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OHIO TURNPIKE COMMISSION
THE JAMES W. SHOCKNESSY OHIO TURNPIKE

CONTRACT 77-99-05
THIRD LANE CONSTRUCTION
MP. 81.31 TO MP. 86.17
STATION 377+25 TO STATION 410+65.39 OTTAWA COUNTY
STATION 1+70.91 TO STATION 225+00 SANDUSKY COUNTY

N

Scale In Miles
0 1/2 1 2

SCALES

PLAN ..... 0' 50'
PROFILE ..... HORIZONTAL 0' 50' VERTICAL 0' 5'
CROSS SECTIONS ..... HORIZONTAL 0' 10' VERTICAL 0' 10'

RECOMMENDED FOR APPROVAL
BY
HNS GREINER, INC.
REVIEW CONSULTANT
7-27-99
DATE

APPROVED FOR
THE OHIO TURNPIKE COMMISSION
BY
David W. Ransbury
CHIEF ENGINEER
8/2/99
DATE

PLANS PREPARED BY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537
(419) 891–2222

STATE OF OHIO
JOAN MANNIK
22042
PROFESSIONAL ENGINEER

Joan Mannik

Consultants For Nine Mile Creek Bridge
ULRICH-CH'ANG & ASSOCIATES, INC.
3220 CENTRAL PARK WEST
TOLEDO, OHIO 43617
(419) 841–4704

DESIGN CONTRACT NO. 71–96–43

OHIO TURNPIKE COMMISSION STANDARD DRAWINGS

AS–1	06–11–98	GR–1	01–15–98
AS–2	12–26–97	GR–2	06–11–98
AS–3	06–11–98	JB–1	01–01–97
		MCC–1	01–01–97
CB–1	12–30–98	MCC–2	01–01–97
CB–3	11–11–97	RPM–1	08–18–99
CB–4	06–25–97	TCB–1	07–11–97
CB–5	06–25–97	TCB–2	06–25–97
CBM–1	06–11–98	TCR–1	04–28–98
CBM–2	11–11–97	TCR–2	04–28–98
CBM–3	06–11–98	TCR–9	04–28–98
CBM–4	06–11–98	TCR–10	01–12–98
CBM–5	11–11–97	TCR–11PM	01–12–98
CBR–1	06–25–97	TCR–11PS	01–12–98
		TCR–12	07–08–99
CBR–3	06–11–98	TCR–13	01–01–97
CJ–1	03–17–99	TCR–14	05–22–97
CJ–2	01–13–99	TCR–15	04–28–98
DJ–1	11–11–97	UD–1	01–01–97
DJ–2	11–11–97	XOV–3	01–01–97
DR–1	01–01–97		
EPA–1	04–21–97		

FIBER OPTIC CABLE AS-BUILT DRAWINGS LCI COMMUNICATIONS CORP. 1, 2, 20–34, 67–69

OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

BP–2.1	10–28–94	HL–30.11	05–01–87	TC–22.20	09–01–92
BP–3.1	02–27–92	HL–60.11	05–01–87	TC–31.21	09–01–92
BP–5.1	10–28–94	MH–1	12–18–84	TC–32.10	09–01–92
GR–1.1	05–06–91	I–3A&B	04–01–80	TC–32.11	09–01–92
GR–1.2	10–30–92	MC–4	07–26–76	TC–35.10	08–29–84
GR–1.3	02–21–92	MC–11	08–01–78	TC–41.10	08–29–84
GR–2.1	05–06–91	MT–97.10	04–29–88	TC–41.20	06–21–94
GR–3.1	05–06–91	MT–99.10	11–14–86	TC–41.40	06–18–79
GR–4.2	05–06–91	MT–101.60	07–01–92	TC–42.10	08–19–77
GR–8.1	01–31–94	MT–105.10	07–01–92	TC–42.20	03–26–79
MC–1	06–13–69	MT–105.11	07–01–92	TC–51.11	09–30–94
MC–9.1	10–30–92	TC–7.65	03–01–79	TC–52.10	04–03–79
MC–9.2	05–06–91	TC–12.30	01–20–84	TC–52.20	04–03–79
MC–9.3	10–30–92	TC–21.10	09–01–92	PCB–91	04–24–92
MC–9.4	10–30–92	TC–21.20	09–01–92	BS–1–93	12–19–94
HL–20.11	05–01–87	TC–21.40	09–01–92	FB–1–82	05–10–82
		TC–22.10	09–01–92	RB–1–55	02–02–59

2 WORKING DAYS
BEFORE YOU DIG
Call...800–362–2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE

CALL JAYTEL – (419) 884–0400
(LCI FIBER OPTIC CABLE)

OHIO TURNPIKE DIVISION SUPERINTENDENT
(419) 862–2922
(ROADWAY LIGHTING CABLE)

GENERAL NOTES

GENERAL

CONSTRUCTION SPECIFICATIONS

THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS DATED JANUARY 1, 1995, AND THE SPECIAL PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS SHALL GOVERN THIS PROJECT.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH SHOWN OTHERWISE.

UTILITIES

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

AMERITECH
13D N. ERIE ST., 206
TOLEDO, OH 43624
(419) 245-7441

GTE
BRAD SNYDER
300 W. GYPSY LANE
BOWLING GREEN, OH 43402
(419) 734-3299

OTTAWA COUNTY ENGINEER
315 MADISON ST.
PORT CLINTON, OH 43452
(419) 734-6777

SANDUSKY COUNTY ENGINEER
2500 W. STATE ST.
FREMONT, OH 43420
(419) 334-9731

LITEL TELECOMMUNICATIONS
C/O JAYTEL INC.
JAYARAM BORAIAH
2070 LEXINGTON AVE.
MANSFIELD, OH 44904
(419) 884-0400

ELMORE ELECTRIC
340 CLINTON
P.O. BOX 1
ELMORE, OH 43416
(419) 862-3454

TOLEDO EDISON CO.
300 MADISON AVENUE
TOLEDO, OH 43652
(419) 249-5815

OHIO TURNPIKE DIVISION SUPERINTENDENT
MAINTENANCE FACILITY AT MP 79.7
(419) 862-2922
(LIGHTING CABLE
COMMUNICATIONS CABLE)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS, AS REQUIRED BY SECTION 153.64 O.R.C.

LCI INTERNATIONAL FIBER OPTIC CABLE

EXTREME CARE MUST BE TAKEN BY THE CONTRACTOR TO PRESERVE AND PROTECT THE FIBER OPTIC CABLE DURING ALL PHASES OF CONSTRUCTION. SPECIAL CARE SHALL BE EXERCISED DURING THE EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE CONSTRUCTION. THE EXISTING FIBER OPTIC CABLE LOCATED WITHIN THE MEDIAN WILL BE ABANDONED PRIOR TO CONSTRUCTION OF THIS PROJECT AND A NEW FIBER OPTIC CABLE WILL BE INSTALLED. THE NEW CABLE LOCATION IS DEPICTED ON THE PLAN AND PROFILE SHEETS. EXCAVATION ADJACENT TO THE NEW CABLE FOR ANY REASON SHALL NOT BE PERFORMED WITHOUT LITEL FIRST LOCATING THE CABLE. AFTER THE CABLE HAS BEEN LOCATED BY LITEL, THE CONTRACTOR SHALL EXCAVATE TO WITHIN 12" OF THE CABLE DEPTH AS PROVIDED. LITEL REPRESENTATIVES WILL THEN HAND DIG TO EXPOSE THE CABLE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

TEMPORARY STREAM CROSSING FORDS

WHERE STREAM CROSSING FORDS ARE REQUIRED FOR EQUIPMENT CROSSING, THE CROSSING SHALL CONSIST OF CLEAN-NON-TOXIC GRANULAR OR ROCK MATERIAL, PROPERLY MAINTAINED TO PREVENT EROSION WITH PROVISIONS FOR CONVEYANCE OF ANTICIPATED HIGH FLOWS AND SHALL NOT IMPEDE THE MOVEMENT OF AQUATIC LIFE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH PART 330, APPENDIX A, SPECIFIC CATEGORIES OF DISCHARGES-NATIONALLY PERMITTED, PARAGRAPH A14, MINOR ROAD CROSSING FILLS - THE FEDERAL REGISTER - CORPS OF ENGINEERS FINAL REGULATIONS, CURRENT EDITION.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL MEASURES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

AS-BUILT INFORMATION

THE ORIGINAL 1953 AS-BUILT CONSTRUCTION PLANS INCLUDING STANDARD DRAWINGS, AND SPECIFIC STANDARD DRAWINGS ARE AVAILABLE FOR INSPECTION BY PROSPECTIVE BIDDERS AT THE OFFICES OF URS GREINER, 564-A WHITE POND DRIVE, AKRON, OHIO, 44320 TELEPHONE (330) 836-9111.

ROADWAY

BUILD TO MEET EXISTING CONDITIONS

THE PROPOSED PAVEMENT SHALL BE CONSTRUCTED ADJACENT TO THE EXISTING PAVEMENT EDGE AND MATCH THE EXISTING ELEVATION. EXISTING PAVEMENT LOCATION AND ELEVATION INFORMATION SHOWN IN PLANS WAS OBTAINED FROM THE ORIGINAL AS-BUILT DRAWINGS AND IS PROVIDED FOR INFORMATION ONLY.

SLIGHT HORIZONTAL AND/OR VERTICAL ADJUSTMENTS TO ACCOMMODATE THE EXISTING FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.

ITEM 201- CLEARING AND GRUBBING AS PER PLAN

SECTION 201.04 OF THE SPECIFICATIONS IS AMENDED AS FOLLOWS: THE LUMP SUM PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT REQUIRED FOR THE REPLACEMENT OF MATERIALS REMOVED IN THE SCALPING OPERATIONS. NO ADDITIONAL PAYMENT FOR ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION OR ITEM 203 - EMBANKMENT MAY BE CLAIMED. PAYMENT FOR EARTHWORK QUANTITIES WILL BE BASED ON MEASUREMENTS FROM THE EXISTING GROUND LINE TO THE PLAN LINES AS SHOWN ON THE CROSS SECTIONS.

IN ADDITION TO THE ABOVE, THESE ADDITIONAL REQUIREMENTS SHALL APPLY AT MAINLINE BRIDGE LOCATIONS AND IN THE VICINITY OF CROSS CULVERT INLETS/OUTLETS. ALL TREES, STUMPS AND BRUSH, WITHIN THE LIMITS PRESCRIBED BELOW, SHALL BE REMOVED IN ACCORDANCE WITH THE PROVISIONS OF ITEM 201. ANY AREA UNDER NEW OR EXISTING BRIDGE DECKS, LATERALLY TWENTY FEET OUTSIDE OF BRIDGE DECKS AND LONGITUDINALLY TO THE EXTREME LIMITS OF NEW OR EXISTING ABUTMENT WINGWALLS AND AREAS AROUND THE CULVERT INLETS/OUTLETS AS SHOWN ON THE PLANS, SHALL BE CLEARED. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

SOFT SUBGRADE

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE REMEDIATION OF SOFT SUBGRADE.

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	17,000	CU. YD.
ITEM 203 - EMBANKMENT	17,000	CU. YD.
ITEM SPECIAL - GEOGRID	25,000	SQ. YD.
ITEM SP 205 - LIME MODIFIED SUBGRADE	60,000	SQ. YD.
ITEM SP 205 - CEMENT MODIFIED SUBGRADE	60,000	SQ. YD.
ITEM SP 205 - LIME	3000	TON
ITEM SP 205 - CEMENT	3600	TON
ITEM SP 205 - WATER	255	M. GAL

THE FOLLOWING AREAS HAVE BEEN IDENTIFIED AS POSSIBLE AREAS FOR SUBGRADE REMEDIATION. THESE LOCATIONS ARE PROVIDED FOR INFORMATION ONLY. NO SUBGRADE REMEDIATION SHALL BE PREFORMED WITHOUT THE AUTHORIZATION OF THE ENGINEER.

STA 381+00 TO STA 5+50 WB
STA 77+00 TO STA 94+00 WB
STA 86+00 TO STA 107+00 EB
STA 107+00 TO STA 140+00 EB & WB
STA 147+00 TO STA 165+00 WB
STA 165+00 TO STA 191+00 EB & WB
STA 202+00 TO STA 220+00 WB

ITEM SPECIAL - INERTIA BARRIER REMOVED AND RESET

THE WORK FOR THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING INERTIA BARRIER AT STA. 225+00 AND RESETTING AT THE END OF THE MEDIAN BARRIER AT STA. 377+25.

THE INERTIA BARRIER SHALL BE REMOVED IN A MANNER AVOIDING DAMAGE AND RESET PER THE MANUFACTURERS RECOMMENDATIONS AND THE DETAIL ON SHEET 162.

THE UNIT PRICE BID FOR ITEM SPECIAL - INERTIA BARRIER REMOVED AND RESET SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO COMPLETE A FUNCTIONAL INERTIA BARRIER INCLUDING THE ASPHALT PAD, AND ALL NECESSARY EXCAVATION AND BACKFILL.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN SHEETS CONTAIN AVAILABLE SOIL AND BEDROCK INFORMATION. ADDITIONAL INFORMATION ADDITIONAL INFORMATION MAY ALSO BE AVAILABLE FROM THE FOLLOWING:

1. SUBSURFACE INVESTIGATION REPORT(S) PREPARED FOR THE PROJECT.
2. ADDITIONAL SUBSURFACE INVESTIGATIONS MADE TO STUDY SOME ASPECT OF THE PROJECT.

THIS INFORMATION SHALL BE AVAILABLE FOR INSPECTION PROSPECTIVE BIDDERS AT THE OFFICES OF URS GREINER 564-A WHITE POND DRIVE, AKRON, OHIO 44320 TELEPHONE: (330) 836-9111.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. | CHECKED: E.R.P. | DATE: 6-98
DRAWN: E.R.P. | IN CHARGE: J.M. | SCALE: -

CONTRACT 77-99-015 SHEET 9 OF 276

OTCK9

GENERAL NOTES

ITEM 604-MONUMENT ASSEMBLY

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MC-1 AND AT THE LOCATIONS SHOWN ON THE SURVEY CONTROL PLAN, SHEETS 2-3. MONUMENTS REFERENCED TO THE OHIO STATE PLANE COORDINATE SYSTEM AS SHOWN ON THE SURVEY CONTROL PLAN SHALL BE USED TO LOCATE A CENTERLINE POINT. THE MONUMENTS SHALL BE OFFSET A DISTANCE OF FIVE (5) FROM THE CENTERLINE AND LOCATED SOUTH OF CENTERLINE IN THE EASTBOUND LANE MEDIAN SHOULDER. THE CONTRACTOR SHALL ESTABLISH TEMPORARY HORIZONTAL REFERENCES AND CONTROL BEFORE REMOVING EXISTING MONUMENTS. ALL MONUMENTS SHALL BE SET BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF OHIO.

ITEM 203 - PROOF ROLLING

AN ESTIMATED QUANTITY OF 48 HOURS FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 203 - DITCH CLEANOUT

THIS ITEM SHALL CONSIST OF REGRADING SECTIONS OF EXISTING DITCHES AS DESIGNATED ON THE PLANS. REGRADING WORK SHALL CONSIST OF EARTH EXCAVATION AND EMBANKMENT WORK NECESSARY TO REGRADE THE DITCH TO THE ALIGNMENT SHOWN ON THE PLANS AND MEETING THE EXISTING DITCH ALIGNMENT ON EACH END. REGRADING WORK SHALL TYPICALLY CONSIST OF ELIMINATING SEDIMENT BUILD-UP AREAS, WASHOUTS, AND ALIGNMENT IRREGULARITIES AND SHALL BE SUBJECT TO THE LIMITS DESIGNATED BY THE ENGINEER. CLEARING AND GRUBBING SHALL BE REQUIRED AT THESE LOCATIONS AND SHALL BE PAID FOR UNDER ITEM 201. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF AS PER SP 108. EMBANKMENT REQUIRED FOR WASHOUTS SHALL MEET THE REQUIREMENTS OF SECTION 203.07 OF THE SPECIFICATIONS, EXCEPT THE COMPACTION REQUIREMENTS SHALL BE REDUCED TO 90 PERCENT OF MAXIMUM DRY DENSITY OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT, AS MEASURED ALONG THE CENTERLINE OF DITCH, OF ITEM 2D3-DITCH CLEANOUT, WHICH PRICE SHALL INCLUDE ALL EMBANKMENT, EXCAVATION, BORROW, SEEDING AND MULCHING, AND RESTORATION OF DISTURBED AREAS, NECESSARY TO COMPLETE THE WORK.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE USE DIRECTED BY THE ENGINEER:

ITEM 2D3 - DITCH CLEANOUT 500 LIN. FT.

GUARDRAIL BEHIND CURBS

WHERE A CURB IS PROVIDED AT THE OUTER EDGE OF THE PAVED SHOULDER, ANY NECESSARY GUARDRAIL SHALL BE POSITIONED SO THAT THE FACE OF THE GUARDRAIL SHALL BE ALIGNED VERTICALLY WITH THE FACE OF CURB AND THE TOP OF THE RAIL SHALL BE 27" ABOVE THE GUTTER LINE.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON ODOT STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE, GRADE, AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT STANDARD DRAWING MC-9.3 EXCEPT THE HEIGHT SHALL VARY FROM 50 INCHES TO 53 INCHES AS SHOWN ON THE PLANS. THE HEIGHT VARIATION SHALL OCCUR IN THE UPPER STEM WHICH SHALL VARY FROM 18 INCHES TO 21 INCHES. ALL OTHER DIMENSIONS SHALL BE AS SHOWN ON THE STANDARD DRAWING.

IN LIEU OF THE CURING COMPOUNDS SPECIFIED IN SECTION 622.07 OF THE SPECIFICATIONS, A CLEAR, CURING/SEALING COMPOUND SHALL BE USED. THE CURING/SEALING COMPOUND SHALL DRY TO A CLEAR FINISH. APPLICATION SHALL BE AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT TECHNICAL DATA FOR THE CURING/SEALING COMPOUND TO THE ENGINEER FOR APPROVAL. THE COST OF THE CURING/SEALING COMPOUND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN. ALL OTHER PROVISIONS OF SECTION 622 OF THE SPECIFICATIONS SHALL APPLY.

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN

ITEM 622 - CONCRETE BARRIER, TYPE C-50, AS PER PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWINGS NO. MC-9.3 AND MC-9.4, OTC STANDARD DRAWING CBR-3, AND SECTION 622 OF THE SPECIFICATIONS. PAYMENT FOR ALL MATERIALS AND LABOR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622-CONCRETE BARRIER, TYPE C-50, AS PER PLAN.

EXTRA LONG GUARDRAIL POSTS

THE FOLLOWING QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR EXTRA LONG GUARDRAIL POSTS TO BE USED IN CONJUNCTION WITH SPECIAL PROVISION SP 606.

ITEM SP606 - GUARDRAIL POST, STEEL, 9 FT. 100 EACH

ITEM SPECIAL - PIPE CLEANOUT, 12" TO 36"

THIS ITEM OF WORK SHALL CONSIST OF REMOVING ALL SEDIMENTS, DEBRIS, AND OTHER FOREIGN MATERIALS FROM INSIDE EXISTING CULVERTS 12 INCHES TO 36 INCHES IN DIAMETER. THE REMOVAL OPERATION SHALL NOT BE DESTRUCTIVE TO THE INTEGRITY OF THE CULVERT. THE CONTRACTOR SHALL REVIEW HIS CLEANOUT PROCEDURE WITH THE ENGINEER AND OBTAIN THE ENGINEER'S APPROVAL PRIOR TO PERFORMING THE WORK. ALL REMOVAL MATERIALS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH ITEM SP 108. ANY DEWATERING WORK REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER THIS PAY ITEM.

CULVERT CLEANOUT WILL BE MEASURED ON A LINEAR FOOT BASIS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER LINEAR FOOT FOR ITEM SPECIAL - PIPE CLEANOUT, 12" TO 36".

EROSION CONTROL

ITEM 659 - SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOILS BETWEEN THE RIGHT OF WAY LINES AND WITHIN THE CONSTRUCTION LIMITS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO SEED AND MULCH DISTURBED AREAS AS DIRECTED BY THE ENGINEER.

ITEM 659 - SEEDING AND MULCHING 500 SQ. YD.

WATERING SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER SECTION 659.09 OF THE SPECIFICATIONS:

ITEM 659 - WATER	5	M. GAL.
ITEM 659 - COMMERCIAL FERTILIZER	0.22	TON

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 - TEMPORARY SEEDING AND MULCHING	500	SQ. YD.
ITEM 207 - STRAW OR HAY BALES	100	EACH
ITEM 2D7 - TEMPORARY BENCHES, DAMS AND SEDIMENT BASINS	100	CU. YD.
ITEM 207 - FILTER FABRIC FENCE	640	LIN. FT.
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER	12	CU. YD.
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C, WITHOUT FILTER	20	CU. YD.
ITEM 659 - REPAIR SEEDING AND MULCHING	120	SQ. YD.
ITEM 659 - WATER	1	M. GAL.
ITEM 659 - COMMERCIAL FERTILIZER	0.01	TON

EROSION CONTROL

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

ITEM 207 - FILTER FABRIC FENCE

FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 207.02 OF THE SPECIFICATIONS.

THE BOTTOM OF THE FENCE SHALL BE BURIED SIX (6) INCHES BELOW THE GROUND. THE FENCE SHALL BE HIGH ENOUGH TO RETAIN SEDIMENT LADEN WATER AND ADEQUATELY SUPPORTED TO PREVENT COLLAPSE OR BURSTING. THE GROUND ELEVATION OF THE FENCE SHALL BE HELD CONSTANT EXCEPT THAT THE END ELEVATION SHALL BE RAISED TO PREVENT FLOW AROUND THE END OF THE FENCE.

THE FILTER FABRIC SHALL AT THE DIRECTION OF THE ENGINEER BE MAINTAINED TO BE FUNCTIONAL. THIS SHALL INCLUDE REMOVAL OF TRAPPED SEDIMENT AND REQUIRED CLEANING, AND/OR REPLACEMENT OF THE FILTER FABRIC.

