

Dist 3 3/22/2006
060163 PID - 77881
HUR - SR 162-0.00/16.97 - Part 1 & 2

STATE OF OHIO, DEPARTMENT OF TRANSPORTATION

HUR-162-0.00 - PART 1

COUNTY	ROUTE	PROJECT TERMINI (STRAIGHT LINE MILEAGE)		NET LENGTH (MILES)	CITY	VILLAGE
		BEGIN	END			
HURON	SR 162	0.00	19.00	19.00	N/A	NORTH FAIRFIELD
HURON	SR 162	19.98	23.64	3.66	N/A	N/A

FOR PART 2, SEE HUR-162-16.97

INDEX OF SHEETS

- 1 - TITLE SHEET
- 2 - STRAIGHT LINE DIAGRAM
- 2 - DESIGN DESIGNATION
- 3-6 - GENERAL NOTES
- 7 - DROPOFFS IN WORK ZONES
- 8 - MAILBOX FACILITIES
- 9-10 - GENERAL SUMMARY
- 11 - PAVEMENT & SHOULDER DATA
- 12 - TYPICAL SECTIONS
- 13 - GUARDRAIL GENERAL NOTES
- 14 - ROADWAY SUB-SUMMARY
- 15-23 - GUARDRAIL DETAILS
- 24 - DELETED
- 25 - GUARDRAIL DETAILS
- 26-29 - CURB RAMPS
- 30 - PAVEMENT MARKING INFORMATION
- 31-45 - CULVERT HUR-162-9.31
- 31-41, 46-53 - STRUCTURE HUR-162-0936
- 54-58 - STRUCTURE SUMMARY
- 59-62 - STRUCTURE GENERAL NOTES
- 63 - STRUCTURE TREATMENT
- 64 - STRUCTURE HUR-162-0154
- 65 - STRUCTURE HUR-162-0257
- 66 - STRUCTURE HUR-162-0270
- 67 - STRUCTURE HUR-162-0414
- 68-72 - STRUCTURE HUR-162-0659
- 73-75 - STRUCTURE HUR-162-0666
- 76 - STRUCTURE HUR-162-0980
- 77-78 - STRUCTURE HUR-162-0990
- 79 - STRUCTURE HUR-162-1196
- 80-84 - RIGHT OF WAY

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE PAVEMENT REPAIR, RESURFACING WITH ASPHALT CONCRETE, ADJUSTMENT OF CASTINGS WHERE NECESSARY, GUARDRAIL, PAVEMENT MARKINGS, AND BRIDGE REPLACEMENT, CULVERT REPLACEMENT, AND MINOR BRIDGE REHABILITATION WORK.

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

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSIONS FACTORS PROVIDED IN SECTION 109.02 OF THE 2005 CMS. CONVERSIONS SHALL BE APPROXIMATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE

2005 SPECIFICATIONS

THE STANDARD 2005 SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND THE PROPOSAL SHALL GOVERN THESE IMPROVEMENTS.

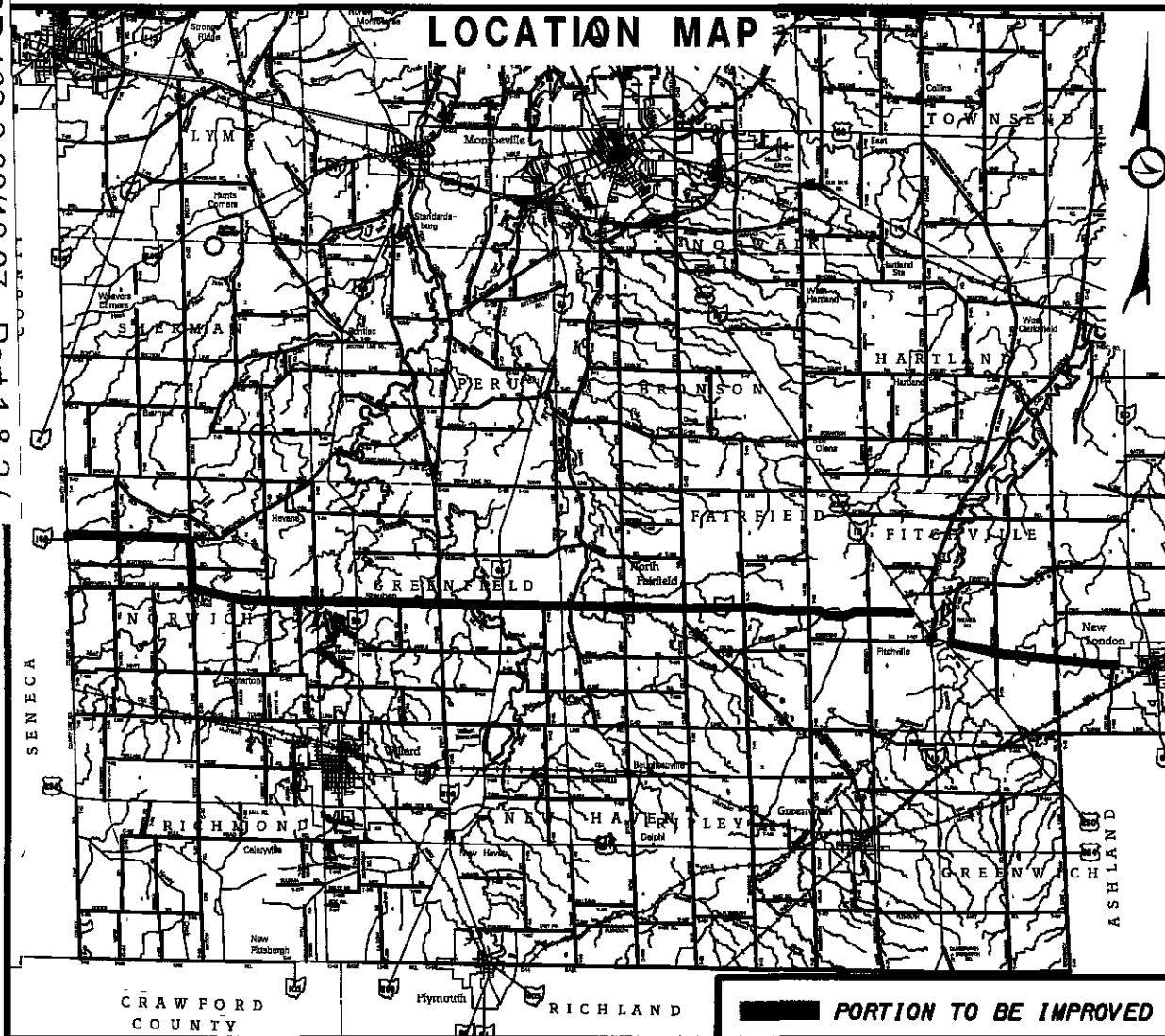
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL REQUIRE THE CLOSING OF THE HIGHWAY AND PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PLAN AND PROPOSAL.

