



CALL NO. 424

CONTRACT ID. 072259

KENTON COUNTY

FED/STATE PROJECT NUMBER 059GR07P062 - FD05 & FE01

LETTING DATE: May 25, 2007

Sealed Bids will be received in the Division of Construction Procurement and/or the Auditorium located on the 1st floor of the Transportation Cabinet Office Building until 10:00 AM EASTERN DAYLIGHT TIME May 25, 2007. Bids will be publicly opened and read at 10:00 AM EASTERN DAYLIGHT TIME.

DEFERRED PAYMENT: The successful bidder on this project may request a work order with an effective date prior to June 15, 2007. The request must be in writing to the Department. A work order issued at the request of the Contractor will be with the distinct understanding that payment for any work performed estimates may be delayed until July 15, 2007. A work order will be issued June 15, 2007, for this project unless the bidder requests an earlier work date.

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

(Check guaranty submitted: Cashier's Check Certified Check Bid Bond)

BID BONDS WHEN SUBMITTED WILL BE RETAINED WITH THE PROPOSAL

DBE General Plan Included

BID

PROPOSAL ISSUED TO: _____

SPECIMEN

Address

City

State

Zip

TABLE OF CONTENTS

PART I	SCOPE OF WORK
	<ul style="list-style-type: none">• PROJECT(S), COMPLETION DATE(S), & LIQUIDATED DAMAGES• CONTRACT NOTES• SURFACING AREAS• ASPHALT MIXTURE• INCIDENTAL SURFACING• FUEL AND ASPHALT PAY ADJUSTMENT• OPTION A• SPECIAL NOTE(S) APPLICABLE TO PROJECT• PROJECT IDENTIFICATION SIGN• WASTE AND BORROWED SITES• MANHOLE ADJUSTMENTS• COORDINATION OF WORK WITH OTHER CONTRACTS• ASPHALT MIXTURE FOR PAVEMENT WEDGE• EDGE KEY• ASPHALT MILLING AND TEXTURING• TYPICAL SECTION DIMENSIONS• TRAFFIC CONTROL FOR RAISED PAVEMENT MARKER INSTALLATIONS• INSTALLATION OF TRAFFIC COUNTING INDUCTANCE LOOPS• DATA COLLECTION STATION NOTES• AUTOMATIC TRAFFIC RECORDER INDUCTANCE LOOPS• TRAFFIC SIGNAL LOOP DETECTORS• TRAFFIC SIGNAL LOOP REPLACEMENT• TRAFFIC CONTROL PLAN• SKETCH MAP(S)• MATERIAL SUMMARY• SUMMARY SHEET(S)• TYPICAL SECTION(S)• BRIDGE DETAIL FOR PAVING PROJECT• DATA COLLECTION STATION DETAILS
PART II	SPECIFICATIONS AND STANDARD DRAWINGS
	<ul style="list-style-type: none">• SUPPLEMENTAL SPECIFICATIONS• [SN-1I] VARIABLE MESSAGE SIGNS *• 2004 STANDARD DRAWINGS THAT APPLY• SILT TRAP TYPE A• SILT TRAP TYPE B• SILT TRAP TYPE C

- PART III EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
- LABOR AND WAGE REQUIREMENTS
 - EXECUTIVE BRANCH CODE OF ETHICS
 - KENTUCKY EQUAL EMPLOYMENT OPPORTUNITY ACT OF 1978
 - PROJECT WAGE RATES
- PART IV INSURANCE
- PART V STATEMENT OF INCOMPLETED WORK
- PART VI BID ITEMS
- PART VII CERTIFICATION
- PROVISIONS RELATED TO SENATE BILL 258 (1994)
 - NON-COLLUSION CERTIFICATION
 - CERTIFICATION OF BID PROPOSAL

PART I
SCOPE OF WORK

CONTRACT ID - 072259

ADMINISTRATIVE DISTRICT - 06

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - KENTON
059GR07P062 - FD05 & FE01 DIXIE HIGHWAY (US 25)

COUNTY - KENTON PES - MP05900250604
FD05 059 0025 010-013
DIXIE HIGHWAY (US 25) FROM SLEEPY HOLLOW ROAD (MP 10.955) EXTENDING NORTH TO I-75 SB OFF
RAMP AT BULLOCK STREET (MP 12.708), A DISTANCE OF 1.71 MILES. ASPHALT RESURFACING.
GEOGRAPHIC COORDINATES LATITUDE 39^04'12" LONGITUDE 84^31'39"
AVERAGE DAILY TRAFFIC - 8000 AVERAGE MAINLINE WIDTH - 43.0 FEET

COUNTY - KENTON PES - MP05900250702
FD05 059 0025 006-008
DIXIE HIGHWAY (US 25) FROM HALLAM AVENUE (MP 6.308) EXTENDING NORTH TO I-275 (MP 7.589),
A DISTANCE OF 1.28 MILES. ASPHALT RESURFACING.
GEOGRAPHIC COORDINATES LATITUDE 39^01'19" LONGITUDE 84^35'10"
AVERAGE DAILY TRAFFIC - 30000 AVERAGE MAINLINE WIDTH - 69.0 FEET

COUNTY - KENTON PES - MP05900250703
FD05 059 0025 008-010
DIXIE HIGHWAY (US 25) FROM BUTTERMILK PIKE (MP 8.583) EXTENDING NORTH TO I-75 OVERPASS
(MP 9.749), A DISTANCE OF 1.17 MILES. ASPHALT RESURFACING.
GEOGRAPHIC COORDINATES LATITUDE 39^02'36" LONGITUDE 84^33'13"
AVERAGE DAILY TRAFFIC - 20600 AVERAGE MAINLINE WIDTH - 48.0 FEET

COUNTY - KENTON PES - MP05900250704
FE01 059 0025 008-010
DIXIE HIGHWAY (US 25) FROM 0.01 MILES NORTH OF REQUARDT LANE (MP 8.774) EXTENDING NORTH
TO BEECHWOOD DRIVE (MP 9.492), A DISTANCE OF 0.72 MILES. MAINTENANCE.
GEOGRAPHIC COORDINATES LATITUDE 39^02'36" LONGITUDE 84^33'13"
AVERAGE DAILY TRAFFIC - 20600 AVERAGE MAINLINE WIDTH - 44.0 FEET

COMPLETION DATE(S) AND LIQUIDATED DAMAGES ESTABLISHED:

COMPLETION DATE - September 15, 2007
APPLIES TO ENTIRE CONTRACT
SEE STANDARD SPECIFICATIONS FOR LIQUIDATED DAMAGES

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be incorporated into the proposal when the bid is submitted to the Kentucky Department of Highways. Failure to use the correct and most recent bid sheet(s) may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Highway Bid Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

The Bidder must download the bid items created from the web site to prepare a bid proposal for submission to the Department. The bidder must insert the completed bid item sheets printed from the Program into the bidder's proposal and submit with the disk created by said program.

JOINT VENTURE BIDDING

Joint Venture bidding is permissible. However, both companies MUST purchase a bidding proposal. Either proposal may be submitted but must contain the company names and signatures of both parties where required. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

SURFACING AREAS – HALLAM AVENUE TO I-275

Mainline surfacing width is estimated to vary 62-72 feet.

Total mainline area to be surfaced is estimated to be 57,360 square yards.

Shoulder width is estimated to vary 0-10 feet on each side. Portions of project are curb and gutter section with no shoulders.

Shoulder areas to be surfaced are included in the mainline areas.

SURFACING AREAS – BUTTERMILK PIKE TO I-75

Mainline surfacing width is estimated to vary 44-56 feet.

Total mainline area to be surfaced is estimated to be 36,300 square yards.

Project is curb and gutter section with no shoulders.

SURFACING AREAS – SLEPPY HOLLOW ROAD TO BULLOCK STREET

Mainline surfacing width is estimated to vary 38-44 feet.

Total mainline area to be surfaced is estimated to be 47,750 square yards.

Shoulder width is estimated to vary 0-1 foot on each side. Portions of project are curb and gutter section with no shoulders.

Shoulder areas to be surfaced are included in the mainline areas.

ASPHALT MIXTURE

The rate of application for all asphalt mixtures shall be estimated at 110 lbs/sy per inch of depth, unless otherwise noted.

INCIDENTAL SURFACING

The quantities established in the proposal include estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, and road and street approaches. These items are to be paved to the limits as shown on Standard Drawing RPM 110 or to the limits as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, the paving of the crossroads shall be to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. These areas are to be surfaced or resurfaced as directed by the Engineer and no direct payment will be allowed for placing and compacting.

FUEL AND ASPHALT PAY ADJUSTMENT

These contract items Lot Pay Adjustment, Asphalt Adjustment and Fuel Adjustment, are for possible future payments. Additional monies may need to be setup with an additional change order if existing contract amount is insufficient to pay all items on the contract. Unit price is \$1.00. Quantity will be actual adjustment after work is completed.

OPTION A

The Contractor is advised that the compaction of asphalt mixtures furnished for driving lanes and ramps, at 25mm (1 inch) or greater, on this project will be accepted according to OPTION A in accordance with Section 402 and Section 403 of the *2004 Standard Specification*. Joint cores as described in subsection 402.03.02 are required for surface mixtures only. The compaction of all other asphalt mixtures will be accepted by OPTION B.

SPECIAL NOTES FOR CURB AND GUTTER FE01 059-0025-008-010

I. DESCRIPTION

Except as specified in these notes, perform all work according to the Department's 2004 Standard and Supplemental Specifications, applicable Special Provisions and Special Notes, Standard and Sepia Drawings, and the drawings elsewhere in this proposal. Section references are to the Standard Specifications. Furnish all materials, labor, and equipment for the following work:

(1) Maintain and Control traffic; (2) Construct standard curb and gutter; and (3) Construct Drop Box and Curb Box Inlets; and (3) all other work required by the Specifications, Standard Drawings, Special Notes and the drawings in the proposal.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Curb and Gutter. Use Class A Concrete, modified by the addition of graded, fibrillated, polypropylene fibers at a dosage rate of 3 pounds per cubic yard. Add the polypropylene fibers at the plant according to the manufacturer's recommendations. Use Hot Poured Elastic Joint Sealant for all joints.

C. Curb and Drop Box Inlets. Use unmodified Class A Concrete. Precast inlets will not be allowed.

D. Asphalt Surface. To be placed with mainline pavement.

E. Erosion Control. See Erosion Control Plan.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation, including, but not limited to, saw cutting and removal of pavement; incidental excavation and backfilling, temporary and permanent erosion control, inlet and outlet ditches, removal of existing curbs, pipes, headwalls, box inlets, obstructions, or any other items; restoration of slopes and all disturbed

Curb And Gutter Construction

Page 2 of 4

features; final dressing and cleanup, seeding and protection; and disposal of materials. Place Silt Checks as directed by the Engineer. All site preparation shall be only as approved or directed by the Engineer.

C. Curb and Gutter. The locations shown on the drawings are approximate only. The Engineer will determine the exact locations at the time of construction. Omit driveway and sidewalk openings, and other locations designated by the Engineer. Remove obstructions, if present, and be responsible for all excavation for removal of existing curbs, pipes, inlets and headwalls if any. Saw cut existing pavement to a neat edge prior to excavation of the gutter pan trench. Limit excavation to the length of curb and gutter that can be constructed the same day as excavated. Open trenches will not be allowed during non-working hours. Perform all excavation as directed by the Engineer without disturbing existing underground utilities. Dispose of all waste and debris at sites off the right of way obtained by the Contractor at no additional cost to the Department (see Special Note for Waste and Borrow sites). Obtain the Engineer's approval of gutter pan flowline elevations prior to placing concrete. Be responsible for positive drainage upon completion of the project.

D. Curb and Drop Box Inlets. Be responsible for all excavation for constructing inlets and connecting to existing pipes. Saw cut existing pavement to a neat edge prior to excavation. Limit excavation to the number of inlets that can be constructed the same day as excavated. Open trenches will not be allowed during non-working hours. Perform all excavation as directed by the Engineer without disturbing existing underground utilities. Dispose of all waste and debris at sites off the campus obtained by the Contractor at no additional cost to the Department (see Special Note for waste and borrow sites).

Construct inlets at locations designated by the Engineer at the time of Construction. Construct generally according to the standard drawings, modified as directed or approved by engineer to accommodate existing conditions. Construct inlets such that final centerline, inlet elevations, and flow lines meet existing or new curb and gutter and existing pipe flow lines and ditch channels. Obtain the Engineer's approval of inlet construction prior to placing concrete. Be responsible for positive drainage upon completion of the project.

E. Final Dressing. Perform final dressing Class A on all disturbed areas.

F. Clean Up and Restoration. After all work is completed, remove and dispose of waste and debris from the job site. Restore any roadway or private property features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

G. Seeding. See Erosion Control Plan.

Curb And Gutter Construction

Page 3 of 4

H. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. The Department will not honor any claims resulting from site conditions.

I. Caution. Information shown on the drawings and in this proposal and the types and quantities of work listed are approximate only, and are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw their own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown.

J. Property Damage. Be responsible for all damage to public and/or private property resulting from his work. Restore all damaged roadway and private property features in like kind materials and design at no additional cost to the Department.

K. Waste. Dispose of all waste and debris at sites off the campus obtained by the Contractor at no additional cost to the Department (see Special Note for waste and borrow sites).

L. Utility Clearance. Work around and do not disturb new or existing overhead or underground utilities to remain in place.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to Curb and gutter and Box Inlets.

C. Pipe Bands and Pipe Anchors. Pipe bands and pipe anchors will not be measured for payment, but shall be incidental to Culvert Pipe.

D. Erosion Control. See Erosion Control Plan.

V. BASIS OF PAYMENT.

A. Curb and Gutter. Payment at the contract unit price per linear foot shall be full compensation for all labor, materials, equipment, and incidentals for site preparation, clearing and grubbing, excavation, removal of existing curbs, backfill and DGA, restoring slopes, embankment in place, final dressing and cleanup, and disposal of all waste.

Curb And Gutter Construction
Page 4 of 4

B. Curb and drop Box Inlets. Payment at the contract unit price each shall be full compensation for all labor, materials, equipment, and incidentals for site preparation, clearing and grubbing, excavation, removal of existing inlets and pipe, connecting to existing pipe, backfill and DGA, restoring slopes, embankment in place, final dressing and cleanup, and disposal of all waste.

C. Erosion Control. See Erosion Control Plan.

SPECIAL NOTES FOR EROSION CONTROL PLAN FE01 059-0025-008-010

I. DESCRIPTION

Perform all erosion control work in accordance with the Department's 2004 Standard and Supplemental Specifications, applicable Special Provisions and Special Notes, and Standard and Sepia Drawings, except as hereafter specified. Section references are to the Standard Specifications. This work shall consist of:

(1) Prepare Best Management Practices plan (BMP) tailored to suit the specific construction phasing for the project in accordance with Section 213; (2) Prepare the project site for construction, to include the installation of temporary and/or permanent water pollution control measures as required by the BMP prior to beginning any other work on the project; (3) Clearing and grubbing and removal of all obstructions as required for construction; (4) Install and inspect all erosion control devices in accordance with Standard Specifications; (5) Maintain all erosion control devices in accordance with Section 213.03.03; (6) Install additional erosion control devices as required by the BMP or construction phasing, or as directed by the Engineer; (7) Perform temporary seeding of disturbed areas where feasible; (8) Remove and dispose of accumulated silt and debris as required and remove all erosion control devices when no longer needed unless directed otherwise by the Engineer; (9) Restore all disturbed areas as nearly as possible to their original condition; (10) Prepare and permanently seed all disturbed areas; and (11) Any other work as specified by this contract or as directed by the Engineer to prevent erosion.

II. MATERIALS AND DESIGN

All materials shall conform to applicable Sections of the Department's 2004 Standard and Supplemental Specifications, and Standard and Sepia Drawings, unless otherwise specified. All materials shall be sampled and tested in accordance with the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

Use Seed Mixture No. III for all permanent seeding and protection.

III. CONSTRUCTION METHODS

These Erosion Control Plan Notes do NOT constitute a BMP plan for the project. Prepare a specific BMP plan for the project jointly with the Engineer in accordance with Section 213 and the supplemental specifications. Each BMP will be unique depending on existing conditions at the project site, the type of work to be performed, the construction phasing, and the techniques utilized

Erosion Control Plan
FE01 059-0025-008-010
Page 2 of 3

by the Contractor to complete the work, as approved by the Engineer. The quantity of erosion prevention and sediment control measures required on the project depend entirely on the Contractor's methods for completing the required construction.

The Contractor shall conduct his operations in such a manner as to minimize the amount of disturbed ground during each phase of the construction and limit the haul roads required to complete all construction. Preserve existing vegetation if not required to be removed by the contract. Seed and/or mulch disturbed areas at the earliest opportunity. Use silt fence, silt traps, temporary ditches, brush barriers, erosion control blankets, and other erosion control measures in a timely manner and as approved by the Engineer. Prevent sediment laden water from leaving the project, entering an existing drainage structure or entering a stream.

Erosion control measures shall be in place and functioning prior to any disturbance within a drainage area. Silt control devices shall be sized to retain a volume of 3,600 cubic feet per acre of disturbed area as a minimum. The Contractor shall compute the volume necessary to control sediment during each phase of construction. The Contractor shall be required to remove sediment from silt traps whenever they become ½ full (at the most). As directed by the Engineer, silt fence shall be maintained by removing accumulated trappings and/or replacing the geotextile fabric when it becomes clogged, damaged, or deteriorated. Properly dispose of all materials trapped by erosion control devices at sites approved by the Engineer.

As work progresses, erosion control measures will be added or removed as required by project phasing and the BMP. The Contractor shall update the volume calculations and modify the BMP as necessary throughout the duration of the project. Ensure that an updated BMP is kept on site and available for public inspection throughout the life of the project.

After all construction is completed, completely remove all erosion control devices and debris from the construction site, unless otherwise directed by the Engineer. Grade the remaining exposed earth (both on and off the Right of-Way) as nearly as possible to its original condition, or as directed by the Engineer. Prepare the seedbeds in accordance with Section 212 and sow all disturbed areas with Seed Mixture No. III.

IV. METHOD OF MEASUREMENT

Only the bid items listed in the proposal will be measured for payment. All other items required to complete the work shall be incidental to the listed item.

Erosion Control. Contrary to the Standard Specifications, the Department will measure all work performed for developing, inspecting, maintaining, and removing erosion control items as well as all work performed for preparing, updating, and maintaining a BMP as a lump sum bid item for Erosion Control.

Erosion Control Plan
FE01 059-0025-008-010
Page 3 of 3

V. Basis of Payment

Erosion Control. Payment at the contract unit price per lump sum shall be full compensation for all materials, equipment, labor and incidentals necessary to complete the work as specified in these notes and the Standard Specifications. Item descriptions deemed incidental to this pay item include, but not limited to: Temporary Mulch, Silt Trap Type "A", Clean Silt Trap Type "A", Silt Trap Type "B", Clean Silt Trap Type "B", Silt Trap Type "C", Clean Silt Trap Type "C", Sedimentation Basin, Clean Sedimentation Basin, Temporary Silt Fence, Clean Temporary Silt Fence, Temporary Ditch, Erosion Control Blanket, Temporary Seeding and Protection, Seeding and Protection, Special Seeding Crown Vetch, and Topdressing Fertilizer. The Department will consider payment as full compensation for all work required by this Note. No direct payment will be made other than for the bid item listed here.

**SPECIAL NOTE FOR REMOVING AND RESETTING SEPARATOR ISLAND
FD05 059-0025-008-010**

Prior to Milling and Leveling and Wedging, remove the existing Quick Kurb separator island. Store and protect removed components during the interval between removing and resetting. The Engineer will allow storage on the right of way at approved sites out of the clear zone or store off the right of way at sites obtained by the Contractor at no additional cost to the Department.

After placement of the final surface course, reset the separator island in the approximate existing location. Furnish all new anchor bolts and install according to the manufacturer's recommendations and as approved by the Engineer. Replace damaged components that cannot be reused as determined by the Engineer. If the engineer directs that any of the removed separator island not be reset, deliver the salvageable components not reset to the Department's Kenton County Maintenance facility.

The Department will measure removing and resetting the separator island in linear feet along the centerline of the removed island. No reductions in the measured length will be made if the Engineer directs that a portion of the island not be reset.

Payment at the contract unit price per linear foot shall be full compensation for all labor, materials, equipment, and incidentals for removing the separator island, storage and protection during the interval between removing and resetting, furnishing new anchor bolts and replacement parts for damaged components, resetting the separator island as directed by the Engineer, and delivery of salvageable components not reset to the Department.

QWICK KURB[®], INC.

