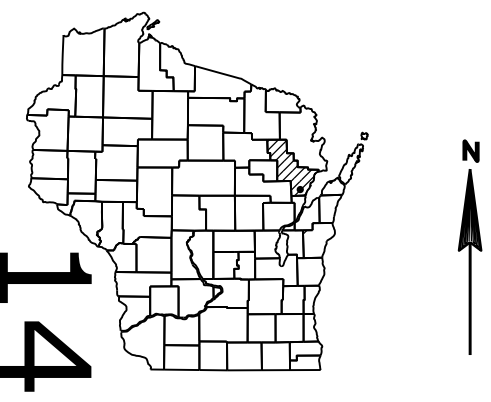


ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 30



DESIGN DESIGNATION: USH 41/141

A.A.D.T. (2009)	=	26,300
A.A.D.T.	=	
D.H.V.	=	
D.D.	=	
T. (13.1%)	=	3,450
DESIGN SPEED	=	
ESALS	=	

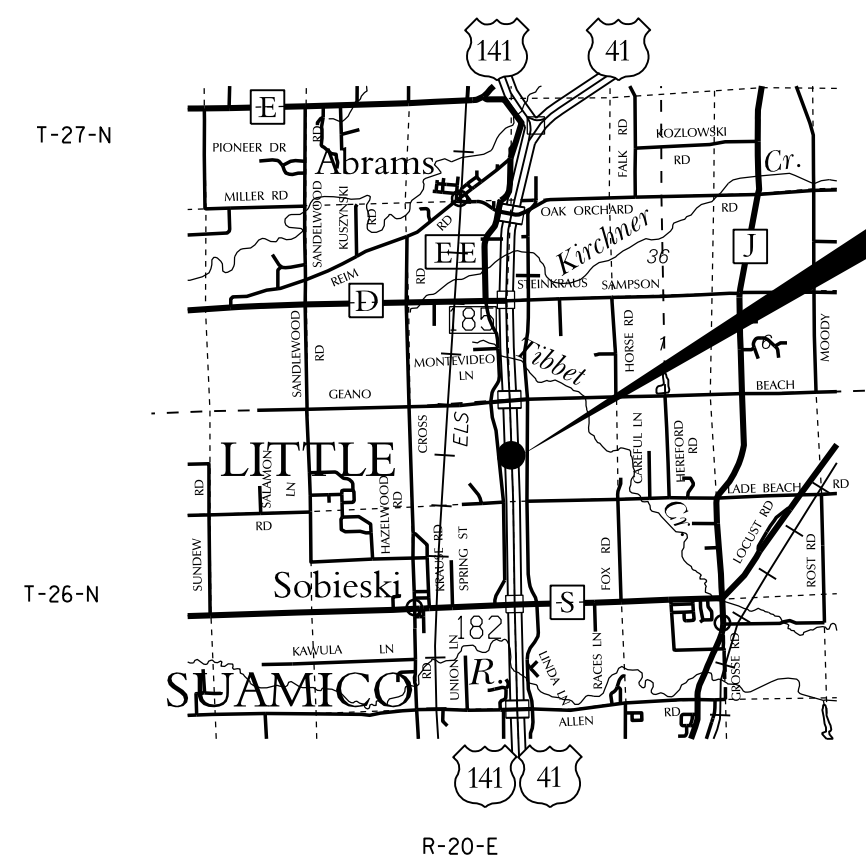
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
GREEN BAY - ABRAMS
(ABRAMS SAFETY & WEIGHT FACILITY)
USH 41/141
OCONTO COUNTY

STATE PROJECT NUMBER
1152-11-71



PROJECT LOCATION

ABRAMS SWEF #41
Y= 338,000 +/- 1000
X= 2,506,000 +/- 1000
MM 183 MEDIAN

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

"COORDINATES IN THIS PLAN ARE REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM (WSPCS), 'SOUTH' ZONE."

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1152-11-71		

PLANS PREPARED BY

WISDOT STAFF

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	
Designer	Robert Spoerl
Project Manager	
Project Examiner	
Supervisor	Todd Matheson
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 4/30/2013 (Signature)

E

GENERAL NOTES

ASPHALTIC PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 110 LB/IN-SY

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES SHALL BE DONE IN PULLBOX, SOLDERED, THEN SEALED FOR WATERPROOFING. NUMBER AND PLACEMENT OF PULL BOXES NOT SHOWN.

POWER CABLES SHALL BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES.

SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT. ACTUAL SENSOR SPACING MAY BE ALTERED TO FIT SITE CONDITIONS.

ROAD SURFACE SHALL MEET ASTM 1318 SPECIFICATIONS FOR PAVEMENT CONDITIONS TO ACHIEVE OPTIMAL SYSTEM PERFORMANCE.

CABLES SHALL BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT JOINTS/CRACKS.

PIEZO SENSORS SHALL BE A MINIMUM OF 6' FROM CRACKS, JOINTS OR SAWCUTS WHEN POSSIBLE.

PULLBOXES SHALL BE NO MORE THAN 200' FEET APART, MINIMUM 24" DIAMETER.

EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE. CONDUITS ARE LABELED LEFT TO RIGHT, TOP TO BOTTOM.

120 VC AND HIGH SPEED INTERNET TELECOMMUNICATIONS SERVICES ARE REQUIRED TO BE PROVIDED TO SERVICE POINTS WITHIN 25 FEET OF THE VIRTUAL WEIGH STATION CABINET LOCATION.

DETECTOR LOOPS SHALL CONFORM TO WISDOT STANDARD SPECIFICATIONS.

DETECTOR LOOPS SHALL NOT BE CUT DIRECTLY INTO THE EXISTING PAVEMENT SURFACE.

DETECTOR LOOPS SHALL BE INSTALLED UNDERNEATH NEW CONCRETE PAVEMENT.

CONTACT LIST

ELECTRIC SERVICE PROVIDER
WISCONSIN PUBLIC SERVICE (WPS)
PO BOX 19003
GREEN BAY, WI 54307-9003
PHONE: 800-450-7260 (TOLL FREE)

TELECOMMUNICATIONS PROVIDER
NSIGHT TELSERVICES
2711 EAST FRONTAGE ROAD
ABRAMS, WI 54101
PHONE: (920) 826-5215
PHONE: (800) 826-5215 (TOLL FREE)

WISCONSIN STATE PATROL
SGT. MARK ABRAHAMSON
EMAIL: MARK.ABRAHAMSON@DOT.WI.GOV
PHONE: 920-826-5368 (SITE)
PHONE: 920-929-3700 (POST)

SWEF MAINTENANCE
GOODWILL INDUSTRIES OF NORTHERN
WISCONSIN & UPPER MICHIGAN, INC.
ATTN: KELLY GUY
1428 MAIN STREET
MARINETTE, WI 54143
PHONE: (715) 732-0563 EXT. 107
EMAIL: KGUY@GWMARINETTE.ORG

OCONTO COUNTY HIGHWAY DEPARTMENT
AL OLSON
TRACTOR STREET
PO BOX 138
OCONTO, WI 54153-0138
MOBILE: 920-604-1158



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

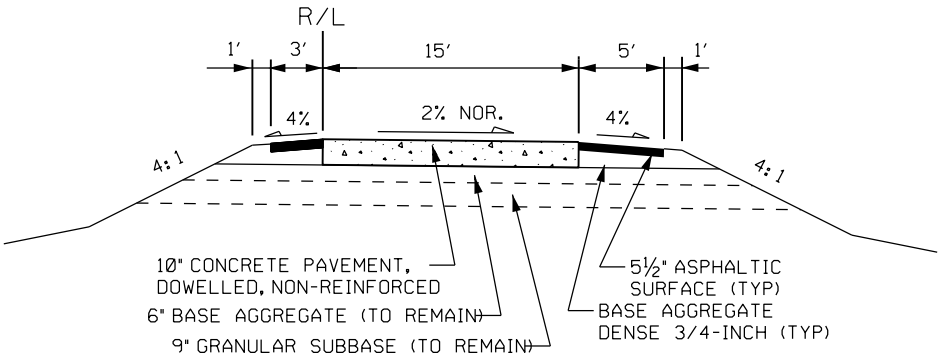
CALL DIGGERS HOTLINE

1-800-242-8511
TDD (FOR HEARING IMPAIRED)
1-800-542-2289

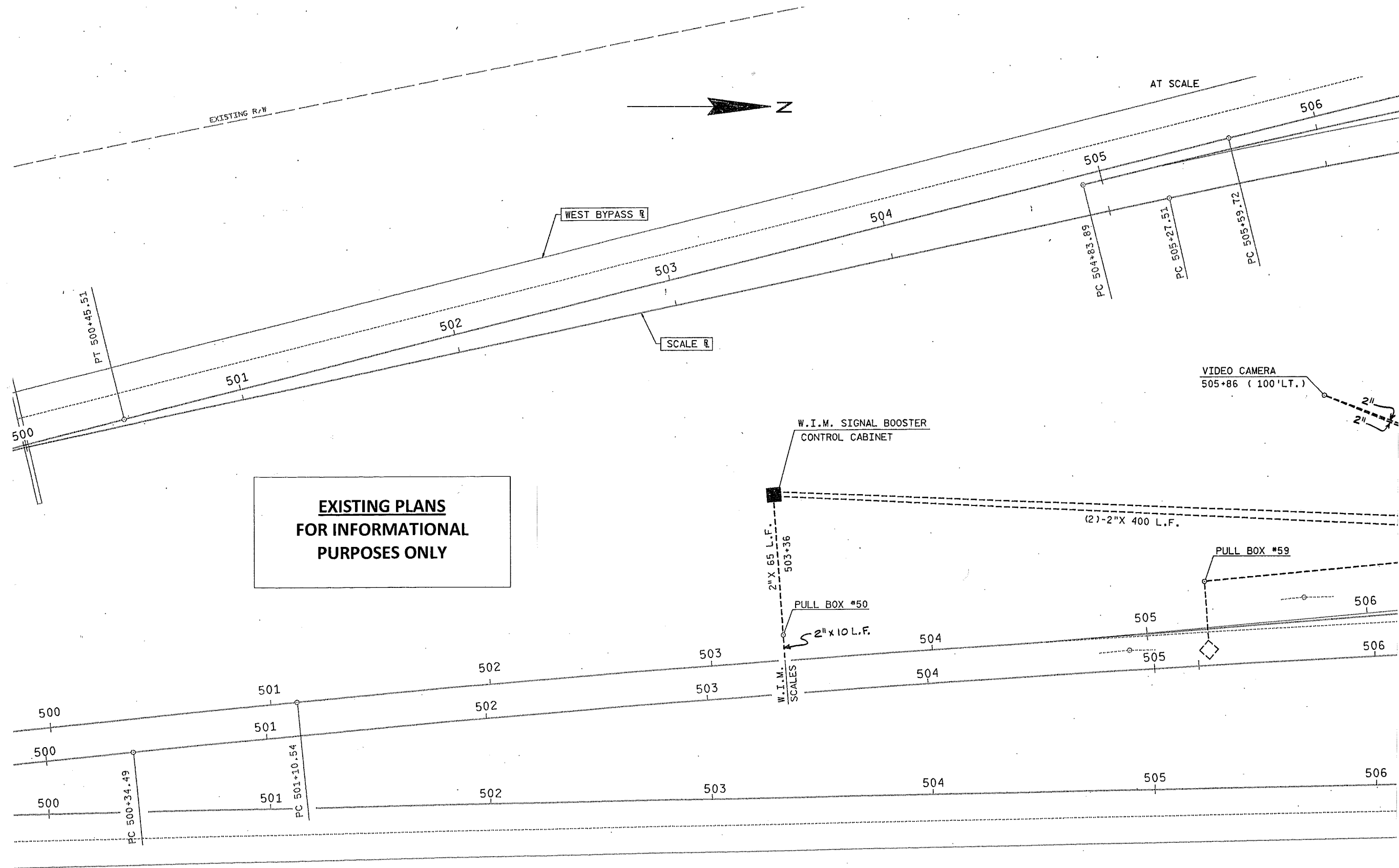
TOLL FREE
TELEFAX (414)259-0947
WWW.DIGGERSHOTLINE.COM

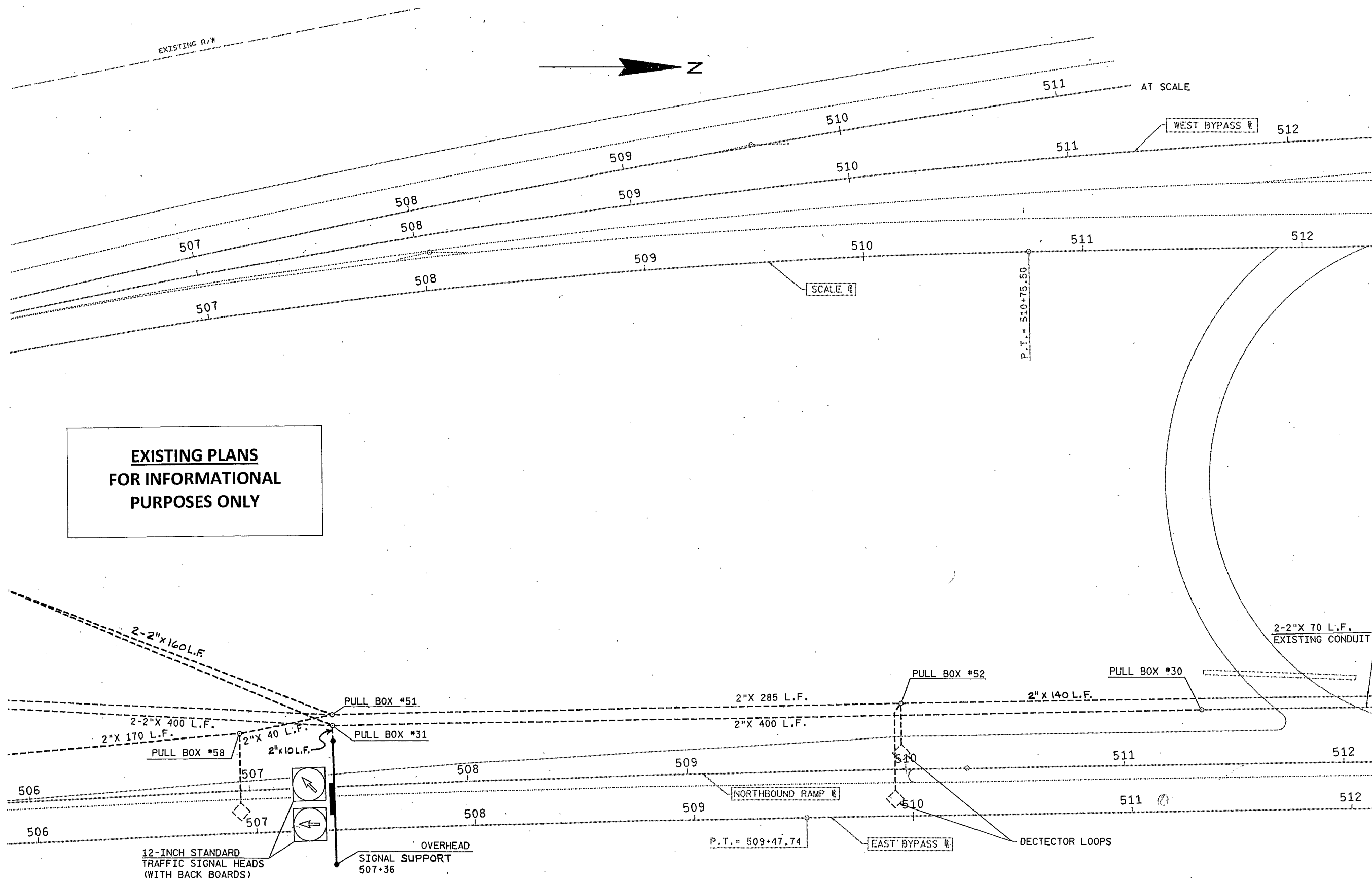
WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE.

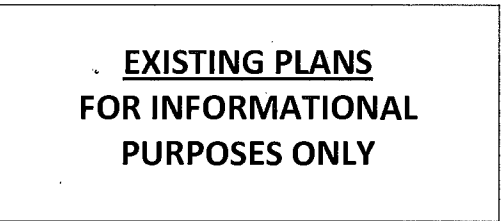
DNR LIAISON
JIM DOPERALSKI, NORTHEAST REGIONAL HQ
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: (920) 662-5119
EMAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

