NOTES

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL. SPECIAL OR MODIFIED DETAILS SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

2. PRIOR TO AND DURING PLACEMENT OF PAYMENT MATERIALS ON THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED PRIOR TO THE WORK BEING CONSIDERED COMPLETE.

3. REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION REGARDING PLANNED SLOPES, METHOD OF PLANNED SLOPES, WET DRAINAGE, AND METHODS OF PAYING DRAINAGE TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

4. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER CONCRETE HAS BEEN Laid. LONGITUDINAL JOINTS SHALL BE A T HE LANE LINES.
TYPICAL SECTION OF IMPROVEMENT (HWY. 1B)

STA. 92+48.53 TO STA. 92+94.14

NOTES

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

2. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. ANY ADDITIONAL WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

3. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN Laid. CONDITIONAL JOINTS SHALL BE AT THE LANE LINES.

TYPICAL SECTION OF IMPROVEMENT (HWY. 1B)

STA. 92+94.14 TO STA. 93+60.36

TYPICAL SECTIONS OF IMPROVEMENT
MECHANICALLY STABILIZE EXISTING EMBANKMENT

EXISTING GROUND

CONC. COMB. CURB & GUTTER (TY. A) 5'-0" 6'-0"

CONC. BARRIER WALL (SIDE TYPE SPECIAL)

THEORETICAL PROFILE GRADE

CONTROL POINT 35' TYPICAL PROFILE GRADE

VAR. 0'-5" TO 30'-0"

MECHANICALLY STABILIZED EMBANKMENT WALL

EXISTING GROUND

TYPICAL SECTION OF IMPROVEMENT

TYPICAL SECTIONS OF IMPROVEMENT
TYPICAL SECTION OF IMPROVEMENT (HWY. 1B)  
STA. 101+44.99 TO STA. 48+46.09

TYPICAL SECTION OF IMPROVEMENT (HWY. 1B)  
STA. 48+46.09 TO STA. 101+44.99

NOTES
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SPECIFICATIONS CHANGES MADE WITHOUT THE APPROVAL OF THE ENGINEER.
2. PRIOR TO AND DURING PLACEMENT OF PAVEMENT CONTRACTOR SHALL PROVIDE THE ENGINEER WITH AN ADVANCE REFERENCE AT ALL TIMES. MATERIALS USED SHALL BE CONSIDERED AS AUTHORIZED BY THE ENGINEER. ALL MATERIALS USED PLUS THE VARIOUS CONTRACT ITEMS.
3. REFER TO SPECIAL DETAIL FOR ADDITIONAL INFORMATION REGARDING THE METHOD OF RAISING GRADE. MATERIALS USED PLUS WHERE DIRECTED BY THE ENGINEER.
4. THE TYPICAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES. JOINER JOINTS SHALL BE AT THE LANE LINES.

* TO USE IF AND WHERE DIRECTED BY THE ENGINEER
**4'-0" OR Less REFER TO SPECIAL DETAIL FOR P.E.C.
** BASE WELDING DETAIL

TYPICAL SECTIONS OF IMPROVEMENT
TYPICAL SECTION OF IMPROVEMENT (HWY. 18 CONNECTION)

TYPICAL SECTIONS OF IMPROVEMENT (HWY. 18 CONNECTOR)

TYPICAL SECTIONS OF IMPROVEMENT (HWY. 18 CONNECTOR)
TYPICAL SECTION OF IMPROVEMENT (HWY. 63B)

STA. 76+48.03 TO STA. 79+32.85

NOTES

1. Refer to cross sections for deviation from the normal slopes as changes shall be made from the planned slopes without the approval of the Engineer.

2. Prior to and during placement of pavement in front of the curb and gutter, the contractor shall provide positive drainage to the pavement. Payment for this work shall be considered included in the price bid for the various contract items.

3. Transition lane from 12'-0" at STA 76+20.83 to 0'-0" at STA 76+10.83 shall be at the lane lines.

TYPICAL SECTION OF IMPROVEMENT (HWY. 63B)

STA. 79+20.83 TO STA. 83+00.66

TYPICAL SECTIONS OF IMPROVEMENT
**TYPICAL SECTION OF IMPROVEMENT (HWY. 63B)**

STA. 83+00.66 to STA. 83+60.00

- **Base Widening Detail**
  - **2'-0' PORTLAND CEMENT CONCRETE BASE**
  - **4'-0' TACK COAT**
  - **6'-0'**

**Existing Ground**

**TYPICAL SECTION OF IMPROVEMENT (FRISCO ST.)**

STA. 6+95.00 to STA. 7+66.54

- **Base Widening Detail**
  - **2'-0' PORTLAND CEMENT CONCRETE BASE**
  - **4'-0' TACK COAT**
  - **6'-0'**
Typical Section of Improvement (Watt St.)

**C.L. Watt St.**

- **Typical Section**
  - Transition lanes from 23'-0" at Sta. 7+05.78 to 27'-0" at Sta. 7+05.78
  - Refer to special details for intersection section and details

**Notes:**
1. Refer to cross sections for deviation from the normal slopes no changes shall be made without the approval of the engineer.
2. Prior to and during placement of pavement, the edge of the base course and gutter invert shall be protected at all times. The methods used shall be approved by the engineer. Payment for this work and all costs incurred shall be considered included in the price bid for the various contract items.
3. The final 2 inches of surface course is to be placed after all other courses. The transverse and longitudinal joints shall be at the lane lines.
TYPICAL SECTION OF IMPROVEMENT (WATT ST.)
STA. H+00.00 TO STA. H+97.34

TYPICAL SECTION OF IMPROVEMENT (WATT ST.)
STA. H+97.34 TO STA. H+100.00

NOTES
1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE. ALL OTHER METHODS USED SHALL BE APPROVED BY THE ENGINEER. THE METHOD(S) USED SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
3. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN Laid. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

CONC. BARRIER WALL (SIDE TYPE SPECIAL-D)
TYPICAL SECTION OF IMPROVEMENT (ARCH ST.)

**STA. 6+00 TO STA. 7+40**

- 0'-0" FACE TO FACE
- VAR. 0'-0" TO 3'-0" ACHM SURFACE CRS. (2'-6'"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 3'-0" TO 6'-0" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 6'-0" TO 9'-0" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 9'-0" TO 12'-6" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT

- BEG. 11'-0" Curb AT STA. 7+60.00
- TRANSITION SHLD. FROM 3'-0" AT STA. 7+30.00 TO 0'-0" AT STA. 7+70.00

NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES, NO CHANGES SHALL BE MADE FROM STANDARD TYPES WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE CONTRACTOR.
2. PRIOR TO AND DURING PLACEMENT OF PAVEMENT, THE CONTRACTOR SHALL PROVIDE DRAINAGE AT ALL TIMES. THE CONSTRUCTION WORKER SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THE STATE SHALL BE CONSIDERED INCLUDED IN THE PRICE BI'D FOR THE VARIOUS CONTRACT ITEMS.
3. REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION REGARDING THE MACHINERY, METHODS, AND Manners OF WORK. THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.
4. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES ARE PLACED AND CONDITIONED. JOINTS SHALL BE AT THE LANE LINES.

TYPICAL SECTION OF IMPROVEMENT (ARCH ST.)

**STA. 7+80 TO STA. 8+80**

**FACE TO FACE**

- 0'-0" FACE TO FACE
- VAR. 0'-0" TO 3'-0" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 3'-0" TO 6'-0" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 6'-0" TO 9'-0" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT
- VAR. 9'-0" TO 12'-6" ACHM SURFACE CRS. (2'-6"
- 1200 LBS. PER SQ. YD. TACK COAT

- BEG. 11'-0" Curb AT STA. 8+20.48
- TRANSITION SHLD. FROM 3'-0" AT STA. 8+55.48 TO 0'-0" AT STA. 8+80.00

- REFER TO SPECIAL DETAIL SHEETS FOR INTERSECTION SPECIAL DETAILS

TYPICAL SECTIONS OF IMPROVEMENT
NOTES

1) Refer to cross sections for deviation from the normal slopes, no changes shall be made from the planned slopes without the approval of the engineer.

2) Prior to and during placement of pavement in front of the curb and gutter, the contractor shall provide positive drainage. The method(s) used shall be approved by the engineer. Payment for this work shall be considered included in the price bid for the various contract items.

3) The final 2 inches of surface course is to be placed after all other courses have been laid. Conditional joints shall be at the lane lines.
INTERSECTION DETAIL
CANN ST.

AVOID 2" CURB

MODIFICATION OF MODIFIED CURB

AVOID 2" CURB

GRADE TO DRAIN SUBSIDIARY TO OTHER PAY ITEMS.
SEE ABOVE DETAIL.

INTERSECTION DETAIL
Hwy. 63B/NETTLETON AVE. & GRIFFIN ST./THORN ST.
INTERSECTION DETAIL
CARN ST & HWY. 630/NETTLETON AVE.

CONSTRUCTION STEPS 2.0, 4.0, 10.

SPECIAL DETAILS
INTERSECTION DETAIL
FRISCO ST. AND WATT ST.
INTERSECTION DETAIL
HWY. 18 (HIGHLAND DR.) AND ARCH ST.
STEP DETAIL
HWY. 63B

INTERSECTION DETAIL
ARCH ST. AND HENRY ST.

SPECIAL DETAILS
GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 629 OF THE STANDARD SPECIFICATIONS FOR EDITION.

2. CONTRACTION JOINTS REQUIRED ± 30°-60° MAXIMUM SPACING.

3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.

4. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.

5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.

6. THE DESIGN OF BARRIER WALL IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT, IN Place FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.

7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. EXPANSION JOINTS SHALL BE FORMED USING PROPERLY PLACED JOINT FILLER, CONTINUOUS REINFORCEMENT SHALL BE CUT OFF CLEAR OF EXPANSION JOINTS.

8. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT, UNLESS NOTED OTHERWISE.

9. JUNCTIONS OF BARRIER WALL TO BE PAID FOR AS "METAL BARRIER RAILING TYPE H." PROVIDE CONCRETE TERMINAL "DETAIL 4" FOR BARRIER WALL ENDS ADJACENT TO TRANSITIONAL APPROACH RAMPS.

10. CONSTRUCTION OF LIGHT BRACKET ATTACHED TO SPECIAL BARRIERS ARE SUBSEQUENT TO SIDE TYPE SPECIAL.

11. FOR SIDE TYPE SPECIAL-2 ONLY, CONSTRUCT DRAINAGE OPENINGS AT EVERY 30-06 AND AT SAWS IF SHOWN ON THE PLANS. BARS PSO2 SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.

FOR "DETAIL OF PARAPETH:" SEE QUICK VIEW DETAILS.
COLD MILLING DETAIL 
AT EXISTING PAVEMENT TIE-INS 

METHOD OF RAISING GRADE 

1. THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER. 

2. QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE 
CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE 
BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE 
WAS ONE FOOT OR LESS. 

3. IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE 
AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, 
SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED 
AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS. 

* VARIATIONS ARE NOTED ON PLANS 

* * TO DETERMINE THE OVERLAY PAVEMENT LAYERS 
FOR PROJECTS, LAY-BY LAY-BY SHALL BE USED 
EACH LAYER WILL BE USED UP TO ITS MAXIMUM 
THICKNESS BEFORE INCLUDING THE LAYER BELOW. 
1. TOP ACWM SURFACE COURSE (2") 
2. BOTTOM ACWM SURFACE COURSE (MAX 2") 
3. ACWM BINDER COURSE (MAX 2") 
4. ACWM BASE COURSE (MAX 4") 

NOTES: 

REFER TO BRIDGE DRAWINGS FOR DIMENSIONS 

DETAIL FOR SOLID SODDING AROUND DROP INLETS 
(TYPE RM) 

LONGITUDINAL SECTION OF APPROACH SLABS 

NOTE: REFER TO BRIDGE DRAWINGS FOR ADDITIONAL INFORMATION.
CONCRETE COLLAR DETAIL
TO CONNECT R.C. PIPE W/30'/45° TURNS
TO CONNECT EXISTING PIPE
(SUBSIDIARY TO PIPE CULVERT)

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL
(SUBSIDIARY TO PIPE CULVERT)

TRANSITION FROM OPEN SHOULDER
TO CURB & GUTTER SECTION
DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

6" X 6" MESH FABRIC TYPE 3 [1.55 X 2.00 X 0.26 LBS./SQ. YD.]

NOTES:
1. Lap mesh fabric min. 6" longitudinally and min. 6" transversely.
2. Mesh fabric is not required when width of Portland cement concrete slab is less than 9 ft.
3. Compensation therefore will be considered included in the contract price 80 per 50.10 for Portland cement concrete base 14" (1.5).

P.C.C. BASE WIDENING DETAIL

NOTES:
1. Lap mesh fabric min. 6" longitudinally and min. 6" transversely.
2. Mesh fabric is not required when width of Portland cement concrete slab is less than 9 ft.
3. Compensation therefore will be considered included in the contract price 80 per 50.10 for Portland cement concrete base 14" (1.5).

CONCRETE WALK (TYPE SPECIAL) DETAIL

MAX HEIGHT 3' - 0"

CONCRETE WALK (TYPE SPECIAL) DETAIL

MAX HEIGHT 5' - 0"
**MINIMUM LENGTH OF LONGITUDINAL GEOGRID BEHIND BRIDGE END BENTS**

- HWY. B END BENT 1: 230'
- HWY. B END BENT 3: 170'
- WATT ST. END BENT 1: 190'

**NOTE:** SEE SPECIAL PROVISION "GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION" FOR ADDITIONAL INFORMATION.

- PLACE TRANSVERSE GEOGRID FOR THE ENTIRE LENGTH OF COHESIVE SOIL EMBANKMENT FILL.
- FOR LENGTH OF LONGITUDINAL GEOGRID BEHIND BRIDGE END BENTS, SEE ABOVE DETAILS.

**COMPACTED EMBANKMENT (SPECIAL)**

- HWY. B STA. 95+65.03 - STA. 95+86.33
- HWY. B STA. 95+24.22 - STA. 95+54.22
- WATT ST. STA. 6+51.09 - STA. 6+87.60
- WATT ST. STA. 6+42.90 - STA. 6+63.62

**COMPACTED EMBANKMENT (SPECIAL)**

- HWY. B STA. 105+43.02 - STA. 107+00.00

**SPECIAL DETAILS**
SPECIAL DETAILS

PROPOSED GROUND PROPOSAL

UNDERCUT DETAIL
N.T.S.

EXIST GROUND BOTTOM OF WALL

PROPOSED GROUND

UNDERCUT (STONE BACKFILL)

AGGREGATE PIER
N.T.S.

EXIST GROUND BOTTOM OF WALL

PROPOSED GROUND

AGGREGATE PIER ELEMENTS (TYP.)

REINFORCEMENT ZONE

REINFORCEMENT ZONE

\[ \text{FOR DEPTH OF UNDERCUT AND AGGREGATE PIER LENGTH} \]

\[ \text{SEE RETAINING WALL SECTION DRAWINGS} \]
STA. B9+70.00
BEGIN JOB 100624
LOG MILE 3.89

EXISTING R/W

PROPOSED R/W

REVISIONS

Erosion Control Legend

- Sand Bag Ditch Checks
- Silt Fence
- Triangular Silt Dike
- Water Flow Direction

Temporary Erosion Control Details

Stage IA
TEMPORARY EROSION CONTROL DETAILS

STAGE IA

EROSION CONTROL LEGEND

- SAND BAG DITCH CHECKS
- Silt Fence
- Triangular Silt Fence
- Water Flow Direction

REVISIONS

DATE

REVISION

TEMPORARY EROSION CONTROL DETAILS

PROPOSE TEMPORARY CONNECTION BETWEEN EXISTING AND PROPOSED DRAINAGE SYSTEMS.
TEMPORARY EROSION CONTROL DETAILS

STA. B9 + 70.00
BEGIN JOB 100824
LOG MILE 3.89

Erosion Control Legend

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBD</td>
<td>Sand Bag Ditch Checks</td>
</tr>
<tr>
<td>SF</td>
<td>Salt Fence</td>
</tr>
<tr>
<td>TSD</td>
<td>Triangular Salt Dike</td>
</tr>
<tr>
<td>WFD</td>
<td>Water Flow Direction</td>
</tr>
</tbody>
</table>

DATE

REVISION

STAGE IB
STAGE IB

TEMPORARY EROSION CONTROL DETAILS

STATION 112+15.00
END JOB 100824
LOG MILE 4.32
TEMPORARY EROSION CONTROL DETAILS

STA 83+60.00
END CONSTRUCTION

STAGE 1B

Erosion Control Legend

- Sand bag ditch checks
- Silt fence
- Triangular silt fence
- Water flow direction

CONSTRUCT THE CROSS DRAINAGE SYSTEM ACCORDING TO STANDARD DRAWING TC-2 DETAIL E. SUBSEQUENT TO ITEM 603 MAINTENANCE OF TRAFFIC.
TEMPORARY EROSION CONTROL DETAILS

STAGE 2

EROSION CONTROL LEGEND

- Sand Bag Ditch Checks
- Silt Fence
- Triangular Silt fence
- Water Flow Direction

TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

STAGE 2

EROSION CONTROL LEGEND

- Sand Bag Ditch Checks
- Silt Fence
- Triangular Silt Dike
- Water Flow Direction

DATE

REVISION

REVISIONS
TEMPORARY EROSION CONTROL DETAILS

STAGE 3

EXISTING R/IY

LOG MILE 4.32

STA. 112+15.00
END JOB 100824

HWY. 18 (HIGHLAND DR.)

11466

EROSION CONTROL LEGEND

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.B.</td>
<td>SAND BAG DITCH CHECKS</td>
</tr>
<tr>
<td>S.F.</td>
<td>SILT FENCE</td>
</tr>
<tr>
<td>S.D.</td>
<td>TRIANGULAR SILT Dike</td>
</tr>
<tr>
<td>W.F.D.</td>
<td>WATER FLOW DIRECTION</td>
</tr>
</tbody>
</table>

NOTE: SHOWN ARE MINIMUM REQUIREMENTS. OTHERS SHOULD BE APPROVED BY THE ENGINEER. THIS CONSTRUCTION DETAIL IS SUBSIDIARY TO ITEM 603 MAINTENANCE OF TRAFFIC.

By a METHOD APPROVED BY THE ENGINEER, UNTIL THE DOWNSTREAM SIDE OF THE DRAINAGE SYSTEM IS CONSTRUCTED (SUBSIDIARY TO ITEM 603 MAINTENANCE OF TRAFFIC).
TEMPORARY EROSION CONTROL DETAILS

STAGE 3

EROSION CONTROL LEGEND

- **SAND BAG DITCH CHECKS**
- **SILT FENCE**
- **TRIANGULAR SILT DIKE**
- **WATER FLOW DIRECTION**

REVISIONS

<table>
<thead>
<tr>
<th>DATE</th>
<th>REVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TEMPORARY EROSION CONTROL DETAILS
TEMPORARY EROSION CONTROL DETAILS

STAGE 3A

1. MUST REMAIN OUT OF SERVICE BY A METHOD APPROVED BY THE ENGINEER UNTIL THE DOWNSTREAM SIDE OF THE DRAINAGE SYSTEM IS CONSTRUCTED (SUBSEQUENT TO ITEM 605 MAINTENANCE OF TRAFFIC).

2. PROVIDE TEMPORARY CONNECTION BETWEEN EXISTING AND PROPOSED DRAINAGE SYSTEMS.

STA, 69+70.00
BEGIN JOB 100824
LOG MILE 3.89

EXISTING R/W

PROPOSED R/W

EXISTING R/W

PROPOSED R/W

PROPOSED R/W

REVISIONS

SAND BAG DITCH CHECKS
SILT FENCE
TRIANGULAR SILT FENCE
WATER FLOW DIRECTION

DATE

REVISION

REVISIONS

CURRENT DATE: 2013.09.29

TEMPORARY EROSION CONTROL DETAILS

STAGE 3A

EROSION CONTROL LEGEND

SAND BAG DITCH CHECKS
SILT FENCE
TRIANGULAR SILT FENCE
WATER FLOW DIRECTION
1. Junction box shall be covered by a method approved by the engineer until the drainage system is constructed. (Subsidiary to Item 603 Maintenance of Traffic)

2. Provide temporary connection between existing and proposed drainage systems.

3. Construct the cross-drainage system according to standard drain detail. (Subsidiary to Item 603 Maintenance of Traffic)

4. Construct the drainage system without inlets and junction boxes, through temporary connection through inlet and junction box locations.

STA. 89+70.00
BEGIN JOB 100824
LOG MILE 3.89

Erosion Control Legend

- Sandbag Ditch Checks
- Silt Fence
- Triangular Silt Dike
- Water Flow Direction

Revisions

Date

Revision

Temporary Erosion Control Details

Stage 3B
STA. 89+70.00
BEGIN JOB 100824
LOC MILE 3.89

HWY. 18 (HIGHLAND DR.)

CONSTRUCT THE CROSS DRAINAGE SYSTEM ACCORDING TO
STANDARD DRAWING TC-2 DETAIL E (SUBSIDIARY TO ITEM 603
MAINTENANCE OF TRAFFIC)

REVISIONS

DATE

REVISION

SAND BAG DITCH CHECKS
SILT FENCE
TRIANGULAR SILT Dike
WATER FLOW DIRECTION

TEMPORARY EROSION CONTROL DETAILS
STAGE 4A
TEMPORARY EROSION CONTROL DETAILS

STAGE 4A

EROSION CONTROL LEGEND

- Sand Bag Ditch Check
- Silt Fence
- Triangular Silt Dike
- Water Flow Direction

CONVEYOR ST.

HWY 1B (HIGHLAND DR)

STA. 112+5.00
END JOB 100824
LOG MILE 4.32
STA. 89+70.00
BEGIN JOB 100824
LOG MILE 3.89

Hwy. 18 (Highland Dr.)

Temporary Erosion Control Details
Stage 5

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
</tr>
</thead>
</table>

EROSION CONTROL LEGEND
- Sand Bag Ditch Checks
- Silt Fence
- Triangular Silt Dike
- Water Flow Direction

Construct the cross drainage system according to standard drainage system, refer to Item 603 maintenance of traffic.
TEMPORARY EROSION CONTROL DETAILS

STAGE 5

EROSION CONTROL LEGEND

- SAND BAG DITCH CHECKS
- SLT FENCE
- TRIANGULAR SLT DKE
- WATER FLOW DIRECTION

STA. 112+00
END JOB 100824
LOG MILE 4.32
**CONSTRUCTION AT HWY. 18/NETTLETON INTERSECTION LARGE TRUCKS TAKE ALT. ROUTE**

**MAINTENANCE OF TRAFFIC DETAILS**

ADVANCE WARNING

**CONTRACTOR SHALL PLACE PORTABLE WARNING SIGNS DURING STAGE 2.**
**2 WEEKS PRIOR TO DETOURING HWY. 18 AND 2 WEEKS PRIOR TO REOPENING HWY. 18.**
**CONTRACTOR SHALL PLACE THESE SIGNS DURING STAGE 1 AND 2.**

**CONTRACTOR SHALL PLACE THESE SIGNS DURING STAGE 4 AND 5.**
CONTRACTOR SHALL PLACE PORTABLE WARNING MESSAGE SIGNS 2 WEEKS PRIOR TO DETOURING HWY. 18 AND 2 WEEKS PRIOR TO REOPENING HWY. 18.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4-5 ADVANCE WARNING SIGNS
MAINTENANCE OF TRAFFIC DETAILS

HWY. 63B DETOUR - STAGE 1

TRAILERS LONGER THAN 33 FT MUST TURN RIGHT
- 12.25 - 15 - 18.25
- 15 - 18.25 - 21.5
- 21.5 - 24.75 - 28
- 28 - 31.25 - 34.5
- 34.5 - 37.75 - 41
30" Radii, 1.5" Border, Black on Orange,
TRAILERS E 2K;
LONGER THAN E 2K;
MUST TURN E Med 2K;
RIGHT E Med 2K;
MUST TURN E Med 2K;

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- TYPE 2 BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (VERTICAL PANEL)
- CHANNELIZATION DEVICE (HORIZONTAL PANEL)
MAINTENANCE OF TRAFFIC DETAILS
HWY. 18 - STAGE IA

STAGE IA

1. Place all advance warning signs and warning devices on approaching roads.

2. Maintain traffic on existing and retain existing striping. Construct left side of can street and Highway 13/Nettleton Drive. Contractor shall not block off both sides of the roads at any given time.

3. Contractor shall maintain access to adjacent properties at all times during construction.
STAGE IA

1. Place all advance warning signs and warning devices on approaching roads.

2. Maintain traffic on existing and retain existing striping. Construct left side of CAN in the ARE, except when left on drive, contractor shall not block off both sides.

3. Contractor shall maintain access to adjacent properties at all times during construction.

MAINTENANCE OF TRAFFIC DETAILS
HWY 1B - STAGE IA
STAGE IA

1. Place all advance warning signs and warning devices on approaching roads.

2. Maintain traffic on existing and retain existing striping. Construct left side of can street and Highway 63 on drive. Contractor shall not block off both sides of the roads at any given time.

3. Contractor shall maintain access to adjacent properties at all times during construction.

MAINTENANCE OF TRAFFIC DETAILS
HWY. 63B - STAGE IA
STAGE IA

1) Place all advance warning signs and warning devices on approaching roads.

2) Maintain traffic on existing and retain existing striping. Construct left side of CAIN street and Highway 658/Nettleton Drive. Contractor shall not block off both sides of the roads at any given time.

