

PART 1  
ROAD  
PLANS

SHEET  
NUMBERS

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MICHIGAN  
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED

MICHIGAN PROJECT

CONTROL SECTION 20014

JOB NUMBER 86806A

I-75

GRAYLING TOWNSHIP

CRAWFORD COUNTY

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

2007  
A.D.T. .... 25,800  
D.V.V. .... 24%  
COM. A.D.T. .... 0.600  
DESIGN SPEED .... 75 MPH  
POSTED SPEED .... 70 MPH

20014-86806A

JOB  
NUMBER  
CONTROL  
SECTION

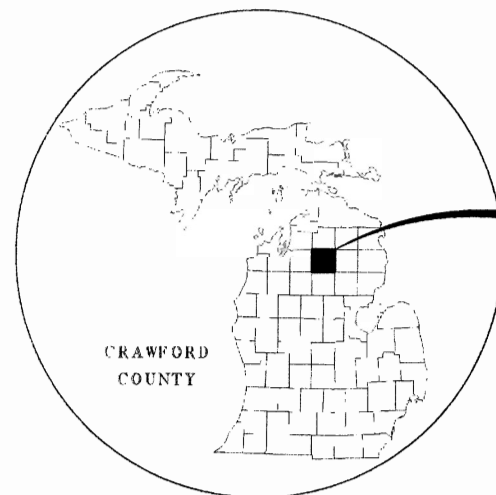
DATE:

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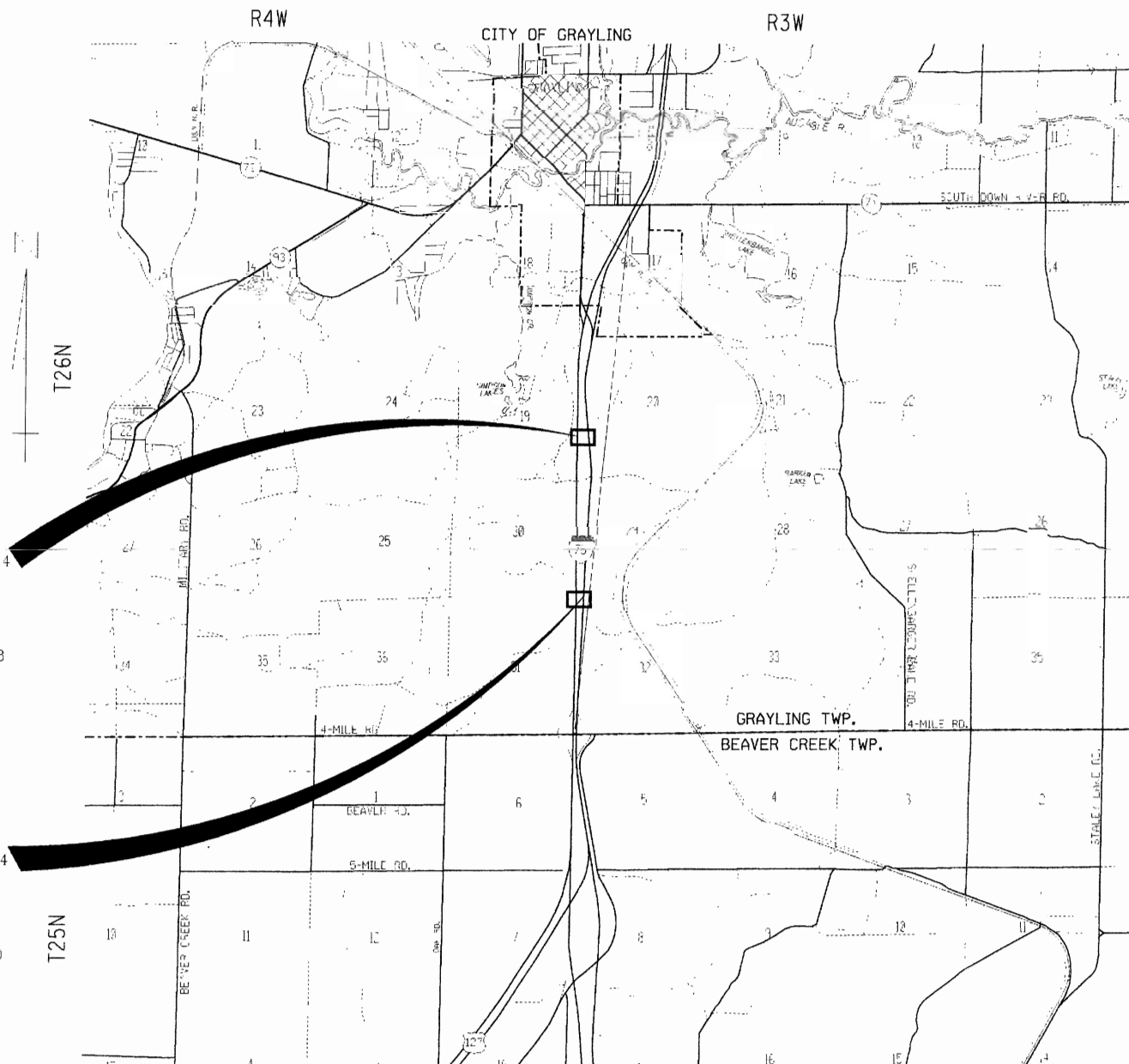
COUNTY KEY

CONTROL SECTION 20014  
JOB NUMBER 86806A  
SB DMS SIG.  
SB STA 1159+75  
MILE POINT - 3.402  
P.R. #535201  
P.R. MILE POINT - 8.898

CONTROL SECTION 20014  
JOB NUMBER 86806A  
NB DMS SIG.  
NB STA 1104+00  
MILE POINT - 1346  
P.R. # 535202  
P.R. MILE POINT - 7.759

TITLE SHEET LEGEND

PROPOSED PROJECT .....	=====
EXISTING ROADS .....	=====
PAVED .....	=====
HMA .....	=====
UNIMPROVED OR CITY STREET .....	=====
TOWNSHIP LINE .....	-----
COUNTY LINE .....	-----
CITY OR VILLAGE LIMITS .....	-----
RAILROADS .....	-----



LENGTH - N/A

CONTRACT FOR CONSTRUCTION OF TWO DYNAMIC MESSAGE SIGNS  
ON I-75 NEAR GRAYLING

THESE PLANS WERE PREPARED FOR THE  
MICHIGAN DEPARTMENT OF TRANSPORTATION  
BY



PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416

PREPARED UNDER THE SUPERVISION OF

DANA A. AMES, P.E.

MICHIGAN PROFESSIONAL ENGINEER

51200

REGISTRATION NO.



APPROVALS

RECOMMENDED  
FOR APPROVAL

*Chris Rupinski*  
PROJECT MANAGER

7/13/06  
DATE

RECOMMENDED  
FOR APPROVAL

*John Ames*  
DELIVERY ENGINEER

7/12/06  
DATE

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

KIRK STEUDLE DIRECTOR

APPROVED BY

*Chris Rupinski*  
ENGINEER OF DEVELOPMENT

7/19/06  
DATE



CHRIS RUPINSKI

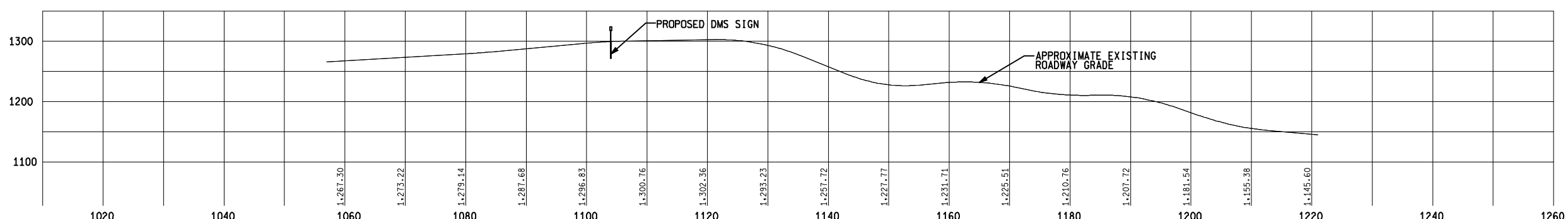
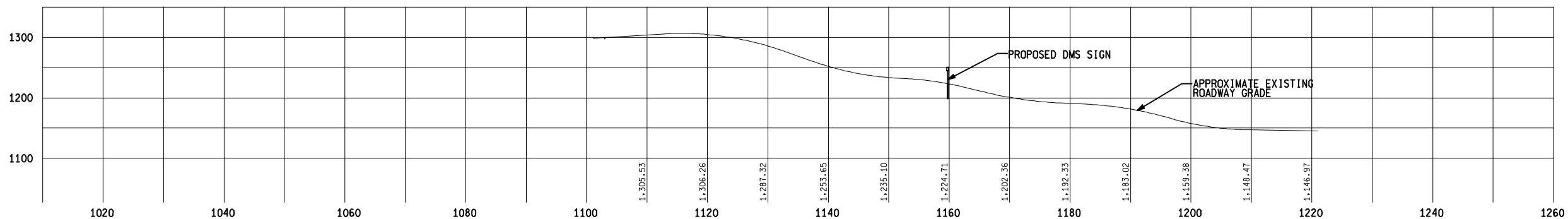
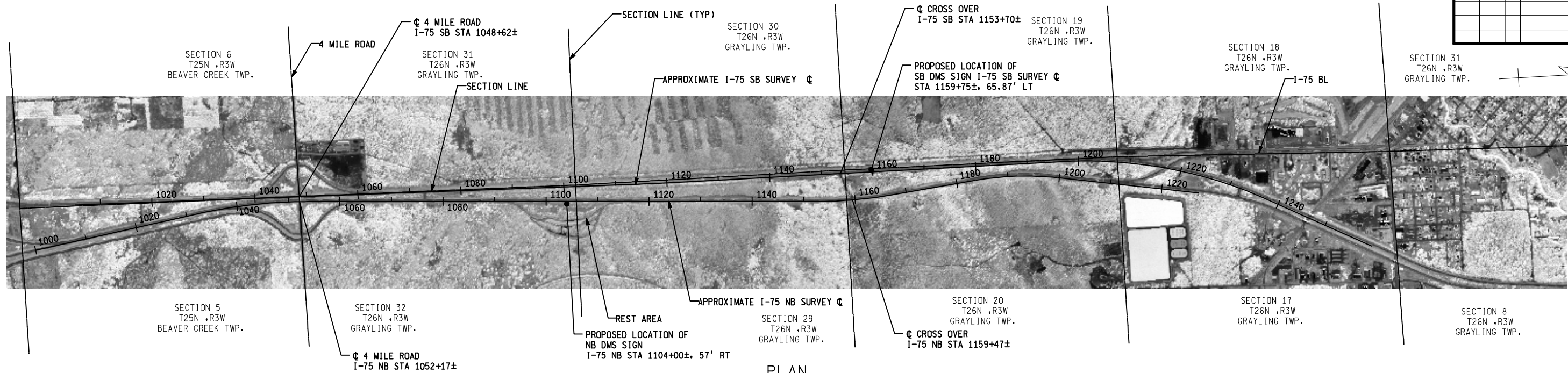
KDOT DESIGN COORDINATOR


NORTH REGION

DESIGN UNIT


CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS PROJECT	ITEM	SHEET NO.
20014	86806A			OF 13

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION





PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416



Michigan Department of Transportation

VICINITY MAP

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	1"=1000'	20014	86806A	RUPINSKI	2 OF 11

ENGINEERING REPORT NO	ENVIRON IMPACT STMT	
METHOD OF SURVEY		YEAR
SURVEY ORDER	SURVEY CHIEF	YEAR
AERIAL SURVEY NO	N/A	YEAR
HORIZ DATUM	VERT DATUM	
ROAD DESIGN INITIATED Sep 2005	COMPLETED	
FIELD INSPECTION (G1) BY TOM VANDENBERG		DATE
FHWA AREA ENGINEER		

GENERAL PLAN NOTES

UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

OLD PLANS

THE FOLLOWING OLD PLANS WERE REFERRED TO IN THE DESIGN OF THIS PROJECT.  
MICHIGAN PROJECT EBF 171 (14)  
MICHIGAN PROJECT IM 9920 (001)  
MICHIGAN PROJECT IM 75-4 (082) 250

IN ADDITION, OTHER OLD PLANS THAT PREDATE THIS PROJECT MAY BE AVAILABLE. THESE PLANS MAY BE REVIEWED IN THE TRANSPORTATION SERVICE CENTER DURING NORMAL WORKING HOURS.