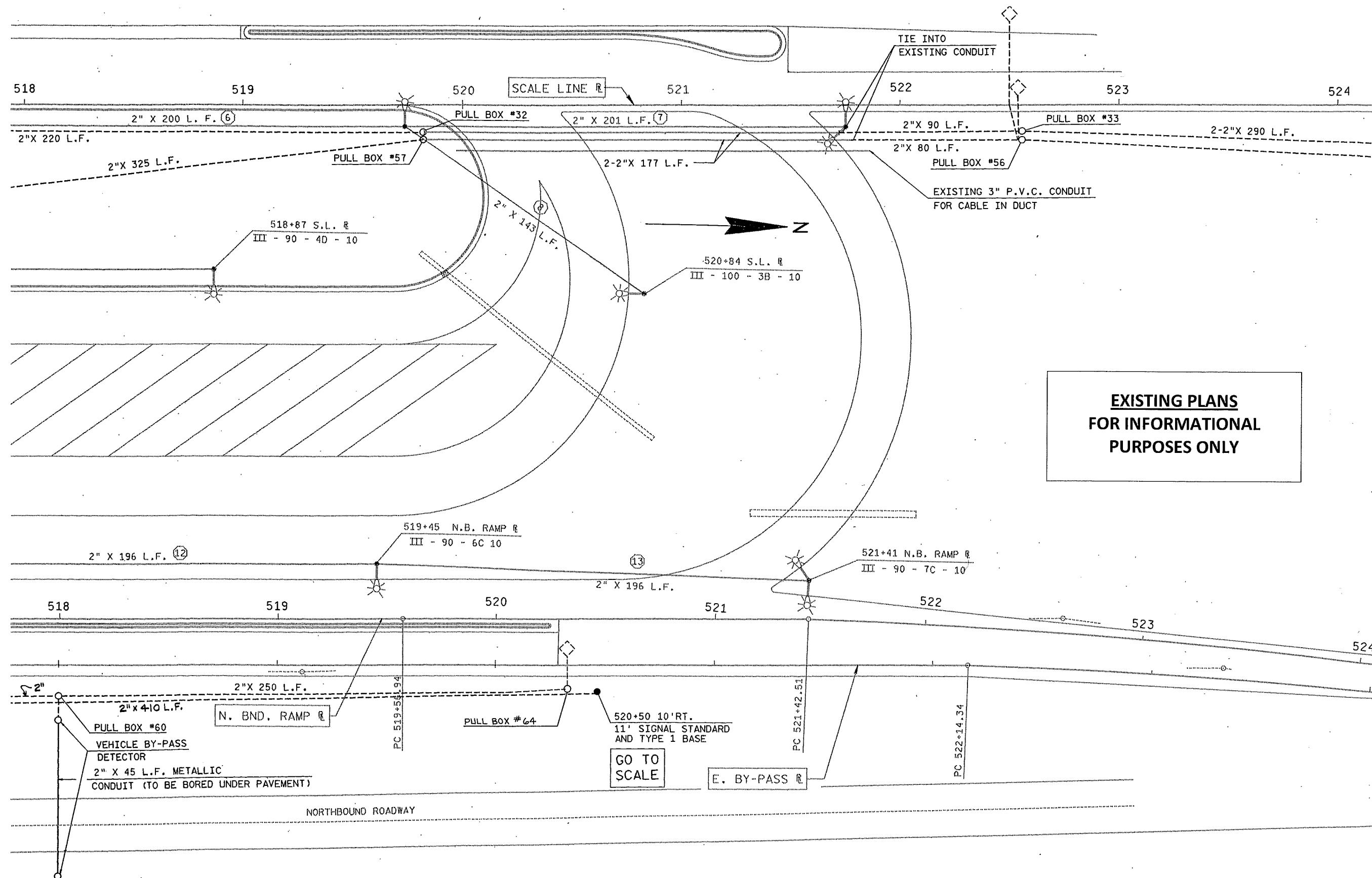


PROPOSED TYPICAL SECTION
EXIT & ENTRANCE RAMPS

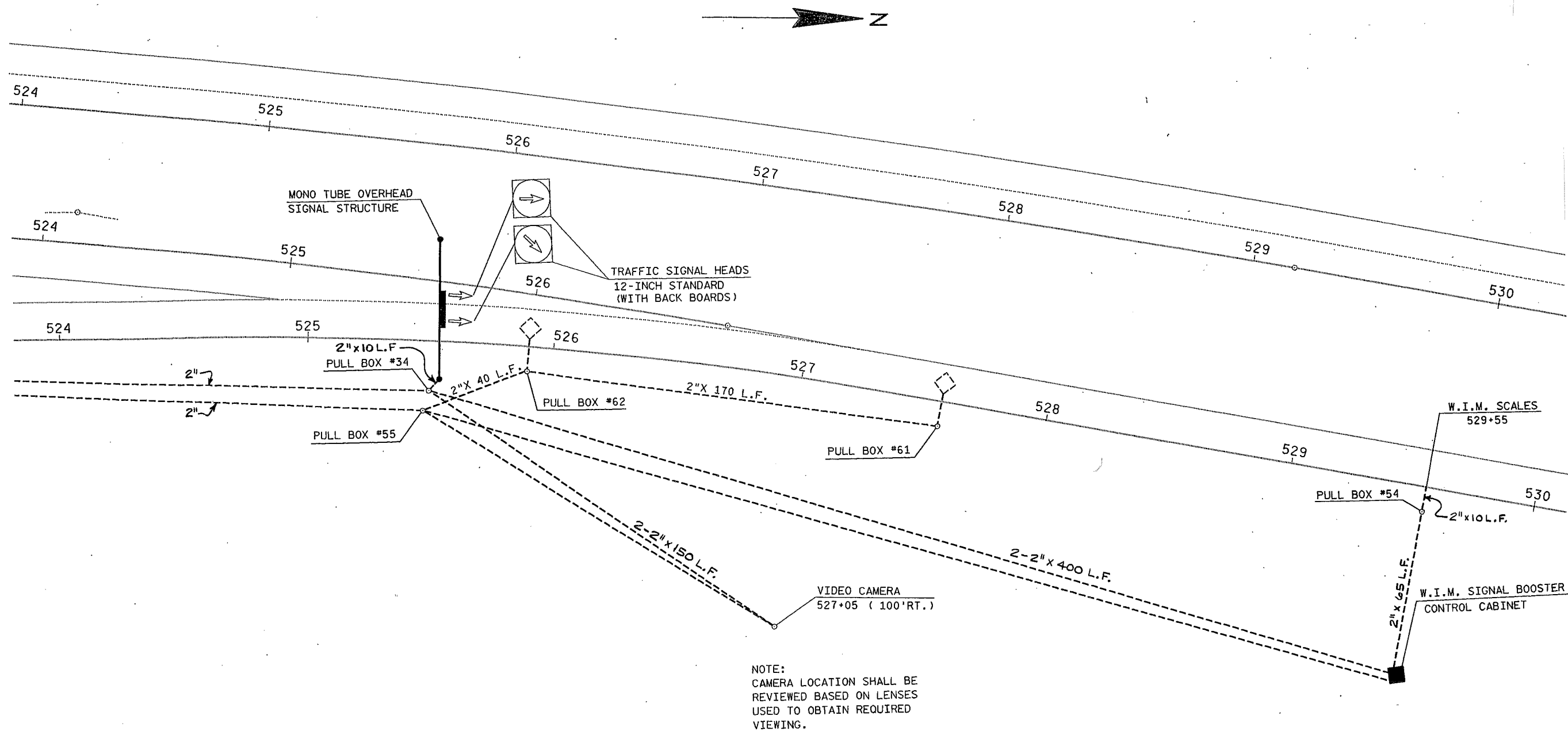






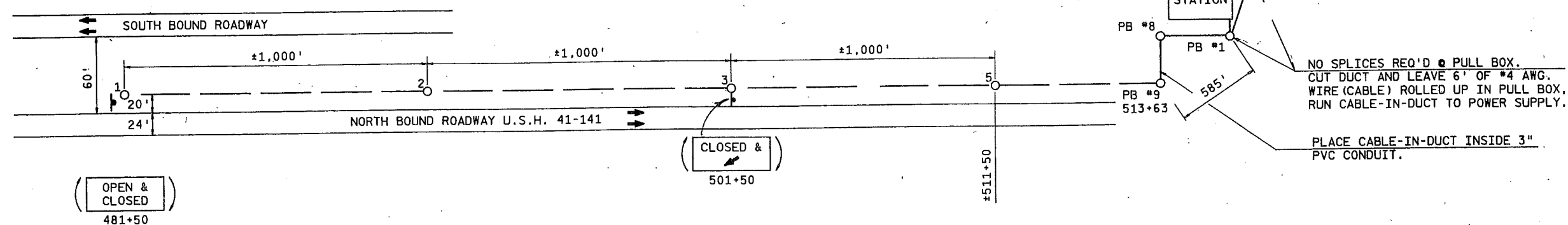


**EXISTING PLANS
FOR INFORMATIONAL
PURPOSES ONLY**



CABLE-IN-DUCT AND PULL BOX
LAYOUT FOR MESSAGE SIGNS

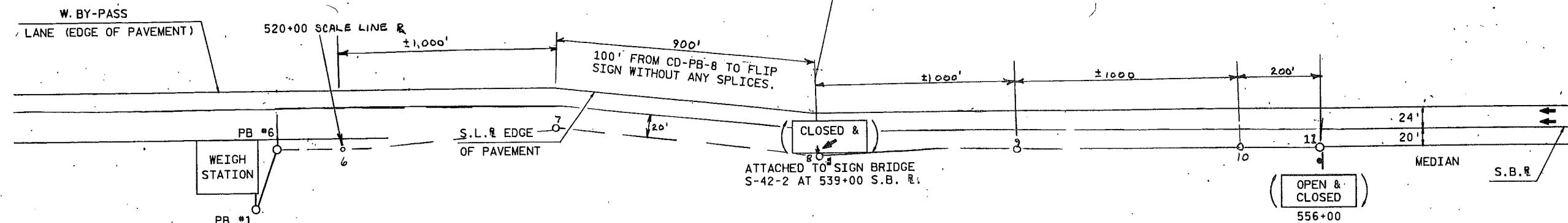
O PB-CD-X PULL BOX ARE 24-INCH X 36-INCH. SPACING BETWEEN PULL BOXES ARE APPROXIMATE. THE 1,000 FOOT ROLLS OF CABLE-IN-DUCT ARE $\pm 10\%$. ALL PULL BOXES ARE TO BE LOCATED AT THE END OF THE ROLL EXCEPT AT SIGNING AND WERE NOTED ON THIS LAYOUT.



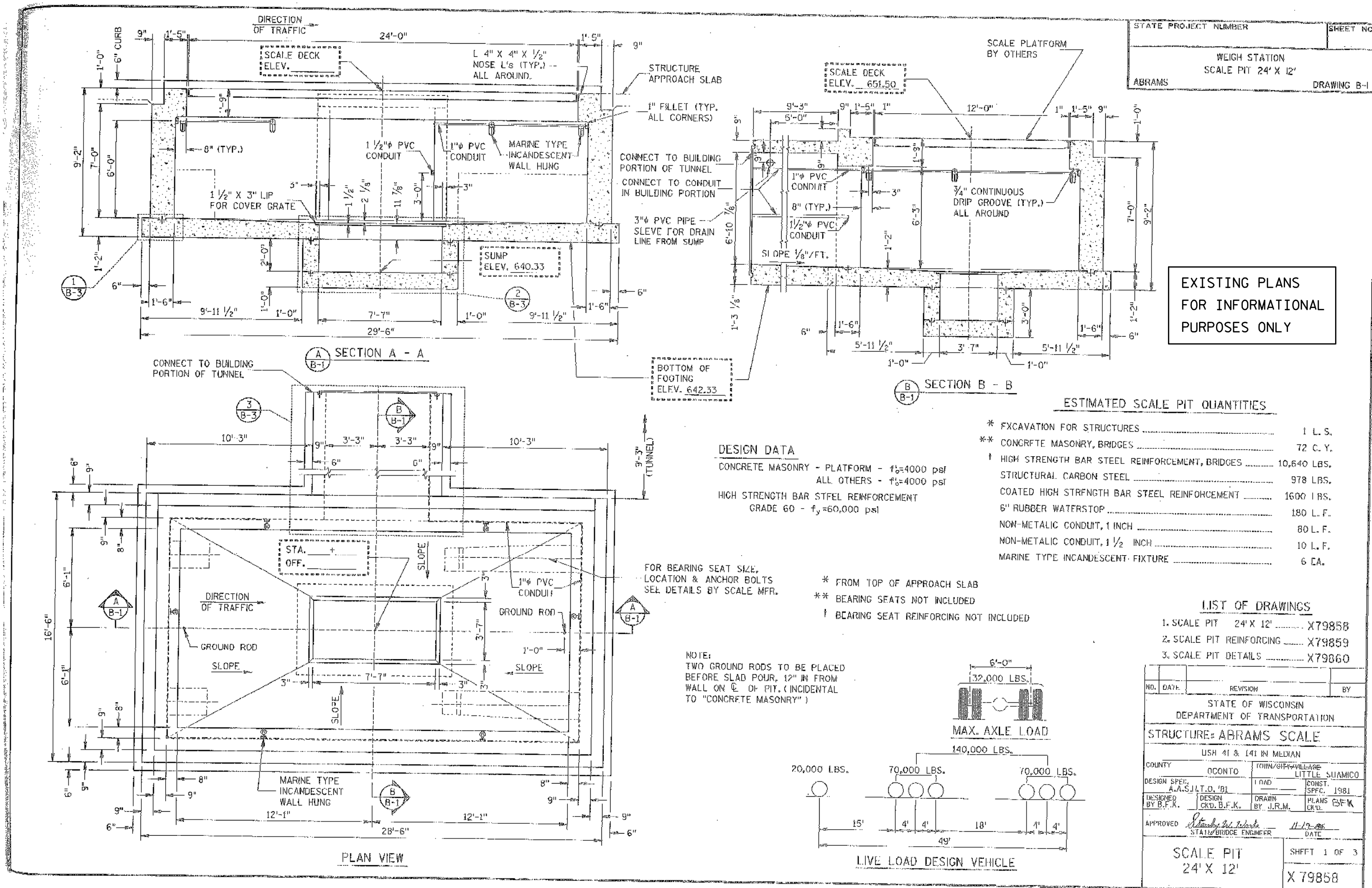
NO SPLICES REQ'D @ PULL BOX.
CUT DUCT AND LEAVE 6' OF #4 AWG.
WIRE (CABLE) ROLLED UP IN PULL BOX.
RUN CABLE-IN-DUCT TO POWER SUPPLY.

PLACE CABLE-IN-DUCT INSIDE 3"
PVC CONDUIT.

SPLICE REQ'D IN CD-PB-8 - CUT
DUCT AND LEAVE 6' OF #4 AWG. WIRE
(CABLE) ROLLED UP - RUN CABLE-IN-
DUCT THROUGH SIGN BRIDGE BASE,
UP SIGN BRIDGE COLUMN TO HANDHOLE.
THEN TO MESSAGE FLIP SIGN WITHOUT
ANY SPLICES.

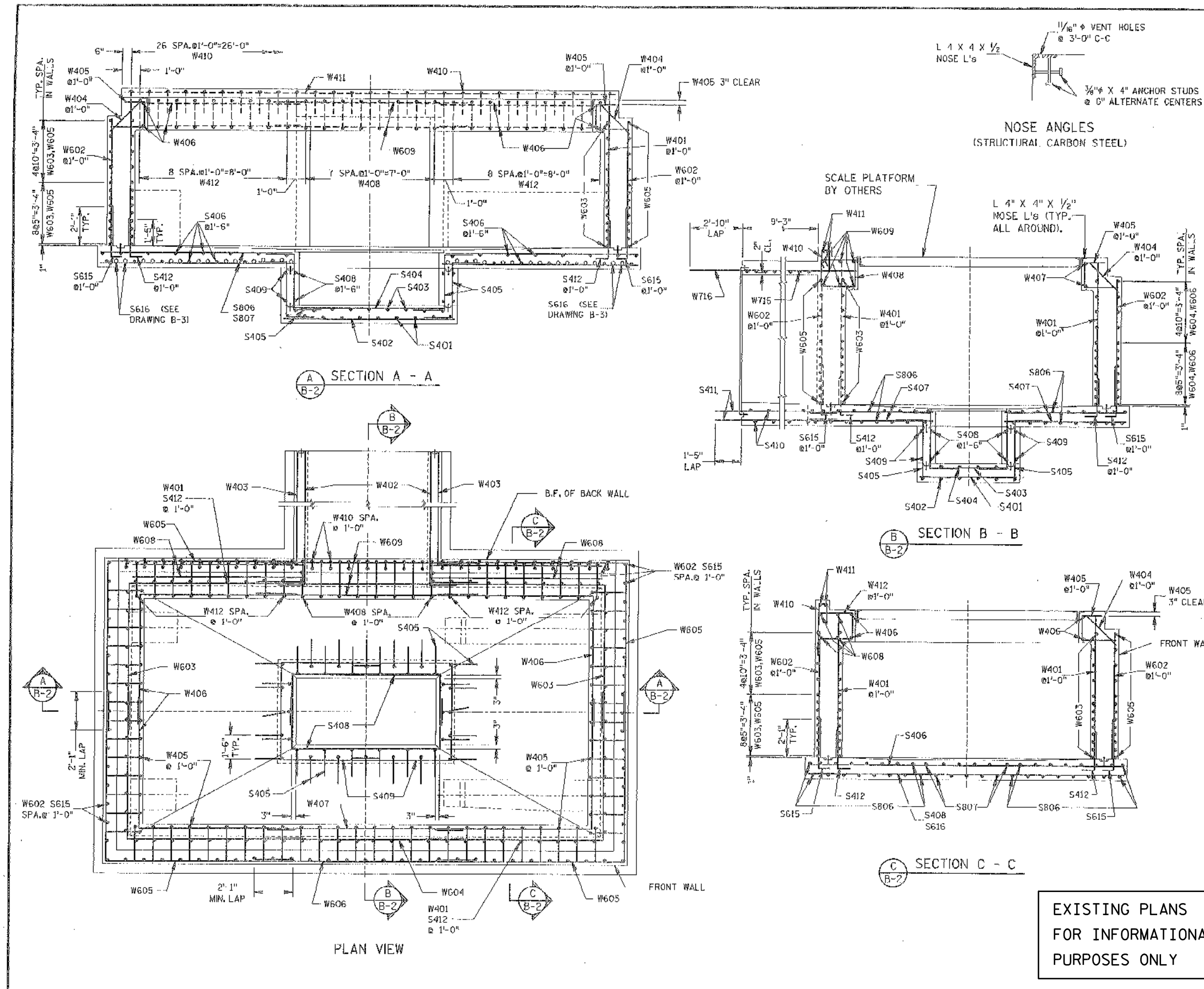


PULL BOX & CABLE-IN-DUCT FOR FLIP MESSAGE SIGNS



STATE PROJECT NUMBER SHEET NO.

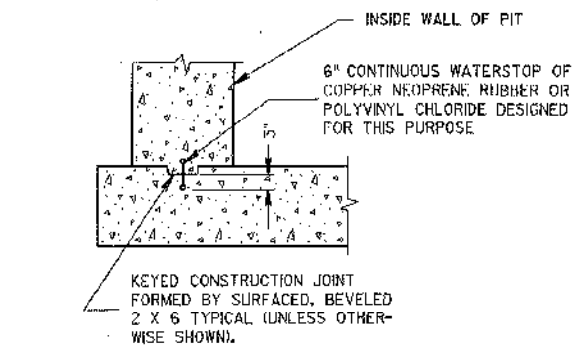
WEIGH STATION
SCALE PIT REINFORCING DETAILS
ABRAMS DRAWING B-2



BILL OF BARS				
MARK	NUMBER	LENGTH	BENT	LOCATION
S401	10	4'-3"		SUMP SLAB BOTTOM
S402	6	9'-3"		"
S403	9	4'-3"		SUMP SLAB TOP
S404	4	8'-3"		"
S405	38	6'-0"	X	SUMP WALLS
S406	30	17'-2"		PIT SLAB TOP & BOTTOM
S407	22	6'-5"		"
S408	4	13'-10"	X	SUMP WALLS INSIDE
S409	4	16'-9"	X	SUMP WALLS OUTSIDE
S410	18	8'-8"		TUNNEL SLAB TOP & BOTTOM
S411	13	13'-2"		"
S412	94	2'-8"	X	SLAB-WALL TIES PIT & TUNNEL
S615	99	3'-8"	X	SLAB-WALL TIES PIT & TUNNEL
S616	28	17'-2"		PIT SLAB BOTTOM
S806	32	29'-2"		PIT SLAB TOP & BOTTOM
S807	22	10'-7"		"
W401	76	7'-9"		PIT WALLS - INSIDE VERTICAL
W402	10	14'-9"	X	TUNNEL WALLS - INSIDE HORIZ.
W403	10	13'-9"	X	TUNNEL WALLS - OUTSIDE HORIZ.
* W404	56	2'-3"		DIAGONAL @ PAVING NOTCH
* W405	54	4'-3"	X	STIRRUP @ PAVING NOTCH
* W406	8	15'-5"	X	PIT OVERHANG HORIZONTAL
* W407	2	10'-7"		FRONT OVERHANG - HORIZONTAL
* W408	8	7'-8"	X	TUNNEL HEADER
W409	20	7'-4"		TUNNEL WALLS - INSIDE VERTICAL
* W410	27	2'-9"	X	STIRRUP @ CURB
* W411	2	26'-8"		CURB TOP HORIZONTAL
* W412	18	7'-4"	X	BACK OVERHANG VERTICAL
W602	81	6'-10"		PIT WALLS - OUTSIDE VERTICAL
W603	52	17'-6"	X	PIT WALLS - INSIDE HORIZ.
W604	13	11'-0"		FRONT PIT WALL - INSIDE HORIZ.
W605	62	19'-4"	X	PIT WALLS - OUTSIDE HORIZ.
W606	13	12'-0"		FRONT PIT WALL - OUTSIDE HORIZ.
W607	18	7'-4"		TUNNEL WALLS - OUTSIDE VERT.
W608	4	9'-4"		BACK OVERHANG HORIZONTAL
* W609	6	12'-0"		TUNNEL HEADER
* W715	18	13'-2"	X	TUNNEL TOP SLAB
* W716	16	14'-2"		TUNNEL TOP SLAB

* BARS TO BE EPOXY COATED.

