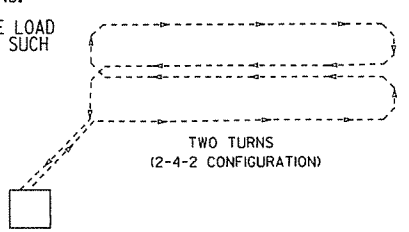
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



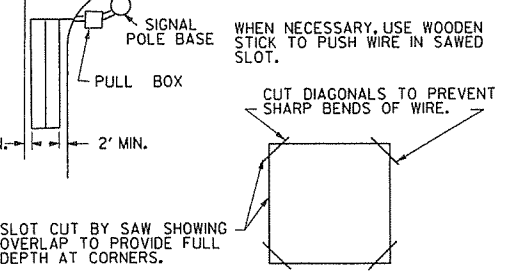
HANDHOLE TERMINAL



QUADRUPOLE LOOP



TYPICAL INTERSECTION

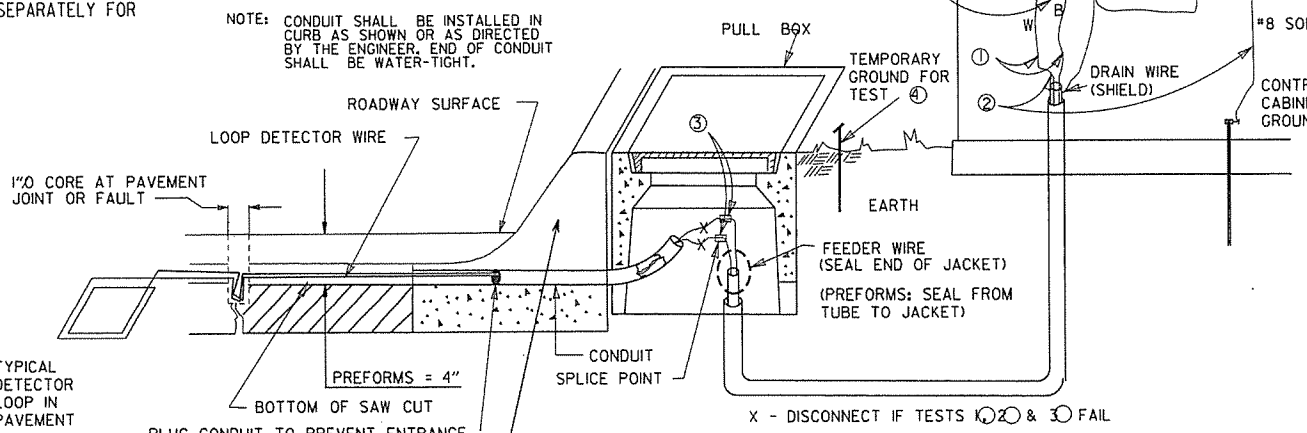
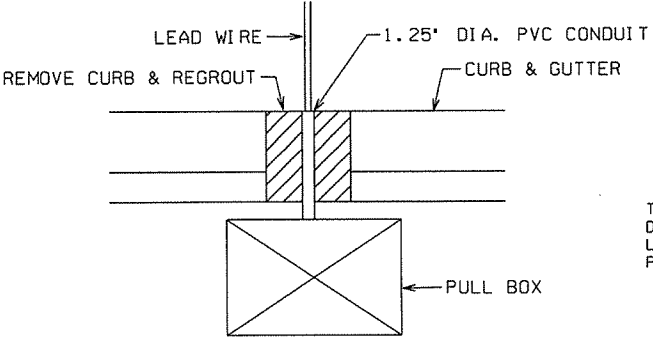
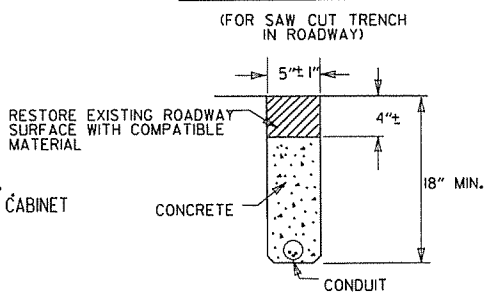


TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

- 1 DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3
- 2 TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM) IF TESTS 1 & 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1 & 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
- 3 OPEN SPLICE (DO NOT BREAK CONNECTION) REPEAT TEST 1 & 2 IF TEST 3 IS BAD, GO TO TEST 4
- 4 BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1 & 2 SEPARATELY FOR FEEDER AND FOR LOOP

FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL

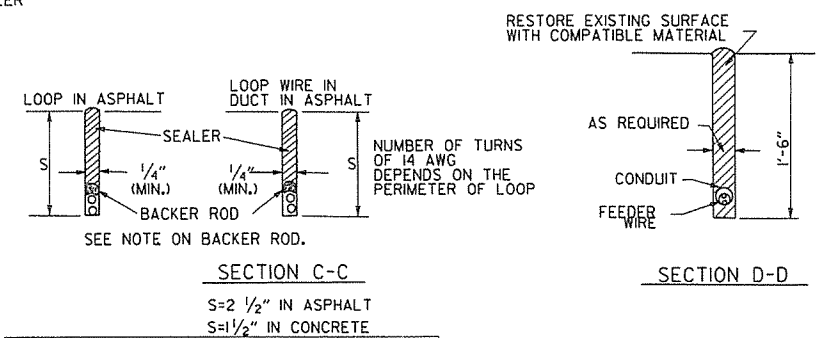


SECTION A-A

1'-6" CONCRETE COMBINATION CURB AND GUTTER
 PREFORMS - SAW COMPLETELY THROUGH CURB
 ALTERNATE - WHEN INSTALLING PREFORMS ON SUBSTRATE, LEAD-INS MAY BE INSTALLED IN CONDUIT UNDERNEATH THE CURB AND GUTTER.

SPECIAL NOTE
 IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

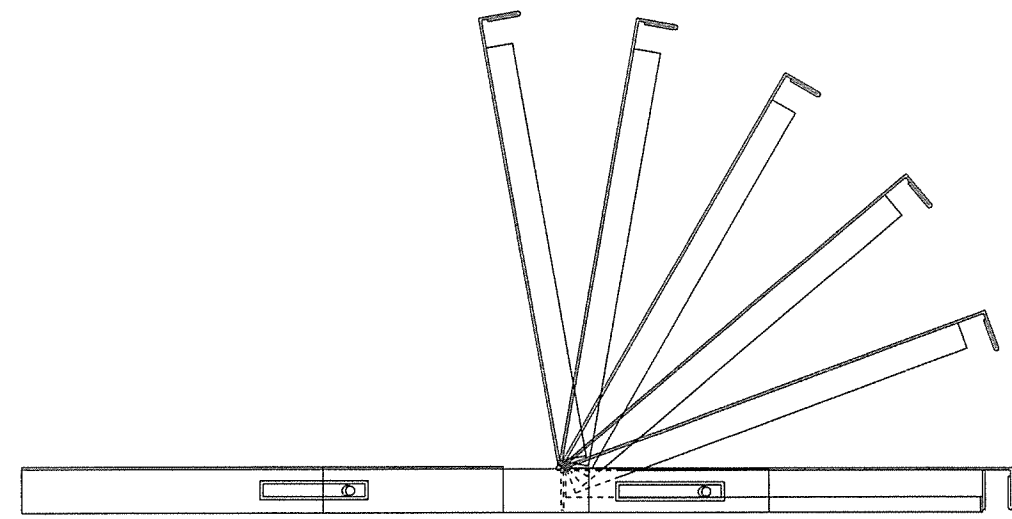
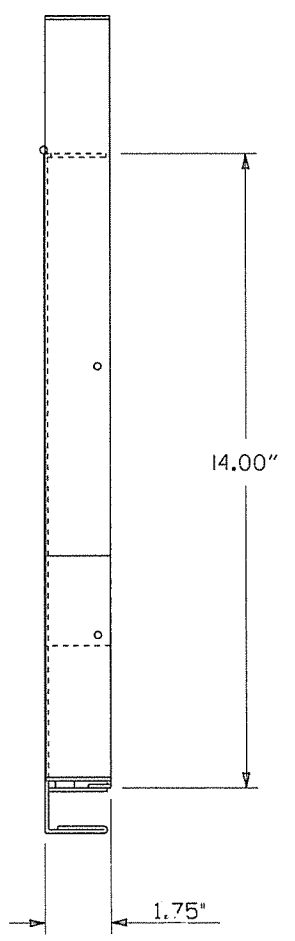
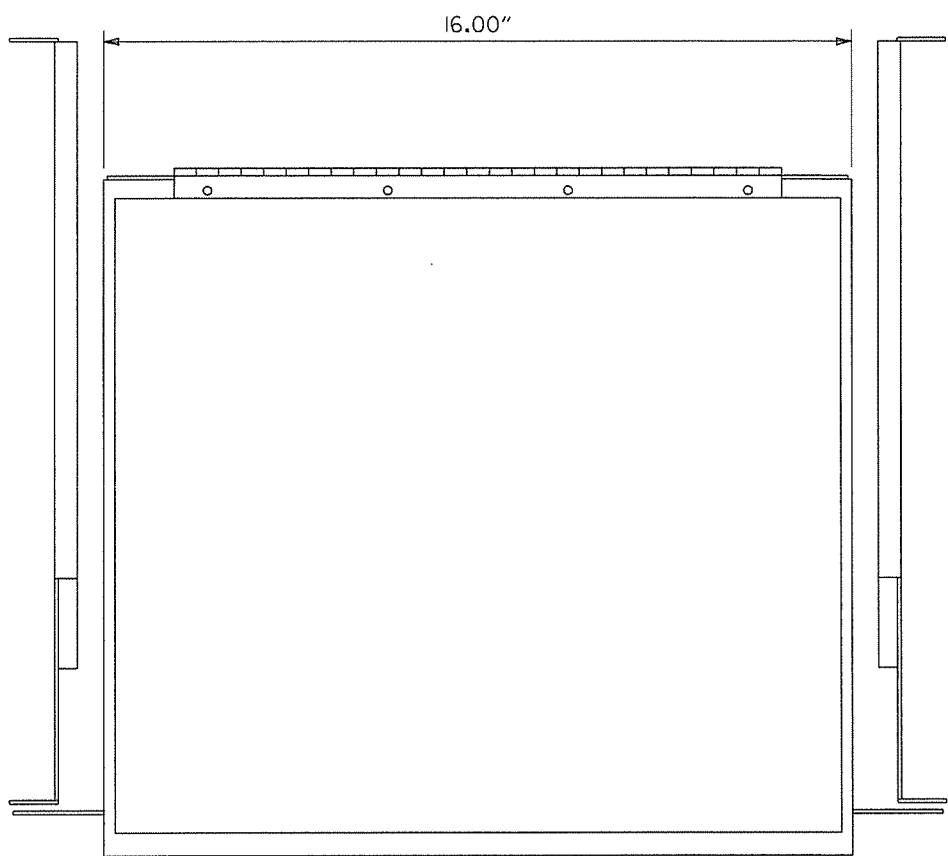
TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



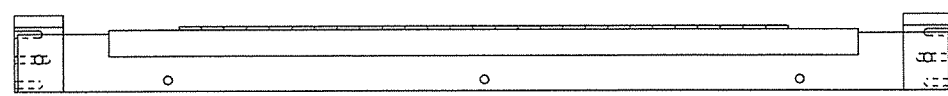
| DATE | REVISION | DATE FILM |
|----------|---------------------------------|-----------|
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 5-17-01 | REVISED | |
| 4-11-01 | REVISED | |
| 2-4-00 | REVISED PRE-EMPTION TEST SWITCH | |
| 11-18-98 | REVISED NOTES | |
| 11-21-95 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION
LOOP DETECTOR INSTALLATION
 STANDARD DRAWING SD-4

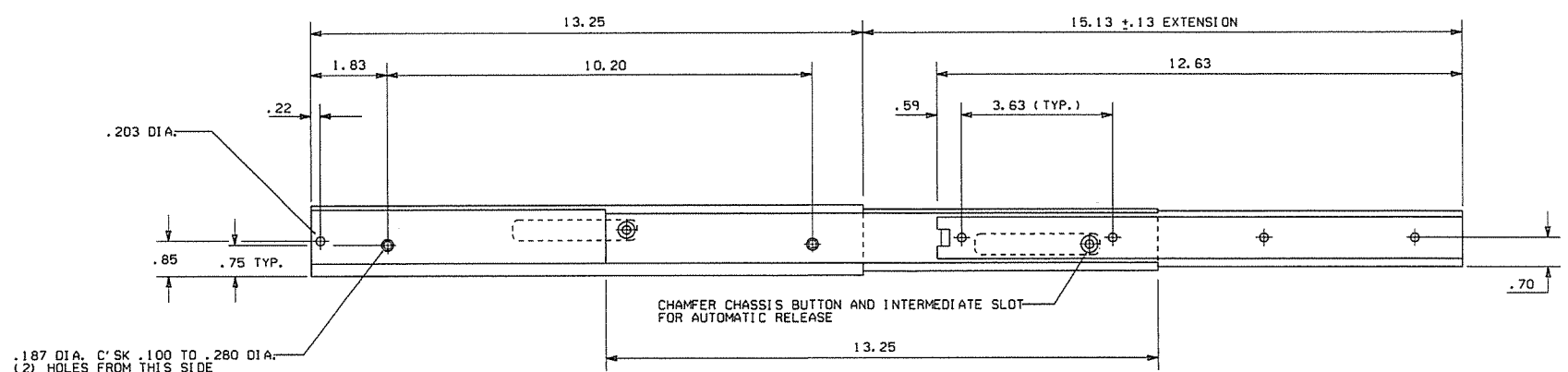
DRAWER PLAN VIEW



- 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

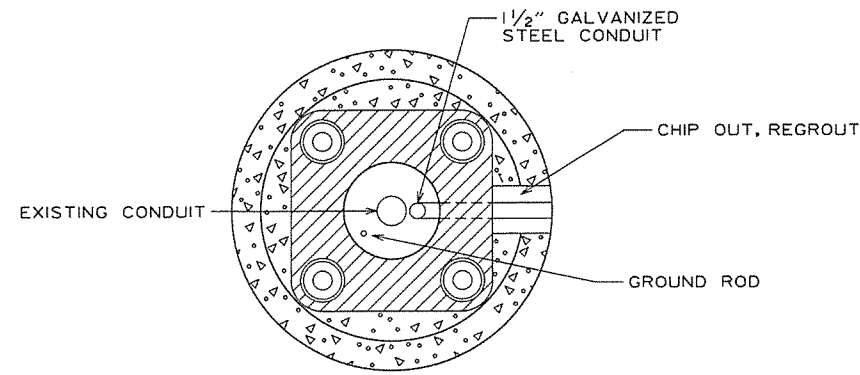


RIGHT SIDE ASSEMBLY

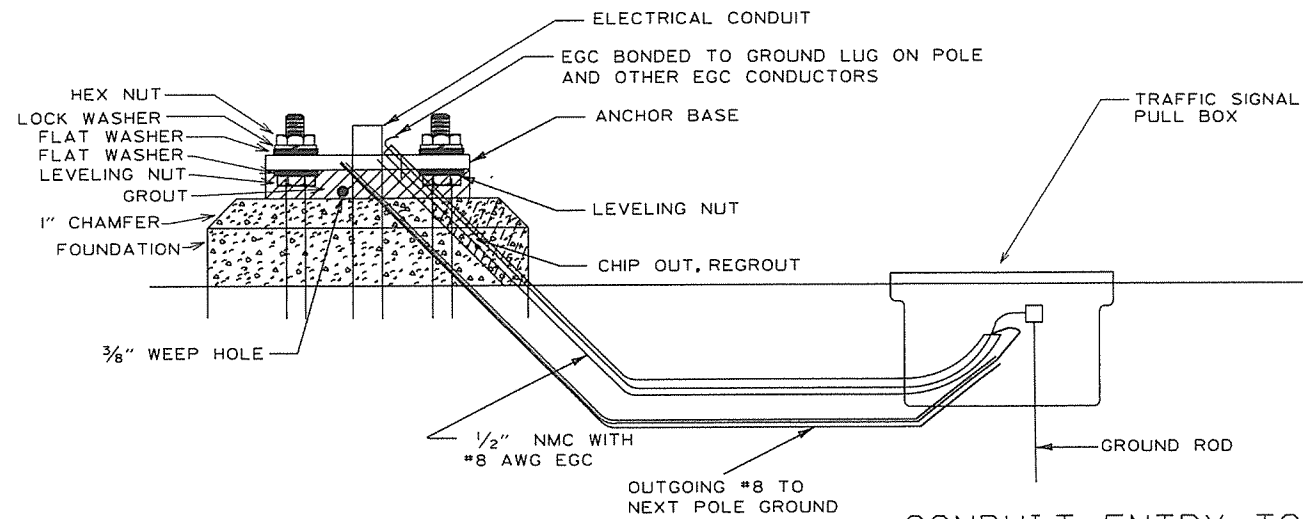
.187 DIA. C/SK .100 TO .280 DIA.
 (2) HOLES FROM THIS SIDE

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

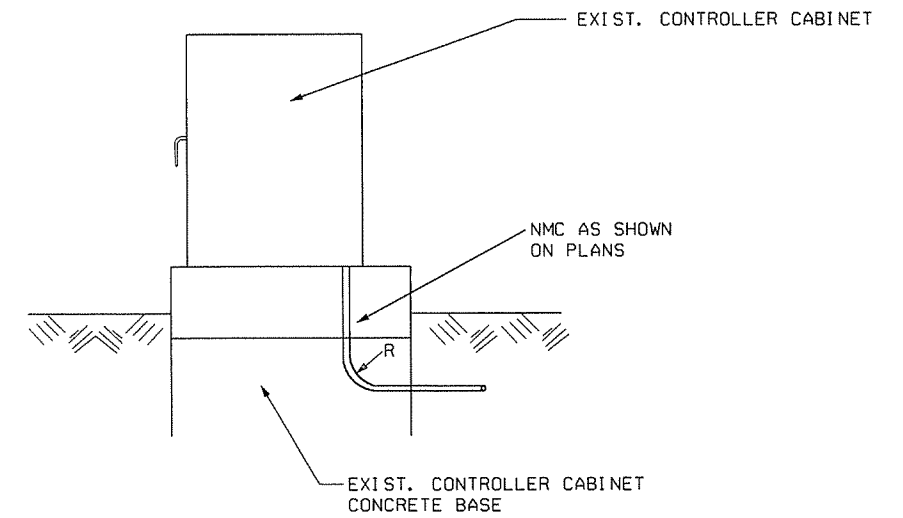
CONDUIT ENTRY TO EXISTING POLE BASE



ANCHOR BASE

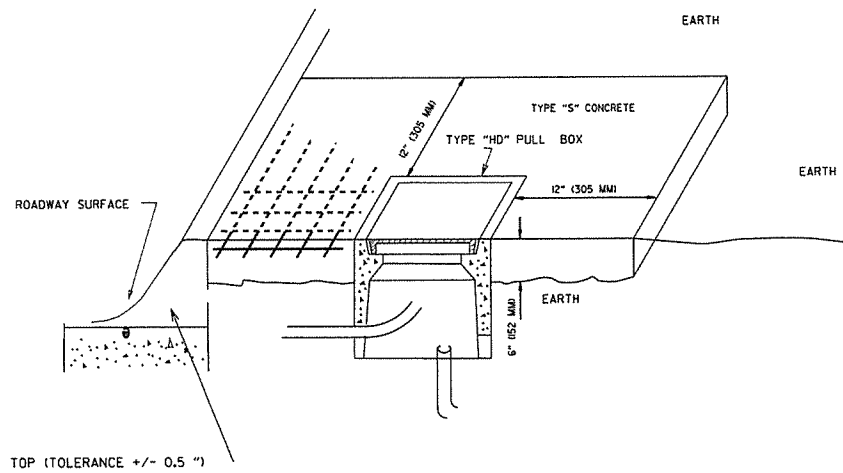


CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



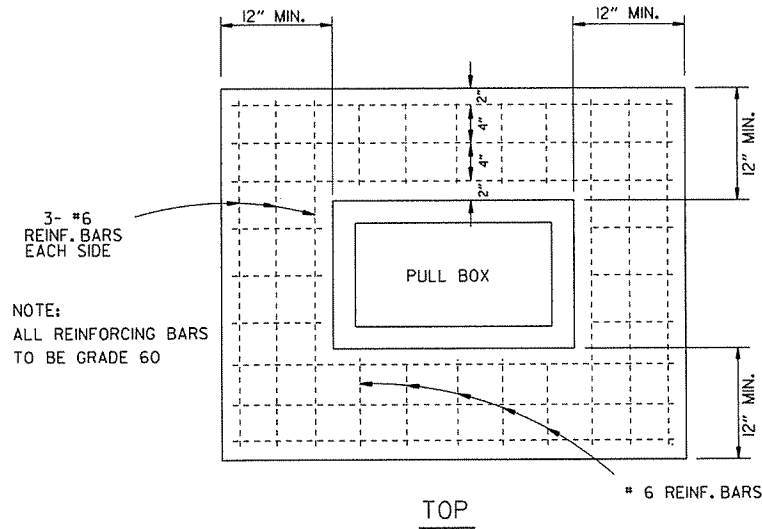
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

TYPE "HD" CONCRETE PULL BOX DETAIL

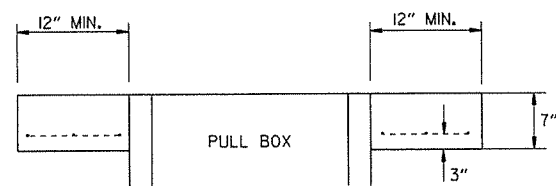


2" CLEAR FROM TOP (TOLERANCE +/- 0.5 ")

NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 6" (152 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.