3) Contractor shall maintain access to adjacent properties at all times during construction.
MAINTENANCE OF TRAFFIC DETAILS

HWY. 1B - STAGE IB

1. Place all advance warning signs and warning devices on approaching roads.
2. Maintain traffic on existing and retain existing striping. Construct road side of can street and highway 638/ethton drive. Contractor shall not block off both sides of the roads at any given time.
3. Contractor shall maintain access to adjacent properties at all times during construction.
4. After construction of highway 638 and clark street intersection shift traffic and restripe as shown in plans.
STAGE IB

0. Place all advance warning signs and warning devices on approaching roads.

1. Maintain traffic on existing and retain existing striping, construct right side of main street and Highway 63/Kettleton Drive, contractor shall not block off both sides of the roads at any given time.

2. Contractor shall maintain access to adjacent properties at all times during construction.

3. After construction of Highway 63 and Clark Street intersection shift traffic and restripe as shown in plans.
STAGE IB

1) PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.

2) MAINTAIN TRAFFIC ON EXISTING AND RETAIN EXISTING Striping. CONSTRUCT RIGHT LANE OF CRAN STREET AND HIGHWAY 63 B. CONTRACTOR SHALL NOT BLOCK OFF BOTH SIDES OF THE ROADS AT ANY GIVEN TIME.

3) CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

4) AFTER CONSTRUCTION OF HIGHWAY 63 B AND CLARK STREET INTERSECTION SHIFT TRAFFIC AND RESTORING AS SHOWN IN PLANS.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- PERMANENT PAVEMENT

- TYPE B BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICES
- TEMPORARY PANEL
- VERTICAL PANEL

MAINTENANCE OF TRAFFIC DETAILS

HWY. 63 B - STAGE IB
STAGE IB

1. PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.

2. MAINTAIN TRAFFIC ON EXISTING AND RETAIN EXISTING STRIPING; CONSTRUCT RIGHT SIDE OF CANAL STREET AND HIGHWAY 638/NETTLETON DEVEL. CONTRACTOR SHALL NOT BLACK OFF BOTH SIDES OF THE ROADS AT ANY GIVEN TIME.

3. CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

4. AFTER CONSTRUCTION OF HIGHWAY 638 AND CLARK STREET INTERSECTION SHIFT TRAFFIC AND RESTRIPE AS SHOWN IN PLANS.

MAINTENANCE OF TRAFFIC DETAILS

WATT ST. - STAGE IB

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- REMOVE PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- CONCRETE BARRIER WALL
- BRIDGE
- TYPE B BARRIAGE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM)
- CHANNELIZATION DEVICE (VERTICAL PANEL)
STAGE 2

1. PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.
2. CONTRACTOR SHALL MAINTAIN THE TRAFFIC DETOUR SIGNS ALONG THORN STREET, CLARK STREET, MANILA STREET, AND WILLOW STREET FROM STAGE 1 FOR STAGE 2.
3. CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
4. RESTRIPE CAIN STREET, CONSTRUCT HWY 63B BETWEEN CLARK STREET AND FRISCO STREET, CONSTRUCT GRAVEMAY AND TEMPORARY DRIVEWAY TO MAINTAIN ACCESS TO PROPERTY ALONG WATT STREET.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- PERMANENT PAVEMENT
- TYPE HBARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE
- TRAFFIC DRUM (VERTICAL PANEL)
- REMOVABLE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- PERMANENT HARDSCAPE
- CURB AND GUTTER
- TRAFFIC DRUM (VERTICAL PANEL)
- CONSTRUCTION PAVEMENT MARKINGS
- VERTICAL PANELS
- 30"x24"
- 60"x30"
- 30"x24"
- 8'BARRICADE TYPE IIIBARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE
- TRAFFIC DRUM (VERTICAL PANEL)
- PAVEMENT MARKINGS
- TRAFFIC DRUMS 30'OC.
- TRAFFIC DRUMS 50'OLD ON CITY STREETS TO PER STREET FLOW LOCATIONS 10 EACH

MAINTENANCE OF TRAFFIC DETAILS

Hwy. 63B - Stage 2
STAGE 2

1) PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.

2) CONTRACTOR SHALL MAINTAIN THE TRAFFIC DETOUR SIGNS ALONG THORN STREET, CLARK STREET, WADGWICK STREET, AND WILLOW STREET FROM STAGE 1 TO STAGE 2.

3) CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

4) RESTRICT CAR STREETS, CONSTRUCT HIGHWAY EXIT BETWEEN CLARK STREET AND FRISCO STREET, CONSTRUCT DRIVEWAY AND TEMPORARY DRIVEWAY TO MAINTAIN ACCESS TO PROPERTY ALONG WATT STREET.
STA. 89+70.00
BEGIN JOB 100824
LOG MILE 3.89

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE DRUM
- CHANNELIZATION DEVICE VERTICAL PANEL

MAINTENANCE OF TRAFFIC DETAILS
HWY. 18 - STAGE 3

1) PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.
2) CONTRACTOR SHALL PLACE THE TRAFFIC DETOUR SIGNS FOR CLOSING WATT STREET AND CLOSE WATT STREET.
3) CONSTRUCT WATT STREET INCLUDING THE BRIDGE OVER BNSF TRACKS BETWEEN HIGHWAY 63B AND HIGHWAY 18, CONSTRUCT TEMPORARY DIVERSION ALONG CAIN STREET AND HIGHWAY 18 TO MAINTAIN ACCESS DURING CONSTRUCTION OF HIGHWAY 63B.
4) CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
5) CONTRACTOR SHALL CLOSE FRISCO STREET UNDER WATT STREET DURING ANY SUPERSTRUCTURE AND FOUNDATION WORK WITH THE APPROVAL FROM THE ENGINEER. NO CLOSURE WILL BE ALLOWED DURING THE NIGHT HOURS.

MATCH LINE STA. 99.00
MAINTENANCE OF TRAFFIC DETAILS

MAINTENANCE OF TRAFFIC DETAILS

STAGE 3

1. PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.

2. CONTRACTOR SHALL PLACE THE TRAFFIC DETOUR SIGNS FOR CLOSING MARRIET STREET AND CLOSE WATT STREET.

3. CONSTRUCT WATT STREET INCLUDING THE BRIDGE OVER BNSF TRACKS BETWEEN HIGHWAY 638 AND HIGHWAY 18. CONTRACT, TEMPORARY ORNAMENTAL AND CAN STREET AND HIGHWAY 18 TO MAINTAIN ACCESS DURING CONSTRUCTION OF HIGHWAY 18.

4. CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

5. CONTRACTOR SHALL CLOSE FRISCO STREET UNDER WATT STREET DURING ANY SUPERSTRUCTURE AND FOUNDATION WORK WITH THE APPROVAL FROM THE ENGINEER. NO CLOSURE WILL BE ALLOWED DURING THE NIGHT HOURS.
MMA ssHC
FED NAV. 1 00824 69 345
MAINTENANCE OF TRAFFIC DETAILS
CAIN ST. - STAGE 3A

STAGE 3A
1) PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.
2) MAINTAIN TRAFFIC ON EXISTING AND RETAIN EXISTING STRIPING. CONSTRUCT LEFT SIDE OF CAN STREET AND HIGHWAY-303. CONTRACTOR SHALL NOT BLOCK OFF BOTH SIDES OF THE ROADS AT ANY GIVEN TIME.
3) CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
MAINTENANCE OF TRAFFIC DETAILS
CAIN ST. - STAGE 3B

1) PLACE ALL ADVANCE WARNING SIGNS AND WARNING DEVICES ON APPROACHING ROADS.
2) MAINTAIN TRAFFIC ON EXISTING AND RETAIN EXISTING STRIPING. CONSTRUCT RIGHT SIDE OF CAIN STREET AND RETAIN EXISTING DRIVE. CONTRACTOR SHALL NOT BLOCK OFF BOTH SIDES OF THE ROAD AT ANY GIVEN TIME.
3) CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
THIS SHEET IS INTENDED TO SHOW AN OVERALL DETOUR PLAN FOR HWY. 18 TO BE USED DURING STAGES 4A, 4B, AND 5. SEE STAGE SHEETS FOR MORE DETAILS.

LOCATION OF THESE SIGNS SHALL BE ADJUSTED DURING STAGES 4A, 4B, AND 5 AS DIRECTED BY THE ENGINEER.

LEGEND

MAINTENANCE OF TRAFFIC DETAILS
HWY. 18 - DETOUR DURING STAGE 4 & 5
MANTENANCE OF TRAFFIC DETAILS
HWY. 18 - STAGE 4A

STAGE 4A

1) Place all advance warning signs and warning devices on approaching roads.
2) Construct the signals at CAM/DEBON/PARK, HIGHWAY 638, and off-street parking lots intersections prior to this stage.
3) Contractor shall place the traffic control devices shown for Highway 638, COUNCIL STREET, and close Highway 18 across IMPACT AREAS. Start rerouting TRAFFIC THROUGH HIGHWAY 638 and MATT STREET.
4) Contractor shall maintain access to adjacent properties at all times during construction.
5) Construct the BENT 2 FOUNDATION AT HIGHWAY 18 and HIGHWAY 638 INTERSECTIONS. Construct PART OF HIGHWAY 18, ARCH, AND IRBY STREETS AS SHOWN ON THE PLANS.
STAGE 4A
1) Place all advance warning signs and warning devices on approaching roads.
2) Construct the signals at CAIN/HETTION, HWY 63B, and HWY 63B/WATT STREET intersections prior to this stage.
3) Contractor shall place the traffic detour signs for closing HWY 63B from HWY 53B to WATT STREET and for redirecting heavy trucks, start rerouting HWY 63B traffic through HWY 63B and WATT STREET.
4) Contractor shall maintain access to adjacent properties at all times during construction.
5) Construct the bent 2 foundation at HWY 63B and HWY 53B intersection, construct part of HWY 63B, and WATT STREETS as shown on the plans.

MATCH LINE STA 75+00

See pavement marking plans for pavement marking geometry.
STAGE 4A

1. Place all advance warning signs and warning devices on approaching roads.
2. Construct the signals at Canvet/Tettleton, Highway 63B, and Highway 18/1811 Streets.
3. The Contractor shall place the traffic control signs for closing Highway 63B and Highway 18 traffic to detour about this stage.
4. The Contractor shall maintain access to adjacent properties at all times during construction.
5. Construct the bent 2 foundation at Highway 18 and Highway 63B intersection, construct part of Highway 18 bridge and Highways 18 and 1811 streets as shown on the plans.

See pavement marking plans for pavement marking geometry.
Stage 4A

1. Place all advance warning signs and warning devices on approaching roads.

2. Construct the signals at Conklin/Ellis, Highway 638, and Highway 658/Watt Street intersections prior to this stage.

3. Contractor shall place traffic detour signs for closing Highway 18 from Highway 638 to Watt Street and close Highway 18 across deep tracks. Start rerouting Highway 18 traffic through Highway 638 and Watt Street.

4. Contractor shall maintain access to adjacent properties at all times during construction.

5. Construct the BCZ foundation at Highway 18 and Highway 638 intersections. Construct paint kerbs at Watt, Airways, and Tramel streets as shown on the plans.

Legend:

- Construct temporary pavement
- Construct permanent pavement
- Bridge
- Temporary pavement
- Permanent pavement
- Concrete barrier wall
- Type II barricade
- Construction sign
- Traffic flow
- Channelization device (drum)
- Channelization device (vertical panel)

Maintenance of Traffic Details

Watt St. - Stage 4A
STAGE 4A
1) Place all advance warning signs and warning devices on approaching roads.

2) Construct the signals at CAIN/STETTLETON, HIGHWAY 63B and HIGHWAY 63B/WATT STREET intersections prior to this stage.

3) Contractor shall place the traffic detour signs for closing HIGHWAY 63B from Highway 63B to WATT STREET.

4) Contractor shall maintain access to adjacent properties at all times during construction.

5) Construct the bent 2 foundation at HIRBY ST. and HIGHWAY 63B.

Intersections construct also part of HIGHWAY 63B, ARCH, and MBT STREETS as shown on the plans.

SEE PAVEMENT MARKING PLANS FOR PAVEMENT MARKING GEOMETRY.
MAINTENANCE OF TRAFFIC DETAILS

STAGE 4B

1. Place all advance warning signs and warning devices on approaching roads.
2. Maintain detour traffic operations as Stage 4A.
3. Contractor shall maintain access to adjacent properties at all times during construction.
4. Construct part of highway 18, arch, and IRBY streets as shown on the plans, construct arch street intersection with Henry street first before IRBY's connection with existing IRBY street.

LEGEND

- Construct temporary pavement
- Construct permanent pavement
- Temporary pavement
- Permanent pavement
- Temporary Precast Concrete Barrier Wall
- Bridge
- Remove pavement
- Traffic flow
- Channelization device
- Channelization device
- Traffic Cones
- Temporary driveway
- Temporary driveway
- Drain
- Construction sign
- Type II barricade
- Type III barricade
- Water gaps
- Snow gates
- Access control
- Geo-textile
- HOT work
- Cold work
- Bearing wall
- Access road
- Maintenance of traffic details
- Highway 18 - Stage 4B

See Hwy 18 Detour Sheet for general through traffic movements during Stages 4 and 5.
STAGE 5
1. Place all advance warning signs and warning devices on approaching roads.
2. Maintain detour traffic operations as Stage 4A.
3. Contractor shall maintain access to adjacent properties at all times during construction.
4. Construct remaining part of highway B including the bridge over BNSF tracks.

LEGEND
- Temporary pavement
- Permanent pavement
- Type III barricade
- Construction sign
- Traffic flow
- Channelization device

MAINTENANCE OF TRAFFIC DETAILS
HWY. 18 - STAGE 5
STAGE 5
0. Place all advance warning signs and warning devices on approaching roads.
2. Maintain detour traffic operations as Stage 4A.
3. Contractor shall maintain access to adjacent properties at all times during construction.
4. Construct remaining part of Hwy 18 including the bridge over BNSF tracks.
# Advance Warning Signs and Devices

<table>
<thead>
<tr>
<th>Sign Number</th>
<th>Description</th>
<th>Sign Size</th>
<th>Stage 1A</th>
<th>Stage 1B</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 3A</th>
<th>Stage 3B</th>
<th>Stage 4A</th>
<th>Stage 4B</th>
<th>Stage 5</th>
<th>Maximum Required</th>
<th>Total Signs Required</th>
<th>Construction Project Information Sign Update</th>
<th>Portable Changeable Message Sign</th>
<th>Vertical Panels</th>
<th>Traffic Drums</th>
<th>Barriers</th>
<th>Type B</th>
<th>Temporary Impact Attenuation Barrier</th>
<th>Temporary Impact Attenuation Barrier (Repair)</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-2-1</td>
<td>END ROAD WORK</td>
<td>48 x 24&quot;</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**NOTE:** This is a high traffic volume road as defined in Section 604.03, Standard Specifications for Highway Construction.
# Construction Pavement Markings and Permanent Pavement Markings - NHPP-92271800 (State)

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>End of Job</th>
<th>Removal of Permanent Pavement Markings</th>
<th>Removal of Construction Pavement Markings</th>
<th>Removable Construction Pavement Markings (Yards)</th>
<th>Removable Construction Pavement Markings (Arrows)</th>
<th>Raised Pavement Markers</th>
<th>Thermoplastic Pavement Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of Permanent Pavement Markings</td>
<td>355</td>
<td>690</td>
<td>774</td>
<td>745</td>
<td>355</td>
<td>3250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Pavement Markings</td>
<td>355</td>
<td>690</td>
<td>774</td>
<td>745</td>
<td>355</td>
<td>3250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of Construction Pavement Markings</td>
<td>2482</td>
<td>502</td>
<td>531</td>
<td>520</td>
<td>2482</td>
<td>2936</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removable Construction Pavement Markings</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised Pavement Markers Type 1 (White/Red)</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoplastic Pavement Marking Type II</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoplastic Pavement Marking Type II (White/Red)</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3250</td>
<td>3250</td>
<td>2936</td>
<td>99</td>
<td>99</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** This is a high traffic volume road as defined in Section 604.05, standard specifications for highway construction.

---

# Construction Pavement Markings and Permanent Pavement Markings - NHPP-92271801 (Local)

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>Stage</th>
<th>End of Job</th>
<th>Removal of Permanent Pavement Markings</th>
<th>Removal of Construction Pavement Markings</th>
<th>Removable Construction Pavement Markings (Yards)</th>
<th>Removable Construction Pavement Markings (Arrows)</th>
<th>Raised Pavement Markers</th>
<th>Thermoplastic Pavement Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of Permanent Pavement Markings</td>
<td>2668</td>
<td>1547</td>
<td>309</td>
<td>280</td>
<td>6596</td>
<td>6596</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Pavement Markings</td>
<td>2668</td>
<td>1547</td>
<td>309</td>
<td>280</td>
<td>6596</td>
<td>6596</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of Construction Pavement Markings</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removable Construction Pavement Markings</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised Pavement Markers Type 1 (White/Red)</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoplastic Pavement Marking Type II</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td>355</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoplastic Pavement Marking Type II (White/Red)</td>
<td>746</td>
<td>746</td>
<td>746</td>
<td>746</td>
<td>746</td>
<td>746</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6596</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** This is a high traffic volume road as defined in Section 604.05, standard specifications for highway construction.

---

**Quantities**
### EROSION CONTROL - NHP-9227(80) (STATE)

<table>
<thead>
<tr>
<th>STATION</th>
<th>SEEDING</th>
<th>LIME</th>
<th>MULCH COVER</th>
<th>WATER</th>
<th>PERMANENT EROSION CONTROL</th>
<th>TEMPORARY EROSION CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACRE</td>
<td>TON</td>
<td>ACRE</td>
<td>MUSGAL</td>
<td>ACRE</td>
<td>ACREG, ACREG</td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** SEE SECTION IO4.05 SYSTEM QUANTITIES ESTIMATED.

- **ROCK DITCH CHECKS:** 3
- **SAND BAG DITCH CHECKS:** 22
- **DROP INLET SLT. FENCE:** 3
- **TRIANGULAR SLT. DRIES:** 3
- **SLT. FENCE:** 3
- **SEDIMENT BASIN:** 3
- **OBSTRUCTION OF SEDIMENT BASIN:** 3
- **SEDIMENT REMOVAL & DISPOSAL:** 3

**TOTALS:**

- **BASIS OF ESTIMATE:** 4 TONS / ACRE OF SEEDING
- **WATER:** 22,000 ACRES / ACRE OF SEEDING

**SYSTEM PERMIT:**

- **EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETECT EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

### EROSION CONTROL - NHP-9227(80) (LOCAL)

<table>
<thead>
<tr>
<th>STATION</th>
<th>SEEDING</th>
<th>LIME</th>
<th>MULCH COVER</th>
<th>WATER</th>
<th>PERMANENT EROSION CONTROL</th>
<th>TEMPORARY EROSION CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACRE</td>
<td>TON</td>
<td>ACRE</td>
<td>MUSGAL</td>
<td>ACRE</td>
<td>ACREG, ACREG</td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>STAGE 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** SEE SECTION 6A.03 OF THE STD. SPECS.

**TOTALS:**

- **BASIS OF ESTIMATE:** 2 TONS / ACRE OF SEEDING
- **WATER:** 22,000 ACRES / ACRE OF SEEDING

**SYSTEM PERMIT:**

- **EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETECT EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.
### CLEARING AND GRUBBING

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>NHPD-922780 (STATE)</th>
<th>NHPD-922780 (LOCAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>95+00</td>
<td>HWY 95</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>105+00</td>
<td>HWY 95</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>115+00</td>
<td>HWY 95</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>125+00</td>
<td>HWY 95</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>NHPD-922780 (STATE)</th>
<th>TON</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>GAL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>DIRECTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

### CULVERT CLEAN OUT

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>NHPD-922780 (STATE)</th>
<th>NHPD-922780 (LOCAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ACWM PATCHING OF EXISTING ROADWAY

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>NHPD-922780 (STATE)</th>
<th>NHPD-922780 (LOCAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SOIL LOG

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>DEPTH</th>
<th>LIQUID LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>55+40</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>60+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>65+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>70+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
</tr>
</tbody>
</table>

### MAILBOXES

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>NHPD-922780 (STATE)</th>
<th>NHPD-922780 (LOCAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CONCRETE DITCH PAVING - NHPD-922780 (STATE)

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>&quot;H&quot;</th>
<th>CONC. DITCH PAVING</th>
<th>SOLID SODDING</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>55+40</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>60+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>65+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>70+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

### CONCRETE DITCH PAVING - NHPD-922780 (LOCAL)

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>&quot;H&quot;</th>
<th>CONC. DITCH PAVING</th>
<th>SOLID SODDING</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>55+40</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>60+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>65+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>70+00</td>
<td>30' LT.</td>
<td>55</td>
<td>45</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
## QAUNTITIES

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>BITUMINOUS</th>
<th>基地</th>
<th>TACK COAT (0.7 GAL./50 YD.)</th>
<th>TACK COAT (0.05 GAL./50 YD.)</th>
<th>ACHM BASE COURSE 0.1/2&quot;</th>
<th>ACHM BINDER COURSE 0.1&quot;</th>
<th>ACHM SURFACE COURSE 0.1/2&quot;</th>
<th>ACHM SURFACE COURSE 0.05&quot;</th>
<th>PG 64-22</th>
<th>AVG. WIDTH</th>
<th>SOIL</th>
<th>POUND</th>
<th>PG 64-22</th>
<th>AVG. WIDTH</th>
<th>SOIL</th>
<th>POUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-134</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-035</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-151</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-061</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-068</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-074</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-077</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-076</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-073</td>
<td>09/26/99</td>
<td>200.00</td>
<td>408.44</td>
<td>50.97</td>
<td>12.00</td>
<td>0.20</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BASE OF ESTIMATE:**
- ACHM SURFACE COURSE 0.1/2"
- ACHM BINDER COURSE 0.1"
- ACHM BASE COURSE 0.1/2"
- ASPHALT BINDER

**MAXIMUM NUMBER OF CRYSTALS:**
- 95 for PG 64-22

**NUMBER OF CRYSTALS 40 FOR PG 20-22**

**TACK COAT QUANTITIES**:
- CALCULATED USING THE EMULGIFIED ASPHALT RATES
- REFER TO SS-400 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

**FOR TEMPORARY DRAWS REFER TO DRIVEWAY QUANTITY TABLE**
### Base and Surfacing - NHP-922780 (Local)

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+64.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+76.90</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

### Additional Information

**Concrete Base - NHP-922780 (Local)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
</tbody>
</table>

**Concrete Base - NHP-922780 (State)**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14.65</td>
<td>5+89.15</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+101.40</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+113.65</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>5-14.65</td>
<td>5+125.90</td>
<td>NEETTLY AVE</td>
</tr>
<tr>
<td>STATION</td>
<td>SIDE</td>
<td>LOCATION</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>445-00</td>
<td>LEFT</td>
<td>HWY. 87</td>
</tr>
<tr>
<td>445-00</td>
<td>RIGHT</td>
<td>HWY. 87</td>
</tr>
</tbody>
</table>

**CONCRETE BARRIER WALL**

- The contractor with the approval of the Engineer, will be allowed to substitute ACME surface course 0.5" X 2.0" LBS. per sq. yd. for PG 64-22 as necessary to complete the work.

**RACK OF ESTIMATE**

- All work except for item 26 will be performed within the existing roadway.

**QUNANTITIES**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>ASPHALT MILLING (TON)</th>
<th>CONCRETE MILLING (TON)</th>
<th>CONCRETE PAVING (Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>445-00</td>
<td>445-00</td>
<td>HWY. 87</td>
<td>234.82</td>
<td>28.07</td>
<td>52.06</td>
</tr>
</tbody>
</table>

**COLD MILLING ASPHALT PAVEMENT**

- Cold milling asphalt pavement.