STATIONING

STATIONING ON THIS PROJECT WAS TAKEN FROM OLD PLANS AND PAVEMENT STENCILED STATIONING AND IS NOT NECESSARILY ACCURATE.

SLOPES

CLASS A SLOPES SHALL BE REQUIRED ON THIS PROJECT.

SOIL BORINGS AND/OR PAVEMENT CORES

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OR PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

PERMANENT SIGNS

ANY PERMANENT SIGNS REQUIRING RELOCATION DUE TO CONTRACTOR OPERATIONS SHALL BE SALVAGED AND RESET BY THE CONTRACTOR AT LOCATIONS DESIGNATED BY THE ENGINEER. SIGNS AND POSTS DAMAGED DURING THE REMOVAL AND STORAGE OPERATIONS SHALL BE REPLACED WITH NEW SIGNS AND POSTS. THE COST OF THIS WORK SHALL BE BORNE BY THE CONTRACTOR.

RECREATIONAL PROPERTIES

THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR STORE ANY EQUIPMENT ON ANY PUBLIC RECREATIONAL PROPERTY. ACCESS TO THE RECREATIONAL SITE MUST BE MAINTAINED AT ALL TIMES.

SEED MIXTURE

THE SYMBOL FOR THE PERMANENT TURF SEED MIXTURE ON THIS PROJECT IS SYMBOL TDS.

UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER

KIND OF UTILITY

CHARTER COMMUNICATIONS  
ATTN: TED MATTHEWS  
P.O. BOX 339  
OSCODA, MI 48750  
PHONE: (989) 739-6352

CABLE TV

CONSUMERS ENERGY  
ELECTRIC DISTRIBUTION  
ATTN: GREGORY MORTENSEN  
821 HASTING ST  
TRAVERSE CITY, MI 49686  
PHONE: (231) 929-6242

ELECTRIC

VERIZON COMMUNICATIONS  
ATTN: ROBIN WILLIAMS  
3249 FOREST DR  
GAYLORD, MI 49735  
PHONE: (989) 732-8503

TELEPHONE

MICHCON GAS COMPANY  
DISTRIBUTION ATTN: DAVID NEWCOMBE  
609 BJORNSON ST  
BIG RAPIDS, MI 49307  
PHONE: (231) 592-3244

GAS/DIST.

NOTES APPLYING TO STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

SOIL EROSION & SEDIMENTATION CONTROL MEASURES

R-96-C

SODDING, SEEDING, AND TREE PLANTING

R-100-D

TEMPORARY TRAFFIC CONTROL DEVICES

R-125-D\*

\* DENOTES SPECIAL DETAIL

MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN AND PROFILE SHEETS:

PAY ITEM

200 Ft Erosion Control, Silt Fence  
278 Syd Slope Restoration, Type A  
278 Syd Slope Restoration, Type B

THE FOLLOWING ITEMS OF WORK ARE ESTIMATED FOR THE ENTIRE PROJECT TO MAINTAIN TRAFFIC ON THE JOB SITE DURING CONSTRUCTION.

PAY ITEM

832 Sft Sign, Type B, Temp, Prismatic, Furn  
832 Sft Sign, Type B, Temp, Prismatic, Oper  
30 Ea Plastic Drum, High Intensity, Furn  
30 Ea Plastic Drum, High Intensity, Oper  
2 Ea Sign Cover  
2 Ea Lighted Arrow, Type C, Furn  
2 Ea Lighted Arrow, Type C, Oper  
1 Ea Lighted Arrow, Type C, Standby



PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-327-7848






























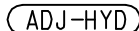

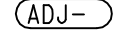
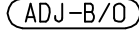
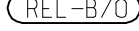
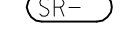


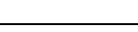
Michigan Department of Transportation

NOTE SHEET

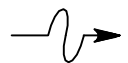

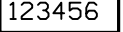
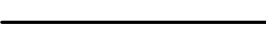
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	20014	86806A	RUPINSKI	R.O.W CONST.
				3 OF 1

WATER & DRAINAGE SYMBOLS












-  EXISTING SANITARY CATCH BASIN
-  EXISTING SANITARY CATCH BASIN LEFT
-  EXISTING STORM CATCH BASIN
-  EXISTING STORM CATCH BASIN LEFT
-  PROPOSED SANITARY CATCH BASIN
-  PROPOSED SANITARY CATCH BASIN LEFT
-  PROPOSED STORM CATCH BASIN
-  PROPOSED STORM CATCH BASIN LEFT
-  SANITARY SEWER MANHOLE
-  PROPOSED SANITARY SEWER MANHOLE
-  STORM SEWER MANHOLE
-  PROPOSED STORM SEWER MANHOLE
-  EXISTING MANHOLE - UNIVERSAL
-  PROPOSED MANHOLE - UNIVERSAL
-  EXISTING CULVERT END SECTION
-  PROPOSED CULVERT END SECTION
-  EXISTING HEADWALL
-  PROPOSED HEADWALL
-  WATER SHUT OFF
-  WATER GATE VALVE
-  WATER GATE WELL
-  WATER METER
-  WATER MANHOLE
-  WATER WELL
-  EXISTING FIRE HYDRANT
-  PROPOSED FIRE HYDRANT
-  RIVER BOTTOM

-  ADJUST FIRE HYDRANT
-  ADJUST DRAINAGE STRUCTURE
-  ADJUST DRAINAGE STRUCTURE W/COVER
-  ADJUST DRAINAGE STRUCTURE BY OTHERS
-  RELOCATE - BY OTHERS
-  SIDEWALK RAMP TYPE
-  CHECK DAM (PROFILES)
-  DIKE (PROFILES)
-  WATER TABLE (PROFILES)




















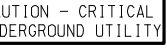
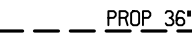
REAL ESTATE SYMBOLS

-  PROPERTY OWNERSHIP ARROW
-  CONTIGUOUS PROPERTY SYMBOL
-  PARCEL NUMBER BOX
-  PARCEL LINES

UTILITIES SYMBOLS



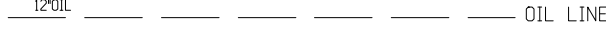
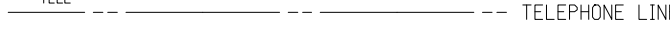



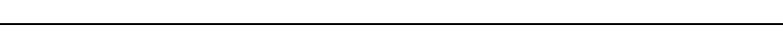
-  POWER POLE
-  GUY POLE
-  LIGHT POLE
-  LIGHT STANDARD
-  POWER AND LIGHT POLE
-  TELEPHONE POLE
-  TELEPHONE MANHOLE
-  TELEPHONE PEDESTAL
-  WALK NO-WALK SIGN
-  GAS LINE MARKER
-  GAS VALVE
-  GAS FILLER PIPE
-  GAS WELL
-  OIL WELL
-  PETROLEUM MARKER
-  FIBER OPTIC MARKER
-  ELECTRIC MANHOLE
-  ELECTRIC HANDHOLE
-  PHONE OR CALL BOX
-  MAIL BOX
-  DEADMAN FOR GUYWIRE
-  RAILROAD SWITCH BOX
-  FLASHING RAILROAD SIGN
-  POWER TOWER

MISCELLANEOUS SYMBOLS

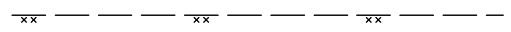




-  PINE TREE
-  TREE
-  RIPRAP
-  SIGN
-  SIGN2
-  STUMP
-  SWAMP
-  VERTICAL CONTROL POINT
-  SECTION CORNER
-  16TH CORNER
-  QUARTER CORNER
-  HALF QUARTER CORNER
-  ROW MARKER
-  PROPERTY CORNER
-  REFERENCE POINT
-  REFERENCE MARKER
-  TEST HOLE NO.
-  BEAM G. R. RUN NUMBER (EXISTING)
-  BEAM G. R. RUN NUMBER (PROPOSED)
-  USED WITH UNDERGROUND GAS & ELECTRICAL LINES
-  USED WITH UNDERGROUND TELEPHONE & FIBER OPTICS LINES

-  PROP 36" PROPOSED CULVERT/SEWER
-  EX 12" CMP EXISTING CULVERT/SEWER



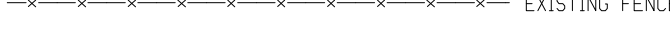




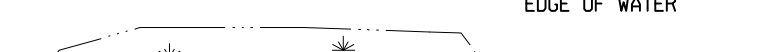

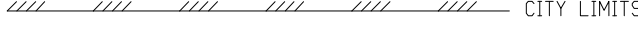




UTILITY PATTERNS

-  ELEC ELECTRICAL LINE
-  24"GAS GAS LINE
-  12"OIL OIL LINE
-  TELE TELEPHONE LINE
-  36"WM WATER LINE
-  CTV CABLE TV
-  TELE FO FIBER OPTICS
-  POWER TRANSMISSION LINE

R.O.W. PATTERNS




-  EX. LIMITED ACCESS R.O.W.
-  EXISTING R.O.W.
-  PROP LIMITED ACCESS R.O.W.
-  PROP FREE ACCESS R.O.W.
-  SECTION LINE

TOPO PATTERNS












-  HEDGE LINE
-  TREE LINE
-  EXISTING FENCE
-  PROPOSED FENCE
-  EXISTING GUARD RAIL
-  PROPOSED GUARD RAIL
-  EXISTING DRAINAGE CRS EDGE OF WATER
-  PROPOSED DRAINAGE CRS EDGE OF WATER
-  WETLANDS AREA
-  CITY LIMITS
-  RAILROAD
-  SOUND ABATEMENT WALL
-  CONCRETE MEDIAN BARRIER
-  SLOPE STAKE LINE

FINAL R.O.W.		
AUTH	DATE	NO.








