

MISSOURI HIGHWAYS and TRANSPORTATION COMMISSION

JEFFERSON CITY, MISSOURI

SUPPLEMENTAL PLANS TO JULY 2020 MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION

EFFECTIVE October 1, 2020

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION TABLE OF CONTENTS

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203.00E	EXCAVATION AND EMBANKMENT - TYPICAL DETAILS	1	08/01/1998
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203.10D	TABULATED EARTHWORK AND SECTION DATA	1	02/01/2009
203.20G	SUPERELEVATION, SPIRALS AND WIDENING (UNDIVIDED HIGHWAY)	4	07/01/2017
203.21K	SUPERELEVATION, SPIRALS AND WIDENING (DIVIDED HIGHWAY)	3	07/01/2017
203.22	SUPERELEVATION, SPIRALS AND WIDENING	2	07/01/2017
203.35A	MAILBOX TURNOUTS	1	08/01/1981
203.40G	TYPICAL DETAILS ON AND OFF RAMPS	2	10/01/2007
203.41F	TYPICAL DETAILS ON AND OFF RAMPS (ROADWAY WITH 6:1 FORESLOPE)	2	01/01/1995
203.50N	TYPICAL MEDIAN OPENINGS (DIVIDED HIGHWAYS)	2	04/01/2016
203.61A	DRIVEWAY - TYPE I	1	07/01/2004
203.62D	DRIVEWAY - TYPE II	2	04/01/2017
203,63B	DRIVEWAY - TYPE III	2	04/01/2017
203.64D	DRIVEWAY - TYPE IV	2	04/01/2017
	DRIVEWAY - TYPE V	1	10/01/1998
204.00D	EMBANKMENT CONTROL - MEASURING DEVICES	1	04/01/1983
	PORE PRESSURE MEASUREMENT DEVICES	1	03/01/1996
401,00B	TYPE A2 AND A3 SHOULDERS, SAFETY EDGE SM	3	04/01/2018
413,20	SCRUB SEAL BROOM CONFIGURATION	1	07/01/2004
502,05P	CONCRETE PAVEMENT AND BASE APPURTENANCES FOR 15 FT. JOINT SPACING *		10/01/2020
	DOWEL SUPPORTING UNITS		06/01/2010
	CONCRETE APPROACH PAVEMENT *		10/01/2020
	RIGHT-OF-WAY AND DRAIN MARKERS		01/01/2003
	PIPE CULVERT HEADWALLS - TYPE S	2	08/01/2006
	PIPE CULVERT HEADWALL - ENERGY DISSIPATOR FOR 18" CONCRETE PIPE		07/01/2001
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604.30G	CONCRETE MANHOLES	2	02/01/2009
	PIPE COLLARS	2	10/01/2000
	SLOTTED DRAIN	2	03/01/1994
	PAVEMENT UNDERDRAINAGE		06/01/2013
606,00AY	GUARDRAIL		01/01/2020
606.01F	MEDIAN PIER PROTECTION		08/01/2012
606,22U	BRIDGE ANCHOR SECTION - SAFETY BARRIER CURB ON BRIDGE		07/01/2016
606.23J	BRIDGE ANCHOR SECTION - SAFETT BARRIER CORB ON BRIDGE		07/01/2016
606.30K	GUARDRAIL - TERMINAL ANCHOR ENDS		04/01/2017
606.31B	CRASHWORTHY END TERMINALS - TYPE A - GRADING LIMITS		10/01/2019
606.40D	ONE-STRAND ACCESS RESTRAINT CABLE	1 2	07/01/2004
606.41L	THREE-STRAND GUARD CABLE	7	04/01/2019
606.50D	MIDWEST GUARDRAIL SYSTEM (MGS)	8	01/01/2019
606.51	MIDWEST GUARDRAIL SYSTEM (MGS) - MEDIAN PIER PROTECTION	2	04/01/2018
000.01	MIDWEST SUANDIVATE STSTEM (MOS) MEDIAN FILM FROTECTION		07/01/2010