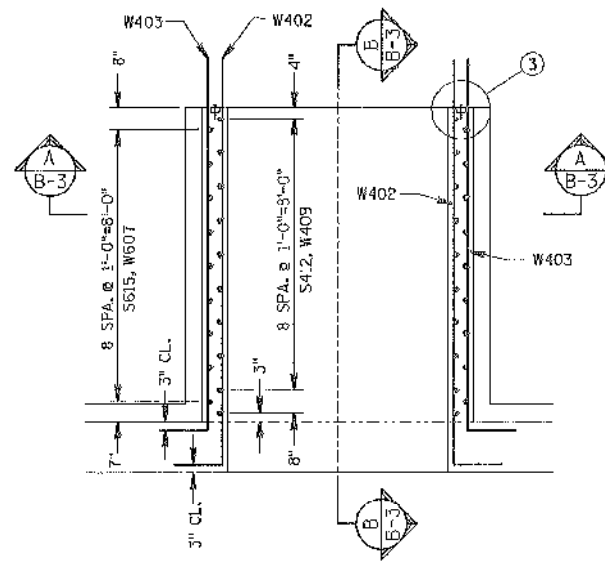
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE: ABRAMS SCALE			
CONST. S.C.C.	1981	DRAWN BY	JRM
SCALE PIT REINFORCING		PLANS CK'D.	BFK
SHEET 2 OF 3			X79859



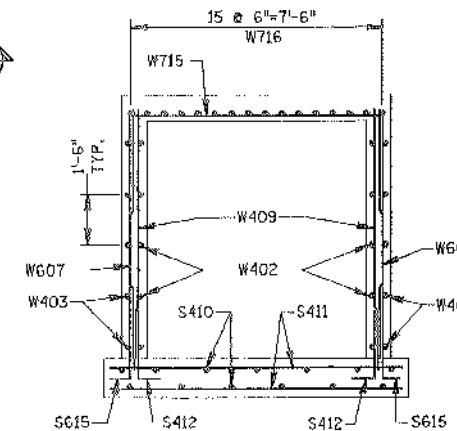
1 KEYWAY & WATERSTOP DETAIL
B-3



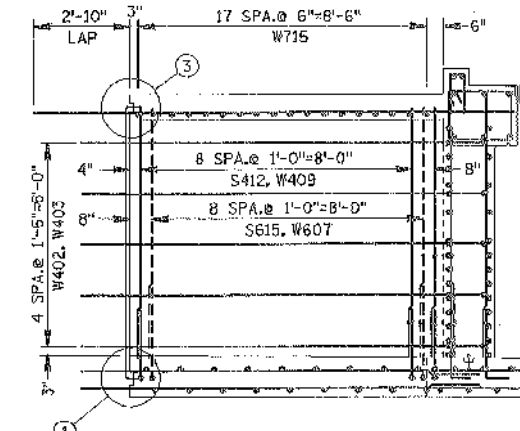
2 SECTION AT SUMP
B-3



3 TUNNEL WALL REINFORCING
B-3

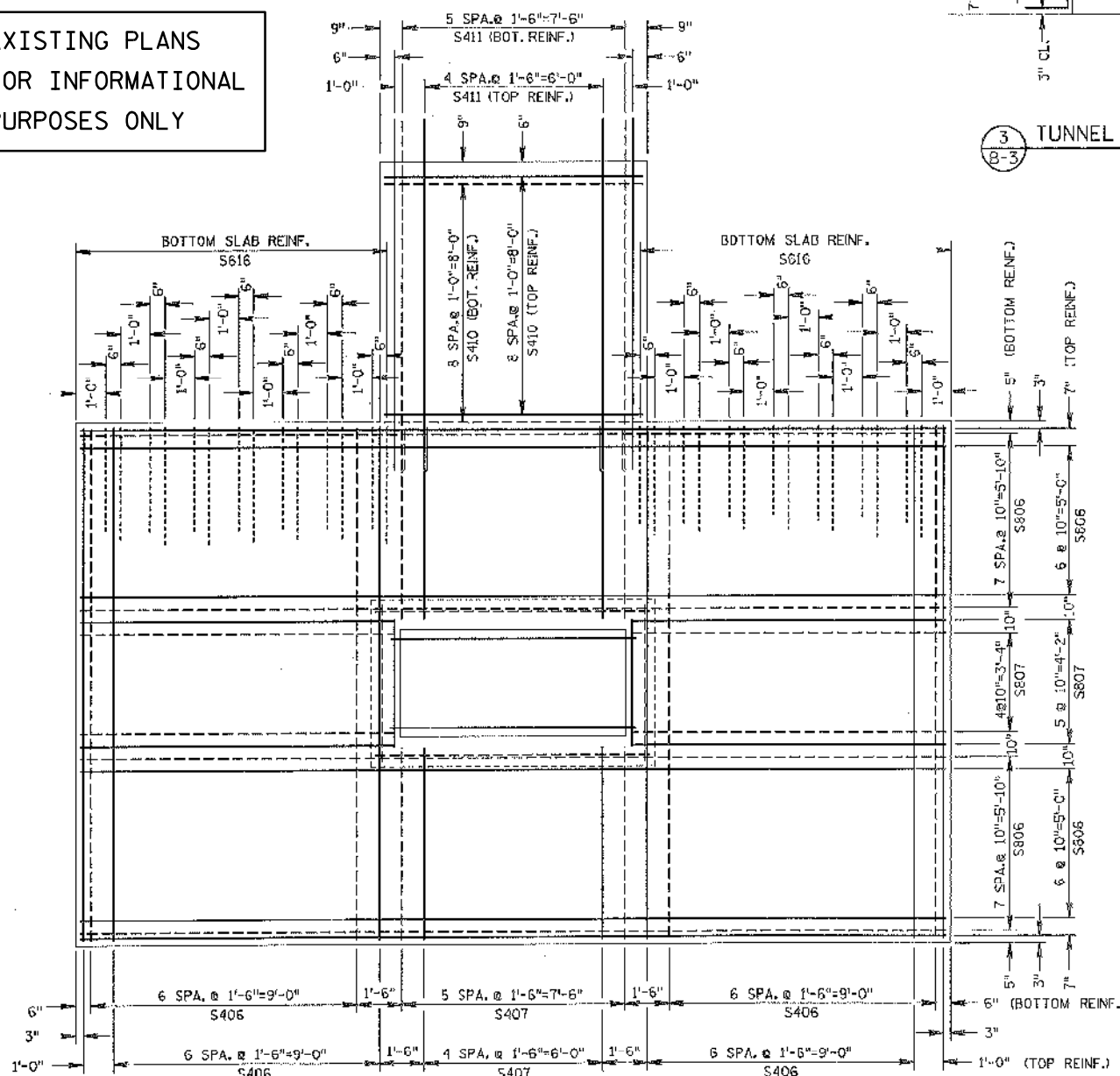


A SECTION A - A
B-3

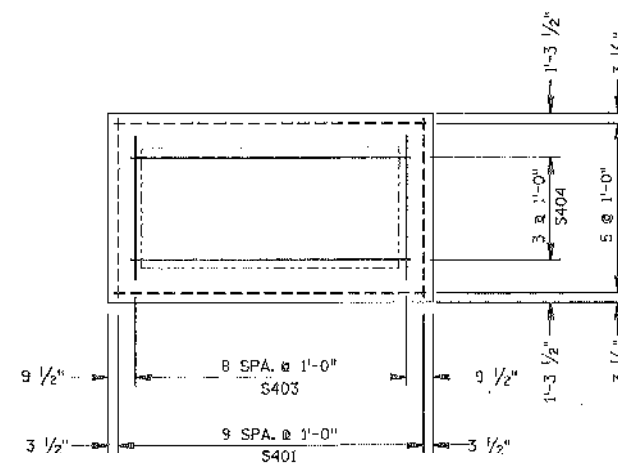


B SECTION B - B
B-3

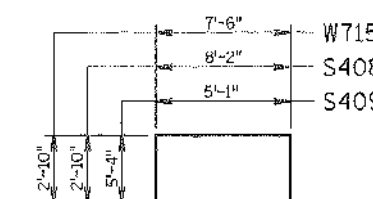
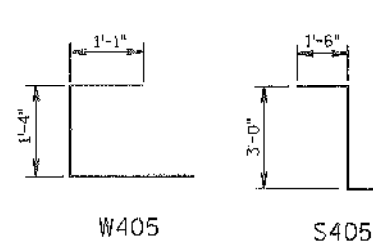
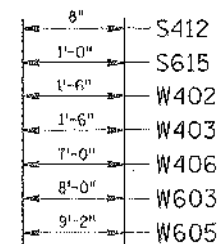
EXISTING PLANS
FOR INFORMATIONAL
PURPOSES ONLY



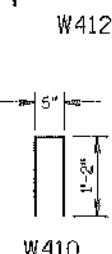
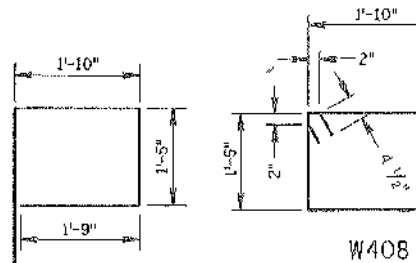
PIT & TUNNEL SLAB REINFORCEMENT



SUMP SLAB REINFORCING



BAR BENDING DETAILS



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCING SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

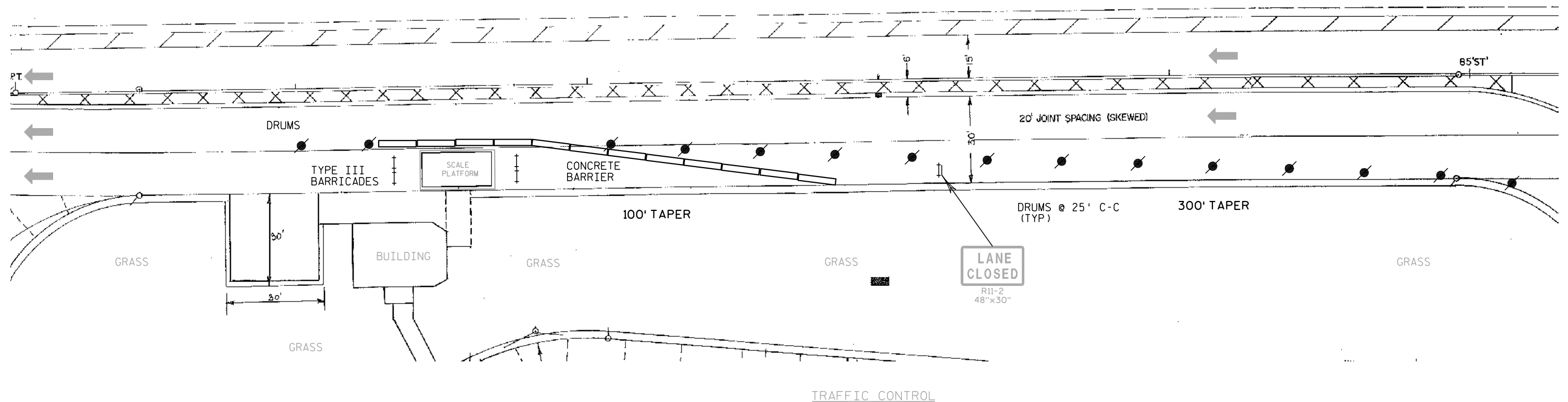
- OPTIONAL KEYED CONSTRUCTION JOINT, FORMED BY SURFACED, BEVELED 2 X 4. IF NOT USED, ELIMINATE WATERSTOP.
- KEYED CONSTRUCTION JOINT FORMED BY SURFACED, BEVELED 2 X 4.
- KEYED CONSTRUCTION JOINT FORMED BY SURFACED, BEVELED 2 X 3.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE: ABRAMS SCALE			
CONST. SPEC.	1981	DRAWN BY	JRM
		PLANS OK'D.	BFK
SCALE PIT DETAILS			SHEET 3 OF 3
			X79860

LEGEND

- ↑ TYPE III
BARRICADE
- ↑↓ TYPE III
BARRICADE W/ SIGN
- DRUMS W/ WARNING
LIGHTS, TYPE A
- ▬ CONCRETE BARRIER
TEMPORARY PRECAST

FOR RAMP
CLOSURE
DETAIL



STATE PROJECT NUMBER: 1152-11-71

HWY: USH 41/141

COUNTY: OCONTO

TRAFFIC CONTROL

SCALE:

SHEET NO:

E

FILE NAME : C:\CAEFiles\Projects\swef41-Abrams\02025_tc.dgn

PLOT DATE : 10-APR-2013 15:18

PLOT BY : dotres

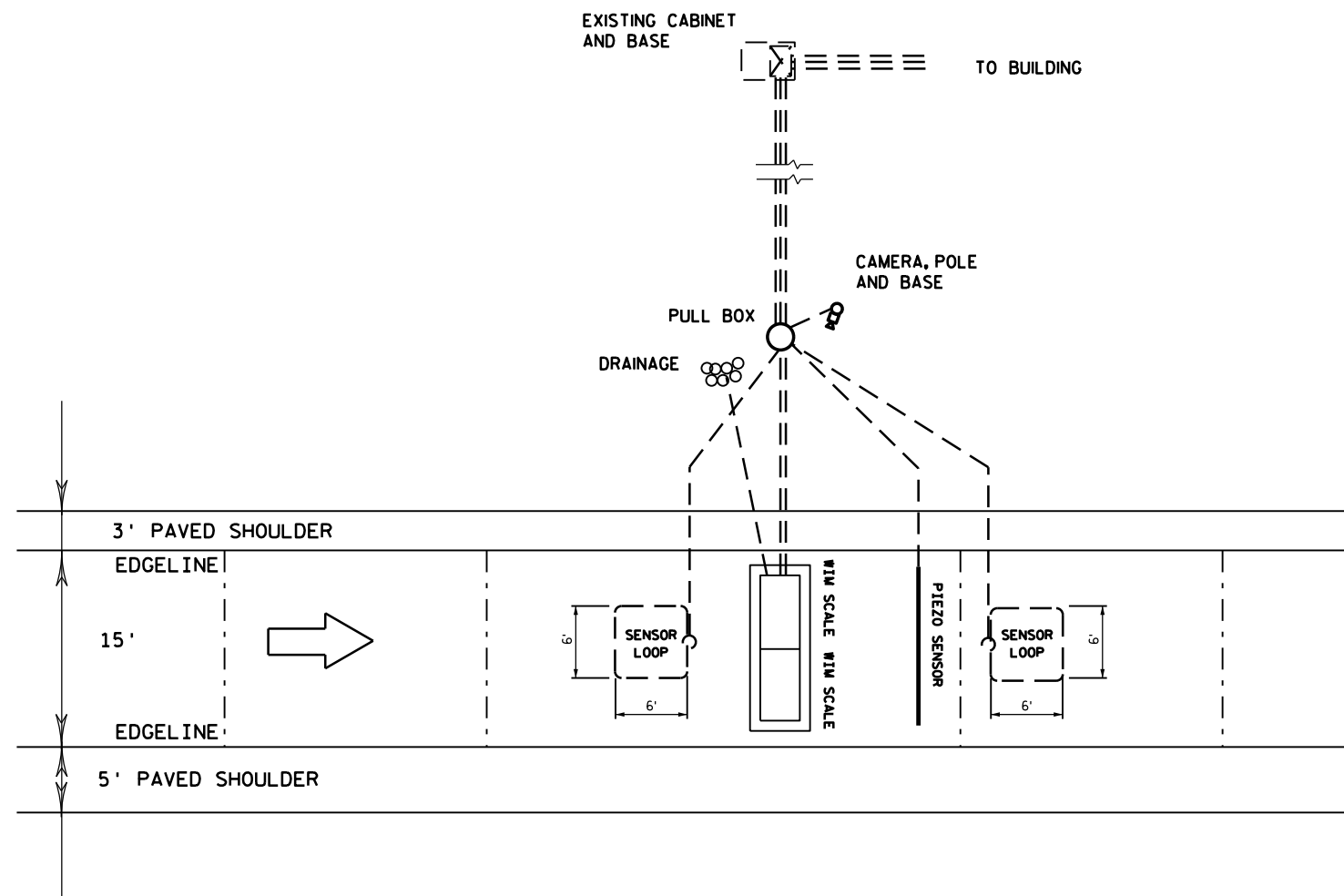
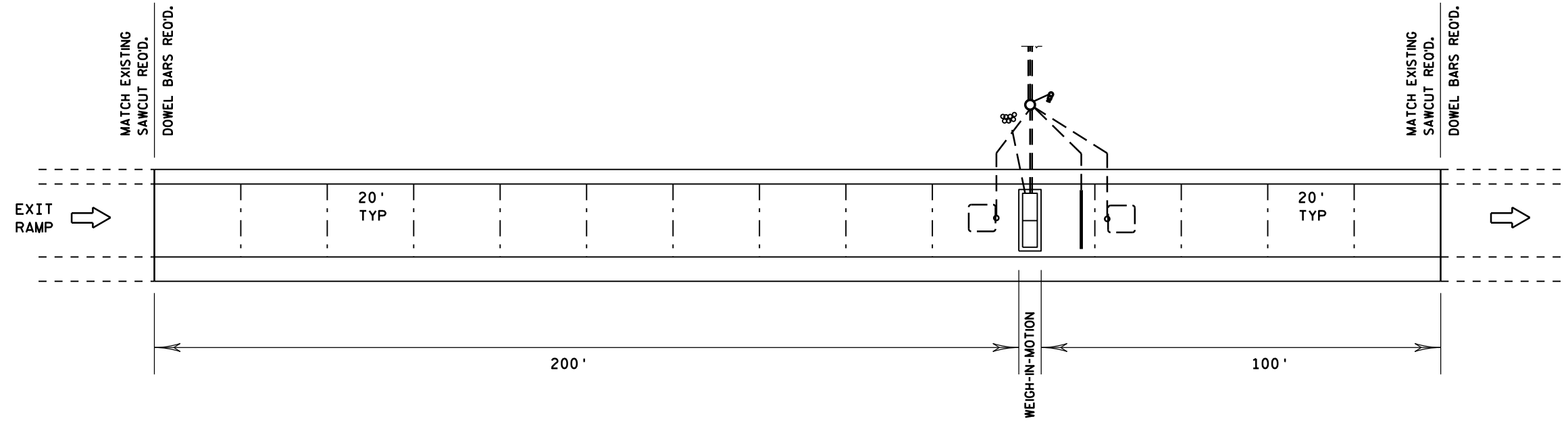
PLOT NAME : 02025_tc.dgn

