

COUNTY OF	ITEM NO.
MADISON	7-9004.00

GENERAL NOTES

SPECIFICATIONS: ALL REFERENCES TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION WITH CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DESIGN LOAD: THIS STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE CURRENT AASHTO SPECIFICATIONS. THE EFFECTIVE WEIGHT OF FILL MATERIAL IS 120 LBS/CF & THE LIVE LOAD IS THE KYHL-93 TRUCK OR TANDEM. THE LIVE LOADS ARE CALCULATED BY INCREASING THE HL-93 DESIGN TRUCK OR TANDEM BY 25%.

DESIGN METHOD: ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED BY THE LOAD RESISTANCE FACTOR METHOD AS SPECIFIED IN THE AASHTO SPECIFICATIONS.

DESIGN STRESSES: FOR CLASS "A" CONCRETE, $f'_c = 3,500$ P.S.I., $n = 9$.
FOR STEEL REINFORCEMENT, $F_y = 60,000$ P.S.I., $n = 9$.

CONCRETE: CLASS "A" SHALL BE USED THROUGHOUT.

BEVELED EDGES: ALL EXPOSED EDGES SHALL BE BEVELED $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

REINFORCEMENT: DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. BARS DESIGNATED BY SUFFIX (E) SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE SPECS. BARS DESIGNATED BY SUFFIX (S) SHALL BE CONSIDERED STIRRUPS FOR THE PURPOSE OF BEND DIAMETERS. DUE TO THE GENERIC NATURE OF SOME EXTENSIONS AND LIMITED DETAILS SHOWN HEREIN, FIELD CUT BARS TO FACILITATE PLACEMENT WHENEVER REQUIRED. THIS INCLUDES, BUT IS NOT LIMITED TO, TRANSVERSE AND LONGITUDINAL BARREL BARS NEAR SKEWED ENDS AND VERTICAL & HORIZONTAL WINGWALL BARS.

BONDING TO EXISTING CONCRETE USING STRUCTURAL ADHESIVES: BOND PROPOSED PLASTIC CONCRETE TO EXISTING HARDENED CONCRETE IN ALL LOCATIONS USING A TYPE V EPOXY RESIN OR OTHER APPROVED STRUCTURAL ADHESIVE AS PRESCRIBED IN SECTION 826 OF THE SPECIFICATIONS. FOLLOW THE MANUFACTURER'S APPLICATION INSTRUCTIONS. THE WORK & MATERIAL IS INCIDENTAL TO THE UNIT PRICE FOR CLASS "A" CONCRETE.

CONSTRUCTION NOTE: REMOVE PORTIONS OF THE EXISTING CULVERT TO THE LIMITS SHOWN HEREIN. EXISTING REINFORCING STEEL SHALL BE THOROUGHLY CLEANED OF CONCRETE AND STRAIGHTENED FOR USE TO BOND THE NEW CONCRETE WITH A MINIMUM PROJECTION OF 1'-9". AS AN ALTERNATE, CENTER 3'-0" LONG, #6 DOWEL BARS @ 12" SPACING INTO THE EXISTING SLABS AND WALLS, EMBEDDED 1'-6" INTO EXISTING CULVERT CONCRETE AND SET WITH AN ADHESIVE ANCHORAGE SYSTEM TO PROVIDE A PULLOUT STRENGTH OF EQUAL OR GREATER CAPACITY THAN THE CORRESPONDING REINFORCING STEEL. THE COST OF THE ALTERNATE SHALL BE INCIDENTAL TO THE UNIT PRICE FOR CLASS "A" CONCRETE.

COMPLETION OF STRUCTURE: THE CONTRACTOR IS REQUIRED TO COMPLETE THE STRUCTURE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MATERIAL, LABOR OR CONSTRUCTION OPERATIONS, NOT OTHERWISE SPECIFIED, ARE TO BE INCLUDED IN THE BID ITEM MOST APPROPRIATE TO THE WORK INVOLVED. THIS MAY INCLUDE COFFERDAMS, SHORING, EXCAVATIONS, BACKFILLING, REMOVAL OF ALL OR PART OF EXISTING STRUCTURES, PHASED CONSTRUCTION, INCIDENTAL MATERIALS, LABOR OR ANY OTHER ITEMS REQUIRED TO COMPLETE THE STRUCTURE.

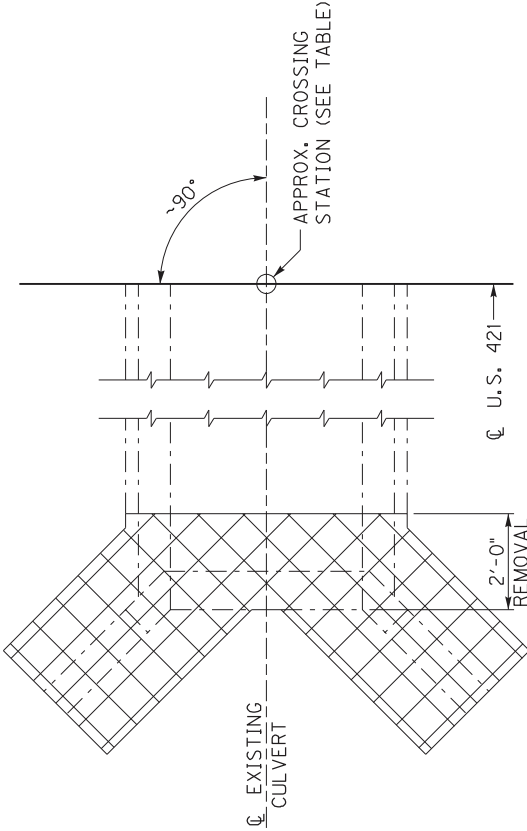
CULVERTS WITH YIELDING FOUNDATIONS: DURING CONSTRUCTION OF THE YIELDING FOUNDATION, ANY POOR SOILS ENCOUNTERED SHOULD BE UNDERCUT TO A MINIMUM OF TWO (2) FEET BELOW THE BOTTOM SLAB OF THE CULVERT OR WINGWALL FOOTINGS, AS APPLICABLE. THE RESULTING EXCAVATED AREAS SHOULD THEN BE BACKFILLED WITH "GRANULAR EMBANKMENT", NON-ERODIBLE ONLY, MEETING THE MATERIAL REQUIREMENTS OF SECTION 805 IN THE CURRENT EDITION OF THE KENTUCKY STANDARD SPECIFICATIONS.

CULVERTS WITH UNYIELDING FOUNDATIONS: IF SOLID ROCK IS NOT ENCOUNTERED AT THE DESIGN FOOTING ELEVATION, SOIL MUST BE EXCAVATED AND BACKFILLED WITH "GRANULAR EMBANKMENT", NON-ERODIBLE ONLY, MEETING THE MATERIAL REQUIREMENTS OF SECTION 805 IN THE CURRENT EDITION OF THE KENTUCKY STANDARD SPECIFICATIONS WITH THE EXCEPTION THAT THE MAX. SIZE IS 4 INCHES.