THE COST OF ALL MATERIALS, CONSTRUCTION, MAINTENANCE AND REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 2D7 - FILTER FABRIC FENCE.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.R.P.	DATE: 6-98
DRAWN: E.R.P.	IN CHARGE: J.M.	SCALE: -

CONTRACT 77-99-05 SHEET 10 OF 276

OTCK9

Y:\JUNIPER\OTCKN\OTCKGENG
AutoCAD Dwg. Scale: (59) 1=1
Last Edit Revision: 08/17/
Last Plotted: 08/17/
Description: FINAL TRAC

GENERAL NOTES

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE THE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE OHIO TURNPIKE COMMISSION, REPRESENTATIVES OF THE COMMISSION AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE COMMISSION.

THE EXISTING UNDERDRAIN PIPE OUTLETS SHALL ALSO BE LOCATED DURING THIS INSPECTION. ONCE LOCATED, THE EXISTING UNDERDRAIN PIPE OUTLET LOCATIONS SHALL BE MARKED ON THE SHOULDER PAVEMENT WITH PAINT AND RECORDED IN THE INSPECTOR'S REPORTS.

ALL NEW UNDERDRAIN PIPE OUTLETS, CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE COMMISSION.

ALL EXISTING UNDERDRAIN PIPE OUTLETS AND SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 – CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 – CONDUIT, TYPE F. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603 – CONDUIT, TYPE E, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OR REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER ODOT STANDARD CONSTRUCTION DRAWING MC-4, EXCEPT WHEN OUTLETTED INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY OF THE WORK NOTED ABOVE:

ITEM 603 – 6" CONDUIT, TYPE B, 707.17 NON-PERFORATED ASTM D 3034 (SDR 35) SS931 OR SS944	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE E	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM D 3034 (SDR-35), SS931 OR SS944	50	LIN. FT.

ITEM 603 – CONDUIT BORED AND JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING AND JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN TEN (10) FEET TO THE EDGE OF EXISTING PAVEMENT. TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SPECIFICATION REQUIREMENTS FOR CLASS B BEDDING SHALL BE WAIVED. IF A CASING PIPE IS USED IN THE BORING AND JACKING OPERATION, THE VOID BETWEEN IT AND THE INTERIOR CARRIER PIPE SHALL BE COMPLETELY FILLED WITH GROUT, OR OTHER MATERIAL APPROVED BY THE ENGINEER AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 – CONDUIT BORED OR JACKED BY TYPE AND SIZE.

WHEN ITEM 603-CONDUIT, BORED OR JACKED, (18"), TYPE B, 706.02 IS CALLED FOR IN THE PLANS, THE FOLLOWING PIPE MATERIALS MAY BE SUBSTITUTED: 707.13, SS931, SS942, SS946, OR SS948. PIPES OF DIFFERENT MATERIALS SHALL BE CONNECTED WITH A MASONRY COLLAR AS PER ODOT STANDARD DRAWING MC-4. THE COST OF THE MASONRY COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603-CONDUIT, BORED OR JACKED BY TYPE AND SIZE.

ITEM 601 – PAVED GUTTER, BROKEN IN PLACE

THIS ITEM SHALL CONSIST OF BREAKING UP SECTIONS OF CONCRETE GUTTER WHERE INDICATED ON THE PLANS.

THE GUTTER SHALL BE BROKEN AND LEFT IN PLACE IN A MANNER THAT WILL ASSURE A REASONABLY SMOOTH AND CONTINUOUS SURFACE WITH NO PIECES OF CONCRETE BEING LARGER THAN APPROXIMATELY EIGHTEEN (18) INCHES. ALL VOID AND UNDETERMINED AREAS SHALL BE FILLED WITH ITEM-601 ROCK CHANNEL PROTECTION, TYPE D, WITHOUT FILTER.

PAYMENT FOR THE ABOVE DESCRIBED WORK WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 601, LINEAR FEET, PAVED GUTTER, BROKEN IN PLACE AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK

EXISTING UNDERDRAINS

ALL EXISTING UNDERDRAINS THAT ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED UNOBSTRUCTED OUTLETS ASD DIRECTED BY THE ENGINEER.

THE EXISTING UNDERDRAIN OUTLETS LOCATED DURING THE REVIEW OF DRAINAGE FACILITIES SHALL BE PERPETUATED PRIOR TO THE INSTALLATION OF THE PROPOSED PAVEMENT COURSES AS DESCRIBED BELOW.

EXISTING PIPE UNDERDRAINS ENCOUNTERED IN THE MEDIAN SHALL BE CONNECTED TO THE PROPOSED PIPE UNDERDRAIN SYSTEM OR DRAINAGE STRUCTURES USING ITEM 603 –CONDUIT, TYPE B. EXISTING PIPE UNDERDRAINS ENCOUNTERED IN THE OUTSIDE SHOULDER AREA SHALL BE CONNECTED TO THE PROPOSED OUTSIDE SHOULDER UNDERDRAIN SYSTEM OR THE ROADWAY DITCH USING ITEM 603 – CONDUIT, TYPE F. ITEM SPECIAL PRECAST REINFORCED CONCRETE OUTLETS, SHALL BE PROVIDED AT THE OUTLET END OF ALL NEW PIPE UNDERDRAINS OUTLETTING INTO A ROADWAY DITCH.

THE LOCATION, TYPE, SIZE ANO GRADE OF UNDERDRAIN OUTLETS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. PAYMENT FOR ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 – 6" CONDUIT, TYPE B, 707.17 NON-PERFORATED ASTM D 3034 (SDR 35), SS931 OR SS944	50	LIN. FT.
ITEM 603 – 6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM D 3D34 (SDR 35), SS931 OR SS944	50	LIN. FT.
ITEM 603 – 8" CONDUIT, TYPE B	50	LIN. FT.
ITEM 603 – 8" CONDUIT, TYPE F	50	LIN. FT.
ITEM SPECIAL– PRECAST REINFORCED CONCRETE OUTLET	5	EACH
ITEM SP605 – AGGREGATE DRAIN, TYPE I,WITH FABRIC WRAP	100	LIN. FT.
ITEM SP605 – AGGREGATE DRAIN, TYPE II,WITH FABRIC WRAP	100	LIN. FT.

EXISTING CONDUITS

EXISTING CONDUIT MAY BE ENCOUNTERED WITHIN THE PLAN ROADWAY EXCAVATION AND SUBGRADE COMPACTION LIMITS. THE LOCATION OF WHICH MAY NOT BE SHOWN ON THE PLANS. IT IS ANTICIPATED THE CONDUITS ARE MOST PREVALENT AT THE EXISTING MEDIAN CROSSOVER LOCATIONS. THE REMOVAL AND DISPOSAL OF ANY EXISTING CONDUITS ENCOUNTERED SHALL BE INCIDENTAL TO ITEM 203 – EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION AND ITEM 203 – SUBGRADE COMPACTION.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. | CHECKED: E.R.P. | DATE: 5-98
DRAWN: E.R.P. | IN CHARGE: J.M. | SCALE: –

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G E N E R A L N O T E S

ITEM 603-12" CONDUIT, TYPE F, 707.01 (EXCEPT GALVANIZED) OR 707.05 TYPE C WITHOUT PAVED INVERT

IT IS THE INTENT OF THIS ITEM TO REPLACE THE OUTLET SECTION OF THE EXISTING 12" CMP SLOPE DRAINS AS SHOWN ON THE PLANS. WHERE CALLED FOR THE EXISTING CONDUIT AND STANDARD BEND SHALL BE REMOVED AND REPLACED AS PER OTC STANDARD DRAWING CB-1. AN ESTIMATED QUANTITY OF 6 LIN. FT. IS CALLED FOR AT EACH LOCATION. THE CONTRACTOR IS CAUTIONED THAT THE ACTUAL QUANTITY MAY VARY. THE COST OF THE STANDARD BEND SHALL BE INCLUDED WITH THIS ITEM.

PAVEMENT

PAVEMENT WIDENING CONSTRUCTION

THE CONTRACTOR SHALL ESTABLISH THE ACTUAL CENTERLINE OF THE TURNPIKE BY MEASUREMENT BETWEEN THE EASTBOUND AND WESTBOUND EDGES OF PAVEMENT. VARIATIONS IN THE ACTUAL WIDTH, AS SHOWN ON THE PLANS, SHALL BE EQUALLY APPLIED TO BOTH PROPOSED SHOULDERS AS DIRECTED BY THE ENGINEER. THE CROSS SLOPE OF THE PROPOSED SHOULDERS MAY VARY FROM THE ACTUAL EDGE OF PAVEMENT TO THE PER PLAN GUTTER LINE ELEVATIONS AS DIRECTED BY THE ENGINEER. POSITIVE DRAINAGE MUST BE MAINTAINED AT ALL TIMES. ALL WORK IS TO BE PERFORMED RELATIVE TO EXISTING FIELD LOCATIONS.

FULL-DEPTH SHOULDER REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR FULL-DEPTH SHOULDER REPLACEMENT AS DIRECTED BY THE ENGINEER:

ITEM 203 -	SUBGRADE COMPACTION	556	SQ. YD.
ITEM 203 -	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	262	CU. YD.
ITEM SP 302 -	BITUMINOUS AGGREGATE BASE, PG 64-22	93	CU. YD.
ITEM SP 304 -	AGGREGATE BASE	124	CU. YD.
ITEM SP 408 -	PRIME COAT	222	GALLON
ITEM SP 609 -	ASPHALT CONCRETE CURB, PG 64-22 STANDARD TYPE 1	500	LIN. FT.
ITEM 603 -	6" CONDUIT, TYPE F, 707.17 NON-PERFORATED ASTM 3034 D (SDR 35) SS931 OR SS944	100	LIN. FT.
ITEM SP 605 -	6" SHALLOW PIPE UNDERDRAIN, 707.15, WITH FABRIC WRAP	500	LIN. FT.
ITEM SPECIAL -	PRECAST REINFORCED CONCRETE OUTLET	1	EACH
ITEM 202 -	GUARDRAIL REMOVED FOR REUSE	500	LIN. FT.
ITEM SP 606 -	GUARDRAIL REBUILT, TYPE 5	500	LIN. FT.
ITEM SP629 -	PAVING FABRIC	556	SQ. YD.
ITEM SP 629 -	PAVING FABRIC (COMPOSITE)	556	SQ. YD.

THIS WORK SHALL INCLUDE PLACEMENT OF SHOULDER UNDERDRAINS FOR THE ENTIRE LENGTH AND INSTALLATION OF UNDERDRAIN OUTLETS EVERY 500' ON EACH SIDE OR AS DIRECTED BY THE ENGINEER. NO FULL DEPTH SHOULDER REPLACEMENT SHALL BE PERFORMED WITHOUT THE AUTHORIZATION OF THE ENGINEER.

JOINT REPAIR

THE FOLLOWING ITEM HAS BEEN PROVIDED FOR THE REPAIR OF UNSOUND PAVEMENT JOINTS IN THE EXISTING CONCRETE PAVEMENT THAT MAY BE ENCOUNTERED AFTER REMOVAL OF THE EXISTING ASPHALT SURFACE COURSE. JOINTS TO BE REPAIRED SHALL BE DETERMINED BY THE ENGINEER. REPAIRS SHALL BE AS PER OTC STANDARD DRAWING CJ-2.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

SP 202B - 3 CORNER CRACK REPAIR USING ITEM SP 402 5 CU. YD.

~~ITEM SPECIAL - ASPHALT PAVEMENT REINFORCEMENT~~

~~THIS ITEM SHALL INCLUDE FURNISHING AND PLACING AN ASPHALT PAVEMENT REINFORCEMENT AT THE LOCATIONS AS SHOWN ON THE PLANS. THE ASPHALT PAVEMENT REINFORCEMENT SHALL BE "GLASSGRID-8502" AS MANUFACTURED BY BAYEX INC., 14770 EAST AVENUE, ALBION N.Y. 14411 (800-263-5715) OR APPROVED EQUAL. THE ASPHALT PAVEMENT REINFORCEMENT SHALL BE INSTALLED AS PER THE RECOMMENDATIONS OF THE MANUFACTURER. THE UNIT PRICE BID PER SQUARE YARD FOR ITEM - SPECIAL ASPHALT PAVEMENT REINFORCEMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.~~

OUTSIDE SHOULDER PLANING AND RESURFACING

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE PAVEMENT PLANING AND RESURFACING OF THE OUTSIDE SHOULDERS FROM STA. 381+00 TO STA. 16+00 AND STA. 214+50 TO STA. 235+00 IF REQUIRED.

ITEM 254 -	PAVEMENT PLANING, BITUMINOUS (t=3")	14,300	SQ. YD.
ITEM SP 404 -	1 1/4" ASPHALT CONCRETE, SURFACE COURSE USING CRUSHED SLAG, PG64-22	500	CU. YD.
ITEM SP 402 -	1 3/4" ASPHALT CONCRETE BASE COURSE, OR RECYCLED ASPHALT CONCRETE BASE COURSE, PG64-22	700	CU. YD.
ITEM SP 407 -	TACK COAT	1400	GAL.
ITEM SP 407 -	INTERMEDIATE TACK COAT	860	GAL.
ITEM SP 617 -	COMPACTED AGGREGATE	640	CU. YD.
ITEM SP 617 -	WATER	21	M. GAL.
ITEM SP 617 -	SHOULDER PREPARATION	5700	SQ. YD.
ITEM SP 627 -	STONE SHOULDER PROTECTION	1200	TON

EXISTING APPROACH SLABS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER TO STABILIZE AND PROVIDE ELEVATION ADJUSTMENTS TO EXISTING APPROACH SLABS TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENTS:

ITEM SP611A -	GROUT HOLE	50 EACH
ITEM SP611A -	GROUT	10 C.Y.

BRIDGE DECK, ABUTMENT SLAB, APPROACH SLAB, AND APPROACH ROADWAY MODIFICATIONS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY ENGINEER TO PROVIDE ELEVATION ADJUSTMENTS TO THE EXISTING BRIDGE DECKS, ABUTMENT SLABS, APPROACH SLABS, AND APPROACH ROADWAYS TO IMPROVE THE RIDEABILITY OF THE FINISHED PAVEMENTS:

ITEM SPECIAL -	DIAMOND GRINDING	100 S.Y.
ITEM SPECIAL -	THIN CONCRETE OVERLAY	100 S.Y.
ITEM 254 -	PAVEMENT PLANING, BITUMINOUS (t=1")	200 S.Y.
ITEM SP404 -	ASPHALT CONCRETE SURFACE COURSE USING CRUSHED SLAG, PG64-22	5 C.Y.
ITEM SP407 -	TACK COAT	50 GAL.
ITEM SP404 -	ASPHALT CONCRETE SURFACE COURSE USING CRUSHED SLAG, PG 70-22 (FR)	5 C.Y.

SUBSTRUCTURE WORK

THE CONTRACTOR MAY PERFORM BRIDGE SUBSTRUCTURE WORK BETWEEN PHASES 1 AND 2 SUBJECT TO THE APPROVAL OF THE ENGINEER. SUBSTRUCTURE WORK, AS WELL AS MATERIAL AND EQUIPMENT LAYDOWN AREAS WILL REQUIRE GUARDRAIL PROTECTION IN ACCORDANCE WITH OTC STANDARD DRAWING GR-1. THE EXTENT OF THE LAYDOWN AREAS SHALL BE MINIMIZED AS MUCH AS POSSIBLE AND ARE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES ARE INCLUDED FOR EXTENDING GUARDRAIL AS REQUIRED:

ITEM SP202L -	ANCHOR ASSEMBLY, SYRO STEEL ET-2000, REMOVED AND RESET	8 EACH
ITEM 202 -	GUARDRAIL REMOVED FOR REUSE	600 L.F.
ITEM SP606 -	GUARDRAIL REBUILT, TYPE 5	600 L.F.
ITEM 606 -	GUARDRAIL, TYPE 5, USING STEEL POSTS	1000 L.F.
ITEM 202 -	GUARDRAIL REMOVED	1000 L.F.
ITEM 606 -	ANCHOR ASSEMBLY, TYPE T	8 EACH
ITEM 202 -	ANCHOR ASSEMBLY REMOVED, TYPE T	8 EACH

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
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MANNIK & SMITH, INC.
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1800 INDIAN WOOD CIRCLE, MAUMEE, OHIO 43537

DESIGNED: C.E.B. CHECKED: F.R.P. DATE: 6-98
DRAWN: F.R.P. IN CHARGE: J.M. SCALE: -

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MAINTENANCE OF TRAFFIC GENERAL NOTES

OHIO TURNPIKE

1. THE CONTRACTOR'S RESPONSIBILITY TO THE SAFETY OF THE MOTORING PUBLIC WHILE PERFORMING THE REQUIREMENTS OF HIS CONSTRUCTION CONTRACT WITHIN THE PROJECT LIMITS SHALL BE IN ACCORDANCE WITH THESE MAINTENANCE OF TRAFFIC PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND THE APPLICABLE PROVISIONS OF THE "STANDARD PROCEDURE OF MAINTENANCE AND CONTRACTORS OPERATIONS UNDER TRAFFIC ON THE TURNPIKE", DATED JULY 1994.

2. ALL MAINTENANCE OF TRAFFIC DEVICES, DRUMS, SIGNS, FLASHING ARROW PANELS, FLAGGERS, ETC. AS SHOWN AND LOCATED ON THE MAINTENANCE OF TRAFFIC DRAWINGS SHALL BE INCORPORATED FOR THE VARIOUS PHASES OF WORK UNDER NORMAL TRAFFIC CONDITIONS. IF SPECIAL TRAFFIC CONDITIONS EXIST, THESE MAINTENANCE OF TRAFFIC PLANS MAY HAVE TO BE MODIFIED. HOWEVER, NO MODIFICATIONS TO THE LAYOUT OF THE DEVICES SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS TO BE MADE UNLESS APPROVED BY THE CHIEF ENGINEER.

3. SINCE FLAGGERS ARE RESPONSIBLE FOR HUMAN SAFETY AND MAKE THE GREATEST NUMBER OF CONTACTS WITH THE TRAVELING PUBLIC OF ALL CONSTRUCTION PERSONNEL, IT IS IMPORTANT THEY ARE, MENTALLY ALERT, COURTEOUS BUT WITH A FIRM MANNER, PROPERLY ATTIRED WITH A NEAT APPEARANCE, AWARE OF THEIR RESPONSIBILITY FOR THE SAFETY OF THE MOTORISTS AND THE CONSTRUCTION PERSONNEL, AND INFORMED OF THE EXACT TRAFFIC MOVEMENTS THAT THEY ARE TO CONTROL. FLAGGERS SHALL WEAR BRIGHT ORANGE VESTS OR JACKETS WHICH ARE TO BE REFLECTORIZED FOR NIGHTTIME OPERATIONS. FLAGGERS ARE TO USE RED FLAGS. (RED FLAGS SHALL BE A MINIMUM OF 18" X 18" IN SIZE.) THE USE OF FLAGGERS SHALL BE AS DIRECTED BY THE ENGINEER. HOWEVER, AS A MINIMUM THE CONTRACTOR SHOULD EXPECT TO PROVIDE A FLAGGER AT LOCATIONS WHERE VEHICLES AND/OR EQUIPMENT MERGES INTO AND OUT OF THE TURNPIKE TRAFFIC FLOW PATTERN.

4. LENGTH AND DURATION OF SINGLE LANE CLOSURE AND RESTRICTION 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 CONTROL DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

5. OHIO TURNPIKE MAINTENANCE OF TRAFFIC PHASE DATES, LANE REDUCTION TIME LIMITATIONS, AND LIQUIDATED DAMAGE CLAUSES ARE CONTAINED IN THE FOLLOWING SPECIAL PROVISIONS:

   SP 103 – TIME OF COMPLETION
   SP 104 – ACCESS TO TURNPIKE AND RESTRICTIONS
   SP 111 – TIME OF THE ESSENCE – LIQUIDATED DAMAGES

6. THE CONTRACTOR SHALL PROVIDE A 48 HOUR NOTICE TO THE OHIO TURNPIKE COMMISSION CHIEF ENGINEER PRIOR TO INSTALLING AND CHANGING MAINTENANCE OF TRAFFIC PHASES.

7. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED BY THE CONTRACTOR AS PER SPECIAL PROVISION SP 641. TEMPORARY REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE AS PER SPECIAL PROVISION SP 641A.

8. CONSTRUCTION ZONE MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS AND SHALL CONFORM TO ITEM SP 626A– "CONSTRUCTION ZONE MARKERS" OF THE SPECIAL PROVISIONS.

9. ALL TEMPORARY CONCRETE BARRIER SHOWN ON THE PLANS FOR MAINLINE MAINTENANCE OF TRAFFIC WILL BE AS PER SPECIAL PROVISION SP 622. THE SAME BARRIER CAN BE USED FOR THE VARIOUS PHASES. THE COST FOR TRANSPORTION, INSTALLING, MAINTAINING, RESETTING, REMOVAL AND STORING THE TEMPORARY CONCRETE BARRIER FOR EACH PHASE SHALL BE INCLUDED IN THE ORIGINAL UNIT COST OF SUPPLYING THE BARRIER FOR ITEM SP 622.

10. ITEM 614 TEMPORARY IMPACT ATTENUATOR, AS PER PLAN.
THIS WORK SHALL CONSIST OF STORING, FURNISHING, INSTALLING AND SUBSEQUENTLY REMOVING IMPACT ATTENUATORS, AS REQUIRED IN THE PLANS. THIS ITEM SHALL INCLUDE ALL RELATED HARDWARE, NOT SEPERATELY SPECIFIED AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEMS. THE IMPACT ATTENUATOR SYSTEM MUST COMPLY WITH NCHRP 350, TEST LEVEL 3 AND CAN BE ANY OF THE FOLLOWING:

   REACT 350, ROADWAY SAFETY SERVICES, INC.
   80 REMINGTON BLVD.
   RONKONKOMA, NY 11779
   (516) 588-6220

   QUAD GUARD CZ SYSTEM, ENERGY ABSORPTION SYSTEMS, INC.
   ONE EAST WACKER DRIVE
   CHICAGO, IL 60601
   (312) 467-6750

   THE ATTENUATORS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN TWENTY-FOUR (24) HOURS OF NOTIFICATION OF THE INCIDENT WHICH CAUSED DAMAGE TO THE ATTENUATOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.
   PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR EACH, ITEM 614 – TEMPORARY IMPACT ATTENUATOR, AS PER PLAN, WHICH PRICE SHALL BE CONSIDERED FULL PAYMENT FOR FURNISHING, INSTALLING, STORING AND SUBSEQUENTLY REMOVING AT THE SPECIFIED LOCATIONS.

