

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MED-18-15.10 PM

MEDINA TOWNSHIP
GRANGER TOWNSHIP
SHARON TOWNSHIP

MEDINA COUNTY

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE FULL-WIDTH PLANING REPAIR, PLACING ITEM 424 AND ITEM 442, AND PAVEMENT MARKINGS

PROJECT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

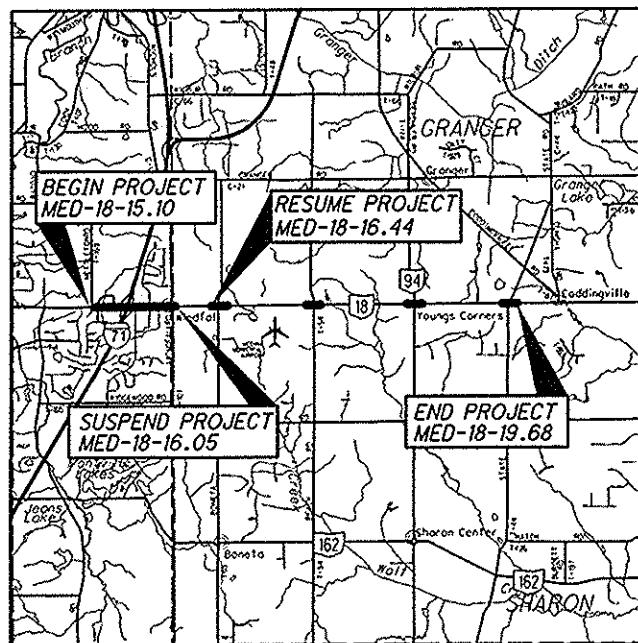
2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *Ann G. Buel*
DATE: 2-27-14 DISTRICT DEPUTY DIRECTOR

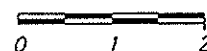
APPROVED: *Henry W. Whaley*
DATE: 4-15-14 DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: N 41° 8' 10" LONGITUDE: W 81° 45' 28"

SCALE IN MILES



PORTION TO BE IMPROVED -----
INTERSTATE & DIVIDED HIGHWAY -----
UNDIVIDED STATE & FEDERAL ROUTES -----
OTHER ROADS -----

INDEX OF SHEETS:

- 1 - TITLE SHEET
- 2-7 - SCHEMATIC PLAN
- 8-9 - TYPICAL SECTIONS
- 10,10A - GENERAL NOTES
- 11 - MAINTENANCE OF TRAFFIC NOTES
- 12 - GENERAL SUMMARY
- 13 - PAVEMENT & SHOULDER DATA
- 14 - PAVEMENT MARKING AND RPM SUBSUMMARY
- 15 - DETECTOR LOOP INSTALLATION DETAILS
- 16-25 - INTERSECTION DETAILS

DESIGN DESIGNATION	MED-18 15.15-15.49	MED-18 15.49-15.74	MED-18 15.74-15.99	MED-18 16.44-19.68
CURRENT ADT (2015)	29,000	31,000	21,000	21,000
DESIGN YEAR ADT (2023)	32,000	34,000	24,000	25,000
DESIGN HOURLY VOLUME (2023)	2,900	3,100	2,200	2,200
DIRECTIONAL DISTRIBUTION	0.53	0.53	0.53	0.53
TRUCKS (24 HOUR B&C)	0.04	0.05	0.05	0.05
Td	0.02	0.03	0.03	0.03
DESIGN SPEED	40	40	40	55
LEGAL SPEED	40	40	40	55
DESIGN FUNCTIONAL CLASSIFICATION: RURAL PRINCIPAL ARTERIAL				

NHS PROJECT ----- YES
DESIGN EXCEPTIONS ----- NONE REQUIRED

ROADWAY ENGINEERS SEAL:

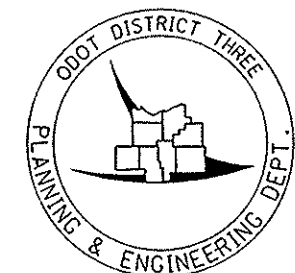
SIGNED: *Craig A. Devore*
DATE: 2-27-2014

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS
BP-3.1	04/20/12 MT-95.30 07/19/13	800 04/18/14
	MT-95.31 07/19/13	821 04/20/12
DM-4.3	07/19/13 MT-95.32 07/19/13	832 01/17/14
DM-4.4	07/20/12 MT-95.50 07/19/13	
	MT-95.60 07/19/13	
TC-41.20	10/18/13 MT-95.61 07/19/13	
TC-42.20	10/18/13 MT-98.28 07/19/13	
TC-52.10	10/18/13 MT-99.20 07/19/13	
TC-52.20	01/17/14 MT-101.90 07/19/13	
TC-65.10	01/17/14 MT-105.10 07/19/13	
TC-65.11	01/17/14	
TC-71.10	01/17/14	
TC-72.20	07/20/12	
TC-82.10	10/18/13	
		SPECIAL PROVISIONS

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

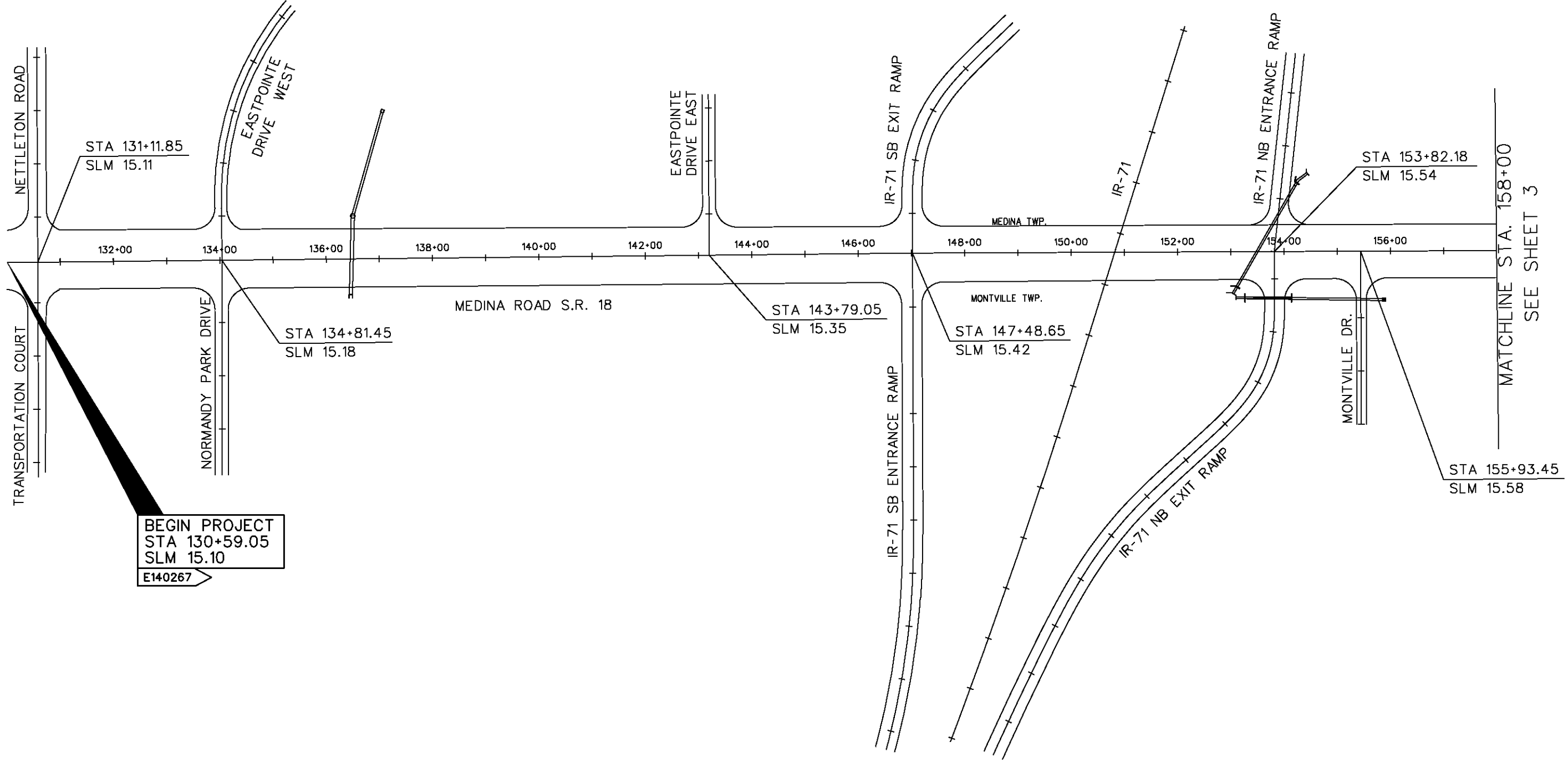
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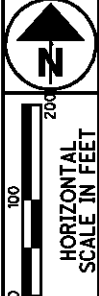
MED - SR 0018 15.10 PM
140388 PID - 79760
Dist 3 6/26/2014
Contract Proposal Available @ www.contracts.dot.state.oh.us/home

MODELNAME: Sheet
DATE: 4/8/2014
WORKSTATION: devore

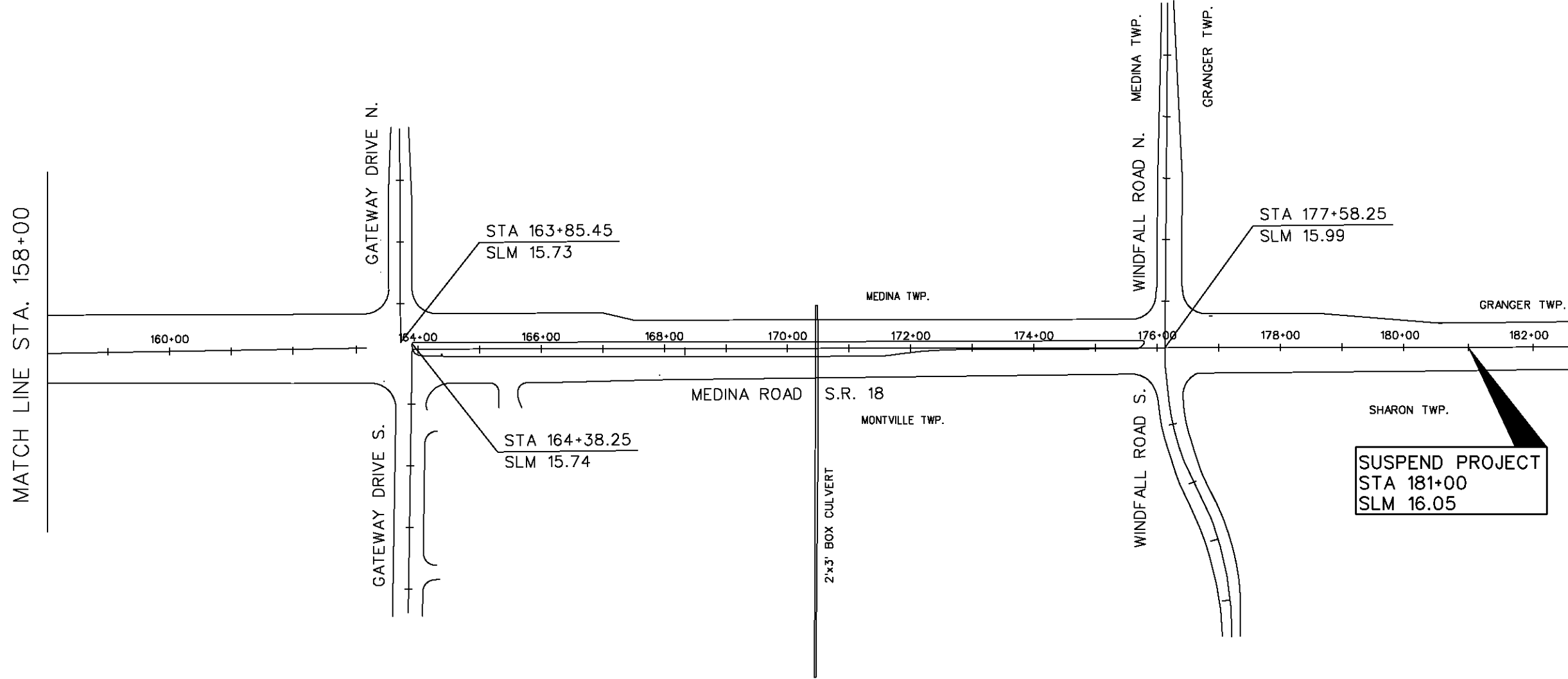
FEDERAL PROJECT NO. E140267
PID NO. 79760
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
MED-18-15.10 PM
25



BEGIN PROJECT
STA 130+59.05
SLM 15.10
E140267

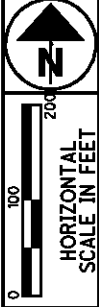


SCHEMATIC PLAN

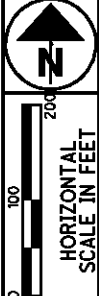
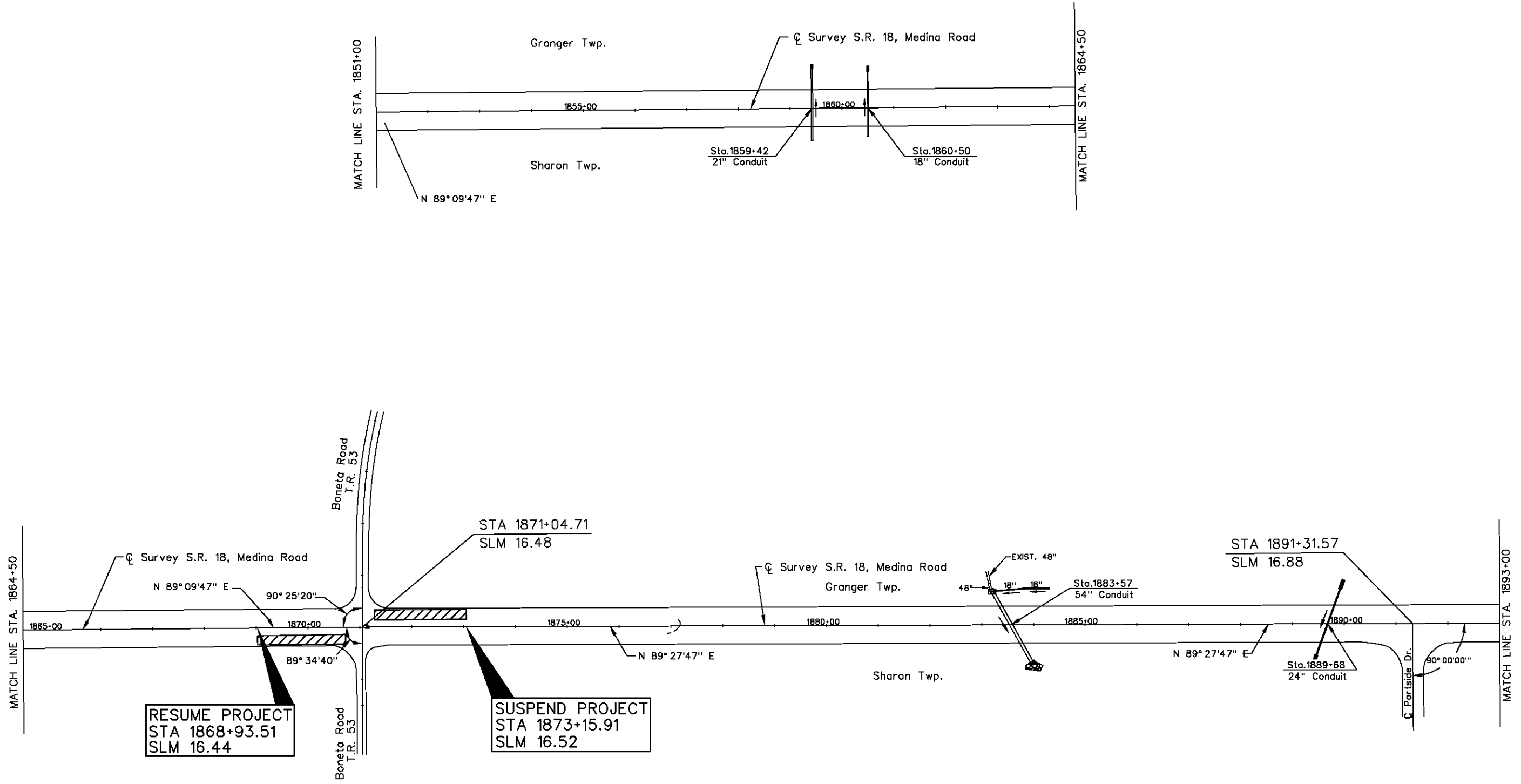