NOTE: ALL REINFORCING BARS TO BE GRADE 60



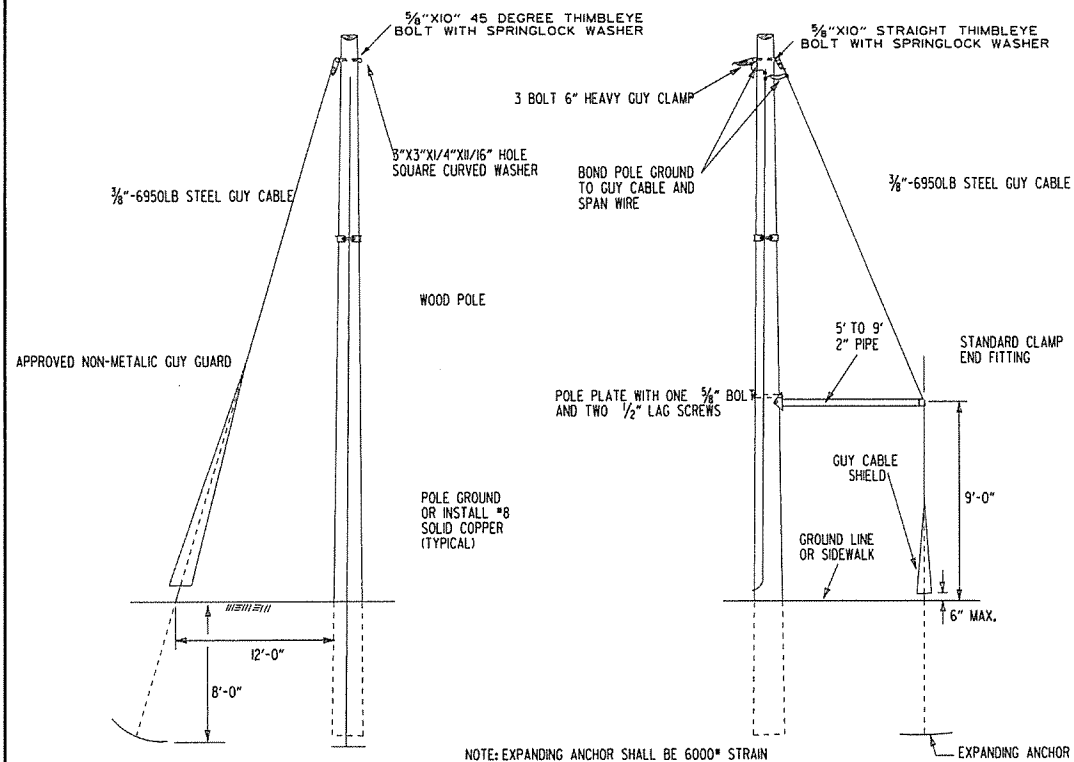
ELEVATION

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

ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



STANDARD GUY INSTALLATION

SIDEWALK GUY INSTALLATION

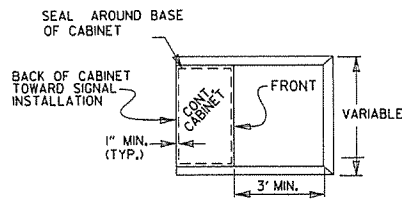
NOTE: EXPANDING ANCHOR SHALL BE 6000* STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE" 8-WAY EXPANDING ANCHOR, WITH A 3/8" MINIMUM GUY ROD.

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

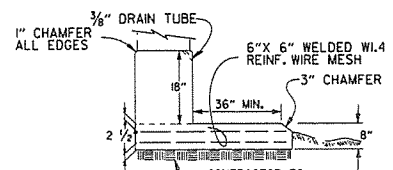
NOTES: SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF 4' BEHIND CURB OR SHOULDER.

SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS. CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

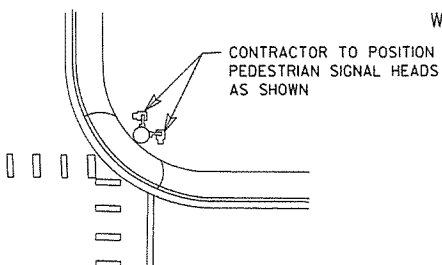
THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE GROUND ROD WITH A #8 AWG SOLID COPPER WIRE. ON EXISTING INSTALLATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 3/8" COPPERWELD GROUND ROD.



CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



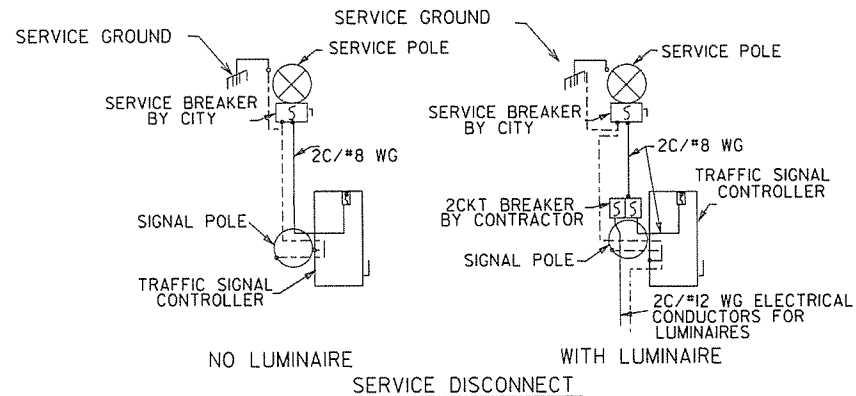
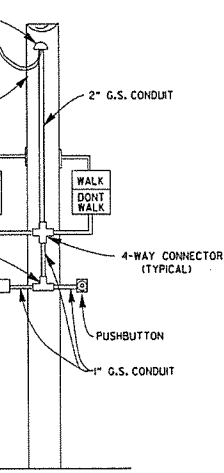
WOODEN POLE INSTALLATION OF PED HEADS

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

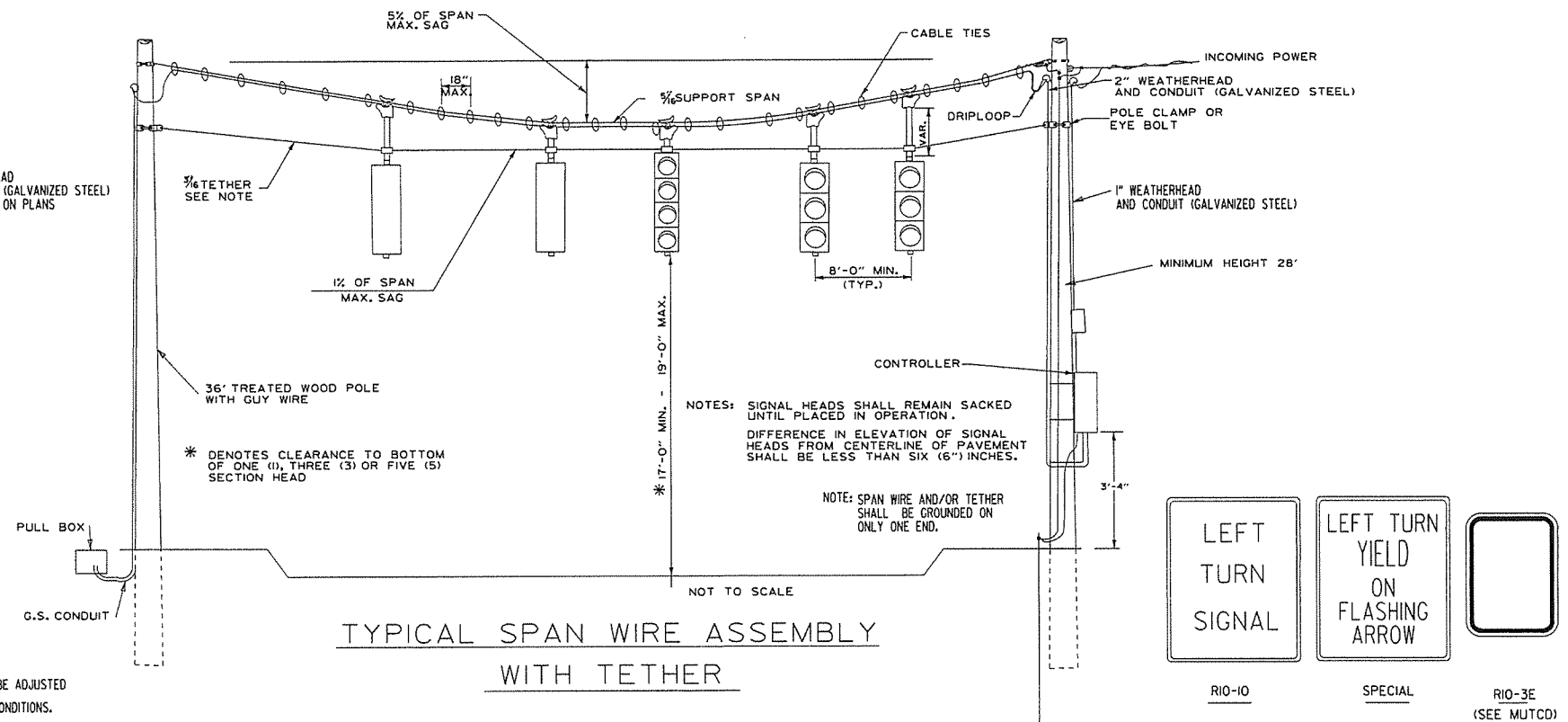
CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

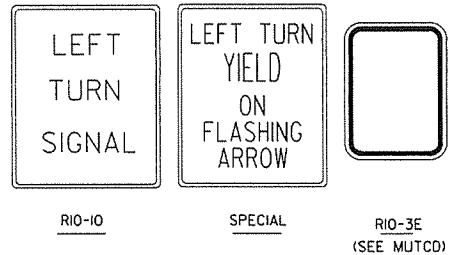
STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.



NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER



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.

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

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

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

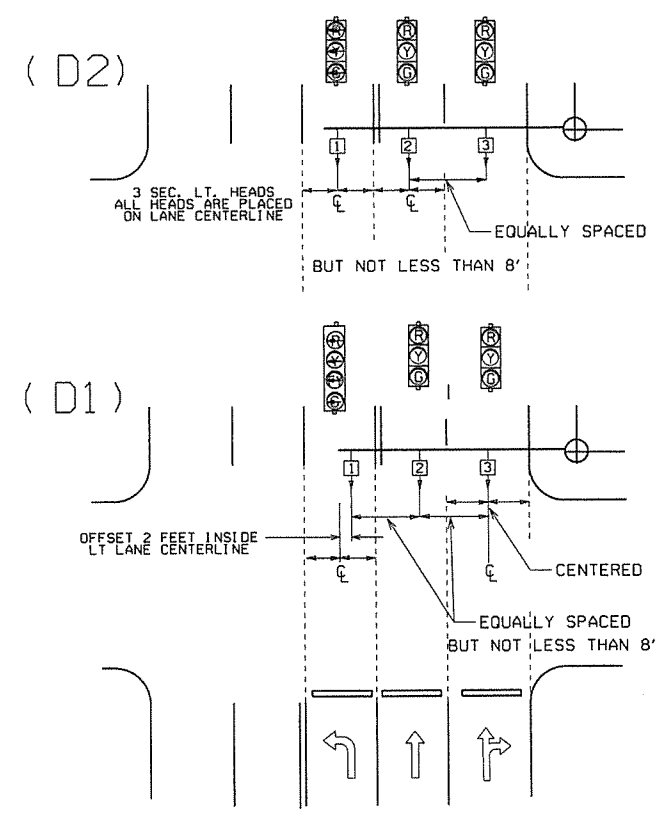
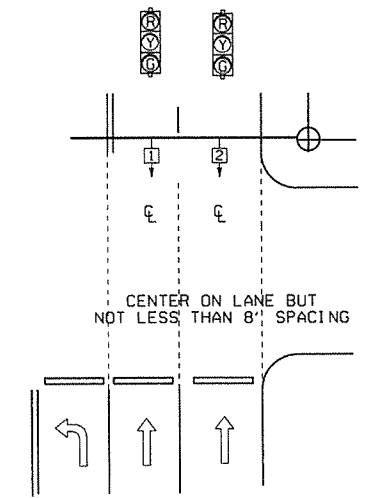
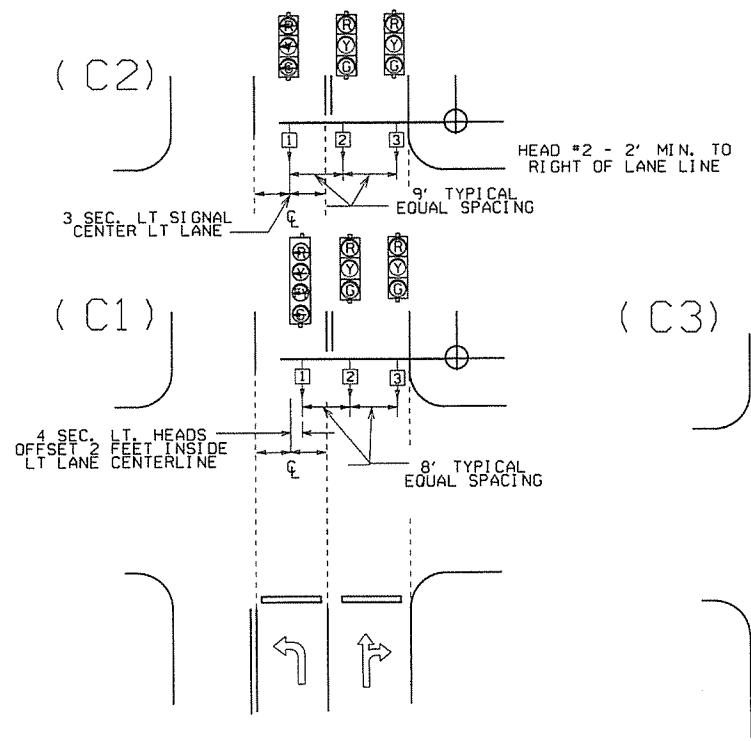
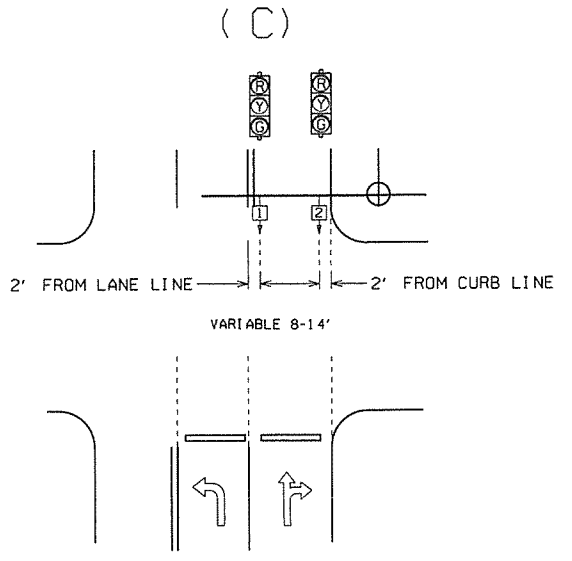
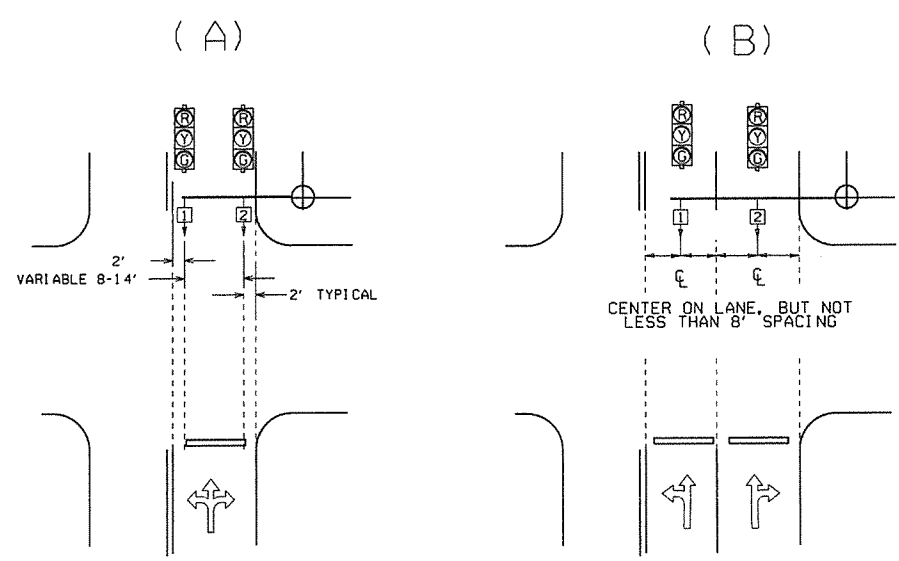
SIGNAL OPERATION NOTES:

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

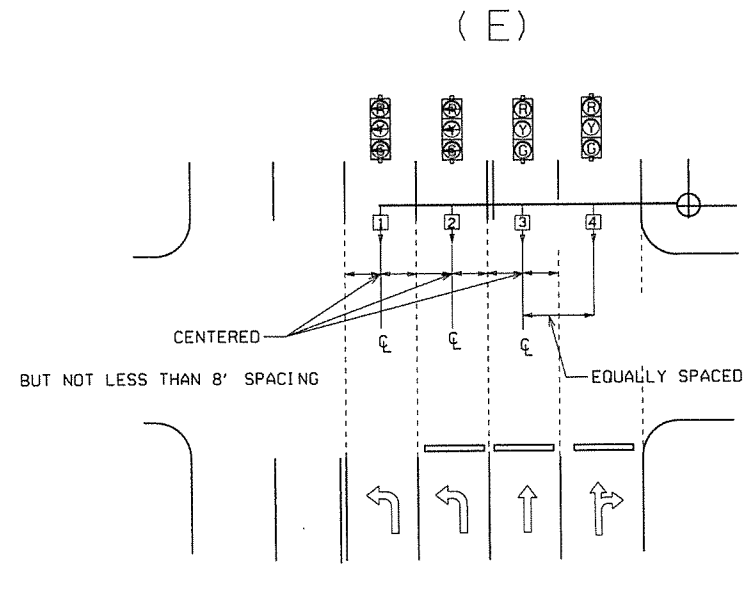
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS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

| DATE | REVISION | DATE FILM |
|----------|-------------------------------------|-----------|
| 2-27-14 | REVISED NOTES. | |
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 7-21-11 | REVISED PED SIGN, CABINET GROUNDING | |
| 4-17-08 | REVISED TO 2001 AASHTO STANDARDS | |
| 10-12-04 | REV. CABINET ORIENT. & SIGNAL OPER. | |
| 5-22-02 | REV. TYP. SPAN WIRE ASSEMBLY | |
| 12-27-99 | REVISED | |
| 11-18-98 | REVISED NOTES | |
| 11-21-95 | ISSUED | |

| ARKANSAS STATE HIGHWAY COMMISSION | |
|-----------------------------------|--|
| SPAN WIRE ASSEMBLY WOOD POLE | |
| STANDARD DRAWING SD-7 | |



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



GENERAL NOTES:

- 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.
- THREE SECTION 'PROTECTED' LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
- 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.
- SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
- 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.
- MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