Thomas M. O'Leary
DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

12-20-05
APPROVED DATE

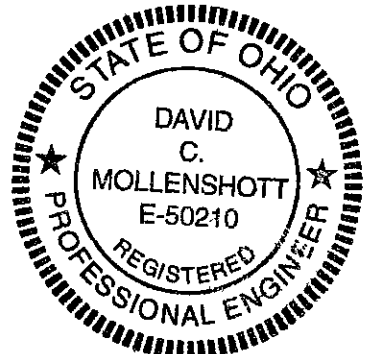
Gordon Porter
DIRECTOR, DEPARTMENT OF TRANSPORTATION

1-25-06
APPROVED DATE



82° 36' 42" W LONGITUDE 41° 06' 15" N LATITUDE

ENGINEER'S SEAL

ROADWAY	STRUCTURE/CULVERT	STANDARD DRAWINGS (FOR PARTS 1 + 2)				SUPPLEMENTAL SPECIFICATIONS (FOR PARTS 1 + 2)	
		BP-3.1	07-16-04	MT-96.10	04-19-02	800	01-20-06
		BP-4.1	07-16-04	MT-96.20	04-19-02	802	04-15-05
				MT-96.25	04-20-01	832	04-17-04
		DM-1.4	01-21-05	MT-97.10	04-19-02	833	02-12-03
		DM-4.3	07-19-02	MT-97.12	04-19-02	848	04-15-05
		DM-4.4	07-19-02	MT-99.20M	01-30-95		
				MT-101.20	10-18-02		
		GR-1.1	07-16-04	MT-101.60	10-18-02		
		GR-2.1	01-16-04	MT-105.10	10-18-02		
		GR-2.2	04-18-03	MT-105.11	10-18-02		
		GR-4.1	04-18-03				
		GR-4.2	04-15-05	TC-41.20	01-19-01		
		GR-5.3	01-16-04	TC-65.10	01-21-05		
				TC-65.11	01-21-05		
				TC-71.10	01-21-05		
SIGNED: <i>Michael J. Schafrauth</i>		RM-1.1	04-18-03	TC-73.10	01-19-01	SPECIAL PROVISIONS	
DATE: <u>12/20/05</u>							
SIGNED: <i>David C. Molleshott</i>						NWP#3	09/28/05
DATE: <u>12/20/05</u>							

DESIGN FILE: \projects\77881\1000.dgn
WORKSTATION: sdeer
DATE: 12/16/2005

HURON COUNTY

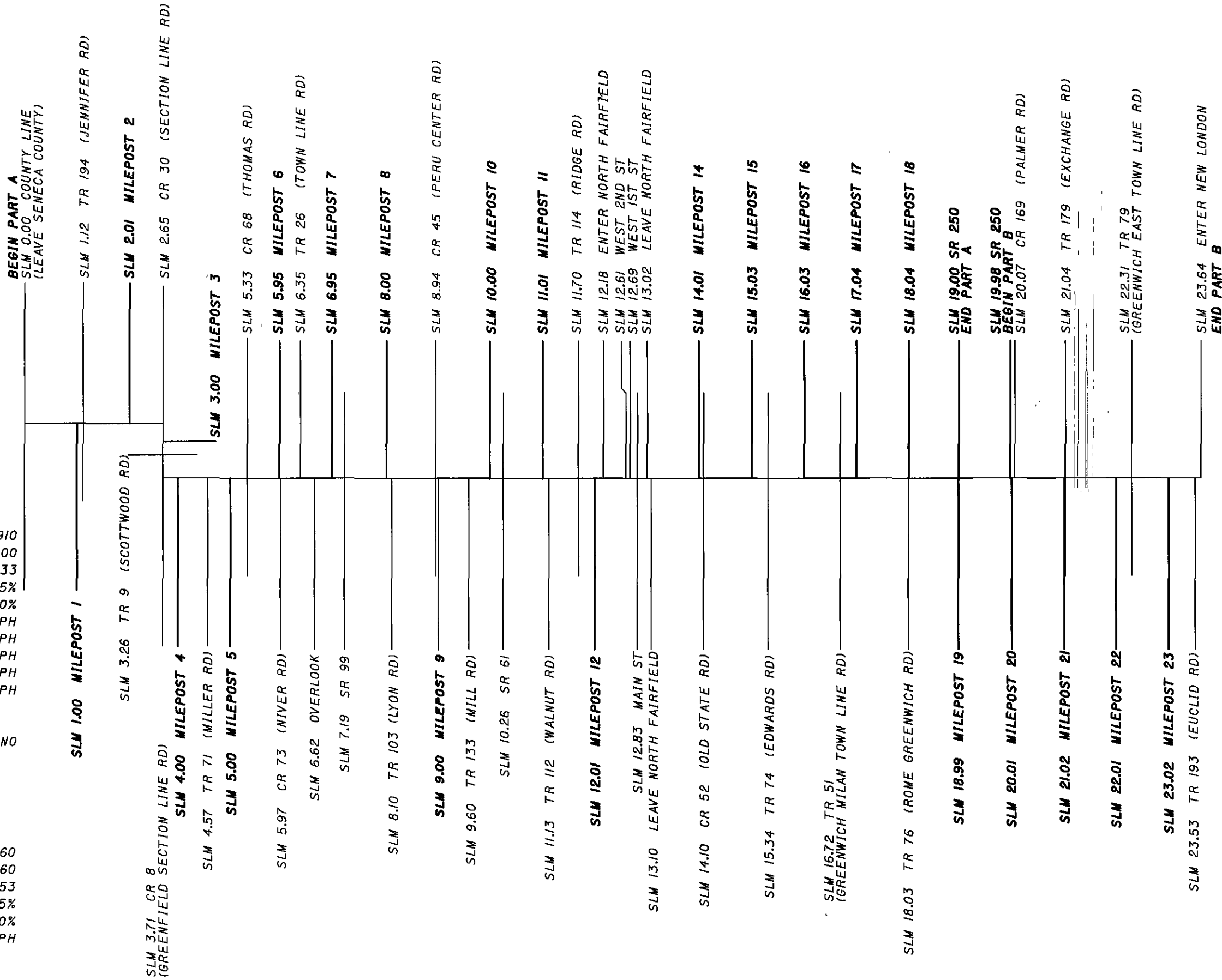
SR 162 (19.98-23.64)

CURRENT ADT (2006) 2760
DESIGN YEAR ADT (2018) 3360
DESIGN HOURLY VOLUME (2018) 353
DIRECTIONAL DISTRIBUTION 55%
TRUCKS (24 HOUR B&C) 4.50%
DESIGN/LEGAL SPEED 19.98-23.64 55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR
NHS PROJECT NO

HURON COUNTY

SR 162 (0.00-19.00)

CURRENT ADT (2006) 910
DESIGN YEAR ADT (2018) 1100
DESIGN HOURLY VOLUME (2018) 133
DIRECTIONAL DISTRIBUTION 55%
TRUCKS (24 HOUR B&C) 3.50%
DESIGN/LEGAL SPEED 0.00-8.76 55 MPH
DESIGN/LEGAL SPEED 8.76-9.31 40 MPH
DESIGN/LEGAL SPEED 9.31-12.18 55 MPH
DESIGN/LEGAL SPEED 12.18-13.10 35 MPH
DESIGN/LEGAL SPEED 13.10-19.00 55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR
NHS PROJECT NO



DESIGN FILE: I:\projects\7788\Struct\estaty.dgn
WORKSTATION: sdeer DATE: 12/16/2005

STRUCTURE HUR-162-0154 (SFN 3902668)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	89	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

STRUCTURE HUR-162-0257 (SFN 3902714)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	62	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

STRUCTURE HUR-162-0270 (SFN 3902730)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	26	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
601	26000	58	CU YD	DUMPED ROCK FILL, TYPE B	

54
84

HUR-162-0.00

STRUCTURE SUMMARY

DESIGNED
DCM
CHECKED
DJV

DRAWN
DCM
REVISED
DJV

REVISED
NDN
STRUCTURE FILE NUMBER

DATE
11/05

0001
DISTRICT THREE

STRUCTURE HUR-162-0414

(SFN 3902765)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	69	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
601	27000	19	CU YD	DUMPED ROCK FILL, TYPE C	

STRUCTURE HUR-162-0659

(SFN 3902854)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11300	.8	CU YD	PORTIONS OF STRUCTURE REMOVED	
511	43201	8	CU YD	CLASS C CONCRETE, PIER, AS PER PLAN (PILE ENCASEMENT REPAIR)	60
511	45701	.8	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN	59
512	10100	58	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	73500	5	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN	
601	27000	22	CU YD	DUMPED ROCK FILL, TYPE C	
848	10001	194	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2½ INCH THICK)	60
848	20000	194	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION	
848	30001	6	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) MATERIAL ONLY, AS PER PLAN	60
848	50000	6	SQ YD	HAND CHIPPING	
848	50100	LUMP		TEST SLAB	
848	50200	1	CU YD	FULL-DEPTH REPAIR	
848	50320	206	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1½ INCH NOMINAL THICKNESS)	
848	50340	10	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY	
614	12800	332	EACH	WORK ZONE RAISED PAVEMENT MARKER	
614	13202	14	EACH	BARRIER REFLECTOR, TYPE A2	
614	21000	.06	MILE	WORK ZONE CENTER LINE, CLASS 1 (SOLID DOUBLE)	
614	22000	.04	MILE	WORK ZONE EDGE LINE, CLASS 1 (WHITE)	
614	26000	24	FT	WORK ZONE STOP LINE, CLASS 1	

