

OHIO DEPARTMENT OF TRANSPORTATION

PLAN NO.

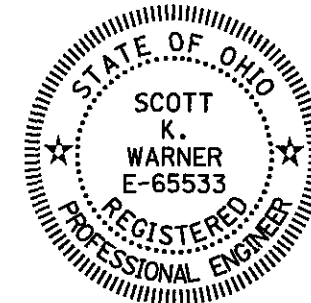
BEL-70-15.72
442 4-LANE RESURFACING

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	COMMENT
				BEGIN	END		
1	BEL	IR 70	(15.72)	15.72	19.17	3.45	

INDEX OF SHEETS

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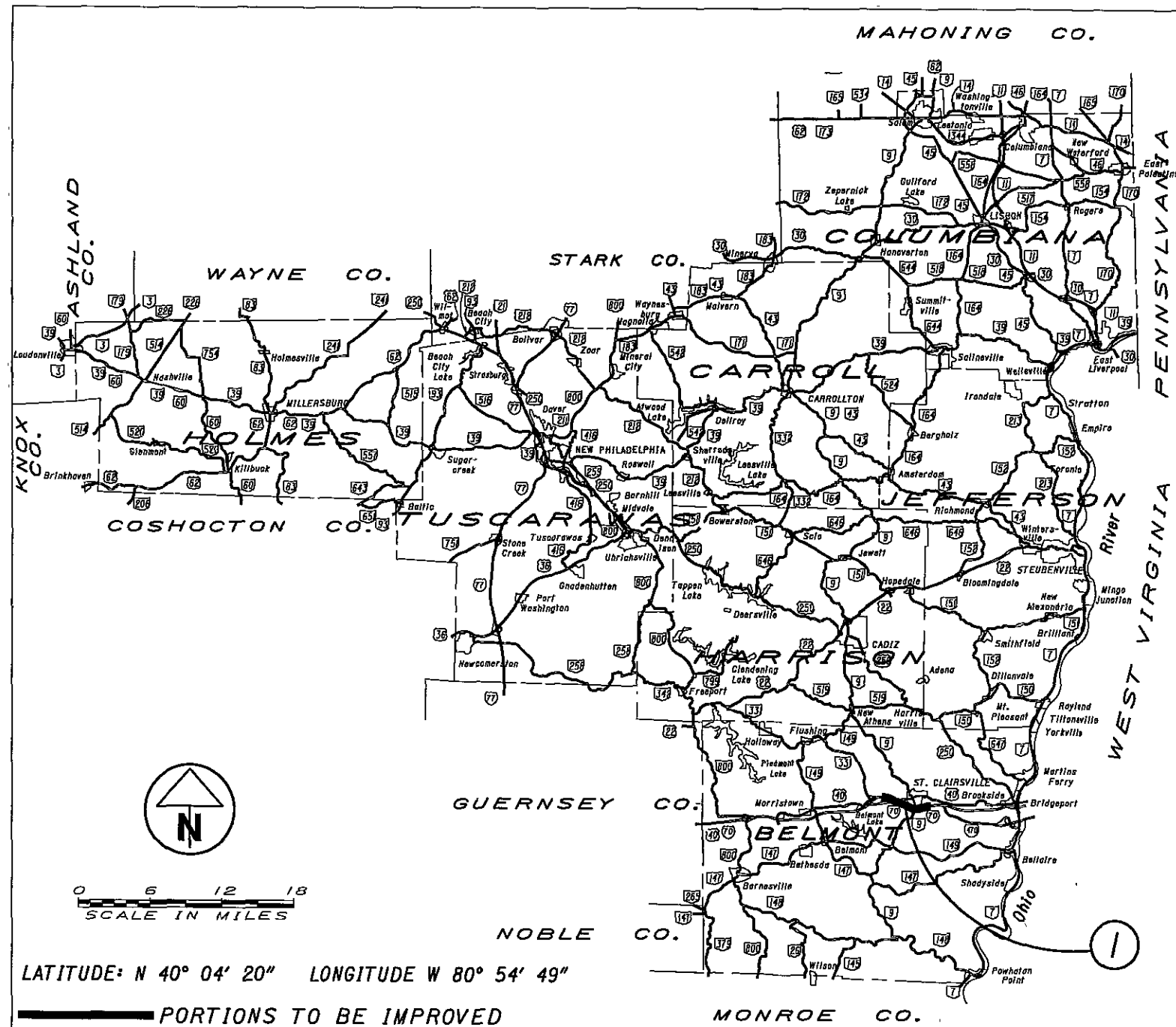
ENGINEERS SEAL:

SIGNED: *SKW*
DATE: 1-17-07

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)

The Standard 2005 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. none and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Part No. 1 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

APPROVED
DATE: 1/17/07*Ken Engstrom*
DISTRICT DEPUTY DIRECTORAPPROVED
DATE: 2-12-07*Keith C. Swearingen*
DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES

2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY
O.D.O.T.
DISTRICT 11

STANDARD
DRAWINGS

BP-2.5	7-28-00	MT-98.13	4-19-02	TC-41.20	1-19-01	800	1-19-07
BP-3.1	7-16-04	MT-98.14	4-19-02	TC-52.10	4-20-01	832	4-25-06
BP-9.1	4-15-05	MT-98.15	7-16-04	TC-52.20	4-20-01		
GR-2.1	1-16-04	MT-98.16	4-19-02	TC-65.10	1-21-05		
DM-4.3	7-19-02	MT-98.17	10-18-02	TC-65.11	1-21-05		
DM-4.4	7-19-02	MT-98.18	10-18-02	TC-72.20	1-21-05		
MT-35.10	4-20-01	MT-99.20M	1-30-95	TC-73.10	1-19-01		
MT-95.30	9-5-06	MT-105.10	10-18-02				
MT-98.12	4-19-02	MT-105.11	10-18-02				

SUPPLEMENTAL
SPECIFICATIONSFEDERAL PROJECT NO.
E070 (345)PID NO.
25551

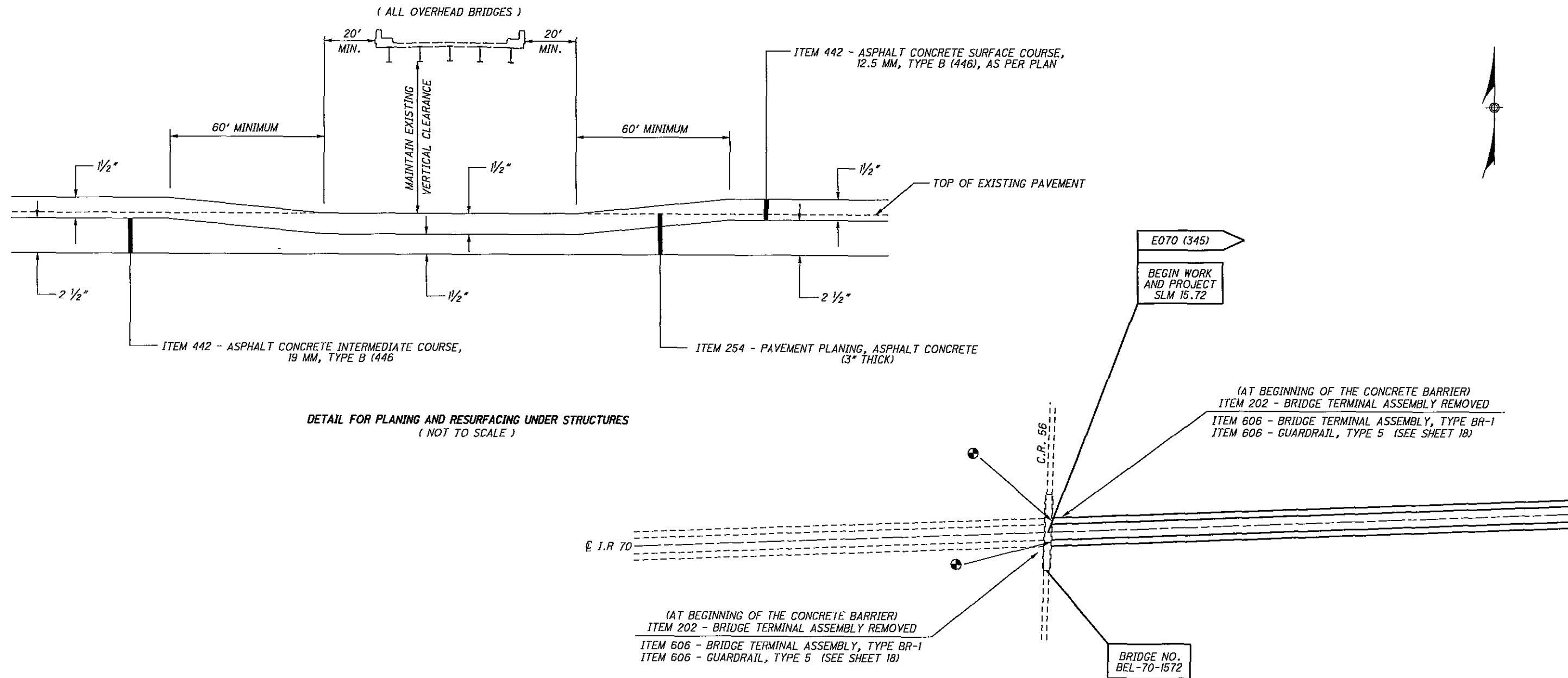
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