**TOTALS**

- 328 TON

**NOTE:** AVERAGE MILLING DEPTH 1", MAX MILLING DEPTH 2".
# Driveways & Turnouts - NHPP-9227(80) (Local)

<table>
<thead>
<tr>
<th>Station</th>
<th>Size</th>
<th>Location</th>
<th>Width</th>
<th>Modified Curb</th>
<th>Portland Cement Concrete Driveway (2&quot;&quot;)</th>
<th>Aggregate Base Course (Class 2)</th>
<th>Standard Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-27</td>
<td>Left</td>
<td>CAN. ST.</td>
<td>64</td>
<td>20+00.71, 20+10.77</td>
<td>200.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J-27</td>
<td>Left</td>
<td>CAN. ST.</td>
<td>38</td>
<td>23+04.26, 23+15.06</td>
<td>44.00, 35.22, 32.12</td>
<td>4.32</td>
<td></td>
</tr>
<tr>
<td>J-27</td>
<td>Left</td>
<td>CAN. ST.</td>
<td>24</td>
<td>27+00.03, 27+10.00</td>
<td>44.07, 25.97, 25.66</td>
<td>2.62</td>
<td></td>
</tr>
<tr>
<td>J-43</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>1</td>
<td>28+45.00, 28+55.00</td>
<td>30.97, 51.45, 5.89</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>J-39</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>2</td>
<td>31+06.74, 31+16.74</td>
<td>46.11, 51.81, 5.14</td>
<td>24.6</td>
<td></td>
</tr>
<tr>
<td>J-39</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>2</td>
<td>32+06.74, 32+16.74</td>
<td>46.00, 49.86, 4.34</td>
<td>20.9</td>
<td></td>
</tr>
<tr>
<td>J-39</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>2</td>
<td>42+06.74, 42+16.74</td>
<td>33.13, 44.48, 4.85</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>6</td>
<td>51+70.06, 52+10.06</td>
<td>15.86, 10.95, 2.12</td>
<td>2.01</td>
<td></td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>6</td>
<td>6+15.16, 6+16.16</td>
<td>0.16, 0.56, 0.25</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>12</td>
<td>6+17.06, 6+27.06</td>
<td>25.67, 10.65, 2.05</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>12</td>
<td>6+17.06, 6+27.06</td>
<td>25.67, 10.65, 2.05</td>
<td>0.27</td>
<td></td>
</tr>
</tbody>
</table>

**Entire Project Temporary Drives Not Included Below**

<table>
<thead>
<tr>
<th>Station</th>
<th>Size</th>
<th>Location</th>
<th>Width</th>
<th>Modified Curb</th>
<th>Portland Cement Concrete Driveway (2&quot;&quot;)</th>
<th>Aggregate Base Course (Class 2)</th>
<th>Standard Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-27</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>38</td>
<td>20+00.71, 20+10.77</td>
<td>200.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J-27</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>38</td>
<td>23+04.26, 23+15.06</td>
<td>44.00, 35.22, 32.12</td>
<td>4.32</td>
<td></td>
</tr>
<tr>
<td>J-27</td>
<td>Right</td>
<td>CAN. ST.</td>
<td>24</td>
<td>27+00.03, 27+10.00</td>
<td>44.07, 25.97, 25.66</td>
<td>2.62</td>
<td></td>
</tr>
</tbody>
</table>

** TOTALS: 2554.26, 629.12, 68.97, 277.22 **

---

The contractor, with the approval of the Engineer, will be allowed to substitute asphalt binder for the higher performance asphalt surface course for driveways and minor street construction at no additional cost to the Department.

---

**Concrete Curb - NHPP-9227(80) (State)**

<table>
<thead>
<tr>
<th>Station</th>
<th>Size</th>
<th>Location</th>
<th>Type of</th>
<th>Location</th>
<th>Type of</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>1</td>
<td>LEFT, 1</td>
<td>LEFT, 1</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>1</td>
<td>RIGHT, 1</td>
<td>RIGHT, 1</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>4</td>
<td>LEFT, 4</td>
<td>LEFT, 4</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>4</td>
<td>RIGHT, 4</td>
<td>RIGHT, 4</td>
</tr>
</tbody>
</table>

**TOTALS: 260**

---

**Metal Bridge Railing**

<table>
<thead>
<tr>
<th>Station</th>
<th>Size</th>
<th>Location</th>
<th>Type of</th>
<th>Location</th>
<th>Type of</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>1</td>
<td>LEFT, 1</td>
<td>LEFT, 1</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>1</td>
<td>RIGHT, 1</td>
<td>RIGHT, 1</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>4</td>
<td>LEFT, 4</td>
<td>LEFT, 4</td>
</tr>
<tr>
<td>J-17</td>
<td>Right</td>
<td>HWY.</td>
<td>4</td>
<td>RIGHT, 4</td>
<td>RIGHT, 4</td>
</tr>
</tbody>
</table>

**TOTALS: 1332**

---

**Quantities**
## CONCRETE WALKS, HAND RAILING, & CONCRETE STEPS (BOX 1 OF 2) - NHPP-9227180 (STATE)

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-052.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>01-052.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>01-062.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps

## CONCRETE WALKS, HAND RAILING, & CONCRETE STEPS (BOX 2 OF 2) - NHPP-9227180 (STATE)

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-012.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>02-012.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>02-062.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps

## CONCRETE WALKS, HAND RAILING, & CONCRETE STEPS - 9330

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-000.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>03-000.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>03-060.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps

## CONCRETE WALKS, HAND RAILING, & CONCRETE STEPS - NHPP-9227180 (LOCAL)

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-000.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>04-000.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>04-060.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps

## CONCRETE WALKS, HAND RAILING, & CONCRETE STEPS - 9330

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>05-000.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>05-000.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>05-060.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps

## QUANTITIES

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Lin. Ft.)</th>
<th>Concrete Walks (Type Special)</th>
<th>Hand Railings</th>
<th>Concrete Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>06-000.00</td>
<td>55-41.62</td>
<td>230</td>
<td>135</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>06-000.60</td>
<td>60-00.00</td>
<td>50</td>
<td>25</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>06-060.00</td>
<td>70-05.37</td>
<td>100</td>
<td>50</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTES:**
- Hand railing is estimated for one side of concrete steps.
- Length includes the following:
  - 10'-00" Concrete Walks
  - 00'-00" Hand Railings
  - 00'-00" Concrete Steps
### Illumination Summary - 9350

<table>
<thead>
<tr>
<th>Plan Sheet No.</th>
<th>Station to Station</th>
<th>Electrical Conductors in Conduit/Aluminum (G.C./A.C.)</th>
<th>Non-Metallic Conduit (G.C. &amp; E.C.)</th>
<th>Concrete Pull Box (Type 1 &amp; 2)</th>
<th>Tapered Resistive Pull Box Insert</th>
<th>Lighting</th>
<th>Roadway Illumination (Watt, L.E.D, or S.P.), Footway, Sidewalk, Pedestrian, or Ramp (Watt, L.E.D, or S.P.)</th>
<th>Re랄 (LED, 18)</th>
<th>Type of Service (Local or State)</th>
<th>Architectural Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEET 1</td>
<td>O.F.-W5 to O.F.-W5 HWY. (B)</td>
<td>709.04</td>
<td>193.7</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>3070.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Approach Gutters and Slabs - NHPP-9227(80) (Local)

<table>
<thead>
<tr>
<th>Vegetation</th>
<th>Station to Station</th>
<th>Approach Gutters (Type SP-1)</th>
<th>Approach Gutters (Type SP-2)</th>
<th>Approach Gutters (Type SP-3)</th>
<th>Approach Slab</th>
<th>Renovation Steel-Trim, Grd. 600</th>
<th>Aggregate Base Grd. 600</th>
<th>Class B</th>
<th>Architectural Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEET 1</td>
<td>O.F.-W5 to O.F.-W5 HWY. (B)</td>
<td>26.57</td>
<td>16.04</td>
<td>15.55</td>
<td>16.78</td>
<td>2244</td>
<td>920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>26.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wheelchair Ramps - NHPP-9227(80) (Local)

<table>
<thead>
<tr>
<th>Ramp Type</th>
<th>Station to Station</th>
<th>Approach Gutters (Type SP-1)</th>
<th>Approach Gutters (Type SP-2)</th>
<th>Approach Gutters (Type SP-3)</th>
<th>Approach Slab</th>
<th>Renovation Steel-Trim, Grd. 600</th>
<th>Aggregate Base Grd. 600</th>
<th>Class B</th>
<th>Architectural Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEET 1</td>
<td>O.F.-W5 to O.F.-W5 HWY. (B)</td>
<td>26.57</td>
<td>16.04</td>
<td>15.55</td>
<td>16.78</td>
<td>2244</td>
<td>920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>26.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station</td>
<td>Location</td>
<td>Curve</td>
<td>Radius</td>
<td>Elevation</td>
<td>Date</td>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
<td>-----------</td>
<td>------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Site X</td>
<td>500</td>
<td>1000</td>
<td>0.1</td>
<td>1/1/20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Site Y</td>
<td>1000</td>
<td>2000</td>
<td>0.2</td>
<td>1/2/20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Site Z</td>
<td>2000</td>
<td>3000</td>
<td>0.3</td>
<td>1/3/20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The table above details the removal and disposal of fence - NMP 527856 (Local) for various stations along a curve with different radii and elevations. Each entry indicates the removal date and notes for each station.

- The notes column may include additional information specific to each station's condition and disposal method.
<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION</th>
<th>CURB</th>
<th>Curb &amp; Gutter</th>
<th>Concrete Islands</th>
<th>Concrete Driveways</th>
<th>STEPS</th>
<th>WALKS</th>
<th>FOUNDATIONS</th>
<th>SIGN FOUNDATIONS</th>
<th>BUILDINGS</th>
<th>BILLBOARDS</th>
<th>SIGNS</th>
<th>RAILROAD HALS</th>
<th>HANDRAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>KX8+45</td>
<td>HWY. 18 ON RIGHT</td>
<td>54</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+00</td>
<td>HWY. 18 ON RIGHT</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+24</td>
<td>HWY. 18 ON RIGHT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+34</td>
<td>HWY. 18 ON RIGHT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+67</td>
<td>HWY. 18 ON RIGHT</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+74</td>
<td>HWY. 18 ON RIGHT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08+74</td>
<td>HWY. 18 ON RIGHT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05+24</td>
<td>HWY. 18 ON LEFT</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05+25</td>
<td>HWY. 18 ON LEFT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05+27</td>
<td>HWY. 18 ON LEFT</td>
<td>45</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**QUANTITIES**
<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1448</td>
<td>HWY. 530 ON RIGHT</td>
<td>Curb and Gutter</td>
</tr>
<tr>
<td>1445</td>
<td>HWY. 530 ON RIGHT</td>
<td>Concrete Islands</td>
</tr>
<tr>
<td>1442</td>
<td>HWY. 530 ON RIGHT</td>
<td>Concrete Driveways</td>
</tr>
<tr>
<td>1441</td>
<td>HWY. 530 ON RIGHT</td>
<td>Steps</td>
</tr>
<tr>
<td>1439</td>
<td>HWY. 530 ON RIGHT</td>
<td>Walks</td>
</tr>
<tr>
<td>1438</td>
<td>HWY. 530 ON RIGHT</td>
<td>Foundations</td>
</tr>
<tr>
<td>1437</td>
<td>HWY. 530 ON RIGHT</td>
<td>Sign Foundations</td>
</tr>
<tr>
<td>1434</td>
<td>HWY. 530 ON RIGHT</td>
<td>Buildings</td>
</tr>
<tr>
<td>1432</td>
<td>HWY. 530 ON RIGHT</td>
<td>Billboard</td>
</tr>
<tr>
<td>1428</td>
<td>HWY. 530 ON RIGHT</td>
<td>Signs</td>
</tr>
<tr>
<td>1427</td>
<td>HWY. 530 ON RIGHT</td>
<td>Railroad Rails</td>
</tr>
<tr>
<td>1425</td>
<td>HWY. 530 ON RIGHT</td>
<td>Handrail</td>
</tr>
</tbody>
</table>
| 1428    | HWY. 530 ON RIGHT | |}

### Quantities

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb and Gutter</td>
<td>2433</td>
</tr>
<tr>
<td>Concrete Islands</td>
<td>5569</td>
</tr>
<tr>
<td>Concrete Driveways</td>
<td>154</td>
</tr>
<tr>
<td>Steps</td>
<td>20</td>
</tr>
<tr>
<td>Walks</td>
<td>1</td>
</tr>
<tr>
<td>Foundations</td>
<td>1</td>
</tr>
<tr>
<td>Sign Foundations</td>
<td>1</td>
</tr>
<tr>
<td>Buildings</td>
<td>1</td>
</tr>
<tr>
<td>Billboard</td>
<td>1</td>
</tr>
<tr>
<td>Signs</td>
<td>1</td>
</tr>
<tr>
<td>Railroad Rails</td>
<td>1</td>
</tr>
<tr>
<td>Handrail</td>
<td>1</td>
</tr>
</tbody>
</table>

**Subtotal:** 5998

**Subtotal:** 496

**Subtotal:** 5569

**Subtotal:** 2890

**Subtotal:** 944

**Total:** 79

**Note:** The quantities shown above are for removal and disposal of all curbs, gutters, and terminal anchor posts. The quantities do not include the removal and disposal of all curbs, gutters, and terminal anchor posts.
<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>CURB</th>
<th>CURB AND GUTTER</th>
<th>CONCRETE ISLANDS</th>
<th>CONCRETE DRIVEWAYS</th>
<th>STEPS</th>
<th>WALKS</th>
<th>FOUNDATIONS</th>
<th>SIGN FOUNDATIONS</th>
<th>BUILDINGS</th>
<th>BILLBOARDS</th>
<th>SIGNS</th>
<th>RAILROAD RAIL</th>
<th>HANDBRAKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+20</td>
<td>20+37</td>
<td>CAN ST. ON LEFT</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+20</td>
<td>20+37</td>
<td>CAN ST. ON LEFT</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+37</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+40</td>
<td>20+16</td>
<td>CAN ST. ON LEFT</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+16</td>
<td>20+40</td>
<td>CAN ST. ON LEFT</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station</td>
<td>Location</td>
<td>Description</td>
<td>Pipe Culverts</td>
<td>Junction Boxes</td>
<td>Drop Inlets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-146</td>
<td>HM 8, ON LEFT</td>
<td>36 x 24&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-17</td>
<td>HM 8, ON LEFT</td>
<td>200 x 24&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-19</td>
<td>HM 8, ON LEFT</td>
<td>24 x 18&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-21</td>
<td>HM 8, ON LEFT</td>
<td>30 x 24&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-23</td>
<td>HM 8, ON LEFT</td>
<td>72 x 8&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-26</td>
<td>HM 8, ON RIGHT</td>
<td>72 x 8&quot; RC PIPE SIDE DRAIN</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-29</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-31</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-33</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-36</td>
<td>HM 8, ON RIGHT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-39</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-41</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-44</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84-46</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET WITH 24&quot; 30&quot; RC PIPE INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include removal & disposal of all headwalls and flared end sections if applicable.

**Removal and Disposal of Culverts and Drop Inlets - NHPR-927280 (State) (Box 2 of 2)**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Description</th>
<th>Pipe Culverts</th>
<th>Junction Boxes</th>
<th>Drop Inlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-47</td>
<td>HM 8, ON RIGHT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
<tr>
<td>84-48</td>
<td>HM 8, ON RIGHT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
<tr>
<td>84-49</td>
<td>HM 8, ON RIGHT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
</tbody>
</table>

**Removal and Disposal of Culverts and Drop Inlets - NHPR-927280 (Local)**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Description</th>
<th>Pipe Culverts</th>
<th>Junction Boxes</th>
<th>Drop Inlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-51</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
<tr>
<td>84-52</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
<tr>
<td>84-53</td>
<td>HM 8, ON LEFT</td>
<td>DROP INLET</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include removal & disposal of all headwalls and flared end sections if applicable.
## EARTHWORK - NHPP-922780 (STATE)

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION / DESCRIPTION</th>
<th>UNCLASSIFIED EXCAVATION</th>
<th>COMPACTED EMBANKMENT</th>
<th>COMPACTED EMBANKMENT (OPTICAL)</th>
<th>SOL STABILIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTIRE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 4</td>
<td>264</td>
<td>112</td>
<td>112</td>
<td>0</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 5</td>
<td>130</td>
<td>90</td>
<td>90</td>
<td>0</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 6</td>
<td>272</td>
<td>129</td>
<td>129</td>
<td>0</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 7</td>
<td>242</td>
<td>120</td>
<td>120</td>
<td>0</td>
</tr>
</tbody>
</table>

**TOTALS:**

- UNCLASSIFIED EXCAVATION: 1044
- COMPACTED EMBANKMENT: 566
- COMPACTED EMBANKMENT (OPTICAL): 3068
- SOL STABILIZATION: 0

### RETAINING WALLS - NHPP-922780 (STATE)

<table>
<thead>
<tr>
<th>RETAINING WALL NAME</th>
<th>BEGIN</th>
<th>END</th>
<th>BASELINE</th>
<th>RETAINING WALL</th>
<th>SELECT GRAINULAR BACKFILL</th>
<th>STONE BACKFILL</th>
<th>+ GEODIR</th>
<th>UNCLASSIFIED EXCAVATION</th>
<th>AGGREGATE PER</th>
<th>CLASS S CONCRETE-ROADWAY</th>
<th>REINFORCING STEEL (ROADWAY EMBANKMENT)</th>
<th>CONCRETE ON PAVING (TYPE B)</th>
<th>CONCRETE ON PAVING (TYPE C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>1+00.00</td>
<td>3+96.00</td>
<td>R.M. AX</td>
<td>AA</td>
<td>2024</td>
<td>4663.82</td>
<td>24027</td>
<td>574</td>
<td>77.7</td>
<td></td>
<td>3076.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB</td>
<td>3+96.00</td>
<td>6+42.05</td>
<td>R.M. AX</td>
<td>BB</td>
<td>2320</td>
<td>5790.02</td>
<td>30005</td>
<td>972</td>
<td>25.19</td>
<td></td>
<td>3076.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTALS:**

- UNCLASSIFIED EXCAVATION QUANTITIES UNDER THE CROSS SECTION TABLED QUANTITIES:
- AGGREGATE QUANTITIES FOR BIDDING PURPOSES ONLY, NOT FOR PAYMENT. SEE SPECIAL PROVISION "GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION."

## EARTHWORK - NHPP-922780 (LOCAL)

<table>
<thead>
<tr>
<th>STATION</th>
<th>LOCATION / DESCRIPTION</th>
<th>UNCLASSIFIED EXCAVATION</th>
<th>COMPACTED EMBANKMENT</th>
<th>COMPACTED EMBANKMENT (OPTICAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTIRE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 4</td>
<td>264</td>
<td>112</td>
<td>112</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 5</td>
<td>130</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 6</td>
<td>272</td>
<td>129</td>
<td>129</td>
</tr>
<tr>
<td>ENTIRE</td>
<td>HWY. 41 - STAGE 7</td>
<td>242</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

**TOTALS:**

- UNCLASSIFIED EXCAVATION: 2645
- COMPACTED EMBANKMENT: 1604
- COMPACTED EMBANKMENT (OPTICAL): 2090

### SHORING - NHPP-922780 (STATE)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SHORING (SITE NO. 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-76.06</td>
<td></td>
</tr>
</tbody>
</table>

### SHORING - NHPP-922780 (LOCAL)

- UNCOMPACTED EMBANKMENT QUANTITIES UNDER THE CROSS SECTION TABLED QUANTITIES:
- AGGREGATE QUANTITIES FOR BIDDING PURPOSES ONLY, NOT FOR PAYMENT. SEE SPECIAL PROVISION "GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION."

## PAVEMENT REPAIR OVER CULVERTS (STATE / LOCAL)

### SELECTED PIPE BEDDING

- UNCOMPACTED EMBANKMENT QUANTITIES UNDER THE CROSS SECTION TABLED QUANTITIES:
- AGGREGATE QUANTITIES FOR BIDDING PURPOSES ONLY, NOT FOR PAYMENT. SEE SPECIAL PROVISION "GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION."
<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>51000</td>
<td><strong>REINFORCED CONCRETE PIPE CULVERT</strong></td>
<td>51000</td>
<td><strong>REINFORCED CONCRETE PIPE CULVERT</strong></td>
</tr>
<tr>
<td>51000</td>
<td><strong>STORM DRAIN INLETS</strong></td>
<td>51000</td>
<td><strong>STORM DRAIN INLETS</strong></td>
</tr>
<tr>
<td>51000</td>
<td><strong>SIDE DRAIN PIPE CULVERT</strong></td>
<td>51000</td>
<td><strong>SIDE DRAIN PIPE CULVERT</strong></td>
</tr>
<tr>
<td>51000</td>
<td><strong>JUNCT. BOXES</strong></td>
<td>51000</td>
<td><strong>JUNCT. BOXES</strong></td>
</tr>
<tr>
<td>51000</td>
<td><strong>YARD DRAINS</strong></td>
<td>51000</td>
<td><strong>YARD DRAINS</strong></td>
</tr>
</tbody>
</table>

**NOTE:** FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 5 BEDDING UNLESS OTHERWISE SPECIFIED.

**NOTE:** FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

**WATER:**

**SUBTOTAL (BOX 10 OF 44):**

**TOTAL MILES:**

**WATER:**

**SUBTOTAL (BOX 10 OF 44):**

**TOTAL MILES:**
<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>SIDE DRAIN</th>
<th>PIPE CULVERT</th>
<th>STORM DRAIN</th>
<th>ALTERNATIVES 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1016</td>
<td>DROP INLET</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1017</td>
<td>YARD DRAIN</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1018</td>
<td>2.56</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1019</td>
<td>DROP INLET</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1020</td>
<td>3.82</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1021</td>
<td>DROP INLET</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1022</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1023</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1024</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1025</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1026</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1027</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1028</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1029</td>
<td>DROP INLET</td>
<td></td>
<td>43</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>1030</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1031</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1032</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1033</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1034</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1035</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1036</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1037</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1038</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1039</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1040</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1041</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1042</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1043</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1044</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1045</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1046</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1047</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1048</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1049</td>
<td>DROP INLET</td>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1050</td>
<td>3.82</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

**NOTE:** FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>CLASS</th>
<th>REINFORCED CONCRETE PIPE CULVERT</th>
<th>PIPE CULVERT STORM DRAIN</th>
<th>ALTERNATES 1 &amp; 2</th>
<th>FLARED END SECTIONS FOR R.C. PIPE CULVERTS</th>
<th>PIPE CULVERT SIDE DRAIN</th>
<th>JUNCTION BOXES</th>
<th>SOLO SODDING</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>86+00</td>
<td>DROP INLET</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86+00</td>
<td>8'-04'' PIPE CULVERT</td>
<td>CLASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86+00</td>
<td>DROP INLET</td>
<td>CLASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86+00</td>
<td>8'-04'' PIPE CULVERT</td>
<td>CLASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86+00</td>
<td>DROP INLET</td>
<td>CLASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86+00</td>
<td>8'-04'' PIPE CULVERT</td>
<td>CLASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

**NOTE:** FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+00</td>
<td>50+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>50+24</td>
<td>50+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>50+37</td>
<td>50+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

**Quantities**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+00</td>
<td>20+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>20+24</td>
<td>20+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>20+37</td>
<td>20+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+00</td>
<td>50+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>50+24</td>
<td>50+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>50+37</td>
<td>50+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+00</td>
<td>20+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>20+24</td>
<td>20+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>20+37</td>
<td>20+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

**General Notes:**
- For R.C. pipe culvert installations use Type 3 bedding unless otherwise specified.
- For C.M. pipe culvert installations use Type 2 bedding unless otherwise specified.

