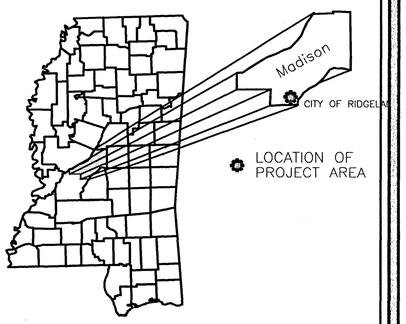
PS+E

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
INTERSECTION IMPROVEMENTS
RIDGELAND, MISSISSIPPI
FEDERAL-AID PROJECT NO. STP-8323-00(002)

LOCATION MAP



Madison County

Mayor:
Gene F. McGee

Aldermen:
Linda Davis Trunzler
Gerald Steen
Ken Heard
Chuck Gautier
Carole A. Davis
Larry Roberts
Scott Jones

Public Works Director:
John M. McCollum, P.E.

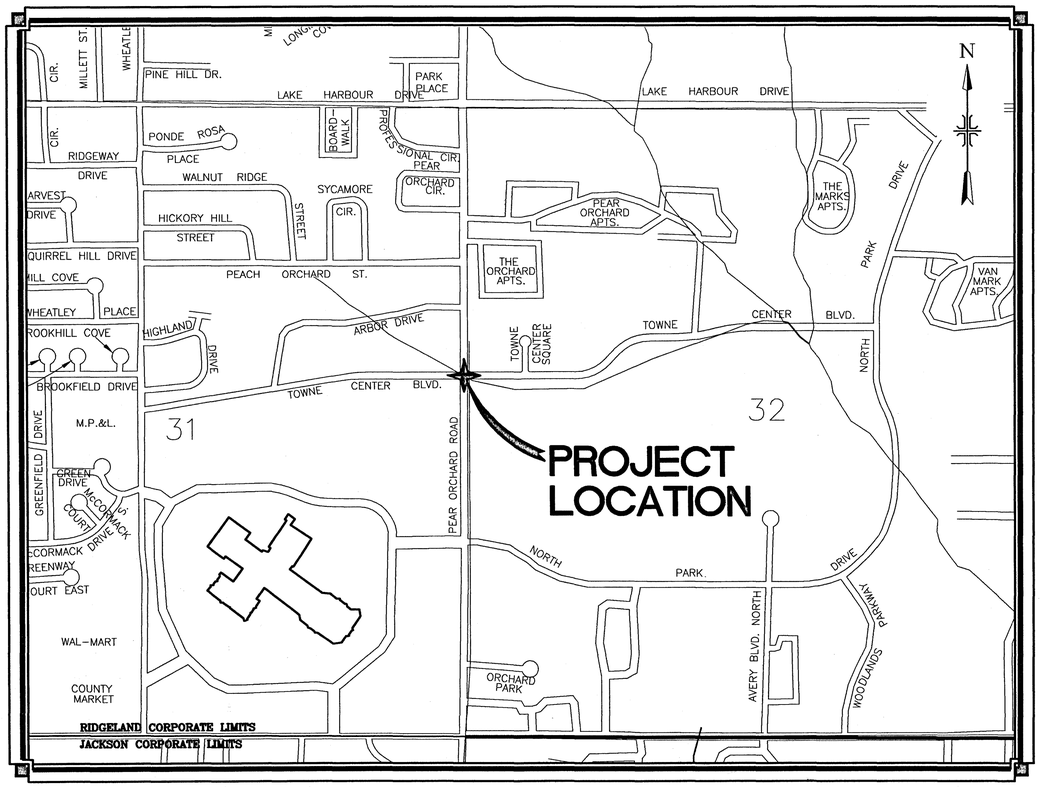
Asst. Public Works Director:
Sid Hawthorne

City Engineer:
David Williams, P.E.

City Clerk:
David W. Overby

Fire Chief:
Matthew Bailey

Police Chief:
Jimmy R. Houston, Sr.



VICINITY MAP

RATIOS/SCALES

PLAN: 1"= 20' UNLESS OTHERWISE INDICATED

DESCRIPTION	*NO. OF SHEETS*
TITLE SHEET	1
DETAILED INDEX/GENERAL NOTES	1
QUANTITIES	1
PLAN SHEETS	2
PAVEMENT MARKINGS & SIGNING	1
TRAFFIC SIGNAL SHEETS	1
TRAFFIC CONTROL	2
DETAIL SHEETS	6
STANDARD DRAWINGS	8
TOTAL:	23

UTITILTIES
WATER: CITY OF RIDGELAND
SANITARY SEWER: CITY OF RIDGELAND
POWER: ENTERGY, INC.
TELEPHONE: BELLSOUTH
CABLE TELEVISION: TIME WARNER, INC.
GAS: ENTEX, INC.

DESIGN DATA
ADT(2003)= 11,000
DESIGN SPEED = 35 MPH

Prepared by:
Project Engineer Date 3-9-05

Approved:
Mayor
City of Ridgeland Date 3-15-05

Approved:
Executive Director
Mississippi Department of Transportation Date

Approved :
Division Administrator
Federal Highway Administration Date

ENVIRONMENTAL PERMITS

P.E. NO.

TYPE	REQUESTED YES	REQUESTED NO	BY
N.W. (WATERS OF U.S.)	☐	☑	
N.W. (WETLANDS)	☐	☑	
G.P.	☐	☑	
404	☐	☑	
STORMWATER	☐	☑	

PREPARED BY:

MARK J. BEYEA REGISTERED PROFESSIONAL ENGINEER #12599 STATE OF MISSISSIPPI 3-9-05

NEEL-SCHAFFER

PWP-01632

DETAIL INDEX TO DRAWINGS

GENERAL NOTES:

1) All signs, signals, pavement markings, and temporary traffic control devices are to conform to the Manual on Uniform Traffic Control Devices (2003 Edition).

2) Underground utilities shown on plans are plotted in their approximate locations from the best information available to the Engineer. The Engineer does not guarantee their accuracy or guarantee that all utilities are shown. The Contractor shall be responsible for making independent investigations, including subsurface investigations, as may be necessary. It is the responsibility of the Contractor to locate all underground utilities associated with the intersection lighting as necessary for installation of the signals.

3) All raised objects to be placed a minimum of 2.0 feet behind face of curb. New traffic signal poles to be placed a minimum of 5.0 feet behind face of curb unless written permission is authorized by Engineer. Placement of raised objects and new poles shall conform to A.D.A. requirements and AASHTO Roadside Design Guide clear zone standards.

4) Contractor to verify all mast arm pole locations to be sure there are no utility conflicts prior to ordering poles.

5) All poles, pullboxes, controllers, and pavement markings shall be field located by the Engineer and the Contractor at the nearest practical location indicated on the plan sheets.

6) Extend pole foundations to approximately 3 inches above the shoulder elevation or the top of curb elevation.

7) Controller timings to be provided by the City.

8) Contractor shall make the application for power service, coordinating with City Officials, in advance of requiring the electrical service.

9) Once Contractor begins work, the contractor is responsible for all maintenance of traffic as per M.D.O.T. pay item 618–A, Maintenance of Traffic.

10) Construction details, contained in Divisions 200 through Division 800 of the 2004 edition of the MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, shall be used unless otherwise noted in the contract documents.

11) Cones shall be narrow profile with a minimum height of 28 inches and a minimum weight of ten (10) pounds. Cones used in speed zones equal to or greater than 45 mph shall be narrow profile with a minimum height of 28 inches and a minimum weight of fifteen (15) pounds. All cones shall be approved by the engineer prior to use.

12) All plastic drums shall have a ballasting collar made from recycled truck tires or other suitable material.

13) Fluorescent orange sheeting shall be used on all construction and traffic control signs except for those designated in plans to be black legend and border on white background.

14) Street name signs shall be cost absorbed.

15) Pull boxes for the traffic signal installations shall be cost absorbed.

16) All curb, sidewalk and pavement to be removed shall be saw cut at the limit of removal prior to any removal.

STRIPING NOTES:

1) The work under this section consists of the Contractor furnishing all materials, preparing the pavement surface and installing the pavement markings. All pavement marking materials shall be approved by the engineer prior to installation.

2) The dimensions shown to pavement stripes are to the center of the stripe or in the case of a double stripe, to the center of the double stripe.

3) Contractor to spot mark entire project before striping it. Contractor to call the Engineer to make arrangements for inspection prior to applying any markings. Any striping applied before inspection shall be subject to removal and replacement at Contractor's expense.

4) Signs that need to be removed/relocated during construction shall be done by the Contractor at his expense. All traffic control signs installed or relocated within the right–of–way shall be done by the Contractor. Any questions concerning signing, shall be directed to the engineer.

5) All raised pavement markers shall be installed so that the reflective face of each marker is facing the direction of traffic and is perpendicular to the direction of traffic flow.

6) New pavement marking may be placed over existing markings with approval by the Engineer.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N–S PROJECT NO.:	2–5006–01
FILENAME:	5006–GENOTES.dwg
CADD TYPE:	Autocad 2002
SURVEYED BY:	
DSGN: M.J.B.	DATE: 4/25/03
DRWN: A.R.W.	DATE: 4/25/03
CHKD:	DATE:
QA/QC: R.T.	DATE: 6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP–8323–00(002)

SEAL: MARK J. BOYEA REGISTERED PROFESSIONAL ENGINEER #12598 STATE OF MISSISSIPPI

NEEL–SCHAFFER

P.O. Box 22625 / 39225–2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948–3071 / FAX: (601)948–3178

DETAILED INDEX AND GENERAL NOTES

WORKING NUMBER:

DRAWING NUMBER: 2

SUMMARY OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	PEAR ORCHARD RD. @ TOWNE CENTER BLVD. EST.	FINAL	
201-A	CLEARING AND GRUBBING	L.S.	1		
202-A	REMOVAL OF OBSTRUCTIONS	L.S.	1		(10)
202-B	REMOVAL OF CONCRETE COMBINATION CURB AND GUTTER	L.F.	75		
202-B	REMOVAL OF ASPHALT PAVEMENT, ALL DEPTHS	S.Y.	30		
202-B	REMOVAL OF FLARED END SECTION	EACH	1		(9)
202-B	REMOVAL OF EXISTING PAVEMENT MARKINGS, 6" EQUIVALENT LENGTH	L.F.	1500		
203-E	BORROW EXCAVATION, FM, CLASS B15, AH	C.Y.	50		
203-G	EXCESS EXCAVATION, LVM	C.Y.	50		
211-B	TOPSOIL FOR SLOPE TREATMENTS, CONTRACTOR FURNISHED	C.Y.	50		
212-B	STANDARD GROUND PREPARATION	S.Y.	325		
213-A	AGRICULTURAL LIMESTONE	TON	0.3		
213-B	COMBINATION FERTILIZER, 13-13-13	TON	0.05		
214-A	SEEDING, BERMUDA GRASS	LB.	5		(5)
214-A	SEEDING, ANNUAL RYE	LB.	5		(5)
215-A	VEGETATIVE MATERIAL FOR MULCH	TON	0.1		(5)
216-B	SOLID SODDING, CENTIPEDE	S.Y.	325		(7)
219-A	WATERING	M/GAL.	10.0		(5)
234-A	TEMPORARY SILT FENCE	L.F.	350		
235-A	TEMPORARY EROSION CONTROL CHECKS	BALE	12		(5)
403-A	HOT MIX ASPHALT, MT, 9.5mm MIXTURE	TON	10		(8)
503-C	SAWCUT, FULL DEPTH	L.F.	40		
601-B	CLASS "B" CONCRETE, MINOR STRUCTURES	C.Y.	2.5		(6)
603-CA	24" REINFORCED CONCRETE PIPE, CLASS III	L.F.	16		(4)
603-CB	24" REINFORCED CONCRETE END SECTION	EACH	1		(4)
608-B	CONCRETE SIDEWALK, WITH REINFORCEMENT, 6" THICK	S.Y.	75		
907-614-C-PP	DETECTABLE WARNINGS, PER PLANS	S.Y.	15		
618-B	ADDITIONAL CONSTRUCTION SIGNS	S.F.	0		
618-A	MAINTENANCE OF TRAFFIC	L.S.	1		
620-A	MOBILIZATION	L.S.	1		
626-G	6" THERMOPLASTIC DETAIL STRIPE, YELLOW	L.F.	700		
626-G	6" THERMOPLASTIC DETAIL STRIPE, WHITE	L.F.	1900		
626-H	THERMOPLASTIC LEGEND, WHITE, 6" EQUIVALENT LENGTH	L.F.	400		
626-H	THERMOPLASTIC LEGEND, WHITE	S.F.	77		
627-C	RED-CLEAR REFLECTIVE RAISED MARKERS	EACH	10		
627-D	TWO-WAY YELLOW REFLECTIVE RAISED MARKERS	EACH	50		
630-A	STANDARD ROADSIDE SIGNS, SHEET ALUMINUM, 0.080" THICKNESS	S.F.	36		
630-C	STEEL U-SECTION POSTS, 3.0 TO 3.5 LB/FT	L.F.	48		
635-A	VEHICLE LOOP ASSEMBLIES	L.F.	696		
636-A	SHIELDED CABLE	L.F.	1200		
638-A	LOOP DETECTOR AMPLIFIER, CARD RACK MOUNTED (4-CHANNEL)	EACH	2		
638-A	TRAFFIC SIGNAL EQUIPMENT POLE, TYPE III, 22' SHAFT, 2-45' ARMS	EACH	1		(1)
639-A	TRAFFIC SIGNAL EQUIPMENT POLE, TYPE IV, 30' SHAFT, 30' ARM	EACH	1		(1)
639-A	TRAFFIC SIGNAL EQUIPMENT POLE, TYPE IV, 30' SHAFT, 35' ARM	EACH	1		(1)
639-A	TRAFFIC SIGNAL EQUIPMENT POLE, TYPE VI	EACH	1		(1)
640-B	TRAFFIC SIGNAL HEADS, TYPE 1, LED	EACH	8		(2)
640-B	TRAFFIC SIGNAL HEADS, TYPE 6, LED	EACH	4		(2)
642-A	SOLID STATE TRAFFIC ACTUATED CONTROLLERS, TYPE 8A	EACH	1		(3)
644-A	OPTICAL DETECTOR	EACH	4		
644-B	OPTICAL DETECTOR CABLE	L.F.	450		
644-C	PHASE SELECTOR, 4 CHANNEL	EACH	1		
647-A	PULLBOX, TYPE 1	EACH	3		
647-A	PULLBOX, TYPE 2	EACH	4		
666-B	ELECTRIC CABLE, UNDERGROUND IN CONDUIT, IMSA 20-1, AWG #8, 2 CONDUIT	L.F.	400		
666-B	ELECTRIC CABLE, UNDERGROUND IN CONDUIT, IMSA 20-1, AWG #10, 2 CONDUIT	L.F.	300		
666-B	ELECTRIC CABLE, UNDERGROUND IN CONDUIT, IMSA 20-1, AWG #14, 5 CONDUIT	L.F.	350		
666-B	ELECTRIC CABLE, UNDERGROUND IN CONDUIT, IMSA 20-1, AWG #14, 7 CONDUIT	L.F.	320		
666-D	ELECTRIC CABLE, AERIAL SUPPORTED IN CONDUIT, IMSA 20-1, AWG #14, 7 COND.	L.F.	200		
668-A	TRAFFIC SIGNAL CONDUIT, UNDERGROUND, TYPE 4, 1"	L.F.	360		
668-A	TRAFFIC SIGNAL CONDUIT, UNDERGROUND, TYPE 4, 2"	L.F.	40		
668-A	TRAFFIC SIGNAL CONDUIT, UNDERGROUND, TYPE 4, 3"	L.F.	10		
668-E	TRAFFIC SIGNAL CONDUIT, UNDERGROUND DRILLED OR JACKED, ROLL PIPE, 1"	L.F.	700		
668-E	TRAFFIC SIGNAL CONDUIT, UNDERGROUND DRILLED OR JACKED, ROLL PIPE, 2"	L.F.	250		
699-A	CONSTRUCTION STAKES	L.S.	1		(11)

(1) *MAST ARM POLES AND HARDWARE TO BE HOT DIPPED GALV. FINISH POLES.*

(2) *TRAFFIC SIGNAL HEADS TO BE BLACK IN COLOR, PUSHBUTTONS TO BE PELOC MODEL # SE 2039 WITH SE 1013 OR EQUAL AND BLACK IN COLOR.*

(3) *CONTROLLER TO BE EAGLE EPAC*

(4) *UNIT PRICE SHALL INCLUDE ALL EXCAVATION, INSTALLATION AND MATERIALS. BACKFILL SHALL BE COVERED UNDER PAY ITEM 203-E, BORROW EXCAVATION.*

(5) *TO BE USED AS DIRECTED BY THE ENGINEER.*

(6) *INCLUDES 2.0 CY TO BE USED AS DIRECTED BY THE ENGINEER.*

(7) *SOD ON SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL SHALL BE PINNED TO SLOPES WITH TWO 8" STEEL WIRE STAPLES PER BLOCK. STAPLES SHALL BE COST ABSORBED.*

(8) *TO BE USED FOR PATCHING AS DIRECTED BY THE ENGINEER.*

(9) *REMOVED ITEM BECOMES PROPERTY OF CONTRACTOR.*

(10) *INCLUDES ALL ITEMS NOTED WITH THIS PAY ITEM ON PLANS.*

(11) *SHALL INCLUDE ALL CONSTRUCTION LAYOUT AND STAKING. ENGINEER WILL PROVIDE COORDINATES FOR LOCATION OF SPECIFIC ELEMENTS UPON REQUEST.*

VEGETATION SCHEDULE

EROSION CONTROL ITEMS		SEASONAL APPLICATIONS-DATES & RATES				REQUIREMENTS
		SPRING & SUMMER		FALL & WINTER		
PAY ITEM NO.	ITEMS	RATES	DATES	RATES	DATES	
211-B	TOPSOIL FOR SLOPE TREATMENT (LVM)	4" THICK	MARCH 1 TO SEPT. 1	4" THICK	SEPT. 1 TO MARCH 1	TOPSOIL REQUIRED ON SLOPES DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
212-B	STANDARD GROUND PREPARATION	PER SQ.YD.	MARCH 1 TO SEPT. 1	PER SQ.YD.	SEPT. 1 TO MARCH 1	GROUND PREPARATION REQUIRED ON AREAS TO RECEIVE SOLID SODDING OR SEEDING, AS APPLICABLE.
213-A	AGRICULTURAL LIMESTONE	3 TONS/ACRE	MARCH 1 TO SEPT. 1	3 TONS/ACRE	SEPT. 1 TO MARCH 1	LIMESTONE SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING.
213-B	COMBINATION FERTILIZER (13-13-13)	1000 LBS./ACRE	MARCH 1 TO SEPT. 1	1000 LBS./ACRE	SEPT. 1 TO MARCH 1	FERTILIZER SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING.
214-A	SEEDING (BERMUDAGRASS)	20 LBS./ACRE	MARCH 1 TO SEPT. 1	20 LBS./ACRE	SEPT. 1 TO MARCH 1	SEED REQUIRED ON DISTURBED AREAS. UNHULLED SEED MAY BE REQUIRED DURING THE DORMANT SEASON AS DIRECTED.
214-A	SEEDING (ANNUAL RYE)			20 LBS./ACRE	AUGUST 1 TO APRIL 1	SEED REQUIRED ON DISTURBED AREAS.
215-A	VEGETATIVE MATERIAL FOR MULCH	2 TONS ACRE (EST.)	MARCH 1 TO SEPT. 1	2 TONS/ACRE (EST.)	SEPT. 1 TO MARCH 1	THE ENGINEER WILL DESIGNATE THE RATES OF APPLICATION (SEE SUBSECTION 215.03.3) .
216-A	SOLID SODDING	PER SQ.YD.	MARCH 1 TO SEPT. 1	PER SQ. YD.	SEPT. 1 TO MARCH 1	SOLID SOD REQUIRED ON AREAS SPECIFIED IN THE CONTRACT OR BY THE ENGINEER.
219-A	WATERING	20 GALS./S.Y. (EST.)	MARCH 1 TO SEPT. 1	20 GALS. S.Y. (EST.)	SEPT. 1 TO MARCH 1	TO BE USED AS DIRECTED IN THE PLANTING AND ESTABLISHING SOLID SOD.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION		
N-S PROJECT NO.:	2-4729-01	
FILENAME:	5006-SQ.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	3/19/03
DRWN: A.R.W.	DATE:	3/19/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BEYLA, REGISTERED PROFESSIONAL ENGINEER, #12509, STATE OF MISSISSIPPI

NEEL-SCHAFFER

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

SUMMARY OF QUANTITIES

WORKING NUMBER:

DRAWING NUMBER: 3

NOTICE TO DRAWING HOLDER

NEEL–SCHAFFER, INC., HEREINAFTER REFERRED TO AS THE ENGINEER HAS PREPARED AND FURNISHED THIS DRAWING TO THE OWNER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD NOT BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN VERIFICATION OR ADAPTION BY THE ENGINEER, SHALL BE AT THE REUSER'S SOLE RISK AND THE REUSER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.:	2-5006-01		
FILENAME:	5006-EXCON.dwg		
CADD TYPE:	Autocad 2002		
SURVEYED BY:			
DSGN: M.J.B.		DATE:	4/25/03
DRWN: A.R.W.		DATE:	4/25/03
CHKD:		DATE:	
QA/QC: R.T.		DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

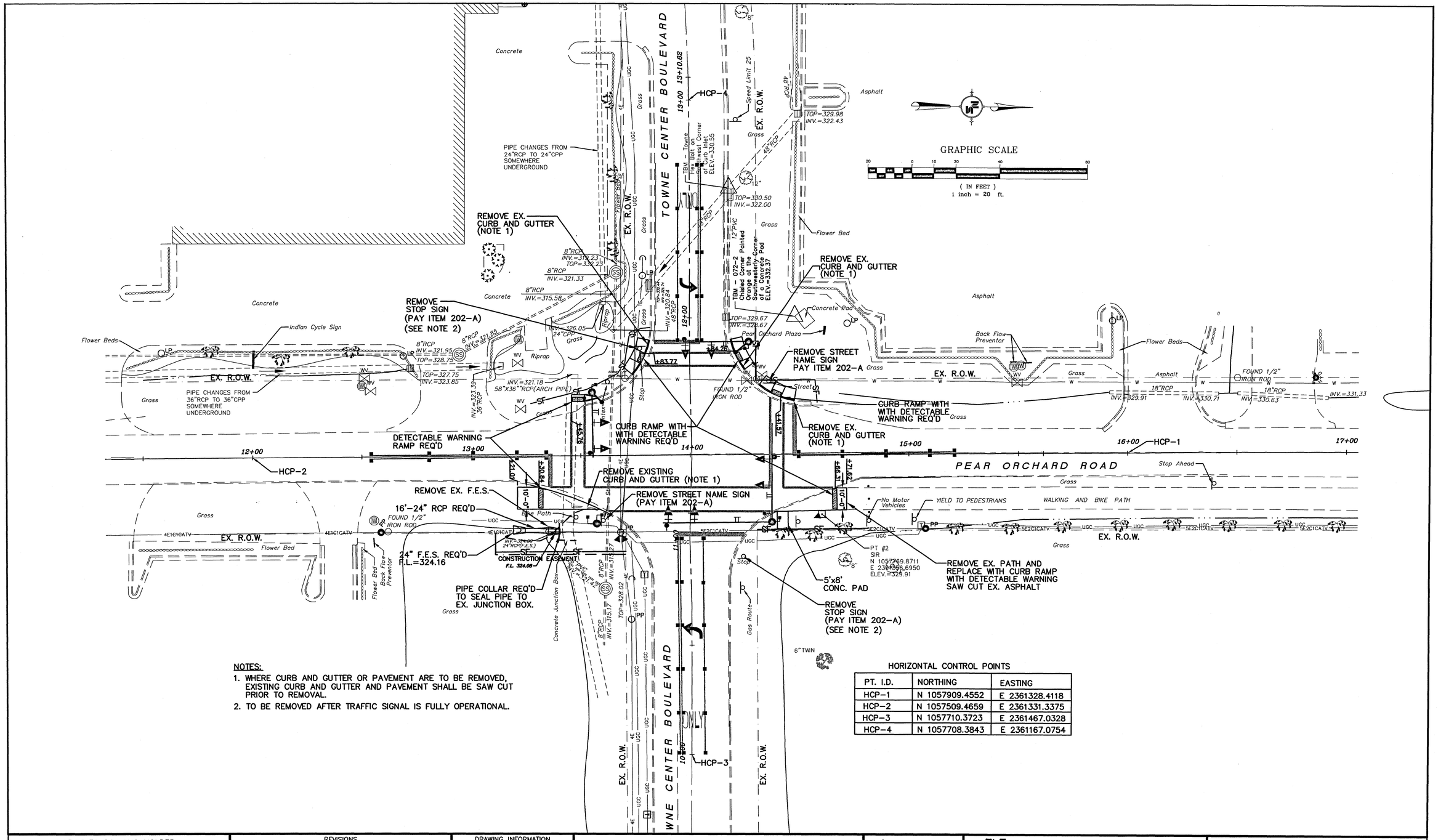
STP-8323-00(002)

SEAL: MARK J. BEYEA REGISTERED PROFESSIONAL ENGINEER #12599 STATE OF MISSISSIPPI

NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

EXISTING CONDITIONS

WORKING NUMBER:	DRAWING NUMBER:
	4



NOTES:

1. WHERE CURB AND GUTTER OR PAVEMENT ARE TO BE REMOVED, EXISTING CURB AND GUTTER AND PAVEMENT SHALL BE SAW CUT PRIOR TO REMOVAL.
2. TO BE REMOVED AFTER TRAFFIC SIGNAL IS FULLY OPERATIONAL.