BEL-70-15.72

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NEW STRUCTURE NO.	ORIGINAL STRUCTURE NO.	STRUCTURE FILE NUMBER	COMMENTS
BEL-70-1572	BEL-70-1572	0702498	MAINTAIN EXISTING CLEARANCE @ 16'-3" SEE DETAIL ABOVE
BEL-70-1660	BEL-40-1713	0701564	MAINTAIN EXISTING CLEARANCE @ 16'-0" SEE DETAIL ABOVE
BEL-70-1752	BEL-70-1572	0702552	MAINTAIN EXISTING CLEARANCE @ 15'-0" SEE DETAIL ABOVE
BEL-70-1783 L	BEL-70-1783 L	0702587	REMOVE EXISTING 1 1/2" WEARING COURSE AND REPLACE 1 1/2"
BEL-70-1783 R	BEL-70-1783 R	0702617	REMOVE EXISTING 1 1/2" WEARING COURSE AND REPLACE 1 1/2"
BEL-70-1817 L	BEL-70-1817 L	0702641	REMOVE EXISTING 1 1/2" WEARING COURSE AND REPLACE 1 1/2"
BEL-70-1817 R	BEL-70-1817 R	0702676	REMOVE EXISTING 1 1/2" WEARING COURSE AND REPLACE 1 1/2"
BEL-70-1843	BEL-70-1843	0702706	MAINTAIN EXISTING CLEARANCE @ 16'-2" SEE DETAIL ABOVE

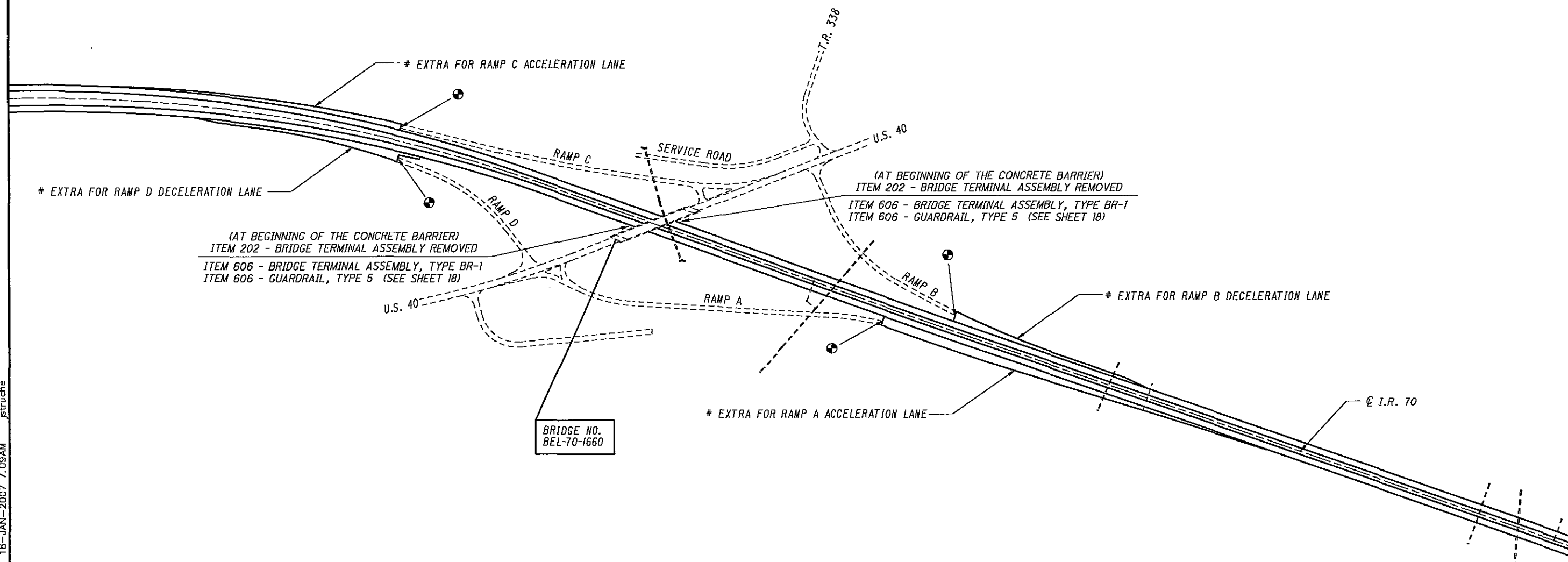
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SKW

SCHEMATIC PLAN

BEL-70-15.72

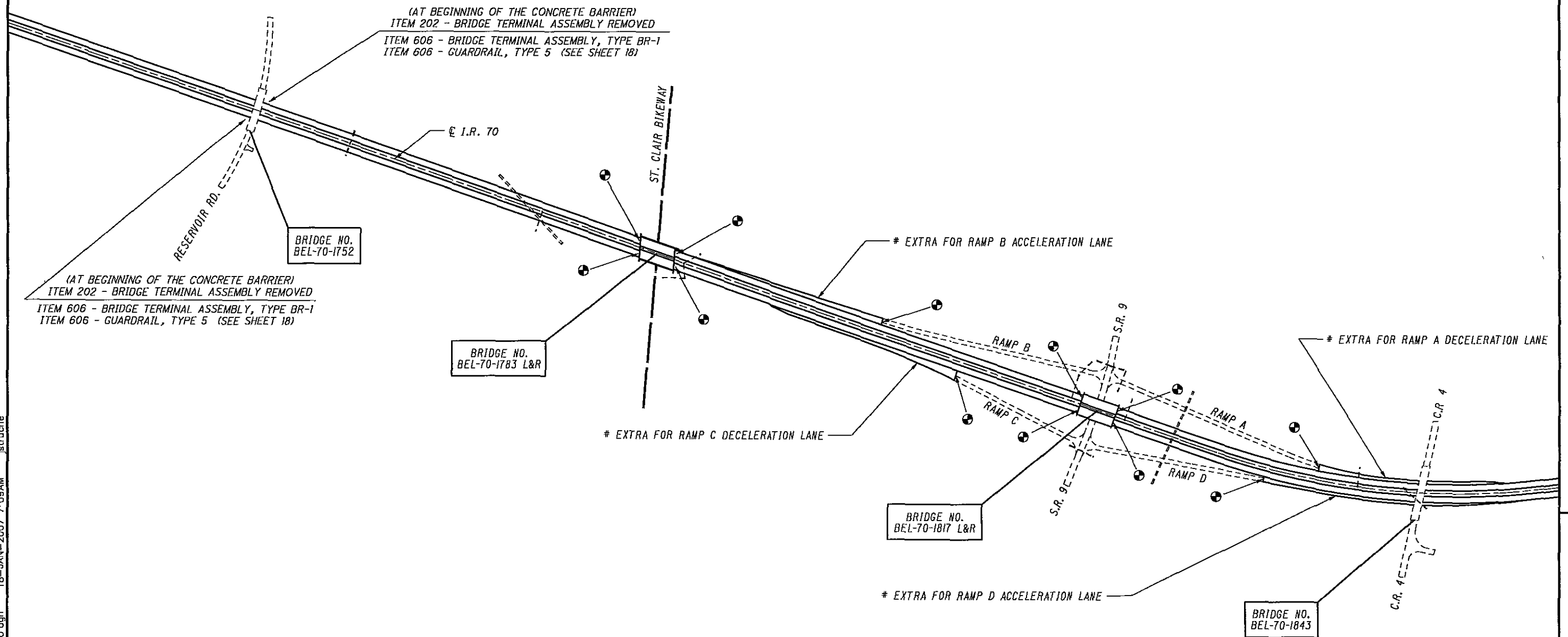
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* PLANIMETERED AREA