PLAN SHEET DRIVE/APPROACH LEGEND

- CONCRETE
- HMA
- AGGREGATE

PLAN SHEET REMOVAL LEGEND

- REMOVING HMA
- REMOVING SIDEWALK
- REMOVING PAVEMENT
- COLD-MILLING HMA
- HMA BASE CRUSH & SHAPE
- REMOVING CURB, GUTTER AND CURB & GUTTER
- REMOVING
- ABANDONING
- SAVE
- BULKHEAD
- CLEARING

TYPICAL CROSS SECTION LEGEND

- REMOVAL OF PAVEMENT, CURB & GUTTER, SIDEWALK AND COLD MILLING
- CRUSH & SHAPE & RUBBLIZE
- HMA TOP COURSE & WEDGING
- HMA LEVELING COURSE
- HMA BASE COURSE
- AGGREGATE, SUBBASE, SIDEWALK, CURB & GUTTER, BARRIER AND VALLEY GUTTER
- CONCRETE PAVEMENT & SHOULDERS

SPECIAL LEGEND THIS PROJECT

- POTENTIAL CONTAMINATED SITE

STANDARD SYMBOLS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	NONE	20014	86806A	RUPINSKI	4 OF 12



PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416



DATE:

WORKED ON BY:

DATE:

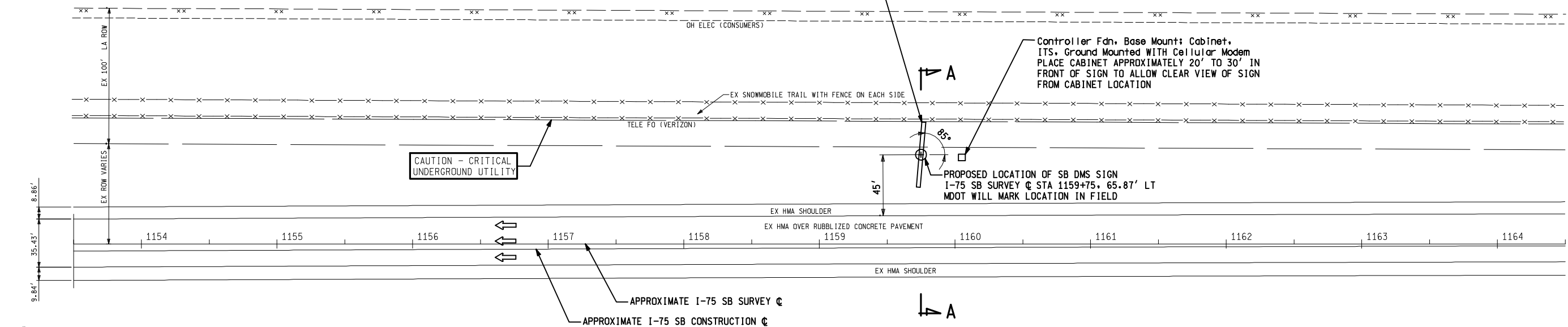
CHECKED BY:

FILE NAME: G:\35525M\1-75 DMS Design\Civil\Plans\86806\Legend.dgn

CONTRACTOR TO INSTALL CONSUMERS ENERGY COMPANY METER SOCKET, SUPPORT, SERVICE SWITCH AND OTHER EQUIPMENT REQUIRED TO PROVIDE POWER TO PROPOSED EQUIPMENT AFTER THE METER. LOCATE METER SOCKET AS DIRECTED BY ENGINEER. SERVICE TO METER SOCKET, SERVICE CONNECTION AND METER INSTALLATION WILL BE COMPLETED BY CONSUMERS ENERGY AT NO COST TO CONTRACTOR. WORK REQUIRED TO PROVIDE ELECTRICAL SERVICE IS INCLUDED IN PAY ITEM Dynamic Message Sign, Large

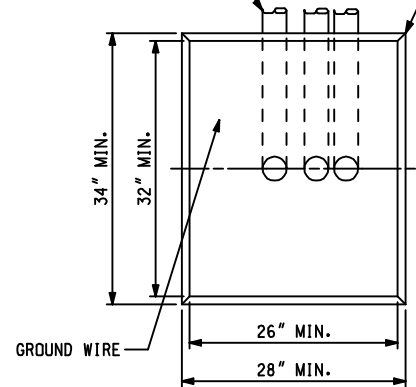
CONTACT: JON LOIACANO, CONSUMERS ENERGY, PHONE (989) 366-4227 FOR ELECTRICAL SERVICE TO ROADSIDE DYNAMIC MESSAGE SIGNS. NO COST TO CONTRACTOR

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

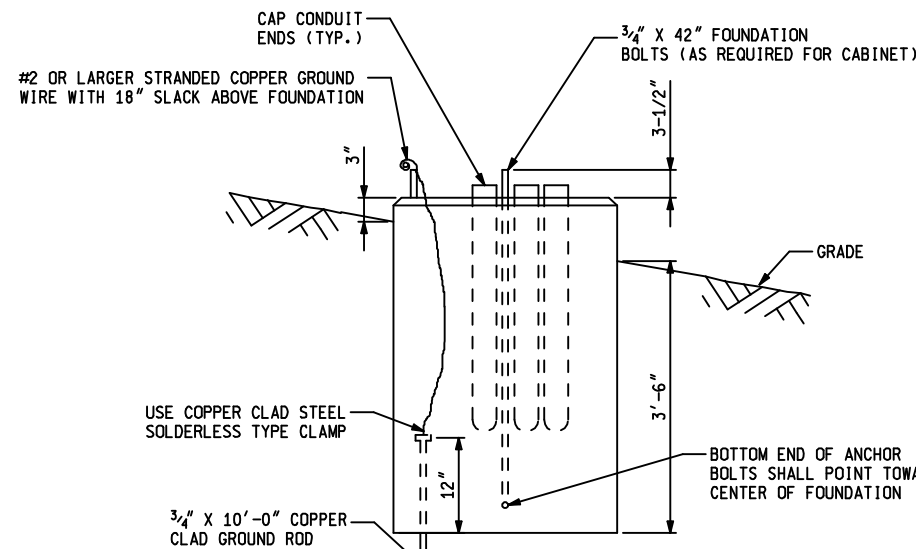


36" RADIUS PLASTIC BEND NO. & SIZE AS REQUIRED TO COMPLETE INSTALLATION

BOLT PATTERN TO MANUFACTURES SPECIFICATIONS (AS REQUIRED FOR CABINET)

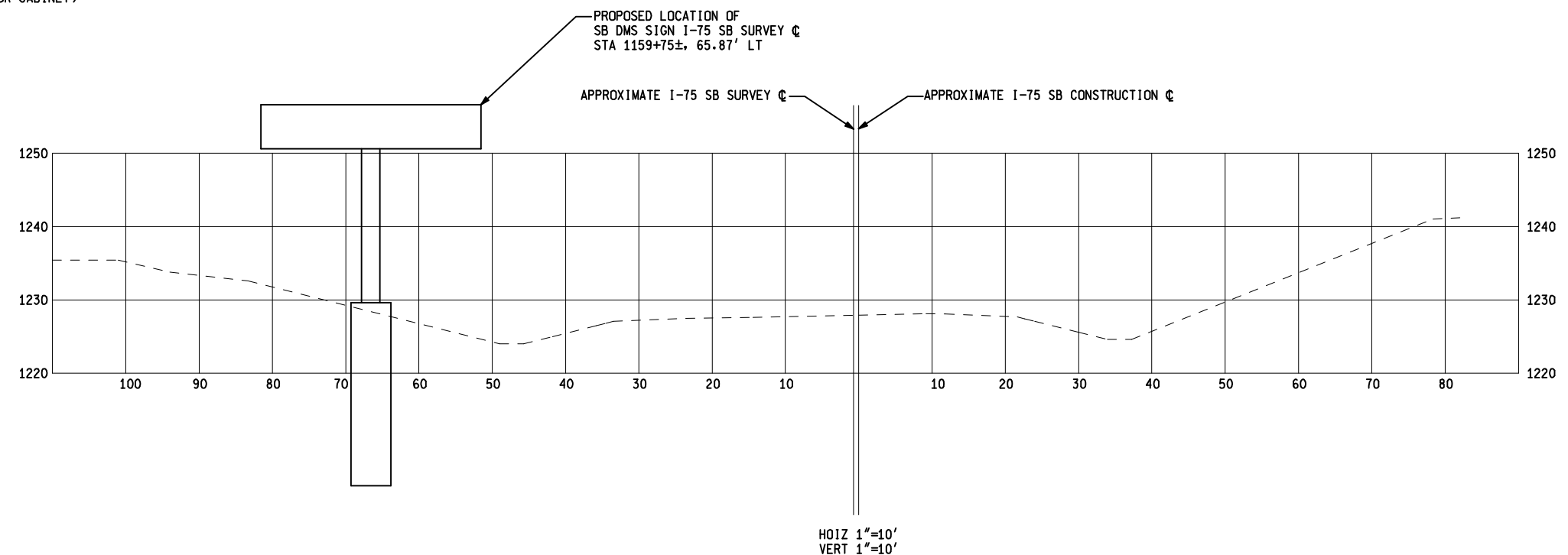


PLAN



ELEVATION

CONTROLLER FOUNDATION, BASE MOUNT (N.T.S.)



SECTION A-A

CONSTRUCTION QUANTITIES

- 1 Ea Dynamic Message Sign, Large
- 1 Ea Dynamic Message Sign, Large, Support Structure
- 35 Ft Dynamic Message Sign, Large, Foundation
- 1 Ea Cabinet, ITS, Ground Mounted
- 1 Ea Cellular Modem
- 1 Ea Controller Fdn. Base Mount

MISCELLANEOUS DETAILS

I-75 SB DMS SIGN LOCATION DETAILS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	1"=40'	20014	86806A	RUPINSKI	5 OF 1



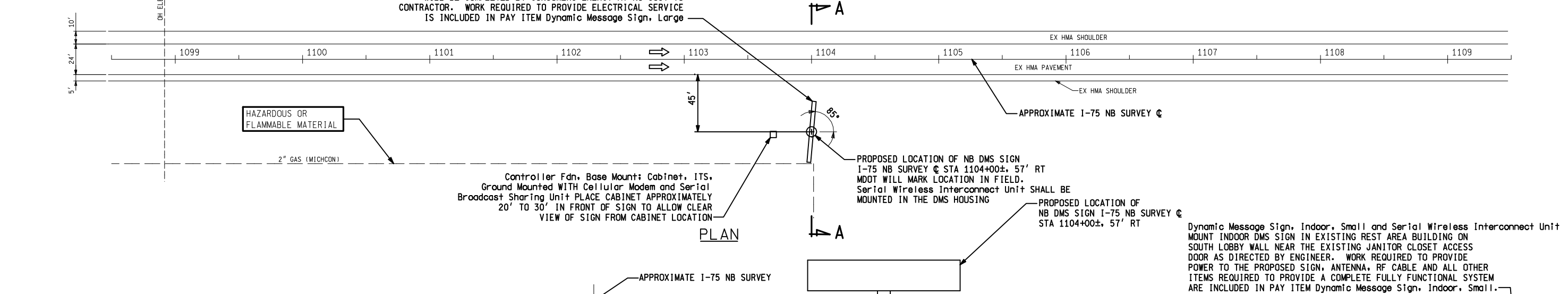
PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416



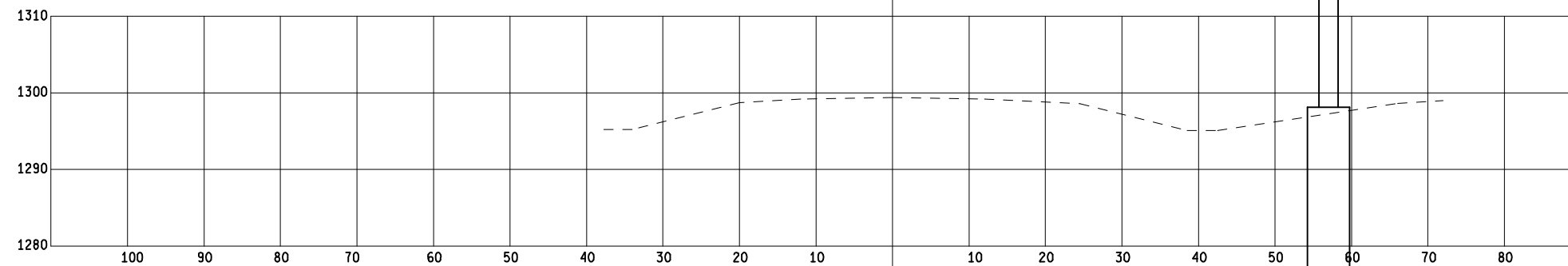
DATE: WORKED ON BY: CHECKED BY:

CONTACT: JON LOIACANO, CONSUMERS ENERGY, PHONE  
(989) 366-4227 FOR ELECTRICAL SERVICE TO ROADSIDE  
DYNAMIC MESSAGE SIGNS. NO COST TO CONTRACTOR

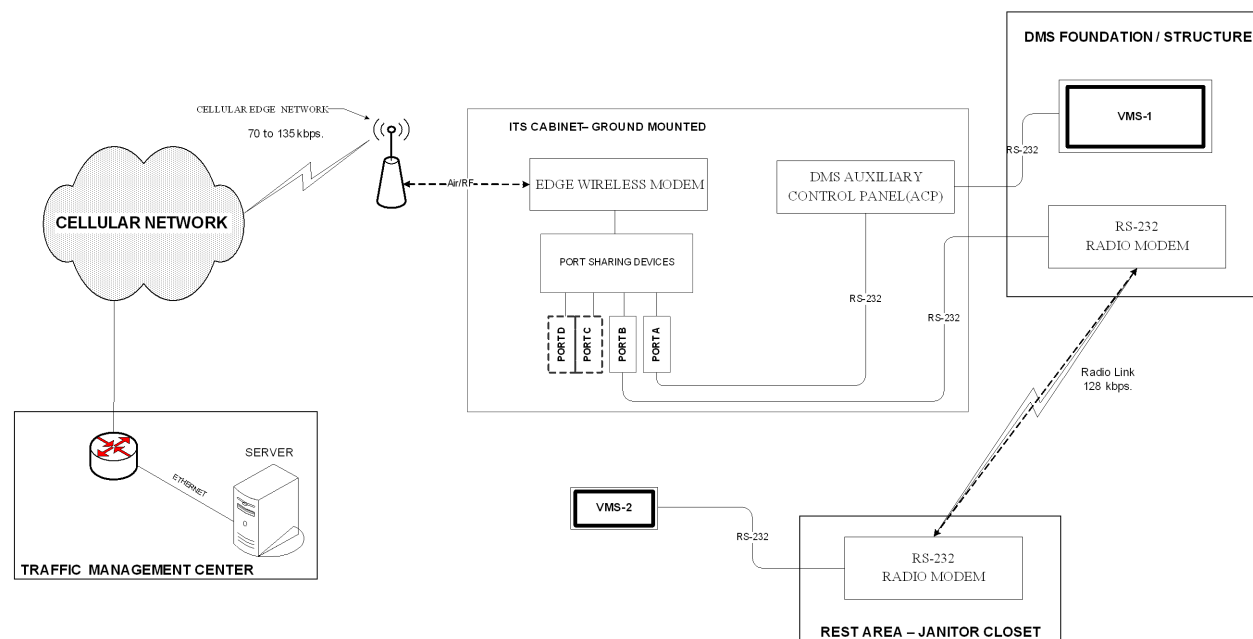
			FINAL R.O.W.
AUTH	DATE	NO.	REVISION



Dynamic Message Sign, Indoor, Small and Serial Wireless Interconnect Unit  
MOUNT INDOOR DMS SIGN IN EXISTING REST AREA BUILDING ON  
SOUTH LOBBY WALL NEAR THE EXISTING JANITOR CLOSET ACCESS  
DOOR AS DIRECTED BY ENGINEER. WORK REQUIRED TO PROVIDE  
POWER TO THE PROPOSED SIGN, ANTENNA, RF CABLE AND ALL OTHER  
ITEMS REQUIRED TO PROVIDE A COMPLETE FULLY FUNCTIONAL SYSTEM  
ARE INCLUDED IN PAY ITEM Dynamic Message Sign, Indoor, Small.



HOIZ 1"=10'  
VERT 1"=10'  
SECTION A-A



## NB / REST AREA DMS SYSTEM SCHEMATIC

FOR ACCESS TO REST AREA JANITOR CLOSET  
AND TO REVIEW EXISTING REST AREA PLANS  
CONTACT THE MDOT GRAYLING TRANSPORTATION  
SERVICE CENTER AT 989-344-1802 DURING NORMAL  
WORKING HOURS.

SCALE = NONE

REST AREA SMALL INDOOR DMS DETAIL

### CONSTRUCTION QUANTITIES

- |    |    |                                                |
|----|----|------------------------------------------------|
| 1  | Ea | Dynamic Message Sign, Large                    |
| 1  | Ea | Dynamic Message Sign, Large, Support Structure |
| 35 | Ft | Dynamic Message Sign, Large, Foundation        |
| 1  | Ea | Cabinet, ITS, Ground Mounted                   |
| 1  | Ea | Cellular Modem                                 |
| 1  | Ea | Serial Broadcast Sharing Unit                  |
| 2  | Ea | Serial Wireless Interconnect Unit              |
| 1  | Ea | Dynamic Message Sign, Indoor, Small            |
| 1  | Ea | Controller Fdn, Base Mount                     |

## MISCELLANEOUS DETAILS

I-75 NB DMS SIGN LOCATION DETAILS

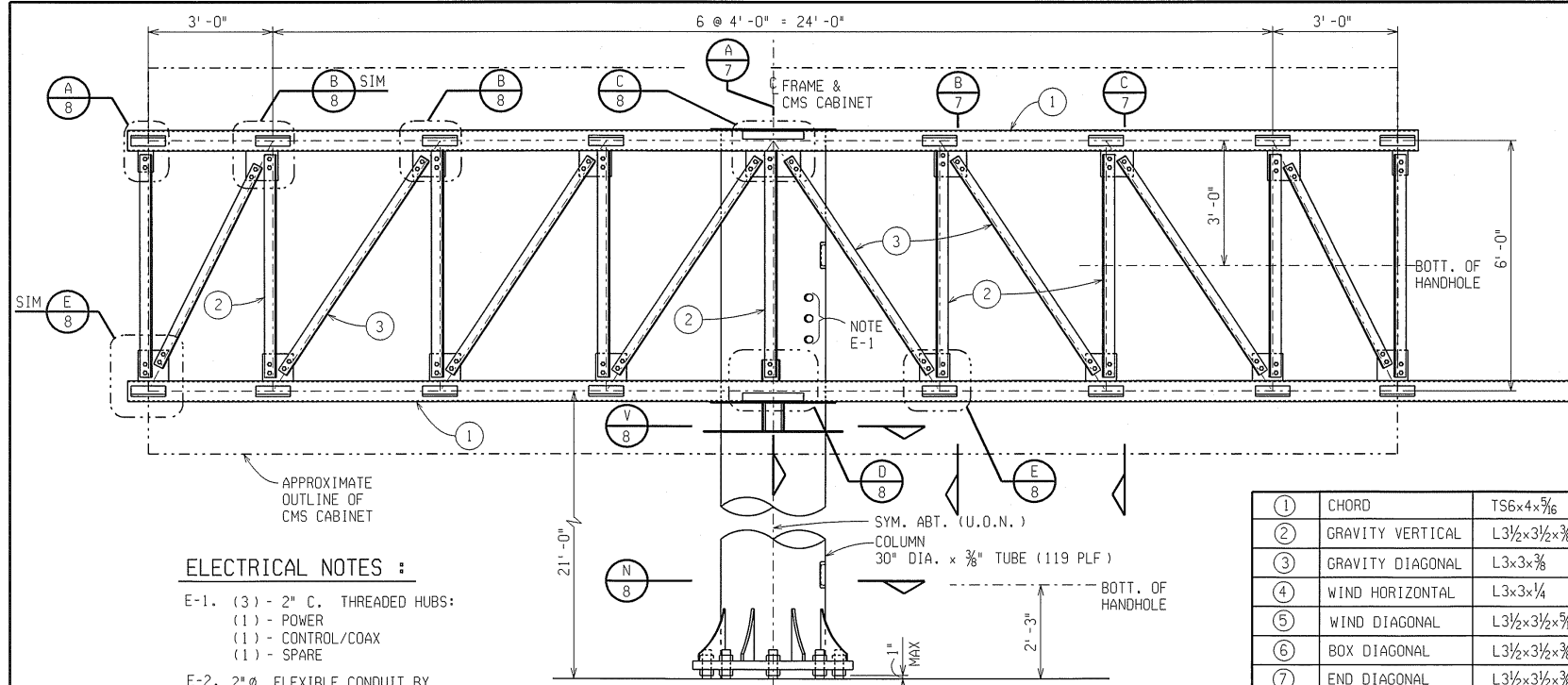
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	1"=40'	20014	86806A	RUPINSKI	R.O.W. CONST
					6 OF 1

**PARSONS BRINCKERHOFF, INC.**  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416





FINAL R.O.W.		
AUTH	DATE	NO.



#### ELECTRICAL NOTES :

- E-1. (3) - 2" C. THREADED HUBS:  
 (1) - POWER  
 (1) - CONTROL/COAX  
 (1) - SPARE
- E-2. 2" Ø FLEXIBLE CONDUIT BY ELECT. CONTRACTOR

#### ELEVATION

SCALE: 1/2" = 1'-0"

1	CHORD	TS6x4x3/16
2	GRAVITY VERTICAL	L3 1/2 x 3 1/2 x 3/8
3	GRAVITY DIAGONAL	L3 x 3 x 3/8
4	WIND HORIZONTAL	L3 x 3 x 1/4
5	WIND DIAGONAL	L3 1/2 x 3 1/2 x 5/16
6	BOX DIAGONAL	L3 1/2 x 3 1/2 x 3/8
7	END DIAGONAL	L3 1/2 x 3 1/2 x 3/8
8	CABINET SUPPORT	L5 x 3 x 3/8

#### SECTION A

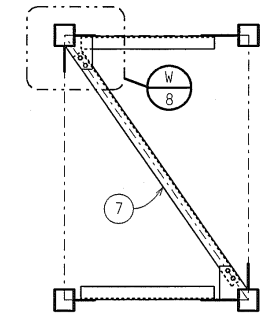
SCALE: 1/2" = 1'-0"

#### SECTION B

SCALE: 1/2" = 1'-0"

#### SECTION C

SCALE: 1/2" = 1'-0"



#### SECTION D

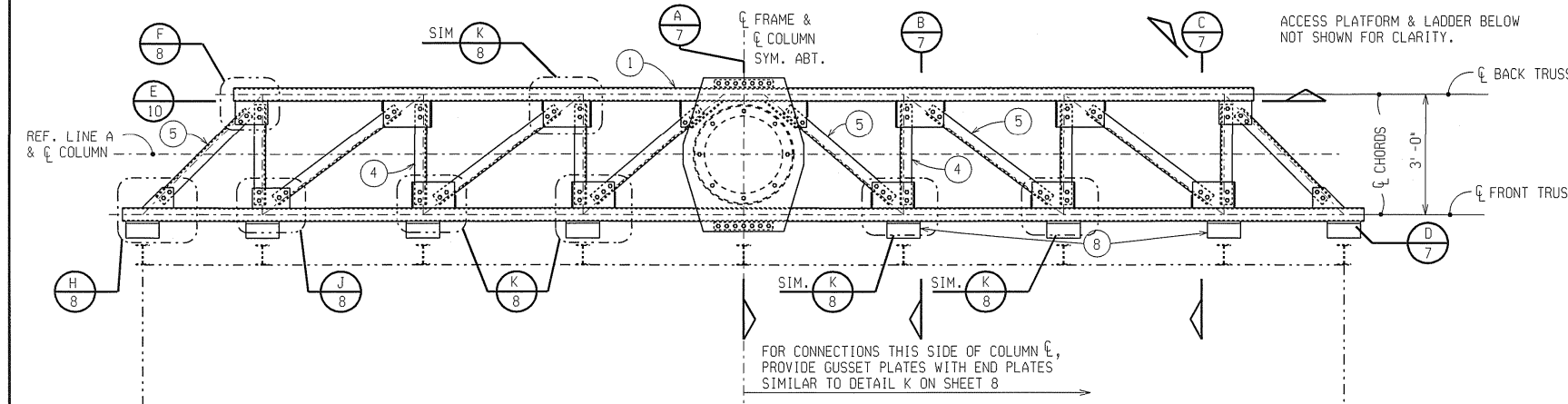
SCALE: 1/2" = 1'-0"