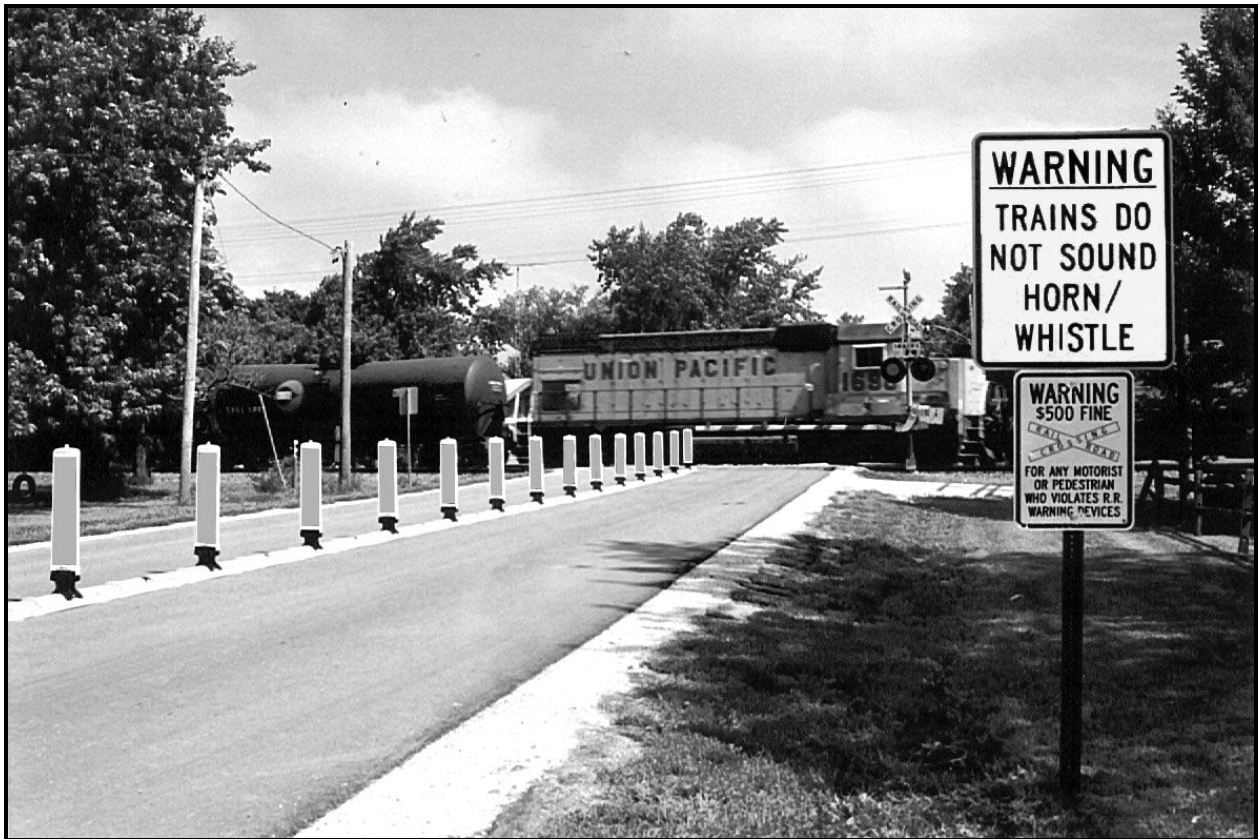
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Revision: 1.8

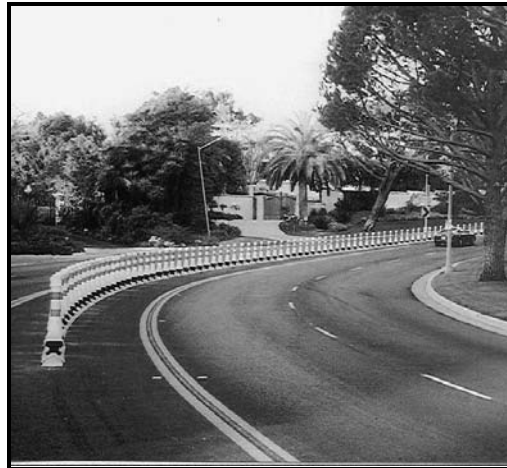
October 2006

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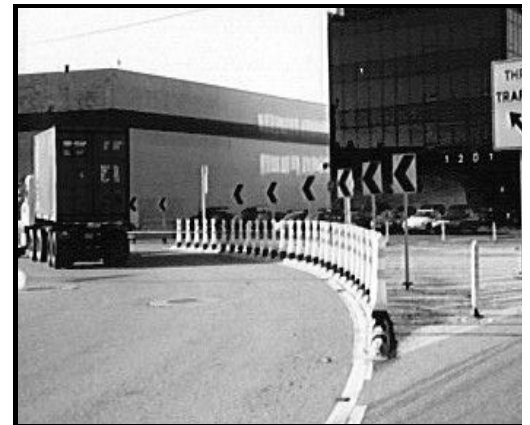
Long Term Installation Manual



Interstate Application



Median Application



Edge Line Applications

Private/Proprietary: Not for use or disclosure outside of QWICK KURB[®], INC. except by written agreement.

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Table of Contents

INSTRUCTIONS FOR LONG TERM INSTALLATION - 2004 6

 INTRODUCTION 6

INSTALLATION CONDITIONS 7

 TRAFFIC CONSIDERATIONS 7

 SKID RESISTANT GRIPS 7

 WEATHER CONDITIONS 7

TOOLS AND EQUIPMENT CHECKLIST 8

PARTS CHECKLIST 9

ILLUSTRATED PARTS 10

PREPARING THE ROADWAY FOR INSTALLATION 12

 CLEANING THE ROADWAY SURFACE 12

 LINING THE INTENDED PATHWAY 12

WATER CHANNELS AND SPACING MARKERS/BOLLARDS 13

 USING WATER CHANNELS 13

 SPACING THE REBOUNDABLE MARKERS/BOLLARDS 13

SETTING THE L60 SEPARATOR UNITS INTO POSITION 14

 SETTING THE L60 SEPARATOR UNITS 14

DO NOT DRAG THE L60 SEPARATOR UNITS 14

CONNECTING THE L60 SEPARATOR UNITS 17

 INSTALLING THE L65 REFLECTIVE ARCS 17

INSTALLING TO THE ROADWAY 19

 FINE TUNING 19

 BOLTING TO THE ROADWAY - ASPHALT OR FLEXIBLE ROAD BASE 19

 BOLTING TO THE ROADWAY - CONCRETE 20

 INSTALLING THE MARKERS/BOLLARDS 20

THE Q640 PANEL PULLER TOOL 20

 ALTERNATE PROCESS 21

SECURING THE MARKER/BOLLARD WITH THE S65 BLACK SECURING ARCS 23

REMOVAL..... 25

TRAFFIC CONSIDERATIONS..... 25

REMOVING THE MARKERS/BOLLARDS..... 25

REMOVING THE L65 REFLECTIVE ARCS..... 25

DISASSEMBLING THE L60 SEPARATOR UNITS..... 25

UNBOLTING FROM THE ROADWAY - ASPHALT..... 26

PICKING UP THE L60 SEPARATOR..... 26

DO NOT DRAG THE L60 SEPARATOR UNITS..... 26

MAINTENANCE..... 27

STORAGE..... 28

TRANSPORT 29

CUSTOMER SERVICE 30

REPLACEMENT PARTS..... 30

MEASUREMENTS 30

APPENDIX A - Q640 PANEL PULLER 31

QWICK INSTALLATION 31

APPENDIX B - INSTALLING NEW MARKERS/BOLLARDS TO THE REBOUNDABLE FLEX BOOT 34

TRAFFIC CONSIDERATIONS..... 34

REMOVING THE OLD MARKER/BOLLARD FROM THE REBOUNDABLE FLEX BOOT 34

PREPARING THE NEW MARKER/BOLLARD FOR INSTALLATION ON THE REBOUNDABLE FLEX BOOT..... 34

APPENDIX C - PARTS SPECIFICATIONS 36

L60 SEPARATOR UNIT 36

L61 MALE END UNIT..... 37

L62 FEMALE END UNIT 37

L65 REFLECTIVE MARKER..... 37

S65 SECURING ARC..... 37

L84 FLAT MARKER/BOLLARD 37

L104 AIR MARKER/BOLLARD 37

QWICK KURB[®], INC.

Long Term Installation Manual

L125 MARKER/BOLLARD..... 37
L125S MARKER/BOLLARD 37
FS50 CLOVERLEAF ASPHALT MOLLY 37
FS51 CONCRETE ANCHOR 37

INSTRUCTIONS FOR LONG TERM INSTALLATION - 2004

INTRODUCTION

QWICK KURB[®] is a longitudinal channelizer system of interlocking raised L60 SEPARATOR units, L65 Reflecting Arcs depicting the raised profile of the L60 SEPARATOR, and vertical markers and/or bollards. The system is used instead of asphalt or concrete separators of similar dimensions. It outlasts asphalt, is deployed faster than asphalt and concrete, and it requires less maintenance. It provides superior guidance for the motorist day and night. It is ideal as a traffic separator, and as an edge line guide to channel traffic away from attenuators, to discourage motorists from driving into restricted areas, and to channel in other desirable ways. Installation is quickly mastered by following the techniques in this instruction manual. Dimensions mentioned in the instructions are approximate. Refer to **Appendix C - Parts Specifications** on page 36 when more precise measurements are needed.

To install on *DRAW BRIDGES*, contact QWICK KURB[®]. INC. to obtain additional instructions.



CAUTION: *The L60 SEPARATOR is not intended for use as a substitute where barrier wall or barrier curb is required. As with temporary asphalt and concrete separator, emergency and other vehicles are able to traverse the L60 SEPARATOR.*

The L60 SEPARATOR is designed to help guide the motorist visually, earn driver respect for the visual channelization, assist encroaching drivers to promptly recognize that their vehicles are straying into improper locations, and to minimally deflect the vehicles. The L60 SEPARATOR is not designed to stop vehicles, or to alter their course in a significant manner.

When configuring a vee shape to channelize motorists away from attenuators, place the point of the vee no closer than thirty (30) feet from the attenuator. QWICK KURB[®] testing has not included closer positioning.

To minimize maintenance of the markers/bollards, designers should take into consideration lane width, along with wide load and truck turning radius requirements.

INSTALLATION CONDITIONS

TRAFFIC CONSIDERATIONS

Whenever possible close both lanes to traffic when installing the System between lanes. If one lane must be kept open during installation, take care to assure that all equipment and personnel are kept clear of the open travel lane. Observe all traffic control regulations. Use flaggers, law enforcement officers, flashing arrow boards, attenuators, and other safety devices as necessary for the conditions present.

SKID RESISTANT GRIPS

On the bottom of each L60 SEPARATOR, each L61 Male and L62 Female End unit, are raised rubber grips.



These are fastened to the L60 SEPARATOR with a screw and washer. Be certain that each grip is in place and that each is in good condition as these grips add to the L60 SEPARATOR's stability system. Before installing the L60 SEPARATOR, attach or replace any grip that is not in position or is damaged. The grips also raise the L60 SEPARATOR slightly above the pavement surface so that water can run underneath, though water channels may be necessary if excessive water is likely. Refer to the **Using Water Channels** section on page 13 for more information.

WEATHER CONDITIONS

The L60 SEPARATOR can be installed permanently under most weather conditions. Heat and cold do not present obstacles. However, before working with electrical equipment in wet conditions, be certain to follow the manufacturer's instructions to prevent electrical shock or other damage. Refer to the **Installing to the Roadway** section on page 19 for more information.

TOOLS AND EQUIPMENT CHECKLIST

For a typical installation, we recommend the items listed below.

NOTE: Always follow manufacturers' instructions when using any power, impact or other tools and equipment.

Item	Description
5 Horsepower Generator	5,000 watts.
Variable Speed Rotary Hammer	300-700 no load rpm and 1,650-3900 rpm; 1" bit capacity, e.g., Bosch Terminator Model 11222EVSG or Milwaukee Hawk [®] Model 5362-1. Drills holes into asphalt or concrete for anchors.
Carbide Tipped Bits for Rotary Hammer	ANSI diameter 3/4"; minimum usable length 10". The quantity needed depends on the length and number of installations and the density of the underlying material.
Electric Impact Wrench	1/2"; maximum torque 330 ft. lbs., e.g., Ingersoll-Rand Model IR8053 or DeWalt Model DW290 – (connects the L60 SEPARATOR with connecting bolt & nut).
15/16" Shallow Socket	Use with electric impact wrench to tighten FS50 anchor sets (for asphalt or flexible road base).
1 1/8" Shallow Socket	Use with electric impact wrench to tighten FS51 anchor sets (for concrete surfaces).
17mm Shallow Socket	Use with electric impact wrench (for L60 SEPARATOR connecting bolt & nut).
Electric Drill	1/2"; 0 to 550 rpm, variable speed e.g., Makita Model 6402 and a Number PH3 screw driving bit, e.g., Vermont American Deckster - installs S65 black Securing Arcs (use the low setting torque and a Number PH3 bit to avoid stripping the screw heads).
Extension Cord	50 foot heavy duty grade 12 gauge.
Rubber Hammer	Assists in tapping the markers/bollards and L65 Reflective Arcs into place.
Hammer	Taps anchors into the drilled holes.
Soapy Water	Assists in sliding the markers/bollards into place.
Stiff Broom	Clears debris from the intended placement location for the L60 SEPARATOR.

For lengthy installations in excess of 1,000 feet, you may wish to rent our optional Conveyor.

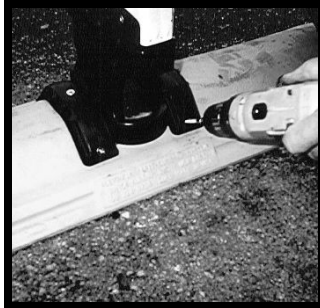
To install a large number of markers/bollards you may wish to purchase our Q640 Panel Puller. Refer to **Appendix A** on page 31 for more information.

PARTS CHECKLIST

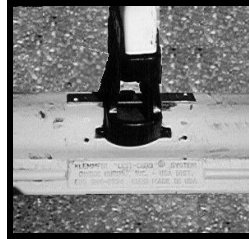
Refer to the **Illustrated Parts** section on page 10 and 11 for a close up view of the parts listed below.

Part Number	Description	Quantity
L60	QWICK KURB [®] One-Meter SEPARATOR Units	The number purchased for the distance of each adjacent line.
L61	Male End Unit	At Least one and any additional L61 Male End units purchased to include the number of required water channels contemplated.
L62	Female End Unit	At Least one and any additional L62 Female End units purchased to include the number of required water channels contemplated.
L65	Reflective Arc	The number ordered.
S65	Black Securing Arc	(2) per marker/bollard - Secures each marker/bollard's reboundable Flex Boot.
L84	Reboundable Flat Marker/Bollard	The number ordered.
L104	Reboundable Air Marker/Bollard	The number ordered.
L125	Reboundable Round Marker/Bollard	The number ordered.
L125S	Reboundable Short Round Marker/Bollard	The number ordered.
FS50	Asphalt 5/8"x 3 1/2" Cloverleaf Mollies, 5/8"x 6" Lag Bolts, and 5/8" Washers	The number ordered – (2) per L60 SEPARATOR, (1) per L61 Male, and (1) per L62 Female End units.
FS51	Concrete 3/4"x 5 1/2" Anchors, 1 1/8" Nuts, and 3/4" Washers	The number ordered – (2) per L60 SEPARATOR, (1) per L61 Male, and (1) per L62 Female End units.
N/A	2 1/2" Short Screws	(2) For each black Securing Arc.
N/A	4" Long Screws	(1) For each black Securing Arc.
N/A	Connecting 17mm Nuts and 1/2" Washers	Enough to fasten the L60 SEPARATOR units together – (1) per L60 SEPARATOR, and (1) per L61 Male End unit.

ILLUSTRATED PARTS



S65 BLACK SECURING ARCS

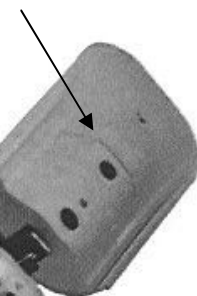


REBOUNDBLE FLEX BOOT WITH STABILIZING BAR



L65 REFLECTIVE ARC

L62 FEMALE END UNIT



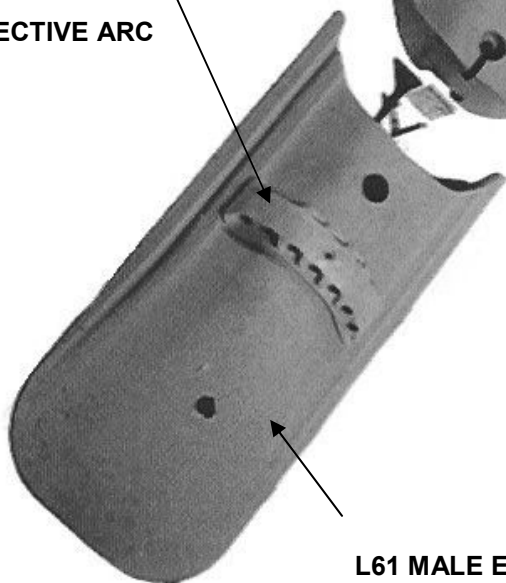
FS50 ASPHALT BOLT AND MOLLY



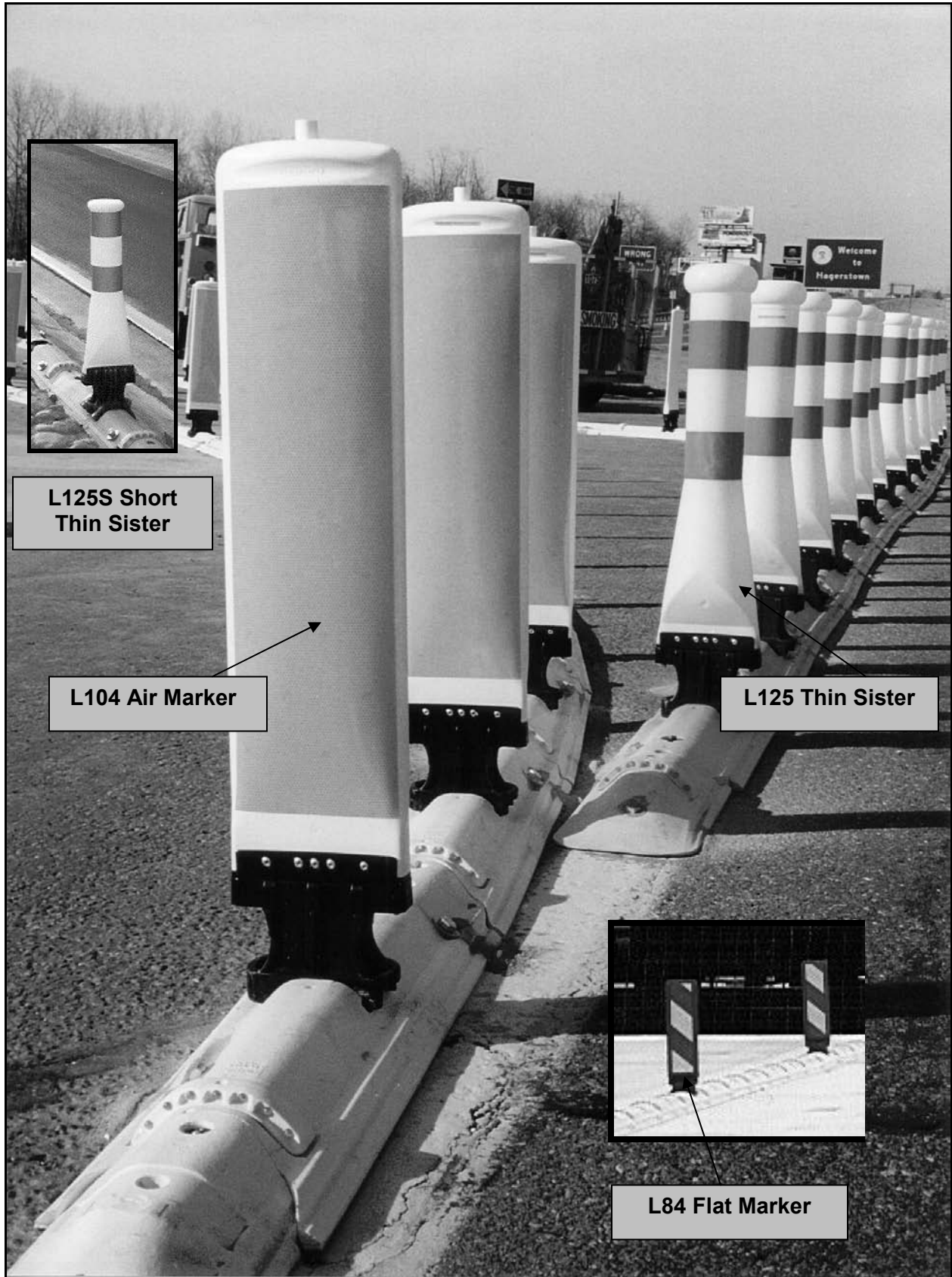
FS51 CONCRETE ANCHOR WEDGE

OR

L60 SEPARATOR UNIT



L61 MALE END UNIT



**L125S Short
Thin Sister**

L104 Air Marker

L125 Thin Sister

L84 Flat Marker

PREPARING THE ROADWAY FOR INSTALLATION

CLEANING THE ROADWAY SURFACE

QWICK KURB[®] is designed for mounting on generally flat asphalt and concrete surfaces. A long-term installation of the L60 SEPARATOR on gravel, dirt roads, or other loose surfaces may not be effective. Usually, a stiff broom is adequate to prepare an area free from gravel, cinders, sand, and other debris.

The L60 SEPARATOR should not be installed on top of reflective pavement markers (RPMs). Preferably, arrange the alignment of the L60 SEPARATOR to the side of any RPMs in the installation area, or remove the RPMs if appropriate for the conditions. Remove any surface mount delineator that is in the L60 SEPARATOR's intended position. If the surface is highly irregular, e.g., cobblestones, potholes, etc., or of unstable material which may break or separate if drilled, such as paving bricks, etc., an alternative to the L60 SEPARATOR in that position may be necessary.

LINING THE INTENDED PATHWAY

Use a chalk line or string to make an edge line for the L60 SEPARATOR. Often, the existing painted line is straight enough and in the right location so that no additional lining is necessary.

The L60 SEPARATOR units are 10 5/8" in width. If you are installing over an existing 4" center lane line, for example, center the L60 SEPARATOR on the lane line so that you are evenly distributed between lanes.

WATER CHANNELS AND SPACING MARKERS/BOLLARDS

USING WATER CHANNELS

Because water is able to run under the L60 SEPARATOR units, water channels are normally not needed. However, if additional water flow is desired because of unusual climate, drainage or roadway slope conditions, channels may be created by facing the downslopes of opposing L61 Male and L62 Female End units toward one another, and separating them by several inches.

If additional water channels are needed after the installation is complete, remove and replace an existing L60 SEPARATOR with an L61 Male and L62 Female End unit. This will create a water channel of approximately three inches.

NOTE: The longer the length of connected L60 SEPARATOR, the stronger the system, so use the fewest possible water channels.