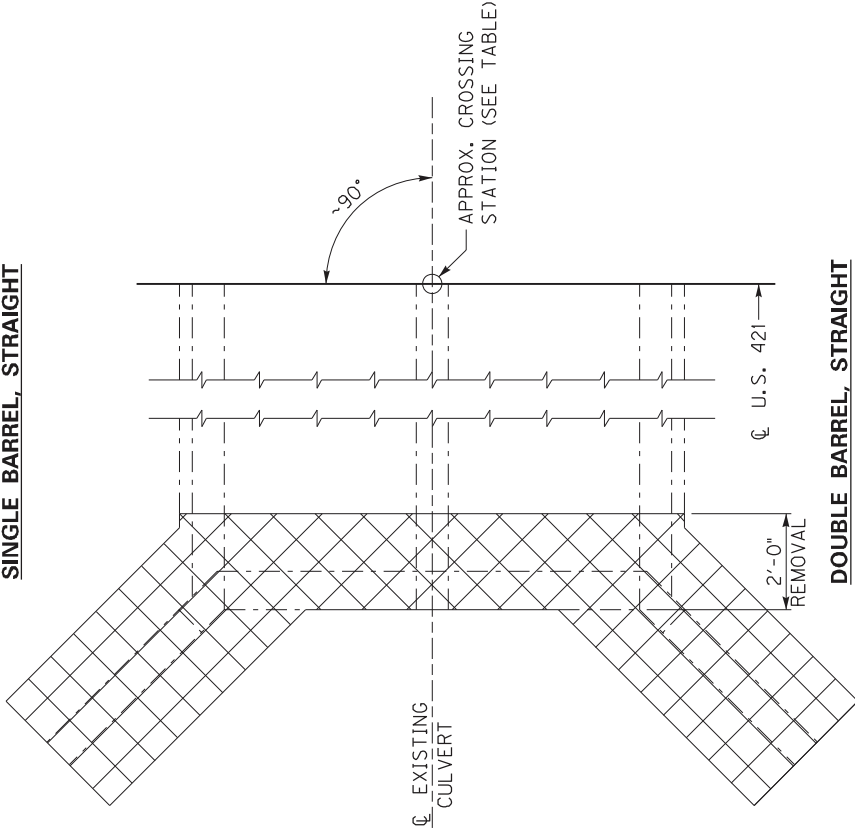


APPROXIMATE LIMITS OF REMOVAL —

DEMOLITION OF EXISTING CULVERT



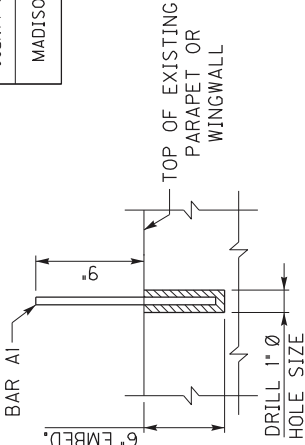
SINGLE BARREL, STRAIGHT



DOUBLE BARREL, STRAIGHT

COUNTY OF	ITEM NO.
MADISON	7-9004.00

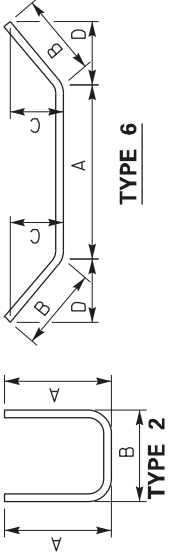
NOTE:
LAYOUT OF EXTENSION REINFORCING ("A" BARS) WAS BASED ON THE 1951 KENTUCKY DOT CULVERT STANDARD DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY LOCATIONS AND DIMENSIONS PRIOR TO ORDERING REINFORCING.



DOWEL DETAIL

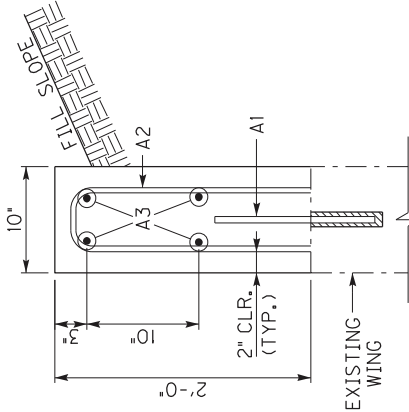
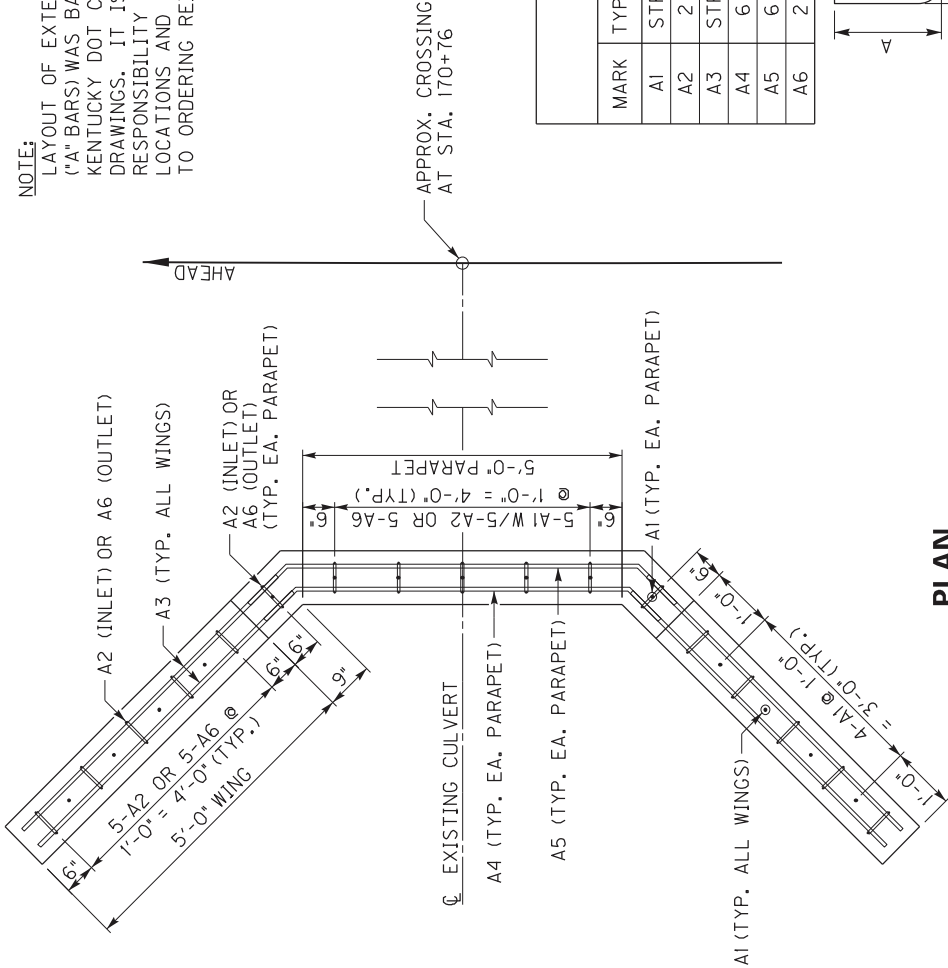
DRILLING & GROUTING (A1): REINFORCING, DOWELS AND ANCHORS INSTALLED INTO EXISTING CONCRETE SHALL BE PLACED IN ACCORDANCE WITH SECTION 511 OF THE SPECIFICATIONS AND ANY APPROPRIATE MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING REINFORCING. THE ANCHORAGE SYSTEM SHALL PROVIDE A PULLOUT STRENGTH OF EQUAL OR GREATER CAPACITY AS THE CORRESPONDING REINFORCING STEEL. THIS WORK AND MATERIAL IS INCIDENTAL TO THE UNIT PRICE FOR CONCRETE.

BILL OF REINFORCEMENT					
MARK	TYPE	NUMBER	SIZE	LENGTH	LOCATION
A1	STR	30	#6	1'-3"	ALL MEMBERS
A2	2	17	#4	4'-2"	INLET PARAPET & WINGS
A3	STR	12	#6	6'-2"	ALL WINGS
A4	6	3	#6	6'-7"	PARAPETS
A5	6	3	#6	7'-2"	PARAPETS
A6	2	17	#4	2'-2"	OUTLET PARAPET & WINGS

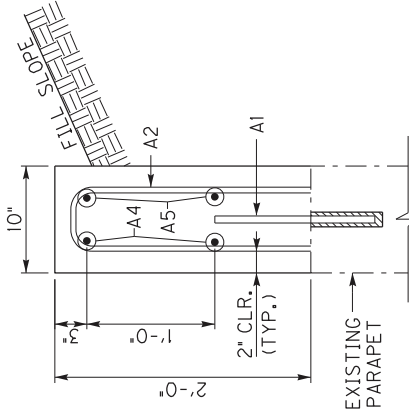


PLAN

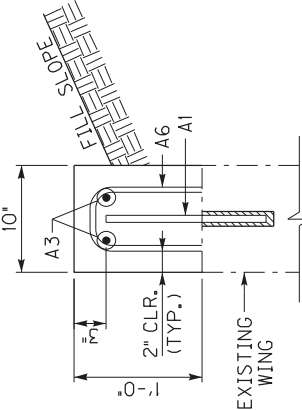
(INLET SHOWN; OUTLET SIMILAR, BUT OPPOSITE HAND)



