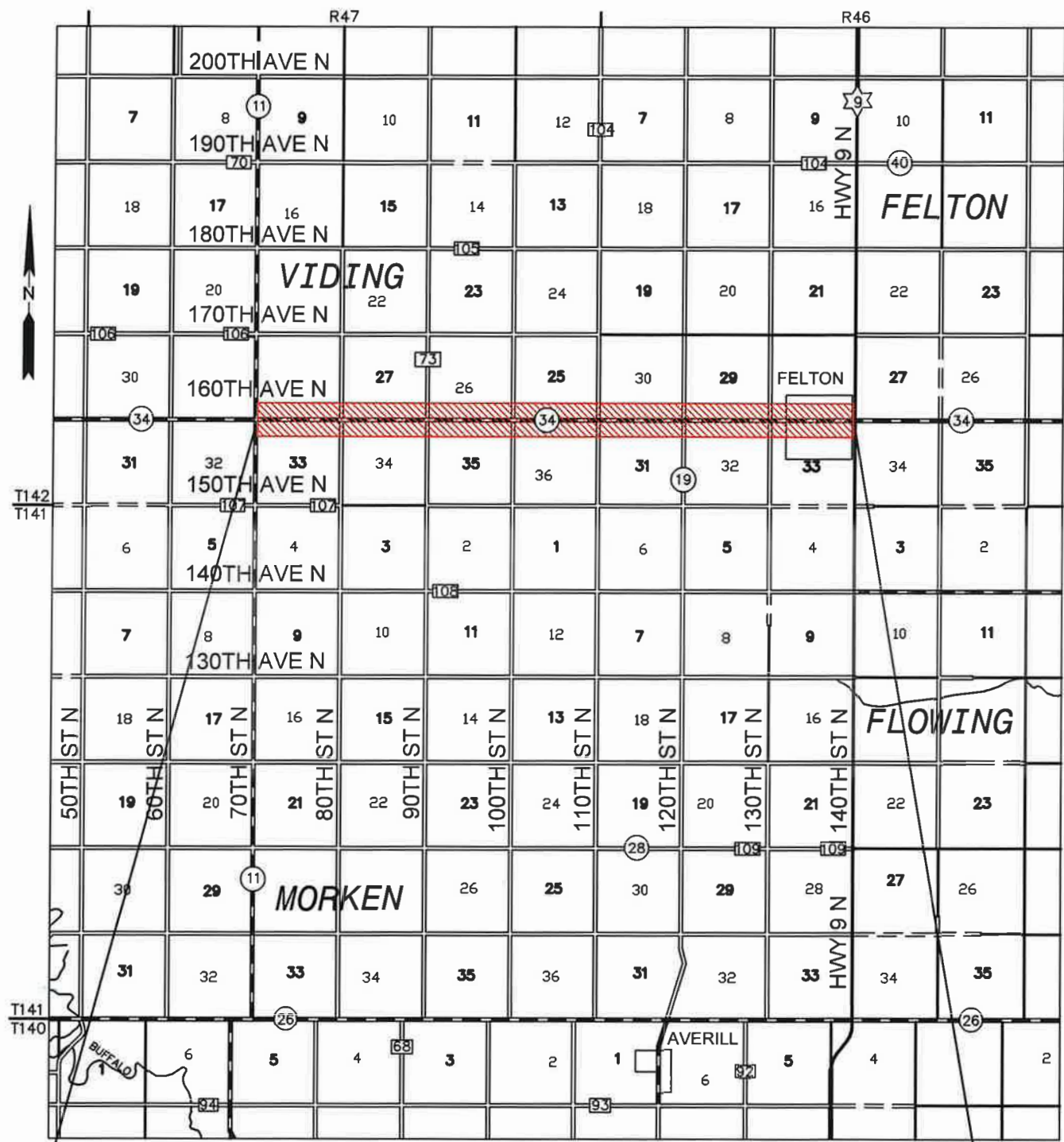


CLAY COUNTY MINNESOTA



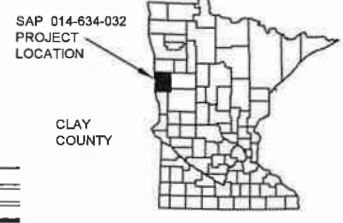
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STA. 367+24

END SAP 014-634-032  
STA. 738+25



PROJECT  
LOCATION

- LEGEND
- TRUNK HIGHWAYS
  - COUNTY-STATE HIGHWAYS
  - COUNTY HIGHWAYS
  - BITUMINOUS SURFACE
  - INTERSTATE HIGHWAY 94
  - TOWNSHIP ROAD UNIMPROVED
  - TOWNSHIP ROAD



- PLAN SYMBOLS
- POWER POLE
  - POWER POLE & GUY WIRE
  - UTILITY PEDESTAL
  - BURIED TELEPHONE CABLE
  - OVERHEAD POWER
  - CENTERLINE
  - EXISTING R/W
  - PROPOSED R/W
  - TREE
  - PINE
  - BUSH
  - CULVERT
  - FENCE

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-22, ENTITLED, "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

DESIGN DESIGNATION	
ON CSAH 34 FROM 300' WEST OF THE INTERSECTION OF CSAH 11, THENCE EAST 300' TO CSAH 11.	
ROADWAY NAME:	= CSAH 34
PRESENT ADT (YEAR):	2025 = 365
PROJECTED ADT (YEAR):	2045 = 489
FUNCTIONAL CLASSIFICATION:	= RURAL MAJOR COLLECTOR
PROJECTED HCADT (2045)	= LESS THAN 50
SOIL FACTOR:	= 130%
FROM PAVEMENT EVALUATION REPORT	
BESALS (20 YEAR) FLEXIBLE	= 82,000
STRUCTURAL DESIGN STRENGTH (TONS):	= 10
R-VALUE:	= 12
DESIGN DESIGNATION	
ON CSAH 34 FROM THE INTERSECTION OF CSAH 11, THENCE EAST 5 MILES TO CSAH 19.	
ROADWAY NAME:	= CSAH 34
PRESENT ADT (YEAR):	2025 = 652
PROJECTED ADT (YEAR):	2045 = 874
FUNCTIONAL CLASSIFICATION:	= RURAL MAJOR COLLECTOR
PROJECTED HCADT (2045)	= LESS THAN 90
SOIL FACTOR:	= 130%
FROM PAVEMENT EVALUATION REPORT	
BESALS (20 YEAR) FLEXIBLE	= 179,000
STRUCTURAL DESIGN STRENGTH (TONS):	= 10
R-VALUE:	= 12
DESIGN DESIGNATION	
ON CSAH 34 FROM THE INTERSECTION OF CSAH 19, THENCE EAST TO MINNESOTA AVE.	
ROADWAY NAME:	= CSAH 34
PRESENT ADT (YEAR):	2025 = 832
PROJECTED ADT (YEAR):	2045 = 1,115
FUNCTIONAL CLASSIFICATION:	= RURAL MAJOR COLLECTOR
PROJECTED HCADT (2045)	= LESS THAN 120
SOIL FACTOR:	= 130%
FROM PAVEMENT EVALUATION REPORT	
BESALS (20 YEAR) FLEXIBLE	= 186,000
STRUCTURAL DESIGN STRENGTH (TONS):	= 10
R-VALUE:	= 12
DESIGN DESIGNATION	
ON CSAH 34 FROM THE INTERSECTION OF MINNESOTA AVE, THENCE EAST TO TH 9.	
ROADWAY NAME:	= CSAH 34
PRESENT ADT (YEAR):	2025 = 933
PROJECTED ADT (YEAR):	2045 = 1,250
FUNCTIONAL CLASSIFICATION:	= RURAL MAJOR COLLECTOR
PROJECTED HCADT (2045)	= LESS THAN 130
SOIL FACTOR:	= 130%
FROM PAVEMENT EVALUATION REPORT	
BESALS (20 YEAR) FLEXIBLE	= 243,000
STRUCTURAL DESIGN STRENGTH (TONS):	= 10
R-VALUE:	= 12
DESIGN DESIGNATION	
ON CSAH 34 FROM 300' WEST OF THE INTERSECTION OF CSAH 11, THENCE EAST TO TH 9.	
ROADWAY NAME:	= CSAH 34
NO. OF TRAFFIC LANES:	= 2
SHOULDER WIDTH - RURAL (FEET):	= 7'
REGULATORY/POSTED SPEED (MPH) - RURAL	= 55 MPH
BASED ON STOPPING SIGHT DISTANCE	
HEIGHT OF EYE (FEET):	= 3.5'
HEIGHT OF OBJECT (FEET):	= 2'
STOP CONDITION AT TH 9.	