ORG DATE : 4-10-2013

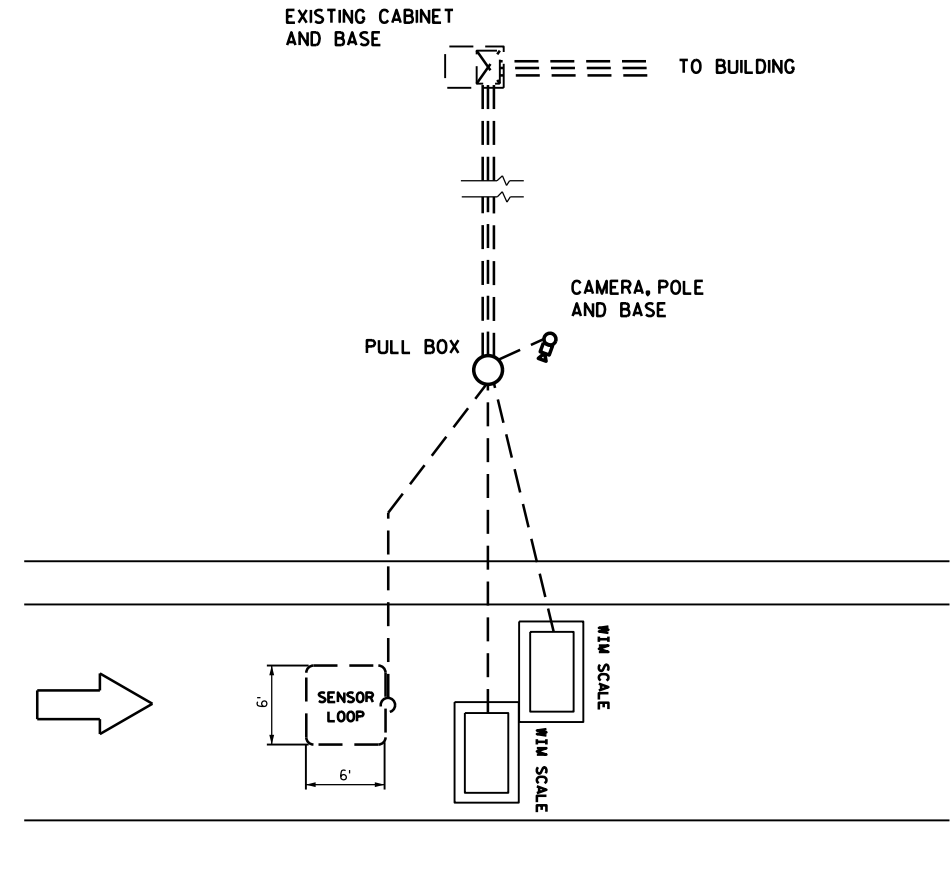
Originator : BHM FM&RF

PLOT SCALE : 240:1

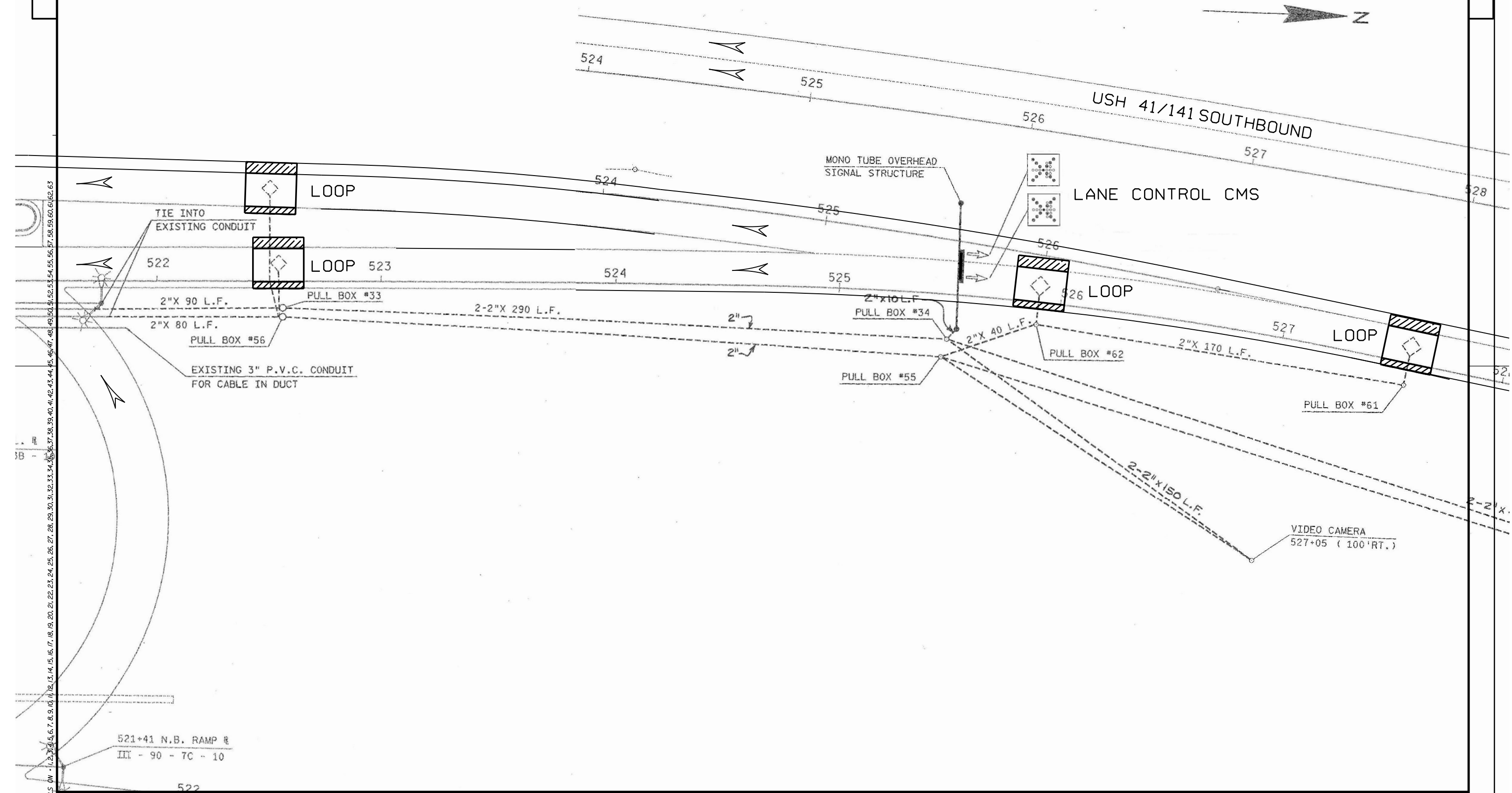
WISDOT/CADDs SHEET 42



CONFIGURATION A



CONFIGURATION B



PROJECT NO: 1152-11-71

HWY: USH 41/141

COUNTY: OCONTO

ABRAMS SWEF #41

SCALE:

SHEET

E

FILE NAME : C:\CAEFiles\Projects v8\swef41-Abrams\05010.plt.dgn

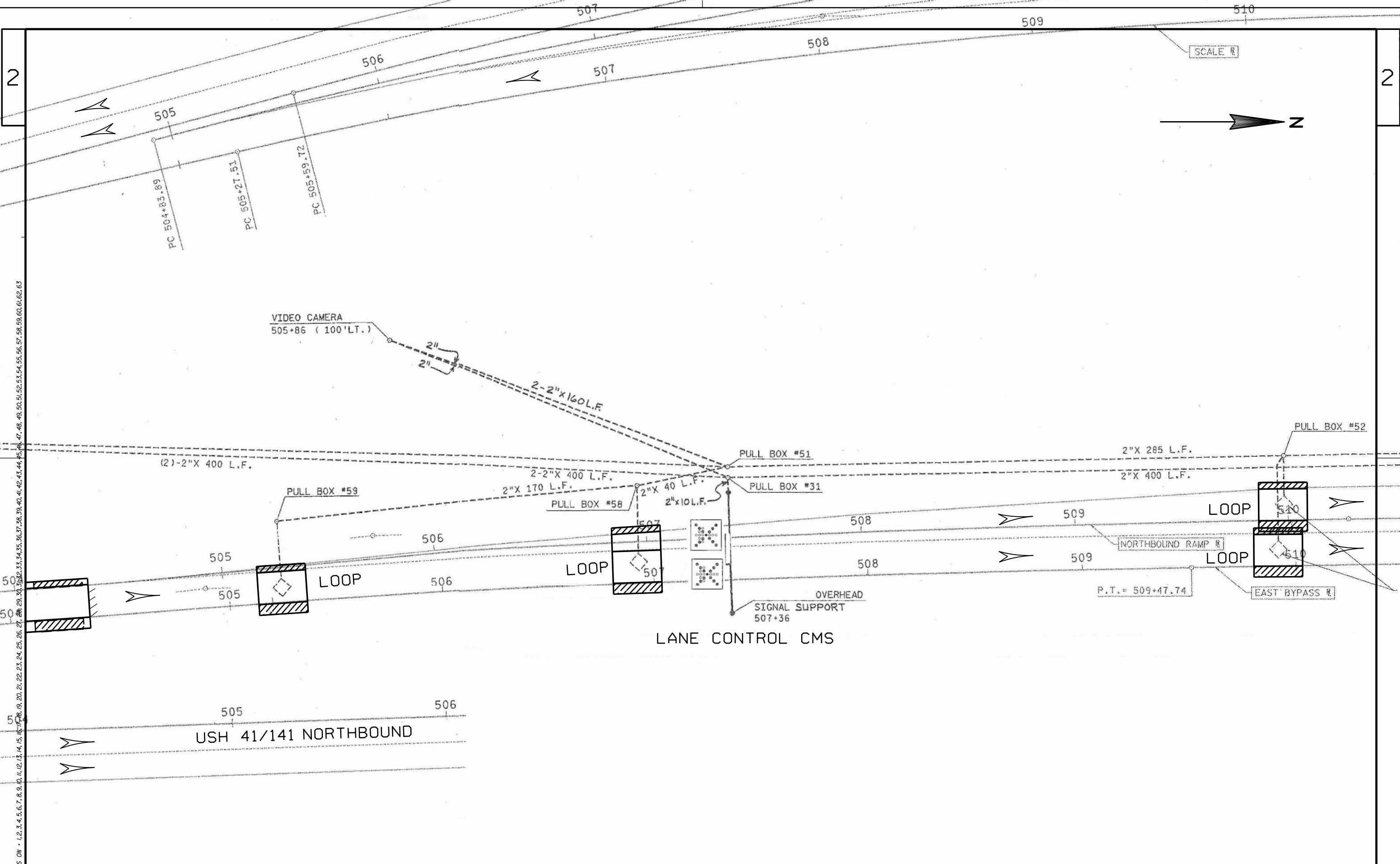
PLOT DATE : 13-MAY-2013 17:12

PLOT BY : dotres

PLOT NAME : 05012.dgn

PLOT SCALE : 40.000000:1.000000

WISDOT/CADDs SHEET 42



LEVELS ON - 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

PROJECT NO: 1152-11-71	HWY: USH 41/141	COUNTY: OCONTO	ABRAMS SWEF #41	SCALE:	SHEET	E
------------------------	-----------------	----------------	-----------------	--------	-------	---

DATE 17MAY13		E S T I M A T E O F Q U A N T I T I E S			
LINE					1152-11-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0100	REMOVING PAVEMENT	SY	1,395.000	1,395.000
0020	204.0110	REMOVING ASPHALTIC SURFACE	SY	732.000	732.000
0030	213.0100	FINISHING ROADWAY (PROJECT) 01. 1152-11-71	EACH	1.000	1.000
0040	305.0115	BASE AGGREGATE DENSE 3/4-INCH	CY	172.000	172.000
0050	415.0100	CONCRETE PAVEMENT 10-INCH	SY	1,395.000	1,395.000
0060	416.0620	DRILLED DOWEL BARS	EACH	126.000	126.000
0070	465.0105	ASPHALTIC SURFACE	TON	221.000	221.000
0080	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	150.000	150.000
0090	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	150.000	150.000
0100	619.1000	MOBILIZATION	EACH	1.000	1.000
0110	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1152-11-71	EACH	1.000	1.000
0120	643.0300	TRAFFIC CONTROL DRUMS	DAY	2,130.000	2,130.000
0130	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	640.000	640.000
0140	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	960.000	960.000
0150	643.0900	TRAFFIC CONTROL SIGNS	DAY	310.000	310.000
0160	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,640.000	1,640.000
0170	690.0150	SAWING ASPHALT	LF	186.000	186.000
0180	690.0250	SAWING CONCRETE	LF	376.000	376.000
0190	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,244.000	1,244.000
0200	SPV.0105	SPECIAL 01. REMOVING WEIGHT SCALE	LS	1.000	1.000
0210	SPV.0105	SPECIAL 02. REMOVING WEIGH-IN-MOTION SCALE SYSTEM	LS	1.000	1.000
0220	SPV.0105	SPECIAL 03. STATIC SCALE SYSTEM	LS	1.000	1.000
0230	SPV.0105	SPECIAL 04. STATIC SCALE SYSTEM WARRANTY MAINTENANCE	LS	1.000	1.000
0240	SPV.0105	SPECIAL 05. WEIGH-IN-MOTION SCALE SYSTEM	LS	1.000	1.000
0250	SPV.0105	SPECIAL 06. WEIGH-IN-MOTION SCALE SYSTEM WARRANTY MAINTENANCE	LS	1.000	1.000

3

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY
501' NT' +30 - 504' NT' +40	NORTHBOUND EXIT RAMP	51.7
503' NT' +35 - 503' NT' +40	WEIGH-IN-MOTION SCALES	5
505' NT' +10 - 505' NT' +30	NB LOOP REPLACEMENT	33
506' NT' +85 - 507' NT' +05	NB LOOP REPLACEMENT	51
509' NT' +85 - 510' NT' +05	NB LOOP REPLACEMENTS	67
522' ST' +30 - 522' ST' +50	SB LOOP REPLACEMENTS	67
525' ST' +85 - 526' ST' +05	SB LOOP REPLACEMENT	33
527' ST' +30 - 527' ST' +50	SB LOOP REPLACEMENT	33
528' ST' +50 - 531' ST' +60	SOUTHBOUND EXIT RAMP	51.7
529' ST' +50 - 529' ST' +55	WEIGH-IN-MOTION SCALES	5
UNDISTRIBUTED		67
TOTAL=		1395

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 S. Y.
501' NT' +30 - 504' NT' +40	NORTHBOUND LT & RT	276
505' NT' +10 - 505' NT' +30	NB LOOP REPLACEMENT	18
506' NT' +85 - 507' NT' +05	NB LOOP REPLACEMENT	18
509' NT' +85 - 510' NT' +05	NB LOOP REPLACEMENTS	36
522' ST' +30 - 522' ST' +50	SB LOOP REPLACEMENTS	36
525' ST' +85 - 526' ST' +05	SB LOOP REPLACEMENT	18
527' ST' +30 - 527' ST' +50	SB LOOP REPLACEMENT	18
528' ST' +50 - 531' ST' +60	SOUTHBOUND EXIT RAMP	276
UNDISTRIBUTED		36
TOTAL=		732

BASE AGGREGATE DENSE 3/4-INCH

STATION - STATION	LOCATION	305.0115 CY
501' NT' +30 - 504' NT' +40	NORTHBOUND LT & RT	64
505' NT' +10 - 505' NT' +30	NB LOOP REPLACEMENT	5
506' NT' +85 - 507' NT' +05	NB LOOP REPLACEMENT	5
509' NT' +85 - 510' NT' +05	NB LOOP REPLACEMENTS	8
522' ST' +30 - 522' ST' +50	SB LOOP REPLACEMENTS	8
525' ST' +85 - 526' ST' +05	SB LOOP REPLACEMENT	5
527' ST' +30 - 527' ST' +50	SB LOOP REPLACEMENT	5
528' ST' +50 - 531' ST' +60	SOUTHBOUND EXIT RAMP	64
UNDISTRIBUTED		8
TOTAL=		172

ASPHALTIC SURFACE

STATION - STATION	LOCATION	465.0105 TONS
501' NT' +30 - 504' NT' +40	NORTHBOUND LT & RT	84
505' NT' +10 - 505' NT' +30	NB LOOP REPLACEMENT	5
506' NT' +85 - 507' NT' +05	NB LOOP REPLACEMENT	5
509' NT' +85 - 510' NT' +05	NB LOOP REPLACEMENTS	11
522' ST' +30 - 522' ST' +50	SB LOOP REPLACEMENTS	11
525' ST' +85 - 526' ST' +05	SB LOOP REPLACEMENT	5
527' ST' +30 - 527' ST' +50	SB LOOP REPLACEMENT	5
528' ST' +50 - 531' ST' +60	SOUTHBOUND EXIT RAMP	84
UNDISTRIBUTED		11
TOTAL=		221

CONCRETE PAVEMENT

STATION - STATION	LOCATION	415.0100 10-INCH S. Y.
501' NT' +30 - 504' NT' +40	NORTHBOUND LT & RT	522
505' NT' +10 - 505' NT' +30	NB LOOP REPLACEMENT	33
506' NT' +85 - 507' NT' +05	NB LOOP REPLACEMENT	51
509' NT' +85 - 510' NT' +05	NB LOOP REPLACEMENTS	67
522' ST' +30 - 522' ST' +50	SB LOOP REPLACEMENTS	67
525' ST' +85 - 526' ST' +05	SB LOOP REPLACEMENT	33
527' ST' +30 - 527' ST' +50	SB LOOP REPLACEMENT	33
528' ST' +50 - 531' ST' +60	SOUTHBOUND EXIT RAMP	522
UNDISTRIBUTED		67
TOTAL=		1395

DRILLED DOWEL BARS

STATION	LOCATION	416.0620 EACH
501' NT' +30	LT. - RT.	5
504' NT' +40	LT. - RT.	5
505' NT' +10	LT. - RT.	5
505' NT' +30	LT. - RT.	5
506' NT' +85	LT. - RT.	8
507' NT' +05	LT. - RT.	8
509' NT' +85	LT. - RT.	5
509' NT' +88	LT.	5
510' NT' +05	LT. - RT.	5
510' NT' +08	LT.	5
522' ST' +27	LT.	5
522' ST' +30	LT. - RT.	5
522' ST' +47	LT.	5
522' ST' +50	LT. - RT.	5
525' ST' +85	LT. - RT.	5
526' ST' +05	LT. - RT.	5
527' ST' +30	LT. - RT.	5
527' ST' +50	LT. - RT.	5
528' ST' +50	LT. - RT.	5
531' ST' +60	LT. - RT.	5
UNDISTRIBUTED		20
TOTAL=		126

CONCRETE BARRIER TEMPORARY PRECAST

STATION - STATION	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF
81' ST' +30 - 82' ST' +80	RT.	150	150
TOTAL=		150	150

PAVEMENT MARKING

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH LF
501' NT' +30 - 504' NT' +40	NB LT-YELLOW & RT-WHITE	620
505' NT' +10 - 505' NT' +30	NB LT-YELLOW & RT-WHITE	40
506' NT' +85 - 507' NT' +05	NB LT-YELLOW & RT-WHITE	40
509' NT' +85 - 510' NT' +05	NB LT-YELLOW & RT-WHITE	80
522' ST' +30 - 522' ST' +50	SB LT-WHITE & RT-YELLOW	80
525' ST' +85 - 526' ST' +05	SB LT-WHITE & RT-YELLOW	40
527' ST' +30 - 527' ST' +50	SB LT-WHITE & RT-YELLOW	40
528' ST' +50 - 531' ST' +60	SB LT-WHITE & RT-YELLOW	620
UNDISTRIBUTED		80
TOTAL=		1640

SAWING

STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
501' NT' +30	LT. - RT.	8	15
504' NT' +40	LT. - RT.	8	15
505' NT' +10	LT. - RT.	8	15
505' NT' +30	LT. - RT.	8	15
506' NT' +85	LT. - RT.	8	22
507' NT' +05	LT. - RT.	8	24
509' NT' +85	LT. - RT.	10	15
509' NT' +88	LT.	3	15
510' NT' +05	LT. - RT.	5	15
510' NT' +08	LT.	8	15
522' ST' +27	LT.	8	15
522' ST' +30	LT. - RT.	8	15
522' ST' +47	LT.	8	15
522' ST' +50	LT. - RT.	8	15
525' ST' +85	LT. - RT.	8	15
526' ST' +05	LT. - RT.	8	15
527' ST' +30	LT. - RT.	8	15
527' ST' +50	LT. - RT.	8	15
528' ST' +50	LT. - RT.	8	15
531' ST' +60	LT. - RT.	8	15
UNDISTRIBUTED		32	60
TOTALS=		186	376

TRAFFIC CONTROL

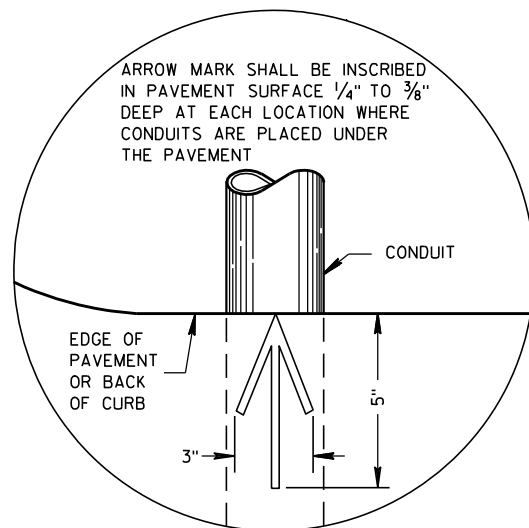
LOCATION	643.0300 DRUMS		643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.0900 SIGNS	
	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS
NORTHBOUND EXIT RAMP CLOSURE	17	765	4	180	4	180	3	135
SOUTHBOUND EXIT RAMP CLOSURE	17	765	4	180	4	180	3	135
NORTHBOUND LOOP REPLACEMENTS			8	40				
SOUTHBOUND LOOP REPLACEMENTS			8	40				
STATIC SCALE	15	600	5	200	15	600	1	40
TOTALS=		2,130	640		960		310	