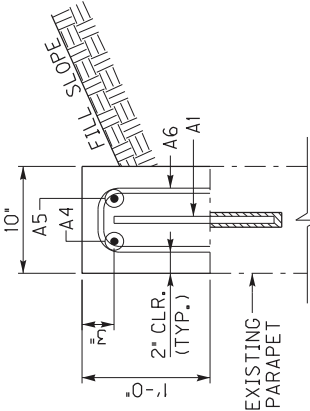
INLET WING SECTION



INLET PARAPET SECTION

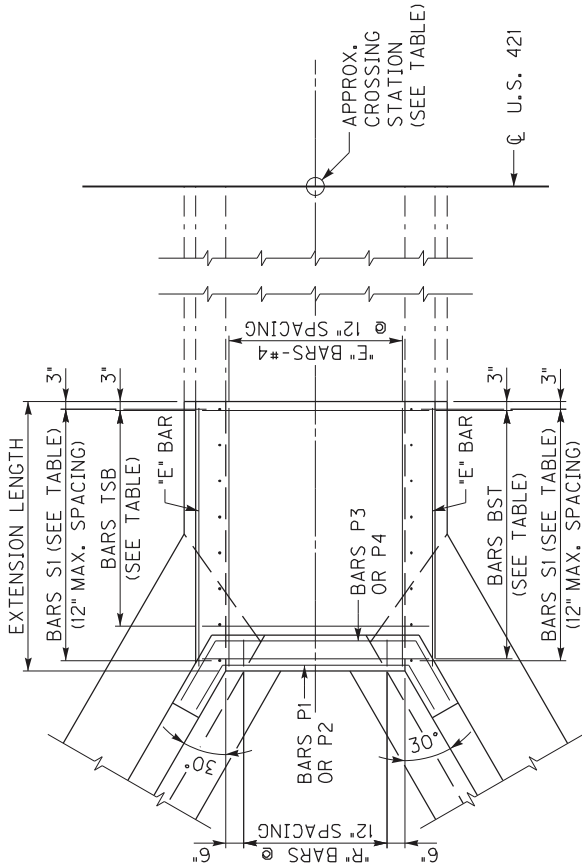


OUTLET WING SECTION

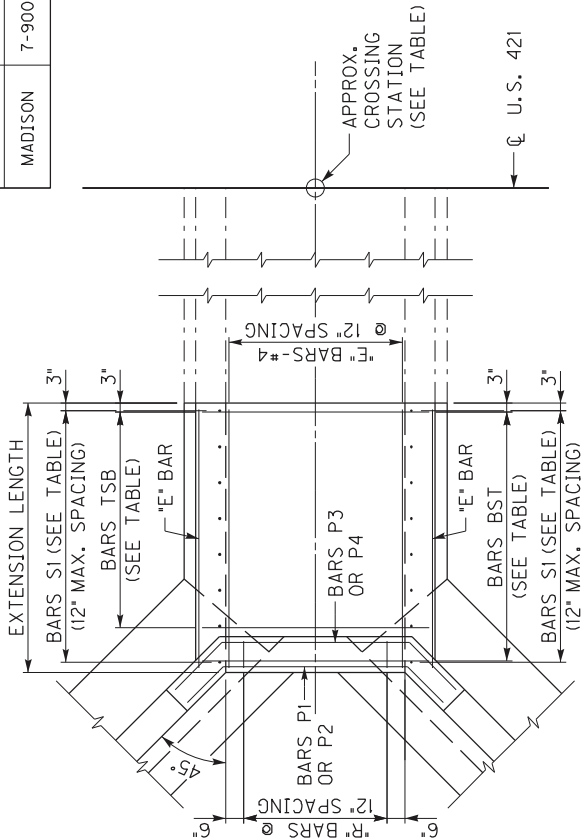


OUTLET PARAPET SECTION

COUNTY OF	ITEM NO.
MADISON	7-9004.00



PLAN – PROPOSED EXTENSION, STRAIGHT
(APPLIES TO THE 6'x4' EXTENSIONS @ STA. 218+91 & STA. 227+04)



PLAN – PROPOSED EXTENSION, STRAIGHT
(APPLIES TO THE 5'x2' EXTENSION @ STA. 349+83)

TABLE NOTE:
EXISTING DATA SHOWN IS APPROXIMATE ONLY. CONTRACTOR TO CONFIRM EXISTING CONDITIONS AND MAKE ADJUSTMENTS BEFORE ORDERING REINFORCING.

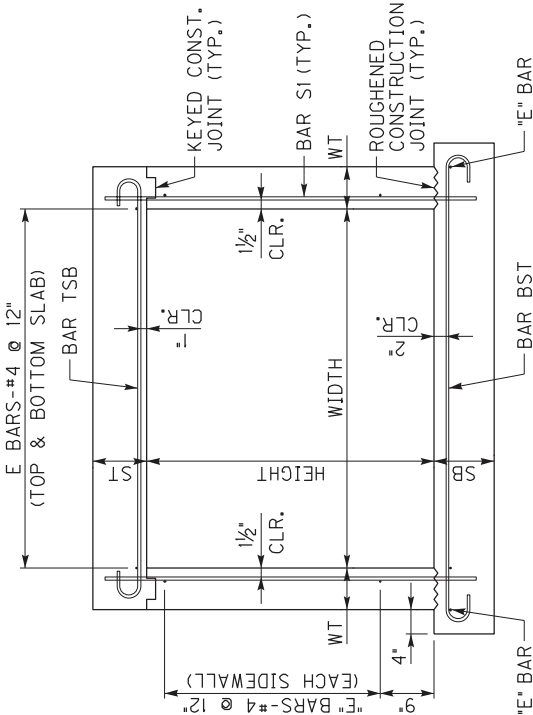
R.C.B.C. EXTENSION DATA TABLE

EXISTING DATA			DIMENSIONS							"BST" – TYPE 1, #5 AT 6" SPA.			
STATION	WIDTH	HEIGHT	EXTENSION LENGTH	EXT. END	ST (IN)	SB (IN)	WT (IN)	NO.	LENGTH	A	B	C	D
218+91	6'-0"	4'-0"	6'-0"	OUTLET	8	9	10	12	9'-3"	7'-7"	0'-10"	0'-5"	8'-0"
227+04	6'-0"	4'-0"	5'-0"	INLET	8	9	10	10	9'-3"	7'-7"	0'-10"	0'-5"	8'-0"
349+83	5'-0"	2'-0"	5'-0"	INLET	8	9	10	10	8'-3"	6'-7"	0'-10"	0'-5"	7'-0"
349+83	5'-0"	2'-0"	7'-6"	OUTLET	8	9	10	15	8'-3"	6'-7"	0'-10"	0'-5"	7'-0"

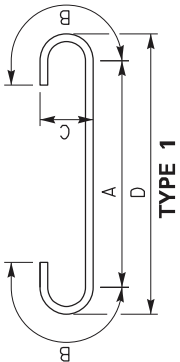
R.C.B.C. EXTENSION DATA TABLE CON'T

EXISTING DATA			"TSB" – TYPE 1, #5 AT 6" SPA.					"S1"			"E"–#4		
STATION	WIDTH	HEIGHT	NO.	LENGTH	A	B	C	D	NO.	SIZE	LENGTH	NO.	LENGTH
218+91	6'-0"	4'-0"	10	8'-7"	6'-11"	0'-10"	0'-5"	7'-4"	12	#5	5'-0"	24	5'-10"
227+04	6'-0"	4'-0"	8	8'-7"	6'-11"	0'-10"	0'-5"	7'-4"	10	#5	5'-0"	24	4'-10"
349+83	5'-0"	2'-0"	8	7'-7"	5'-11"	0'-10"	0'-5"	6'-4"	10	#4	3'-0"	18	4'-10"
349+83	5'-0"	2'-0"	13	7'-7"	5'-11"	0'-10"	0'-5"	6'-4"	16	#4	3'-0"	18	7'-4"

REBAR NOTES:
BARS "S1" & "E" ARE STRAIGHT BARS. THE TOTAL BAR NUMBER LISTED IN THE TABLE IS THE TOTAL NUMBER REQUIRED AT EACH STATION.



