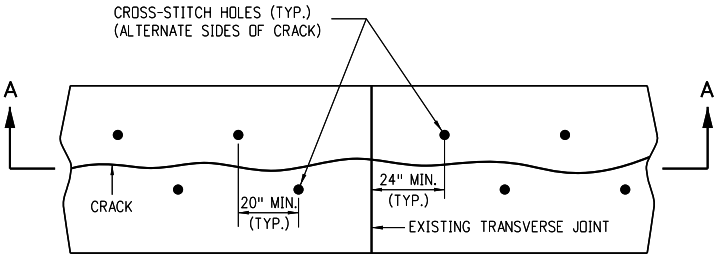
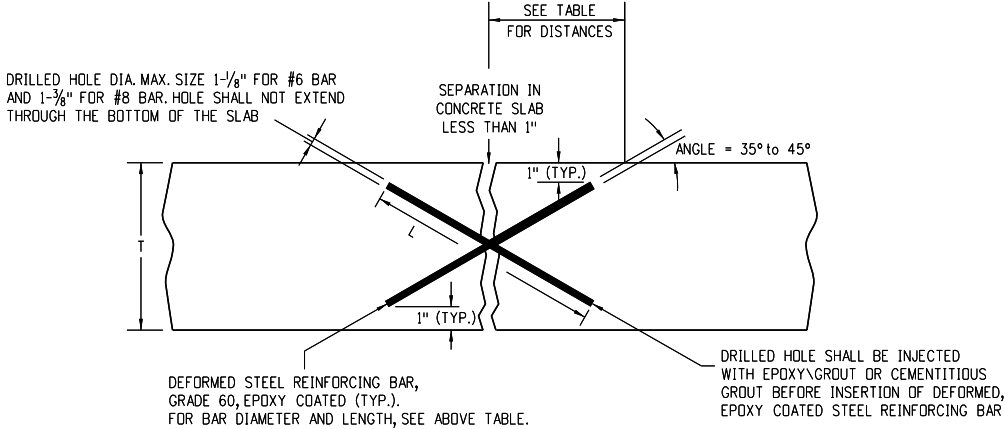


ANGLE	SLAB THICKNESS (T) (IN.)							
	8	9	10	11	12	13	14	15≥
DISTANCE TO HOLE (IN.)								
35	5.75	6.50	7.25	7.75	8.50	-	-	-
40	-	-	-	6.50	7.25	7.75	8.25	-
45	-	-	-	-	6.00	6.50	7.00	7.50
LENGTH OF BAR (L) (IN.)								
35	9.50	11.00	12.50	14.50	16.00	-	-	-
40	-	-	-	12.50	14.00	16.00	18.50	-
45	-	-	-	-	12.00	14.00	16.50	18.00
EPOXY COATED BAR NUMBER (#)								
	6	6	6	6	6	8	8	8

CROSS STITCHING BAR DIMENSIONS AND LOCATION OF DRILL HOLES



PLAN VIEW



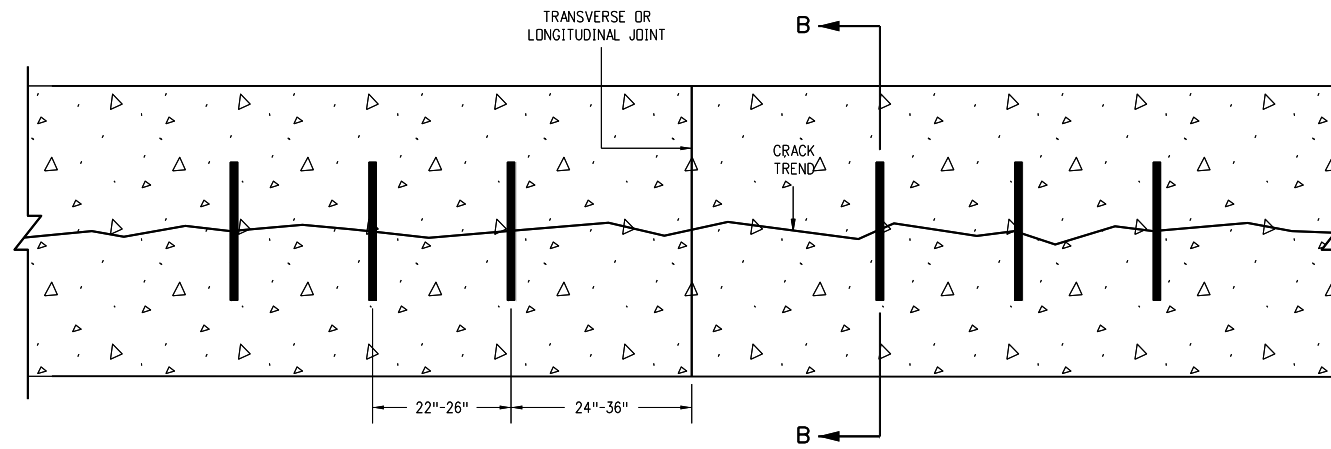
SECTION A-A

CROSS STITCHING DETAILS

FOR PCCP 8" OR MORE IN THICKNESS

- GENERAL NOTES**
1. THERE SHALL BE A MINIMUM 1 INCH GAP FROM THE ENDS OF THE DEFORMED REBARS TO THE TOP OR BOTTOM OF THE CONCRETE SLAB.
 2. DO NOT DRILL HOLE COMPLETELY THROUGH THE SLAB, SO THAT THE EPOXY/GROUT WILL BE CONTAINED IN THE HOLE WHILE BACK FILLING.