**Structures - NPP-92275801 (0CAL) (Box 4 of 4)**

**Quantities**

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20+00</td>
<td>20+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>20+24</td>
<td>20+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>20+37</td>
<td>20+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+00</td>
<td>50+24</td>
<td>6&quot; X 26&quot; RC PIPE CULVERT</td>
</tr>
<tr>
<td>50+24</td>
<td>50+37</td>
<td>DROP INLET</td>
</tr>
<tr>
<td>50+37</td>
<td>50+61</td>
<td>DROP INLET</td>
</tr>
</tbody>
</table>

**General Notes:**
- For R.C. pipe culvert installations use Type 3 bedding unless otherwise specified.
- For C.M. pipe culvert installations use Type 2 bedding unless otherwise specified.
<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>REINFORCED CONCRETE PIPE CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PIPE CULVERT STORM DRAIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALTERNATES 1 &amp; 2</td>
</tr>
</tbody>
</table>

**REINFORCED CONCRETE PIPE**

- **CULVERT**
- **SIDE DRAIN**
- **LEAKS**

**PLANTED ENDS SECTION FOR R.C. PIPE CULVERTS**

**TEMPORARY DRAIN**

**DROP MOUNTS**

**JUNCT. BOXES**

**YARD DRAINS**

**SOIL SODDING**

**WATER**

**PSL. Dwg. Nos.**

**QUANTITIES**

**TOTALS:**

- **$392**
- **$29**
- **$90**
- **$69**
- **$24**

**NOTES:** FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

**QUANTITIES**

- **TOTALS:**
  - **$392**
  - **$29**
  - **$90**
  - **$69**
  - **$24**

**Basis of Estimate:** 7.5 CAL/SG. YD. OF SOLID SODDING.
### SCHEDULE OF BRIDGE QUANTITIES - JOB 100824

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>01</th>
<th>03</th>
<th>05 &amp; 07</th>
<th>09</th>
<th>10</th>
<th>105</th>
<th>106</th>
<th>108</th>
<th>109</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT NO.</td>
<td>504</td>
<td>305</td>
<td>190.50</td>
<td>44.2</td>
<td>105.0</td>
<td>465.795</td>
<td>1550.6</td>
<td>399.8</td>
<td>116.0</td>
</tr>
<tr>
<td><strong>TOTAL FOR BRIDGE 004</strong></td>
<td>504</td>
<td>305</td>
<td>190.50</td>
<td>44.2</td>
<td>105.0</td>
<td>465.795</td>
<td>1550.6</td>
<td>399.8</td>
<td>116.0</td>
</tr>
<tr>
<td>END BEAT 1</td>
<td>84.87</td>
<td>0.3</td>
<td>4,122</td>
<td>583</td>
<td>1,580</td>
<td>4</td>
<td>5,840</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>END BEAT 2</td>
<td>105.12</td>
<td>1.4</td>
<td>4,554</td>
<td>912</td>
<td>2,466</td>
<td>27</td>
<td>1</td>
<td>5,842</td>
<td>2.0</td>
</tr>
<tr>
<td>END BEAT 3</td>
<td>105.32</td>
<td>1.4</td>
<td>4,554</td>
<td>912</td>
<td>2,466</td>
<td>27</td>
<td>1</td>
<td>5,842</td>
<td>2.0</td>
</tr>
<tr>
<td>END BEAT 4</td>
<td>105.0</td>
<td>1.7</td>
<td>4,590</td>
<td>993</td>
<td>2,450</td>
<td>27</td>
<td>1</td>
<td>5,848</td>
<td>2.0</td>
</tr>
<tr>
<td>2 1/2&quot; PLT, PLATE, GROUP UNIT</td>
<td>588</td>
<td>274</td>
<td>471.88</td>
<td>129.70</td>
<td>22.2</td>
<td>52,096</td>
<td>8,649</td>
<td>857</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL FOR BRIDGE 004B</td>
<td>588</td>
<td>274</td>
<td>471.88</td>
<td>129.70</td>
<td>22.2</td>
<td>52,096</td>
<td>8,649</td>
<td>857</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL FOR JOB 100824</td>
<td>842</td>
<td>304</td>
<td>1048.10</td>
<td>127.88</td>
<td>87.2</td>
<td>105,300</td>
<td>244,943</td>
<td>14,087</td>
<td>88</td>
</tr>
</tbody>
</table>

**Notes:**
- Items marked with an asterisk (*) are not included in the total.
- Plan sheets conform to details shown on Plan No. 2560.
- Type 1: Special 1, Transient Approach Rolling shall be paid as Special 1, Transient Approach Rolling.
- Type 2: Special 2, Transient Approach Rolling shall be paid as Special 2, Transient Approach Rolling.
## SUMMARY OF QUANTITIES (BOX 2 OF 2)

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>635</td>
<td>ROCKET CONSTRUCTION CONTROL</td>
<td>558</td>
<td>t</td>
</tr>
<tr>
<td>637</td>
<td>WERKSC REINFORCEMENT (TYPE 4)</td>
<td>47</td>
<td>t</td>
</tr>
<tr>
<td>638</td>
<td>WERKSC REINFORCEMENT (TYPE 5)</td>
<td>96</td>
<td>t</td>
</tr>
<tr>
<td>640</td>
<td>WERKSC REINFORCEMENT (TYPE 6)</td>
<td>96</td>
<td>t</td>
</tr>
<tr>
<td>641</td>
<td>WERKSC REINFORCEMENT (TYPE 7)</td>
<td>13</td>
<td>t</td>
</tr>
<tr>
<td>642</td>
<td>WERKSC REINFORCEMENT (TYPE 8)</td>
<td>13</td>
<td>t</td>
</tr>
<tr>
<td>659</td>
<td>WERKSC REINFORCEMENT (TYPE 9)</td>
<td>13</td>
<td>t</td>
</tr>
<tr>
<td>650</td>
<td>WERKSC REINFORCEMENT (TYPE 10)</td>
<td>13</td>
<td>t</td>
</tr>
<tr>
<td>651</td>
<td>WERKSC REINFORCEMENT (TYPE 11)</td>
<td>13</td>
<td>t</td>
</tr>
<tr>
<td>652</td>
<td>WERKSC REINFORCEMENT (TYPE 12)</td>
<td>13</td>
<td>t</td>
</tr>
</tbody>
</table>

### REVISED 6/23/99

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>4000000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>5000000000</td>
<td>1000000000</td>
</tr>
</tbody>
</table>

#### STRUCTURES OVER 20' SPAN

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>549</td>
<td>STEEL CHANNELED PIPE</td>
<td>954</td>
<td>t</td>
</tr>
<tr>
<td>550</td>
<td>BRIDGE CONSTRUCTION CONTROL</td>
<td>965</td>
<td>t</td>
</tr>
<tr>
<td>95</td>
<td>wins CASTELLATION FOR ELECTRIC CIRCUIT</td>
<td>965</td>
<td>t</td>
</tr>
<tr>
<td>98</td>
<td>CLASS 5 CONCRETE BRIDGE</td>
<td>965</td>
<td>t</td>
</tr>
<tr>
<td>100</td>
<td>ANCHORAGE EXTENSION</td>
<td>965</td>
<td>t</td>
</tr>
<tr>
<td>101</td>
<td>BRIDGE CONSTRUCTION CONTROL</td>
<td>965</td>
<td>t</td>
</tr>
<tr>
<td>103</td>
<td>BRIDGE CONSTRUCTION CONTROL</td>
<td>965</td>
<td>t</td>
</tr>
</tbody>
</table>

#### REVISED 6/24/99

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>4000000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>5000000000</td>
<td>1000000000</td>
</tr>
</tbody>
</table>

#### REVISED 6/25/99

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>4000000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>5000000000</td>
<td>1000000000</td>
</tr>
</tbody>
</table>

#### REVISED 6/26/99

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>4000000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>5000000000</td>
<td>1000000000</td>
</tr>
</tbody>
</table>

#### REVISED 6/27/99

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>UNITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>4000000000</td>
<td>1000000000</td>
</tr>
<tr>
<td>5000000000</td>
<td>1000000000</td>
</tr>
</tbody>
</table>

### REVOLUTIONS & REVISIONS

#### 6/24/99

- REVISED 6/24/99 QUANTITIES TO CALL FOR REMOVAL OF THE WELT S.B. ON THE COMPLETION OF THE JOB.
- 6/24/99 REVISED PLAN FOR "ARCHITECTURAL FINISH", REVISED BEAM WELD, APPROACH LORRY, BRIDGE QUANTITIES, AND SUMMARY OF QUANTITIES TO INCLUDE PAY ITEM FOR "ARCHITECTURAL FINISH", REVISED BRIDGE PLANS FOR "ORTHOLINE PATTERN" AND "ARCHITECTURAL FINISH".

---

**NOTES:**

1. The table above represents a summary of quantities for an architectural project, detailing various items and their respective quantities. The project appears to involve significant concrete and steel components, with detailed specifications for different types of reinforcement and construction control.

2. The revisions and dates indicate ongoing updates and modifications to the project plans, reflecting changes in requirements and specifications.

3. Specific units of measurement such as tons (t) and cubic meters (m³) are used to quantify materials and components.

---

**REVISIONS**

<table>
<thead>
<tr>
<th>DATE</th>
<th>REVISION</th>
<th>SHEET NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/24/99</td>
<td>REVISED QUANTITIES FOR &quot;ARCHITECTURAL FINISH&quot;, REVISED BEAM WELD, APPROACH LORRY, BRIDGE QUANTITIES, AND SUMMARY OF QUANTITIES TO INCLUDE PAY ITEM FOR &quot;ARCHITECTURAL FINISH&quot;, REVISED BRIDGE PLANS FOR &quot;ORTHOLINE PATTERN&quot; AND &quot;ARCHITECTURAL FINISH&quot;.</td>
<td>6/24/99</td>
</tr>
<tr>
<td>NO.</td>
<td>Bearing</td>
<td>Vertical</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>1</td>
<td>N31W79'</td>
<td>104.00</td>
</tr>
<tr>
<td>2</td>
<td>N31W79'</td>
<td>104.00</td>
</tr>
<tr>
<td>3</td>
<td>N31W79'</td>
<td>104.00</td>
</tr>
<tr>
<td>4</td>
<td>N31W79'</td>
<td>104.00</td>
</tr>
</tbody>
</table>

**Notes:**
- **Standard Deviation:** The standard deviation of the least squares adjustment is 0.032 meters.
- **Percent Error:** The percent error in the adjustment is 0.001%.
- **Degrees of Freedom:** The degrees of freedom are 98.
- **Correlation Coefficient:** The correlation coefficient is 1.000.
- **Least Squares Adjustment:** The least squares adjustment is defined as:
  \[ \sum (V_{obs} - V_{calc})^2 = 0.001 \]

**Control Points:**
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.

**Accuracy:**
- **Horizontal Accuracy:** The horizontal accuracy is 0.001 meters.
- **Vertical Accuracy:** The vertical accuracy is 0.001 meters.

**Datum:**
- **NAD 1983 (WGS 84):** The horizontal datum is defined as NAD 1983 (WGS 84).
- **Ellipsoid:** The ellipsoid is defined as WGS 84.

**Coordinates:**
- **Projected Coordinates:** The projected coordinates are defined as NAD 1983 (WGS 84).
- **Datum:** The datum is defined as NAD 1983 (WGS 84).

**Error Estimation:**
- **Standard Deviation:** The standard deviation of the adjustment is 0.001 meters.
- **Percent Error:** The percent error in the adjustment is 0.001%.
- **Degrees of Freedom:** The degrees of freedom are 98.
- **Correlation Coefficient:** The correlation coefficient is 1.000.

**Least Squares Adjustment:** The least squares adjustment is defined as:
\[ \sum (V_{obs} - V_{calc})^2 = 0.001 \]

**Control Points:**
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.
- **BM:** The base point is defined as 1.000 meters.

**Accuracy:**
- **Horizontal Accuracy:** The horizontal accuracy is 0.001 meters.
- **Vertical Accuracy:** The vertical accuracy is 0.001 meters.

**Datum:**
- **NAD 1983 (WGS 84):** The horizontal datum is defined as NAD 1983 (WGS 84).
- **Ellipsoid:** The ellipsoid is defined as WGS 84.

**Coordinates:**
- **Projected Coordinates:** The projected coordinates are defined as NAD 1983 (WGS 84).
- **Datum:** The datum is defined as NAD 1983 (WGS 84).
SURVEY CONTROL DETAILS

SCALE: 1" = 100'

LOG MILE 4.32

STA. 112+15.00
END JOB 100824

Survey Data Ent 100824

END

END

END
ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.
FOR ALL R.C. PIPE INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

LEFT SIDE OF HWY.18 CONNECTOR

RIGHT SIDE OF HWY.18 CONNECTOR
ALL RL C Pipe Culverts Shall be CLASS B Culvert (Diameter - 6" and Larger). Refer to Survey Control Detail Sheets for Horizontal and Vertical Control Data.

REMARKS:

PLAN & PROFILE

LEFT SIDE OF CAIN ST.

RIGHT SIDE OF CAIN ST.
OAIE
REVISEO

oltE

0^rE

FIIEO

REVISEO

OATE

FM.AO

STATE

FtttEo

6

PROJXO.

ARK.

r00824

JOB X0.

TRAFFIC SICNAL NOTES

R

545

&

SUMM.

OF OUANT.

KES AS

REGISTERED
ROFESSIONA
ENGINEER

9S

:

No. 14052

I

TRAFFIC SIGNAL NOTES
I.ALL

ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA
LIFE SAFETY CODE. STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

70

SUMMARY OF TRAFFIC SIGNAL OUANTITIES

2. EXTEND GREEN EOUIPMENT CROUNDING CONDUCTOR (E.G.C.I FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND
E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT

IT IS AT THE MAIN

L

o
,q

)(5tAt

BREAKER.

ITEM NO.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE IYITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER', GALVANIZED STEEL
SERVICE RISER. METER LOOP (IF REOUIRED}. AND IVEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT IIITHIN THE RIGHT-OF-IVAY. IF THE SERVICE POINT IS OVER
IO FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR
NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CoNDUIT, ELECTRICAL SERVICE IYIRE Qc/e6 A.W.C. USE RATED. IYITH GRoUND TYPICAL).
AND PERFORM WIRING TO TAP INTO THE CITY'S/COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS
CONTRACT. TIYO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EOUIPMENT. ARE NEEDED IVHERE STREET LIGHTING IS INCLUDED. AS PART OF
THE SIGNAL INSTALLATIoN,STREET LIGHTING CIRCUIT Qc/3t2 A.W.G, UF RATED,TYPICALISHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC StcNAL
CONTROL EOUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIOED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT

5.

A

sP & 70t
sP

sPr
sP & 706

SEPARATE NEUTRAL FOR EACH LOAD SYVITCH REPRESENTED ON EACH SIGNAL POLE.

TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT
EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

IT IS NOT NECESSARY TO SHUT

SP

DOIVN POIVER OR REMOVE LOAD SIYITCHES IN ORDER TO

sP & 707
708

5. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SIUTCHES CANNOT BACKFEED TO LOAD SWITCH

POIYER

70E
7 8

BUSS.

7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE IYITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. STANDARD DRAITINGS AND
THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.

8. CONOUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS.
THEN A TRENCHING METHOD AS SHOIYN IN THE STANDARD DRAWINGS MAY BE USED.

IF THE

ENGINEER DETERMINES THIS

IS NOT

/o6

IYITH

P

s
FEASIBLE,

SP
SP

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADs.

709
709
709

IO. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKINC DETAILS.

1t

II. FOUNDATION FOR ALL POLES SHALL 8E EXIENDED IF NECESSARY TO ACCOMMODATE THE REOUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY
AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOIY THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAIYING}. PAYMENT
IYILL BE INCLUDED IN SECTION 7I4 TRAFFIC SICNAL MAST ARM AND POLE IVITH FOUNDATION OF THE STANOARO SPECIFICATIONS FOR HIGHV{AY CONSTRUCTION,
CURRENT EDITION.
12.

ALL CONCRETE PULL BOXES SHALL BE (TYPE

2

HO) UNLESS OTHERIIIISE INDICATED.

ALL

CONDUIT SHALL

BE

7l

7[

THREE (3") INCH DIAMETER UNLESS SPECIFIED ON

7tl

PLANS.
13. CONTRACTOR SHALL NOTIFY

ALL

14. LUMINAIRE ASSEMBTIES SHALL

1t4
7t4

EXISTING UTILITY OIYNERS BEFORE BEGINNING WORK ON THIS PROJECT.

SP

BE OF THE FULL CUTOFF TYPE.

7t

15. HARDIYARE INPUTS MAY BE DETERMINEO BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS
OTHERIYISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.' DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE

5P

VEHICLE COUNT/OCCUPANCY DATA.

1

16. THE LOCAL RADIO IYITH ANTENNA SHALL BE COMPATIBLE IYITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM

IN THE

CITY/COUNTY.

713

I7. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE. REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE
SCHEDULE INDICATES THAT A LUMINAIRE ARM YVILL BE USED, THIRTY-EIGHT (38'} FEET SHOULD BE USEO TO DETERMINE UTILITY CLEARANCE ABOVE THE
LUMINAIRE ARM. IVHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM. A HEIGHT OF TWENTY-ONE (2I'} FEET SHOULD BE
USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6'} FEET SHOULD BE USED OIRECTLY ABOVE "VIDEO
DETECTOR" AT LOCATIONS SHOIIN ON THE SIGNAL PLANS.

{( sP

*

OF ROAOWAY CURB OR SHOULOER EDCE TO THE FACE OF NON-BREAKAIYAY POLE OR OBSTRUCTION IS SIX
(6'I FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES. CONTROLLER AND ANY OTHER NON-BREAKAIYAY OBSTRUCTIONS. REFER TO
"DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED IYAY TO THE FACE OF A NON-BREAKAWAY POLE
OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED TVITHIN THE CLEAR ZONE.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE

!!
c

19.

-9
L

z
a

o

s

20.

AS DETERMINED BY THE ENCINEER. FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR
ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENCTH IS KEYED INTO COMPETENT ROCK.

L

co
0

o
b

c
L

TO

OF TRAFFIC SICNAL DISPLAY TO FIELO IVIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHINO HAND-HOLE COVER AT BASE OF POLE.
TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSINC. PAYMENT FOR TERMINAL
STRIPS SHALL BE INCLUDED IN ITEM 7I4 TRAFFIC SIGNAL MAST ARM AND POLE IVITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY
CONNECTION

CONSTRUCTION, CURRENT EDITION.

2I. CONTROLLER CABINET LAYOUT ANO ORIENTATION SHALL CONFORM TO IMSA STANDAROS.

22. ONE VIDEO
o

PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS
HAROITARE AND SOFTWARE PROVIDED BY ITEMS YVITHIN THE JOB.

IF THE VIDEO SYSTEM

CANNOT BE ADJUSTED THROUGH

23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED
WORK. NO IYORK ON TRAFFIC SIGNALS IYILL BE ALLOIYED OR APPROVED IYITHOUT THIS PRIOR NOTIFICATION.
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR
TRAFFIC SIGNALS,

4'

EDITION (2OOI) TVITH 2OO3 AND 2OO5 INTERIMS.

HIGHIYAY SIGNS, LUMINAIRES AND

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REOUIRE
26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EOUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE

MODFICATION.

PROTECTION.

.q
E
L

27. IN PULL BOXES. POLE BAsES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A
PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TACS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 14" OR
CREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT
VISIBLE OR ACCESSIBLE. A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

L

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT IYILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION
THE ENCINEER, TRAFFIC CONOITIONS IYARRANT THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC IYHILE THE TRAFFIC SIGNAL IS OUT OF

L

o

OPERATION.

fo-l-eol g

|2OITI NATIONAL ELECTRICAL CODE.NFPA IOI(CURRENT EDITION'

OF

& 731
713
133

, 733
sP & 7J5

NETTLETON
AVE./CAIN ST

ITEM

SYSTEM LOCAL CONTROLLER TS2-TYPE 2. E-NET

(8

PHASES}

TRAFFIC SIGNAL CONTROLLER (MODIFICATION)
ETHERNET SIIIITCH TIOO HARDENED (8-PORT}
E-NEI CABLE (EXTERIOR CAT 5E)
BATTERY BACKUP SYSTEM
IRAI-I-IC sIGNAL HEAD. LEO. (5 SECTION. I WAY)
TRAFFIC SIGNAL HEAD. LED. (4 SECTION- I IYAY)
RELOCATION OF TRAFFIC SIGNAL HEAD
COUNTDOWN PEDESTRIAN SIGNAL HEAD. LED
TRAFFIC SIGNAL CABLE (5ClI4 A.IY.G.)
TRAFFIC SIGNAL CABLE (7ClI4 A.IY.G.)
TRAFFIC SIGNAL CABLE (I2CII4 A.W.G.)
IRAFFIC SIGNAL CABLE (2OCII4 A.W.G.)
ELECTRICAL CONDUCTORS-IN-CONDIJIT (ICl8 A.TI.G.- F.C.C-I

tLtcrRrcAL coNDUcloRS-rN-coNDUtr ilclt2 A.w.G..
ELECTRICAL CONDUCTORS.IN-CONDUIT QC/6 A.W.G.'

o

?

40
o

0
o
o

2
r6()

I

I

I

I

2

620
6t
r95

UNIT
EACH
EACH
EACH

6
2

4

r6

EACH
FACH

o

3
2

EACH
FACH

1

(

6
02

I

r65

o
o

o
o

E4

o
373

o
50

o
0

il

OUANTITY

638
o

o

ilo

720

EACH

I IN. FTLIN. FT

LIN.
LtN.
LIN.
LIN.
LIN.

FT.
t- |

IE

t9

95
0

o
o

i7

lt8
lJt

20t

332

FT.
FT.
FT.
I IN. FT.
LIN. FT
LIN. FT.
LIN. FT
LIN. FT.
LIN. FT.
LIN. FT.

I

o

4

FACH

4

2

1

EACH
FACH

204
I

60

o

I

2

o
o
o

2

EACH
FACH

4

o
o

o
o.60

2

o.40

2

6
6

4

0
o

EACH
EACH

4t

3

ITONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR,EDGE CARD SHALL BE SUPPLIEO PER INTERSECTION.

o
o
0

t,ACH

LUMP SUM

3

584
4

52
t0
t8

io

0

o

o.

r3q

204

to

IHL.AILD IYOOD POLE (CLAS5 2.4O')
18" STREET NAME SIGN
VIDEO DETECTOR RELOCATION
VIDEO DETECTOR (CLRI
VIDEO CABLE
VIDEO MONITOR (CLR'
VIDEO PROCESSOR, EDGE CARD (2 CAMERA}
VEHICLE DETECTOR RACK (I5 CHANNEL}
NET-ACCESS RA0l0 (5.8 GHz. 32 MBPS)

HIYY. I8IHWY

o

E.G.C.)

ELECTRICAL CONDUCTORS FOR LUMINAIRES
GALVANIZED STEEL CONDUIT (I.25")
OALVANIZED STEEL CONDUIT (2")
GALVANIZED STEEL CONDUIT (5")
NON-METALLIC CONDUIT (I.25"}
NON.METALLIC CONDUIT (2")
NON-METALLIC CONDUIT (3"}
CONCHL.IL PULL EOX (IYPE 2'
CONCRETE PULL BOX (TYPE 2 HD}
SPAN WIRE ASSEMBLY
TRAFFIC SIGNAL MAST ARM AND POLE IYITH FOUNDATION (35')
TRAFFIC SIGNAL MAST ARM AND POLE IVITH FOUNDATION (28'-34'}
LED LUMINAIRE ASSEMBLY
TRAFFIC SIGNAL PEDESTAL POLE TYITH FOUNDATION
SERVICE POINI ASSEMELY (2 CIRCUITS)
REMOVAL OF TRAFFIC SIGNAI EOINPMFNT

.l

HIYY. 638/IYATT
ST.

EACH
EACH
FACH

t0

EACH

t4 it

I IN. FT.

2

EACH
EACH

7

EACH
EACH


**SUMMARY OF TRAFFIC SIGNAL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>FINAL</th>
<th>TOTAL</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF &amp; T-101</td>
<td>SYSTEM LOCAL CONTROLLER 2-2-TYPE 2-C-W/NET 3 PHASES</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>EXTREMESWITCH 200 HARDENED-8 PORT</td>
<td>1200</td>
<td>1200</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>BATTERY BACKUP SYSTEM</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-906</td>
<td>TRAFFIC SIGNAL HEAD, LED, 13 SECTIONS, 1 WAY</td>
<td>6</td>
<td>6</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>COUNTRYSIDE PEDESTRIAN SIGNAL, HEAD</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.064 A.W.G.</td>
<td>620</td>
<td>620</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.084 A.W.G.</td>
<td>153</td>
<td>153</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.604 A.W.G.</td>
<td>61</td>
<td>61</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF &amp; T-708</td>
<td>ELECTRICAL CONDUCTORS-IN-CONDUIT, 1/2&quot; A.W.G., E.C.C.</td>
<td>263</td>
<td>263</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>ELECTRICAL CONDUCTORS FOR LUMINARIES</td>
<td>206</td>
<td>206</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>GALVANIZED STEEL CONDUIT 3/4&quot;</td>
<td>12</td>
<td>12</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>NON-METALLIC CONDUIT 3/4&quot;</td>
<td>16</td>
<td>16</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>NON-METALLIC CONDUIT 1&quot;</td>
<td>66</td>
<td>66</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>FS</td>
<td>CONCRETE PULL BOX TYPE 21</td>
<td>3</td>
<td>3</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>CONCRETE PULL BOX TYPE 2-2 MB</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION 13/8&quot;</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION 53/8&quot;</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>LED LUMINARIES ASSEMBLY</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>FS</td>
<td>SERVICE POINT ASSEMBLY (2 CIRCUITS)</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DECODER (CLV)</td>
<td>567</td>
<td>567</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DATA CABLE</td>
<td>504</td>
<td>504</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO MONITOR (20.1)</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO PROCESSOR, EDGE CARD (2 CAMERAS)</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VEHICLE DETECTOR RACK (6 CHANNELS)</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>DATA AND ACCESS RADIO (3 DB-9, 4, 32 MBPS)</td>
<td>1</td>
<td>1</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR, EDGE CARD SHALL BE SUPPLIED</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUMMARY OF TRAFFIC SIGNAL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>STAGE 4</th>
<th>STAGE 5</th>
<th>TOTAL</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF &amp; T-707</td>
<td>SYSTEM LOCAL CONTROLLER 2-2-TYPE 2-C-W/NET 3 PHASES</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET SWITCH 200 HARDENED-8 PORT</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET CABLE (200 CAT 5E)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>TRAFFIC SIGNAL HEAD, LED, 13 SECTIONS, 1 WAY</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL NE, HD, 2-2 SECTION, 2 WAY</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>COUNTRYSIDE PEDESTRIAN SIGNAL, HEA</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.064 A.W.G.</td>
<td>178</td>
<td>178</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>ELECTRICAL CONDUCTORS-IN-CONDUIT, 3/8&quot; A.W.G., E.C.C.</td>
<td>288</td>
<td>288</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>NON-METALLIC CONDUIT 1&quot;</td>
<td>50</td>
<td>50</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>CONCRETE PULL BOX TYPE 2-2 MB</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>SPARE VIDEO SIGNAL EQUIPMENT</td>
<td>0.30</td>
<td>0.30</td>
<td>0.60</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DECODER (CLV)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DATA CABLE</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
</tbody>
</table>

**SUMMARY OF TRAFFIC SIGNAL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>STAGE 4</th>
<th>STAGE 5</th>
<th>TOTAL</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF &amp; T-707</td>
<td>SYSTEM LOCAL CONTROLLER 2-2-TYPE 2-C-W/NET 3 PHASES</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET SWITCH 200 HARDENED-8 PORT</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET CABLE (200 CAT 5E)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>TRAFFIC SIGNAL HEAD, LED, 13 SECTIONS, 1 WAY</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL NE, HD, 2-2 SECTION, 2 WAY</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>COUNTRYSIDE PEDESTRIAN SIGNAL, HEA</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.064 A.W.G.</td>
<td>178</td>
<td>178</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>ELECTRICAL CONDUCTORS-IN-CONDUIT, 3/8&quot; A.W.G., E.C.C.</td>
<td>288</td>
<td>288</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>NON-METALLIC CONDUIT 1&quot;</td>
<td>50</td>
<td>50</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>CONCRETE PULL BOX TYPE 2-2 MB</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>SPARE VIDEO SIGNAL EQUIPMENT</td>
<td>0.30</td>
<td>0.30</td>
<td>0.60</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DECODER (CLV)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DATA CABLE</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
</tbody>
</table>

**SUMMARY OF TRAFFIC SIGNAL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>STAGE 4A</th>
<th>STAGE 4B</th>
<th>TOTAL</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF &amp; T-707</td>
<td>SYSTEM LOCAL CONTROLLER 2-2-TYPE 2-C-W/NET 3 PHASES</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET SWITCH 200 HARDENED-8 PORT</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>ETHERNET CABLE (200 CAT 5E)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>TRAFFIC SIGNAL HEAD, LED, 13 SECTIONS, 1 WAY</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL NE, HD, 2-2 SECTION, 2 WAY</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-707</td>
<td>COUNTRYSIDE PEDESTRIAN SIGNAL, HEA</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL CABLE 0.064 A.W.G.</td>
<td>178</td>
<td>178</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>ELECTRICAL CONDUCTORS-IN-CONDUIT, 3/8&quot; A.W.G., E.C.C.</td>
<td>288</td>
<td>288</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>NON-METALLIC CONDUIT 1&quot;</td>
<td>50</td>
<td>50</td>
<td>LIN. FT.</td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>CONCRETE PULL BOX TYPE 2-2 MB</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF</td>
<td>SPARE VIDEO SIGNAL EQUIPMENT</td>
<td>0.30</td>
<td>0.30</td>
<td>0.60</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>SF</td>
<td>TRAFFIC SIGNAL W/ ARM AND POLE WITH FOUNDATION</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DECODER (CLV)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>EACH</td>
</tr>
<tr>
<td>SF &amp; T-733</td>
<td>VIDEO DATA CABLE</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>EACH</td>
</tr>
</tbody>
</table>

LOCATION: ENTIRE PROJECT
CITY: JOHNSBROOK
COUNTY: CRASHED
DISTRICT: 10
SCALE: NA
DRAWN BY: CR
NOTES:
1. TRAFFIC SIGNAL EQUIPMENT SHALL BE INSTALLED IN STAGE I DURING PERMANENT CONSTRUCTION OF THE INTERSECTION.
2. TRAFFIC SIGNAL EQUIPMENT MUST BE IN OPERATION PRIOR TO DETOUR OF TRAFFIC FROM HWY 18. FLAGGING MUST OFF FOR ANY PERIOD OF TIME DURING CONSTRUCTION ACTIVITIES.
3. ADDITIONAL 0.5" N.M.C. REQUIRED FROM POLE AND CONTROLLER TO NEAREST PULL BOX, REFER TO STANDARD DRAWING SD-60.
4. SYSTEM LOCAL CONTROLLER, BATTERY BACKUP, AND SERVICE POINT SHALL BE LOCATED IN THE CONCRETE ISLAND ADJACENT TO THE SIDEWALK.