11. ALL TEMPORARY SIGNS ALONG THE MAINLINE SHALL BE FURNISHED AND INSTALLED BY THE OHIO TURNPIKE COMMISSION, UNLESS NOTED, BUT MAINTAINED BY THE CONTRACTOR.

12. FINAL SIGN AND OTHER MAINTENANCE OF TRAFFIC DEVICE LOCATIONS MAY HAVE TO BE ADJUSTED TO FIT GEOMETRIC ROADWAY CONDITIONS.

13. ALL DRUMS ORGINALLY FURNISHED FOR THIS PROJECT SHALL BE NEW PLASTIC SAFETY TYPE AS SHOWN ON OHIO TURNPIKE COMMISSION STANDARD DRAWING TCR-2. THESE DRUMS ARE PERMITTED FOR REUSE IN SUBSEQUENT CONSTRUCTION PHASES PROVIDED THEY ARE FREE OF DAMAGE AND DISPLAY THE REQUIRED REFLECTORIZATION AS DETERMINED BY THE ENGINEER. ANY DRUM DETERMINED TO BE UNACCEPTABLE BY THE ENGINEER SHALL BE REPLACED WITH A NEW DRUM. PAYMENT FOR PLASTIC SAFETY DRUMS INCLUDING THE SETTING, MAINTENANCE, REPLACEMENT AND SUBSEQUENTLY REMOVAL SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM SP 614-MAINTAINING TRAFFIC.

   DURING PHASE 1 CONSTRUCTION THE CONTRACTOR SHALL REOPEN THE ROADWAY TO TWO LANES IN EACH DIRECTION BY 12:00 PM (NOON) FRIDAY. THE TWO LANE DIRECTIONAL ROADWAY MUST REMAIN OPEN UNTIL AT LEAST 10:00 AM FRIDAY. THE STAGING OF THE OUTSIDE SHOULDER CONSTRUCTION SHALL BE SCHEDULED SO THAT NO MORE THEN A 3 INCH DROPOFF EXISTS BY THE FRIDAY 12:00 PM (NOON) PERIOD. THE DRUM LINE SHALL BE PLACED IN THE SHOULDER AT THE PAVEMENT EDGE. FOR SATURDAY WORK THE DIRECTIONAL ROADWAYS CAN BE RETURNED TO THE PHASE 1 MAINTENANCE OF TRAFFIC TYPICAL SECTION. THE ROADWAY MUST BE REOPENED TO TWO DIRECTIONAL LANES SUNDAY BY 12:00 PM (NOON) AND REMAIN OPEN UNTIL AT LEAST 10:00 PM. EXCEPTIONS TO THE ABOVE ARE CONTAINED IN SPECIAL PROVISION 104.

   IN ADDITION TO THE DRUM PLACEMENT REQUIREMENT AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL INSTALL AND MAINTAIN DURING ANY MAINTENANCE OF TRAFFIC PHASE WHERE TRAFFIC IS SHIFTED ONTO SHOULDERS, PLACE TWO DRUMS IN ADVANCE OF EACH GUARDRAIL TERMINAL ASSEMBLY ET-2000. THE FIRST DRUM SHALL BE PLACED DIRECTLY IN FRONT OF THE ET-2000 FACE AND THE SECOND DRUM SPACED 50 FEET IN ADVANCE OF THE FIRST DRUM.

14. THE CONTRACTOR'S REQUEST FOR USE OF A NIGHT WORK ZONE SHALL COMPLY WITH SP 110 AND INCLUDE THE TYPE OF WORK TO BE DONE, THE DURATION OF THE WORK, LOCATION OF THE INTENDED WORK, AND THE CONTRACTOR'S PROPOSED LIGHTING PLAN. TEMPORARY LIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE SUCH THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. ALL TEMPORARY LIGHTING REQUIRED FOR NIGHT WORK SHALL BE INCIDENTAL AND INCLUDED IN THE LUMP SUM BID FOR ITEM SP 614-MAINTAINING TRAFFIC.

15. THE OHIO TURNPIKE COMMISSION HAS ASSIGNED AN OVERALL CONSTRUCTION MANAGEMENT FIRM FOR THIS THIRD LANE WIDENING PROJECT. HOWEVER, EACH CONTRACTOR WHICH HAS WORK LIMITS ADJACENT TO ANOTHER CONTRACTOR WORK LIMITS HAS THE RESPONSIBILITY TO COORDINATE AND MUTUALLY COOPERATE WITH EACH OTHERS WORK ACTIVITIES DURING THE ENTIRE CONSTRUCTION PROCESS AS PER SP 107.

16. IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT IN WRITING ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE CHIEF ENGINEER.

17. AMBER FLASHING LIGHTS SHALL BE USED ON ALL VEHICLES AND/ OR EQUIPMENT FOR INGRESS AND EGRESS OF THE WORK ZONE. WHILE IN THE WORK ZONE LIMITS THE FLASHERS ARE TO BE TURNED OFF.

18. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE "STANDARD PROCEEDURE OF MAINTENANCE CONTRACTORS OPERATIONS UNDER TRAFFIC ON THE TURNPIKE", THE CHIEF ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

19. PAYMENT FOR THE ABOVE, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM SP 614 – MAINTAINING TRAFFIC WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO COMPLETE THE ABOVE WORK.

DESIGNED BY: EWK	CHECKED BY: EWK
DATE: 7/99	DATE: 7/99
DRAWN BY: JJS	REVISED BY:
DATE: 7/99	DATE:

CAD FILE NAME: J:\TPIKE/7028100/98PROJ/MOT/NANSMITH/GENNOTE

NO.	REVISION	BY	DATE

OHIO TURNPIKE COMMISSION

MAINTENANCE OF TRAFFIC GENERAL NOTES

DATE: JULY 1999 | SCALE: N.T.S.

CONTRACT: 77-99-05 | SHEET: 13 OF 276

SEQUENCE OF CONSTRUCTION

THE ADDITION OF A THIRD DIRECTIONAL LANE AND A BARRIER WALL MEDIAN ALONG THE OHIO TURNPIKE SHALL BE ACCOMPLISHED WHILE TRAFFIC IS BEING MAINTAINED IN ACCORDANCE WITH THE ENCLOSED MAINTENANCE OF TRAFFIC PLANS.

THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE OF OPERATIONS TO THE OHIO TURNPIKE CONSTRUCTION MANAGEMENT FIRM FOR APPROVAL.

PHASE ONE CONSTRUCTION (1999)

THE EXISTING OUTSIDE SHOULDER IS TO BE MILLED AND RESURFACED. SEE THE ROADWAY CONSTRUCTION PLANS FOR SHOULDER BUILD-UP AND WORK LIMITS. THIS CONSTRUCTION EFFORT SHOULD HAVE A SHORT TIME-FRAME AND IS COVERED IN SPECIAL PROVISION SP 104.

PHASE ONE MAINTENANCE OF TRAFFIC (1999)

INSTALL EASTBOUND LEAD-IN SIGNING RELATIVE TO REDUCING THE EXISTING TWO DIRECTION LANES TO ONE. INSTALL WESTBOUND LEAD-IN SIGNING RELATIVE TO REDUCING THE EXISTING THREE DIRECTION LANES TO ONE.

PLACE THE MAINTENANCE OF TRAFFIC DEVICES THROUGH THE TAPER AREAS AND ALIGN THE MAINLINE IN ACCORDANCE WITH THE PHASE TWO MAINTENANCE OF TRAFFIC TYPICAL SECTION AND PLANS.

PHASE TWO CONSTRUCTION (2000)

THE MAJOR ELEMENT OF THIS PHASE IS THE CONSTRUCTION OF THE TURNPIKE MEDIAN WHICH INCLUDES AN ADDITIONAL DIRECTIONAL LANE, A WIDENED SHOULDER AND A MEDIAN BARRIER SAFETY WALL. ALL EXISTING MAINLINE BRIDGES ARE TO BE WIDENED.

PHASE TWO MAINTENANCE OF TRAFFIC (2000)

TWO LANES OF TRAFFIC ARE TO BE USED ALONG THE TURNPIKE USING THE DRIVING LANE AND RECONSTRUCTED OUTSIDE SHOULDER. SEE PHASE TWO MAINTENANCE OF TRAFFIC TYPICAL SECTION. PRIOR TO THE WORK ZONE TRAFFIC WILL BE SHIFTED TO THE RIGHT USING DEVICES AS SHOWN IN THE PLANS. TRUCKS WILL BE DIRECTED TO USE THE LEFT MOST LANE. SETTING THE TEMPORARY CONCRETE BARRIER SHALL BE AS PER TCB-1.

FOR INSTALLATION OF THE BRIDGE EXPANSION JOINT STRIP SEAL THE CONTRACTOR HAS THREE LANES OF PAVEMENT AND BOTH SHOULDERS TO PROVIDE SHORT TERM LANE SHIFTS. USE OHIO TURNPIKE COMMISSION STANDARD DRAWING TCR-12 FOR SIGN AND DRUM PLACEMENT.

QUANTITY SUBSUMMARY

LOCATION			ITEM NUMBERS																	
			614			SP 622	SP 622B		SP 626A	SP 641							SP 641A	642		
PHASE	STATION TO STATION	DIRECTION	BARRIER REFLECTOR, TYPE A	TEMPORARY IMPACT ATTENUATOR, AS PER PLAN		TEMPORARY CONCRETE BARRIER	DELINEATOR		CONSTRUCTION ZONE MARKER-ONE WAY MODEL, WHITE	4" TEMPORARY WHITE EDGE LINE	4" TEMPORARY YELLOW EDGE LINE	6" TEMPORARY LANE LINE	6" TEMPORARY LANE LINE (SOLID)	4" TEMPORARY DOTTED LINE	8" TEMPORARY YELLOW EDGE LINE		TEMPORARY REMOVAL OF EXISTING PAVEMENT MARKING		REMOVAL OF PAVEMENT MARKING	EDGE LINE, TYPE 1, 4" WHITE (INTERIM)
			EACH	EACH		MILE	EACH		EACH	MILE	MILE	MILE	MILE	MILE	MILE		MILE		LIN.FT.	MILE
	1999 CONSTRUCTION																			
1	MP 81.06 TO MP 85.97	EB					72													
1	MP 81.06 TO MP 85.97	WB					72													4.91
																				4.91
	2000 CONSTRUCTION																			
2	MP 81.06 TO MP 81.31	EB		1		0.25			27	0.25	0.25		0.25				0.50			
2	MP 81.31 TO MP 86.17	EB	65			4.78	72		513	4.86		3.86		0.37			9.72		1440	
2	MP 86.17 TO MP 86.40	EB				0.23			24	0.23			0.23				0.46			
2	MP 81.16 TO MP 81.31	WB																		
2	MP 81.31 TO MP 86.20	WB	69			4.81	72		16	0.15			0.15				0.30			
2	MP 86.20 TO MP 86.40	WB		1		0.20			513	4.89		3.89		0.38			9.78		1165	
2	MP 87.00 TO MP 87.25	WB							21	0.20	0.20		0.20				0.40			
																	0.25			
2	CONSTRUCTION ACCESS AREA MP 82.62	EB		1																
2	CONSTRUCTION ACCESS AREA MP 85.20	EB		1									0.50		0.35					
2	CONSTRUCTION ACCESS AREA MP 82.62	WB		1									0.50		0.35					
2	CONSTRUCTION ACCESS AREA MP 85.20	WB		1									0.50		0.35					
													0.50		0.35					
TOTAL			134	6		10.27	288		1114	10.58	0.45	7.75	2.83	0.75	1.40		21.41		2605	9.82

NO.	REVISION	BY	DATE

OHIO TURNPIKE COMMISSION

SEQUENCE OF CONSTRUCTION AND QUANTITY SUBSUMMARY

DATE: JULY 1999 | SCALE: N.T.S.

CONTRACT: 77-99-05 | SHEET 14 OF 276

DESIGNED BY: EWK | CHECKED BY: EWK
DATE: 7/99 | DATE: 7/99
DRAWN BY: JJS | REVISED BY:
DATE: 7/99 | DATE:
CAD FILE NAME: J:\TPIKE/7028100/98PROJ/MOT/MANSMITH/QUAN

APPROACH SLAB DETAILS
OHIO TURNPIKE OVER CONRAIL

For Additional Details See
OTC Std. Dwgs. AS-1
And AS-2.

LEGEND

000.00 = Proposed Grades

000.00e = Existing Grades

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
ELEVATION DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.R.P.	DATE: 6-98
DRAWN: D.M.V.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-0-5 SHEET 159 OF 276

OHIO TURNPIKE OVER CONRAIL
WB FORWARD APPROACH SLAB
& EB FORWARD ABUTMENT SLAB

OHIO TURNPIKE OVER WAGGONER ROAD
WB REAR APPROACH SLAB
& EB REAR ABUTMENT SLAB

* SP511A, Class S Concrete, Barriers, Using Type 1 Cement

Groove And Seal With 705.04 See Sheet 227 Cost Included With EB Median Barrier*

CONCRETE BARRIER DETAIL
ITEM 622 – CONCRETE BARRIER, TYPE D-50, AS PER PLAN

ITEM 622 – Concrete Barrier Type D-50, As Per Plan Shall Include All Items To Construct The W.B. Median Barrier (2'-1" In Width) As Shown. For Additional Details See Page 227 And ODOT Std. Dwg. MC-9.3

For Additional Details See OTC Std. Dwgs. AS-1 And AS-2.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
APPROACH SLAB
WIDENING DETAILS

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.B.	CHECKED: E.G.T.	DATE: 6-98
DRAWN: E.G.T.	IN CHARGE: J.M.	SCALE: As Noted

CONTRACT 77-99-03 SHEET 160 OF 276

OTCK9

PROPOSED STRUCTURE

PROPOSED WORK: Widening Turnpike By One Lane Both Directions To The Median.
TYPE: Twin 4-Span Continuous Span A36 Steel Girder Bridges With Reinforced Concrete Decks, Cellular Abutments, And Column Piers Supported On Reinforced Concrete Crashwalls
SPAN: 86.45'±, 93.34'±, 93.34'±, 86.45'± c/c Brgs.
ROADWAY: 2 @ 59'-10"± t/t Parapets
LOADING: HS20-44 Case I & Alternate Military Loading, FWS = 30 psf
SKEW: 71°-48'-00"± Right Forward
WEARING SURFACE: Monolithic Concrete
APPROACH SLABS: 15'-0"± Long (None At EB Fwd. Abut.)
ALIGNMENT: Tangent
CROWN: .0156± Ft./Ft.

EXISTING STRUCTURE

TYPE: Twin 4-Span Continuous A7 & A36 Steel Beam Bridges With Reinforced Concrete Decks. Substructures Are Reinforced Concrete Cellular Abutments And Column Piers On Top Of Reinforced Concrete Crash Walls
SPAN: 86.45'±, 93.34'±, 93.34'±, 86.45'± c/c Brgs.
ROADWAY: 37'-4"± t/t Parapets
LOADING: HS20-44 Case I & Alt. Military
SKEW: 71°-48'-00"± Right Forward
WEARING SURFACE: Monolithic Concrete
APPROACH SLABS: 15'-0"± Long (None At EB Fwd. Abut.)
ALIGNMENT: Tangent
DATE BUILT: 1954, Widened & Redecked 1986
CONDITION: Good
STRUCTURE FILE NO.: 7228562 EB, 7228570 WB

SITE BENCH MARK NO. 50

Feno Monument
Sta. 75+00, 65'(±) Right
Elevation = 649.62

NOTES:

(*) Information Obtained From Existing As-Built Plans. The Elevations Have Been Incresed 0.46' From The Existing As-Built Plans To Match Vanguard Survey.

(**) Connection Location Of Proposed To Existing Guardrail Will Be Determined In The Field.

BORING LEGEND

Drive Sample Core Boring
Denotes Min. Clearance Locations

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL PLAN & ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: JPM | CHECKED: CEW | DATE: 6/98
DRAWN: JPM | IN CHARGE: JM | SCALE:

1/28

CONTRACT 77-99-05, SHEET 212 OF 276

OTCK9C

GENERAL NOTES

1. BRIDGE DECK ELEVATIONS, SLAB THICKNESS, AND APPROACH PROFILES: IN ORDER TO MEET ROADWAY GRADES, TO ASSURE THE CONSTRUCTION OF THE REQUIRED THICKNESS OF DECK SLABS, AND TO ASSURE THE PROPER LOCATION OF THE REINFORCING STEEL IN THE DECK SLABS, THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF THE TOP OF THE NEW GIRDERS AND EXISTING STEEL BEAMS AFTER THE PARTIAL REMOVAL OF THE EXISTING DECK SLAB, AT THE LOCATIONS SHOWN ON SHEET 24/28 FOR THE FINAL PAVEMENT ELEVATIONS. THE CONTRACTOR SHALL COMPUTE THE DECK SCREED ELEVATIONS UTILIZING DEAD LOAD DEFLECTIONS. THE CONTRACTOR SHALL THEN CALCULATE THE DECK THICKNESS OVER THE BEAMS/GIRDERS USING THE DECK SCREED ELEVATIONS AND THE TOP OF BEAM/GIRDER ELEVATIONS. THE CONTRACTOR SHALL FURNISH THE ELEVATIONS TO THE ENGINEER FOR FINAL CHECKING. IF THE COMPUTED DECK THICKNESS IS FOUND TO BE LESS THAN THE MINIMUM THICKNESS REQUIRED, THE FINAL PAVEMENT ELEVATIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. FORM WORK SHALL NOT PROCEED UNTIL A CHECK OF THE FINAL ELEVATIONS HAS BEEN PERFORMED BY THE ENGINEER.

   THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON 9¼" THICK CONCRETE OUTSIDE THE HAUNCH AREAS, AND THE AVERAGE THICKNESS OF CONCRETE PLACED OVER THE EXISTING BEAMS OR PROPOSED GIRDERS AT THE HAUNCHES. A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING THE QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12", PROVIDED THAT THE SLOPE SHALL NOT BE MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

   PLACEMENT OF THE ABUTMENT SLAB PRIOR TO THE DECK SLAB WILL NOT BE PERMITTED. HOWEVER, THE ABUTMENT SLAB AND THE DECK SLAB MAY BE POURED AT THE SAME TIME. UPON THE COMPLETION OF THESE POURS AND PRIOR TO POURING THE CONCRETE APPROACH SLABS, THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH FINISH GRADES AND ELEVATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION FROM THE ROADWAY PAVEMENT AND APPROACH SLABS TO THE CONCRETE ABUTMENT AND DECK SLABS.

   PRIOR TO PLACING THE APPROACH SLABS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER THE EDGE OF NEW AND EXISTING PAVEMENT ELEVATIONS AND EDGE OF SHOULDER ELEVATIONS AT 25' INTERVALS FOR A DISTANCE OF 200' BEYOND THE END OF THE APPROACH SLAB, AND AS BUILT ELEVATIONS OF THE ABUTMENT AND DECK SLABS. AFTER RECEIPT OF THESE ELEVATIONS, THE ENGINEER WILL CALCULATE AND PROVIDE TO THE CONTRACTOR FINAL ELEVATIONS FOR THE APPROACH SLABS AND APPROACH PAVEMENT. NO APPROACH SLABS SHALL BE POURED NOR SHALL PAVING COMMENCE UNTIL RECEIPT OF THESE FINAL ELEVATIONS.

   PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE INCLUDED WITH THE LUMP SUM PRICE BID FOR ITEM SP 623 CONSTRUCTION LAYOUT SURVEY.

2. PATCHING CONCRETE STRUCTURES
   A CONTINGENCY QUANTITY OF 20 SQ. FT. OF SP519 PATCHING CONCRETE STRUCTURES HAS BEEN INCLUDED ON THE SUMMARY OF QUANTITIES FOR THIS STRUCTURE FOR USE AS DIRECTED BY THE ENGINEER.

3. PILE DRIVING
   IF EQUIPMENT FOR PILE DRIVING OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE. STRESS CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE SPECIFICATIONS.

4. PILE DRIVEN TO BEDROCK
   PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

   REFER TO FOUNDATION PLAN SHEETS 4/28 AND 5/28 FOR PILE DESIGN LOADS.

5. ITEM 507 – STEEL POINT (OR SHOE), AS PER PLAN
   STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 3061 NW YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, N.C. 28105; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE ENGINEER. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 – CLASS 2, HEAT TREATED OR AASHTO M103 65/35, HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

6. PAINTING OF STRUCTURAL STEEL
   THE NEW STRUCTURAL STEEL SHALL BE TOTALLY SHOP PAINTED WITH ALL COATS IN ACCORDANCE WITH SPECIAL PROVISION SP514A – TOTAL SHOP PAINTING – SYSTEM IZEU. THE THREE COAT SHOP APPLICATION OF THE PAINT IS INCLUDED FOR PAYMENT UNDER ITEM 513 – STRUCTURAL STEEL, AISC CATEGORY III, AS PER PLAN.

   ANY FIELD TOUCHUP OF DAMAGED AREAS SHALL BE INCIDENTAL TO ITEM 513.

7. SURFACE PREPARATION OF STEEL PRIOR TO PAINTING
   THE CONTRACTOR'S ATTENTION IS CALLED TO SPECIAL PROVISION SP514A PART 3 – EXECUTION, SECTION 3.02 SURFACE PREPARATION. SPECIFICALLY PARAGRAPH A WHICH ADDRESSES SURFACE PREPARATION.

   ALL SHARP EDGES SUCH AS THOSE CREATED BY THE FLAME CUTTING AND SHEARING OF STEEL SHALL BE ADDRESSED ACCORDING TO THIS SPECIFICATION IN ORDER TO ENSURE A PROPER PAINT SYSTEM. BREAKING THE EDGE CAN BE ACCOMPLISHED BY A SINGLE PASS OF A GRINDER IN ORDER TO FLATTEN THE EDGE. HOWEVER, CARE SHALL BE TAKEN TO ENSURE THAT DURING THE REMOVAL OPERATION NEW SHARP EDGES ARE NOT CREATED. THIS REQUIREMENT IS APPLICABLE TO ALL STRUCTURES WHETHER OR NOT IT IS SPECIFICALLY ADDRESSED IN THE CONTRACT DRAWINGS.