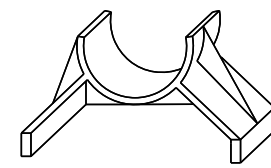
Computer File Information		Sheet Revisions		Colorado Department of Transportation 2829 West Howard Place CDOT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 Project Development Branch JBK	CONCRETE PAVEMENT CRACK REPAIR	STANDARD PLAN NO.	
Creation Date: 10/07/19		Date:	Comments			M-412-2	
Designer Initials: JBK	(R-X)					Standard Sheet No. 1 of 6	
Last Modification Date: 09/06/22	(R-X)					Project Sheet Number:	
Detailer Initials: LTA	(R-X)						
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English							



PLAN VIEW

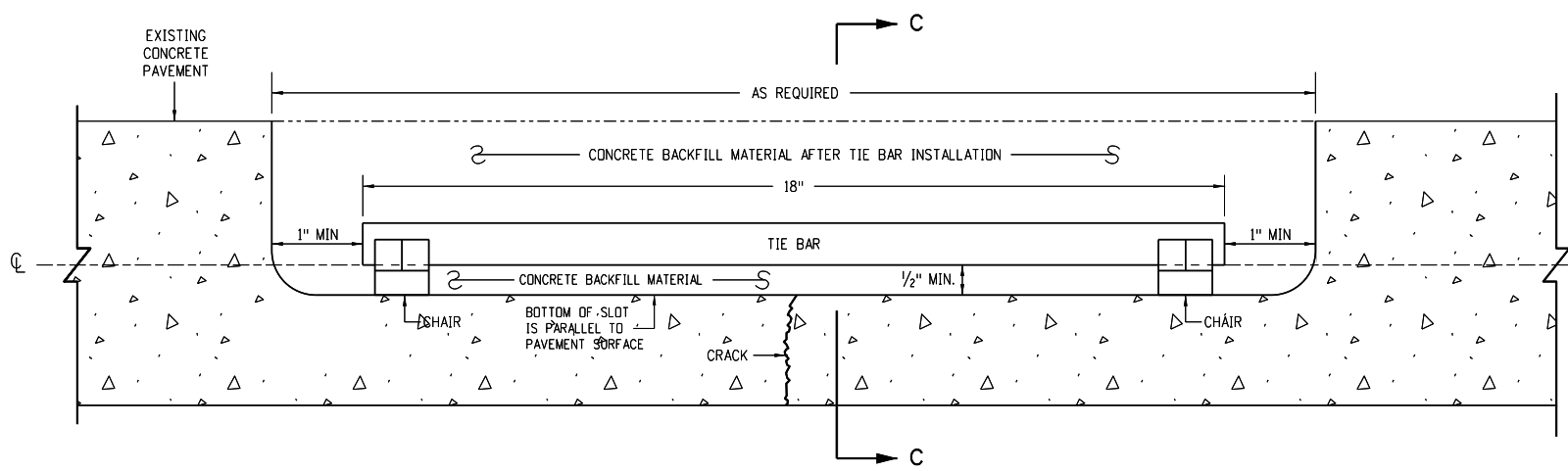
PAVEMENT THICKNESS (T)	TIE BAR SIZE
T ≤ 6 INCHES	#4
6 INCHES < T < 8 INCHES ON UNBOUNDED BASE	#5
6 INCHES < T < 8 INCHES ON LIME TREATED, ASPHALT OR CEMENT TREATED, MILLED ASPHALT OR RECYCLED ASPHALT BASES	#6

TIE BARS SHOULD BE PLACED APPROXIMATELY PERPENDICULAR TO THE GENERAL TREND OF THE CRACK.