STRUCTURE HUR-162-0666

(SFN 3902889)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	80	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	73500	8	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN	
601	26000	28	CU YD	DUMPED ROCK FILL, TYPE B	
848	10001	320	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2½ INCH THICK)	60
848	20000	320	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION	
848	30001	10	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) MATERIAL ONLY, AS PER PLAN	60
848	50000	10	SQ YD	HAND CHIPPING	
848	50100	LUMP		TEST SLAB	
848	50200	1	CU YD	FULL-DEPTH REPAIR	
848	50320	333	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1½ INCH NOMINAL THICKNESS)	
848	50340	16	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY	
614	12800	460	EACH	WORK ZONE RAISED PAVEMENT MARKER	
614	13202	15	EACH	BARRIER REFLECTOR, TYPE A2	
614	21000	.06	MILE	WORK ZONE CENTER LINE, CLASS I (SOLID DOUBLE)	
614	22000	.04	MILE	WORK ZONE EDGE LINE, CLASS I (WHITE)	
614	26000	24	FT	WORK ZONE STOP LINE, CLASS I	

(SFN 3902935)

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	RON	11/05
CHECKED	REVIEWED	STRUCTURE FILE NUMBER	
DCM	DCM		

STRUCTURE SUMMARY

HJR-162-0.00

57
84

DESIGN FILE: I:\projects\7788\Structure\estaty.dgn
WORKSTATION: sdeer DATE: 12/16/2005

STRUCTURE HUR-162-0980 (SFN 3902943)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11300	.25	CU YD	PORTIONS OF STRUCTURE REMOVED	
511	71100	.25	CU YD	CONCRETE, MISC. ABUTMENT REPAIR	59
512	10100	63	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
SPECIAL	51912510	9	SQ YD	PATCHING CONCRETE BRIDGE DECK	61-62

STRUCTURE HUR-162-0990 (SFN 3902978)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
202	11300	.5	CU YD	PORTIONS OF STRUCTURE REMOVED	
511	45701	.5	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN	60
512	10100	40	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
SPECIAL	51912510	3	SQ YD	PATCHING CONCRETE BRIDGE DECK	61-62

STRUCTURE HUR-162-1196 (SFN 3903001)

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REF. SHEET
512	10100	58	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

DESIGN AGENCY
0007
DISTRICT THREE

DATE
11/05
REVISED
RDM
STRUCTURE FILE NUMBER

DRAWN
DCM
CHECKED
DCM
REVISED
DJV

STRUCTURE SUMMARY

HUR-162-0.00

58
84

DESIGN FILE I:\projects\7788\Structure\strnotes.dgn
WORKSTATION: sdeer DATE 12/16/2005

REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:

BP-3.1	DATED	7/16/04
MT-96.10	DATED	4/19/02
MT-96.20	DATED	4/19/02
MT-96.25	DATED	4/20/01
MT-97.10	DATED	4/19/02
MT-101.20	DATED	10/18/02
MT-101.60	DATED	10/18/02
MT-105.10	DATED	10/18/02
MT-105.11	DATED	10/18/02

REFERENCES SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS:

848	DATED	4/15/05
-----	-------	---------

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING PLANS:

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI
CONCRETE CLASS FS - COMPRESSIVE STRENGTH 4500 PSI
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI
REINFORCING STEEL - ASTM A615, OR A996, GRADE 60,
MINIMUM YIELD STRENGTH 60,000 psi

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 2002 INCLUDING THE 2003 AND 2004 INTERIM SPECIFICATION AND THE ODOT BRIDGE DESIGN MANUAL.

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

ITEM 511 - CONCRETE, MISC.: ABUTMENT REPAIR

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE CONCRETE SHALL BE CLASS FS AND MEET THE REQUIREMENTS OF CMS EXCEPT THAT A NON CALCIUM CHLORIDE ACCELERATING ADMIXTURE AND #8 LIMESTONE FOR THE COARSE AGGREGATE SHALL BE USED.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND AND ALL PRESERVED REINFORCING STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CONCRETE, MISC.: ABUTMENT REPAIR WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DISTRICT THREE

DATE 11/05
REVISED RDN

DCN DWN

DCN DWN

STRUCTURE GENERAL NOTES

HUR-162-0.00

59
84

ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND AND ALL PRESERVED REINFORCING STEEL SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CLASS C CONCRETE, ABUTMENT, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 511 - CLASS C CONCRETE, PIER, AS PER PLAN
(PILE ENCASEMENT REPAIR)**

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

THE COST OF THE REMOVAL OF THE EXISTING ENCASEMENT AND ALL EXCAVATION IS INCLUDED WITH THIS ITEM.

THE POLYETHYLENE OR PVC PIPE SHALL BE LEFT IN PLACE.

THE COST OF THE POLYETHYLENE OR PVC PIPE IS INCLUDED WITH THIS ITEM.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR ITEM 511- CLASS C CONCRETE, PIER, AS PER PLAN (PILE ENCASEMENT REPAIR) WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY
(VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN**

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY
USING HYDRODEMOLITION, AS PER PLAN (2 1/2" THICK)**

THE COARSE AGGREGATE SHALL BE LIMESTONE.

THE SURFACE FINISH REQUIREMENTS BE AS PER CMS 511.19 AND 511.20 IN LIEU OF THAT WHICH IS SPECIFIED IN SUPPLEMENTAL SPECIFICATION 848.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DISTRICT THREE

DATE 11/05

RDW

DCN

DCN

STRUCTURE GENERAL NOTES

HUR-162-0.00

60
84

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK

A. DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR THE EXISTING CONCRETE OVERLAY ON THE BRIDGE DECK INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, CONCRETE PATCHES, SURFACE PREPARATION, SAW CUTTING, AND THE STRENGTH TESTING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

B. REMOVAL OF UNSOUND CONCRETE

THE ENGINEER SHALL VISUALLY INSPECT THE EXISTING CONCRETE OVERLAY ON THE BRIDGE DECK AND BACKWALLS AND OUTLINE THE AREAS TO BE REMOVED.

THE PERIMETER OF THE REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 3 /4 INCH TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. AT EACH CORNER OF THE PATCH THE SAW CUTS SHALL COME TOGETHER WITHOUT ANY OVERCUTTING WITH THE SAW. THE CORNERS SHALL BE CHIPPED DOWN TO THE SAW MARKS. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL WITHOUT ANY OVERCUTTING. COOLING WATER FROM WET SAWING AND DUST FROM SAWING SHALL BE IMMEDIATELY REMOVED FROM THE EXPOSED PATCH HOLES BEFORE ANY DRYING CAN OCCUR.

UN SOUND CONCRETE INCLUDING ALL PATCHES OTHER THAN SOUND PORTLAND CEMENT CONCRETE, AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 15 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM 3 /4 INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. ALL REMOVED ASPHALT AND CONCRETE SHALL BE DISPOSED OF PROPERLY OUTSIDE THE RIGHT OF WAY.

C. SURFACE PREPARATION

CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE PATCHING MATERIAL. THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING (SILICA SAND SHALL NOT BE USED) FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL BE PREVENTED BY PLACEMENT OF A CLEAN 4 MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING.

WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORTS FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE MIXER, OR SHALL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

D. MATERIALS, PLACING, AND CURING

THE BRIDGE DECK OR OVERLAY SHALL BE PATCHED WITH CLASS FS CONCRETE WHICH SHALL MEET THE REQUIREMENTS OF CMS EXCEPT THAT A NON CALCIUM CHLORIDE ACCELERATING ADMIXTURE AND #8 LIMESTONE FOR COARSE AGGREGATE SHALL BE USED.