STANDARD NO.	DRAWING TITLE	NO. OF SHEETS	EFFECTIVE DATE
606.60B	MIDWEST GUARDRAIL SYSTEM (MGS) - VERTICAL BARRIER TRNSITIONS	6	04/01/2020
606,70B	MIDWEST GUARDRAIL SYSTEM (MGS) - THRIE BEAM RAIL ON BRIDGE	5	04/01/2018
606.80C	MIDWEST GUARDRAIL SYSTEM (MGS) - TERMINAL ANCHOR ENDS	7	07/01/2017
606.81B	MASH - CRASHWORTHY END TERMINALS - TYPE A - GRADING LIMITS	1	10/01/201
607.10V	CHAIN-LINK FENCE	1	02/01/2007
607.11H	CHAIN-LINK FENCE FOR RETAINING WALLS	1	06/01/2009
607.20G	WOVEN WIRE FENCE	2	07/01/2016
508.00J	PAVED APPROACHES	2	04/01/2020
508.10P	CONCRETE SIDEWALK	1	04/01/2015
508.20E	CONCRETE STAIRS	2	04/01/2015
508.30A	CONCRETE MEDIAN STRIP *	1	10/01/2020
508.40	HANDRAILING	4	04/01/2015
508.50	CURB RAMPS	4	04/01/2015
509.00P	CONCRETE CURB, CURB AND GUTTER AND GUTTER	2	08/01/2008
509.15D	PAVED DITCHES	1	07/01/2016
609.40S	DRAIN BASIN, SHOULDER PAVING AND FILL SLOPES AT BRIDGE ENDS	3	01/01/2017
509.60C	ROCK DITCH LINER	1	03/01/1993
509.70C	ROCK LINING FOR CULVERT OUTLET	1	10/01/198
511.60R	CONCRETE SLOPE PROTECTION	1	07/01/2015
512.20E	SAND FILLED IMPACT ATTENUATORS	1	10/01/2018
613.00T	PAVEMENT REPAIR	4	01/01/2020
614.10T	GRATES AND BEARING PLATES	1	12/01/2005
614.11C	CURVED VANE GRATE AND FRAME	1	06/01/2010
614.30E	MANHOLE FRAMES AND COVERS	2	03/01/1996
616.10AV	TEMPORARY TRAFFIC CONTROL DEVICES	9	07/01/2019
617.10M	PERMANENT CONCRETE TRAFFIC BARRIER *	11	10/01/2020
617.20D	TEMPORARY CONCRETE TRAFFIC BARRIER	8	10/01/2018
519.10J	PAVEMENT EDGE TREATMENT	1	10/01/201
620.00L	PAVEMENT MARKING	5	10/01/2010
520.10G	TEMPORARY PAVEMENT MARKING	5	07/01/201
625.00	HOLE PATTERN FOR PAVEMENT SLAB STABILIZATION	1	10/01/1998
526.00H	RUMBLE STRIPS	2	04/01/2009