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PLANIMETERED AREA

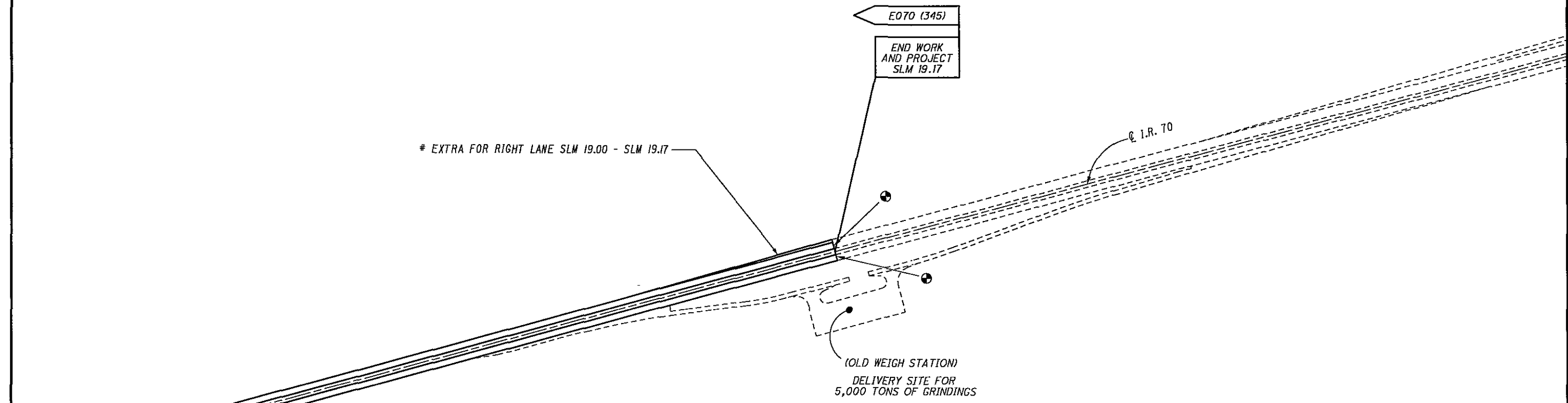
SCHEMATIC PLAN

BEL-70-15.72

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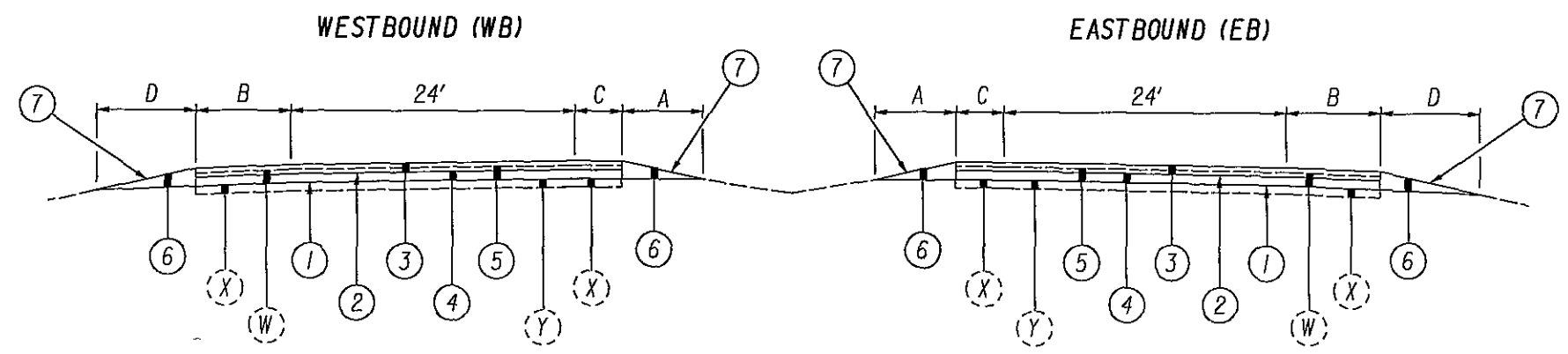
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PLANIMETERED AREA

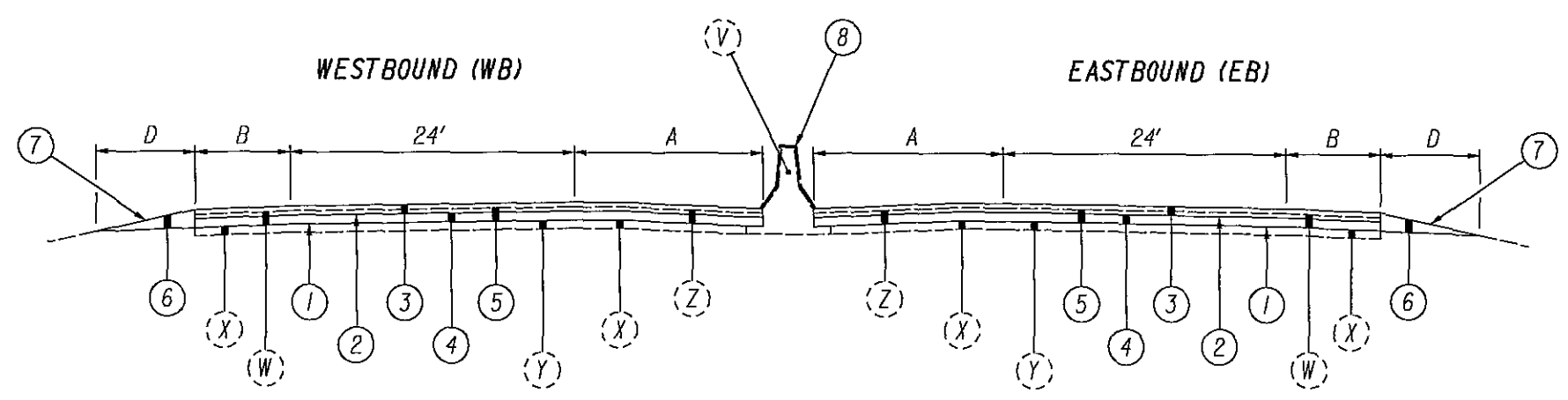
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	SKW			



MAINLINE TYPICAL 1
(SLM 15.72 TO SLM 16.44)

EXISTING LEGEND

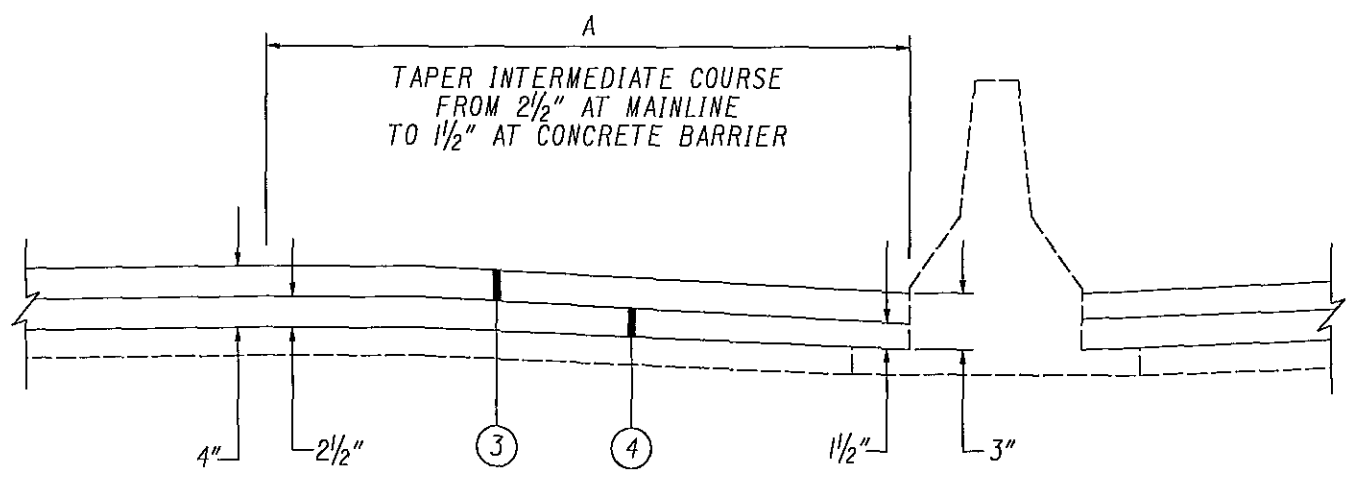
- (V) — CONCRETE BARRIER
- (W) — 3"± ASPHALT CONCRETE
- (X) — PAVED SHOULDER
- (Y) — CONCRETE PAVEMENT
- (Z) — ASPHALT CONCRETE SHOULDER



MAINLINE TYPICAL 2
(SLM 16.44 TO SLM 19.17)

SEE SHEET 13 FOR SHOULDER WIDTHS A, B, C AND D.

NOTE: SHOULDERS ON RAMP AREAS WILL BE AS SHOWN ON MAINLINE TYPICALS.



PROPOSED PAVED SHOULDER TAPER DETAIL
(TYPICAL BOTH SIDES)

PROPOSED LEGEND

- (1) — ITEM 407 - TACK COAT (APPLIED @ 0.075 GAL/S.Y.)
- (2) — ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (APPLIED @ 0.04 GAL/S.Y.)
- (3) — ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
- (4) — ITEM 442 - 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
- (5) — ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (NOMINAL THICKNESS 3") SEE GENERAL NOTE
- (6) — ITEM 617 - COMPACTED AGGREGATE, TYPE A (4" AVG. THICKNESS)
- (7) — ITEM 408 - PRIME COAT, AS PER PLAN
- (8) — ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A UNIFORM SURFACE THICKNESS AND VARYING INTERMEDIATE COURSE THICKNESS AS SHOWN ON THE PAVEMENT DATA SHEETS.

GRINDINGS FROM PLANING OPERATIONS

5,000 TONS OF GRINDINGS SHALL BE DELIVERED AT THE CONTRATORS EXPENSE TO THE OLD WEIGH STATION LOCATED AT SLM 19.17 OF THE EASTBOUND LANES OF THIS PROJECT. COORDINATE THIS OPERATION WITH THE BELMONT COUNTY MANAGER, (740) 782-1641.

THE REMAINING GRINDINGS SHALL BE USED IN LIEU OF ITEM - 617, COMPACTED AGGREGATE.

THE CONTRACTOR WILL SUPPLY ALL LABOR AND EQUIPMENT AT EACH LOCATION TO STOCKPILE THE MATERIAL IN A MANNER ACCEPTABLE TO THE ENGINEER. CONTINUOUS END DUMPING WILL NOT BE PERMITTED.