E. PLACING

WHEN NIGHT WORK IS USED THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA. THE PLAN SHALL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

THE PATCHING MATERIAL SHALL BE PLACED, CONSOLIDATED AND FINISHED TO THE EXISTING GRADE AND ELEVATION. PATCHES GREATER THAN 50 SQUARE FEET IN AREA SHALL HAVE TEMPORARY BULKHEADS INSTALLED TO FACILITATE PLACEMENT AND FINISHING. THE TEMPORARY BULKHEADS SHALL GO AS DEEP AS THE PATCH AND BE PULLED PRIOR TO THE CONCRETE SETTING. PATCHES EXCEEDING 50 SQUARE FEET SHALL BE STRUCK OFF WITH A SCREED. SMALLER PATCHES THAT ARE UNDER 10 FEET IN LENGTH SHALL BE SCREED LONGITUDINALLY. FOR PATCHES OVER 10 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE BRIDGE CENTERLINE.

(CONTINUED)

DESIGN FILE: h:\projects\77881\struat\brtreat.dgn
WORKSTATION: sdeer DATE: 12/16/2005

PART	COUNTY, ROUTE, BRIDGE NO.	LOCATION	STRUCTURE TYPE	BRIDGE DECK DATA					ROADWAY DATA		
				LENGTH (BRIDGE DECK)	WIDTH	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH
				FT.	FT.	SQ.YD.			FT.	FT.	FT.
A	● HUR-162-0154	OVER SLATE RUN	3- SPAN PRESTRESS BOX BEAM	120.8'	34	457	40° L.F.	ASPHALT	24	34	20
A	●● HUR-162-0257	OVER MUD RUN	SINGLE SPAN PRESTRESS BOX BEAM	43.4'	34	164	35° R.F.	ASPHALT	24	34	20
A	●● HUR-162-0270	OVER MUD RUN	SINGLE SPAN PRESTRESS BOX BEAM	23.0'	36	92	20° L.F.	ASPHALT	24	24	25
A	●● HUR-162-0414	OVER MUD RUN	SINGLE SPAN PRESTRESS BOX BEAM	67.5'	36	270	7° R.F.	ASPHALT	24	20	25
A	● HUR-162-0659	OVER TRIB. OF WEST BR. OF HURON RIVER	3- SPAN CONCRETE SLAB	60.1'	32	214	15° L.F.	CONCRETE	25	20	15
A	● HUR-162-0666	OVER BOBALU CREEK	3- SPAN CONCRETE SLAB	99.24'	32	353	30° L.F.	CONCRETE	25	20	15
A	+ HUR-162-0936	OVER TRIB. OF WEST BR. OF HURON RIVER	SINGLE SPAN STEEL BEAM	20.0'	30	67	5° R.F.	ASPHALT			
A	● HUR-162-0980	OVER WEST BRANCH OF HURON RIVER	3- SPAN CONCRETE SLAB	105.6'	32	376	15° L.F.	CONCRETE	24	20	15
A	● HUR-162-0990	OVER OVERFLOW OF WEST BRANCH OF HURON RIVER	3- SPAN CONCRETE SLAB	60.0'	32	214	0°	CONCRETE	24	20	15
A	●●● HUR-162-1196	OVER EAST BRANCH OF HURON RIVER	SINGLE SPAN PRESTRESS BOX BEAM	70.75'	36	283	0°	ASPHALT	25	20	25
A	●● HUR-162-1698	OVER EAST BRANCH OF HURON RIVER	CORR. METAL PIPE				17° L.F.	ASPHALT			
A	●● HUR-162-1742	OVER EAST BRANCH OF HURON RIVER	SINGLE SPAN PRESTRESS BOX BEAM	20.2'	33	74	0°	ASPHALT	26	20	25

- PLANE 100 FT. ON BOTH APPROACHES AND ON BRIDGE DECK BETWEEN THE EXPANSION JOINTS 1/2" DEEP. (DO NOT PLANE ON APPROACH SLABS) OMIT RESURFACING ON APPROACH SLABS, BUTT JOINT AT APPROACH SLABS. PAVE OVER BRIDGE DECK WITH 1/2" SURFACE COURSE ONLY. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK)
HUR-162-0154 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 990 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)

- PLANE 1/2" DEEP ON APPROACH SLABS, BRIDGE DECK AND FOR 100 FT. ON BOTH APPROACHES, PAVE OVER BRIDGE DECK AND APPROACH SLABS WITH 1/2" SURFACE COURSE ONLY. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK)
HUR-162-0257 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 849 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)
HUR-162-0270 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 759 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)
HUR-162-0414 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 937 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)

- PLANE 1/2" DEEP ON APPROACH SLABS AND FOR 100 FT. ON BOTH APPROACHES. OMIT RESURFACING ON THE BRIDGE DECK, BUTT JOINT AT THE BRIDGE DECK. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK)
HUR-162-0659 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 639 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)
HUR-162-0666 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 639 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)
HUR-162-0980 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 614 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)
HUR-162-0990 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE: 614 SQUARE YARDS (CARRIED TO GENERAL SUMMARY SHEET, SHEET NO. 10)

+ PAVE OVER STRUCTURE (SEE DETAILS IN PLAN FOR REPLACEMENT OF STRUCTURE)

●● PLANE AND PAVE OVER STRUCTURE (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES)

●●● BUTT JOINT AT THE BRIDGE DECK. OMIT RESURFACING ON THE BRIDGE DECK. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR PLANING QUANTITIES)