WEIGH SCALE ITEMS

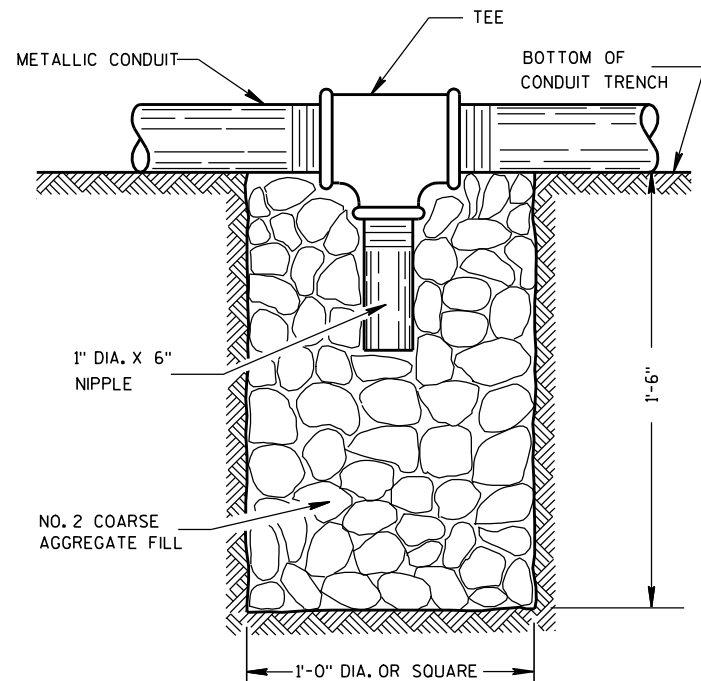
LOCATION	REMOVING WEIGHT SCALE SPV. 0105.01	REMOVING WEIGH-IN-MOTION SCALE SYSTEM SPV. 0105.02	STATIC SCALE SYSTEM SPV. 0105.03	STATIC SCALE SYSTEM WARRANTY MAINTENANCE SPV. 0105.04	WEIGH-IN-MOTION SCALE SYSTEM SPV. 0105.05	WEIGH-IN-MOTION SCALE SYSTEM WARRANTY MAINTENANCE SPV. 0105.06
	L. S.	L. S.	L. S.	L. S.	L. S.	L. S.
PROJECT	1	1	1	1	1	1

Standard Detail Drawing List

09B02-07	CONDUIT
09B04-10	PULL BOX
09F09-03	LOOP DETECTOR PLACED IN CRUSHED AGGREGATE BASE (NEW CONCRETE PAVEMENT)
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-10A	RURAL DOWELED CONCRETE PAVEMENT
13C11-10B	RURAL DOWELED CONCRETE PAVEMENT
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C08-15A	PAVEMENT MARKING (MAINLINE)
15D16-01	TRAFFIC CONTROL, EXIT RAMP CLOSURE

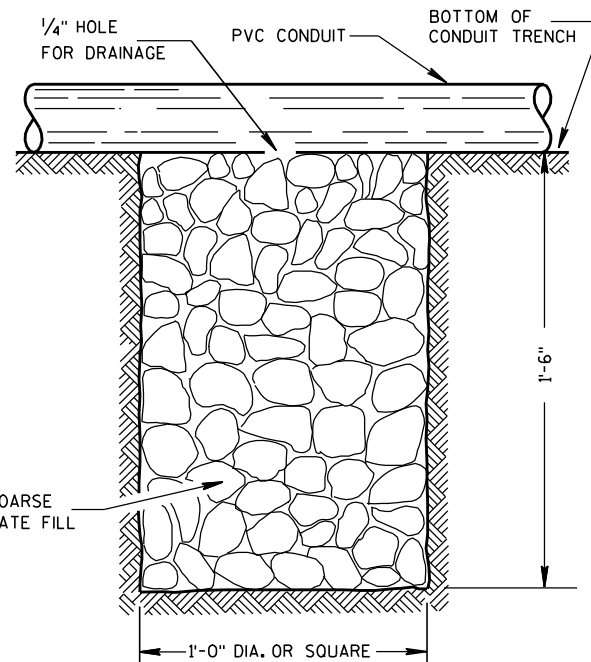


**PLAN VIEW
ARROW MARK**



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

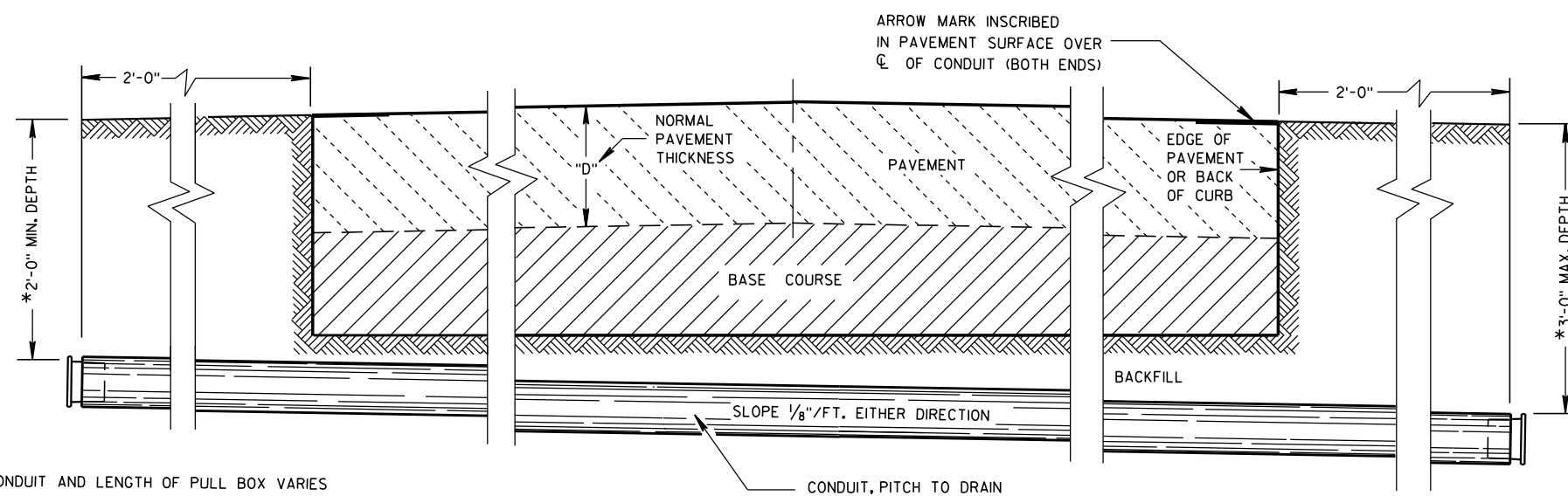
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER FOR HWYS

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

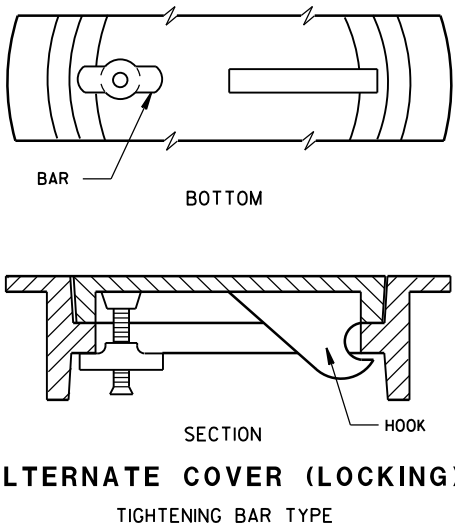
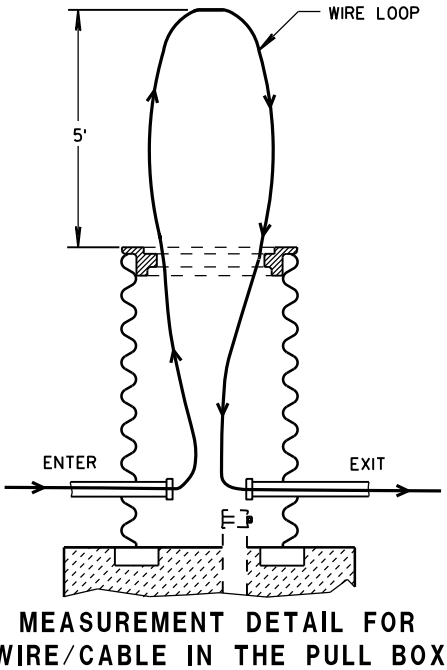
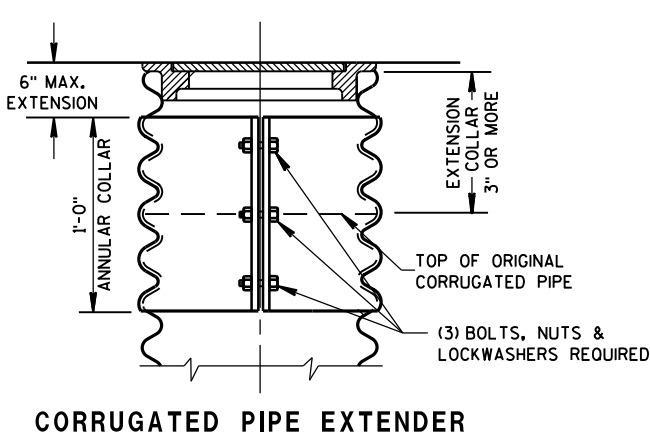
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

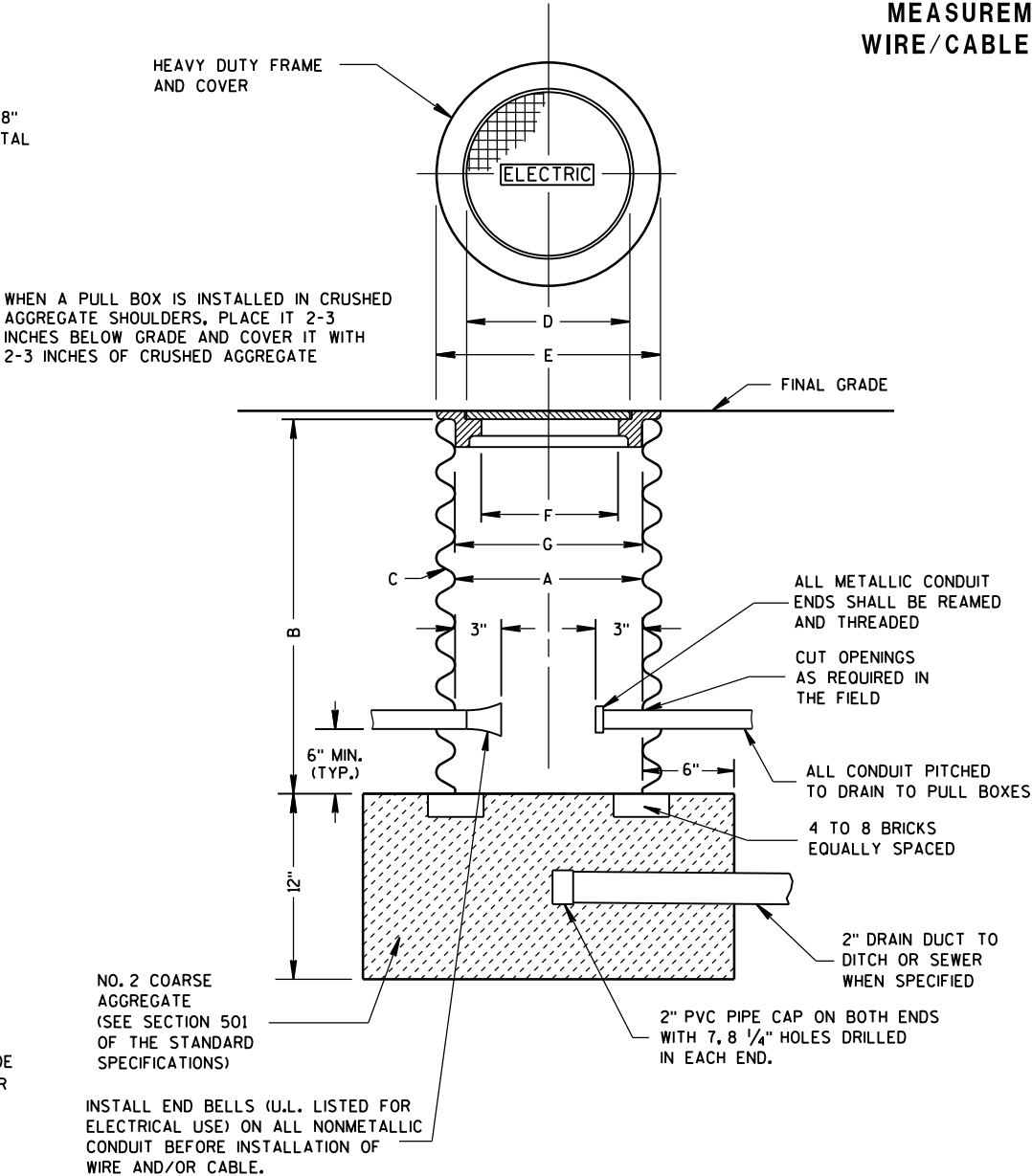
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

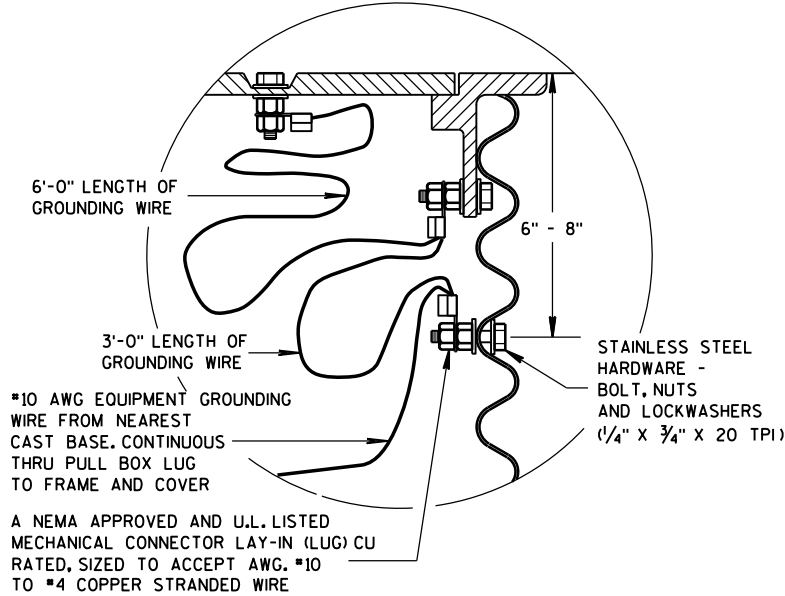
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



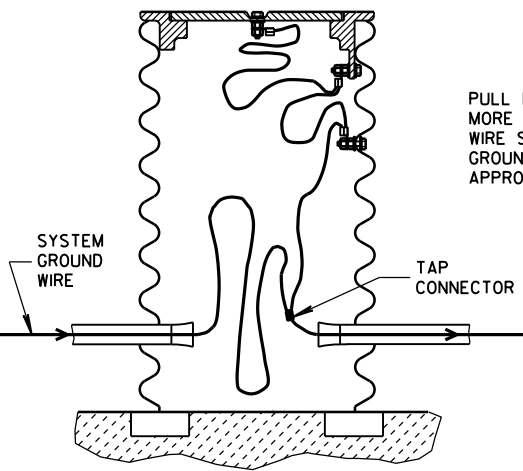
ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE



PULL BOX

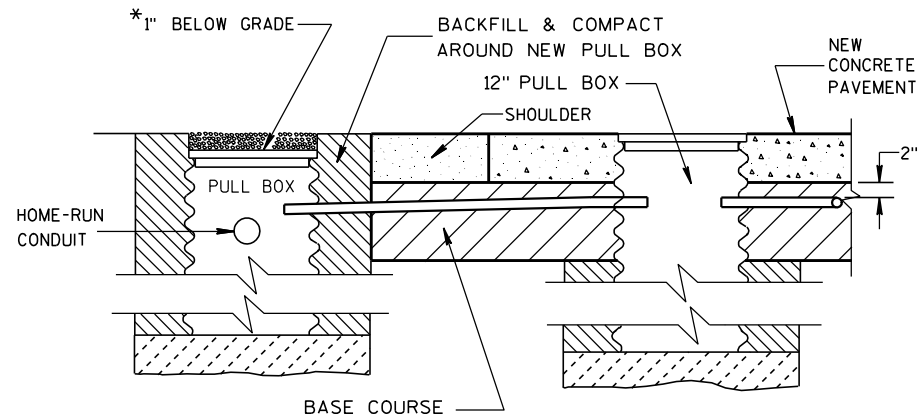


EQUIPMENT GROUNDING LUG AND
LOCATION IN STEEL PULL BOXES



EQUIPMENT GROUNDING LUG AND
LOCATION IN STEEL PULL BOXES

PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	



**SECTION A-A
NO CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAILS**

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

ANTI-SIEZE LUBRICATING MATERIAL SHALL BE USED ON ALL THREADS OF THREADED ASSEMBLIES BEFORE INSTALLATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

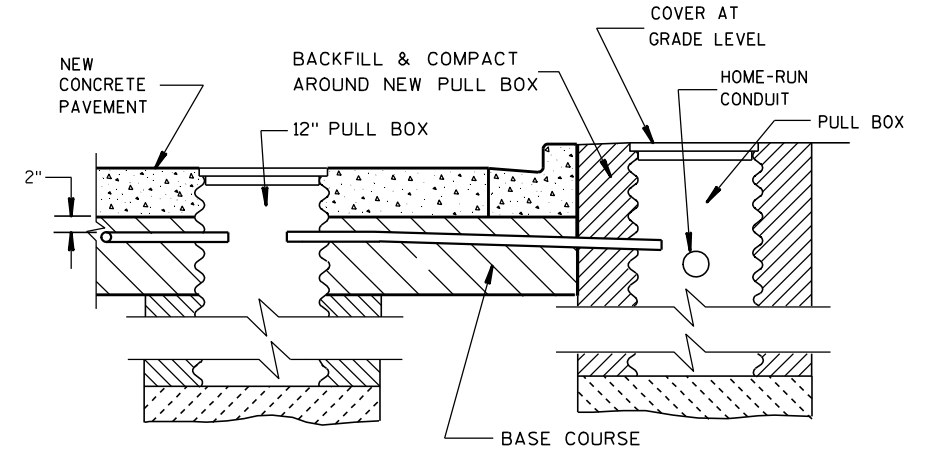
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

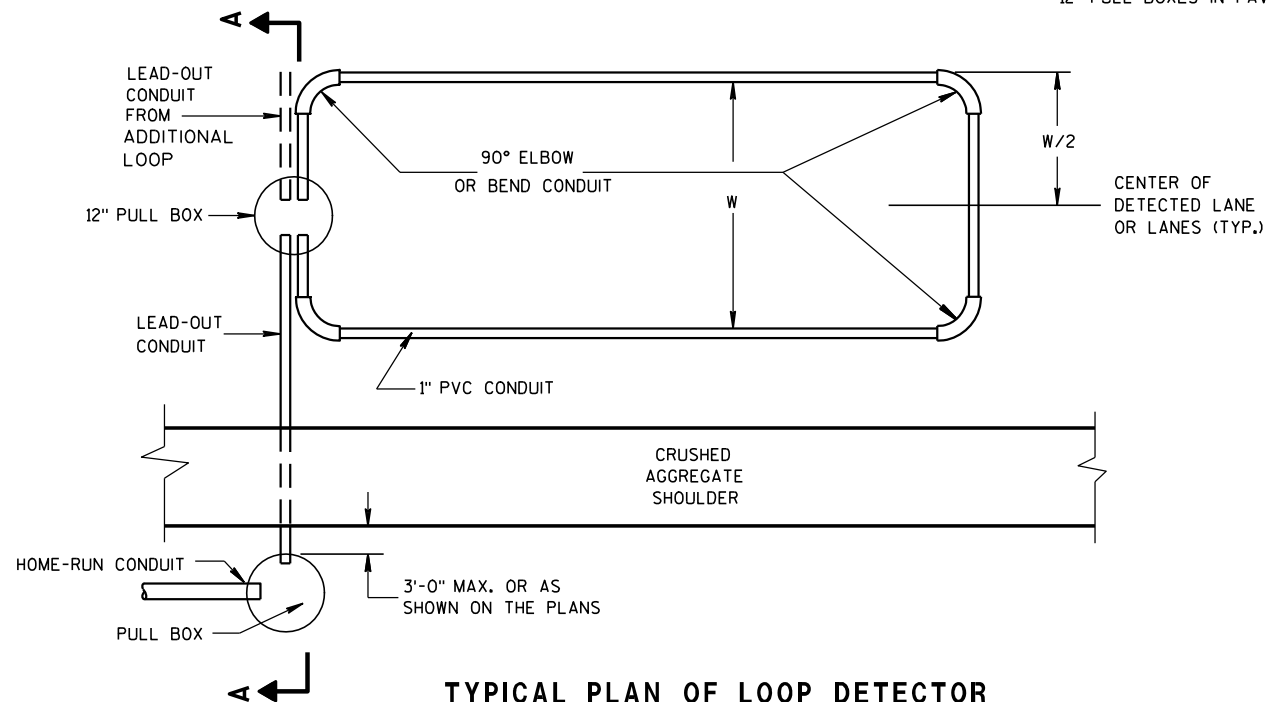
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP DUCT, BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT, CONDULET AND PULL BOX SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE THE NEW CONCRETE PAVEMENT IS PLACED.