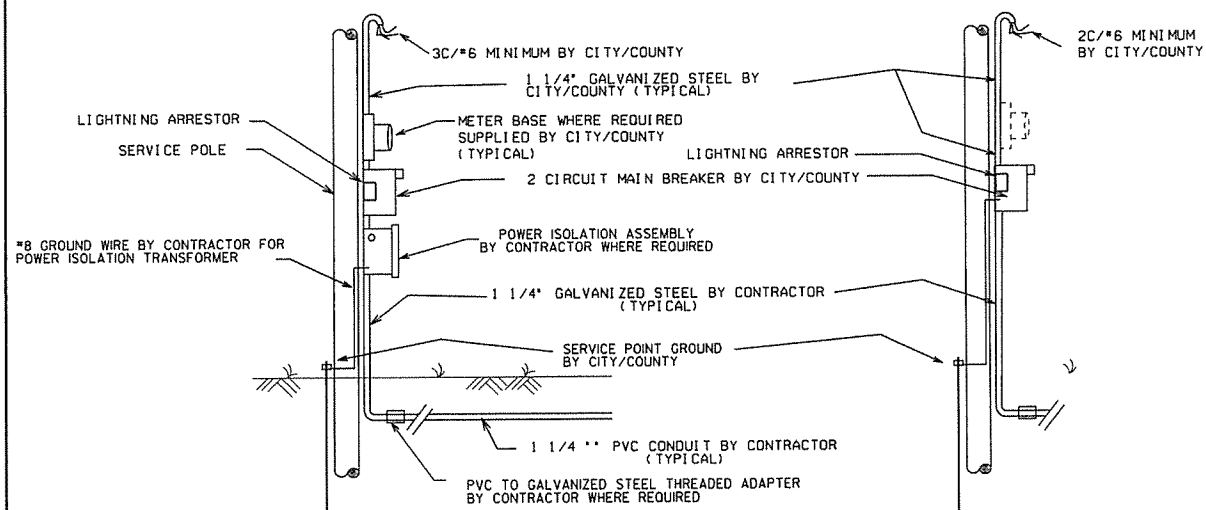
℄ = CENTER OF LANE FROM APPROACH SIDE

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

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

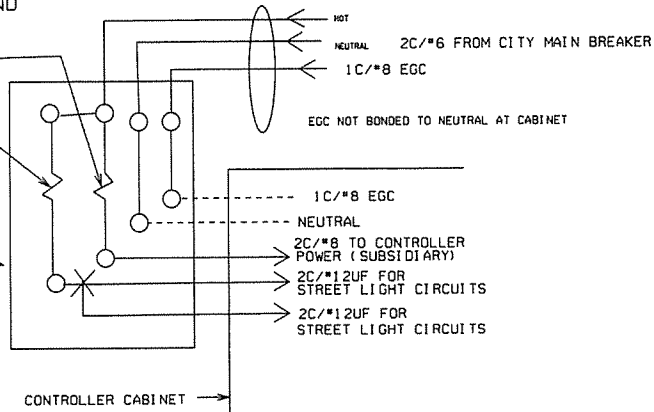
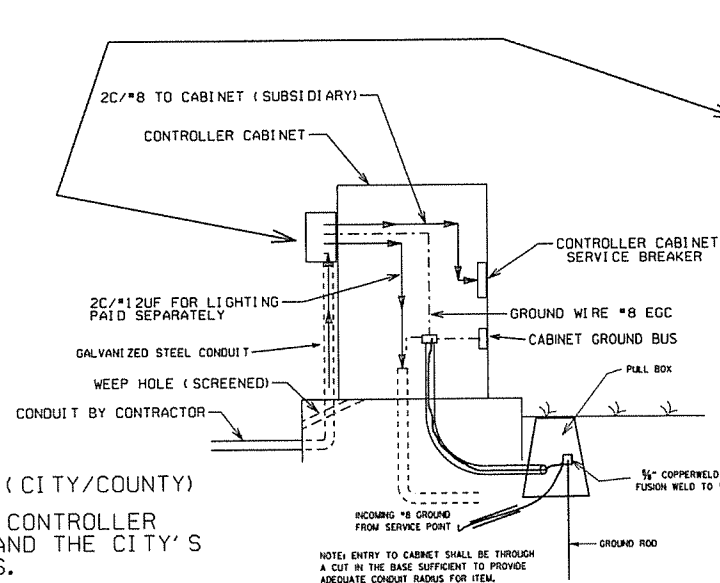
WITH POWER ISOLATION ASSEMBLY

WITHOUT POWER ISOLATION ASSEMBLY



GROUND ROD-A 10' X 3/4\"/>

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



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.

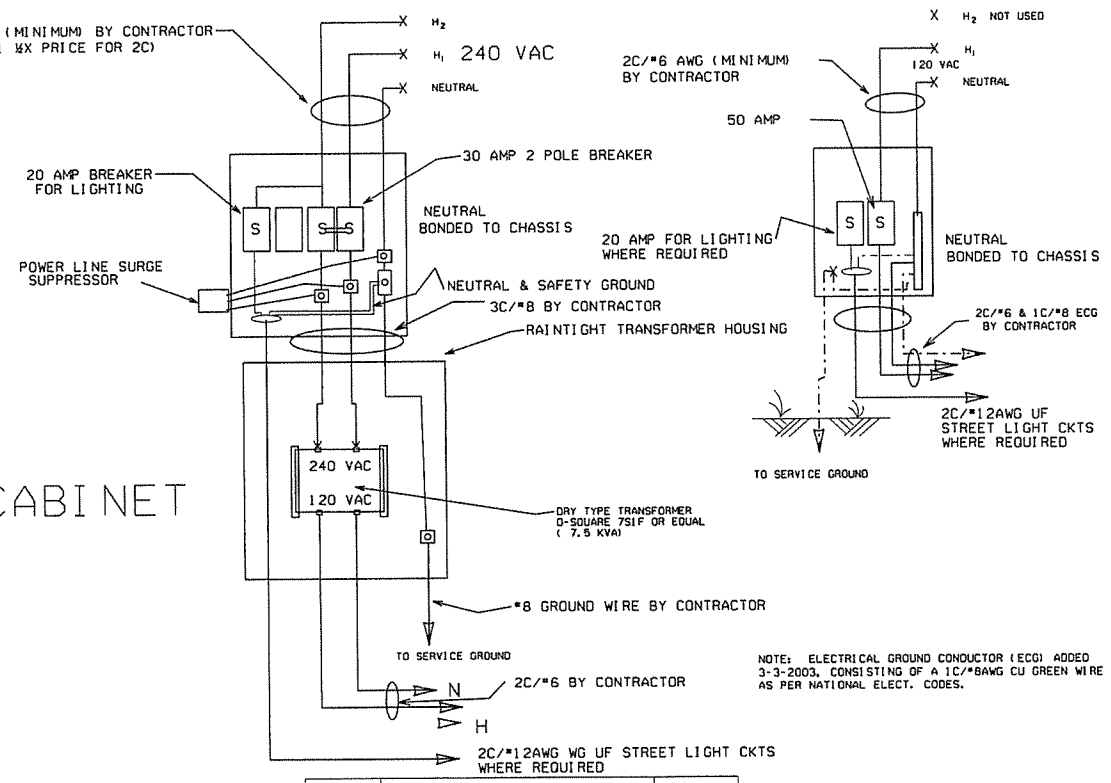
WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER

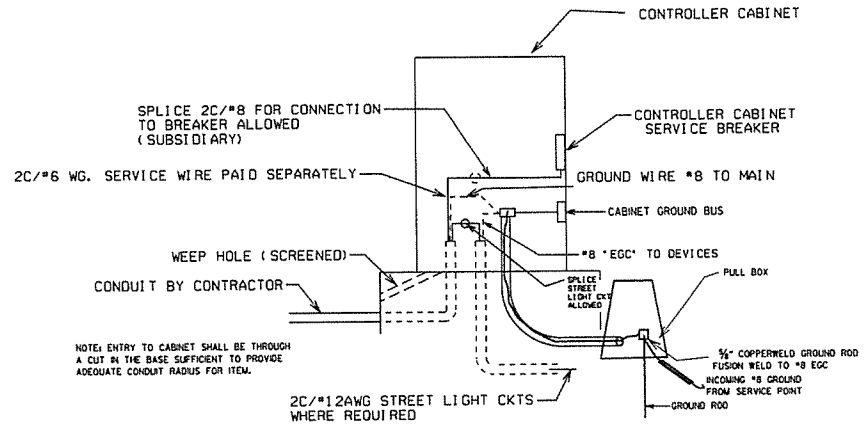
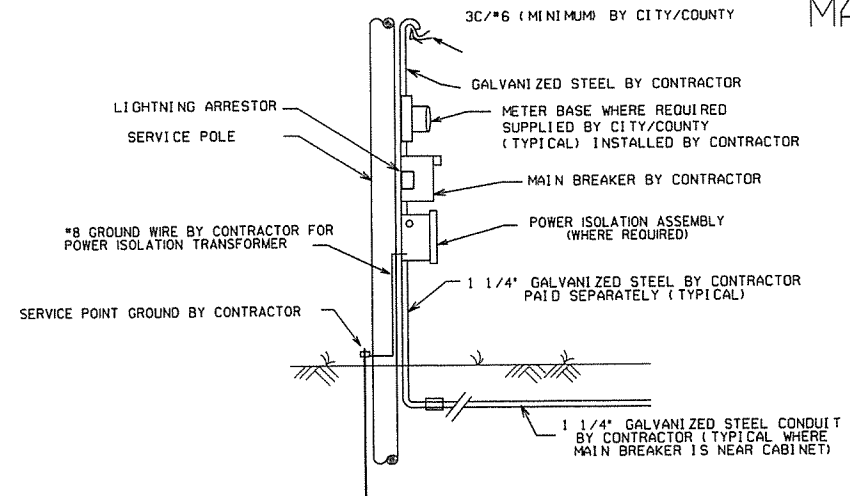
NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

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 OR COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

1. ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINIGHT 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, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.
2. 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.
3. 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.



MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED



| DATE | REVISION | DATE FILM |
|----------|----------------------------|-----------|
| 9-12-13 | ISSUED AS STANDARD DRAWING | |
| 4-18-13 | ADDED LIGHTNING ARRESTOR | |
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | REVISED GROUNDING | |
| 3-3-03 | ADDED EGC NOTE | |
| 9-26-01 | REVISED | |
| 12-27-99 | REVISED | |
| 7-28-99 | REVISED | |
| 2-5-99 | ISSUED | |

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

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

EACH PEDESTRIAN PUSH-BUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE 111) WITH SILKSCREEN LEGEND AND BORDER.

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

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.
2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

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

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

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

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

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

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHIPPY V-NOTCH TEST SPECIFIED IN SUBSECTION B07.05 OF THE STANDARD SPECIFICATIONS.

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

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

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

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

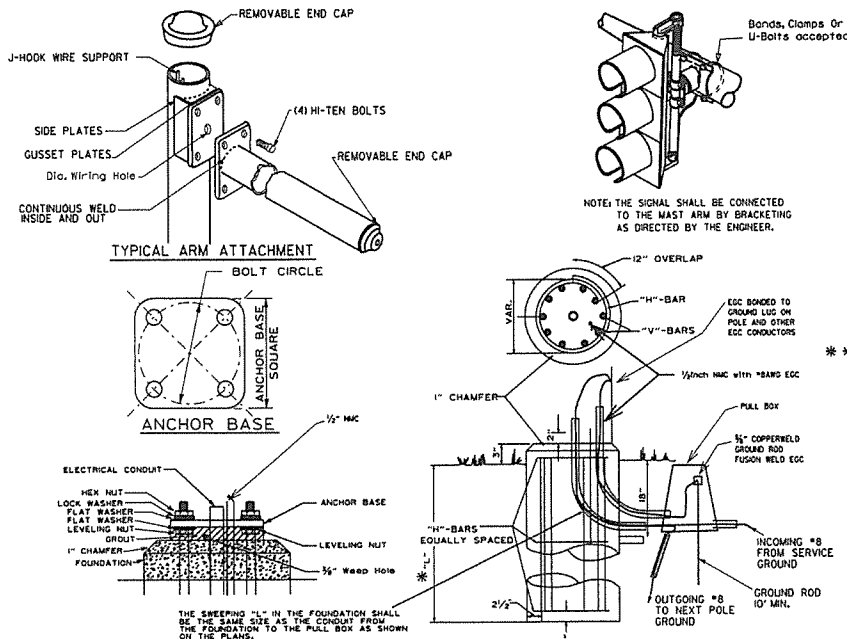
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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

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

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

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

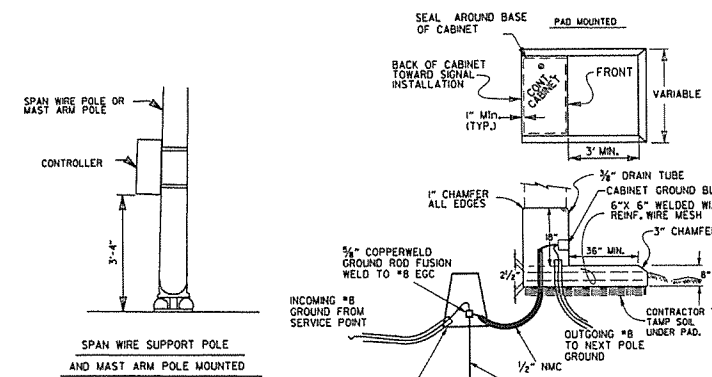


THE GROUND ROD SHALL BE FUSION WELDED TO A 1/2" A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

TYPICAL FOUNDATION DETAILS

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

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



CONTROLLER CABINET MOUNTING DETAILS

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

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

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

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

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

SIGNAL OPERATION NOTES:

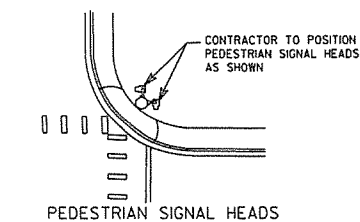
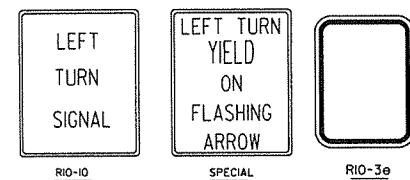
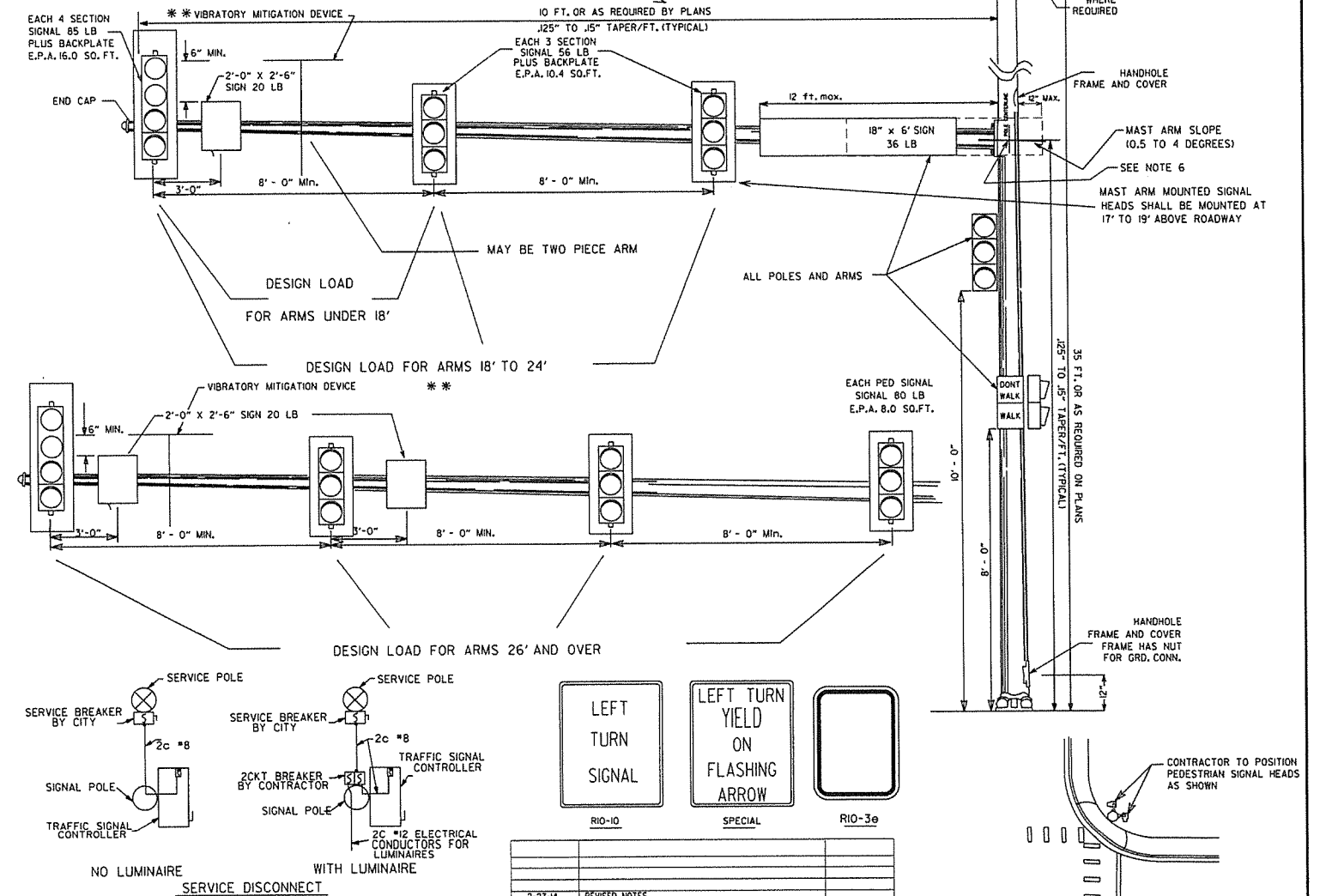
FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

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

* 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 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

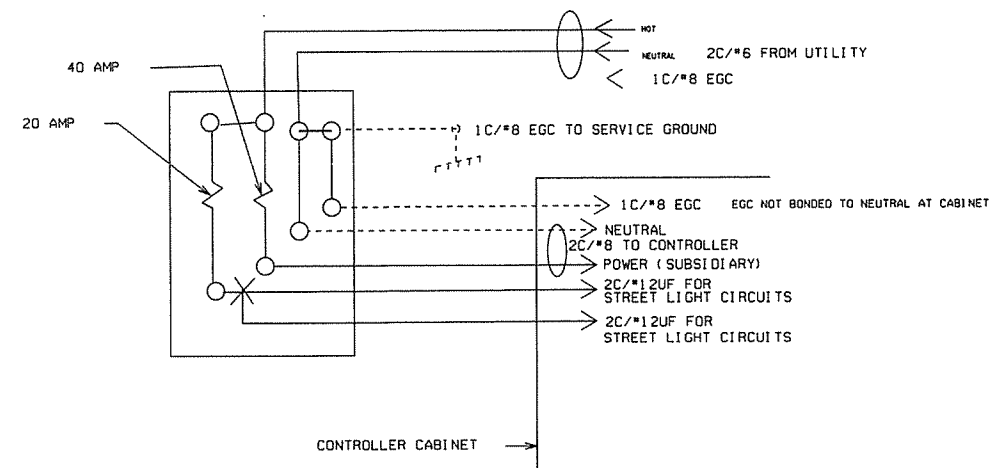
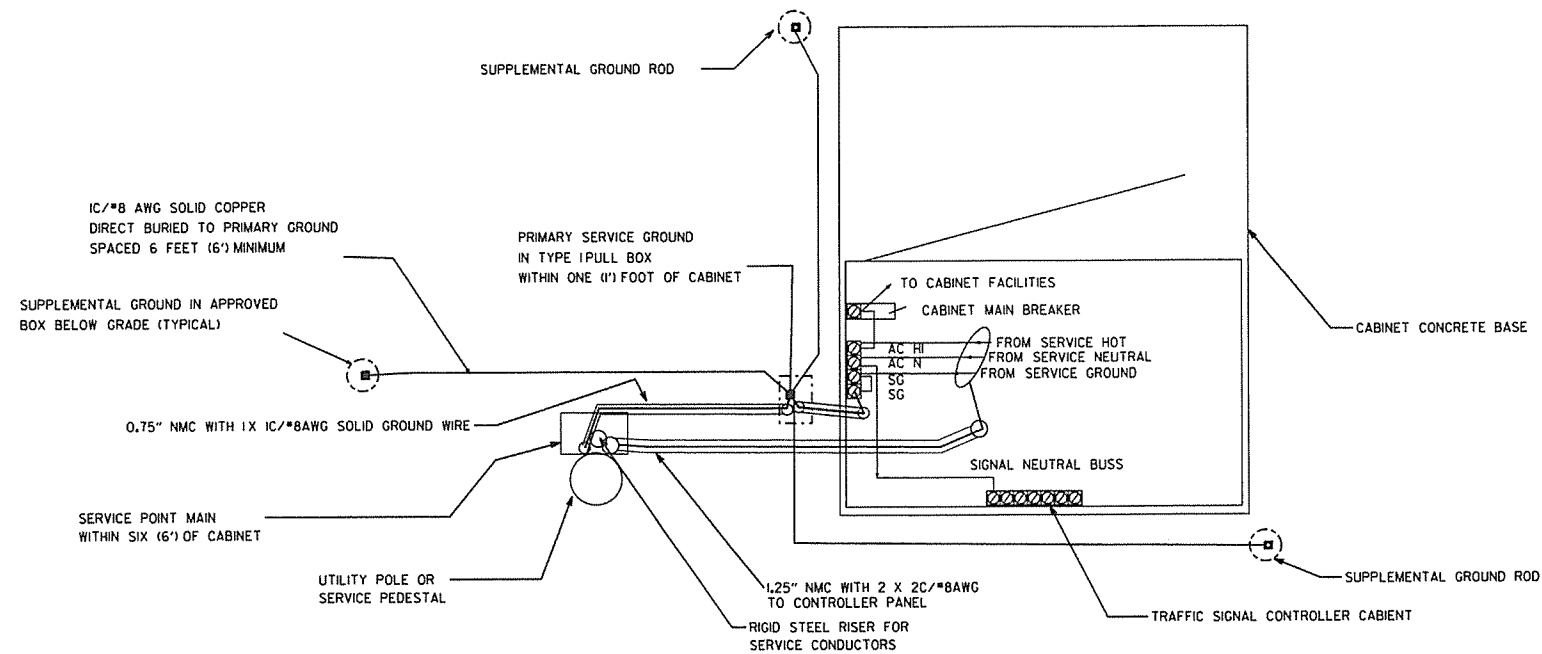
* IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"x16"x0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE 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 A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