ITEM 442- ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B, (446), AS PER PLAN

MATERIALS FURNISHED FOR FINE AND COARSE AGGREGATES USED IN THIS ITEM SHALL EXCLUDE ALL STONE AND CRUSHED CARBONATE STONE.

ITEM 442 - PAVEMENT MARKINGS

THE CONTRACTOR SHALL REPLACE THE EXISTING PAVEMENT MARKINGS WITHIN THE PROJECT LIMITS WITH NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS PER 641.06. SEE STANDARD DRAWINGS TC-65.11, TC-72.20 AND TC-73.10 FOR PAVEMENT MARKING DETAILS.

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS

LOCATIONS AND QUANTITIES FOR THIS ITEM WERE FIELD REVIEWED WITH AN ASPHALT OVERLAY COVERING THE TOP OF THE EXISTING CONCRETE WEARING SURFACE, EXACT QUANTITIES SHALL BE DETERMINED BY THE FOLLOWING: THE ENGINEER SHALL INSPECT MAINLINE AND RAMP PAVEMENTS AFTER THE CONTRACTOR HAS PLANED THE ASPHALT TO DECIDE WHETHER ANY PAVEMENT REPAIRS ARE NECESSARY. PAYMENT FOR THE ACCEPTED QUANTITIES COMPLETE IN PLACE AS APPROVED BY THE ENGINEER, WILL BE MADE AT CONTRACT PRICE FOR ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS. IF NEEDED, ITEM 605 - AGGREGATE DRAINS, AS PER PLAN SHALL BE PLACED PRIOR TO PLACING THE FIRST PAVEMENT REPAIR COURSE.

ITEM 605 - AGGREGATE DRAINS, AS PER PLAN

THIS ITEM OF WORK SHALL BE USED IN ACCORDANCE WITH SECTION 605.06 OF THE CMS. AGGREGATE SIZE SHALL BE NO. 57, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE FOLLOWING QUANTITY SHALL BE CARRIED TO THE GENERAL SUMMARY:

ITEM 605 - AGGREGATE DRAINS, AS PER PLAN - - - - - 3000 FT

ITEM 618 - RUMBLE STRIPS, TYPE 2 (ASPHALT CONCRETE)

THIS WORK SHALL CONSIST OF GRINDING DEPRESSIONS (RUMBLE STRIPS) IN THE PAVED SHOULDERS. THIS WORK SHALL BE DONE AFTER ALL RESURFACING HAS BEEN COMPLETED. LANE CLOSURES PER SCD MT-95.30 WILL BE USED TO INSTALL ITEM 618, RUMBLE STRIPS, TYPE 2 (ASPHALT CONCRETE).

SURFACE COURSE COMPLETION REQUIREMENTS

ANY GIVEN LENGTH OF WORK ON WHICH RESURFACING OPERATIONS HAVE BEEN STARTED IN A CONSTRUCTION SEASON SHALL HAVE THE SURFACE COURSE PLACED THAT SAME SEASON.

PREVIOUS CONSTRUCTION PLANS

THE FOLLOWING PREVIOUS CONSTRUCTION PLANS ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT II OFFICE:

BEL-70-12.63, 1989
BEL-70-16.69, 1990

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DIRECTED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

CONVERT THE ENGLISH STANDARD DRAWINGS REFERENCED IN THIS PLAN TO METRIC UNITS USING THE ENGLISH TO SI (METRIC) CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS WILL BE APPROPRIATELY PRECISE AND REFLECT STANDARD INDUSTRY SI (METRIC) VALUES WHERE SUITABLE.

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

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MAINTAINING TRAFFIC, AS PER PLAN

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF CMS ITEM 614, THESE MAINTENANCE OF TRAFFIC NOTES AND DETAILS, THE STANDARD CONSTRUCTION DRAWINGS, AND THE TRAFFIC CONTROL DETAILS DESCRIBED IN THESE PLANS.

THE MINIMUM LANE WIDTH FOR TRAFFIC CONTROL SHALL BE 11 FEET AT ALL TIMES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ORGANIZE HIS WORK IN SUCH A MANNER TO PROVIDE THE MOST SAFETY WITH THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC.

THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE MAINTENANCE OF TRAFFIC SCHEME. THE CONTRACTOR SHALL SUBMIT, IN WRITING, THIS MAINTENANCE OF TRAFFIC SCHEME AND A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT.

ANY OPEN PAVEMENT TRENCH OR DROPOFF SHALL BE EDEQUATELY MAINTAINED AND PROTECTED. THE PROTECTION USED SHALL MEET THE REQUIREMENTS OF THE DROPOFFS IN WORK ZONES SHEET INCLUDED IN THIS PLAN.

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE WORK ZONES WHICH ALTERNATELY CLOSE BOTH THE PASSING AND TRAVEL LANE UNLESS THE DISTANCE BETWEEN THE LANE RESTRICTIONS EXCEEDS 2 MILES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SMOOTH AND ORDERLY FLOW OF TRAFFIC THROUGH THE PROJECT AREA 24 HOURS PER DAY FOR THE DURATION OF THE PROJECT. THIS CONSISTS OF NOTIFYING THE OHIO STATE PATROL AFTER ENCOUNTERING ANY ACCIDENTS OR DISABLED VEHICLES OR OBJECTS HINDERING THE FLOW OF TRAFFIC.

THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER A PERSON RESPONSIBLE FOR MAINTENANCE OF TRAFFIC CONTROL DURING NON-WORK HOURS WHO SHALL BE AVAILABLE WITHIN (30) MINUTES AFTER NOTIFICATION.

PAYMENT FOR PROVIDING WATCHMEN, FURNISHING, ERECTING, MAINTAINING AND REMOVING SIGNS, CONES, MARKERS, SPECIAL LIGHTING, FLOODLIGHTING, WORK ZONE PAVEMENT MARKINGS, WORK ZONE RAISED PAVEMENT MARKERS, ETC., SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN.

THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL ADDITIONAL SIGNS OR OTHER TRAFFIC CONTROL DEVICES AS REQUIRED ABOVE. ALL COSTS INVOLVED IN FURNISHING, INSTALLING AND MAINTAINING THESE DEVICES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

UNLESS THE ENGINEER DEEMS IT PHYSICALLY IMPOSSIBLE, ALL CONSTRUCTION EQUIPMENT SHALL EXIT ALL WORK ZONES FROM THE DOWNSTREAM END OF THE WORK ZONE OR BY INTERCHANGE RAMPS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO DIRECTLY TRANSPORT OR OPERATE ANY EQUIPMENT ACROSS THE OPEN LANES OF THE ROADWAY.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR WILL PERFORM ALL WORK ON THIS PROJECT THAT REQUIRES A LANE CLOSURE DURING THE FOLLOWING HOURS:

- 7:00 PM SUNDAY THRU 6:00 AM MONDAY.
- 7:00 PM MONDAY THRU 6:00 AM TUESDAY.
- 7:00 PM TUESDAY THRU 6:00 AM WEDNESDAY.
- 7:00 PM WEDNESDAY THRU 6:00 AM THURSDAY.
- 7:00 PM THURSDAY THRU 6:00 AM FRIDAY.

ANY WORK PERFORMED PRIOR TO MAY 31ST AND AFTER SEPTEMBER 1ST SHALL HAVE THE SUNDAY START TIME MOVED TO 8:00 PM.

THE PLANING AND RESURFACING WILL PROCEED CONTINUOUSLY A MINIMUM OF FIVE (5) DAYS PER WEEK, WEATHER PERMITTING, EXCEPTING HOLIDAYS AND EVENTS LISTED BELOW:

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE JAMBOREE IN THE HILLS FESTIVAL. WORK SHALL END THE TUESDAY MORNING OF THE WEEK OF THE FESTIVAL AND MAY START ON MONDAY NIGHT FOLLOWING THE FINAL SUNDAY OF THE FESTIVAL.

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

MEMORIAL DAY FOURTH OF JULY
LABOR DAY THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPENED 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 OPENED TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

MAINTAINING TRAFFIC, AS PER PLAN CONT.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLAN. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR ASPHALT WEDGES.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC - - - 200 CU. YD.

MOVEMENT OF DRUMS

THE ROW OF DRUMS ALONG A CLOSED LANE SHALL BE MOVED OUT OF THE OPEN LANE ONTO THE NEW PAVEMENT AS SOON AS PAVING OPERATIONS PERMIT.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME 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 THROUGHOUT THE WORKSITE 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 PRICE FOR ITEM 614, MAINTAINING TRAFFIC, (WORK SITE LIGHTING).

COORDINATION OF RESURFACING AND PLANING OPERATIONS

THE PAVEMENT PLANING AND RESURFACING OPERATION SHALL BE COMPLETED IN A TIMELY MANNER. THE 446 INTERMEDIATE COURSE SHALL BE PLACED NO MORE THAN FOUR (4) DAYS AFTER REACHING THE FINAL MILLED SURFACE.