SPACING THE REBOUNDABLE MARKERS/BOLLARDS

Markers/bollards are typically placed on the one-meter L60 SEPARATOR units at intervals ranging from one to seven units, that is, spaced from about 3 to 25 feet. Closer spacing should be used for areas where drivers may be inclined to attempt crossing the L60 SEPARATOR, such as into popular commercial establishments.

NOTE: Motorists who spin their drive wheels attempting to cross the L60 SEPARATOR may cause misalignment over time; use tight spacing of markers/bollards to discourage this practice. Alternatively, allow left turns by creating a wide opening.

SETTING THE L60 SEPARATOR UNITS INTO POSITION

SETTING THE L60 SEPARATOR UNITS

Verify that you have the required components to begin the L60 SEPARATOR installation process.

IMPORTANT: Before beginning, inspect all the L60 SEPARATOR components. Never use a damaged or irregular piece of any L60 SEPARATOR component.

DO NOT DRAG THE L60 SEPARATOR UNITS

Sliding the L60 SEPARATOR a few inches to correct alignment is acceptable. However, under no circumstances are the L60 SEPARATOR units ever to be dragged along a hard surface such as a road. If the L60 SEPARATOR units are inadvertently installed in an incorrect location or must otherwise be relocated, you must take up the L60 SEPARATOR units as instructed in the **Removal** section on page 25, and re-install them in the new location. Alternatively, contact QWICK KURB[®], INC. operations personnel for instructions.

Two critical components of the L60 SEPARATOR that can be damaged by dragging are the steel connecting hooks and the rubber feet. Dragging a long line of L60 SEPARATOR units may bend the steel connecting hooks, endangering the connections.

Dragging may also wear down the rubber feet, which is unacceptable. The rubber feet raise the L60 SEPARATOR slightly above the roadway surface to allow water run-off that is not handled by water channels, and they create additional friction that helps to stabilize the L60 SEPARATOR.

To set the L60 SEPARATOR units:

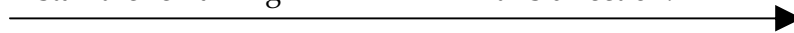
1. *Always* begin installation with an L61 *Male* End unit (the End unit with the steel hook). Place it into position with the slope toward the beginning of the set-up (Fig 1). For panels with single-sided sheeting (uni-drive traffic situations) always install the L60 SEPARATOR in the direction of the traffic flow to insure that the sheeting will face the correct direction when slid into the slot on the L60 SEPARATOR.

NOTE: You can add to an existing installation by removing the L62 Female End unit and continuing with L60 SEPARATOR if further extension is needed.



Fig 1

Install the remaining QWICK KURB[®] in this direction.



2. Set the female part of the one-meter L60 SEPARATOR on to the L61 Male End unit's steel hook so the bolt is exposed on the top of the one-meter L60 SEPARATOR (Fig 2).

*NOTE: When the adjoining unit is placed on the steel hook, **leave a little slack** between the units. This allows the units to expand in hot weather. If units are jammed too tightly together, expansion in hot weather may cause the L60 SEPARATORS to "bow" up a bit. While bowing does not create a structural problem, it is less attractive and encourages dirt and debris to slide beneath the L60 SEPARATOR units.*



Fig 2

3. Use the steel hook on the opposite end of the one-meter L60 SEPARATOR to continue the connections.
4. Continue placing one-meter L60 SEPARATOR units in the same manner until reaching a water channel location or the end of the installation.

5. At the end of the set-up, place an L62 Female End unit (Fig 3) on to the steel hook and bolt of the last one-meter L60 SEPARATOR.



Fig 3

CAUTION: Never allow the L60 SEPARATOR to be in place without the L61 Male and Female L62 End units properly installed. An uncovered steel hook and the blunt end on the one-meter L60 SEPARATOR would be a danger to vehicles, bicycles, pedestrians, and others.

CONNECTING THE L60 SEPARATOR UNITS

To connect the L60 SEPARATOR units:

6. After the L60 SEPARATOR units have been placed into position on the roadway, Install a 1/2" washer over the bolt threads and hand tighten a 17mm nut to the connecting bolt.
7. Use the impact wrench with the 17 mm *shallow* socket to tighten the nut to the bolt connecting the steel hook of the adjoining L60 SEPARATOR unit.

CAUTION: All bolts must be fastened in order for the system to function safely. Failure to fasten all of the units together creates the risk of separation and shifting. The installer and user assume exceptional liability if connecting hooks are not secured as instructed.

INSTALLING THE L65 REFLECTIVE ARCS

The L65 Reflective Arcs may be added before or after bolting the L60 SEPARATOR units to the roadway.

To add the L65 Reflective Arcs:

8. Insert the Reflective Arc's post into the hole (Fig 4) on each one-meter L60 SEPARATOR unit and tap it into place gently with a rubber hammer (if you hammer too hard you may pop out a cats eye).

NOTE: Do not confuse the Arc holes with the Pick-up Tool holes (Fig 5).

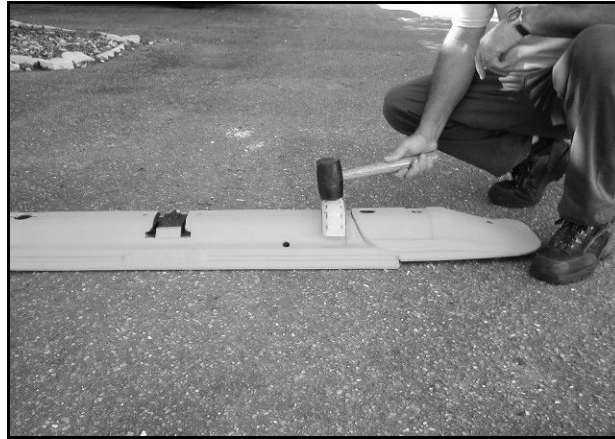


Fig 4

9. Insert a Reflective Arc into the hole on the L61 Male End unit.

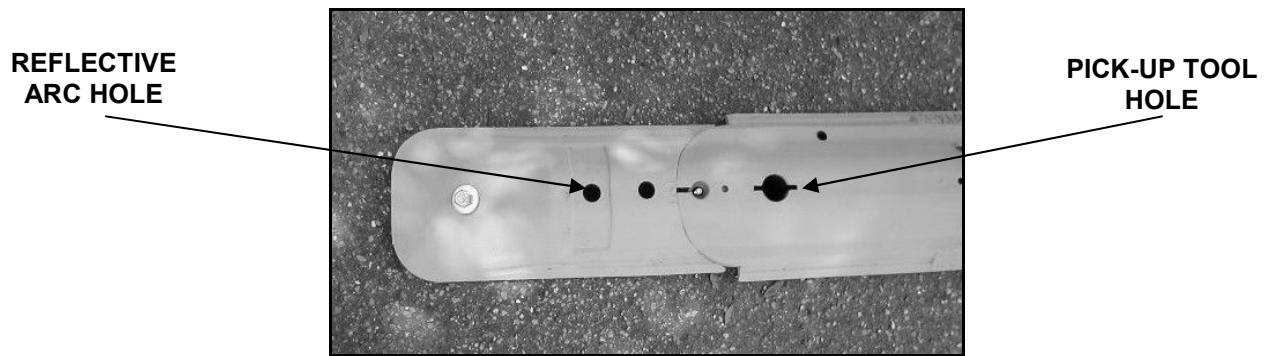


Fig 5

INSTALLING TO THE ROADWAY

FINE TUNING

After the L60 SEPARATOR units are in position and before drilling is complete, inspect for correct alignment. Installers may correct minor misalignments by pulling the L60 SEPARATOR sideways.

If a conveyor is used, the easiest way to fine tune is to keep the alignment correct as the units reach the bottom of the conveyor, just prior to exiting.

BOLTING TO THE ROADWAY - ASPHALT OR FLEXIBLE ROAD BASE

NOTE: If there is a concrete road base beneath an asphalt topping, determine the depth of the asphalt. If the asphalt is less than 2 1/2" deep, you may need a concrete anchor instead of the Cloverleaf asphalt Molly (plastic expansion anchor).

To bolt to the roadway:

Each L60 SEPARATOR unit has two holes located on opposing sides that are angled toward the center of the L60 SEPARATOR. Each L61 Male and L62 Female End unit has one hole angled parallel to the length of the L60 SEPARATOR units. Each hole is sized to accommodate the plastic expansion anchor.

1. Drill holes to a minimum depth of 8".

TIP: Place a mark on the drill bit 8" from the tip.

2. Using the rotary hammer with the 3/4" bit, insert the bit through the angled hole, and drill into the asphalt road. Do not drill straight down, but rather follow the same angle of the pre-drilled hole in the L60 SEPARATOR. When the marked point on the bit is flush with the L60 SEPARATOR, a depth adequate to accommodate the bolt and anchor, stop drilling.

TIP: If you have two drills, installers can drill in accord on opposing sides of the L60 SEPARATORS.

3. Place a washer on a lag screw, and insert the lag screw into the plastic expansion anchor.

NOTE: This assembly may be built prior to mobilizing on the job site.

4. Use the *small* hammer to tap the bolt through the hole until it pushes the plastic expansion anchor through, and bottoms out under the pavement.
5. Use the impact wrench with a 15/16" socket to tighten the bolt until the washer is *snug* against the L60 SEPARATOR unit and the plastic expansion anchor widens beneath the road surface.

CAUTION: NEVER install a bolt without the washer and anchor.

HINT: Temperature extremes can cause the L60 SEPARATOR to contract and expand slightly even during the short installation time. Therefore, if you drill all of the holes at one time, you may discover that some of the holes in the L60 SEPARATOR no longer align with the holes you have drilled into the pavement. Ideally, a second installer installs the anchor bolt shortly after the first installer drills the hole.

BOLTING TO THE ROADWAY - CONCRETE

Installation on concrete roads follows the same general instructions as bolting to asphalt, mentioned above. Drill holes to a minimum depth of 8". Use the impact wrench with a 1 1/8" socket to tighten the concrete anchors.

NOTE: Care must be taken to ensure that the proper concrete anchor length is used. Be especially aware of the possibility of shallow retaining rods, as damage to drills is a risk. Drill holes to a minimum depth of 8".

Occasionally, such as on bridge decks and in tunnels, there are depth restrictions for anchor penetration. For 3" maximum depth penetration, use a 5" long lag bolt. Place a mark on the drill bit 5-1/4" from the tip, and proceed as indicated above. When measured vertically, the hole will be no more than 3" in depth. For more stringent depth restrictions, contact QWICK KURB®. INC. Customer Service.

INSTALLING THE MARKERS/BOLLARDS

THE Q640 PANEL PULLER TOOL

For easiest installation, we recommend using the Q640 Panel Puller tool. Marker/bollard installation is faster and easier. Refer to **Appendix A** on page 31 for a description and instructions.

ALTERNATE PROCESS

NOTE: The L84 Flat Marker/Bollard does not have a Stabilizing Bar.

The marker/bollard is best added after the L60 SEPARATOR is bolted into position on the roadway. The reboundable Flex Boot of the marker/bollard has a narrow edge and a tall edge. The narrow edge of the reboundable Flex Boot of the vertical marker/bollard fits into the center slot of the one-meter L60 SEPARATOR. Notice that there is a small wedge in the slot (Fig 6). It is easier to insert the reboundable Flex Boot in the side where the wedge is located, but inserting from either side is effective.

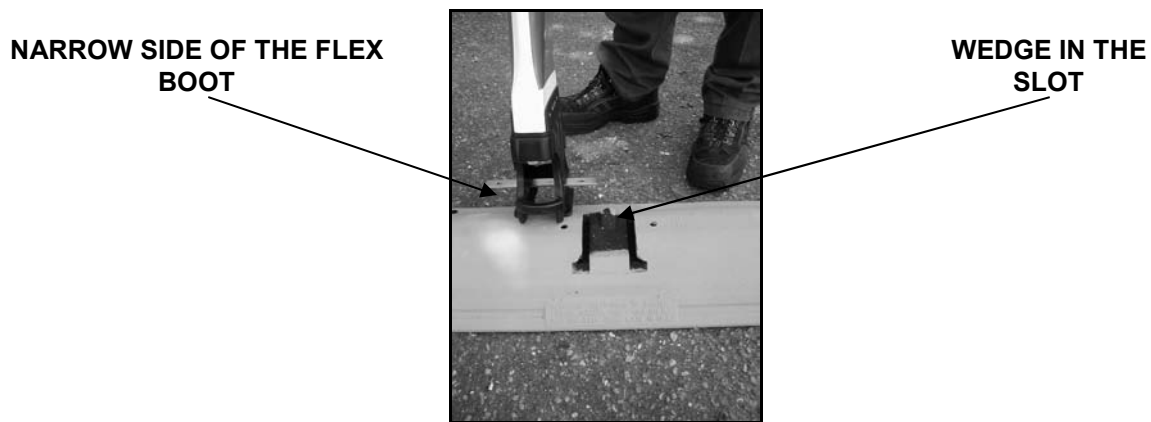


Fig 6

To add the markers/bollards:

6. Use soapy water to lubricate the bottom of the marker/bollard and the slide-in slots in the center of the one-meter L60 SEPARATOR. Do not use silicone or petroleum-based lubricants because residue may allow the markers/bollards to ease up from the L60 SEPARATOR and cause them to lean.

7. Position the reboundable Flex Boot into the L60 SEPARATOR slot with the narrow edge facing toward the L60 SEPARATOR. Give it a gentle tap so that the marker/bollard stands on its own (Fig 7).



Fig 7

8. Continue to tap the base with a rubber hammer, while pulling, to help the marker/bollard slide into the slot. The reboundable Flex Boot has two sloping ends to assist sliding it into the L60 SEPARATOR (Fig 8).



Fig 8

9. The Stabilizing Bars (metal flanges) protruding from the sides of the reboundable Flex Boots are designed to rest tightly on top of the L60 SEPARATOR. Accordingly, do not be concerned if the Stabilizing Bars scrape the top of the L60 SEPARATOR during installation.

SECURING THE MARKER/BOLLARD WITH THE S65 BLACK SECURING ARCS

There are two S65 black Securing Arcs for the Flex Boot of each marker/bollard. Each S65 black Securing Arc has two short screws and one long screw.

NOTE: This section does not apply to the L84 Flat Marker/Bollard. The L84 Flat Marker/Bollard does not require S65 black Securing Arcs.

IMPORTANT: You must install all 3 screws in each S65 black Securing Arc. Start with the longer 4" screw that installs in the top hole of the S65 black Securing Arc. If you use the short screws first, the Securing Arc will not be tight enough on top.

The S65 black Securing Arcs serve two purposes:

- Discouraging theft.
- Securing the reboundable Flex Boot to the L60 SEPARATOR.

Securing the Stabilizing Bars that protrude from the reboundable Flex Boot reduces the chance of the reboundable Flex Boot popping out of the L60 SEPARATOR's slot upon a severe vehicular impact on the marker/bollard.

To secure the markers/bollards:

10. Position the Stabilizing Bars so that their holes are above the pre-molded holes in the top of the L60 SEPARATOR (Fig 9). If necessary, use the rubber hammer to align the Stabilizing Bars with the pre molded holes.

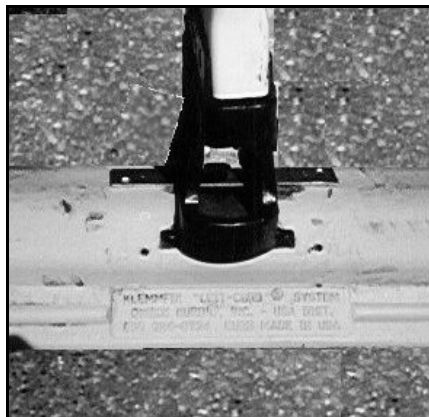


Fig 9

11. Place a black Securing Arc on the L60 SEPARATOR, snugly against one side of the marker/bollard's reboundable Flex Boot, aligning the hole with the hole in the Stabilizing Bar and the hole in the L60 SEPARATOR.
12. Place the long screw through the single top hole of the S65 black Securing Arc, and tighten securely.

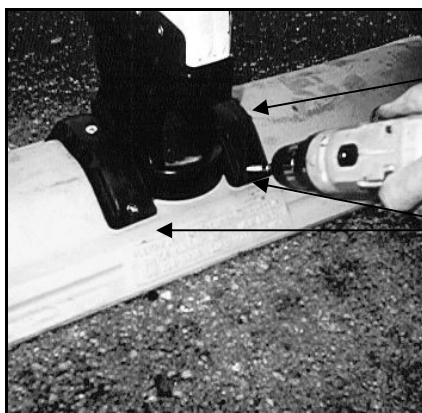
IMPORTANT: The 4" screw must be installed first. For all screws use a #3(blunt) Phillips tip to avoid stripping the screw heads. Do not exceed 800 RPM.

13. Place two short screws into the two side holes of the S65 black Securing Arc, and tighten securely.
14. Repeat the process with a second black Securing Arc on the other side of the reboundable Flex Boot (Fig 10). Continue the process of installing two S65 black Securing Arcs for each marker/bollard's reboundable Flex Boot.



The Black Securing Arc Requires All 3 Screws

Top long screw installs FIRST.



4" SCREWS - FIRST

2 1/2" SCREWS - SECOND

Fig 10

REMOVAL

Unlike asphalt or concrete curb, QWICK KURB[®] is *reusable*. It can be removed to make way for repaving, and then reinstalled inexpensively. Only the plastic expansion mollies and concrete anchor assemblies must be abandoned and replaced.

TRAFFIC CONSIDERATIONS

Whenever possible close both lanes of traffic when removing the L60 SEPARATOR. If one lane must be kept open during removal, take care to assure that all equipment and personnel are kept clear of the open travel lane. Use flaggers, law enforcement officers, flashing arrow boards, attenuators and other safety devices as necessary.

REMOVING THE MARKERS/BOLLARDS

1. Unscrew the S65 black Securing Arcs. Save the hardware and the S65 black Securing Arcs. Slide the markers/bollards out of the L60 SEPARATOR. Use a rubber hammer to tap the marker/bollard's reboundable Flex Boot.

NOTE: If you have adequate storage space, you may skip this step and leave the markers/bollards in the L60 SEPARATOR.

REMOVING THE L65 REFLECTIVE ARCS

We recommend leaving the L65 Reflective Arcs attached for storage.

DISASSEMBLING THE L60 SEPARATOR UNITS

2. Before removing the QWICK KURB[®] from the roadway, loosen the nuts connecting the L60 SEPARATOR units, using a 17 mm socket.

UNBOLTING FROM THE ROADWAY - ASPHALT

3. Use the impact wrench with the 15/16" socket to back out each of the asphalt lag bolts. Save the undamaged bolts and washers for the next installation.

NOTE: Contact QWICK KURB[®], INC. Customer Service for information on removing concrete anchors.

PICKING UP THE L60 SEPARATOR

Always start by picking up the L62 Female End unit.

4. Lift up the adjoining one-meter L60 SEPARATOR unit.
5. Continue lifting each remaining L60 SEPARATOR in reverse order, from which it was installed.

DO NOT DRAG THE L60 SEPARATOR UNITS

Sliding the L60 SEPARATOR a few inches to correct alignment is acceptable. However, under no circumstances are the L60 SEPARATOR units ever to be dragged along a hard surface such as a road. If the L60 SEPARATOR units are inadvertently installed in an incorrect location or must otherwise be relocated, you must take up the L60 SEPARATOR units as instructed in the **Removal** section on page 25, and re-install them in the new location. Alternatively, contact QWICK KURB[®], INC. operations personnel for instructions.

Two critical components of the L60 SEPARATOR that can be damaged by dragging are the steel connecting hooks and the rubber feet. Dragging a long line of L60 SEPARATOR units may bend the steel connecting hooks, endangering the connections.

Dragging may also wear down the rubber feet, which is unacceptable. The rubber feet raise the L60 SEPARATOR slightly above the roadway surface to allow water run-off that is not handled by water channels, and they create the additional friction that helps to stabilize the L60 SEPARATOR.

MAINTENANCE

Inspect the system periodically. Usually the reboundable Flex Boot will not be damaged even if the marker/bollard is. An undamaged reboundable Flex Boot may be used again by removing the damaged part from the Flex Boot, and bolting a new marker/bollard top part to the Flex Boot. Refer to **Appendix B** on page 34 for instructions on how to replace the tops.

Pressure wash or brush away accumulations of dirt. Repaint L60 SEPARATOR units if needed, using lead free traffic marking paint which allows for flexible movement of the painted plastic material. The recommended refurbishing paint to over-paint the original base coloring is available from Sherwin Williams.

IMPORTANT: Avoid painting the L65 Reflective Arcs, the connecting bolt threads, and the slot slides where the marker/bollard fits into place.

Contact QWICK KURB[®], INC. for a quote to refurbish L60 SEPARATOR units.

If water backs up against the L60 SEPARATOR and better drainage is needed, use L61 Male and L62 Female End units to create additional water channels. At each affected position, simply replace a one-meter L60 SEPARATOR by facing the downslopes of opposing L61 Male and L62 Female End units toward one another, and separating them by several inches.

On rare occasions, the underlying road base is composed of unstable material, which may cause the anchor bolts to loosen. Consider re-tightening if the anchoring system has held successfully for a long time; or consider replacing the anchor with a wider version. You may also re-position the anchors by re-drilling the SEPARATOR in a different position. Please contact QWICK KURB[®], INC. for specific instructions.

STORAGE

To retain QWICK KURB®'s yellow or white color and the optimum reflectivity of the markers/bollards and L65 Reflective Arcs after each use, the units should be pressure washed before storage. The yellow and white L60 SEPARATOR units may be stored outside, off the ground, and covered with a tarp. Stack the one-meter units in a doubled crosshatch pattern. Stack a base row of four (4) one-meter L60 SEPARATOR units on the bottom parallel to one another, and nest three (3) L60 SEPARATOR units upside-down in the cavities between the base row L60 SEPARATOR units. Next, create another base of four (4) parallel L60 SEPARATOR units, perpendicular to the direction of the lower base, and again nest three (3) L60 SEPARATOR units upside-down. Continue in this pattern up to a maximum of sixty-three (63) L60 SEPARATOR units, i.e., nine rows of seven L60 SEPARATOR units (Fig 11).