LOCAL RADIO ANTENNA CAGE TO BE INSTALLED IN A SEPARATE 2" N.M.C. CARRYING NO POWER CARRYING CONDUCTORS.

NOTES:
1. MAIN BREAKER BY CONTRACTOR.
2. SERVICE POINT WITHIN 30' OF CONTROLLER.
3. SYSTEM LOCAL CONTROLLER WITH BATTERY BACKUP INSTALLED IN A SEPARATE PAD NEXT TO CONTROL CABINET.
4. PED. PUSH BUTTON POLE.
5. VIDEO DETECTOR.
1. TRAFFIC SIGNAL EQUIPMENT MUST BE IN OPERATION PRIOR TO DETECT OF TRAFFIC FROM HWY. A.
2. TRAFFIC SIGNAL EQUIPMENT MAY BE INSTALLED IN STAGES 2 & 3 DURING PERMANENT CONSTRUCTION OF THE INTERSECTION OR PRIOR TO DETECT OF TRAFFIC FROM HWY. B. AS APPROVED BY THE ENGINEER.
3. TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED AT THE COMPLETION OF THE JOB.
4. ADDITIONAL G50" NMC REQUIRED FROM POLE AND CONTROLLER TO NEAREST PULL BOX REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX.
5. CABLES FOR LOCAL RADIO ANTENNA SHALL BE PLACED IN SEPARATE 3/4" GALVANIZED STEEL CONDUIT.

NOTES:
- NMC - NON-METALLIC CONDUIT
- G50 - GALVANIZED STEEL CONDUIT

LOCAL RADIO ANTENNA CASE TO BE INSTALLED IN PROPOSED CONDUIT CARRYING SD-6 POWER CARRYING CONDUIT

SERVICE POINT WITHIN 10' OF CONTROLLER TO MAIN BREAKER.

STAGES 4 & 5

LOCATION: HWY. 63B NETTLETON AVE & WATT ST.
COUNTY: CRAIGHEAD

LEGEND
- RADIO ANTENNA
- TRAFFIC SIGNAL CONTROLLER PULL BOX WITH MAST ARM AND LUMINAIRE ARM
- PED.PUSH BUTTON POLE
- VIDEO DETECTOR
- SIGNAL HEAD

PHASING DIAGRAM

ONE SECTION (SOLID SYMBOL)
- 8, 9, 10, II

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO ORIGINAL DRAWINGS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE A FIXED HEIGHT IF THERE ARE BOTH WHEELCHAIR RAMPS AND CROSSWALKS THAT MEET ADA STANDARDS.

TREATED WOOD POLE (TYP.)

Fixtures Are Not To Be Provided With Luminaire Arms

LUMINAIRE ARMS OR OTHER APPROVED MOUNTING HARDWARE SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINAIRE ARMS SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. COSTS FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 76.
THIS SHEET INTENTIONALLY LEFT BLANK
THIS SHEET INTENTIONALLY LEFT BLANK
THIS SHEET INTENTIONALLY LEFT BLANK
NOTES:

1. The existing traffic signal is to be maintained until such a time as the new signal equipment can be placed. The operation/flagging operation must be utilized if the signal is off for any period of time during construction activities.

2. Existing pole and conduit locations based on available survey data and shall be verified prior to construction.

3. Stage 4a traffic signal shall be operational prior to stage 4b construction beginning.

4. Additional 0.5" N.A.C. required from pole and controller to nearest pull box. Refer to standard drawing SD-6 for heavy duty pull box.

5. Relocate existing video detector on pole 'D' as shown.
NOTES:

1. THE EXISTING TRAFFIC SIGNAL IS TO BE MAINTAINED UNTIL SUCH A TIME AS THE NEW SIGNAL EQUIPMENT CAN BE PLACED IN OPERATION. FADING OPERATION MUST BE ILLUMINATED IF THE SIGNAL IS OFF FOR ANY PERIOD OF TIME DURING CONSTRUCTION ACTIVITIES.

2. EXISTING POLE AND CONDUIT LOCATIONS BASED ON AVAILABLE SURVEY DATA AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

3. STAGE 4A TRAFFIC SIGNAL SHALL BE OPERATIONAL PRIOR TO STAGE 4A CONSTRUCTION BEGUN.

4. ADDITIONAL 0.50" N.W.C. REQUIRED FROM POLE AND CONTROLLER TO MEET FEDEFRAIS.

5. RELOCATE EXISTING VIDEO DETECTOR ON POLE "D" AS SHOWN.

LEGEND

- CONDUIT (EXISTING)
- CONDUIT (PROPOSED)
- TYPE 1 HD PULL BOX
- TYPE 2 HD PULL BOX
- MAIN BREAKER

PHASING DIAGRAM

STAGE 4A

LOCATION: HWY-B & HWY-63B, JONESBORO, AR
COUNTY: CRAIGHEAD
DISTRICT: SCALE: 1" = 30' DRAWN BY: CRS
The existing traffic signal is to be maintained until such a time as the new signal equipment can be placed into operation. This period of operation may be variable due to the signal is being modified on a day to day basis. Existing pole and existing traffic signal devices may be removed and relocated from the roadway.

Additional signal control equipment is required from pole and controller to nearest pull box. Refer to standard drawing SD-6 Heavy Duty Pull Box.

Relocate signal pole as noted. All signal heads shall have backplates.

1. The existing traffic signal is to be maintained until such a time as the new signal equipment can be placed into operation. This period of operation may be variable due to the signal is being modified on a day to day basis. Existing pole and existing traffic signal devices may be removed and relocated from the roadway.

2. Additional signal control equipment is required from pole and controller to nearest pull box. Refer to standard drawing SD-6 Heavy Duty Pull Box.

3. Relocate signal pole as noted. All signal heads shall have backplates.
NOTES:
1. The existing traffic signal is to be maintained until such a time as the new signal equipment can be placed into operation. Existing operation must be utilized if the signal is off for any period of time during construction activities.
2. Existing pole and conduit locations based on available survey data and shall be field verified prior to construction.
3. Stage 4B traffic signal shall be operational prior to stage 4B construction beginning.
4. Additional 65°C NLG required from pole and controller to nearest pull box. Refer to standard drawing SD-HD heavy-duty pull box.
5. Remaining signal equipment shall be removed upon completion of all other construction activities and tying of traffic to the proposed HWY. 18 overpass.

PHASING DIAGRAM

- Radio Antenna
- Traffic Signal Controller
- Pole with Mast Arm and Luminaire Arm
- Pedestrian Button Pole
- Video Detector
- Signal Head

RELOCATE FROM PREVIOUS STAGE

3 & 4

STAGE 4B & 5

LOCATION: HWY. 18 & HWY. 638, METTLETON AVE.
CITY: JONESBORO
COUNTY: CRAIGHEAD
DISTRICT 30
SCALE: 1" = 30'
DRAWN BY: ORS

NOTE: LUMINARIES OR OTHER APPROVED MOUNTING HARDWARE SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINARIES AND ARM SHALL NOT BE POLLED. LUMINARIES AND ARM MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM NO.

LEGEND
- RADIO ANTENNA
- TRAFFIC SIGNAL CONTROLLER
- POLE WITH MAST ARM AND LUMINARIE ARM
- PED. PUSHER BUTTON POLE
- VIDEO DETECTOR
- SIGNAL HEAD

SCALE: 1" = 30'
DRAWN BY: ORS

STAGE 4B & 5

LOCATION: HWY. 18 & HWY. 638, METTLETON AVE.
CITY: JONESBORO
COUNTY: CRAIGHEAD
DISTRICT 30
SCALE: 1" = 30'
DRAWN BY: ORS

NOTE: LUMINARIES OR OTHER APPROVED MOUNTING HARDWARE SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINARIES AND ARM SHALL NOT BE POLLED. LUMINARIES AND ARM MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM NO.
NOTES:
1. A SEPARATE 50/4 AWG SHALL BE PROVIDED FROM EACH 3 SECTION HEAD TO THE BASE OF POLE.
2. A SEPARATE 50/4 AWG SHALL BE PROVIDED FROM EACH 4 SECTION HEAD TO THE BASE OF POLE.
3. A SEPARATE 50/4 AWG SHALL BE PROVIDED TO EACH POLE WITH PEDESTRIAN PUSH BUTTON.
4. ALL DETECTOR CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
5. ADDITIONAL 1/0 AWG EGC IN SEPARATE CONDUIT REQUIRED FROM POLE AND CONTROLLER TO Nearest FULL BOX. REFER TO STANDARD DRAWING 50-6 HEAVY DUTY FULL BOX.
6. WIRING DIAGRAM SHOWS STAGE 4 Wiring SCHEME; Wiring FROM PREVIOUS STAGES MAY BE USED MORE APPLICABLE.

DETECTOR CHART

<table>
<thead>
<tr>
<th>HWY 630nettleton Ave.</th>
<th>DETECTOR ASSIGNMENTS</th>
<th>HARDWARE INPUTS BY</th>
<th>PROGRAM ASSIGNMENT</th>
<th>VIDEO SET.</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DET. 1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DET. 2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DET. 3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DET. 4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEGEND

**1** CONDUIT (EXISTING)
**2** CONDUIT (PROPOSED)
**3** TYPE 1 HD PULL BOX
**4** TYPE 1 HD PULL BOX
**5** TYPE 2 HD PULL BOX
**6** PED.PUSH BUTTON POLE
**7** VIDEO DETECTOR

**PEAK HR TRAFFIC COUNTS**
2017 TRAFFIC VOLUMES (AM/PM)

**INTERVAL CHART**

<table>
<thead>
<tr>
<th>SIGNAL</th>
<th>INTERSECTION INTERVALS</th>
<th>FLASH SEL.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>1-2</td>
<td>3-4</td>
</tr>
<tr>
<td>2-3</td>
<td>1-2</td>
<td>3-4</td>
</tr>
<tr>
<td>3-4</td>
<td>1-2</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**NOTE:** ALL SIGNAL HEADS SHALL HAVE EXHAUSTED.
GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

GROUND WIRE TO ANTENNA (STRANDED)
SOLID E.G.C.

SINGLE PORT FUSION WELD
STRANDED E.G.C. (OR SOLID)

FUSION WELD

CLAMP TO SOLID #8 E.G.C.

SOLID #8 E.G.C. PER STANDARD SPECIFICATIONS OF HIGHWAY CONSTRUCTION, 2014 EDITION
### ROADSIDE MOUNTED SIGNING QUANTITIES

- **DM-BE-16-STAB-63**
  - SIGN NO.: 1
  - LENGTH: 6.50
  - WEIGHT: 6.00
  - TOTAL: 2

- **DM-BE-16-STAB-90**
  - SIGN NO.: 1
  - LENGTH: 6.50
  - WEIGHT: 6.00
  - TOTAL: 2

**TOTALS:** 2

---

### SIGNING SUMMARY OF QUANTITIES & NOTES

- **NOTES:**
  - ALL EXISTING GUIDE SIGNS SHALL BE MAINTAINED IN SUCH A MANNER THAT THE SIZE AND FULL AUTOMATIC AND DIRECT FOR THE DURATION OF THE CONTRACT.
  - EXISTING SIGNS WILL BE RELOCATED TO THE NEW LOCATION BY THE CONTRACTOR, THE INSTALLATION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.
NOTES:
1. CONTRACTOR SHALL LOCATE ALL UTILITIES AND NOTIFY UTILITY OWNERS PRIOR TO BEGINNING WORK ON ANY UNDERGROUND ITEMS ON THIS PROJECT.
2. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. FOUNDATIONS FOR POLES 01-08 THROUGH 01-03 SHALL BE INSTALLED AFTER CONSTRUCTION OF PROPOSED EMBANKMENT.
## Schedule of Illumination Roadway Assemblies

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>POLE NO.</th>
<th>STATION</th>
<th>OFFSET FEET</th>
<th>SIDE</th>
<th>NOTES</th>
<th>POLE TYPE</th>
<th>POLE HEIGHT</th>
<th>BASE TYPE</th>
<th>LUMINAIRE WATTAGE</th>
<th>LUMINAIRE TYPE</th>
<th>SVC CTR</th>
<th>CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>08-050</td>
<td>03-17</td>
<td>37.0</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-1</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-051</td>
<td>03-18</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-2</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-052</td>
<td>03-19</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-1</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-053</td>
<td>03-20</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-2</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-054</td>
<td>03-21</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-1</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-055</td>
<td>03-22</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-2</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-056</td>
<td>03-23</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-1</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-057</td>
<td>03-24</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-2</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-058</td>
<td>03-25</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-1</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08-059</td>
<td>03-26</td>
<td>37.6</td>
<td>LT</td>
<td>MOUNTED ON LIGHT BRACKET BLISTER, CONCRETE BARRIER WALL SP-2</td>
<td>5' SMOOTH 13</td>
<td>SP</td>
<td>70</td>
<td>LED</td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### HWY. 1B Conduit and Conductor Runs

<table>
<thead>
<tr>
<th>RUN NO.</th>
<th>ELECTRICAL CONDUCTORS IN CONDUIT LENGTH FEET</th>
<th>NON-METALLIC CONDUIT LENGTH FEET</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>2 IN PVC SCH 40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Registration

Registered Professional Engineer
NOTES:
1. CONTRACTOR SHALL LOCATE ALL UTILITIES AND NOTIFY UTILITY OWNERS PRIOR TO BEGINNING WORK ON ANY UNDERGROUND ITEMS ON THIS PROJECT.
2. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
3. REFER TO ILLUMINATION DETAILS FOR DETAILS OF ROUTING CONDUIT RUN 201A BEHIND RETAINING WALL.
### Schedule of Illumination Roadway Assemblies

<table>
<thead>
<tr>
<th>ILLUM SHEET NO</th>
<th>POLE NO</th>
<th>STATION OFFSET (FEET)</th>
<th>POLE Type</th>
<th>BASE TYPE</th>
<th>LUMINARE WATTAGE</th>
<th>LUMINARE TYPE</th>
<th>SVC CTR</th>
<th>CIRCUIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>02-09</td>
<td>7+9</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-10</td>
<td>8+16</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-12</td>
<td>9+26</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-15</td>
<td>10+36</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-17</td>
<td>11+46</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-19</td>
<td>12+56</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-22</td>
<td>13+66</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-24</td>
<td>14+76</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>02-26</td>
<td>15+86</td>
<td>LT</td>
<td>SP</td>
<td>10</td>
<td>LED</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

### WATT STE, Conduit and Conductor Run

<table>
<thead>
<tr>
<th>Run No.</th>
<th>ELECTRICAL CONDUCTORS-IN-CONDUIT LENGTH (FEET)</th>
<th>NON-METALLIC CONDUIT (FEET)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>60</td>
<td>60</td>
<td>TRENCH</td>
</tr>
<tr>
<td>202</td>
<td>40</td>
<td>32</td>
<td>RECHARGE BOX PANELS</td>
</tr>
<tr>
<td>251</td>
<td>60</td>
<td>665</td>
<td>CONDUIT IN BARRIER</td>
</tr>
</tbody>
</table>

### Notes
- All station numbers are baseline watt st.
- LT mounted on light bracket blister.
<table>
<thead>
<tr>
<th>SHEET 1 OF 5</th>
<th>INSTALL NEW 120/240 VAC PEDESTAL TYPE ELECTRICAL SERVICE</th>
<th>S/N R/W WWY. 1B</th>
<th>120/240V, SINGLE PHASE</th>
<th>2P/100A</th>
<th>INSTALL NEW 2P/20A, 10-TON LED FIXTURES FOR A CONNECTED LOAD OF 5.5A AT 240 VAC</th>
<th>2P/20A, E.G.C.</th>
<th>2*</th>
<th>TOTAL CONNECTED LOAD = 2.6 KVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEET 3 OF 5</td>
<td>INSTALL NEW 120/240 VAC PEDESTAL TYPE ELECTRICAL SERVICE</td>
<td>N R/W WATT ST.</td>
<td>120/240V, SINGLE PHASE</td>
<td>2P/100A</td>
<td>INSTALL NEW 2P/20A, 10-TON LED FIXTURES FOR A CONNECTED LOAD OF 3.2A AT 240 VAC</td>
<td>2P/20A, E.G.C.</td>
<td>2*</td>
<td>TOTAL CONNECTED LOAD = 0.8 KVA</td>
</tr>
</tbody>
</table>
LED POST TOP FIXTURE

NOTES:
1. SEE RETAINING WALL PLANS FOR DETAILS OF RETAINING WALL.
2. SEE ILLUMINATION DETAILS SHEET 1 OF 4 FOR ADDITIONAL INFORMATION.
3. DETAIL APPLIES TO CONDUIT RUN 20A. SEE WATT ST. ILLUMINATION LAYOUT FOR ADDITIONAL INFORMATION.
4. ALL CONDUIT BENDS SHALL BE MADE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

CONDUIT PLACEMENT DETAIL
ROOTED BEHIND MSE RETAINING WALL.
ILLUMINATION DETAILS

REINFORCED CONCRETE

DETAILS OF CONCRETE APRON
"HD" PULL BOX

FOR THREE-WIRE CIRCUIT CENTER GROUNDED
LUMINAIRES SERVED AT 480V ON 240/480 VOLT
SERVICE OR LUMINAIRES SERVED AT 240V FOR
FOR 120/240 VOLT SERVICE.

LUMINAIRE WIRING SCHEMATICS

KEYED NOTES:
1. POLE BONDING CONNECTOR
2. FUSED CONNECTOR - ALL ELECTRICAL CONNECTIONS FOR BREAKAWAY POLES SHALL BE WATERPROOF
   AND SHALL BE DESIGNED AS BREAKAWAY INSIGNIA FROM LITTLEFUSE LUE, OR EQUIVALENT A FUSED
   CONNECTOR FOR THE LINE PHASE WIRE ON ALL POLES.
3. SPLICE BOLT OR OTHER CONNECTOR.
4. GROUND ROOD CLAMP.

NOTE: ALL TRANSFORMER BASE POLES SHALL BE CONSIDERED AS BREAKAWAY POLES.
GENERAL NOTES FOR ELECTRICAL INSTALLATIONS

1. ALL ENCLOSURES SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

2. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFIED INSTALLATION INSTRUCTIONS FOR THE MANUFACTURED EQUIPMENT.

3. ALL SIZED CONNECTIONS AND TERMINALS MUST BE MADE TO MATCH THE CURRENT RATING OF THE EQUIPMENT.

4. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE MARKED TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

5. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE EARTHED TO THE NEUTRAL OR GROUND TERMINAL.

6. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE MAIN DISTRIBUTION TERMINAL.

7. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE ENTRANCE.

8. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE PANEL.

9. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE METER.

10. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE CIRCUIT.

11. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE FEEDER.

12. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE MAIN.

13. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE PANEL.

14. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE METER.

15. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE CIRCUIT.

16. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE FEEDER.

17. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE MAIN.

18. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE PANEL.

19. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE METER.

20. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE CIRCUIT.

21. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE FEEDER.

22. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE MAIN.

23. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE PANEL.

24. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE METER.

25. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE CIRCUIT.

26. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE FEEDER.

27. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE MAIN.

28. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE PANEL.

29. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE METER.

30. ALL ELECTRIC MACHINERY AND EQUIPMENT SHALL BE CONNECTED TO THE SERVICE CIRCUIT.
ILLUMINATION DETAILS

TREATMENT AT END OF BRIDGE

1. EDGE OF SKEWED BACKWALL Recess slab if necessary to Square end of conduit expansion joint at skewed bridge ends.

2. PLAN CONDUIT EXPANSION Joints on high side of expansion joint.

CONDUIT EXPANSION JOINT

3. STANDARD CONDUIT EXPANSION DEVICE (TO ALLOW A MINIMUM OF 4" TOTAL TRAVEL).

GRADE

4. Shop or field drill holes in armor joint if necessary. Ream burrs and install bell ends or bushings on all conduit ends.

ILLUMINATION DETAILS

SHEET 5 OF 5

N.T.S.
CONSTRUCTION Specifications:

Materials and Sections:

Concrete:
- For regular concrete, use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- For special concrete, use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- For exposed concrete, use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Concrete:
- Use ASTM Type II, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type IV, Class C, in accordance with Subsection B12.4.1.
- Use ASTM Type V, Class C, in accordance with Subsection B12.4.1.

Steel:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.

Splice details:
- Use ASTM Grade 60 or Grade 70 for all structural steel.
- Use ASTM Grade 50 for non-structural steel.
**STRAPS DETAIL**

No Scale

W.S. straps are shown for illustration only. The exact number, length, location and method of installation is left to the discretion of the contractor. The contractor shall submit plans and detailed working drawings prepared by a Professional Engineer registered in the state of Arkansas. Costs for the detailed working drawings shall be paid by the contractor in addition to the cost as indicated in the contract bid price for "Rebuilding Bents".

1. Form Liner Solid shall be a minimum of 2" to preserve a minimum cover of 6".
2. "Jasper Stone" Pattern, See Job 10001 "ARCHITECTURAL FINISH".
3. "Standard" Pattern, See Job 10001 "ARCHITECTURAL FINISH".

**SIDEWALK DETAIL**

No Scale

1. For additional joint details, see Job 10001, E5003 and Job No. 1002.
2. Measured along joint.
3. Top surface of sidewalk shall be finished to match roadway grade.
4. 1/4" rounding or 1/4" return provided.
5. 1/8" rounding or 1/4" return.
6. 1/4" rounding or 1/4" return provided.
7. 1/8" rounding or 1/4" return.
8. 1/8" rounding or 1/4" return provided.
9. 1/8" rounding or 1/4" return.
10. 1/8" rounding or 1/4" return provided.
11. 1/8" rounding or 1/4" return.
12. 1/8" rounding or 1/4" return provided.
13. 1/8" rounding or 1/4" return.
14. 1/8" rounding or 1/4" return provided.
15. 1/8" rounding or 1/4" return.
16. 1/8" rounding or 1/4" return provided.
17. 1/8" rounding or 1/4" return.
18. 1/8" rounding or 1/4" return provided.
19. 1/8" rounding or 1/4" return.
20. 1/8" rounding or 1/4" return provided.
21. 1/8" rounding or 1/4" return.
22. 1/8" rounding or 1/4" return provided.
23. 1/8" rounding or 1/4" return.
24. 1/8" rounding or 1/4" return provided.
25. 1/8" rounding or 1/4" return.
For general notes, see Spec. No. 59522.

For details and dimensions of anchor: see Spec. No. 59526.

At reinforcing steel and conform to Gr. 60 AASHTO M271 or M222 Type A, with suitable reports.

Top reinforcing steel in bent caps shall be properly placed to avoid interference with anchor bolts or shear anchor splices.

Concrete at concrete shall be C650 7" with a minimum 28-day compression strength of 5500 psi.

Concrete shall be placed in the dry and at exposed concrete area to be covered by 3" unless otherwise noted.

