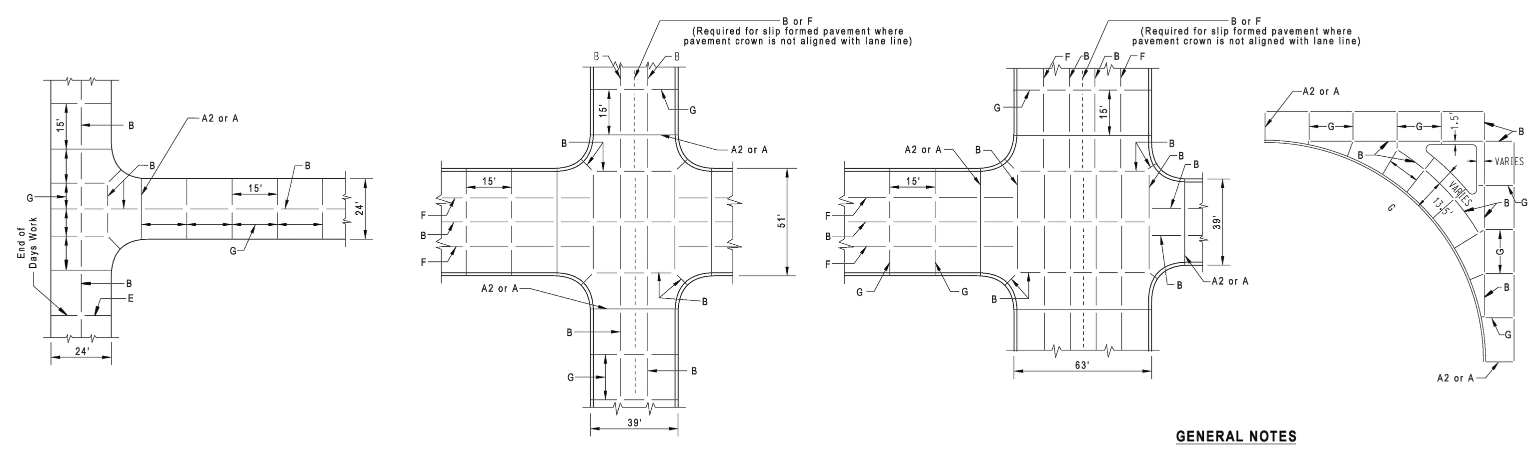
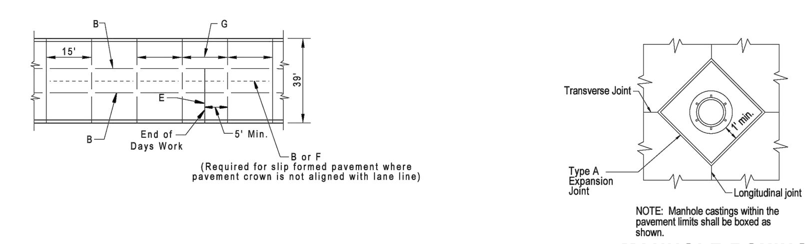
TYPICAL CONCRETE PAVEMENT JOINT LAYOUT FOR ARTERIAL, COUNTY AND NON-RESIDENTIAL STREETS