DROPOFFS IN WORK ZONES

THE WEDGE TREATMENT AS DETAILED IN THE "DROPOFFS IN WORK ZONES" SHEET WILL BE REQUIRED AND SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

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ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

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

LAW ENFORCEMENT OFFICERS (LEOS) SHALL NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL HAVE RESPONSIBILITY FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE 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 MAKE ARRANGEMENTS FOR THESE SERVICES WITH THE OHIO STATE HIGHWAY PATROL, 51400 NATIONAL ROAD, ST. CLAIRSVILLE, OHIO 43950, (740) 695-0915.

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

ITEM 614 - LAW ENFORCEMENT OFFICER
WITH PATROL CAR - - - - - 100 HOURS

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE (1) AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVEMENT REPAIR OR PAVING OPERATIONS ARE SCHEDULED TO OCCUR WITHIN THE NEXT WORKDAY; OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PARKED EITHER THIRTY (30) FEET FROM THE OUTSIDE EDGE OF PAVEMENT OR SIX (6) FEET BEHIND GUARDRAIL WITH A MINIMUM OF 120 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC CONTROL DEVICES AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL SHALL ALSO BE AVAILABLE ON AN AROUND-THE-CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. PAYMENT FOR THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS PRIOR TO IMPLEMENTING ANY WORK ZONE RESTRICTIONS THAT WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

THE ENGINEER SHALL IMMEDIATELY NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER TO ADVISE THE OFFICE OF HIGHWAY MANAGEMENT OF THE RESTRICTIONS.

CONSTRUCTION ZONES/ FINES DOUBLED

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL STATE OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

(THE SIGNS SHALL BE DUAL MOUNTED. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD CONDITION, PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT. PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614 - WORK ZONE INCREASED PENALTIES SIGN - - - - - 10 EACH

ITEM 614 - WORK ZONE MARKINGS AND SIGN

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

ITEM 614 - WORK ZONE MARKING SIGN - - - - - 12 EACH

ITEM 614 - WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-1) (55 SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED LIMIT. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUTDOWNS.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 CONSECUTIVE CALENDAR DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER OR AT A POINT WHEREVER CONSTRUCTION BEGINS, WHICHEVER COMES FIRST. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.

REDUCED SPEED AHEAD SIGNS SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1300 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON 2-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R-1 (SPEED LIMIT) SIGNS SHALL BE USED ON UNDIVIDED ROADWAYS, R2-1 (SPEED LIMIT) AND R2-H2a SIGNS SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R2-1 AND R2-H2a SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN - - - - - 28 EACH

CALCULATED
JAS
CHECKED
SKW

MAINTENANCE OF TRAFFIC

BEL-70-15.72

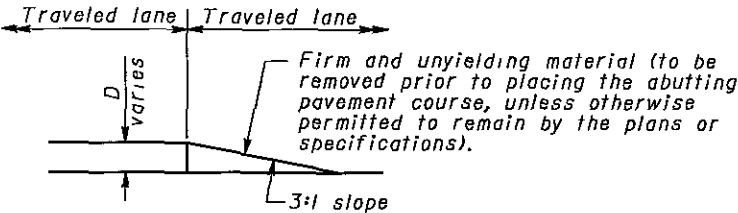
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GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with SCD RM-4.2 and Item 622.
6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-155 (Shoulder Drop-Off) signs or OW-171 (Uneven Lanes) signs are required, they shall be placed 750' [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10' [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" [125] and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
a. Lengths greater than 60' [18 m] - utilize appropriate treatment from Condition I.
b. Lengths of 60' [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 sign required.

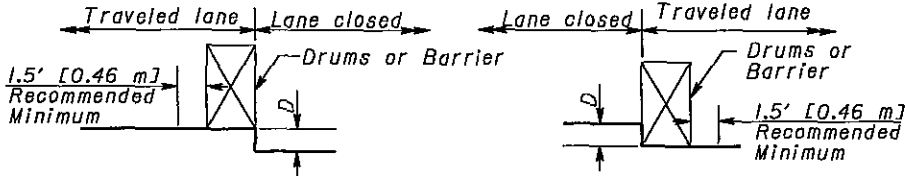


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D	Treatment
$\leq 1\frac{1}{2}"$ [≤ 40]	Erect OW-171 sign.
$1\frac{1}{2}"-3"$ [$40-75$]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
$>3"-5"$ [$>75-125$]	Lane closure utilizing drums as shown below.
$>5"$ [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.



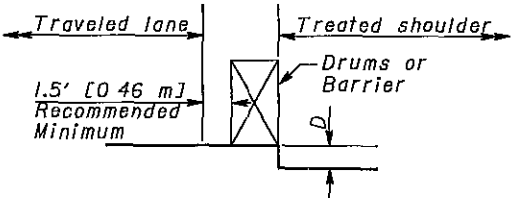
CONDITION II

DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12' [3.6 m].

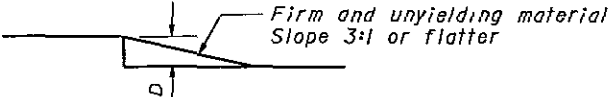
D	Treatment
$\leq 1\frac{1}{2}"$ [≤ 40]	1) Erect OW-155 signs.
$>1\frac{1}{2}"-5"$ [$>40-125$]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
$>5"-12"$ [$125-305$] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
$>5"-24"$ [$>125-610$]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
$>24"$ [>610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10' [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudinal joint per CMS 401.15 is required.
2. OW-151 signs required



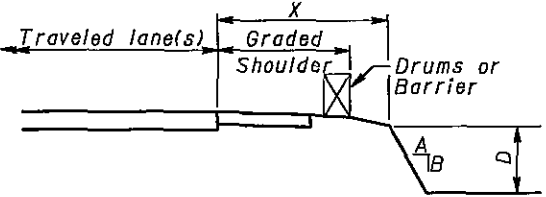
CONDITION III

DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

- USE FOR: 1. Uncurbed Facilities.
2. Curbed Facilities, where:
a. Curbs are less than 6" [150] in height.
b. Curbs are 6" [150] or greater in height and the legal speed is greater than 40 mph [70 km/h].

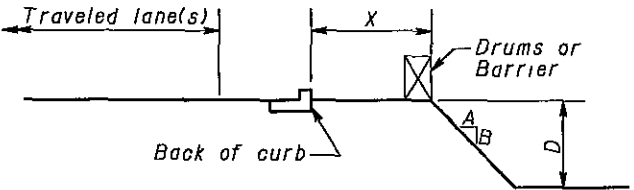


X	D	A/B	Treatment Required	
			Day	Night
0-4' [0-1.2 m]	Any	Any	(a)	(a)
4'-30' [1.2-9.1 m]	Any	3:1 or Flatter	None	None
4'-12' [1.2-3.6 m]	$\leq 3"$ [≤ 75]	Steeper than 3:1	None	None
4'-12' [1.2-3.6 m]	$>3"-12"$ [$>75-305$]	Steeper than 3:1	Drums	Drums
4'-12' [1.2-3.6 m]	$>12"$ [>305]	Steeper than 3:1	Drums	Barrier
$>12'-20'$ [$>3.6-6.1$ m]	$\leq 12"$ [≤ 305]	Steeper than 3:1	None	None
$>12'-20'$ [$>3.6-6.1$ m]	$>12"-324"$ [$>305-810$]	Steeper than 3:1	Drums	Drums
$>12'-20'$ [$>3.6-6.1$ m]	$>24"$ [>610]	Steeper than 3:1	Drums	Barrier
$>20'-30'$ [$>6.1-9.1$ m]	$\leq 24"$ [≤ 610]	Steeper than 3:1	None	None
$>20'-30'$ [$>6.1-9.1$ m]	$>24"$ [>610]	Steeper than 3:1	Drums	Barrier
$>30'$ [>9.1 m]	Any	Any	None	None

(a) Use treatment specified under Condition II.

CHART B

- USE FOR: Curbed facilities, where the curb is 6" [150] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X	D	A/B	Treatment Required	
			Day	Night
0-10' [0-3.0 m]	$\leq 12"$ [≤ 305]	Any	None	Drums
0-10' [0-3.0 m]	$>12"$ [>305]	Any	Drums	Drums
$>10'$ [>3.0 m]	Any	Any	None	None

NOTE: All metric dimensions (in brackets []) are in millimeters unless otherwise noted