#### NOTES :

1. THE DESIGN OF THIS STRUCTURE IS BASED ON THE 2001 A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS INCLUDING THE 2002 INTERIM AND 2003 INTERIM.
2. ALL STRUCTURAL STEEL, BOLTS, WELDING & GALVANIZING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS MODIFIED BY THE M.D.O.T. SPECIAL PROVISION FOR STRUCTURAL STEEL & ALUMINUM CONSTRUCTION. SP707 (A).
3. UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE 3/4" DIA. A325 GALVANIZED, WITH FLAT 3/16" THICK WASHER & 3/4" DIA. NUT.
4. ALL COMPONENTS SHALL BE HOT-DIP GALVANIZED ACCORDING TO ASTM A-123 PRIOR TO BOLTED ASSEMBLY.
5. STRUCTURAL TUBES SHALL BE A.S.T.M. A500, GRADE B OR C STEEL WITH A MINIMUM YIELD STRESS NOT BELOW 46 KSI. SILICONE CONTENT SHALL BE LESS THAN 0.06% OR BETWEEN 0.15% TO 0.25%. 30" DIA. COLUMN SHALL BE ASTM A-572 GRADE 50 OR API 5L X52. ALL OTHER STRUCTURAL STEEL SHALL BE A.S.T.M. A-36 UNLESS OTHERWISE NOTED.
6. TRUSS SHALL NOT BE LIFTED BY WEB MEMBERS.
7. ALL HIGH STRENGTH GALVANIZED BOLTS SHALL BE TIGHTENED BY THE TURN OF THE NUT METHOD.
8. FOR FOUNDATION DETAILS & NOTES SEE SHEET 11.
9. NEOPRENE PAD SHALL BE MFR'D FROM 100% VIRGIN CHLOROPRENE WITH A 50 DUROMETER HARDNESS AND U.V. RESISTANCE.
10. THE "MOOT" INSPECTOR IS REQUESTED TO ATTACH A DATE STICKER TO THE BACK OF THE SIGN INSTALLED ON THIS CONTRACT. THIS STICKER WILL BE SUPPLIED BY MOOT CENTRAL SIGN SHOP, LANSING, CONTACT (517) 322-3351.
11. FIELD DRILL HOLES IN CONNECTION ELEMENTS FROM CMS CABINET TO T-FRAME AS REQUIRED FOR PROPER ALIGNMENT.
12. ALL BOLTS THRU ALUMINUM ANGLES SHALL BE 3/4" DIAMETER STAINLESS STEEL CONFORMING TO ASTM A-320 GRADE B8M.
13. INSTALLATION SHALL BE ACCORDING TO SUBSECTION 810.03N OF THE STANDARD SPECIFICATIONS. ADDITIONAL CONNECTION MEMBERS MAY BE REQUIRED.

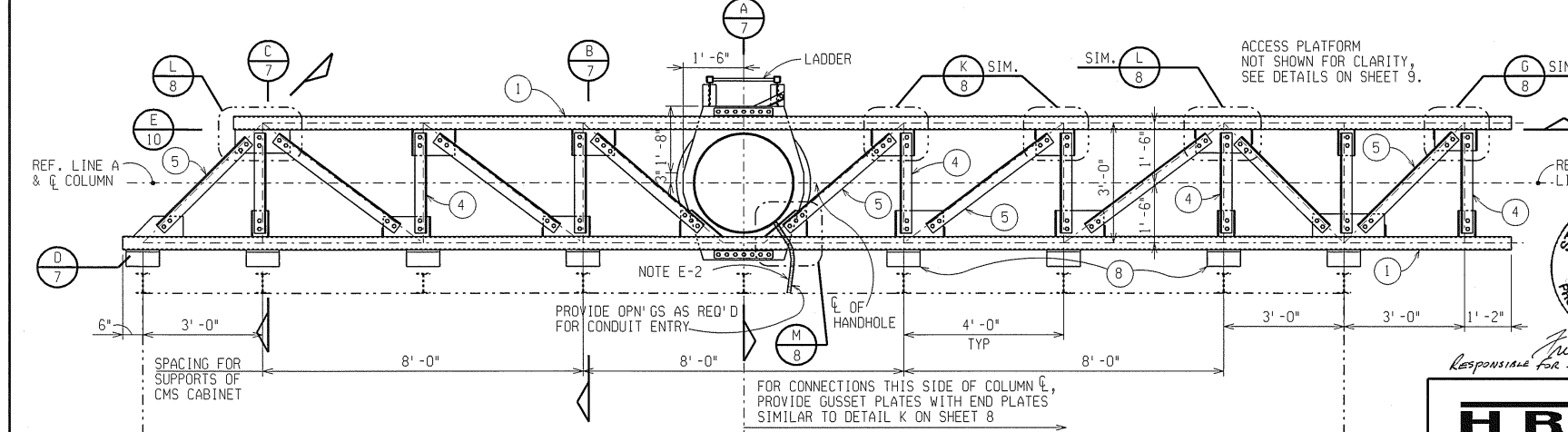
FRAME DESIGN WAS BASED ON CHANGEABLE MESSAGE SIGN CABINETS OF:

MAXIMUM HEIGHT = 8' - 6"  
 MAXIMUM LENGTH = 30' - 8"  
 MAXIMUM WIDTH = 3' - 4"  
 MAXIMUM WEIGHT = 4,800 LBS



#### TOP PLAN

SCALE: 1/2" = 1'-0"



#### BOTTOM PLAN

SCALE: 1/2" = 1'-0"



RESPONSIBLE FOR SHEETS 7, 8, 9 & 10 OF 12



#### I-75 DMS SUPPORT DETAILS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	AS NOTED	20014	86806A	RUPINSKI	7 OF 12

DATE: WORKED ON BY: CHECKED BY: FILE NAME: P007.dgn





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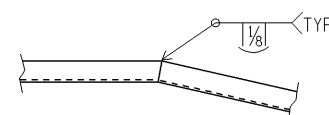


SCALE:  $\frac{1}{2}" = 1' - 0"$

APPROXIMATE OUTLINE OF CMS CABINET



SCALE:  $\frac{1}{2}" = 1' - 0"$

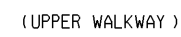


TYPICAL RAILING SPLICE

SCALE:  $1\frac{1}{2}" = 1' - 0"$

TYPICAL CHANNEL SPLICE

SCALE:  $1\frac{1}{2}" = 1' - 0"$



SECTION

SCALE: 1½" = 1' -0"



SCALE:  $1\frac{1}{2}" = 1' - 0"$   
(TYP. U.O.N.)



N.T.S.  
(FOR TS3x3 & TS2x2 )

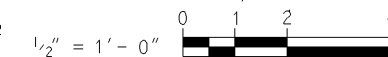


SCALE:  $1\frac{1}{2}" = 1' - 0"$



SCALE:  $1\frac{1}{2}" = 1' - 0"$

1. GRATING G-1 SHALL BE W-19-4 (1x¼) STEEL GALVANIZED.
2. GRATING G-2 SHALL BE STEEL TREAD W/1¼"x ⅞" BEARING BARS & CHECKERED PLATE NOSING.
3. WS-1 SHALL BE TS 3x3¼.
4. ATTACH GRATING TO TS 3x3 WITH GRATING SADDLE CLIPS, MIN 2 EA. END EA. PANEL.
5. LADDER SHALL BE EQUIPPED WITH A SAFETY RAIL SYSTEM AS MFRD BY TS PRODUCTS INC. OR EQUAL.
6. PROVIDE GALVANIZED STEEL, SELF-CLOSING SAFETY GATE, MOUNTED TO HANDRAIL PER MFR DIRECTION. STEEL SHALL BE ASTM A36 MATERIAL GALVANIZED PER ASTM A123. ADJUST STOP BOLTS TO ASSURE PROPER CLOSING. (FABENCO, INC MODEL A71-27 OR EQUAL)



## MISCELLANEOUS DETAILS

I-75 DMS SUPPORT DETAILS

DATE: \_\_\_\_\_

WORKED ON BY:

DATE: \_\_\_\_\_

CHECKED BY:

FILE NAME: Pb09.dgn

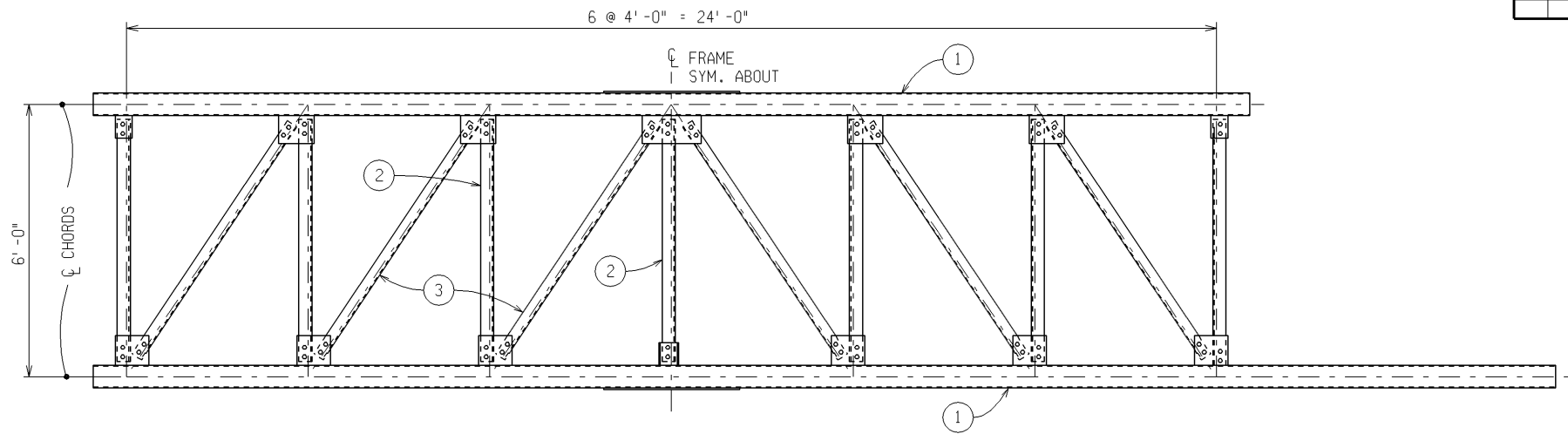
**HRC**  
HUBBELL ROTH & CLARK, INC.  
CONSULTING ENGINEERS