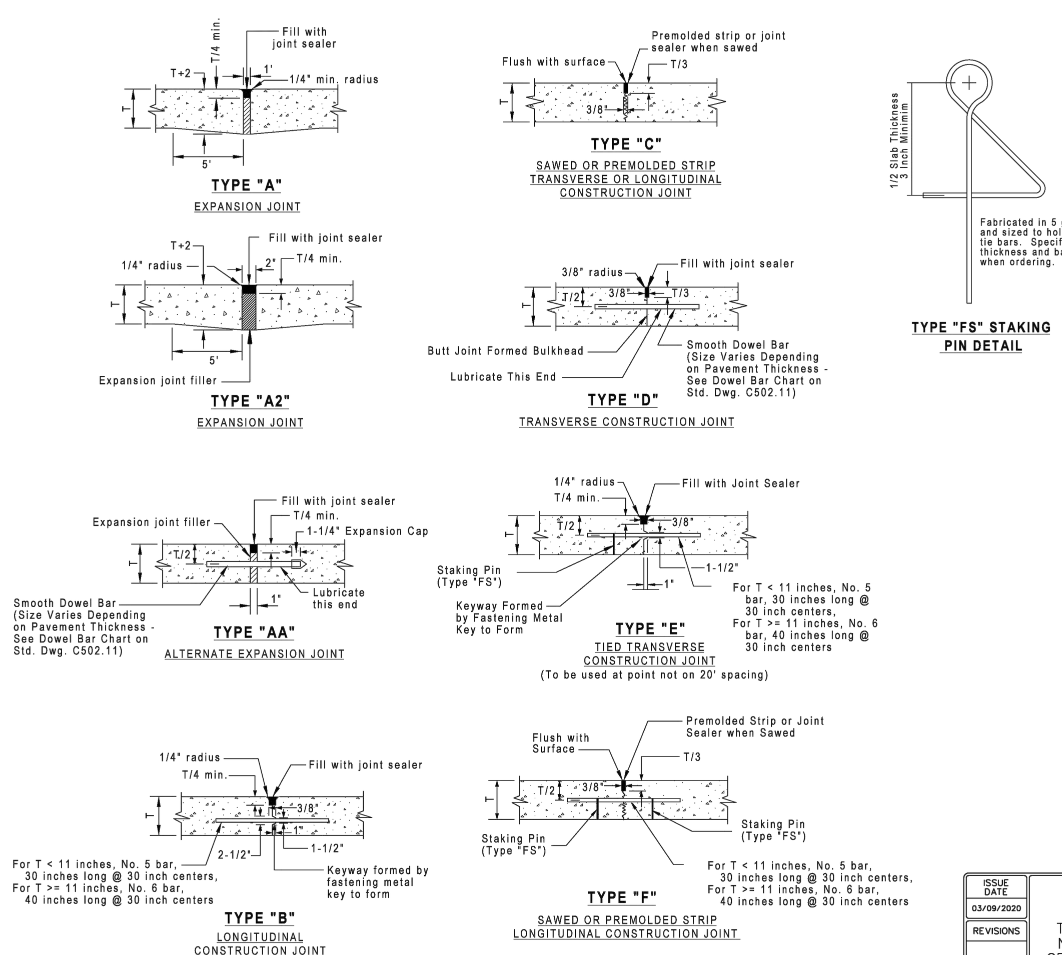


MANHOLE BOXING

GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) The joint layouts shown correspond with the Department's standard typical sections. The actual locations of longitudinal construction joints shall be set to align with the lane lines of the approved construction plan.
3) Joint layout within intersections shall be adjusted as necessary to accomidate the intersection channelization details in the approved construction plan.
4) Construction joints and tie bars associated with curb construction may be omitted when curb is poured monolithic with pavement.
5) For joint and bar requirements refer to the "Pavement Construction Details - Joints" (Standard Drawing C502.13) and "Pavement Construction Details - Curbs" (Standard Drawing C502.14). Note that the width and location may change the type of joint required.
6) Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device has been approved in advance by the Department.
7) When a joint falls within 5ft. of, or contacts inlets, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
8) All street inlets shall be separated from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole casting within the pavement limits shall be boxed as shown.