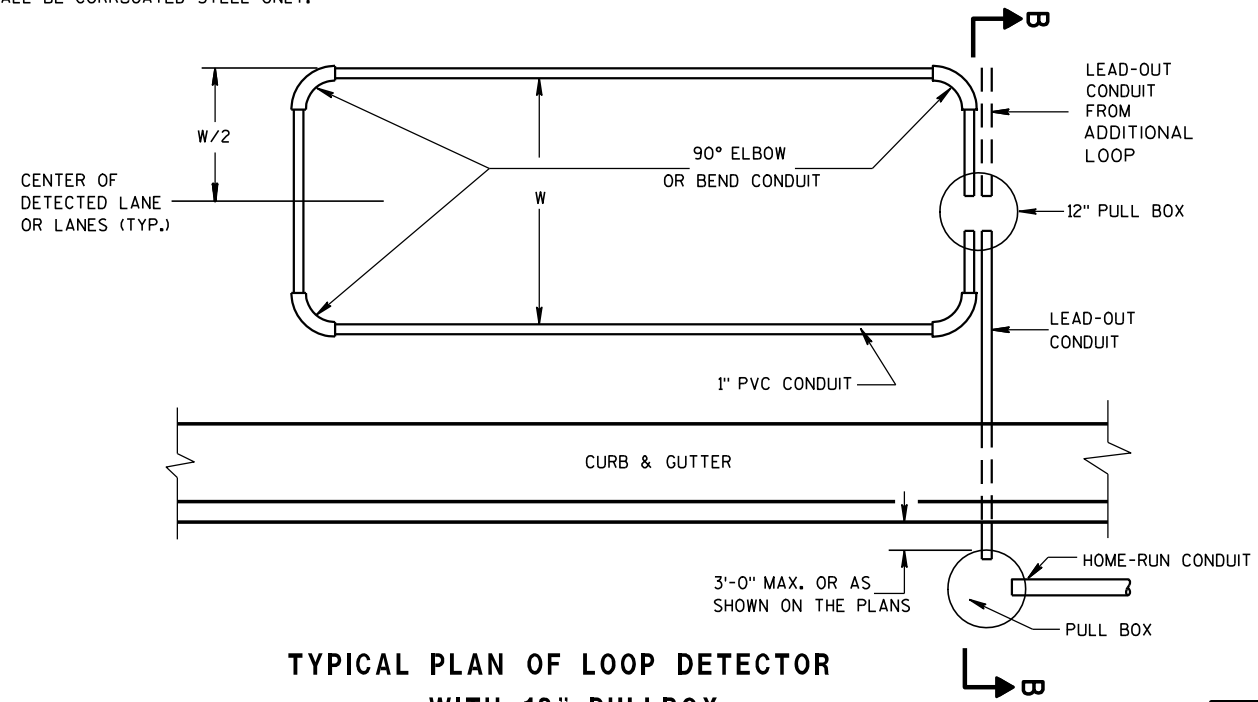
12" PULL BOXES IN PAVEMENT SHALL BE CORRUGATED STEEL ONLY.



**SECTION B-B
CURB & GUTTER
LOOP DETECTOR INSTALLATION DETAILS**



**TYPICAL PLAN OF LOOP DETECTOR
WITH 12" PULLBOX**



**TYPICAL PLAN OF LOOP DETECTOR
WITH 12" PULLBOX**

**LOOP DETECTOR PLACED
IN CRUSHED AGGREGATE BASE
(NEW CONCRETE PAVEMENT)**

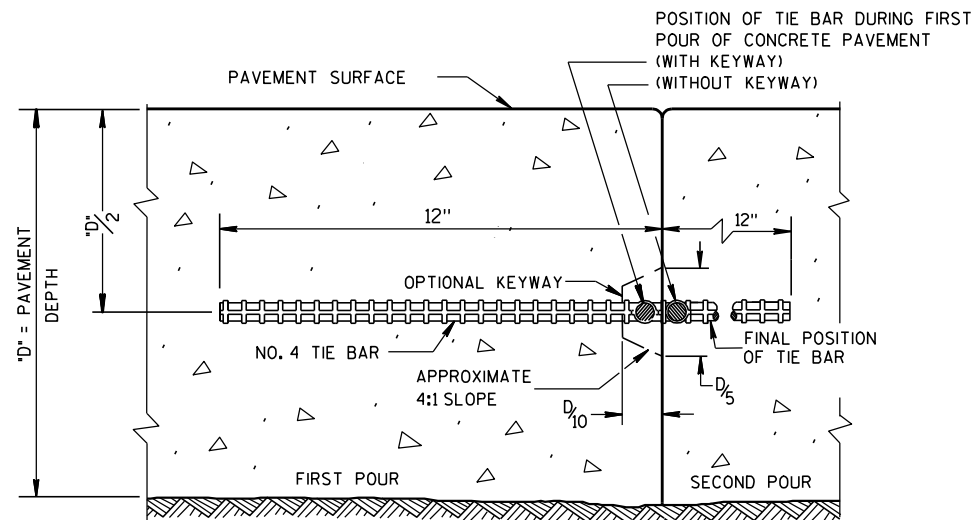
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

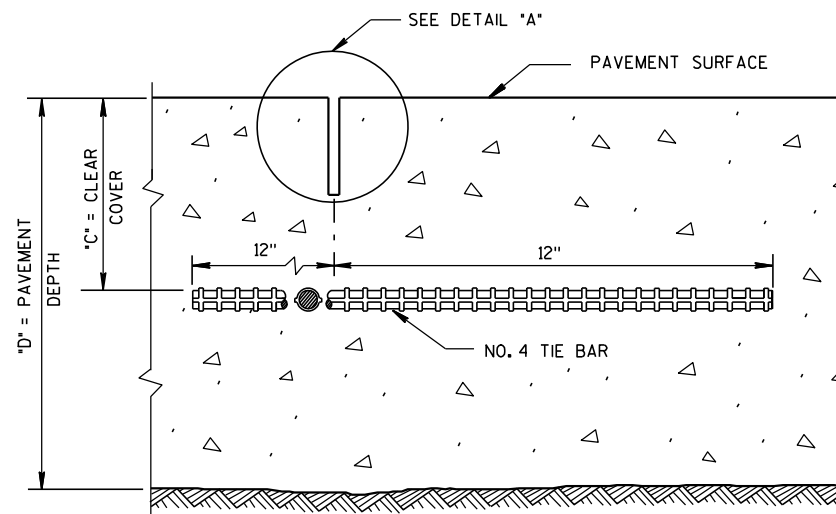
6-7-06
DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER FOR HWYS



CONSTRUCTION JOINT



SAWED JOINT

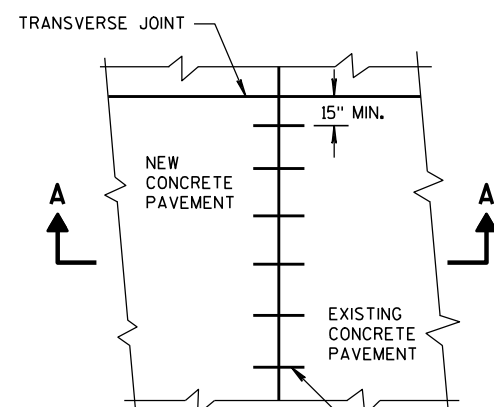
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

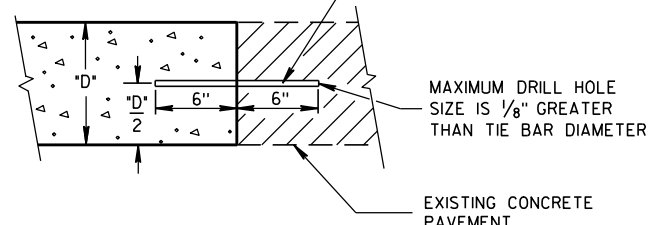
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

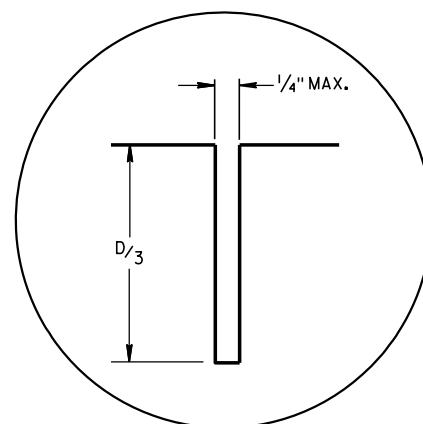


PLAN VIEW

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

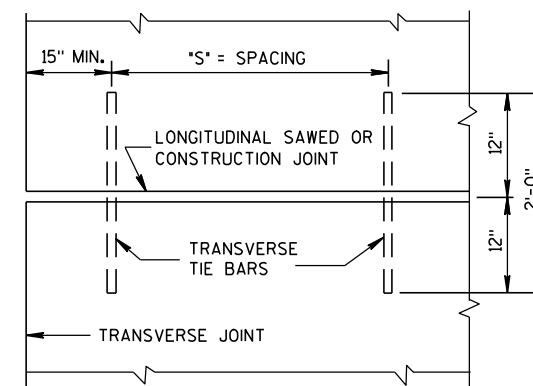


**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

PAVEMENT DEPTH 'D'	CLEAR COVER 'C'	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

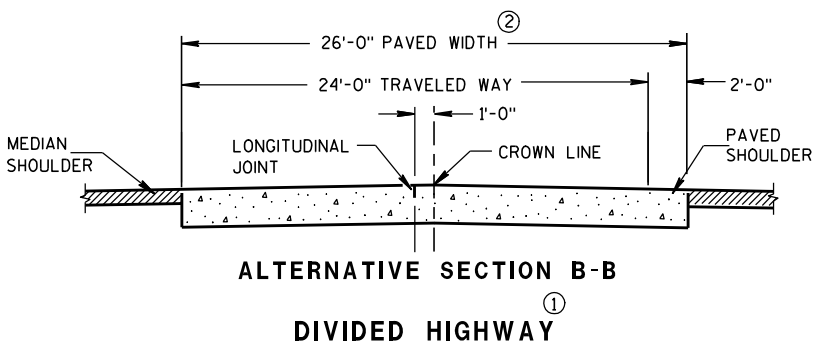
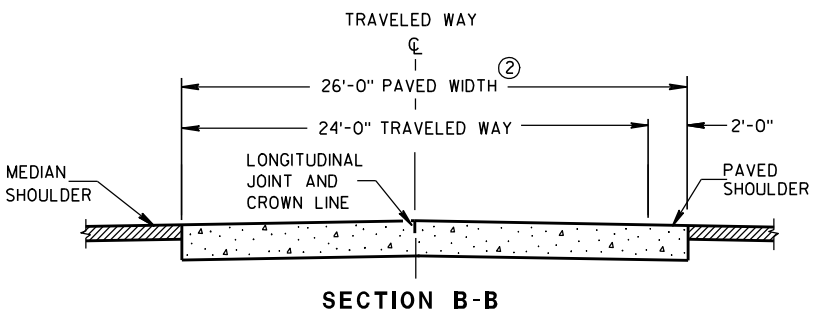
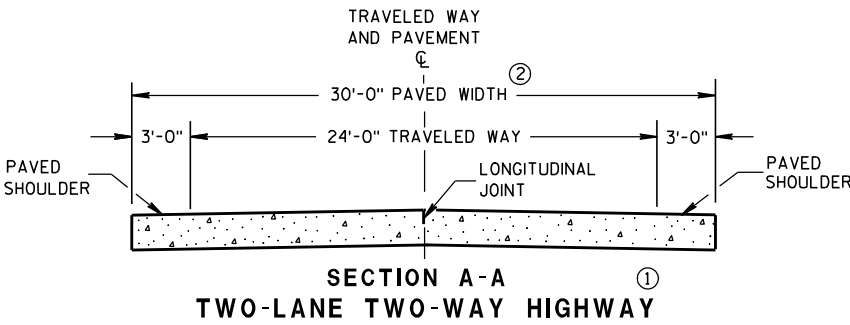
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

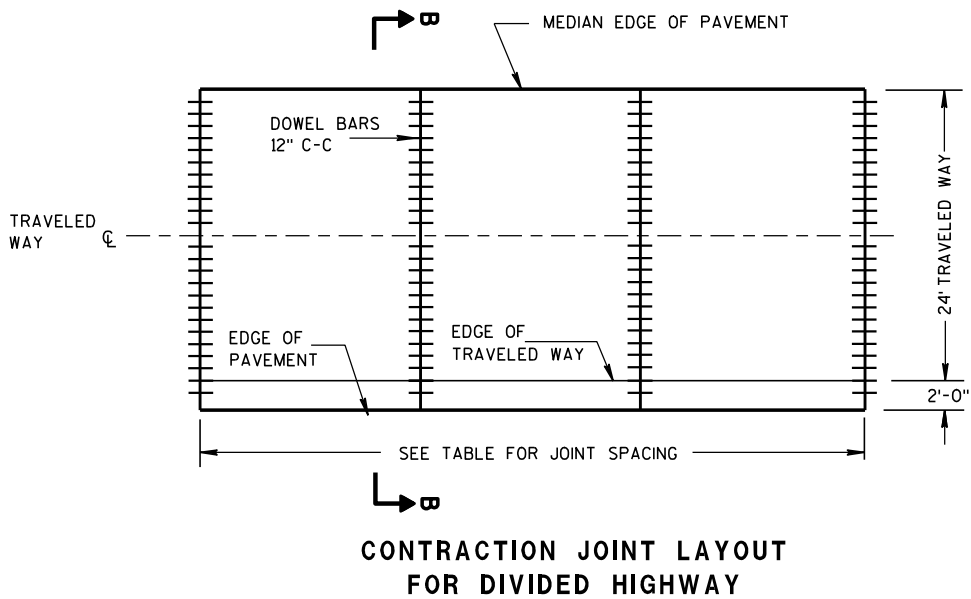
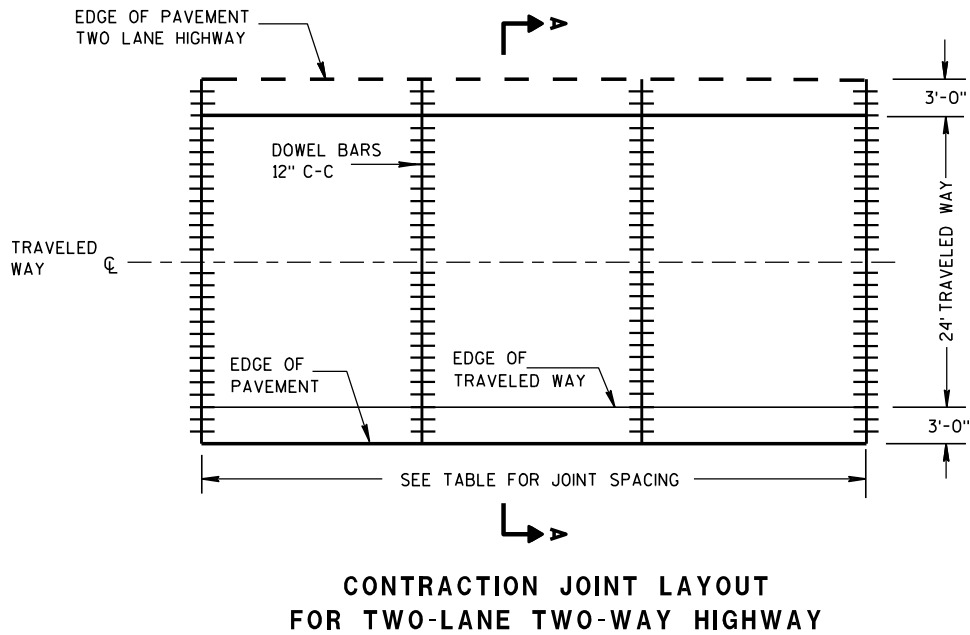
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

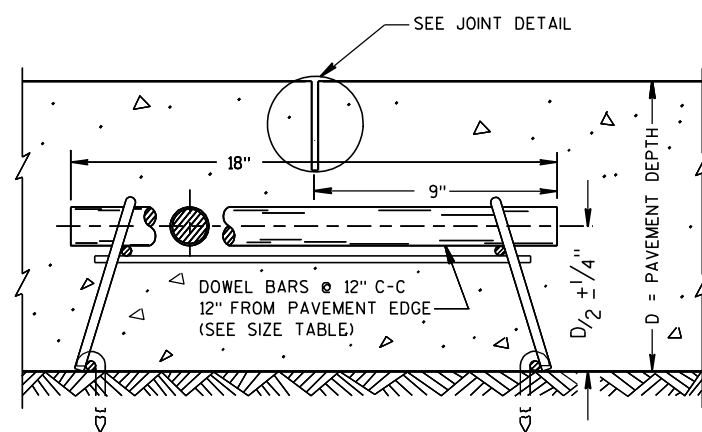
PLAN VIEW

⑤

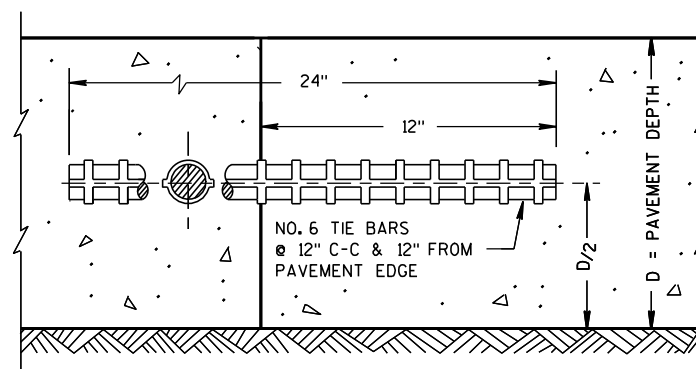
SIDE VIEW

(NORMAL TO CENTERLINE)

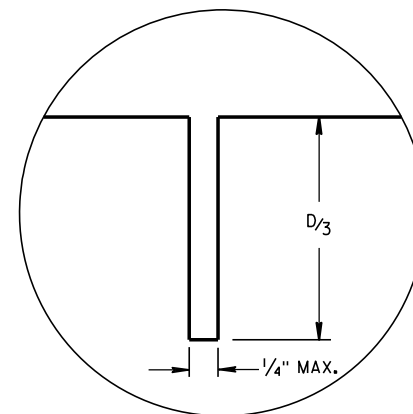
CONTRACTION JOINT DOWEL ASSEMBLY^①



DOWELED CONTRACTION JOINT



CONSTRUCTION JOINT

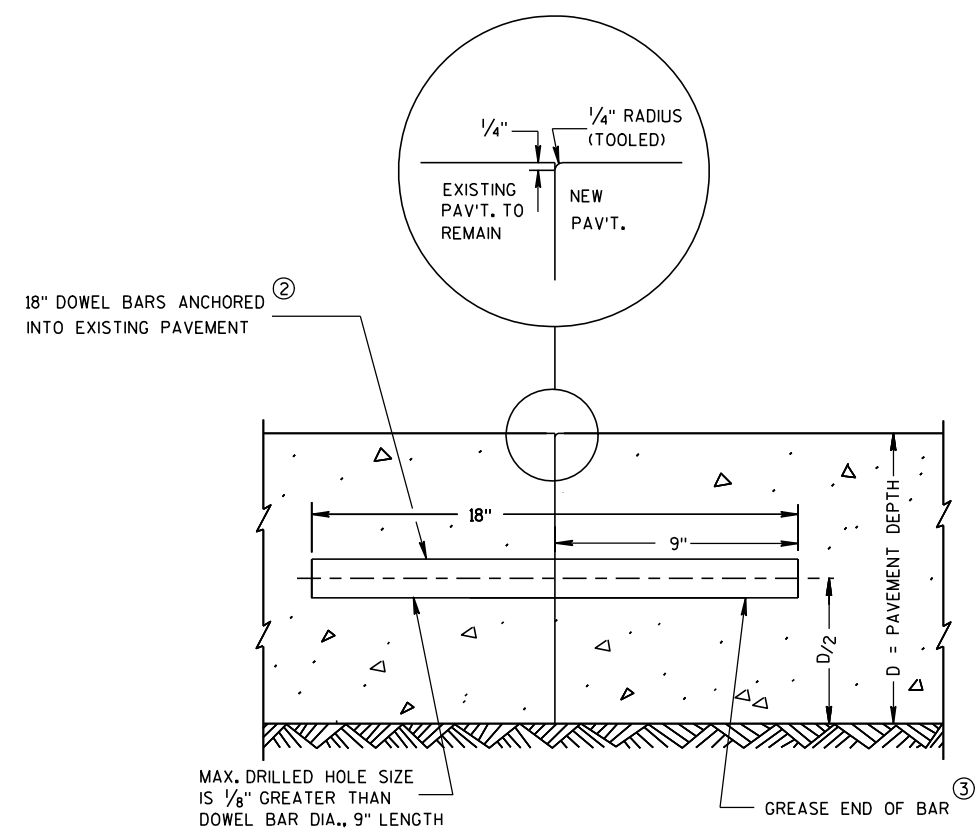


JOINT DETAIL

GENERAL NOTES

- ① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.
- ② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.
- ③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR
BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR
BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.
- ⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.