DISTRICT THREE

11/05

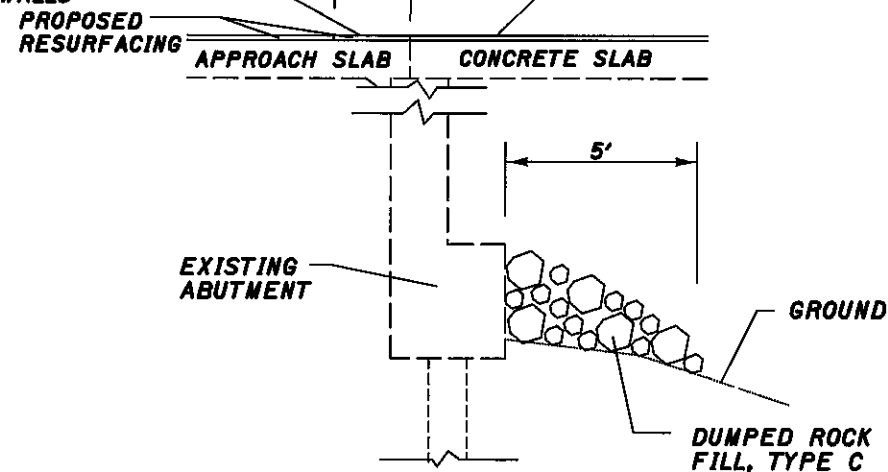
DCN

BRIDGE TREATMENT

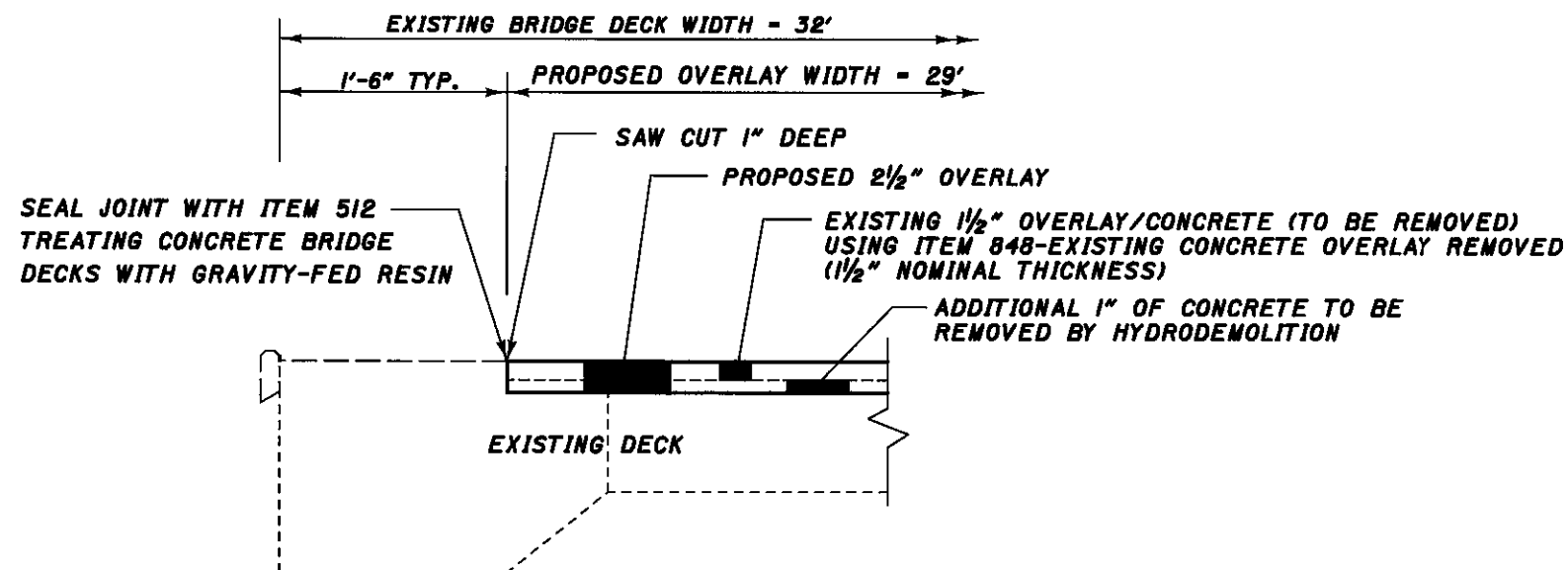
HUR-162-0.00

63
84

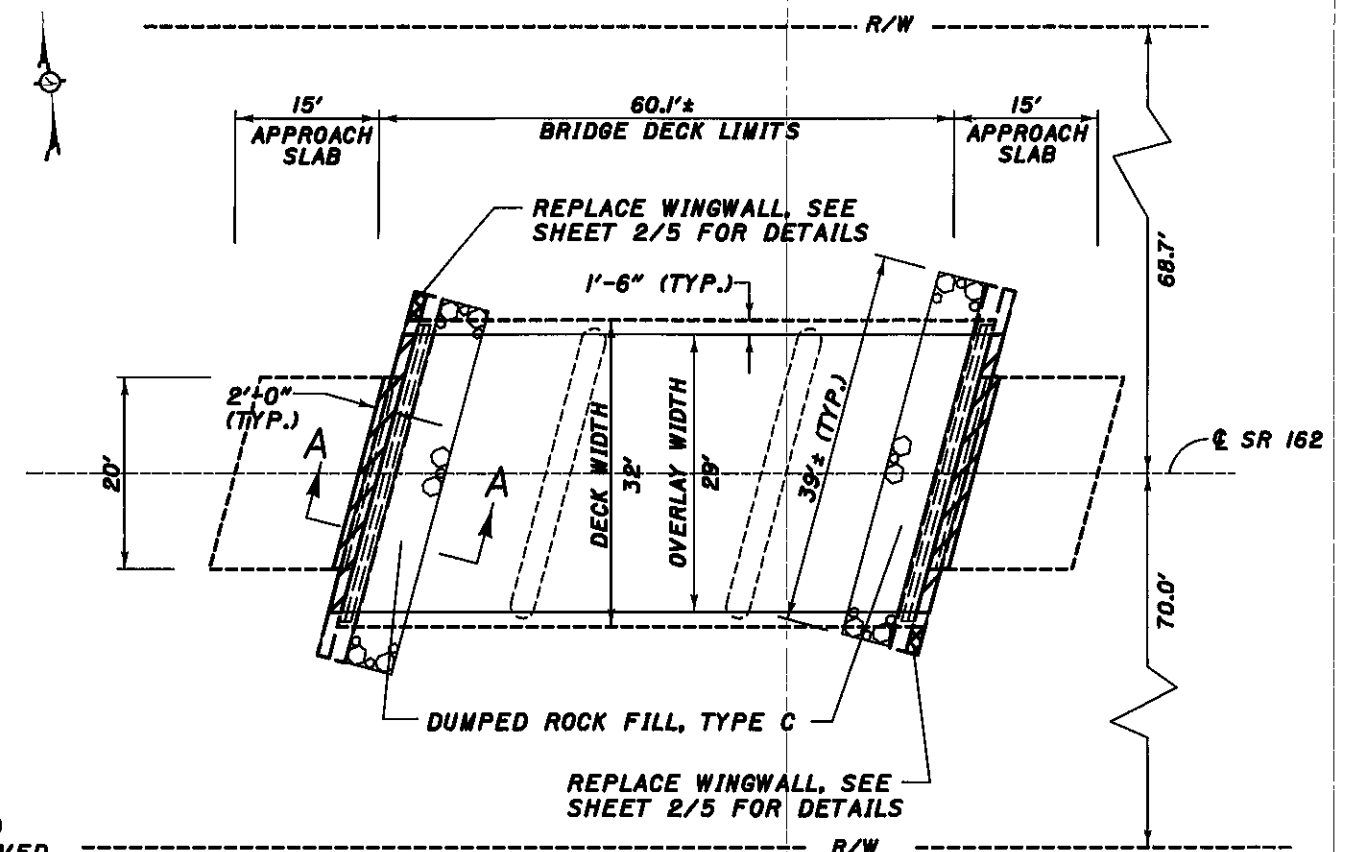
EXISTING CONCRETE OVERLAY
TO BE REMOVED FROM APPROACH
SLABS/ TOP OF BACKWALLS



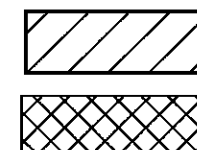
SECTION A-A



OVERLAY DETAIL



PLAN VIEW



ADDITIONAL AREA OF EXISTING CONCRETE OVERLAY TO BE REMOVED

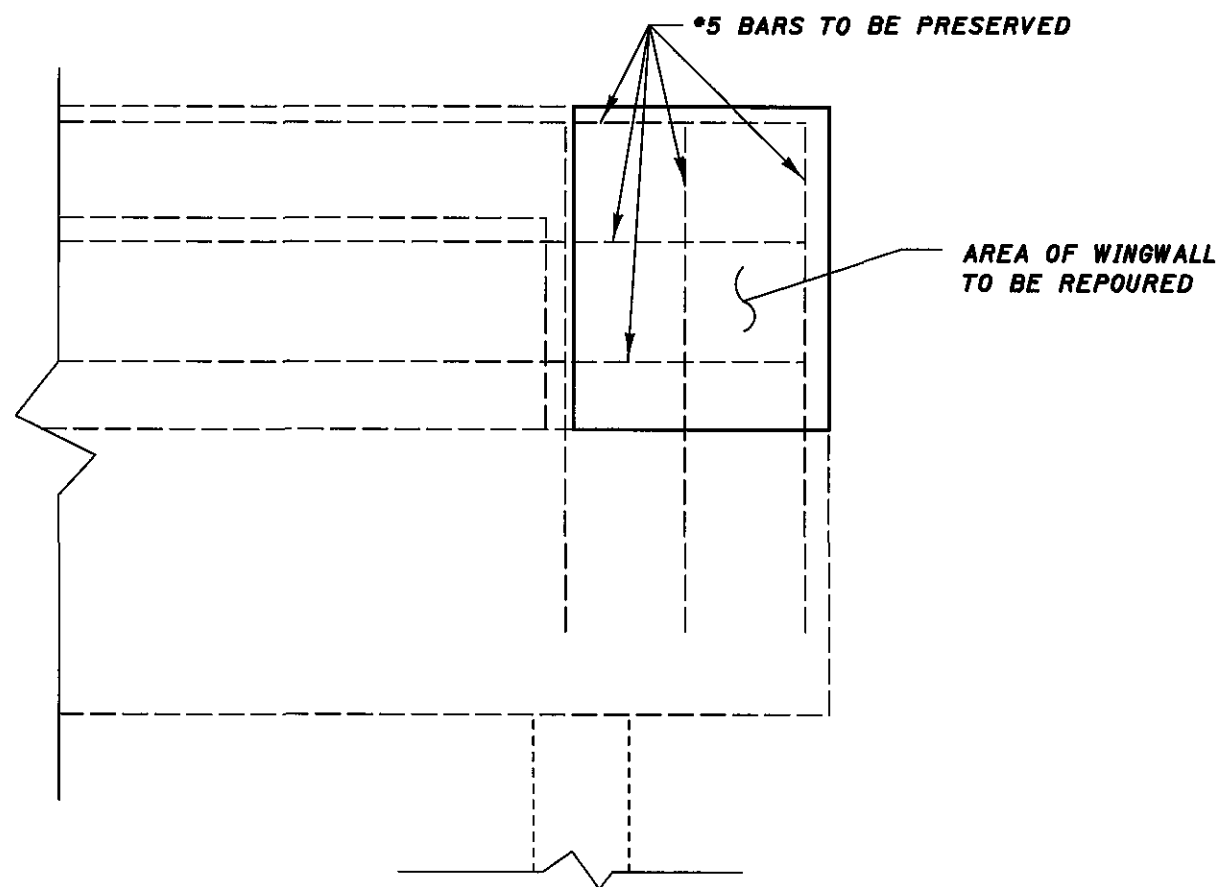
AREA OF EXISTING WINGWALL TO BE REPLACED