MINNESOTA DEPARTMENT OF TRANSPORTATION  
CLAY COUNTY  
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR: MILL & OVERLAY

COUNTY STATE AID HIGHWAY 34

GOVERNING SPECIFICATIONS  
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

TRAFFIC CONTROL  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO LATEST MMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

FROM A POINT 300.00' WEST AND 1.61' SOUTH OF THE SOUTHWEST CORNER OF SECTION 28, T-142-N, R-47-W.  
TO A POINT 49.06' WEST AND 1.72' NORTH OF THE SOUTHWEST CORNER OF SECTION 27, T-142-N, R-46-W.  
THE PROJECT LOCATION IS ON CSAH 34 FROM THE INTERSECTION OF CSAH 11 EAST APPROXIMATELY 7.0 MILES TO THE INTERSECTION OF TH 9.

SAP 014-634-032

GROSS LENGTH	37,101.00	FEET	7.027	MILES
BRIDGE EXCEPTION LENGTH	0.00	FEET	0.000	MILES
RAILROAD EXCEPTION LENGTH	0.00	FEET	0.000	MILES
TOTAL EXCEPTION LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	37,101.00	FEET	7.027	MILES

INDEX	
SHEET 1	TITLE SHEET AND LOCATION MAP
SHEET 2	ESTIMATED QUANTITIES, STANDARD PLATES
SHEET 3	GENERAL SITE PLAN
SHEET 4	TYPICAL SECTIONS
SHEET 5	TYPICAL SECTIONS IN FELTON
SHEET 6	ROAD AND ENTRANCE DETAILS
SHEET 7	CONSTRUCTION SIGNING
SHEET 8	TRAFFIC CONTROL
SHEET 9	MNDOT STANDARD PLAN (TRPMS)

THIS PLAN CONTAINS 9 SHEETS

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Justin R. Schum* LIC. NO. 58043 DATE 12/4/24  
JUSTIN SORUM, CLAY COUNTY ENGINEER  
*Nathan M.R. Gannon* DATE 12/5/24  
DISTRICT STATE AID ENGINEER  
REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY  
*Nathan M.R. Gannon* DATE 12/5/24  
STATE AID ENGINEER  
APPROVED FOR STATE AID FUNDING

SCHEDULE OF ESTIMATED QUANTITIES				
SPEC. NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES (PARTICIPATING, CSAH REGULAR)	NOTES
1	2021.501	MOBILIZATION	LUMP SUM	1
2	2211.507	AGGREGATE BASE (LV) CLASS 5	CU YD	335
3	2232.504	MILL BITUMINOUS SURFACE (2")	SQ YD	167,304
4	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3;B)	TON	30,383
5	2563.601	TRAFFIC CONTROL	LUMP SUM	1
6	2563.601	TEMPORARY RAISED PAVEMENT MARKERS	LUMP SUM	1
7	2580.501	INTERIM PAVEMENT MARKING	LUMP SUM	1
8	2582.503	4" SOLID LINE MULTI COMP	LIN FT	400
9	2582.503	6" SOLID LINE MULTI COMP	LIN FT	69,950
10	2582.503	24" SOLID LINE MULTI COMP	LIN FT	12
11	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	7,420
12				
13				

GENERAL CONSTRUCTION NOTES

- ① BITUMINOUS MATERIAL FOR TACK COAT (2357) SHALL BE APPLIED AND SHALL BE INCIDENTAL TO BITUMINOUS CONSTRUCTION. THIS SHALL BE APPLIED AT AN UNDILUTED RATE OF 0.06 GAL/SQ. YD. OVER NEW A SURFACE, 0.08 GAL/SQ. YD. OVER A MILLED SURFACE, AND 0.09 GAL/SQ. YD. OVER A OLD SURFACE. THIS SHALL BE CSS-1, CSS-1H OR CQS-1H, AND BE IN ACCORDANCE WITH SPECIFICATION 2357.
- ② ROAD SLOPE SHALL BE .02' PER FT., CROWN CORRECTION QUANTITIES ARE INCLUDED IN THE TOTAL.
- ③ ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT ADDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE MOST RECENT ADDITION OF THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS (FIELD MANUAL). THE EXACT LOCATIONS OF THE TRAFFIC CONTROL DEVICES WILL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL OF THE ENGINEER. TRAFFIC CONTROL DEVICES WILL BE MAINTAINED BY THE CONTRACTOR DAILY. ALL CONSTRUCTION AND DETOUR SIGNING SHALL BE REMOVED WITHIN ONE WEEK OF FINAL STRIPPING OR BE SUBJECT TO LIQUIDATED DAMAGES IN THE AMOUNT OF \$500.00 PER CALENDAR DAY.
- ④ CONSTRUCTION TWINE SHALL BE USED ON ALL PAVING LIFTS TO ENSURE THE CENTERLINE OF THE ROAD MATCHES THE OFFSETS ON THE CONSTRUCTION LATH.
- ⑤ THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL INTERIM PAVEMENT MARKING WITHOUT EXCEPTION AND SHALL BE PAID AS LUMP SUM.
- ⑥ THE CONTRACTOR SHALL BE RESPONSIBLE FOR BOTH SUPPLYING AND THE PLACEMENT OF THE TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S) ON THE FINAL LIFT. THE TRPM'S SHALL COMPLY WITH THE MINNESOTA DEPARTMENT OF TRANSPORTATION REQUIREMENTS. THE TRPM'S SHALL REMAIN IN PLACE UNTIL FINAL STRIPING AND BE REMOVED BY THE CONTRACTOR. THIS SHALL BE PAID AS LUMP SUM. SEE SHEET 9 FOR TRPM INTERIM PAVEMENT MARKING DETAILS. ONLY CENTERLINE TRPM'S ARE REQUIRED AT A 50' CYCLE, (40' SKIP X 10').
- ⑦ AFTER MILLING OPERATIONS A SMALL WEDGE SHALL BE PLACED AT THE BEGINNING & END OF EACH PHASE AND AT THE END OF EACH DAYS PAVING.
- ⑧ ALL MATERIAL SALVAGED DURING MILLING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
- ⑨ NO MATERIAL SHALL BE ALLOWED ON THE PROJECT WITHOUT FIRST SUPPLYING THE MATERIALS CERTIFICATION FORM, THIS INCLUDES ALL CHANGE ORDERS.