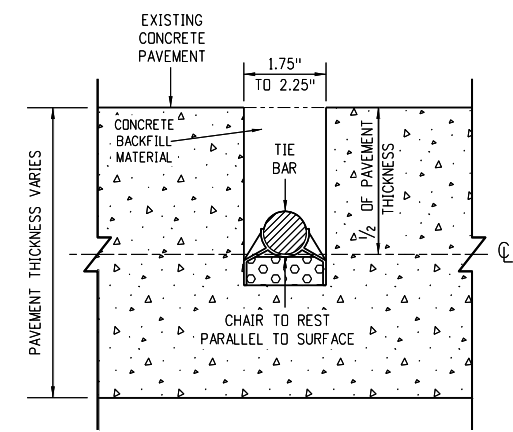


TYPICAL CHAIR DETAIL

ONE REQUIRED UNDER EACH END OF TIE BAR



SECTION B-B

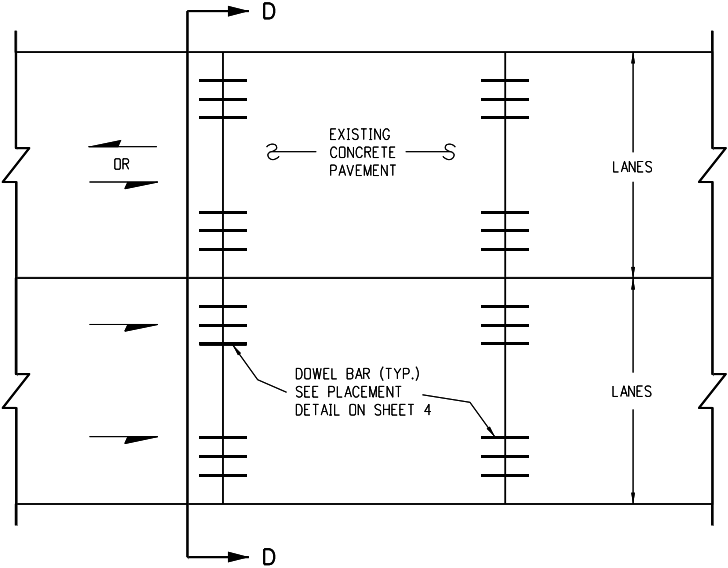


SECTION C-C

SLOT STITCHING DETAILS

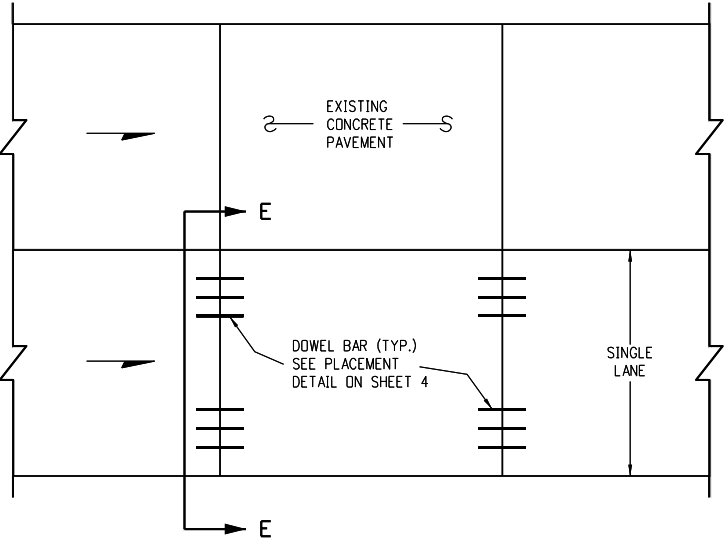
FOR PCP LESS THAN 8" IN THICKNESS

Computer File Information Creation Date: 10/07/19 Designer Initials: JBK Last Modification Date: 09/06/22 Detailer Initials: LTA CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		Sheet Revisions <table border="1"> <tr> <th>Date:</th> <th>Comments</th> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> </table>	Date:	Comments	(R-X)		(R-X)		(R-X)		(R-X)		Colorado Department of Transportation  2829 West Howard Place CDOT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 Project Development Branch	CONCRETE PAVEMENT CRACK REPAIR Issued by the Project Development Branch: July 31, 2019	STANDARD PLAN NO. M-412-2 Standard Sheet No. 2 of 6 Project Sheet Number:
Date:	Comments														
(R-X)															
(R-X)															
(R-X)															
(R-X)															



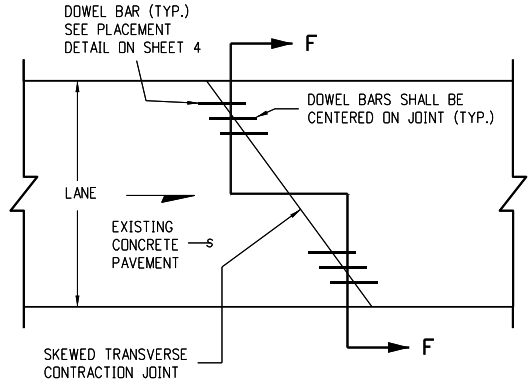
PLAN VIEW
DOWEL BAR RETRO FIT

FOR EACH LANE IN UNDIVIDED HIGHWAY (TWO WAY TRAFFIC)
OR FOR MULTI-LANE DIVIDED HIGHWAY (ONE WAY TRAFFIC)