   NO SEPARATE PAYMENT FOR ANY GRINDING REQUIRED TO CONFORM TO THE SPECIFICATIONS WILL BE MADE. PAYMENT FOR THE SHOP APPLIED COATING SYSTEM IS INCLUDED IN THE COMPLETED WORK ITEM – 513 STRUCTURAL STEEL, AISC CATEGORY III, AS PER PLAN, PER PART 4 – MEASUREMENT AND PAYMENT OF SPECIAL PROVISION SP514A.

8. PROTECTION OF PAINTED STEEL DURING ERECTION
   THE NEW STRUCTURAL STEEL THAT IS TOTALLY PAINTED IN THE SHOP SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS OF SP514A – TOTAL SHOP PAINTING, SYSTEM IZEU AND SPECIFICALLY TO PART 3 – EXECUTION, SECTION 3.05"SHIPPING, STORAGE, AND HANDLING OF SHOP PAINTED STEEL".

   IN ADDITION TO THESE REQUIREMENTS THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PROTECT THE FINISHED PAINTED SURFACE FROM DAMAGE DURING THE ERECTION OF THE STEEL, THE INSTALLATION OF THE FALSEWORK AND FRAMEWORK, AND POURING OF THE CONCRETE DECK AND PARAPETS. THIS PROTECTION SHALL INCLUDE THE USE OF PADDING ON BRACKETS AND SUPPORTS, CONSTRUCTION OF TIGHT FITTING FORMS AND OTHER PROTECTIVE METHODS THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTING THE NEWLY PAINTED SURFACE.

   THE CHIEF ENGINEER SHALL HAVE THE AUTHORITY TO INSTRUCT THE CONTRACTOR TO DELAY THE START OF HIS OPERATIONS OR SUSPEND HIS OPERATIONS IN WHOLE OR IN PART IF HE DOES NOT UTILIZE PROPER CARE OR MEANS TO PROTECT THE NEWLY PAINTED STEEL DURING ERECTION OR HIS FORMING OPERATIONS.

9. ITEM SPECIAL – PIPE CLEANOUT
   DESCRIPTION OF WORK: THIS WORK SHALL ENTAIL REMOVING BRANCHES, SILT AND OTHER DEBRIS INSIDE THE SIX–INCH DIAMETER STEEL DRAIN PIPES PASSING THROUGH ABUTMENT BREASTWALLS TO BE CLEANED OUT AT THE LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER AND FLUSHING THEIR OUTLET ENDS CLEAN WITH WATER.

   CLEANING PROCEDURE: DEBRIS SHALL BE REMOVED FROM THE OUTLET END OF THE PIPES USING SMALL HAND TOOLS (SPUD BARS, DRAIN SPADES, HAND TROWELS, ECT.). THE MATERIAL REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF SP108. THE CONTRACTOR SHALL SUPPLY A SUITABLE LIGHT SO THAT THE ENGINEER CAN INSPECT INSIDE THE PIPES AFTER DEBRIS REMOVAL IS COMPLETED. WATER SHALL BE FLUSHED INTO THE PIPE TO FLUSH OUT REMAINING FINES NOT PREVIOUSLY REMOVED.

   PAYMENT: PAYMENT SHALL BE MADE AT THE PRICE BID PER THE LINEAR FOOT OF PIPE CLEANED AND FLUSHED. (TEN LINEAR FOOT PER PIPE IS PROVIDED IN THE STRUCTURE ESTIMATED QUANTITIES)

   PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF MATERIAL FOUND, AND FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

   ANY PIPES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

   NONE OF THE ABOVE DESCRIBED WORK SHALL BE PERFORMED UNLESS DIRECTED BY THE ENGINEER.

10. WEATHERPROOFING OF CONCRETE
    AFTER PATCHING THE ABUTMENTS, COAT ALL EXISTING & PROPOSED CONCRETE BACKWALL, ABUTMENT SEAT, AND FRONT FACE OF ABUTMENT SURFACES WITH SP536–CONCRETE WEATHERPROOFING. THIS IS IN ADDITION TO THE CONCRETE WEATHERPROOFING SPECIFIED ON THE GENERAL NOTES SHEET G1.

11. ITEM 506 – STATIC LOAD TEST, AS PER PLAN
    ITEM 506 – SUBSEQUENT STATIC LOAD TEST, AS PER PLAN

    FOR STATIC LOAD TESTS PERFORMED ON SERVICE PILES AS DIRECTED BY THE ENGINEER. THE APPLICATION OF LOAD SHALL BE IN ACCORDANCE WITH SECTION 506.03 OF THE CMS EXCEPT THAT THE MAXIMUM APPLIED TEST LOAD SHALL BE LIMITED TO TWO (2) TIMES THE PLAN DESIGN LOAD.

12. ADDITIONAL NOTES
    PLEASE REFER TO SHEET G1 OF G1 FOR ADDITIONAL BRIDGE NOTES.

13. PAINTING REQUIREMENTS AT REMOVED APPURTENANCES
    REGIONS WHERE THE APPURTENANCES FOR THE ABANDONED F.O.C. CONDUIT AND BRIDGE DRAIN COLLECTOR PIPE ARE REMOVED FROM THE EXISTING STEEL SUPERSTRUCTURE PER ITEM SP202 SHALL HAVE SURFACE PREPARATION AND FIELD PAINTING INCLUDED IN ITEMS SP514.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
GENERAL NOTES
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW	CHECKED: JPM	DATE: 6/98
DRAWN: CEW	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 SHEET 213 OF 276

OTCK9C

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GEN.	AS PER PLAN SHT. NO.
SP202	Lump Sum		Portions Of Structure Removed				Lump	
503	Lump Sum		Cofferdams, Cribs And Sheeting				Lump	
503	1856	Cu. Yd.	Unclassified Excavation	1352	504			
503	168	Cu. Yd.	Abutment Backfill, As Per 503.10	168				G1/G1
505	Lump Sum		Pile Driving Equipment Mobilization				Lump	
506	Lump Sum		Static Load Test, As Per Plan				Lump ▲	2/28
506	1	Each	Subsequent Static Load Test, As Per Plan				1 ▲	2/28
507	7607	Lin. Ft.	Steel Piles HP10x42	6871	736			
507	183	Each	Steel Point (Or Shoe), As Per Plan	151	32			2/28
509	5,508	Pound	Reinforcing Steel, Grade 60		5,508			
SP509	293,181	Pound	Epoxy Coated Reinforcing Steel, Grade 60	139,169		153,712	300 **	
510	712	Each	Dowel Holes, Using SP853 Grout Anchoring	204	492	16		
SP511	686	Cu. Yd.	Class C Concrete, Abutments	686				
SP511	94	Cu. Yd.	Class C Concrete, Pier Footings		94			
SP511	321	Cu. Yd.	Class C Concrete, Pier Above Footings		321			
SP511A	280	Cu. Yd.	Class S Concrete, Abutment Slabs, Using Shrinkage Compensating Cement	280				
SP511A	575	Cu. Yd.	Class S Concrete, Superstructure Deck Slab, Using Shrinkage Compensating Cement			569	6 *	
SP511A	152	Cu. Yd.	Class S Concrete, Barriers And Parapets, Using Type I Cement	48		104		
SP512	31	Sq. Yd.	Membrane Waterproofing (Sheet Type 2)	29	2			
513	655,077	Pound	Structural Steel, AISC Category III, As Per Plan			655,077		2/28
513	180	Each	Welded Stud Shear Connector			180		
SP514	Lump Sum		Surface Preparation Of Existing Steel, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Prime Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Intermediate Coat, System UUU			Lump		
SP514	Lump Sum		Field Painting Of Existing Steel, Finish Coat, System UUU			Lump		
SP514	Lump Sum		Field Cleaning & Touch-Up Of Shop Primer & Connections, System OZEU (Application Of Shop Primer For System IZEU Is Included In The Cost Of Steel), And Field Cleaning & Painting Of Faying Surfaces With Inorganic Zinc			Lump		
516	6	Each	Bearing Devices, Fixed					
516	24	Each	Bearing Devices, Expansion		6		~~6~~	
516	298	Lin. Ft.	Structural Steel Expansion Joint, As Per Plan	12	12		~~24~~	
516	45	Sq. Ft.	1" Preformed Expansion Joint Filler			298		25 & 26/28
SP516B	2,527	Lin. Ft.	Sealing Of Construction Joints		45			
518	596	Cu. Yd.	Porous Backfill With Filter Fabric	1037		1490		
518	449	Lin. Ft.	6" Perforated Corrugated Plastic Pipe, As Per Plan	277	319			
518	87	Lin. Ft.	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	449				G1/G1
518	506	Lin. Ft.	12" Perforated Helical Corrugated Steel Pipe, 707.01	87				G1/G1
SP519	230	Sq. Ft.	Patching Concrete Structures		506			
523	3	Hour	Dynamic Load Test	210			20 ***	
SP525A	Lump Sum		Worker Protection				3 ▲	
SP525A	20	Each	Protective Clothing/Equipment Set				Lump	
SP525A	Lump Sum		Establish Regulated Areas				20	
SP525A	Lump Sum		Paint Waste/Hazardous Waste Classification, Handling And Disposal				Lump	
SP525A	Lump Sum		Containment System				Lump	
SP527	Lump Sum		Falsework, Temporary Bracing And Protective Structures				Lump	
SP529	2	Each	Trim End Of Structural Steel Member				Lump	
SP536	3,052	Sq. Yd.	Concrete Weatherproofing, Deck, Abutment Slabs And Approach Slabs			2		
SP536	1,569	Sq. Yd.	Concrete Weatherproofing, Barriers And Parapets	1,124		1,928		
SP536	1324	Sq. Yd.	Concrete Weatherproofing, Substructure	567		1,002		
601	665	Sq. Yd.	Crushed Aggregate Slope Protection	722	602			
SP825	55,284	Pound	Galvanized Reinforcing Steel, Grade 60				665	
Special	80	Lin. Ft.	Pipe Cleanout	80	55,284			

* As A Contingency 6 Cu. Yd. Of Concrete Has Been Included In The Estimated Quantity For Superstructure Concrete In General Column To Be Used As Directed By The Engineer For Additional Concrete Required In The Haunches Due To Profile Adjustment.

** See Note 14 On Bridge General Notes Sheet G1.

*** See Note 2 On Sheet 2/28.

▲ Load Test Are Contingency Items To Be Used As Directed By The Engineer.

Item SP202, Portions Of Structure Removed, Includes But Is Not Limited To The Following:

Superstructure Concrete	77	Cu. Yd.
Abutment Slab Concrete	19	Cu. Yd.
Concrete Parapets	1075	Lin. Ft.
Substructure Concrete	10	Cu. Yd.
Expansion Joints	8	Lin. Ft.
E.D.C. Conduit And Appurtenances	455	Lin. Ft.
Scuppers	8	Each
Bridge Collector Pipe And Appurtenances	140	Lin. Ft.
Perf. Drains At Piers 1 & 3	506	Lin. Ft.

The Above Quantities Are Given For "Information Only". The Contractor Shall Obtain His Own Quantities to Be Used As A Basis For Determining His Bid Price For Item SP202 – Pactions Of Structure Removed.

ABUT./APPR. SLAB FOUNDATION & ABUTMENT
(Limits of Unclassified Excavation)

SECTION A–A
(Wingwalls & Cell Walls)

PILE FOOTING
(Below Abutment Slab: WBR, EBR, WBF, EBF)

PILE FOOTING
(Below Abutment Slab: EBF)

PILE FOOTING
(Below Abutment Slab: EBF)

Denotes Limits Of Item 503 Unclassified Excavation

● PIER 1 & 3 COLUMNS

● PIER 1 & 3 WALLS

● PIER 2

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ESTIMATED QUANTITIES
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CEW | IN CHARGE: JM | SCALE:

3/28

CONTRACT 77-99-05 SHEET 214 OF 276

OTCK9C

REAR ABUTMENT PLAN

FORWARD ABUTMENT PLAN

NOTES

1. I Denotes Existing Pile Location
2. I Denotes Existing 1:4 Battered Pile Location
3. X I Denotes Proposed Vertical Pile Location And Number.
4. X I Denotes Proposed Battered Pile Location And Number.
5. All Piles Shall Be HP10x42, With Steel Points.
6. Approximate Top Of Bedrock Elevation:
   Rear Abutment– 598.0
   Forward Abutment– 594.0
7. All Piles Shall Be Driven To Bedrock.
8. Max. Calculated Design Load Per Pile = 34.6 Tons/Pile.
9. Max. Allowable Capacity Per Pile = 55 Tons/Pile.
10. See Sheet 5/28 For Piling Table.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
ABUTMENT PILING PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 5/98
DRAWN: CMZ IN CHARGE: JM SCALE:

CONTRACT 77-99-05 SHEET 215 OF 276

4/28

OTCK9C

PIER 1

PIER 3

PIER PILING PLAN

(Note: No New Piles Are Required At Piers 1 & 3.)

NOTES

1. Denotes Existing 1:4 Battered HP12x53 Pile Location At Piers 1 & 3 And Existing 1:14 Battered HP10x42 Pile Location At Pier 2.
2. Denotes Proposed Vertical Pile Location And Number.
3. Denotes Proposed Battered Pile Location And Number.
4. All Piles Shall Be HP10x42, With Steel Points.
5. Approximate Top Of Bedrock Elevation: Pier 2– 594.0
6. All Piles Shall Be Driven To Bedrock.
7. Max. Calculated Design Load Per Pile = 38.5 Tons/Pile.
8. Max. Allowable Capacity Per Pile = 55 Tons/Pile.

Pile No.	Top Cut-Off Elev.	Estimated Length (Ft.)	Batter
–REAR ABUTMENT–			
1	644.36	49.0	1:3
2–20, 46	644.36	47.0	None
21, 22, 23, 25, 27, 29, 31, 32, 34, 36, 38	636.43	40.0	1:4
24, 26, 28, 30, 33, 35, 37, 39, 41, 45	636.43	39.0	None
40	636.43	39.0	1:6
42	641.24	43.0	None
43	639.47	42.0	None
44	637.71	40.0	None
47	640.87	43.0	None
48	639.48	42.0	None
49	638.10	40.0	None
50	636.72	39.0	None
–FORWARD ABUTMENT–			
51, 53, 55, 57, 59, 62, 64, 66, 68, 87	636.43	43.0	None
52	636.43	43.0	1:6
54, 56, 58, 60, 61, 63, 65, 67, 69	636.43	44.0	1:4
70	636.43	43.0	1:8
71	636.43	45.0	1:3
72–81, 86	644.36	51.0	None

Pile No.	Top Cut-Off Elev.	Estimated Length	Batter
82	636.72	43.0	None
83	638.10	44.0	None
84	639.48	46.0	None
85	640.87	47.0	None
88	636.98	43.0	None
89	637.73	44.0	None
90	638.49	45.0	None
91	639.24	46.0	None
92	640.00	46.0	None
93	640.75	47.0	None
94, 99, 100, 105 106–151	641.22	48.0	None
95	635.91	42.0	None
96	635.87	42.0	None
97, 98	639.36	46.0	None
101	636.77	43.0	None
102	637.89	44.0	None
103	639.01	45.0	None
104	640.14	47.0	None
–PIER 2–			
152, 183	616.46	23.0	1:8
153, 182	616.46	23.0	1:6
154–181	616.46	23.0	1:4

PILE TABLE

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER PILING PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: CMZ IN CHARGE: JM SCALE:

CONTRACT 77-99-05 SHEET 216 OF 276

5 / 28

OTCK9C

Note: Abutment Slab And Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details Details See Sheet No. 14/28

ABUTMENT PLAN

SCHEMATIC PLAN

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS	
POINT/LOCATION	W.B. REAR
A	647.36
B	647.50
C	647.46 ±
D	647.75 ±

POROUS BACKFILL DETAIL

(Typ. E.B. Rear, W.B. Rear, & W.B. Fwd.)

DETAIL B

SECTION E-E

(Anchor Dowel Layout)

NOTES

1. Ⓖ Indicates Rear Abutment Girder
2. For Sections A-A & B-B, See Sheet No. 12/28
3. For Abutment Seat Elevations See Sheet No. 9/28
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail This Sheet.
6. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. ▨ Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.
10. W.P.-Work Point

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

6/28

CONTRACT 77-99-0.55 SHEET 217 OF 276

OTCK9C

ABUTMENT PLAN

(E.B. Rear Shown–W.B. Fwd. Similar)

Note: Abutment Slab And Median Barrier Not Shown On Plan View For Clarity. For Dimensions And Details See Sheet No. 15/28

SCHEMATIC PLAN

SECTION F–F

(Anchor Dowel Layout)

DETAIL C

NOTES

1. For Sections C–C & D–D See Sheet No. 12/28
2. (J) Indicates Rear Abutment Girder
   (G) Indicates Forward Abutment Girder
3. For Abutment Seat Elevations See Sheet No. 10/28
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab Or Approach Slab And Laterally As Shown On The Plans. See Porous Backfill Detail Sheet 6/28.
6. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. ▨ Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.
10. W.P.–Work Point

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	E.B. REAR	W.B. FORWARD
A	648.48 ±	648.58 ±
B	648.46 ±	648.56 ±
C	648.33 ±	648.50 ±
D	648.24 ±	648.51 ±
E	647.42	647.77
F	647.62	647.88

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND REAR/WESTBOUND FWD. ABUT. PLA
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-0.55 SHEET 218 OF 276

OTCKS

ABUTMENT PLAN

SCHEMATIC PLAN
(Finished Abutment Slab Elevations)

SLAB & BACKWALL REMOVAL DETAIL

SECTION Y–Y
(Anchor Dowel Details)

NOTES

1. (X) Indicates Forward Abutment Girder
2. For Sections G–G, H–H, I–I, J–J, K–K, L–L M–M, N–N & O–O See Sheet No. 13/28
3. For Abutment Seat Elevations And Section W–W See Sheet No. 11/28.
4. For Piling Plan Layout See Sheet No. 4/28
5. Porous Backfill With Filter Fabric, 2 Feet Thick Shall Extend From The Bottom Of The Footings Up To The Bottom Of The Abutment Slab And Laterally As Shown On The Plans. See Porous Backfill Detail On Sheet No. 11/28.
6. EA619 Dowel Bars, Drill Dowel Holes 1'–3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On This Sheet.
7. Remove A Portion Of The Existing Abutment Slab As Necessary To Accomodate The Installation Of The Expansion Joint.
8. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Abutment Slab, Except As Shown In The Plans.
9. (////) Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.
10. W.P.–Work Point
11. Construction Joints Shown In The Schematic Plan Are Btwn. Grade Beams Only. The Construction Joints Do Not Extend Through The Abutment Slab.

TABLE OF FINISHED ABUTMENT SLAB ELEVATIONS

POINT/LOCATION	E.B. FORWARD ABUT.
A	647.88
B	647.61
C	647.38
D	647.06
E	646.81
F	648.16 ±
G	648.18 ±
H	647.81 ±
I	647.48 ±
J	647.12 ±

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

ABUTMENT ELEVATION

TABLE OF ABUTMENT SEAT ELEVATIONS	
GIRDER LINE	W.B. Rear Abut.
F	642.09
G	642.08
H	642.05

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 6/28
   For Abutment Slab & Barrier Reinforcing See Sheet 14/28
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptabl
4. Epoxy Bar Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, And 3'-11" For #8 Bars Unless Noted Otherwise.
5. For Piling Plan See Sheet 4/28
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal, And Sealed Per Item SP536.
7. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 6/28
8. See Sheet 6/28 For Porous Backfill Details.
9. Ⓖ Indicates Rear Abut. Girder
10. For Abutment Deck Joint Details See Sheet No. 25/28 & 26/28.
11. For Section A-A See Sheet 12/28
12. ▨ Denotes Concrete Removal Per Item SP202.

GRADE BEAM ELEVATION

VIEW P-P

VIEW Q-Q

* See Note 2 On Sheet 2/28.

SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
W.B. Rear Abutment	7 S.F.	11 S.F.
Contingency	-	20 S.F. *
Sub Total		31 S.F. **

** Carried To Est. Qty. Table On Sheet 3/28.

ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

CONTRACT 77-99-05 . SHEET 220 OF 276

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ABUTMENT ELEVATION

TABLE OF ABUTMENT SEAT ELEVATIONS		
BEAM LINE	E.B. Rear Abut.	W.B. Fwd. Abut.
F		642.77
G		642.62
H		642.47
I	642.23	
J	642.43	
K	642.62	

NOTES

1. For Abutment Slab Elevations See Sheet 7/28
   For Abutment Slab & Barrier Reinforcing See Sheet 15/28
2. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 7/28
3. (X) Rear Abut. Girder, (X) Fwd. Abut. Girder
4. For Section C-C See Sheet No. 12/28
5. For Additional Notes See Sheet No. 9/28

GRADE BEAM ELEVATION

SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
E.B. Rear Abutment	59 S.F.	89 S.F.
W.B. Fwd. Abutment	59 S.F.	89 S.F.
Sub Total		178 S.F. **

** Carried To Est. Qty. Table On Sheet 3/28.

ITEM SP519-PATCHING CONCRETE STRUCTURES: Physical Inventory Of Measured Quantities Of Deterioration Was Performed In November, 1996.

Estimated Quantities Have Been Increased By 50% Over Measured Quantities To Allow For Additional Deterioration.

Exact Dimensions And Locations Of Patches Shall Be Determined By The Engineer In The Field For Final Pay Quantity.