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.	
PLATE NO.	DESCRIPTION
8000K	TEMPORARY CHANNELIZERS

CERTIFIED BY



JUSTIN SORUM - CLAY COUNTY ENGINEER

LIC. NO. 58043

DATE 12/4/24

DRAWN BY BJE

CHECKED BY

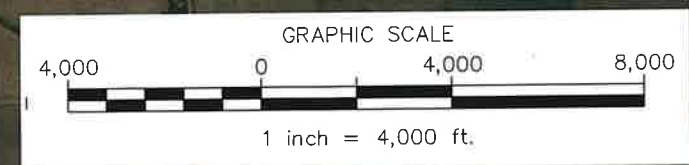
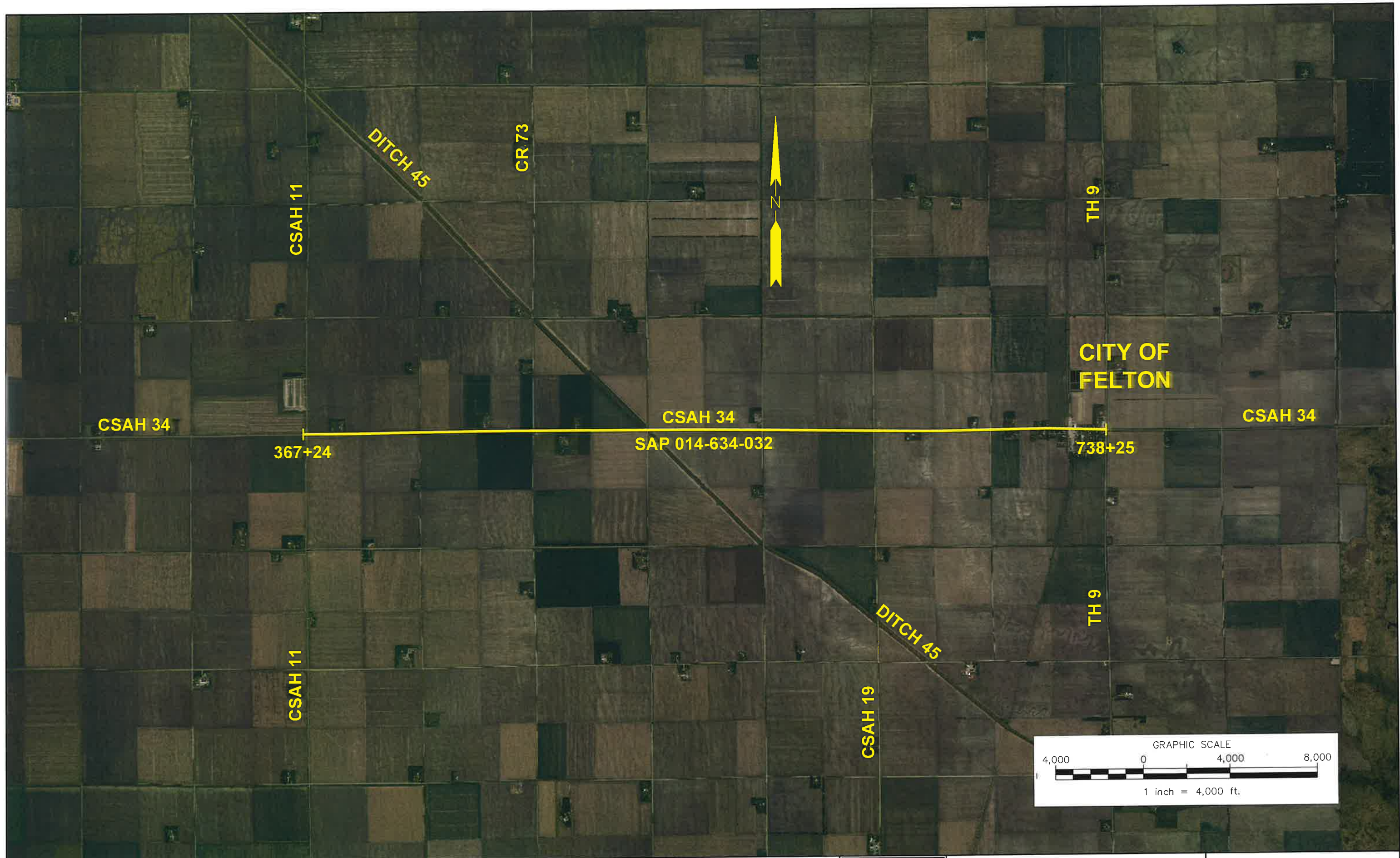
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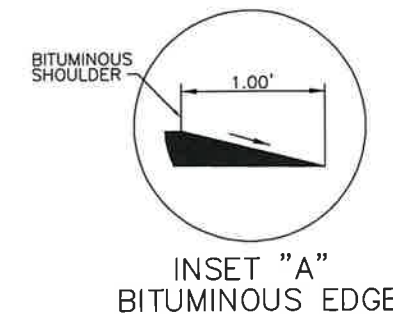
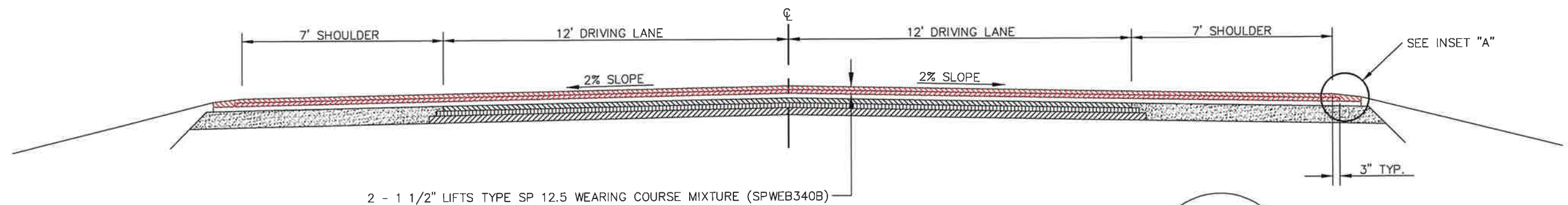
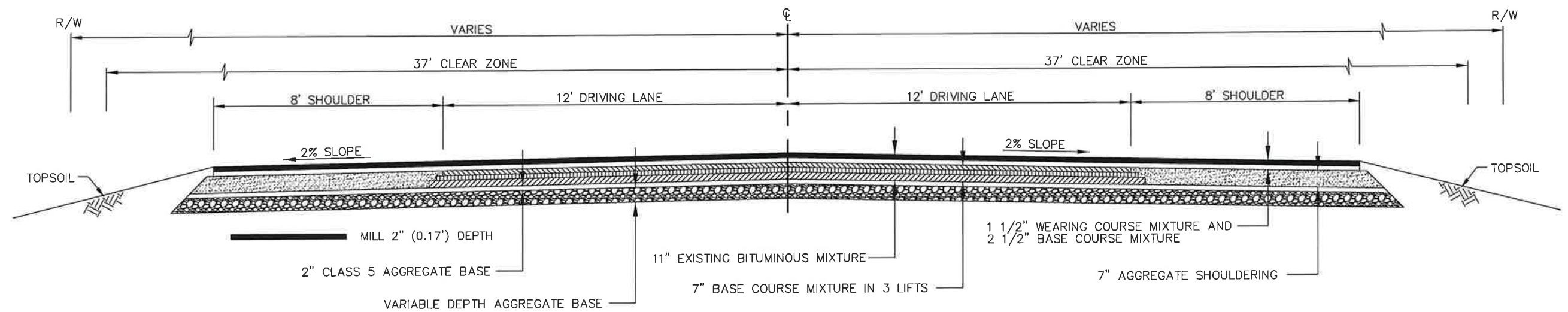
ESTIMATED QUANTITIES