ISSUE DATE 03/09/2020 | REVISIONS | THIS IS NOT A CERTIFIED DOCUMENT | Saint Louis COUNTY TRANSPORTATION 1050 NORTH LINDBERGH BLVD. ST. LOUIS, MISSOURI 63132 | PAVEMENT CONSTRUCTION DETAILS — CONCRETE PAVEMENT JOINT LAYOUT — NON-RESIDENTIAL STREETS | EFFECTIVE 05/01/2020 | SHEET 1 OF 1 | DRAWING C502.02



JOINT FILLER AND SEALING MATERIAL SHALL MEET THE FOLLOWING:	
Material	Standard Specification
Hot-Poured Elastic Joint Sealant	Section 1057.5
Backer Rod Material for Hot-Poured Elastic Joint Sealant [1]	Section 1057.5.3
Polyurethane Elastomeric Joint Sealant	Section 1057.6
Preformed Fiber Expansion Joint Filler [2]	Section 1057.5.2
Preformed Sponge Rubber Expansion Joint Filler [2]	Section 1057.7.4
Silicone Joint Sealer for Saw Cut and Formed Joints	Section 1057.11
Backer Rod Material for Silicone Joint Sealant [1]	Section 1057.12

[1] Backer rod required for joint width ≥ 0.25 inch.

[2] The joint filler material thickness shall be 2 inches across for concrete pavement Type AA expansion joints,1 inch across the intersection of concrete sidewalk and concrete entrances and at Type A or AA expansion joints, 3/4-inch across street inlet sumps, 1/2-inch across concrete sidewalk or of the joint thickness specified. The joint filler material shall be of a width equal to the full depth of the pavement less the depth of the joint sealer and of a length no less than across the width of the face of the inlet, sidewalk or no less than the pavement section width.

GENERAL NOTES

1) Do dot scale drawing, follow dimensions.
2) All deformed bars for joints and curbs shall be in accordance with section 1057.4 of the "St. Louis County Standard Specifications" manual.
3) Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device as been approved in advance by the Department.

SAW CUTTING

When a standard (water cooled diamond bladed) concrete saw is used to cut the transverse or longitudinal joint when the pavement reaches 950 psi compressive strength (before final set) the following applies:

- For pavement < 7 inches thick, saw the joint to a minimum depth of one-fourth (T/4) the specified pavement thickness.
- For pavements > 7 inches thick, saw the joint to a minimum depth of one-third (T/3) the specified pavement thickness.
- Saw joints 3/8 inch + 1/16 inch wide as measured at the time of sawing.

When using early-entry (dry cut, light weight) saws, only use saw blades and skid plates as recommended by the manufacturer. Perform the early entry sawing reaches 150 psi compressive strength (after initial set and before final set) as follows:

- Saw the joint 2-1/4 to 2-1/2 inches deep.
- Saw joints approximately 1/8 inch + 1/16 inch wide as measured at the time of sawing.