HORIZONTAL CONTROL POINTS

PT. I.D.	NORTHING	EASTING
HCP-1	N 1057909.4552	E 2361328.4118
HCP-2	N 1057509.4659	E 2361331.3375
HCP-3	N 1057710.3723	E 2361467.0328
HCP-4	N 1057708.3843	E 2361167.0754

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.:	2-5006-01	
FILENAME:	5006-PLAN.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	4/25/03
DRWN: A.R.W.	DATE:	4/25/03
CHKD:	DATE:	
QA/QC:	DATE:	

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BOLTA REGISTERED PROFESSIONAL ENGINEER #12590 STATE OF MISSISSIPPI

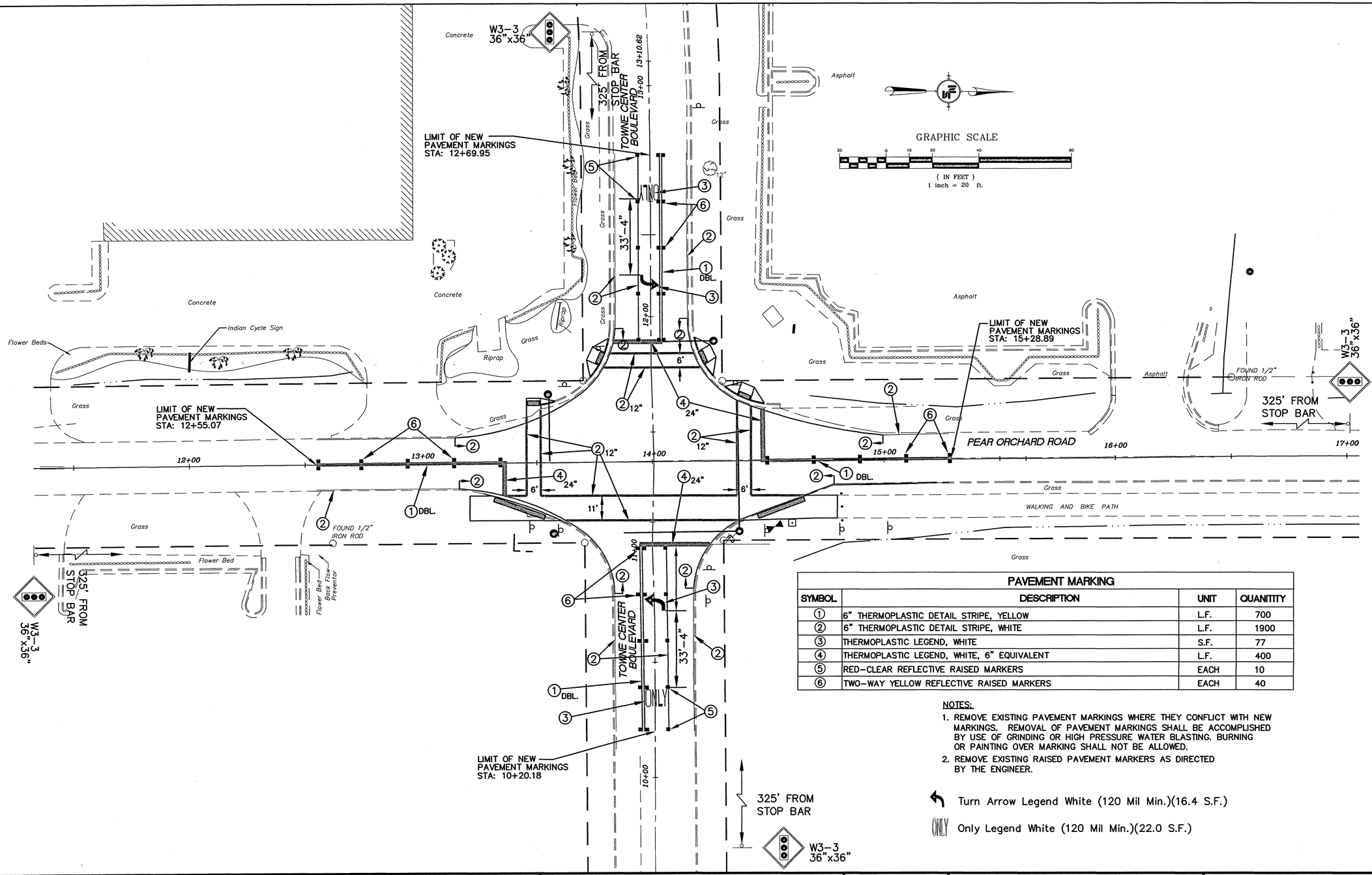
NEEL-SCHAFFER
JACKSON, MISSISSIPPI

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Madison, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

PROPOSED IMPROVEMENTS

WORKING NUMBER:

DRAWING NUMBER: 5



PAVEMENT MARKING			
SYMBOL	DESCRIPTION	UNIT	QUANITITY
①	6" THERMOPLASTIC DETAIL STRIPE, YELLOW	L.F.	700
②	6" THERMOPLASTIC DETAIL STRIPE, WHITE	L.F.	1900
③	THERMOPLASTIC LEGEND, WHITE	S.F.	77
④	THERMOPLASTIC LEGEND, WHITE, 6" EQUIVALENT	L.F.	400
⑤	RED-CLEAR REFLECTIVE RAISED MARKERS	EACH	10
⑥	TWO-WAY YELLOW REFLECTIVE RAISED MARKERS	EACH	40

NOTES:

1. REMOVE EXISTING PAVEMENT MARKINGS WHERE THEY CONFLICT WITH NEW MARKINGS. REMOVAL OF PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY USE OF GRINDING OR HIGH PRESSURE WATER BLASTING. BURNING OR PAINTING OVER MARKING SHALL NOT BE ALLOWED.
2. REMOVE EXISTING RAISED PAVEMENT MARKERS AS DIRECTED BY THE ENGINEER.

Turn Arrow Legend White (120 Mil Min.)(16.4 S.F.)

ONLY Only Legend White (120 Mil Min.)(22.0 S.F.)

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION		
N-S PROJECT NO.:	2-5006-01	
FILENAME:	5006-pm.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	4/17/03
DRWN: A.R.W.	DATE:	4/17/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BYLER REGISTERED PROFESSIONAL ENGINEER #12597 STATE OF MISSISSIPPI

NEEL-SCHAFFER

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

PAVEMENT MARKING AND SIGNING PLAN

WORKING NUMBER:

DRAWING NUMBER: 6

NOTES:

1. FOUNDATION FOR MAST ARM SHALL BE DESIGNED TO ACCOUNT FOR THE PROXIMITY OF THE FOUNDATION TO SLOPE. SEE SECTION "A".

LEGEND

- NEW CONTROLLER / CABINET
- PB — PUSH BUTTONS
- TYPE 1 PULLBOX
- TYPE 2 PULLBOX
- NEW MAST ARM POLE
- EXISTING UTILITY POLE
- TRAFFIC SIGNAL HEAD w/BACKPLATE
- NEW PEDESTRIAN SIGNAL w/PUSHBUTTON
- ⊣ or ⊣ — OVERHEAD SIGN / STREET NAME SIGN (SNS)
- or □ — NEW VEHICLE LOOP DETECTOR
- 5/c — 5 CONDUCTOR SIGNAL CABLE – AWG #14
- 7/c — 7 CONDUCTOR SIGNAL CABLE – AWG #14
- S.C. — 2 CONDUCTOR SHIELDED CABLE – AWG#14
- POW — POWER CABLE – AWG #8
- SNS — STREET NAME SIGN
- LUM — STREET LIGHT CABLE AWG #10
- EMERGENCY VEHICLE DETECTOR
- O.D.C. — OPTICAL DETECTOR CABLE
- ROLL PIPE
- PVC PIPE

POLES	SHAFT	ARM	SPACING	ST. NAME SIGN
SOUTHWEST	30'	30'	9,14,26,28,29	Towne Center Blvd.
NORTHWEST	30'	30'	11,17,29	Pear Orchard Rd
NORTHEAST	22'	45' W	12,16,28,29	Pear Orchard Rd
		50' S	16,36,48,49	Towne Center Blvd.
SOUTHEAST	8			

DETECTOR LOOP CHART

NUMBER	SIZE (FEET)	TURNS	AMP-CHANNEL	COMMENTS
2	6 x 6	3	1-2	330' FROM STOPLINE
4A	6 x 50	2-4-2	2-1	
4B	6 x 50	2	2-2	
6	6 x 6	3	1-4	330' FROM STOPLINE
8A	6 x 50	2-4-2	2-3	
8B	6 x 50	2	2-4	

DETECTOR NUMBER CORRESPONDS WITH PHASE NUMBER

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N–S PROJECT NO.:	2–5006–01
FILENAME:	5006–SITE(B)rev.dwg
CADD TYPE:	Autocad 2002
SURVEYED BY:	
DSGN: M.J.B.	DATE: 5/20/04
DRWN: A.R.W.	DATE: 5/20/04
CHKD:	DATE:
QA/QC: R.T.	DATE: 6/03/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BEYEA REGISTERED PROFESSIONAL ENGINEER #12599 STATE OF MISSISSIPPI [illegible]

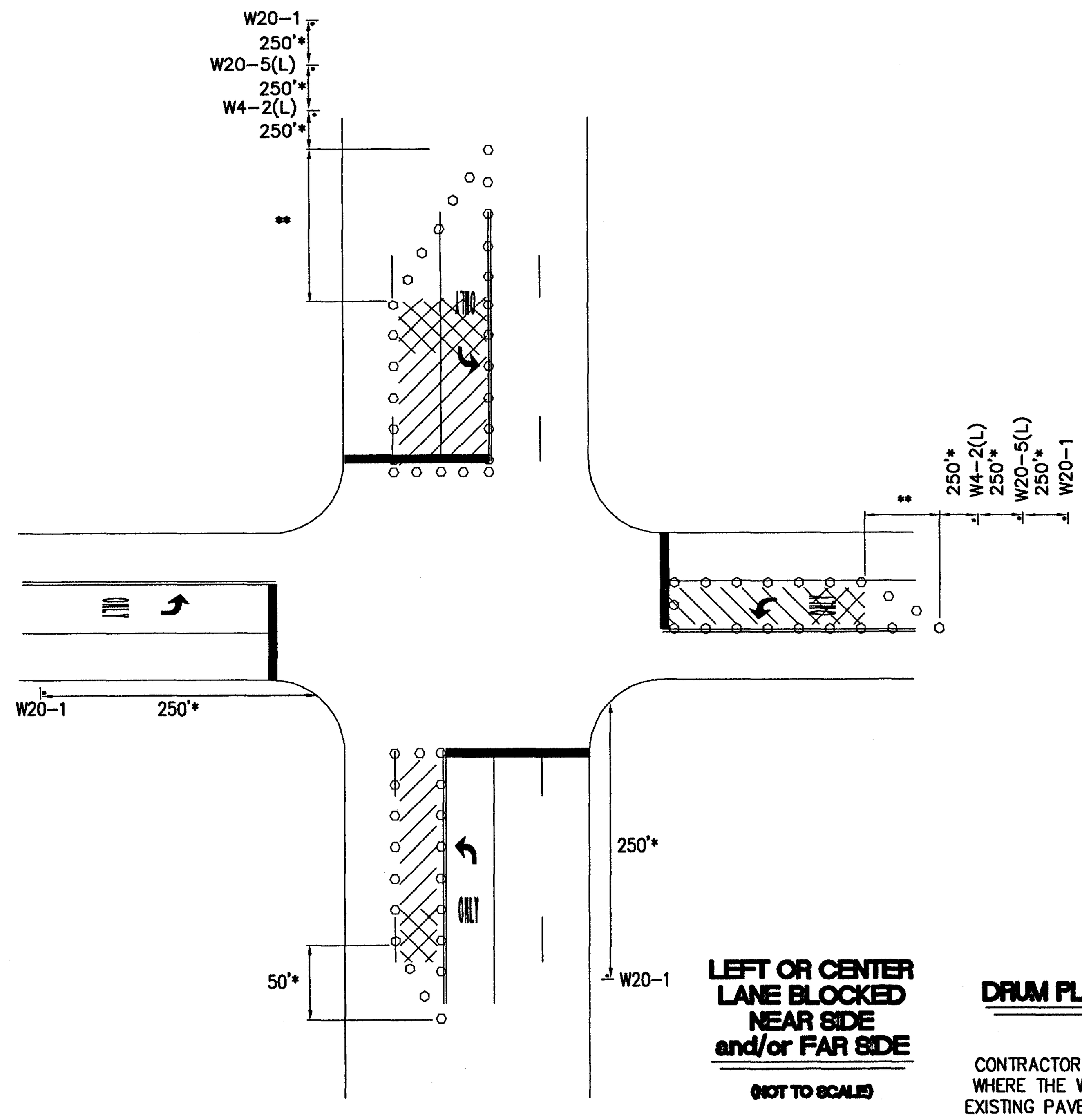
NEEL–SCHAFFER

P.O. Box 22625 / 39225–2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948–3071 / FAX: (601)948–3178

TRAFFIC SIGNAL INSTALLATION PLAN

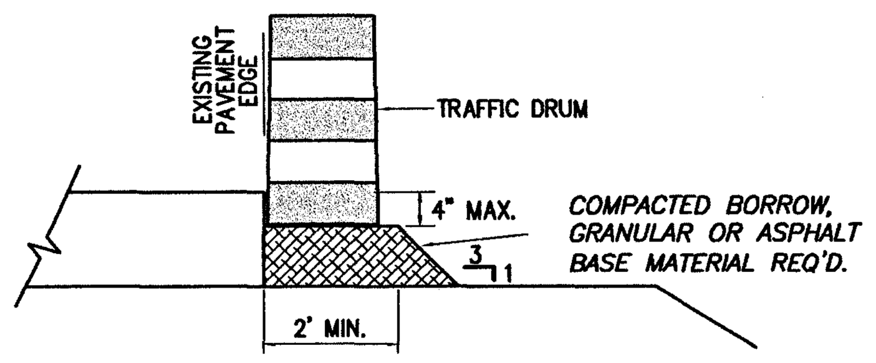
WORKING NUMBER:

DRAWING NUMBER: 7



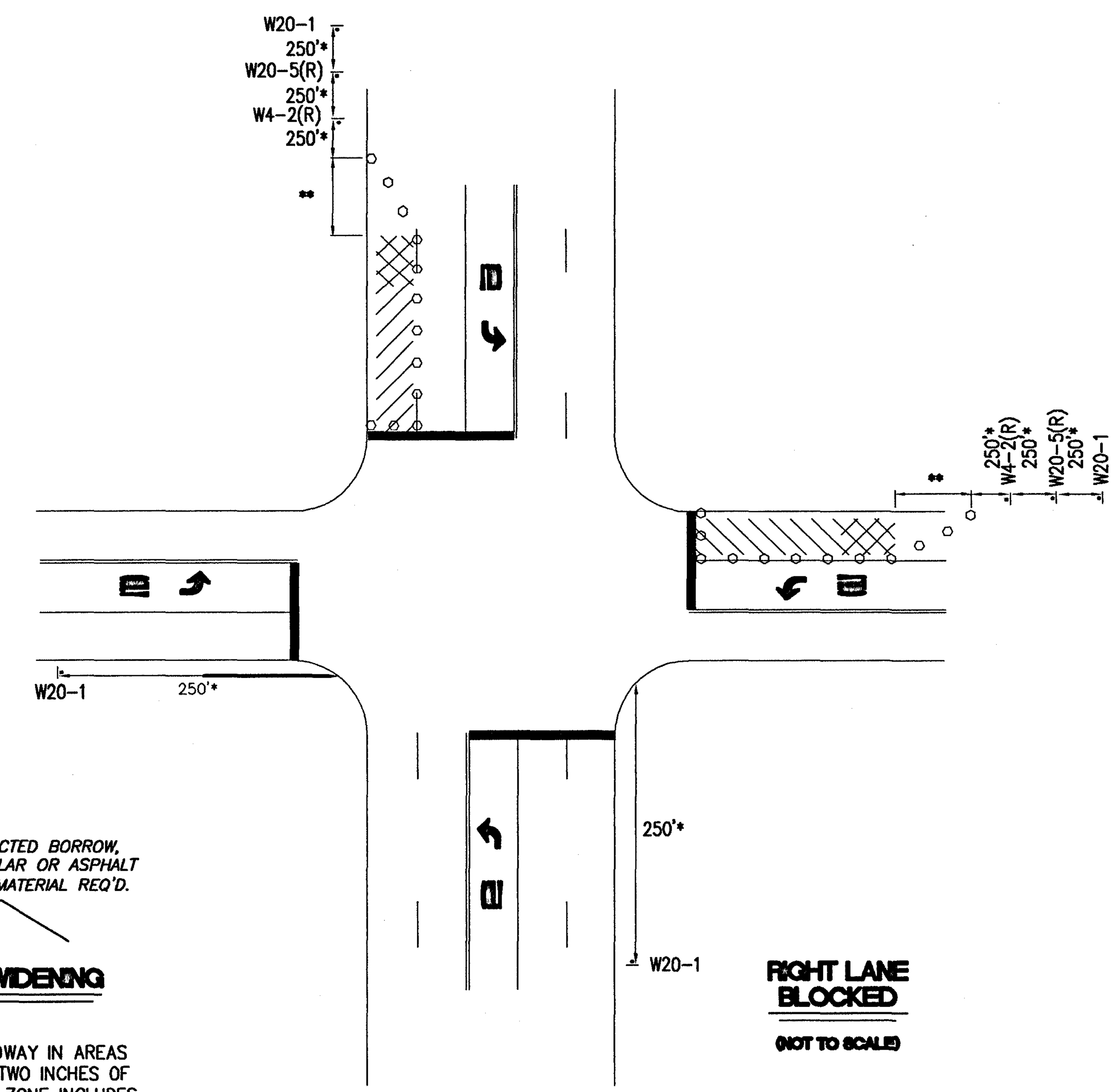
LEFT OR CENTER LANE BLOCKED NEAR SIDE and/or FAR SIDE

(NOT TO SCALE)



DRUM PLACEMENT ON LOW SHOULDERS OR WIDENING

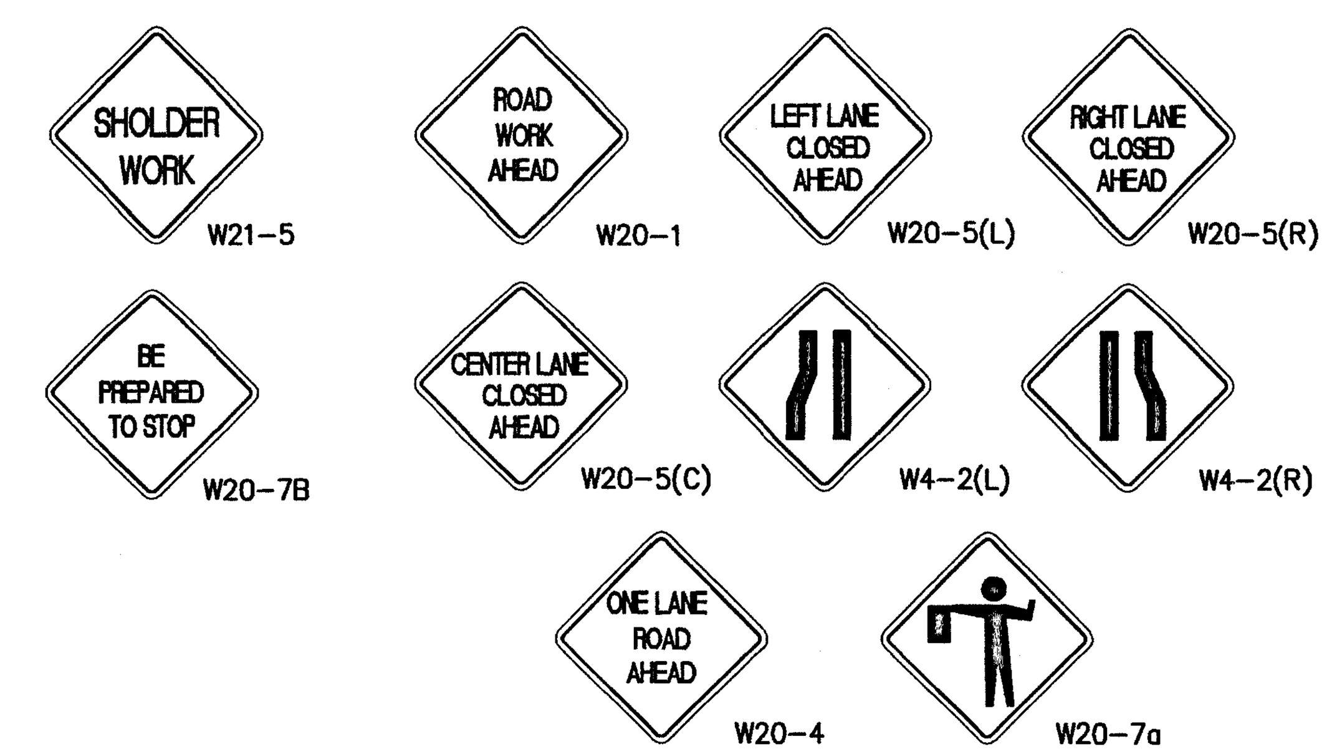
CONTRACTOR SHALL PLACE PLASTIC DRUMS ADJACENT TO ROADWAY IN AREAS WHERE THE WIDENING HAS NOT BEEN CONSTRUCTED TO WITHIN TWO INCHES OF EXISTING PAVEMENT ELEVATIONS. DRUMS REQUIRED WHERE WORK ZONE INCLUDES UNDERCUT SHOULDER AND REMOVAL OF CURB & GUTTER. DRUMS TO BE PLACED AS SHOWN IN DETAILS, LEFT FOR NIGHT OPERATION OR SUSPENSIONS OF WORK. COST TO BE ABSORBED (PAY ITEM 618-A).