TYPICAL BARREL SECTION



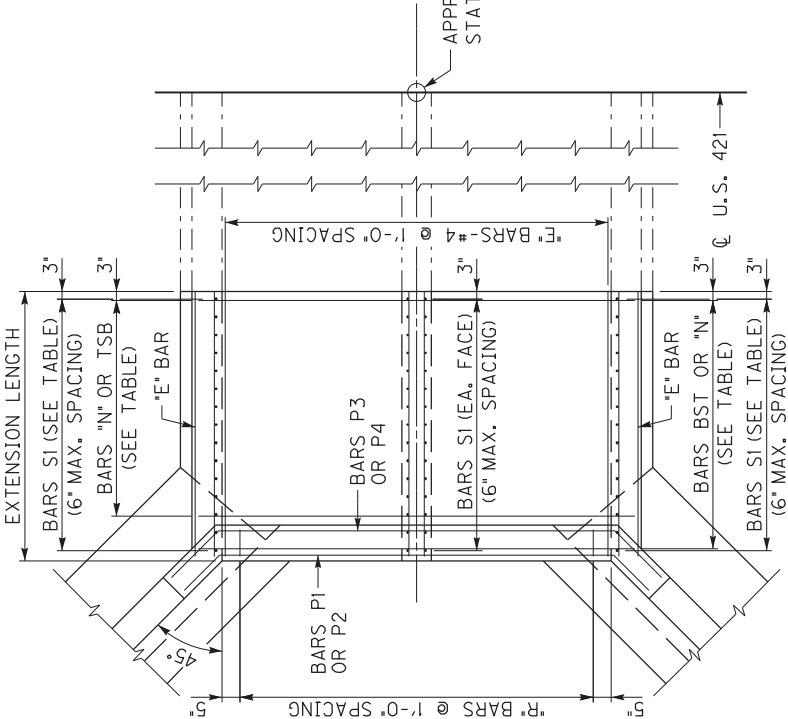
COUNTY OF	ITEM NO.
MADISON	7-9004.00

TABLE NOTE:
EXISTING DATA SHOWN IS APPROXIMATE ONLY. CONTRACTOR TO CONFIRM EXISTING
CONDITIONS AND MAKE ADJUSTMENTS BEFORE ORDERING REINFORCING.

R.C.B.C. EXTENSION DATA TABLE

EXISTING DATA			DIMENSIONS							"BST" – TYPE 1, #5 AT 6" SPA.				
STATION	WIDTH	HEIGHT	EXT. LENGTH	EXT. END	ST (IN)	SB (IN)	WT (IN)	NO.	LENGTH	A	B	C	D	
458+13	6'-0"	6'-0"	5'-0"	OUTLET	9	11	10	10	16'-1"	14'-5"	0'-10"	0'-5"	14'-10"	
458+13	6'-0"	6'-0"	6'-6"	INLET	9	11	10	13	16'-1"	14'-5"	0'-10"	0'-5"	14'-10"	
468+30	8'-0"	4'-0"	5'-6"	OUTLET	9	11	10	11	20'-1"	18'-5"	0'-10"	0'-5"	18'-10"	
468+30	8'-0"	4'-0"	6'-6"	INLET	9	11	10	13	20'-1"	18'-5"	0'-10"	0'-5"	18'-10"	

APPROX. CROSSING
STATION (SEE TABLE)



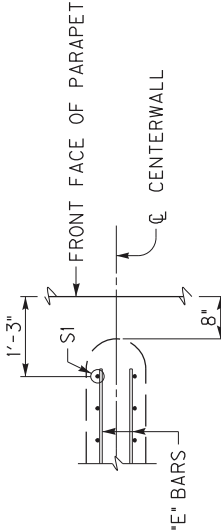
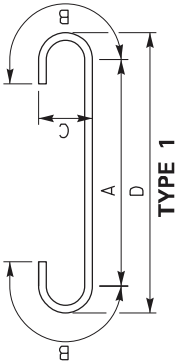
PLAN – PROPOSED EXTENSION
(OUTLET SHOWN, INLET SIMILAR; INLET CENTER
WALL SHOULD BE BULL-NOSED, SEE DETAIL)

REBAR NOTES:

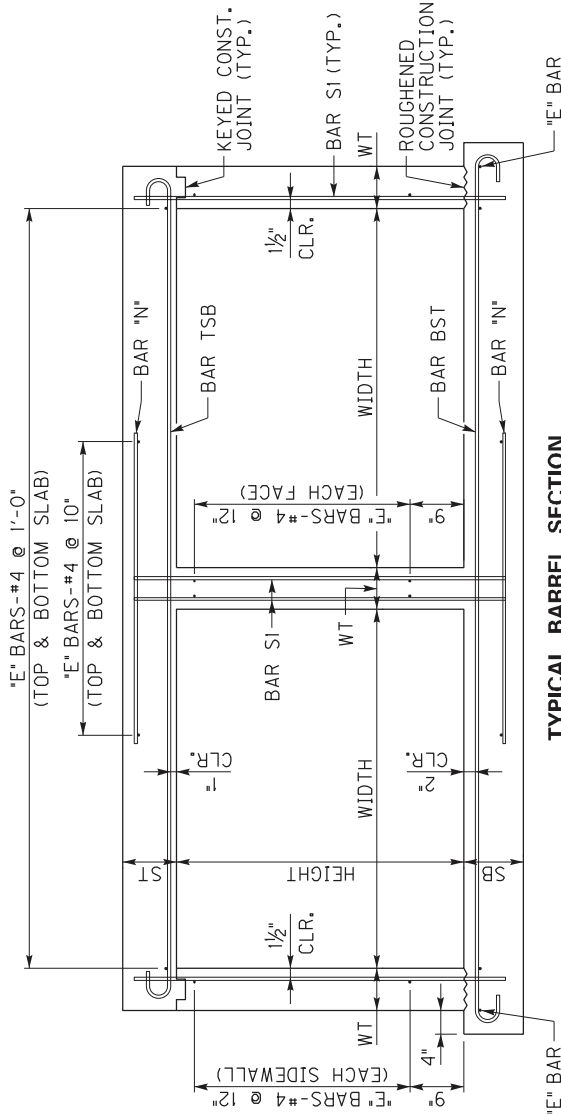
BARS "N", "S1" & "E" ARE STRAIGHT BARS. THE TOTAL BAR NUMBER LISTED
IN THE TABLE IS THE TOTAL NUMBER REQUIRED AT EACH STATION.

R.C.B.C. EXTENSION DATA TABLE CON'T

STATION	"TSB" – TYPE 1, #5 AT 6" SPA.						"N"			"S1"			"E"–#4	
	NO.	LENGTH	A	B	C	D	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	LENGTH
458+13	8	15'-5"	13'-9"	0'-10"	0'-5"	14'-2"	18	#5	6'-10"	40	#5	7'-3"	72	4'-10"
458+13	11	15'-5"	13'-9"	0'-10"	0'-5"	14'-2"	24	#5	6'-10"	48	#5	7'-3"	72	6'-4"
468+30	9	19'-5"	17'-9"	0'-10"	0'-5"	18'-2"	20	#5	8'-10"	44	#4	5'-3"	76	5'-4"
468+30	11	19'-5"	17'-9"	0'-10"	0'-5"	18'-2"	24	#5	8'-10"	48	#4	5'-3"	76	6'-4"



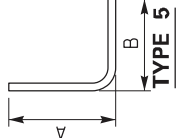
INLET CENTERWALL DETAIL
(FIELD CUT "E" BARS AS NEEDED)



TYPICAL BARREL SECTION

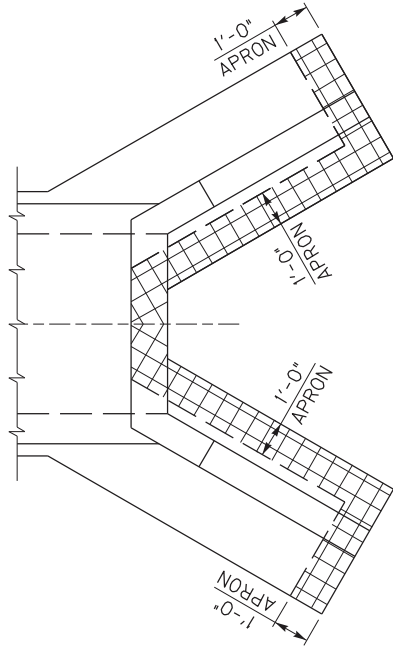
REINFORCED CONCRETE BOX CULVERT PARAPET TABULATION

EXISTING DATA		"D1" #6 & "D2" #5 (TYPE 6)				"D3" #6 & "D4" #5 (TYPE 6)				"RI" NO.		"RO" NO.				
STATION	OPENING	EXT. END	NUMBER PI P2	LENGTH	A	B	C	D	NUMBER P3 P4	LENGTH	A	B	C	D	NO.	NO.