MATCHLINE STA. 182+55 BACK =
STA. 1851+00 AHEAD
SEE SHEET 4

SUSPEND PROJECT
STA 181+00
SLM 16.05

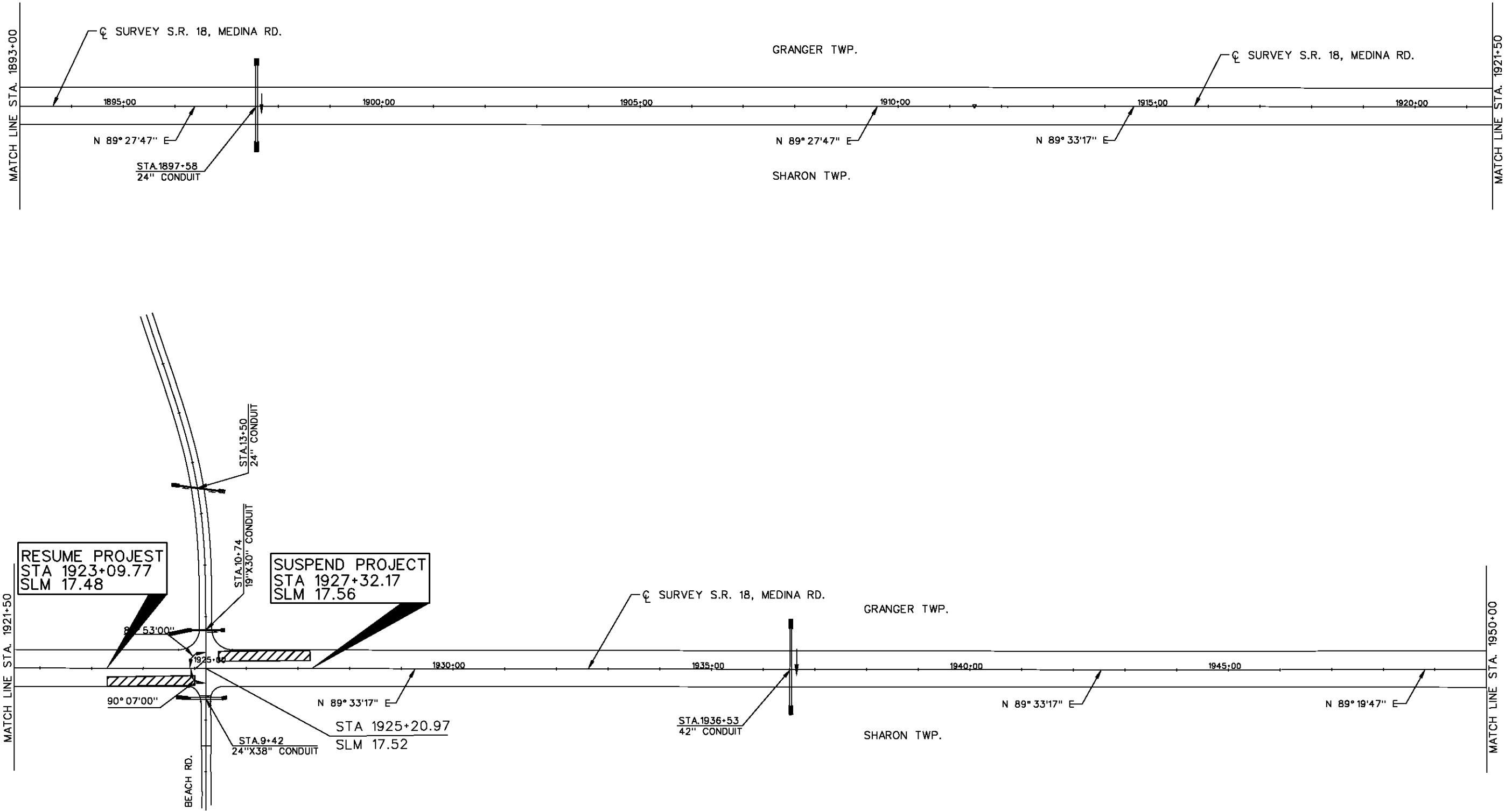


SCHEMATIC PLAN



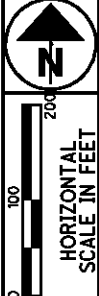
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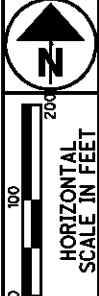
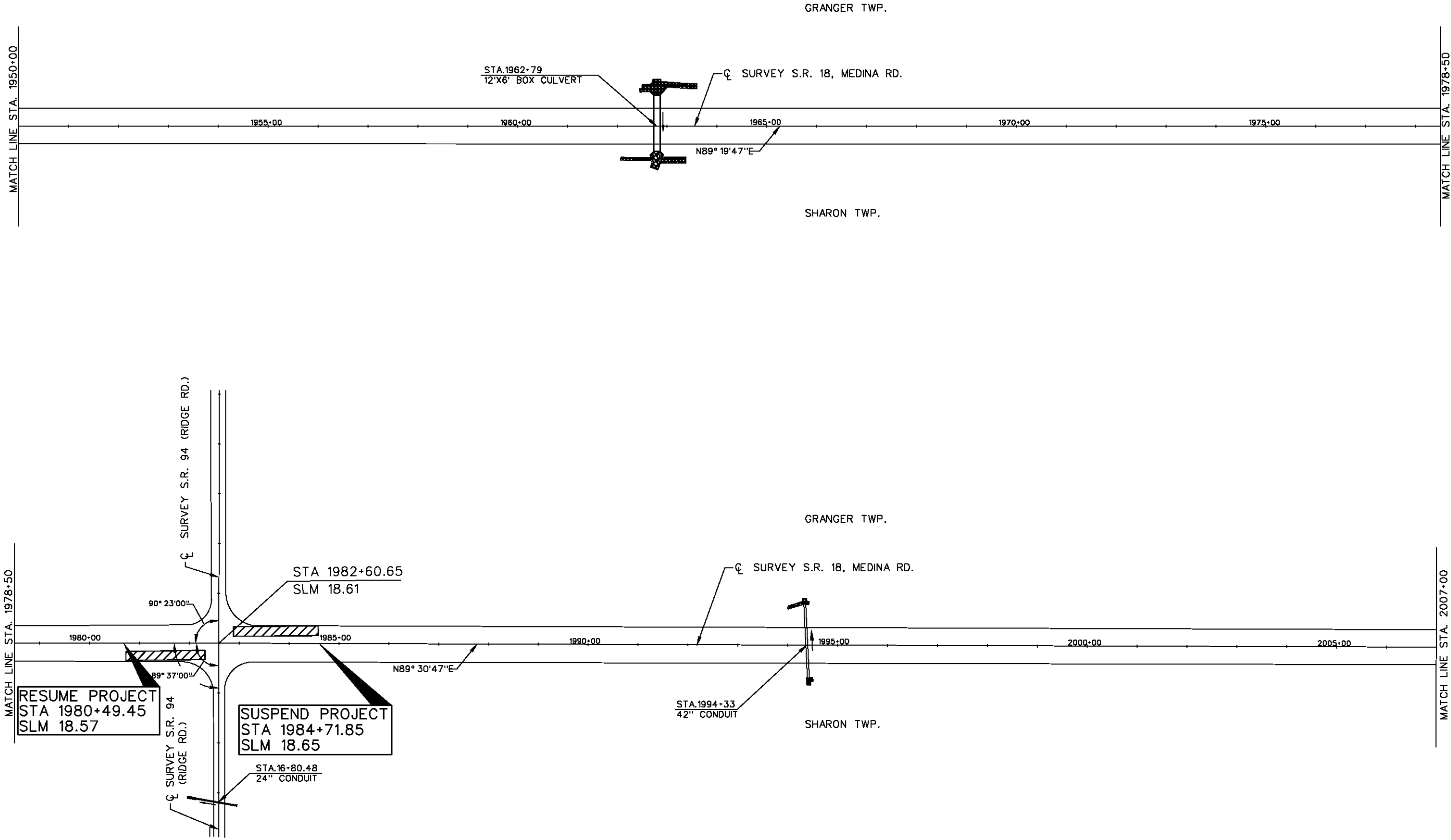
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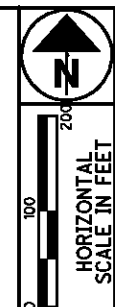
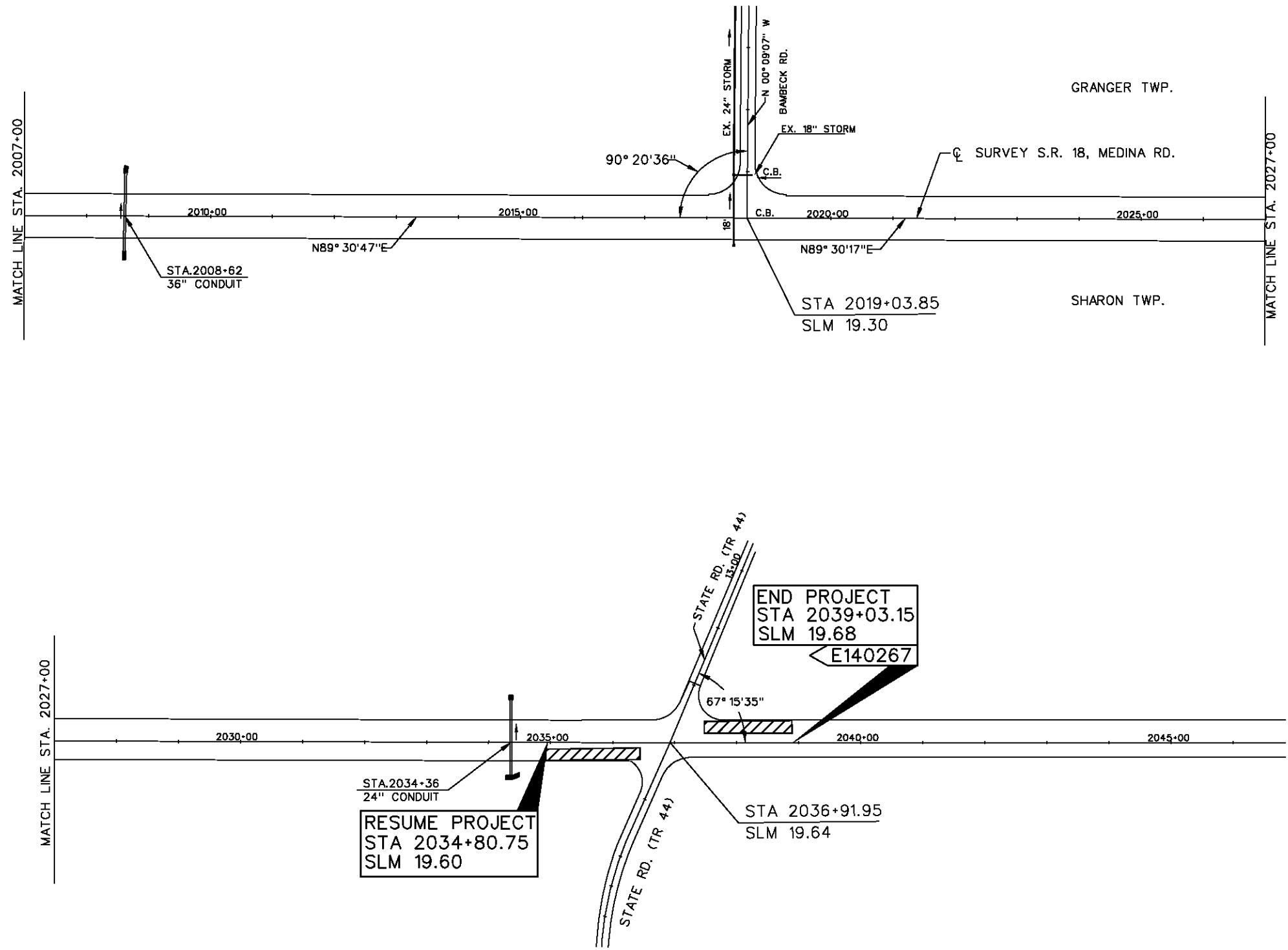
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SCHEMATIC PLAN

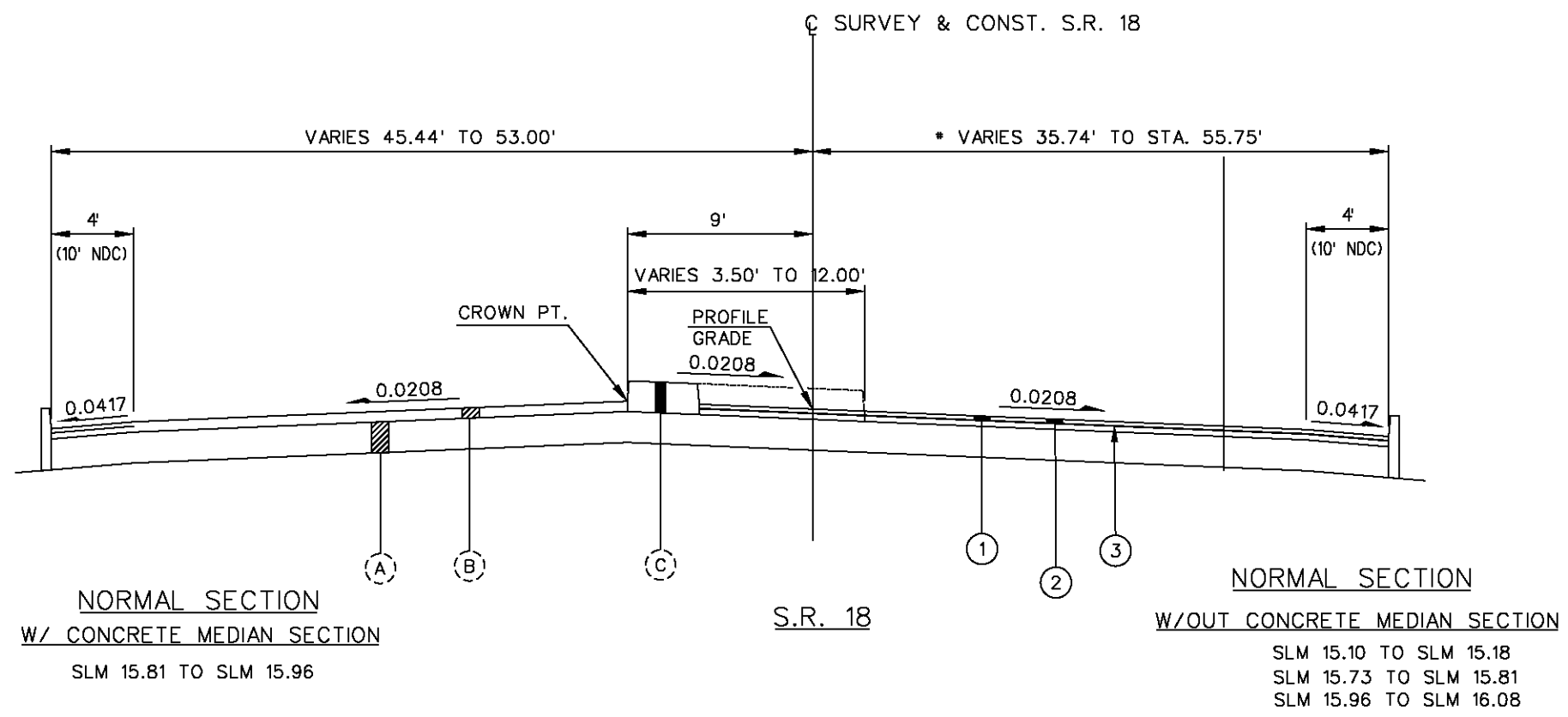
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SCHEMATIC PLAN

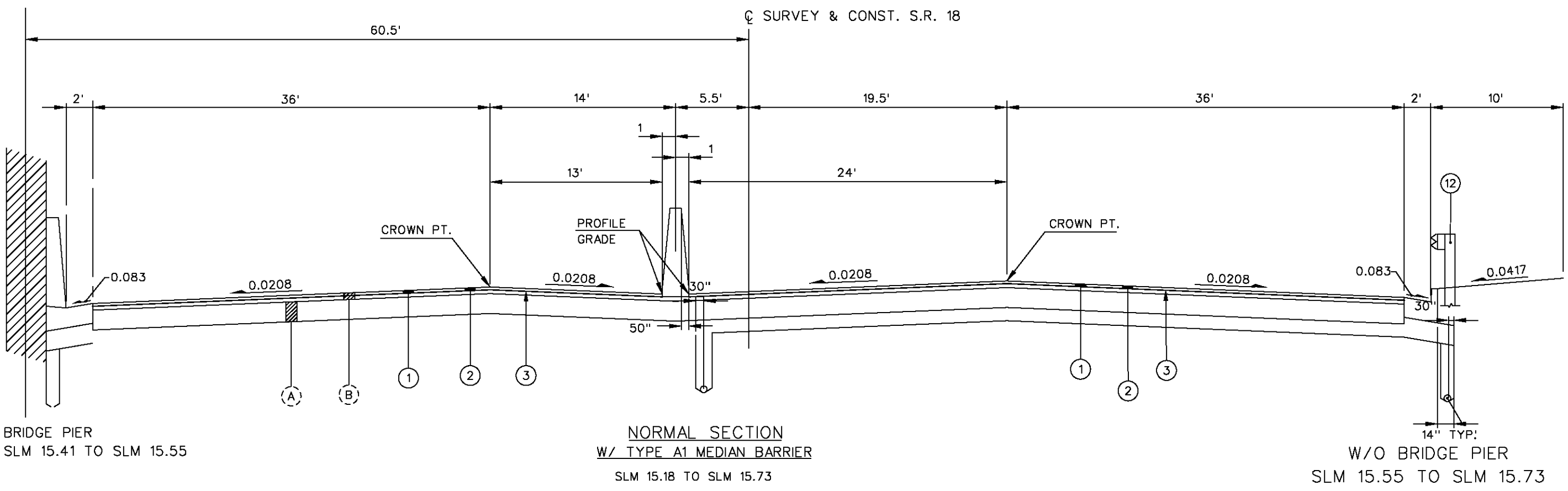
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DESIGN FILE: \\projects\79760\roadway\sheets\79760GY001.dgn
 WORKSTATION: devore DATE: 3/1/2014 MODELNAME: Sheet



- EXISTING LEGEND
- (A) ASPHALT CONCRETE BASE (10")
 - (B) ASPHALT CONCRETE SURFACE AND INTERMEDIATE COURSES (3")
 - (C) CONCRETE MEDIAN

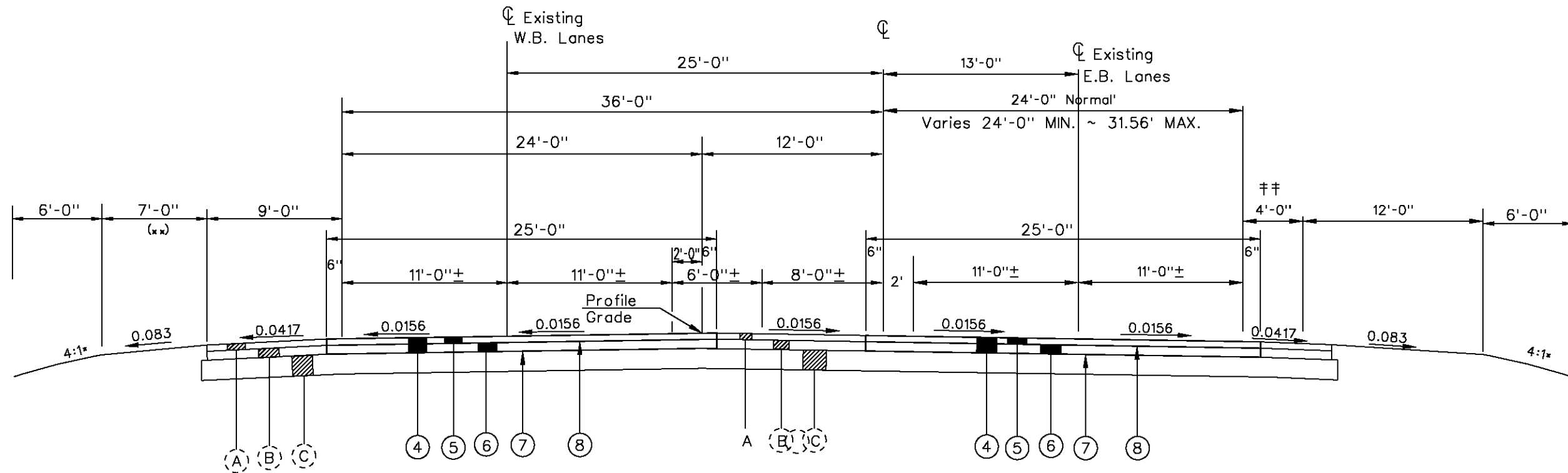
- PROPOSED LEGEND
- (1) ITEM 254 1" PAVEMENT PLANING, ASPHALT CONCRETE
 - (2) ITEM 424 1" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
 - (3) SPECIAL - TACK COAT, TRACKLESS TACK, SURFACE COURSE (@ 0.08 GAL/SY)



TYPICAL SECTIONS

MED-18-15.10 PM

Survey & Construction SR 18



SR 18 - INTERSECTIONS

- SLM 16.44 TO SLM 16.52 (BONETA RD.)
- SLM 17.48 TO SLM 17.56 (BEACH RD.)
- SLM 19.60 TO SLM 18.65 (S.R.94-RIDGE RD.)
- SLM 19.60 TO SLM 19.68 (STATE RD.)