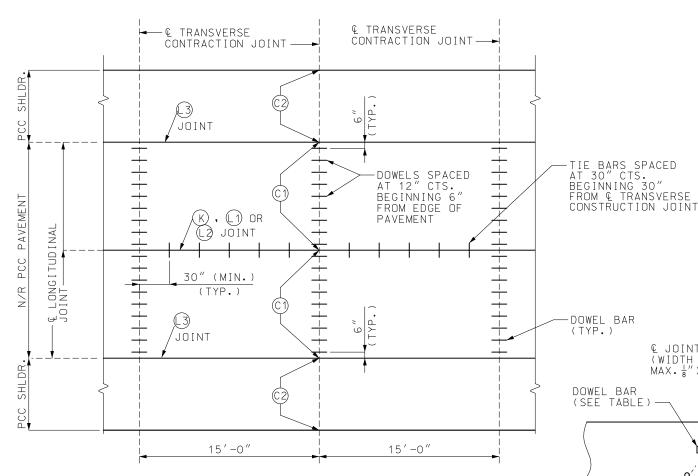
EFFECTIVE: 10/01/2020

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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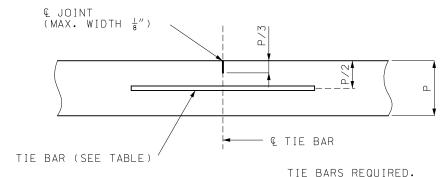
STANDARD NO.	DRAWING TITLE	NO. OF SHEETS	EFFECTIVE DATE	
703.10J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	07/01/2015	
703.11J	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (SQUARED)	3	07/01/2015	
703.12J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	07/01/2015	
703.13J	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	07/01/2015	
703.14J	CONCRETE SINGLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	07/01/2015	
703.15E	CONCRETE SINGLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	07/01/2015	
703.16	CONCRETE SINGLE BOX CULVERT - CUT SECTION	1	04/01/2011	
703.17	CONCRETE SINGLE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	14	04/01/2011	
703.37C	CONCRETE BOX CULVERT - EXTERIOR WING REINFORCEMENT	2	04/01/2011	
703.38A	CONCRETE BOX CULVERT - CUTTING DETAILS	2	10/01/2009	
703.40H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	10/01/2011	
703.41H	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (SQUARED)	3	10/01/2011	
703.42H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	10/01/2011	
703.43H	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	10/01/2011	
703.44H	CONCRETE DOUBLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	10/01/2011	
703.45C	CONCRETE DOUBLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	10/01/2011	
703.46	CONCRETE BOX CUI VERT - CUT SECTION	1	10/01/2011	
703.47	CONCRETE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	27	10/01/2011	
703.60E	CONCRETE BOX STRUCTURE — PIPE INLET	1	07/01/2001	
703.80H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (SQUARED)	3	12/01/2011	
703.81H	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (SQUARED)	3	12/01/2011	
703.82H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (LEFT ADVANCE)	3	12/01/2011	
703.83H	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (LEFT ADVANCE)	3	12/01/2011	
703.84H	CONCRETE TRIPLE BOX CULVERT - STRAIGHT WINGS (RIGHT ADVANCE)	3	12/01/2011	
703.85C	CONCRETE TRIPLE BOX CULVERT - FLARED WINGS (RIGHT ADVANCE)	3	12/01/2011	
703.86	CONCRETE TRIPLE BOX CULVERT - CUT SECTION	1	12/01/2011	
703.87	CONCRETE TRIPLE BOX CULVERT - MEMBER SIZES AND REINFORCEMENT	27	12/01/2011	
706.35H	BAR SUPPORTS FOR CONCRETE REINFORCEMENT	1	07/01/2004	
712.40L	STEEL DAMS AT EXPANSION DEVICES	1	10/01/2019	
725.00C	CORRUGATED METAL PIPE INSTALLATION METHODS	5	04/01/2011	
725.31C	METAL CURTAIN WALL AND METAL INLETS	1	07/01/2004	
726.30J	RIGID CULVERT INSTALLATION METHODS	2	04/01/2009	
730.00E	THERMOPLASTIC PIPE INSTALLATION METHODS	1	04/01/2015	
731.00U	PRECAST MANHOLES	2	07/01/2016	
731.000 731.10S	PRECAST DROP INLET	8	07/01/2016	
731.103 732.00S	FLARED END SECTION	3	04/01/2016	
		2		
732.05C 732.10H	BEVELED PIPE END TREATMENT SAFETY SLOPE END SECTION	3	07/01/2004	
			04/01/2018	
733.00	PRECAST CONCRETE BOX CULVERT TIES 1			
806.10J	TEMPORARY EROSION CONTROL MEASURES			
808.00	TYPICAL PLANTING ILLUSTRATIONS	3	07/01/2004	
901.00AB	HIGHWAY LIGHTING - POLES, FOUNDATIONS & APPURTENANCES FOR 30' M.H.	4	04/01/2018	
901.01AJ	HIGHWAY LIGHTING - POLES, FOUNDATIONS & APPURTENANCES FOR 45' M.H.	6	04/01/2018	
901.02B	HIGHWAY LIGHTING - CABLE, CONDUIT AND TRENCHING	1	04/01/2002	