NOTES:

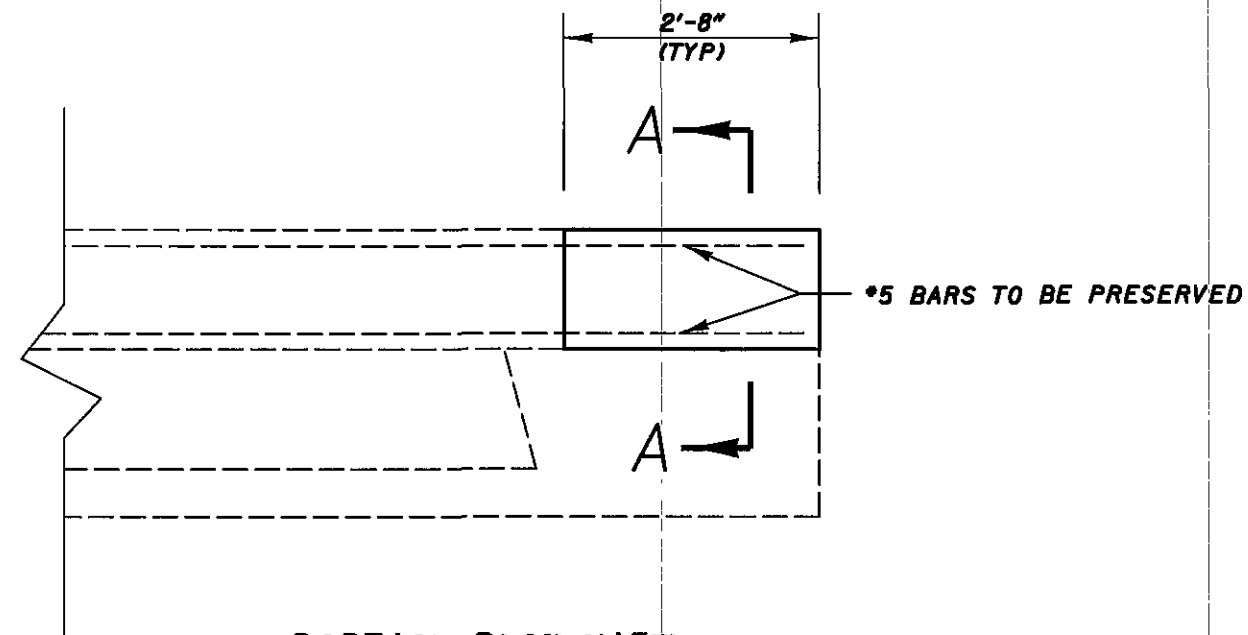
- 1) THE EXISTING APPROACH RAIL IS NOT SHOWN.
- 2) THE EXISTING CONCRETE OVERLAY AND DECK SURFACES FOR 29'-0" WIDE SHALL BE REMOVED USING ITEM 848-EXISTING CONCRETE OVERLAY REMOVED (1 1/2" NOMINAL THICKNESS) AN ADDITIONAL 1" OF EXISTING CONCRETE DECK OVER THE 29'-0" WIDTH SHALL BE REMOVED USING ITEM 848- SURFACE PREPARATION USING HYDRODEMOLITION.
- 3) REMOVE CONCRETE OVERLAY OFF THE TOP OF THE BACKWALL AND A PORTION OF THE APPROACH SLAB WITH ITEM 848-EXISTING CONCRETE OVERLAY REMOVED (1 1/2" NOMINAL THICKNESS)
- 4) 29'-0" OF THE BRIDGE DECK SHALL BE OVERLAYED USING ITEM 848- MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2 1/2" THICKNESS)
- 5) SEAL OVERLAY JOINT 4" WIDE, 2" ON EACH SIDE OF JOINT USING ITEM 512-TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN
- 6) THE DECK EDGES, ENDS OF THE PIER CAPS, AND ALL EXPOSED AREAS OF THE WINGWALLS SHALL BE SEALED AS DETAILED ON SHEET 4/5 USING ITEM 512.
- 7) ADD DUMPED ROCK ALONG ENTIRE LENGTH OF BOTH ABUTMENTS
- 8) ENCASE PIER PILES AS PER DETAILS ON SHEET 3/5.

ITEM	QUANTITY	UNIT	DESCRIPTION
512	5	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN
601	22	CU YD	DUMPED ROCK FILL, TYPE C
848	194	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2 1/2" THICK)
848	194	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION
848	6	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
848	6	SQ YD	HAND CHIPPING
848	1ump		TEST SLAB
848	1	CU YD	FULL-DEPTH REPAIR
848	206	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1 1/2" NOMINAL THICKNESS)
848	10	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY

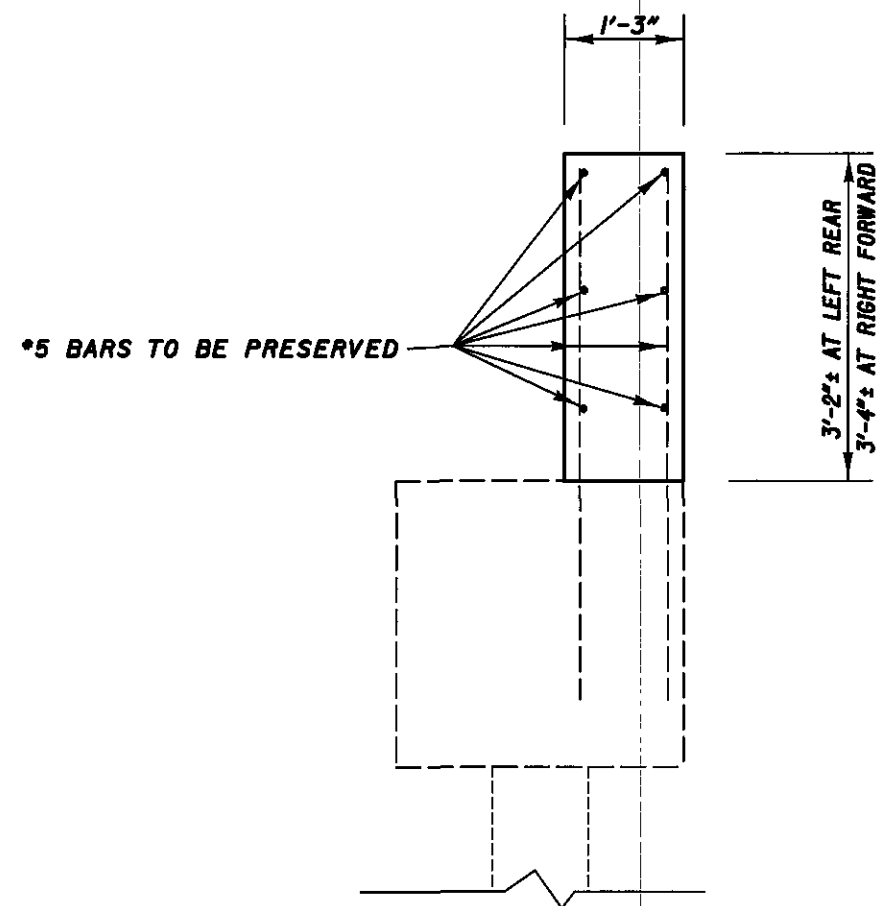
ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET