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



| DATE | REVISION | DATE | FILM |
|----------|---|------|------|
| 2-27-14 | REVISED NOTES | | |
| 9-2-13 | ISSUED AS STANDARD DRAWING | | |
| 7-2-11 | REVISED VMD SIGNAL HEADS | | |
| 5-21-09 | REVISED GROUNDING | | |
| 7-31-08 | REVISED GROUNDING | | |
| 4-25-08 | ADDED VIBRATORY MITIGATION DEVICE & NOTES | | |
| 4-8-08 | REVISED ASHTO NOTES | | |
| 4-17-08 | REVISED TO 2001 ASHTO STANDARDS | | |
| 10-12-04 | REVISED CABINET ORIENTATION | | |
| 6-23-04 | REVISED | | |
| 5-1-04 | REV. NOTE 3/AASHTO REQUIREMENTS | | |
| 6-11-01 | REV. NOTES & POLE MAST ARM SLOPE | | |
| 4-8-01 | REVISED POLE TAPERS | | |
| 4-25-00 | REV. NOTES & SIGNAL HEAD PLACEMENT | | |
| 8-22-99 | REVISED FOUNDATION DETAILS | | |
| 1-17-98 | REVISED DETAILS AND NOTES | | |
| 1-20-92 | ISSUED | | |

ARKANSAS STATE HIGHWAY COMMISSION
STEEL POLE WITH MAST ARM
STANDARD DRAWING SD-II



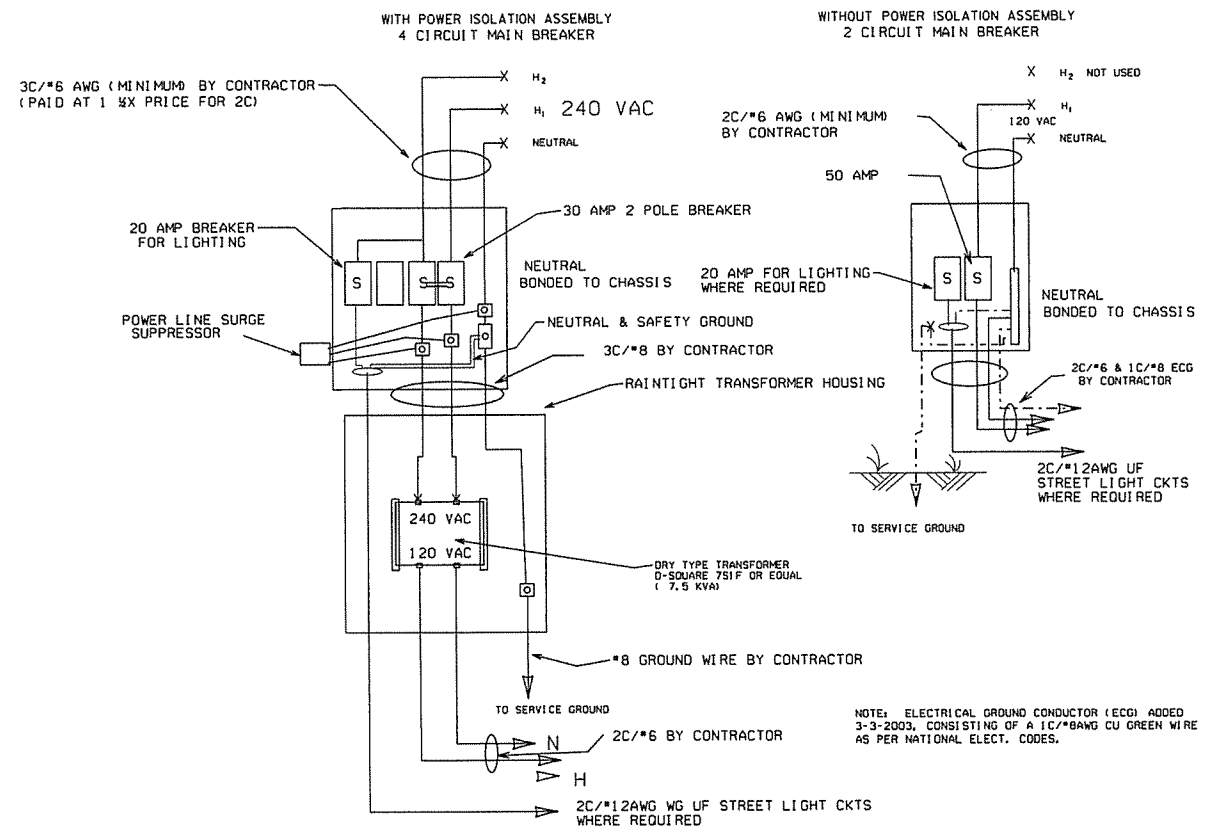
MAIN BREAKER WIRING (TYPICAL)

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

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

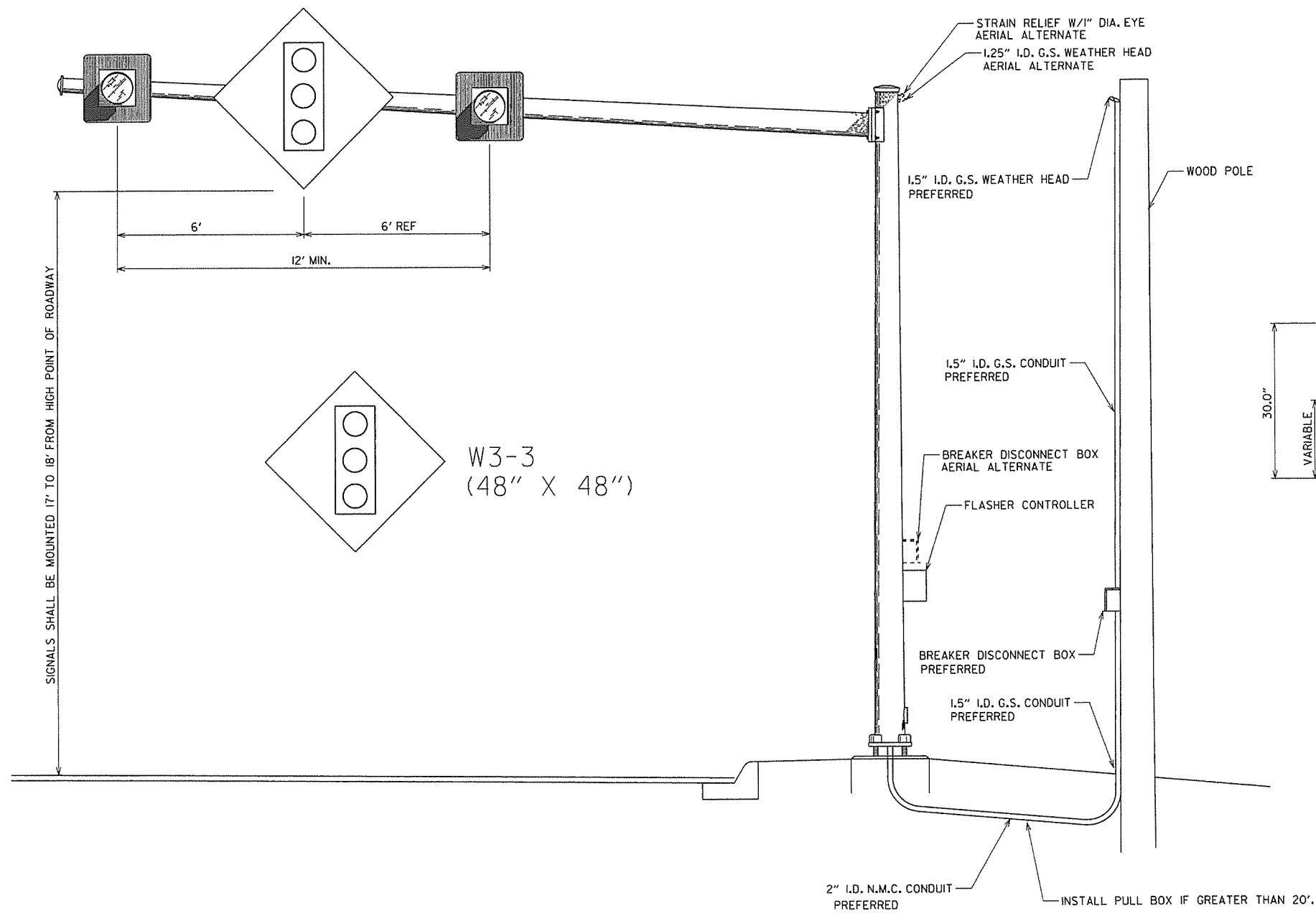
2. METER LOOP: ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE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

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



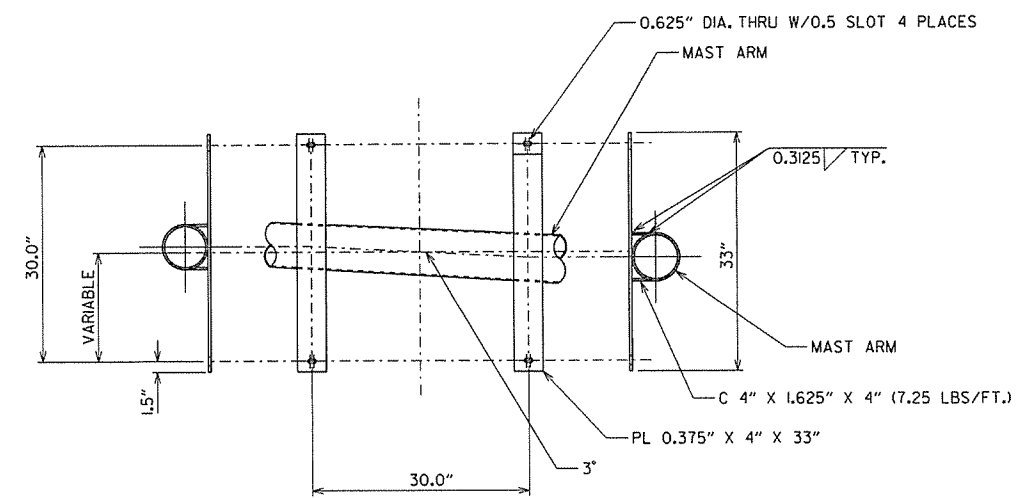
NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

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



NOTES


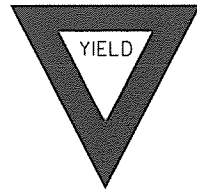






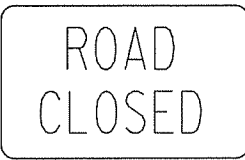
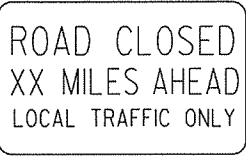
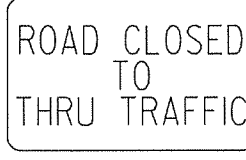
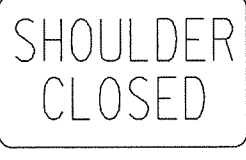
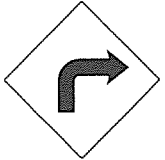
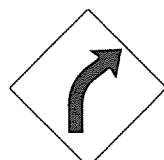
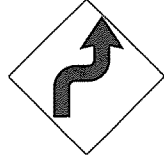

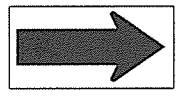
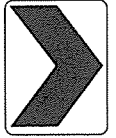
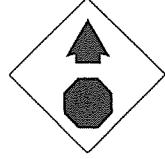
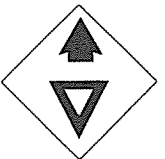
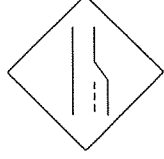

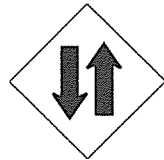

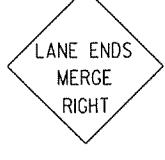


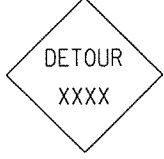



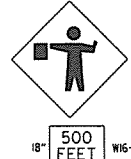


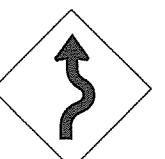



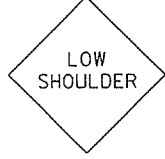
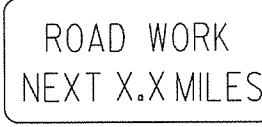
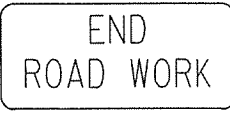
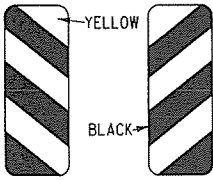
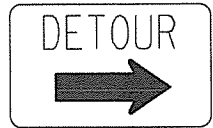

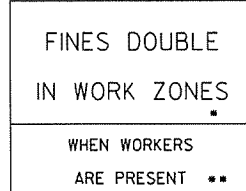
1. THE SIGN MOUNTING BRACKET SHALL BE SUBSIDIARY TO THE PAY ITEM - TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
2. MAST ARM, POLE, HARDWARE, AND MOUNTING BRACKET SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 714.
3. A COMMERCIAL MANUFACTURED MOUNTING PLATE OR BRACKET MAY BE SUBMITTED FOR APPROVAL IN LIEU OF THE MOUNTING PLATE SHOWN.
4. EACH SIGNAL HEAD SHALL HAVE A SEPARATE 5 CONDUCTOR SIGNAL CABLE.



MOUNTING BRACKET
 N.T.S.

OVERHEAD SIGN MOUNTING DETAILS
 N.T.S.

| | | | |
|---------|----------------------------|-----------|--|
| 9-12-13 | ISSUED AS STANDARD DRAWING | | ARKANSAS STATE HIGHWAY COMMISSION OVERHEAD SIGN DETAILS (OVERHEAD SIGN MOUNTED ON STEEL POLE WITH MAST ARM) STANDARD DRAWING SD-16 |
| 4-17-08 | MINOR REVISIONS | | |
| 6-21-06 | REVISED | | |
| 4-14-03 | REVISED | | |
| 7-14-95 | ISSUED | | |
| DATE | REVISION | DATE FILM | |

| | | | | | | | |
|--|---|--|---|--|---|---|--|
| <p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p> | <p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p> | <p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | <p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p> | |
| <p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>R11-2</p>  <p>48"x30"</p> | <p>R11-3A</p>  <p>60"x30"</p> | <p>R11-4</p>  <p>60"x30"</p> | <p>RSP-1</p>  <p>48"x30"</p> | <p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | |
| <p>WI-3</p>  <p>STD. 48"x48"</p> | <p>WI-4</p>  <p>STD. 48"x48"</p> | <p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p> | <p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p> | <p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | |
| <p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p> | <p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p> | <p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p> | <p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W13-1</p>  <p>STD. 24"x24"</p> | <p>W20-1</p>  <p>STD. 48"x48"</p> | <p>W20-2</p>  <p>STD. 48"x48"</p> | <p>W20-3</p>  <p>STD. 48"x48"</p> |
| <p>W20-4</p>  <p>STD. 48"x48"</p> | <p>W20-5</p>  <p>STD. 48"x48"</p> | <p>W20-7a</p>  <p>18" 500 FEET W16-2 24"</p> <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p> | <p>W24-1</p>  <p>STD. 36"x36"</p> | <p>WI-4b</p>  <p>STD. 48"x48"</p> | <p>R56-1</p>  <p>STD. 18"x18"</p> |
| <p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p> | <p>G20-1</p>  <p>60"x24"</p> | <p>G20-2</p>  <p>48"x24"</p> | <p>OM-3L OM-3R</p>  <p>12"x36"</p> | <p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p> | <p>M4-10</p>  <p>48"x18"</p> | <p>R55-1</p>  <p>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</p> |

53

ADVANCE DISTANCES
(XXXX)

| | |
|---------|----------|
| 500 FT | 1/2 MILE |
| 1000 FT | 3/4 MILE |
| 1500 FT | 1 MILE |

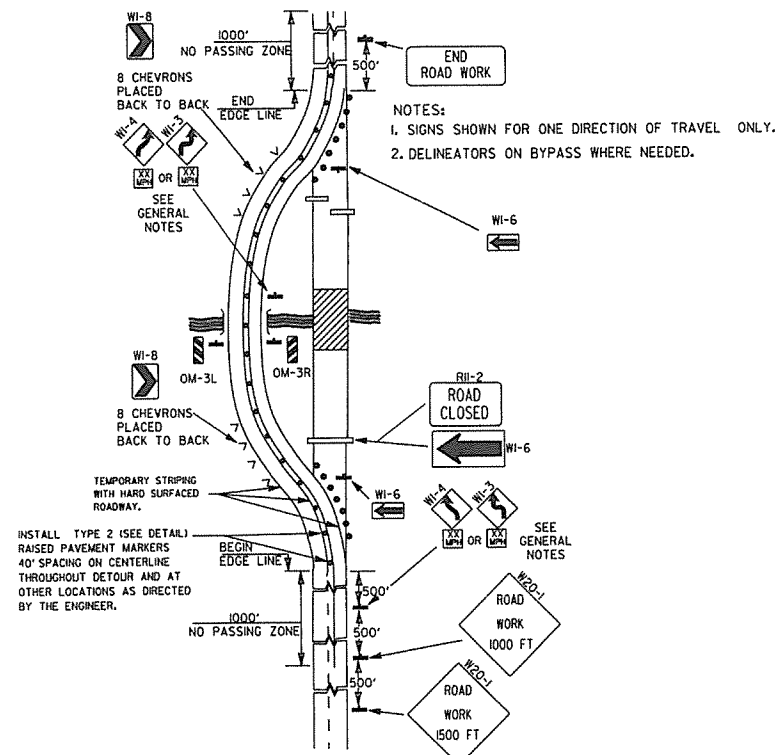
GENERAL NOTES:

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

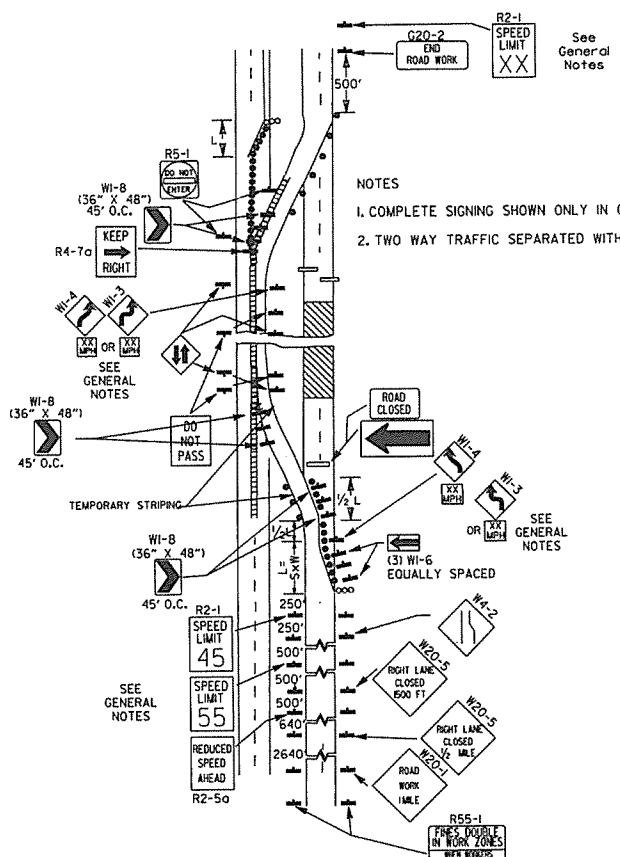
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

| | | |
|----------|---|--------|
| 12-15-81 | 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 | |
| DATE | REVISION | FILMED |