Do not stack randomly, or leave parts of the sections unsupported. Proper stacking will keep the L60 SEPARATOR from warping or breaking. Do not stack higher than approximately four (4) feet unless there is support on all sides. Do not double stack pallets. Regularly inspect stacked L60 SEPARATOR units to insure that there is no leaning. Shrink-wrap and band when possible.

We recommend that the L 65 Reflective Arcs, S65 black Securing Arcs, and markers/bollards be stored under cover, because long exposure to sunlight and moisture degrades reflective sheeting and these plastics.

NOTE: You may leave the L65 Reflective Arcs attached.

Care must be taken to insure that units are cross-stacked as directed, and tied down securely and not so high that they fall if jarred; otherwise personal injury and damage may result. Pallets must be strong enough to support the combined weight, and be located on a solid foundation to avoid leaning.

**STACK OF 49 L60
SEPARATORS**



Fig 11

TRANSPORT

The recommended manner of transport is on flat bed trucks or heavy-duty trailers.

QWICK KURB[®] is heavy; a one-meter L60 SEPARATOR weighs approximately 40 lbs. Care must be taken to insure that units are secured and not stacked so high that they fall during movement, or personal injury and damage may result. Pallets must be strong enough to support the combined weight. Do not double stack pallets. Transport requires banding or other support suitable for the mode of transportation. Stack units on pallets for transport in the same pattern described in the **Storage** section on page 28. Pack nuts into a transport safe container.

Markers/bollards should be boxed for transport. Stack the markers/bollards vertical, or lay them horizontally on the thin edge side by side. Either way, you should place them at opposite ends of each other to optimize packing space, and prevent the Stabilizing Bars or reboundable Flex Boots from damaging the sheeting. In addition, it is best to place cardboard or paper between stacks/rows to prevent damage to sheeting. Pack S65 black Securing Arcs, and screws in transport safe containers. If L65 Reflective arcs are detached, pack them in transport safe containers as well.

QWICK KURB[®], INC.

Long Term Installation Manual

CUSTOMER SERVICE

For advice or help, call QWICK KURB, INC. Customer Service at 800-324-8734 between 8:00 AM and 5:30 PM Eastern Time Zone, Monday-Friday.

REPLACEMENT PARTS

Recommended spare parts include **per 1,000 feet** of QWICK KURB[®]: (1) Reflective Arc; (5) marker/bollard tops.

Replacement parts may be ordered from your local distributor or directly from QWICK KURB[®], INC. at 1916 US 41 South, Ruskin, Florida 33570.

Phone: 800-324-8734

Fax: 813-645-4856

www.qwickkurb.com

MEASUREMENTS

All measurements in these instructions are approximate as recycled plastic varies in weight, and expands and contracts slightly with temperature variation. The L 60 SEPARATOR often referred to above as being "one-meter", is actually slightly longer at about 3.33 feet. An L61 Male and L62 Female End unit set measures 3 feet.

APPENDIX A - Q640 PANEL PULLER

QWICK INSTALLATION

The reboundable Flex Boot of the marker/bollard has a narrow edge and a tall edge. The narrow edge of the reboundable Flex Boot of the vertical marker/bollard fits into the center slot of the one-meter L60 SEPARATOR. Notice that there is a small wedge in the slot (Fig 1). It is easier to draw the reboundable Flex Boot from the opposite side of where this wedge is located, but drawing from either side is effective. Your Panel Puller will grip the narrow edge.

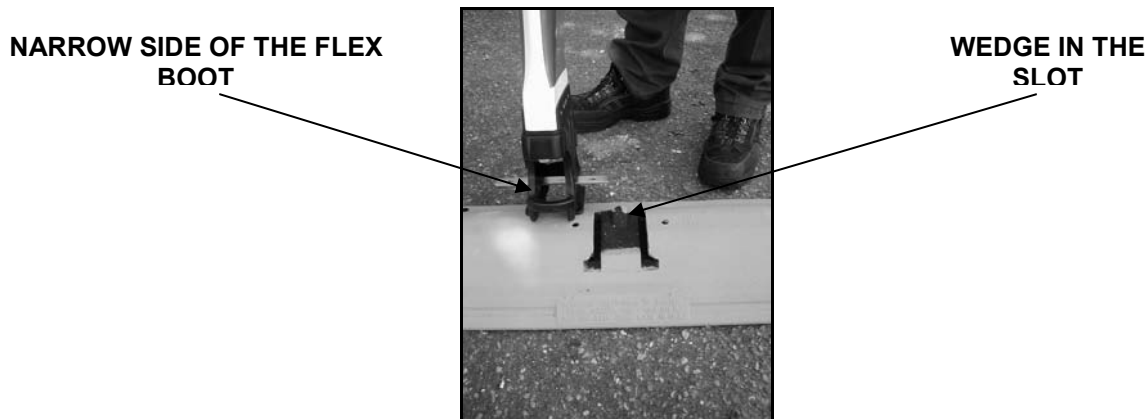


Fig 1

To use the Q640 Panel Puller:

TIP: Dip the reboundable Flex Boot into soapy water to start.

1. Position the reboundable Flex Boot into the L60 SEPARATOR slot with the narrow edge facing toward the L60 SEPARATOR. Align the reboundable Flex Boot into the slot, and start it with a gentle kick or hammer tap so that the marker/bollard stands on its own.
2. Tilt the Panel Puller toward the reboundable Flex Boot and use the steel hook to grab the narrow edge of the boot (Fig 2). If the metal flanges of the Stabilizing Bar scrape the top of the L60 SEPARATOR, you may have to tap them with a hammer while pulling. Position the holes of the metal flanges to align with the small holes in the top of the L60 SEPARATOR.



Fig 2

3. Bring the base plate of Panel Puller toward yourself so that it sets flat on the roadway surface, flush against the L60 SEPARATOR (Fig 3).

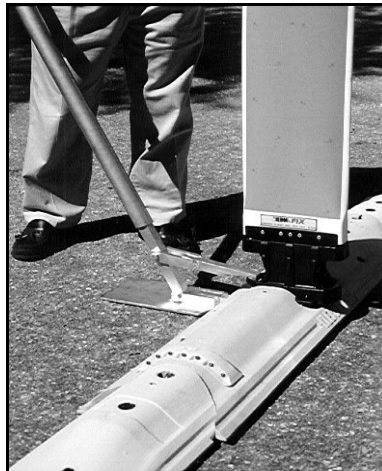


Fig 3

4. Use the long Panel Puller handle to pull the reboundable Flex Boot through the L60 SEPARATOR. If the reboundable Flex Boot misaligns as it moves through the L60 SEPARATOR, maneuver the Panel Puller to the left or right to make adjustments (Fig 4). Remember the soapy water if you have difficulty.



Fig 4

APPENDIX B - INSTALLING NEW MARKERS/BOLLARDS TO THE REBOUNDBLE FLEX BOOT

TRAFFIC CONSIDERATIONS

Whenever possible close both adjoining lanes to traffic when replacing markers/bollards on the road. If one lane must be kept open, take care to assure that all equipment and personnel are kept clear of the open travel lane. Observe all traffic control regulations. Use flaggers, law enforcement officers, flashing arrow boards, attenuators and other safety devices as necessary for the conditions present.

REMOVING THE OLD MARKER/BOLLARD FROM THE REBOUNDBLE FLEX BOOT

1. With the old marker/bollard and reboundable Flex Boot still attached to the L60 SEPARATOR, step on the side of the old marker/bollard to bend it down to the pavement so that you can access the bottom of reboundable Flex Boot.
2. Remove the nuts and washers that attach the old marker/bollard to the reboundable Flex Boot.
3. Pull up on the old marker/bollard to detach it from the reboundable Flex Boot

PREPARING THE NEW MARKER/BOLLARD FOR INSTALLATION ON THE REBOUNDBLE FLEX BOOT

1. Remove nuts and washers from the new marker/bollard.

CAUTION: Be careful that bolts do not slip up into marker/bollard or they will be lost. Keep the bolts pointed down at all times, but do not rest the bolts on a hard surface.

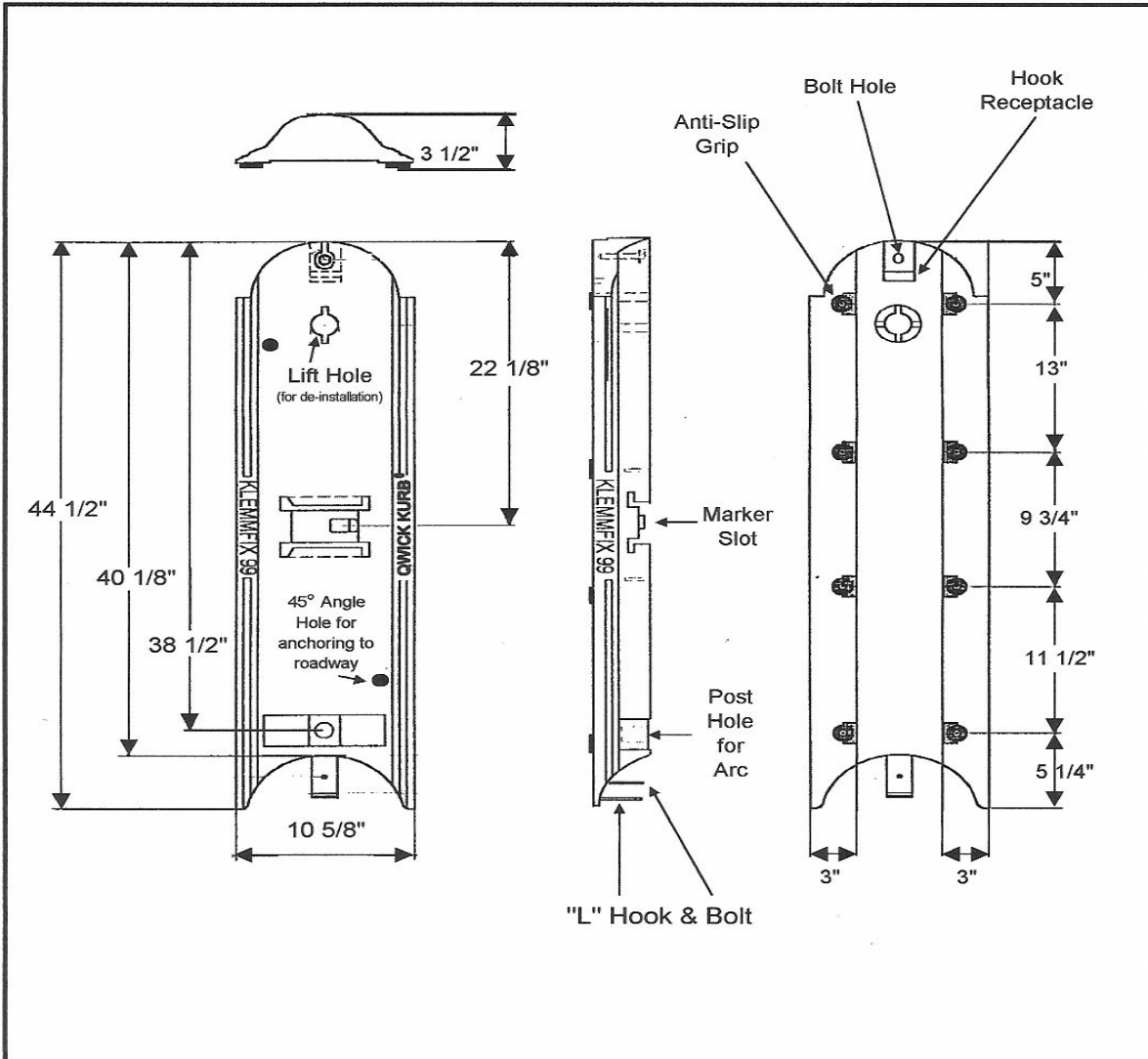
2. Pull firmly on the bolt to assure that proper amount of threads are visible. Twist the bolt head if necessary to properly seat it in its plastic holder.
3. Apply a lubricant such as soapy water to the plastic teeth so that they can pass through the slot in the top-center of the reboundable Flex Boot.
4. Install the bolts of the new marker/bollard into the holes on the Reboundable Flex Boot, again being careful not to allow the bolts to slide up into the marker/bollard where they would be lost. At this point, the teeth, even with lubrication, will

probably not go into the reboundable Flex Boot. Thus, the bolts will not protrude fully through the holes at this stage.

5. Tilt the new marker/bollard edgeways so that you can force one bolt through one of the holes sufficiently enough to install the washer and thread the nut several turns.
6. Tilt the new marker/bollard to the other side, so that you can force the other bolt through its hole, and install the washer and thread the nut several turns.
7. Tighten both nuts firmly.
8. Firmly press down on the new marker/bollard to *pop* the teeth through the slots in the reboundable Flex Boot.
9. Bend the new marker/bollard back and forth to test that the teeth have passed through the reboundable Flex Boot.

APPENDIX C - PARTS SPECIFICATIONS

L60 SEPARATOR UNIT



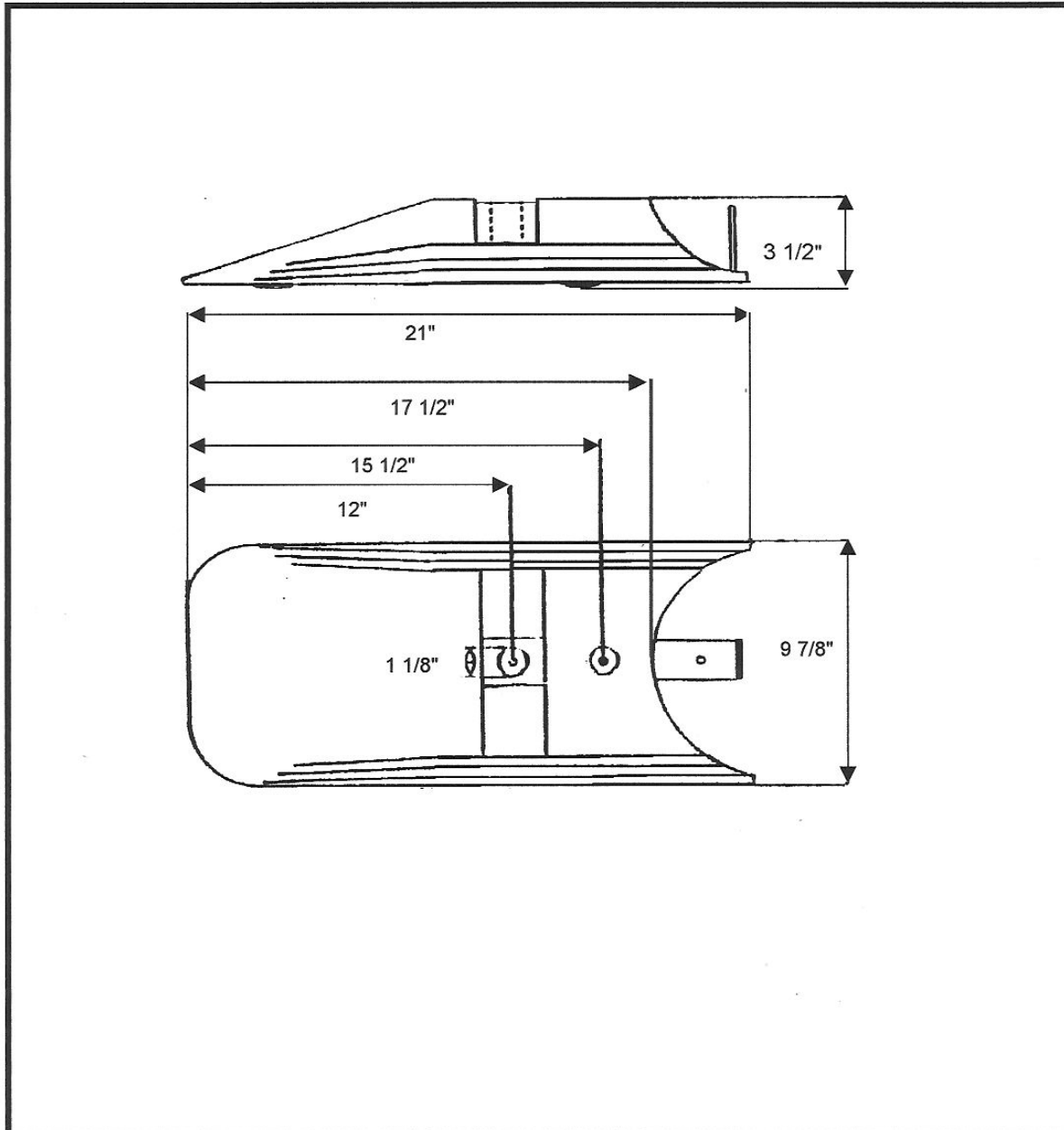
Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	4/14/96	n/a	L 60	Overall Dimensions:	
1	Revised	9/11/02	MGS	Name:	Length: 40 1/8"	Width: 10 5/8" Height: 3 1/2"
2				Separator Unit	Weight:	Approximately 39 pounds
3				Made in USA	Materials:	Polyvinyl Chloride
4				System:	Color:	White or Yellow
5				Lane Separator		

*Note: All measurements are approximate as plastic expands and contracts slightly with temperature change.

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Sheet
1 of 1

L61 MALE END UNIT



Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	4/14/96	n/a	L 61	Overall Dimensions:	
1	Revised	9/11/02	MGS	Name:	Length: 17 1/2"	Width: 9 7/8" Height: 3 1/2"
2				Male End Unit	Weight:	Approximately 12 pounds
3				Made in Germany	Materials:	Polyvinyl Chloride
4				System:	Color:	White or Yellow
5				Lane Separator		Sheet

*Note: All measurements are approximate as plastic expands and contracts slightly with temperature change.

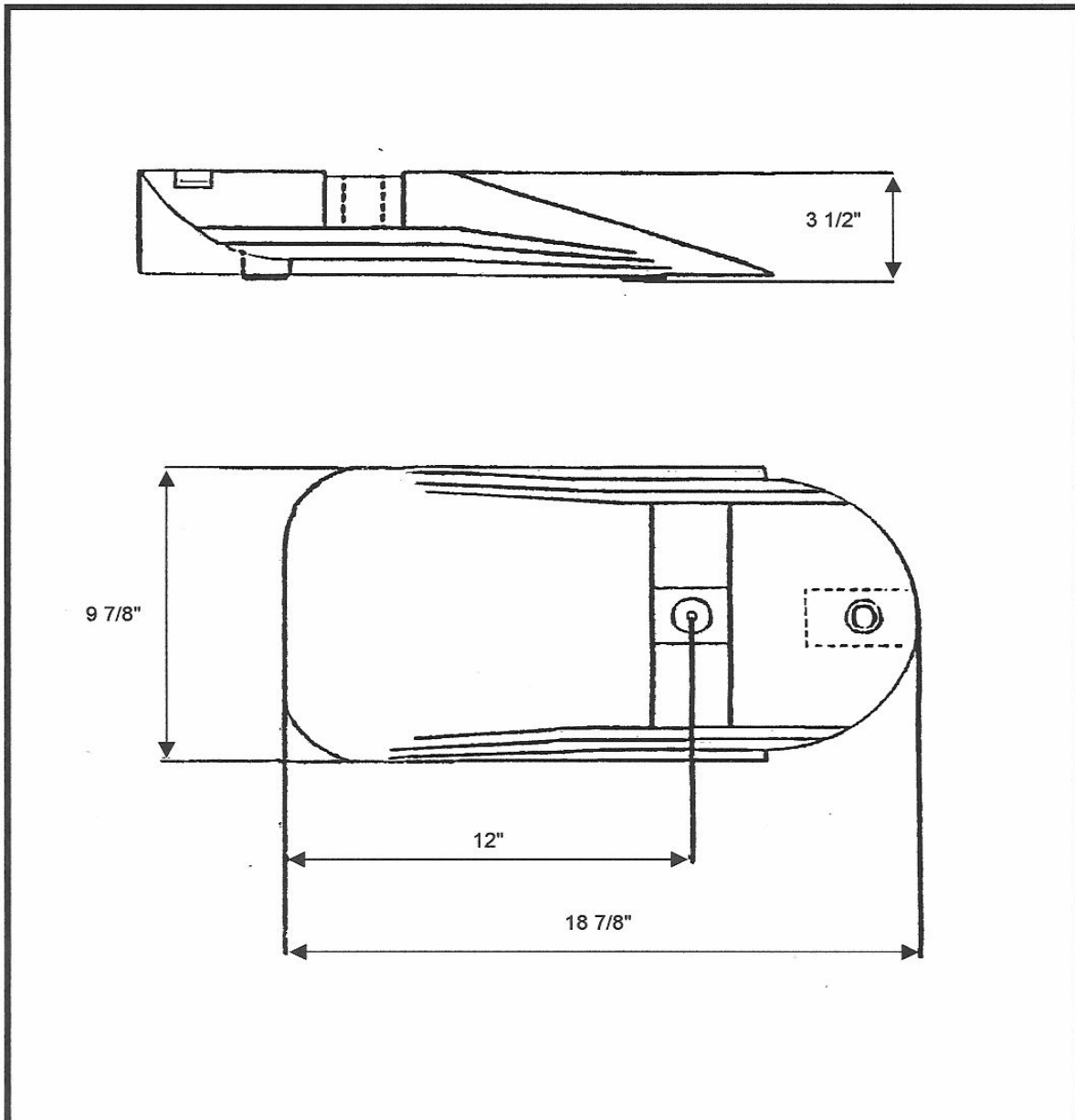
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1 of 1