Top reinforcing steel in footing and bottom reinforcing steel in bent cap shall be properly placed to avoid interference with precast column bars.
COLUMN & FOOTING PLAN
SCALE: 1/2' = 1'-0"

CONCRETE RESTRAINER DETAIL
N.T.S

SECTION J-J
Scale: 1/2' = 1'-0"

DETAIL O2
Other Bars Not Shown For Clarity
N.T.S

DETAIL O3
Other Bars Not Shown For Clarity
N.T.S

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

DETAILED OF INTERMEDIATE BENT 2
HWY. 18 BRIDGE OVER BNSF RAILROAD
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

29 May 2018

DETAILED OF INTERMEDIATE BENT 2
HWY. 18 BRIDGE OVER BNSF RAILROAD
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

29 May 2018
Bumper Connector Detail

Note: Bumpers shall be centered horizontally on each Girder at all the ends.

Partial Plan of Concrete Diaphragm Reinforcing

- At End Bent 1
- At End Bent 2
- At End Bent 3

Longitudinal Restrainer Details

- Scale: 1" = 1'-0"

Diagram showing details of the bridge's concrete diaphragm reinforcing and bumper connection.
PLATE CLIP DETAIL

TYPICAL CROSSFRAME CONNECTION

BEARING STIFFENER DETAIL

TYPICAL CONSTRUCTION

LATERAL BRACE CONNECTION

@ ORDER NOS. 2 & 7

SCALE: 6'-0" x 1'-0"

TYPICAL CONSTRUCTION

LATERAL BRACE CONNECTION

@ ORDER NOS. 1 & 8

SCALE: 6'-0" x 1'-0"

TYPICAL CONSTRUCTION

LATERAL BRACE CONNECTION

TERMINATION @ INT. ORDER

CONNECTION P

SCALE: 6'-0" x 1'-0"

TYPICAL CONSTRUCTION

LATERAL BRACE CONNECTION

TERMINATION @ INT. ORDER

W/O CONNECTION P

SCALE: 6'-0" x 1'-0"

ARKANSAS HIGHWAY DEPARTMENT

BEAVERTOWN, ARKANSAS

SHEET 4 OF 7 DETAILS OF 254'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT HWY. 18 BRIDGE OVER BNSF RAILROAD ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARK.

5/23/2018

DRAWING NO. 59310

29 May 2018

STATE: COMMISSION OF HIGHWAY COMMISSIONERS

DRAWER: SHEET 3 OF 7

FLIGHT: ELEVATION, PLAN, SECTION, DETAIL

SCALE: 6'-0" x 1'-0"

P. O. BOX 104

AR 72952-104

PHONE: (501) 682-0700

FACSIMILE: (501) 682-1191

EMAIL: PROFESSIONALENGINEER@ARKANSASHIGHWAY.COM

ARKANSAS HIGHWAY DEPARTMENT

BEAVERTOWN, ARKANSAS

SHEET 4 OF 7 DETAILS OF 254'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT HWY. 18 BRIDGE OVER BNSF RAILROAD ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARK.

5/23/2018

DRAWING NO. 59310

29 May 2018

STATE: COMMISSION OF HIGHWAY COMMISSIONERS

DRAWER: SHEET 3 OF 7

FLIGHT: ELEVATION, PLAN, SECTION, DETAIL
### Table of Dead Load Deflections

<table>
<thead>
<tr>
<th>Structural Shear</th>
<th>Vertical Dead Load Deflection (in)</th>
<th>Structural Shear</th>
<th>Soils + Porewater + Sidewall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>0.056</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>1.01</td>
<td>0.060</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>1.02</td>
<td>0.065</td>
<td>0.065</td>
<td>0.065</td>
</tr>
<tr>
<td>1.03</td>
<td>0.069</td>
<td>0.069</td>
<td>0.069</td>
</tr>
<tr>
<td>1.04</td>
<td>0.073</td>
<td>0.073</td>
<td>0.073</td>
</tr>
<tr>
<td>1.05</td>
<td>0.077</td>
<td>0.077</td>
<td>0.077</td>
</tr>
<tr>
<td>1.06</td>
<td>0.081</td>
<td>0.081</td>
<td>0.081</td>
</tr>
<tr>
<td>1.07</td>
<td>0.085</td>
<td>0.085</td>
<td>0.085</td>
</tr>
<tr>
<td>1.08</td>
<td>0.089</td>
<td>0.089</td>
<td>0.089</td>
</tr>
<tr>
<td>1.09</td>
<td>0.093</td>
<td>0.093</td>
<td>0.093</td>
</tr>
<tr>
<td>1.10</td>
<td>0.097</td>
<td>0.097</td>
<td>0.097</td>
</tr>
<tr>
<td>1.11</td>
<td>0.101</td>
<td>0.101</td>
<td>0.101</td>
</tr>
<tr>
<td>1.12</td>
<td>0.105</td>
<td>0.105</td>
<td>0.105</td>
</tr>
<tr>
<td>1.13</td>
<td>0.109</td>
<td>0.109</td>
<td>0.109</td>
</tr>
<tr>
<td>1.14</td>
<td>0.113</td>
<td>0.113</td>
<td>0.113</td>
</tr>
<tr>
<td>1.15</td>
<td>0.117</td>
<td>0.117</td>
<td>0.117</td>
</tr>
<tr>
<td>1.16</td>
<td>0.121</td>
<td>0.121</td>
<td>0.121</td>
</tr>
<tr>
<td>1.17</td>
<td>0.125</td>
<td>0.125</td>
<td>0.125</td>
</tr>
<tr>
<td>1.18</td>
<td>0.129</td>
<td>0.129</td>
<td>0.129</td>
</tr>
<tr>
<td>1.19</td>
<td>0.133</td>
<td>0.133</td>
<td>0.133</td>
</tr>
<tr>
<td>1.20</td>
<td>0.137</td>
<td>0.137</td>
<td>0.137</td>
</tr>
</tbody>
</table>

### NOTES

- **Standard Details for Steel Bridge Structures**, See Fig. 10, Table 10-1.
- Fabricated end of nose and bottom ranges horizontally possible to Li. John.
- Bored field option shown may be substituted or added and welded options may be substituted with approval of the Engineer/Queue when noted on the basis of the non-quantities.
- Center for Dead Load Deflection due to Tension and Tension - Tension. Deflections shown are using CI. Option from a chart from CI. Bearing to CI. Bearing. Vertical curve corrections not included. Negative deflections indicated point above ground.
- For details of stud welded to girders, see Fig. 10-29.
- See **"BAMPER CONNECTION DETAIL"** (fig. No. 15-29)
- For Steel Joint details see Fig. 10-29.
- Field attached longitudinal restrainer assembly. See Fig. 10-29.

---

**DEAD LOAD DEFLECTION DIAGRAM**

No Scale

---

**TYPICAL ORDER ELEVATION**

**Scales:** 1 ft = 1 in.

**FILE NAME:**

**FILE:**

**COMMISSION:**

**DATE:**

---

**SHEET 7 OF 7**

**DETAILS OF 25'-6" CONTINUOUS COMPOSITE PLATE GIRDERS UNIT**

**Hwy. 18 BRIDGE OVER BNSF RAILROAD**

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARKANSAS**

**DRAWING NO:** 15-24

**DRAWN BY:**

**SIGNED BY:**

**SCALE:**

**4TH PERIOD:**

**BRIDGE NO:** 00024

**PLAN 6**

**DATE:**

May 29, 2018

**DESCRIPTION:**

---

**NOTES:**

---

**PLAN:**

**VIEW:**

**SECTION:**

**DETAIL:**

---

**DRAWING NO:** 15-24

---

**SHEET 7 OF 7**

---

**FILE NAME:**

**FILE:**

**COMMISSION:**

**DATE:**

---

**SHEET 7 OF 7**

**DETAILS OF 25'-6" CONTINUOUS COMPOSITE PLATE GIRDERS UNIT**

**Hwy. 18 BRIDGE OVER BNSF RAILROAD**

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARKANSAS**

**DRAWING NO:** 15-24

**DRAWN BY:**

**SIGNED BY:**

**SCALE:**

**4TH PERIOD:**

**BRIDGE NO:** 00024

**PLAN 6**

**DATE:**

May 29, 2018

**DESCRIPTION:**

---

**NOTES:**

---

**PLAN:**

**VIEW:**

**SECTION:**

**DETAIL:**

---
DETAILS OF PARAPET RAIL

SECTION A-A

Details of Parapet Enhancement

ESTIMATED QUANTITIES - EACH LIGHT BRACKET BLISTER

TABLE OF PARAPET RAIL VARIABLES

BAR LIST - EACH LIGHT BRACKET BLISTER

BENDING DIAGRAM

DETAILS OF LIGHT BRACKET BLISTER

RAIL DETAILS

HWY. 1B BRIDGE OVER BNSF RAILROAD
AR KANSAS STATE HIGHWAY COMMISSION
General Notes:

All longitudinal edges and reinforcing is parallel or concentric 15 Gage FI.

All concrete shall be Class SI with a minimum 28 day compressive strength
of 4,000 psi and shall be placed in the dry.

All reinforcing steel shall be Grade 60 (yield strength ≥ 65,000 psi conforming
to ASTM A-6) or #2 II Type A, with all test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

General Notes:

All longitudinal edges and reinforcing is parallel or concentric 15 Gage FI.

Concrete shall be Class SI with a minimum 28 day compressive strength
of 4,000 psi and shall be placed in the dry.

All reinforcing steel shall be Grade 60 (yield strength ≥ 65,000 psi conforming
To ASTM A-6) or #2 II Type A, with all test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.
SIDEWALK DETAIL

1. Sidewalk on Left Side Only adjacent to Wing A.

CONCRETE RESTRAINER DETAIL

VIEW H-H

SCALE: 1/8" = 1'-0"

SECTION J-J

SCALE: 1/8" = 1'-0"

Notes:
- Transverse spacing between vertical anchor stud and vent holes shall be 5'.
- Concrete shall be hand-packed under the joint areas in the sidewalk and in the backwall.

DETAIL Z

No Scale

Notes:
- Slope to meet roadway grade.
- 1/2" rounding or 1/2" chariot.
- Concrete shall be hand-packed under the joint area in the sidewalk and in the backwall.
- 1/4" x 6" anchor stud 8" o.c. Offset spacing.

DETAIL Y

No Scale

Notes:
- Slope to meet roadway grade.
- 1/2" rounding or 1/2" chariot.
- Concrete shall be hand-packed under the joint area in the sidewalk and in the backwall.
- 1/4" x 6" anchor stud 8" o.c. Offset spacing.

Sheet 4 of 4

DETAILS OF END BENT 4

WATT ST. BRIDGE OVER BNSF RAILROAD
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Stephan B. Smiley
Registered Professional Engineer

Objects Type II Metal Bridge Railings not shown

29 May 2018
COLUMN & FOOTING PLAN

SCALE: 1'-0" = 1/4'

CONCRETE RESTRAINER DETAIL

SCALE: 1'-0" = 1/4'

DETAIL O1

Other Bars Not Shown For Clarity N.T.S.

DETAIL O2

Other Bars Not Shown For Clarity N.T.S.

DETAIL O3

Other Bars Not Shown For Clarity N.T.S.

Before tying or specified field welding,

Small rotation permissible for resolution

of hooks conflicting with adjacent bars

8505 bars placed as shown, void #993

See Std. Sec. No. 5502 for additional information.

29 May 2018
For general notes, see Dwg. No. 5952
For details and dimension & of elastomeric bearing, see Dwg. No. 5960
All reinforcing steel shall conform to Gr. 60 ASTM A-992 or A325 Type A, with full tensile report.
Top reinforcing steel in bent caps shall be properly placed to avoid interference with anchor bolts or shear metal access.
Concrete all concrete shall be Class "F" with a minimum 28 day compressive strength of 4000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/8" unless otherwise noted.
Top reinforcing steel in footing caps and bottom reinforcing steel in bent caps shall be properly placed to avoid interference with vertical column bars.

**Typical Anchor Bolt Layout**

**Details of Intermediate Bent 3**

**MATT ST. BRIDGE OVER BNSF RAILROAD**

**ARKANSAS STATE HIGHWAY COMMISSION**

**Date: 29 May 2018**

**Sheet 1 of 3**

**Drawn by:**

**Registered Professional Engineer**

**Little Rock, AR**

**Dwg. No.: 67408**

**Drawing No.: 59553**
**SECTION A-A**

**SECTION D-D**

**SECTION C-C**

**SECTION E-E**

**END VIEW**

**CAP - ISOMETRIC VIEW**

---

**BAR LIST**

<table>
<thead>
<tr>
<th>BAR</th>
<th>MATERIAL</th>
<th>USE</th>
<th>NUMBER</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**BENDING DIAGRAM**

**SHEET 2 OF 3**

**DETAILS OF INTERMEDIATE BENT 3**

**WATT ST. BRIDGE OVER BNSF RAILROAD**

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK.**

---

**REFERENCES**

- [Concreto Roofing](#)
- [Joint](#)
- [Foundation](#)
- [Steel](#)
Prior to tying or specified field welding, bend rotation permissible for resolution of hooks conflicting with adjacent bars.

8506 bars placed as shown, avoid B80.

See S16 Draw. No. 5528 for additional information.
REINFORCING PLAN & POURING SEQUENCE

For details of pour area, see Sheet No. 59558.

For "THREE-SIDED SLAB JOINT DETAIL" and "CONCRETE PLACEMENT PROCEDURE", see Fig. Doc. No. 59557.

SIDWALK DETAIL

K.T.S.

For "SOFT SILICONE JOINT DETAILS" see Fig. Doc. No. 59558.

Below channel flange under sidewalks.

For placement, refer to TYPICAL ROADWAY SECTION on Fig. Doc. No. 59559.

For pour area, see Sheet No. 59558.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.

Pour Joint from top of slab to sidewalk. See Fig. Doc. No. 59559.
### TABLE OF DEAD LOAD DEFLECTIONS

<table>
<thead>
<tr>
<th>Span</th>
<th>Load</th>
<th>Dead Load</th>
<th>Span</th>
<th>Load</th>
<th>Dead Load</th>
<th>Span</th>
<th>Load</th>
<th>Dead Load</th>
<th>Span</th>
<th>Load</th>
<th>Dead Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>L7</td>
<td>0.206</td>
<td>0.303</td>
<td>0.06</td>
<td>0.280</td>
<td>0.388</td>
<td>0.06</td>
<td>0.280</td>
<td>0.388</td>
<td>0.06</td>
<td>0.280</td>
<td>0.388</td>
</tr>
<tr>
<td>L8</td>
<td>0.072</td>
<td>0.157</td>
<td>0.06</td>
<td>0.072</td>
<td>0.157</td>
<td>0.06</td>
<td>0.072</td>
<td>0.157</td>
<td>0.06</td>
<td>0.072</td>
<td>0.157</td>
</tr>
<tr>
<td>L9</td>
<td>0.044</td>
<td>0.044</td>
<td>0.17</td>
<td>0.044</td>
<td>0.044</td>
<td>0.17</td>
<td>0.044</td>
<td>0.044</td>
<td>0.17</td>
<td>0.044</td>
<td>0.044</td>
</tr>
<tr>
<td>L10</td>
<td>0.016</td>
<td>0.016</td>
<td>0.25</td>
<td>0.016</td>
<td>0.016</td>
<td>0.25</td>
<td>0.016</td>
<td>0.016</td>
<td>0.25</td>
<td>0.016</td>
<td>0.016</td>
</tr>
<tr>
<td>L11</td>
<td>0.003</td>
<td>0.003</td>
<td>0.34</td>
<td>0.003</td>
<td>0.003</td>
<td>0.34</td>
<td>0.003</td>
<td>0.003</td>
<td>0.34</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>L12</td>
<td>0.002</td>
<td>0.002</td>
<td>0.29</td>
<td>0.002</td>
<td>0.002</td>
<td>0.29</td>
<td>0.002</td>
<td>0.002</td>
<td>0.29</td>
<td>0.002</td>
<td>0.002</td>
</tr>
<tr>
<td>L13</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
</tr>
<tr>
<td>L14</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>L15</td>
<td>0.016</td>
<td>0.016</td>
<td>0.16</td>
<td>0.016</td>
<td>0.016</td>
<td>0.16</td>
<td>0.016</td>
<td>0.016</td>
<td>0.16</td>
<td>0.016</td>
<td>0.016</td>
</tr>
<tr>
<td>L16</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
</tr>
<tr>
<td>L17</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
<td>0.08</td>
<td>0.006</td>
<td>0.008</td>
</tr>
<tr>
<td>L18</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>L19</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
<td>0.07</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>L20</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
<td>0.21</td>
<td>0.002</td>
<td>0.002</td>
</tr>
</tbody>
</table>

#### Diagram

**Point of Deflection**

**Dead Load Deflection Diagram**

---

**NOTES**

Note: Dead Load Deflection plus Vertical Gravity "+" and "-" indicate point above chord. Dead Load Deflection at points in excess of 0.060 in. Deformed deflection is not included. Negative sign indicates point below chord.
PLAN - APPROACH SLAB SPECIAL 4

SECTION X-X

SECTION A-A

SECTION B-B

SECTION Y-Y
GENERAL NOTES:
1. DESIGN SPECIFICATIONS, LTD. BRIDGE DESIGN SPECIFICATIONS 16TH EDITION WITH CURRENT INTERM.
2. SEE TABLE FOR RECOMMENDED FACTORED RESISTANCE.
4. ELEVATIONS ARE APPROXIMATE. WALL DIMENSIONS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE SP JOBSITE "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
6. JOINT SEALER AND JOINT FILLER WILL NOT CONSIDERED SUBSIDIARY ITEMS AND BEYOND.
7. FOR MATERIAL PROPERTIES OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

TABLE 1

<table>
<thead>
<tr>
<th>STATION ALONG WALL</th>
<th>FACTORED RESISTANCE (PSF)</th>
<th>ESTIMATED UNDERCUT REQUIREMENTS (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0+50.00 TO 2+50.00</td>
<td>3.25</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>2+50.00 TO 4+50.00</td>
<td>6.05</td>
<td>2</td>
</tr>
<tr>
<td>4+50.00 TO 7+50.00</td>
<td>7.80</td>
<td>AGGREGATE PER 50% AREA RATIO, 30 NL (L - 25 FT)</td>
</tr>
<tr>
<td>7+50.00 TO 10+50.00</td>
<td>6.50</td>
<td>MINIMUM</td>
</tr>
</tbody>
</table>

* UNDERCUT SHOULDS EXTEND AT LEAST 2 FT OUTSIDE THE RETAINING ZONE TO THE EXTENT POSSIBLE.

NOTE: PLUMB SHALL BE DRIVEN THROUGH CASINGS COMPLETE TO BOTTOM OF END BEAT CAP.

SECTION B-B

1. PAY LIMIT OF UNCLASSIFIED EXCAVATION
2. SLOPE OF OPTIONAL EXCAVATION OF EXISTING EMBANKMENT OR EMBANKMENT
3. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNLESS THE PAY LIMITS ARE USED.
4. CONTRACTOR HAS THE OPTION OF USING A CUT OFF ANCHOR SHOTING TO MAINTAIN STABILITY.
5. ANY EXCAVATION AND SUBSEQUENT BACKFILL BEYOND THE EXISTING EMBANKMENT LINE AND B EYOND THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM SP JOBSITE NO. 50824 "RETAINING WALLS".
6. PAY LIMITS OF BACKFILL REINFORCEMENT ZONE SHALL BE PAID FOR AS SELECTED.
7. GRANULAR BACKFILL SHALL BE SELECTED MATERIAL CLASS SHW.
8. THE CONCRETE DECAYING SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DMC, COP-1.

SECTION B-B

1. PAY LIMIT OF UNCLASSIFIED EXCAVATION
2. SLOPE OF OPTIONAL EXCAVATION OF EXISTING EMBANKMENT OR EMBANKMENT
3. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNLESS THE PAY LIMITS ARE USED.
4. CONTRACTOR HAS THE OPTION OF USING A CUT OFF ANCHOR SHOTING TO MAINTAIN STABILITY.
5. ANY EXCAVATION AND SUBSEQUENT BACKFILL BEYOND THE EXISTING EMBANKMENT LINE AND B EYOND THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM SP JOBSITE NO. 50824 "RETAINING WALLS".
6. PAY LIMITS OF BACKFILL REINFORCEMENT ZONE SHALL BE PAID FOR AS SELECTED.
7. GRANULAR BACKFILL SHALL BE SELECTED MATERIAL CLASS SHW.
8. THE CONCRETE DECAYING SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DMC, COP-1.

NOTE: PLUMB SHALL BE DRIVEN THROUGH CASINGS COMPLETE TO BOTTOM OF END BEAT CAP.

SECTION B-B

1. PAY LIMIT OF UNCLASSIFIED EXCAVATION
2. SLOPE OF OPTIONAL EXCAVATION OF EXISTING EMBANKMENT OR EMBANKMENT
3. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNLESS THE PAY LIMITS ARE USED.
4. CONTRACTOR HAS THE OPTION OF USING A CUT OFF ANCHOR SHOTING TO MAINTAIN STABILITY.
5. ANY EXCAVATION AND SUBSEQUENT BACKFILL BEYOND THE EXISTING EMBANKMENT LINE AND B EYOND THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM SP JOBSITE NO. 50824 "RETAINING WALLS".
6. PAY LIMITS OF BACKFILL REINFORCEMENT ZONE SHALL BE PAID FOR AS SELECTED.
7. GRANULAR BACKFILL SHALL BE SELECTED MATERIAL CLASS SHW.
8. THE CONCRETE DECAYING SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DMC, COP-1.

NOTE: PLUMB SHALL BE DRIVEN THROUGH CASINGS COMPLETE TO BOTTOM OF END BEAT CAP.

SECTION B-B

1. PAY LIMIT OF UNCLASSIFIED EXCAVATION
2. SLOPE OF OPTIONAL EXCAVATION OF EXISTING EMBANKMENT OR EMBANKMENT
3. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNLESS THE PAY LIMITS ARE USED.
4. CONTRACTOR HAS THE OPTION OF USING A CUT OFF ANCHOR SHOTING TO MAINTAIN STABILITY.
5. ANY EXCAVATION AND SUBSEQUENT BACKFILL BEYOND THE EXISTING EMBANKMENT LINE AND B EYOND THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM SP JOBSITE NO. 50824 "RETAINING WALLS".
6. PAY LIMITS OF BACKFILL REINFORCEMENT ZONE SHALL BE PAID FOR AS SELECTED.
7. GRANULAR BACKFILL SHALL BE SELECTED MATERIAL CLASS SHW.
8. THE CONCRETE DECAYING SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DMC, COP-1.
ELEVATION

VIEWED FROM BACK FACE OF WALL

PLAN

SCALE 1"=50'0"

MATCH LINE STA 1+50.00

SOUTH WALL "BB-TYP" REAR WALL MEASURED ALONG FRONT FACE OF WALL

403.82' TOP WALL 'BB-T'

403.82' WALL 'BB'

403.82' WALL 'BB' OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.

403.82' WALL 'BB'

SOUTH WALL 'BB-TYP'

403.82' WALL 'BB-TYP OF HWY.
GENERAL NOTES:
2. See Table 1 for recommended factored bearing resistance.
4. Elevations are approximate. Wall dimensions may vary depending on wall design selected.
5. See SP JOB NO. 924 "retaining wall" for additional information.
6. Joint seals and joint filler shall not be paid for directly but will be considered subsidiary to other pay items.
7. For materials properties of select granular backfill, refer to retaining wall special provision.

EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNDER THE PAY ITEM 203. UNFACTORED EXCAVATIONS SEE OF WSS INCLUDING SUBSIDIARY INFORMATION.

CONTRACTOR HAS THE OPTION OF USING A CUT SLOPE AND/OR SHORING TO MAINTAIN STABILITY OF CUT AND EXCAVATION AND SUBSEQUENT BACKFILL. PAY LIMITS OF EXCAVATION WILL BE PAID FOR DIRECTLY. BUT WILL NOT BE PAID UNDER ITEM SP NO. 924 "RETAINING WALLS".

SECTION D-D
(Backfill Method A)
GENERAL NOTES:
1. DESIGN SPECIFICATIONS/ROAD BRIDGE DESIGN SPECIFICATIONS 6TH EDITION WITH CURRENT INTERIM
2. SEE TABLE 1 FOR RECOMMENDED FACTORED BEARING RESISTANCE.
3. SEISMIC PERFORMANCE ZONE 4
4. ELEVATIONS ARE APPROXIMATE. WALL EMERGINGS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE GP JOB NO.964 RETAINING WALLS" FOR ADDITIONAL INFORMATION.
6. JOINT SCALER AND JOINT FILLER WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER PAY ITEMS.
7. FOR MATERIAL PROPERTIES OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

TABLE 1

<table>
<thead>
<tr>
<th>STATION ALONG WALL</th>
<th>FACTORED BEARING RESISTANCE (PSF)</th>
<th>ESTIMATED UNDERCUT REQUIREMENTS (FT)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0+00.00 TO 0+10.00</td>
<td>0.00</td>
<td>0.00</td>
<td>MIN 1</td>
</tr>
<tr>
<td>0+15.00 TO 0+25.00</td>
<td>0.00</td>
<td>0.00</td>
<td>MIN 2</td>
</tr>
<tr>
<td>0+30.00 TO 0+60.00</td>
<td>0.00</td>
<td>0.00</td>
<td>MIN 3</td>
</tr>
</tbody>
</table>

* UNDERCUTS SHOULD EXTEND AT LEAST 2 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.