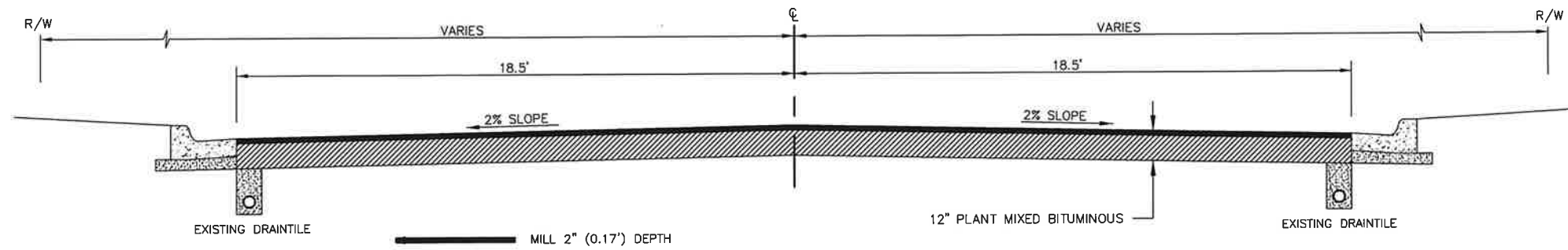
SHEET 2 OF 9 SHEETS



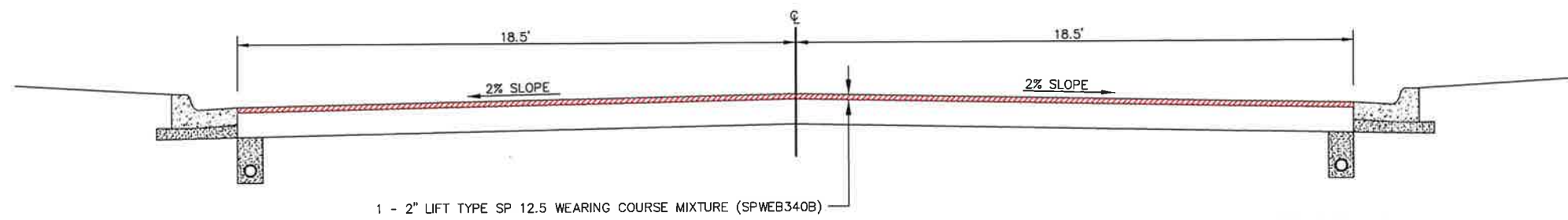






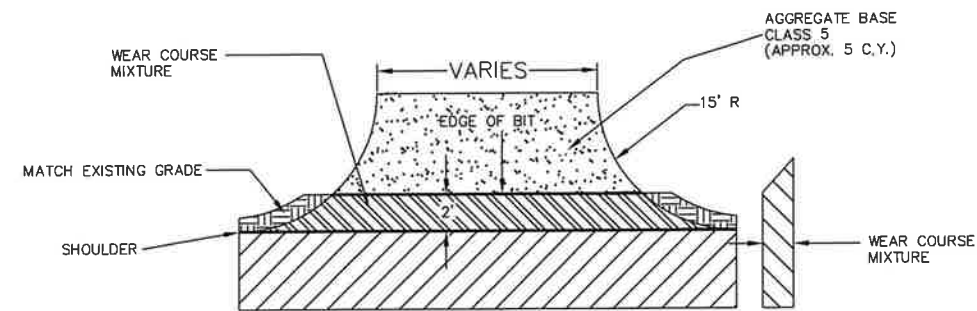


**EXISTING TYPICAL SECTION**  
 (SYMMETRICAL) STA. 722+00 TO STA. 738+25  
 (NO SCALE)

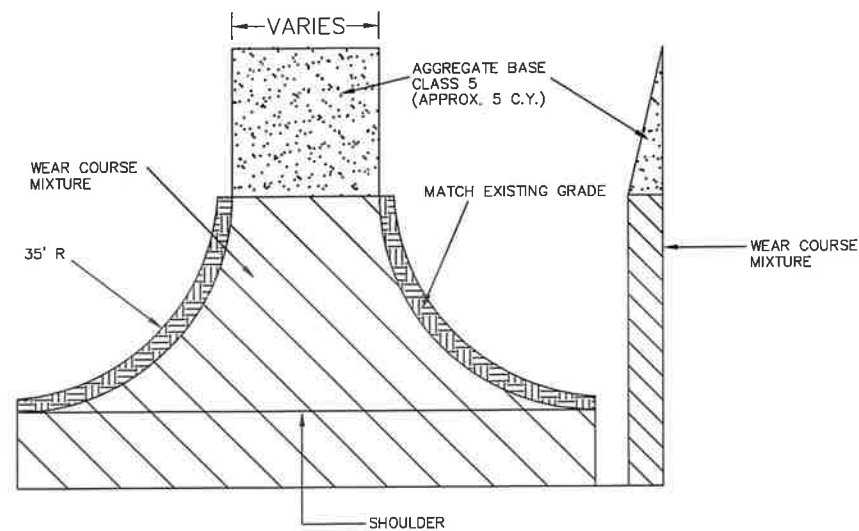


NOTE: MILLING AND PAVING SHALL GO AROUND THE RADIUSSES AND  
 PAST BY 2' AT ATLANTIC AVE. IN THE CITY OF FELTON.

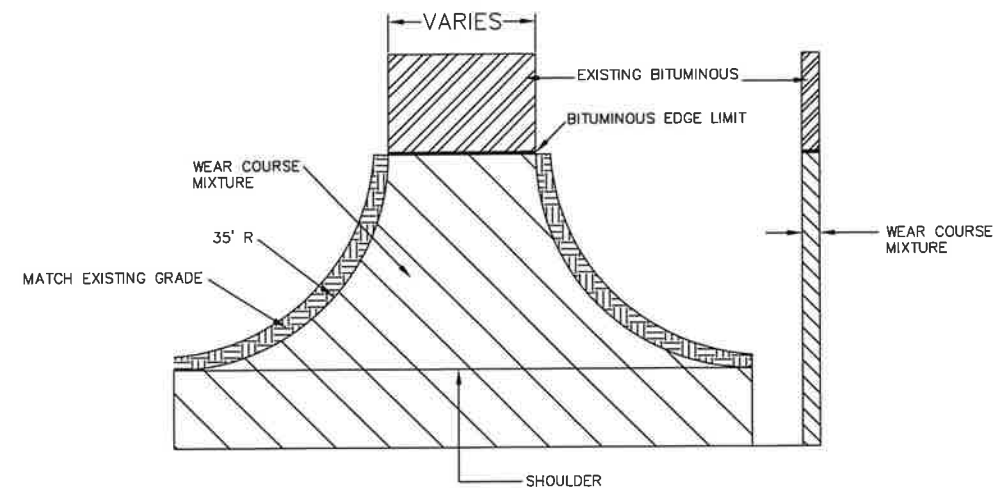
**PROPOSED TYPICAL SECTION**  
 (SYMMETRICAL) STA. 722+00 TO STA. 738+25  
 (NO SCALE)