**PARTIAL ELEVATION VIEW
 LEFT REAR & RIGHT FORWARD**



**PARTIAL PLAN VIEW
 LEFT REAR & RIGHT FORWARD**



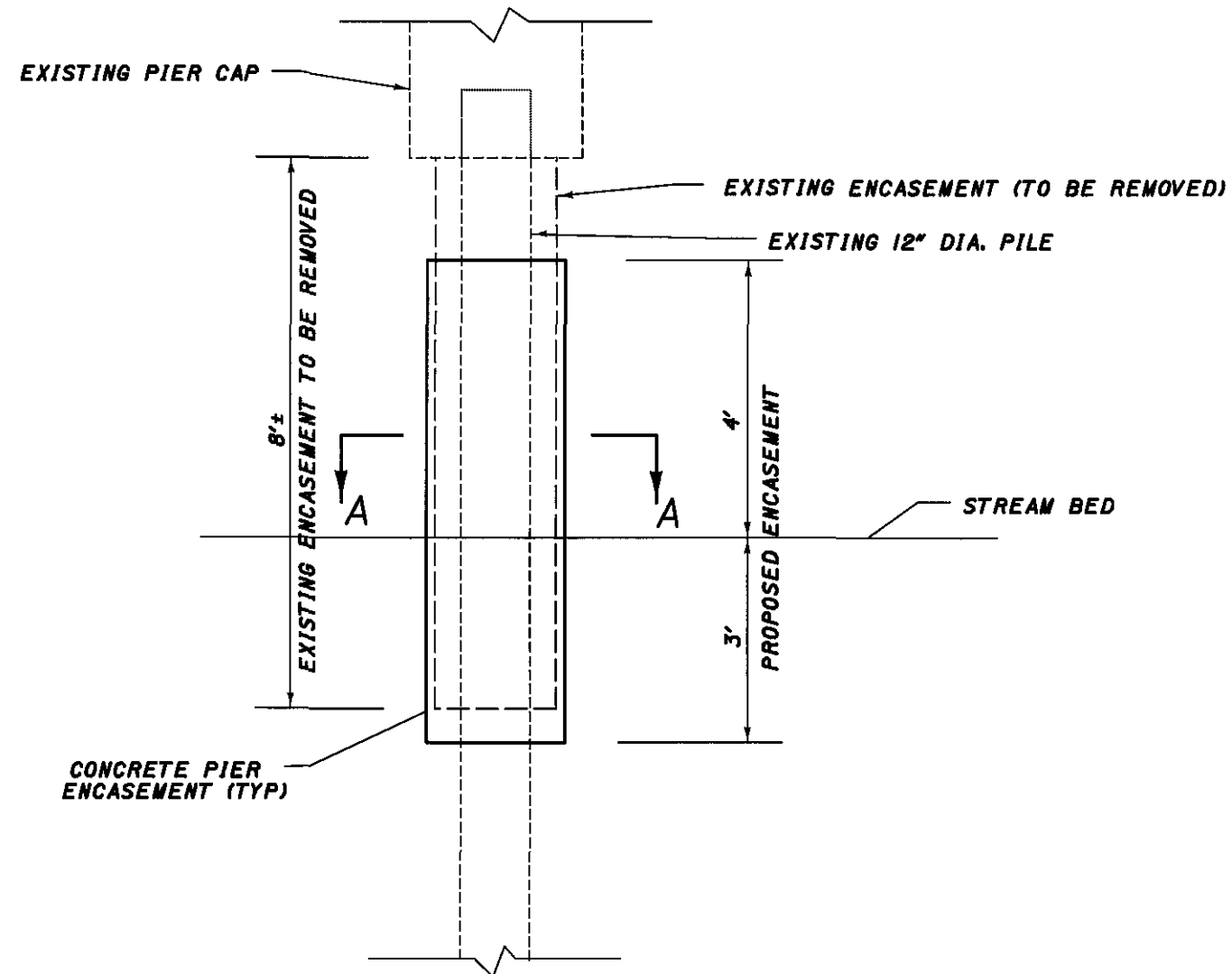
SECTION A-A

NOTES:

- 1) ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED
- 2) A PORTION OF THE LEFT REAR AND RIGHT FORWARD WINGWALL SHALL BE REPOURED AS DETAILED ABOVE

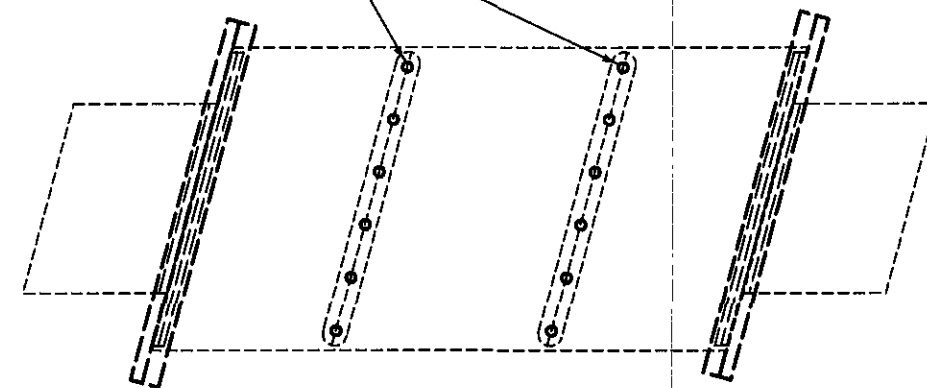
ITEM	QUANTITY	UNIT	DESCRIPTION
202	.8	CU YD	PORTIONS OF STRUCTURE REMOVED
511	.8	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