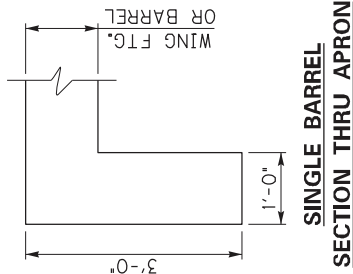


REINFORCED CONCRETE BOX CULVERT APRON TABULATION

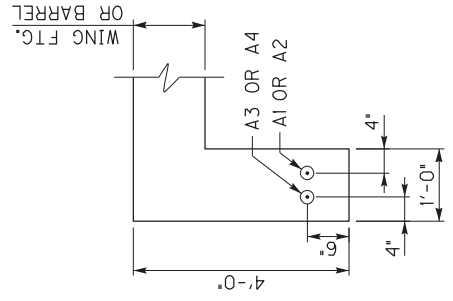
STATION	"A1"--#5 (TYPE 5)				"A2"--#5 (TYPE 6)				"A3"--#5 (TYPE 5)				"A4"--#5 (TYPE 6)					
	NO.	LENGTH	A	B	NO.	LENGTH	A	B	C/D	NO.	LENGTH	A	B	NO.	LENGTH	A	B	C/D
458+13	4	14'-0"	6'-4"	7'-8"	2	20'-7"	6'-3"	7'-2"	5'-0 ³ / ₄ "	4	13'-11"	6'-8"	7'-3"	2	21'-7"	6'-1"	7'-9"	5'-5 ³ / ₄ "
468+30	4	11'-1"	4'-11"	6'-2"	2	23'-0"	11'-8"	5'-8"	4'-0"	4	11'-0"	5'-3"	5'-9"	2	24'-0"	11'-6"	6'-3"	4'-5"



PLAN - STRAIGHT
(30° WING FLARE SHOWN; 45° WINGS SIMILAR)



SINGLE BARREL
SECTION THRU APRON



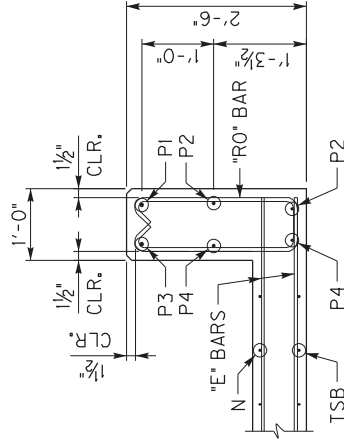
DOUBLE BARREL
SECTION THRU APRON

"A1" & "A3" BARS ARE PLACED IN EACH WING APRON ONLY. THE "A2" & "A4" BARS ARE PLACED IN THE BARREL AND EACH WING APRON. EACH GROUP (A1/A2 & A3/A4) LAP TOGETHER.

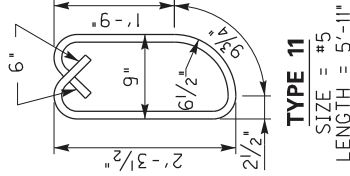
END ELEVATION - STRAIGHT



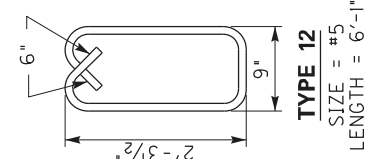
LIMITS OF APRON CONSTRUCTION



INLET PARAPET DETAIL



TYPE 11
SIZE = #5
LENGTH = 5'-11"

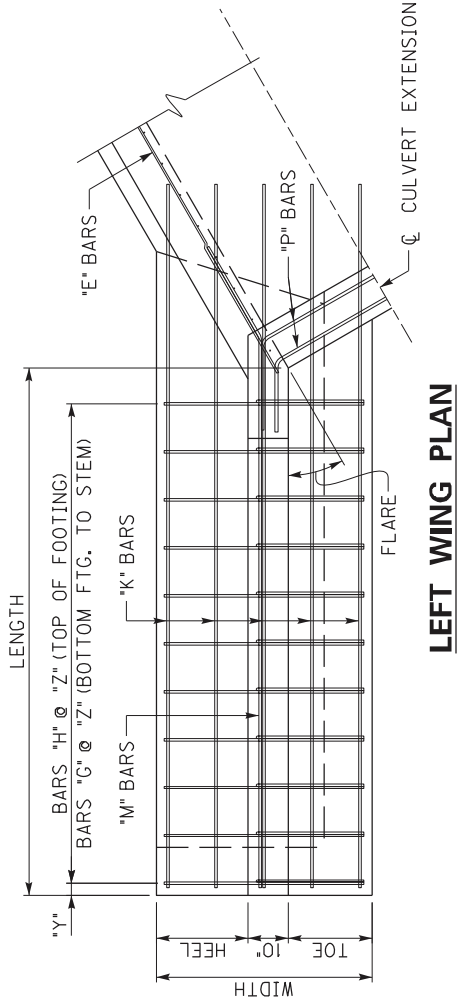


TYPE 12
SIZE = #5
LENGTH = 6'-1"

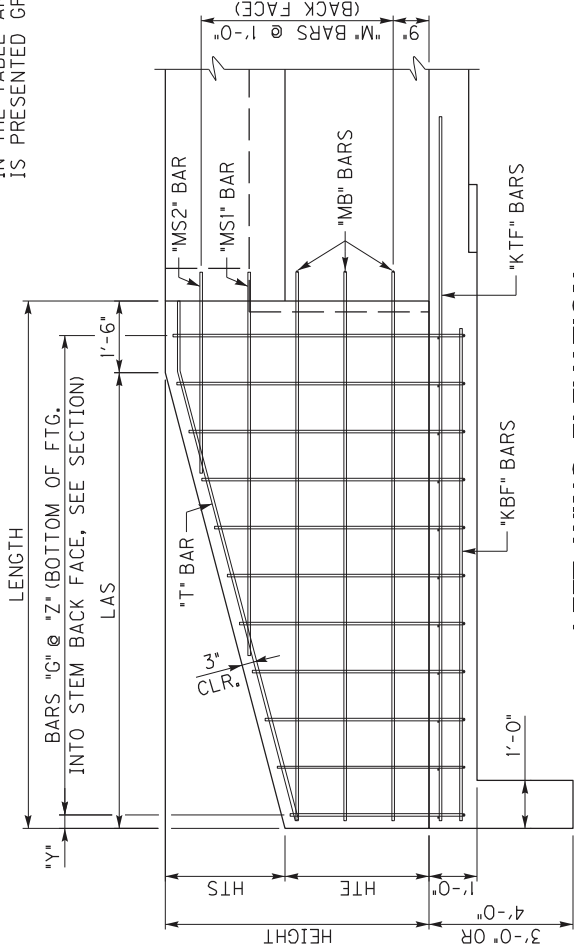
OUTLET PARAPET DETAIL

NOTE: "N" BARS & TOP LAYER "E" BARS ARE APPLICABLE ONLY TO DOUBLE BARRELS.

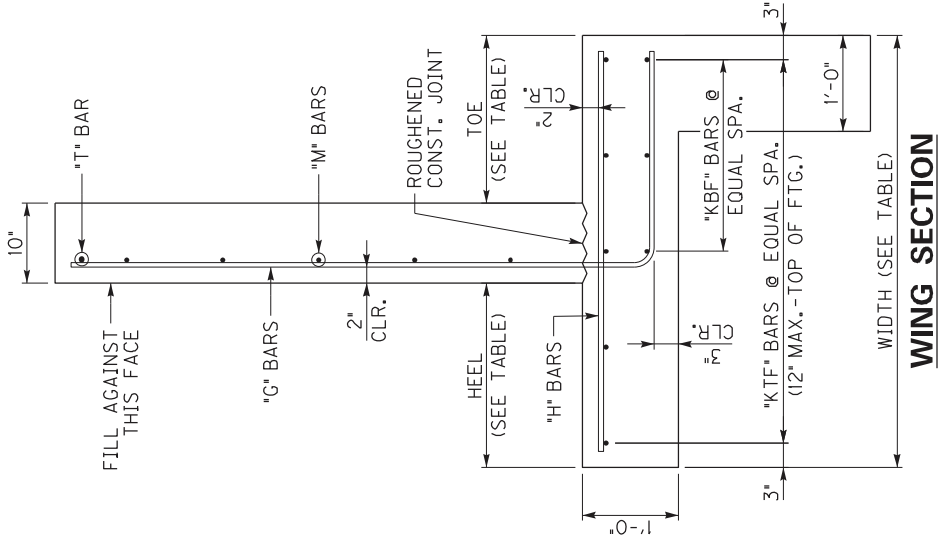
COUNTY OF	ITEM NO.
MADISON	7-9004.00



NOTE:
WING DETAILS SHOWN ARE A GRAPHICAL REPRESENTATION ONLY AND NOT TO SCALE. THE NUMBER OF BARS REQUIRED IS SHOWN IN THE TABLE AND MAY DIFFER FROM WHAT IS PRESENTED GRAPHICALLY.