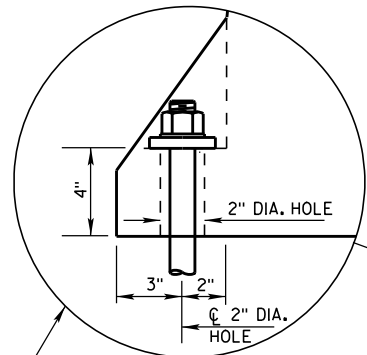
TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ **DOWEL BAR DETAIL**

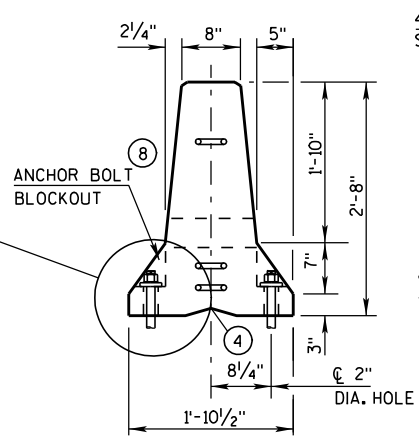
RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

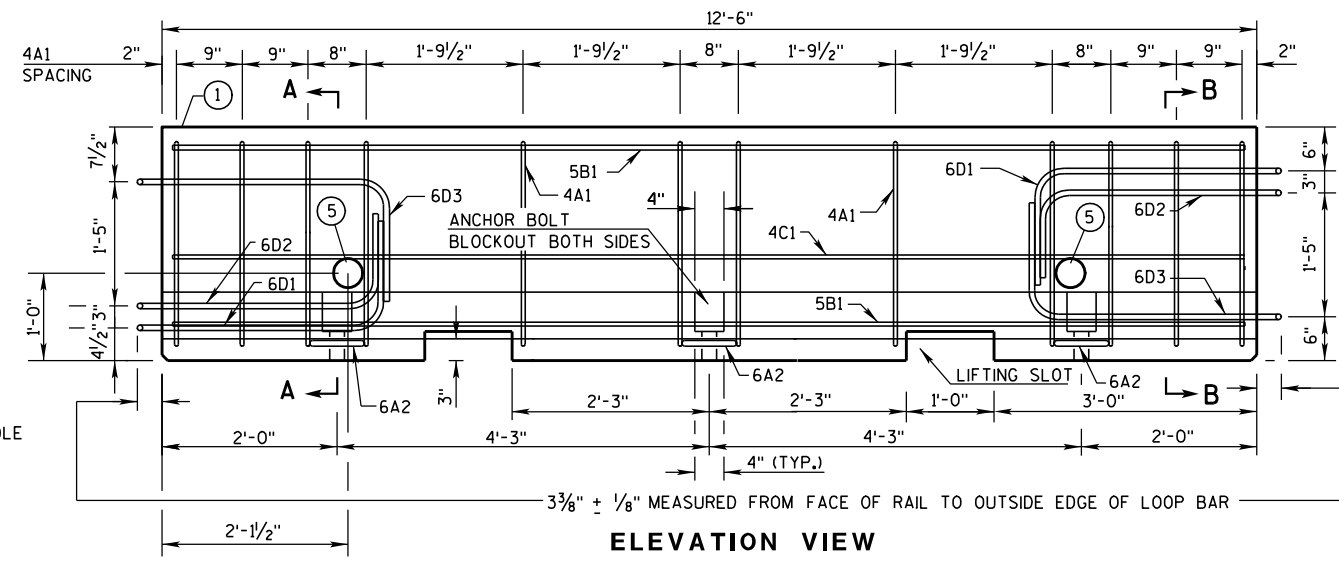
APPROVED
12/11/09 /S/ Deb Bischoff
DATE PAVEMENT POLICY & DESIGN ENGINEER
FHWA



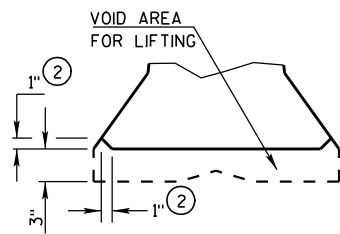
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



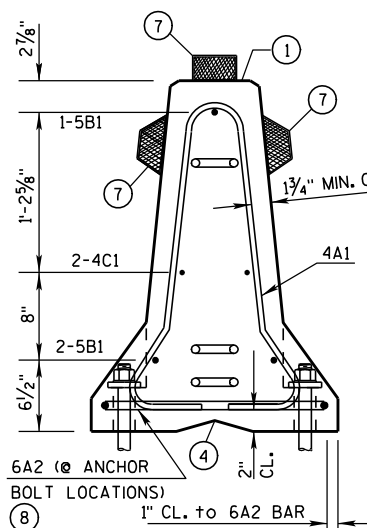
END VIEW



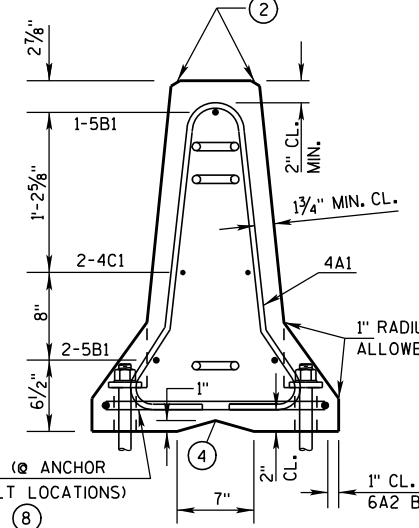
ELEVATION VIEW



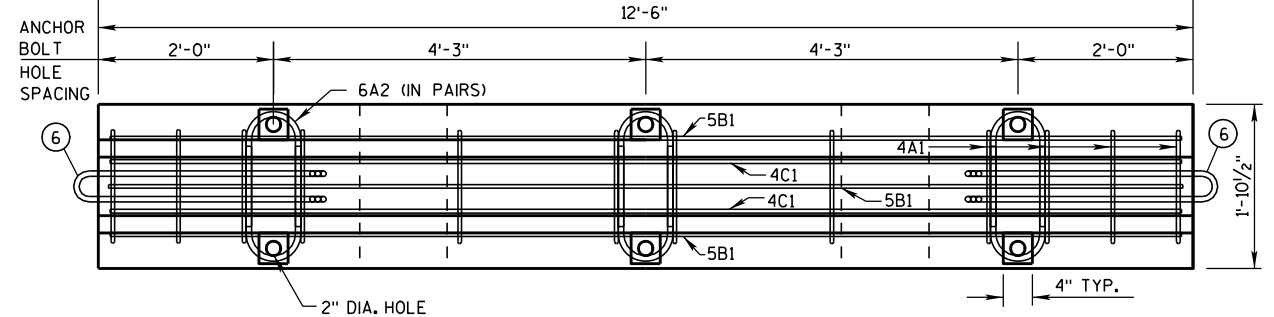
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

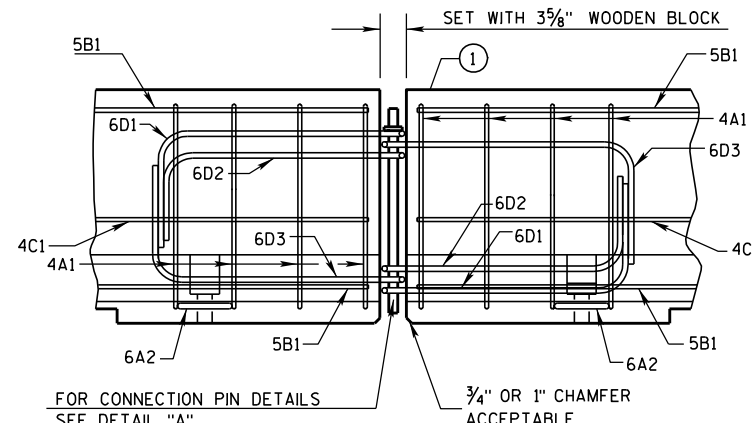


SECTION B-B
(STIRRUP PLACEMENT)

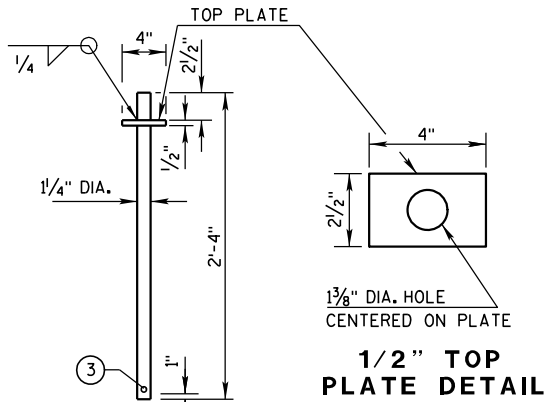


PLAN VIEW

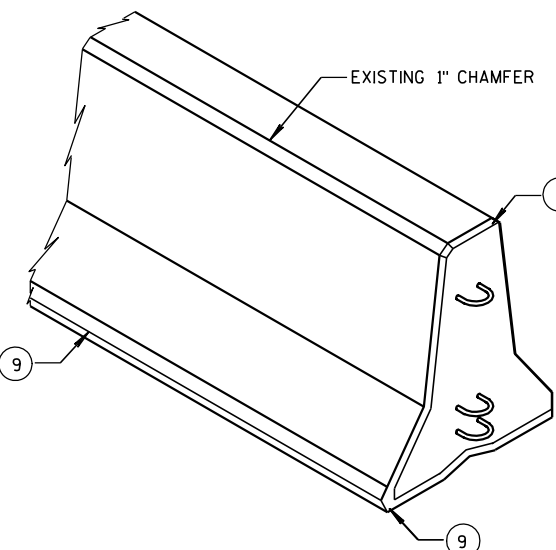
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

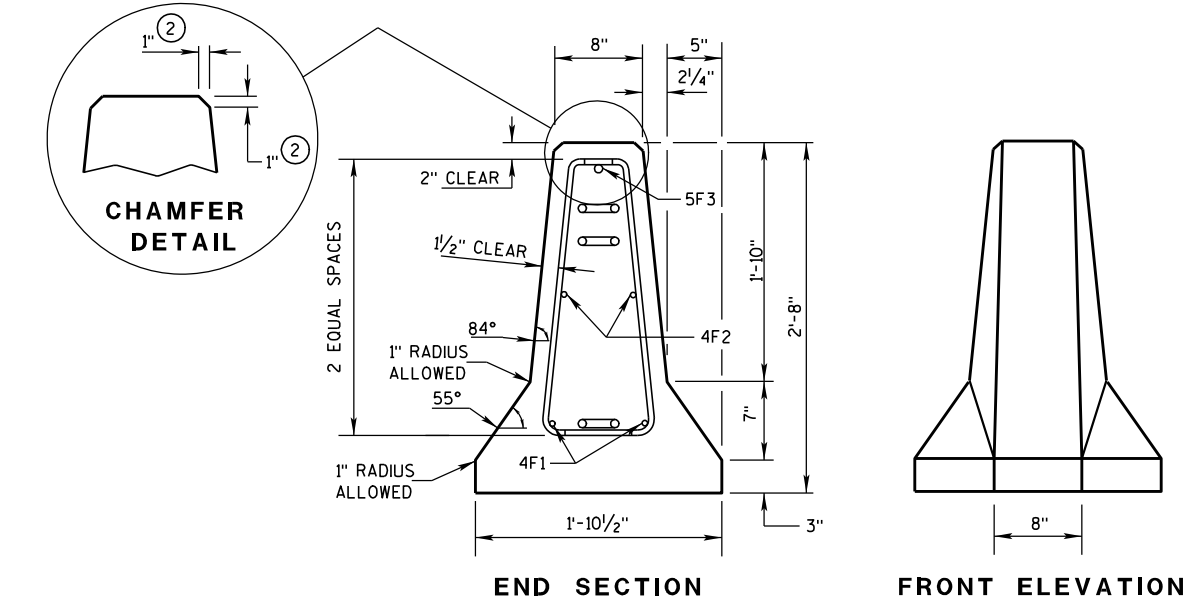
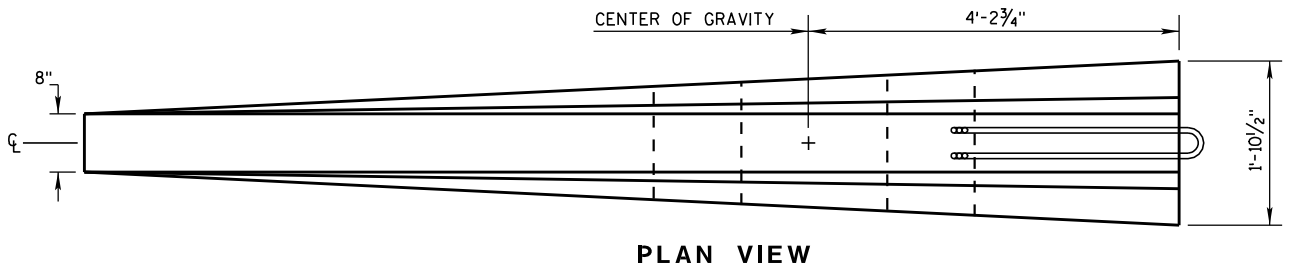
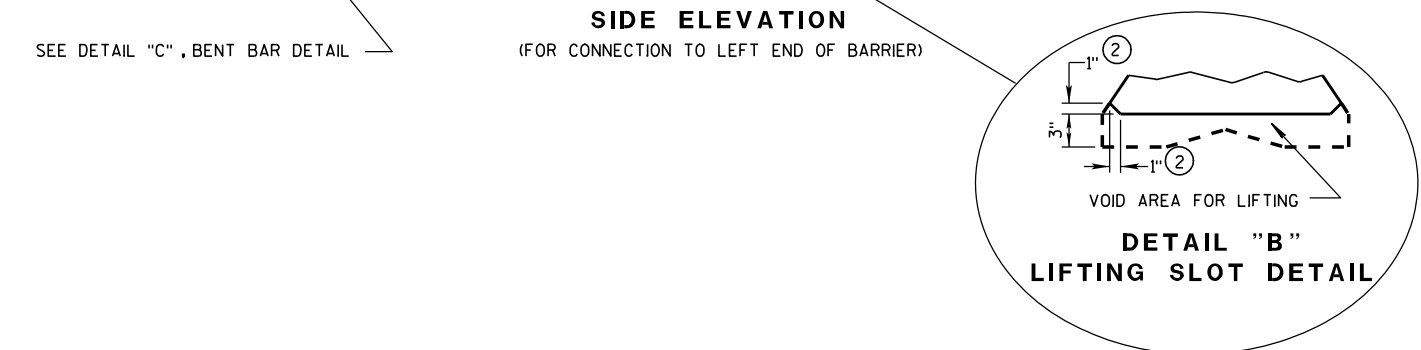
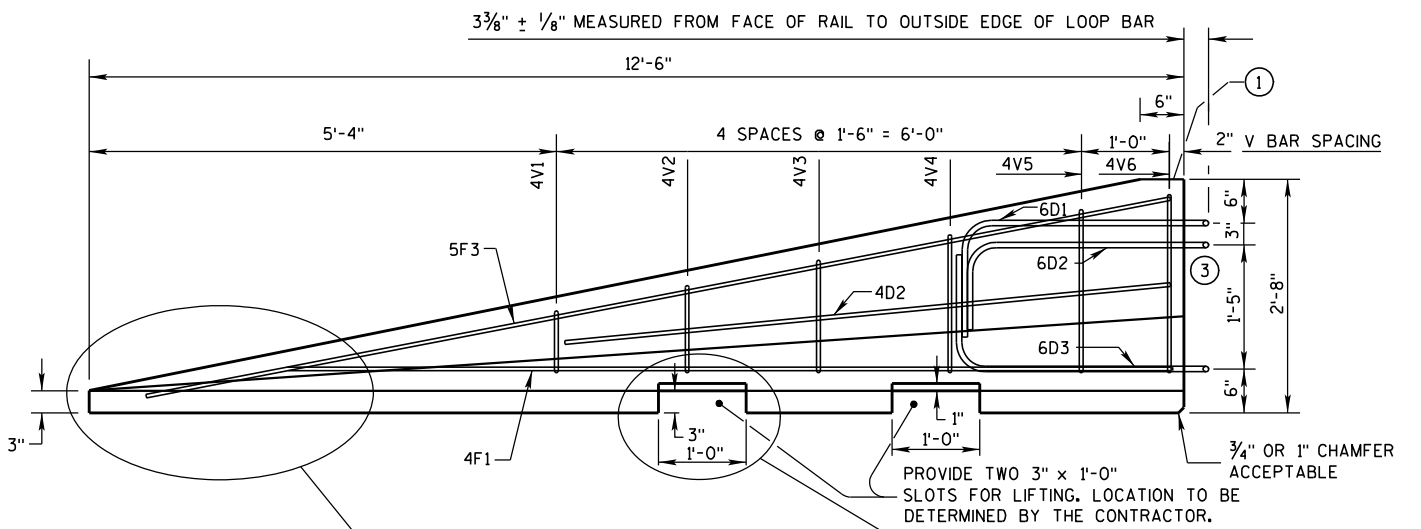


GENERAL NOTES

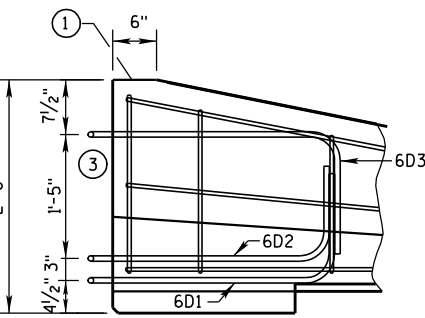
- THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).
- DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.
- USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.
- LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.
- CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.
- PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.
- INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.
- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
 - 1" CHAMFER TO PREVENT SPALLING.
 - A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
 - "V" NOTCH IS OPTIONAL.
 - THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
 - NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
 - USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
 - SEE SHEET D FOR ANCHORING CRITERIA.
 - 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