†† PAVED SHOULDER WIDTH TAPERS FROM 12'-0" AT STA. 1852+15.50 TO 4'-0" AT STA. 1856+55.50

EXISTING LEGEND

- (A) ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1-H
- (B) ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28
- (C) 9" ASPHALT CONCRETE BASE, PG 64-22

PROPOSED LEGEND

- (4) ITEM 254 - 3¼" ASPHALT CONCRETE, PAVEMENT PLANING
- (5) ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 76-22M
- (6) ITEM 446 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 76-22M
- (7) SPECIAL - TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE (@ 0.04 GAL/SY)
- (8) SPECIAL - TACK COAT, TRACKLESS TACK, SURFACE COURSE (@ 0.08 GAL/SY)

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

ARMSTRONG 1141 LAFAYETTE RD. MEDINA, OH 44256 330 722-3141 x224	COLUMBIA GAS OF OHIO 7080 FRY RD. MIDDLEBURG HEIGHTS, OH 44130 440 891-2428
TIME WARNER CABLE 8150 DOW CIRCLE STRONGSVILLE, OH 44136 216 575-8016 x5034	DOMINION EAST OHIO 1000 WEST WILBETH RD. AKRON, OH 44134 330 798-7164
FRONTIER COMMUNICATIONS 6223 NORWALK RD. MEDINA, OH 44256 330 722-9586	MEDINA COUNTY SANITARY ENGINEER 791 WEST SMITH RD. MEDINA, OH 44256 330 723-9589
ODOT DISTRICT 3 906 CLARK AVE. ASHLAND, OH 44805 419 207-7045	OHIO EDISON COMPANY 6326 LAKE AVE. ELYRIA, OH 44035 440 326-3231
ONE COMMUNITY 800 W. SAINT CLAIR 2ND FLOOR CLEVELAND, OH 44113 216 633-5591	CITY OF MEDINA 132 NORTH ELMWOOD ST. MEDINA, OH 44256 330-722-9020

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4305 OR EMAIL AT D03.PIO@DOT.STATE.OH.US

DISTRICT PERMIT SECTION BY FAX AT (419) 281-5925 OR EMAIL AT ERNIE.ROGGE@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US.

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

**ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR
ITEM 253 - PAVEMENT REPAIR**

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE.

PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 12", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 4" AND AN AVERAGE WIDTH OF 3 FT FOR ESTIMATING PURPOSES.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 OR ITEM 442 19MM CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". THE CONTRACTOR HAS THE OPTION OF USING EITHER ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL WHEN THE PAVEMENT REPAIR IS BETWEEN 3" AND 5" DEEP. ITEM 448 TYPE 2 OR ITEM 442 19MM MATERIAL SHALL BE PG64-22 FOR MEDIUM MIX DESIGN PAVEMENTS AND PG64-28 FOR HEAVY MIX DESIGN PAVEMENTS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

SR 18 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR 100 CU. YD.
SR 18 ITEM 253 - PAVEMENT REPAIR 25 CU. YD.

**ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
(CURBED SECTION)**

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE. ITEM 254-PAVEMENT PLANING, ASPHALT CONCRETE (CURBED SECTION) SHALL BE USED FOR MILLING THE SPECIFIED DEPTH ALONG THE CURB CONTINGENT ON THE FOLLOWING: THE MAXIMUM CROSS SLOPE SHALL BE 0.02 WHILE THE MINIMUM CROSS SLOPE SHALL BE 0.01. THE PREFERRED CROSS SLOPE IS 0.016. THE CROWN OF THE PAVEMENT SHALL BE LOCATED BETWEEN THE TRAVELED LANES, OR AS DIRECTED BY THE ENGINEER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CURB, TO PRODUCE A CROSS SLOPE IN CONFORMANCE WITH THE ABOVE GUIDELINES. ITEM 254-PAVEMENT PLANING, ASPHALT CONCRETE SHALL BE USED FOR MILLING 1 INCH AND 3.25 INCHES AT THE CENTER OF PAVEMENT AT NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1,000 PER DAY.

ITEM 254-PAVEMENT PLANING, ASPHALT CONCRETE REQUIRES THAT DRAINAGE SLOTS SHALL BE CUT INTO THE SHOULDER(S) AT THE LOW POINT OF EACH PLANED SECTION TO PREVENT TRAPPED WATER PUDDLES, AND REFILLED DURING RESURFACING. CUTTING AND FILLING DRAINAGE SLOTS SHALL BE INCLUDED IN PAYMENT WITH ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 254-PAVEMENT PLANING, ASPHALT CONCRETE STATES THAT THE AMOUNT OF GRINDINGS RESULTING FROM THIS WORK MAY PRODUCE UNEXPECTED VOLUMES OF GRINDINGS DUE TO THE EXISTING TRANSVERSE SLOPE OF THE PAVEMENT.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 690 SPECIAL-MISC.: TRACKLESS TACK COAT

DESCRIPTION: THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH A TRACKLESS TACK ASPHALT EMULSION.

ALTERNATE PRODUCTS TO BE USED MUST BE ON FILE WITH THE NEW PRODUCT ENGINEER AT THE TIME OF THE ADVERTISEMENT DATE OF THE PROJECT PLANS. PLEASE CONTACT BRAD YOUNG, ODOT NEW PRODUCT ENGINEER, 614-351-2882.

THIS WORK IS CONSIDERED AN EXPERIMENTAL CONSTRUCTION FEATURE FOR EVALUATION OF PRODUCTS THAT ARE ON FILE WITH THE NEW PRODUCT ENGINEER.

MEET ALL REQUIREMENTS OF ODOT 407 TACK COAT IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRED BY THE CONTRACT, EXCEPT AS NOTED BELOW.

A MANUFACTURER'S REPRESENTATIVE MUST BE AT THE PROJECT SITE DURING THE FIRST TWO DAYS OF APPLICATION OF TRACKLESS TACK.

MATERIAL: IF USING BLACKLIDGE TRACKLESS TACK THE MATERIAL WILL CONFORM TO THE FOLLOWING TYPICAL PHYSICAL PROPERTIES:

PARAMETER	TEST METHOD	MIN.	MAX.
SAYBOLT FUROL VISCOSITY, SFS @ 25°C	AASHTO T59	15	100
STORAGE STABILITY, 24 HRS, %	AASHTO T59	-	1
STORAGE STABILITY, 5 DAYS, %	AASHTO T59	-	5
RESIDUE BY DISTILLATION, %	AASHTO T59	50	-
OIL DISTILLATE, %	AASHTO T59	-	1
SIEVE TEST, %	AASHTO T59	-	0.3
TEST ON RESIDUE			
PENETRATION, @ 25°C,	AASHTO T49	-	20
SOFTENING POINT RANGE DEG C	AASHTO T53	65	-
SOLUBILITY, %	AASHTO T44	97.5	-
ORIGINAL BINDER DSR@82°C GYSIN d,10 RAD/SEC	AASHTO T315	1	-

FOR TRACKLESS TACK OTHER THAN BLACKLIDGE TRACKLESS TACK, THE MATERIAL WILL CONFORM TO THE PHYSICAL PROPERTIES SUPPLIED BY THE NEW PRODUCT ENGINEER FOR THE TESTS LISTED BELOW:

PARAMETER	TEST METHOD
SAYBOLT FUROL VISCOSITY, SFS @ 25°C	AASHTO T59
STORAGE STABILITY, 24 HRS, %	AASHTO T59
STORAGE STABILITY, 5 DAYS, %	AASHTO T59
RESIDUE BY DISTILLATION, %	AASHTO T59
OIL DISTILLATE, %	AASHTO T59
SIEVE TEST, %	AASHTO T59
TEST ON RESIDUE	
PENETRATION, @ 25°C,	AASHTO T49
SOFTENING POINT RANGE DEG C	AASHTO T53
SOLUBILITY, %	AASHTO T44
ORIGINAL BINDER DSR@82°C GYSIN d,10 RAD/SEC	AASHTO T315

NOTE: TRACKLESS TACK SHOULD NOT CONTAIN FILLER SUCH AS CLAY, ETC.

ACCEPTANCE AND SAMPLING OF MATERIALS: FOR ALL TRACKLESS TACK SUPPLY CERTIFIED TEST DATA FROM AN INDEPENDENT LABORATORY TO THE ENGINEER AND TO THE DISTRICT LABORATORY SHOWING THE TRACKLESS TACK SUPPLIED WAS TESTED FOR AND MEETS THE PROPERTIES SUPPLIED BY THE NEW PRODUCT ENGINEER.

DURING CONSTRUCTION, ODOT PERSONNEL WILL SAMPLE AND SUPPLY TO THE DISTRICT TEST LAB A MINIMUM OF 2 QUARTS OF TRACKLESS TACK SAMPLED FROM THE DISTRIBUTOR ON THE FIRST DAY OF APPLICATION. CLEARLY MARK ON THE SAMPLES THE MANUFACTURER'S NAME, PROJECT NUMBER, AND THE WORDS "TRACKLESS TACK".

ITEM 690 SPECIAL-MISC.: TRACKLESS TACK COAT CONTINUED

ADDITIONAL SAMPLING OF BLACKLIDGE TRACKLESS TACK WILL FOLLOW THE REQUIREMENTS OF ITEM 407. FOR ALTERNATE TRACKLESS TACK MATERIAL, 2 QUARTS OF MATERIAL WILL BE SAMPLED EACH DAY THE MATERIAL IS USED.

EQUIPMENT: SEE MANUFACTURER'S REPRESENTATIVE FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF PREVIOUSLY USED MATERIAL CHARGE IS DIFFERENT THAN THE PROPOSED MATERIAL.

APPLICATION OF ASPHALT MATERIAL: UNIFORMLY APPLY THE TRACKLESS TACK WITH A DISTRIBUTOR. IF TRACKLESS TACK IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ENSURE ALL NOZZLES AND SPRAY PATTERNS ARE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. PLACE THE ANGLE OF THE NOZZLE AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.1 GALLONS PER SQUARE YARD. DO NOT DILUTE TRACKLESS TACK. RECOMMENDED APPLICATION TEMPERATURE IS 160°F TO 180°F. DO NOT EXCEED 180°F. THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE WILL APPROVE THE QUANTITY, RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TRACKLESS TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

PERFORMANCE OF TRACKLESS TACK: FOR ANY TRACKLESS TACK USED SUPPLY DATA FOR SHEAR AND TENSILE BOND STRENGTH ACCORDING TO METHODS DESCRIBED IN VIRGINIA TRANSPORTATION RESEARCH COUNCIL REPORT VTRC 09-R21. RANDOMLY TAKE 6-4 INCH DIAMETER CORES FROM THE PROJECT AND PERFORM 3 SHEAR AND 3 TENSILE BOND STRENGTH TESTS. BE SURE CORES TAKEN INCLUDE BOTH AN ASPHALT LAYER ABOVE AND ASPHALT LAYER BELOW THE TRACKLESS TACK LAYER.

DETERMINE THE TIME TO SET FOR THE MATERIAL TO BECOME TRACKLESS. THE ENGINEER WILL REPORT ANY ISSUES WITH EXCESSIVE TIME TO SET, OR AFTER SET ISSUES WITH STICKINESS, OR PICKUP OF THE TACK TO THE DET AND NEW PRODUCT ENGINEER, BRAD YOUNG 614-351-2882.

IF THE CERTIFIED TEST DATA FAILS TO MEET THE LAB TESTING CRITERIA, OR FIELD SAMPLES FAIL TO MEET THE LAB TEST CRITERIA, OR THE TRACKLESS TACK FAILS TO PERFORM SATISFACTORILY IN THE FIELD, AS NOTED ABOVE, THE CONTRACTOR WILL BE REQUIRED TO REPLACE AND SUPPLY BLACKLIDGE TRACKLESS TACK FOR THE REMAINDER OF THE PROJECT AT NO COST TO THE DEPARTMENT.

ANY FAILING EXPERIMENTAL TRACKLESS TACK PRODUCT WILL BE REMOVED FROM THE NEW PRODUCT ENGINEER'S LIST.

IN THE EVENT THE PRODUCT FAILS TO PERFORM TO THE SATISFACTION OF THE DEPARTMENT, THE MANUFACTURER MAY PERFORM THE FOLLOWING ITEMS IN ORDER TO BE CONSIDERED FOR FUTURE EXPERIMENTAL CONSTRUCTION FEATURE PROJECTS:

1. SUBMIT IN WRITING TO THE DEPARTMENT THE REASON(S) WHY PRODUCT FAILED TO PERFORM AND DETAIL CHANGES THAT WILL BE MADE TO ELIMINATE THE CAUSE(S) OF FAILURE, AND
2. PROPOSE CHANGES TO THE PRODUCT'S SPECIFICATIONS, AND
3. SUBMIT SAMPLES OF THE REDEVELOPED PRODUCT TO THE LABORATORY FOR TESTING TO THE NEW SPECIFICATIONS, AND
4. DEMONSTRATE TO THE DEPARTMENT SUCCESSFUL USE OF THE MATERIAL ON AT LEAST ONE NON-ODOT PROJECT.

WHEN THE ABOVE ITEMS ARE COMPLETED TO THE DEPARTMENT'S SATISFACTION, THE REDEVELOPED AND FIELD TESTED PRODUCT MAY BE PUT BACK ON FILE WITH THE NEW PRODUCT ENGINEER AND EVALUATED ON FUTURE ODOT PROJECTS USING THE EXPERIMENTAL CONSTRUCTION FEATURE PROCESS.

**ITEM 424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM,
TYPE A (446), AS PER PLAN**

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W-8-1-36) SHALL BE ERECTED AT ANY TRANSVERSE JOINT LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING INTERSECTIONS AND ON AND OFF RAMPS.

**ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM,
TYPE A (448), AS PER PLAN**

THIS ITEM SHALL BE USED FOR CORRECTION OF CROWN, PROFILE AND ANY OTHER IRREGULARITIES.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W-8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
USE A PG 76-22M ASPHALT BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 30 PERCENT.
APPLY 703.05 FOR COARSE AND FINE AGGREGATE EXCEPT GRADATION FOR FINE AGGREGATE DOES NOT APPLY.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 614 - MAINTAINING TRAFFIC: GENERAL

ONE 11' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

ALL PAVING OPERATIONS SHALL OCCUR AT NIGHT.

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PAVEMENT THROUGHOUT THE PROJECT UNDER ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC DURING THE PERIOD FROM THE START OF WORK TO THE COMPLETION OF ALL WORK.

ITEM 614 - MAINTAINING TRAFFIC

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, WITH THE APPROVAL OF THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE ODOTCD, AND SUCH FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 14 EACH
TOTAL = 14 EACH

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

TEMPORARY WEDGES AT END OF RAMPS, PAVEMENT LAYER ENDS, APPROACH SLABS OR BRIDGE DECKS ARE TO BE CONSTRUCTED AS PER STANDARD DRAWING BP-3.1.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR MAINTENANCE OF TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU YD

**ITEM 614 - MAINTAINING TRAFFIC
(LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)**

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

LABOR DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS DIRECTED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE ODOTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEO'S SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AND PROVIDE 72 HOURS ADVANCE NOTICE AS REQUIRED BY THE HIGHWAY PATROL LISTED BELOW:

STATE HIGHWAY PATROL
3149 FRANTZ ROAD
MEDINA, OH 44212
330-725-4921

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
01/NHS/PV 150 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. (PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 3 OFFICE). PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

WORK OPERATIONS

IN ADDITION TO THE REQUIREMENTS OF SECTION 614 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAVEL WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM.

THE CONTRACTOR SHALL ARRANGE CONSTRUCTION OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO THE CLOSED LANES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC SCHEME

THE CONTRACTOR SHALL SCHEDULE THEIR WORK AND METHODS IN ORDER TO MEET THE INTENT OF THE PLANS. THE PAVEMENT SURFACES TO BE USED BY THE TRAVELING PUBLIC SHALL BE ABLE TO DRAIN FREELY. ALL COSTS TO MAINTAIN THE ROADWAY AS PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE PLANS SHALL BE INCLUDED IN ITEM 614 LUMP SUM MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT UNIT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS WILL BE DETERMINED BY THE ENGINEER PRIOR TO BEGINNING WORK ON THIS PROJECT. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN __ HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PREPROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE ENGINEER.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 4 SIGN MONTHS

DESIGN FILE: \\projects\79760\roadway\sheets\79760GN001.dgn
WORKSTATION: devore
MODELNAME: Sheet
DATE: 4/24/2014

SHEET NUMBER							PARTICIPATION					ALT.	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10	10A	11	13	14	15		01/NHS/PV				(X)							
PAVEMENT																		
100							100					251	01010	100	CU YD	PARTIAL DEPTH PAVEMENT REPAIR		
25							25					253	02000	25	CU YD	PAVEMENT REPAIR		
			57,153				57,153					254	01000	57,153	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (1.00")		
			4,893				4,893					254	01000	4,893	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (3.25")		
			188				188					SPECIAL	40720000	188	GALLON	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE	10	
			4,948				4,948					SPECIAL	40720100	4,948	GALLON	TACK COAT, TRACKLESS TACK, SURFACE COURSE	10	
			1,960				1,960					424	10000	1,960	CU YD	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A		
			196				196					442	10001	196	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN	11	
			228				228					442	20201	228	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN	11	
TRAFFIC CONTROL																		
				1,343			1,343					621	00100	1,343	EACH	RPM		
				1,343			1,343					621	54000	1,343	EACH	RAISED PAVEMENT MARKER REMOVED		
				4.12			4.12					644	00104	4	MILE	EDGE LINE, 6"		
				3.92			3.92					644	00204	4	MILE	LANE LINE, 6"		
				8,025			8,025					644	00404	8,025	FT	CHANNELIZING LINE, 12"		
				867			867					644	00500	867	FT	STOP LINE		
				4,373			4,373					644	00700	4,373	FT	TRANSVERSE/DIAGONAL LINE		
				76			76					644	01300	76	EACH	LANE ARROW		
TRAFFIC SIGNALS																		
					4		4					632		4	EACH	DETECTOR LOOP, AS PER PLAN	15	
MAINTENANCE OF TRAFFIC																		
							150					614	11110	150	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
							14					614	12460	14	EACH	WORK ZONE MARKING SIGN		
							50					614	13000	50	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
	4						4					614	18601	4	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10A	
							8					614	20550	8	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT		
							17,351					614	23680	17,351	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT		
							2,014					614	26610	2,014	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT		
INCIDENTALS																		
												614	11000	LUMP		MAINTAINING TRAFFIC		
												619	16010	2	MONTH	FIELD OFFICE, TYPE B		
												624	10000	LUMP		MOBILIZATION		