LEFT WING ELEVATION
(LEFT WING SHOWN; RIGHT WING SIMILAR, BUT OPPOSITE HAND)



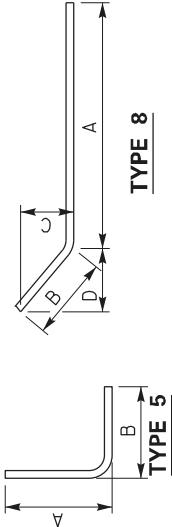
NOTE:
FOR WING DIMENSION & REINFORCING VARIABLES, SEE NEXT SHEET.

COUNTY OF	ITEM NO.
MADISON	7-9004.00

REINFORCED CONCRETE BOX CULVERT WINGWALL TABLE														
GENERAL DATA				DIMENSIONS										
STATION	EXT. END	FLARE	NO.	LENGTH	LAS	WIDTH	HEEL	TOE	HEIGHT	HTE	HTS	NO.	"Y"	"Z"
218+91	OUTLET	30°	2	4'-0"	2'-6"	5'-3"	2'-7"	1'-10"	6'-6"	3'-0"	3'-6"	8	4 1/2"	12"
227+04	INLET	30°	2	4'-0"	2'-6"	5'-3"	2'-7"	1'-10"	6'-6"	3'-0"	3'-6"	8	4 1/2"	12"
349+83	BOTH	45°	4	5'-0"	3'-6"	4'-5"	2'-1"	1'-6"	4'-6"	2'-6"	2'-0"	20	4"	12"
458+13	OUTLET	45°	2	10'-6"	9'-0"	7'-2"	3'-10"	2'-6"	8'-6"	4'-6"	4'-0"	28	3"	9"
458+13	INLET	45°	2	10'-6"	9'-0"	7'-2"	3'-10"	2'-6"	8'-6"	4'-6"	4'-0"	28	3"	9"
468+30	BOTH	45°	4	8'-0"	6'-6"	5'-9"	2'-11"	2'-0"	6'-6"	3'-6"	3'-0"	32	4"	12"

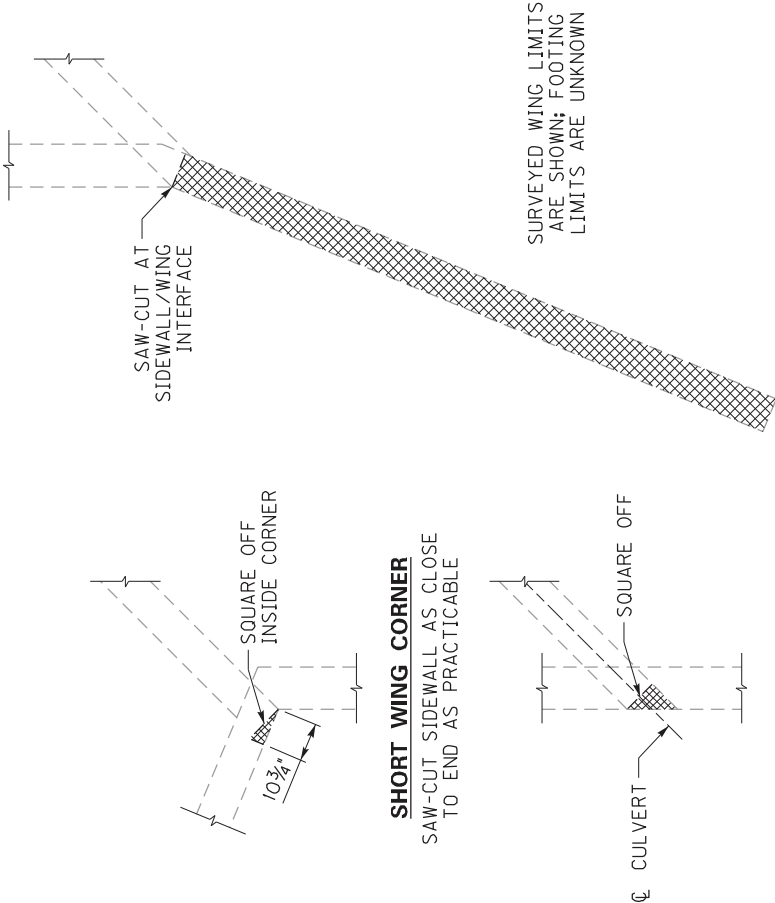
REINFORCED CONCRETE BOX CULVERT WINGWALL TABLE CON'T																							
STATION	EXT. END	"H"-#5				"MB" - TYPE 8, #5						"MS1"-#5				"MS2"-#5				"T" - TYPE 8, #6			
		NO.	"Y"	"Z"	LENGTH	NO.	LENGTH	A	B	C	D	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	A	B	C	D
218+91	OUTLET	8	4 1/2"	12"	4'-11"	8	6'-8"	4'-6"	2'-2"	1'-1"	1'-10 1/2"	2	3'-1"	2	2'-5"	2	6'-3"	4'-3"	2'-0"	1'-7 1/2"	1'-2"		
227+04	INLET	8	4 1/2"	12"	4'-11"	8	6'-8"	4'-6"	2'-2"	1'-1"	1'-10 1/2"	2	3'-1"	2	2'-5"	2	6'-3"	4'-3"	2'-0"	1'-7 1/2"	1'-2"		
349+83	BOTH	20	4"	12"	4'-1"	8	7'-4"	5'-2"	2'-2"	1'-6 1/2"	1'-6 1/2"	4	4'-6"	4	2'-9"	4	5'-8"	3'-11"	1'-9"	0'-10 1/2"	1'-6 1/4"		
458+13	OUTLET	28	3"	9"	6'-10"	12	12'-9"	10'-7"	2'-2"	1'-6 1/2"	1'-6 1/2"	2	5'-4"	2	3'-1"	2	11'-6"	9'-9"	1'-9"	0'-8 1/2"	1'-7 1/4"		
458+13	INLET	28	3"	9"	6'-10"	12	12'-9"	10'-7"	2'-2"	1'-6 1/2"	1'-6 1/2"	2	5'-4"	2	3'-1"	2	11'-6"	9'-9"	1'-9"	0'-8 1/2"	1'-7 1/4"		
468+30	BOTH	32	4"	12"	5'-5"	16	10'-4"	8'-2"	2'-2"	1'-6 1/2"	1'-6 1/2"	4	5'-2"	4	3'-0"	4	8'-9"	7'-0"	1'-9"	0'-8 3/4"	1'-7"		

REBAR NOTES:
 BARS "KTF", "H", "MS1" & "MS2" ARE STRAIGHT BARS. THE "G" BAR STEM LEG LENGTH IS GIVEN AT THE TALLEST POINT FOR THE SLOPING WING AND SHALL BE FIELD CUT TO FACILITATE CONCRETE PLACEMENT. SOME "KTF" & "MB" BARS SHALL ALSO BE FIELD CUT TO FACILITATE CONCRETE PLACEMENT. ALL FIELD CUT BARS SHALL MAINTAIN A 2" MIN. CLEARANCE FROM THE CONCRETE FACE. THE BAR NUMBER TOTAL LISTED IN THE TABLE IS THE TOTAL NUMBER REQUIRED AT EACH STATION.