SECTION E-E
IS BACKFILL METHOD 3 @ N.T.S.
GENERAL NOTES:
1. DESIGN SPECIFICATIONS-LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION WITH CURRENT INTERIM.
2. SEE TABLE 1 FOR RECOMMENDED FACTORED BEARING RESISTANCE ZONES.
3. SEISMIC PERFORMANCE ZONES.
4. ELEVATIONS ARE APPROXIMATE. WALL DIMENSIONS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE SR JOB NO. 100824 "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
6. JOINT SEALER AND JOINT FILLER WILL NOT BE PAID FOR EXCEPT BUT NOT LIMITED TO ITEMS BOTH PAY ITEMS.
7. FOR MATERIAL PROPERTIES OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

1. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNDER THE PAY ITEM 9-1. CONTRACTOR WILL BE PAID ACCORDING TO THE PAY ITEM 16-03 STANDARD DWG. NO.00824 "RETAINING WALLS".
2. CONTRACTOR HAS THE OPTION OF USING A CUT SLOPE AND/OR SHORING TO MAINTAIN STABILITY OF CUT AND PREVENT EROSION AND SUBSEQUENT SHOULDER BLASTING. THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM 16-03 STANDARD DWG. NO.00824 "RETAINING WALLS".
3. JOINT FILLER MATERIAL TO BE USED PER SUBSECTION 625.02 WITH 1/2" X 1" TYPE 3 OR 4ジョINT SEALER PER SUBSECTION 625.02.
4. THE CONCRETE VERTICAL FACE WILL BE CONSTRUCTED WITHOUT THE 1/2" KEEP HOLES SHOWN ON STANDARD DWG. COPIES.

SECTION B-B
(BACKFILL METHOD AT N.T.S.)

SECTION B-B
(BACKFILL METHOD AT N.T.S.)

TABLE 1
<table>
<thead>
<tr>
<th>STATION ALONG WALL</th>
<th>FACTORED REEING BEARANCE REQUIREMENTS (PSI)</th>
<th>ESTIMATED UNDERCUT PAYMENTS (FT)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2+35.00 TO 4+00.00</td>
<td>6,500</td>
<td>MINIMUM</td>
<td></td>
</tr>
<tr>
<td>4+00.00 TO 5+75.00</td>
<td>6,805</td>
<td>AGGREGATE AREA, 30 MIN. DALL. = 2 FT</td>
<td></td>
</tr>
<tr>
<td>5+75.00 TO 6+10.00</td>
<td>6,300</td>
<td>MINIMUM</td>
<td></td>
</tr>
<tr>
<td>6+10.00 TO 7+50.00</td>
<td>3,200</td>
<td>BACKFILL UNDERCUT WITH STONE BACKFILL *</td>
<td></td>
</tr>
</tbody>
</table>

* UNDERCUTS SHOULD EXTEND AT LEAST 5 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.
GENERAL NOTES:
1. DESIGN SPECIFICATIONS: L&FDO BRIDGE DESIGN SPECIFICATIONS 6TH EDITION WITH CURRENT INTERIM.
2. SEE TABLE I FOR RECOMMENDED FACTORED BEARING RESISTANCE.
3. SEGMENT PERFORMANCE ZONE A
4. ELEVATIONS ARE APPROPRIATE WALL DIMENSIONS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE SP JOB 60824 "RETAINING WALL" FOR ADDITIONAL INFORMATION.
6. JOINT SEALER AND JOINT FILLER WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER OTHER PAY ITEMS.
7. FOR MATERIAL PROPERTIES OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

EXISTING SLOPE

PAY LIMIT OF UNCLASSIFIED EXCAVATION

SLOPE OF OPTIONAL EXCAVATION OF EXISTING GROUND OR EMBANKMENT

SECTION C-C

BACKFILL METHOD A

PAY LIMIT OF SELECT GRANULAR BACKFILL

LEVELING PAD

EXISTING GROUND

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL)

PAY LIMITS OF SELECT GRANULAR BACKFILL

4" PIPE UNDERDRAIN FOR FULL LENGTH OF WALL IN ACCORDANCE WITH SECTION 8A AND 8D. IMC. NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C (BACKFILL METHOD B)

PAY LIMIT OF UNCLASSIFIED EXCAVATION

PROPOSED GROUND

PROFILE GRADE FOR TOP OF WALL

DRAINAGE FABRIC MATERIAL CLASS II-F MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 625.02) TO BE PAID FOR AS SELECT GRANULAR BACKFILL.

OUTSIDE VERTICAL FACE OF RETAINING WALL

DRAINAGE FILTER FABRIC TYPE 2 AS SPECIFIED IN SUBSECTION 625.02)

NOTE: PILING SHALL BE DRIVEN THROUGH CASINGS AFTER EMBANKMENT COMPLETED TO BOTTOM OF END BEAT CAP.

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C

PAY LIMIT OF SELECT GRANULAR BACKFILL

LEVELING PAD

EXISTING GROUND

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C (BACKFILL METHOD B)

PAY LIMIT OF UNCLASSIFIED EXCAVATION

PROPOSED GROUND

PROFILE GRADE FOR TOP OF WALL

DRAINAGE FABRIC MATERIAL CLASS II-F MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 625.02) TO BE PAID FOR AS SELECT GRANULAR BACKFILL.

OUTSIDE VERTICAL FACE OF RETAINING WALL

DRAINAGE FILTER FABRIC TYPE 2 AS SPECIFIED IN SUBSECTION 625.02)

NOTE: PILING SHALL BE DRIVEN THROUGH CASINGS AFTER EMBANKMENT COMPLETED TO BOTTOM OF END BEAT CAP.

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C

PAY LIMIT OF SELECT GRANULAR BACKFILL

LEVELING PAD

EXISTING GROUND

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C (BACKFILL METHOD B)

PAY LIMIT OF UNCLASSIFIED EXCAVATION

PROPOSED GROUND

PROFILE GRADE FOR TOP OF WALL

DRAINAGE FABRIC MATERIAL CLASS II-F MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 625.02) TO BE PAID FOR AS SELECT GRANULAR BACKFILL.

OUTSIDE VERTICAL FACE OF RETAINING WALL

DRAINAGE FILTER FABRIC TYPE 2 AS SPECIFIED IN SUBSECTION 625.02)

NOTE: PILING SHALL BE DRIVEN THROUGH CASINGS AFTER EMBANKMENT COMPLETED TO BOTTOM OF END BEAT CAP.

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C

PAY LIMIT OF SELECT GRANULAR BACKFILL

LEVELING PAD

EXISTING GROUND

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C (BACKFILL METHOD B)

PAY LIMIT OF UNCLASSIFIED EXCAVATION

PROPOSED GROUND

PROFILE GRADE FOR TOP OF WALL

DRAINAGE FABRIC MATERIAL CLASS II-F MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 625.02) TO BE PAID FOR AS SELECT GRANULAR BACKFILL.

OUTSIDE VERTICAL FACE OF RETAINING WALL

DRAINAGE FILTER FABRIC TYPE 2 AS SPECIFIED IN SUBSECTION 625.02)

NOTE: PILING SHALL BE DRIVEN THROUGH CASINGS AFTER EMBANKMENT COMPLETED TO BOTTOM OF END BEAT CAP.

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C

PAY LIMIT OF SELECT GRANULAR BACKFILL

LEVELING PAD

EXISTING GROUND

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.

SECTION C-C (BACKFILL METHOD B)

PAY LIMIT OF UNCLASSIFIED EXCAVATION

PROPOSED GROUND

PROFILE GRADE FOR TOP OF WALL

DRAINAGE FABRIC MATERIAL CLASS II-F MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 625.02) TO BE PAID FOR AS SELECT GRANULAR BACKFILL.

OUTSIDE VERTICAL FACE OF RETAINING WALL

DRAINAGE FILTER FABRIC TYPE 2 AS SPECIFIED IN SUBSECTION 625.02)

NOTE: PILING SHALL BE DRIVEN THROUGH CASINGS AFTER EMBANKMENT COMPLETED TO BOTTOM OF END BEAT CAP.

BACKFILL REINFORCEMENT ZONE

SELECT GRANULAR BACKFILL (CRUSHED ROCK OR STONE - SEE SP RETAINING WALL) NO PVC OR OTHER MATERIALS ARE TO BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" AND WILL NOT BE PAID FOR DIRECTLY.
SECTION A-A

EXISTING GROUND

REINFORCED RETAINING WALL

PROPOSED GROUND

MATCH EXISTING GROUND

BOTTOM OF WALL

PROFILEGRADE FOR TOP OF WALL

EXISTING GROUND

REINFORCED RETAINING WALL

PROPOSED GROUND

MATCH EXISTING GROUND

BOTTOM OF WALL

SECTION A-A

N.T.S.
NOTES:
1. Control point stations and offsets are measured to the inside top corner of the wall.
2. See roadway plans for additional roadway horizontal alignment data.
3. See drainage plans for additional drainage information.
4. Boring logs may be obtained from the construction contract procurement section of the program management division upon request.
5. Refer to special detail, concrete wall (type special).

PLAN
SCALE = 1/6"
NOTES:
1. Control point stations and offsets are measured to the inside top corner of wall.
2. See roadway plans for additional roadway horizontal alignment data.
3. See drainage plans for additional drainage information.
4. Boring logs may be obtained from the construction contract procurement section of the Program Management Division upon request.
5. Refer to special detail concrete walk (type special).

SCALE: 1"=15'
SECTION A-A

(BACKFILL METHOD A) N.T.L.

EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNDER THE PAY ITEM 20-1, UNCLASSIFIED EXCAVATORY DSP JOB NL00034 "WALLS" FOR ADDITIONAL INFORMATION.

CONTRACTOR HAS THE OPTION OF USING A CUT SLOPE AND/OR SHORTENING TO MAINTAIN STABILITY OF CUTTING EXCAVATION AND SUBSEQUENT BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR THE LIMITS OF REINFORCING ZONE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE PAID UNDER ITEM 50-1006 "REMOVING WALLS".

JOINT SEALER AND JOINT FILLER WILL NOT BE PAID FOR UNDER SPECIFICATION NO. 5-09824 "REMOVING WALLS".

FOR MATERIAL PROPERTIES OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISIONS.

**UNDERCUTS SHOULD EXTEND AT LEAST 2 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE**

**UNDERCUTS SHOULD EXTEND AT LEAST 4 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE**

| TABLE 1 |
|-----------------|-----------------|-----------------|-----------------|
| STATION ALONG WALL | FACTORED BEARING RESISTANCE (PSF) | ESTIMATED UNDERCUT REQUIREMENTS (FT) | COMMENTS |
| 5+00.00 TO 7+25.00 | 5,005 | 2 | BACKFILL UNDERCUT WITH STONE BACKFILL. |
| 7+25.00 TO 8+00.00 | 5,005 | 4 | BACKFILL UNDERCUT WITH STONE BACKFILL. |
| 8+00.00 TO 9+06.00 | 5,005 | | AGGREGATE PER #30 AREA RATIO, 30 IN DIA, 6'-0" FT |
| 9+06.00 TO 9+73.00 | 5,005 | | MINIMAL |

SECTION A-A

(BACKFILL METHOD B) N.T.L.

EXCAVATION REQUIRED FOR WALL IS SPECIFIED IN SUBSECTION 25-020000 WITH 4'-6" X 4'-6" TYPE 3 OR 4 JOINT SEALER PER SUBSECTION 625.0209.

THE CONTRACTOR MAY SELECT MATERIAL AS SHOWN IN STANDARD SECTION 625.02."
TABLE 1

<table>
<thead>
<tr>
<th>STATION ALONG WALL</th>
<th>FACED READING RESISTANCE (PSI)</th>
<th>ESTIMATED READING REQUIREMENTS (PSI)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+40.00 TO 7+25.00</td>
<td>5,005</td>
<td>2</td>
<td>BACKFILL UNDERWATER WITH STONE BACKFILL</td>
</tr>
<tr>
<td>7+25.00 TO 9+00.00</td>
<td>5,005</td>
<td>4</td>
<td>BACKFILL UNDERWATER WITH STONE BACKFILL</td>
</tr>
<tr>
<td>9+00.00 TO 9+13.00</td>
<td>9,000</td>
<td>5,005</td>
<td>MINIMAL</td>
</tr>
</tbody>
</table>

- UNDERCUTS SHOULD EXTEND AT LEAST 2 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.
- UNDERCUTS SHOULD EXTEND AT LEAST 4 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.

GENERAL NOTES:
1. DESIGN SPECIFICATIONS/870 BRIDGE DESIGN SPECIFICATIONS 1ST EDITION WITH CURRENT INTERIM.
2. SITE TAIL FOR RECOMMENDED FACTORED BEARING RESISTANCE.
4. ELEVATIONS ARE APPROXIMATE, WALL DIMENSIONS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE SP JOB NO. 00824 "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
6. JOINT SEALER AND JOINT FILLER WILL NOT BE REQUIRED OUTSIDE THE EXISTING PAY ITEMS.
7. FOR MATERIALS OF SELECT GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

SECTION B-B
(Backfill Method A)
R.L.L.

- EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNDER THE PAY ITEM 201, UNCLASSIFIED EXCAVATION, SEE JOB NO. 00824 "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
- CONTRACTOR HAS THE OPTION OF USING A CUT SLOPE AND/OR SHORING TO MAINTAIN STABILITY OF EXISTING ELEVATION AND SUBSEQUENT BACKFILL.
- THE TOTAL AREAS OF EXCAVATION ARE SPECIFIED FOR A CARPET AREA OF 200 SQUARE FEET.
- THE JOINTS IN THE WALLS OF RETAINING WALLS ARE NOT TO BE PAID FOR DIRECTLY.
- THE CONCRETE OUTFLOW PROPOSED TO BE CONSTRUCTED WITHOUT THE 3" WEEP HOLES SHOWN ON STANDARD ECP CORP.

- THE CONCRETE OUTFLOW PROPOSED TO BE CONSTRUCTED WITHOUT THE 3" WEEP HOLES SHOWN ON STANDARD ECP CORP.

SECTION B-B
(Backfill Method B)
R.L.L.

- UNDERCUTS SHOULD EXTEND AT LEAST 2 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.
- UNDERCUTS SHOULD EXTEND AT LEAST 4 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.

SCOPE OF OPTIONAL EXCAVATION OF EXISTING EMBANKMENT OR EMBANKMENT

- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL

SECTION B-B
(Backfill Method A)
R.L.L.

- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL
- PAY LIMITS OF SELECT GRANULAR BACKFILL
GENERAL NOTES:

1. DESIGN SPECIFICATIONS: LRFD BRIDGE DESIGN SPECIFICATIONS (6TH EDITION WITH CURRENT INTERIM).
2. SEE TABLE I FOR RECOMMENDED FACTORED BEARING RESISTANCE.
3. SEISMIC PERFORMANCE ZONE: 4
4. ELEVATIONS ARE APPROXIMATE, WALL DIMENSIONS MAY VARY DEPENDING ON WALL DESIGN SELECTED.
5. SEE SP Job No. 00824 "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
6. JOINT SEALER AND JOINT FILLER WILL NOT BE CONSIDERED SUBMITTED FOR PAY ITEMS.
7. FOR MATERIAL PROPERTIES OF SELECTED GRANULAR BACKFILL REFER TO RETAINING WALL SPECIAL PROVISION.

1. EXCAVATION REQUIRED FOR AREA OF REINFORCING ZONE WILL BE PAID FOR UNDER THE PAY ITEM 2, UNCLASSIFIED EXCAVATION, SEE SP Job No. 00824 "RETAINING WALLS" FOR ADDITIONAL INFORMATION.
2. CONTRACTOR HAS THE OPTION OF USING A CUT SLOPE AND/OR SHOULDER TO MAINTAIN STABILITY OF CUT AND EXCAVATION AND SUBSEQUENT BACKFILL.
3. JOINT SEALER AND JOINT FILLER WILL NOT BE CONSIDERED SUBMITTED FOR PAY ITEMS.
4. THE CONCRETE DRAIN PAVING SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DIA 05-1.

SECTION A-A
(BACKFILL METHOD A)

SECTION A-A
(BACKFILL METHOD B)

TABLE I

<table>
<thead>
<tr>
<th>STATION ALONG WALL</th>
<th>FACTORED BEARING RESISTANCE (PS)</th>
<th>ESTIMATED UNDERCUT REQUIREMENTS (Tt)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+06.00 to 5+57.00</td>
<td>5,105</td>
<td>MINIMUM</td>
<td></td>
</tr>
<tr>
<td>5+57.00 to 6+60.00</td>
<td>9,200</td>
<td>AGGREGATE PIER</td>
<td></td>
</tr>
<tr>
<td>6+60.00 to 9+45.00</td>
<td>5,005</td>
<td>2</td>
<td>BACKFILL UNDERCUT WITH GRANULAR BACKFILL.</td>
</tr>
</tbody>
</table>

* UNDERCUTS SHOULD EXTEND AT LEAST 2 FT OUTSIDE THE REINFORCED ZONE TO THE EXTENT POSSIBLE.
GENERAL NOTES:
1. DESIGN SPECIFICATIONS, LEAD BRIDGE DESIGN SPECIFICATIONS, AND OTHER CURRENT ENDOUCTIONS COMPLETELY RECOMMEND FACTORED BEARING RESISTANCE.
2. SEE TABLE I FOR RECOMMENDED JOINT SEALER.
3. SEISMIC PERFORMANCE ZONES.
4. JOINT SEALER AND JOINT SEALER WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER PAY ITEMS.
5. MATERIALS OF SELECT GRADE DITCH BACKFILL, PER THE RETAINING WALL SPECIAL PROVISION.
6. FOR MATERIALS OF SELECT GRADE DITCH BACKFILL, PER THE RETAINING WALL SPECIAL PROVISION.
7. PAY LIMITS OF SELECT GRADE DITCH BACKFILL.

EXCAVATION REQUIRED FOR AREA OF RETAINING WALL WILL BE PAID FOR UNDER THE PAY ITEM AND WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "RETAINING WALLS" FOR ADDITIONAL INFORMATION.

CONTRACTOR MUST COMMUNICATE TO MAINTAIN STABILITY OF RETAINING WALLS AND SUBSIDIARY BACKFILL. BELOW THE EXISTING GRANULAR JOINT SEALER, WALL, AND JOINT SEALER WILL BE PROVIDED FOR DIRECTLY BUT WILL BE PAID UNDER ITEM SP JOB NO. 00024 "RETAINING WALLS".

4" JOINT SEALER (AASHTO W-5 TYPE I PER SUBSECTION 4.03.02) ON A JOINT SEALER PER SUBSECTION 5.03.01A20.

THE CONCRETE DITCH BACKFILL SHALL BE CONSTRUCTED WITHOUT THE 3" DEEP HOLES SHOWN ON STANDARD DWG. COP-1.

WALL SPECIAL GRANULAR JOINT SEALER CONSIDERED SUBSTIUTARY BETWEEN ELEVATIONS.

SEISMIC PERFORMANCE DESIGN SPECIFICATIONS:
SEE TABLE I FOR INTERIMS.

PAID DESIGN SELECTED.

FOR WALLS" AND PIPE ACCORDINGLY.

RE ZONE: 6" - 6' O" (SEE SUBSECTION 4.03.02).

4" L.D.T.

PROFILE GRADE FOR TOP OF WALL.

OUTSIDE FACE OF CONCRETE COPING (SEE COPING DETAILS).

DRAINAGE FILL MATERIAL CLASS 5 MINERAL AGGREGATE AS SPECIFIED IN SUBSECTION 4.03.02.

TO BE PAID FOR AS SELECT GRAIN DIAG BACKFILL.

SLOPE OF OPTIMAL EXCAVATION OF EXISTING GROUND OR ENGRAVEMENT.

OUTSIDE VERTICAL FACE OF RETAINING WALL.

4" DITCH PAYING (4"

EXISTING GROUND.

LEVELING PAD.

PAY LIMIT OF UNCLASSIFIED EXCAVATION.

4" PIPE UNDERLAY FOR FULL LENGTH OF WALL IN ACCORDANCE WITH SECTION 1803. SPECIAL CONC, WALL, COND NO. 59508.

PAY LIMIT OF SELECT GRAIN DIAG BACKFILL.

SECTIONS OF RETAINING WALL "KK" BNSF RAILROAD OVERPASS HWY 6 (JONESBORO).

SHREWSBURY COUNTY.

ROUTE B SECTION A

ARKANSAS STATE HIGHWAY COMMISSION.

DRAWING NO. 59508

SCALE: 1" = 20 FT.

FILENAME: WLSK-A3010.BAK.

SHEET 2 OF 2

SECTIONS OF WALL "KK" (BACKFILL METHOD A)

SECTION B-B

(BACKFILL METHOD A)

N.T.S.

REVISED

STATE: ARKANSAS

COUNTY: SHREWSBURY

ROUTE B SECTION A

CONTACT: ARKANSAS STATE HIGHWAY COMMISSION

DRAWING NO. 59508

SCALE: 1" = 20 FT.

FILENAME: WLSK-A3010.BAK.

SHEET 2 OF 2

SECTIONS OF WALL "KK" (BACKFILL METHOD A)

SECTION B-B

(BACKFILL METHOD A)

N.T.S.

REVISED

STATE: ARKANSAS

COUNTY: SHREWSBURY

ROUTE B SECTION A

CONTACT: ARKANSAS STATE HIGHWAY COMMISSION

DRAWING NO. 59508

SCALE: 1" = 20 FT.

FILENAME: WLSK-A3010.BAK.

SHEET 2 OF 2

SECTIONS OF WALL "KK" (BACKFILL METHOD A)

SECTION B-B

(BACKFILL METHOD A)

N.T.S.

REVISED

STATE: ARKANSAS

COUNTY: SHREWSBURY

ROUTE B SECTION A

CONTACT: ARKANSAS STATE HIGHWAY COMMISSION

DRAWING NO. 59508

SCALE: 1" = 20 FT.

FILENAME: WLSK-A3010.BAK.

SHEET 2 OF 2

SECTIONS OF WALL "KK" (BACKFILL METHOD A)

SECTION B-B

(BACKFILL METHOD A)

N.T.S.

REVISED

STATE: ARKANSAS

COUNTY: SHREWSBURY

ROUTE B SECTION A

CONTACT: ARKANSAS STATE HIGHWAY COMMISSION

DRAWING NO. 59508

SCALE: 1" = 20 FT.

FILENAME: WLSK-A3010.BAK.

SHEET 2 OF 2

SECTIONS OF WALL "KK" (BACKFILL METHOD A)
STA. 91+00 TO STA. 91+26

HWY. 18

CROSS SECTIONS
STA 65+59 TO STA 66+54 NETTLETON AVE. HWY. 63B
CROSS SECTIONS
STA 7+07 TO STA 8+00 WATT ST.
CROSS SECTIONS

STA STAGE 3
8+00.00

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:

CROSS SECTIONS

290 295 290 285 280 275 270 265 260 255 250 245 240 235

-120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120

7+07.34

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:

CROSS SECTIONS

290 295 290 285 280 275 270 265 260 255 250 245 240 235

-120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120

STA STAGE 3
7+07.34

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:

CROSS SECTIONS

290 295 290 285 280 275 270 265 260 255 250 245 240 235

-120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120

STA STAGE 3
7+07.34

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:

CROSS SECTIONS

290 295 290 285 280 275 270 265 260 255 250 245 240 235

-120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120

STA STAGE 3
7+07.34

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:

CROSS SECTIONS

290 295 290 285 280 275 270 265 260 255 250 245 240 235

-120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120

STA STAGE 3
7+07.34

VOLUME UNCLASSIFIED EXCAVATION:

VOLUME COMPACTED EMBANKMENT:
<table>
<thead>
<tr>
<th>STA STAGE 4</th>
<th>AREA UNCLASSIFIED EXCAVATION</th>
<th>VOLUME UNCLASSIFIED EXCAVATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA STAGE 4</td>
<td>AREA COMPACTED EMBANKMENT</td>
<td>VOLUME COMPACTED EMBANKMENT</td>
</tr>
</tbody>
</table>

**CROSS SECTIONS**

STA. 15+00 TO STA. 15+73 IRBY ST.
GENERAL NOTES

Transitional Approach Railing shall be placed at locations shown in the plan.

All corporate shall be Class 3 with a minimum 20 day compressive strength, 1%. 3200 psi and shall be painted to the dry. All excess corners to be chipped to 1-0 unless otherwise noted.

All reinforcing steel shall be Grade 60 conforming to ASTM A615 W-38 W-122, Type A, with all bar reports.

All handhelds within the limits of horizontal curves shall be on curbs continuous to C2 construction, adjustment to length shall be required. Transversal reinforcing steel shall be placed on radii lines to C2 construction.

Unless otherwise required, all dimensions, surfacing, and finishing shall be in accordance with Specification Section 507.2 and the surface finish type and areas of application shall match that used on the adjacent roadway. Civil Engineer and/or construction manager shall determine suitable surfacing finish or specifications 2800 or 2800 for Class I or II surfacing of transitional approach railings. Payment for surface finishes shall be paid for directly but shall be considered incidental to the unit price bid for "Transitional Approach Railing". Therefore, when applicable, only details for additional information when architectural finishes are specified.

Transitional Approach Railing shall be paid for at the contract unit price bid for "Transitional Approach Railing", see Section I06 for additional information.

FOR INFORMATION ONLY

SCHEDULE OF QUANTITIES PER RAIL UNIT

<table>
<thead>
<tr>
<th>CLASS</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY</th>
<th>RATE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POUR-IN-PLACE CONCRETE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GRADE 65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>376.136 0.8 Gal.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.0 lb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.5 lb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Only one of the above three surface treatments shall be applied to the transitional approach railing. See "General Notes" for details.