GENERAL SUMMARY

MED - 18 - 15.10 PM

CALCULATED
SRG
CHECKED
CAD

DESIGN FILE: \\projects\79760\roadway\sheet\79760GQ001.dgn
 WORKSTATION: devore DATE: 3/1/2014

COUNTY	ROUTE	DIRECTION	LOG POINT TO LOG POINT		LENGTH		PAVED WIDTH (AVERAGE)	SHOULDER WIDTH	PAVEMENT AREA	254		424			407		442				
					MILE	FEET				PAVEMENT PLANING, ASPHALT CONCRETE (1")	PAVEMENT PLANING, ASPHALT CONCRETE (3.25")	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A		SHOULDER (ASPHALT CONCRETE, TYPE A, 1 INCH)	TACK COAT, TRACKLESS TACK, SURFACE COURSE @ 0.08 GAL/SY	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN		
			STRAIGHT LINE MILEAGE		FT	FT	SQ YD	SQ YD	SQ YD	INCH	CU. YD.	CU. YD.	GALLON	GALLON	INCH (AVG)	CU.YD.	INCH (AVG)	CU.YD.			
01/NHS/PV:																					
MED	18	EB	15.10	15.29	0.19	1003	55	12	6,131	6,131		1	170	37	490						
MED	18	EB	15.29	15.56	0.27	1426	61	12	9,662	9,662		1	268	53	773						
MED	18	EB	15.56	15.75	0.19	1003	50	12	5,573	5,573		1	155	37	446						
MED	18	EB	15.75	16.05	0.30	1584	45	12	7,920	7,920		1	220	59	634						
MED	18	WB	15.10	15.75	0.65	3432	50	12	19,067	19,067		1	530	127	1,525						
MED	18	WB	15.75	16.05	0.30	1584	50	12	8,800	8,800		1	244	59	704						
MED	18	EB	16.44	16.48	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	WB	16.48	16.52	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	EB	17.48	17.52	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	WB	17.52	17.56	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	EB	18.57	18.61	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	WB	18.61	18.65	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	EB	19.60	19.64	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
MED	18	WB	19.64	19.68	0.04	211	25		587	587					47	23	1.5	24	1.75	29	
GRAND TOTAL										57,153	4,693			1,588	372	4,948	188		196		228

CALCULATED SRG CHECKED CAD
PAVEMENT & SHOULDER DATA
MED - 18 - 15.10 PM
 13
 25

AUXILIARY & LONG LINE MARKINGS

COUNTY	ROUTE	STATION / SLM		DIRECTION	LENGTH		614		644							LANE ARROW						
							WORK ZONE LANE LINE, CLASS III, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	EDGE LINE		AUXILIARY MARKINGS (740.04)			STOP LINE	TRANSVERSE/DIAGONAL LINE (YELLOW)	LEFT	RIGHT	THROUGH	COMBINATION		
										TOTAL (PAY QUANTITY) (WHITE)	TOTAL (PAY QUANTITY) (YELLOW)	LANE LINE	CHANNELIZING LINE	24"								
										6"	6"	6"	12"	24"								
FROM	TO	FT	MILE	MILE	FT	FT	MILE	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT			
01/NHS/PV:																						
MED	SR 18	15.10	15.44	EB	1795	0.34	1.46	2680	240	0.34	0.34	0.73	1,340	120	430		2	5				
MED	SR 18	15.44	15.57	EB	686	0.13	0.52	1836	140	0.13	0.13	0.26	918	70			12					
MED	SR 18	15.57	15.76	EB	1003	0.19	0.76	1420	100	0.19	0.19	0.38	710	50	200		10					
MED	SR 18	15.76	16.05	EB	1531	0.29	0.58	1430	110	0.29	0.29	0.29	715	55	940		6	4				
MED	SR 18	15.10	15.44	WB	1795	0.34	1.36	1130	100	0.34	0.34	0.68	565	50	745		8					
MED	SR 18	15.44	15.57	WB	686	0.13	0.52	1373	90	0.13	0.13	0.26	686	45			6					
MED	SR 18	15.57	15.76	WB	1003	0.19	0.84	1570	164	0.19	0.19	0.42	785	82	1003		10					
MED	SR 18	15.76	16.05	WB	1531	0.29	1.16	2012	230	0.29	0.29	0.58	1006	115	1055		8	5				
MED	SR 18	16.44	16.48	EB	211	0.04	0.12	510	105	0.04		0.04	170	35								
MED	SR 18	16.48	16.52	WB	211	0.04	0.12	510	105	0.04		0.04	170	35								
MED	SR 18	17.48	17.52	EB	211	0.04	0.12	480	105	0.04		0.04	160	35								
MED	SR 18	17.52	17.56	WB	211	0.04	0.12	510	105	0.04		0.04	170	35								
MED	SR 18	18.57	18.61	EB	211	0.04	0.12	450	105	0.04		0.04	150	35								
MED	SR 18	18.61	18.65	WB	211	0.04	0.12	420	105	0.04		0.04	140	35								
MED	SR 18	19.60	19.64	EB	211	0.04	0.12	510	105	0.04		0.04	170	35								
MED	SR 18	19.64	19.68	WB	211	0.04	0.12	510	105	0.04		0.04	170	35								
SUB SUMMARIES							8.16	17,351	2,014		2.22	1.90	3.92	8,025	867	4,373		62	14			
TOTALS TO GENERAL SUMMARY							8.16	17,351	2,014		4.12		3.92	8,025	867	4,373		76				

RAISED PAVEMENT MARKERS

COUNTY	ROUTE	STATION/SLM		DETAIL	RAISED PAVEMENT MARKER REMOVED	RPM	PRISMATIC RETRO-REFLECTOR TYPES				REMARKS	DETAIL	DESCRIPTION		
							ONE-WAY	TWO-WAY							
								WHITE	YELLOW / YELLOW	WHITE / RED				YELLOW / RED	BLUE / BLUE
FROM	TO	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH				
MED	SR 18	15.10	15.99	5/9/10	686	686	302	28	182	173		2-4 LANE TRANSITION, T.W.L.T.L., LEFT-TURN LANE	1	MULTILANE UNDIVIDED TYPICAL SPACING	
MED	SR 18	15.99	21.13	5/9	657	657			657			4-LANE DIVIDED W/LT LANES & STOP APPR @ WINDFALL RD.	2	TAPERED ACCEL. LANE	
													3	DECELERATION LANE	
													4	PARALLEL ACCEL LANE	
													5	MULTILANE DIVIDED/EXPRESSWAY	
													6	STOP APPROACH	
													7	2 LANE APPR. WITH TURN LANE	
													8	THROUGH APPROACH	
													9	3 LANE APPR. WITH TURN LANE	
													10	3 LANE DIVIDED TO 2 LANE TRANSITION	
													11	3 LANE UNDIVIDED TO 2 LANE TRANSITION	
													12	TWO LANE NARROW BRIDGE	
													13	TWO WAY LEFT TURN LANE	
													14	ONE LANE BRIDGE	
													15	HORIZONTAL CURVE	
													16	HORIZONTAL CURVE ALT.	
													17	STOP APPROACH ALT.	
													18	FIRE HYDRANT	
													GAP	CENTER LINE AT 80 FT. TYP.	
TOTALS TO GENERAL SUMMARY					1,343	1,343									

NOTES:
 1) THRU LANES SHALL BE 12' WIDE AND STRIPED
 2) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT USED SHALL BE TYPE 1.

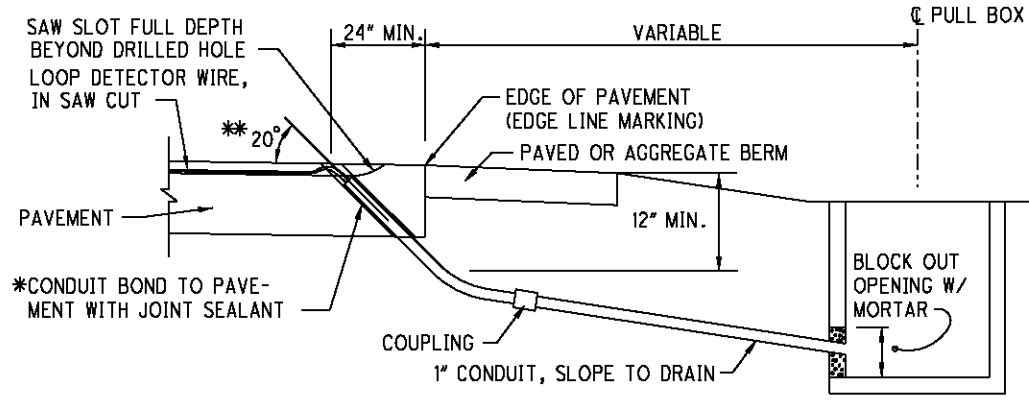
CALCULATED
SRG
CHECKED
CAD

PAVEMENT MARKING & RPM SUB-SUMMARY

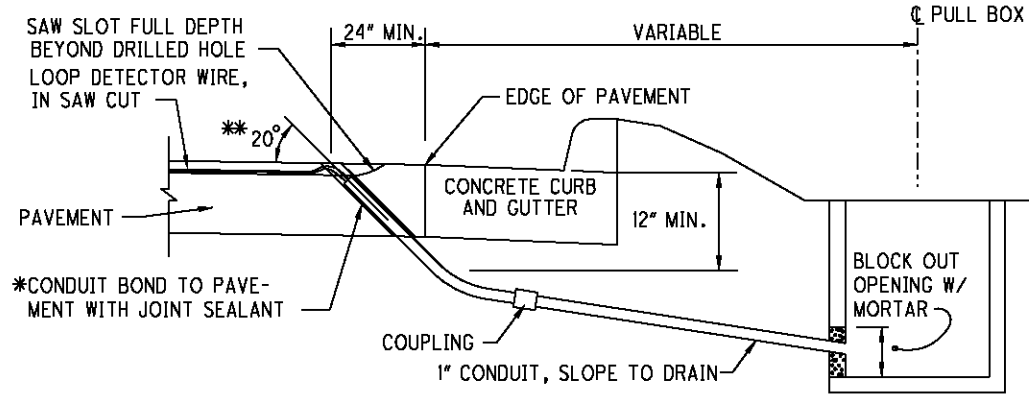
MED - 18 - 15.10 PM

DESIGN FILE: \\projects\79760\roadway\sheets\79760TS001.dgn
 WORKSTATION: devore DATE: 4/24/2014 MODEL NAME: Sheet

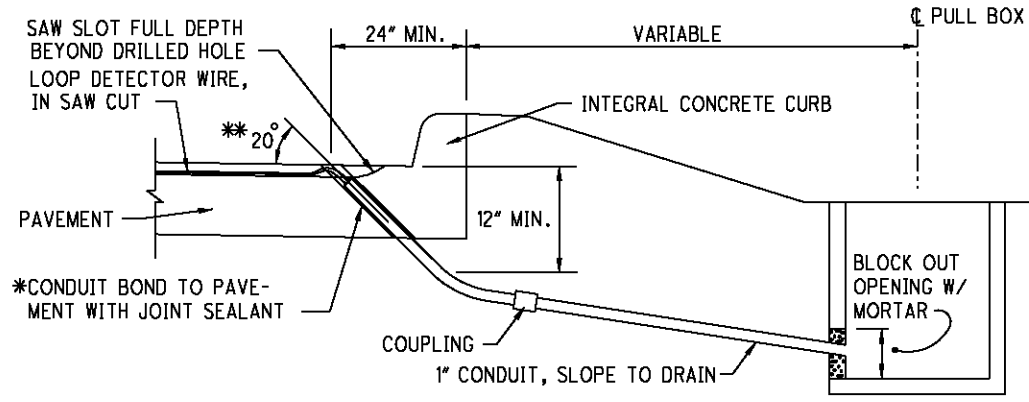
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 WORKSTATION: devore DATE: 4/24/2014 MODELNAME: Default



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER



DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

* CONDUIT SHALL BE 1" DIAMETER 725.04.
 ** THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.

NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS

ITEM 632- DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF ITEM 632, DETECTOR LOOP, AS PER PLAN, HAS BEEN PROVIDED FOR THE PURPOSE OF REPLACING DAMAGED DETECTOR LOOPS AND/OR UPGRADING DETECTOR LOOPS TO IMPROVE MOTORCYCLE DETECTION. IT IS IMPERATIVE THAT REPLACEMENT OF DETECTOR LOOPS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT DETECTOR LOOPS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE EXISTING DETECTOR LOOPS.

THE CONTRACTOR SHALL NOTIFY MATT BLANKENSHIP, ODOT DISTRICT 3 ROADWAY SERVICES MANAGER, (PHONE 419-207-7045) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK. THIS NOTIFICATION IS NEEDED FOR DISTRICT 3 TO SCHEDULE TEMPORARY SIGNAL TIMING MODIFICATIONS FOR THE TIME PERIOD WHEN THE DETECTOR LOOPS ARE OUT OF OPERATION. THE CONTRACTOR SHALL THEN RENOTIFY MR. BLANKENSHIP WITHIN 2 WORKING DAYS AFTER THE NEW DETECTOR LOOPS ARE REPLACED SO THAT HE CAN RESCHEDULE DISTRICT CREWS TO RESTORE SIGNAL TIMINGS TO THE ORIGINAL SETTINGS.

FAILURE TO COMPLY WITH THE ABOVE STATED REQUIREMENTS WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE FEE OF \$1000 PER DAY TO THE CONTRACTOR FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW DETECTOR LOOPS SHALL BE PLACED PER THE PLAN DETAILS AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE AFFECTED AREAS. THE DETECTOR LOOPS SHALL NOT BE CUT INTO THE SURFACE COURSE.

IN ADDITION TO THE REQUIREMENTS OF CMS 632.11, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. RESIDUE FROM DRY CUTTING SHALL NOT BE REMOVED BY COMPRESSED AIR. AS AN ALTERNATE, THE CONTRACTOR MAY USE WET CUTTING.

LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES WITHIN EPOXY ENCAPSULATED SPLICE ENCLOSURES SHALL BE JOINED BY AN APPROVED CONNECTOR AND SOLDERED PER CMS 632.23 & 725.15. ALL COSTS ASSOCIATED WITH THE SOLDERED SPLICE CONNECTION AND EPOXY SPLICE KIT SHALL BE INCLUDED WITH THE DETECTOR LOOP.

IF THE PULL BOX IS NOT SPECIFIED IN THE PLANS, THE SPLICE SHALL BE MADE IN THE FIRST ENTERED POLE OR PEDESTAL, EXCEPT WHERE THE CONTROLLER CABINET IS MOUNTED ON THE POLE OR PEDESTAL, IN WHICH CASE THE LOOP WIRES SHALL BE ROUTED DIRECTLY INTO THE CABINET UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. LOOP DETECTOR WIRE ROUTED THROUGH CONDUIT, PULL BOXES, POLES, AND PEDESTALS SHALL BE TWISTED PER CMS 632.23.

FURNISH ALL MATERIALS ACCORDING TO THE DEPARTMENT'S QUALIFIED PRODUCTS LIST (QPL).

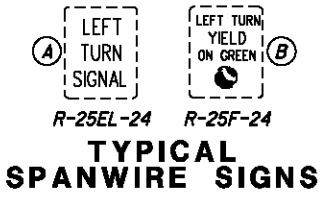
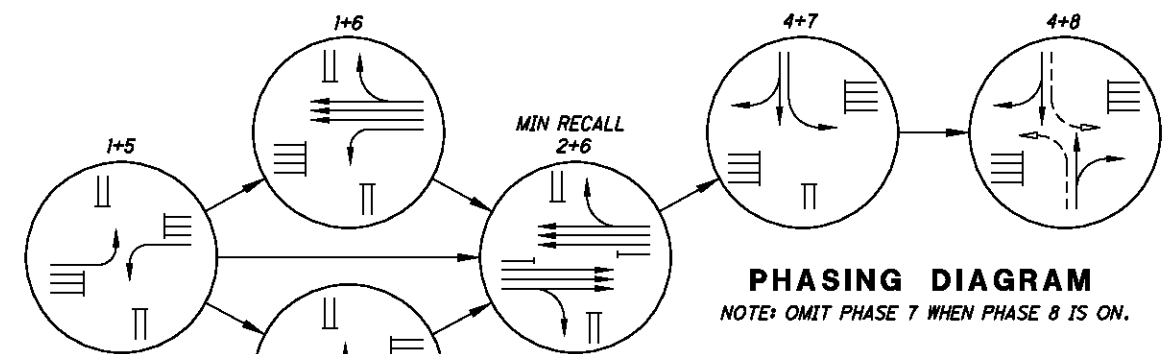
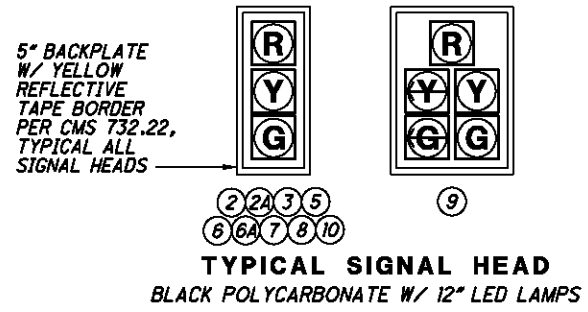
SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