RIGHT LANE BLOCKED

(NOT TO SCALE)

SIGN LEGEND



GENERAL NOTES

1. ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY. ANY ADDITIONAL SIGNS INCLUDED UNDER PAY ITEM 618-B, MAINTENANCE OF TRAFFIC.
2. POST MOUNTED SIGNS SHALL HAVE A 7' MINIMUM MOUNTING HEIGHT.
3. PAYMENT FOR ALL SIGNS, CONES, DRUMS, CONCRETE BARRIERS, STEEL PLATES AND OTHER MATERIALS, BARRICADES, LABOR AND INCIDENTALS REQUIRED TO IMPLEMENT THE TRAFFIC CONTROL PLAN SHALL BE INCLUDED UNDER PAY ITEM 618-A, MAINTENANCE OF TRAFFIC.
4. APPROACH SIDE TRAFFIC CONTROL TO BE USED WHEN WORK OCCURS ON EITHER THE APPROACH SIDE OR THE FAR SIDE OF THE INTERSECTION. FAR SIDE TRAFFIC CONTROL IS NOT NEEDED WHEN WORK IS CONFINED TO THE APPROACH SIDE ONLY.
5. FOR A DIVIDED HIGHWAY SITUATION, A SECOND SET OF ADVANCE WARNING SIGNS SHALL BE ERECTED IN MEDIAN AREA (8' MIN. MEDIAN WIDTH REQUIRED).

LEGEND

○ DRUMS (30' MAXIMUM SPACING) – 36" CONES MAY BE USED AS A SUBSTITUTE FOR SHORT TERM WORK OR AS DIRECTED BY ENGINEER (DAY TIME ONLY)

W20-1 ·| SIGNS – SEE SIGN LEGEND
MIN. SIZE 48" x 48", BLACK ON ORANGE BACKGROUND

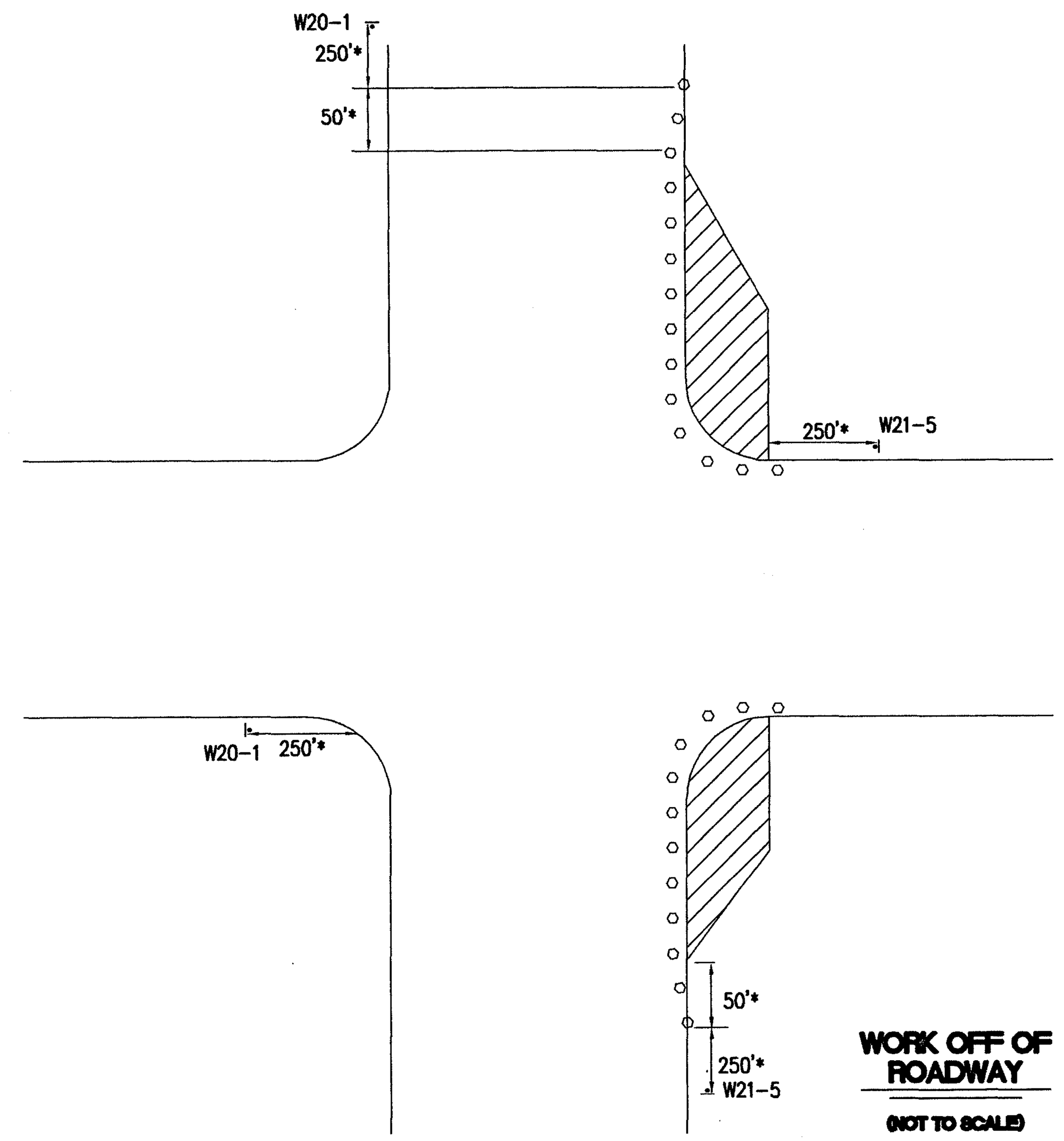
ꟼ FLAGGER WITH PADDLE – 18" STOP/SLOW PADDLES SHALL BE USED. HANDHELD FLAGS SHALL NOT BE ACCEPTED AS PROPER TRAFFIC CONTROL DEVICES FOR FLAGGING OPERATION.

▨ WORK AREA   ⊠ BUFFER AREA

* CONSIDERED MINIMUM DISTANCE – ENGINEER TO DETERMINE APPROPRIATE SPACING IN THE FIELD

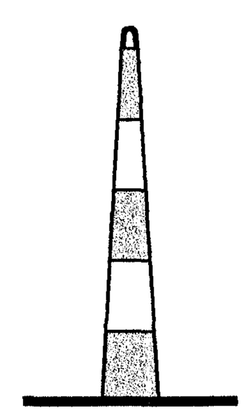
**

SPEED LIMIT M.P.H.	BUFFER FEET	TAPER LENGTH (Feet) (Per 12' Lane Shift)
20	35	80
25	55	125
30	85	180
35	120	245
40	170	320
45	220	540
50	280	600
55	335	660
60	415	720
65	485	780



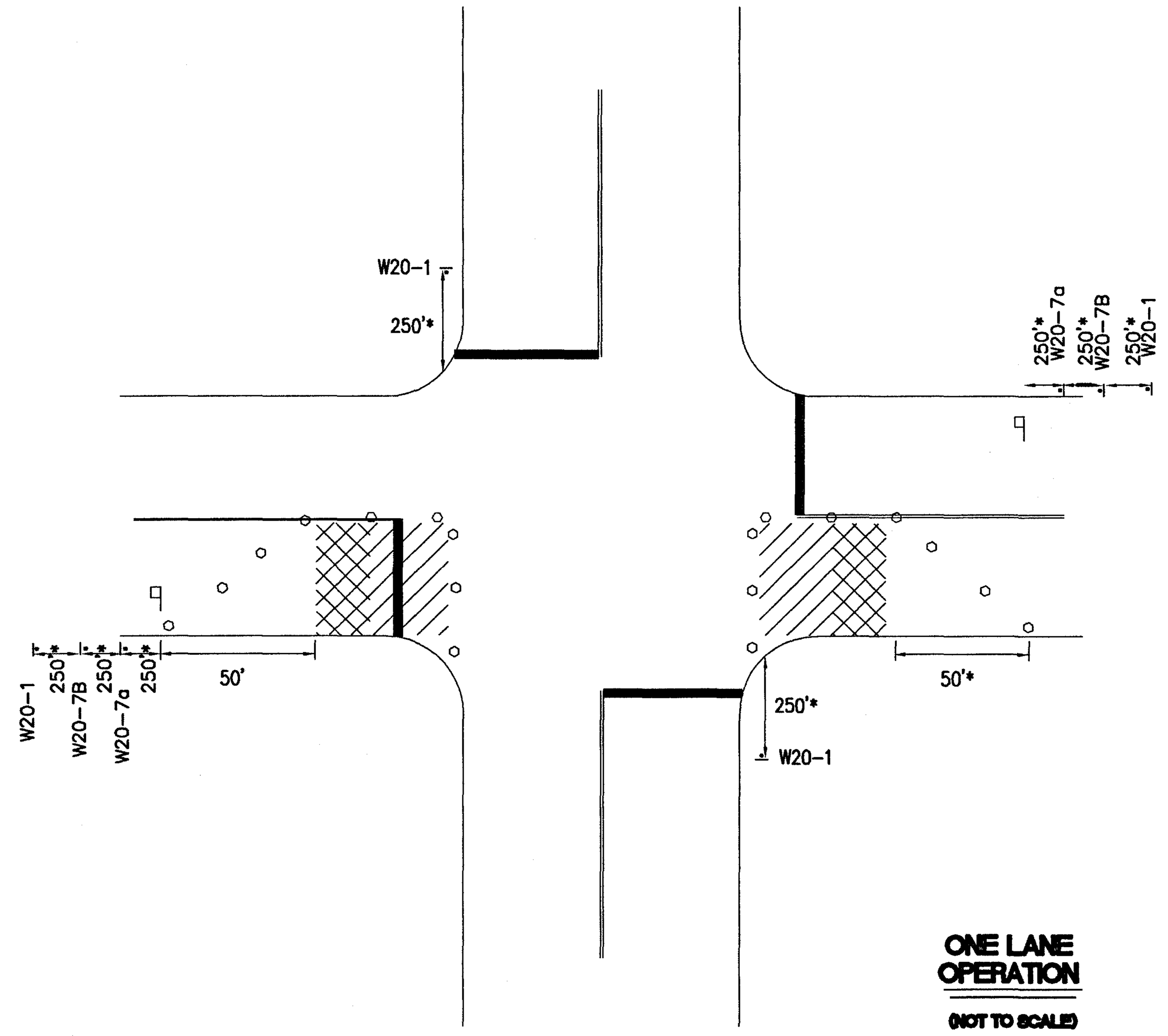
WORK OFF OF ROADWAY

(NOT TO SCALE)



TRAFFIC CONE

CONES SHALL BE NARROW PROFILE WITH A MINIMUM HEIGHT OF 28 INCHES AND A MINIMUM WEIGHT OF TEN (10) POUNDS. CONES USED IN SPEED ZONES EQUAL TO OR GREATER THAN 45 MPH SHALL BE NARROW PROFILE WITH A MINIMUM HEIGHT OF 28 INCHES AND A MINIMUM WEIGHT OF FIFTEEN (15) POUNDS. ALL CONES SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.



ONE LANE OPERATION

(NOT TO SCALE)

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.:	2-5006-01		
FILENAME:	5006-TCP.dwg		
CADD TYPE:	Autocad 2002		
SURVEYED BY:			
DSGN:	M.J.B.	DATE:	4/17/03
DRWN:	A.R.W.	DATE:	4/17/03
CHKD:		DATE:	
QA/QC:	R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BEYEA REGISTERED PROFESSIONAL ENGINEER #12599 STATE OF MISSISSIPPI

[illegible]

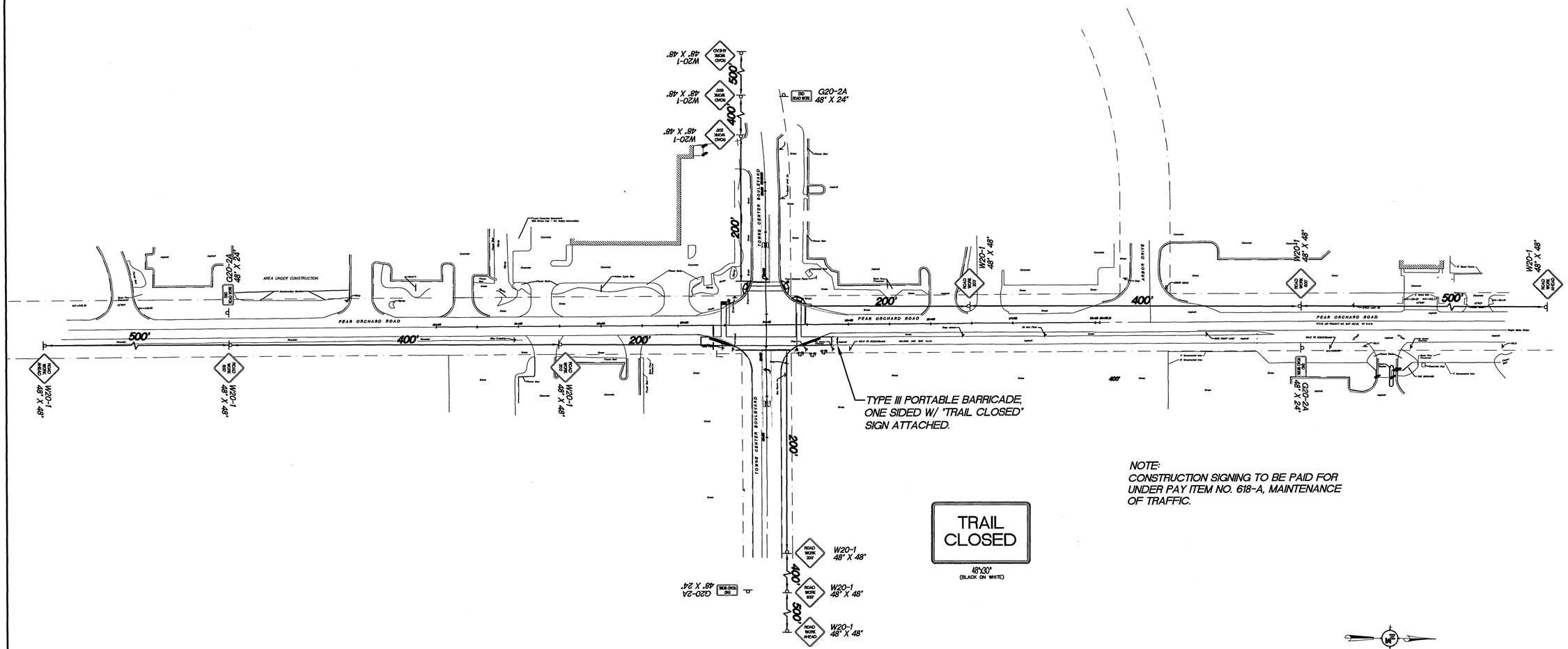
NEEL-SCHAFFER

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

TRAFFIC CONTROL PLAN TYPICAL SIGNAL INSTALLATION

WORKING NUMBER:

DRAWING NUMBER: 8



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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION		
N-S PROJECT NO.:	2-5006-01	
FILENAME:	5006-CSD.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	4/17/03
DRWN: A.R.W.	DATE:	4/17/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/03/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

SEAL: MARK J. BELZA REGISTERED PROFESSIONAL ENGINEER #12569 STATE OF MISSISSIPPI 6-4-04

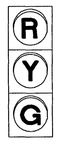
NEEL-SCHAFFER

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

CONSTRUCTION SIGNING PLAN

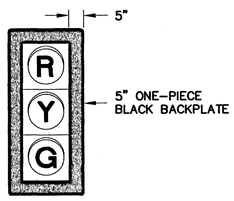
WORKING NUMBER:	DRAWING NUMBER:
	9

DETAIL OF TYPICAL TRAFFIC SIGNAL HEADS

TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8
							 BARLO STROBE SIGNAL

NOTES:
1. TYPE "A" SIGNAL HEAD IS TO BE OPTICALLY PROGRAMMED.
2. LETTER "R" ON HEAD TYPES MEANS RIGHT TURN ARROW(S).
3. TYPE 6 SIGNAL HEAD TO BE FURNISHED WITH R10-4SP-1 SIGN & PEDESTRIAN PUSHBUTTON (PELCO # SE 2039 WITH SE 1013 OR EQUAL).
4. TYPE 7 SIGNAL HEAD TO BE FURNISHED WITH R10-12 SIGN WHEN INDICATED ON PLANS.

DETAIL OF TRAFFIC SIGNAL WITH BACKPLATE



NOTE:
ALL SIGNAL HEADS SHALL INCLUDE BACKPLATES UNLESS OTHERWISE NOTED ON TRAFFIC SIGNAL INSTALLATION SHEETS.

DETAIL OF TYPICAL TRAFFIC SIGNAL SIGNS

R10-3a(R)
6" x 9"

R10-4a(R)
6" x 9"

R10-4SP-1(R)
6" x 9"

R10-10(L)
24" x 30"

R10-10(R)
24" x 30"

R10-11a
24'x 30"

R10-12
24" x 30"

NOTES:
1. ALUMINUM SIGN BLANKS ARE TO BE ALLOY 5052-H38 AND 0.08" (NOMINAL) THICK.
2. THE SIGNS ARE TO BE SUPPLIED WITH MOUNTING BRACKETS FOR SPAN WIRE MOUNTING OR POLE MOUNTING AS REQUIRED. (BRACKETS AND MOUNTING HARDWARE SHALL BE COST ABSORBED.)
3. NUMBER 12 PLATED JACK CHAINS SHALL BE ATTACHED TO THE BOTTOM OF ALL SPAN WIRE MOUNTED SIGNS.
4. CHAINS SHALL BE ATTACHED TO SIGN AND TETHER USING "S" HOOKS.
5. THE SIZE OF THE SIGN BLANK, LEGEND, BORDER AND THE COLOR OF THE BACKGROUND AND LEGEND IS TO CONFORM TO THE M.U.T.C.D.
6. THE BACKGROUND SHALL BE REFLECTORIZED USING ENCAPSULATED LENS SHEETING.
7. TYPE R10-3a SIGN REQUIRED WITH PEDESTRIAN PUSHBUTTON WHEN TYPE 6 SIGNAL IS NOT USED.

GENERAL NOTES

1. INTERCONNECT CABLE SHALL BE EITHER IMSA 40-2-1991 OR IMSA 40-4-1991 SIGNAL CABLE, STRANDED. AWG NUMBER AND NUMBER OF CONDUCTORS AS SHOWN ON PLANS.
2. SIGNAL SUPPLY CABLE SHALL BE IMSA 20-1-1991 SIGNAL CABLE, STRANDED. AWG NUMBER AND NUMBER OF CONDUCTORS AS SHOWN ON PLANS.
3. POWER SUPPLY CABLE SHALL BE IMSA 20-1-1991 SIGNAL CABLE, STRANDED. AWG NUMBER AND NUMBER OF CONDUCTORS AS SHOWN ON PLANS.
4. DETECTOR SHIELDED CABLE SHALL BE IMSA 50-2-1991 SIGNAL CABLE, AWG #14 OR AWG # 18 STRANDED COPPER CONDUCTORS, FROM PULLBOX TO CONTROLLER. NUMBER OF CONDUCTORS AS SHOWN ON PLANS TO CONTROLLER. NUMBER OF CONDUCTORS AS SHOWN ON PLANS.
5. POLES, SIGNAL HEADS, EQUIPMENT BOXES, PULLBOXES AND CONDUIT LOCATIONS MAY BE VARIED SLIGHTLY TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. HOWEVER, SIGNAL HEAD OR POLE LOCATIONS SHALL BE WITHIN REQUIREMENTS OUTLINED IN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SYMBOLS AND ABBREVIATIONS USED ON PLANS: AND HIGHWAY DESIGN AND OPERATIONAL PRACTICES RELATED TO HIGHWAY SAFETY.
6. POLES AND FOUNDATIONS OF EXISTING SIGNAL INSTALLATIONS SHALL BE CUT OFF 6" BELOW GROUND OR REMOVED AND AREA RESTORED TO MATCH ADJACENT SURFACE AS DIRECTED BY THE ENGINEER.
7. LOOP AMPLIFIERS SHALL BE REQUIRED AS SHOWN ON PLANS WHERE TWO OR MORE LOOPS ARE CONNECTED TO THE SAME CHANNEL, THEY SHALL BE WIRED IN SERIES.

**8. DESIGN WIND LOADS FOR TRAFFIC SIGNAL SUPPORTS SHALL BE TO 70 M.P.H. THE CONTRACTOR SHALL PROVIDE DESIGN CERTIFICATION AND CALCULATIONS AS OUTLINED IN SECTION 722.02 OF STANDARD SPECIFICATIONS.

*9. DETERMINATION OF REQUIRED SIZES, LENGTHS AND GAUGES OF TYPE I, II, III AND IV STEEL POLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SECTION 722.02 OF THE STANDARD SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED IN PLANS OR SPECIFICATIONS.

*10. THE TOP OF THE POLE FOUNDATION SHALL BE 6" ABOVE THE GROUND. THE CONTRACTOR SHALL PROVIDE POLES OF SUFFICIENT LENGTH PLUS 2 FEET TO PROVIDE REQUIRED VERTICAL CLEARANCE OF THE TRAFFIC SIGNAL HEADS WITHOUT EXTENDING THE FOUNDATION ABOVE THE FINISHED GRADE OF THE POINT WHERE THE POLE IS LOCATED, EVEN THOUGH THIS MAY BE BELOW THE FINISHED GRADE OF THE ROADWAY.

* NOTES NO. 9, 10 & 11 THAT REFERENCE THE CONTRACTOR TO DESIGN SIGNAL POLES DO NOT APPLY IF THE SIGNAL POLE CHART DESIGN(S) ARE INDICATED ON THE PLAN SHEET(S).

** DESIGN WIND LOADS INCREASE TO 80 M.P.H. FOR SIGNAL INSTALLATIONS IN THE THREE COAST COUNTIES (HANCOCK, HARRISON & JACKSON).