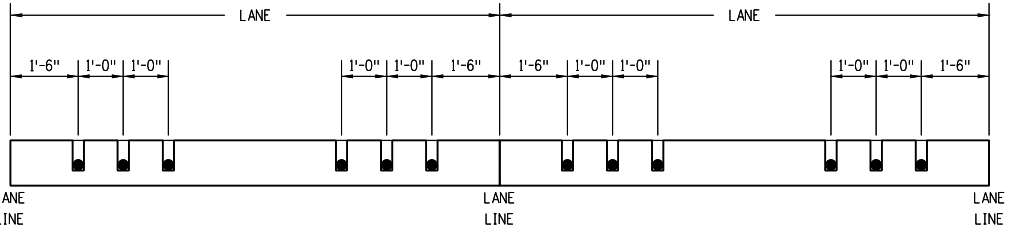


PLAN VIEW
DOWEL BAR RETRO FIT

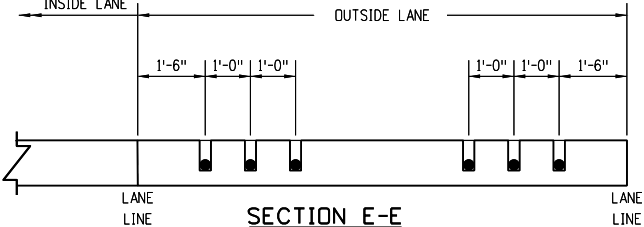
FOR SINGLE LANE RETROFIT



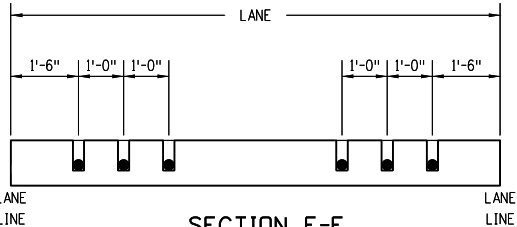
PLAN VIEW
SKEWED JOINT DETAIL



SECTION D-D



SECTION E-E




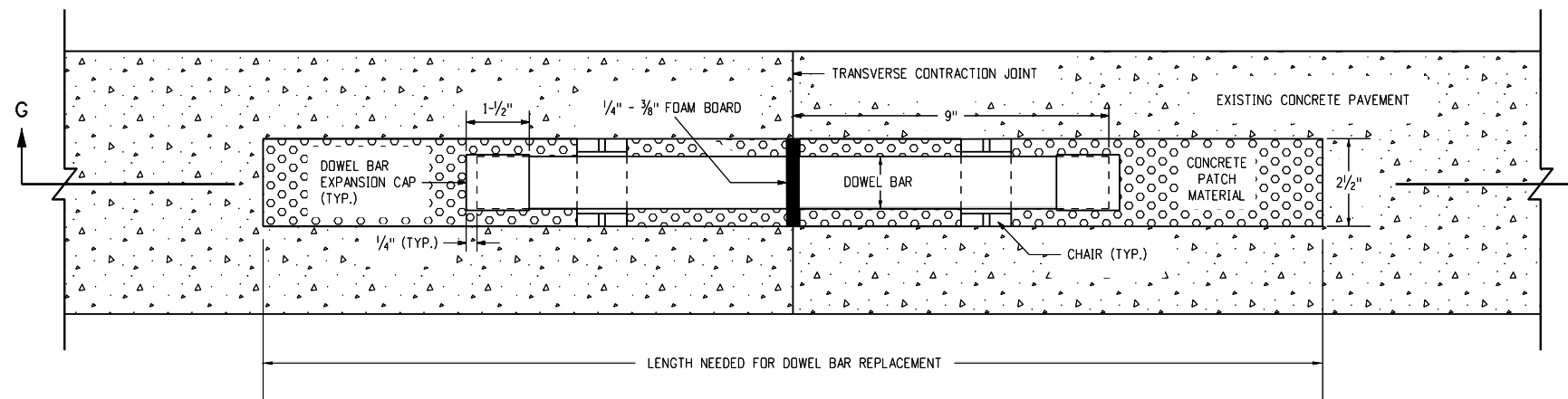
SECTION F-F

NOTES

1. IF A LONGITUDINAL JOINT IS PRESENT IN THE WHEEL PATH OR AT THE MIDDLE OF THE SLAB, CONTACT THE ENGINEER.
2. DOWELS SHALL BE A MINIMUM OF 1 FT. - 6 INCHES AWAY FROM ANY LONGITUDINAL JOINT.