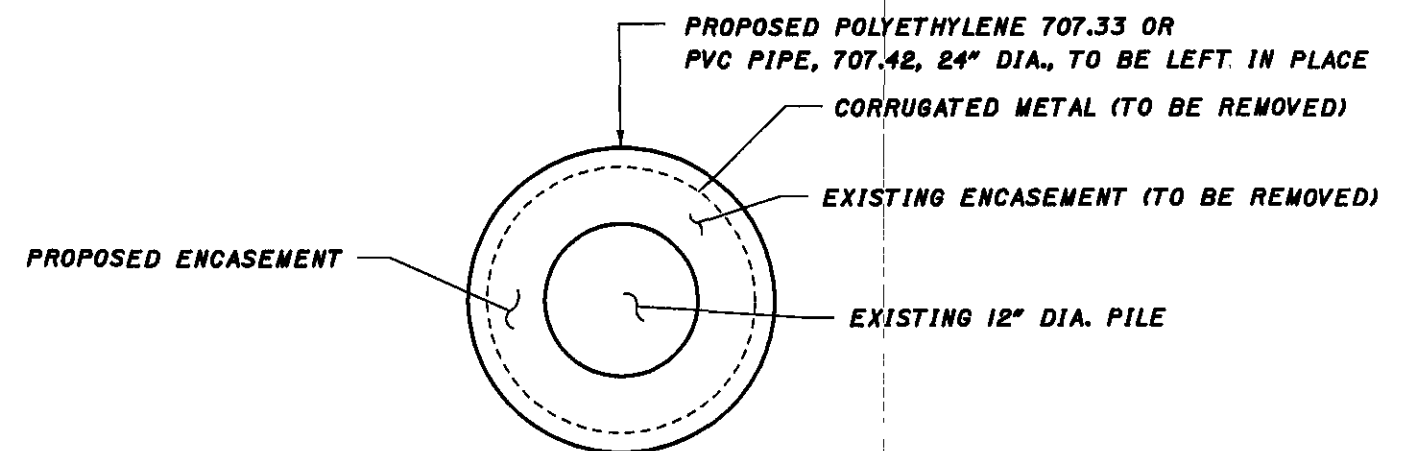


TYPICAL PILING

12 PILES TO BE ENCASED



LOCATIONS OF
PILING ENCASEMENTS



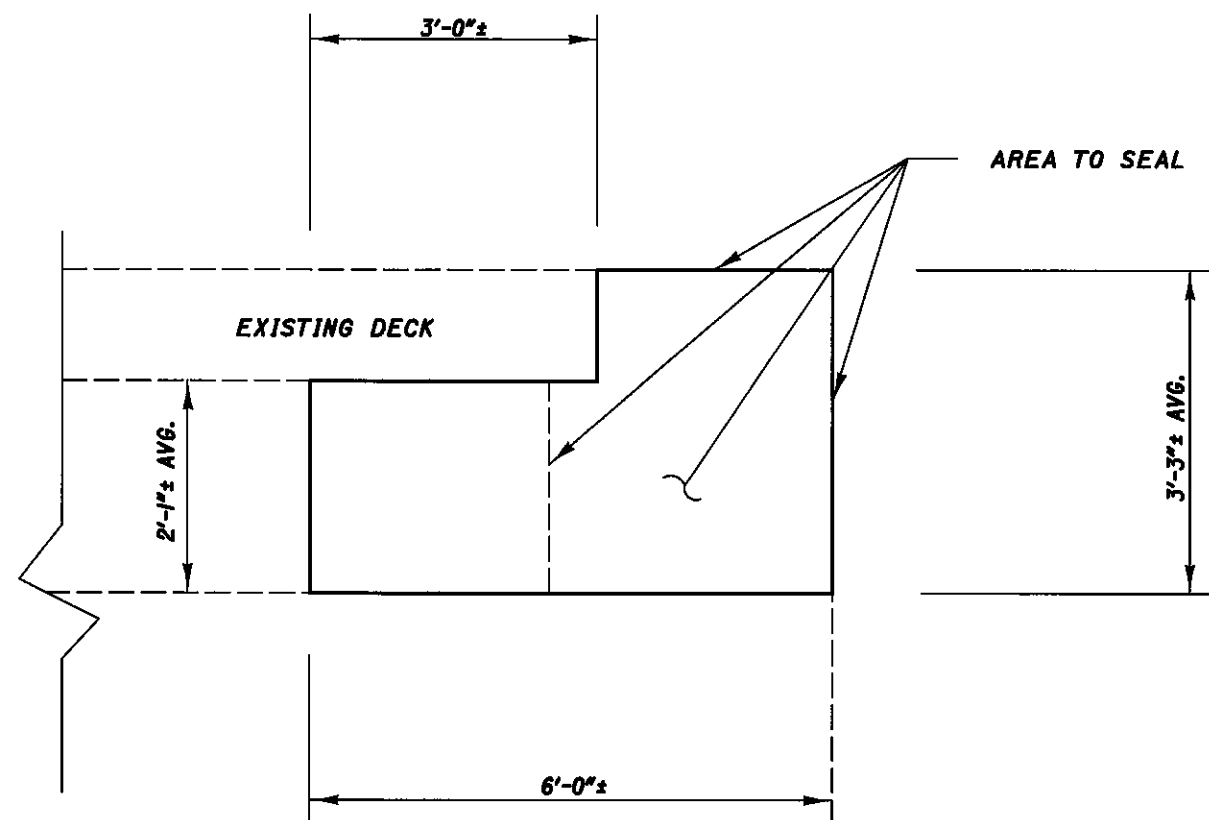
SECTION A-A

NOTES:

- 1) REMOVE ALL EXISTING PIER PILE ENCASEMENT
- 2) ENCASE ALL PIER PILES

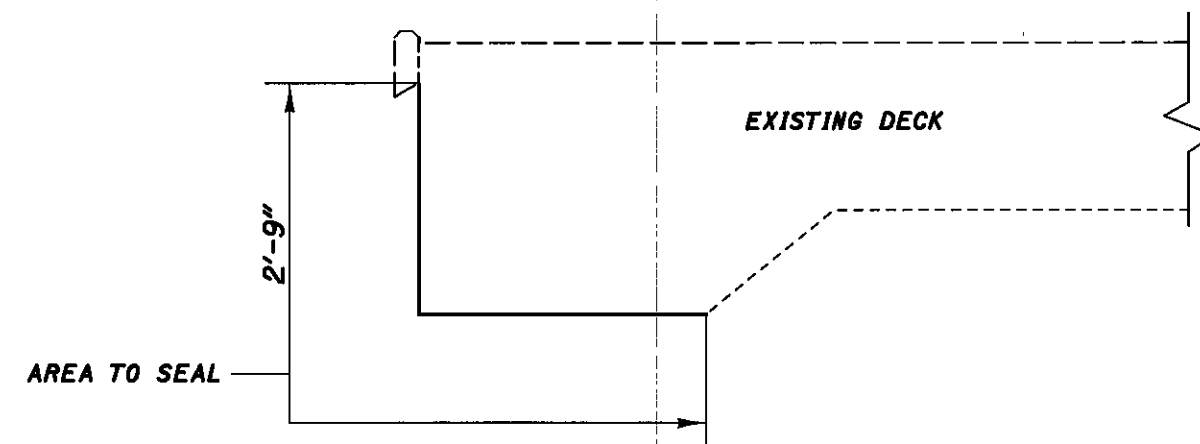
ITEM	QUANTITY	UNIT	DESCRIPTION
511	8	CU YD	CLASS C CONCRETE, PIER, AS PER PLAN (PILE ENCASEMENT REPAIR)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET



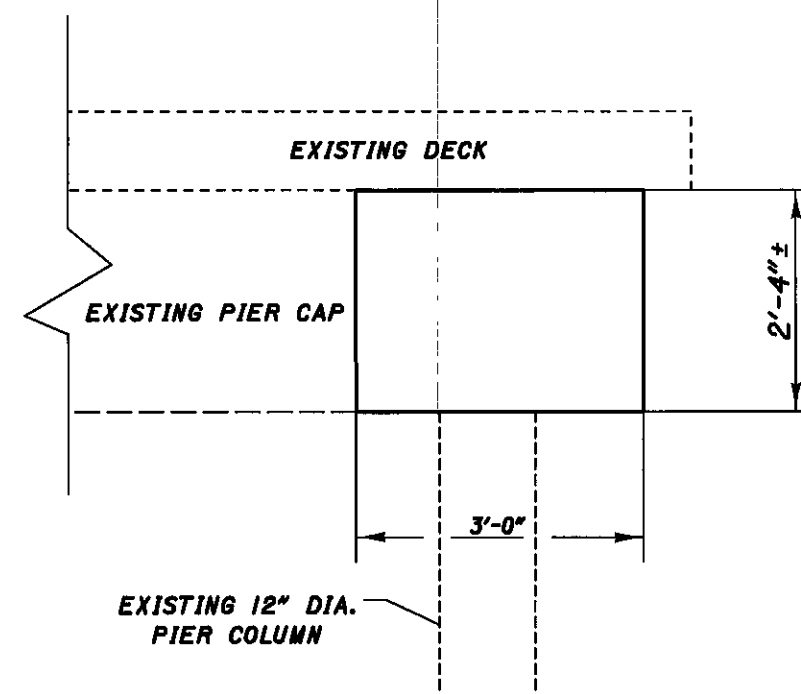
(WINGWALL IS 1'-3" THICK)

**PARTIAL ELEVATION VIEW
TYPICAL WINGWALL SEALING**



(BEAM LENGTH - 60.1')

TYPICAL DECK EDGE SEALING



(2'-6" WIDE PIER CAP)
TYPICAL PIER CAP SEALING

ITEM	QUANTITY	UNIT	DESCRIPTION
512	58	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)