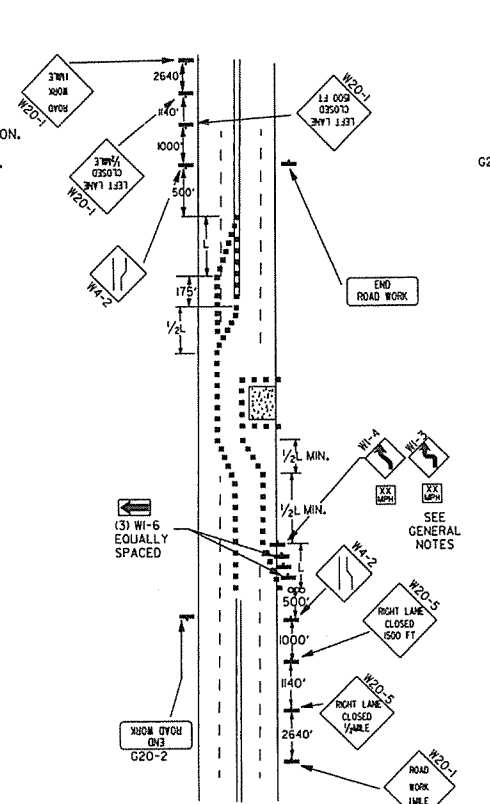
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



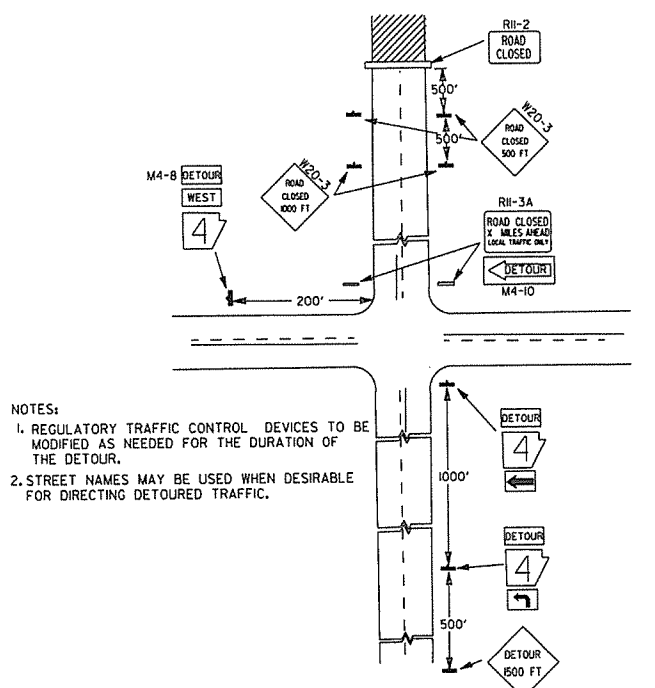
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



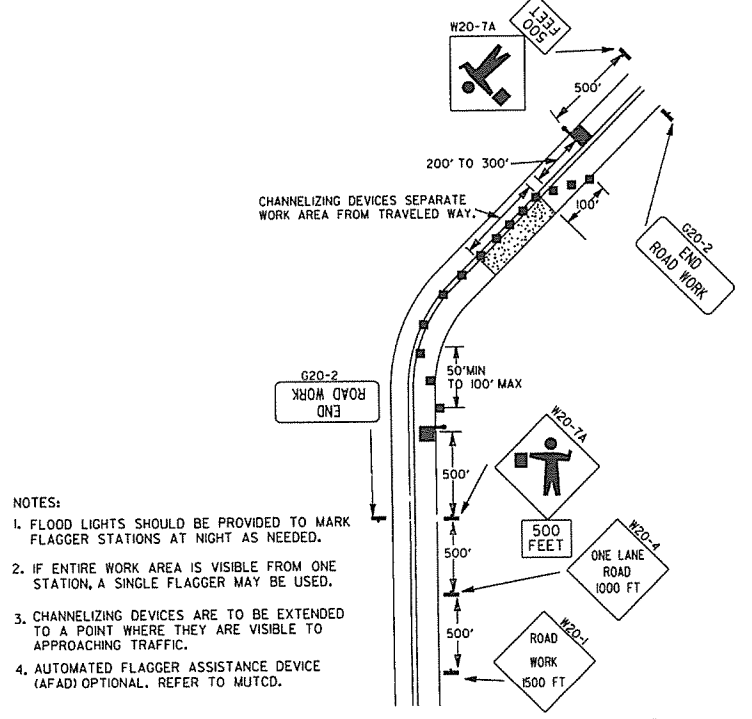
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



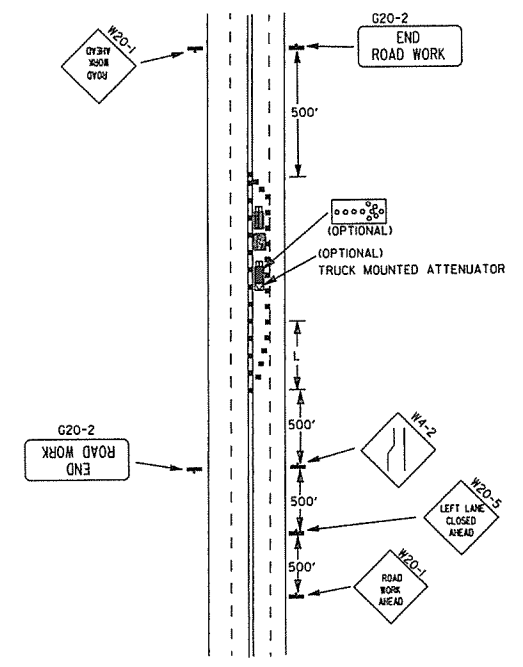
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



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

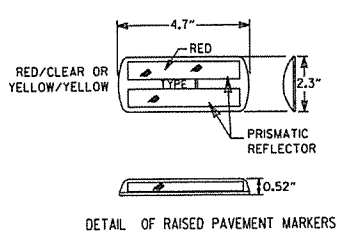


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

- KEY:
- FLAGGER
 - POSITIVE BARRIER
 - ARROW PANEL (IF REQUIRED)
 - TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM
 - RAISED PAVEMENT MARKER

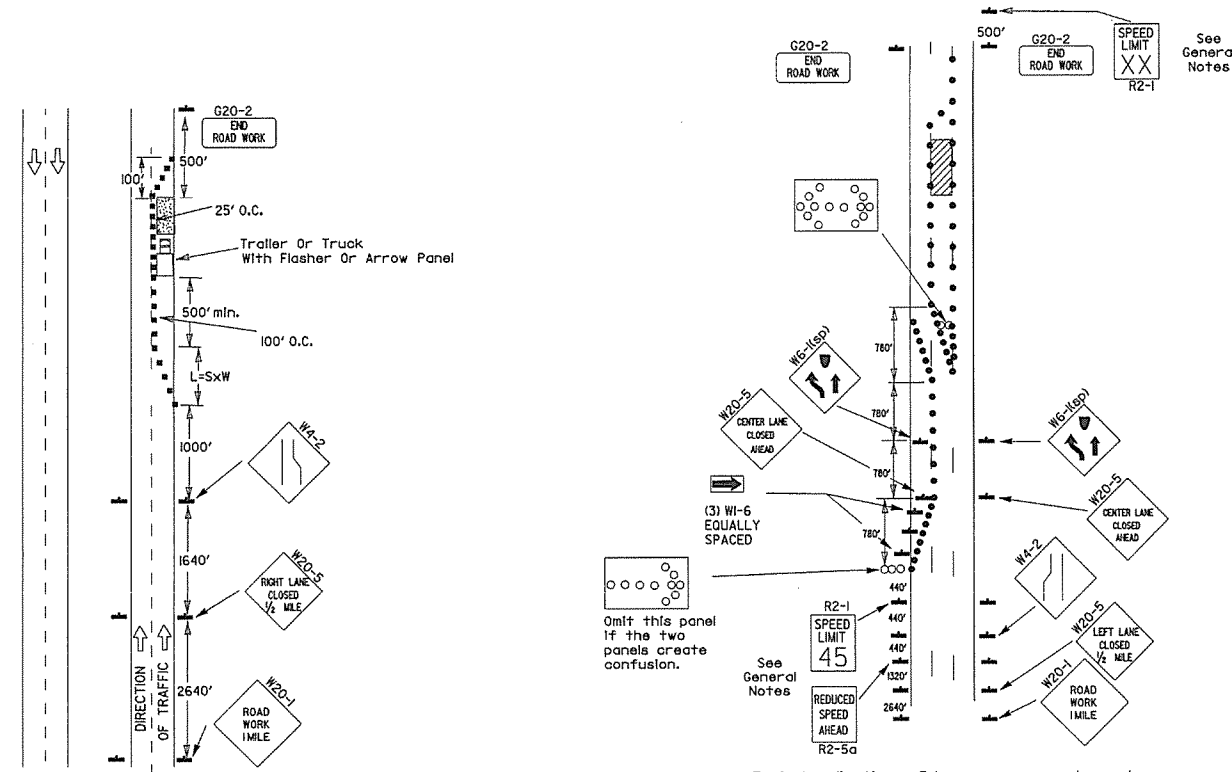


TAPER FORMULAE:
 $L = SXW$ FOR SPEEDS OF 45MPH OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

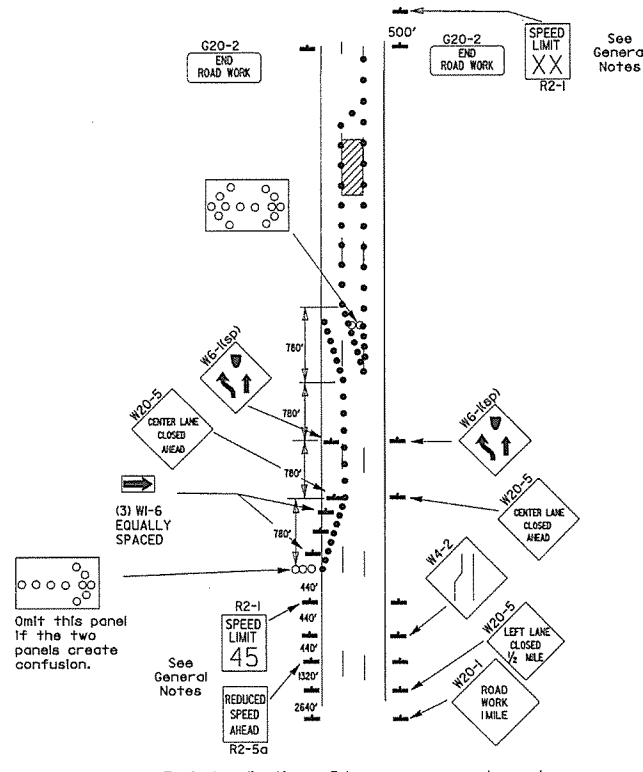
- GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(45)MPH SPEED LIMIT SIGN 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(65) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(55)MPH SPEED LIMIT SIGN 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.

| DATE | REVISION | FILED |
|----------|---|--------|
| 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 | |

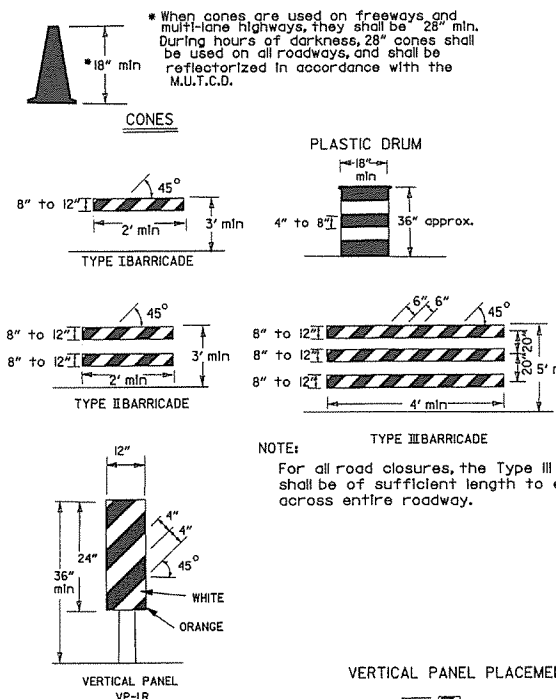
Channelizing devices



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



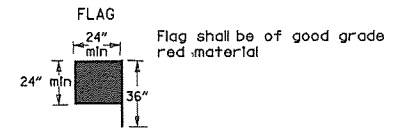
(B) Typical application - 3-lane oneway roadway where center lane is closed.



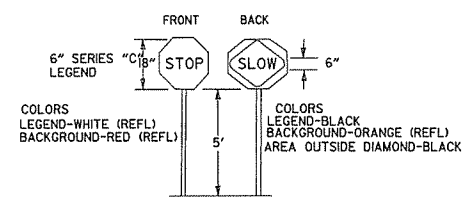
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

| VERTICAL DIFFERENTIAL | LOCATIONS | TRAFFIC CONTROL |
|-----------------------|------------------------|---|
| 1" to 3" | Centerline, lane lines | W8-II |
| 1" to 3" | Edge of shoulder | W8-9 |
| Greater than 3" | Lane lines | Standard lane closure required |
| Greater than 3" | Edge of traveled lane | *RSP-I and vertical panels, drums or concrete barrier |
| Greater than 3" | Edge of shoulder | *Vertical panels, drums or concrete barrier |

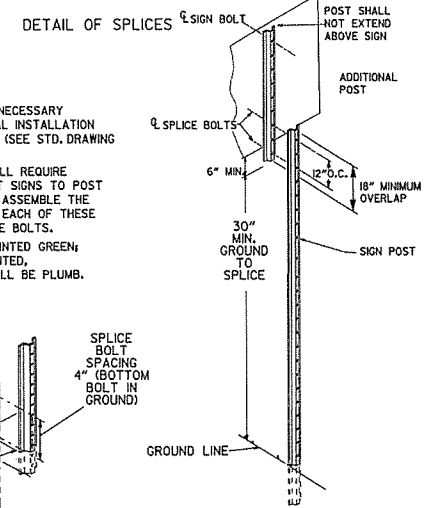
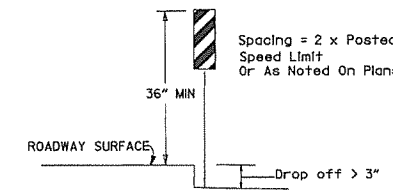
* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE



VERTICAL PANEL PLACEMENT

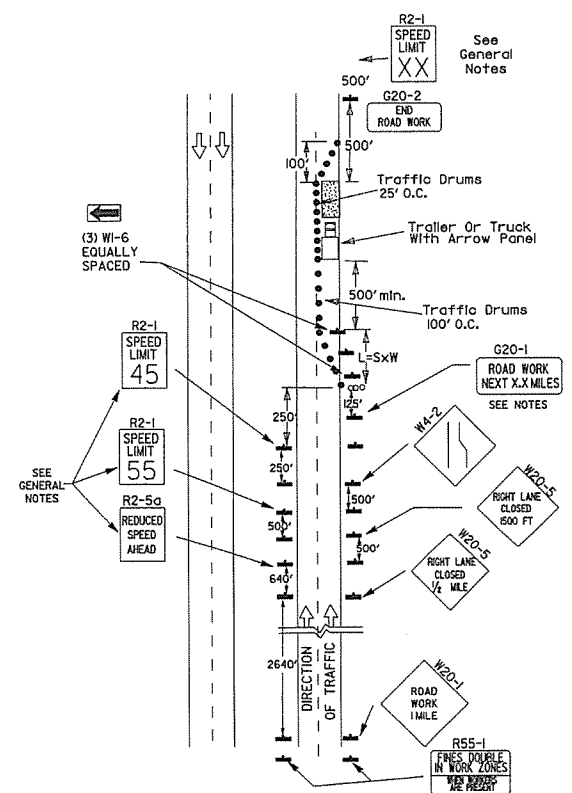


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2) NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS. SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

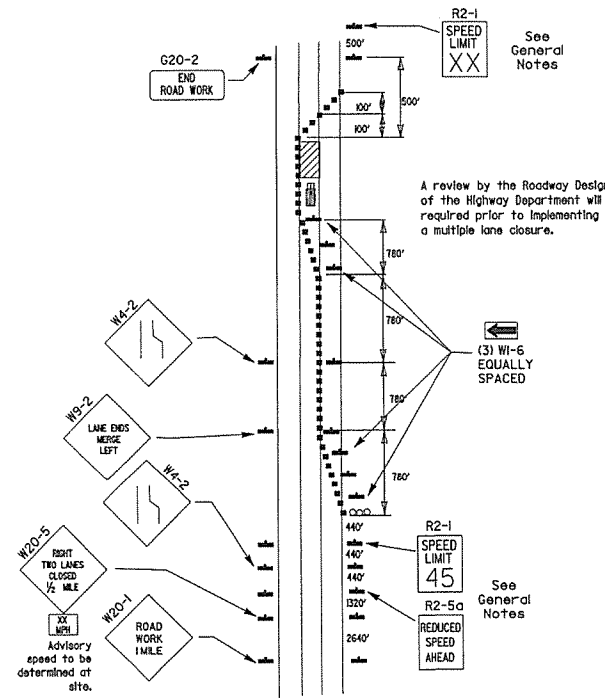
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- 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 R2-5a shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- 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.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- 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 (1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- 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.