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L62 FEMALE END UNIT

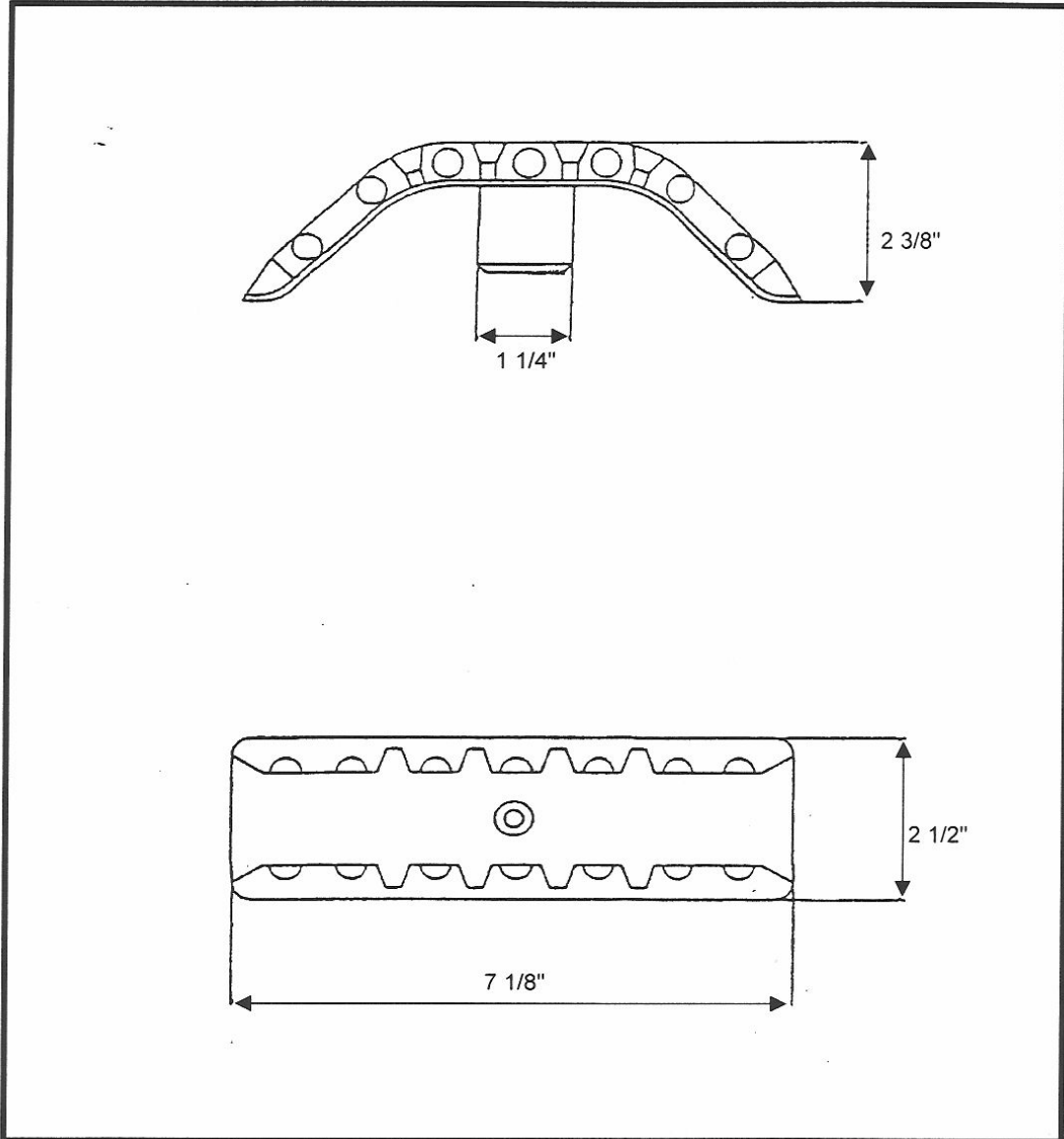


Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale	
0	Initial Drawing	4/14/96	n/a	L 62	Overall Dimensions:		
1	Revised	9/11/02	MGS	Name:	Length: 18 7/8"	Width: 9 7/8"	Height: 3 1/2"
2				Female End Unit	Weight:	Approximately 12 pounds	
3				Made in Germany	Materials:	Polyvinyl Chloride	
4				System:	Color:	White or Yellow	
5				Lane Separator		Sheet	
<p><i>*Note: All measurements are approximate as plastic expands and contracts slightly with temperature change.</i></p>						1 of 1	

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L65 REFLECTIVE MARKER



Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	9/16/02	MGS	L 65	Overall Dimensions:	
1				Name:	Length: 7 1/8"	Width: 2 1/2" Height: 2 3/8"
2				Reflective Arc	Weight:	1/2 pound
3				System:	Materials:	Plastic, Glass cats eyes
4				Lane Separator	Color:	White or Yellow
5						

**Note: All measurements are approximate as plastic expands and contracts slightly with temperature change.*

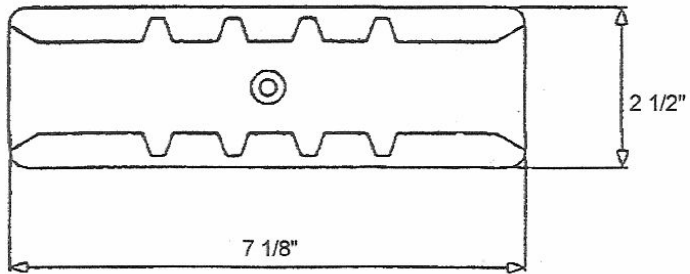
QWICK KURB[®], INC.

Sheet
1 of 1

QWICK KURB®. INC.

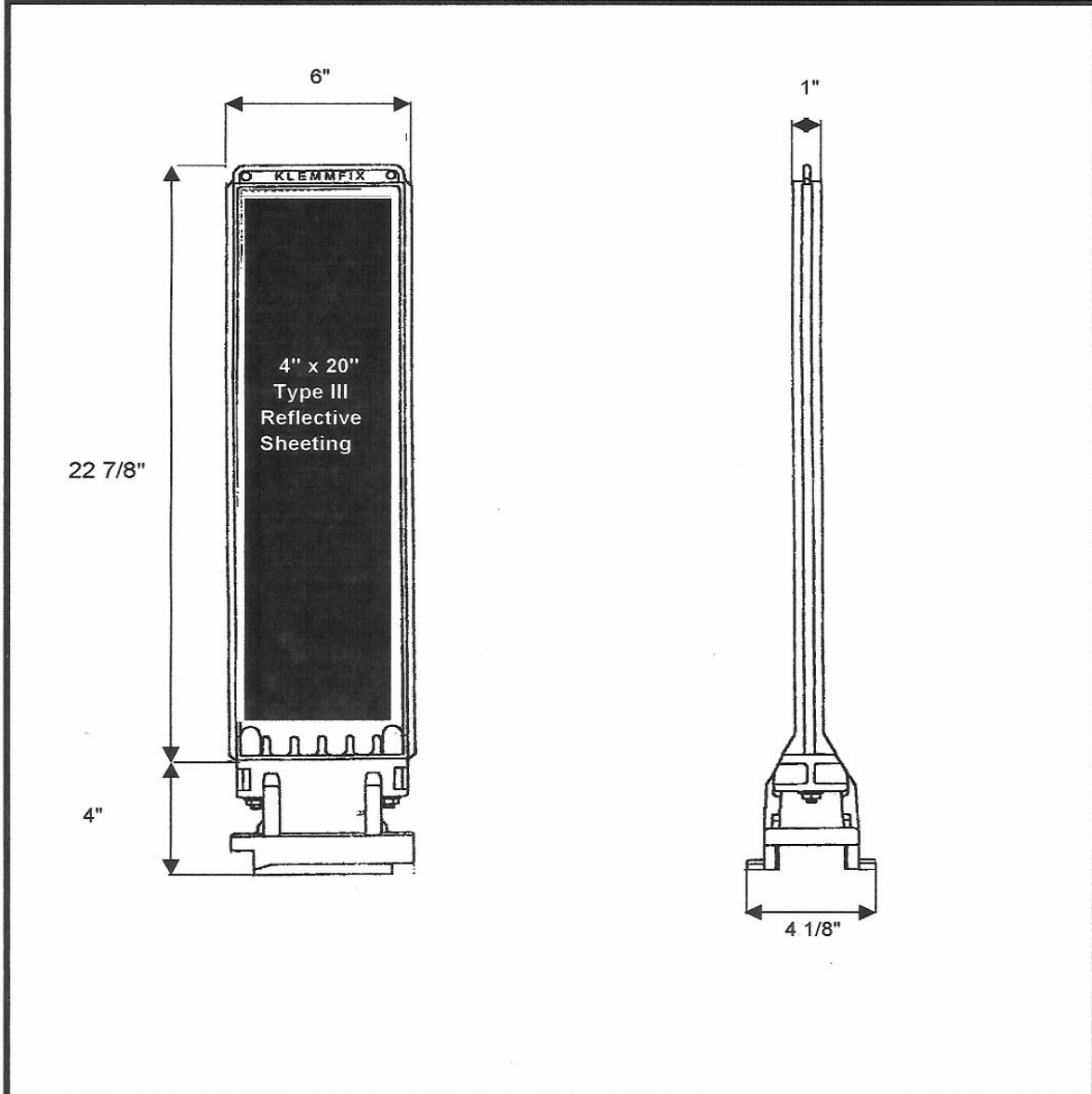
Long Term Installation Manual

S65 SECURING ARC



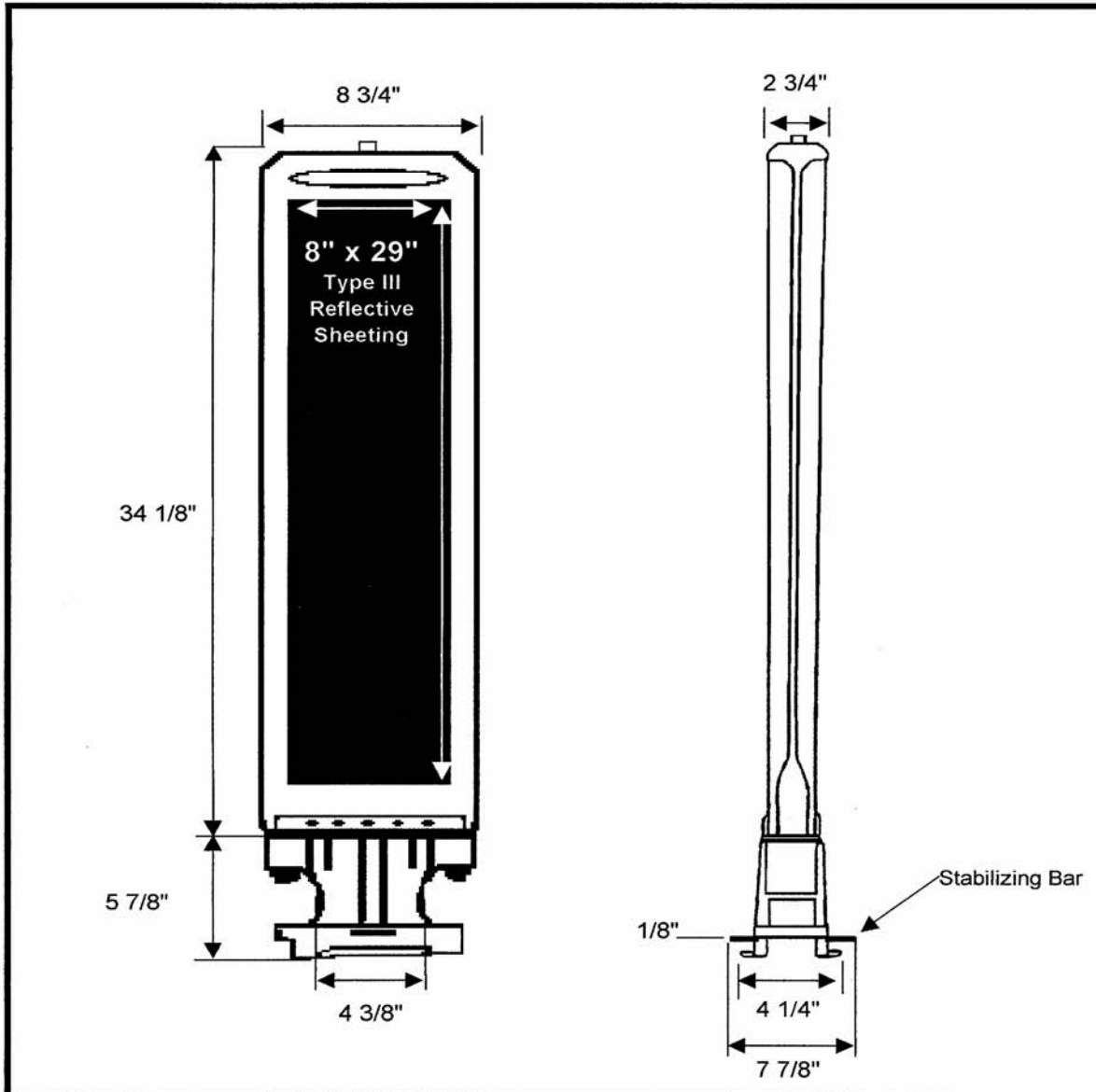
Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	4/2/04	MS	S 65	Overall Dimensions:	
1				Name:	Length: 7 1/8"	Width: 2 1/2" Height: 2 3/8"
2				Securing Arc	Weight:	1/3 pound
3				System:	Sheeting:	none
4				Lane Separator	Color: Black	Materials: Plastic
5						
*Note: All measurements are approximate as plastic expands and contracts slightly with temperature change.				QWICK KURB®. INC.		Sheet 1 of 1

L84 FLAT MARKER/BOLLARD



Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	11/25/96	n/a	L 84	Overall Dimensions:	
1	Revised	9/11/02	MGS	Name:	Length: 1"	Width: 6" Height: 26 7/8"
2				Short Panel w/ flex	Weight:	3 pounds
3				Made in Germany	Materials:	Panel - Polypropylene; Flex- Virgin Rubber; Stabilizing Bar - Stainless Steel
4				System:	Color:	Orange
5				Lane Separator	Sheeting:	yellow, white or orangewhite
<p><i>*Note: Top of L84 Short Panel is approximately 28" above roadway surface when mounted in L60 Separator Unit.</i></p>				<p>QWICK KURB[®], INC.</p>		<p>1 of 1</p>

L104 AIR MARKER/BOLLARD



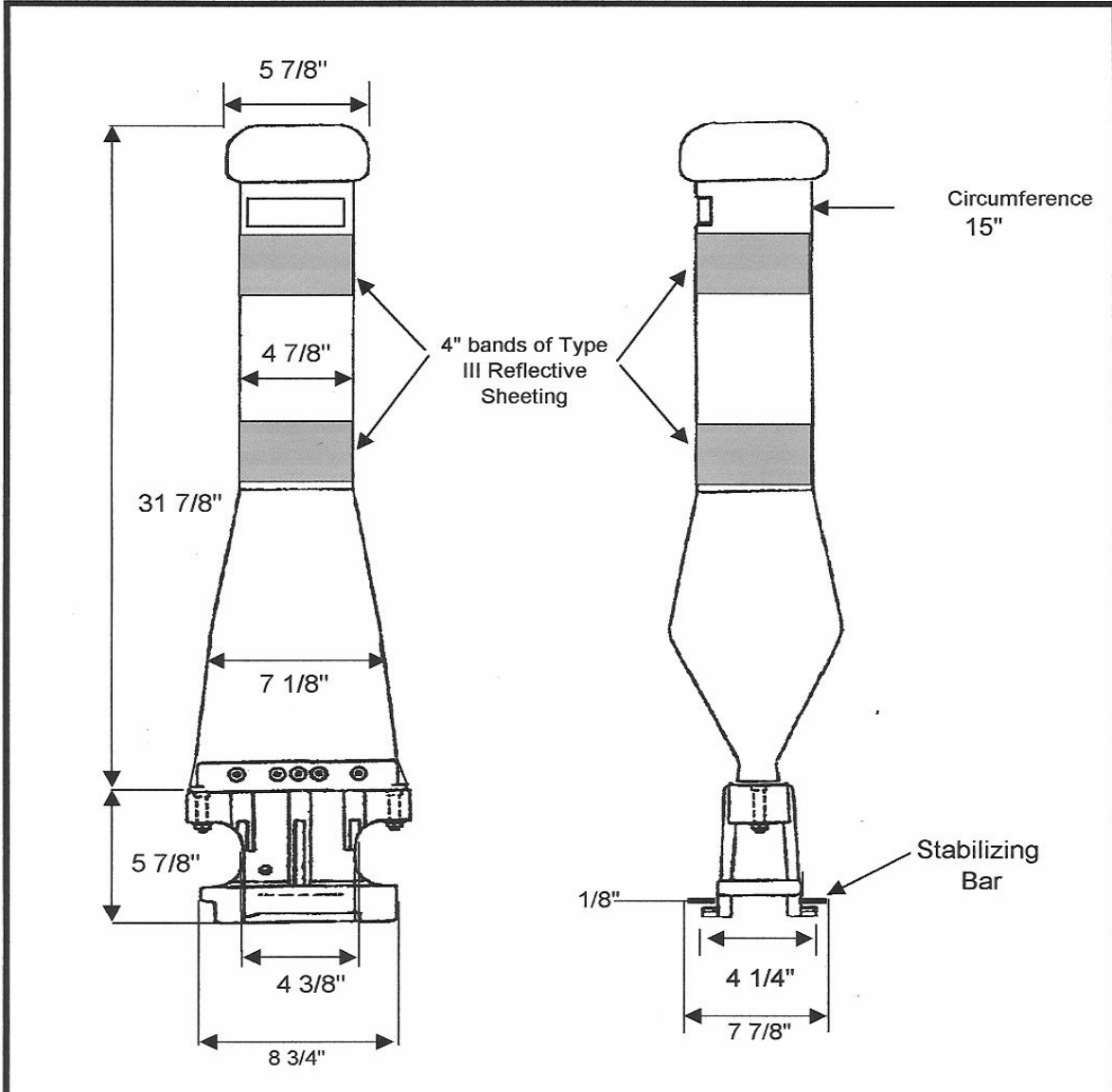
Rev.	Description	Date	Initials	Model Number:	Scale
0	Initial Drawing	4/14/96	n/a	L 104	Not To Scale
1	Revised	9/11/02	MGS	Name:	Overall Dimensions:
2				Air Marker w/ flex	Length: 2 3/4" Width: 8 3/4" Height: 40"
3				Made in Germany	Weight: 5 1/2 pounds
4				System:	Materials:
5				Lane Separator	Color: White Sheeting: yellow, white, ylb or olw
					Sheeting: Two 8"x29" rectangles Type III Sheeting

*Note: Top of L104 Air Marker is approximately 43" above roadway surface when mounted in L60 Separator Unit.

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1 of 1

L125 MARKER/BOLLARD



Rev.	Description	Date	Initials	Model Number:	Scale
0	Initial Drawing	11/25/96	n/a	L 125	Not To Scale
1	Revised	9/11/02	MGS	Name:	Overall Dimensions:
2				Thin Sister ^(R) w/ flex	Length: n/a Width: 8 3/4" Height: 37 1/2"
3				Made in USA	Weight: 5 pounds
4				System:	Materials:
5				Lane Separator	Panel - Polypropylene; Flex- Virgin Rubber; Stabilizing Bar - Stainless Steel
					Color: White Sheeting: yellow, white or orange
					Sheeting: Two 4" bands Type III sheeting

*Note: Top of L125 Thin Sister^(R) is approximately 40" above roadway surface when mounted in L60 Separator Unit.