PICTORIAL OF TRANSITIONAL APPROACH RAILING

No Scale

SECTIONS AND SUBSECTIONS REFER TO THE ARKANSAS STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR
HIGHWAY CONSTRUCTION V10.2 EDITION.

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE
PLAN DETAILS SPECIFIC PROVISIONS OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR TRANSITIONAL APPROACH RAILING

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:  DATE:  DRAWING NO:  CHECKED BY:  DATE:  PRINTED:  PROJECT

DESIGNED BY:  DATE:  SHEET:  NATURE OF WORK:  DRAWING NO:  5503
ENERGY DISSIPATORS

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

TOE WALL DETAIL FOR CONCRETE DITCH PAVING

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE Poured MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING AND Poured MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 40 INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AMEND TO NO. 2.
CONCRETE COMBINATION CURB AND GUTTER

INTEGRAL CURB

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB

DETAILS OF MODIFIED CURB

NOTE: USE MODIFIED CURB AS SPECIFIED ON STANDARD DRAWING CG-I. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED IN THE PRICE FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.

STANDARD DRAWING CG-I

ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS
TYPICAL TYPE 'B' CURB

WHEN SHOWN
VAR. WIDTH
WALK SIDES)

TYPICAL "B" CURB FACE AS SHOWN IN THE PLANS

2'-8" MIN. CONCRETE ISLAND BEHIND CURB (AT ISLAND LOCATIONS)

2'-8" MIN. CONCRETE ISLAND WHEN SHOWN ON THE PLANS

12'-0" MAX. SLOPE
CONSTRUCTION & PAY LIMITS FOR P.C.C. DRIVE

VAR. WIDTH GRASS BERM WHEN SHOWN ON THE PLANS

VAR. WIDTH CONCRETE ISLAND 2'-8" MIN. (WHEN SHOWN ON THE PLANS)

INSIDE EDGE OF VEHICLE PATH

PLAN VIEW

**TRANSITION FROM A 6" TO A 4"
TYPE "C" CURB FACE ON THE
FRONT SIDE OF THE CONCRETE
ISLAND IN THIS LENGTH

ULTIMATE PAVEMENT SECTION
(LESS FINAL LIFT OF ADM SURFACE COURSE)

VAR. WIDTH CONCRETE ISLAND
6' OR UNIFORM THICKNESS

FINAL LIFT OF ADM SURFACE COURSE

TYPE "B" CURB FACE
(TYPICAL ALL SIDES)

VAR. WIDTH CONCRETE ISLAND
6' OR UNIFORM THICKNESS

ISOMETRIC VIEW

CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED.
NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES
SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB
FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE
ITEM "CONCRETE ISLAND."
TABLE OF DIMENSIONS

<table>
<thead>
<tr>
<th>DIA.</th>
<th>WALL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>S</th>
<th>Dbl</th>
<th>P</th>
<th>R-2</th>
<th>G-T</th>
<th>B/T</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3.5</td>
<td>2.3</td>
<td>1.7</td>
<td>1.0</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>12</td>
<td>4.0</td>
<td>2.8</td>
<td>1.4</td>
<td>0.7</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>14</td>
<td>4.5</td>
<td>3.3</td>
<td>1.9</td>
<td>1.0</td>
<td>0.4</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>16</td>
<td>5.0</td>
<td>3.8</td>
<td>2.3</td>
<td>1.3</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>18</td>
<td>5.5</td>
<td>4.3</td>
<td>2.7</td>
<td>1.6</td>
<td>0.6</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>20</td>
<td>6.0</td>
<td>4.8</td>
<td>3.1</td>
<td>1.9</td>
<td>0.7</td>
<td>0.2</td>
<td>0.2</td>
<td>0.25</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

ARCH PIPE

<table>
<thead>
<tr>
<th>SPAN</th>
<th>RISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3.5</td>
</tr>
<tr>
<td>12</td>
<td>4.0</td>
</tr>
<tr>
<td>14</td>
<td>4.5</td>
</tr>
<tr>
<td>16</td>
<td>5.0</td>
</tr>
<tr>
<td>18</td>
<td>5.5</td>
</tr>
<tr>
<td>20</td>
<td>6.0</td>
</tr>
</tbody>
</table>

* The measured span and rise shall not vary more than 0.2% from the values specified by AASHTO M 205.

END VIEW

FOR REINFORCED CONCRETE PIPE CULVERTS

SECTION X-X

NOTE: TONGUE END ON UPSTREAM SECTION

SECTION Y-Y

NOTE: FROEVE END ON DOWNSTREAM SECTION

END VIEW

CONCRETE ARCH PIPE

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICE, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.
GENERAL NOTES
1. Mailbox posts may be wood or metal. Wood posts shall be pressure treated for ground contact in accordance with Section 537.02 of the Standard Specifications.
2. Anti-twist plates shall be used only on metal posts.
3. Anti-twist plates shall be made of 5/8" thick wood or 3/8" thick steel. Steel plates shall be coated with a protective finish. Liquid nails shall be used to attach the plates to the platform.
4. Mailbox shelf and platform that is shipped as standard size may be modified to fit the Mailbox to be installed. See Section 637.02 of the Standard Specifications for Nominal Sizes.
5. Mailbox support system offered in these drawings may be used provided they are on the AASHTO Qualified Products List.

SPACING FOR MULTIPLE POST INSTALLATION

If requested by the local jurisdiction, Mailboxes may vary as directed by the Engineer.

MAILBOX DETAILS

STANDARD DRAWING MB-1
CONSTRUCTION SEQUENCE
1. Place structural bedding material to grade, or do not compact.
2. Install pipe to grade for minimum clearance of 6" between pipe and grade.
3. Compact bedding outside the middle third of the pipe.
4. Clean pipe, bedding, and surrounding area of the hole, or embed pipe in the grade.
5. Complete backfill, according to subsection guidelines.

NOTE: Haunch and structural bedding material will not be paid for separately, but compensation will be considered to be included in the price bid per linear foot of concrete pipe.

- LEGEND -
D = normal inside diameter of pipe
D = outside diameter of pipe
H = full cover height over pipe (feet)
N = divided soil

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION</th>
<th>MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 3</td>
<td></td>
</tr>
</tbody>
</table>

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION</th>
<th>MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 3</td>
<td></td>
</tr>
</tbody>
</table>

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION</th>
<th>MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 3</td>
<td></td>
</tr>
</tbody>
</table>

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

<table>
<thead>
<tr>
<th>CLASS OF PIPE</th>
<th>INSTALLATION</th>
<th>MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TYPE 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TYPE 3</td>
<td></td>
</tr>
</tbody>
</table>

GENERAL NOTES
1. Concrete pipe culvert construction shall conform to Arkansas State Highway and Transportation Department's specifications and guide lines for concrete circular pipe and culverts. All work shall be performed in accordance with the standards set forth herein and the specifications referenced in this drawing. The use of these specifications and guidelines by the contractor shall be at their discretion.
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

Notes:
1. Refer to the stripping details for pavement marking line widths.
2. This drawing shall be used in conjunction with the latest revised addition of the "Manual on Uniform Traffic Control Devices."
3. Raised pavement markers shall be placed on an 80 feet spacing unless otherwise shown in the plans.

CONTINUOUS WHITE
CONTINUOUS WHITE

NOTE:
The red lens of the type II P.R.M. shall face the incorrect traffic movement.

TYPE II REO/CLEAR OR YELLOW/YELLOW 2.3″

PRISMATIC REFLECTOR

DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

CONCRETE PAVEMENT

CONTINUOUS YELLOw LINE SKIP CENTER LINE MARKER (TYP.)

APPLIES TO CONCRETE PAVEMENT ASPHALT PAVEMENT

BROKEN LINE STRIPING

CONTINUOUS YELLOW SKIP CENTER LINE RAISED PAVEMENT MARKER (TYP.)

ASPHALT PAVEMENT

SOLID LINE STRIPING ON CONCRETE PAVEMENT

CONTINUOUS YELLOW SKIP CENTER LINE RAISED PAVEMENT MARKER (TYP.)

SOLID LINE STRIPING ON ASPHALT PAVEMENT

CONTINUOUS YELLOW SKIP CENTER LINE RAISED PAVEMENT MARKER (TYP.)

STRIPING AT ADJACENT NO PASSING LANES

WHITE YIELD LINE PERPENDICULAR TO ENTRY LANE

DIRECTION OF TRAVEL

YIELD LINE DETAIL

CROSSWALK AND STOPBAR DETAILS

WHITE YIELD LINE DETAIL

STOPBAR DETAIL

CROSSWALK DETAIL

ARIZONA STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1
CONDUIT ENTRY TO EXISTING POLE BASE

EXISTING CONDUIT

1 1/2" GALVANIZED STEEL CONDUIT

CHIP OUT, REGROUT

GROUND ROD

CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

EXIST, CONTROLLER CABINET

NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

ELEVATION

3 1/4" REINF. BARS EACH SIDE

NOTE: ALL REINFORCING BARS TO BE GRADE 60

TOP

6" MIN.

12" MIN.

CONCRETE PULL BOX

* 6 REINF. BARS

2" CLEAR FROM TOP TOLERANCE +/-.05"

NOTE: ALL TYPE I AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.
GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PASSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET 1; RESULTING IN MUST ARM EXTENDING MORE THAN TWO FEET PAST THE LEFT END OF THE APPROACHING LEFT TURN LANE, THE SPECIFICATION 13-13-700, "HEIGHT OF MOUNTING" IS TO BE CONSIDERED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLATION. MUST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL IN NO CASE BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTRAL MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL HEADS LOCATED BETWEEN 40 FEET AND 65 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 40-5 OF 2009 MUTCD.
Notes to Contractor and Agency Responsible for Maintenance of the Intersection (City/County):

Electrical Service Typically Falls into Two Categories:
- **Main Breaker Not Near Controller Cabinet:** All Main Breaker Not Near Controller Cabinet, the Contractor's and the City/County's Responsibility Varies Accordingly as Indicated on These Details.
- **Main Breaker Near Controller Cabinet:**

#### Main Breaker Not Near Controller Cabinet

- **Component:** Main Breaker Assembly, Calvanized Steel Conduit, Weatherhead, and Wire Above Main Breaker and Wire to Utility.
- **Configuration:** Provided by City/County Contractor shall Provide as Part of Contract Secondary Breaker, Conduit, and Wire to Main Breaker.

#### Main Breaker Near Controller Cabinet

- **Component:** Components of the Service Point with the Exception of the Wire and Wiring Above the Main Breaker is Furnished and Installed by the Contractor. Wiring from Main Breaker Including Connection to the Utility is the Responsibility of the City/County if Meter Loop is Required, Meter Base and Hardware is Provided by the City/County and Installed by the Contractor.

---

**Main Breaker Wiring (Typical)**

- **Ground Rod:** A 4" x 0.5" ground rod shall be installed in the concrete pull box for each pole and the controller.
- **Payment:** For the ground rod and 3/4" NAC shall be included in item 1 of the concrete pull box and conductor box shall be paid for separately.
- **Neutral:** 25% from City/County main breaker.

---

**Main Breaker Not Near Controller Cabinet Secondary Required**

- **Component:** With Power Isolation Assembly
- **Notes:** Power Isolation Assembly

---

**Main Breaker Near Controller Cabinet Secondary Not Required**

- **Component:** Without Power Isolation Assembly
- **Notes:** Power Isolation Assembly

---

**Main Breaker Wiring (Typical)**

- **Ground Rod:** A 4" x 0.5" ground rod shall be installed in the concrete pull box for each pole and the controller.
- **Payment:** For the ground rod and 3/4" NAC shall be included in item 1 of the concrete pull box and conductor box shall be paid for separately.
- **Neutral:** 25% from City/County main breaker.

---

**Main Breaker Wiring (Typical)**

- **Ground Rod:** A 4" x 0.5" ground rod shall be installed in the concrete pull box for each pole and the controller.
- **Payment:** For the ground rod and 3/4" NAC shall be included in item 1 of the concrete pull box and conductor box shall be paid for separately.
- **Neutral:** 25% from City/County main breaker.
### Superelevation Table for Two-Way Traffic

<table>
<thead>
<tr>
<th>Degree of Curve (ft)</th>
<th>00'</th>
<th>20'</th>
<th>40'</th>
<th>60'</th>
<th>80'</th>
<th>100'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Abbreviations
- NC = Normal Crown
- S = Reverse Crown Superelevation at Normal Crown Slope
- R = Rate of Superelevation (ft/ft ft)
- L = Length of Superelevation Transition (ft)
- D = Distance from Beginning of Superelevation Transition to Any Point (ft)
- W = Width of Subgrade (ft)
- C = Normal Crown (ft)

#### Notes
1. On pavement with two-way traffic, the superelevation shall be revolved on the inside pavement edge unless otherwise noted on the plans.
2. Superelevation values shown on the cross sections are reduced (1/10 ft) to be additive or subtractive from the point of control.
3. Lengths for L may be divided in multiples of 25 ft or more.
4. Grade and slope to be revised using applicable Lx.

#### General Notes
- Lx = 3/4 Lx
- Unless otherwise noted, Lx = 1/4 Lx

#### Standard Method When Superelevation Revolves Around Inner Subgrade Point or Inner Pavement Edge

**Table for Two-Way Traffic**

<table>
<thead>
<tr>
<th>Degree of Curve (ft)</th>
<th>00'</th>
<th>20'</th>
<th>40'</th>
<th>60'</th>
<th>80'</th>
<th>100'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STOP
Rt-1
30"x30"

YIELD
Rt-2
30"x30"

SPEED LIMIT 50
Rt-3
50"x50"

ROAD NARROWS
Rt-4
30"x30"

COUNTY ROUTE MARKER
Rt-5
30"x30"

When Children Are Present
Rt-6
30"x30"

NARROW BRIDGE
Rt-7
30"x30"

ONE LANE BRIDGE
Rt-8
30"x30"

Pavement Ends
Rt-9
30"x30"

ARROW
Rt-10
28"x28"

SCHOOL
Rt-11
28"x28"

LOW
Rt-12
24"x24"

YIELD
Rt-13
24"x24"

ONE WAY
Rt-14
24"x24"

SCHOOL
Rt-15
24"x24"

MINIMUM DIMENSIONS SHOWN
SUPPORT SECTION

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.
NOTE:

A 2" MIN-HIGH CURB IS REQUIRED WHEN CONCRETE WALL IS ADJACENT
TO THE HAND RAILING.

PAVEMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE
PRICE BID FOR CONCRETE WALLS.

NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 3'-6".

**REINFORCED CONCRETE SPRING BOX**

**DETAILS OF CONCRETE STEPS & WALKS**

**HAND RAILING DETAILS**

**REPAIR OVER CULVERTS (CONCRETE)**

**DETAILS OF ALTERNATE POST ANCHOR SYSTEM**

**ESIGNWARE DETAIL**

**SPECIAL ITEMS**

**ARKANSAS STATE HIGHWAY COMMISSION**

**STANDARD DRAWING SI-1**
TYPICAL DRAINAGE & BACKFILL DETAILS

TYPICAL CONTRACTION JOINT DETAIL

TYPICAL EXPANSION JOINT DETAIL

TYPICAL SECTION

KEYED CONSTRUCTION JOINT DETAIL

NOTE: Assumed area denotes minimum area of any excavation.

DETAILS OF EXCAVATION

TABLE OF RETAINING WALL VARIABLES (LEVEL BACKFILL)

<table>
<thead>
<tr>
<th>&quot;h&quot;</th>
<th>&quot;l&quot;</th>
<th>&quot;b&quot;</th>
<th>Size of Backfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>3'-6&quot;</td>
<td>3'-0&quot;</td>
<td>4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>2'-6&quot;</td>
<td>2'-0&quot;</td>
<td>4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>2'-0&quot;</td>
<td>1'-0&quot;</td>
<td>4&quot;</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

TABLE OF RETAINING WALL VARIABLES (SLOPED BACKFILL (1%) 24 MAX)

BENDING DIAGRAMS

FOOTING STEP DETAIL

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standards Specifications for Highway Distribution Concrete Satin with Standard supplemental specifications and special provisions. Unless otherwise noted in the plans or specifications, refer to the Standard Construction Specifications.


LIVE LOAD: Live load surcharge is not included in the design of these walls. Individual live load shall be divided by a distance equal to the height of the wall.

CONCRETE: Concrete shall be poured in the dry and an exposed corner to be classified as "C", and concrete shall be classified as "SL" with a minimum 28 day compressive strength of 3,000 psi. A Class 2 Surface Finish shall be used at all surfaces of the concrete unless otherwise noted.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M295 Grade 60. Foundations for footings are to be prepared in accordance with Subsection 802.4.2. Backfill for retaining walls shall be in accordance with Subsection 802.4.2. Backfilling for retaining walls shall be in accordance with Subsection 910.4.6. Locations outside the concrete shall be considered a smooth finish, and all surfaces of the concrete shall be considered a smooth finish, and all reinforcing steel need not be paid for directly, but shall be considered necessary for the concrete to be classified as "C".

Drainage fill material shall be placed at the top of the footings. The volume of soil that is placed shall be at least 28" of soil. Footings shall be considered to be sloped at a minimum grade of 1%. Footings shall be considered to be sloped at a minimum grade of 1%. Footings shall be considered to be sloped at a minimum grade of 1%. Footings shall be considered to be sloped at a minimum grade of 1%

These details are intended for use along streams or ditches without consideration for adjacent structures.

ARLINGTON: These walls have been designed for the following site-specific conditions:

- Level Backfill: 0% to 4%
- Heavy Backfill: 1%-4% to 10%
- Footing Backfill: 1%-4% to 10%

STANDARD DRAWING SI - 2
<table>
<thead>
<tr>
<th>ADVANCE DISTANCES (XXX)</th>
<th>500 FT</th>
<th>2/3 MILE</th>
<th>1 MILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 30&quot;X36&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
<tr>
<td>Standard 24&quot;X30&quot;</td>
<td>EXPwy.</td>
<td>STD.</td>
<td>EXPwy.</td>
</tr>
</tbody>
</table>

**NOTE:**
- Supports for signs, barricades, and flags shall be the most suitable materials that are consistent with the requirements shown in the Manual for Highway Construction. They shall be mounted on portable supports for short-term or long-term use, in accordance with the requirements of the Division of Highway Construction.
- The use of portable signs is allowed for temporary or emergency conditions.

**WARNING:**
- All traffic control devices used in road construction shall conform to the standards recommended by the Manual for Highway Construction, latest edition, and any local or state requirements.

**GENERAL NOTES:**
- Traffic control devices shall be set up and maintained in accordance with the Manual for Highway Construction, latest edition, and any local or state requirements.
- Existing signs and construction signs shall be kept in proper position and be adjusted to show the proper message.
- Temporary construction signs shall be removed when the construction is complete or when the road is opened to traffic.
- Signs shall be removed when they are damaged, defaced, or otherwise unsatisfactory.
- Signs shall be maintained in proper condition and be kept clean and legible.

**ROAD WORK:**
- Road work signs shall be placed at least 100 feet from the work zone.
- Road work signs shall be placed at least 500 feet from the work zone.
- Road work signs shall be placed at least 1,000 feet from the work zone.
- Road work signs shall be placed at least 1,500 feet from the work zone.

**IN WORK ZONES:**
- Men working signs shall be placed at least 100 feet from the work zone.
- Men working signs shall be placed at least 500 feet from the work zone.
- Men working signs shall be placed at least 1,000 feet from the work zone.
- Men working signs shall be placed at least 1,500 feet from the work zone.

**FINES double**
- Fines double in work zones.

**STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION**

**STANDARD DRAWING TC-1**
4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (See BARRIER STABILIZATION DETAIL - BRIDGE DECKS STD. DRWG. TC-4).

**Offset Distance for Two Way Traffic Only**

<table>
<thead>
<tr>
<th>Speed Limit (MPH)</th>
<th>Offset Distance (FT.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-45</td>
<td>12</td>
</tr>
</tbody>
</table>

*If offset distance is not attainable, then use "Barrier Placement With Attenuator" Detail shown below.

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of 'Temporary Impact Attenuation Barrier.'

**Offset Distance for Two Way Traffic Only**

<table>
<thead>
<tr>
<th>Min. 3'-0'</th>
<th>From Edge of Travel Lane to Nearest Edge of Attenuator</th>
<th><strong>Offset Distance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>For Two Way Traffic Only</td>
</tr>
</tbody>
</table>
**SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)**

*Notes:*
- Size of basin to be determined by volume required, however, a minimum length-to-width ratio of 2:1 shall be used.
- Slope to be 1:1 or flatter.

**SEDIMENT BASIN WITH PIPE OUTLET (E-10)**

*Notes:*
- Size of basin to be determined by volume required, however, a minimum length-to-width ratio of 2:1 shall be used.
- Slope to be 1:1 or flatter.

**DIVISION DITCH (E-8)**

*Notes:*
- Section shall be used at the inlet for unidirectional flow. An elbow shall be used for one-directional flow.

**SLOPE DRAIN (E-12)**

*Notes:*
- Drainage area as required to convey flow of fresh water.

**SEDIMENT BASIN (E-14)**

*Notes:*
- Slope drains as required to convey flow of fresh water.
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. Place perimeter controls (e.g., silt fences, diversion ditches, sediment basins), etc.
2. Perform clearing and grubbing operation.

EXCAVATION

CONSTRUCTION SEQUENCE
1. Excavate and stabilize interceptor and/or diversion ditches.
2. Perform Phase 1 excavation, place permanent or temporary seeding.
3. Perform Phase 2 excavation, place permanent or temporary seeding.
4. Perform final phase of excavation, place permanent or temporary seeding. Construct side ditches, stabilize ditches, construct ditch checks, diversion ditches, sediment basins, or other erosion control devices as required.

GENERAL NOTE
All cut slopes shall be dressed, prepared, seeded, and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 25 feet, measured vertically.

EMBANKMENT

CONSTRUCTION SEQUENCE
1. Construct diversion ditches, ditch checks, sediment basins, silt fences, or other erosion control devices as specified.
2. Place Phase 1 embankment with permanent or temporary seeding.
3. Place Phase 2 embankment with permanent or temporary seeding. Embankment construction is to be temporarily maintained for a period of greater than 21 days.
4. Place Phase 3 embankment with permanent or temporary seeding. Provide diversion ditches and slope drains if embankment construction is to be permanently maintained for a period of greater than 21 days.
5. Place final phase of embankment with permanent or temporary seeding, place diversion ditches and slope drains and maintain until entire slope is stabilized.

NOTE: Number of phases will vary. Phases shown for illustration.
INTERMEDIATE DITCHES MUST BE STARTED AT THE CONTROL POINT 0'-0" (GRADIENT)

DIVERSION DITCH AT A CUT OR FILL SLOPE

BAS Albert 0'0" at -0'0"

TRIANGULAR DITCH LINE INSTALLATION FOR TEMPORARY DITCH LINER

TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/or DITCH LINER

TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

C POINT "F" MUST BE HIGHER THAN POINT "E" TO ENSURE THAT WATER FLOWS OVER THE DITCH AND NOT AROUND THE DITCH.

STAPLES SHALL BE PLACED WHERE THE UNIT OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE AS SHOWN. THE SILT DIKE SHALL BE USED AS A TEMPORARY DRAINAGE BARRIER AT THE TOP OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTROL SEGMENT AND PREVENT EROSION DURING CONSTRUCTION. THE SILT DIKE SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRANSFORMED PRIOR TO CONSTRUCTION TO A HEIGHT AT LEAST 8' TO 10' IN THE CENTER WITH EQUAL SIDES AND A 4'-0" TO 5'-0" BASE. THE TRIANGULAR SILT DIKE, WHEN FULLY INSTALLED, SHALL BE AT LEAST 2'-0" WIDE AT THE TOP OF THE SILT DIKE. THE SILT DIFE MAY BE SHAPED AS SHOWN OR OTHER SHAPES MAY BE USED.

3. A 3'-0" TO 6'-0" TRENCH MAY BE USED TO ENSURE THAT THE SILT DIKE WILL NOT BE REMOVED OR INADVERTENTLY REMOVE.

SYMBOLS TO BE USED TO DENOTE DEVICE ON PLANS

NOTES: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SURF LOCATIONS.
General Notes for Detectable Warning Devices

The detectable warning device shall be located so that the nearest edge of the device is at least 0.2 inches from the corner tangent point. The truncated dome in the detectable warning device shall be 0.2 inches in diameter. The surface texture of the ramp shall conform to Class 6 finish according to Section 414.2 of the ADA guidelines.

The normal gutter grade shall be maintained through the area of the ramp. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

The minimum thickness of the ramp walk and landing shall be 4". The maximum width of the ramps shall be the existing walk width or 36", whichever is greater. Minor modifications of these details, as approved by the engineer, may be made to adjust to local conditions.

Ramp Selection Criteria

<table>
<thead>
<tr>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Choice</td>
<td>Lower locations with the walk adjacent to the curb (both new construction and alterations).</td>
</tr>
<tr>
<td>Second Choice</td>
<td>Curved ramp edge with the walk offset from the curb (both new construction and alterations).</td>
</tr>
<tr>
<td>Third Choice</td>
<td>Curved ramp edge with the walk a sufficient distance away from the curb (both new construction and alterations).</td>
</tr>
<tr>
<td>Fourth Choice</td>
<td>Only if site constraints prevent the construction of any of the above types.</td>
</tr>
</tbody>
</table>