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

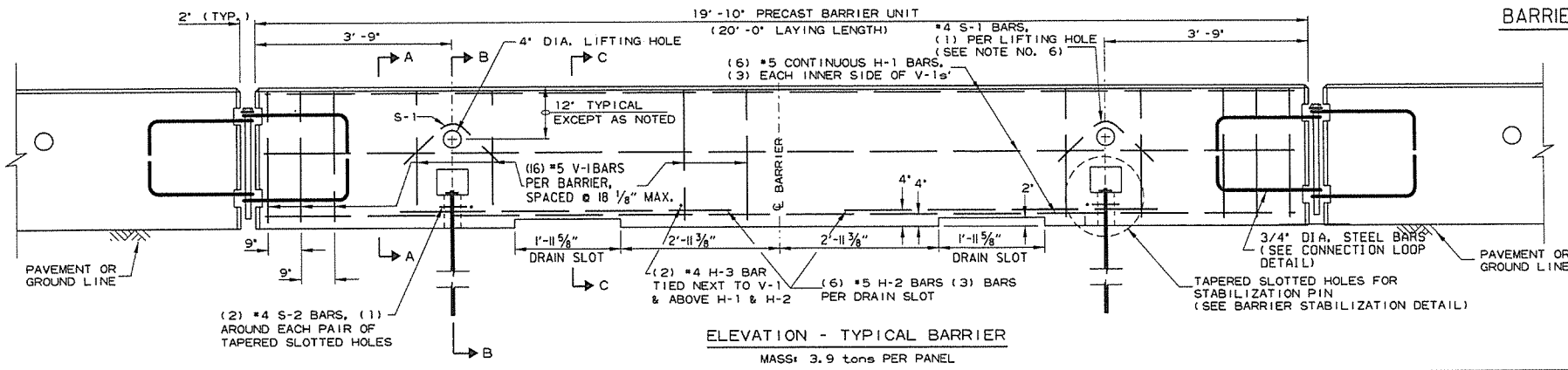
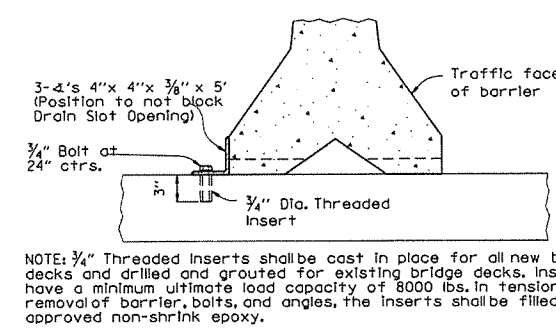
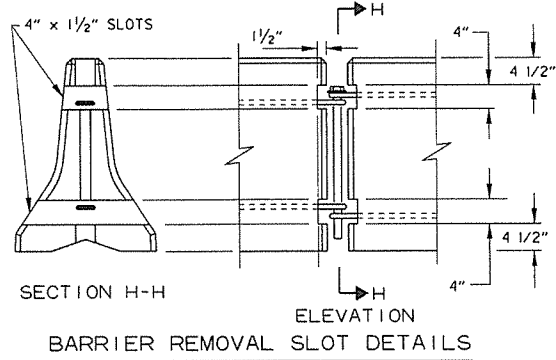
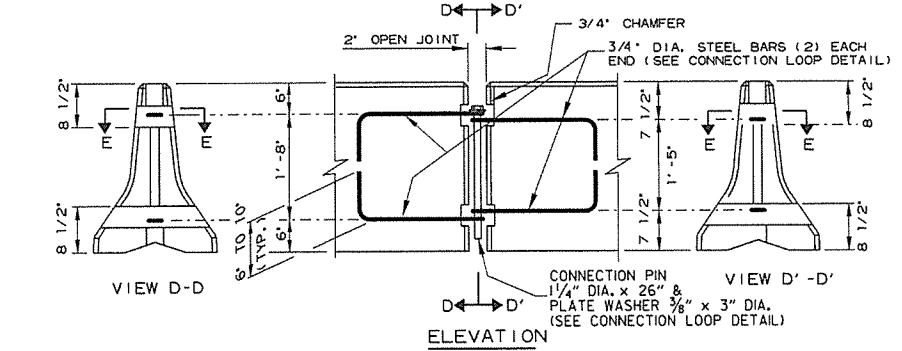
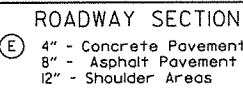
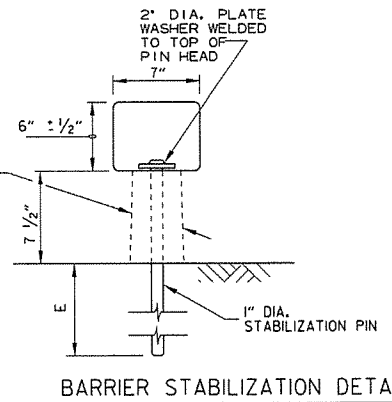
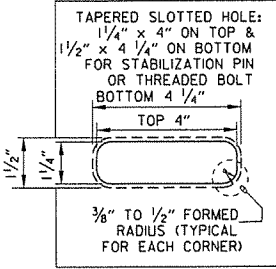
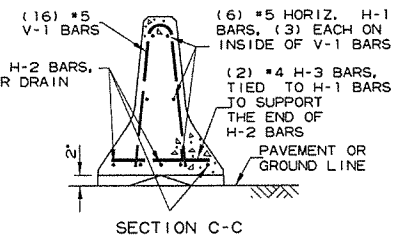
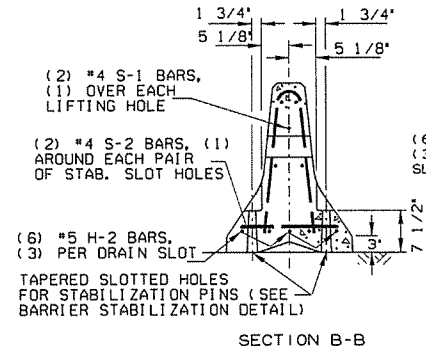
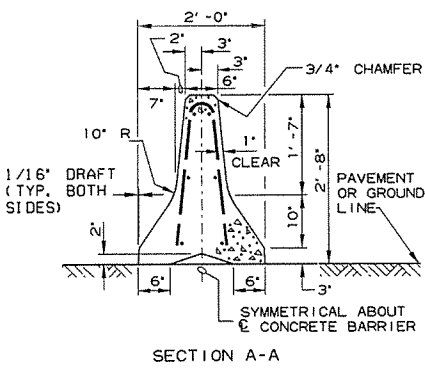
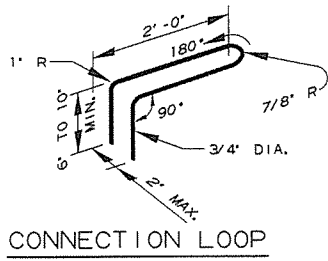
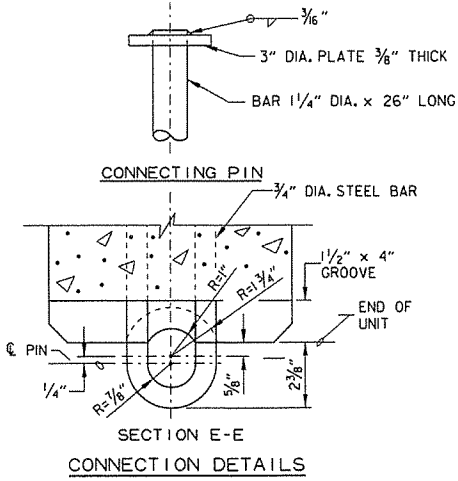


(D) Typical application - closing multiple lanes of a multilane highway.

| DATE | REVISION | FILED |
|----------|--|--------|
| 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) | |
| S-2 | HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS | #4 (2) | |
| V-1 | VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS | #5 (16) | |



- General Notes**
- 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.
 - 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 walls 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 AHTD 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.
 - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or 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 NCHRP Report 350 or 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 NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
 - 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.
 - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
 - A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

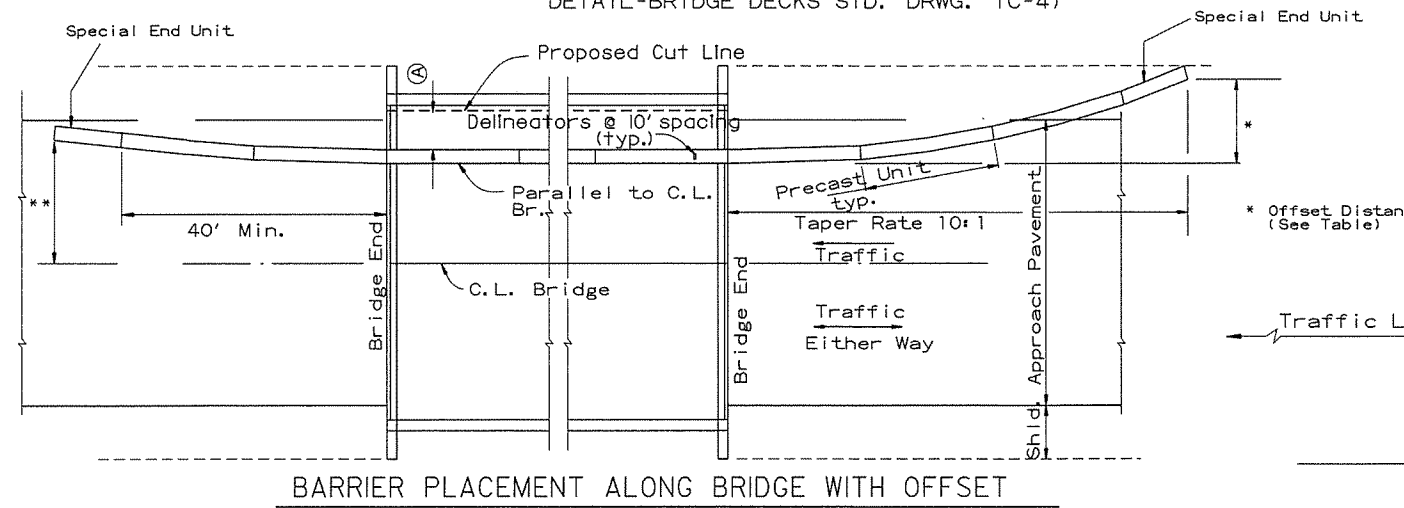
| DATE | REVISION | FILMED |
|----------|---|--------|
| 2-27-14 | REVISED BARRIER STABILIZATION DETAIL | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 8-5-09 | REV. NOTE 3 CONCERNING DRAIN SLOTS | |
| 11-29-07 | REVISED NOTE 3 | |
| 5-25-06 | DELETED GENERAL NOTE 7 | |
| 11-18-04 | REVISED BARRIER STABILIZATION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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

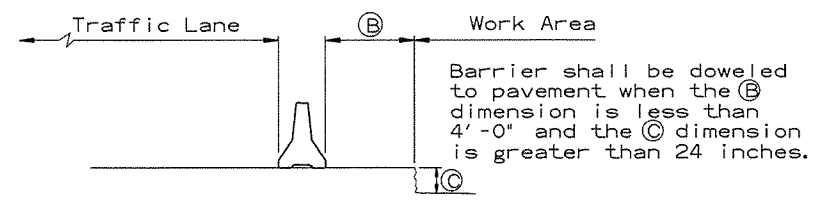
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



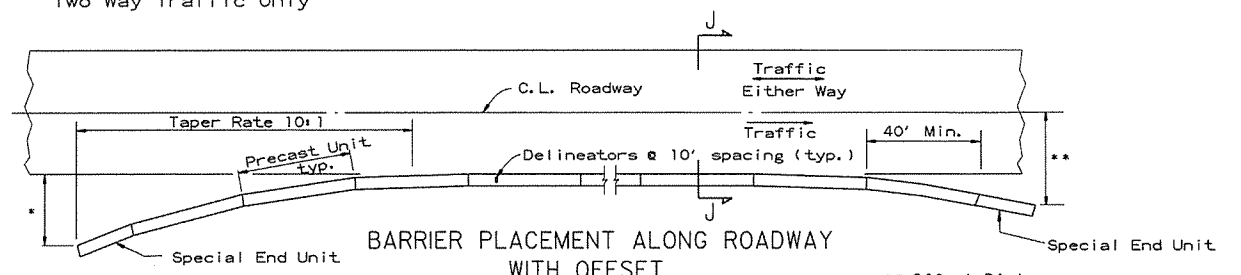
BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J
No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

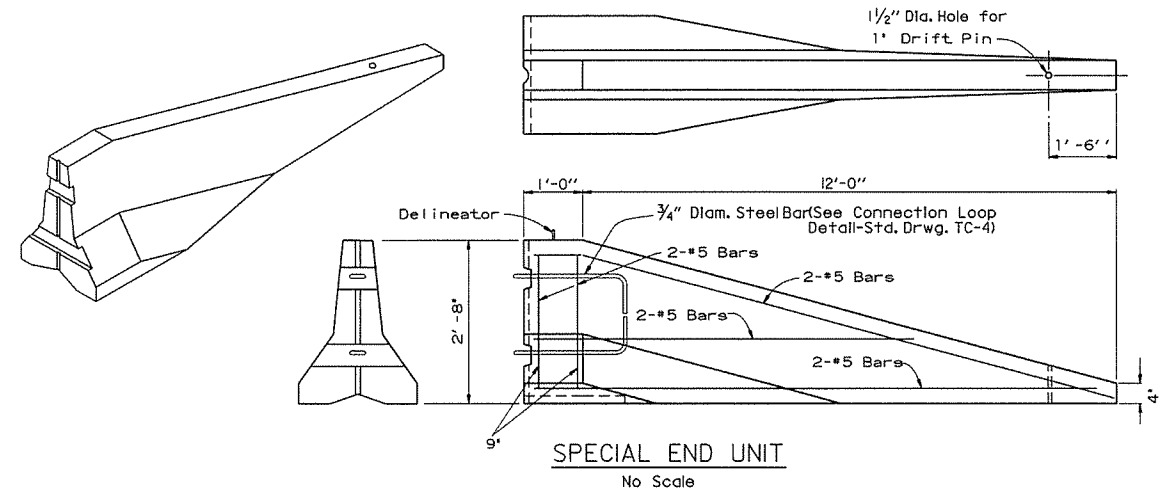
No Scale

* Offset Distance (See Table)

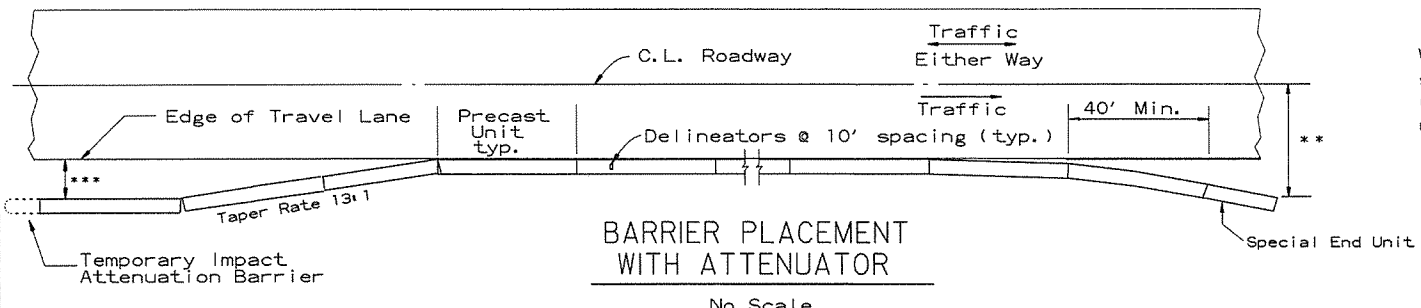
** Offset Distance For Two Way Traffic Only

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

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



SPECIAL END UNIT
No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

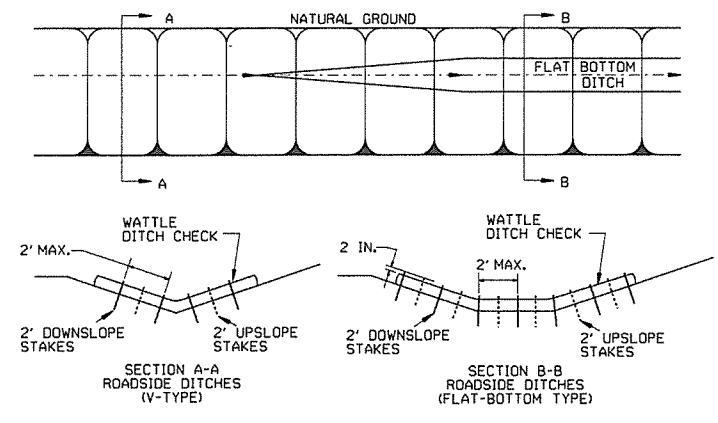
*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

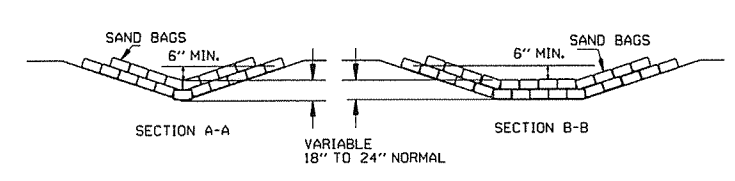
| | | |
|--|---------------------------|-------|
| ARKANSAS STATE HIGHWAY COMMISSION | | |
| STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER | | |
| STANDARD DRAWING TC-5 | | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 5-25-06 | REVISED BARRIER PLACEMENT | |
| 8-22-02 | ISSUED NEW DRAWING | |
| DATE | REVISION | FILED |

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



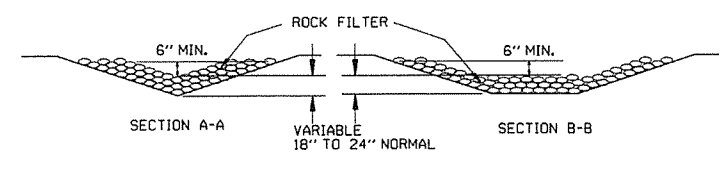
WATTLE DITCH CHECK (E-1)

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

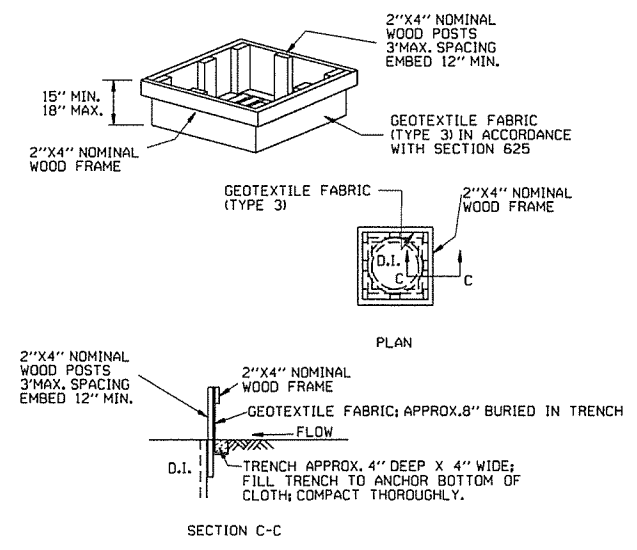


SAND BAG DITCH CHECK (E-5)

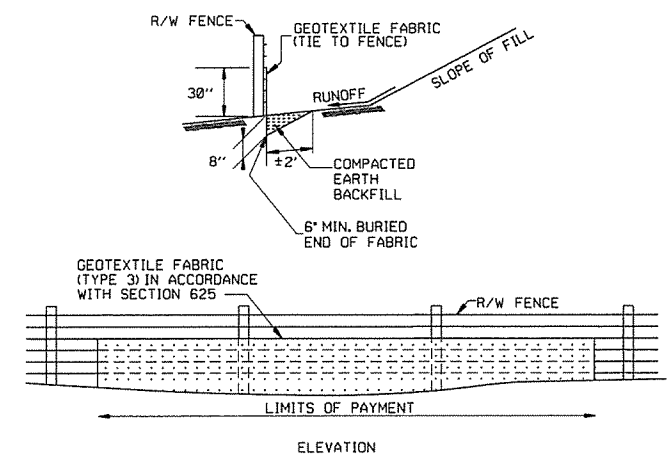
APPROX. 2:1 SLOPE. PLACE ROCK AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



ROCK DITCH CHECK (E-6)



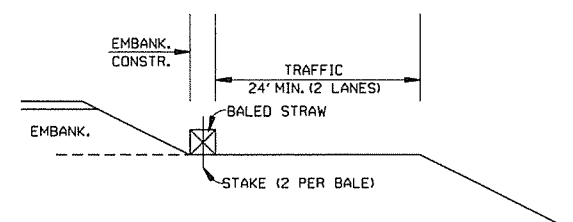
DROP INLET SILT FENCE (E-7)



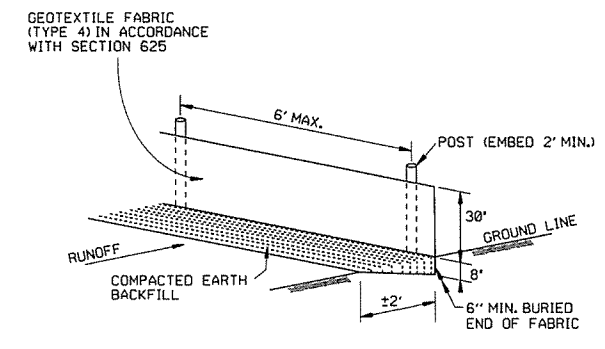
SILT FENCE ON R/W FENCE (E-4)

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

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.