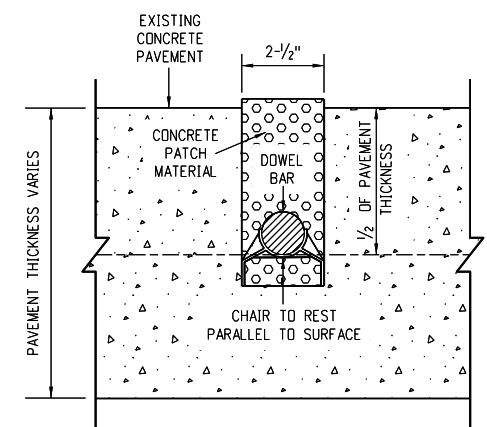
DOWEL BAR RETROFIT DETAILS

Computer File Information		Sheet Revisions		<div>Colorado Department of Transportation</div> <div> 2829 West Howard Place CDOT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868</div> <div>Project Development Branch</div> <div>JBK</div>	CONCRETE PAVEMENT CRACK REPAIR		STANDARD PLAN NO.
Creation Date: 10/07/19		Date:	Comments		M-412-2		
Designer Initials: JBK	(R-X)				Standard Sheet No. 3 of 6		
Last Modification Date: 09/06/22	(R-X)						
Detailer Initials: LTA	(R-X)						
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English			Issued by the Project Development Branch: July 31, 2019		Project Sheet Number:

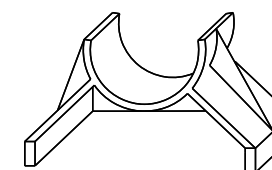


PLAN VIEW

PAVEMENT THICKNESS (T)	DOWEL BAR DIAMETER
7 INCHES \leq T < 8 INCHES	1 INCH
8 INCHES \leq T \leq 10 INCHES	1.25 INCH
10 INCHES < T \leq 15 INCHES	1.50 INCH

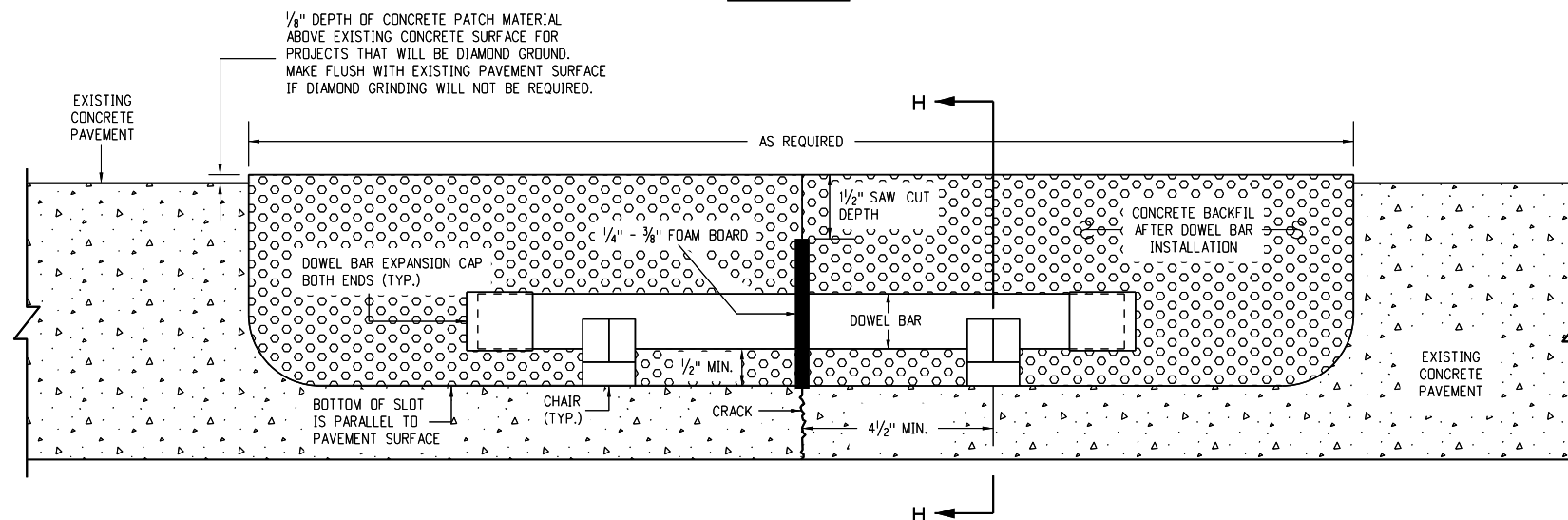


SECTION H-H



TYPICAL CHAIR DETAIL

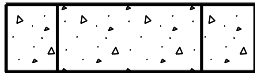
ONE REQUIRED UNDER EACH END OF DOWEL BAR