FIELD



GRAVEL ROAD, BUSINESS AND HOME



BITUMINOUS ROAD, BUSINESS, HOME AND FIELD

## ENTRANCE LOCATIONS

ROAD, BUSINESS AND HOMES		FIELD	
LOCATION	CLASS 5	LOCATION	CLASS 5
370+24 L - 70TH ST N	-----	382+20 L - FIELD ENT	5 CU YD
370+24 R - 70TH ST N	-----	387+00 R - FIELD ENT	5 CU YD
387+00 L - HOME ENT	5 CU YD	396+31 R - FIELD ENT	5 CU YD
422+50 L - 80TH ST N	5 CU YD	396+36 L - FIELD ENT	5 CU YD
422+50 R - 80TH ST N	5 CU YD	405+78 L - FIELD ENT	5 CU YD
453+07 L - HOME ENT	5 CU YD	409+97 R - FIELD ENT	5 CU YD
474+97 L - 90TH ST N	5 CU YD	424+85 L - FIELD ENT	5 CU YD
474+97 R - 90TH ST N	5 CU YD	424+85 R - FIELD ENT	5 CU YD
476+84 R - SUBSTATION	5 CU YD	446+46 L - FIELD ENT	5 CU YD
492+13 R - HOME ENT	5 CU YD	448+80 R - FIELD ENT	5 CU YD
494+70 L - HOME ENT	5 CU YD	463+81 L - FIELD ENT	5 CU YD
527+00 L - 100TH ST N	5 CU YD	482+55 L - FIELD ENT	5 CU YD
527+00 R - 100TH ST N	5 CU YD	484+00 R - FIELD ENT	5 CU YD
580+34 L - 110TH ST N	5 CU YD	494+74 R - FIELD ENT	5 CU YD
580+34 R - 110TH ST N	5 CU YD	499+82 L - FIELD ENT	5 CU YD
631+46 L - 120TH ST N	5 CU YD	501+69 R - FIELD ENT	5 CU YD
631+50 R - 120TH ST N	5 CU YD	501+84 L - FIELD ENT	5 CU YD
649+01 R - HOME ENT	5 CU YD	525+23 L - FIELD ENT	5 CU YD
650+55 R - HOME ENT	5 CU YD	528+52 R - FIELD ENT	5 CU YD
677+33 L - HOME ENT	5 CU YD	553+57 L - FIELD ENT	5 CU YD
685+50 L - 130TH ST N	5 CU YD	553+57 R - FIELD ENT	5 CU YD
685+50 R - 130TH ST N	5 CU YD	579+27 R - FIELD ENT	5 CU YD
694+31 R - HOME ENT	5 CU YD	602+85 L - FIELD ENT	5 CU YD
696+56 R - HOME ENT	5 CU YD	606+05 R - FIELD ENT	5 CU YD
696+74 L - HOME ENT	5 CU YD	617+82 L - FIELD ENT	5 CU YD
704+05 R - HOME ENT	5 CU YD	617+82 R - FIELD ENT	5 CU YD
706+80 L - HOME ENT	5 CU YD	641+26 R - FIELD ENT	5 CU YD
707+80 R - HOME ENT	5 CU YD	658+95 R - FIELD ENT	5 CU YD
708+13 L - HOME ENT	5 CU YD	659+03 L - FIELD ENT	5 CU YD
710+27 R - HOME ENT	5 CU YD	671+35 L - FIELD ENT	5 CU YD
711+68 L - HOME ENT	5 CU YD	678+34 R - FIELD ENT	5 CU YD
712+29 R - HOME ENT	5 CU YD	689+69 R - FIELD ENT	5 CU YD
713+03 R - HOME ENT	5 CU YD	698+30 R - FIELD ENT	5 CU YD
714+94 R - DAKOTA AVE	-----	702+28 L - FIELD ENT	5 CU YD
719+43 R - HOME ENT	5 CU YD	719+36 L - FIELD ENT	5 CU YD
720+24 R - PACIFIC AVE	-----		
723+68 R - ATLANTIC AVE	-----		
TOTALS	160 CU YD	TOTALS	175 CU YD

## GENERAL CONSTRUCTION NOTES

- 1 FIELD STATIONING MAY NOT MATCH EXACTLY.
- 2 ALL EXISTING BITUMINOUS HIGHWAY AND ROAD INTERSECTIONS SHALL BE ENTIRELY MILLED AND PAVED.
- 3 ALL EXISTING BITUMINOUS BUSINESS, HOME AND FIELD ENTRANCES SHALL HAVE TWO MILLING PASSES TAKEN LONGITUDINALLY WITH THE CENTER OF THE ROADWAY. (CONSULT THE ENGINEER IN THE FIELD).
- 4 ALL APPROACHES, ENTRANCES AND RADII SHALL BE FINISHED TO A MINIMUM 1:4 INSLOPE WITH THE SPECIFIED MATERIAL AS THICKNESS REQUIRES.
- 5 EXCAVATION NECESSARY FOR APPROACHES SHALL BE INCIDENTAL TO WEARING COURSE MIX.
- 6 THE CONTRACTOR AND THE ENGINEER IN THE FIELD SHALL CALCULATE AND AGREE ON THE MILLING QUANTITY DAILY.

CERTIFIED BY Justin P. Sorum  
JUSTIN SORUM - CLAY COUNTY ENGINEER

LIC. NO. 58043 DATE 12/14/24

DRAWN BY BJE  
CHECKED BY \_\_\_\_\_




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

ROAD AND ENTRANCE DETAILS




SHEET 6 OF 9 SHEETS



SIGN OR DEVICE	SIGN NO.	COLOR	SIZE	ESTIMATED QUANTITY
	M1-X4	BLACK ON WHITE	24"x24"	4
	M3-4	BLACK ON WHITE	24"x12"	2
	M3-2	BLACK ON WHITE	24"x12"	2

SIGN OR DEVICE	SIGN NO.	COLOR	SIZE	ESTIMATED QUANTITY
	W20-1	BLACK AND ORANGE	48"x48"	22
	W16-2P	BLACK ON YELLOW	30"x24"	14
	W16-3P	BLACK ON YELLOW	30"x24"	2

SIGN OR DEVICE	SIGN NO.	COLOR	SIZE	ESTIMATED QUANTITY
	W16-3P	BLACK ON YELLOW	30"x24"	2
	G20-2	BLACK ON ORANGE	36"x18"	2
	G20-1	BLACK ON ORANGE	60"x24"	2




SIGN OR DEVICE	SIGN NO.	COLOR	SIZE	ESTIMATED QUANTITY
	W8-1	BLACK ON YELLOW	48"x48"	AS NEEDED
	W8-11	BLACK ON YELLOW	48"x48"	AS NEEDED
	W8-9	BLACK ON YELLOW	48"x48"	AS NEEDED