ITEM 632 - DETECTOR LOOP, AS PER PLAN 4 EACH

DETECTOR LOOP INSTALLATION DETAILS

MED - 18 - 15.10 PM



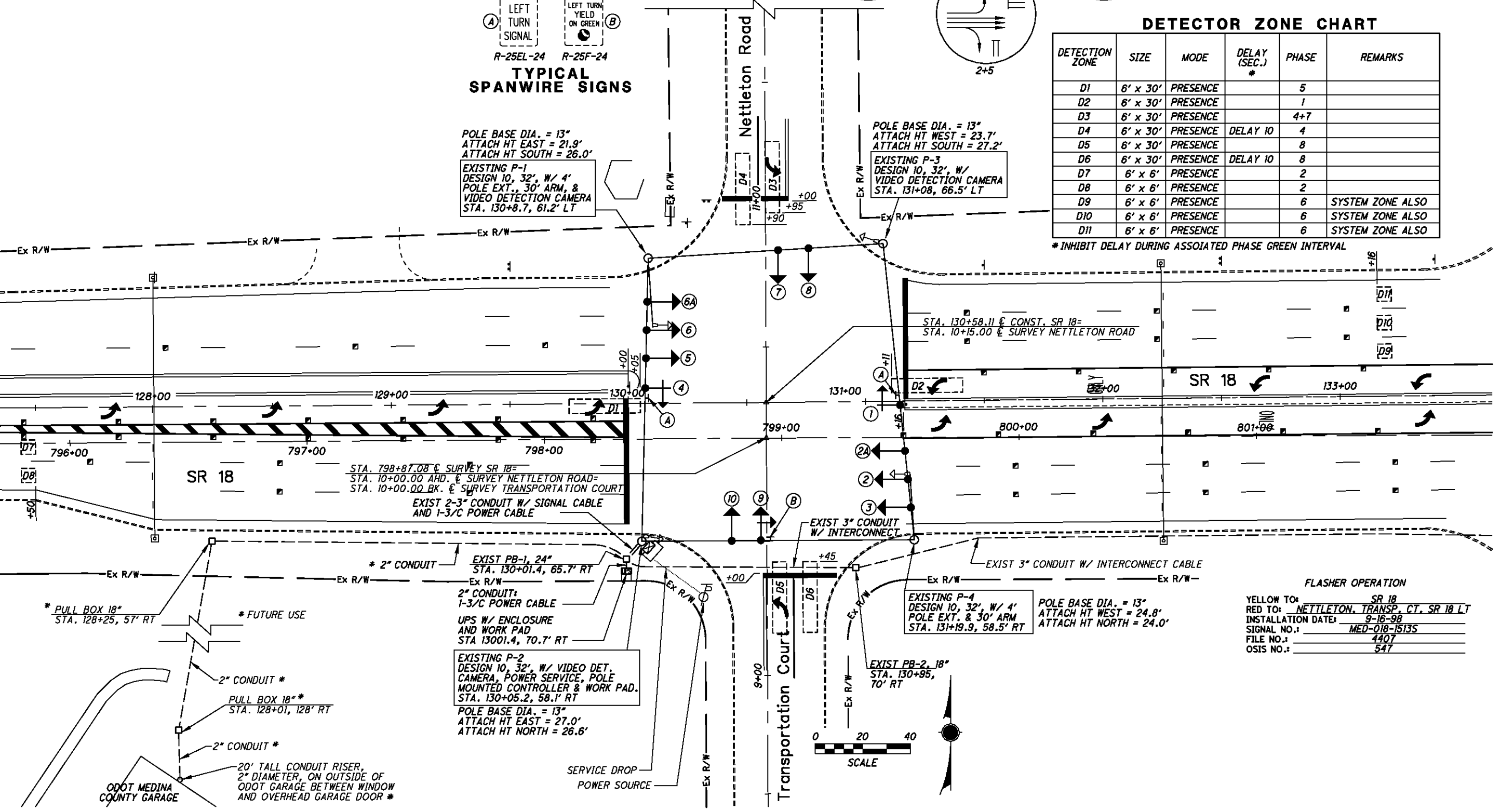
DETECTOR ZONE CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.) *	PHASE	REMARKS
D1	6' x 30'	PRESENCE		5	
D2	6' x 30'	PRESENCE		1	
D3	6' x 30'	PRESENCE		4+7	
D4	6' x 30'	PRESENCE	DELAY 10	4	
D5	6' x 30'	PRESENCE		8	
D6	6' x 30'	PRESENCE	DELAY 10	8	
D7	6' x 6'	PRESENCE		2	
D8	6' x 6'	PRESENCE		2	
D9	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO
D10	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO
D11	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

POLE BASE DIA. = 13"
 ATTACH HT EAST = 21.9'
 ATTACH HT SOUTH = 26.0'
 EXISTING P-1
 DESIGN 10, 32', W/ 4'
 POLE EXT., 30' ARM, &
 VIDEO DETECTION CAMERA
 STA. 130+8.7, 61.2' LT

POLE BASE DIA. = 13"
 ATTACH HT WEST = 23.7'
 ATTACH HT SOUTH = 27.2'
 EXISTING P-3
 DESIGN 10, 32', W/
 VIDEO DETECTION CAMERA
 STA. 131+08, 66.5' LT



FLASHER OPERATION

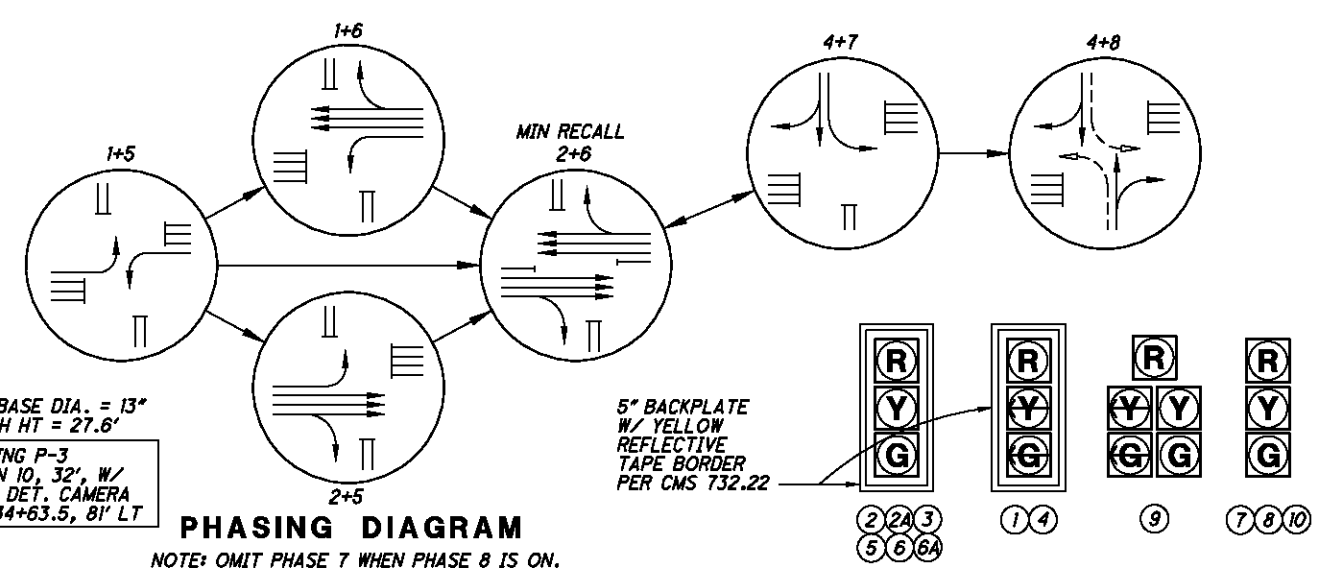
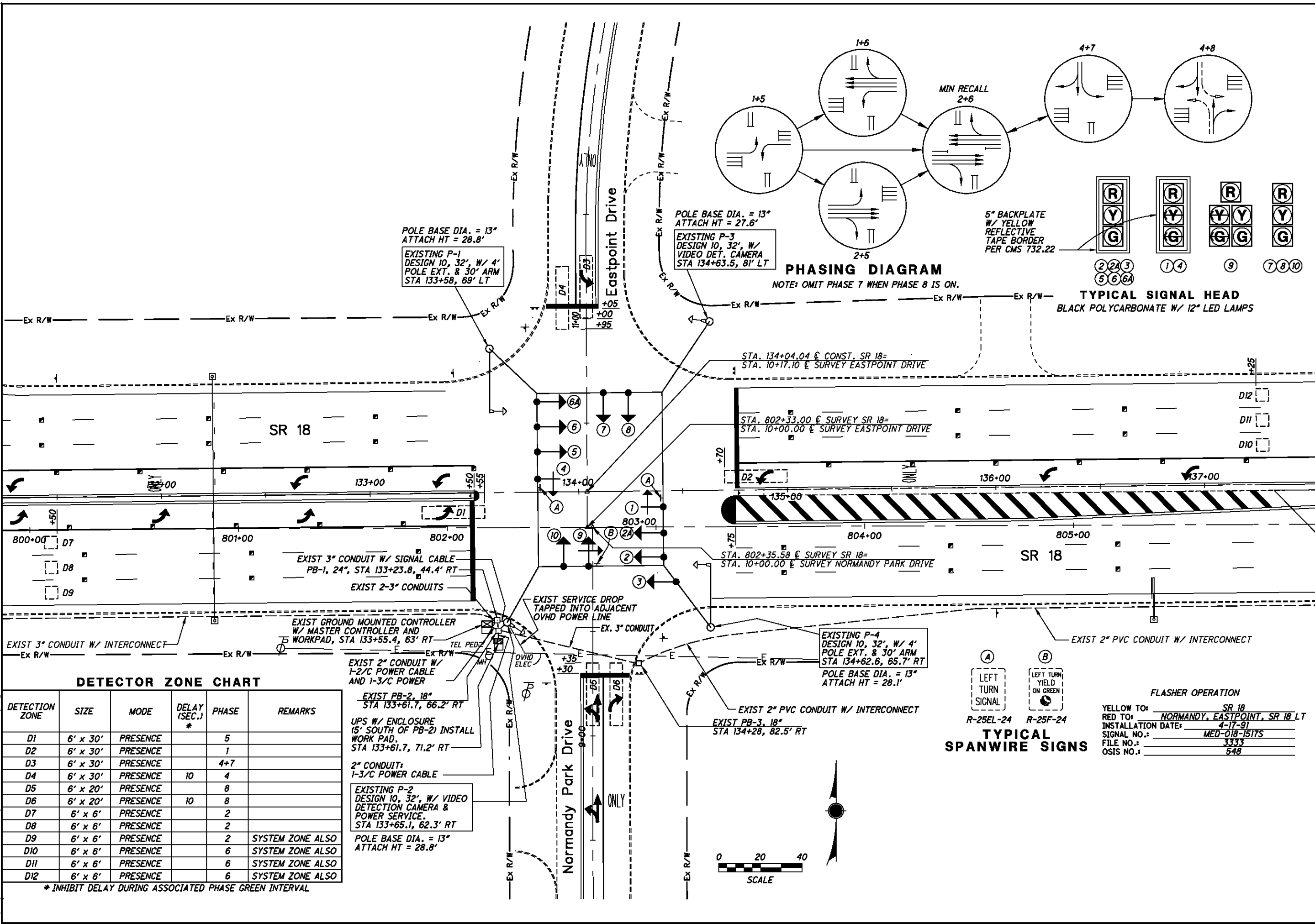
YELLOW TO: SR 18
 RED TO: NETTLETON, TRANSP. CT, SR 18 LT
 INSTALLATION DATE: 9-16-98
 SIGNAL NO.: MED-018-15135
 FILE NO.: 4407
 OSIS NO.: 547

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SR 18 & NETTLETON RD.
 MEDINA COUNTY

MED-18-15.10 PM

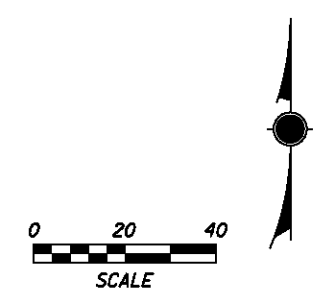
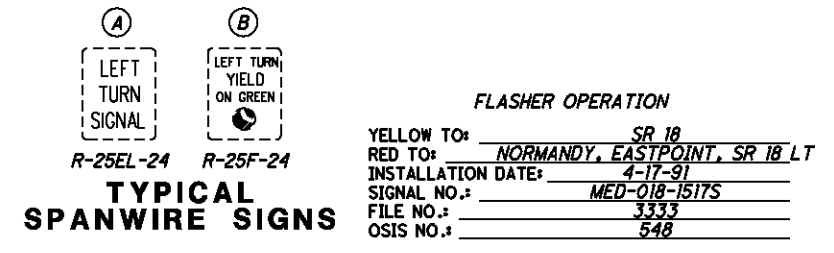
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DETECTOR ZONE CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.)	PHASE	REMARKS
D1	6' x 30'	PRESENCE	*	5	
D2	6' x 30'	PRESENCE		1	
D3	6' x 30'	PRESENCE		4+7	
D4	6' x 30'	PRESENCE	10	4	
D5	6' x 20'	PRESENCE		8	
D6	6' x 20'	PRESENCE	10	8	
D7	6' x 6'	PRESENCE		2	
D8	6' x 6'	PRESENCE		2	
D9	6' x 6'	PRESENCE		2	SYSTEM ZONE ALSO
D10	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO
D11	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO
D12	6' x 6'	PRESENCE		6	SYSTEM ZONE ALSO

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



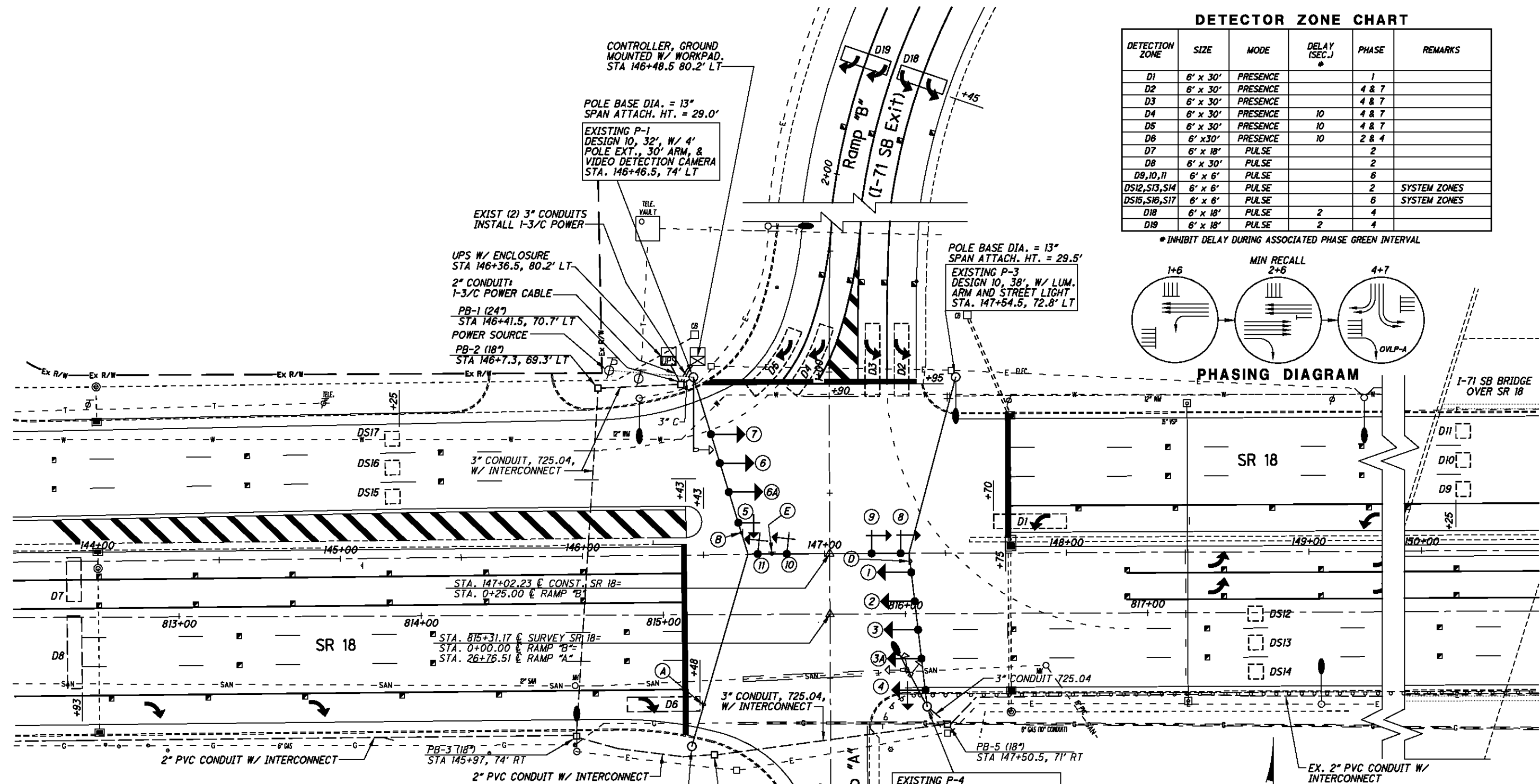
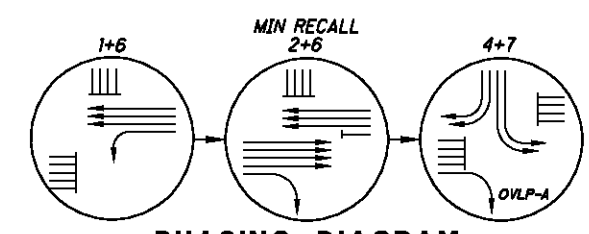
SR 18 & NORMANDY PARK DR.
 MEDINA COUNTY

MED-18-15.10 PM

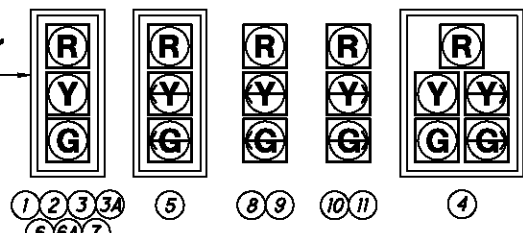
DETECTOR ZONE CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.) *	PHASE	REMARKS
D1	6' x 30'	PRESENCE		1	
D2	6' x 30'	PRESENCE		4 & 7	
D3	6' x 30'	PRESENCE		4 & 7	
D4	6' x 30'	PRESENCE	10	4 & 7	
D5	6' x 30'	PRESENCE	10	4 & 7	
D6	6' x 30'	PRESENCE	10	2 & 4	
D7	6' x 18'	PULSE		2	
D8	6' x 30'	PULSE		2	
D9,10,11	6' x 6'	PULSE		6	
DS12,DS13,DS14	6' x 6'	PULSE		2	SYSTEM ZONES
DS15,DS16,DS17	6' x 6'	PULSE		6	SYSTEM ZONES
D18	6' x 18'	PULSE	2	4	
D19	6' x 18'	PULSE	2	4	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



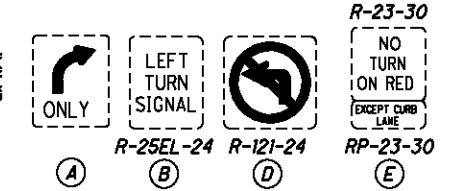
5" BACKPLATE
W/ YELLOW
REFLECTIVE
TAPE BORDER
PER CMS 732.22,
TYPICAL ALL
SIGNAL HEADS



TYPICAL SIGNAL HEADS
ALL HEADS W/ 12" LED LAMPS
ALL HEADS POLYCARBONATE EXCEPT
FOR HEAD 4 WHICH IS ALUMINUM

NOTE: ALL STATIONING SHOWN ON THIS PLAN
IS REFERENCED TO CONSTRUCTION SR 18
OR BASELINE RAMP "A"

EXISTING P-2
DESIGN 10, 32',
STA. 146+44.5, 79' RT
POLE BASE DIA. = 13"
SPAN ATTACH. HT. = 30.9'

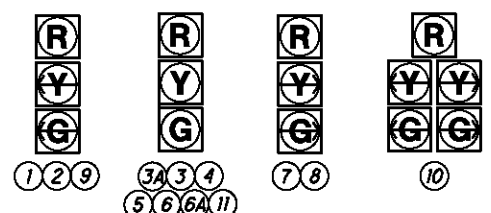


TYPICAL SPANWIRE SIGNS
NOTE - (C) NOT USED

NOTE: EXISTING SIGNAL
HEADS 5, 6, 6A, & 7
HAVE TUNNEL VISORS.