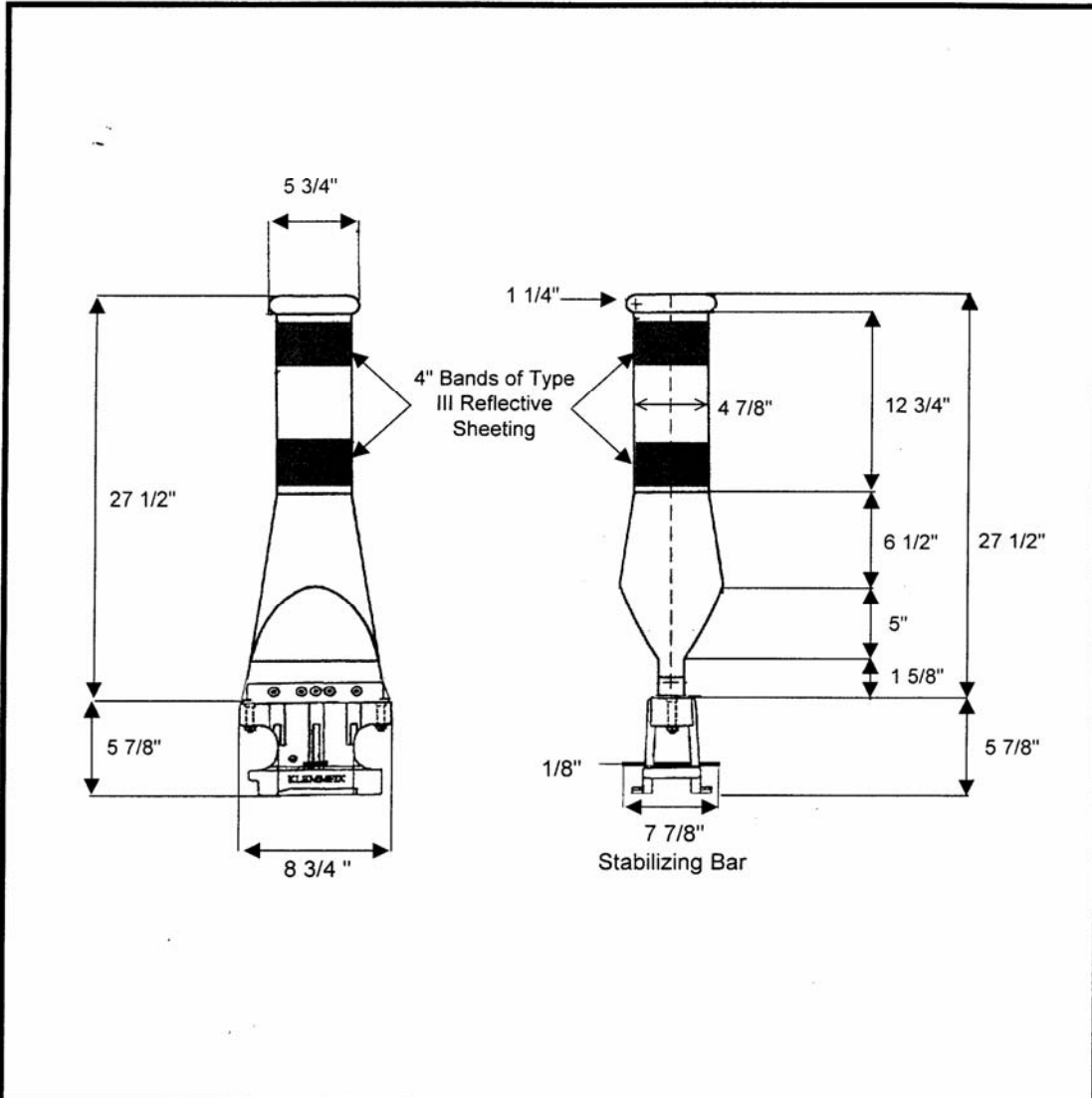
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1 of 1

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L125S MARKER/BOLLARD

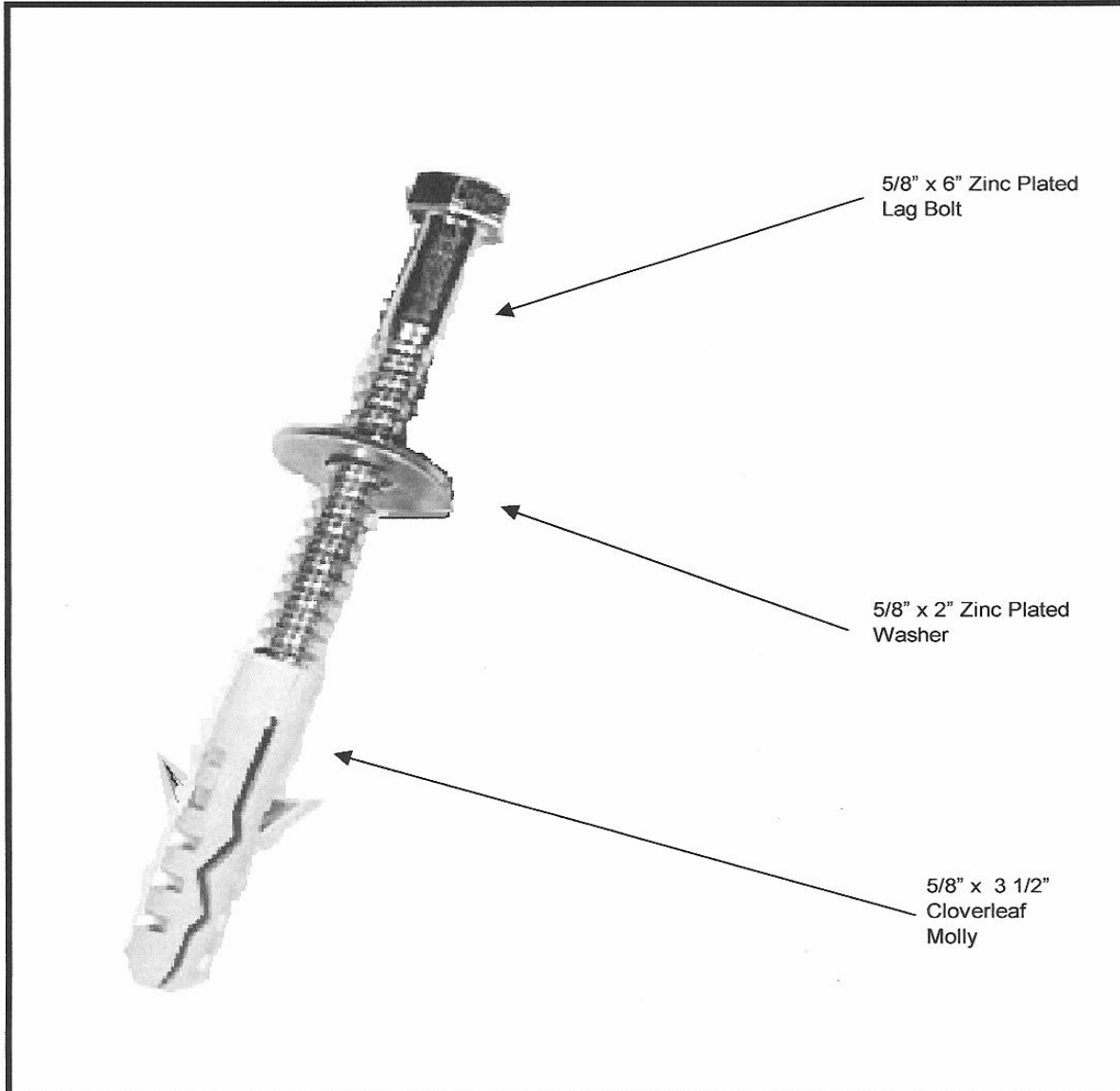


Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale
0	Initial Drawing	9/16/02	MGS	L 125S	Overall Dimensions:	
1				Name:	Length: n/a	Width: 8 3/4" Height: 33 5/8"
2				Short Thin Sister™ w/ flex	Weight:	5 pounds
3				System:	Panel - Polypropylene; Flex- Virgin Rubber; Stabilizing Bar - Stainless Steel	
4				Lane Separator	Color: White	Sheeting: yellow, white or orange
5					Sheeting: Two 4" Bands Type III Sheeting	
<p>*Note: Top of L125S short Thin Sister™ is approximately 36" above roadway surface when mounted in L60 Separator Unit.</p>				<p>QWICK KURB®. INC.</p>		<p>Sheet</p> <p>1 of 1</p>

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Long Term Installation Manual

FS50 CLOVERLEAF ASPHALT MOLLY

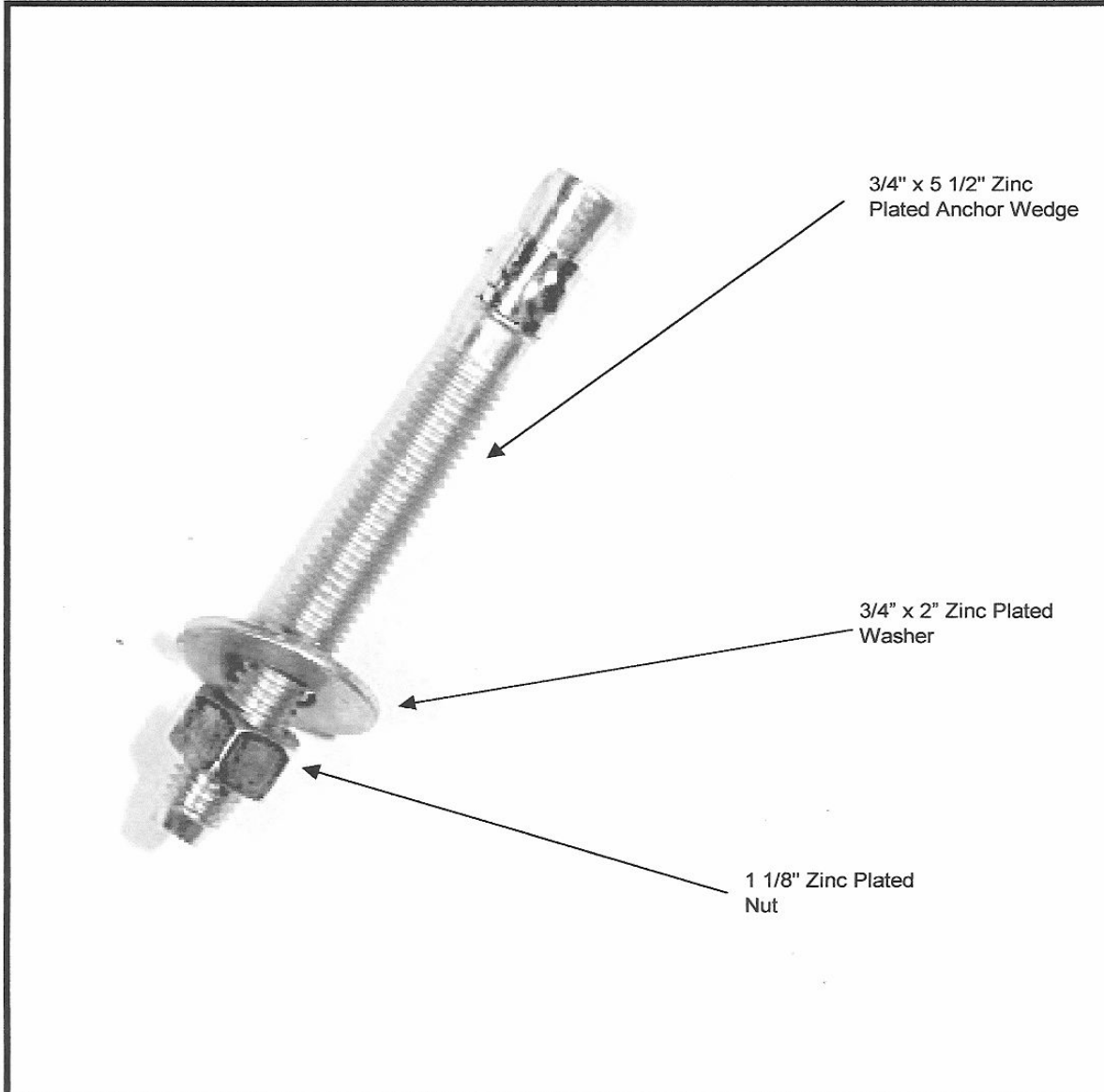


Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale		
0	Initial Drawing	9/16/02	MGS	FS 50	Overall Dimensions:			
1				Name:	Length: N/A	Width: N/A	Height: N/A	
2				Anchoring Hardware for Conventional Roadbase	Weight:	3/4 pounds		
3				System:	Materials:	Zinc Plated		
4				Lane Separator	Color:	N/A		
5						Sheet		
<p><i>*Note: FS50 anchoring hardware should be used where the Molly expands in road base beneath asphalt.</i></p>				<p>QWICK KURB® , INC.</p>			<p>1 of 1</p>	

QWICK KURB®. INC.

Long Term Installation Manual

FS51 CONCRETE ANCHOR



Rev.	Description	Date	Initials	Model Number:	Scale	Not To Scale		
0	Initial Drawing	9/16/02	MGS	FS 51	Overall Dimensions:			
1				Name:	Length: N/A	Width: N/A	Height: N/A	
2				Anchoring Hardware for Concrete Roadways	Weight:	3/4 pounds		
3				System:	Materials:	Zinc Plated		
4				Lane Separator	Color:	N/A		
5						Sheet		
<p><i>*Note: FS51 anchoring hardware set should be used for installation in concrete surfaces only.</i></p>				<p>QWICK KURB®. INC.</p>			<p>1 of 1</p>	

SPECIAL NOTE FOR PROJECT IDENTIFICATION SIGNS

When directed by the Engineer, install Project Identification Signs furnished by the Department at each end of the project. The signs furnished by the Department will be approximately 44" X 72" or 72" X 120" aluminum sign blanks with standard color reflective sheeting with the applicable county and project names affixed. The Engineer will determine the size and location of the signs, if any, to be used on the project(s) at the time of construction.

Pick up the signs to be furnished by the Department at the District Traffic Operations Facility. Furnish posts and hardware for mounting the signs. Install the signs at locations determined by the Engineer. Maintain the signs during the duration of the project. Upon completion of the work, remove the signs and return them to District Traffic Operations Facility. Retain possession of the posts and hardware.

The Department will measure installation of the Project Identification Signs in individual units, Each. Payment at the contract unit price Each shall be full compensation for all labor, materials, equipment, and incidentals required for picking up, installing, maintaining, and returning the project identification signs furnished by the Department.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20588NC	Install Project Identification Signs	Each

SPECIAL PROVISION FOR WASTE AND BORROW SITES

The contractor is advised that it is their responsibility to gain U.S. Army Corp of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". "Waters of the United States" are defined as perennial or intermittent streams, ponds or wetlands. Ephemeral streams are also considered jurisdictional waters, and are typically dry except during rainfall, but have a defined drainage channel. Questions concerning any potential impacts to "Waters..." should be brought to the attention of the appropriate District Office for the Corps of Engineers for a determination, prior to disturbance. Any fees associated with obtaining approval from the U.S. Army Corp of Engineer or other appropriate regulatory agencies for waste and borrow sites is the responsibility of the contractor.

SPECIAL NOTE FOR MANHOLE ADJUSTMENTS

FD05 059-0025-006-008 FD05 059-0025-008-010
FD05 059-0025-010-013 FE01 059-0025-008-010

Manhole adjustments are the responsibility of the municipal or private utility company owners. Notify the Engineer a minimum of 30 calendar days prior to beginning any work on the project. Unless directed otherwise by the Engineer, do not begin resurfacing until the manhole adjustments are completed by the utility owners. The Engineer will coordinate the work between the Contractor and utility owners

COORDINATION OF WORK WITH OTHER CONTRACTS

FD05 059-0025-006-008 FD05 059-0025-008-010

FD05 059-0025-010-013 FE01 059-0025-008-010

The Contractor is advised there may be an active project adjacent to or within this project. The Engineer will coordinate the work of the Contractors. See Section 105.06.

1-3193 coordination.contractors
02/11/04

SPECIAL NOTE FOR PAVEMENT WEDGE AND SHOULDER

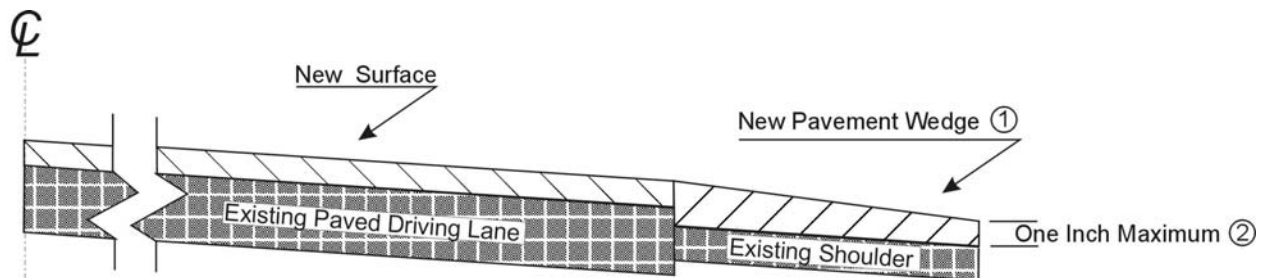
1.0 MATERIALS. Provide an Asphalt Mixture for Pavement Wedge conforming to Section 407 of the Standard Specifications or an Asphalt Surface Mixture conforming to Section 403 of the Standard Specifications, as applicable to the project, for the pavement wedge.

2.0 CONSTRUCTION. Place the Asphalt Mixture for Pavement Wedge or Asphalt Surface Mixture as a separate operation from the driving lane. Prime the existing shoulder with tack material as the Engineer directs before placing the wedge. Construct according to Section 407.03 and 403.03 of the Standard Specifications, as applicable.

When the Engineer deems it appropriate to pave both the driving lane and the adjoining wedge monolithically, equip the paver with a modified screed. Provide a screed that extends the full width of the wedge being placed and is tapered to produce a wedge.

The wedge may vary in thickness at the edge of the driving lanes. Limit the outside edge thickness of the new paving limits on the wedge to one inch where existing site conditions permit. If an Asphalt Surface Mixture is furnished for the pavement wedge, texture according to Section 403.03.08.

The following sketch is primarily for the computation of quantities; however, the wedge will result in a similar cross-section where sufficient width exists. Do not construct a shoulder for placing the wedge unless specified elsewhere in the Contract.



① Slope varies, but is down from the driving lanes except on outside of some curves where superelevation controls.

② Where existing site conditions permit.

3.0 MEASUREMENT. The Department will measure Asphalt Mixture for Pavement Wedge or Asphalt Surface Mixture placed as the pavement wedge according to Section 407.

4.0 PAYMENT. The Department will make payment for the completed and accepted quantities of Asphalt Surface Mixtures on pavement wedges according to Section 402 of the Standard Specifications. The Department will make payment for the completed and accepted quantities of Asphalt Mixture for Pavement Wedge according to Section 407 of the Standard Specifications.

December 13, 2006

SPECIAL NOTE FOR EDGE KEY

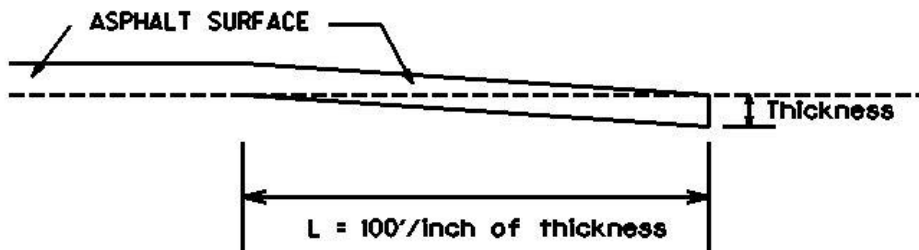
FD05 059-0025-006-008

FD05 059-0025-008-010

FD05 059-0025-010-013

Construct Edge Keys at the beginning of project, end of project, at railroad crossings, and at ramps, as applicable. Cut out the existing asphalt surface to the required depth and width shown on the drawing. Heel new surface into the existing surface. The Department will pay for this work at the contract unit price per ton for “Asphalt Pavement Milling and Texturing”, which shall be full compensation for all labor, materials, equipment, and incidentals for removal and disposal of the existing asphalt surface required to construct the edge key.

EDGE KEY



Thickness = 1/4 Inches

L = 125 LF

L = Length of Edge Key

**SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING
FD05 059-0025-006-008
FD05 059-0025-008-010
FD05 059-0025-010-013**

Cuttings shall become the property of the Contractor. Begin paving operations **within 48 hours** of commencement of the milling operation. Continue paving operations continuously until completed. If paving operations are not begun within this time period, liquidated damages will be assessed at the rate prescribed by Section 108.09 of the 2004 Standard Specifications until such time as paving operations are begun.

1-3520 milling48hrcontractorgetsmilling
07/21/03

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

The dimensions shown on the typical sections for pavement and shoulder widths and thickness' are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless specified elsewhere in the Proposal.

typical section
05/09/2003

TRAFFIC CONTROL FOR RAISED PAVEMENT MARKER INSTALLATIONS

TWO-LANE, TWO-WAY ROADWAYS:

On two-lane, two-way roadway sections, lane closures shall be considered short-duration operations. All work shall be accomplished in only one lane and shall affect the adjacent lane as little as possible. Egress and ingress shall be provided to all ramps, side roads, and entrances at all times.

Approaches to the immediate work area shall be signed in accordance with Lane Closure Case I and Case II. All signs may be installed on temporary mountings.

All work vehicles used in the roadway shall be equipped, as a minimum, with strobe lights or rotating beacons. If equipped with a flashing arrow board, the board shall be used in caution mode, but shall not indicate a flashing arrow. The use of a truck-mounted attenuator will not be required on two-lane, two-way roadway sections.

When the pavement markers have been placed on the roadway, traffic cones shall be used to protect the markers from traffic until the adhesive epoxy has hardened.

MULTI-LANE ROADWAYS:

On multi-lane roadway sections, all operations shall be performed behind stationary lane closures. Stationary lane closures shall be approved by the Engineer and shall be signed in accordance with Std Drawings for Multi-Lane Case I, Double Lane Closure or Interior Lane closure as applicable. Egress and ingress shall be provided to all ramps, side roads, and entrances at all times.

A truck-mounted attenuator that complies with SP 13 shall be required on multi-lane roadways. Contrary to SP 13, the Contractor will retain ownership of the Crash Cushion Type VIII. The location of the TMA within the lane closure shall be as specified by the Engineer.

No more than one lane of traffic plus 24 inches maximum of only one adjacent lane shall be closed per direction of travel. A minimum lane width of 10 feet should be maintained. The length of a lane closure shall not exceed 1 mile in urban areas or 3 miles in rural areas. Consecutive lane closures shall be permitted only if separated by a minimum of 2 miles and must be affecting the same lane.

Provide for the installation of all necessary traffic control devices before beginning work and their immediate removal as soon as work is suspended or completed and the pavement markers are completely bonded to the pavement.

Flush-mounted Type IV-A markers shall be used to delineate the lane lines, centerlines and edgelines when pavement markers are to be installed on bridge decks. Do not install Type V markers on bridge decks.

SPECIAL NOTES FOR INSTALLATION OF TRAFFIC COUNTING INDUCTANCE LOOPS AND AXLE SENSORS

I. DESCRIPTION

Except as specified in these notes, perform all work according to the Department's 2004 Standard Specifications, applicable Special Provisions and Special Notes, Sepia and Standard Drawings, and the drawings elsewhere in this proposal. Article references are to the Standard Specifications.

Furnish all materials, labor, equipment, and incidentals for the following work: (1) Maintain and control traffic; (2) install inductive loops; and (3) all other work required by the Specifications, Standard Drawings, Special Notes and the drawings in the proposal. The details of the project will be supplied in addition to these Special Notes.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Have all materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes. All materials shall be approved prior to being utilized. The Contractor shall submit for approval five (5) copies of descriptive literature, drawings, and any requested design data for the materials he proposes to use. No substitutions for approved materials will be made without the written approval of the Engineer.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Junction Box Type 6 in. x 6 in. x 4 in. The junction box shall have minimum inside dimensions of at least 6 inches high by 6 inches wide by 4 inches deep, made of a UV stabilized nonmetallic material (plastic) or non-rusting metal, and be weatherproof (NEMA 4X enclosure). It shall have a removable replaceable door with a continuous durable weatherproof gasket between the body and overhanging door to ensure a watertight seal. The door shall be hinged with stainless steel screws, hinge(s) and pin(s). The door shall also have a stainless steel padlockable latch on the side opposite the hinge(s). An approved enclosure is the Hubbell-Wiegmann model VJ606HWPL1.