CONTRACTOR SIGNING

ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

LEGEND

TYPE III BARRICADE (SHOWN FACING LEFT) =   
SIGN (SHOWN FACING LEFT) =   
TYPE "A" FLASHER (SHOWN FACING LEFT) = 

CERTIFIED BY   
JUSTIN SORUM - CLAY COUNTY ENGINEER

LIC. NO. 58043 DATE 12/4/24

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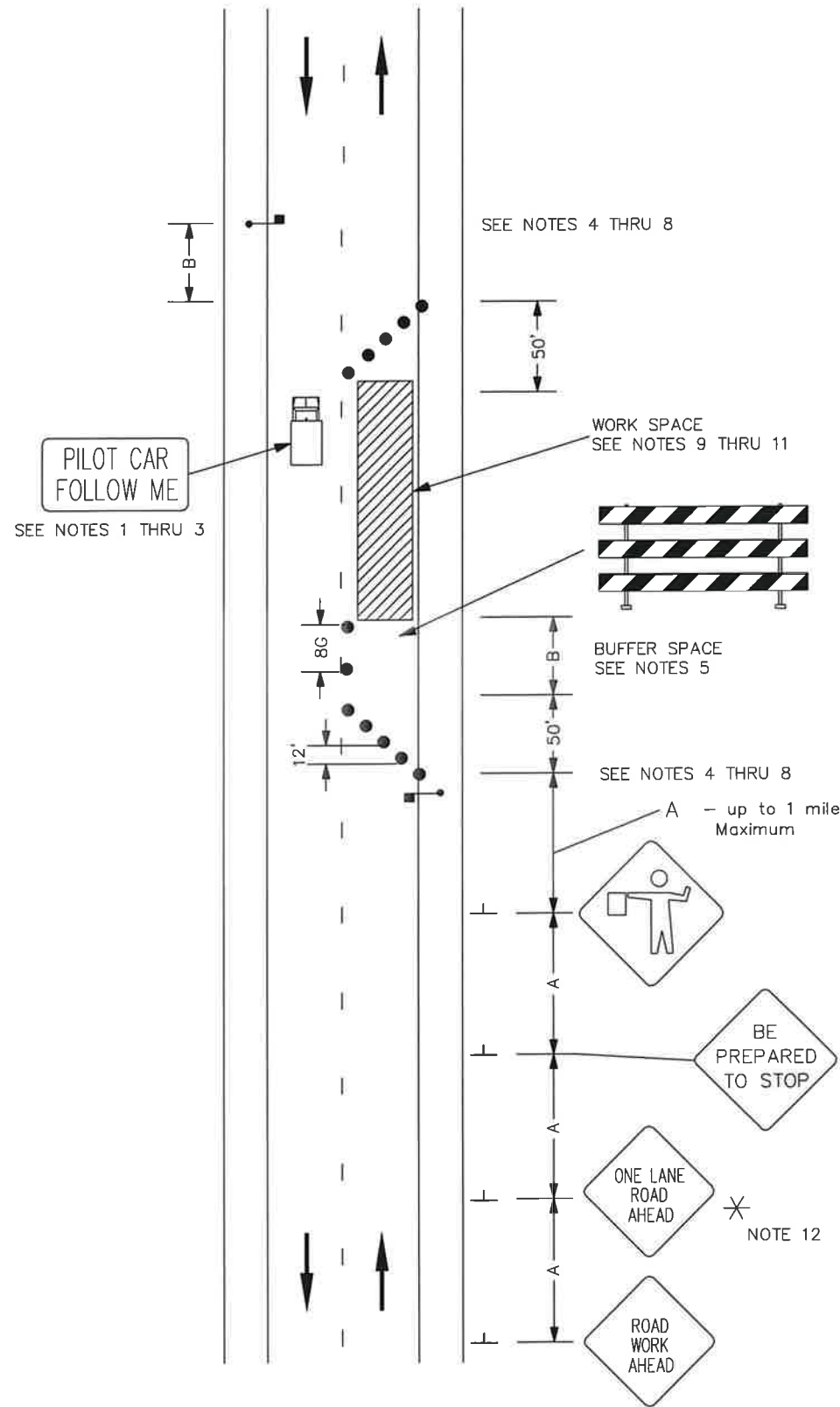
SAP 014-634-032

CLAY COUNTY

CONSTRUCTION SIGNING

SHEET 7 OF 9 SHEETS





LANE CLOSURE, PILOT CAR METHOD  
ONE-LANE, TWO WAY TRAFFIC

POSTED SPEED LIMIT PRIOR TO WORK STARTING	SPACING OF ADVANCE WARNING SIGNS (A)	SPACING OF CHANNELIZING DEVICES (G)	BUFFER SPACE (B)	DECISION SIGHT DISTANCE
(MPH)	FEET	FEET	FEET	FEET
0 - 30	250	25	200	550
35 - 40	325	25	305	700
45 - 50	600	50	425	900
55	750	50	500	1200
60 - 65	1000	50	650	1400
70 - 75	1200	50	820	1600

NOTE:  
NOT ALL INFORMATION IN THIS BOX MAY APPLY TO THIS DETAIL.

- NOTES:
- THE PILOT CAR FOLLOW ME (G20-4) SIGN SHALL BE MOUNTED AT A CONSPICUOUS LOCATION ON THE REAR OF THE PILOT CAR VEHICLE.
  - THE PILOT CAR SHOULD HAVE THE NAME OF THE CONTRACTOR OR CONTRACTING AUTHORITY PROMINENTLY DISPLAYED.
  - PILOT CARS SHOULD LEAD TRAFFIC THROUGH THE WORK ZONE AT A SAFE SPEED. SEE THE FLAGGER HANDBOOK FOR ADDITIONAL GUIDANCE.
  - ADVANCE WARNING SIGNS ARE THE SAME FOR BOTH DIRECTIONS APPROACHING THE WORK AREA.
  - BUFFER SPACE SHOULD BE PROVIDED WHEN APPROACH LANE IS CLOSED.
  - THE APPROACH SIGHT DISTANCE TO THE FLAGGER SHALL BE AT LEAST THE DECISION SIGHT DISTANCE.
  - WORK SHALL BE LIMITED TO DAYLIGHT HOURS.
  - FLAGGERS SHOULD NOT ALLOW ADDITIONAL CARS TO FOLLOW THE PILOT CAR IF THE END OF THE PLATOON HAS TRAVELED FARTHER THAN 300 FT BEYOND THE FLAGGER STATION.
  - ALL LANE TRANSITION AREAS SHALL HAVE CHANNELIZING DEVICES IN TAPERS.
  - CHANNELIZING DEVICES ALONG THE EDGE OF THE WORK SPACE MAY BE OMITTED UNLESS:
    - TRAFFIC IS TRAVELING NEXT TO THE LONGITUDINAL DROP-OFFS THAT ARE GREATER THAN 4 INCHES, OR
    - VISIBILITY OF THE OPEN TRAVELED LANE IS RESTRICTED.
  - HAZARDOUS AREAS WITHIN THE WORK SPACE SHOULD HAVE CHANNELIZATION AND BARRIERS, SUCH AS WHEN TRAFFIC IS ADJACENT TO DROP-OFFS GREATER THAN 12 INCHES.
  - THE ONE LANE ROAD AHEAD SIGN MAY BE OMITTED WHEN THE POSTED SPEED LIMIT IS 40 MPH OR LESS.
  - UNEVEN LANES AND LOW SHOULDER SIGNS TO BE USED AS CONDITIONS WARRANT.

\* - REQUIRED FOR SPEEDS GREATER THAN 45 MPH.  
● - CHANNELIZING DEVICE. (CONES OR TUBULAR MARKERS MAY BE USED ONLY FOR DAYTIME OPERATIONS)

NOTES:  
ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS". THE EXACT LOCATION OF THE TRAFFIC CONTROL DEVICES WILL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL OF THE ENGINEER.

ALL TRAFFIC CONTROL DEVICES SHOWN, UNLESS OTHERWISE INDICATED, SHALL BE FURNISHED, INSTALLED, MAINTAINED, REMOVED BY, AND REMAIN THE PROPERTY OF CONTRACTOR.