11. POLE AND BASE MOUNTED CABINET – GRADES TO BE ESTABLISHED TO ±3" AS DIRECTED BY THE ENGINEER.
12. TRAFFIC SIGNAL CABINETS AND CONTROLLERS ARE TO BE WIRED TO PROVIDE FOR ALL PHASES INCLUDING FUTURE PHASES IN ACCORDANCE WITH THE PHASES SEQUENCE DIAGRAM.
13. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ELECTRICAL SERVICE FROM THE POWER COMPANY SERVICE POINT TO THE TRAFFIC SIGNAL POLE NEAREST THE CONTROLLER, COST TO BE ABSORBED. THE SERVICE SHALL THEN BE RUN TO THE CONTROLLER AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAKE APPLICATION WITH THE POWER COMPANY IN ADVANCE OF NEEDING THE SERVICE.
14. IF IT IS NECESSARY TO RUN ELECTRIC SERVICE CABLE FROM ONE POLE TO ANOTHER, THE SERVICE CABLE SHALL BE LASHED TO A SEPARATE MESSENGER CABLE LOCATED 2 FT. MIN. ABOVE THE SIGNAL CABLE.
15. PEDESTRIAN PUSHBUTTONS AND SIGNS WHERE REQUIRED ON PLANS SHALL BE INSTALLED WITH NO ADDITIONAL PAYMENT (ABSORBED ITEM). SIDE OF POLE LOCATIONS OF PUSHBUTTONS MAY BE FIELD ADJUSTED. PUSHBUTTONS TO BE PELCO # SE 2039 WITH SE 1013 (ISOLATOR WITH LED LATCH ASSEMBLY) OR EQUAL.
16. FIELD DRILL AND TAP EXISTING POLES WHERE PEDESTRIAN SIGNALS AND PUSHBUTTONS ARE REQUIRED ON PLANS. (ABSORBED ITEM).
17. REFER TO WORKING NUMBER SHT.14 "CONDUIT ENTRANCE DETAIL" WHEN NEW CONDUIT(S) ARE REQUIRED AT EXISTING SIGNAL POLES OR CONTROLLERS.
18. MESSENGER CABLE AND OTHER SUPPORTING DEVICES WHERE REQUIRED SHALL BE ABSORBED IN THE PAY ITEMS FOR ELECTRIC CABLE (SEE SECTION 908-666.03.3).
19. ALL CONDUIT IS TYPE IV (PVC) UNLESS OTHERWISE NOTED ON PLANS. ALL PULLBOXES ARE TYPE I UNLESS OTHERWISE NOTED ON PLANS.
20. FOR PROTECTED/PERMITTED LEFT TURN PHASING, TYPE 7 OR 7A TRAFFIC SIGNAL HEADS (FIVE SECTION HEADS) SHALL OPERATE SUCH THAT THE CIRCULAR INDICATIONS DISPLAYED WILL BE IDENTICAL AND SIMULTANEOUS TO THE CIRCULAR INDICATIONS FOR THE ADJACENT THROUGH MOVEMENT SIGNAL HEADS; i.e. A CIRCULAR RED AND EITHER A GREEN ARROW OR YELLOW ARROW MAY BE DISPLAYED SIMULTANEOUSLY IN THE SAME FIVE SECTION HEAD.
21. TRAFFIC SIGNAL CONTROLLER SHALL BE EQUIPPED WITH A SERIAL COMMUNICATIONS HUB "STREET COM" AND CABLES.
22. ALL SIGNAL HEADS, INCLUDING PEDESTRIAN HEADS SHALL BE BLACK IN COLOR.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.:	2-5006-01	
FILENAME:	tsd-1.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	3/19/03
DRWN: A.R.W.	DATE:	3/19/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
RIDGELAND, MISSISSIPPI
STP-8323-00(002)

SEAL: MARK J. BECK REGISTERED PROFESSIONAL ENGINEER #12599 STATE OF MISSISSIPPI

NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

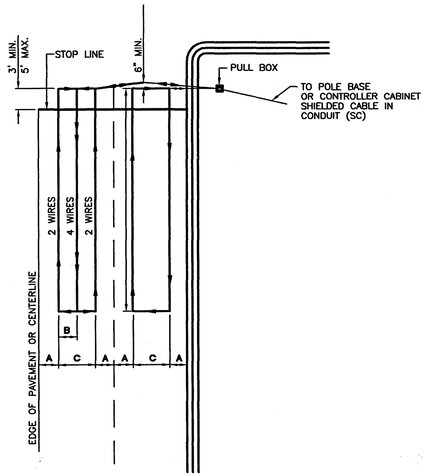
DETAIL OF TRAFFIC SIGNAL HEADS, TRAFFIC SIGNAL SIGNS, AND GENERAL NOTES

WORKING NUMBER:

DRAWING NUMBER: 10

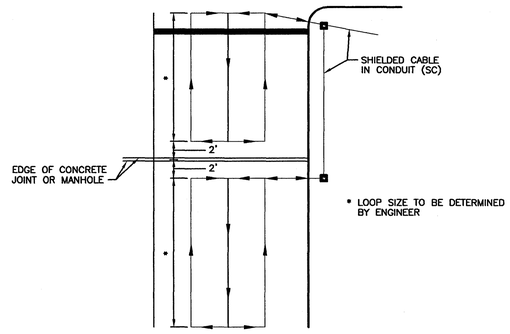
LANE WIDTH	"A"	"B"	"C"
10'	2.5'	2.5'	5'
11'	2.5'	3'	6'
12'	3'	3'	6'
14'	3'	4'	8'

MINIMUM LOOP SEPARATION WHEN NO LANE LINES ARE PRESENT IS 3'

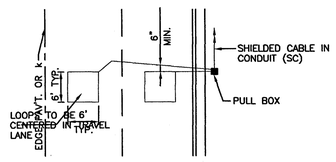


LARGE LOOP DETECTOR INSTALLATION DETAIL
NOT TO SCALE

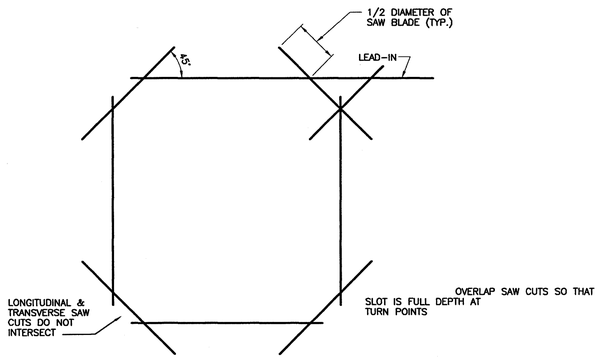
NOTE: NO LOOPS ARE TO BE INSTALLED THROUGH, OVER, OR UNDER TRANSVERSE CONCRETE JOINTS IN CONCRETE PAVEMENT, AND NO MANHOLES, INLETS, ETC. MAY BE LOCATED WITHIN A LOOP. IF ANY OF THE ABOVE ARE ENCOUNTERED THE LOCATION OF THE LOOP MAY BE VARIED SLIGHTLY AS DIRECTED BY THE ENGINEER. IF THE ABOVE ITEMS ARE UNAVOIDABLE, SMALLER LOOPS AS SHOWN BELOW MAY BE USED. SMALLER LOOPS USED TO REPLACE ONE LARGE LOOP MAY BE CONNECTED TO ONE CHANNEL.



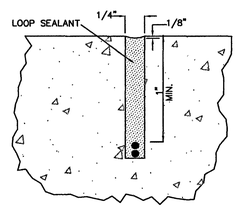
TYPICAL DETAIL OF LOOP DECTECTOR WHERE TRANSVERSE CONCRETE JOINTS, MANHOLES, ETC. ARE ENCOUNTERED
NOT TO SCALE



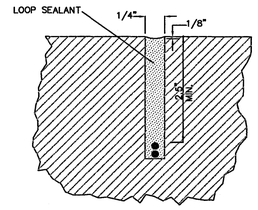
SMALL LOOP DETECTOR INSTALLATION DETAIL
NOT TO SCALE



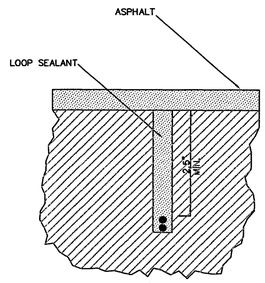
LOOP SLOT CONSTRUCTION DETAIL
NOT TO SCALE



CONCRETE



IN PLACE ASPHALT



ASPHALT
(NEW CONSTRUCTION)

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REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION		
N-S PROJECT NO.:	2-5006-01	
FILENAME:	TSD-2.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
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DRWN: A.R.W.	DATE:	3/19/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
RIDGELAND, MISSISSIPPI
STP-8323-00(002)

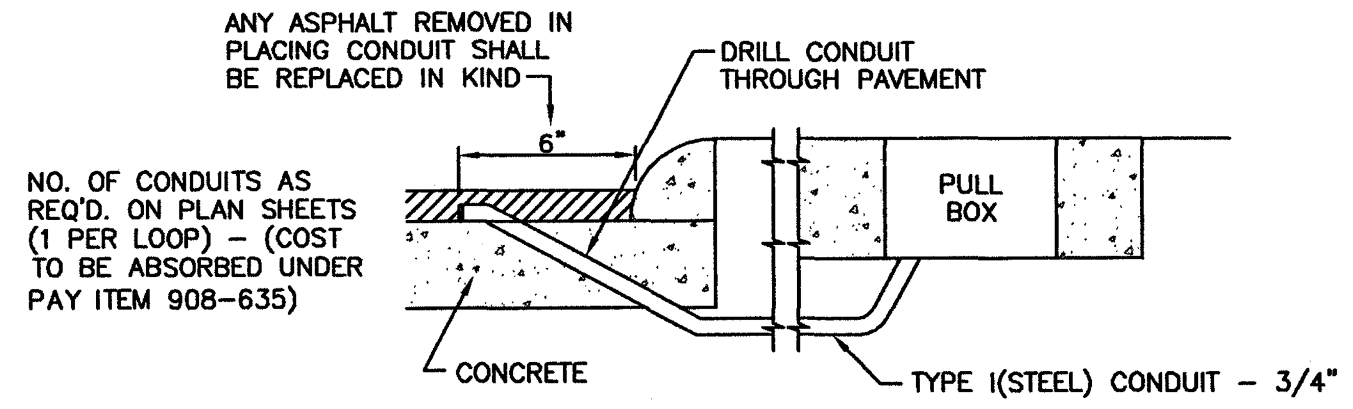
SEAL:
MARK J. BETEA
REGISTERED PROFESSIONAL ENGINEER
#12599
STATE OF MISSISSIPPI

NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

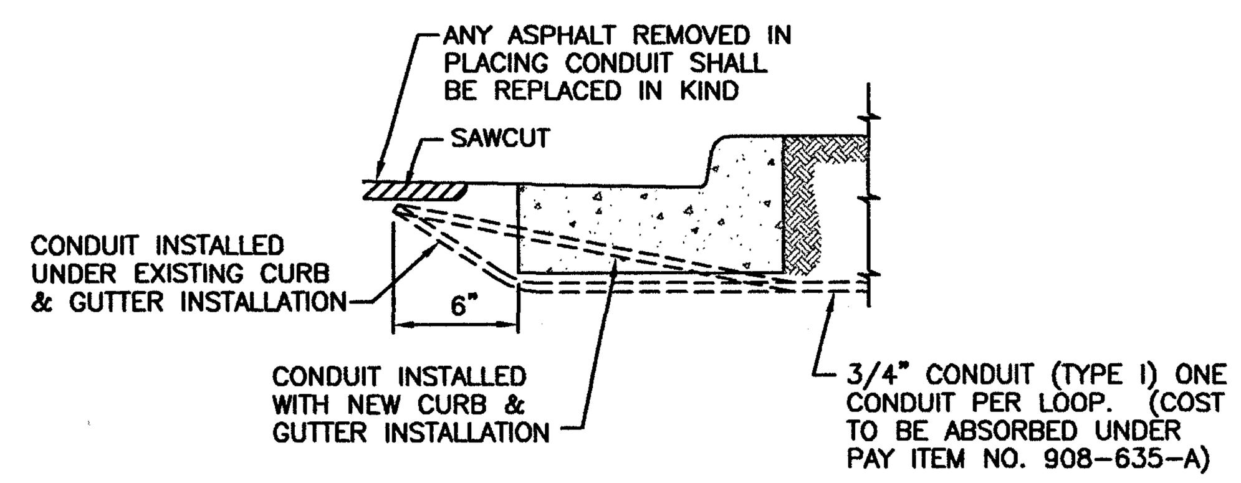
LOOP DETECTOR DETAILS FOR TRAFFIC SIGNAL INSTALLATION

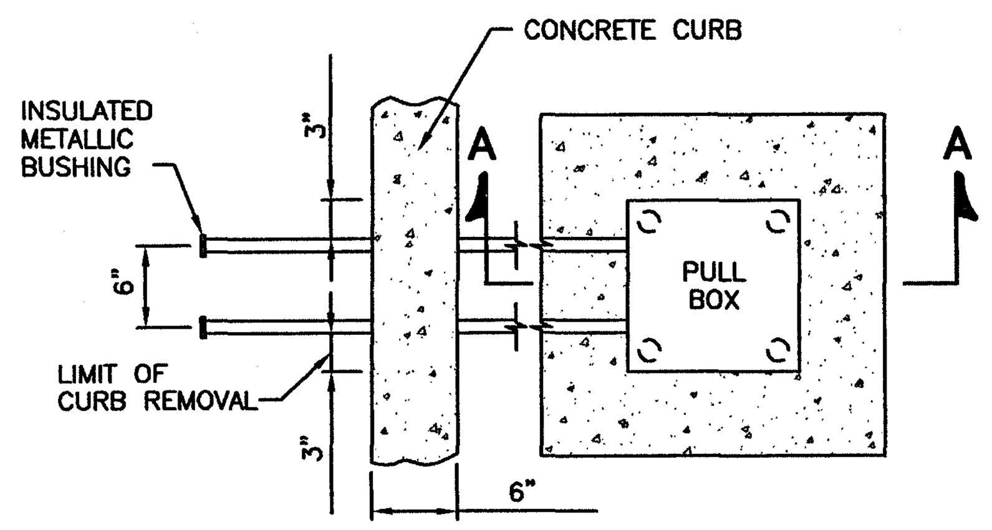
WORKING NUMBER:

DRAWING NUMBER: 11



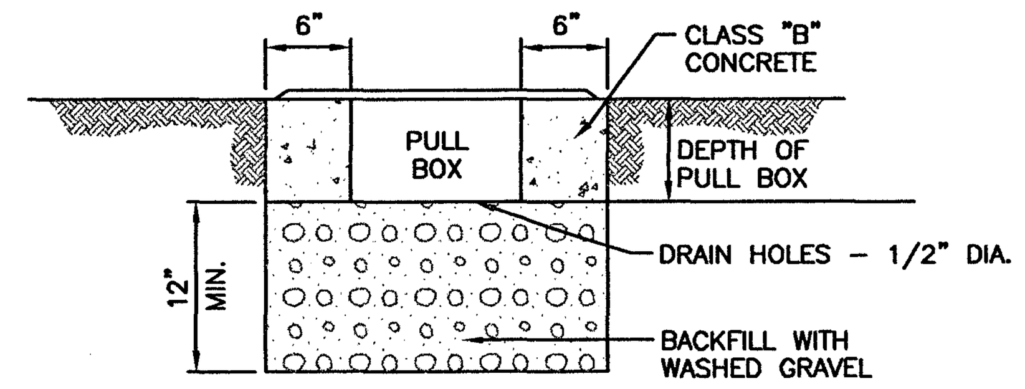
SIDE





TOP

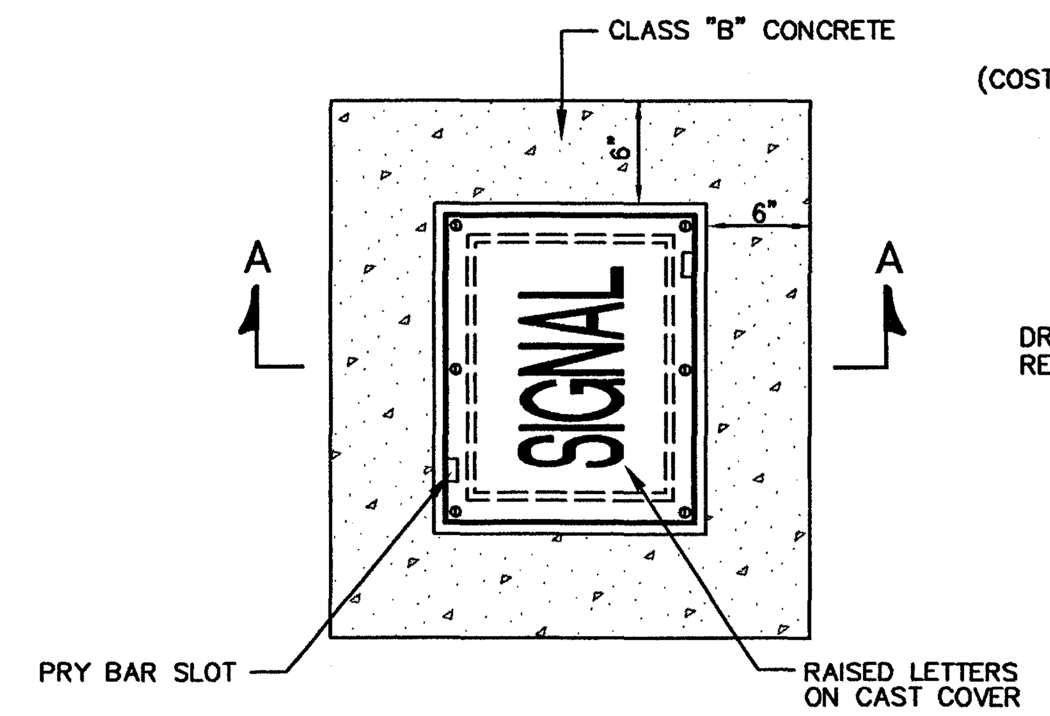
DETAIL OF CONDUIT THROUGH CURB AND GUTTER



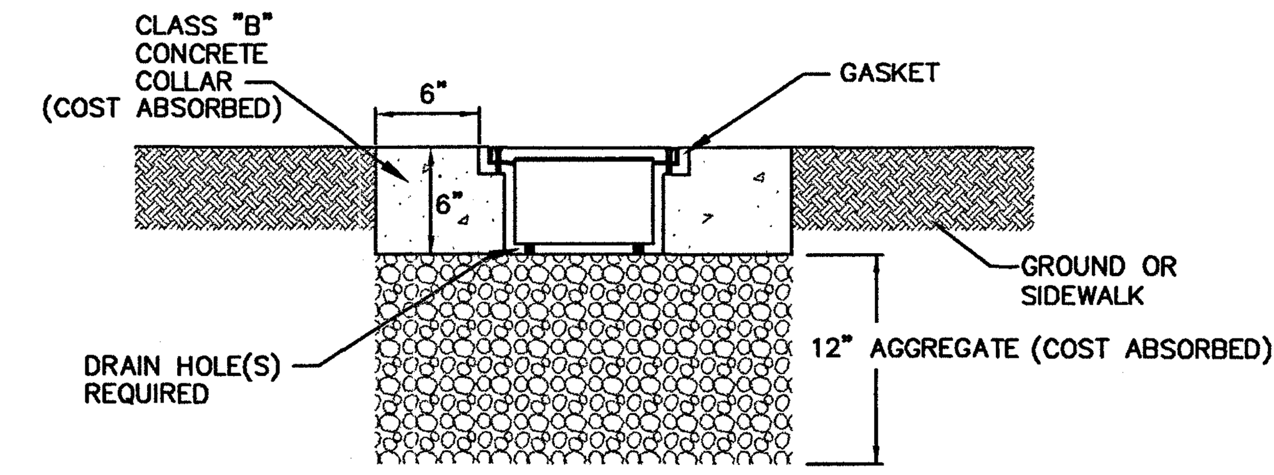
SECTION A-A

PULL BOX DETAILS

NOT TO SCALE



PLAN



SECTION A-A

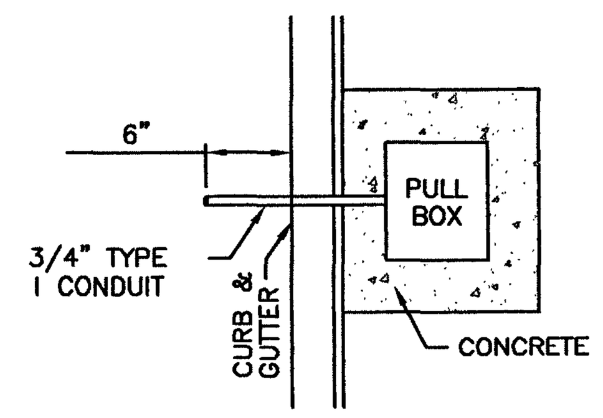
PULLBOX NOTES:

1. NOMINAL PULLBOX DIMENSIONS:
   TYPE 1 – 8" x 8" x 6"
   TYPE 2 – TOP BODY – 25" x 15" x 12"
2. GRAVEL, 12" DEEP, IS REQUIRED UNDER PULLBOXES FOR DRAINAGE.
3. CONCRETE COLLAR, 6" x 6", IS REQUIRED FOR PULLBOXES PLACED IN SOIL. (COST ABSORBED)
4. TRAFFIC SIGNAL, TRAFFIC OR SIGNAL LEGEND REQUIRED.
5. COVERS SHALL BOLT DOWN.
6. PULL BOXES AND COVERS SHALL BE TRAFFIC LOAD BEARING BASED ON 15,000 LB. LOAD OVER 10" x 10" AREA.

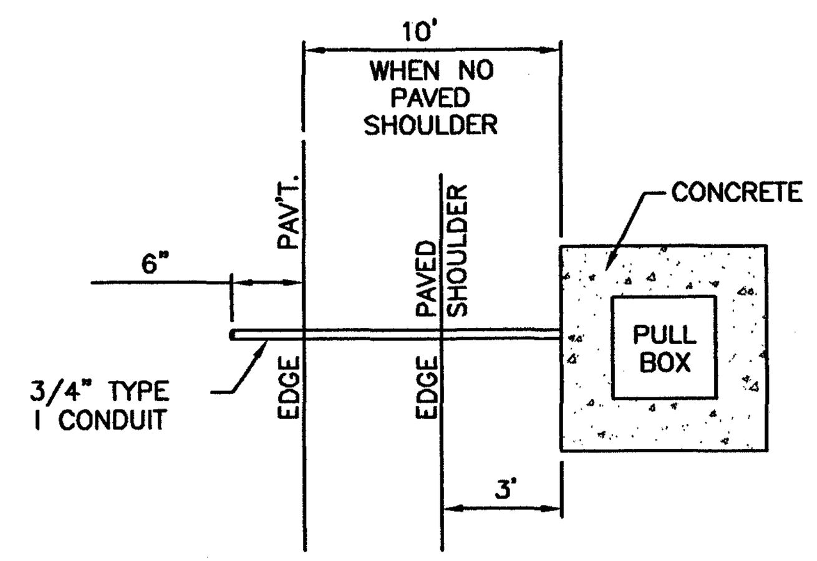
TWO-PIECE PULLBOX (TYPE 1)

NOT TO SCALE

CAST IRON, CAST ALUMINUM, WELDED ALUMINUM, OR APPROVED EQUAL



CURB AND GUTTER

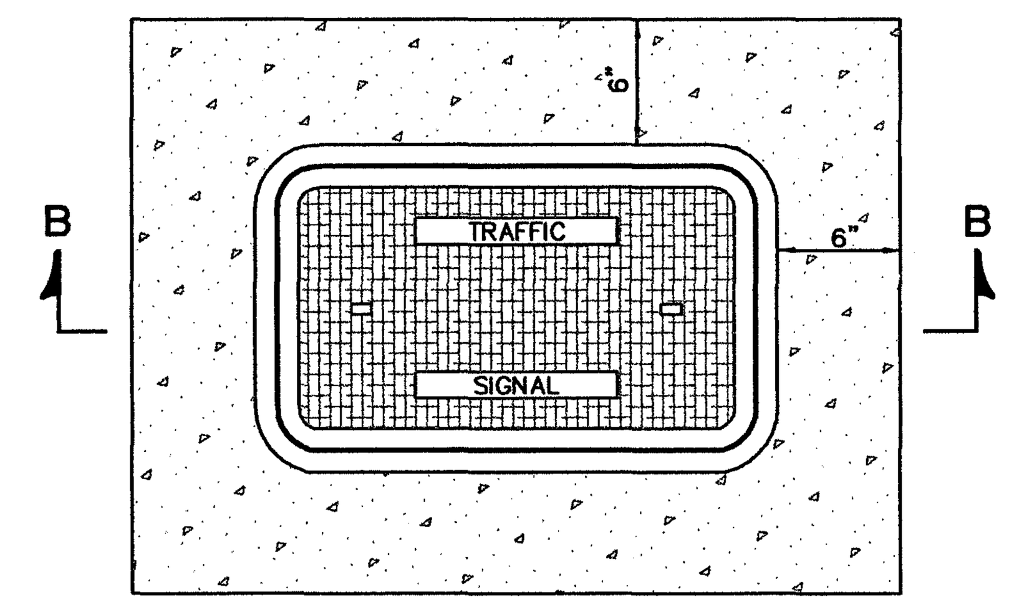


SHOULDER SECTION

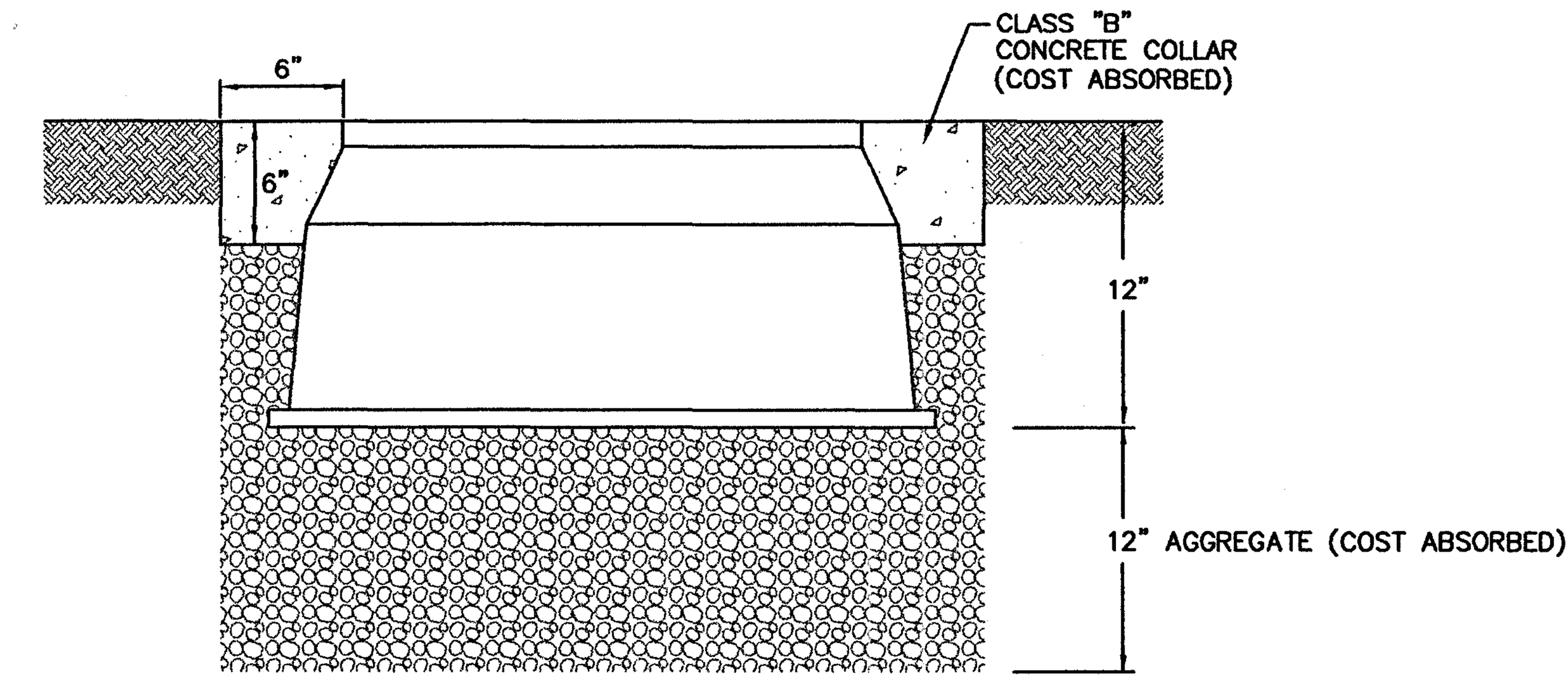
PULL BOX LOCATION DETAIL

NOT TO SCALE

NOTE: IF PULL BOX IS LOCATED IN EXISTING SIDEWALK, CONTRACTOR TO REMOVE SIDEWALK TO SECTION JOINTS, FOR A CLEAN INSTALLATION. COST TO BE ABSORBED IN BID ITEM FOR CONDUIT. AVOID LOCATING PULL BOXES IN DRIVEWAYS.