VIEW R-R

VIEW S-S

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B. REAR/W.B. FWD. ABUTMENT ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

ABUTMENT ELEVATION

TABLE OF ABUTMENT SEAT ELEVATIONS	
BEAM LINE	E.B. Fwd. Abut.
I	642.40
J	642.44
K	642.48

NOTES

1. Groove And Seal With 705.04 As Shown On ODOT Std. Dwg. BP-2.1 At The Top Of The Barrier. Cost To Be Included With The Cost Of Barrier Concrete.
2. For Abutment Slab Elevations See Sheet 8/28
3. Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Var From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More Than 1/16 Inch. Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptal
4. Epoxy Bar Reinforcing Splice Lengths Shall Be 1'-11" For #5 Bars, 2'-4" For #6 Bars, And 3'-11" For #8 Bars Unless Noted Otherwise.
5. For Piling Plan See Sheet 4/28
6. The Backwall And Bridge Seat At Each Curtain Wall Shall Be Patched Per Item SP519 After Concrete Removal, And Sealed Per Item SP536.
7. EA619 Dowel Bars, Drill Dowel Holes 1'-3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Detail On Sheet 8/28
8. (X) Indicates Fwd. Abut. Girder
9. For Abutment Deck Joint Details See Sheet No. 25/28 26/28.
10. Slope @ 1/8"/Ft. To Drain
11. For Abutment Slab & Barrier Reinforcing See Sheet 16/28

SP519-PATCHING CONCRETE STRUCTURES		
LOCATION	Measured Qty.	Estimated Qty.
E.B. Fwd. Abutment	14 S.F.	21 S.F.
Sub Total		21 S.F. **

** Carried To The Est. Qty. Table On Sht. 3/28

See "ITEM SP519-PATCHING CONCRETE STRUCTURES" Note On Sheet 9/28

POROUS BACKFILL DETAIL

SECTION T-T

SECTION W-W
(See Sht. 8/28 For Location)

VIEW U-U

VIEW V-V

EXISTING E.B. FWD. ABUT. SP519 PATCHING DETAILS

NO.	REVISIONS	BY	D

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT ELEVATIO
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-05 . SHEET 222 OF 27

OTCK

SECTION A–A (W.B. REAR ABUTMENT)

(See Sht. 6/28 For Location)

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barrier Cost To Be Included With The Cost Of Appropriate ~~Abutment Slab And~~ Barrier Concrete Pay Item Or Approach Slab Pay Item.

SECTION B–B (W.B. REAR ABUTMENT)

(See Sht. 6/28 For Location)

BARRIER CRACK CONTROL JOINT

SECTION C–C (E.B. REAR/W.B. FORWARD)

(See Sht. 7/28 For Location)

SECTION D–D (E.B. REAR/W.B. FORWARD)

(See Sht. 7/28 For Location)

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B., W.B. REAR & W.B. FWD. ABUT. SECTIONS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

12/28

CONTRACT 77-99-05 SHEET 223 OF 276

OTCK9C

SECTION G-G

NOTES

1. For Location Of Sectins G-G, H-H, I-I, J-J, K-K, L-L M-M, N-N & O-O See Sheet 8/28

SECTION H-H

SECTION AA-AA

(Typ. Pile Cap
(Reinforcing @ Corners)

SECTION BB-BB

(Typ. Pile Cap Reinforcing)

SECTION I-I

SECTION J-J

SECTION L-L

(Section Shown Parallel To
Abutment Slab Joint)

SECTION M-M

SECTION N-N

SECTION O-O

SECTION K-K

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT SECTIONS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ	CHECKED: JPM	DATE: 6/98
DRAWN: CMZ	IN CHARGE: JM	SCALE:

CONTRACT 77-99-C5 SHEET 224 OF 276

OTCK9C

ABUTMENT SLAB REINFORCING PLAN

SECTION C-C
Section Shown Normal To ℄ Turnpike

Detail A

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202-Portions Of Structure Removed.

W.P.-Work Point

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
WESTBOUND REAR ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER [illegible] R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

14/28

CONTRACT 77-99-05, SHEET 225 OF 276

OTCK9C

ABUTMENT SLAB REINFORCING PLAN

(E.B. Rear Shown–W.B. Fwd. Similar)

SECTION C–C

Section Shown Normal To ℄ Turnpike

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Denotes Concrete Removal Per Item SP202–Portions Of Structure Removed.

W.P.–Work Point

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
E.B. REAR/W.B. FWD. ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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CONTRACT 77-99-05 SHEET 226 OF 276

OTCK9

ABUTMENT SLAB REINFORCING PLAN

BARRIER WALL ELEVATION
(Eastbound Forward Abutment Only)

ROADWAY BARRIER WALL ELEVATION
(Westbound Forward Roadway Barrier Only)

TYPICAL TRANSVERSE SECTION
Section Shown Normal To ℄ Turnpike

(*) Seal Construction Joint As Per Item SP516B

(***) Groove And Seal With 705.04 As Shown On ODOT Standard Drawing BP-2.1, At The Top Of The Barriers. Cost To Be Included With The Cost Of Appropriate Barrier Concrete Pay Item Or Approach Slab Pay Item.

Detail "B"

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
EASTBOUND FORWARD ABUTMENT SLAB PLAN
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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16/28

CONTRACT 77-99-05 SHEET 227 OF 278

OTCKS

PIER PLAN

Table Of Pier Seat Elevations		
Location 276	Pier 1	Pier 3
Beam F	641.76	642.13
Beam G	641.73	642.02
Beam H	641.67	641.90
Beam I	641.81	641.90
Beam J	641.98	641.99
Beam K	642.13	642.06

*—Located Along ℄ Pier Bearing

PIER ELEVATION

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D
(Dowel Layout)

NOTES

1. Galvanized Reinforcing Splice Lengths: Shall Be 6'-9" For # 11 Bars, And 4'-4" For #9 Bars Unless Otherwise Noted.

2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.

3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.

4. For Existing Foundation Plan Layout See Sheet 5/28.

5. (X) —Denotes Girder @ Pier 1.

   (X) —Denotes Girder @ Pier 3.

6. Reinforcing Shown Is Typical For Both Piers Unless Otherwise Noted.

7. GP901 & GP1101 Dowel Bars, Drill Holes As Shown. Grout Bars In Place As Per SP853.

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER 1 & 3
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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CONTRACT 77-99-05 SHEET 229 OF 276

18/28

OTCK9(

PIER PLAN

PIER ELEVATION

Table Of Pier Seat Elevations	
Location *	Pier 2
Beam F	642.91
Beam G	642.83
Beam H	642.75
Beam I	642.83
Beam J	642.95
Beam K	643.06

*–Located Along ℄ Pier Bearing

NOTES

1. Reinforcing Splice Lengths: Shall Be 2'–1" For #6 Bars, 2'–6" For #7 Bars, 6'–9" For #11 Bars, Unless Otherwise Noted.
2. Surface Under Bearings: Special Care Shall Be Taken To Finish The Concrete Under Bearings To A Flat, Level Surface. The Concrete Surface Shall Be Steel Trowel Finished Without Brushing And The Flatness Of The Finished Surface Shall Not Vary From A Straight Edge Laid On The Surface In Any Direction Within The Limits Of The Bearing Footprint By More than 1/16". Surfaces Which Fail To Conform To The Required Flatness Shall Be Ground Until Acceptable.
3. Minimum Clearance To Reinforcing Shall Be 2" Unless Otherwise Noted.
4. For Foundation Plan Layout See Sheet 5/28
5. Pier Seat Reinforcing In The Vicinity Of The Pier Seat Shall Be Accurately Placed To Avoid Interference With The Drilling Of Anchor Bolt Holes Or The Presetting Of Bearing Anchors.
6. Bearing Anchor Bolts Shall Be Galvanized According To 711.02, And Grouted Using SP853 Grout Anchoring If Not Pre-Set.
7. GP602 Dowel Bars, Drill Holes 1'–3" Deep. Grout Bars In Place As Per SP853. See Anchor Dowel Details This Sheet.

SECTION A–A

SECTION B–B

SECTION D–D

SECTION C–C
(GP602–Anchor Dowel Details)
See Note 7

KEYED JOINT DETAIL

NO.	REVISIONS	BY	DA

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
PIER 2
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
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CONTRACT 77-99-05 SHEET 230 OF 276

OTCK9

FRAMING PLAN
(Rear Abutment To Pier 2 Shown)

FRAMING PLAN
(Pier 2 To Forward Abutment Shown)

LEGEND

(C) Region Of Compression Only In Top Flange

(T) Region Of Tension Only In Top Flange

(R) Region Of Reversal In Top Flange

(*) Denotes Existing ASTM A7 Steel Beams W/Cover Plates

HALF GIRDER ELEVATION
(WB Fascia Girder Shown)

NOTES

1. For Details Of Expansion Bearings At Abutments And Piers 1 & 3 See ODOT Std. Dwg. RB-1-55. For Details Of Fixed Bearings At Pier 2 See ODOT Std. Dwg. FB-1-82.
2. For Additional Steel Details And Notes See Sheets 21/28 & 22/28.

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
FRAMING PLAN & ELEVATION
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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20/28

CONTRACT 77-99-05 SHEET 231 OF 276

OTCK9C

@ NEW GIRDERS

(See Sheet 20/28 For Flange Plate Sizes.)

@ EXISTING FASCIA BEAMS

ELEVATION

FIELD SPLICE DETAIL 1 & 4

(Top & Bottom Flange PL Typ.)

ELEVATION

FIELD SPLICE DETAIL 2 & 3

(Top & Bottom Flange PL Typ.)

TYPICAL WELD END DETAIL

DETAIL B

(Typical Intermediate Diaphragm)

INTERMEDIATE DIAPHRAGM CONNECTION DETAILS

(***) Grind Connection Plate Edges In Accordance With SP514A Or SP514B

SECTION B–B

MODIFIED INTERMEDIATE DIAPHRAGM CONNECTION DETAILS

SECTION A–A

GIRDER END DETAILS

(Typical For All New Girders)

(See Sheet 20/28 For Flange Plate Sizes.)

Notes

1. (CJP) Denotes Complete Joint Penetration Weld. Weld Reinforcement For Full Penetration Welds Shall Be Removed By Grinding In The Direction Of The Main Stress.

2. For Additional Notes See Sheet 22/28

DETAIL A

(Top & Bottom Flange PL Typ.)

See Note 1

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OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS I
OHIO TURNPIKE OVER ABANDONED R.R. (83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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21/28

CONTRACT 77-99-05 SHEET 232 OF 276

OTCK9C

SECTION B-B

SECTION A-A

EXISTING REMOVAL PLAN
(Reinforcement Not Shown)

PROPOSED PLAN

MEDIAN SCUPPER REMOVAL & REPAIR DETAILS

(Westbound Shown, Eastbound Similar)

(See Sheet 1/28 For 8 Existing Scupper Locations)

PLAN

ELEVATION

TYPICAL END DIAPHRAGM DETAILS

NOTES:

1. Where A Shape Or A Plate Is Designated (CVN) The Material Shall Meet Specified Minimum Notch Toughness Requirements As Specified In 711.01 Of CMS.
2. Welded Attachments For Supports Of Concrete Deck Finishing Machine Or Any Other Purpose Is Prohibited. Only Those Welds Shown On The Plan For Attachment Of Shear Stud Connectors, Bearings, Expansion Joint Supports, And Connection Plates Or Stiffeners Shall Be Permitted.
3. During The Erection Of End Diaphragms, Care Should Be Taken To Ensure That Stringers, Bearing Parts And Bridge Seats Remain In Bearing Contact.
4. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean Any Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
5. High Strength Bolts Shall Be 1" Diameter, Galvanized And Shall Conform To ASTM A325, SP514, SP514A Or SP514B And SP711.
6. Due To Differential Deflections Between Girders, Initially Place Intermediate Diaphragms Between All Girder Lines Finger Tight. Complete Tightening After Bridge Deck Has Cured.
7. Welded Stud Shear Connectors Shall Conform To AASHTO M-169 And Item 513.
8. The Holes In Connection Plates Attached To Existing Beams At Intermediate And End Diaphragms, Shall Be Field Drilled Per CMS 513.14.
9. Trim End Of Existing W.B. Median Beam At The Forward Abut. And The E.B. Outside Beam At The Rear Abut. To A Min. Clear Distance Of 3" Measured Normal To The Backwall. To Be Paid For Per Item SP529.

LEGEND

- Deck & Parapet To Be Removed Per Item SP202
- Scupper To Be Removed Per Item SP202

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS II
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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CONTRACT 77-99-05 SHEET 233 OF 276

OTCK9C

TYPICAL TRANSVERSE SECTION

BARRIER REINFORCEMENT

BARRIER PANEL ELEVATION

BARRIER DEFLECTION JOINT

DETAIL A

SECTION A-A

NOTES:

1. Reuse Portion Of Exposed Exist. Deck Reinforcing In New Widening. Clean And Repair Damaged Epoxy Coating As Per CMS 709. The Cost To Be Incidental To Item SP202, Portions Of Structure Removed.
2. EPOXY COATED REINFORCING SPLICE LENGTHS Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, 2'-3" For #6 Bars Unless Noted Otherwise.
3. (*) See General Note 1, On Sheet 2/28.
4. ▨ Denotes Removal As Per Item SP202-Portions Of Structure Removed.
5. For Additional Diaphragm Notes And Details, See Sheets 21 & 22/28.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
TYPICAL TRANSVERSE SECTION & DETAILS
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.W.	CHECKED: J.P.M.	DATE: 6/98
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23/28

CONTRACT 77-99-05 SHEET 234 OF 276

OTCK9C

DECK SLAB PLAN

(Westbound Bridge Shown, Eastbound Bridge Similar)
(Scupper Removal Areas Not Shown)

FINISHED PAVEMENT ELEVATIONS: The Elevations Shown Are Finished Deck Elevations. Proper Allowance Shall Be Made For The Dead Load Deflections Caused By The Weight Of The Deck Concrete. Refer To General Notes For Additional Information.

FINISHED DECK ELEVATIONS

LOCATION	SPAN 1				SPAN 2					SPAN 3				SPAN 4			
	℄ Brg. R.A.	¼	½	¾	℄ Brg. Pier-1	FS-1	½	FS-2	℄ Brg. Pier-2	FS-3	½	FS-4	℄ Brg. Pier-3	¼	½	¾	℄ Brg. F.A.
Exist. Beam Line "E"	647.57	67.63	647.74	647.84	647.93	647.98	648.11	648.21	648.24	648.26	648.33	648.35	648.38	648.40	648.40	648.40	648.38
Girder Line "F"	647.52	647.63	647.73	647.82	647.91	647.96	648.12	648.14	648.17	648.19	648.24	648.26	648.28	648.28	648.28	648.26	648.24
Girder Line "G"	647.52	647.62	647.71	647.79	647.87	647.92	648.00	648.06	648.09	648.11	648.15	648.16	648.17	648.16	648.15	648.12	648.09
Girder Line "H"	647.52	647.60	647.68	647.75	647.82	647.87	647.93	647.98	648.01	648.03	648.05	648.04	648.04	648.03	648.01	647.97	647.94
Toe Median Barrier (W.B.)	647.52	647.60	647.67	647.75	647.81	647.86	647.92	647.96	647.99	648.01	648.02	648.02	648.02	648.00	647.98	647.95	647.90
Toe Median Barrier (E.B.)	647.65	647.74	647.81	647.87	647.93	647.96	648.02	648.05	648.06	648.07	648.07	648.05	648.03	648.00	647.96	647.91	647.86
Girder Line "I"	647.69	647.77	647.84	647.91	647.96	647.99	648.04	648.08	648.09	648.09	648.09	648.07	648.05	648.02	647.98	647.93	647.87
Girder Line "J"	647.90	647.97	648.03	648.08	648.12	648.15	648.19	648.20	648.21	648.21	648.21	648.17	648.13	648.09	648.04	647.98	647.91
Girder Line "K"	648.09	648.15	648.20	648.24	648.28	648.31	648.32	648.31	648.32	648.31	648.29	648.25	648.21	648.15	648.09	648.03	647.95
Exist. Beam Line "L"	648.27	648.32	648.36	648.40	648.42	648.45	648.44	648.33	648.43	648.41	648.37	648.32	648.27	648.21	648.14	648.06	647.97

DEFLECTION AND CAMBER SCHEDULE *

All New Girders

Westbound Lanes	Span-1			Span-2			Span-3			Span-4		
	¼	½	¾	FS-1	½	FS-2	FS-3	½	FS-4	¼	½	¾
Deflection Due To Weight Of Steel	¼"	¼"	⅛"	1/16"	⅛"	1/16"	1/16"	⅛"	1/16"	⅛"	¼"	¼"
Deflection Due To Remaining D.L.	⅞"	⅞"	11/16"	¼"	7/16"	3/16"	3/16"	7/16"	¼"	11/16"	⅞"	⅞"
Adjustment Due To Vertical Curve	⅛"	3/16"	⅛"	⅛"	¼"	1/16"	1/16"	¼"	⅛"	⅛"	3/16"	⅛"
Required Shop Camber	1¼"	1 5/16"	15/16"	7/16"	13/16"	5/16"	5/16"	13/16"	7/16"	15/16"	1 5/16"	1¼"

*—Positive Values Indicate Camber Above Chord Between Adjacent Bearings.

DEFLECTION AND CAMBER SCHEDULE * *

All New Girders

Eastbound Lanes	Span-1			Span-2			Span-3			Span-4		
	¼	½	¾	FS-1	½	FS-2	FS-3	½	FS-4	¼	½	¾
Deflection Due To Weight Of Steel	¼"	¼"	⅛"	1/16"	⅛"	1/16"	1/16"	⅛"	1/16"	⅛"	¼"	¼"
Deflection Due To Remaining D.L.	⅞"	⅞"	7/16"	¼"	7/16"	3/16"	3/16"	7/16"	¼"	7/16"	⅞"	⅞"
Adjustment Due To Vertical Curve	3/16"	¼"	3/16"	⅛"	¼"	1/16"	1/16"	¼"	⅛"	3/16"	¼"	3/16"
Required Shop Camber	1 5/16"	1⅜"	¾"	7/16"	13/16"	5/16"	5/16"	13/16"	7/16"	¾"	1⅜"	1 5/16"

CAMBER DIAGRAM

NOTES:

1. Epoxy Coated Reinforcing Splice Lengths Shall Be 1'-6" For #4 Bars, 1'-11" For #5 Bars, 2'-3" For #6 Bars Unless Noted Otherwise.
2. Longitudinal Or Transverse Construction Joints Shall Not Be Permitted In The Deck Slab, Except Where Shown.
3. See "Typical Transverse Section & Details", Sheet 23/28 For Additional Information.
4. See Sheet 25 & 26/28 For Additional Deck Joint Information.
5. Longitudinal Reinforcement Shall Be Alternated, As Shown, For Both Top And Bottom Mats.
6. See "Scupper Removal & Repair Details", Sheet 22/28 For Additional Information.
7. Adjust Reinforcement Bars At Deck Joints To Clear Joint Plates (Typ.). See Sheet 25 & 26/28 For Details.

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
SUPERSTRUCTURE DETAILS III
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.W. CHECKED: J.P.M. DATE: 6/98
DRAWN: C.E.W. IN CHARGE: J.M. SCALE:

24/28 CONTRACT 77-99-05 SHEET 235 OF 276

OTCK9C

ABUTMENT DECK JOINT DIMENSIONS

(Rear Abutment, WB And Forward Abutment, EB Shown)
(Forward Abutment, WB And Rear Abutment, EB Reverse)

DETAIL B
(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

TYPICAL EXPANSION JOINT
(SECTION A-A)
**-Denotes Measured At 60° F

DETAIL A
(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

SECTION B-B

SECTION C-C

NO.	REVISIONS	BY	DAT

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
DECK JOINT DETAILS I
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

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25/28

CONTRACT 77-99-05 . SHEET 236 OF 27

ABUTMENT DECK JOINT DIMENSIONS

(Rear Abutment, EB And Forward Abutment, WB Shown)
(Forward Abutment, EB And Rear Abutment, WB Reverse)

DETAIL C

(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

DETAIL D

(Detail Location Shown On Sheet 24/28.)
(Proposed Deck Reinforcement Shown)

SECTION B-B

Showing Removal Limits Of Existing Joint Where Proposed And Existing Work Meet.

NOTES:

1. Field Cutting Of The Existing Joint Armor At The Proposed Field Splice Locations Shall Be Completed By Methods Of Saw Cutting. No Burning Of The Existing Joint Armor At This Location Will Be Permitted. The Location Of The Field Splice Shall Be Field Verified. This Location Shall Also Extend A Minimum Distance Beyond The Concrete Removal Of The Deck And Abutment Slabs So That Field Weld Attachment Of New Joint Extension Can Be Achieved.
2. Existing Deck Elevations Shall Be Field Verified By The Contractor Before Fabrication Of Deck Joints. See General Note 6, On Sheet G1.
3. Use Extreme Care In Removing Deck And Abutment Slab Concrete In Vicinity Of Existing Joint Armor To Remain.