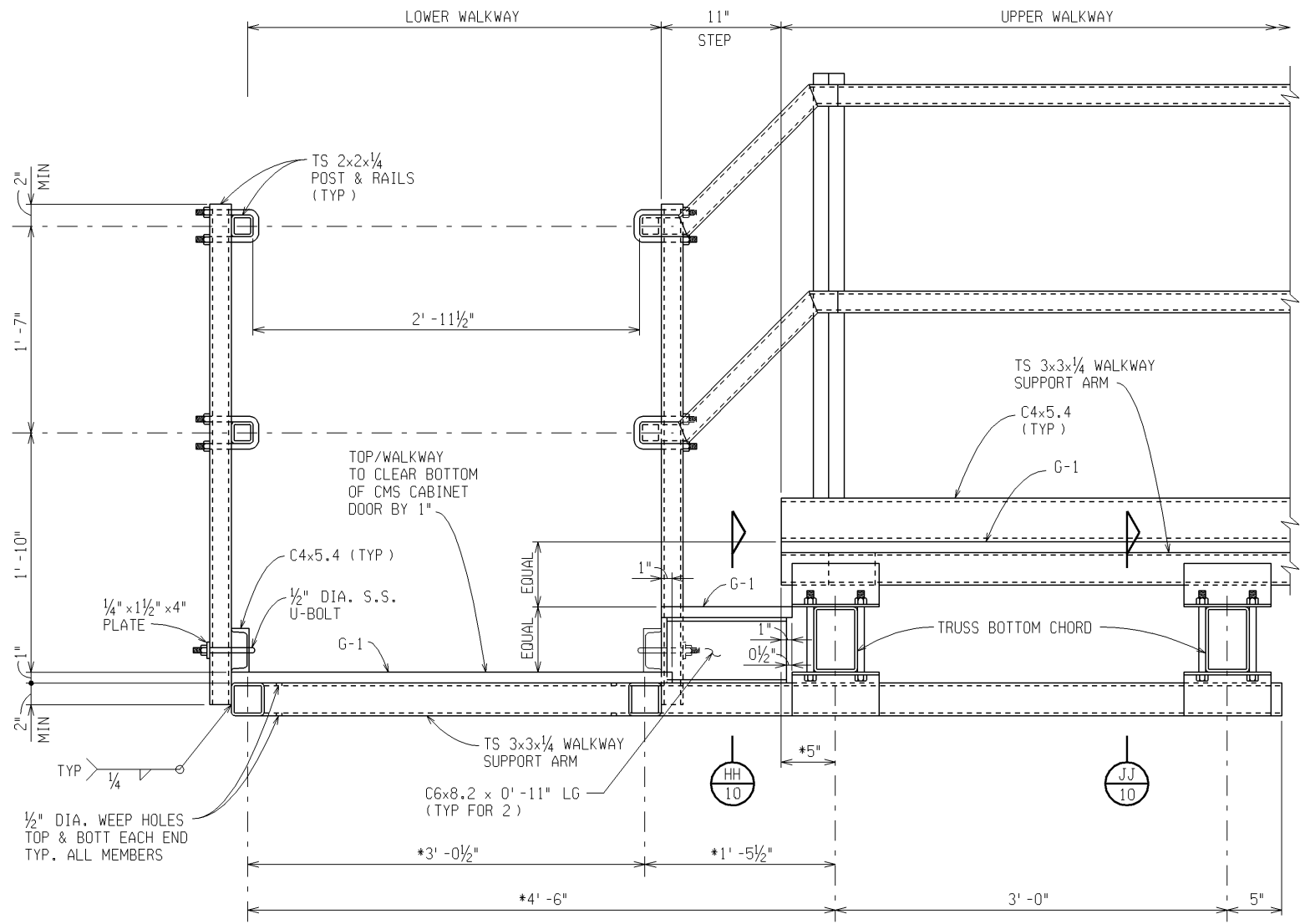
Michigan Department of Transportation

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

①	CHORD	TS6x4x $\frac{5}{16}$
②	GRAVITY VERTICAL	L3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{3}{8}$
③	GRAVITY DIAGONAL	L3x3x $\frac{3}{8}$
④	WIND HORIZONTAL	L3x3x $\frac{1}{4}$
⑤	WIND DIAGONAL	L3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{5}{16}$
⑥	BOX DIAGONAL	L3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{3}{8}$
⑦	END DIAGONAL	L3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{3}{8}$
⑧	CABINET SUPPORT	L5x3x $\frac{3}{8}$

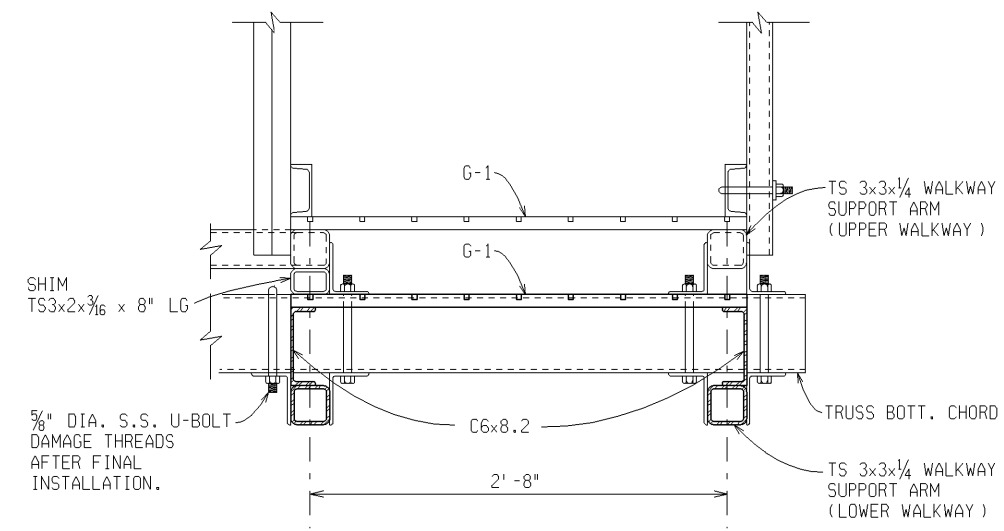


SECTION **E**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

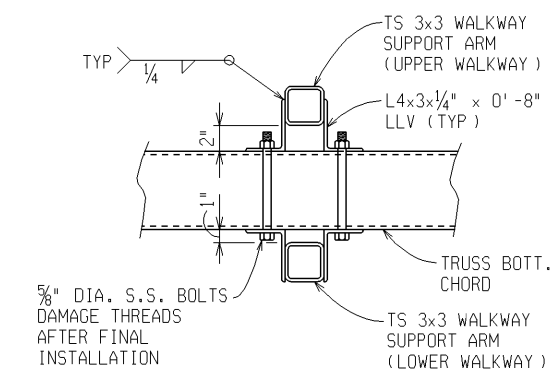


SECTION **GG**  
SCALE:  $\frac{1}{2}$ " = 1'-0"

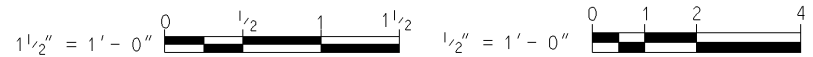
\* TO BE ADJUSTED PER CMS MANUF.



SECTION **HH**  
SCALE:  $\frac{1}{2}$ " = 1'-0"



SECTION **JJ**  
SCALE:  $\frac{1}{2}$ " = 1'-0"



MISCELLANEOUS DETAILS



I-75 DMS SUPPORT DETAILS					
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
07/10/06	AS NOTED	20014	86806A	RUPINSKI	10 OF 11

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

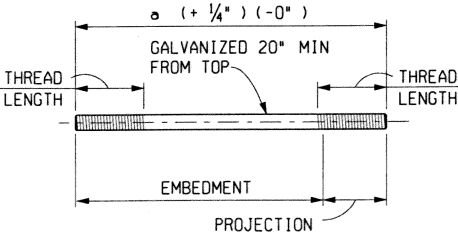
DRILLED SHAFT INFORMATION

DYNAMIC MESSAGE SIGN	*D*	CONC. Cu. Yd.	Steel Wt. REINF.
SEE PLAN SHEET 7 FOR DMS TYPES	35' -0"	31	4262

STEEL REINFORCEMENT SCHEDULE

MARK	SIZE	DIMENSIONS	NUMBER REQ'D.	TOTAL WEIGHT (LBS.)
A103406	10	34' -6"	24	3563
V041502	4	14' -2" 27" 12"	69	699
STEEL REINFORCEMENT TOTAL WEIGHTS (LBS.)				4262

ANCHOR BOLT TABLE



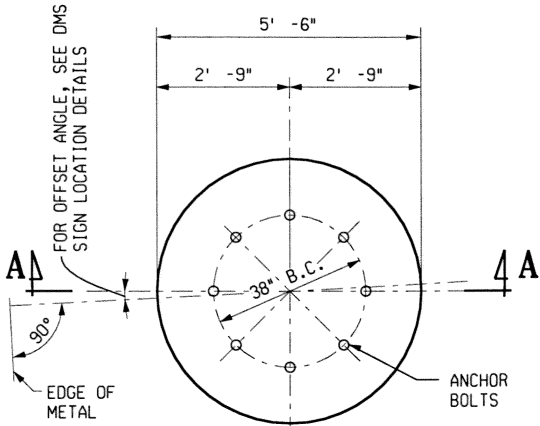
Ø	THREAD LENGTH EA END	PROJECTION	SIZE
10' -0"	11"	10 1/2"	2 1/2" Ø

ANCHOR BOLTS: 2 1/2" Ø (8UN SERIES THREAD),  
(8) PER FOUNDATION.  
NUTS: (4) - 2 1/2" Ø PER ANCHOR BOLT  
WASHERS: (2) - 2 1/2" Ø STANDARD FLAT PER ANCHOR  
BOLT.

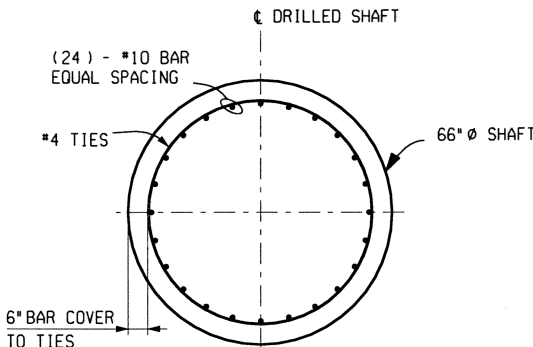
ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE IN  
ACCORDANCE WITH SECTION 908.15 A&B OF THE MDOT  
"2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION"

DMS FOUNDATION DETAILS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO. R.O.W. CONST.
07/10/06	NONE	20014	86806A	RUPINSKI	11 OF 12