PLAN

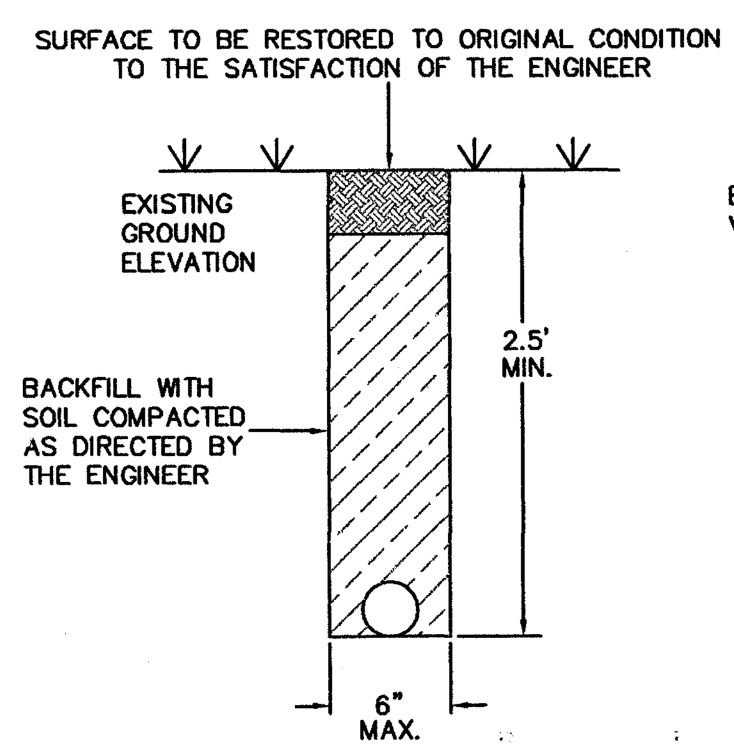


SECTION B-B

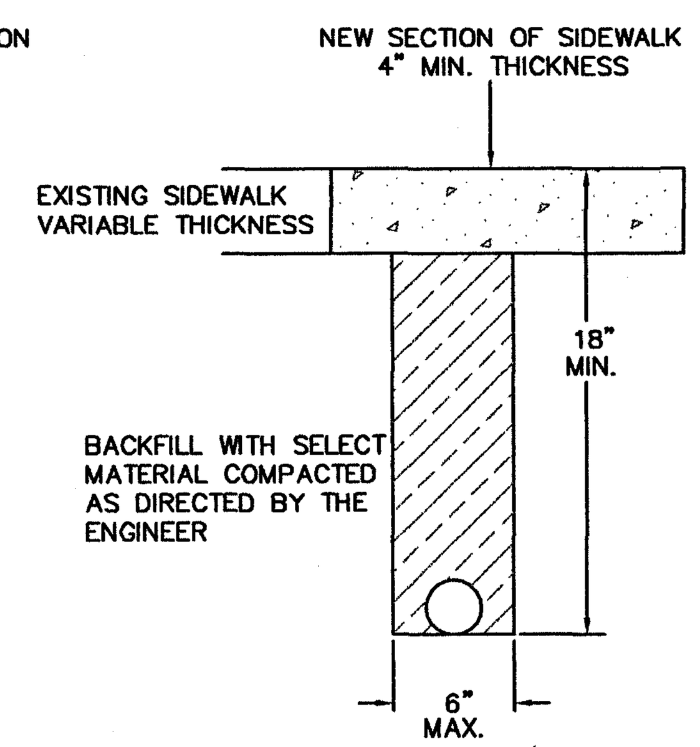
TWO-PIECE PULLBOX (TYPE 2 OR TYPE 3)

NOT TO SCALE

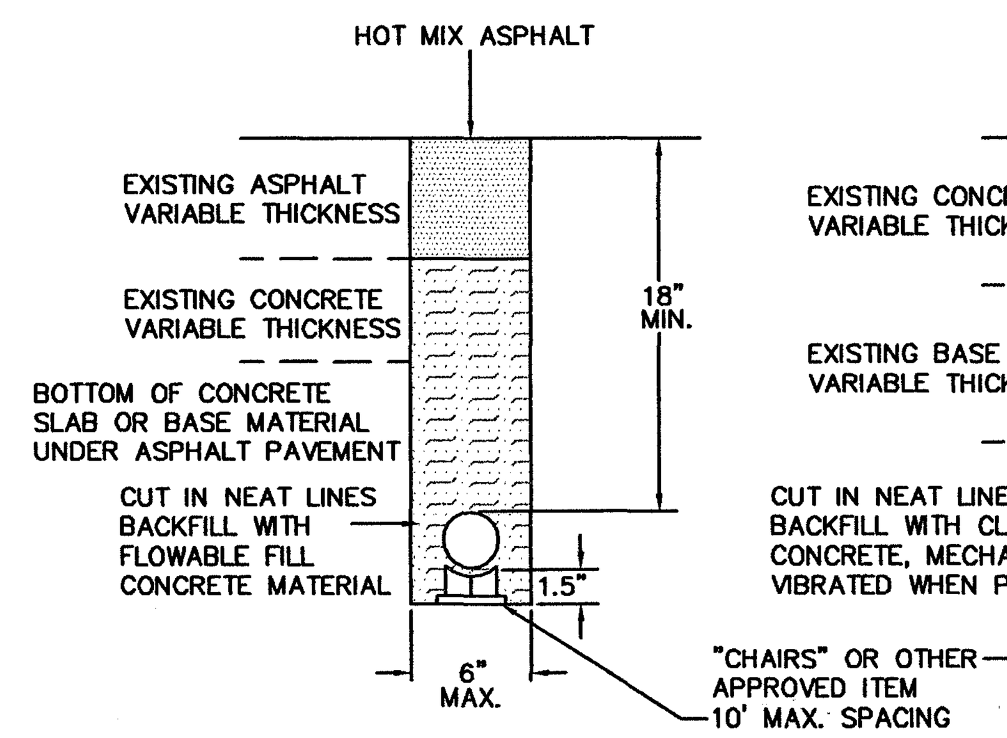
PRECAST CLASS "B" CONCRETE, CAST IRON, COMPOSOLITE, OR APPROVED EQUAL



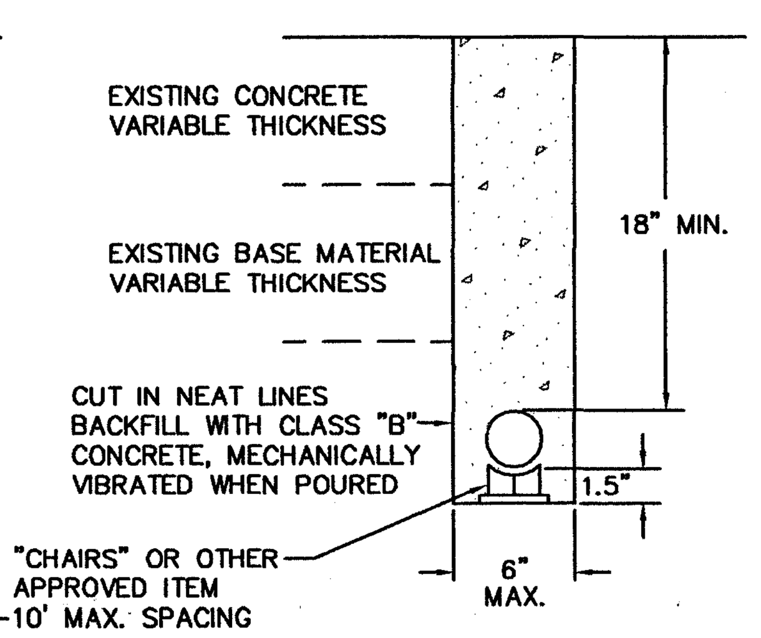
NON-PAVED AREA



SIDEWALK



ASPHALT



CONCRETE

CONDUIT TRENCHING DETAIL

NOT TO SCALE

NOTES :

1. CONDUIT TO BE SEALED WITH DUCT SEALER ONCE CABLE IS INSTALLED.
2. SAWCUT SIDEWALK AT EXISTING JOINTS AND REPLACE ENTIRE SECTION TO MATCH EXISTING MATERIAL. WHEN NEW SIDEWALK IS BEING CONSTRUCTED, CONDUIT, PULLBOX, AND POLE ARE TO BE INSTALLED BEFORE SIDEWALK IS POURED.
3. TYPE I CONDUIT IS RIGID STEEL; TYPE IV CONDUIT IS PVC.
4. CONDUIT MAY BE TRENCHED OR JACKED. ELECTRICAL SUBCONTRACTOR SHALL COORDINATE CONDUIT INSTALLATION WORK UNDER ROADWAY WITH ROADWAY CONSTRUCTION PHASING IN ORDER TO MINIMIZE JACKING.
5. MATERIAL REMOVED THAT IS NOT SUITABLE FOR BACKFILL OR IS EXCESS SHALL BE DISPOSED OF BY THE CONTRACTOR.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: 2-5006-01	
FILENAME: TSD-3.dwg	
CADD TYPE: Autocad 2002	
SURVEYED BY:	
DSGN: M.J.B.	DATE: 3/19/03
DRWN: A.R.W.	DATE: 3/19/03
CHKD:	DATE:
QA/QC: R.T.	DATE: 6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.

RIDGELAND, MISSISSIPPI

STP-8323-00(002)

MARK J. BEYEA
REGISTERED PROFESSIONAL ENGINEER
#12599
STATE OF MISSISSIPPI

[illegible]

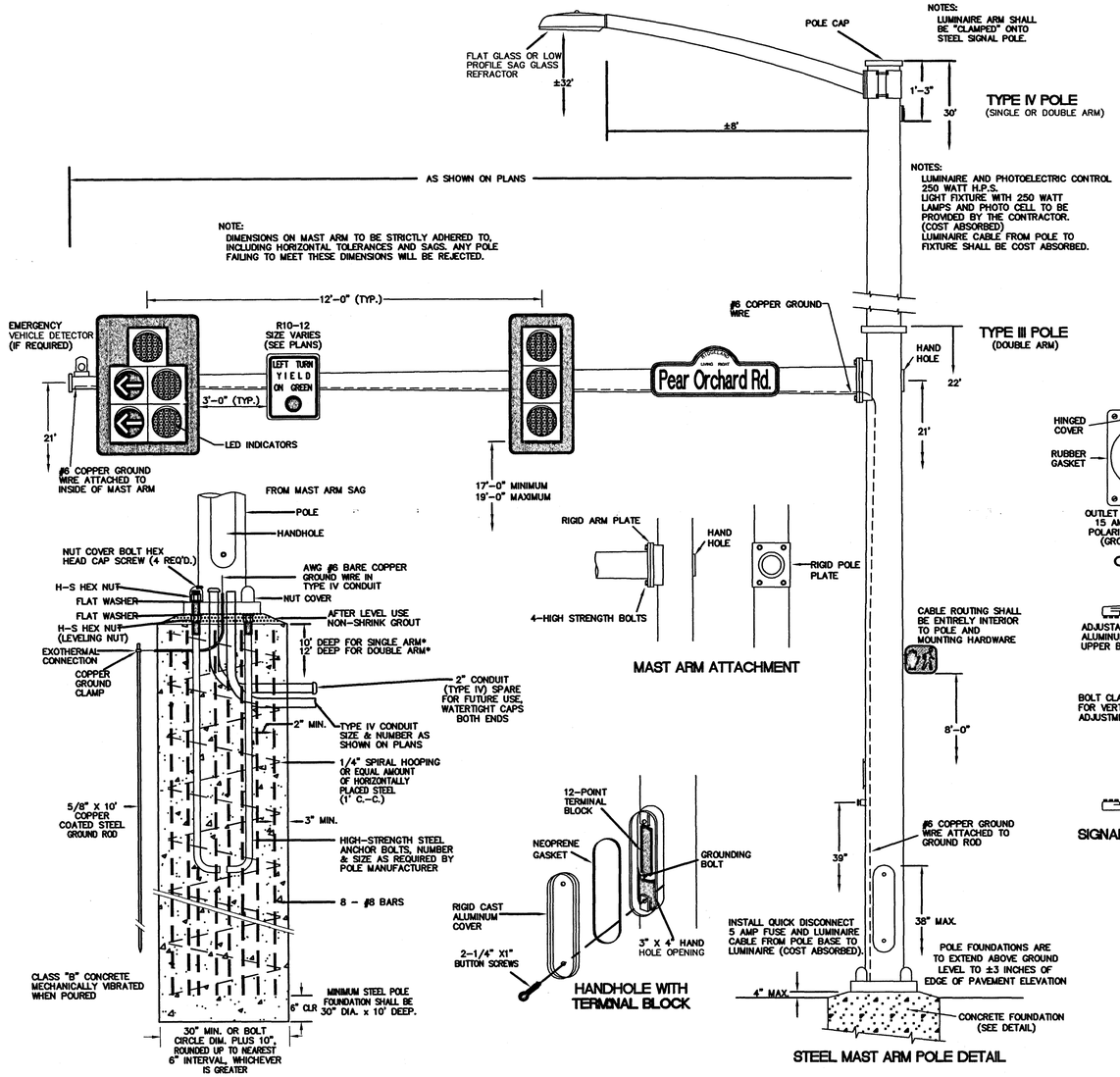
SEAL:

NEEL-SCHAFFER

P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

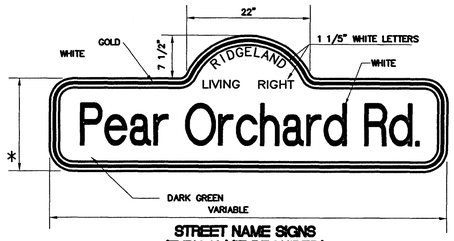
PULL BOX AND CONDUIT TRENCHING DETAILS FOR TRAFFIC SIGNAL INSTALLATION

WORKING NUMBER:	DRAWING NUMBER:
	12



NOTES:

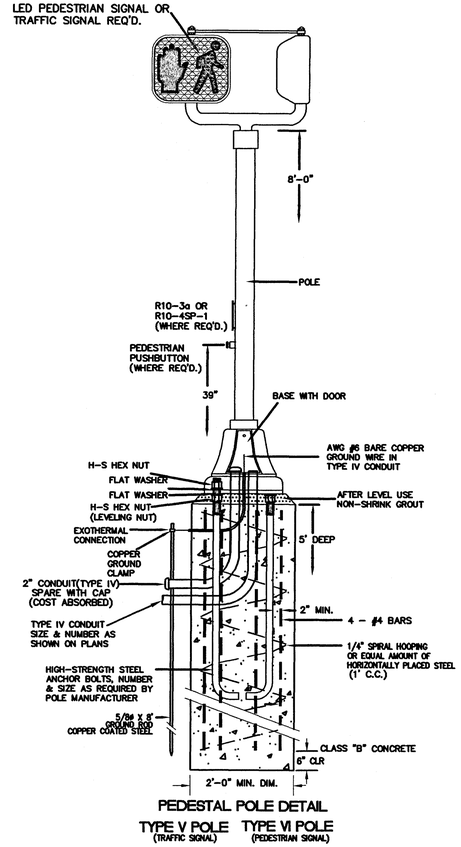
1. WIRE ENTRANCE TO MAST ARM WILL BE FIELD DRILLED TO CORRESPOND TO THE LOCATION OF THE SIGNAL HEADS WHEN ALIGNED IN FIELD.
2. RED SECTION INDICATIONS TO BE APPROXIMATELY SAME HEIGHT. EXACT DIMENSIONS AND LOCATIONS OF ANCHOR BOLTS TO BE SUPPLIED BY THE POLE MANUFACTURER.
*3. DESIGN WIND LOADS FOR TRAFFIC SIGNAL SUPPORTS SHALL BE 70 MPH. THE CONTRACTOR SHALL PROVIDE DESIGN CERTIFICATION AND CALCULATIONS AS OUTLINED IN SECTION 722.02 OF MISSISSIPPI DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. #6 COPPER GROUND WIRE INSIDE POLE AND MAST ARM TO BE COST ABSORBED.
5. POLES & HARDWARE TO BE HOT DIPPED GALV. FINISH.



STREET NAME SIGNS (TYPICAL)(IF REQUIRED) (COST ABSORBED)

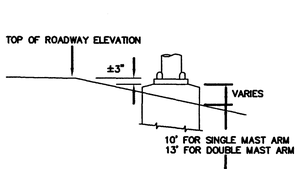
* HEIGHT = 1'-6" FOR SINGLE NAME, 2'-0" FOR 2 NAMES
8" UPPER CASE, 6" EXTENSIONS : RD., DR., CR., ETC. "TIMES NEW ROMAN BOLD" THE SIGN BLANK SHALL BE A SINGLE PIECE OF SMOOTH CUT ALUMINUM FROM ASTM B-209 ALLOY 5052H36, 5052-H38, 5154-H38 OR 6061-T6 SHEETS IN 0.080 INCH THICKNESS. THE ALUMINUM SHALL BE DEGREASED AND LIGHTLY ACID ETCHED BEFORE THE SIGN SHEETING IS APPLIED. THE SIGN SHEETING SHALL BE APPLIED TO THE PANELS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE RETROFLECTIVE SHEETING MANUFACTURER.

THE DECORATIVE STREET NAME SIGNS SHALL BE FINISHED ON BOTH SIDES. THE SIGN SHEETING MATERIAL SHALL BE (ITEM #1) REFLECTIVE ENCLOSED LINES (ENGINEER GRADE) CONFORMING TO FEDERAL SPECIFICATIONS FP92. THE COLORS OF THE DECORATIVE STREET NAME SIGNS SHALL MATCH THE EXISTING DECORATIVE STREET NAME SIGNS.



PEDESTAL POLE DETAIL

TYPE V POLE (TRAFFIC SIGNAL) TYPE VI POLE (PEDESTRIAN SIGNAL)



LOW SHOULDER FOUNDATION DETAIL

STEEL MAST ARM POLE FOUNDATION DETAIL
* UNLESS OTHERWISE INDICATED
TRAFFIC SIGNAL INSTALLATION
(SEE PLAN SHEET)

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION		
N-S PROJECT NO.:	2-5006-01	
FILENAME:	TSD-6.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
DSGN: M.J.B.	DATE:	3/19/03
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CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
RIDGELAND, MISSISSIPPI
STP-8323-00(002)

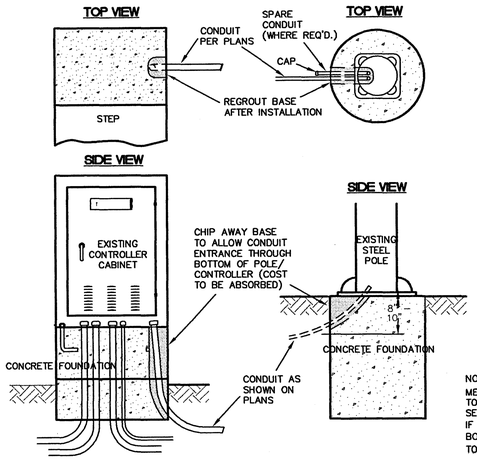
SEAL: MARK J. BOYLA, REGISTERED PROFESSIONAL ENGINEER, #12598, STATE OF MISSISSIPPI

NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

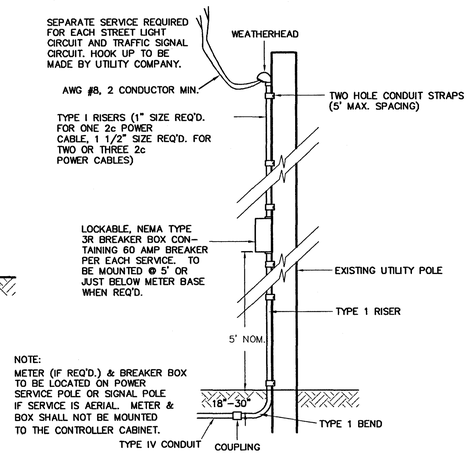
MAST ARM AND PEDESTAL POLE DETAILS FOR TRAFFIC SIGNAL INSTALLATION

WORKING NUMBER:

DRAWING NUMBER: 13

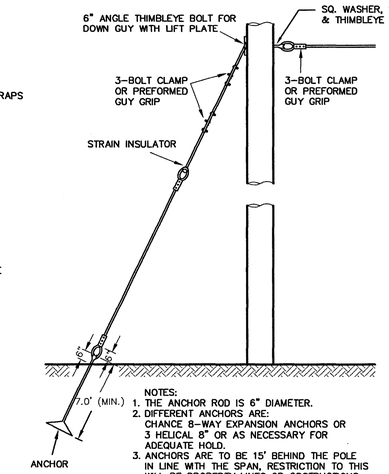


CONDUIT ENTRANCE DETAIL
(EXISTING CABINET OR POLE)



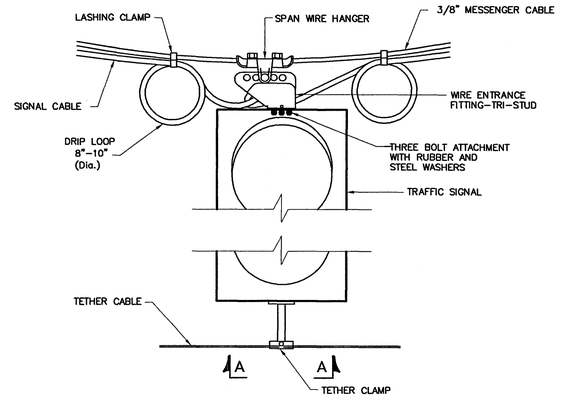
NOTE:
METER (IF REQ'D.) & BREAKER BOX TO BE LOCATED ON POWER SERVICE POLE OR SIGNAL POLE IF SERVICE IS AERIAL. METER & BOX SHALL NOT BE MOUNTED TO THE CONTROLLER CABINET.