ADDITIONAL GENERAL NOTES

APPLY A COMMERCIAL GRADE CAULKING COMPOUND TO THE EXISTING PARAPET & NEW TOP SLAB INTERFACE PRIOR TO BACKFILLING. THIS WORK AND MATERIAL IS INCIDENTAL TO THE UNIT PRICE OF CONCRETE.



SHORT WING CORNER

SAW-CUT SIDEWALL AS CLOSE TO END AS PRACTICABLE

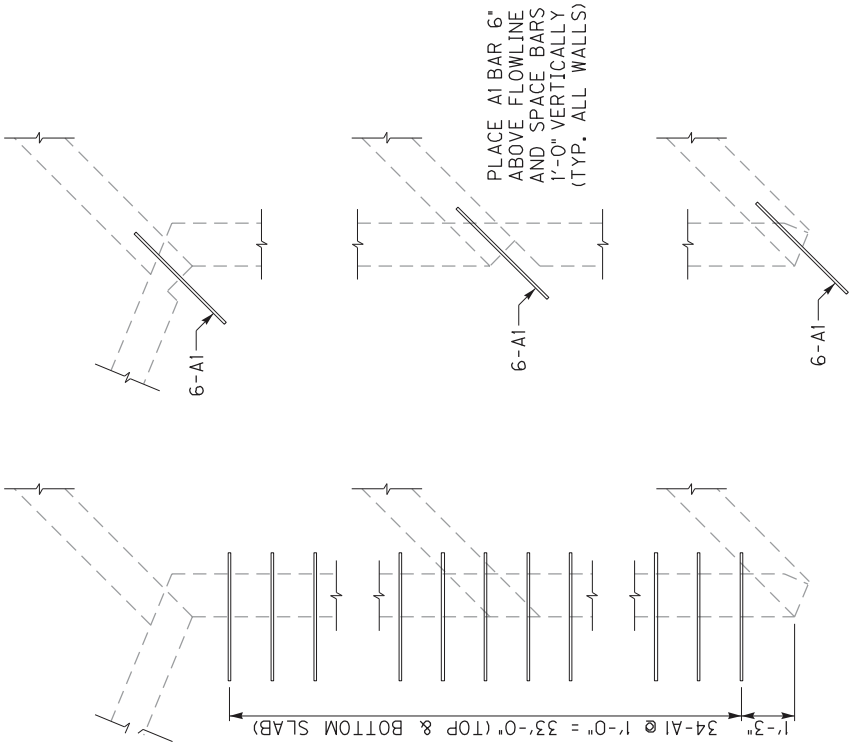
CENTER WALL

SAW-CUT CENTER WALL AS CLOSE TO END AS PRACTICABLE

LONG WING CORNER

ENTIRELY REMOVE LONG WING & FOOTING

SURVEYED WING LIMITS ARE SHOWN; FOOTING LIMITS ARE UNKNOWN



TOP/BOTTOM SLAB

CENTER BARS IN SLABS

SIDEWALL/CENTER WALL

CENTER BARS IN WALLS

DOWEL BAR PLACEMENT

(INLET SHOWN; OUTLET SIMILAR, BUT OPPOSITE HAND)

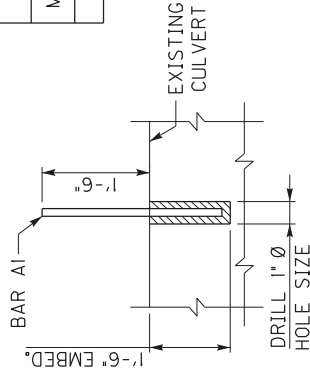
DEMOLITION OF EXISTING CULVERT

(INLET SHOWN; OUTLET SIMILAR, BUT OPPOSITE HAND)

NOTE:

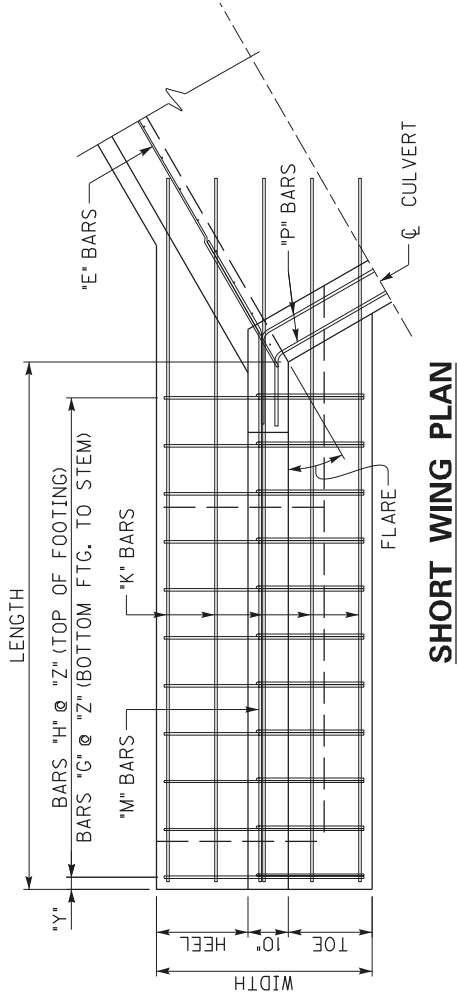
DRILLING & GROUTING (AI): REINFORCING, DOWELS AND ANCHORS INSTALLED INTO EXISTING CONCRETE SHALL BE PLACED IN ACCORDANCE WITH SECTION 511 OF THE SPECIFICATIONS AND ANY APPROPRIATE MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING REINFORCING. THE ANCHORAGE SYSTEM SHALL PROVIDE A PULLOUT STRENGTH OF EQUAL OR GREATER CAPACITY AS THE CORRESPONDING REINFORCING STEEL. THIS WORK AND MATERIAL IS INCIDENTAL TO THE UNIT PRICE OF CONCRETE.

BILL OF REINFORCEMENT				
MARK	TYPE	NUMBER	SIZE	LENGTH LOCATION
AI	STR	172	#6	3'-0" ALL MEMBERS

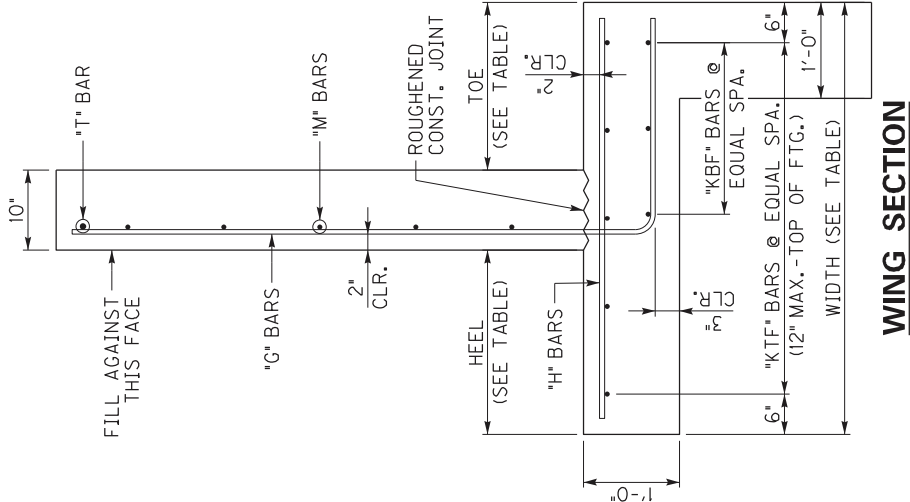
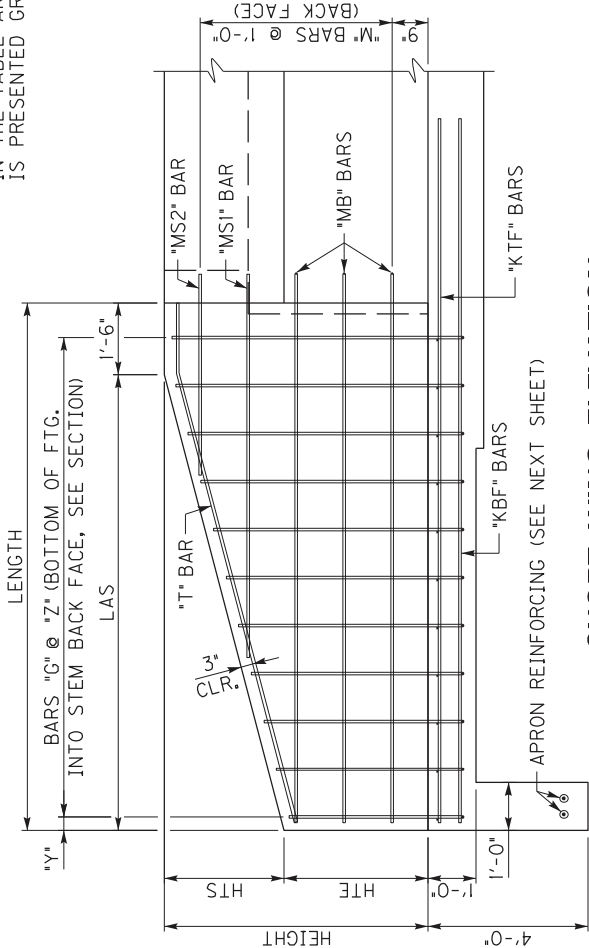