FLASHER OPERATION
YELLOW TO: SR 18
RED TO: SB RAMP & SR 18 WB LT
INSTALLATION DATE: 1-21-89
SIGNAL NO.: MED-071-16+855
FILE NO.: 2301
OSIS NO.: 556

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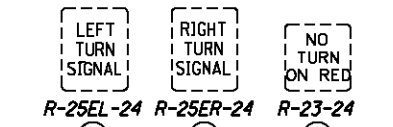
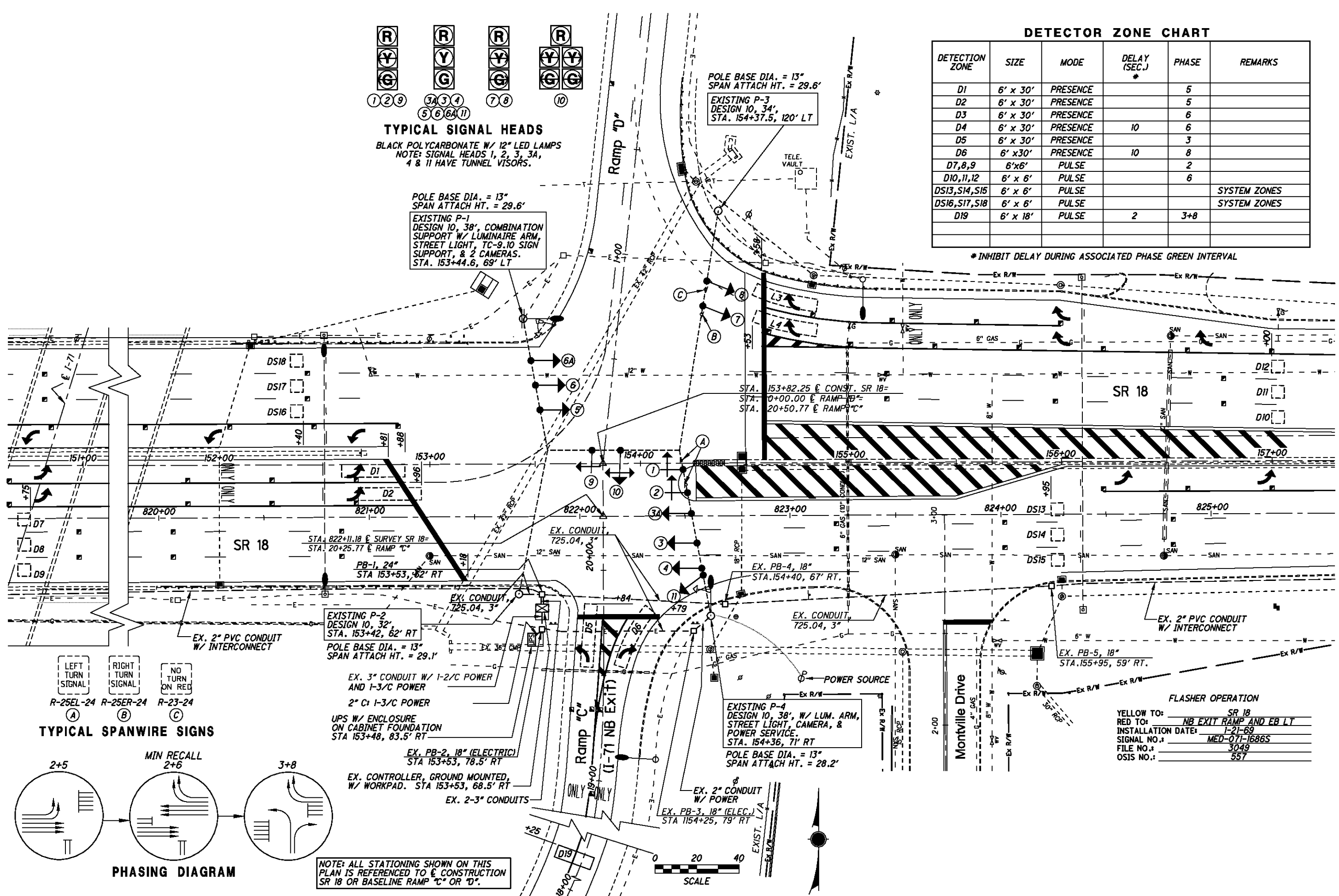
TYPICAL SIGNAL HEADS
 BLACK POLYCARBONATE W/ 12" LED LAMPS
 NOTE: SIGNAL HEADS 1, 2, 3, 3A, 4 & 11 HAVE TUNNEL VISORS.

POLE BASE DIA. = 13"
 SPAN ATTACH HT. = 29.6'
 EXISTING P-1
 DESIGN 10, 38', COMBINATION
 SUPPORT W/ LUMINAIRE ARM,
 STREET LIGHT, TC-9.10 SIGN
 SUPPORT, & 2 CAMERAS.
 STA. 153+44.6, 69' LT

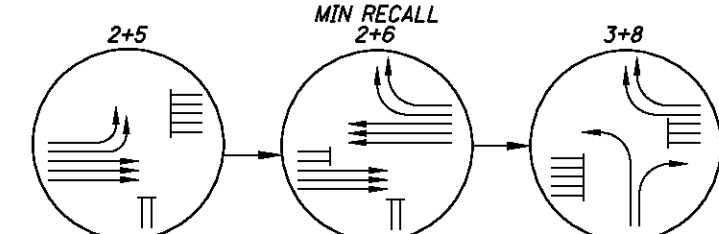
DETECTOR ZONE CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.) *	PHASE	REMARKS
D1	6' x 30'	PRESENCE		5	
D2	6' x 30'	PRESENCE		5	
D3	6' x 30'	PRESENCE		6	
D4	6' x 30'	PRESENCE	10	6	
D5	6' x 30'	PRESENCE		3	
D6	6' x 30'	PRESENCE	10	8	
D7,8,9	6'x6'	PULSE		2	
D10,11,12	6' x 6'	PULSE		6	
DS13,S14,S15	6' x 6'	PULSE			SYSTEM ZONES
DS16,S17,S18	6' x 6'	PULSE			SYSTEM ZONES
D19	6' x 18'	PULSE	2	3+8	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

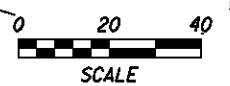


TYPICAL SPANWIRE SIGNS
 LEFT TURN SIGNAL (A) R-25EL-24
 RIGHT TURN SIGNAL (B) R-25ER-24
 NO TURN ON RED (C) R-23-24



PHASING DIAGRAM

NOTE: ALL STATIONING SHOWN ON THIS PLAN IS REFERENCED TO E CONSTRUCTION SR 18 OR BASELINE RAMP 'C' OR 'D'.



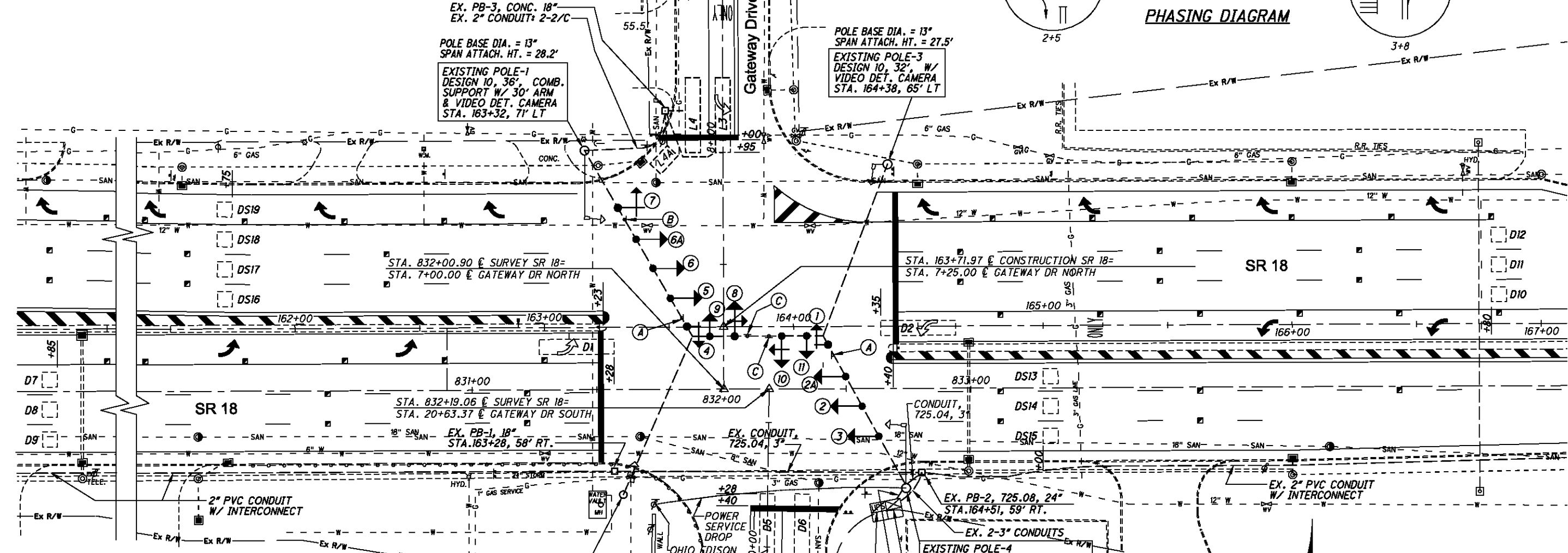
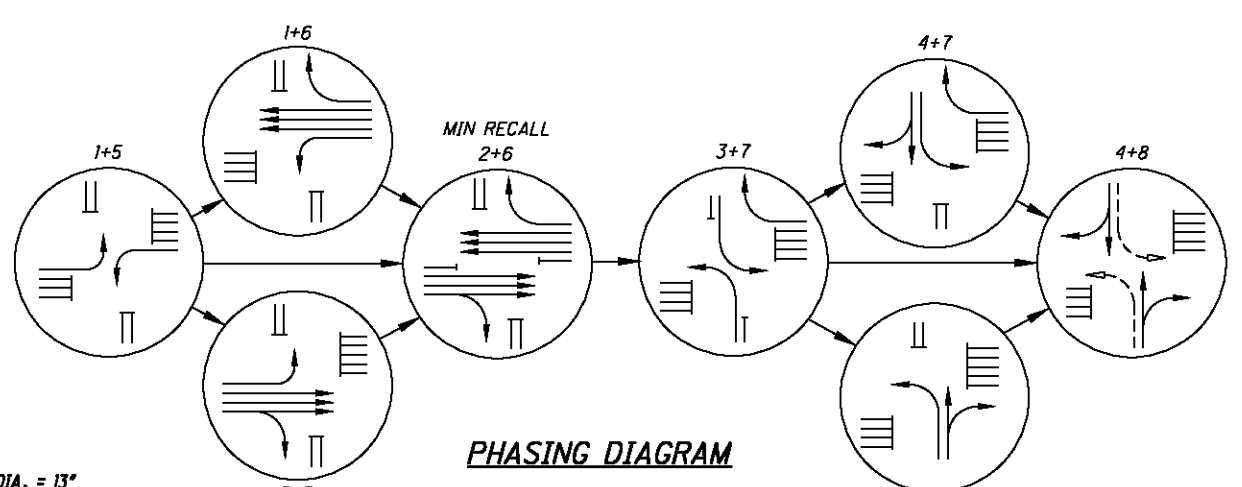
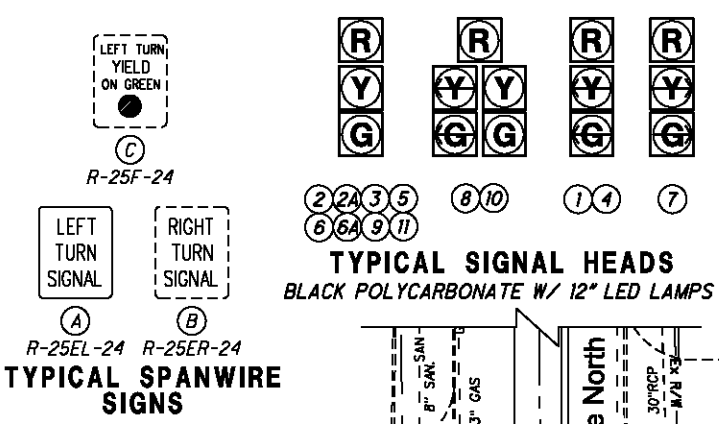
FLASHER OPERATION
 YELLOW TO: SR 18
 RED TO: NB EXIT RAMP AND EB LT
 INSTALLATION DATE: 1-21-69
 SIGNAL NO.: MED-071-16865
 FILE NO.: 3049
 OSIS NO.: 557

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SR 18 & IR 71 NB
 MEDINA COUNTY

MED-18-15.10 PM

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DETECTOR ZONE AND LOOP CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.) *	ASSOCIATED PHASE	REMARKS
D1	6' x 30'	PRESENCE		5	
D2	6' x 30'	PRESENCE		1	
L3	6' x 30'	PRESENCE	2	4+7	EXISTING LOOP
L4	6' x 30'	PRESENCE	10	4	EXISTING LOOP
L4A	6' x 10'	PRESENCE	10	4	EXISTING LOOP
D5	6' x 30'	PRESENCE	2	3+8	
D6	6' x 30'	PRESENCE	10	8	
D7,8,9	6' x 6'	PULSE		2	SYSTEM ZONE
D10,11,12	6' x 6'	PULSE		6	SYSTEM ZONE
D13,14,15	6' x 6'	PULSE		6	SYSTEM ZONE
D16,17,18,19	6' x 6'	PULSE		6	SYSTEM ZONE

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

EXISTING POLE-2
DESIGN 10, 32',
STA. 163+31.7, 66' RT
POLE BASE DIA. = 13"
SPAN ATTACH. HT. = 26.8'

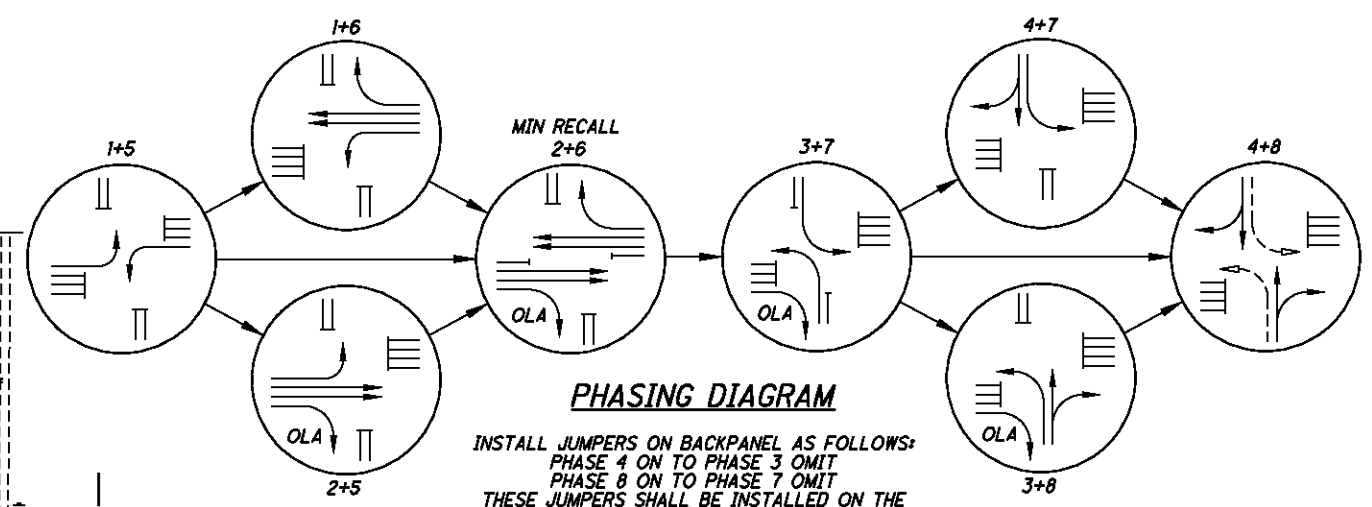
EXISTING POLE-4
DESIGN 10, 32', COMBINATION
SUPPORT W/ 30' LUM. ARM AND
VIDEO DET. CAMERA
STA. 164+46, 65' RT
POLE BASE DIA. = 13"
SPAN ATTACH. HT. = 27.3'
EX. CONTROLLER, GROUND MOUNTED
W/ WORKPAD. STA 164+39.7, 71.5' RT
EX. 2" PVC CONDUIT W/ POWER CABLE



FLASHER OPERATION
YELLOW TO SR 18
RED TO GATEWAY DRIVE & SR 18 LT
SIGNAL NO. MED-18-15745
INSTALLATION DATE 2-27-02
FILE NO. 4442
OSIS NO. 1268

SR 18 & GATEWAY DRIVE
MEDINA COUNTY

MED-18-15.10 PM



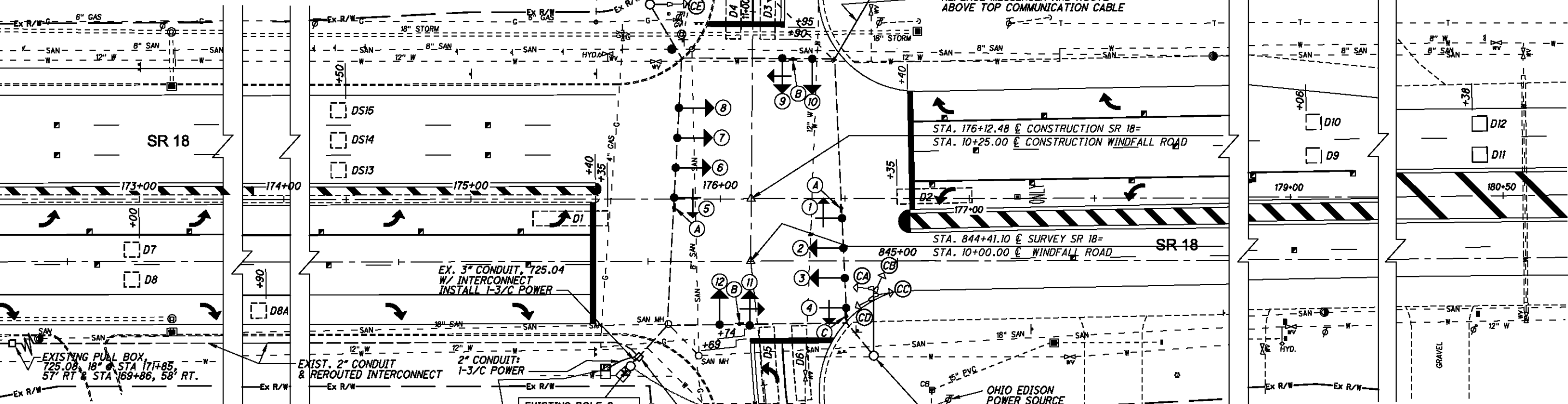
PHASING DIAGRAM
 INSTALL JUMPERS ON BACKPANEL AS FOLLOWS:
 PHASE 4 ON TO PHASE 3 OMIT
 PHASE 8 ON TO PHASE 7 OMIT
 THESE JUMPERS SHALL BE INSTALLED ON THE FRONT OF THE PANEL AND SHALL BE EASILY REMOVED IF NEEDED.