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, ALL SIGNS SHOWN (EXCEPT BARRICADE MOUNTED SIGNS) SHALL BE FASTENED TO TWO UPRIGHT POSTS EXTENDED FROM TWO DRIVEN GROUND POSTS. ALL SIGNS SHALL CONFORM TO THE HEIGHT REQUIREMENTS OF THE SECOND PARAGRAPH OF SECTION 2A-14 OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL WARNING SIGNS SHALL HAVE BLACK LETTERS ON ORANGE COLORED, DIAMOND GRADE, RETROREFLECTIVE SHEETING. REGULATORY SIGNS SHALL CONFORM IN LETTER SIZE AND COLOR TO THE REQUIREMENTS SPECIFIED IN THE MINNESOTA STANDARD SIGNS MANUAL, INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, FIELD MANUAL.

TRAFFIC CONTROL SIGNS MAY BE INSTALLED ON PORTABLE STANDS IN LOCATIONS APPROVED BY THE ENGINEER

CONSTRUCTION ZONE SIGNING IS ALSO THE RESPONSIBILITY OF CONTRACTOR. SIGNS REQUIRED INCLUDE BUT ARE NOT LIMITED TO ROAD CONSTRUCTION AHEAD, DIP, BUMP, FLAG PERSON, NUMBER OF SIGNS AND LOCATION DETERMINED BY CONTRACTOR'S OPERATION. ALL SIGNS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

ANY EXISTING SIGNS THAT ARE CONFLICTING IN THE CONSTRUCTION ZONE AND ARE NOT REMOVED DUE TO CONSTRUCTION, SHALL BE COVERED (INCIDENTAL). SIGN COVERS SHALL BE CONSTRUCTED OF ALUM. PANELS INSTALLED WITH NYLON WASHERS BETWEEN THE SIGN & THE COVER. THE COVERS SHALL CAUSE NO DAMAGE TO THE SIGN PANEL THEY COVER.

STOP SIGNS REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH TEMPORARY STOP SIGNS IN LOCATIONS APPROVED BY THE ENGINEER. AT THE COMPLETION OF THE PROJECT, PERMANENT STOP SIGNS SHALL BE RE-INSTALLED IN LOCATIONS APPROVED BY THE ENGINEER.

ALL FLASHERS SHOULD BE ON SIDE NEAREST THE ROAD.

SIGN DIMENSIONS ARE IN ENGLISH UNITS

THE SIGNING AND CHANNELIZATION DEVICE TABULATION SHOWN IS FOR INFORMATIONAL PURPOSES. ADDITIONAL SIGNS AND DEVICES SHALL BE PROVIDED, AS REQUIRED WITH NO ADJUSTMENT IN THE UNIT PRICE BID FOR ITEM "TRAFFIC CONTROL", LUMP SUM.

## NOTATIONS

- STANDARD BARRICADES SHALL HAVE (2) FLASHERS EACH.
- "DIAMOND GRADE" WIDE ANGLE PRISMATIC SHEETING SHALL BE USED ON ALL SIGNING, BARRICADES, CONES, BOARDS, ETC.
- ALL SIGNING SHALL BE IN PLACE PRIOR TO THE START OF THE PROJECT.
- PORTABLE ROAD WORK AHEAD (W20-1) SIGNS SHALL BE USED IN THE AREA OF ACTIVE CONSTRUCTION.
- ALL SIGNS, BARRICADES AND FLASHERS SHALL BE CHECKED AND MAINTAINED DAILY.

CERTIFIED BY Justin P. Sorum  
JUSTIN SORUM - CLAY COUNTY ENGINEER

LIC. NO. 58043 DATE 12/4/24

DRAWN BY BJE  
CHECKED BY \_\_\_\_\_

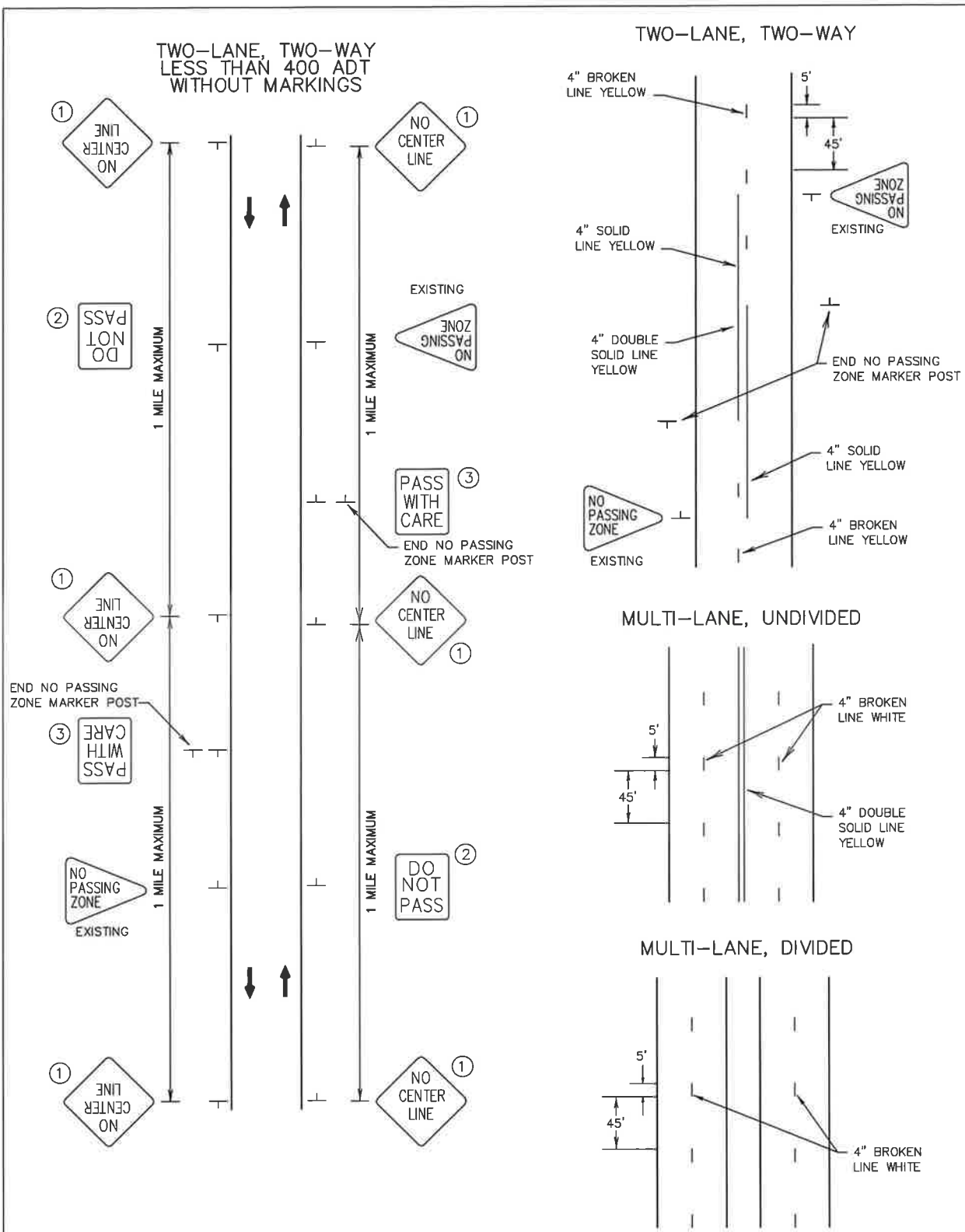
SAP 014-634-032

CLAY  
COUNTY

TRAFFIC CONTROL

SHEET 8 OF 9 SHEETS





# GENERAL NOTES:

SEE MnDOT SPEC. 2580 (INTERIM PAVEMENT MARKING).