SECTION G-G

DOWEL BAR RETROFIT DETAILS

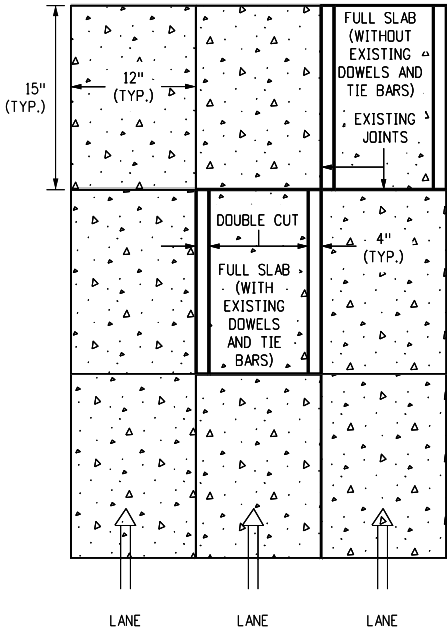
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Creation Date: 10/07/19			Date:	Comments			M-412-2	
Designer Initials: JBK	(R-X)							
Last Modification Date: 09/06/22	(R-X)							
Detailer Initials: LTA	(R-X)							
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)							
				Issued by the Project Development Branch: July 31, 2019		Project Sheet Number:		



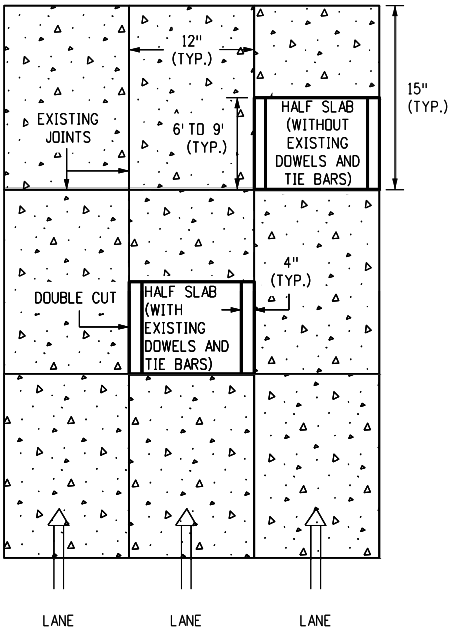
DOUBLE SAW CUT
CROSS-SECTION VIEW

NOTES

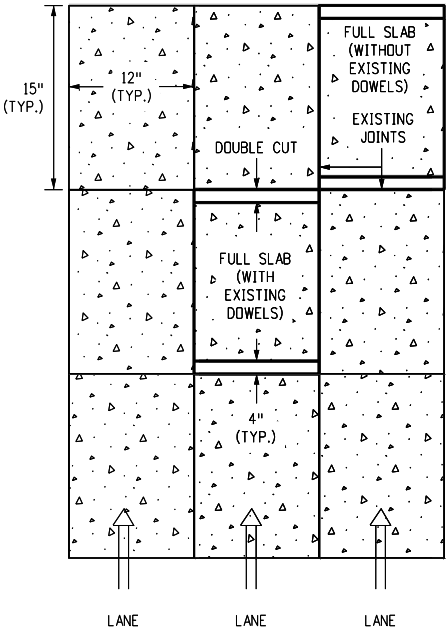
1. DAMAGE TO THE CONCRETE RESULTING FROM THE CONTRACTOR'S DRILLING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. ALL FULL AND HALF SLABS TO BE REPLACED SHALL BE DOUBLE SAW CUT TO PROTECT THE ADJACENT SLABS FROM DAMAGE.
3. DOUBLE SAW CUTS SHALL BE THE FULL DEPTH OF CONCRETE SLAB.
4. THE INSIDE DOUBLE SAW CUT SHALL BE 4 INCHES MINIMUM IN FROM AREA TO BE REMOVED AS SHOWN IN THE DETAIL.
5. BOTH LONGITUDINAL AND TRANSVERSE DOUBLE SAW CUTS SHALL BE DONE PRIOR TO REMOVING SLAB.
6. ALL SAW CUTTING AND CONCRETE WASTE WATER RESIDUE SHALL BE CONTAINED AND NOT ALLOWED TO ENTER ANY STORM DRAIN OR SURFACE WATER.
7. PANELS SHALL BE REMOVED SO AS TO MINIMIZE DAMAGE TO THE SUBGRADE.
8. NO LARGE EQUIPMENT SHALL BE ALLOWED ON EXPOSED SUBGRADE.
9. ALL PARTIAL SLAB REPLACEMENTS SHALL BE FULL WIDTH WITH A LENGTH OF 6 FEET TO 9 FEET AS SHOWN IN THE DETAIL. SLAB SIZES LESS THAN THAT ARE NOT PERMITTED.
10. REMOVED SLABS MUST BE PLACED IN ONE POUR.
11. ALL TRANSVERSE JOINTS ARE DOWELED.
12. ALL LONGITUDINAL JOINTS ARE TIED.