DOWEL DETAIL

COUNTY OF	ITEM NO.
MADISON	7-9004.00

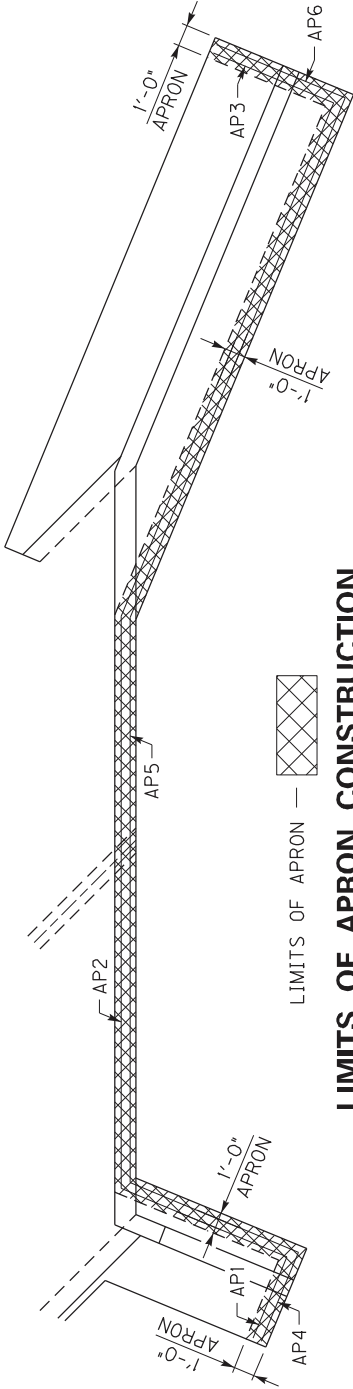


NOTE:
WING DETAILS SHOWN ARE A GRAPHICAL REPRESENTATION ONLY AND NOT TO SCALE. THE NUMBER OF BARS REQUIRED IS SHOWN IN THE TABLE AND MAY DIFFER FROM WHAT IS PRESENTED GRAPHICALLY.

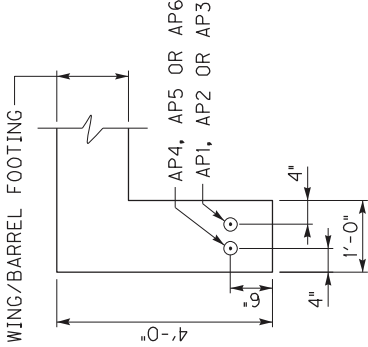


NOTE:
FOR WING DIMENSION & REINFORCING VARIABLES, SEE NEXT SHEET.

COUNTY OF	ITEM NO.
MADISON	7-9004.00

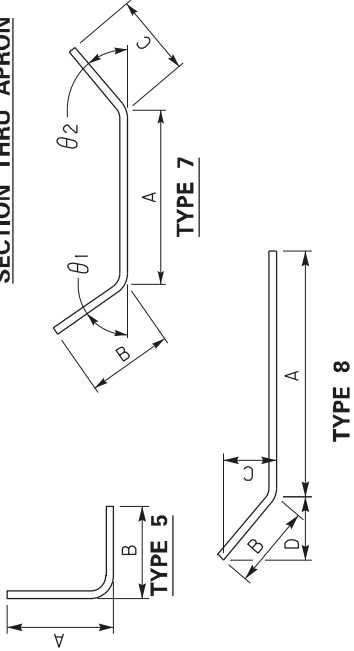


LIMITS OF APRON CONSTRUCTION



SECTION THRU APRON

R.C.B.C. APRON TABULATION															
"AP1"--#8 (TYPE 5)				"AP2"--#8 (TYPE 7)				"AP3"--#8 (TYPE 5)				"AP4"--#8 (TYPE 5)			
NO.	LENGTH	A	B	NO.	LENGTH	A	B	NO.	LENGTH	A	B	NO.	LENGTH	A	B
2	10'-0"	4'-2"	5'-10"	2	46'-4"	26'-9"	14'-3"	2	20'-9"	6'-2"	14'-7"	2	9'-10"	4'-6"	5'-4"
"AP5"--#8 (TYPE 7)				"AP6"--#8 (TYPE 5)				"AP7"--#8 (TYPE 5)				"AP8"--#8 (TYPE 5)			
NO.	LENGTH	A	B	NO.	LENGTH	A	B	NO.	LENGTH	A	B	NO.	LENGTH	A	B
2	9'-10"	4'-6"	5'-4"	2	47'-2"	26'-6"	14'-9"	2	20'-10"	6'-6"	14'-4"	2	9'-10"	4'-6"	5'-4"



REINFORCED CONCRETE BOX CULVERT WINGWALL TABLE

GENERAL			DIMENSIONS										"G" - TYPE 5, #5						"KBF"--#5		"KTF"--#5	
WING	FLARE	NO.	LENGTH	LAS	WIDTH	HEEL	TOE	HEIGHT	HTE	HTS	NO.	"Y"	"Z"	LENGTH	A	B	NO.	LENGTH	NO.	LENGTH		
SHORT	67.5"	2	8'-0"	6'-6"	5'-0"	2'-5"	1'-9"	8'-6"	4'-6"	4'-0"	16	3"	12"	11'-4"	9'-1"	2'-3"	6	9'-9"	10	9'-9"		
LONG	22.5"	2	20'-0"	18'-6"	7'-0"	3'-5"	2'-9"	8'-6"	4'-6"	4'-0"	54	3"	9"	12'-4"	9'-1"	3'-3"	8	27'-8"	14	27'-8"		

REINFORCED CONCRETE BOX CULVERT WINGWALL TABLE CON'T

"H"--#5		"MB" - TYPE 8, #5						"MS1"--#5						"T" - TYPE 8, #6					
WING	NO.	"Y"	NO.	LENGTH	NO.	LENGTH	A	B	C	D	NO.	LENGTH	NO.	LENGTH	A	B	C	D	D
SHORT	16	3"	12"	4'-8"	12	10'-0"	7'-10"	2'-2"	2'-0"	0'-10"	2	4'-7"	2	2'-11"	7'-6"	2'-0"	1'-0 3/4"	1'-8 1/2"	1'-8 1/2"
LONG	54	3"	9"	6'-8"	12	22'-10"	20'-8"	2'-2"	2'-0"	2'-0"	2	9'-7"	2	5'-0"	18'-9"	2'-3"	0'-5 3/4"	2'-2 1/4"	2'-2 1/4"

REBAR NOTES:
 BARS "KBF", "KTF", "H", "MS1" & "MS2" ARE STRAIGHT BARS. THE "G" BAR STEM LEG LENGTH IS GIVEN AT THE
 TALLEST POINT FOR THE SLOPING WING AND SHALL BE FIELD CUT TO FACILITATE CONCRETE PLACEMENT.
 SOME "KTF" & "MB" BARS SHALL ALSO BE FIELD CUT TO FACILITATE CONCRETE PLACEMENT. ALL FIELD CUT
 BARS SHALL MAINTAIN A 2" MIN. CLEARANCE FROM THE CONCRETE FACE. THE TOTAL BAR NUMBER LISTED
 IN THE TABLE IS THE TOTAL NUMBER REQUIRED TO COMPLETE ALL WING CONSTRUCTION.