STANDARD NO.	DRAWING TITLE	NO. OF SHEETS	EFFECTIVE DATE
901.30F	HIGHWAY LIGHTING - BASE MOUNTED CONTROL STATION	2	04/01/2005
901.80D	HIGHWAY LIGHTING - POWER SUPPLY ASSEMBLY - SECONDARY SERVICE	2	04/01/2002
901.85B	HIGHWAY LIGHTING SYMBOLS	1	04/01/2018
902.00P	TRAFFIC SIGNALS	2	04/01/2018
902.10Q	TRAFFIC SIGNALS - CONTROLLERS CONDUIT LOCATION	1	04/01/2005
902.15K	TRAFFIC SIGNALS - POWER SUPPLY ASSEMBLY	3	07/01/2004
902.20G	TRAFFIC SIGNALS - CONCRETE PULL BOXES	3	04/01/2019
902.21C	TRAFFIC SIGNALS - TELEPHONE INTERCONNECT	1	03/01/1996
902.30P	TRAFFIC SIGNALS - POST BASES	2	10/01/2018
902.40R	TRAFFIC SIGNALS - TUBULAR STEEL POSTS	3	04/01/2018
902.50M	TRAFFIC SIGNALS - INDUCTION LOOP DETECTORS	2	04/01/2020
902.70P	TRAFFIC SIGNALS - RIGID SPAN WIRE DETAILS	2	04/01/2018
902.80L	TRAFFIC SIGNALS - TRAFFIC SIGNAL SYMBOLS	1	04/01/2020
903.01J	STANDARD ARROW DETAILS	2	10/01/2016
903.02AP	HIGHWAY SIGNING	8	10/01/2019
903.03BM	POST INSTALLATIONS AND SIGN MOUNTING DETAILS	16	01/01/2020
903.04F	HIGHWAY SIGNING - WEIGH STATION	1	02/01/2012
903.05J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE S, ONE TUBE	2	10/01/2016
903.06J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE S, TWO TUBE	2	10/01/2016
903.07J	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE C	2	10/01/2016
903.08H	HIGHWAY SIGNING - TUBULAR SUPPORT STEEL - TYPE B	2	10/01/2016
903.10BC	OVERHEAD SIGN TRUSSES - ALUMINUM	6	10/01/2016
903.12Z	OVERHEAD SIGN TRUSSES - BUTTERFLY AND CANTILEVER STRUCTURAL STEEL	7	10/01/2016
903.60AB	OVERHEAD SIGN TRUSSES - STRUCTURAL STEEL	5	10/01/2016



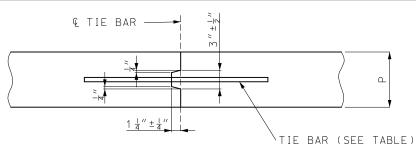
JOINT PLAN AND SPACING FOR CONTRACTION JOINTS

(1) LONGITUDINAL JOINT NOT REQUIRED AT INSIDE SHOULDER ON DIVIDED HIGHWAYS OR AT INSIDE SHOULDER OF RAMPS FOR 4' OR LESS INSIDE SHOULDERS, DOWELS ARE REQUIRED FOR THE FIRST TWO FEET ADJACENT TO THE TRAVEL LANE.



LONGITUDINAL JOINT (1)

TIE BAR AND DOWEL TABLE				E
PCCP THICKNESS (P)	DOWEL SIZE	TIE BAR SIZE	DOWEL SPACING	TIE BAR SPACING
LESS THAN 7"	NONE	#5 X 3 0 "	NONE	30" CTRCTR.
7" TO 10"	1 ¼"X18"	#5X30"	12" CTRCTR.	30" CTRCTR.
GREATER THAN 10"	1 ½"X18"	#6X40"	12" CTRCTR.	30" CTRCTR.



IF METAL IS USED TO FORM KEY DISCONTINUE STRIP FOR DISTANCE OF APPROXIMATELY 3" EACH SIDE OF TRANSVERSE JOINT.

TYPE (K) REQUIRES TIE BAR.

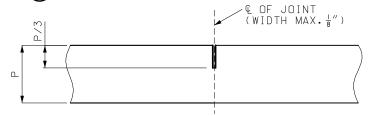
TYPE (M) CONSTRUCTED WITHOUT TIE BARS.

(K) AND (M) JOINTS SHALL NOT BE SAWED.

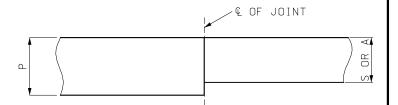
TONGUE AND GROOVE JOINTS (K) AND (M)







TRANSVERSE CONTRACTION JOINT(2)



LONGITUDINAL CONSTRUCTION JOINT FOR SHOULDER AND APPROACHES

S = SHOULDER THICKNESSA = APPROACH THICKNESS



GENERAL NOTES:

THE FINAL POSITION OF ALL DOWELS AND TIE BARS SHALL BE PERPENDICULAR TO THE PLANE OF THE JOINT AND PARALLEL TO THE SURFACE OF THE PAVEMENT AND PARALLEL TO EACH OTHER.

(3) JOINT FOR FULL DEPTH OR PARTIAL DEPTH SHOULDERS.



MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



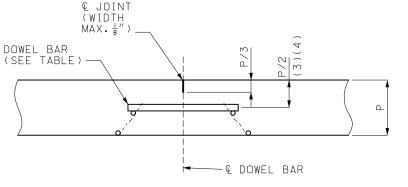
CONCRETE PAVEMENT AND BASE APPURTENANCES FOR 15' JOINT SPACING

DATE EFFECTIVE: 10/01/2020 DATE PREPARED:

7/21/2020

502.05P

SHEET NO. 3 OF 4



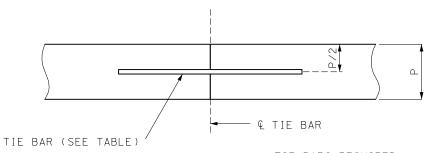
DOWELS REQUIRED. FOR PERMISSIBLE TYPES OF DOWELS SUPPORTING UNITS, SEE OTHER DRAWINGS.

TRANSVERSE CONTRACTION JOINTS FOR CONCRETE PAVEMENT OR BASE WIDENING SHALL MATCH EXISTING JOINTS.

TRANSVERSE CONTRACTION JOINT (C1)

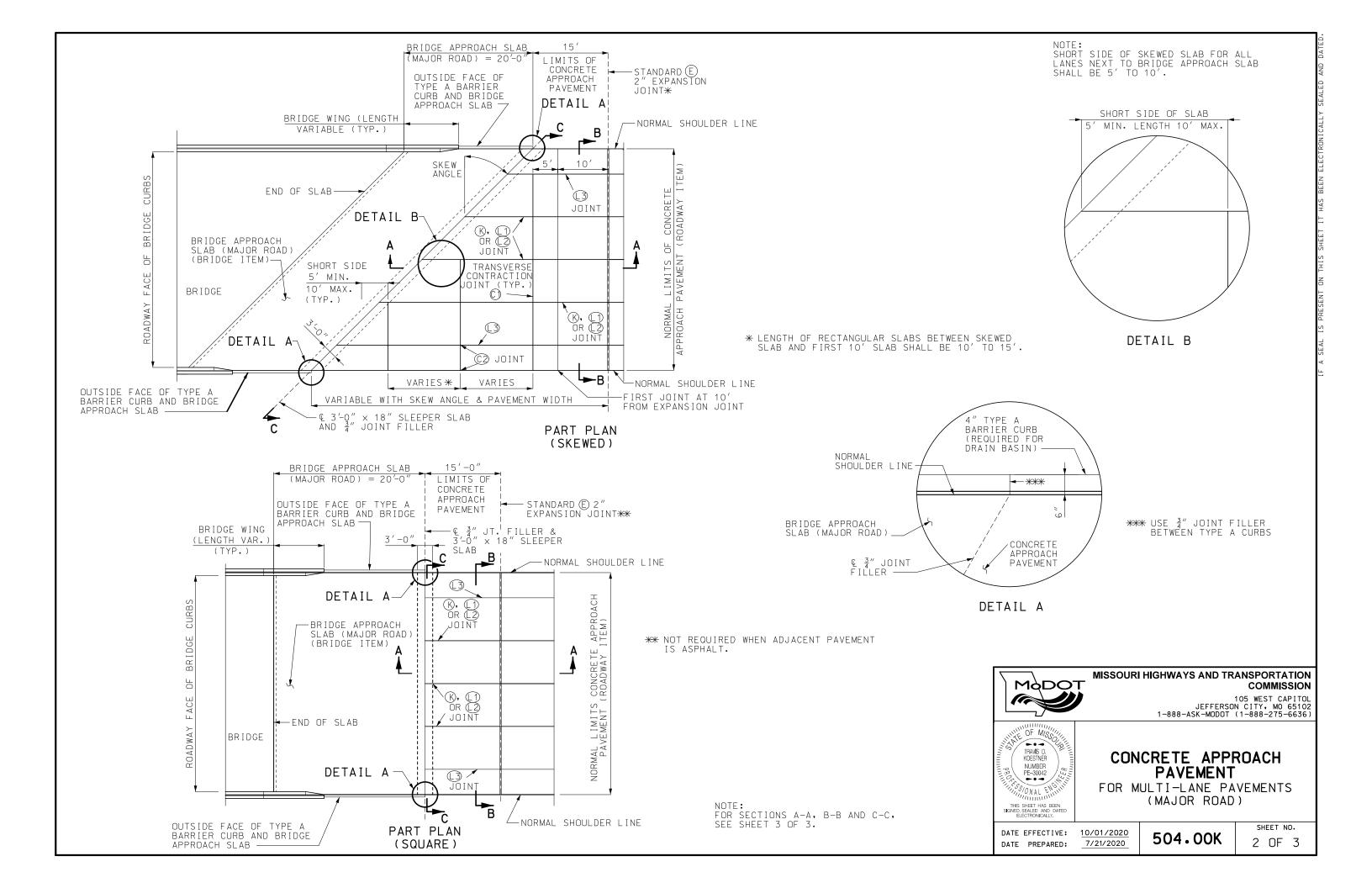
- (2) DOWEL BARS ARE REQUIRED FOR ALL PAVEMENTS HAVING THE SAME THICKNESS AS THE TRAVELED WAY.
- (3) FOR PAVEMENTS HAVING THICKNESS IN 1/2" INCREMENTS, DOWEL BASKETS SHALL BE P/2- 1/2".