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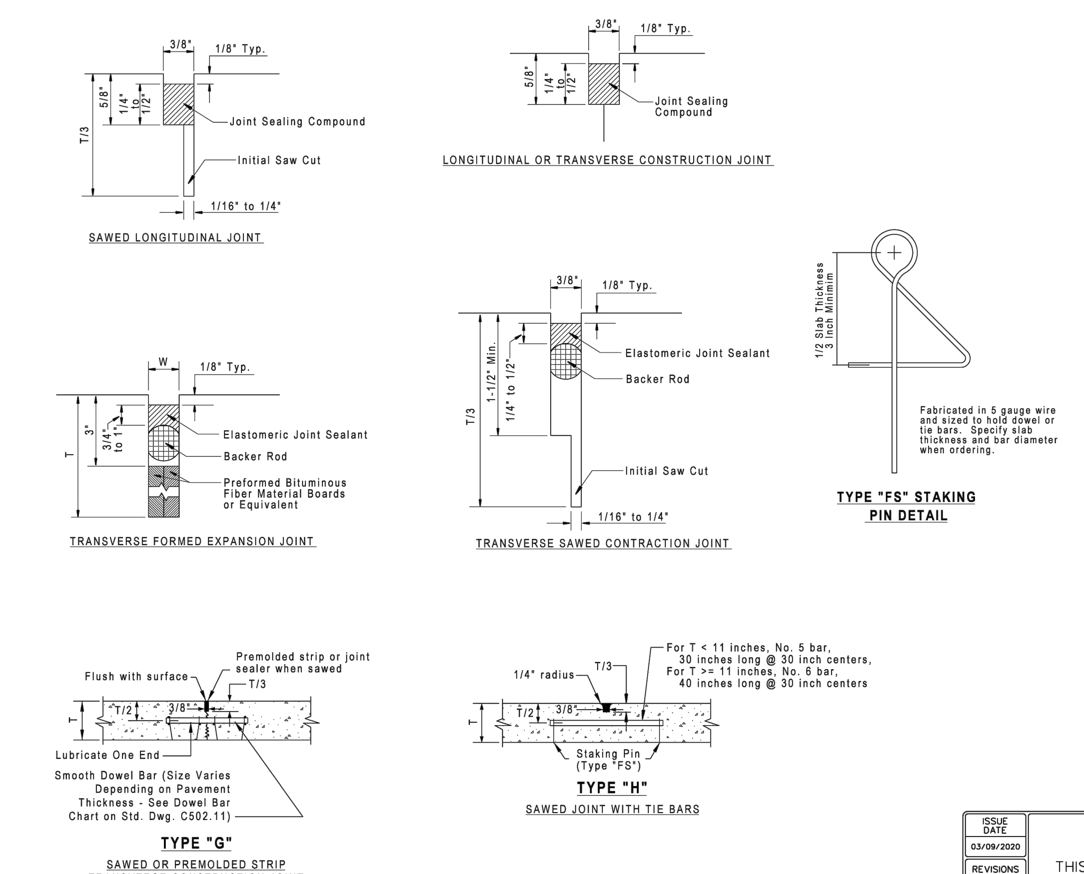

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MISSOURI 811

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

NOTE:
1. ALL JOINTING SHALL CONFORM TO ST LOUIS COUNTY SPECIFICATIONS & DETAILS AND ACI 330R-08.
2. JOINT SPACING SHOWN IS FOR DIAGRAMMATIC PURPOSES.
3. THE CONCRETE CONTRACTOR SHALL SUBMIT A JOINTING PLAN FOR REVIEW TO THE CITY INSPECTOR AND ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
4. SIDEWALK JOINTS SHALL BE PER THE JOINT SPACING TABLE LOCATED ON THIS SHEET.
5. ALL SLAB SHALL NOT BE LESS THAN 8 FEET OR EXCEED 15 FEET. JOINTS SHALL BE AT LEAST 5 FEET FROM INLET STRUCTURES.

DOWEL INSTALLATION - BUTT JOINT
CONTRACTOR'S OPTION

METHOD A: DRILL HOLES ⅛" DIA. LARGER THAN BAR, FILL HOLE WITH EPOXY RESIN AND INSTALL COATED DOWEL. GREASE EXPOSED HALF.

METHOD B: SET DOWELS THROUGH HOLES IN FORMS.

JOINT SPACING TABLE

PAVEMENT THICKNESS (INCHES)	MAXIMUM SPACING (FEET)*	RECOMMENDED SPACING (FEET)
4	8x8	6x6
4.5	10x10	8x8
5	12.5x12.5	10x10
5.5	12.5x12.5	12x12
6	15x15	12x12
7 OR MORE	15x15	13x13