C. Junction Box Type 10 in. x 8 in. x 4 in. The junction box shall have minimum inside dimensions of at least 10 inches high by 8 inches wide by 4.6 inches deep, made of a UV stabilized nonmetallic material (plastic) or non-rusting metal, and be weatherproof (NEMA 4X enclosure). It shall have a removable replaceable door with a continuous durable weatherproof gasket between the body and overhanging door to ensure a watertight seal. The door shall be hinged with stainless steel screws, hinge(s) and pin(s). The door shall also have a stainless steel padlockable latch on the side opposite the hinge(s). An approved enclosure is the Hubbell-Wiegmann model VJ1008HWPL1.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 2 of 17

D. Junction Box Type A. The junction box Type A shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC Style, or approved equal. It shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

E. Junction Box Type B. The junction box Type B shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC Style, or approved equal. It shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

F. Junction Box Type C. The junction box Type C shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC Style, or approved equal. It shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

G. Cabinet Type G. A controller cabinet Type G shall be constructed of type 5052-H32 sheet aluminum with a minimum thickness of 0.125 inches. The cabinet shall meet or exceed the industry standards set forth by the UL 50 and the National Electrical Manufacturer's Association (NEMA) 3R. The cabinet shall have a dimension of 41 inches high by 25 inches wide by 16 inches deep. The cabinet shall include kits for a back panel and two shelves. The cabinet shall be designed with a sloped top to prevent the accumulation of water on its top surface. The single door opening shall be double flanged on all four sides, hinged on the right side, equipped with a three-point latching mechanism, and include a door restraint. The door shall be equipped with a Corbin tumbler #2 lock. The cabinet shall be equipped with two adjustable "C" mounting channels on both side and back walls to allow for versatile positioning of shelves. Manufacturer's shop drawings shall be submitted demonstrating details of equipment housing and installation. If electrical service is specified, a 120-volt GFCI AC duplex receptacle shall be provided in the cabinet.

An approved source is provided below. Other approved equal cabinets may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the cabinet shall meet the above requirements and match the specified detailed dimensions.

Econolite Control Products.
P.O. Box 6150
3360 E. La Palma
Anaheim, California 92806-2856

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 3 of 17

H. Galvanized Steel Cabinet. The cabinet shall be a hinged cover NEMA Type 3R medium enclosure, constructed of 16 or 14 gauge galvanized steel, and have inside dimensions of 20 inches high by 20 inches wide by 8 inches deep. This shall be the standard size that contractors shall place their bids on. The cabinet shall meet the industry standards set forth by the Underwriters Laboratories Inc. (UL) 50 and the National Electrical Manufacturers Association (NEMA). The finish shall consist of an American National Standards Institute (ANSI) 61 gray polyester powder finish inside and out over the galvanized steel. The cabinet shall have the following features:

- Drip shield top and seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow.
- 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened securely with captive plated steel screws.
- Hasp and staple provided for padlocking.
- No gaskets or knockouts.
- Back plate mounted inside the cabinet for terminal strip installation.

An approved source is provided below. Other approved equal cabinets may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the cabinet shall meet the above requirements and match the specified detailed dimensions.

Hoffman Engineering Co.
World Headquarters
900 Ehlen Drive
Anoka, Minnesota 55303-7504

I. Wood Post. The wood post shall be 4 inches by 4 inches by 8 feet long, and is pretreated to conform to the American Wood Preservers' Association (AWPA) C-14. All wood posts shall be sawed on all four sides, having both ends square, and conform to the dimensions specified. The wood post is described in detail in Section 820.01 of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, 2004 edition.

J. Conduit. Conduit shall be rigid steel waterproofed conduit unless otherwise specified. All conduits shall be galvanized inside and out and shall conform to the Underwriters' Laboratories (UL) requirements for rigid metallic conduit. IMC will not be accepted. Furnish all conduit fittings, bodies, boxes, joints, couplings and mounting hardware.

K. Loop Wire. All loop wire shall be plainly marked in accordance with the provisions of the current editions of the National Electric Code (NEC). The wire shall be 14-gauge single conductor, insulated in polyethylene (PE) with a 0.004-inch thick nylon coating, and enclosed in a 0.030-inch thick PE tube jacket. The wire shall meet the requirements of the International Municipal Signal Association (IMSA) Specification No. 51-7- latest edition. Any other wire shall be of appropriate size and type per the NEC and Section

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 4 of 17

834.01 Wiring of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, 2004 edition.

L. Cable No. 14/1 Pair. Cable No. 14/1 pair or loop lead-in cable shall be 14 AWG, stranded, paired conductors, electrically shielded and shall conform to IMSA 19-2. All cable shall be plainly marked in accordance with the provisions of the National Electric Code.

M. Traffic Loop Encapsulant. The traffic loop encapsulant shall consist of a one-part polyurethane as described in Section 835.06 of the Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction, 2004 edition.

N. Seeding and Protection. Use seed mixture No. I per Section 212-Erosion Control of the Department's 2004 Standard Specifications for Road and Bridge Construction book.

O. Electrical Service. The contractor shall initiate a work order for the installation of electrical service to the power site. A representative from the Division of Planning and the local utility company shall be consulted prior to choosing an exact location for the pole. The contractor shall be responsible for clearing the right-of-way for the electrical service drop. The electrical service shall be a minimum 60-ampere, which is capable of supplying 120 volts or 240 volts to the electronics. The installation and materials specified in the construction notes below, shall be made incidental to the bid item established for electrical service. A 120-volt GFCI AC duplex receptacle shall be provided in the cabinet. Contractor is responsible for correct size and type of wire. Contractor is responsible for obtaining any and all electrical inspections, memberships, meter base and any other requirements by the utilities serving the installation and pays all fees required.

P. Piezoelectric Sensors. The sensor shall consist of a metal strip 0.260" wide x 0.063" thick; ± 0.005 " and be furnished in the specified lengths. The sensor shall include a 100-foot electrical coax-cable connected to one end. The coax-cable shall be RG 58 type with an underground/direct burial rated outer jacket. The OD of the cable is 0.187". The nominal capacitance of the cable is 27 pF/ft. Piezo lead-in cables are to be run splice free to their cabinets. Many installations exceed the 100-foot length so the piezo should be ordered with a lead-in of appropriate length. Standard lead-ins can be ordered from 100 to 300 feet in 50-foot increments. The manufacturer should be contacted regarding longer distances.

- 1. Piezoelectric Sensor: Roadtrax BL Class I or Approved Equal.** Furnish Class I Piezoelectric Sensor to be used to collect truck weigh-in-motion data. Class I sensors are typically furnished in 6- or 11-foot lengths. See Notes and Estimate of Quantities for sensor type and length. One installation bracket for every 6 inches of sensor length shall also be supplied.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 5 of 17

- 2. Piezoelectric Sensor, Roadtrax BL Class II or Approved Equal.** Furnish Class II Piezoelectric Sensor to be used to collect vehicle classification data. Class II sensors are typically furnished in 6-foot lengths. See Notes and Estimate of Quantities for sensor type and length. One installation bracket for every 6 inches of sensor length shall also be supplied.

The vendors listed below are known distributors of the Roadtrax BL Class I and II sensors. Other approved equal sensors may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the sensors shall meet the above requirements and match the specified detailed dimensions.

DIA-L Associates
P. 3302 Aquia Drive
Stafford, VA 22554

Measurement Specialties, Inc.
80 Little Falls Road
Fairfield, NJ 07004

International Road Dynamics, Inc.
702 43rd Street East
Saskatoon, Saskatchewan
Canada, S7K3T9

Grout material shall display fast cure times; tack free in 10 minutes and open to traffic in 40 minutes with full cure within an hour. Material shall have excellent adhesion to concrete and asphalt. It should display excellent chemical resistance, water insensitivity, and thermal stability at high and low temperatures. Ample encapsulation material shall be supplied for each sensor for its proper installation. Approved encapsulation material by the piezo manufacturer includes AS475 Axle Sensor Grout or approved equal. This is a durable two-part resin-based grout suitable for asphalt and concrete applications having the following typical physical properties:

Compressive Strength (psi)	ASTM D638	5000 min.
Water Absorbtion	ASTM D570	0.3% max
Wear Resistance	ASTM D4060	CS10 wheel, 1000 gm load 1000 cycles, 186 mg loss

The vendors listed below are known distributors of the approved grout.

DIA-L Associates
P. 3302 Aquia Drive
Stafford, VA 22554
(540) 659-2264

Measurement Specialties, Inc.
80 Little Falls Road
Fairfield, NJ 07004

PAT Traffic Control Corporation
1665 Orchard Drive
Chambersburg, PA 17201

International Road Dynamics, Inc.
702 43rd Street East
Saskatoon, Saskatchewan
Canada, S7K3T9

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 6 of 17

III. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for general guidance. When the contractor deems any modifications of the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the Resident Engineer for written approval prior to begin the modified work.

Once the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address their concerns and answer any questions that the contractor may have before beginning the work. Planning shall also be notified two weeks before work pertaining to these specifications begins to ensure their personnel are present during sensor installation and once the work has been completed so that their representative can perform a final inspection. The Division of Construction then reviews Planning's final inspection report and determine whether the work is in compliance with the specifications before awarding payment to the contractor.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Junction Box Type 6" x 6" x 4" or 10" x 8" x 4" (as noted). The contractor shall stub the rigid steel conduit to the junction box so the bottom of the box is approximately 18" above the ground. The junction box shall be located at or beyond the shoulder and mounted on the side of a post approximately 3 feet beyond the guardrail post using banding material or other appropriate mounting hardware with the hinge side up. See Figures 2a and 2b for additional details. Leave approximately 18" of slack lead-in wire coiled inside the junction box. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

C. Junction Box Type A (or B or C). Install the Junction Box Type A near the edge of pavement and flush with the ground level (see Figure 3). Place roughly 18 inches of No. 57 aggregate underneath the junction box Type B to allow drainage. Extend the loop lead-in wires splice-free to the cabinet. Run the wire from the junction box Type A through the conduit at a minimum depth of 6 inches. Stub the conduit up into the junction box Type A from its base to accommodate the lead-in wires. Leave at least 2 feet of slack lead-in wire coiled inside the junction box Type A. The conduit fittings, backfilling, and aggregate shall be incidental to the junction box Type A. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 7 of 17

D. Cabinet Type G. Locate the cabinet sufficiently beyond the roadside by determining the minimum clear zones in accordance with the "Roadside Design Guide". Place a concrete foundation of appropriate size for mounting the cabinet. The cabinet shall be mounted on the concrete base such that the bottom of the cabinet is 27" above the ground. The door of the cabinet shall open away from traffic. Fasten the cabinet to the foundation using anchor rods and caulk the gap between the cabinet and the base. Stub rigid conduit up into the cabinet from its base. Install an extra 1 1/4" conduit to be stubbed out in the bottom of the cabinet and run out 2 feet from the concrete base and plugged with duct seal or taped shut with electrical tape toward the roadway for future use. An 8' copper clad ground rod shall be driven into the soil and bonded to the rigid conduit via #4 solid copper wire and ran through the concrete and up into the cabinet. A 3/4" rigid steel conduit shall be stubbed up into the cabinet and run 2 feet up the electrical service pole and terminated to a 3/4" weatherhead. This conduit shall be run in the same ditch as the electrical service. If electrical service is not provided as an item in the contract, the 3/4" rigid steel conduit shall be run out 2 feet from the concrete base and plugged with plumbers putty or taped shut with electrical tape. The location of the plugged end shall be marked with a wooden stake and labeled "3/4 in. conduit end" (see Figure 8). A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet.

Leave at least 5 feet of slack lead-in wire in the cabinet. Include the following major items as incidental to the cost of the cabinet: concrete foundation, anchor rods, ground rod, #4 solid copper wire, bonding clamps, and caulking. The Division of Planning will supply additional harnesses and do final connections inside the cabinet. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

E. Install Base Mount Enclosure. Locate the cabinet sufficiently beyond the roadside by determining the minimum clear zones in accordance with the "Roadside Design Guide". For this project, a base mount Model 170 Controller Cabinet, without anchor bolts, will be State-furnished. The contractor shall construct each cabinet foundation as shown on the plans per the attached Figures 9a and 9b, "Base Mounted 170 Cabinet Detail", (including furnishing and installing anchor bolts). Contractor shall install the cabinet on the concrete base such that the doors of the cabinet open away from traffic (hinges are away from traffic), and shall make all field wiring connections to the sensors, electrical and telephone services (as applicable). Fasten the cabinet to the foundation using anchor rods and caulk the gap between the cabinet and the base. Stub rigid conduit up into the cabinet from its base. Install an extra 1 1/4" conduit to be stubbed out in the bottom of the cabinet and run out 2 feet from the concrete base and plugged with duct seal or taped shut with electrical tape toward the roadway for future use. An 8' copper clad ground rod shall be driven into the soil and bonded to the rigid conduit via #4 solid copper wire and ran through the concrete and up into the cabinet. Two 1" rigid steel conduits shall be stubbed up into the cabinet, one for electrical service and one for telephone service (whether installed at this time or in the future). They shall be run a minimum of 2 feet up the electrical service pole and/or telephone source and terminated

Inductance Loop and Piezoelectric Axle Sensor Installation Page 8 of 17

to 1" weatherheads. These conduits shall be run in the same ditch if possible. If electrical service is not provided as an item in the contract, the 1" rigid steel conduit shall be run out 2 feet from the concrete base and plugged with plumbers putty or taped shut with electrical tape. The location of the plugged end shall be marked with a wooden stake and labeled "1 in. conduit end". A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet.

Leave at least 6 feet of slack sensor lead-in wire in the cabinet. Include the following major items as incidental to the cost of this bid item: concrete foundation, anchor rods and associated hardware, ground rod, #4 solid copper wire, bonding clamps, caulking, electrical material and connections (if applicable). The Division of Planning will supply the cabinet, additional harnesses and do final sensor connections inside the cabinet. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or other sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

F. Galvanized Steel Cabinet. The contractor shall determine the amount of clearance required from the road to the cabinet for each specific station location. The "Roadside Design Guide", developed by the American Association of State Highway Officials (AASHTO), shall be used as a tool to determine roadside safety based on design and speed limit. The contractor and Planning shall discuss and resolve any conflicts in the Pre-Construction meeting that might arise from following the station descriptions of the Location Table.

Use terminal strips on the back plate with a minimum of eight terminals each and 7/16-inch spacing (center to center) to mount inside the cabinet in order to connect the lead-in wires to the cable assemblies. Use screw type terminal strips to accommodate wire with spade-tongue ends. Allow for at least 20 inches of slack lead-in wire in the cabinet before connecting them to the terminal strip. Wires connected to the terminal strips shall have insulated, solderless, spade tongue terminals of correct wire and stud size. Wires shall be labeled correctly. See Location Drawing and Wiring Table.

Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

G. Wood Post. Set the treated-wood post 3 feet below the ground and place the backfill material in the hole, compacting until flush with the existing earth. Mount the cabinet to the post using ¼" x 2 ½" galvanized lag bolts at the top and bottom of the cabinet. The base of the cabinet shall be 4 feet above ground level. Stub the rigid steel conduit up into the base of the cabinet. Affix the conduit to the post using two conduit straps, a maximum of 18" on-center, and ¼" x 2 ½" galvanized lag bolts. Cabinet door shall open facing away from traffic (see Figure 7).

Conduit. Rigid steel waterproofed conduit encasement shall be provided for all conductors where conductors run to a junction box or cabinet. All conduit installations

Inductance Loop and Piezoelectric Axle Sensor Installation

Page 9 of 17

shall conform to the provisions of the NEC, except where directed otherwise. Bonded slip joints will be permitted for joining rigid conduit to the junction box or cabinet. Where a standard coupling cannot be used, an approved threaded union coupling shall be used.

All conduit ends shall be reamed to remove burrs and sharp edges. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with a rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Conduit that will be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 6 inches below grade. All conduit openings shall be waterproofed with a flexible, removable sealant, including those ending in junction boxes and cabinets. This shall be accomplished using duct seal, or plumber's putty, by working it around the wires and then extending it 1 inch into the end of the conduit. After the conduit has been installed and before the backfilling is started, the conduit installation shall be inspected and approved by the Engineer. In backfilling trenches, the backfill material shall be placed and compacted in lifts of 9 inches or less. Any area disturbed as a result of the contractor's operations shall be restored to the satisfaction of the Engineer.

I. Wiring. All wiring shall conform to the provisions of the NEC unless otherwise shown on the plans. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing Figure 1 for sensor numbers to be placed on all lead-ins. All wiring shall be taken to a cabinet or junction box. Leave at least 2 feet of "slack" lead-in wire inside each Type B junction box and steel cabinet, a minimum of 4 feet of wire inside the Type G cabinet and a minimum of 6 feet of wire inside the base mounted Type 170 cabinet.

J. Splicing. Sensor lead-in cable lengths for each sensor shall allow sufficient but not excessive slack for splicing connections. All splices shall conform to the provisions of the NEC unless otherwise shown on the plans. Loop lead-in wire splices to shielded pair cables shall be twisted and soldered. Other splices shall be twisted and soldered or made with mechanical connectors of a type approved by the Engineer. Splices for loop wire shall be protected by either heat shrink tubing or a double spiral wrapping of vinyl electrical tape. For splicing home-run coax cable to the sensor's lead-in cable, the same coax cable, supplied by the manufacturer, shall be used. For coax-cable splices, the contractor shall provide kits (3M Scotchcast 3832 Buried Service Wire Encapsulation Kit or equal) to protect them. All splices are to be made in junction boxes unless approved by a representative of the Division of Planning.

K. Loops. A location table is furnished in the Supplemental Notes, along with an estimate of quantities, to display the approximate location for loop installation in the

Inductance Loop and Piezoelectric Axle Sensor Installation

Page 10 of 17

existing pavement. The contractor and a representative of Planning will verify the precise location on site. The contractor shall be careful to avoid expansion joints and pavement sections where potholes, cracks, or any other roadway flaws exist. This will not only facilitate installation of the equipment, but also will increase the accuracy and service life span of the sensors.

There shall be a minimum of 6 feet between loops in adjacent lanes for 12-foot wide lanes. Unless indicated otherwise, loops in the same lane shall be spaced 16 feet from leading edge to leading edge (see Figure 6). All loop dimensions shall be 6 feet by 6 feet square unless otherwise indicated by the Location Drawing. Center and mark each loop in the lane such that its sides are parallel and perpendicular to the direction of traffic. Make the saw-cut for the loop 1/4-inch wide and at a depth such that the top loop wire is a minimum of 1 inch below the surface of rigid (PCC/Concrete) pavement or 3 inches below the surface of asphalt pavement. Drill a 1.5" hole at all four corners of the loop to prevent sharp bends in the wire (see Figure 4).

Make the saw-cut for the home run slot 1/4 inch wide. Since it may contain several lead-in wires, the depth should be such that the top lead-in wire is a minimum of 1 inch below the surface of rigid (concrete) pavement or 3 inches below the surface of bituminous (asphalt) pavement. Depending on the number of road sensors at a particular site, the home run slot will gradually need to be cut deeper as you approach the shoulder in order to maintain the minimum depth for the top lead-in wire and directly enter the buried conduit (6 inch depth).

Clean the mud, debris, water, and loose particles from the slot, roadway and surrounding areas. A high-pressure washer shall be used to wash the area followed by clean (oil free) compressed air.

Measure out the appropriate length of loop lead-in wire to allow slack in the final cabinet or junction box. Insert the loop wire into the loop slot for four rotations (see Figure 5). Push the wire in with a wooden stick, such as a paint stir stick or other blunt wooden object. If the wire insulation is broken, apply heat shrink tubing or a double wrapping of vinyl electrical tape to protect from corrosion. Extend the loop lead-in wire splice-free to the junction box or cabinet. Exceptions to this shall be considered on a case-by-case basis and must be approved by the Engineer. If splices cannot be avoided, every effort shall be made to locate them in a junction box. If loop lead-in cable (Cable No. 14/1 Pair) is specified, loop wires shall be twisted and run to the nearest type Junction Box and the wires twisted and soldered to the lead-in cable. The lead-in cable shall then be run splice free to the cabinet ensuring that extra cable is left in each subsequent junction box that it may be run through as well as the cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Inductance Loop and Piezoelectric Axle Sensor Installation

Page 11 of 17

Twist each pair of loop lead-in wires, exclusive of shielded coax-cable, with three to five turns per foot before placement into the conduit, junction box, and cabinet. Do not twist different pairs of loop wire together. Once the loop wire is installed in the roadway, apply loop encapsulant by allowing the material to flow slowly into the saw-cut and settle until level with the road surface. Every attempt should be made to alleviate air pockets and low spaces should be refilled. Any excess loop encapsulant shall be cleaned from the roadway via squeegee, etc. to help alleviate tracking. The loop encapsulant shall be incidental to the bid item "Loop Saw Slot and Fill".

Loops shall be cut in the surface asphalt course. They shall not be installed between the intermediate and surface courses, unless approved by the Central Office, Division of Planning Equipment Branch.

All loop inductance readings shall be between 100 and 300 microhenries. The loop inductance between two loops in the same lane shall be within 20 microhenries of each other. Inductance loop conductors shall test free of shorts and unauthorized grounds. Upon completion of the project, all loops must pass an insulation resistance test of at least 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

L. Electrical Service. A treated-wood service pole, per Section 820 of the Department's 2004 Standard Specifications, with a 20-foot minimum length and a 6- to 12-inch diameter, or approved equal, is to be furnished by the Contractor. Install the electrical service pole adjacent to the cabinet at a depth of at least 4 feet while maintaining a 12-foot minimum clearance for the electrical service drop. Compact the backfill material to support the electrical service drop without leaning. Install an appropriate pole support guy wire and anchor if necessary. Install rigid conduit up the length of the pole with three separate insulated conductors (No. 4 copper wire) in the conduit and a weatherhead at the top.