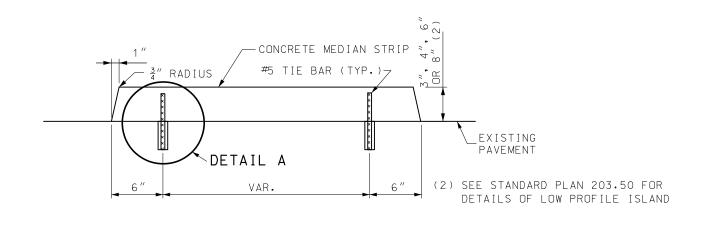
 (4) DOWEL BARS MAY BE PLACED BY MECHANICAL MEANS AT THE OPTION OF THE CONTRACTOR.



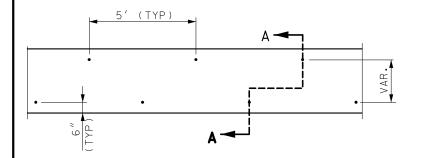
TIE BARS REQUIRED.

LONGITUDINAL CONSTRUCTION JOINT

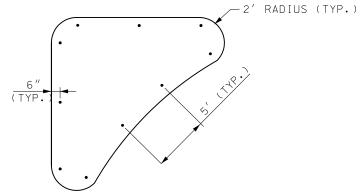




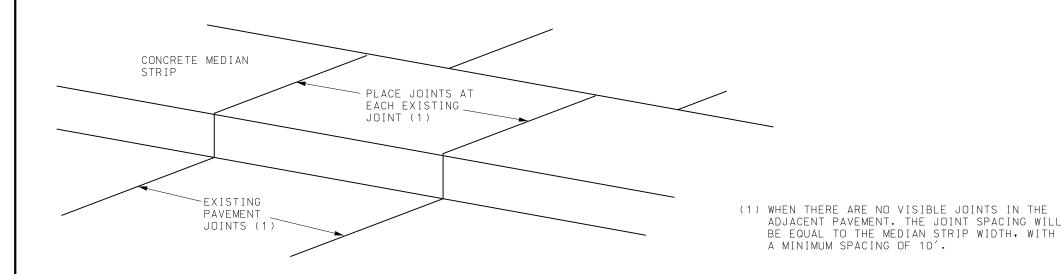
SECTION A-A CONCRETE MEDIAN STRIP



TIE BAR LOCATIONS FOR CONCRETE MEDIAN STRIP



TIE BAR LOCATIONS FOR CONCRETE MEDIAN STRIP (ISLAND)



CONCRETE MEDIAN STRIP JOINT LOCATION

#5 TIE BAR DRILLED HOLE SHALL BE $\frac{3}{4}$ " DIA. DETAIL A

MEDIAN HEIGHT	BAR LENGTH
3 "	8 "
4 "	9 "
6"	11"
8 "	13″

GENERAL NOTES:

TIE BARS SHALL BE EPOXY COATED, DEFORMED REINFORCING BARS MEETING THE REQUIREMENTS OF SECTION 710 AND

BONDING FOR TIE BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS AS SPECIFIED IN SECTION 1039.

THE FACE OF THE MEDIAN MAY BE CONSTRUCTED WITHOUT BATTER WHEN CONSTRUCTED ON A RADIUS OF 6' OR LESS.

WHEN CONCRETE MEDIANS ARE CONSTRUCTED DIRECTLY BENEATH GUARDRAIL, THE MEDIAN HEIGHT WILL BE 4".



105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



CONCRETE MEDIAN STRIP

DATE EFFECTIVE: 10/01/2020 DATE PREPARED:

7/21/2020

608.30A

SHEET NO. 1 OF 1

COMMISSION