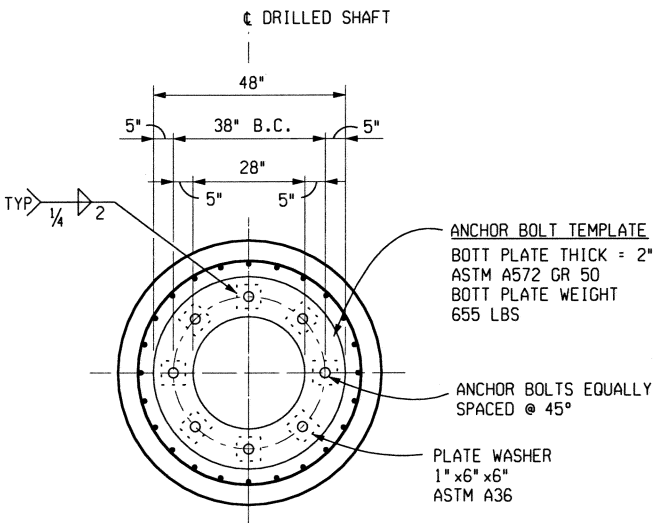


PLAN

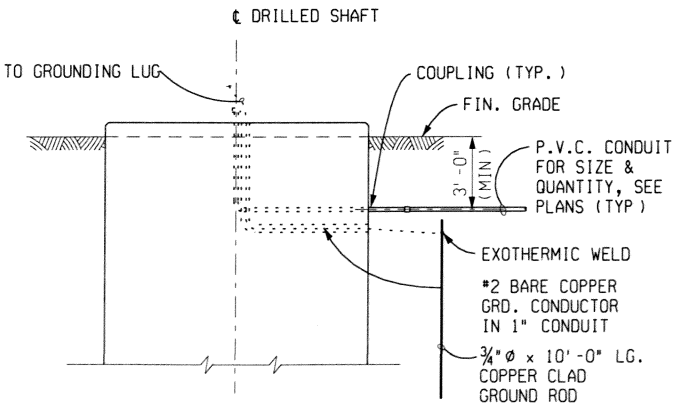


SECTION B-B  
SEE SHEET 11

ANCHOR BOLT TOP TEMPLATE LAYOUT PLAN



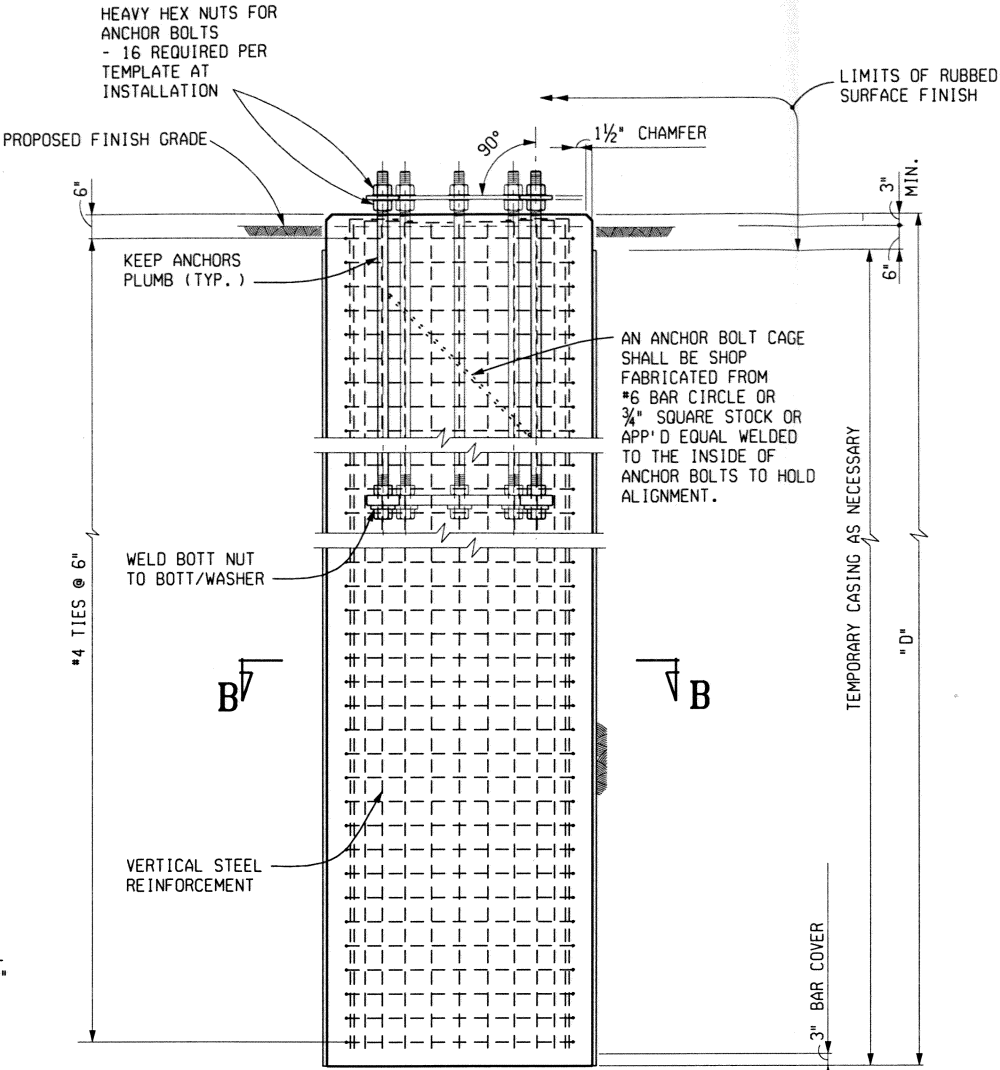
ANCHOR BOLT BOTTOM TEMPLATE LAYOUT PLAN



ELECTRICAL CONDUIT INSTALLATION

PARTIAL ELEVATION\*

\*DESIGNED BY PARSONS BRINCKERHOFF, INC.



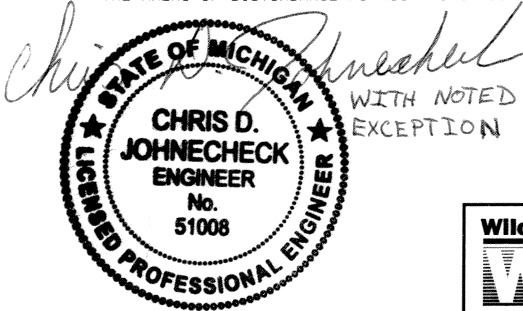
SECTION A-A  
SEE SHEET 11

NOTES :

- ALL MATERIALS & CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE MDOT 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE SPECIAL PROVISION FOR DYNAMIC MESSAGE SIGN, LARGE - DYNAMIC MESSAGE SIGN, LARGE, SUPPORT STRUCTURE-DYNAMIC MESSAGE SIGN, LARGE, FOUNDATION.
- FOUNDATION CONCRETE SHALL BE GRADE S2.
- TOP OF DRILLED SHAFT FOUNDATION SHALL BE 3" ABOVE FINISHED GRADE.
- DRILLED SHAFT FOUNDATION SHALL RECEIVE RUBBED SURFACE FINISH FROM TOP OF FOUNDATION TO 6" BELOW GRADE.
- SUBSURFACE AND GROUNDWATER INFORMATION CAN BE OBTAINED FROM THE SOIL BORING DATA PLAN SHEET.
- ALL DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR SLOPE RESTORATION, FREEWAY. CONTRACTOR IS TO MINIMIZE THE AREAS OF DISTURBANCE AS MUCH AS IT IS PRACTICABLE.

REINFORCEMENT BAR & ANCHOR BOLT NOTES :

- REINFORCEMENT BARS FOR FOUNDATION SHALL BE GRADE 60 DEFORMED BARS AS SPECIFIED IN SECTION 905.03 OF THE MDOT 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ANCHOR BOLTS ARE TO BE VERTICAL & POSITIONED AS SHOWN IN PLAN.
- TEMPLATE PLATES & ANCHOR BOLT CAGE SHALL BE SHOP FABRICATED, ASSEMBLED, AND APPROVED BY MDOT PRIOR TO SHIPPING.
- DIAMETER OF BOLT HOLES IN TEMPLATES SHALL BE 1/16" LARGER THAN ANCHOR BOLT DIAMETER.
- INSTALLATION SHALL BE ACCORDING TO SUBSECTION 810.03N OF THE STANDARD SPECIFICATIONS.
- THE TEMPLATES & HANDLES SHALL BE WELL SUPPORTED, HORIZONTALLY LEVEL & FIRMLY ANCHORED IN PLACE FOR A MINIMUM OF 24 HOURS AFTER THE CONCRETE PLACEMENT IS COMPLETED.
- DUE CARE SHALL BE TAKEN DURING THE CONCRETE PLACEMENT TO AVOID DISPLACING THE ANCHOR BOLTS.
- NO HAMMERING ON THE ANCHOR BOLTS OR TEMPLATES WILL BE ALLOWED. NO CHISELING OR DAMAGING OF GALVANIZED FINISH WILL BE PERMITTED.
- AFTER TOP TEMPLATE IS REMOVED, THREAD NUTS ON TO THE BOLT FLUSH WITH THE BOLT END TO PROTECT THREADS UNTIL FRAME IS ERECTED.



PARSONS BRINCKERHOFF, INC.  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-327-7848



DATE:

WORKED ON BY:

DATE:

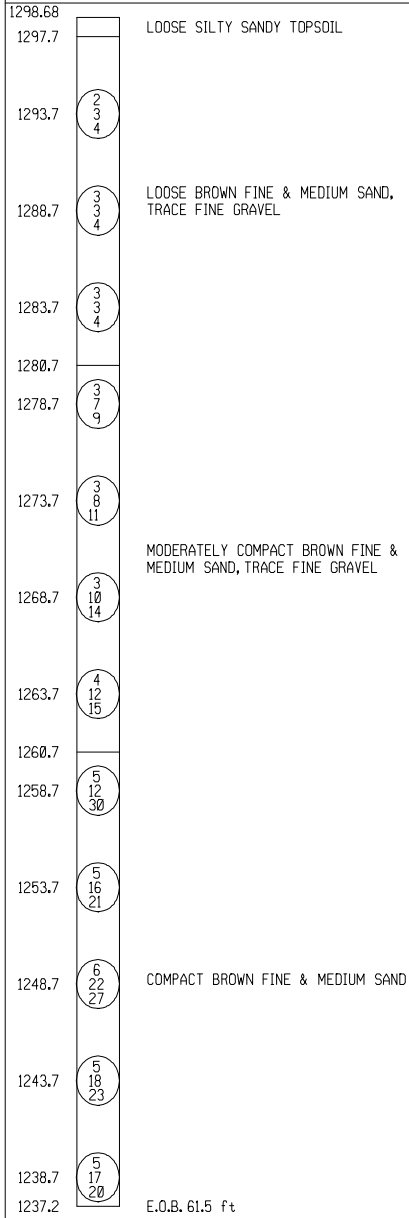
CHECKED BY:

FILE NAME: P:\projects\22609\00007\fdn\_det.dgn

			FINAL R.O.W.
AUTH	DATE	NO.	REVISION

TEST HOLE NO. 1

LOCATION STATION: 1104+00.0  
45.0 ft RT OF I-75 NB RT EOM  
I-75 NB DYNAMIC MESSAGE SIGN  
GROUND SURFACE ELEVATION: 1298.68 ft

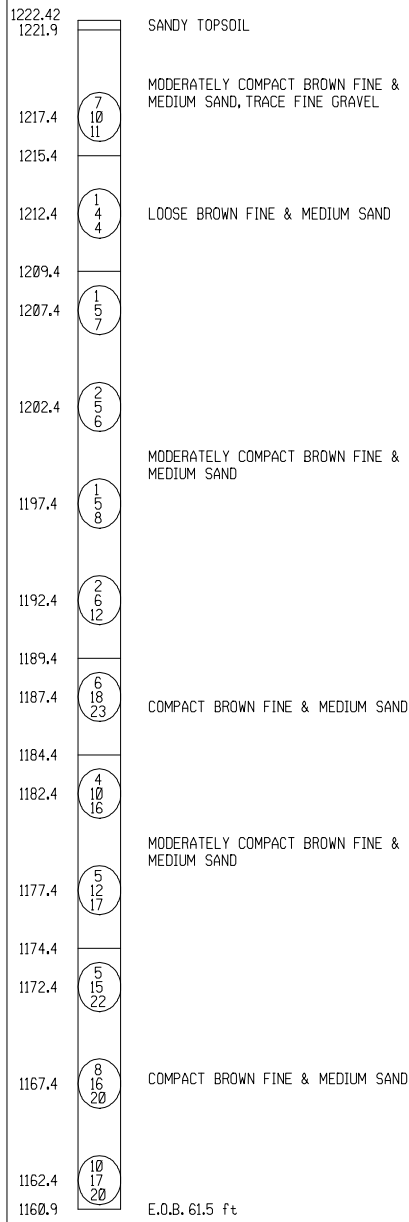


BORING DATE 5/8/06

WATER LEVEL BELOW GROUND AFTER COMPLETION;  
AUGERS OUT: DRY

## TEST HOLE NO. 2

LOCATION STATION: 1159+74.0  
24.0 ft LT OF I-75 SB LT EOM  
I-75 SB DYNAMIC MESSAGE SIGN  
GROUND SURFACE ELEVATION: 1222.42 ft

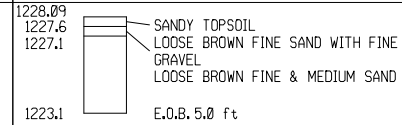


BORING DATE 5/9/06

WATER LEVEL BELOW GROUND AFTER COMPLETION;  
AUGERS OUT: DRY

## TEST HOLE NO. 3

LOCATION STATION: 1159+74.0  
45.0 ft LT OF I-75 SB LT EOM  
I-75 SB DYNAMIC MESSAGE SIGN  
GROUND SURFACE ELEVATION: 1228.09 ft



BORING DATE 5/9/06

WATER LEVEL BELOW GROUND AFTER COMPLETION;  
AUGERS OUT: DRY

NOTES:

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D.  
(1½" I.D.) SPLIT SPOON SAMPLER 3 SUCCESSIVE 6" INCREMENTS USING A 140#  
HAMMER FALLING 30".