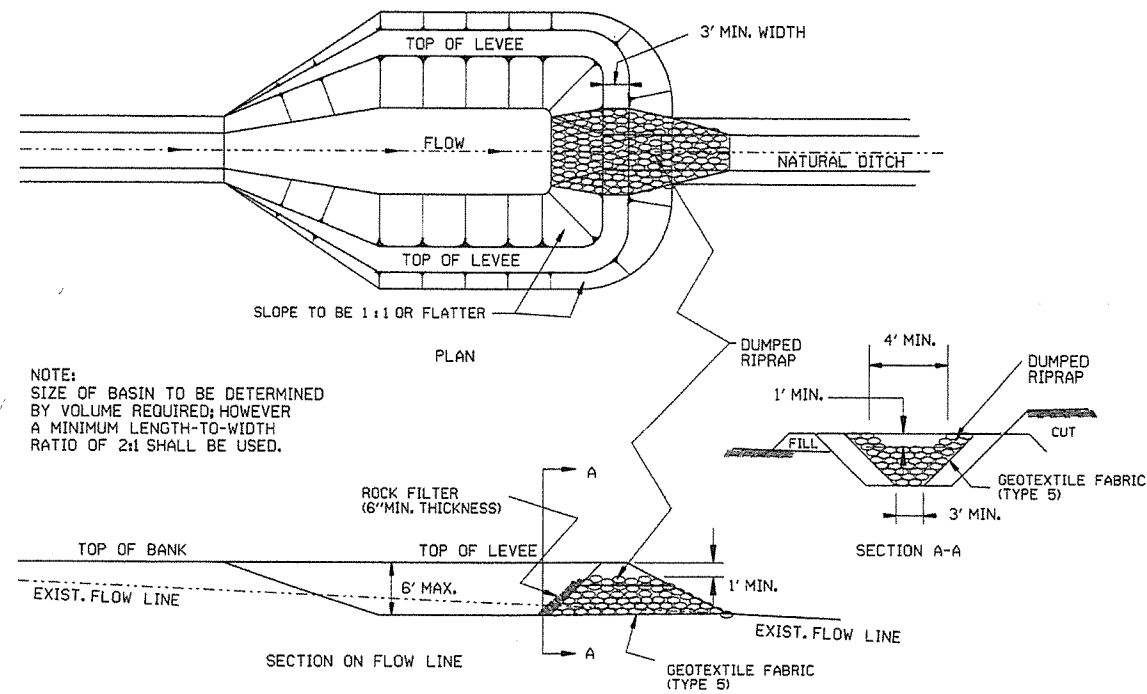
BALED STRAW FILTER BARRIER (E-2)



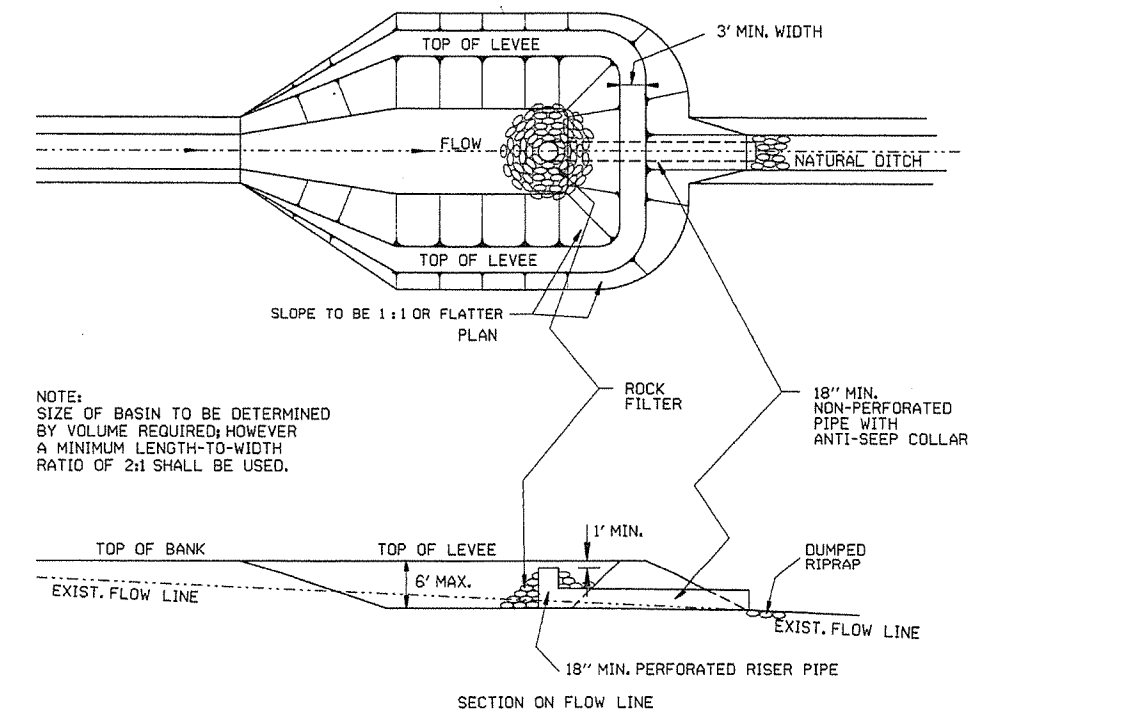
SILT FENCE (E-11)

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

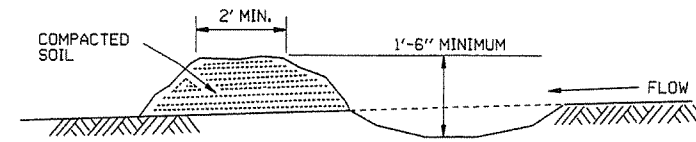
| | | | |
|----------|--|-------------|-----------------------------------|
| 12-15-11 | DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK | | ARKANSAS STATE HIGHWAY COMMISSION |
| 11-18-98 | ADDED NOTES | | |
| 7-02-98 | ADDED BALED STRAW FILTER BARRIER (E-2) | | |
| 7-20-95 | REVISED SILT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



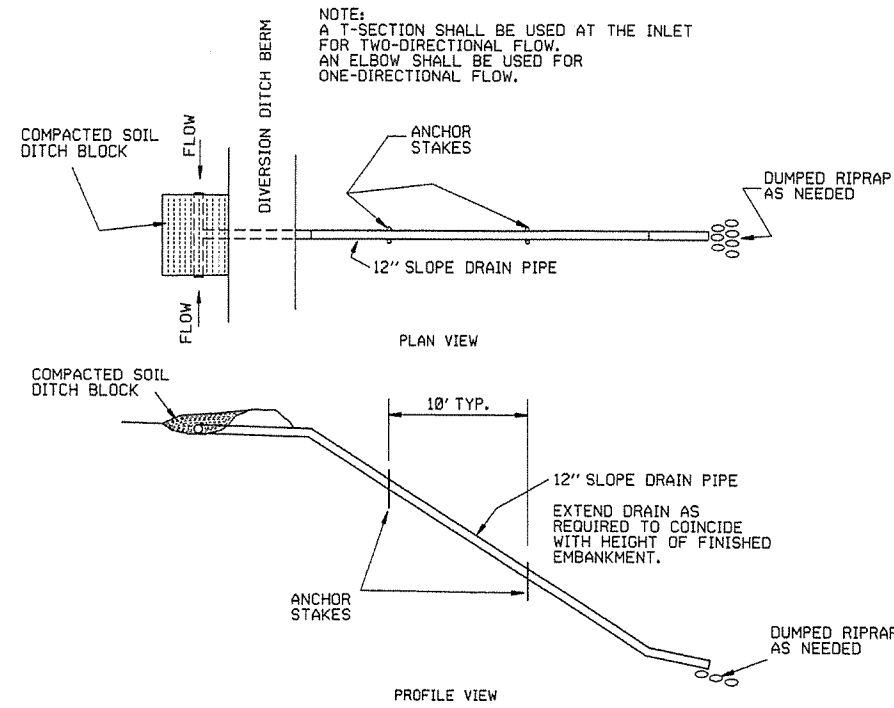
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



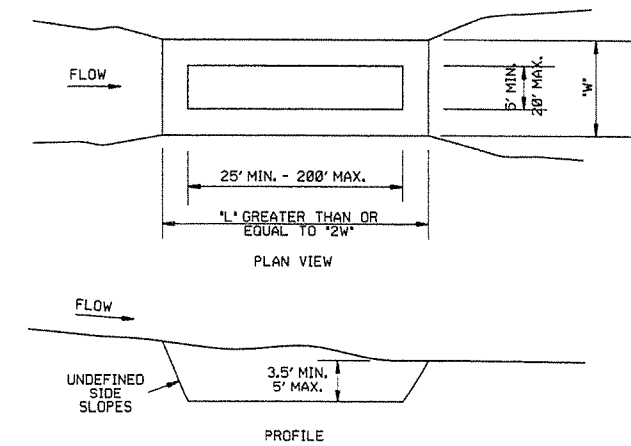
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

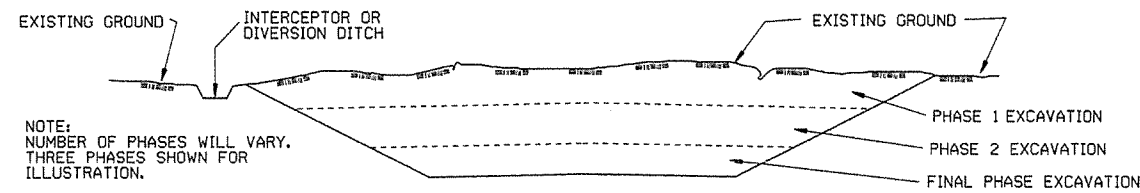
| | | | |
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| ARKANSAS STATE HIGHWAY COMMISSION | | | |
| TEMPORARY EROSION CONTROL DEVICES | | | |
| STANDARD DRAWING TEC-2 | | | |
| 6-2-94 | Revised E-8 & E-12; Added E-14 & Deleted E-13 | | |
| 4-1-93 | ISSUED | | |
| DATE | REVISION | | FILMED |

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



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

GENERAL NOTE

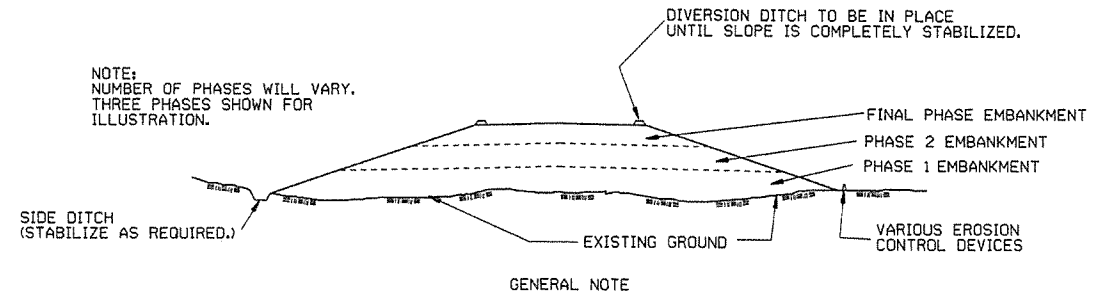
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

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

EMBANKMENT

60



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

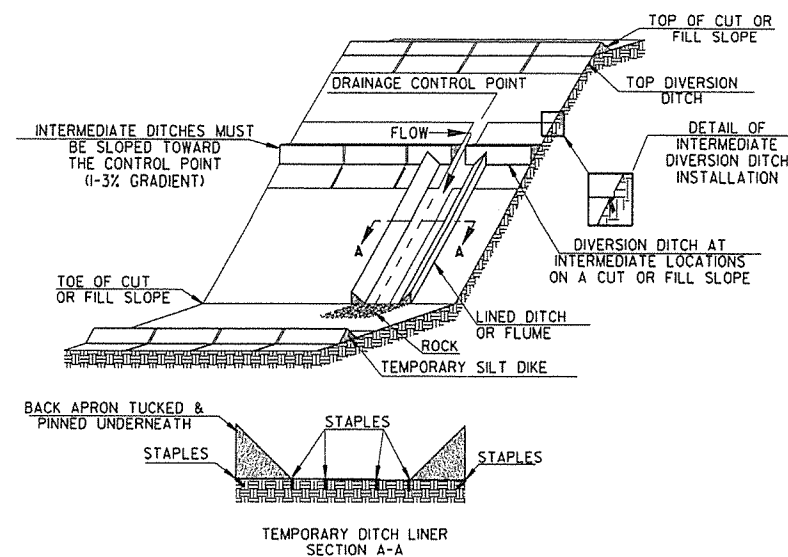
GENERAL NOTE

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

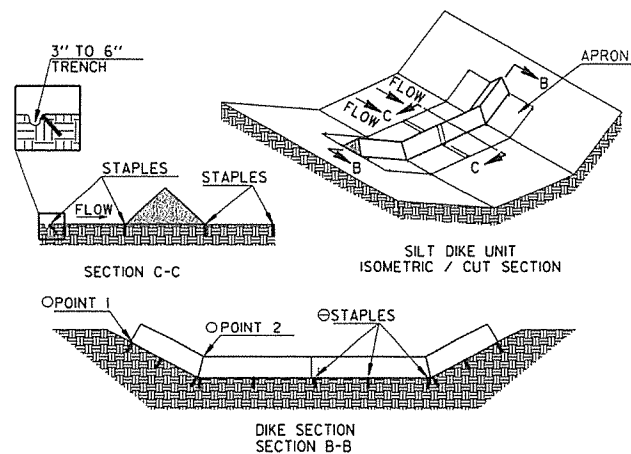
CONSTRUCTION SEQUENCE

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

| | | |
|-----------------------------------|--------------------|--------|
| ARKANSAS STATE HIGHWAY COMMISSION | | |
| TEMPORARY EROSION CONTROL DEVICES | | |
| 11-03-94 | CORRECTED SPELLING | 6-2-94 |
| 6-2-94 | Drawn & Issued | FILMED |
| DATE | REVISION | |
| STANDARD DRAWING TEC-3 | | |

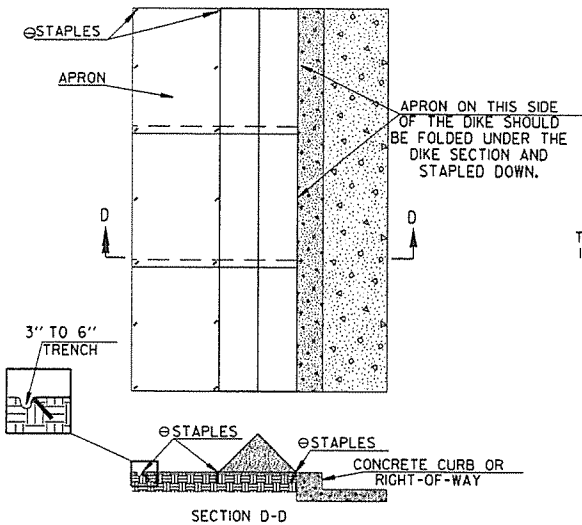


TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER

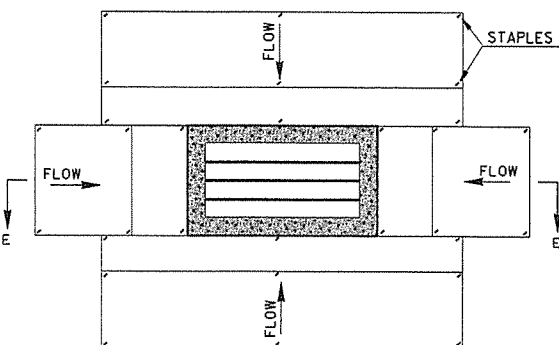


TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

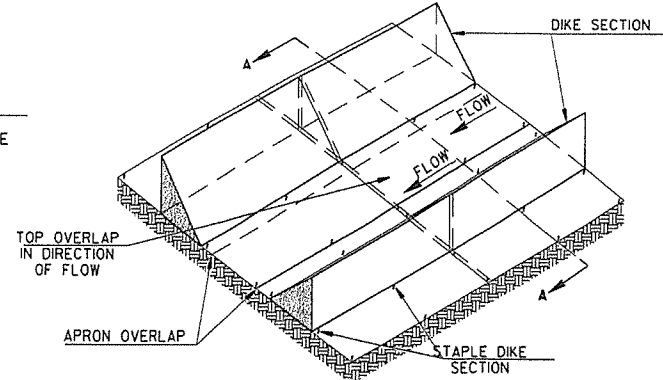
○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
⊗ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



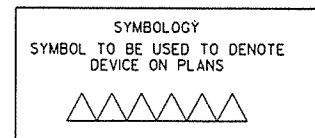
TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
3. THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

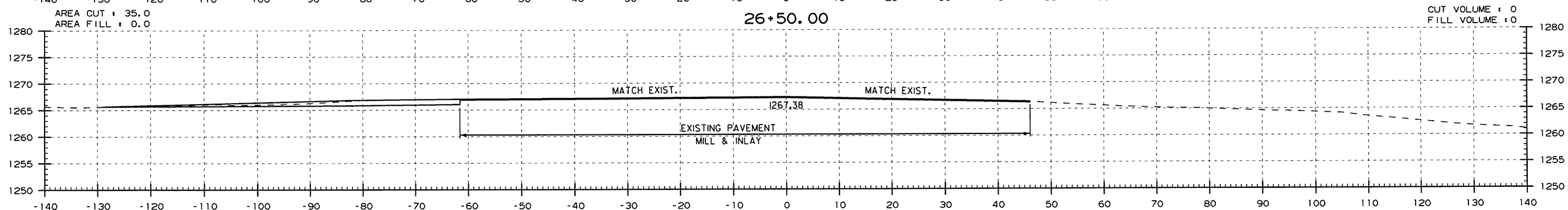
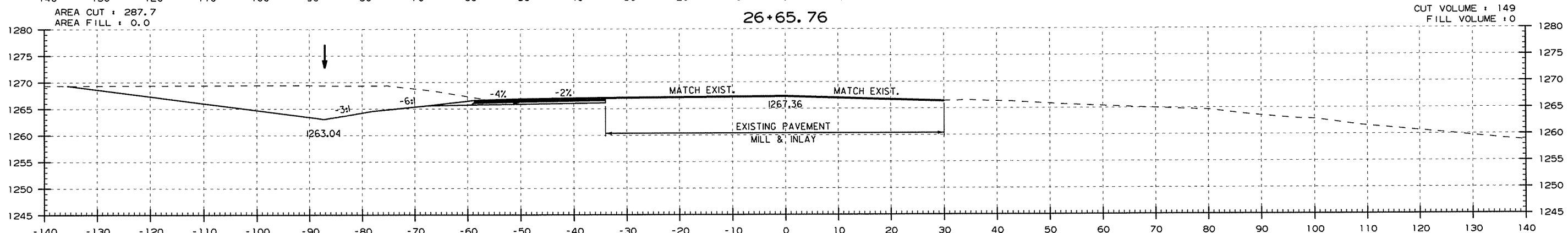
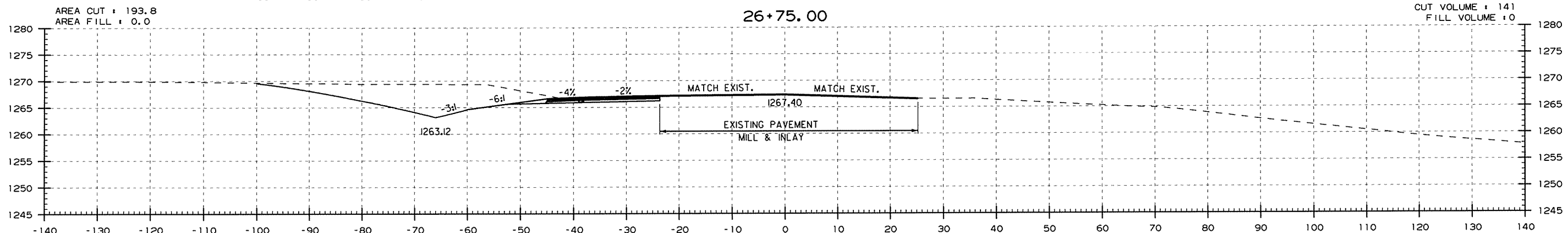
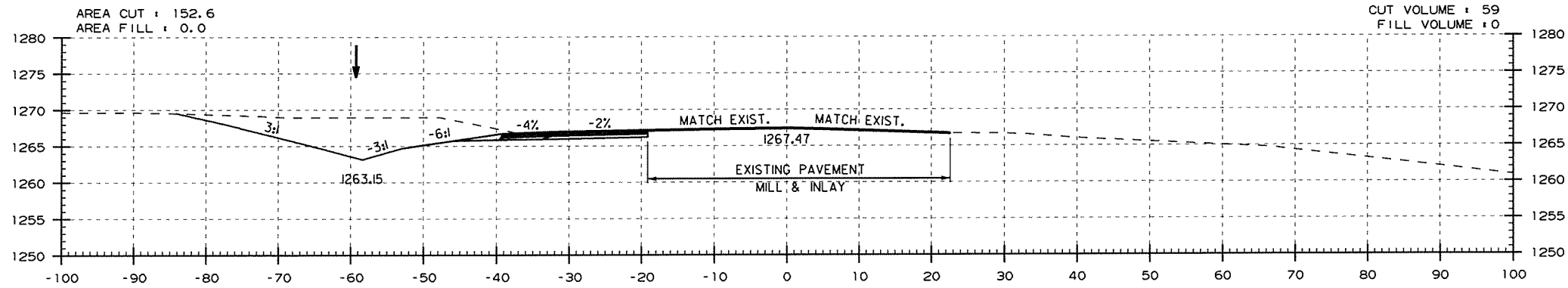


NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

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|-----------------------------------|-------------------------|--|--------|
| ARKANSAS STATE HIGHWAY COMMISSION | | | |
| TEMPORARY EROSION CONTROL DEVICES | | | |
| STANDARD DRAWING TEC-4 | | | |
| 7-26-12 | REVISED GENERAL NOTE 2. | | |
| 12-15-11 | ISSUED | | |
| DATE | REVISION | | FILMED |