DO NOT OPEN ANY ROADWAY SEGMENT TO TRAFFIC UNLESS THE FOLLOWING MARKINGS (INTERIM OR PERMANENT) ARE INPLACE: CENTERLINE MARKINGS (INCLUDING NO PASSING ZONES), FLUSH MEDIANS (EXCLUDING CROSSHATCHING), AND LANE LINE (INCLUDING TURN AND AUXILIARY LANE LINES). THIS REQUIREMENT IS WAIVED FOR TANGENT ROAD SEGMENTS LESS THAN 350' IN LENGTH AND CURVED ROAD SEGMENTS WITH DEGREES OF CURVE GREATER THAN 6 DEGREES FOR LESS THAN 50' IN LENGTH.

PLACE INTERIM BROKEN LINE PAVEMENT MARKINGS AT THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS WITH A MINIMUM LENGTH OF 5 FEET; IF FINAL PAVEMENT MARKING PLAN IS NOT PROVIDED, THE CYCLE LENGTH SHALL BE 50'. PLACE INTERIM DOTTED LINE PAVEMENT MARKINGS AT THE SAME CYCLE LENGTH AND LINE LENGTH AS SHOWN IN THE PLAN; IF FINAL PAVEMENT MARKING PLAN IS NOT PROVIDED, THE CYCLE LENGTH SHALL BE 15' WITH A LINE LENGTH OF 3'.

FOR NO PASSING ZONE LOCATIONS, REFER TO THE SIGNING OR PAVEMENT MARKING PLAN; IF NEITHER IS PROVIDED, FOLLOW INPLACE NO PASSING ZONES.

WHEN PERMANENT PAVEMENT MARKINGS ARE TO BE MULTI-COMPONENT LIQUID AND PAINT IS USED FOR THE INTERIM MARKINGS, PLACE A 10 MIL THICK LAYER OF PAINT. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE MULTI-COMPONENT LIQUID. IF THE LAYER OF PAINT IS GREATER THAN 10 MIL, REMOVE THE PAINT PRIOR TO PLACING THE MULTI-COMPONENT LIQUID.

PLACE INTERIM MARKINGS ON THE FINAL PERMANENT PAVEMENT SURFACE SUCH THAT THEY WILL BE FULLY COVERED BY THE PERMANENT PAVEMENT MARKINGS.

INTERIM PAVEMENT MARKINGS SHOULD NOT BE LEFT INPLACE FOR MORE THAN 14 CALENDAR DAYS UNLESS THEY MEET THE REQUIREMENTS OF PERMANENT OR TEMPORARY MARKINGS.

## USING SIGNING IN LIEU OF INTERIM PAVEMENT MARKINGS ON TWO-LANE, TWO-WAY ROADWAYS

ON ROADS WITH AN AVERAGE DAILY TRAFFIC (ADT) OF LESS THAN 400 VEHICLES, THE SIGNS AS SHOWN MAY BE USED IN LIEU OF PAVEMENT MARKINGS FOR UP TO 14 CALENDAR DAYS OR AS DIRECTED BY THE ENGINEER.

- PLACE A "NO CENTER LINE" SIGN (W8-12, BLACK ON ORANGE) FOR EACH DIRECTION OF TRAVEL. PLACE ADDITIONAL SIGNS AT MAJOR INTERSECTIONS OR ONE MILE INCREMENTS, WHICHEVER IS LESS.
- IF NOT ALREADY INPLACE, PLACE A "DO NOT PASS" SIGN (R4-1) OPPOSITE OF EACH INPLACE "NO PASSING ZONE" SIGN (W14-3).
- PLACE A "PASS WITH CARE" SIGN (R4-2) AT THE END OF EACH NO PASSING ZONE, ADJACENT TO THE END OF NO PASSING ZONE MARKER POST.

## USING TEMPORARY RAISED PAVEMENT MARKERS (TRPMS) AS INTERIM PAVEMENT MARKING

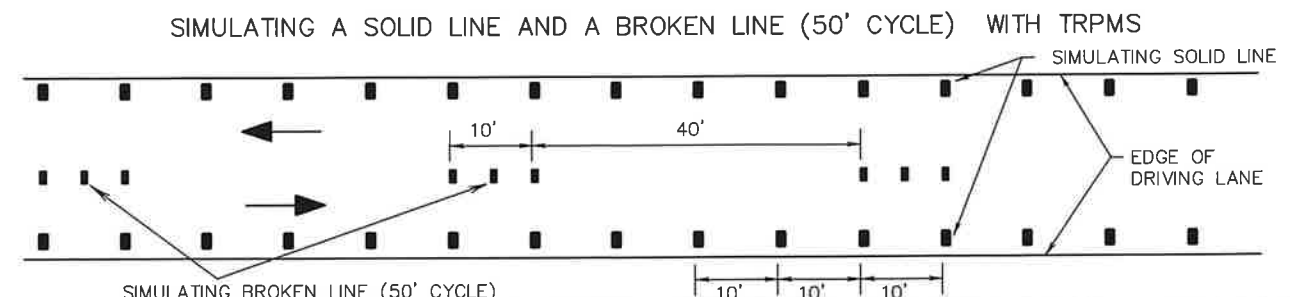
WHEN USING TRPMS AS INTERIM PAVEMENT MARKINGS, FOLLOW THE REQUIREMENTS BELOW UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

USE DOUBLE-SIDED TRPMS ON TWO-LANE, TWO-WAY ROADS.

BROKEN LINE: USE 3 TRPMS PER 10' BROKEN LINE, 5' SPACING WITH A 40' GAP.

SOLID LINE: USE CONTINUOUS TRPMS; 10' SPACING FOR TANGENTS AND CURVES UNDER 6 DEGREES; 5' SPACING FOR CURVES  $\geq 6$  DEGREES, GRADES  $> 5$  PERCENT, OR CONCRETE PAVEMENTS.

DOUBLE SOLID LINE: USE TWO CONTINUOUS TRPMS 4" APART, 10' SPACING ON TANGENTS AND CURVES UNDER 6 DEGREES; 5' SPACING FOR CURVES  $\geq 6$  DEGREES, GRADES  $> 5$  PERCENT, OR CONCRETE PAVEMENTS.



LEAD  
EXPERT  
OFFICE

BRIAN SORENSON  
STATE TRAFFIC ENGINEER  
OFFICE OF TRAFFIC ENGINEERING

## INTERIM PAVEMENT MARKINGS AND SIGNING

APPROVED: 10-10-2019  
REVISED:

Peter A. Harff  
PETER A. HARFF  
STATE DESIGN ENGINEER

STANDARD  
PLAN  
5-297.801

1 OF 1

NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR BOTH SUPPLYING AND THE PLACEMENT OF THE TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S) ON THE FINAL LIFT. THE TRPM'S SHALL COMPLY WITH THE MINNESOTA DEPARTMENT OF TRANSPORTATION REQUIREMENTS. THE TRPM'S SHALL REMAIN IN PLACE UNTIL FINAL STRIPING AND BE REMOVED BY THE CONTRACTOR. THIS SHALL BE PAID AS LUMP SUM. ATTACHED ARE MNDOT'S REQUIREMENTS FOR TRPM'S. ONLY CENTERLINE TRPM'S ARE REQUIRED AT A 50' CYCLE, (40' SKIP X 10').

CERTIFIED BY  
JUSTIN SORUM - CLAY COUNTY ENGINEER

LIC. NO. 58043 DATE 12/4/24

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COUNTY

MNDOT STANDARD PLAN  
TEMPORARY RAISED PAVEMENT MARKERS

SHEET 9 OF 9 SHEETS