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SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	JAS CHECKED	SKW
2	3	4	7	8	9	12	13	14	16	17									
															ROADWAY				
						1942					202	23500	1942	SQ YD	WEARING COURSE REMOVED				
2	2	2									202	47000	6	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED				
						476					202	54000	476	EACH	RAISED PAVEMENT MARKER REMOVED				
							8.24				209	60500	8.24	MILE	LINEAR GRADING				
50	50	50									606	13000	150	FT	GUARDRAIL, TYPE 5				
2	2	2									606	35170	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE BR-1				
															DRAINAGE				
			3000								605	31101	3000	FT	AGGREGATE DRAINS, AS PER PLAN				7
															EROSION CONTROL				
											832	30000	1000	EACH	EROSION CONTROL				
															PAVEMENT				
						119,802	77,736				254	01000	197,538	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE				
								2024			255	10100	2024	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS				7
								5886			255	20000	5886	FT	FULL DEPTH PAVEMENT SAWING				
						9132	5832				407	10000	14,964	GALLON	TACK COAT				
						4794	3110				407	14000	7904	GALLON	TACK COAT FOR INTERMEDIATE COURSE				
							5794				408	10001	5794	GALLON	PRIME COAT, AS PER PLAN				7
						5073	3240				442	10051	8313	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN				7
						8320	5398				442	10150	13,718	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)				
							1610				617	10100	1610	CU YD	COMPACTED AGGREGATE				
							71,700				618	40100	71,700	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)				
															TRAFFIC CONTROL				
										476	621	00100	476	EACH	RPM				
									14.16		642	00100	14.16	MILE	EDGE LINE, TYPE 1				
									7.22		642	00200	7.22	MILE	LANE LINE, TYPE 1				
									5040		642	00400	5040	FT	CHANNELIZING LINE, TYPE 1				
															STRUCTURES				
						14,026					512	10100	14,026	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				
															MAINTENANCE OF TRAFFIC				
				LUMP							614	11050	LUMP		MAINTAINING TRAFFIC (WORK SITE LIGHTING)				8
					100						614	11100	100	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR				
					12						614	12460	12	EACH	WORK ZONE MARKING SIGN				
					28						614	12470	28	EACH	WORK ZONE SPEED LIMIT SIGN				
					10						614	12484	10	EACH	WORK ZONE INCREASED PENALTIES SIGN				
					200						614	13000	200	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC				
									21.66		614	20100	21.66	MILE	WORK ZONE LANE LINE, CLASS 1, 642 PAINT				
									42.48		614	22100	42.48	MILE	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT				
									15,120		614	23200	15,120	FT	WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT				
				LUMP							614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN				8
											619	16000	3	MONTH	FIELD OFFICE, TYPE A				
											623	10000	LUMP		CONSTRUCTION LAYOUT STAKES				
											624	10000	LUMP		MOBILIZATION				

GENERAL SUMMARY

BEL-70-15.7.2

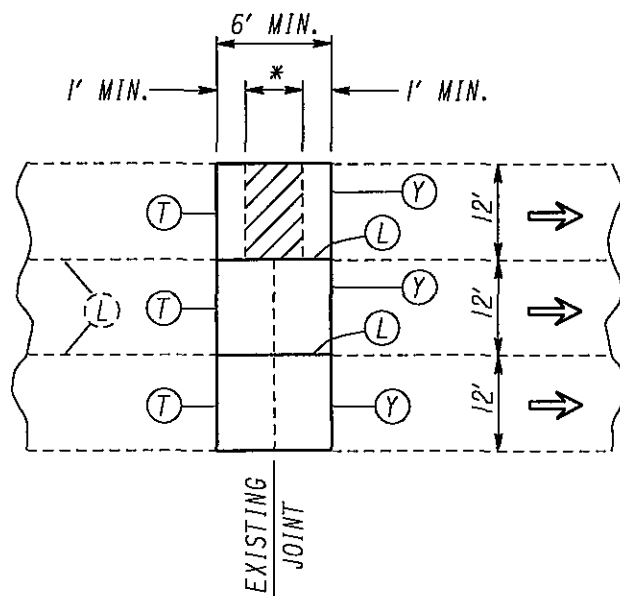
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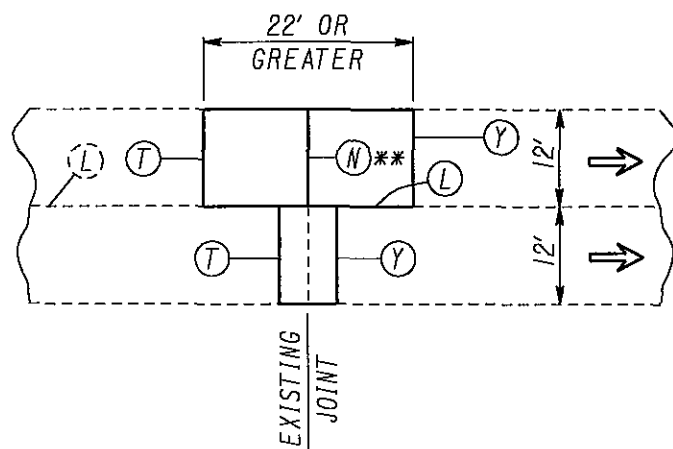
LOCATION	SLM TO SLM	LENGTH FEET	WIDTH FEET	TYPICAL	EXISTING PAVEMENT TYPE	PAVEMENT AREA SQ YD	407		442		254	202		512	CALCULATED JAS CHECKED SKW	PAVEMENT DATA	BEL-70-15.72
							TACK COAT (APPLIED @ 0.075 GAL/SY)	TACK COAT FOR INTERMEDIATE COURSE (APPLIED @ 0.04 GAL/SY)	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN (1 1/2" THICK)	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B, (446) (2 1/2" THICK)	PAVEMENT PLANING, ASPHALT CONCRETE (3" THICK)	RPM REMOVED AND DISPOSED	WEARING COURSE REMOVED (1 1/2" THICK)	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			
							GALLON	GALLON	CU YD	CU YD	SQ YD	EACH	SQ YD	SQ YD			
IR 70 EB	15.72 to 16.44	3802	24	1	ASPHALT	10,139	760	406	423	704	10,139	32					
IR 70 EB	16.44 to 19.17	* 14,123	24	2	ASPHALT	37,662	2825	1507	1569	2615	37,662	121					
IR 70 WB	15.72 to 16.44	3802	24	1	ASPHALT	10,139	760	406	423	704	10,139	32					
IR 70 WB	16.44 to 19.17	* 14,123	24	2	ASPHALT	37,662	2825	1507	1569	2615	37,662	121					
# EXTRA FOR RAMP A ACCELERATION LANE @ U.S. 40 INT.					ASPHALT	3500	263	140	146	243	3500	27					
# EXTRA FOR RAMP B DECELERATION LANE @ U.S. 40 INT.					ASPHALT	3000	225	120	125	208	3000	21					
# EXTRA FOR RAMP C ACCELERATION LANE @ U.S. 40 INT.					ASPHALT	3800	285	152	158	264	3800	34					
# EXTRA FOR RAMP D DECELERATION LANE @ U.S. 40 INT.					ASPHALT	3000	225	120	125	208	3000	21					
# EXTRA FOR RAMP A DECELERATION LANE @ S.R. 9 INT.					ASPHALT	2500	188	100	104	174	2500	17					
# EXTRA FOR RAMP B ACCELERATION LANE @ S.R. 9 INT.					ASPHALT	2400	180	96	100	167	2400	16					
# EXTRA FOR RAMP C DECELERATION LANE @ S.R. 9 INT.					ASPHALT	2600	195	104	108	181	2600	21					
# EXTRA FOR RAMP D ACCELERATION LANE @ S.R. 9 INT.					ASPHALT	2800	210	112	117	195	2800	13					
# EXTRA FOR RIGHT LANE SLM 19.00 - SLM 19.17					ASPHALT	600	45	24	25	42	600						
BRIDGE DECK TREATMENT: REMOVE AND REPLACE 1 1/2" ASPHALT																	
(DECK AREA 30' x 145' PER DECK) BR. NO. BEL-70-1783 L&R					ASPHALT	968	73		40				968				
(DECK AREA 30' x 146' PER DECK) BR. NO. BEL-70-1817 L&R					ASPHALT	974	73		41				974				
CALCULATION FOR SEALING OF ALL CENTERLINE CONCRETE BARRIERS, INCLUDING WIDENED PORTIONS, BARRIER IN FRONT OF BRIDGE PIERS AND MAINLINE BRIDGE PARAPETS (3.45 MILE x 5280 FT/MILE) x 6.3 FT. ÷ 9 + (10% CONTINGENCY) = 14,026 SQ. YD.																	14,026
# PLANIMETERED AREA * OMISSION FOR MAINLINE BRIDGE DECK LENGTHS																	
TOTALS (CARRIED TO GENERAL SUMMARY)							9132	4794	5073	8320	119,802	476	1942	14,026			12 18

[illegible]

CALCULATED JAS	CHECKED SKW
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TYPICAL MAINLINE JOINT REPAIR
INVOLVING EXISTING RIGID PATCHES

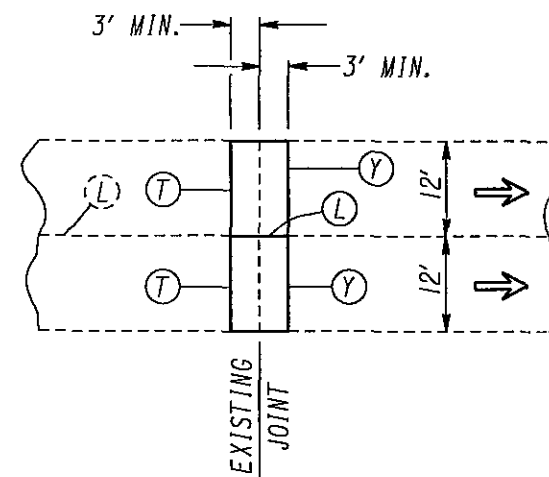


EXPANDED MAINLINE JOINT REPAIR

JOINT TYPE LEGEND	
(Y)	TYPE Y - CONTRACTION
(N)	TYPE N - CONTRACTION
(L)	TYPE L - LONGITUDINAL JOINT
(T)	TYPE T - TIE
(L)	TYPE L - EXISTING LONGITUDINAL JOINT

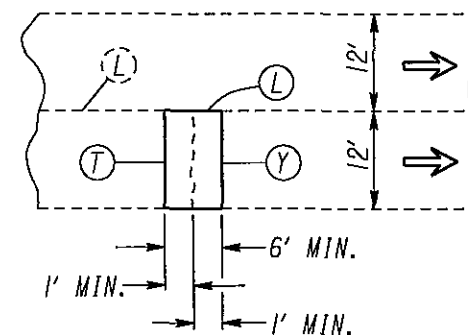
FOR ADDITIONAL DETAILS AND NOTES
SEE STD. DWG. BP-2.5.