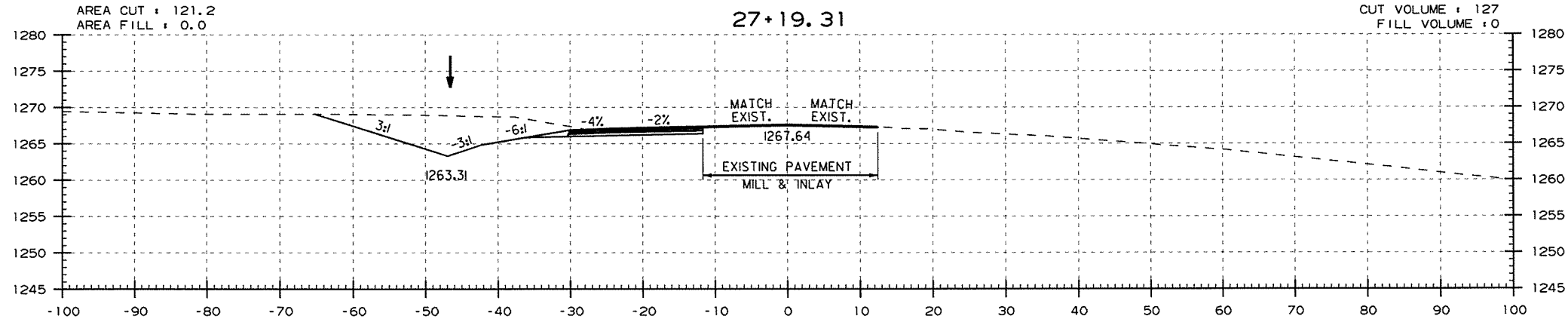
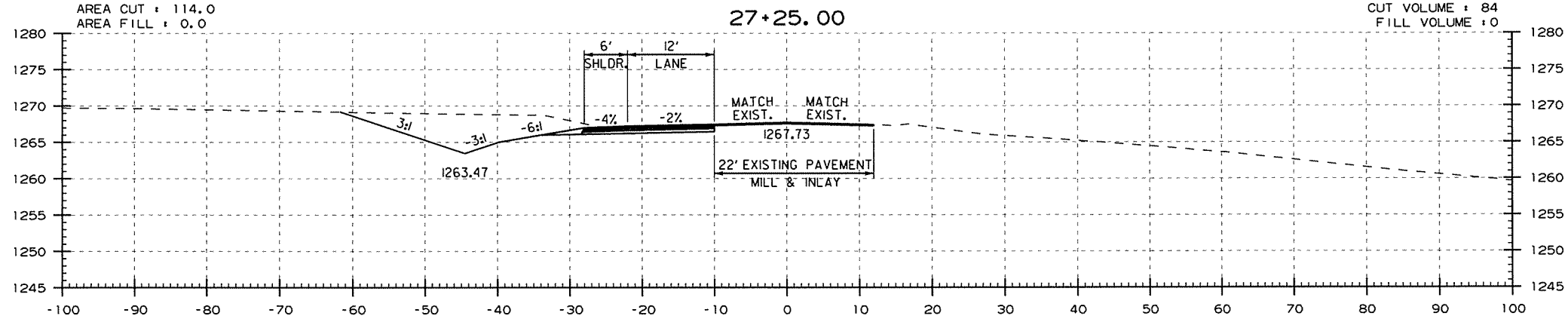
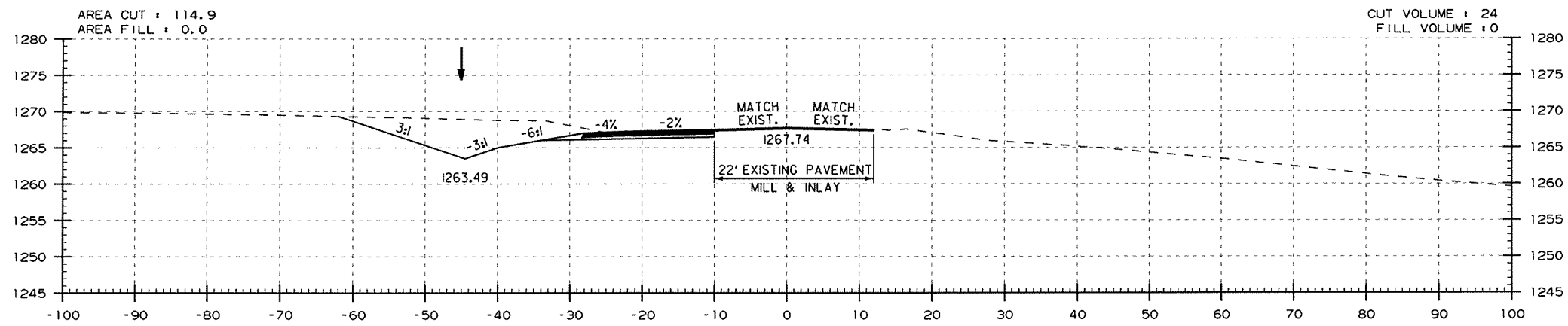
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|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | 62 | 66 |
| | | | | JOB NO. BB0901 | | | | |

2 CROSS SECTIONS



26+25.00
 STA. 26+09.75 BEGIN JOB BB0901
 STA. 26+25.00 TO STA. 26+75.00

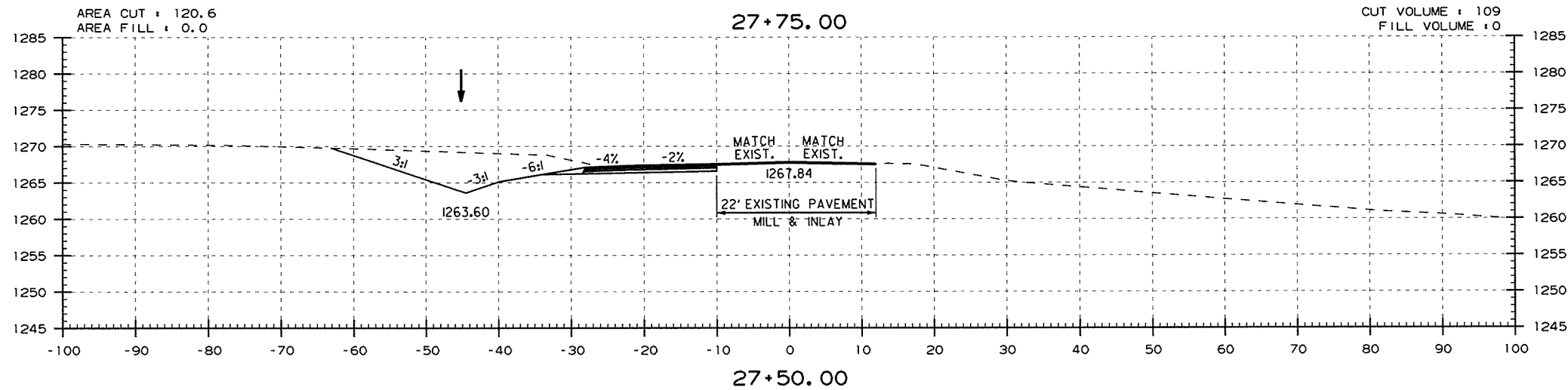
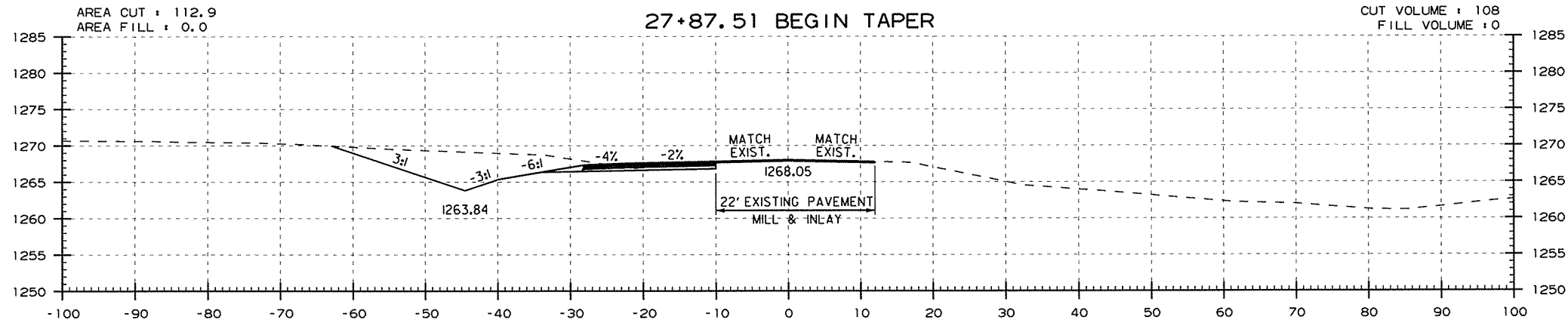
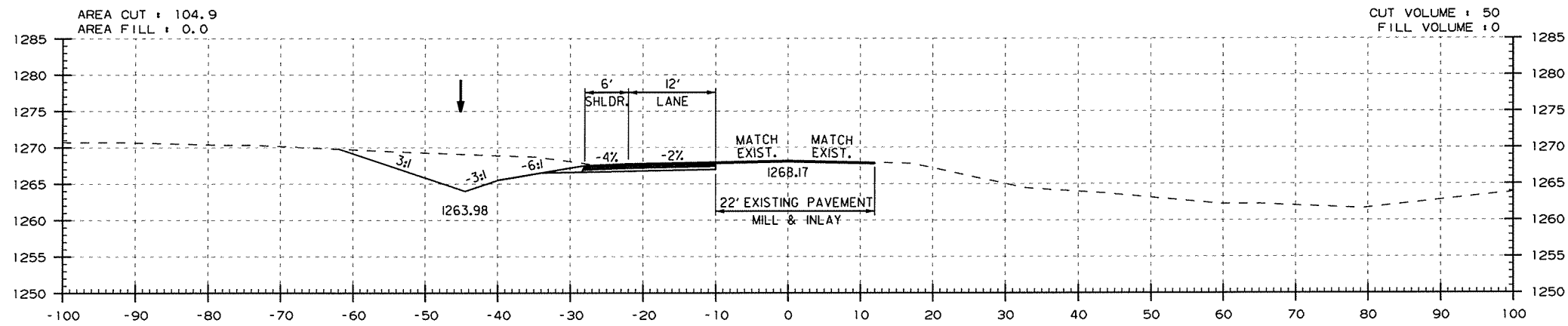
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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 63 | 66 |



27+00.00

STA. 27+00.00 TO STA. 27+25.00

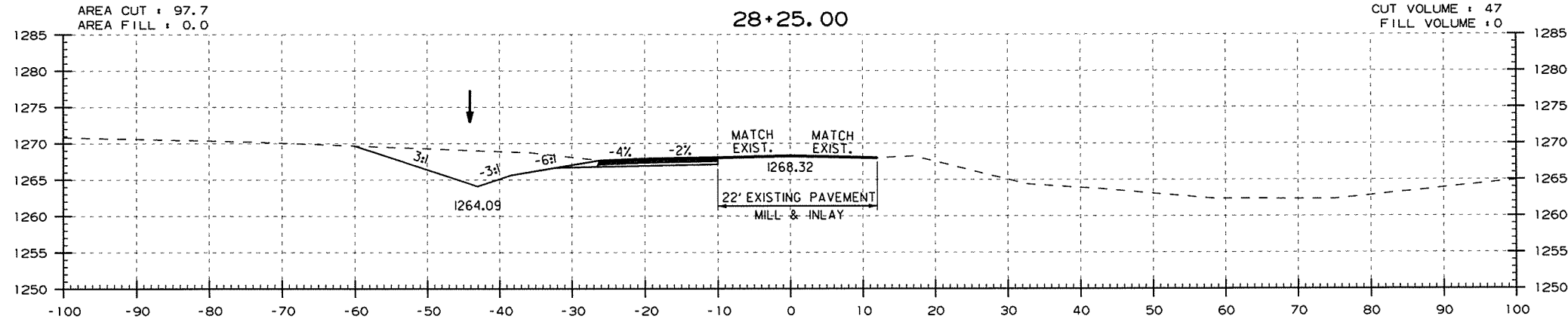
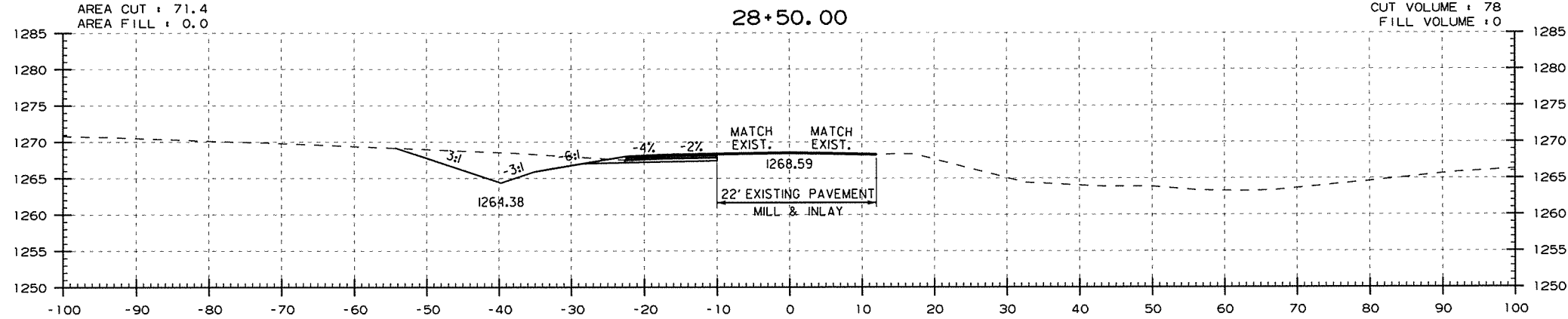
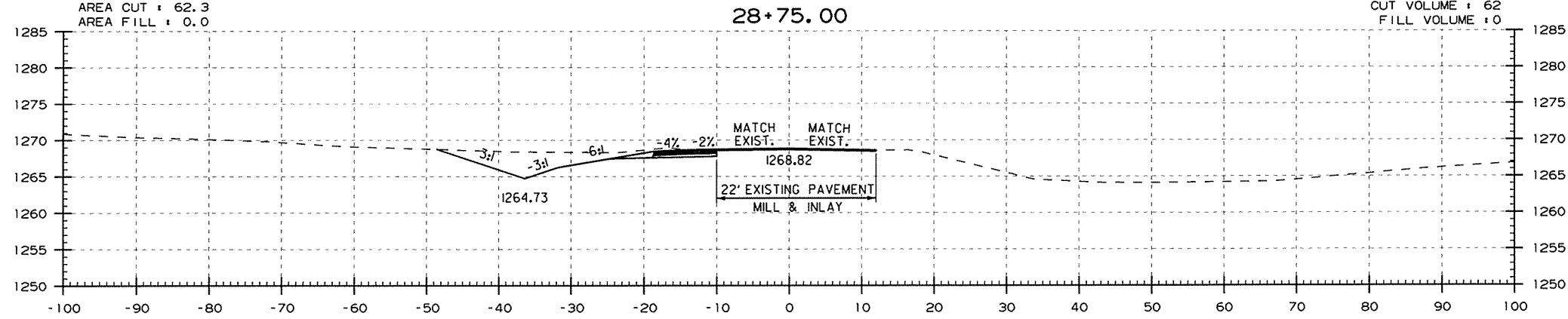
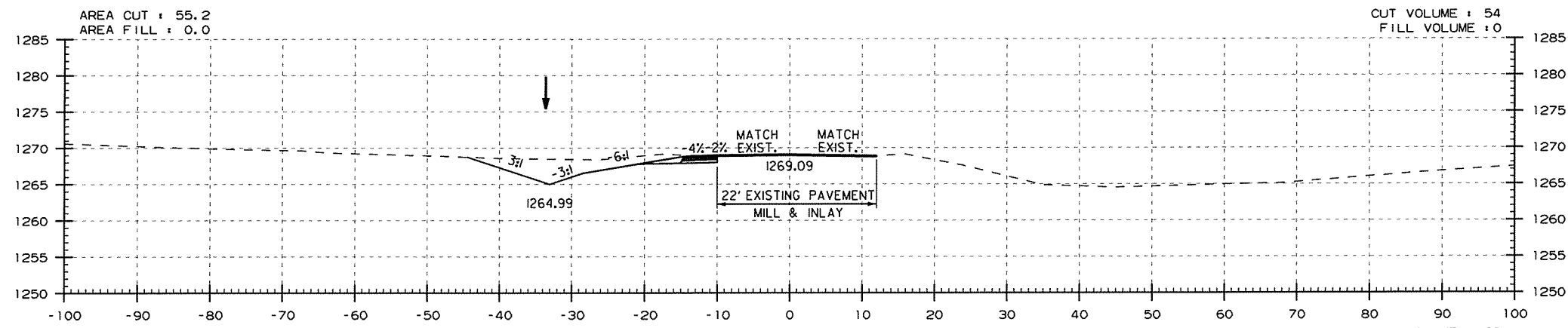
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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | BB0901 | | 64 | 66 |



STA. 27+50.00 TO STA. 27+87.51

| 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. | BB0901 | | 65 | 66 |

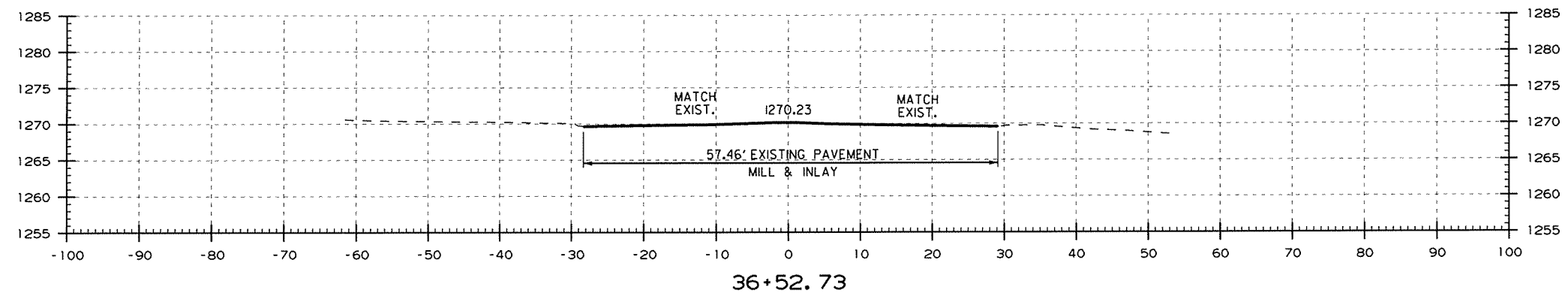
2 CROSS SECTIONS



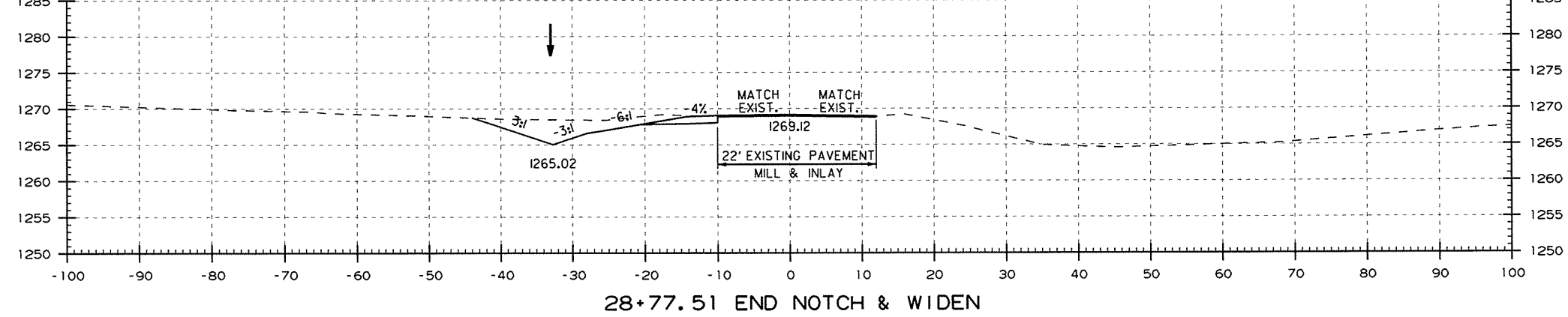
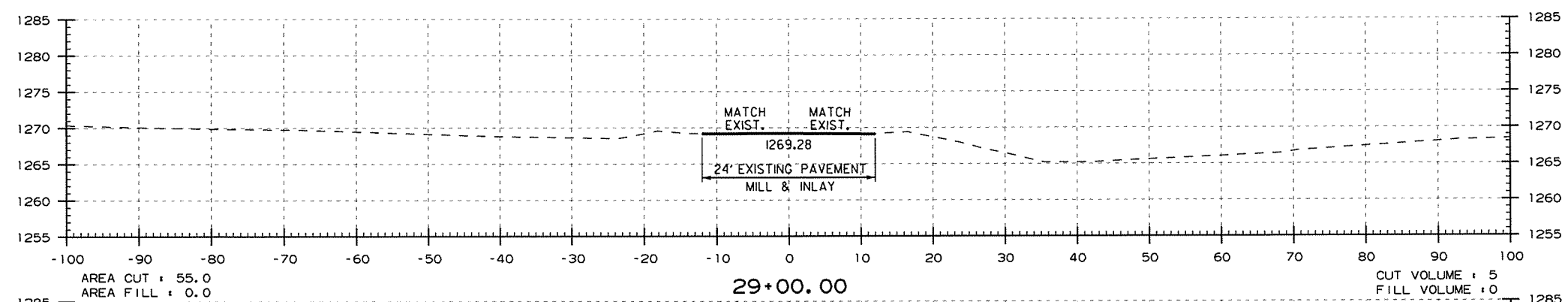
STA. 28+00.00 TO STA. 28+75.00

| 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. | BB0901 | | 66 | 66 |

STA. 36+52.73 END JOB BB0901



STA. 29+14.52 BEGIN APPR. SLAB
 STA. 29+49.57 BEGIN BRIDGE
 STA. 32+25.76 END BRIDGE
 STA. 32+60.56 END APPR. SLAB



STA. 28+77.51 TO STA. 29+00.00