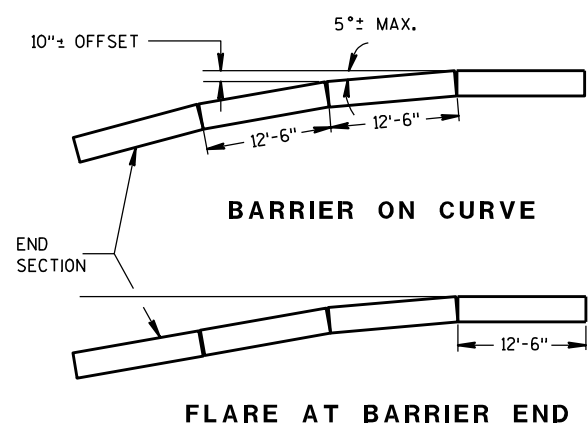
DETAILS OF BARRIER TAPER SECTION



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE W/CBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

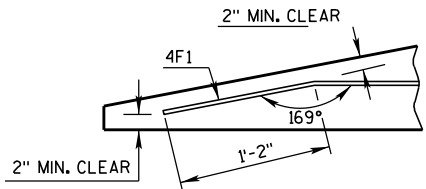
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

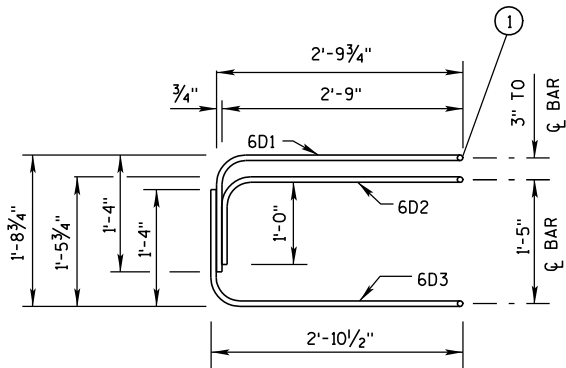
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

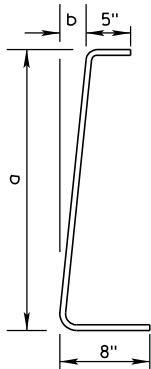
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS

2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

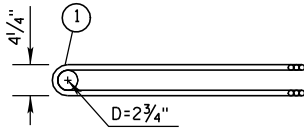
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

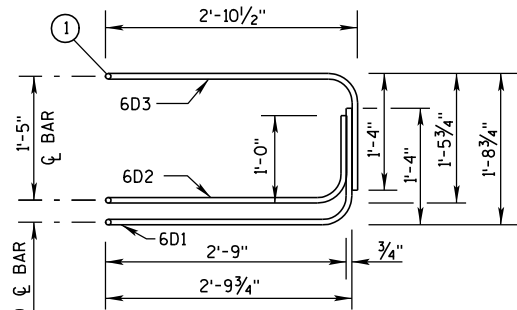
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

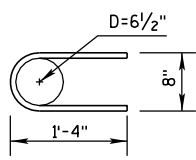


PLAN VIEW
LOOP BAR ASSEMBLY

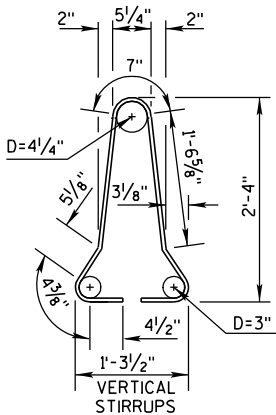
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

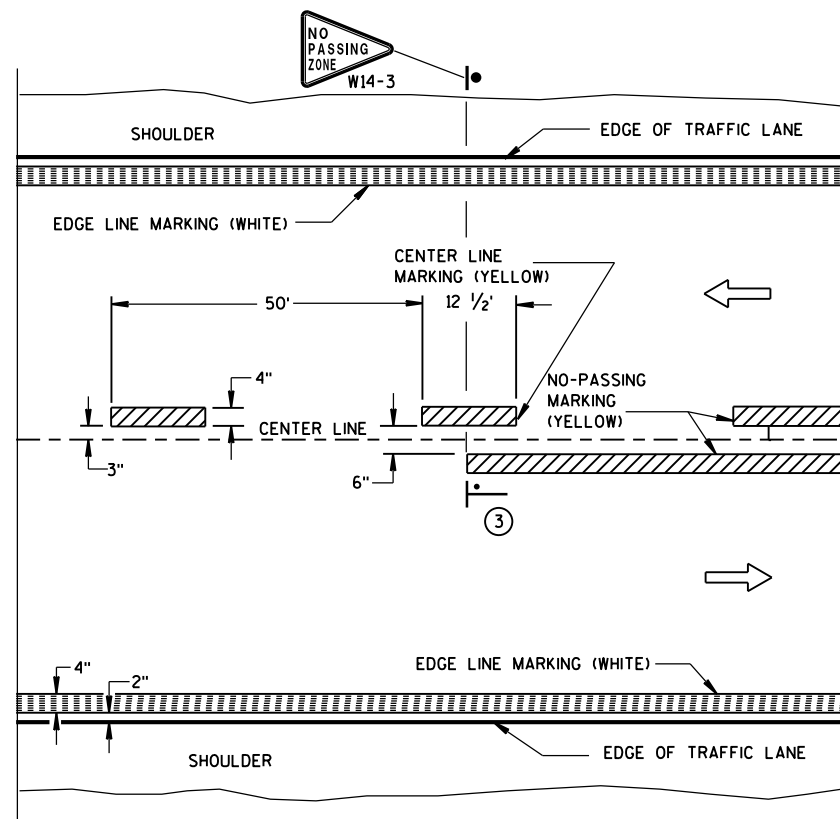


4A1

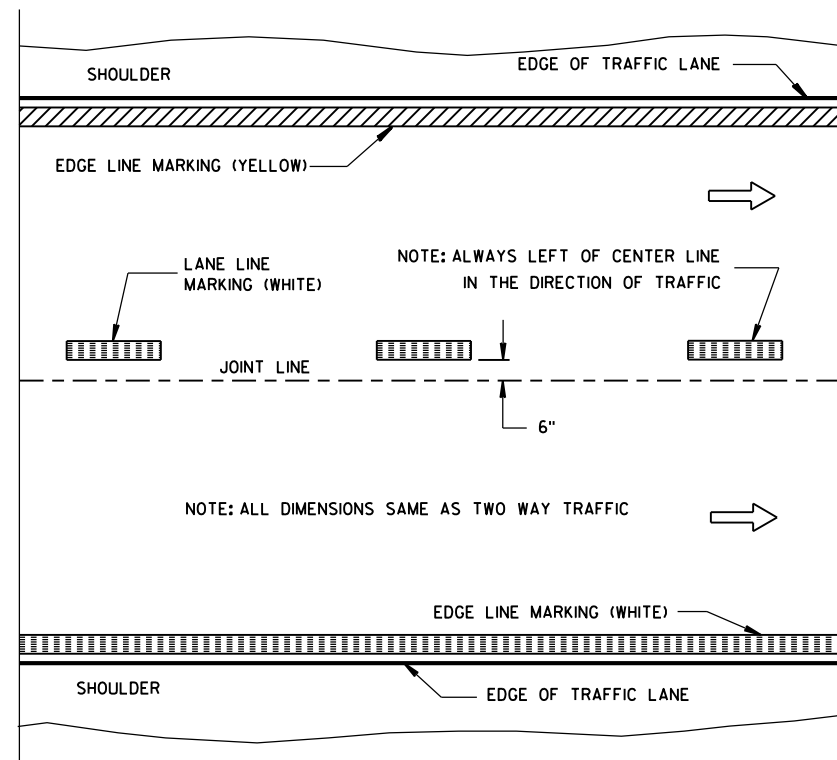
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

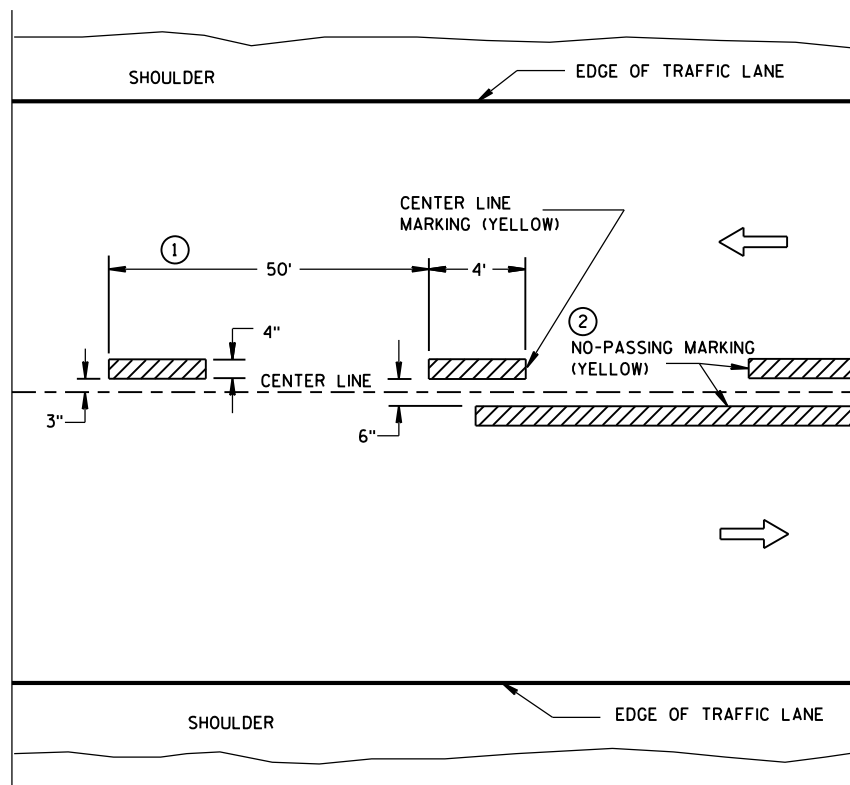


TWO WAY TRAFFIC

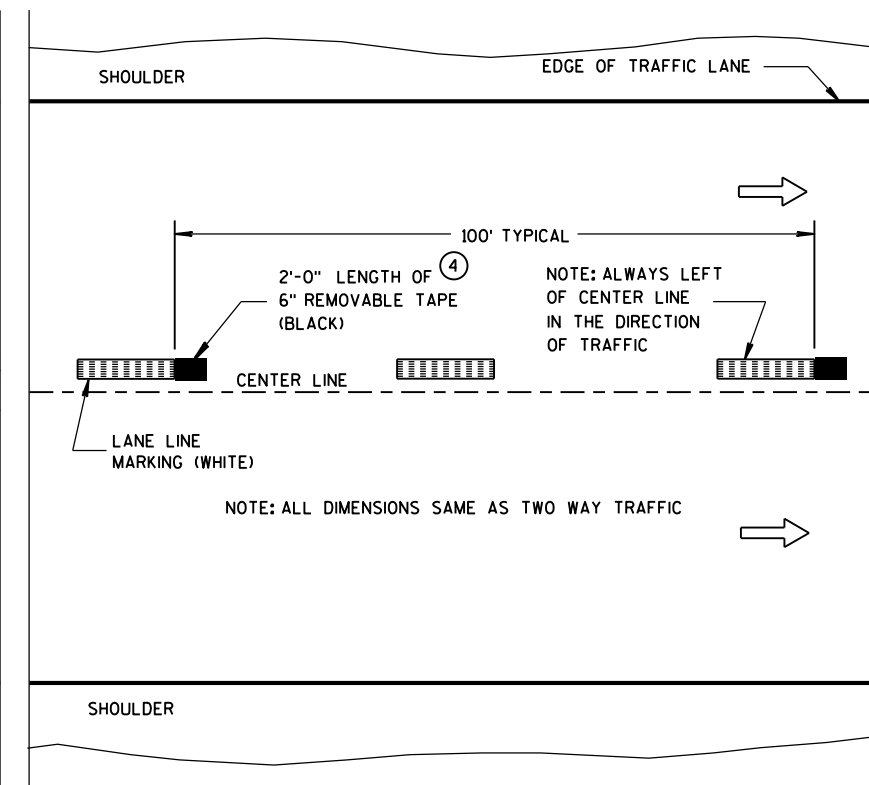


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

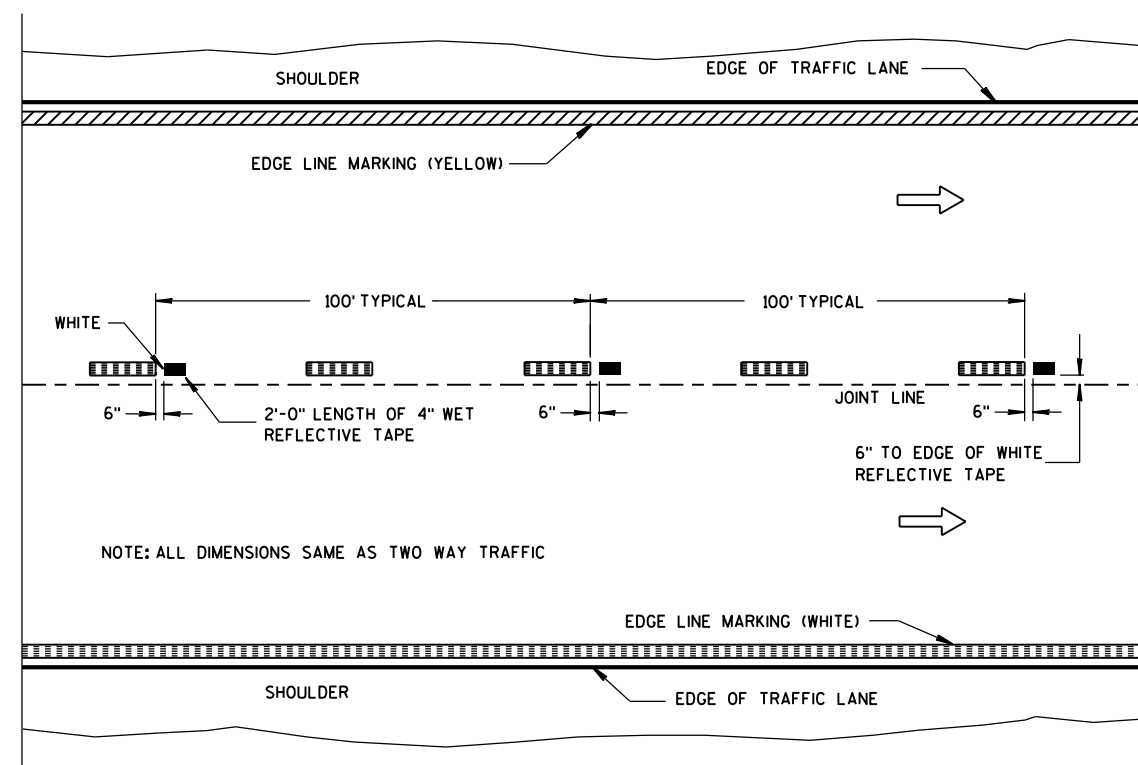
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

SYMBOLS

- IC/C TYPE III BARRICADE (8' EQUIVALENT)
WITH/WITHOUT SIGN
- DRUM
- ┐ POST MOUNTED SIGN
- Ⓐ WARNING LIGHT, TYPE A (FLASHING)
- ➔ DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

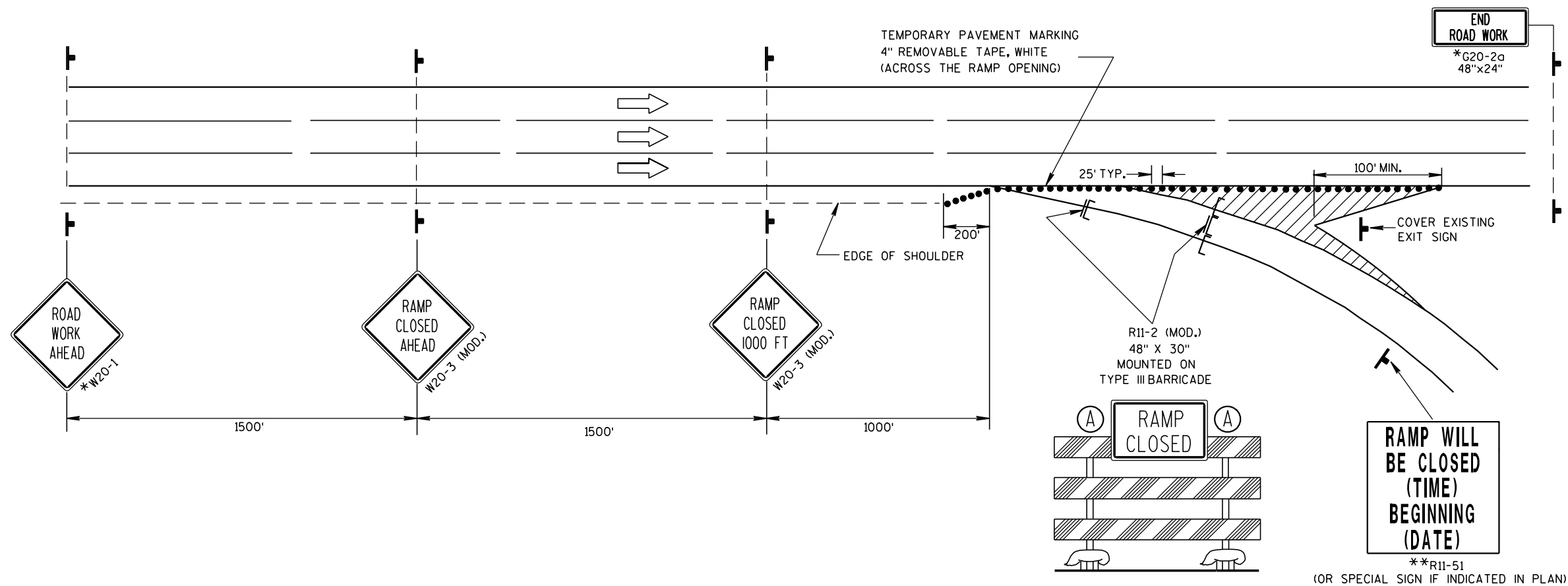
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

**USE THE "RAMP WILL BE CLOSED" SIGN IF INDICATED IN MISCELLANEOUS QUANTITIES. PLACE 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

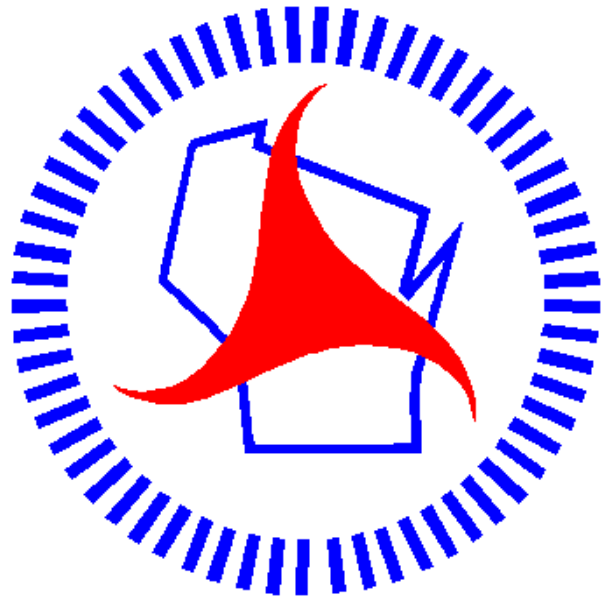
APPROVED

5/23/2000

DATE

FHWA

/S/ Chester J. Spang
CHIEF SIGNS AND MARKING ENGINEER



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>