POLE BASE DIA. = 13"
 SPAN ATTACH. HT. = 26.7'
 EXISTING POLE-1
 DESIGN 10, 32', W/
 VIDEO DET. CAMERA
 STA. 175+72, 78' LT

POLE BASE DIA. = 13"
 SPAN ATTACH. HT. = 26.0'
 EXISTING POLE-3
 DESIGN 10, 32',
 STA. 176+62, 83.5' LT

EXISTING POLE-2
 DESIGN 10, 32', W/
 POWER SERVICE AND
 CONTROLLER CABINET
 STA. 175+64, 67' RT
 POLE BASE DIA. = 13"
 SPAN ATTACH. HT. = 29.8'
 EX. PULL BOX, 725.08, 18"
 STA. 175+86.5, 64.5' RT.

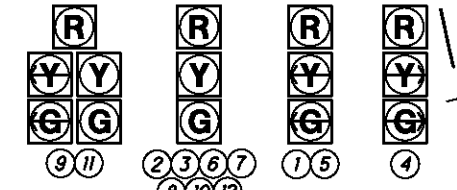
EXISTING POLE-4
 DESIGN 10, 32', W/ 4' POLE
 EXTENSION & 30' LUM. ARM,
 4 VIDEO DET. CAMERAS
 STA. 176+61.5, 63' RT
 POLE BASE DIA. = 13"
 SPAN ATTACH. HT. = 27.4'



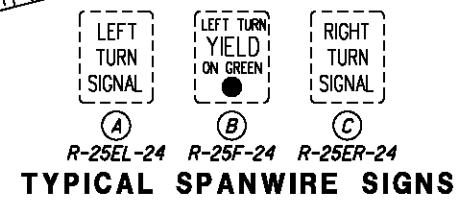
DETECTOR ZONE CHART

DETECTION ZONE	SIZE	MODE	DELAY (SEC.)	ASSOC. PHASE	CAMERA	REMARKS
D1	6' x 30'	PRESENCE	*	5	A	
D2	6' x 30'	PRESENCE		1	B	
D3	6' x 30'	PRESENCE	2	4&7	E	
D4	6' x 30'	PRESENCE	10	4	E	
D5	6' x 30'	PRESENCE	2	3&8	D	
D6	6' x 30'	PRESENCE	10	8	D	
D7&8	6' x 6'	PULSE		2	A	OVERLAP A
D9&10	6' x 6'	PULSE		2&3	A	
D11&12	6' x 6'	PULSE		6	C	
D13,14,15	6' x 6'	PULSE		6	A	SYSTEM ZONES

*INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



TYPICAL SIGNAL HEADS
 BLACK POLYCARBONATE W/ 12" LED LAMPS

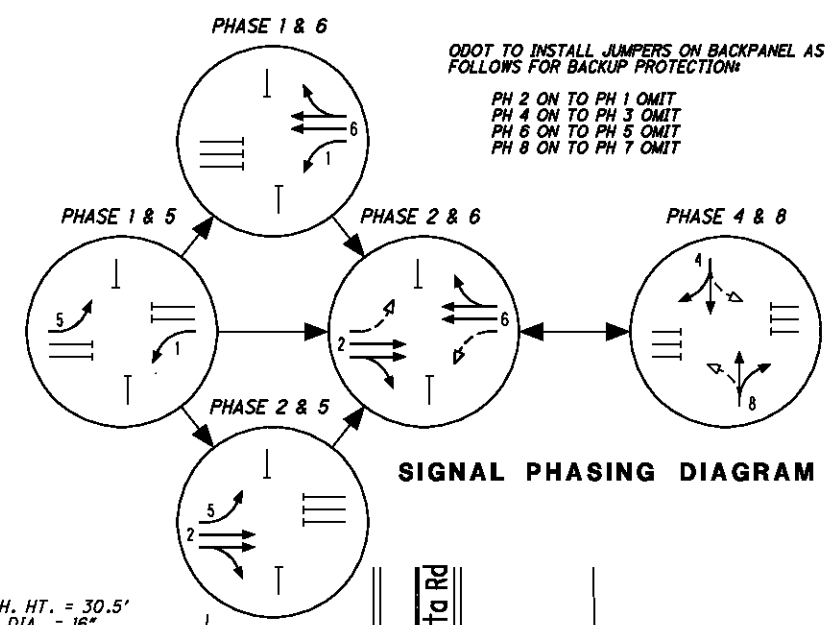


TYPICAL SPANWIRE SIGNS
 R-25EL-24 R-25F-24 R-25ER-24

FLASHER OPERATION
 YELLOW TO SR 18
 RED TO WINDFALL ROAD & SR 18 LT
 SIGNAL NO. MED-18-1599S
 INSTALLATION DATE 12-29-83
 FILE NO. 3086
 OSIS NO. 549

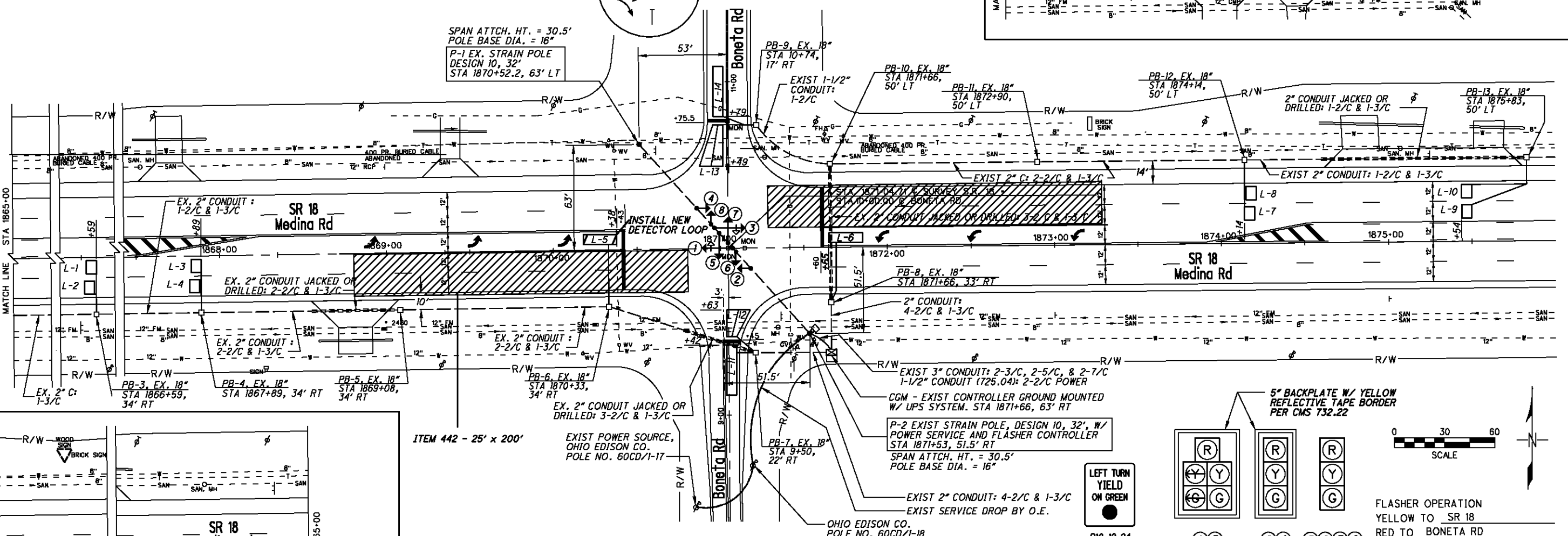
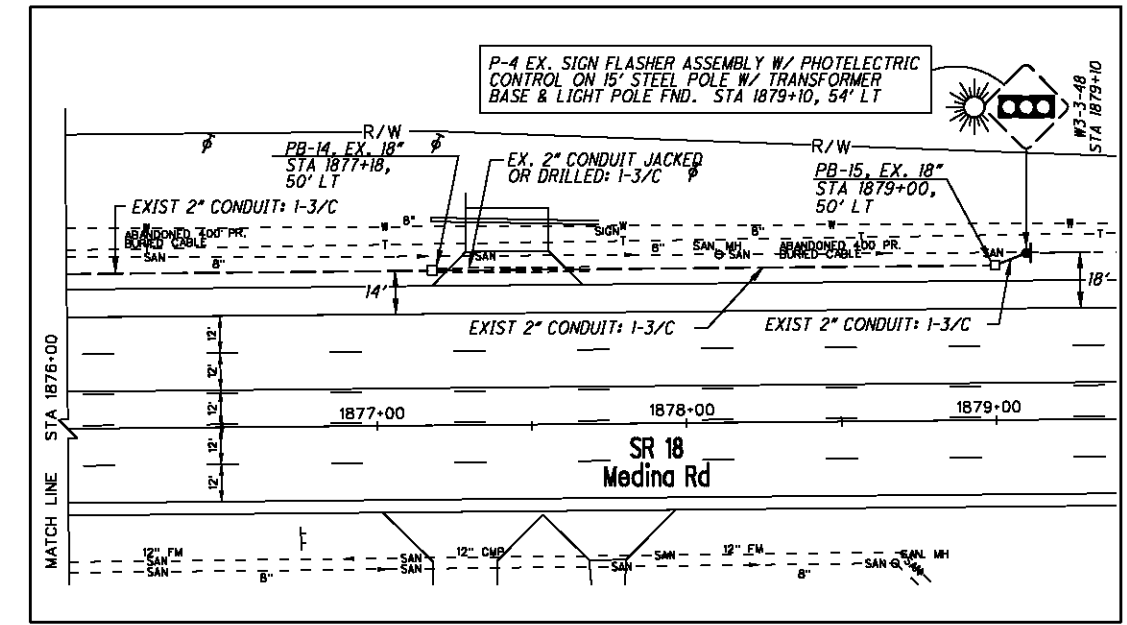
SR 18 & WINDFALL RD.
 MEDINA COUNTY

MED-18-15.10 PM



ODOT TO INSTALL JUMPERS ON BACKPANEL AS FOLLOWS FOR BACKUP PROTECTION:
PH 2 ON TO PH 1 OMIT
PH 4 ON TO PH 3 OMIT
PH 6 ON TO PH 5 OMIT
PH 8 ON TO PH 7 OMIT

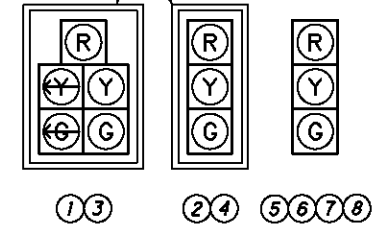
SIGNAL PHASING DIAGRAM



SPAN ATTCH. HT. = 30.5'
POLE BASE DIA. = 16"
P-1 EX. STRAIN POLE
DESIGN 10, 32'
STA 1870+52.2, 63' LT

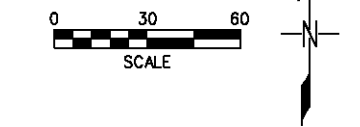
P-2 EXIST STRAIN POLE, DESIGN 10, 32', W/
POWER SERVICE AND FLASHER CONTROLLER
STA 1871+53, 51.5' RT
SPAN ATTCH. HT. = 30.5'
POLE BASE DIA. = 16"

5" BACKPLATE W/ YELLOW
REFLECTIVE TAPE BORDER
PER CMS 732.22



TYPICAL SPANWIRE SIGN S-1

TYPICAL SIGNALS
(12" POLYCARBONATE W/ LED LAMPS)



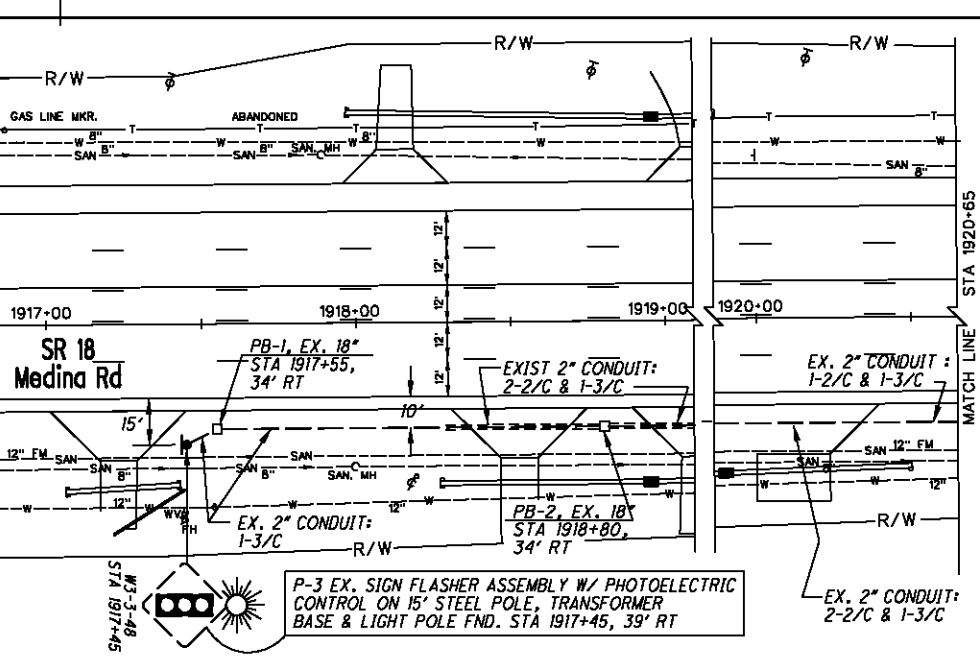
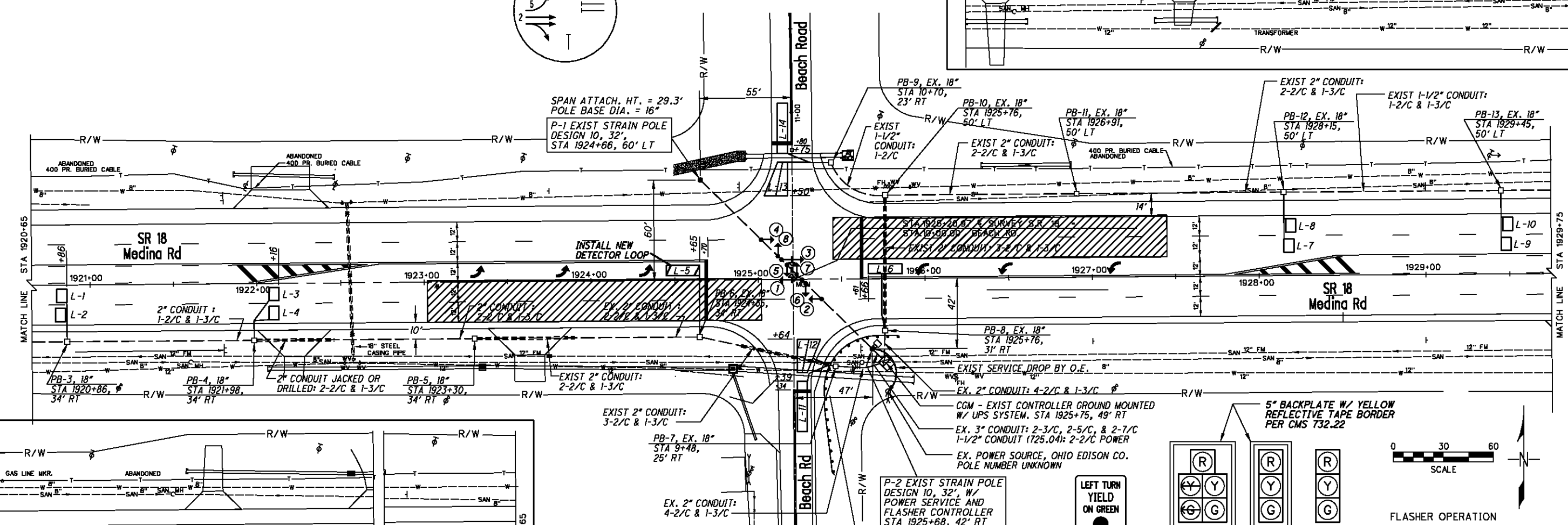
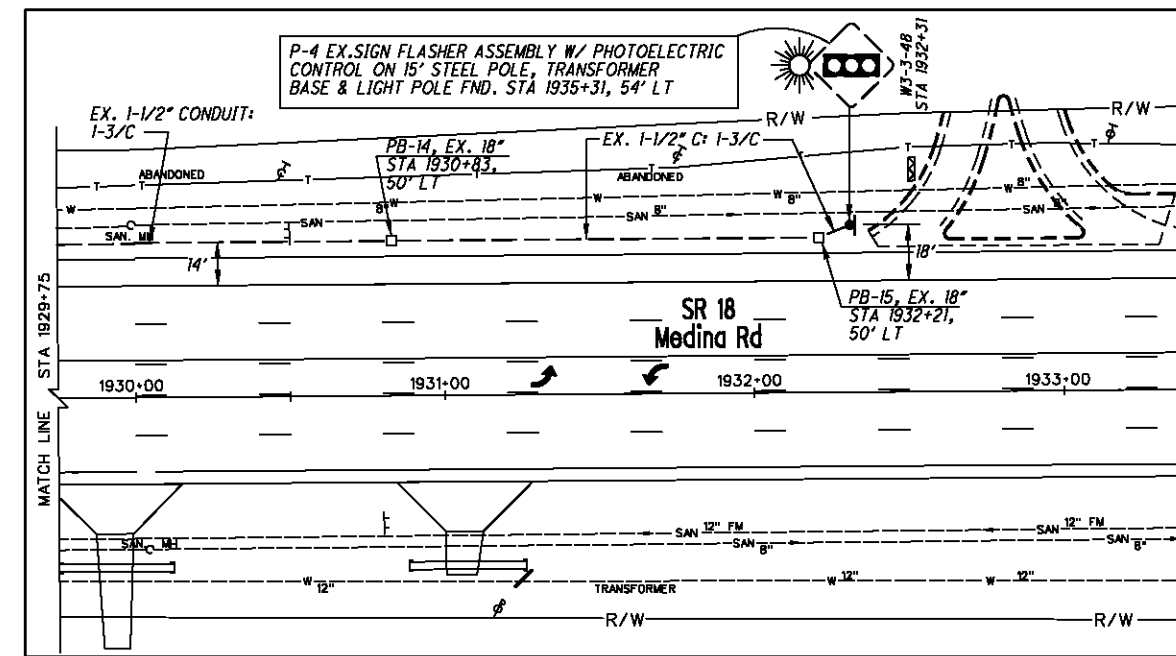
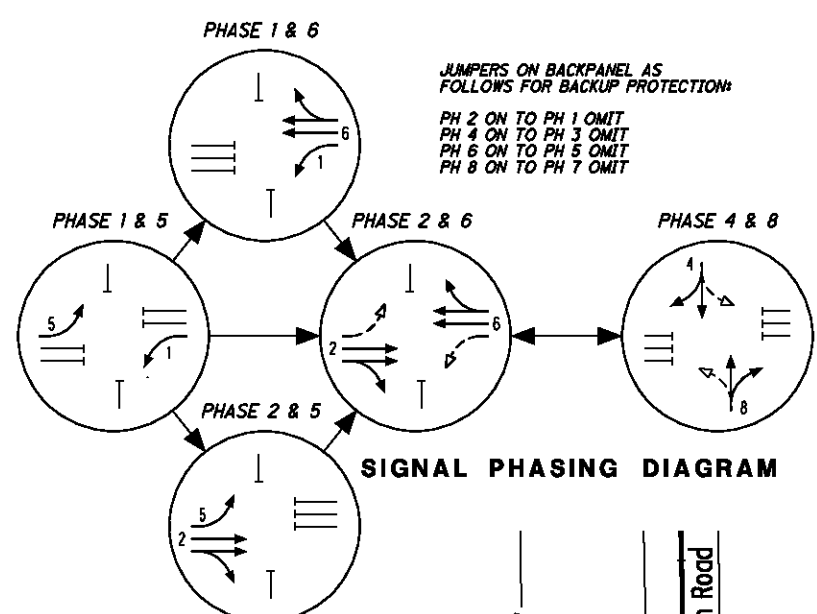
FLASHER OPERATION
YELLOW TO SR 18
RED TO BONETA RD
SIGNAL NO. MED-18-1650S
INSTALLATION DATE 6-29-07
FILE NO. 4497
OSIS NO. 18089