FOR QUANTITIES SEE SHEET NO 14.



TYPICAL MAINLINE JOINT REPAIR

NOTE: ACTUAL CRACK CONFIGURATIONS MAY
BE DIFFERENT FROM THAT SHOWN



TYPICAL MAINLINE CRACK REPAIR

* VARIES FROM 4' TO 15'.

** WHEN THE (Y) JOINT SPACING IS BETWEEN
22' AND 42', PLACE AN ADDITIONAL (N) JOINT
AT THE MIDPOINT OF THE SLAB. IF THE (Y)
JOINT SPACING EXCEEDS 42', (N) JOINTS WITH
A MINIMUM SPACING OF 11' AND A MAXIMUM
SPACING OF 21' SHALL BE EQUALLY SPACED
BETWEEN THE (Y) JOINTS.

 EXISTING FULL DEPTH RIGID PATCH

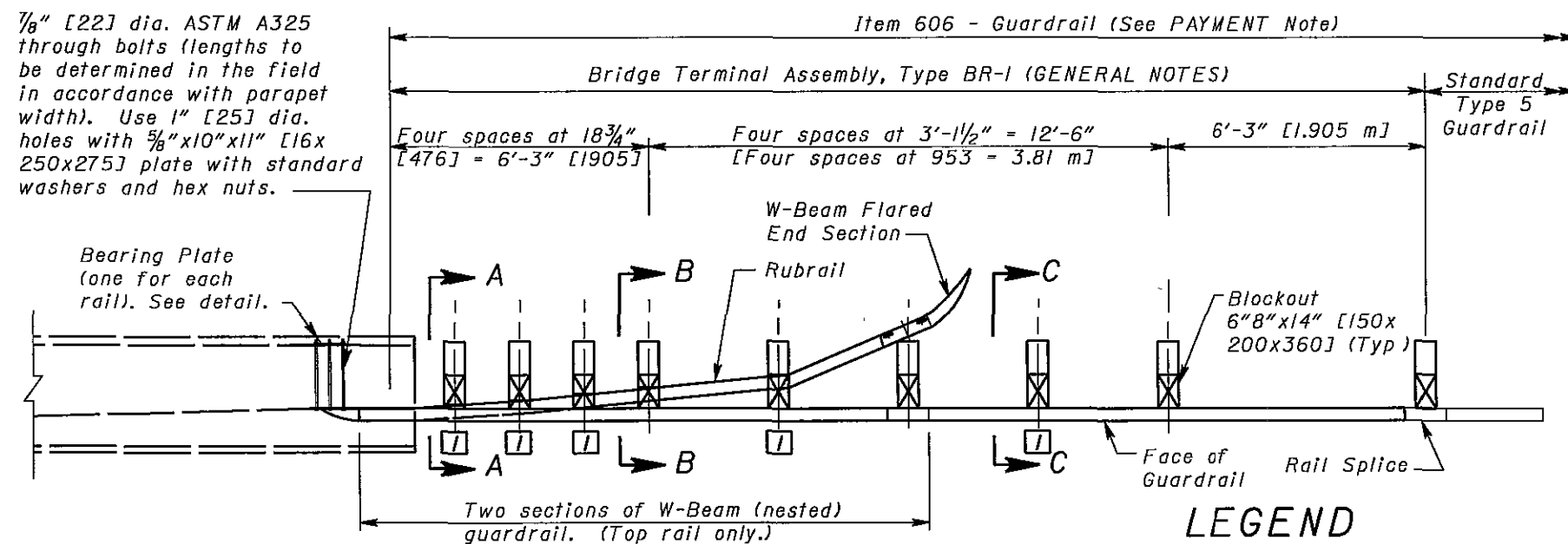
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LOCATION	SLM TO SLM (RAMP LOCATION)	SIDE	642								614								
			EDGE LINE, TYPE I		LANE LINE, TYPE I	8" CHANNELIZING LINE, TYPE I					WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT		WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT					
			YELLOW	WHITE								YELLOW	WHITE						
			MILE	MILE	MILE		FT					MILE	MILE	MILE	FT				
IR 70 EB	15.72 to 19.17	CTR			3.45							10.35							
		LT	3.45									10.35							
		RT		3.45									10.35						
IR 70 WB	15.72 to 19.17	CTR			3.45							10.35							
		LT	3.45									10.35							
		RT		3.45									10.35						
RAMP A	US 40 INTERCHANGE	LT	0.10		0.05		700					0.15	0.30		2100				
		RT		0.01										0.03					
RAMP B	US 40 INTERCHANGE	LT	0.02		0.04		650					0.12	0.06		1950				
		RT		0.01										0.03					
RAMP C	US 40 INTERCHANGE	LT	0.02		0.04		1200					0.12	0.06		3600				
		RT		0.01										0.03					
RAMP D	US 40 INTERCHANGE	LT	0.02		0.04		650					0.12	0.06		1950				
		RT		0.01										0.03					
RAMP A	SR 9 INTERCHANGE	LT	0.02		0.04		500					0.12	0.06		1500				
		RT		0.01										0.03					
RAMP B	SR 9 INTERCHANGE	LT	0.06		0.03		330					0.09	0.18		990				
		RT		0.01										0.03					
RAMP C	SR 9 INTERCHANGE	LT	0.02		0.03		650					0.09	0.06		1950				
		RT		0.01										0.03					
RAMP D	SR 9 INTERCHANGE	LT	0.02		0.05		360					0.15	0.06		1080				
		RT		0.01										0.03					
NOTE: LAY OUT GORE AREAS AS PER 3B-8 AND 3B-9 OF THE OMUTCD																			
NOTE: LT AND RT INDICATES SIDE IN THE DIRECTION OF TRAFFIC FLOW.																			
TOTALS (CARRIED TO GENERAL SUMMARY)			7.18	6.98									21.54	20.94					
			14.16		7.22		5040					21.66	42.48		15,120				

WORK ZONE AND PAVEMENT MARKING SUB-SUMMARY	CALCULATED JAS	CHECKED SKW
BEL-70-15.72		
	16	18

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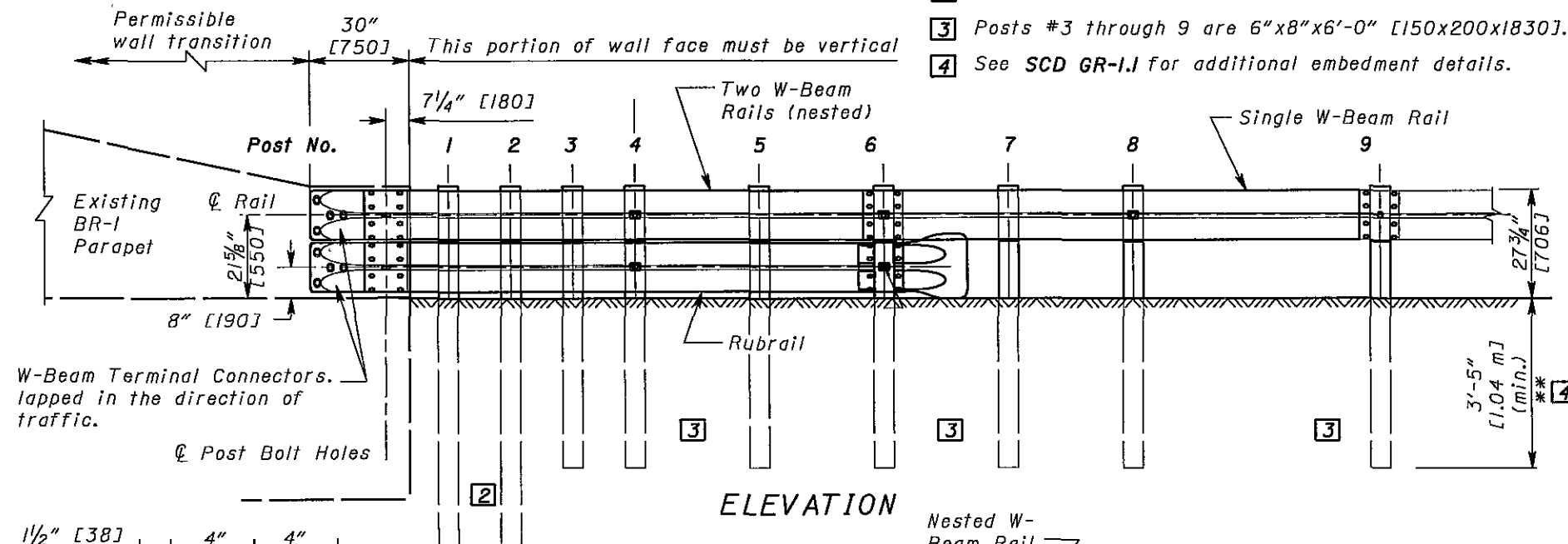
LANE OR RAMP	SLM TO SLM (RAMP LOCATION)	LENGTH	SPACING	621 RPM				REMARKS
				2 WAY WHITE/RED	2 WAY YELLOW/RED	1 WAY WHITE		
		FT	FT	EACH	EACH	EACH		
IR 70 EB	15.72 to 19.17	18,216	120			153		LANE LINE
IR 70 WB	15.72 to 19.17	18,216	120			153		LANE LINE
RAMP A	US 40 INTERCHANGE	510	80		8			YELLOW EDGE LINE
		700	40	19				CHANNELIZING LINE
RAMP B	US 40 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		650	40	18				GORE AREA
RAMP C	US 40 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		1200	40	31				CHANNELIZING LINE
RAMP D	US 40 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		650	40	18				GORE AREA
RAMP A	SR 9 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		500	40	14				GORE AREA
RAMP B	SR 9 INTERCHANGE	330	80		6			YELLOW EDGE LINE
		330	40	10				CHANNELIZING LINE
RAMP C	SR 9 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		650	40	18				GORE AREA
RAMP D	SR 9 INTERCHANGE	100	80		3			YELLOW EDGE LINE
		360	40	10				CHANNELIZING LINE
NOTE: RPM SPACING AS PER STD. DWG. TC-65.11								
SUB-TOTAL				138	32	306		
TOTALS (CARRIED TO GENERAL SUMMARY)				476				