TABLE OF ELEVATIONS

LOCATION	ELEV. "A" @ Field Splice	ELEV. "B" @ Barrier
Rear Abut. (WB)	647.57±	647.51
Forward Abut. (WB)	648.38±	647.89
Rear Abut. (EB)	648.27±	647.64
Forward Abut. (EB)	647.97±	647.85

NO.	REVISIONS	BY	DATE

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
DECK JOINT DETAILS II
OHIO TURNPIKE OVER ABANDONED R.R. (M.P. 83.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: C.E.W. CHECKED: J.P.M. DATE: 6/98
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MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA401	76	9'-0"		XVI	457
EA501	52	40'-0"		Str.	2169
EA502	10	15'-1"		I	157
EA503	10	14'-6"		IV	151
EA504	24	36'-11"		Str.	924
EA505	192	6'-6"		VII	1302
EA506	2	8'-8"		VII	18
EA507	2 Ser. Of 3	7'-4" To 8'-2"	0'-5"	VII	48
EA508	36	37'-9"		Str.	1418
EA509	146	7'-3"		VII	1104
EA510	2	9'-0"		VII	19
EA511	2	8'-6"		VII	18
EA512	2 Ser. Of 5	6'-8" To 8'-3"	0'-4¾"	VII	78
EA513	141	5'-9"		VII	846
EA514	60	7'-9"		VII	485
EA515	60	7'-11"		VII	495
EA516	1 Ser. Of 3	5'-0" To 5'-9"	0'-4½"	VII	17
EA517	4 Ser. Of 4	5'-9" To 7'-1"	0'-5⅝"(-)	VII	107
EA518	52	38'-1"		Str.	2066
EA519	10	10'-2"		IV	106
EA520	10	8'-8"		IV	91
EA521	24	36'-6"		Str.	914
EA522	4 Ser. Of 4	6'-4" To 7'-11"	0'-6⅜"(-)	VII	119
EA523	2	6'-0"		VII	13
EA524	6	8'-8"		XI	55
EA525	2 Ser. Of 4	7'-1" To 8'-2"	0'-4⅜"(-)	VII	64
EA526	2	5'-6"		VII	11
EA527	4	7'-3"		Str.	31
EA528	4	12'-11"		Str.	54
EA529	4	18'-7"		Str.	78
EA530	8	25'-10"		Str.	216
EA531	4	23'-10"		Str.	100
EA532	4 Ser. Of 17	6'-3" To 11'-7"	0'-4"	VII	633
EA533	8	9'-2"		Str.	77
EA534	8	16'-9"		Str.	140
EA535	8	24'-3"		Str.	203
EA536	16	31'-6"		Str.	526
EA537	8	29'-6"		Str.	247
EA538	8 Ser. Of 20	7'-1" To 12'-7"	0'-3½"(-)	VII	1641
EA539	2	15'-4"		Str.	32
EA540	2	30'-3"		Str.	63
EA541	4	23'-8"		Str.	99
EA542	4	31'-1"		Str.	130
EA543	8	33'-4"		Str.	278
EA544	2 Ser. Of 40	6'-5" To 12'-5"	0'-1⅞"(-)	VII	786
EA545	24	24'-11"		Str.	624
EA546	490	6'-5"		VII	3280
EA547	24	29'-6"		Str.	739
EA548	12	19'-7"		Str.	245
EA549	150	11'-1"		XIV	1734
EA550	2 Ser. Of 3	14'-1" To 33'-8"	9'-9½"	Str.	150
EA551	174	11'-0"		XV	1997
EA552	2 Ser. Of 3	6'-5" To 13'-3"	0'-2¾"(-)	VII	636
EA553	12	23'-6"		Str.	294
EA554	2 Ser. Of 4	5'-4" To 6'-7"	0'-5"	VII	50
EA555	2 Ser. Of 5	4'-7" To 16'-9"	3'-0½"	Str.	112
EA556	3	14'-0"		XII	44
EA557	6	21'-11"		Str.	138
EA558	6	12'-0"		XIII	75
EA559	2 Ser. Of 14	6'-5" To 15'-1"	0'-8"	VII	314
EA560	24	22'-2"		Str.	555
EA561	6	25'-9"		Str.	161
EA562	2 Ser. Of 5	6'-3" To 17'-0"	2'-8¼"(-)	Str.	122
EA563	6	23'-11"		IV	150
EA564	2 Ser. Of 15	6'-3" To 15'-3"	0'-7¾"(+)	VII	337
EA565	3	9'-4"		IV	30
EA566	8	4'-5"		XVII	37
EA601	366	12'-6"		VII	6872
EA602	4	14'-7"		VII	88
EA603	4 Ser. Of 5	12'-4" To 14'-3"	0'-5¼"	VII	400
EA604	6 Ser. Of 5	9'-11" To 11'-11"	0'-6"	VII	492
EA605	6	12'-9"		VII	115
EA606	192	13'-6"		VII	3894
EA607	2	15'-8"		VII	47
ABUTMENT SUB-TOTAL (Lbs.) =					42,318

(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EA608	2 Ser. Of 3	14'-4" To 15'-2"	0'-5"	VII	133
EA609	2	12'-4"		VII	74
EA610	2	25'-0"		V	75
EA611	4 Ser. Of 4	10'-9" To 11'-10"	0'-4⅜"(-)	VII	136
EA612	2	12'-11"		VII	39
EA613	2 Ser. Of 3	14'-6" To 15'-2"	0'-4"	VII	134
EA614	6	27'-2"		Str.	245
EA615	12	32'-8"		Str.	589
EA616	6	33'-10"		Str.	305
EA617	4	9'-10"		VII	59
EA618	2	26'-3"		V	79
EA619	80	3'-6"		Str.	421
EA620	2	24'-2"		Str.	73
EA621	2	24'-2"		V	73
EA801	24	40'-0"		Str.	2564
EA802	2	20'-4"		I	109
EA803	2	15'-5"		IV	83
EA804	48	38'-10"		Str.	4977
EA805	2	8'-8"		IV	47
EA806	2	10'-1"		IV	54
ABUTMENT SUB-TOTAL (Lbs.) =					10,269
(EPOXY COATED) ABUTMENT TOTAL (Lbs.) =					52,587

ABUTMENT SLAB REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS401	84	0'-9"		IV	42
EAS501	42	10'-8"		Str.	468
EAS502	1 Ser. Of 24	1'-9" To 9'-6"	0'-4"(+)	Str.	141
EAS503	1 Ser. Of 27	3'-3" To 11'-10"	0'-3⅛"(+)	Str.	213
EAS504	1	32'-11"		Str.	35
EAS505	2	19'-4"		IV	41
EAS506	40	38'-5"		Str.	1603
EAS507	2	38'-9"		IV	81
EAS508	2	38'-10"		IV	81
EAS509	4	37'-11"		Str.	159
EAS510	70	12'-9"		Str.	931
EAS511	2 Ser. Of 36	2'-11" To 14'-5"	0'-4"(-)	Str.	651
EAS512	2 Ser. Of 30	1'-11" To 11'-6"	0'-2⅜"(+)	Str.	420
EAS513	2	12'-7"		IV	27
EAS514	2	13'-10"		IV	29
EAS515	4	21'-11"		Str.	92
EAS516	52	39'-5"		Str.	2138
EAS517	2	38'-6"		Str.	81
EAS518	2	39'-11"		IV	84
EAS519	4	14'-1"		Str.	59
EAS520	1 Ser. Of 14	5'-0" To 40'-0"	2'-8¼"(+)	Str.	329
EAS521	86	40'-0"		Str.	3588
EAS522	1 Ser. Of 10	10'-7" To 37'-6"	2'-11⅞"(+)	Str.	251
EAS523	1 Ser. Of 25	18'-8" To 30'-5"	0'-5⅞"	Str.	640
EAS524	333	5'-8"		VII	1969
EAS525	12	33'-9"		Str.	423
EAS526	48	22'-5"		Str.	1123
EAS527	72	36'-5"		Str.	2735
EAS528	·	NOT USED		·	·
EAS529	12	13'-6"		Str.	169
EAS530	4	13'-6"		VIII	57
EAS531	24	3'-1"		II	78
EAS532	4	31'-6"		Str.	131
EAS533	4	3'-6"		Str.	15
EAS601	85	10'-8"		Str.	1362
EAS602	1 Ser. Of 48	1'-9" To 9'-7"	0'-2"	Str.	409
EAS603	1 Ser. Of 53	3'-3" To 12'-0"	0'-2"(+)	Str.	607
EAS604	1	32'-11"		Str.	50
EAS605	2	19'-8"		IV	60
EAS606	52	39'-7"		Str.	3092
EAS607	2	38'-8"		Str.	117
EAS608	2	39'-11"		IV	120
EAS609	4	14'-5"		Str.	87
EAS610	1 Ser. Of 14	5'-0" To 40'-0"	2'-8¼"(+)	Str.	474
EAS611	86	40'-0"		Str.	5167
EAS612	1 Ser. Of 10	10'-7" To 37'-6"	3'-0"(-)	Str.	362
EAS613	1 Ser. Of 25	20'-0" To 31'-9"	0'-5⅞"	Str.	972
EAS614	333	2'-0"		IV	1001
ABUTMENT SLAB SUB-TOTAL (Lbs.) =					32,764

ABUTMENT SLAB REINFORCEMENT (Cont.)
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
EAS615	333	2'-10"		VI	1418
EAS616	333	5'-5"		I	2710
EAS617	·	NOT USED		·	·
EAS618	20	1'-5"		Str.	43
EAS619	36	2'-5"		Str.	131
EAS620	20	2'-2"		VI	66
EAS621	4	31'-6"		Str.	189
EAS622	4	3'-6"		Str.	21
EAS623	8	6'-0"		Str.	72
EAS701	138	12'-9"		Str.	3597
EAS702	2 Ser. Of 72	2'-11" To 14'-5"	0'-2"(-)	Str.	2551
EAS703	2 Ser. Of 60	1'-11" To 11'-7"	0'-2"(-)	Str.	1656
EAS704	2	24'-3"		IV	100
EAS705	2	25'-6"		IV	105
EAS706	4	22'-7"		Str.	185
EAS707	268	23'-9"		Str.	13010
EAS708	1 Ser. Of 20	3'-5" To 22'-7"	1'-0"(+)	Str.	532
EAS709	1 Ser. Of 131	3'-4" To 24'-4"	0'-2"(-)	Str.	3704
EAS710	2	26'-6"		Str.	109
EAS711	4	38'-1"		Str.	312
EAS712	9	18'-4"		Str.	337
EAS801	268	23'-9"		Str.	16995
EAS802	1 Ser. Of 20	3'-5" To 22'-7"	1'-0"(+)	Str.	695
EAS803	1 Ser. Of 131	3'-4" To 24'-4"	0'-2"(-)	Str.	4839
EAS804	9	18'-4"		Str.	441
ABUTMENT SLAB SUB-TOTAL (Lbs.) =					53,818
(EPOXY COATED) ABUTMENT SLAB TOTAL (Lbs.) =					86,582

SUPERSTRUCTURE REINFORCEMENT
(Epoxy Coated)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
ES401	88	39'-10"		IX	2342
ES402	560	40'-0"		Str.	14964
ES403	64	18'-0"		IX	770
ES404	4 Ser. Of 4	22'-1" To 18'-11"	1'-0⅝"(+)	IX	219
ES405	204	37'-4"		Str.	5088
ES406	16	4'-4"		Str.	47
ES501	1078	24'-10"		Str.	27922
ES502	2 Ser. Of 126	25'-4½" To 3'-1⅝"	2⅛"	Str.	3747
ES503	20	3'-0"		Str.	63
ES504	2 Ser. Of 115	22'-2¼" To 1'-10¾"	2⅛"	Str.	2889
ES505	648	40'-0"		Str.	27035
ES506	48	20'-4"		Str.	1018
ES507	32	25'-3"		Str.	843
ES508	8	5'-2"		Str.	44
ES509	736	5'-8"		II	4350
ES601	1078	24'-10"		Str.	40209
ES602	2 Ser. Of 126	25'-4½" To 3'-1⅝"	2⅛"	Str.	5396
ES603	20	3'-0"		Str.	91
ES604	2 Ser. Of 115	22'-2¼" To 1'-10¾"	2⅛"	Str.	4160
ES605	16	40'-0"		Str.	962
ES606	16	5'-4"		Str.	129
ES607	736	2'-11"		VI	3225
ES608	736	2'-0"		IV	2211
ES609	736	5'-5"		I	5988
(EPOXY COATED) SUPERSTRUCTURE TOTAL (Lbs.) =					153,712

See Sheet 28/28 For Pier Reinforcement And Bending Diagrams.

NO.	REVISIONS	BY	DATE
·	·	·	·
·	·	·	·

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE I
OHIO TURNPIKE OVER [illegible] R.R. (M.P. 85.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CMZ CHECKED: JPM DATE: 6/98
DRAWN: DMS IN CHARGE: JM SCALE:

CONTRACT 77-92-05, SHEET 238 OF 276

PIER REINFORCEMENT
(Galvanized)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
GP401	144	7'-4"		VII	706
·	·	·		·	·
GP602	48	3'-6"		Str.	253
GP701	260	6'-10"		IV	3632
GP702	104	31'-1"		Str.	6608
GP703	130	24'-10"		VII	6599
GP901	84	6'-7"		Str.	1880
GP902	84	11'-3"		Str.	3213
GP1101	72	10'-2"		Str.	3889
GP1102	60	13'-10"		Str.	4410
GP1103	44	12'-3"		Str.	2864
GP1104	88	12'-7"		Str.	5884
GP1105	44	13'-4"		Str.	3117
GP1106	66	10'-11"		Str.	3828
GP1107	22	13'-6"		Str.	1578
		(Galvanized) PIER TOTAL (Lbs.) =			48,461

PIER FOOTING REINFORCEMENT
(Black)

MARK	NUMBER	LENGTH	SERIES INCR.	TYPE	WEIGHT (Lbs.)
P601	32	31'-10"		Str.	1530
P901	130	9'-0"		X	3978
		(Black) FOOTING TOTAL (Lbs.) =			5,508

PIER SPIRAL REINFORCING
(Hot Dipped Galvanized, Coated As Per SP825)

MARK	NUMBER	CORE DIA. OF SPIRAL	LENGTH	PITCH	# TURNS	WEIGHT (Lbs.)
GSP401	4	36"	12'-3"	0'-3"	52	1488
GSP402	8	36"	12'-6"	0'-3"	53	2953
GSP403	4	36"	13'-4"	0'-3"	57	1587
GSP404	2	36"	13'-6"	0'-3"	57	795
		(Galvanized) TYPE III SPIRAL TOTAL (Lbs.) =				6,823

BAR MARKS
Bar Marks With Prefix E Are Epoxy Coated, As Per SP509.
Bar Marks With Prefix G Are Hot Dipped Galvanized As Per SP825.

THE BAR SIZE NUMBER Is Specified On The Plans In The Bar Mark Column. The First Digit Where Three Digits Are Used, And The First Two Digits Where Four Digits Are Used, Indicates The Bar Size Number. For Example, P601 Is A No. 6 Bar. Bar Dimensions Shown Are Out To Out Unless Otherwise Indicated. I.R. Indicates Inside Radius, Unless Otherwise Indicated. "STD." Written In Place Of A Dimension Indicates A Standard Bend At The End Of The Bar.

EPOXY COATED REINFORCING STEEL SUPPORT: In Accordance With The Requirements Of SP509 And 509.09, The Top And Bottom Mats Of All Longitudinal And Transverse Epoxy Coated Reinforcing Steel Shall Be Supported By Approved Epoxy Coated Devices With Spacing Not Exceeding 3'-0" Centers In Each Direction. Broken Concrete, Bricks, Etc. Shall Not Be Used For Support Of Reinforcing Steel.

REINFORCEMENT STEEL SAMPLES: Refer to O.T.C. General Conditions G-6.02 And CMS Section 700, 709.01 Through 709.05 And 709.08. Sufficient Additional Reinforcing Steel Shall Be Provided For Sampling. Random Samples Shall Be Replaced In The Structures By The Additional Steel, Spliced In Accordance With 509.08.

SPIRAL REINFORCING BARS: The "Length" Shown In The Steel List For The Spiral Bars Is The Distance From The Top Of Pier Wall To 2" (Min.) Below The Top Of Column. Spiral Reinforcing Bars May Have Deformations And Shall In Other Respects Conform To Item SP825. 1-1/2 Turns Of Closed Coils Shall Be Provided At The Ends Of Each Spiral Unit.

BENDING DIAGRAMS

TYPE I

MARK	"a"	"b"	"c"	I.R.
EA502	0'-0"	9'-1"	5'-4"	0'-3¼"
EA802	0'-0"	10'-1"	9'-6"	0'-3¼"
EAS616	0'-7½"	2'-5"	2'-3"	0'-2⅛"
ES609	0'-7½"	2'-5"	2'-3"	0'-2⅛"

TYPE II

MARK	"a"	"b"	"c"
ES509	2'-9"	0'-5"	2'-9"
EAS531	2'-5"	0'-5"	0'-5"

TYPE III

MARK	"a"	"b"
GSP401	0'-3"	3'-0"
GSP402	0'-3"	3'-0"
GSP403	0'-3"	3'-0"
GSP404	0'-3"	3'-0"

TYPE VIII
EAS530

TYPE IV

MARK	"a"	"b"
EAS401	0'-8"	0'-2"
EA503	9'-8"	4'-11"
EA519	9'-7"	0'-8"
EA520	7'-5"	1'-5"
EA563	23'-2"	0'-10"
EA565	7'-11"	1'-6"
EA803	10'-8"	4'-11"
EA805	7'-5"	1'-5"
EA806	9'-7"	0'-8"
EAS505	17'-9"	1'-8"
EAS507	37'-6"	1'-4"
EAS508	38'-4"	0'-7"
EAS513	11'-7"	1'-1"
EAS514	11'-7"	2'-4"
EAS518	38'-6"	1'-6"
EAS605	18'-1"	1'-8"
EAS608	38'-8"	1'-6"
EAS614	1'-6"	0'-7½"
EAS704	23'-4"	1'-1"
EAS705	23'-4"	2'-4"
GP701	5'-10"	1'-2"
ES608	1'-6"	0'-7½"

TYPE V

MARK	"a"	"b"	"c"
EA610	1'-6½"	3'-1½"	21'-8"
EA618	0'-4¾"	2'-7½"	23'-9"
EA621	0'-8⅝"	1'-6¾"	22'-7"

TYPE VI

MARK	"a"	"b"	"c"	"d"	"e"
EAS615	0'-10"	0'-10½"	0'-6"	0'-7"	0'-8½"
EAS620	0'-0"	0'-8½"	0'-6"	0'-8"	0'-8½"
ES607	0'-10"	0'-10½"	0'-6"	0'-7"	0'-8½"

TYPE VII

MARK	"a"	"b"	Bar Incr.
EA505	0'-11"	2'-11"	·
EA506	3'-1"	2'-11"	·
EA507	1'-9" To 2'-7"	2'-11"	0'-5"
EA509	2'-8"	2'-5"	·
EA510	3'-5"	2'-11"	·
EA511	2'-11"	2'-11"	·
EA512	1'-1" To 2'-8"	2'-11"	0'-4¾"(+)
EA513	1'-4"	2'-4"	·
EA514	2'-8"	2'-8"	·
EA515	2'-8"	2'-9"	·
EA516	0'-7" To 1'-4"	2'-4"	0'-4½"
EA517	1'-2" To 2'-6"	2'-5"	0'-5⅜"(-)
EA522	1'-1" To 2'-8"	2'-9"	0'-6⅜"(-)
EA523	0'-5"	2'-11"	·
EA525	1'-6" To 2'-7"	2'-11"	0'-4⅜"(-)
EA526	1'-1"	2'-4"	·
EA532	1'-2"	2'-8" To 5'-4"	0'-2"(-)
EA538	1'-2"	3'-1" To 5'-10"	0'-1¾"
EA544	1'-2"	2'-9" To 5'-9"	0'-0⅞"(+)
EA546	1'-2"	2'-9"	
EA552	1'-2"	2'-9" To 6'-2"	1⅜"(-)
EA554	1'-3" To 2'-6"	2'-2"	0'-5"
EA559	1'-2"	2'-9" To 7'-1"	0'-4"
EA564	1'-2"	2'-8" To 7'-2"	0'-3⅞"(-)
EA601	3'-8"	4'-7"	·
EA602	5'-8"	4'-7"	·
EA603	3'-5" To 5'-4"	4'-7"	0'-5¾"
EA604	1'-1" To 3'-1"	4'-7"	0'-6"
EA605	3'-10"	4'-7"	·
EA606	0'-11"	6'-5"	·
EA607	3'-1"	6'-5"	·
EA608	1'-9" To 2'-7"	6'-5"	0'-5"
EA609	3'-5"	4'-7"	·
EA611	1'-11" To 3'-0"	4'-7"	0'-4⅜"(-)
EA612	0'-5"	6'-5"	·
EA613	1'-11" To 2'-7"	6'-5"	0'-4"
EA617	0'-11"	4'-7"	·
EAS524	0'-5"	2'-9"	
GP401	3'-0"	2'-3"	
GP703	3'-8"	10'-9"	

TYPE IX

MARK	"a"	"b"	"c"
ES401	0'-4½"	39'-3"	0'-4½"
ES403	0'-4½"	17'-5"	0'-4½"
ES404	0'-4½"	21'-5⅝" To 18'-3¾"	0'-4½"

TYPE X
P901

TYPE XI
EA524

TYPE XII
EA556

TYPE XIII
EA558

TYPE XIV
EA549

TYPE XV
EA551

TYPE XVI
EA401

TYPE XVII
EA566

SPIRAL PITCH SPACERS: Four Steel Hot-Dipped Galvanized Angle Spacers, Each Weighing Approximately 0.80 Lb. Per Linear Foot, Shall Be Provided For Each Spiral Unit. They Shall Be Equally Spaced Along The Periphery Of Each Coil For Its Full Length. The Total Number Of Pounds Of These Spacers, Based On 3.2 Lb. Per Linear Foot, Will Be Paid For As Reinforcing Steel And Is Included In The Tabulated Spiral Weight.

CONCRETE SPACERS Or Other Approved Noncorrosive Spacing Devices, Equal In Quality And Durability To The Column Concrete, Shall Be Used Near The Bottom And At Intervals Not Exceeding 10' To Ensure A Minimum 3" Clear Space Between The Outside Of The Reinforcing Cage And The Column Design Dimension.

See Sheet 27/28 For Abutment And Superstructure Reinforcement Schedules.

28/28

NO.	REVISIONS	BY	DATE
·	·	·	·
·	·	·	·

OHIO TURNPIKE COMMISSION

OHIO TURNPIKE 3rd LANE CONSTRUCTION
REINFORCEMENT SCHEDULE II
OHIO TURNPIKE OVER ASHLAND R.R. (M.P. 85.3)

MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE, MAUMEE OHIO 43537

DESIGNED: CEW | CHECKED: JPM | DATE: 6/98
DRAWN: CMZ | IN CHARGE: JM | SCALE:

OTCK9C

PLAN

APPROACH SLAB FOR SKEWED BRIDGE

NOTES

1. THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS. THE PROJECT PLANS WILL SHOW SKEW, ESTIMATED QUANTITY (SQ. YDS), AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.
2. CONCRETE: CLASS S USING SHRINKAGE COMPENSATING CEMENT. REINFORCING STEEL: ASTM A615, A616 OR A617 – GRADE 60 MIN YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED.
3. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09 .
4. CROWN SHALL CONFORM TO THAT OF THE BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH ASPHALT PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED ON THE APPROACH ASPHALT PAVEMENT AT A TRANSITION RATE OF 1 TO 200.
5. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB SHALL BE AS DETAILED ON OTC STANDARD DRAWING AS–2.
6. BASE MATERIAL SHALL BE ITEM SP 310–SUBBASE, TYPE I, GRADING A OR ITEM SP 304–AGGREGATE BASE DEPENDING ON MATERIAL SPECIFIED FOR THE MAINLINE PAVEMENT.
7. GROOVE AND SEAL WITH 705.04 AS PER ODOT STD. DWG. BP–2.1
8. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.
9. THE JOINT BETWEEN THE EXISTING AND THE NEW APPROACH SLABS SHALL BE AS SHOWN IN SECTION 'D–D'.
10. 1" PREFORMED EXPANSION JOINT FILLER SHALL BE PER 705.03
11. THE TWO 4" DIAMETER PVC CONDUITS WITH MULTI–CELL INNERDUCT SHALL COMPLY WITH SP 625.
12. FOR SECTIONS 'A–A', 'B–B', 'C–C' AND 'D–D' ADDITIONAL INFORMATION SEE OTC STANDARD DRAWING AS–2.
13. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SP 611, CLASS 'S' CONCRETE, APPROACH SLAB, USING SHRINKAGE COMPENSATING CEMENT (T=12"):

    : ALL JOINTS
    : GROOVE AND JOINT SEAL
    : TYPE 'A' WATERPROOFING
    : 1" PREFORMED EXPANSION JOINT FILLER
    : MEDIAN BARRIERS

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – MEDIAN WIDENING

DATE: JANUARY 24, 1997	SCALE: N.T.S.
O.T.C. STANDARD DRAWING AS–1	

NOTE: ALL REINFORCING BARS SHALL BE EPOXY COATED.