POWER SERVICE DETAIL



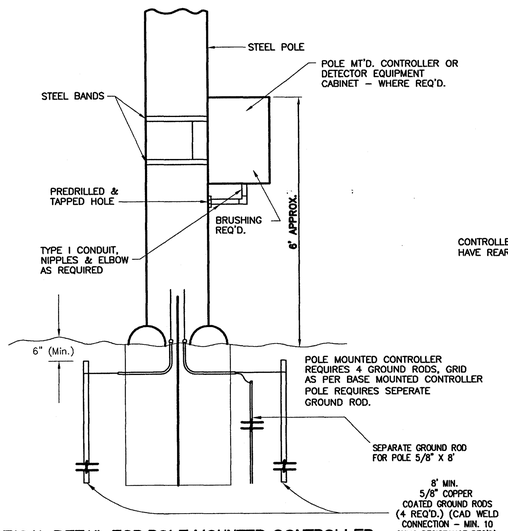
NOTES:
1. THE ANCHOR ROD IS 6" DIAMETER.
2. DIFFERENT ANCHORS ARE: CHANCE 8-WAY EXPANSION ANCHORS OR 3 HELICAL 8" OR AS NECESSARY FOR ADEQUATE HOLD.
3. ANCHORS ARE TO BE 15' BEHIND THE POLE IN LINE WITH THE SPAN, RESTRICTION TO THIS WILL BE PROPERTY LINES OR OBSTRUCTIONS.
4. ALL ATTACHMENT FITTINGS SHALL BE HOT DIP GALVANIZED UNLESS STATED OTHERWISE.
5. GUYS TO BE INSTALLED AS REQUIRED, DETERMINED BY THE ENGINEER (COST ABSORBED).

GUY DETAIL

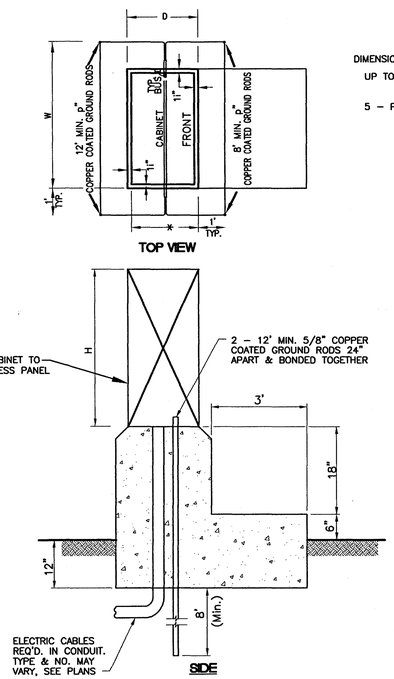


DETAIL OF SPAN WIRE ATTACHMENT FOR SIGNAL HEADS
NOT TO SCALE

NOTE: ALL COPPER FOR GROUND TO BE IN TYPE IV CONDUIT WHEN IN CONCRETE. NO BARE COPPER TO BE IN CONTACT WITH CONCRETE.

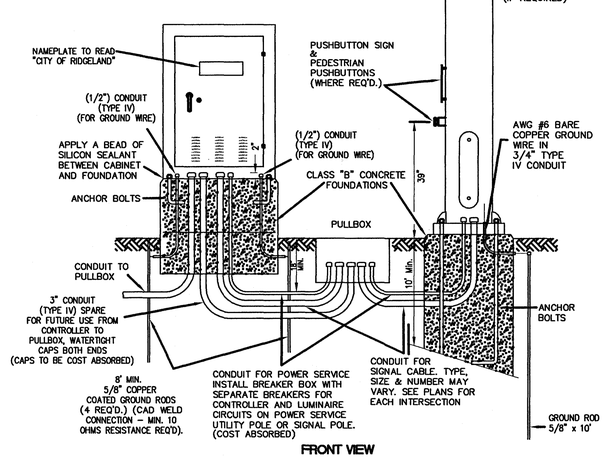


TYPICAL DETAIL FOR POLE MOUNTED CONTROLLER
OR DETECTOR EQUIPMENT CABINET
NOT TO SCALE



DIMENSIONS OF BASE MOUNTED CONTROLLER EQUIP. CABINETS (MIN.)

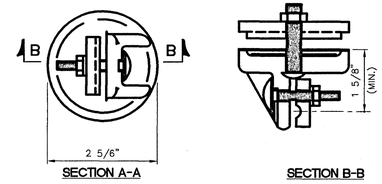
UP TO AND INCLUDING 4 - PHASE	WIDTH (W) = 38" DEPTH (D) = 24" HEIGHT (H) = 54"
5 - PHASE THRU 8 - PHASE	WIDTH (W) = 44" DEPTH (D) = 26" HEIGHT (H) = 55"



FRONT VIEW

NOTE: THE BASE MOUNTED CABINET IS TO BE SITUATED IN THE OPTIMUM POSITION FOR VIEWING THE CONTROLLER OPERATION AND THE ON STREET SIGNAL DISPLAYS SIMULTANEOUSLY. THIS POSITION IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

DETAIL OF BASE FOR CONTROLLER
EQUIPMENT CABINET
NOT TO SCALE



DETAIL OF TETHER CLAMP
NOT TO SCALE

NOTICE TO DRAWING HOLDER

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REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.:	2-5006-01	
FILENAME:	TSD-5.dwg	
CADD TYPE:	Autocad 2002	
SURVEYED BY:		
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DRWN: A.R.W.	DATE:	3/19/03
CHKD:	DATE:	
QA/QC: R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
RIDGELAND, MISSISSIPPI
STP-8323-00(002)

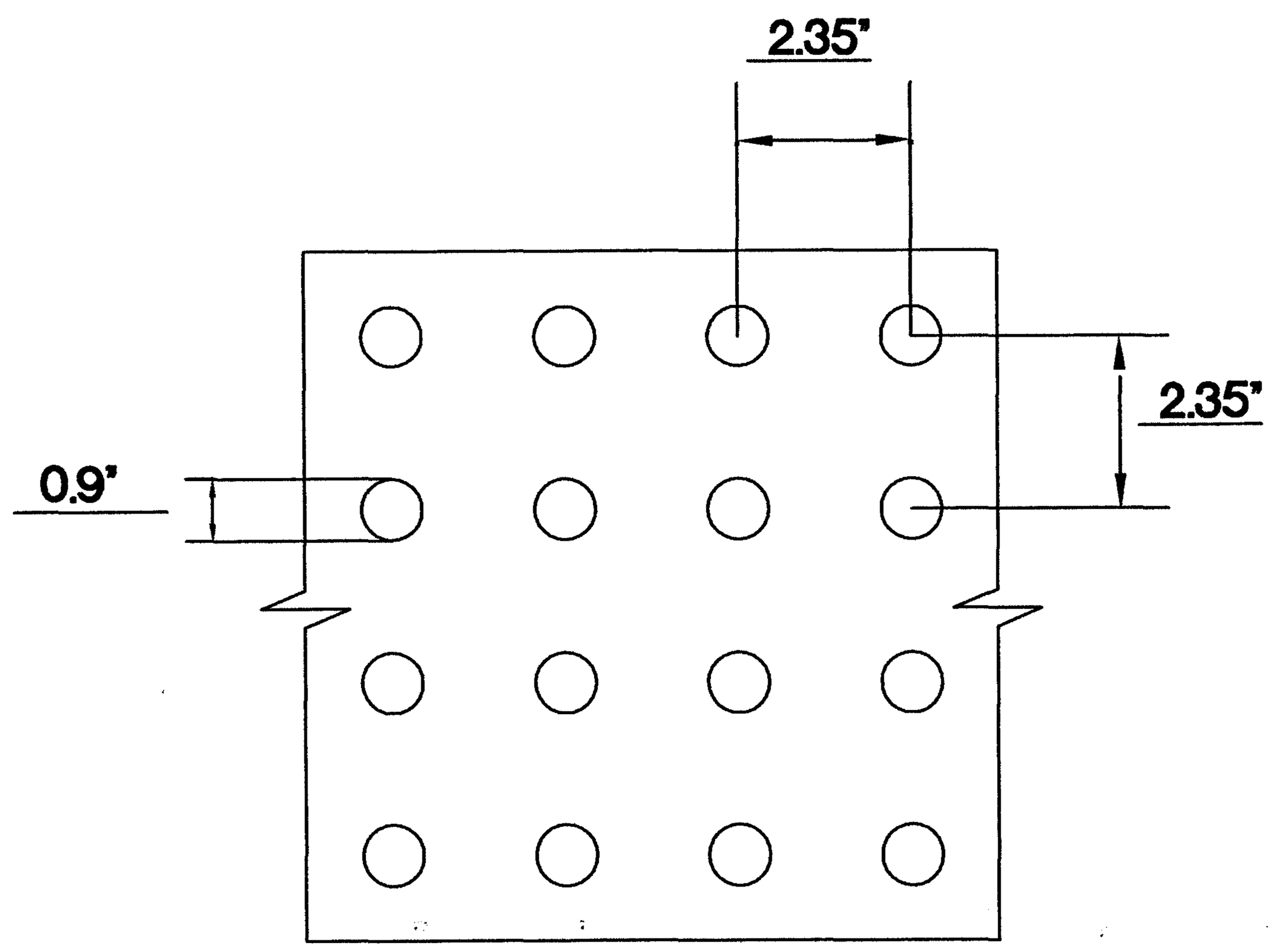
SEAL: MARK J. BECA, REGISTERED PROFESSIONAL ENGINEER, #12569, STATE OF MISSISSIPPI

NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

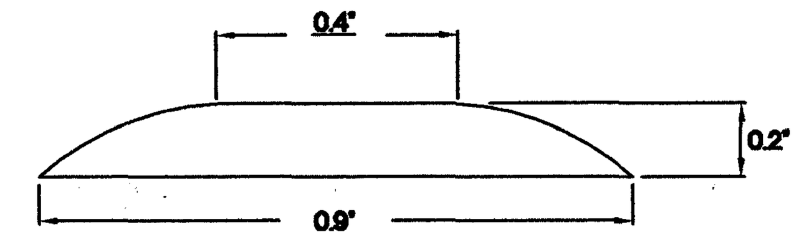
TYPICAL DETAILS OF CONTROLLER CABINET MOUNTINGS, TYPE 1 POLE ATTACHMENTS AND MISCELLANEOUS DETAILS

WORKING NUMBER:

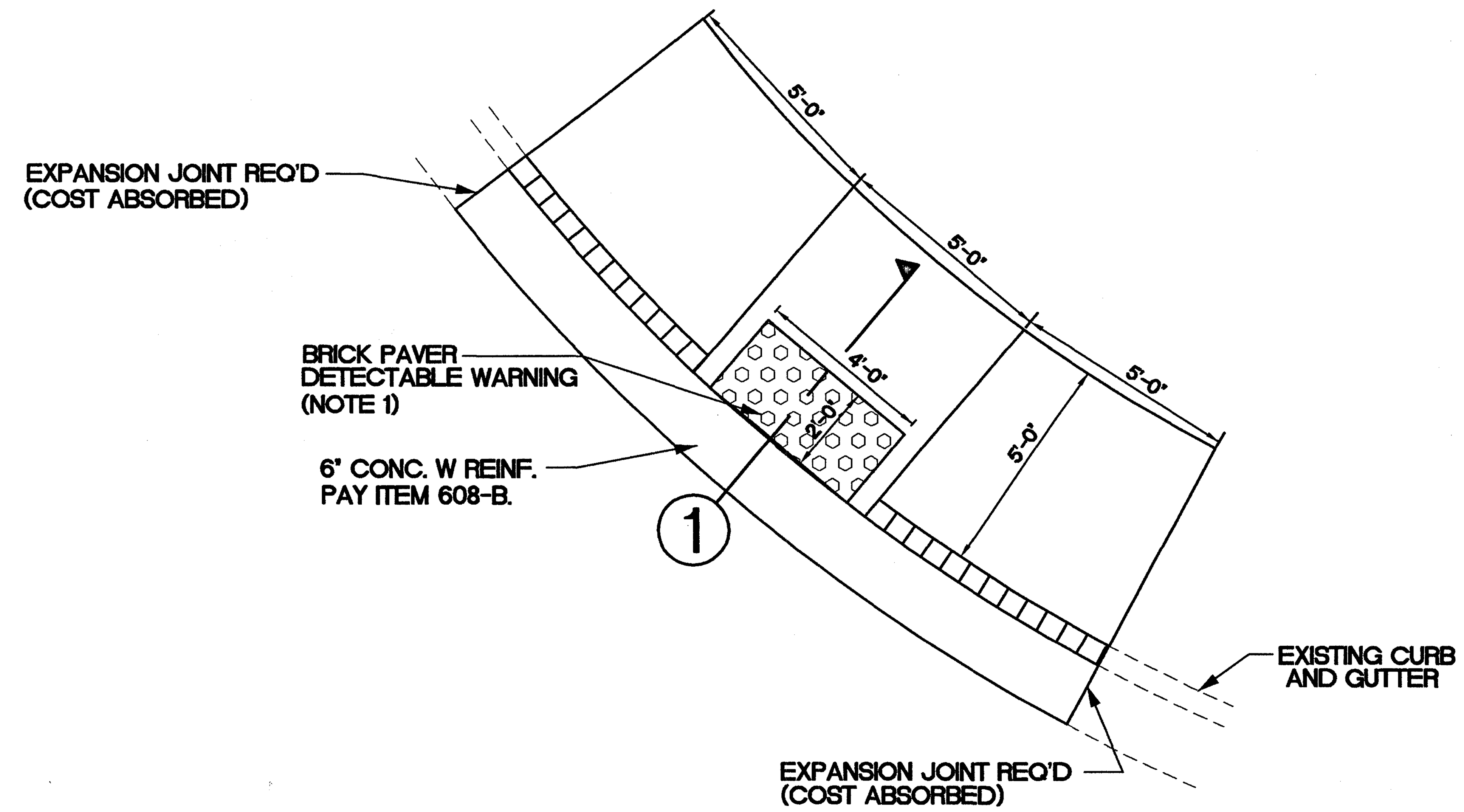
DRAWING NUMBER: 14



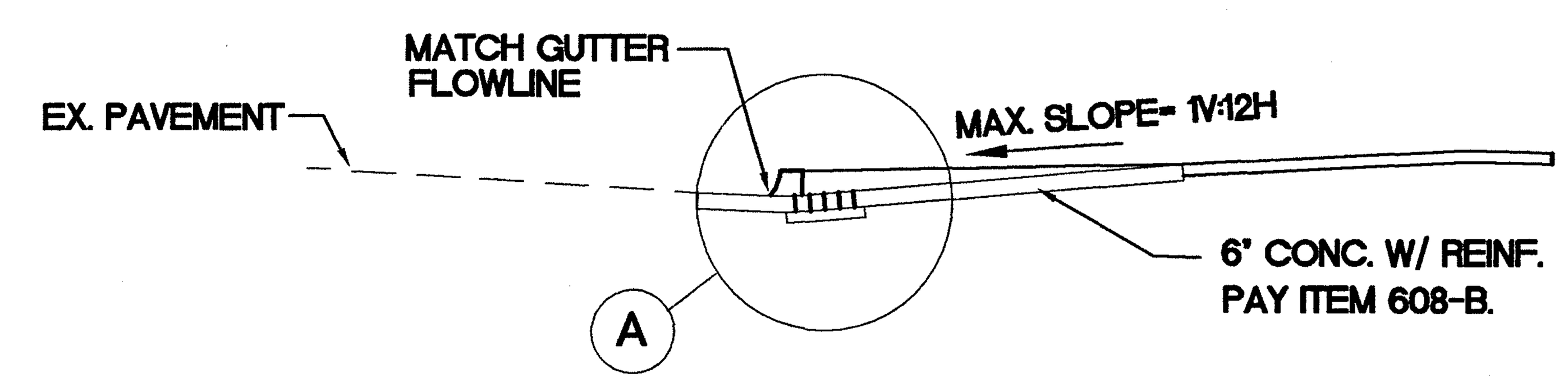
DETAIL-TRUNCATED DOME PATTERN/SPACING
(TYPICAL ALL DETECTABLE WARNINGS)
N.T.S.



TYPICAL SECTION-TRUNCATED DOME
N.T.S.



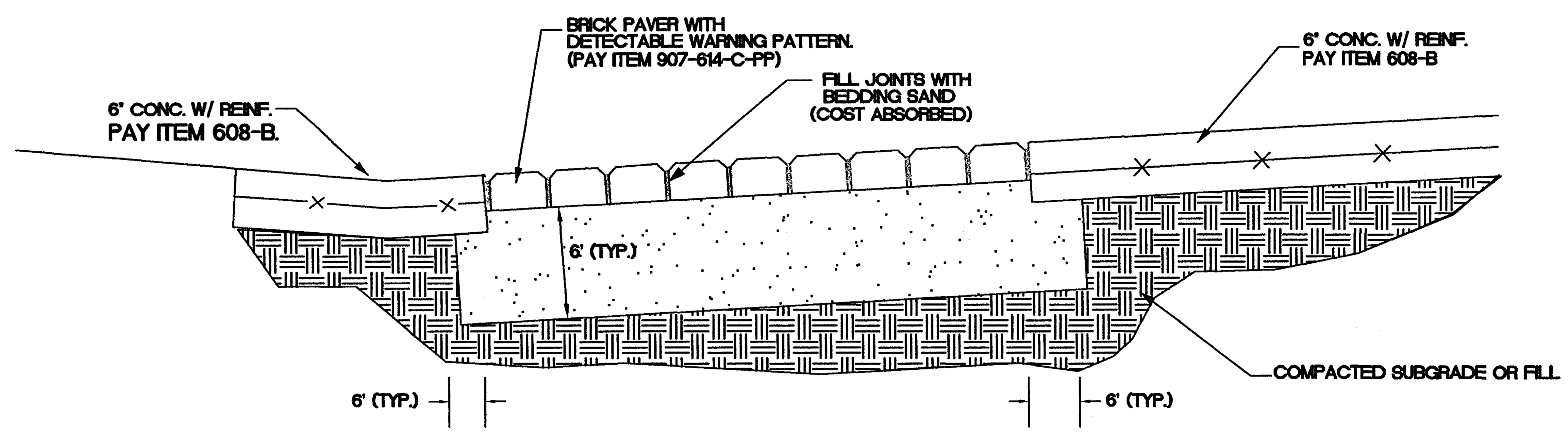
CURB RAMP WITH DETECTABLE WARNING (TYP.)
N.T.S.



(1) **SECTION**
N.T.S.

NOTES:

1. BRICK PAVERS FOR DETECTABLE WARNINGS SHALL BE "PAVESTONE DETECTBLE WARNING PAVERS" OR APPROVED BY EQUAL. PAVER COLOR SHALL BE PAVESTONE "CHARCOAL" OR APPROVED EQUAL. PAY ITEM 907-614-C "DETECTABLE WARNINGS (PER PLANS)"



(A) **TYPICAL INSTALLATION DETAIL**
BRICK PAVER DETECTABLE WARNING
N.T.S.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION			
N-S PROJECT NO.:	2-5006-01		
FILENAME:	5006-DWARNINGS.dwg		
CADD TYPE:	Autocad 2002		
SURVEYED BY:			
DSGN:	M.J.B.	DATE:	4/25/03
DRWN:	A.R.W.	DATE:	4/25/03
CHKD:		DATE:	
QA/QC:	R.T.	DATE:	6/3/04

PEAR ORCHARD RD./ TOWNE CENTER BLVD.
RIDGELAND, MISSISSIPPI
STP-8323-00(002)

MARK J. BEYEA
REGISTERED PROFESSIONAL
ENGINEER
#12599
STATE OF MISSISSIPPI
[illegible]
SEAL:

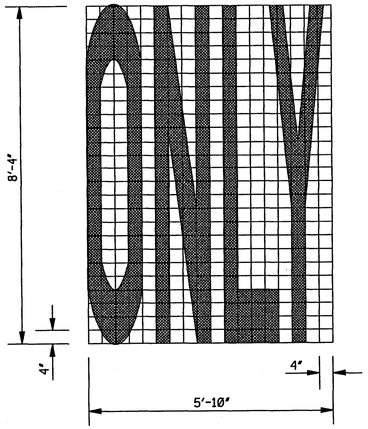
NEEL-SCHAFFER
P.O. Box 22625 / 39225-2625
666 North Street, Suite 201
Jackson, MS 39202
PH: (601)948-3071 / FAX: (601)948-3178

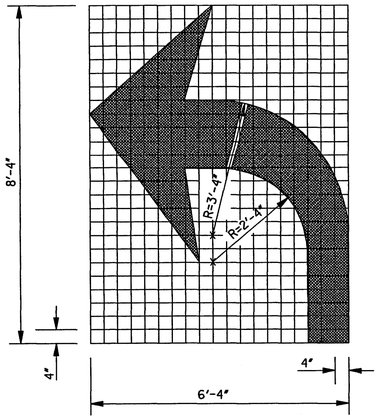
DETAILS OF CURB RAMP
W/ DETECTABLE WARNINGS

WORKING NUMBER:

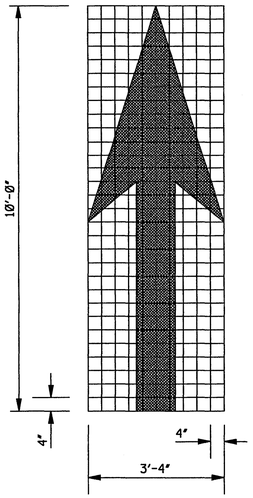
DRAWING NUMBER:
15

STATE	PROJECT NO.
MISS.	

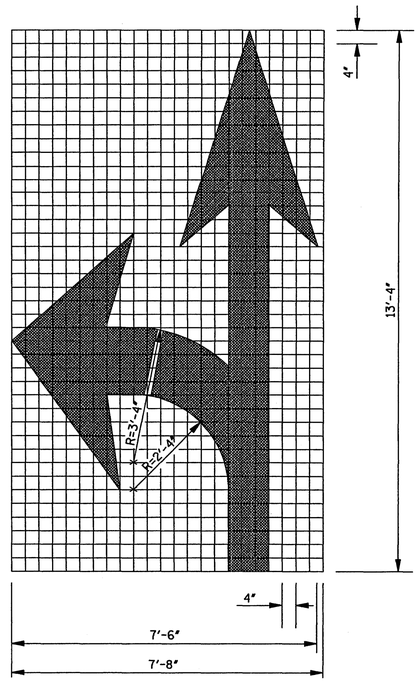




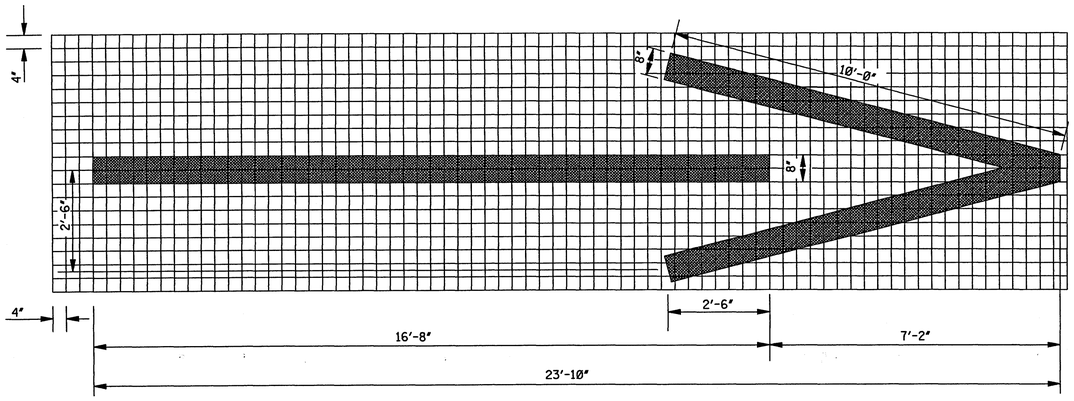
TURN ARROW



THRU ARROW



COMBINATION ARROW



1–WAY ARROW

GENERAL NOTES:

1. UNLESS OTHERWISE SHOWN ON THE PLANS, ALL PAVEMENT MARKING LEGENDS, INCLUDING TURN ARROWS, SHALL BE APPLIED USING HIGH PERFORMANCE MATERIALS.
2. TWO HORIZONTAL GAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1½" OR LESS AND EXTENDING THE FULL WIDTH ARE PERMITTED IN EACH LETTER.
3. FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAY QUANTITIES FOR PAVEMENT MARKING LEGENDS ARE AS FOLLOWS:

PAY QUANTITIES	
LEGEND/SYMBOL	AREA (ft^2)
ONLY	22.0
TURN ARROW	16.4
THRU ARROW	12.3
COMB. ARROW	27.5
1-WAY ARROW	24.3

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

PAVEMENT MARKING LEGEND DETAILS

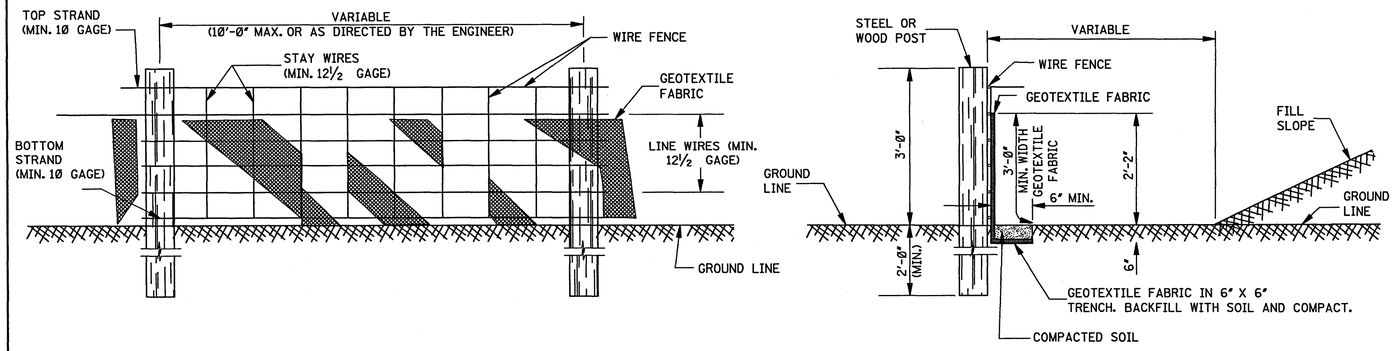
ENGLISH

WORKING NUMBER
PM-6

ISSUE DATE: OCTOBER 1, 1998

SHEET NUMBER
125

STATE	PROJECT NO.
MISS.	