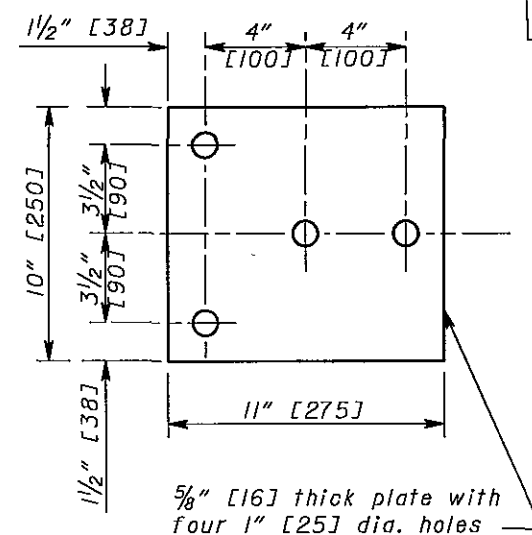
PLAN

LEGEND

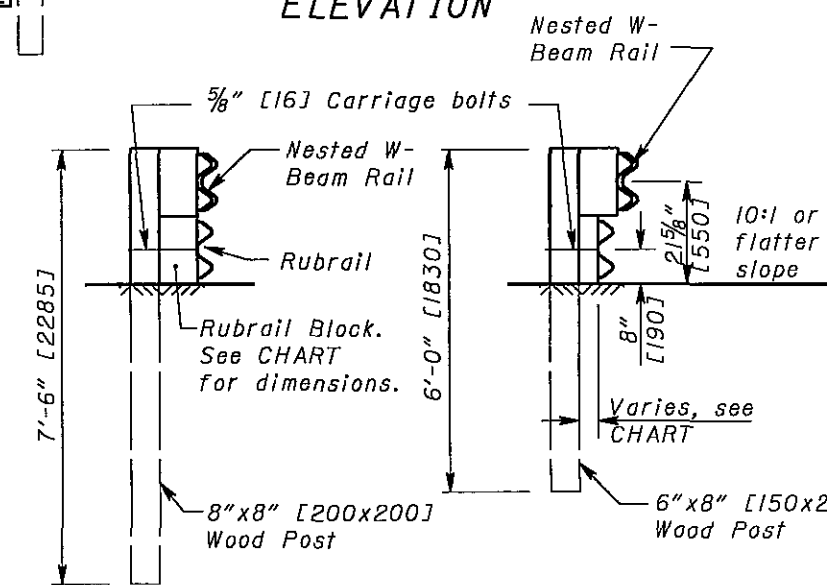
- 1 Guardrail not attached to Posts. Blockout fastened to Post with Standard Post Bolt.
- 2 Posts #1 and 2 are 8"x8"x7'-6" [150x200x2300].
- 3 Posts #3 through 9 are 6"x8"x6'-0" [150x200x1830].
- 4 See SCD GR-1.1 for additional embedment details.



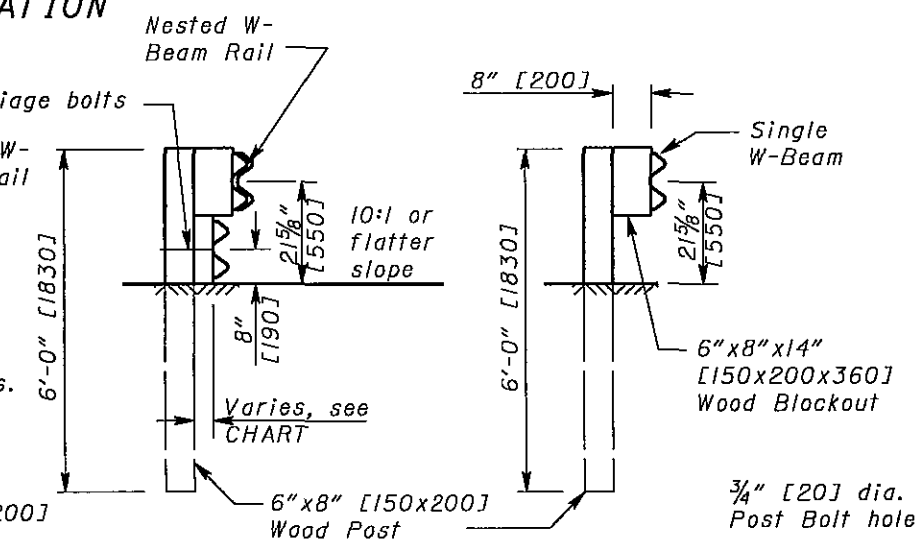
ELEVATION



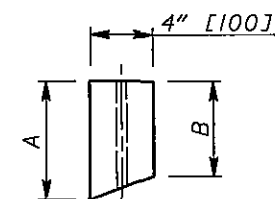
BEARING PLATE
2 required



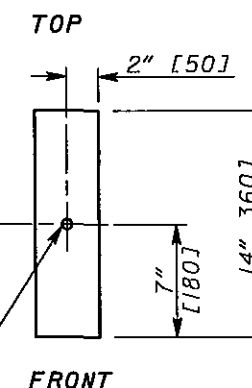
SECTION A-A



SECTION C-C



For A and B dimensions see CHART.



WOOD BLOCK FOR RUBRAIL

NOTES

GENERAL: This design is intended to be used to upgrade bridge terminal assemblies utilizing 27" [786] BR-1 Bridge parapets in effect from 1979 to 1989. This assembly design is approved to NCHRP Report 350, Test Level 3.

This guardrail transition is only appropriate for connection to a vertical concrete end; it should not be connected directly to a concrete safety shape or single slope shape. If attached to a vertical concrete wall (other than a parapet), the wall must be adequately reinforced to resist the lateral and longitudinal forces transmitted through the terminal connectors. If the height of the vertical connection is 32" [813], use Bridge Terminal Assembly, Type 1 (SCD GR-3.1).

This design utilizes a lower rail (rubrail), and it cannot be used if there is a curb present.

RUBRAIL: The rubrail is a 12'-6" [3.81 m] standard 12 ga. W-Beam rail element. The last 3' [1 m] of the rubrail may be shop bent to facilitate field installation. Field drill rubrail hole at Post 6.

POST ATTACHMENTS: Posts No. 1, 2, 3, 4 and 6 require an additional 1" [25] dia. hole to attach the lower block and/or rubrail.

Do not bolt nested W-Beam or Rubrail to Posts and Blockouts on Posts No. 1, 2, 3, 5 and 7. Bolt blockouts directly to posts at those locations.

Center drill wood block for rubrails to sit squarely on Posts 1 through 4. Secure blocks to Posts No. 1, 2, & 3 with 5/8" [16] carriage bolts. See WOOD BLOCK FOR RUBRAIL Detail.

Use Wood posts only. Steel or plastic blockouts are not permitted. Use of rectangular plate washers is optional.

GUARDRAIL CONNECTION: At least one 12'-6" [3.81 m] section of Standard W-Beam Guardrail must be present before attaching any End Anchors. See SCD GR-2.1 for standard guardrail details.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type BR-1, Each, includes the cost of the extra components, in excess of normal guardrail, for additional and different sizes of posts and blockouts, nested rail and rubrail, Bearing Plates, End Section and Connectors, and other hardware.

RUBRAIL BLOCK CHART		
POST	A	B
1	6 1/2" [164]	6 1/4" [158]
2	5 1/8" [131]	4 7/8" [125]
3	3 7/8" [99]	3 5/8" [93]
4	2 5/8" [67]	2 3/8" [61]
5	No Block	No Block