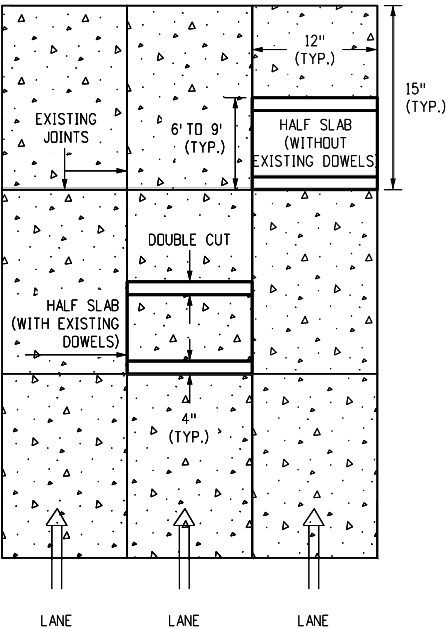
FULL SLAB REPLACEMENT



HALF SLAB REPLACEMENT



FULL SLAB REPLACEMENT



HALF SLAB REPLACEMENT

PLAN VIEW
LONGITUDINAL CUT DETAIL

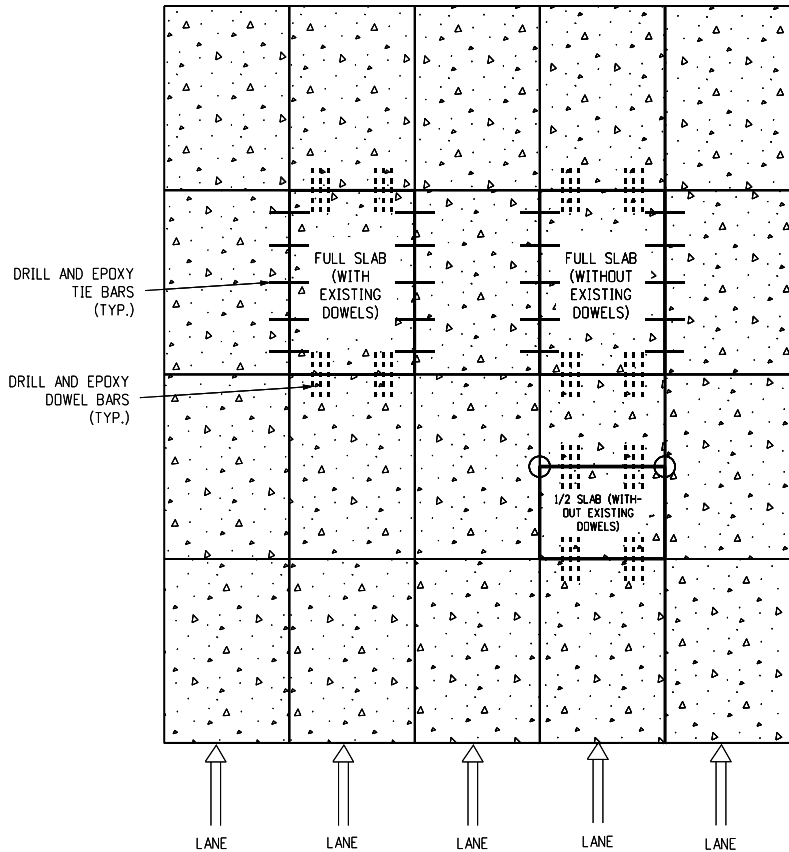
PLAN VIEW
TRANSVERSE CUT DETAIL

SLAB REMOVAL DETAILS

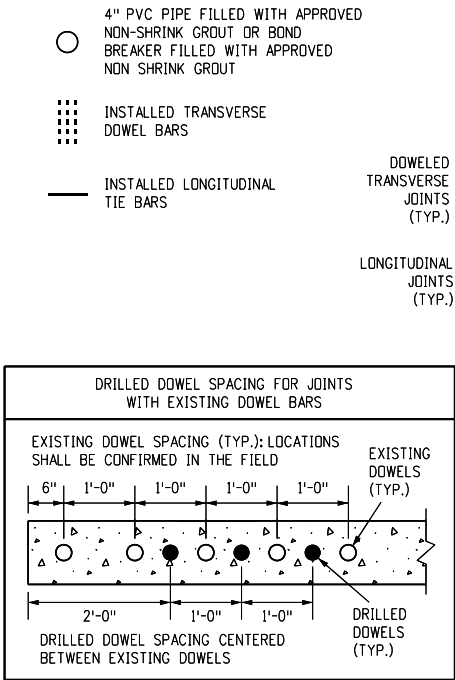
Computer File Information		Sheet Revisions		Colorado Department of Transportation 2829 West Howard Place CDOT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 Project Development Branch JBK	CONCRETE PAVEMENT CRACK REPAIR	STANDARD PLAN NO.	
Creation Date: 10/07/19		Date:	Comments			M-412-2	
Designer Initials: JBK	(R-X)	09/06/22	Added this new sheet.			Standard Sheet No. 5 of 6	
Last Modification Date: 09/06/22	(R-X)					Project Sheet Number:	
Detailer Initials: LTA	(R-X)						
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English					Issued by the Project Development Branch: July 31, 2019		