CONSISTENCY WAS DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY SOILS RESISTANCE TO DRILLING TOOLS.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.



**PARSONS BRINCKERHOFF, INC.**  
6015 W. ST. JOSEPH, SUITE 101  
LANSING, MICHIGAN 48917  
517-886-7416



## LOG OF BORINGS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
					R.O.W
07/10/06	NONE	20014	86806A	RUPINSKI	12 OF 12

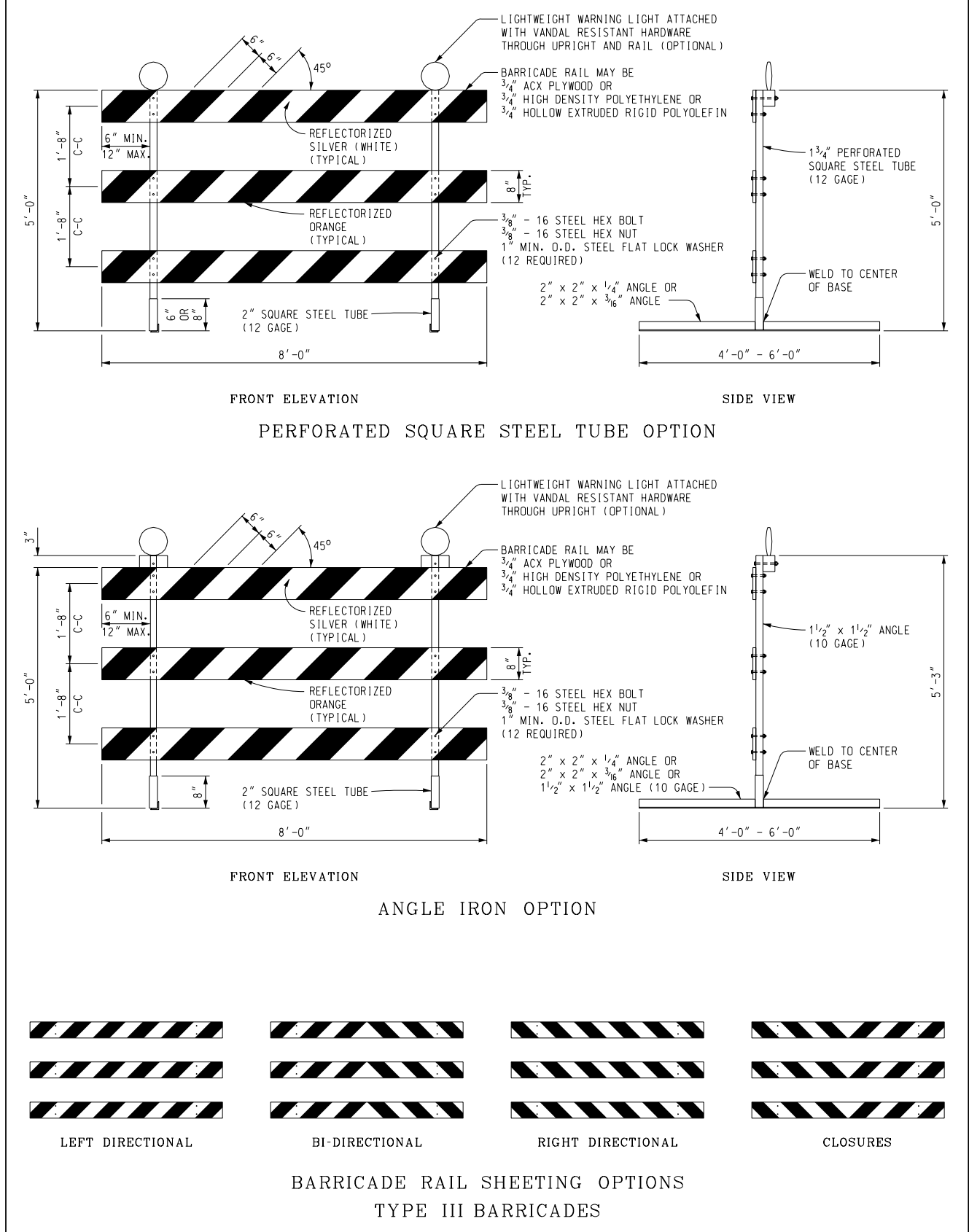
DATE:


WORKED ON BY:

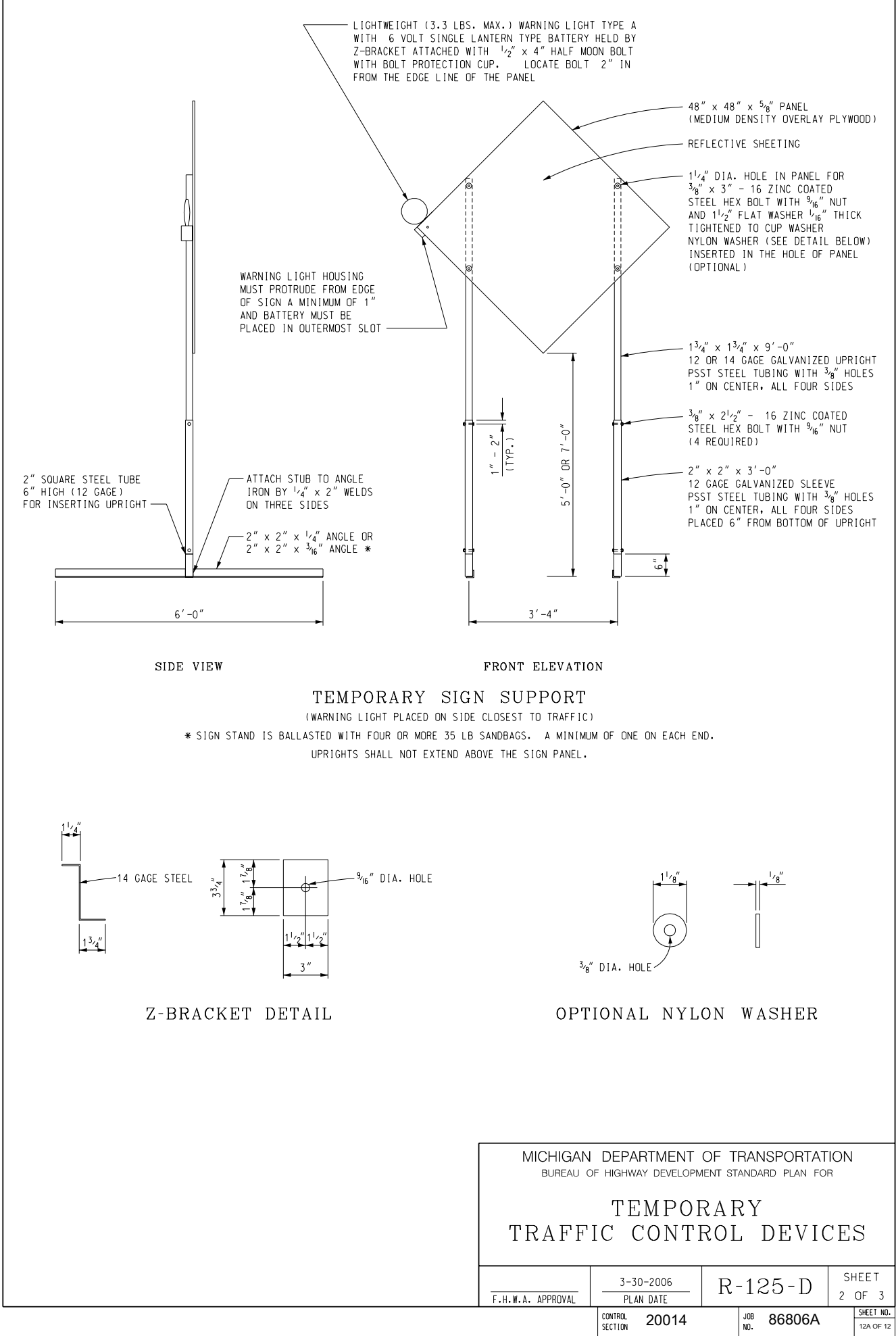
DATE:

**CHECKED BY:**

FILE NAME: G:\35525M\_I-75 DMS Design\Civil\Plans\86806BoringI.dgn



 Michigan Department of Transportation	DEPARTMENT DIRECTOR Kirk T. Steudle	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
	APPROVED BY: _____ ENGINEER OF DELIVERY	TEMPORARY TRAFFIC CONTROL DEVICES			
	APPROVED BY: _____ ENGINEER OF DEVELOPMENT	F.H.W.A. APPROVAL	3-30-2006 PLAN DATE	R-125-D	SHEET 1 OF 3
	PREPARED BY DESIGN SUPPORT AREA				
DRAWN BY: <u>B.L.T.</u>					
CHECKED BY: <u>W.K.P.</u>					



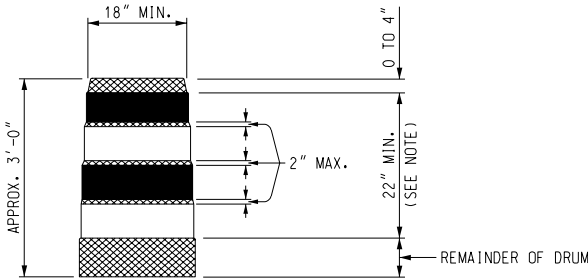
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
TEMPORARY TRAFFIC CONTROL DEVICES			
F.H.W.A. APPROVAL	3-30-2006 PLAN DATE	R-125-D	SHEET 2 OF 3
CONTROL SECTION	20014	JOB NO. 86806A	SHEET NO. 12A OF 12

- PLASTIC DRUM
- ▲▲▲

PROPOSED TYPE III BARRICADE
- △△△

EXISTING TYPE III BARRICADE

SYMBOLS TO BE USED ON PLANS



- REFLECTORIZED ORANGE
- REFLECTORIZED WHITE
- NON REFLECTORIZED ORANGE

NOTE:  
DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 4" TO 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

PLASTIC DRUM

- NOTES:
- 2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARRICADE.
- WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS WHEN THEY ARE USED ON PLASTIC DRUMS OR TYPE III BARRICADES.
- SEE STANDARD PLANS R-113-SERIES AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS.
- SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.
- SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

TEMPORARY  
TRAFFIC CONTROL DEVICES

	3-30-2006	R-125-D	SHEET
F.H.W.A. APPROVAL	PLAN DATE		3 OF 3
CONTROL SECTION	20014	JOB NO. 86806A	SHEET NO. 128 OF 12