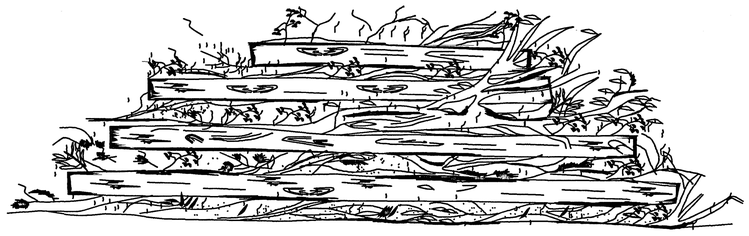
FRONT ELEVATION

SIDE ELEVATION

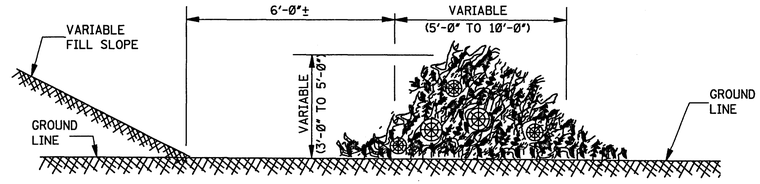
TEMPORARY SILT FENCE

NOTES:

1. WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
2. GEOTEXTILE FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
3. STEEL POST SHALL BE 5'-0" IN HEIGHT AND OF THE SELF-FASTENER ANGLE STEEL TYPE. WOOD POST SHALL BE A MINIMUM OF 5'-0" IN HEIGHT AND 3" OR MORE IN DIAMETER. WIRE FENCE SHALL BE FASTENED TO WOODEN POST WITH NOT LESS THAN 9 GAGE WIRE STAPLES 1" LONG.
4. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATIONS MAY BE USED WITHOUT WIRE FENCE.



FRONT ELEVATION

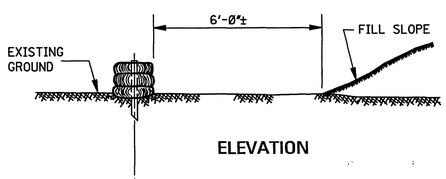


SIDE ELEVATION

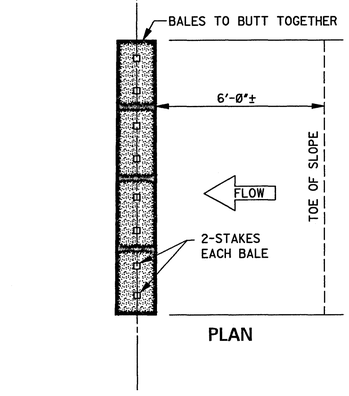
TEMPORARY BRUSH BARRIER

NOTES:

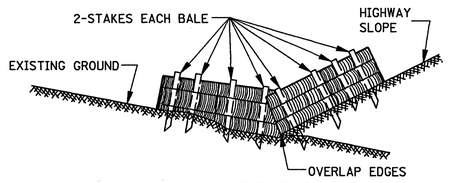
1. BRUSH BARRIER TO BE USED WHERE NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.
2. PLACE BRUSH, LOG AND TREE LAPS APPROXIMATELY PARALLEL TO TOE OF FILL SLOPE WITH SOME OF THE HEAVIER MATERIALS BEING PLACED ON TOP TO PROPERLY SECURE THE BARRIER AS DETAILED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
3. TO ALLOW WATER TO FLOW THROUGH BRUSH BARRIER, INTERMINGLE THE BRUSH, LOG AND TREE LAPS SO AS NOT TO FORM A SOLID DAM.



ELEVATION



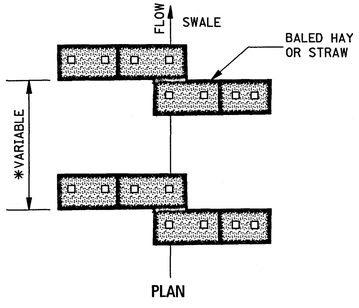
PLAN



ELEVATION

NOTE: SIMILAR TREATMENT TO BE USED IN DITCHES.

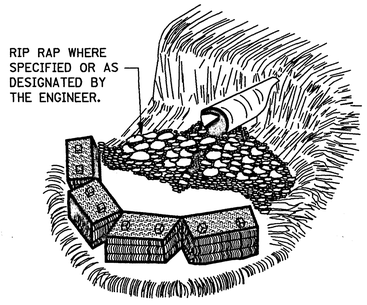
FALL OF DITCH (%)	DISTANCE* (ft)
0 - 1	100'
1 - 2	50'
>2	25'



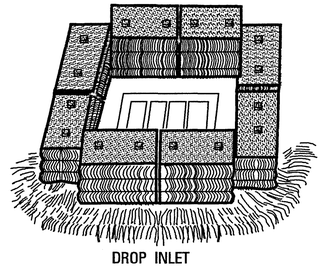
PLAN

TEMPORARY EROSION CHECKS USING HAY OR STRAW BALES

NOTE: EMBED ALL BALES 3" MINIMUM INTO GROUND AND STAKE (2" X 2" X 36") SECURELY.



CULVERT



DROP INLET

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL MATERIALS AND PERFORM ALL WORK FOR THE PROPER INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY EROSION CONTROL MEASURES NECESSARY TO CONTROL SILTATION.
2. TEMPORARY BRUSH BARRIERS SHALL BE USED AS REQUIRED BUT WILL NOT BE MEASURED FOR SEPARATE PAYMENT.
3. THE USE OF TEMPORARY EROSION CONTROL MEASURES OTHER THAN TEMPORARY BRUSH BARRIERS WILL ONLY BE REQUIRED AND MEASURED FOR SEPARATE PAYMENT WHEN APPROPRIATE PAY ITEM(S) IS INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.

BY | REVISION | DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

TYPICAL TEMPORARY EROSION CONTROL MEASURES
(SILT FENCE, HAY BALES & BRUSH BARRIER)

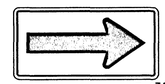
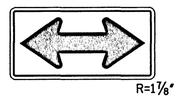
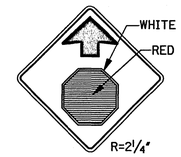
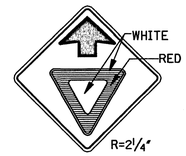
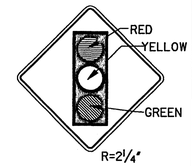
ENGLISH

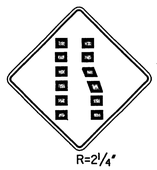
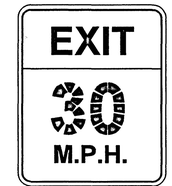
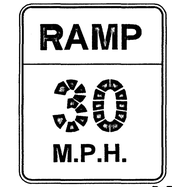
WORKING NUMBER
TEC-1

ISSUE DATE: OCTOBER 1, 1998

SHEET NUMBER
142

	STATE	PROJECT NO.
	MISS.	

SIGN NUMBER	W1-1L W1-1R	W1-2L W1-2R	W1-3L W1-3R	W1-4L W1-4R	W1-6L W1-6R	W1-7	W3-1a	W3-2a	W3-3	W4-1L W4-1R	W4-10lL W4-10lR
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"	0.125"
LEGEND											
LETTER & NUMERAL SERIES											
WIDTH OF BORDER INSIDE OUTSIDE	¾" BLACK ½" YELLOW	¾" BLACK ½" YELLOW	¾" BLACK ½" YELLOW	¾" BLACK ½" YELLOW	¾" BLACK ½" YELLOW	¾" BLACK ½" YELLOW	⅞" BLACK ⅝" YELLOW	⅞" BLACK ⅝" YELLOW	⅞" BLACK ⅝" YELLOW	¾" BLACK ½" YELLOW	1¼" BLACK ¾" YELLOW
SIZE (WIDTH X HEIGHT)	30" X 30"	30" X 30"	30" X 30"	30" X 30"	48" X 24"	48" X 24"	36" X 36"	36" X 36"	36" X 36"	30" X 30"	48" X 48"
COLORS COPY BACKGROUND	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW
REFLECTORIZATION	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND & SYMBOL	BACKGROUND & SYMBOL	BACKGROUND & "LIGHTS"	BACKGROUND	BACKGROUND
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	2	2	1	1	1	1	1
NUMBER OF HOLES TO BE PUNCHED (⅜" DIA.)	2	2	2	2	4	4	2	2	2	2	4
PUNCHING DISTANCE FROM EACH VERT. EDGE	VERT. CENTER	VERT. CENTER	VERT. CENTER	VERT. CENTER	6"	6"	VERT. CENTER	VERT. CENTER	VERT. CENTER	VERT. CENTER	14½" FROM VERT. CENTER
PUNCHING DISTANCE FROM TOP EDGE	15" FROM HORIZ. CENTER	15" FROM HORIZ. CENTER	15" FROM HORIZ. CENTER	15" FROM HORIZ. CENTER	3"; 21"	3"; 21"	18" FROM HORIZ. CENTER	18" FROM HORIZ. CENTER	18" FROM HORIZ. CENTER	15" FROM HORIZ. CENTER	14½" FROM HORIZ. CENTER

SIGN NUMBER	W4-2	W5-1	W6-1	W6-2	W6-3	W13-1	W13-2	W13-3	W10-1	W10-101	
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.125"	0.125"	0.125"	0.125"	0.125"	0.080"	0.125"	0.125"	0.125"	0.125"	
LEGEND	NOTE: SEE PLAN SHEETS FOR IDEOGRAM REQUIRED ON INDIVIDUAL SIGNS. 										
LETTER & NUMERAL SERIES		6" SERIES "D"				8" SERIES "E" 3" SERIES "E"	8" SERIES "E" 16" SERIES "E" 6" SERIES "E" (SEE NOTE)	8" SERIES "E" 16" SERIES "E" 6" SERIES "E" (SEE NOTE)	8" SERIES "E"	10" SERIES "E"	
WIDTH OF BORDER INSIDE OUTSIDE	⅞" BLACK ⅝" YELLOW	⅞" BLACK ⅝" YELLOW	⅞" BLACK ⅝" YELLOW	⅞" BLACK ⅝" YELLOW	¾" BLACK ½" YELLOW	⅝" BLACK ⅜" YELLOW	1¼" BLACK ¾" YELLOW	1¼" BLACK ¾" YELLOW	¾" BLACK ½" YELLOW	1¼" BLACK ¾" YELLOW	
SIZE (WIDTH X HEIGHT)	36" X 36"	36" X 36"	36" X 36"	36" X 36"	30" X 30"	18" X 18"	48" X 60"	48" X 60"	36" DIAMETER	48" DIAMETER	
COLORS COPY BACKGROUND	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	BLACK YELLOW	
REFLECTORIZATION	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	BACKGROUND	
NUMBER OF POSTS FOR MOUNTING	1	1	1	1	11	1	1	1	1	1	
NUMBER OF HOLES TO BE PUNCHED (⅜" DIA.)	2	2	2	2	2	2	6	6	2	4	
PUNCHING DISTANCE FROM EACH VERT. EDGE	VERT. CENTER	VERT. CENTER	VERT. CENTER	VERT. CENTER	VERT. CENTER	9" (VERT. CENTER)	10"	10"	15"	15" (VERT. CENTER)	
PUNCHING DISTANCE FROM TOP EDGE	18" FROM HORIZ. CENTER	18" FROM HORIZ. CENTER	18" FROM HORIZ. CENTER	18" FROM HORIZ. CENTER	15" FROM HORIZ. CENTER	3"; 15"	4"; 30"; 56"	4"; 30"; 56"	3"; 33"	5"; 43"	

GENERAL NOTES:

1. THE QUANTITIES LISTED ON THE SUMMARY OF QUANTITIES SHEET FOR THE SIGNS SHOWN ON THIS SHEET WILL BE USED AS THE BASIS FOR FINAL PAYMENT, EXCEPT WHERE SIGNS ARE MODIFIED FROM THAT SHOWN.
2. SIGNS W13-2 AND W13-3- THE STROKE WIDTH OF THE LETTER AND NUMERALS SHALL BE WIDENED TO 20% OF THE LETTER OR NUMERAL HEIGHT.
3. THE SPEEDS REQUIRED ON SIGNS W13-1, W13-2 AND W13-3 WILL BE SHOWN ON INDIVIDUAL PLAN SHEETS.

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

STANDARD ROADSIDE SIGNS

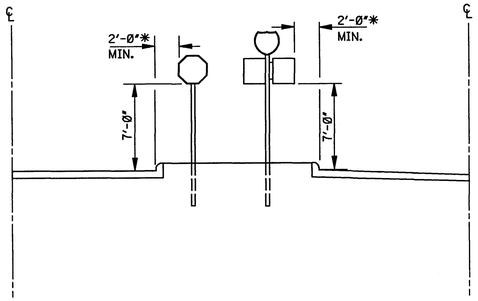
ENGLISH

WORKING NUMBER
SN-3B

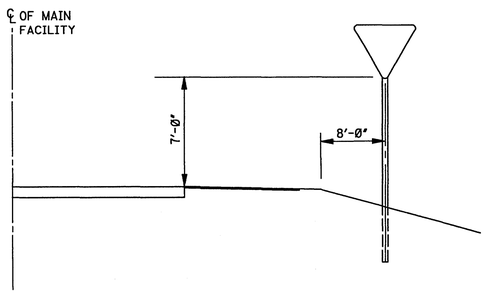
SHEET NUMBER
224

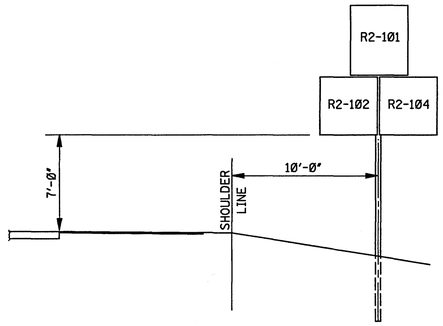
ISSUE DATE: OCTOBER 1, 1998

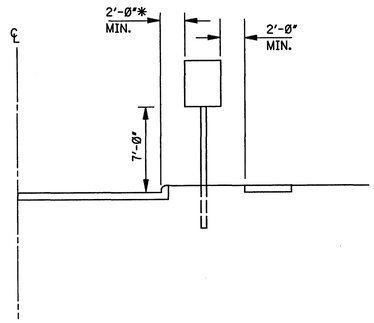
STATE	PROJECT NO.
MISS.	



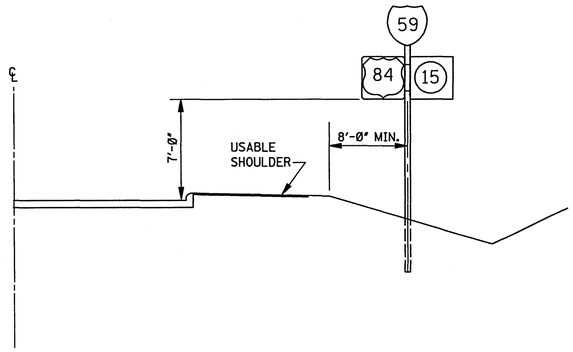
TYPICAL INSTALLATION IN ISLANDS OFF
OF (OR ADJACENT TO) INTERSTATE MAIN FACILITY

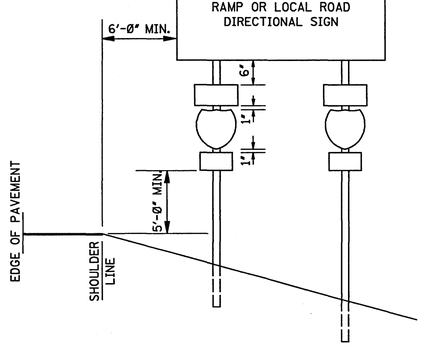






TYPICAL INSTALLATION ALONG FRONTAGE ROAD, RAMP
OR STREET WHERE THERE IS NOT A USABLE SHOULDER





TYPICAL INSTALLATION ALONG THE INTERSTATE MAIN FACILITY AND ALONG RAMPS, FRONTAGE ROADS AND HIGHWAYS

* NOTE: THE 2'-Ø" MINIMUM OFFSET APPLIES ONLY TO STANDARD SIGNS MOUNTED ON U-SECTION POSTS. ALL STANDARD SIGNS MOUNTED ON PIPE WILL BE OFFSET A MINIMUM OF 4'-Ø". RAMP DESTINATION SIGNS WILL BE OFFSET 4'-Ø" FROM SHOULDERS.

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION

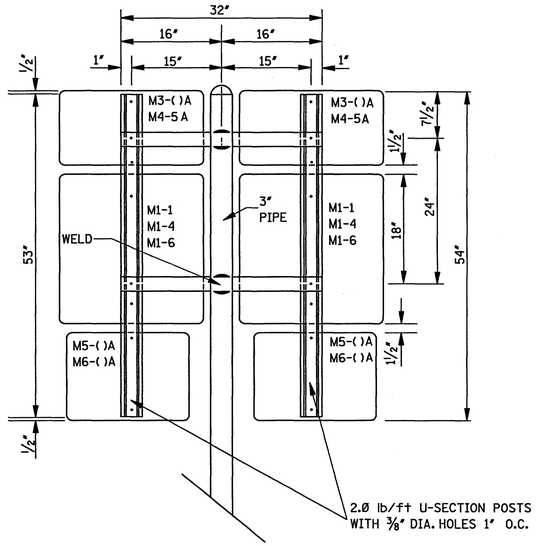
ENGLISH

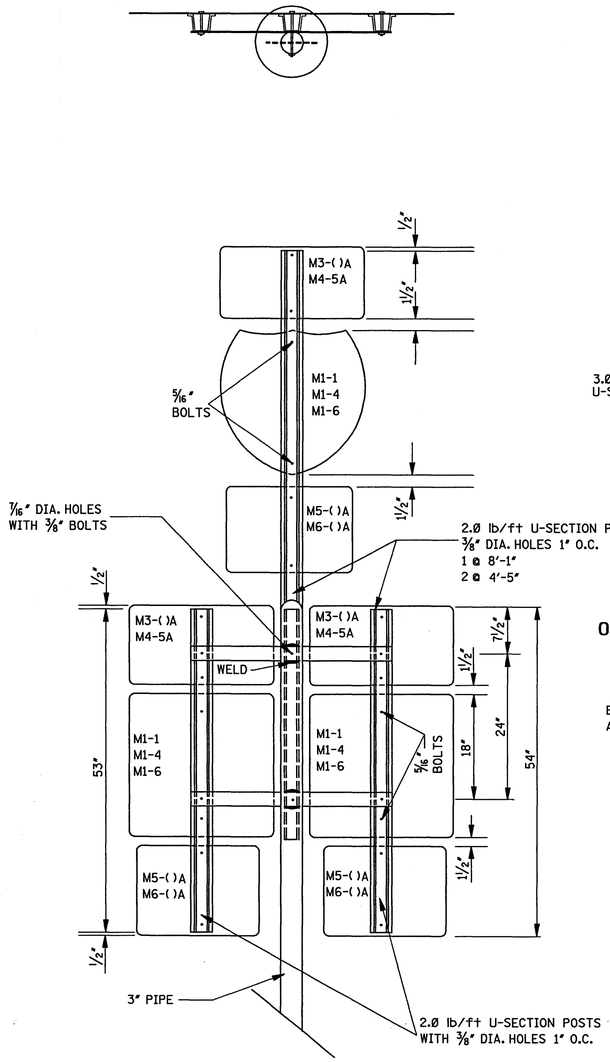
WORKING NUMBER
SN-4

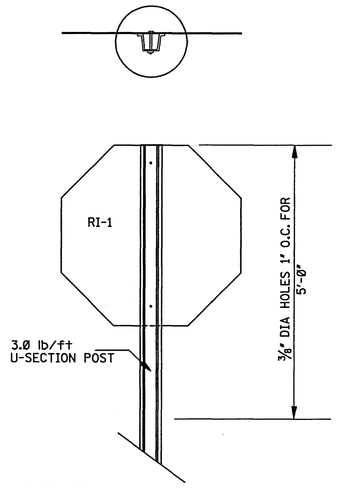
ISSUE DATE: OCTOBER 1, 1998

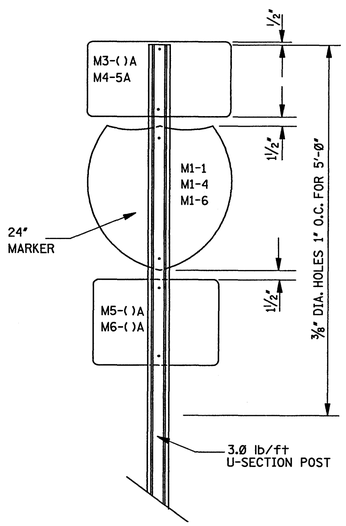
SHEET NUMBER
225

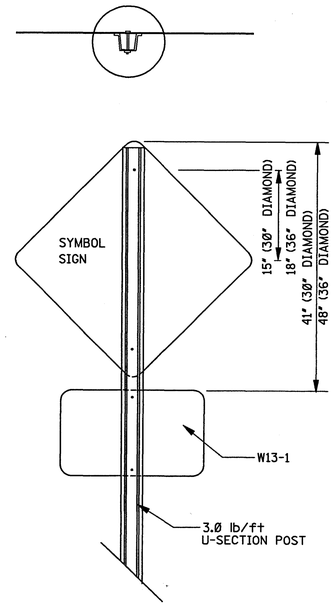
STATE	PROJECT NO.
MISS.	