DETECTOR LOOP CHART

LOOP	SIZE (FT)	MODE	DELAY (SEC.)	NUMBER OF TURNS	ASSOCIATED CONTROLLER PHASE	DETECTOR UNIT NO.	COMMENTS
L-1 & L-2	6X8	PULSE		4	2	1	
L-3 & L-4	6X8	PULSE		4	2	2	
L-5	6X20	PRESENCE		3	5	3	
L-6	6X20	PRESENCE		3	1	4	
L-7 & L-8	6X8	PULSE		4	6	5	
L-9 & L-10	6X8	PULSE		4	6	6	
L-11	6X30	PRESENCE	10	3	8	7	
L-12	6X14X16	PRESENCE	10	2-4-2	8	7	QUADRUPOLE LOOP
L-13	6X14X25	PRESENCE	10	2-4-2	4	8	QUADRUPOLE LOOP
L-14	6X30	PRESENCE	10	3	4	8	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

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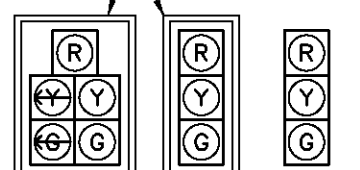
DETECTOR LOOP CHART

LOOP	SIZE (FT)	MODE	DELAY (SEC.)	NUMBER OF TURNS	ASSOCIATED CONTROLLER PHASE	DETECTOR UNIT NO.	COMMENTS
L-1 & L-2	6X8	PULSE		4	2	1	
L-3 & L-4	6X8	PULSE		4	2	2	
L-5	6X20	PRESENCE		3	5	3	
L-6	6X20	PRESENCE		3	1	4	
L-7 & L-8	6X8	PULSE		4	6	5	
L-9 & L-10	6X8	PULSE		4	6	6	
L-11	6X30	PRESENCE	10	3	8	7	
L-12	6X14X20	PRESENCE	10	2-4-2	8	7	QUADRUPOLE LOOP
L-13	6X14X20	PRESENCE	10	2-4-2	4	8	QUADRUPOLE LOOP
L-14	6X30	PRESENCE	10	3	4	8	

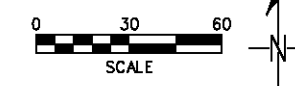
* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



TYPICAL SPANWIRE SIGN S-1



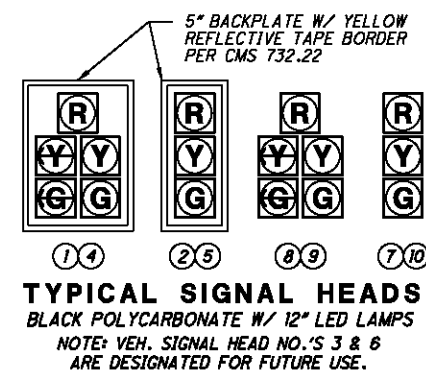
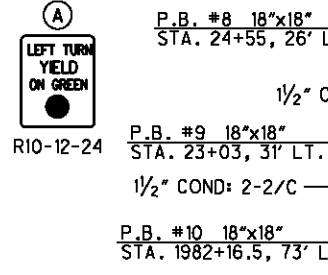
TYPICAL SIGNALS (12\"/>



FLASHER OPERATION
YELLOW TO SR 18
RED TO BEACH RD
SIGNAL NO. MED-18-1753S
INSTALLATION DATE 6-6-07
FILE NO. 4498
OSIS NO. 18090

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SPAN WIRE MOUNTED SIGNS



LOOP DETECTOR CHART

LOOP	SIZE (FT)	NO. OF TURNS	MODE	DELAY (SEC.)	DETECTOR UNIT NO.	ASSOC. PHASE	COMMENTS
L-1 & L-2	6X8	4	PULSE		1	2	EXISTING LOOP
L-3 & L-4	6X8	4	PULSE		2	2	
L-5 & L-6	6X8	4	PULSE		3	6	
L-7 & L-8	6X8	4	PULSE		4	6	
L-9	6X30	3	PRESENCE	2*	5	5	
L-10	6X30	3	PRESENCE	2*	6	1	
L-11	8X30	3	PRESENCE	2*	7	3	
L-12	8X30	3	PRESENCE	10*	8	8	
L-12A	8X20	3	PRESENCE	10*	8	8	
L-13	8X30	3	PRESENCE	2*	9	7	
L-14	8X30	3	PRESENCE	10*	10	4	
L-14A	8X20	3	PRESENCE	10*	10	4	
L-15	6X8	4	PULSE	2*	11	8	
L-16	6X8	4	PULSE	2*	12	8	
L-17	6X8	4	PULSE	2*	13	4	
L-18	6X8	4	PULSE	2*	14	4	EXISTING LOOP

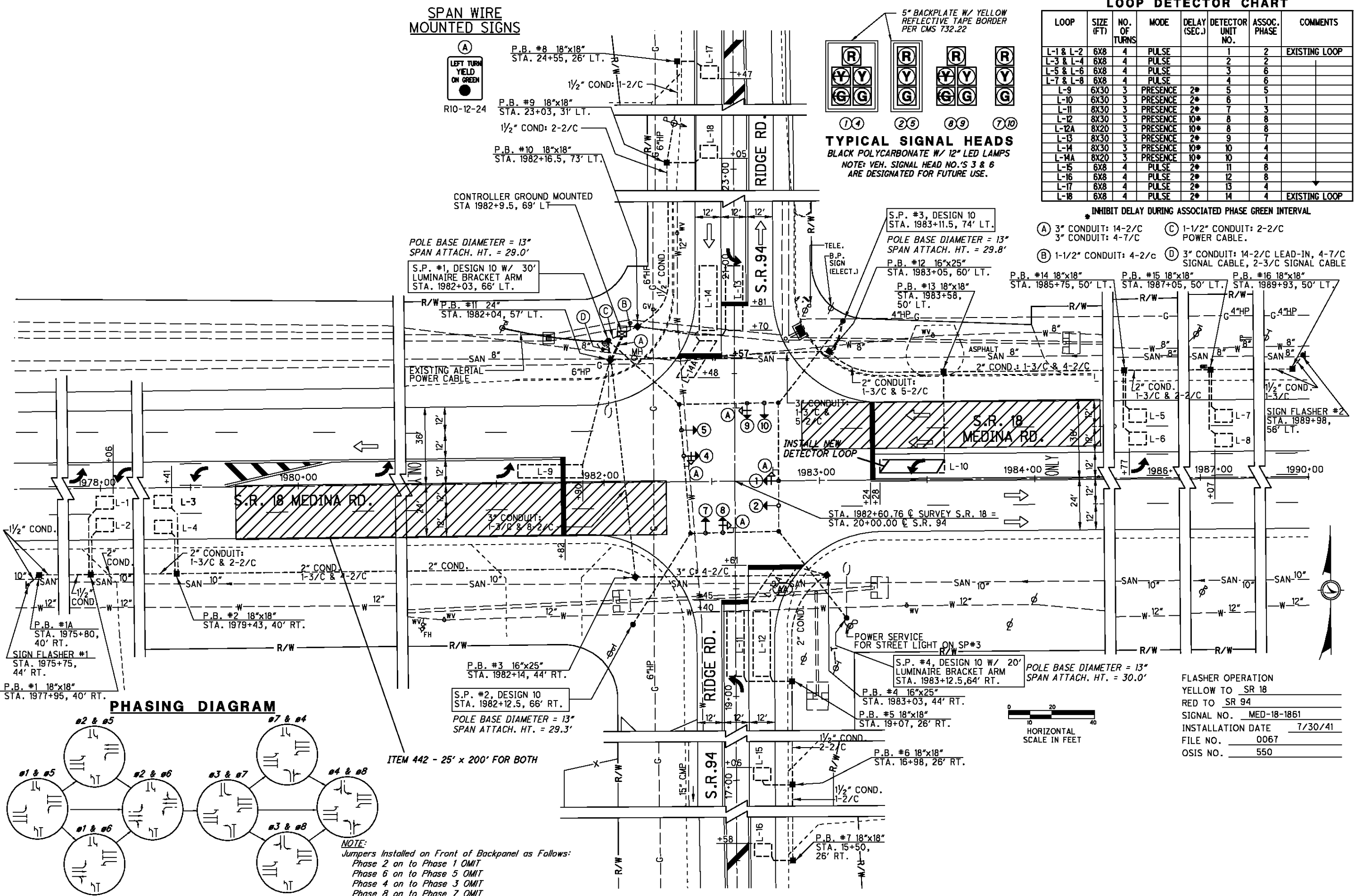
INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

(A) 3" CONDUIT: 14-2/C
3" CONDUIT: 4-7/C

(B) 1-1/2" CONDUIT: 4-2/C

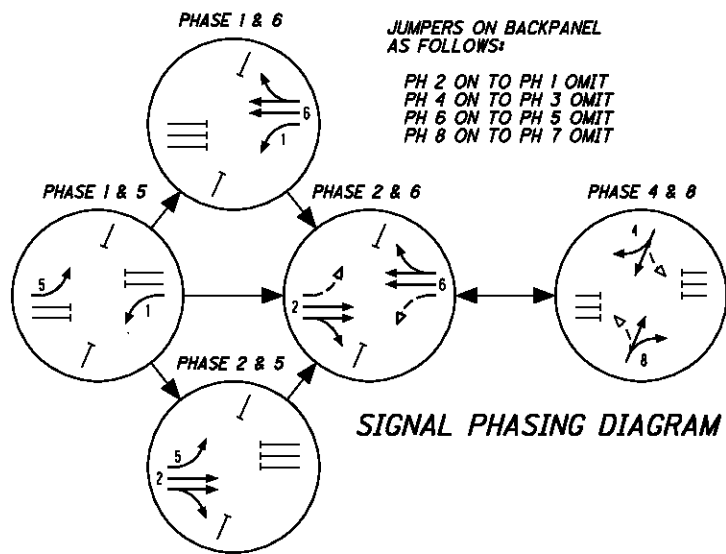
(C) 1-1/2" CONDUIT: 2-2/C
POWER CABLE.

(D) 3" CONDUIT: 14-2/C LEAD-IN, 4-7/C
SIGNAL CABLE, 2-3/C SIGNAL CABLE



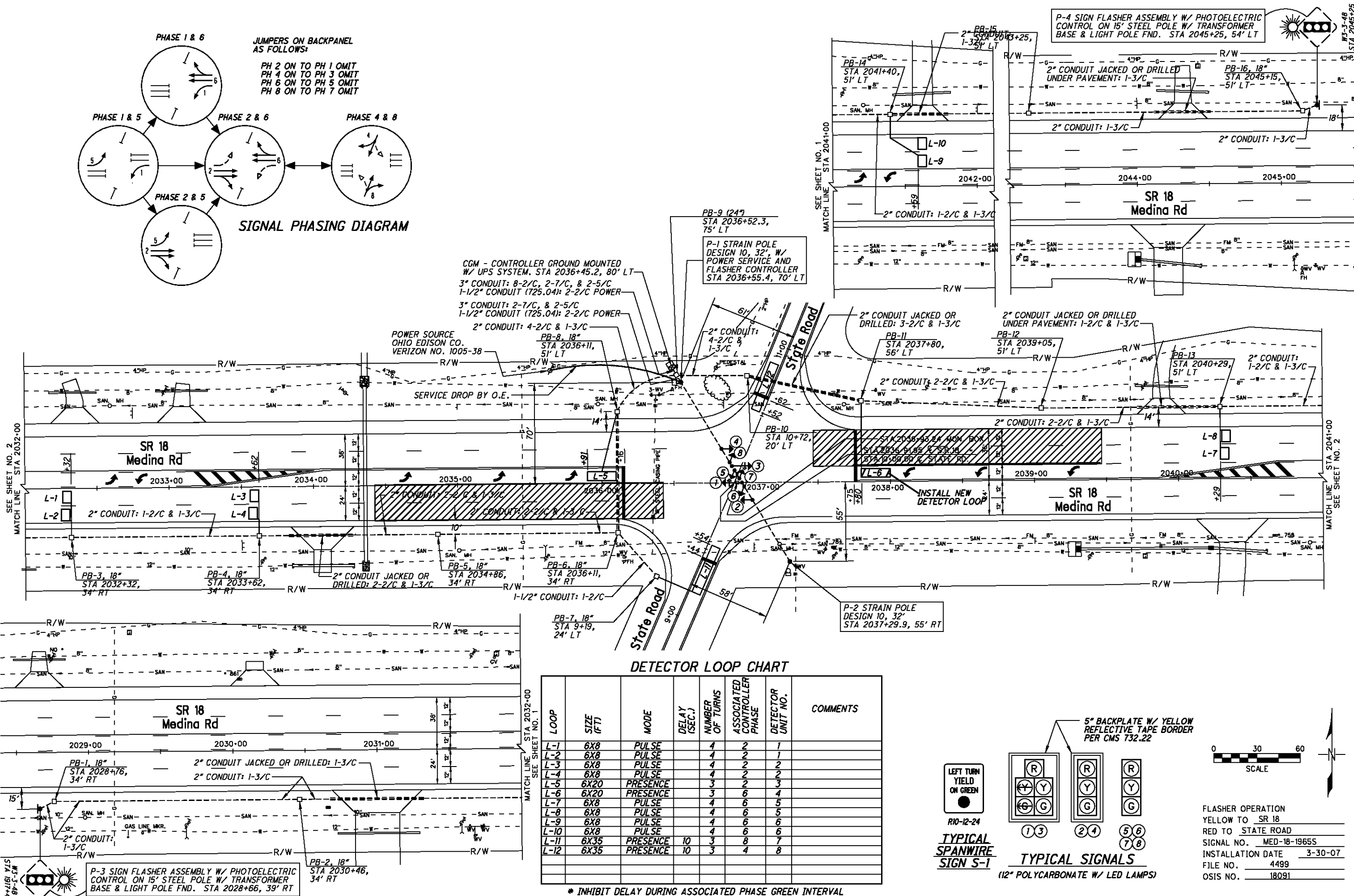
SR 18 & S.R. 94
MEDINA COUNTY

MED-18-15.10 PM



SIGNAL PHASING DIAGRAM

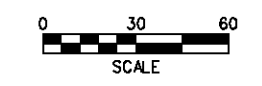
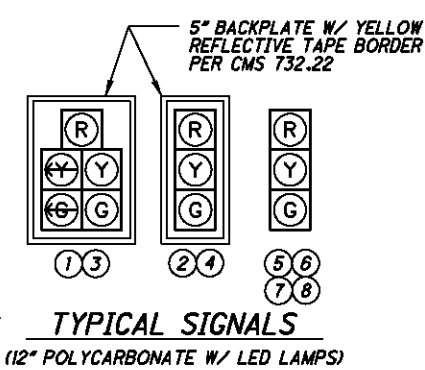
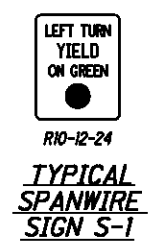
CGM - CONTROLLER GROUND MOUNTED W/ UPS SYSTEM. STA 2036+45.2, 80' LT
 3" CONDUIT: 8-2/C, 2-7/C, & 2-5/C
 1-1/2" CONDUIT (725.04): 2-2/C POWER
 3" CONDUIT: 2-7/C, & 2-5/C
 1-1/2" CONDUIT (725.04): 2-2/C POWER
 2" CONDUIT: 4-2/C & 1-3/C



DETECTOR LOOP CHART

LOOP	SIZE (FT)	MODE	DELAY (SEC.)	NUMBER OF TURNS	ASSOCIATED CONTROLLER PHASE	DETECTOR UNIT NO.	COMMENTS
L-1	6X8	PULSE	4	2	1	1	
L-2	6X8	PULSE	4	2	2	1	
L-3	6X8	PULSE	4	2	2	2	
L-4	6X8	PULSE	4	2	2	3	
L-5	6X20	PRESENCE	3	2	3	3	
L-6	6X20	PRESENCE	3	6	4	4	
L-7	6X8	PULSE	4	6	5	5	
L-8	6X8	PULSE	4	6	5	6	
L-9	6X8	PULSE	4	6	6	6	
L-10	6X8	PULSE	4	6	6	7	
L-11	6X35	PRESENCE	10	3	8	7	
L-12	6X35	PRESENCE	10	3	4	8	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL



FLASHER OPERATION
 YELLOW TO SR 18
 RED TO STATE ROAD
 SIGNAL NO. MED-18-1965S
 INSTALLATION DATE 3-30-07
 FILE NO. 4499
 OSIS NO. 18091

SR 18 & STATE RD.
 MEDINA COUNTY

MED-18-15.10 PM