* PER ACI 330

LOAD TRANSFER DOWEL SIZE AND SPACING FOR CONSTRUCTION AND CONTRACTION JOINTS (IF REQUIRED)*

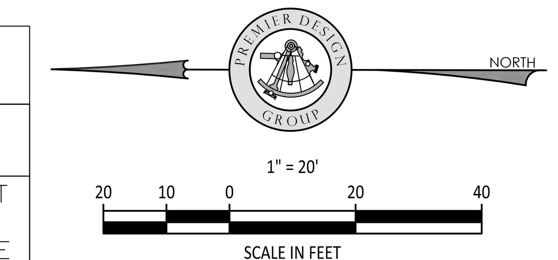
PAVEMENT THICKNESS (INCHES)	IMPERIAL BAR SIZE	DOWEL DIA. (INCHES)	CONSTRUCTION JOINT DOWEL LENGTH (INCHES)	CONTRACTION JOINT DOWEL LENGTH (INCHES)
LESS THAN 5"	NOT REQUIRED			
5–6	#6	0.75	10	13
7	#8	1.0	13	16
8	#8	1.0	13	16
9–11	#10	1.25	15	18

* TABLE BASED ON ACI 360R–10. MAXIMUM JOINT OPENING OF 0.20 INCHES. DOWEL SPACING IS 12" ON CENTER. SPACINGS ARE BASED ON DOWELS IN DIRECT CONTACT WITH A THIN BOND BREAKER (GREASE). CAREFULLY ALIGN AND SUPPORT DOWELS DURING CONCRETE OPERATIONS. MISALIGNED DOWELS MAY LEAD TO CRACKING. TOTAL DOWEL LENGTH INCLUDES ALLOWANCES MADE FOR JOINT OPENING AND MINOR ERRORS IN POSITIONING DOWELS.

LENGTHS AND SPACINGS FOR #4, ½" DIA. TIE BARS*

PAVEMENT THICKNESS (INCHES)	TIE BAR LENGTH (INCHES)	TIE BAR SPACING (INCHES) — DISTANCE TO NEAREST FREE EDGE OR TO NEAREST JOINT WHERE MOVEMENT CAN OCCUR: 12 FEET OR LESS	14 FEET	16–24 FEET
4–5	24	30	30	28
5.5	24	30	30	25
6	24	30	30	23
6.5	24	30	30	21
7	24	30	30	20
7.5	24	30	30	18
8	24	30	28	17
8.5	24	30	26	16
9	30	36	30	24

* PER ACI 330



LEGEND - PAVING AND JOINT LAYOUT:

- PROPERTY LINE
- SAWCUT LINE
- CONSTRUCTION JOINT.
- TYPE A JOINT
- PROPOSED CONCRETE CURB
- EXISTING CURB

hdesigngroup
architecture + design

5039 S National Avenue | Springfield, MO 65810 | 417.887.6595

OWNER

CITY OF O'FALLON
100 NORTH MAIN STREET
O'FALLON, MO 63366
636.379.5590

PROJECT TEAM

CIVIL ENGINEER
PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
314.925.7444

MAINTENANCE CONSULTANT
HDR ENGINEERING, INC.
17725 KATY FREEWAY SUITE 102
HOUSTON, TX 77094
816.360.2700

STRUCTURAL ENGINEER
METTEMEYER ENGINEERING
2225 W CHESTERFIELD BLVD., SUITE 300
SPRINGFIELD, MO 65807
417.890.8002

MEP ENGINEER
HENDERSON ENGINEERS, INC.
8345 LENEXA DR., #300
LENEXA, KS 66214
913.742.5000

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #01	10/5/2023

PROJECT NO.: 2207920 DRAWN BY: A. JONES
DATE: 9-15-2023 REVIEWED BY: M. FOGARTY

PROFESSIONAL SEAL

STATE OF MISSOURI — STEVE MARION — NUMBER PE2006007195 — PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

PROJECT TITLE
O'FALLON PUBLIC WORKS FACILITY

PROJECT ADDRESS:
1101 OLD E TERRA LANE
O'FALLON, MO 63366

ROADWAY JOINTING PLAN

SHEET
C-203

PERMIT SET

\\Vault-pc\vault\CIVIL 3D PROJECTS\2022\2207920_HDG_City of Ofallon MO Public Works\ENGINEERING\PHASE 1 CONSTRUCTION DOCUMENTS\C-203 PAVEMENT JOINT PLAN.dwg