SECTION A-A

SECTION C-C
FLEXIBLE PAVEMENT

SECTION B-B

REINFORCING AND DIMENSIONS SYMMETRICAL ABOUT CENTERLINE

* THICKNESS TO MATCH ADJACENT CONCRETE PAVEMENT.

SECTION C-C
COMPOSITE PAVEMENT

SECTION D-D

(FOR APPROACH SLAB WITHOUT INTEGRAL CONCRETE CURB)

SECTION D-D

(FOR APPROACH SLAB WITH INTEGRAL CONCRETE CURB)

NOTES:

A FOR LOCATIONS OF SECTIONS 'A-A', 'B-B', 'C-C', AND 'D-D' AND ADDITIONAL NOTES, SEE OTC STANDARD DRAWING AS-1

B THE REMOVAL SHALL BE PER 202.05 OF THE ODOT CMS BUT THE COST OF THE REMOVAL SHALL BE INCIDENTAL TO THE COST OF ITEM SP 611

BAR BENDING DIAGRAMS

OHIO TURNPIKE COMMISSION	
REINFORCED CONCRETE APPROACH SLAB SECTIONS AND DETAILS - MEDIAN WIDENING	
DATE: JANUARY 24, 1997	SCALE: N.T.S.
O.T.C. STANDARD DRAWING AS-2	

CAD FILE NAME: 7026100/AS-2

PLAN
(WITHOUT CURB)

APPROACH SLAB FOR SKEWED BRIDGE
(WITHOUT CURB)

NOTES

1. GENERAL
THIS DRAWING PROVIDES DESIGN AND GENERAL CONSTRUCTION DETAILS.
THE PROJECT PLANS WILL SHOW SKEW, CURBS (IF ANY), ESTIMATED QUANTITY (SQ. YDS). AND SPECIAL NOTES AND DETAILS, WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREON. THE APPROACH SLAB SHALL BE ADAPTED TO FIT THE ENDS OF THE BRIDGE AND THE APPROACH PAVEMENT.

2. DESIGN DATA
CONCRETE CLASS S USING SHRINKAGE COMPENSATING CEMENT
REINFORCING STEEL: A.S.T.M. A615, A616 OR A617 – GRADE 60, MIN. YIELD STRENGTH 60,000 P.S.I. AND SHALL BE EPOXY COATED

3. PREFORMED EXPANSION JOINT FILLER AND SEALER AT THE CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

4. GROOVE AND JOINT SEAL SHOWN AT THE BRIDGE LIMIT END OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

5. TYPE A WATERPROOFING SHOWN AT THE ABUTMENT SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YARD FOR THE APPROACH SLAB.

6. LONGITUDINAL CONSTRUCTION JOINTS REQUIRED FOR STAGE CONSTRUCTION SHALL BE AS PER 511.09.

7. CURBS, BRIDGES WITH SIDEWALKS: FOR BRIDGES CONSTRUCTED WITH RAISED SIDEWALKS, DEFLECTOR PARAPETS OR OTHER TYPES OF CONSTRUCTION WHICH RETAIN ROADWAY SURFACE DRAINAGE, THE APPROACH SLABS SHALL EITHER INCLUDE INTEGRAL CURBS OR BE CONSTRUCTED IN CONJUCTION WITH BRIDGE CURBS. CURB HEIGHT SHALL BE TRANSITIONED UNIFORMLY BETWEEN BRIDGE CURB HEIGHT AND APPROACH CURB HEIGHT IN LENGTH AS FOLLOWS: WHERE WINGWALL EXTENDS BEYOND END OF APPROACH SLAB, USE A MINIMUM LENGTH OF 10FT. BEYOND END OF WINGWALL. WHERE THE APPROACH SLAB EXTENDS BEYOND THE END OF WINGWALL, TRANSITION IN THIS LENGTH, HOWEVER, THE TRANSITION LENGTH SHALL NOT BE LESS THAN 10 FT AND THE TRANSITION SHALL EXTEND BEYOND THE END OF THE APPROACH SLAB IF NECESSARY. CURB PLACEMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. STANDARD DRAWING BR-1.

8. APPROACH SLAB WIDTH SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE AND BE 6" WIDER FOR EACH CURB BEYOND THE END OF THE PARAPETS.

9. CROWN SHALL CONFORM TO THAT OF THE APPROACH PAVEMENT AND BRIDGE DECK. IF THE RATE OF CROWN OF THE BRIDGE DECK DIFFERS FROM THAT OF THE APPROACH PAVEMENT, A SMOOTH TRANSITION SHALL BE PROVIDED WITHIN THE LIMITS OF THE APPROACH SLAB.

10. TRANSVERSE JOINT DETAILS AT THE APPROACH PAVEMENT END OF THE APPROACH SLAB ARE USED IN CONJUNCTION WITH CONCRETE PAVEMENT OR CONCRETE BASE COURSE. PAYMENT FOR THE TRANSVERSE JOINT, INCLUDING DOWEL BARS, SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.

11. ITEM SP 310 SUBBASE TYPE I GRADING "A" SHALL BE PROVIDED UNDER ALL APPROACH SLABS.

12. GROOVE AND SEAL WITH 705.04 AS PER O.D.O.T. STD. DWG. BP-2.1.

13. TYPE A WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE JOINT SEALER IS TO BE PLACED.
IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

PART PLAN VIEW
(WITH CURB)

SECTION B-B

SECTION A-A

OHIO TURNPIKE COMMISSION

REINFORCED CONCRETE APPROACH SLAB – CELLULAR ABUTMENTS

DATE: APRIL 22, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING AS-3

PLAN – SKEW ANGLE < 10°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)

PLAN – SKEW ANGLE 10° TO 45°
(STRIP SEAL SHOWN, COMPRESSION SEAL SIMILAR)

PLAN – SKEW ANGLE > 45° (STRIP SEAL ONLY)

NOTE: WHEN SKEW ANGLE IS GREATER THAN 45°, FURNISH JOINT ASSEMBLIES IN TWO SECTIONS AND PROVIDE A FIELD SPLICE AT THE CENTERLINE OF ROADWAY.

GENERAL NOTES

1. INSTALLATION OF SEAL: DURING INSTALLATION OF SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE JOINT SEAL, THE SEATING OF BEAMS ON BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE SUPPORT ANGLES RATHER THAN BY CLAMPING FORCE.
2. ELASTOMERIC COMPRESSION SEALS SHALL BE USED AT FIXED JOINTS ONLY, AND AT SKEWS LESS THAN 45°.
3. STUD ANCHORS SHALL BE LOW CARBON STEEL ASTM A-108.
4. THE MINIMUM LENGTH OF RETAINER SHALL BE 6'-0" BETWEEN JOINTS UNLESS OTHERWISE SHOWN.
5. JOINTS IN EXTRUSIONS SHALL HAVE WATERTIGHT, PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS WHICH WILL BE IN CONTACT WITH THE SEAL AND/OR ANCHOR PLATES SHALL BE GROUND SMOOTH.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
7. ELASTOMERIC COMPRESSION SEALS SHALL BE WATSON-BOWMAN ACME WJ-200, D.S. BROWN C-V 2000, ERIE METAL SPECIALTIES BR200 OR APPROVED EQUAL.
8. CONTINUOUS STRIP SEALS SHALL BE AS MANUFACTURED BY WATSON-BOWMAN ACME, D.S. BROWN OR APPROVED EQUAL, AND SHALL BE THE SIZE AS SPECIFIED. SEE STRIP SEAL SELECTION TABLE.
9. DETAILS AT DIAPHRAGMS SHOWN, DETAILS AT BEAMS OR GIRDERS SIMILAR.
10. TRANSVERSE JOINTS IN COMPRESSION SEAL ARMOR AND VERTICAL LEGS OF EXTRUSIONS SHALL HAVE COMPLETE PENETRATION BUTT WELDS. WELDS WHICH WILL BE IN CONTACT WITH SEALS SHALL BE GROUND FLUSH.
11. ARMOR STEEL COATING: FINISHED STEEL ASSEMBLY SHALL BE METALIZED, SEE SPECIAL PROVISIONS.

NOTE

FOR SECTIONS B-B & D-D AND DETAIL A, SEE OTC STANDARD DRAWING DKJ-2.

TABLE A

STRIP SEAL SIZE	STRIP SEAL JOINT OPENING						
	TEMPERATURE °F						
	30	40	50	60	70	80	90
3"	2 1/4"	2 1/8"	2"	1 7/8"	1 3/4"	1 5/8"	1 1/2"
4"	2 5/8"	2 1/2"	2 1/2"	2 3/8"	2 1/4"	2 1/8"	2"
5"	2 7/8"	2 3/4"	2 3/4"	2 5/8"	2 5/8"	2 1/2"	2 3/8"

SECTION A-A (COMPRESSION SEAL)

SECTION A-A (STRIP SEAL)
WATSON-BOWMAN ACME TYPE M, OR D.S. BROWN TYPE SSCM EXTRUSIONS SHOWN.

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS
CELLULAR ABUTMENTS

DATE: JUNE 25, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ-1

CAD FILE NAME: K:\OTC3L.STD\DJ-1

SECTION B–B (STRIP SEAL)

• SEE TABLE B FOR VALUE

SECTION B–B (COMPRESSION SEAL)

DETAIL A

NOTE: FOR JOINT DETAILS IN SIDEWALK SEE OTC STANDARD DRAWING DJ–3

NOTES

1. THE SPLIT EXTRUSION SHOWN IS A NORMAL EXTRUSION WHICH HAS BEEN MODIFIED. AT JOINT UPTURNS, ESPECIALLY ON SKEWED BRIDGE DECKS, THE USE OF SPLIT EXTRUSIONS MAY BE NECESSARY TO ENSURE GOOD SEAL INSTALLATION. ON SHOP DRAWINGS, WHERE THE SPLIT EXTRUSION IS NOT USED, THE SEAL MANUFACTURER OR HIS AGENT WARRANTS TO THE CHIEF ENGINEER THAT THE FURNISHED CONFIGURATION WILL PROVIDE FOR READY INSTALLATION AND REPLACEMENT OF THE SEAL.

2. SECTION F–F & G–G – THE BENT STEEL PLATES SHALL BE A–36 STEEL, GALVANIZED IN ACCORDANCE WITH ITEM 711.02.

   SHOP DRAWINGS SHALL BE SUBMITTED PER CMS 501.05.

   BASIS OF PAYMENT: THE UNIT PRICE SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS TO FURNISH AND INSTALL THE BENT PLATES. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER POUND FOR ITEM 513, PARAPET PLATES, AS PER PLAN.

TABLE B

	SKEW ANGLE	
	<10°	10° – 45°
d	3/4" MIN	3/4"
x	6 15/16"	7 1/2"
h	10"	10"

STRIP SEAL SELECTION TABLE		
SEAL MOVEMENT RATING (SIZE)	MANUFACTURER & DESIGNATION •	
	THE D.S. BROWN COMPANY	WATSON–BOWMAN & ACME CORP.
3"	300L	SE–300
4"	400L	SE–400
5"	500L	SE–500

• OR APPROVED EQUAL

SECTION C–C

SECTION D–D

SECTION E–E

DETAIL – ALIGNMENT BRACKET

⊙ TEMPORARY WELD TO BE REMOVED AND GROUND SMOOTH IN FIELD. LOOSEN TEMPORARY JOINT ARMOR AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.

DETAIL – ALIGNMENT BRACKET

SECTION F–F

PLAN – SKEWS > 45°

SECTION G–G

• DIMENSION SET EQUAL TO STRIP SEAL JOINT OPENING AT TIME OF INSTALLATION

OHIO TURNPIKE COMMISSION

DECK JOINT DETAILS

DATE: NOVEMBER 11, 1997 | SCALE: N.T.S.

O.T.C. STANDARD DRAWING DJ–2

CAD FILE NAME: K:\OTC3L_STD\DJ-2

GENERAL: THIS DRAWING PROVIDES DESIGN AND CONSTRUCTION DETAILS. THE PROJECT PLANS SHALL SHOW THE LOCATION OF SPLICES PLUS A REFERENCE TO THIS DRAWING FOR PERTINENT DETAILS AND NOTES. FOR SPLICING BEAMS OF DIFFERENT SIZES OR WHERE SPLICES ARE LOCATED AT BEAM BEND POINTS. THE PROJECT PLANS SHALL INCLUDE SUFFICIENT DETAILS SUPPLEMENTING THIS DRAWING TO COMPLETELY DESCRIBE THE SPLICE.

DESIGN SPECIFICATIONS: THIS DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS, AND THE OHIO DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 1993.

DESIGN METHOD: LOAD FACTOR DESIGN

ALLOWABLE STRESSES:

STRUCTURAL STEEL	ASTM	A-36	YIELD STRESS = 36 KSI
	ASTM	A-572, A-588	YIELD STRESS = 50 KSI
HIGH STRENGTH BOLTS	ASTM	A-325	DESIGN SLIP RESISTANCE = 21 KSI

(DESIGN SLIP RESISTANCE IS BASED ON THE AASHTO CLASS A MINIMUM SLIP COEFFICIENT OF 0.33)

DESIGN: FOR EACH STRUCTURE THE DESIGNER SHALL CHOOSE A SPLICE LOCATION AND DETERMINE THE MAXIMUM TOTAL STRESSES (MOMENT AND SHEAR) AT THAT POINT. IN CONTINUOUS SPANS, SPLICES PREFERABLY SHALL BE MADE NEAR POINTS OF CONTRAFLEXURE. THE SPLICE SHALL BE DESIGNED FOR NOT LESS THAN (1) THE AVERAGE OF THE REQUIRED STRENGTH AT THE POINT OF SPLICE AND THE STRENGTH OF THE MEMBER AT THE SAME POINT. (2) THE MODIFIED MAXIMUM STRESS SPECIFIED IN THE FATIGUE UNIT STRESSES NOTE, OR (3) 75% OF THE STATIC STRENGTH OF THE BEAM. THE SPLICE DESIGNS SHOWN HEREON ARE DESIGNED FOR (3). SEE NOTE FOR DESIGN LOADS. IF STRESSES (1) OR (2) ARE MORE CRITICAL, THIS DESIGN SHALL NOT BE USED AND SUCH SPLICES SHOULD BE DESIGNED TO MEET THE ESTABLISHED REQUIREMENTS. THE STATIC BEAM STRENGTH AT THE SPLICE IS BASED ON THE NET SECTION FOR BENDING AND THE GROSS SECTION FOR SHEAR USING THE BASIC UNIT STRESSES. WHEN SPLICING BEAMS OF DIFFERENT SIZES, THE SPLICE DESIGN SHALL BE BASED ON THE LIGHTER WEIGHT BEAM.

DESIGN LOADS: DESIGN MOMENT [KIP-IN] = $0.75 \left(\frac{Fy\ I}{d} \right)$

DESIGN SHEAR [KIP] = 0.75 (0.58 Fy Tw (d - 2 Tf))

WHERE:
- I = MOMENT OF INERTIA BASED ON THE BEAM'S GROSS-SECTION OR ON THE NET-SECTION IF THE FLANGE AREA REMOVED EXCEEDING 15% OF THE GROSS-SECTION IS DEDUCTED [IN^4] (SEE AASHTO 10.18.1.1)
- Fy = YIELD STRESS [KSI]
- d = MEMBER DEPTH [IN]
- Tw = WEB THICKNESS [IN]
- Tf = FLANGE THICKNESS [IN]

FATIGUE STRESSES: THIS SPLICE STANDARD HAS NOT BEEN EVALUATED FOR FATIGUE STRESSES. THE DESIGNER IS REQUIRED TO CALCULATE THE MAXIMUM MOMENT RANGE AND EVALUATE THE ACTUAL STRESSES AGAINST ALLOWABLES GIVEN IN AASHTO TABLE 10.3.1A.

FASTENERS:

ASTM	A-36	1" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325
ASTM	A-572, A-588	1⅛" DIAMETER HIGH STRENGTH BOLTS	ASTM	A-325

SPLICE MATERIAL WEIGHT PLUS THE WEIGHT OF FILLS, WHERE REQUIRED, SHALL BE INCLUDED WITH THE STRUCTURAL STEEL QUANTITY FOR PAYMENT.

FABRICATION AND ASSEMBLY: BEAM ENDS AT SPLICES SHALL BE CUT AND FIT AS PER PLAN. THE OPENING BETWEEN BEAM ENDS AFTER ASSEMBLY SHALL NOT EXCEED ¼".

FILLS SHOWN ON THE PROJECT PLANS AND SHOP DRAWINGS SHALL BE DIMENSIONED TO THE NEAREST 1/16 INCH IN THICKNESS, BUT NOT LESS THAN ⅛ INCH THICK, BASED ON THE DIMENSIONS FOR DETAILING AND INTENDED RELATIVE POSITION OF THE ABUTTING FLANGES AND WEBS TO BE SPLICED. HOWEVER, IN THE FINAL SHOP ASSEMBLY, FILLS SHALL BE FURNISHED WITH THICKNESSES SUFFICIENT TO COMPENSATE FOR ANY MISALIGNMENT OF ABUTTING FLANGES AND WEBS DUE TO STANDARD ROLLING MILL TOLERANCES. THE ACTUAL FILLS USED IN THE SPLICE SHALL BE SUCH AS TO COMPENSATE FOR DIFFERENCES IN TOTAL THICKNESS OR RELATIVE POSITIONS OF MORE THAN 1/16 INCH.

VERTICAL CLEARANCE: FOR GRADE SEPARATION STRUCTURES AN ALLOWANCE OF ¾ INCHES PLUS THE THICKNESS OF THE OUTSIDE FLANGE SPLICE PLATE SHALL BE USED IN COMPUTING THE ACTUAL VERTICAL CLEARANCE UNDER A BEAM SPLICE.