NOTES

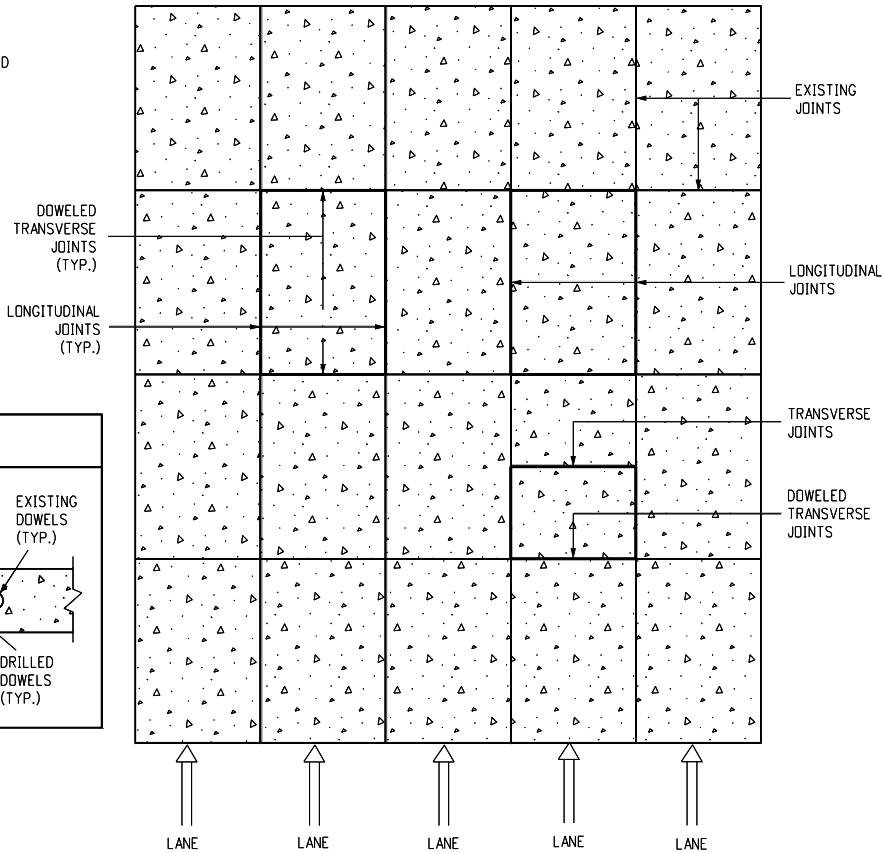
1. DAMAGE TO THE CONCRETE RESULTING FROM THE CONTRACTOR'S DRILLING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. HOLES SHALL NOT BE DRILLED WITHIN 18 INCHES OF AN EXISTING LONGITUDINAL JOINT OR TRANSVERSE JOINT.
3. ALL SAW CUTTING AND CONCRETE WASTE WATER RESIDUE SHALL BE CONTAINED (OR AS DIRECTED BY THE ENGINEER).
4. CONCRETE SHALL BE CLASS P OR PRS AND SHALL ACHIEVE COMPRESSIVE STRENGTH OF 2500 PSI PRIOR TO OPENING TO TRAFFIC.
5. THICKNESS OF NEW CONCRETE PAVEMENT SECTION SHALL MATCH EXISTING CONCRETE PAVEMENT SECTION. THIS SHALL INCLUDE EXISTING CONCRETE DEPTH, EXISTING AGGREGATE BASE COURSE, AND REQUIRED SUBGRADE MATERIAL AS DETERMINED BY THE ENGINEER.
6. NEW DOWEL BARS SHALL BE CENTERED BETWEEN EXISTING DOWELS. NEW BARS SHALL BE A MINIMUM OF 3 INCHES FROM EXISTING BARS. THE ENGINEER MAY APPROVE CHANGES DUE TO MISALIGNED EXISTING DOWEL BARS.



SLAB REPLACEMENT DETAIL
PLAN VIEW



SLAB REPLACEMENT DETAILS



FINAL SAWED JOINT DETAIL
PLAN VIEW

Computer File Information		Sheet Revisions		Colorado Department of Transportation 2829 West Howard Place CDOT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 Project Development Branch	CONCRETE PAVEMENT CRACK REPAIR	STANDARD PLAN NO.	
Creation Date: 10/07/19		Date:	Comments			M-412-2	
Designer Initials: JBK	(R-X)	09/06/22	Added this new sheet.			Standard Sheet No. 6 of 6	
Last Modification Date: 09/06/22	(R-X)					Project Sheet Number:	
Detailer Initials: LTA	(R-X)						
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English					Issued by the Project Development Branch: July 31, 2019		