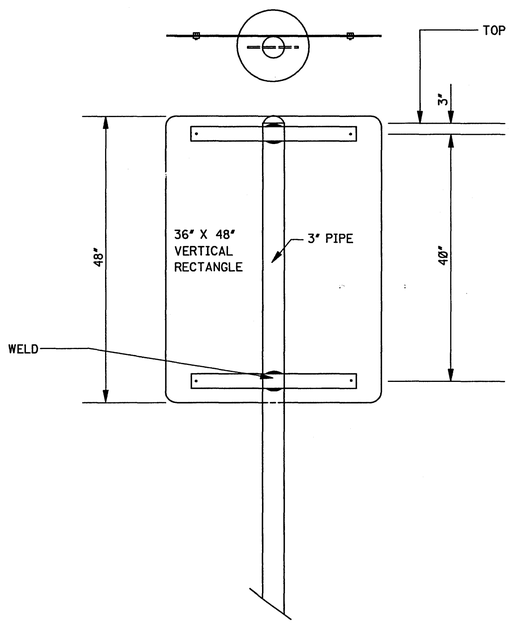


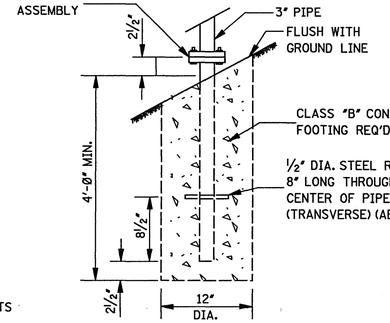




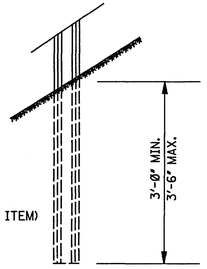


TYPICAL ASSEMBLY OF "FLAT TOPPED" REGULATORY OR WARNING SIGN MOUNTED ON A SINGLE U-SECTION POST





FOOTING DETAIL FOR 3" PIPE



FOOTING DETAIL FOR U-SECTION POSTS

GENERAL NOTES:

1. UNLESS OTHERWISE SPECIFIED, HORIZONTAL BRACES ARE 7/16" X 2½" X VARIABLE LENGTH FLAT STEEL BARS. BARS ARE WELDED TO PIPE AS SHOWN. WHEN FABRICATION IS COMPLETE, POST SHALL BE GALVANIZED AS PER SECTION 630 OF THE STANDARD SPECIFICATION.
2. HOLES IN FLAT BARS ARE ⅜" DIAMETER.
3. SIGNS ARE FASTENED TO FLAT BARS AND U-SECTION POST WITH ⅝" BOLTS, WITH FLAT WASHER AND LOCK-NUTS.
4. GROUND PLATE NOT REQURIED ON U-SECTION POST.

BY	REVISION	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION

ENGLISH

WORKING NUMBER
SN-4A

SHEET NUMBER
226

ISSUE DATE: OCTOBER 1, 1998

STATE	PROJECT NO.
MISS.	

CORRUGATED STEEL AND ALUMINUM PIPE (ROUND) H-20 LOADING

PIPE DIAMETER (In)	MINIMUM COVER FROM TOP OF PIPE TO TOP OF SUBGRADE (In)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft)				
		SHEET THICKNESS (In)				
		0.064 STEEL 0.060 ALUM. 16 GAGE	0.079 STEEL 0.075 ALUM. 14 GAGE	0.109 STEEL 0.105 ALUM. 12 GAGE	0.138 STEEL 0.135 ALUM. 10 GAGE	0.168 STEEL 0.164 ALUM. 8 GAGE
		2⅔" X ½" CORRUGATED STEEL RIVETED, WELDED OR HELICAL		3" X 1" OR 5" X 1" CORRUGATED STEEL RIVETED, WELDED, HELICAL OR BOLTED		2⅔" X ½" CORRUGATED ALUMINUM RIVETED OR HELICAL
12"	12"	84' / - / 45'	91' / - / 45'	- / - / 78'	- / - / 81'	- / - / 84'
15"	12"	67' / - / -	73' / - / -	- / - / -	- / - / -	- / - / -
18"	12"	56' / - / 30'	61' / - / 30'	- / - / 52'	- / - / 54'	- / - / 56'
24"	12"	42' / - / 22'	46' / - / 22'	59' / - / 39'	- / - / 41'	- / - / 42'
30"	12"	34' / - / 18'	36' / - / 18'	47' / - / 31'	- / - / 32'	- / - / 34'
36"	12"	28' / 48' / 15'	30' / 60' / 15'	39' / 78' / 26'	41' / 89' / 27'	- / 101' / 28'
42"	12"	31' / 41' / -	43' / 51' / 26'	46' / 64' / 43'	48' / 71' / 43'	50' / 79' / 44'
48"	12"	27' / 36' / -	37' / 45' / -	45' / 57' / 40'	46' / 61' / 41'	47' / 66' / 43'
54"	12"	- / 32' / -	33' / 40' / -	43' / 52' / 35'	44' / 55' / 37'	45' / 59' / 38'
60"	12"	- / 29' / -	- / 36' / -	43' / 49' / -	43' / 51' / 33'	44' / 54' / 34'
66"	12"	- / 26' / -	- / 33' / -	42' / 47' / -	43' / 49' / 30'	43' / 51' / 31'
72"	12"	- / 24' / -	- / 30' / -	- / 44' / -	41' / 47' / -	43' / 49' / 29'
78"	12"	- / 22' / -	- / 28' / -	- / 41' / -	- / 46' / -	39' / 47' / -
84"	12"	- / 21' / -	- / 26' / -	- / 38' / -	- / 45' / -	35' / 46' / -
90"	12"	- / 19' / -	- / 24' / -	- / 35' / -	- / 43' / -	- / 45' / -
96"	12"	- / 18' / -	- / 22' / -	- / 33' / -	- / 40' / -	- / 44' / -
102"	24"	- / 17' / -	- / 21' / -	- / 31' / -	- / 38' / -	- / 42' / -
108"	24"	- / - / -	- / 20' / -	- / 30' / -	- / 35' / -	- / 39' / -
114"	24"	- / - / -	- / 19' / -	- / 28' / -	- / 34' / -	- / 37' / -
120"	24"	- / - / -	- / - / -	- / 27' / -	- / 32' / -	- / 35' / -

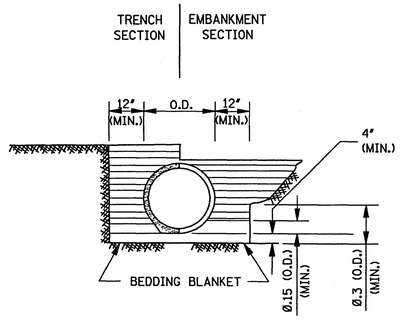
NOTE: THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR ½", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS (AASHTO M 36M/M 36 & AASHTO M 196M/M 196).

CORRUGATED METAL PIPE ARCHES H-20 LOADING

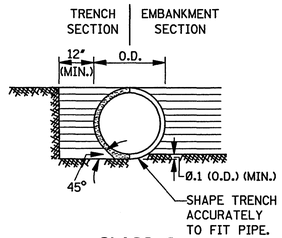
EQUIV. DIAMETER (In)	PIPE DIMENSION (SPAN X RISE) (In)	MINIMUM CORNER RADIUS (In)	MINIMUM COVER FROM TOP OF PIPE TO TOP OF SUBGRADE FOR 2 tons/ft² (In)	STEEL			ALUMINUM		
				MINIMUM THICKNESS REQUIRED (In)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft²)		MINIMUM THICKNESS REQUIRED (In)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft²)	
					2 tons/ft²	† 3 tons/ft²		2 tons/ft²	† 3 tons/ft²
				2⅔" X ½" CORRUGATION RIVETED, WELDED OR HELICAL			2⅔" X ½" CORRUGATION RIVETED OR HELICAL		
15"	17" X 13"	3"	18"	0.064"	13'	15'+	0.060"	15'	-
18"	21" X 15"	3"	18"	0.064"	12'	15'+	0.060"	14'	-
24"	28" X 20"	3"	18"	0.064"	10'	15'	0.060"	10'	15'+
30"	35" X 24"	3"	18"	0.079"	9'	14'	0.060"	9'	14'
36"	42" X 29"	3½"	18"	0.079"	9'	13'	0.075"	9'	13'
42"	49" X 33"	4"	18"	0.079"	8'	12'	0.105"	8'	12'
48"	57" X 38"	5"	18"	0.109"	8'	12'	0.135"	8'	12'
54"	64" X 43"	6"	18"	0.109"	8'	12'	0.135"	8'	12'
60"	71" X 47"	7"	18"	0.138"	8'	12'	0.164"	8'	12'
66"	77" X 52"	8"	18"	0.168"	8'	12'			
72"	83" X 57"	9"	18"	0.168"	9'	13'			
				5" X 1" OR 3" X 1" CORRUGATION RIVETED, WELDED OR HELICAL					
36"	40" X 31"	5"	18"	0.079"	12'	15'+			
42"	46" X 36"	6"	18"	0.079"	12'	15'+			
48"	53" X 41"	7"	18"	0.079"	12'	15'+			
54"	60" X 46"	8"	18"	0.079"	12'	15'+			
60"	66" X 51"	9"	18"	0.079"	12'	15'+			
66"	73" X 55"	12"	18"	0.079"	15'+	-			
72"	81" X 59"	14"	18"	0.079"	15'	-			
78"	87" X 63"	14"	18"	0.079"	14'	15'+			
84"	95" X 67"	16"	18"	0.109"	13'	15'+			
90"	103" X 71"	16"	24"	0.109"	12'	15'+			
96"	112" X 75"	18"	24"	0.109"	11'	15'+			

NOTES:
1. THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR ½", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS. (AASHTO M 36M/M 36 & AASHTO M 196M/M 196).

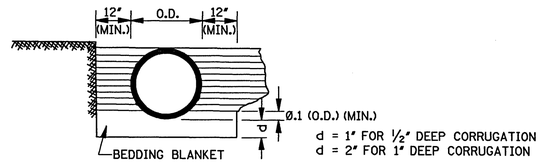
† 2. BEARING PRESSURES EXCEEDING 2 tons/ft² REQUIRED FOR GIVEN FILL HEIGHT SHALL HAVE FOUNDATION MATERIALS INVESTIGATED TO DETERMINE BEARING CAPACITY.



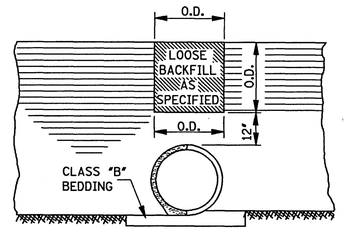
CLASS B



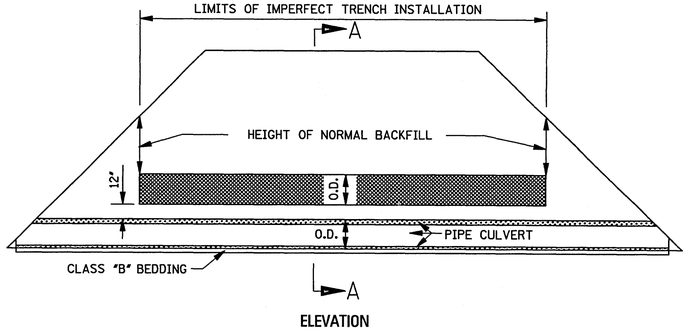
CLASS C



CLASS C MODIFIED



SECTION A–A



ELEVATION

IMPERFECT TRENCH INSTALLATION

MAXIMUM HEIGHT OF FILL OVER REINFORCED CONCRETE PIPE

CLASS OF PIPE	TYPE OF BACKFILL	MAXIMUM COVER (ft)	
		CLASS "C" BEDDING	CLASS "B" BEDDING
III	NORMAL	16'	-
IV	NORMAL	23'	28'
V	NORMAL	30'	36'
IV	IMPERFECT	-	90'
V	IMPERFECT	-	115'

NOTE: CLASS OF PIPE AND BEDDING TO BE CONSISTENT THROUGHOUT THE PIPE LENGTH.

MAXIMUM HEIGHT OF FILL OVER CLASS 2 NONREINFORCED CONCRETE PIPE, PERFORATED AND/OR PLAIN, FOR UNDERDRAINS

PIPE SIZE (In)	MAXIMUM COVER (ft) BEDDING CLASS "C"/CLASS "B"			
	TRENCH			PROJECTING
	B_d (In)	SAND & GRAVEL	DAMP CLAY	POSITIVE $p = 0.7$; $R_{sd} = 0.7$
4"	2.00'	*	*	34'/42'
6"	2.00'	*	*	25'/30'
8"	2.25'	*	16'/ *	19'/24'
10"	2.50'	*	12'/20'	16'/19'
12"	2.75'	*	12'/18'	14'/17'

NOTES:
* 1. INDICATES NO LIMIT OF FILL HEIGHT (130 lbs/ft³).
2. TRENCH WIDTH (B_d) NO GREATER THAN 16" PLUS O.D.
3. FACTOR OF SAFETY IS 1.25 ON MINIMUM ULTIMATE STRENGTH.
4. MINIMUM COVER FOR HIGHWAY LOADS IS 18".
5. PERFORATED PIPE SHALL BE TYPE 1.

GENERAL NOTES:

1. MINIMUM SPACING BETWEEN MULTIPLE LINES OF PARALLEL PIPE SHALL BE THE DISTANCE REQUIRED FOR INSTALLING THE ADJACENT FLARED END SECTIONS OR AS SHOWN ON THE HEADWALL DRAWINGS FOR CONDUITS REQUIRING HEADWALLS.

2. UNLESS OTHERWISE INDICATED, THE TOP OF THE PIPE SHALL BE BELOW THE TOP OF THE SUBGRADE, AND A MINIMUM OF 12" OF COVER OVER THE TOP OF THE PIPE SHALL BE MAINTAINED BETWEEN THE SHOULDER LINES.

3. WHERE PRE-BED PIPE IS INSTALLED, FLARED END SECTIONS FROM OTHER MANUFACTURERS MAY BE JOINED TO PRE-BED PIPE PROVIDED A CONCRETE COLLAR IS PLACED AT THE CONTRACTORS EXPENSE AND A DEFORMATION TO THE PIPE'S FLOWLINE IS NOT EVIDENT ON FINAL PLACEMENT.

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

PIPE CULVERT INSTALLATION

ENGLISH

WORKING NUMBER PI-1

ISSUE DATE: OCTOBER 1, 1998

SHEET NUMBER 300

STATE	PROJECT NO.
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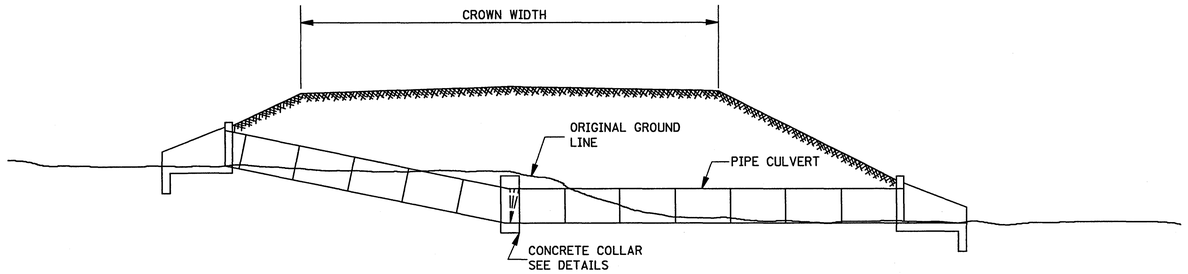
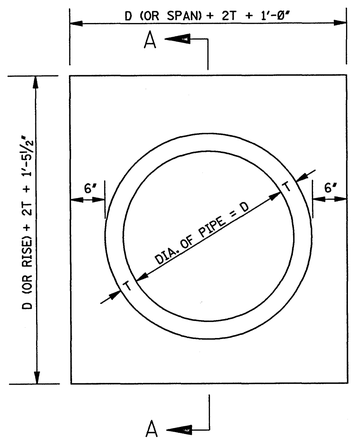
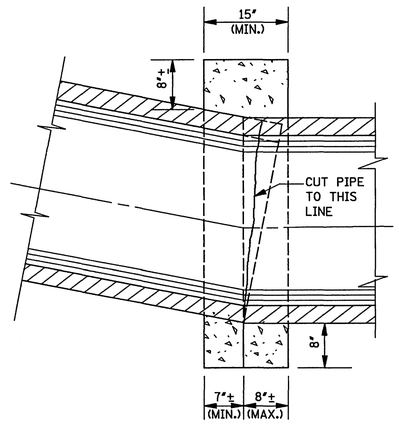


TYPICAL INSTALLATION FOR PIPE CULVERT WITH BROKEN FLOW LINE



ELEVATION OF CONCRETE COLLAR

NOTE: CIRCULAR PIPE IS SHOWN, ARCH PIPE IS SIMILAR.



SECTION A–A

GENERAL NOTE:

1. THE FOLLOWING QUANTITIES SHALL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE:

QUANTITIES FOR
CONCRETE COLLAR FOR PIPE CULVERTS

CIRCULAR PIPE		ARCH PIPE	
DIA. OF PIPE	CLASS "B" CONCRETE (yd^3)	SIZE OF PIPE	CLASS "B" CONCRETE (yd^3)
12"	0.240		
15"	0.260	18 x 11	0.280
18"	0.320	22 x 13	0.310
24"	0.410	29 x 18	0.410
30"	0.510	36 x 23	0.490
36"	0.620	44 x 27	0.600
42"	0.730	51 x 31	0.690
48"	0.850	58 x 36	0.820
54"	0.980	65 x 40	0.920
60"	1.110	73 x 45	1.070
66"	1.248	88 x 54	1.366
72"	1.393		

BY	REVISION	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

CONCRETE PIPE COLLAR

ENGLISH

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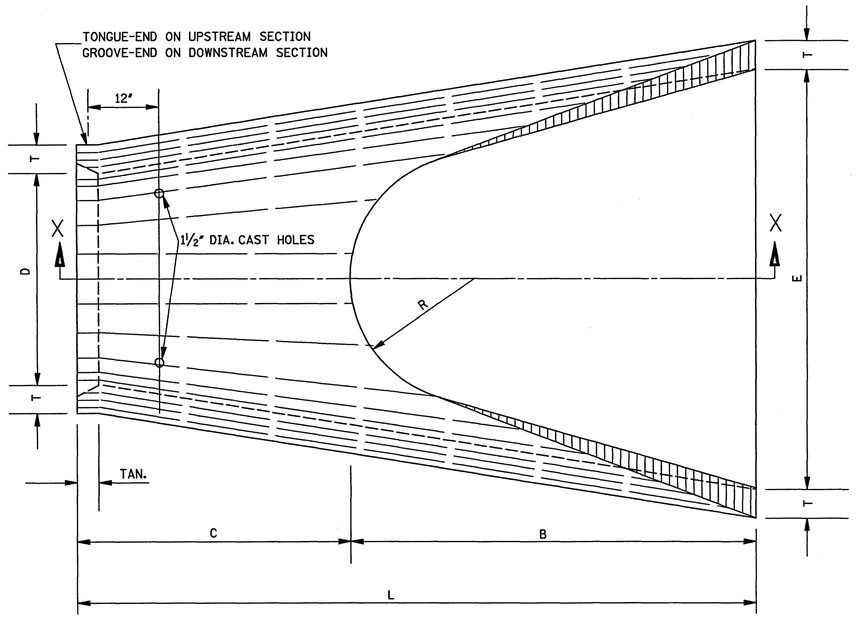
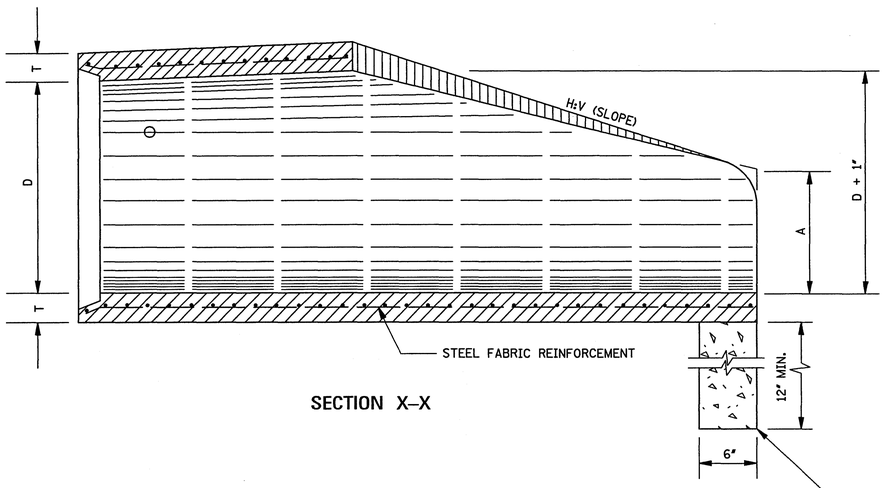
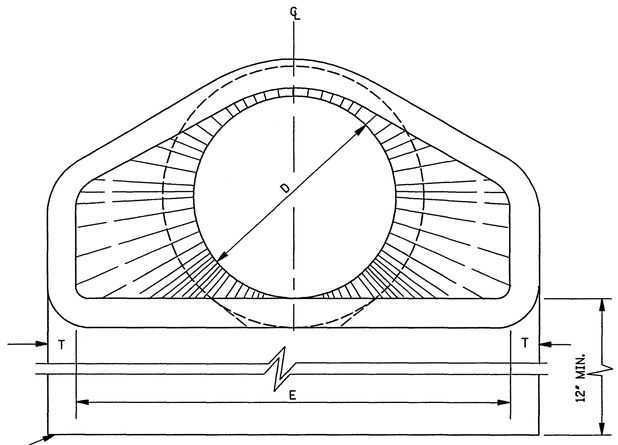


PLAN OF DOWNSTREAM END



SECTION X–X



END ELEVATION

TOE WALL REQUIRED ON ALL DOWNSTREAM FLARED END SECTIONS. TOE WALL AT UPSTREAM END WILL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER. TO BE PAID FOR AS CLASS "B" STRUCTURAL CONCRETE - MINOR STRUCTURES.

BELL AND SPIGOT END OPTION

NOTE: BELL-END ON DOWNSTREAM SECTION
SPIGOT-END ON UPSTREAM SECTION.

TABLE OF DIMENSIONS								
	D	T	H:V	A	B	C	E	L
	15"	2¼"	3:1	6"	2'-3"	4'-1"	2'-8"	6'-1"
	18"	2½"	3:1	9"	2'-3"	3'-10"	3'-0"	6'-1"
	24"	3"	3:1	10"	3'-8"	2'-6"	4'-0"	6'-2"
	30"	3½"	3:1	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"
	36"	4"	3:1	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"
	42"	4½"	3:1	1'-9"	5'-3"	2'-11"	6'-6"	8'-2"
	48"	5"	3:1	2'-0"	6'-0"	2'-2"	7'-0"	8'-2"
	54"	5½"	3:1	2'-4"	6'-6"	1'-10"	7'-6"	8'-4"
*	60"	6"	3:1	2'-10"	6'-6"	1'-10"	8'-0"	8'-4"
*	66"	6½"	3:1	3'-4"	6'-6"	1'-10"	8'-6"	8'-4"
*	72"	7"	3:1	3'-10"	6'-6"	1'-10"	9'-0"	8'-4"

*NOTE: SEE GENERAL NOTE 2.

TOE WALL CONC. QUANTITY (yd^3)
0.056
0.063
0.083
0.102
0.123
0.134
0.145
0.156
0.167
0.177
0.188

GENERAL NOTES:

1. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M 170, TABLE 2, WALL B.
2. 2 - 1½" DIA. CAST HOLES REQUIRED AS SHOWN TO ACCOMMODATE 2 - 1" DIA. TIE BOLTS, USED IN TIEING SECTION TO PIPE CULVERT.
3. LENGTH (L) OF A BELL-END OPTION MAY VARY BY A NOMINAL EXTENSION ON THE BELL END.
4. FLARED END SECTIONS ARE NOT TO BE USED INSIDE THE CLEAR ZONE.
5. ALL SIZES OF FLARED END SECTIONS FOR CIRCULAR CONCRETE PIPE MAY BE FURNISHED WITH EITHER BELL AND SPIGOT OR TONGUE AND GROOVE ENDS.

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

FLARED END SECTION FOR CONCRETE PIPE

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