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES — DATE 12-17-94

DESIGNED	CHECKED	REVIEWED
GEA	SAM	
DRAWN SAM	BS-1-93	

REVISIONS

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES

BEAM SPLICE DETAILS

BEAM	FLANGE PLATES TYPE	FLANGE PLATES OUTSIDE 2 REQ'D	FLANGE PLATES INSIDE 4 REQ'D	FLANGE BOLTS NUM.	FLANGE BOLTS N SPA.	FLANGE BOLTS PITCH	FLANGE BOLTS A	FLANGE BOLTS B	FLANGE BOLTS C	WEB SPLICE TYPE	WEB SPLICE WEB PLATES 2 REQ'D	WEB SPLICE WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. *
W40X268	B	17½x⅞x4'-2"	7x⅞x4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼x9/16x20	60	960
W40X249	B	15½x⅞x4'-2"	6x⅝x4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼x⅜x20	60	890
W40X244	B	17½x9/16x4'-2"	7x9/16x4'-2"	64	7	3½	2 5/16	3	7⅛	B	33¼x9/16x20	60	910
W40X221	B	17½x½x3'-2"	7x½x3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼x9/16x20	60	720
W40X215	B	15½x9/16x4'-2"	6x9/16x4'-2"	64	7	3½	2 5/16	2	7⅛	B	33¼x½x20	60	820
W40X199	B	15½x½x3'-2"	6x½x3'-2"	48	5	3½	2 5/16	2	7⅛	B	33¼x½x20	60	650
W40X192	B	17½x⅜x3'-2"	7x⅜x3'-2"	48	5	3½	2 5/16	3	7⅛	B	33¼x9/16x20	60	630
W40X183	A	11½x⅝x2'-8"	4x⅝x2'-8"	40	4	3½	2 5/16	-	7⅛	B	33¼x½x20	60	560
W40X167	A	11½x½x2'-2"	4x½x2'-2"	32	3	3½	2 5/16	-	7⅛	B	33¼x½x20	60	470
W40X149	A	11½x7/16x2'-2"	4x7/16x2'-2"	32	3	3½	2 3/16	-	7	B	33¼x½x20	60	460
W36X300	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x15/16x26	80	1510
W36X280	B	16x11/16x5'-½"	6½x11/16x5'-½"	64	7	3¾	2 5/16	2½	7	B	31x11/16x20	60	1120
W36X260	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2¼	2½	7	B	31x11/16x20	60	1060
W36X245	B	16x9/16x5'-½"	6½x9/16x5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31x⅝x20	60	970
W36X230	B	16x9/16x5'-½"	6½x9/16x5'-½"	64	7	3¾	2 5/16	2½	6⅞	B	31x⅝x20	60	940
W36X210	A	12x⅜x3'-0"	4½x⅜x3'-0"	40	4	3½	2 3/16	-	7	B	31x11/16x20	60	670
W36X194	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅛	-	6⅞	B	31x⅜x20	60	620
W36X182	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	6⅞	B	31x⅝x20	60	600
W36X170	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2 9/16	-	6⅞	B	31x9/16x20	60	510
W36X160	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x20	60	500
W36X150	A	11¾x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2⅛	-	6¾	A	31x½x14	40	380
W36X135	A	11¾x7/16x1'-10"	4½x7/16x1'-10"	24	2	3½	2⅝	-	6¾	A	31x7/16x14	40	310
W33X263	B	15½x11/16x4'-9"	6½x11/16x4'-9"	64	7	3½	2 7/16	2½	6⅞	C	28x15/16x26	72	1150
W33X241	B	15½x⅝x4'-9"	6½x⅝x4'-9"	64	7	3½	2¼	2½	6⅞	C	28x15/16x26	72	1090
W33X221	B	15½x9/16x4'-9"	6½x9/16x4'-9"	64	7	3½	2 3/16	2½	6⅞	B	28x11/16x20	54	890
W33X201	B	15½x½x3'-7"	6½x½x3'-7"	48	5	3½	2¼	2½	6¼	B	28x⅝x20	54	680
W33X169	A	11x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅜	-	6¾	B	28x⅝x20	54	570
W33X152	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 7/16	-	6¾	B	28x9/16x20	54	460
W33X141	A	11x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2 7/16	-	6⅝	B	28x9/16x20	54	460
W33X130	A	11x7/16x1'-10"	4½x7/16x1'-10"	24	2	3½	2 7/16	-	6⅝	A	28x½x14	36	300
W33X118	A	11x⅜x1'-10"	4½x⅜x1'-10"	24	2	3½	2 7/16	-	6⅝	A	28x7/16x14	36	280
W30X211	B	15x9/16x5'-½"	6x9/16x5'-½"	64	7	3½	2 7/16	2	6¼	B	25x¾x20	48	910
W30X191	A	15x½x3'-7"	6x½x3'-7"	48	5	3½	3 7/16	-	8⅛	B	25x11/16x20	48	670
W30X173	A	14¾x½x3'-0"	6x½x3'-0"	40	4	3½	3 7/16	-	8⅛	B	25x⅝x20	48	570
W30X148	A	10x9/16x2'-5"	4x9/16x2'-5"	32	3	3½	2¼	-	6	B	25x⅝x20	48	460
W30X132	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 3/16	-	6⅛	B	25x9/16x20	48	420
W30X124	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	B	25x9/16x20	48	370
W30X116	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	A	25x½x14	32	280
W30X108	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	A	25x7/16x14	32	260
W30X99	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	A	25x7/16x14	32	260
W30X90	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 3/16	-	6	A	25x7/16x14	32	260
W27X194	A	14x9/16x3'-7"	5½x9/16x3'-7"	48	5	3½	3¼	-	7½	C	22x15/16x26	56	770
W27X178	A	14x½x3'-7"	5½x½x3'-7"	48	5	3½	3¼	-	7⅝	B	22x½x20	42	630
W27X161	A	14x½x3'-0"	5½x½x3'-0"	40	4	3½	3¼	-	7½	B	22x11/16x20	42	540
W27X146	A	13¾x7/16x3'-0"	5½x7/16x3'-0"	40	4	3½	3¼	-	7½	B	22x⅝x20	42	500
W27X129	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 7/16	-	5⅞	B	22x⅜x20	42	410
W27X114	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2⅛	-	5⅞	B	22x9/16x20	42	330
W27X102	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 7/16	-	5⅞	A	22x½x14	28	250
W27X94	A	9¾x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 7/16	-	5⅞	A	22x7/16x14	28	240
W27X84	A	9¾x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 7/16	-	5⅞	A	22x7/16x14	28	240
W24X162	A	12½x9/16x3'-0"	5x9/16x3'-0"	40	4	3½	2 15/16	-	7⅛	C	19x⅞x26	48	620
W24X146	A	12½x½x3'-0"	5x½x3'-0"	40	4	3½	2⅞	-	7⅛	B	19x¾x20	36	490

PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

* TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.

BEAM SPLICE DETAIL
WEB SPLICE - TYPE A

BEAM SPLICE DETAIL
WEB SPLICE - TYPE B

BEAM SPLICE DETAIL
WEB SPLICE - TYPE C

VIEW A-A
FLANGE SPLICE - TYPE A

VIEW A-A
FLANGE SPLICE - TYPE B

VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard P. Fangmann 12-19-94
ENGINEER OF BRIDGES — DATE

REVIEWED
CHECKED SAM
DESIGNED GEA
DRAWN SAM
REVISIONS

BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 36 KSI STEEL)

2/3

BEAM SPLICE DETAILS

BEAM	FLANGE PLATES TYPE	FLANGE PLATES OUTSIDE 2 REQ'D	FLANGE PLATES INSIDE 4 REQ'D	FLANGE BOLTS NUM.	FLANGE BOLTS N SPA.	FLANGE BOLTS PITCH	FLANGE BOLTS A	FLANGE BOLTS B	FLANGE BOLTS C	WEB SPLICE TYPE	WEB SPLICE WEB PLATES 2 REQ'D	WEB SPLICE WEB BOLTS No.	WEIGHT OF SPLICE MAT'RL lbs. *
W40X268	B	17½x⅝x5'-11"	7x⅝x5'-11"	80	9	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1390
W40X249	B	15½x⅝x4'-9"	6x⅝x4'-9"	64	7	3½	2 5/16	2	7⅛	C	33x11/16x28¼	72	1130
W40X244	B	17½x9/16x4'-9"	7x9/16x4'-9"	64	7	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1150
W40X221	B	17½x½x4'-9"	7x½x4'-9"	64	7	3½	2 5/16	3	7⅛	C	33x11/16x28¼	72	1080
W40X215	B	15½x9/16x4'-9"	6x9/16x4'-9"	64	7	3½	2 5/16	2	7⅛	C	33x⅝x28¼	72	1040
W40X199	B	15½x½x3'-7"	6x½x3'-7"	48	5	3½	2 5/16	2	7⅛	C	33x⅝x28¼	72	850
W40X192	B	17½x⅜x3'-7"	7x⅜x3'-7"	48	5	3½	2 5/16	3	7⅛	C	33x7/16x28¼	72	840
W40X183	A	11½x⅝x3'-0"	4x⅝x3'-0"	40	4	3½	2 5/16	-	7⅛	B	33x9/16x21½	54	620
W40X167	A	11½x½x3'-0"	4x½x3'-0"	40	4	3½	2 5/16	-	7⅛	B	33x9/16x21½	54	570
W40X149	A	11½x7/16x2'-5"	4x7/16x2'-5"	32	3	3½	2⅛	-	7	B	33x9/16x21½	54	500
W36X300	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x⅞x28¼	72	1600
W36X280	B	16x¾x6'-3½"	6½x¾x6'-3½"	80	9	3¾	2 5/16	2½	7	C	31x13/16x28¼	72	1480
W36X260	B	16x⅝x6'-3½"	6½x⅝x6'-3½"	80	9	3¾	2¼	2½	7	C	31x¾x28¼	72	1380
W36X256	A	12x13/16x4'-2"	4½x13/16x4'-2"	56	6	3½	2 9/16	-	7⅛	C	31x⅞x28¼	72	1090
W36X245	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2 5/16	2½	6⅞	C	31x¾x28¼	72	1170
W36X232	A	12x11/16x4'-2"	4½x11/16x4'-2"	56	6	3½	2 9/16	-	7	C	31x13/16x28¼	72	1010
W36X230	B	16x⅝x5'-½"	6½x⅝x5'-½"	64	7	3¾	2 9/16	2½	6⅞	C	31x11/16x28¼	72	1100
W36X210	A	12x⅝x3'-7"	4½x⅝x3'-7"	48	5	3½	2 9/16	-	7	C	31x13/16x28¼	72	910
W36X194	A	12x⅝x3'-0"	4½x⅝x3'-0"	40	4	3½	2⅝	-	6⅞	C	31x¾x28¼	72	780
W36X182	A	12x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅝	-	6⅞	C	31x11/16x28¼	72	740
W36X170	A	12x½x3'-0"	4½x½x3'-0"	40	4	3½	2 9/16	-	6⅞	B	31x9/16x21½	54	570
W36X160	A	12x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x21½	54	510
W36X150	A	11⅞x½x2'-5"	4½x½x2'-5"	32	3	3½	2⅝	-	6¾	B	31x9/16x21½	54	510
W36X135	A	11⅞x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2⅝	-	6¾	B	31x½x21½	54	460
W33X263	B	15½x11/16x5'-11"	6½x11/16x5'-11"	80	9	3½	2 3/16	2½	6⅜	C	29⅞x13/16x28¼	64	1350
W33X241	B	15½x⅝x4'-9"	6½x⅝x4'-9"	64	7	3½	2¼	2½	6⅜	C	29⅞x¾x28¼	64	1100
W33X221	B	15½x9/16x4'-9"	6½x9/16x4'-9"	64	7	3½	2 3/16	2½	6⅜	C	29⅞x7/16x28¼	64	1010
W33X201	B	15½x½x4'-9"	6½x½x4'-9"	64	7	3½	2¼	2½	6¼	C	29⅞x11/16x28¼	64	980
W33X169	A	11x9/16x3'-0"	4½x9/16x3'-0"	40	4	3½	2⅜	-	6¾	B	29⅞x9/16x21½	48	570
W33X152	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 3/16	-	6¾	B	29⅞x½x21½	48	470
W33X141	A	11x½x2'-5"	4½x½x2'-5"	32	3	3½	2 3/16	-	6⅝	B	29⅞x½x21½	48	460
W33X130	A	11x7/16x2'-5"	4½x7/16x2'-5"	32	3	3½	2 3/16	-	6⅝	B	29⅞x½x21½	48	440
W33X118	A	11x⅜x1'-10"	4½x⅜x1'-10"	24	2	3½	2 3/16	-	6⅝	B	29⅞x½x21½	48	380
W30X211	B	15x9/16x4'-9"	6x9/16x4'-9"	64	7	3½	2 3/16	2	6¼	C	26½x¾x28¼	56	990
W30X191	B	15x½x3'-7"	6x½x3'-7"	48	5	3½	2 3/16	2	6⅛	C	26½x11/16x28¼	56	780
W30X173	B	14⅞x½x3'-7"	6x½x3'-7"	48	5	3½	2 3/16	2	6⅛	C	26½x⅝x28¼	56	730
W30X148	A	10x9/16x2'-5"	4x9/16x2'-5"	32	3	3½	2¼	-	6	B	26½x9/16x21½	42	460
W30X132	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 3/16	-	6⅛	B	26½x½x21½	42	420
W30X124	A	10x7/16x2'-5"	4x7/16x2'-5"	32	3	3½	2¼	-	6	B	26½x½x21½	42	410
W30X116	A	10x7/16x1'-10"	4x7/16x1'-10"	24	2	3½	2¼	-	6	B	26½x½x21½	42	360
W30X108	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	B	26½x½x21½	42	350
W30X99	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2¼	-	6	B	26½x7/16x21½	42	330
W30X90	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 3/16	-	6	A	26½x⅜x14¾	28	250
W27X194	A	14x9/16x4'-2"	5½x9/16x4'-2"	56	6	3½	3¼	-	7½	C	24x¾x28¼	48	850
W27X178	A	14x9/16x3'-7"	5½x9/16x3'-7"	48	5	3½	3¼	-	7⅝	C	24x11/16x28¼	48	730
W27X161	A	14x½x3'-0"	5½x½x3'-0"	40	4	3½	3¼	-	7½	C	24x⅝x28¼	48	630
W27X146	A	13⅞x7/16x3'-0"	5½x7/16x3'-0"	40	4	3½	3¼	-	7½	B	24x½x21½	36	490
W27X129	A	10x½x2'-5"	4x½x2'-5"	32	3	3½	2 1/16	-	5⅞	B	24x½x21½	36	400
W27X114	A	10x½x1'-10"	4x½x1'-10"	24	2	3½	2⅛	-	5⅞	B	24x½x21½	36	340
W27X102	A	10x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	B	24x7/16x21½	36	310
W27X94	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	B	24x7/16x21½	36	300
W27X84	A	9⅞x⅜x1'-10"	4x⅜x1'-10"	24	2	3½	2 1/16	-	5⅞	A	24x⅜x14¾	24	230
W24X162	A	12½x9/16x3'-7"	5x9/16x3'-7"	48	5	3½	2 15/16	-	7⅛	C	20⅞x¾x28¼	48	690
W24X146	A	12½x½x3'-0"	5x½x3'-0"	40	4	3½	2⅞	-	7⅛	B	20⅞x⅝x21½	36	510

BEAM SPLICE DETAIL
WEB SPLICE - TYPE A

VIEW A-A
FLANGE SPLICE - TYPE A

BEAM SPLICE DETAIL
WEB SPLICE - TYPE B

VIEW A-A
FLANGE SPLICE - TYPE B

VIEW A-A
SPLICE DETAIL FOR BEAMS HAVING DIFFERENT FLANGE WIDTHS

BEAM SPLICE DETAIL
WEB SPLICE - TYPE C

PARTIAL SECTION
(AT ℄ OF BEAM SPLICE)

* TABULATED WEIGHTS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THEY INCLUDE AN ALLOWANCE FOR WEIGHT OF BOLTS AND WASHERS.

NOTE: ALL SHAPES AND PLATES SHALL BE DESIGNATED (CVN), AND SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

NOTE: ALL FASTENERS ARE 1⅛" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard L. Engel
ENGINEER OF BRIDGES
12-12-94
DATE

REVIEWED
CHECKED SAM
DESIGNED GEA
DRAWN SAM
REVISIONS

BS-1-93

STANDARD
BOLTED BEAM SPLICE
FOR STEEL BEAM BRIDGES
(FOR 50 KSI STEEL)

3/3

ELEVATIONS OF FIXED BEARING

SEE TABLE FOR ADDITIONAL DIMENSIONS

	FIXED BEARING NO.	FIXED BEARINGS DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	K	DIA.	WEIGHT EA. (LBS.)	MAXIMUM LOAD (LBS.)
①	F - 50	6	6	1 1/2	3	1 1/4	8	16	1 1/2	5 1/8	2	100	50,000
①	F - 100	7	9	1 3/4	4	1 1/2	9	18	1 1/2	5 5/8	2	143	100,000
	F - 150	9	9	2 1/2	5	1 1/2	11	20	2	6 7/8	2 1/2	244	150,000
	F - 200	10	10	3	6	2	11	22	2	7 7/8	2 1/2	300	200,000
	F - 250	11	10	3 1/2	7	2	12	24	2 1/2	8 7/8	3	400	250,000
	F - 300	12	11	3 3/4	8	2 1/2	14	25	2 1/2	9 5/8	3	502	300,000
②	F - 350	12	11	3 3/4	8	2 1/2	16	25	2 1/2	9 5/8	3	540	350,000
②	F - 400	12	12	3 3/4	8	2 1/2	18	26	2 1/2	9 5/8	3	610	400,000

① ONLY 2 ANCHOR RODS REQUIRED, PLACED IN DIAGONALLY OPPOSITE CORNERS OF THE MASONRY PLATE.

② BEARING STIFFENERS ARE REQUIRED ON BOTH SIDES OF THE BEAM OR GIRDER WEB ABOVE.

WEIGHTS GIVEN ARE FOR ONE COMPLETE BEARING, INCLUDING SHEET LEAD AND ANCHOR RODS.

BEARING PIN DETAIL

PLAN VIEW OF TOP OF PIER

SHOWING MASONRY PLATE FOR BRIDGE ON SKEW

MASONRY PLATE DIMENSIONS SHOWN IN TABLE MAY BE USED PROVIDED CLIPPED CORNERS DO NOT REDUCE THE BEARING AREA OF THE PLATE BY MORE THAN 5%. BEARINGS WITH CLIPPED MASONRY PLATES SHALL BE IDENTIFIED ON THE PLANS WITH THE WORD "MODIFIED". THUS : "F - 300 MODIFIED"

NOTES

DESIGN SPECIFICATIONS : THIS STANDARD DRAWING CONFORMS TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980 AND 1981 INTERIMS TO THE ABOVE AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS, EXCEPT THAT THE MASONRY PLATES FOR THE BEARINGS ARE DESIGNED ON THE BASIS OF AN ALLOWABLE BENDING STRESS OF 30,000 P.S.I. ASSUMING UNIFORM DISTRIBUTION OF BEARING ON THE CONCRETE.

STEEL PLATES : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PLATES SHALL BE THE SAME MATERIAL AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL, UNPAINTED, THE PLATE ELEMENT ABOVE THE BEARING PIN SHALL ALSO BE A588 STEEL. THE PLATE ELEMENTS BELOW THE BEARING PIN MAY BE EITHER A36, GALVANIZED BEFORE WELDING, OR A588 UNPAINTED, BUT BOTH PLATES SHALL BE OF THE SAME MATERIAL.

BEARING PINS : IF THE SUPERSTRUCTURE MEMBERS ARE A36 STEEL THE PINS SHALL BE MADE FROM STOCK MEETING THE REQUIREMENTS OF 711.04 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND SHALL BE PAINTED IN ACCORDANCE WITH THE SAME SPECIFICATIONS AS THOSE FOR PAINTING THE SUPERSTRUCTURE MEMBERS. IF THE SUPERSTRUCTURE MEMBERS ARE A588 STEEL AND THE BOTTOM PLATES ARE A36, GALVANIZED, THE PINS SHALL BE AS ABOVE, GALVANIZED INSTEAD OF PAINTED. IF THE BOTTOM PLATES ARE A588 THE PINS SHALL ALSO BE A588. BEARING PINS MAY BE FABRICATED FROM ONE PIECE OF STOCK OR FROM ROD STOCK AND PLATES, WELDED AS SHOWN ON THESE DETAILS.

SURFACE FINISH : SURFACE FINISHES SHOWN ON THESE DETAILS SHALL BE MINIMUM BEFORE GALVANIZING. A 500 FINISH OR SMOOTHER SHALL BE USED WHERE NOT OTHERWISE NOTED.

ROADWAY GRADE : IF THE ROADWAY GRADE EXCEEDS 2% THE UPPER LOAD PLATE OF THE BEARING SHALL BE BEVELED TO MATCH THE GRADE. DIMENSION C SHALL BE MAINTAINED AT THE CENTER OF THE PLATE.

LATERAL EXPANSION : ALL BEARINGS MUST BE ACCURATELY PLACED SO THAT PROPER CLEARANCE WILL BE PROVIDED AT ALL BEARINGS FOR LATERAL EXPANSION OF THE SUPERSTRUCTURE. IF THE SUPERSTRUCTURE EXCEEDS 60' IN WIDTH THE 1/8" CLEARANCE SHOWN AT EACH END OF THE BEARING PIN SHALL BE INCREASED. A CLEARANCE OF 1/4" AT EACH END WILL BE ADEQUATE FOR A SUPERSTRUCTURE WIDTH UP TO 120'.

BEARING ANCHOR RODS : AT THE OPTION OF THE CONTRACTOR, THE BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

BRIDGE SEAT REINFORCING : PROJECT PLAN SHALL INCLUDE A PLAN VIEW OF THE SEAT AREA FOR THE FIXED BEARING SHOWING THE OUTLINE OF THE MASONRY PLATE, THE ANCHOR RODS AND THE MAIN REINFORCING BARS IN THE TOP OF THE BRIDGE SEAT. ADEQUATE DIMENSIONS SHALL BE PROVIDED TO ENSURE THAT THERE WILL BE NO INTERFERENCE BETWEEN THE ANCHOR RODS AND THE RE-BARS, AND THAT THE SEAT AREA WILL ACCOMODATE THE BEARING.

REVISIONS	STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES			
	STANDARD			
	FIXED BEARINGS FOR STEEL BEAM AND GIRDER BRIDGES			
	APPROVED : Robert B. Pfeifer ENGINEER OF BRIDGES DATE : 5-10-82			DRAWING NO. FB-1-82
	PREPARED DWI BFG	TRACED REF	CHECKED FFE	REVIEWED WJJ

STRUCTURAL STEEL BOLSTER

See table below for additional dimensions.

STRUCTURAL STEEL ROCKER

See table below for additional dimensions.

Bolster No.	Rocker No.	Dimensions (inches)													Weight each (lb.)		Maximum Load (lb.)
		A	B	C	D	F	G	H	K	L	M	R	T	Y	Bolster	Rocker	
	R-75	2 1/2	8	2 1/2	1 3/4	1/2	7	9 5/8	9	18	16	5 1/2	1 1/2	1 3/16		205	75,000
B-100	R-100	2 1/2	10	2 1/2	2	1/2	7 1/2	10 5/8	9	19	17	6 1/2	1 1/2	1 3/16	225	250	100,000
B-125	R-125	3	11	3	2	1/2	8	12 1/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	295	315	125,000
B-150	R-150	3	12	3	2 1/4	1/2	8 1/2	13 3/8	11 1/2	22	19	8 1/2	1 3/4	1 7/16	360	400	150,000
B-175	R-175	3	14	3 1/2	2 1/2	1/2	9	15 1/8	12	23	20	9 1/2	2	1 7/16	455	505	175,000
B-200	R-200	3	16	3 1/2	2 3/4	5/8	9	16 3/8	12	24	21	10 1/2	2 1/4	1 7/16	540	605	200,000
B-225	R-225	3	17	3 1/2	2 3/4	5/8	9	16 7/8	13	25	22	11	2 1/4	1 7/16	590	665	225,000
B-250	R-250	3 1/2	18	3 1/2	2 3/4	3/4	10	17 5/8	13	26	23	11 1/2	2 1/2	1 11/16	695	775	250,000
B-275	R-275	3 1/2	19	3 1/2	3 1/4	3/4	12	18 3/8	14	27	24	12	2 3/4	1 11/16	800	945	275,000
B-300	R-300	3 1/2	20	3 1/2	3 1/4	3/4	12	19 1/8	14	28	25	12 1/2	3	1 11/16	895	1050	300,000

Weights given are for one rocker or bolster complete (including sheet lead, anchor bolts and washers).

TOP BEARING DETAIL

DOWEL DETAIL

DESIGN SPECIFICATIONS: This standard drawing conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

LIMITATION: This rocker and bolster design shall not be used where the anticipated movement is in excess of 2 inches.

REVISIONS
2-2-59

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

STANDARD

ROCKERS AND BOLSTERS

FOR STEEL BEAM AND GIRDER BRIDGES

REACTIONS 75,000 lb. TO 300,000 lb.

APPROVED: Richard D. Pfeifer
ENGINEER OF BRIDGES
DATE: 3-1-55

PREPARED	TRACED	CHECKED	REVIEWED
MPB CFS JCM WHR	JVP	CEN BPH	CSD BFG CHA AJF DHO

DRAWING NUMBER
RB-1-55