Space the conduit straps 30 inches apart and leave 24 inches of cable for the drip loop. Install a meter-base and a disconnect panel with a 20-ampere circuit breaker inside. A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet. A manufactured weatherproof hub connector is required to connect the meter-base to the disconnect panel. Do not use service entrance cable inside the conduit. The conduit from the disconnect panel is required to be at a depth of 6 inches below grade. Install a 5/8-inch by 8-foot ground rod below the finished grade. Extend the ground wire through a separate hole in the disconnect panel and clamp to the ground rod. Install a 1" rigid conduit to 2 feet above ground level and install a weatherhead at the top opening. This conduit shall be run to and stubbed up into the Cabinet. The conduit shall be attached to the pole at a minimum of 2" from ground level and 2" from the weatherhead.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 12 of 17

M. Piezoelectric Sensor, Roadtrax BL Class I/II or Approved Equal. Determine where on the roadway the piezoelectric sensor will be installed. Roadway ruts shall not be in excess of 1/2 inch under a 4-foot straight edge. Install the piezoelectric sensor perpendicular to traffic. Locate the sensor in the lane as shown on the site detail sheet. Eleven-foot length sensors should be centered in the lane. The following is a typical step by step procedure for the installation of a piezoelectric sensor. Refer specifically to the manufacturer's current instructions provided with the sensor prior to installation.

1. Carefully mark the slot to be cut, perpendicular to the flow of traffic. Ensure that the sensors are properly positioned in the lane.
2. It is strongly recommended that a 3/4" wide diamond blade be used for cutting the slot, or that blades be ganged together to get a single 3/4 inch wide cut. The slot shall be wet cut to minimize damage to the road.
3. Cut a slot 3/4 inch wide ($\pm 1/16$ ") by 1" minimum deep. The slot should be 8" longer than the sensor (including the lead attachment). Drop the saw blade an extra 1/2" down on both ends of the sensor. The lead out should be centered on the slot.
4. Cut the home-run slot for the coax-cable 1/4-inch wide and at a depth so that the cable is a minimum of 1 inch below the road surface in rigid pavement (concrete) or 3 inches below the road surface in bituminous (asphalt) pavement.
5. Sweep and wash out all debris left in the slot and ensure it is clean and dry.
6. Use high pressure water, or water and oil-free compressed air to clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot.
7. Totally remove excess water and debris from roadway and shoulder area. Debris should be disposed of properly.
8. Carefully dry the slot, and within 1 foot on all sides of the slot, using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
9. Place a strip of duct tape on the pavement along the length of both sides of the sensor slot. Place the 2-4" wide duct tape 1/8" away from the slot.
10. Remove BL sensor from the box. Visually inspect each sensor to ensure it is straight without any twists or curls. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify the correct sensor (type and length) is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet.
11. Test the sensor for Capacitance, Dissipation Factor and Resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within $\pm 20\%$ of the enclosed data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results. This information should be stored in the counter cabinet and/or returned to KYTC Planning personnel.
12. Lay the sensor on the tape next to the slot. Ensure that the sensor is straight and flat. Ensure that you are wearing clean protective latex (or equivalent) gloves at all times when handling sensors.
13. Clean sensor with steel wool or emery pad. Wipe down with alcohol and clean lint-free cloth.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 13 of 17

14. Place the installation bracket clips on the sensor, about every 6" for the length of the sensor.
15. Bend the end of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z)
16. Place the sensor in the slot, with the brass element 3/8" below the road surface along the entire length. The end of the sensor should be at least 2" from the end of the slot and the tip should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8" below the surface of the road. The lead attachment should also not touch the bottom or sides of the slot. Ensure the ends of the sensors are pushed down sufficiently per the manufacturer's instructions.
17. Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).
18. Block off the ends of the slot using plumbers putty. Ensure that there are adequate "dams" at both ends so that the encapsulation material does not flow out. On the passive cable end, the dam should be about 3-5" past the end of the lead attachment area.
19. The encapsulation material should be placed full depth, overfilled, and allowed to cure 10 minutes before shaving level with the surface. Ensure it fills around and underneath the sensor completely and there is not a trough on top.
20. Remove the tape on the sides of the sensor as soon as the adhesive starts to cure.
21. Carefully remove all the plumbers putty from ends of the sensor.
22. Route the lead in cable through the slot cut for it, and cover with approved loop sealant.
23. After the encapsulant has hardened, grind the top of the installation using an angle grinder. The profile should be flush with the road surface or with a slight, 1/16" mound. There shall be no concave portion to the mound.
24. Clean up the site. Sealant curing time varies with temperature and humidity. Contractor shall ensure that the complete curing of the encapsulation material has taken place prior to subjecting the sensors to traffic.

After the installation is complete, the minimum output voltages of each piezoelectric sensor shall meet the following: 1.5 Volts (peak) for a 10,000 pound axle and 200 millivolts (peak) for a car axle. The piezoelectric sensor lead-in cable is part of the sensor and can be ordered in different lengths (100' standard). Piezoelectric sensor lead-in cable shall not be spliced.

N. Cleanup and Restoration. The contractor will be responsible for all damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This includes any filling of ruts and leveling ground appropriately. Clean the site and dispose of all waste and debris off the right-of-way at sites obtained by the contractor at no additional cost to the Department. Sow all disturbed earthen areas with Seed Mixture No. I per Section 212.03.03 Permanent Seeding and Protection of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, 2004 edition.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 14 of 17

O. On-Site Inspection. Each contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize themselves with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. The Department will not honor any claims resulting from site conditions.

P. Property Damage. The contractor will be responsible for all damage to public and/or private property resulting from his work.

Q. Caution. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown.

R. Utility Clearance. It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the contractor while relocating their facilities.

S. Site Inspections. All sensors are to be tested by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the station is operating properly. Tests shall demonstrate that the system operates in accordance with the plans and specifications. Inductance loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megaohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground. If the sensors do not meet the specifications and/or KYTC's traffic recording equipment does not perform properly because of an improperly functioning sensor, the contractor shall be responsible for the replacement of the faulty sensor(s), as soon as practicable at their total cost.

IV. BID NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to the other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

A. Maintain and Control Traffic. See Traffic Control Plan.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 15 of 17

B. Junction Box Type 6" x 6" x 4" (or Type 10" x 8" x 4" if noted). Each type junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item includes connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete this part of the installation. Incidental to this item is furnishing and installing any specified post (wood, channel, metal, etc.) as required for the installation.

C. Junction Box Type A (B or C). Each type junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item includes concrete (if required), #57 aggregate, conduit fittings and backfilling around the unit.

D. Cabinet Type G (NEMA-3R). Cabinet (each) shall include furnishing and installing a Type G cabinet as specified. This item shall include constructing the concrete base or mounting cabinet to pole, installation of duplex receptacle and connection of all detectors (where applicable). Incidental to this item shall be furnishing, installing electrical service conductors, conduits, fused cutout, ground rods, all internal shelving, brackets, any necessary pole mounting hardware and electrical inspection fees.

E. Install Base Mount Enclosure. Install base mount enclosure (each) shall include installing a State-furnished cabinet or enclosure as specified. This item shall include all materials and labor for constructing the concrete base (or, if specified, mounting cabinet to pole), installation of the cabinet, duplex receptacle and connection of all detectors (where applicable). Incidental to this item shall be furnishing, installing electrical service conductors, conduits, fused cutout, ground rods, telephone service conduits from the cabinet to the telephone company disconnect box, all internal shelving, brackets, anchor bolts, any necessary pole mounting hardware and electrical inspection fees if applicable.

F. Galvanized Steel Cabinet. Cabinet (each) shall include furnishing and installing a galvanized steel cabinet and post(s) as specified on the drawing. This item shall include mounting the cabinet to post and the connection of all detectors. Incidental to this item shall be furnishing and installing conductors, conduit, ground rods, any necessary pole mounting hardware and any electrical inspection fees.

G. Wood Post. Wood post (each) shall include furnishing and installing a wood post as specified. This item includes excavation, concrete (if required), and backfilling around the unit.

H. Conduit. Conduit shall include furnishing and installing specified conduit in accordance with specifications. This item includes conduit fittings, bodies, boxes, expansion joints, couplings, duct seal, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 16 of 17

I. Wire (or Cable). Wire or cable shall include furnishing and installing specified wire or cable within conduit, saw slot, or overhead as indicated on the detail sheets. This can include, but is not limited to: loop wire, Cable No. 14/1 Pair, etc. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice box; furnishing and installing of splice boots, cable rings or other hardware required for installing cable. Loop wire and cable will be measured in linear feet.

J. Loop Saw Slot and Fill. Loop saw slot and fill shall include sawing, cleaning and filling saw slots for induction loops, lead-in wires, etc. with loop sealant or specified approved material. Sawing and filling slot for wire will be measured in linear feet.

K. Trenching and Backfilling. Trenching and backfilling shall include excavation, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item includes concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

L. Electrical Service. Electrical services shall include all related work, labor, materials (e.g. meter, straps, conduit, fittings, wire, etc.) and fees towards furnishing and installing an electrical service, which has passed all required inspections. This will be measured in individual units each.

M. Telephone Service. Telephone services shall include all related work, labor, materials (e.g. meter, straps, conduit, fittings, wire, etc.) and fees towards furnishing and installing a telephone service, which has passed all required inspections. This will be measured in individual units each.

N. Piezoelectric Sensor or Approved Equal. Piezoelectric sensor (each) shall include furnishing and installing a Class I or Class II Piezoelectric Sensor in accordance with the specifications. Lead-in wire, splice kits, encapsulation material, grout, testing, and accessories shall be incidental to this bid item.

Inductance Loop and Piezoelectric Axle Sensor Installation
Page 17 of 17

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction, 2004 edition, and Supplemental Specifications.
2. National Electrical Code (NEC), latest edition.
3. International Municipal Signal Association (IMSA) Specification No. 51-7- latest edition.
4. FHWA Manual of Uniform Traffic Control Devices, latest edition.
5. "Roadside Design Guide", developed in 1996 by the American Association of State Highway and Transportation Officials (AASHTO).
6. Kentucky Department of Highways Standard Drawings, current editions, as applicable:

TTC-115	Lane Closure Case II
TTC-135	Shoulder Closure
TTD-100	Miscellaneous Traffic Control Devices (sheet 1)
TTD-105	Miscellaneous Traffic Control Devices (sheet 2)
TTD-110	Post Splicing Detail
TTD-115	Flashing Arrow

7. Kentucky Department of Highways Sepia Drawings:

Silt Fence

Updated: April 11, 2006

KENTON COUNTY – US 25
FD05-059-0025-006-0080
DATA COLLECTION STATION
STN C16 (MP ~7.300)

GENERAL NOTES:

The Division of Planning needs to re-establish traffic data collection stations within the resurfacing project in Kenton County US 25 (Dixie Hwy). A planning traffic data collection station is to be installed at the following site(s):

1. STN C16 (~ 7.3 MP).

Contractor will proceed with the installation of traffic sensors once the re-surfacing work is completed. Exact site locations will be determined in the field.

Contractor shall install a total of ten (10) loop sensors in the roadway. Remove the existing 6”X6” plastic cabinet and replace with a new 20”X20” galvanized steel cabinet mounted on two new 4”X4” wood posts. The labeled loop lead-in wires will be run splice-free through 1¼” conduit to a Type A junction box and then through 2” conduit to the new steel cabinet box adjacent to the southbound sidewalk as indicated on the attached drawings. The contractor will provide and use all new materials in this re-construction.

Installation shall be coordinated with, and approved by, appropriate Division of Planning staff. Reference “Special Notes for Installation of Traffic Counting Inductance Loops” for materials, construction and installation details. Also see the supplementary attachments, Location Drawings, Location Table and Estimate of Quantities, in regard to this specific project.

Note: The Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors are generic. Only the sections that pertain to the specified location and the bid items listed in this summary are applicable.

SPECIAL NOTES:

The mile points listed in the proposal are approximate only. The Engineer, in coordination with the Central Office Division of Planning, will designate the exact location at the time of construction. See Site Drawing sheets for more detail as to where each site is to be located.

Notify the Central Office Division of Planning (502-564-7183, Equipment Management Team) a minimum of 14 days prior to beginning work in order for them to have the option to be present during sensor installation. The Engineer will contact and maintain liaison with the District Planning Engineer and the Central Office Division of Planning in order to coordinate the work.

**KENTON COUNTY – US 25
FD05-059-0025-006-008
DATA COLLECTION STATION
STN C16 (MP ~7.3)**

LOCATION TABLE:

STATION	DESCRIPTION	LOOP STN LIMITS (MP)	LOOP LOCATION	LANES	LOOPS	PIEZOS	PROJECT MP LIMITS
C16	2 Loops/ Lane	6.076 – 7.589	~7.300 MP	5	10	0	6.308 – 7.589

LOOP STATION C16 is located on US 25 (Dixie Highway) north of Dudley Road and south of the I-275 Underpass at approximately the 7.30 mile point (MP). This station has five (5) lanes of traffic, three (3) northbound (NB), two (2) southbound (SB). A Type A Junction Box and a 20-in. x 20-in. galvanized steel cabinet, mounted on two 4” x 4” wood posts, will be installed on the northbound side. Each lane will have a loop-loop configuration of sensor arrays installed, as depicted in Figure 1. The contractor shall install the sensors in each lane and run the labeled loop lead-in wires splice-free through the junction box into the cabinet as depicted in Figure1. All new materials shall be utilized in this re-construction.

ESTIMATE OF QUANTITIES:

CODE	DESCRIPTION	UNIT	QUANTITY
4793	CONDUIT – 1 ¼ INCH	LIN FT	80
4795	CONDUIT 2”	LIN FT	10
4820	TRENCHING AND BACKFILLING	LIN FT	65
4830	LOOP WIRE	LIN FT	2360
4895	LOOP SAW SLOT AND FILL	LIN FT	472
20359EC	GALV STEEL CABINET	EACH	1
20391ES835	JUNCTION BOX TYPE A	EACH	1
20360ES818	WOOD POSTS	EACH2	2

Contractor is responsible for the above materials listing. Specifications on materials and installation instructions for loops are found in the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

KENTON COUNTY – US 25
FD05-059-0025-008-010
DATA COLLECTION STATION
STN B67 (MP ~8.700)

GENERAL NOTES:

The Division of Planning needs to re-establish traffic data collection stations within the resurfacing project in Kenton County US 25 (Dixie Hwy). A planning traffic data collection station is to be installed at the following site(s):

1. STN B67 (~ 8.7 MP).

Contractor will proceed with the installation of traffic sensors once the re-surfacing work is completed. Exact site locations will be determined in the field.

Contractor shall install a total of eight (8) loop sensors in the roadway. The labeled loop lead-in wires will be run splice-free to a new steel cabinet box adjacent to the southbound sidewalk as indicated on the attached drawings. The contractor will provide and use all new materials in this re-construction.

Installation shall be coordinated with, and approved by, appropriate Division of Planning staff. Reference “Special Notes for Installation of Traffic Counting Inductance Loops” for materials, construction and installation details. Also see the supplementary attachments, Location Drawings, Location Table and Estimate of Quantities, in regard to this specific project.

Note: The Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors are generic. Only the sections that pertain to the specified location and the bid items listed in this summary are applicable.

SPECIAL NOTES:

The mile points listed in the proposal are approximate only. The Engineer, in coordination with the Central Office Division of Planning, will designate the exact location at the time of construction. See Site Drawing sheets for more detail as to where each site is to be located.

Notify the Central Office Division of Planning (502-564-7183, Equipment Management Team) a minimum of 14 days prior to beginning work in order for them to have the option to be present during sensor installation. The Engineer will contact and maintain liaison with the District Planning Engineer and the Central Office Division of Planning in order to coordinate the work.

**KENTON COUNTY – US 25
FD05-059-0025-008-010
DATA COLLECTION STATION
STN B67 (MP ~8.70)**

LOCATION TABLE:

STATION	DESCRIPTION	LOOP STN LIMITS (MP)	LOOP LOCATION	LANES	LOOPS	PIEZOS	PROJECT MP LIMITS
B67	2 Loops/ Lane	8.583 – 9.749	~ 8.70 MP	4	8	0	8.667 – 9.749

LOOP STATION B67 is located on US 25 (Dixie Highway) north of KY 371 and south of the I-75 Overpass at approximately the 8.70 mile point (MP). This station has four (4) lanes of traffic, two (2) northbound (NB), two (2) southbound (SB). A 20-in. x 20-in. galvanized steel cabinet, mounted on two 4” x 4” wood posts, will be installed on the southbound side. Each lane will have a loop-loop configuration of sensor arrays installed, as depicted in Figure 1. The contractor shall install the sensors in each lane and run the labeled loop lead-in wires splice-free into the cabinet. All new materials shall be utilized in this re-construction.

ESTIMATE OF QUANTITIES:

CODE	DESCRIPTION	UNIT	QUANTITY
4793	CONDUIT – 1 ¼ INCH	LIN FT	30
4820	TRENCHING AND BACKFILLING	LIN FT	18
4830	LOOP WIRE	LIN FT	1284
4895	LOOP SAW SLOT AND FILL	LIN FT	238
20359EC	GALV STEEL CABINET	EACH	1
20360ES818	WOOD POST	EACH	2

Contractor is responsible for the above materials listing. Specifications on materials and installation instructions for loops are found in the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

**SPECIAL NOTE FOR AUTOMATIC TRAFFIC RECORDER
INDUCTANCE LOOPS
FD05 059-0025-006-008
FD05 059-0025-008-010
FE01 059-0025-008-010**

Existing traffic counting inductance loops are within the construction limits of this project. Notify the Engineer in writing, a minimum of 14 days prior to beginning any work. Install and test the new according to the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

SPECIAL NOTES FOR TRAFFIC SIGNAL LOOP DETECTORS

FD05 059-0025-006-008 FD05 059-0025-008-010
FD05 059-0025-010-013 FE01 059-0025-008-010

The Contractor is advised there are existing traffic signal loop detectors within the construction limits of the subject project. Notify the Engineer in writing, (2) weeks prior to beginning any work on the project.

The Engineer will contact and maintain liaison with the District Traffic Engineer to coordinate any necessary work.

1-3892 trafficsignalloops
07/21/03

SPECIAL NOTES FOR TRAFFIC SIGNAL LOOP REPLACEMENT

I. DESCRIPTION. Loop replacement shall be performed in accordance with the Department's 2004 Standard Specifications, applicable Standard Drawings, and applicable Special Provisions except as hereafter specified. Article references are to the Standard Specifications.

The Contractor shall furnish all materials, labor, and equipment for the replacement of traffic signal loop(s), and junction boxes (if the contract specifies quantities for this bid item elsewhere), and maintaining and controlling traffic, and all other work specified as part of this contract.

II. MATERIALS. All wire and cable shall be plainly marked in accordance with the provisions of the national electrical code.

Conduit shall be rigid steel. All rigid steel conduit shall be galvanized inside and out and shall conform to the Underwriters' Laboratories requirements for rigid metallic conduit.

Loop wire shall be # 14 AWG IMSA Spec 51-7.

Loop lead-in cable shall be # 14 AWG stranded, paired conductors, electrically shielded and conforming to IMSA 19-2-1984.

III. CONSTRUCTION. All wiring shall conform to the provisions of the National Electrical Code unless otherwise shown on the details. Where more than one circuit is installed within the same conduit, permanent circuit identification numbers shall be affixed to the wires. All wires shall be permanently labeled within 6 inches of the input file.

Rigid steel conduit encasement shall be provided for all conductors except for overhead installations, where conductors are run inside poles or cabinets and induction loop conductors sealed within pavements. All conduit installations shall conform to the provisions of the National Electrical Code except where directed otherwise. Bonded slip joints will be permitted for joining rigid conduit to junction boxes. Where a standard coupling cannot be used, an approved threaded union coupling shall be used.

All conduit ends shall be reamed to remove burrs and sharp edges. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with a rust inhibitive paint. Conduit bends shall have a radius of not less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans. See Typical Grounding Detail.

Conduit which will not be subjected to regular pressure from traffic shall be laid to a depth of not less than 18 inches. At crossings under roadway surfaces and shoulders, the conduit shall be placed at a depth of not less than 24 inches below grade. The contractor will not be permitted to cut any pavement in carrying out conduit installations. After the

conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

Contractor shall install underground utility warning tape above the circuit cables as shown on the detail sheets. The tapes shall conform to the APWA-ULCC national color code with black lettering on a red background. The tape shall continuously read "Caution: Electric Line Buried Below" alternating with a 'No Digging' symbol.

The tape shall be durable and colorfast to withstand years of underground burial and easily direct buried. The tape shall be 6" wide and 7 mils (nominal) thick. The tape shall have a minimum tensile strength of 600 lbs./6" width. It shall be color code impregnated with alkali and acid stable, lead-free, organic pigments for direct burial. It shall be ultraviolet colorfast. The tape shall be nondistorting with no elongation.

When backfilling trenches, the backfill material shall be placed and compacted in lifts of 9 inches or less. Any area disturbed as a result of the contractor's operations shall be restored to the satisfaction of the Engineer.

Loop lead-in wire, exclusive of shielded cable, shall be twisted with three to five turns per foot before placement in saw slot, conduit or junction box. Unshielded loop wiring to field terminal connections in cabinet and unshielded loop wiring in loop amplifier connector harness shall also be twisted three to five turns per foot.

Except for the connection of the loop wires to the loop lead-in wires, loops shall be extended splice-free to the controller. Loop wires shown as extended to poles or junction boxes shall be spliced into loop lead-in cable at the poles or boxes. Loop lead-in cable shall be extended splice-free from pole or junction box to controller. Each loop shall have a separate lead-in cable installed. Multiple loops on the same lead-in cable will not be accepted. Splices shall be placed to minimize possibility of water intrusion. The electrical contractor shall coordinate the installation of traffic loops with the paving contractor and the Engineer prior to milling.

Junction boxes shall conform to ANSI/SCTE 77 "Specifications for Underground Enclosure Integrity" for Tier 15. Covers shall have a minimum coefficient of friction of 0.05 in accordance with ASTM C1028, shall be marked "TRAFFIC" and be attached with 3/8" stainless hex bolts. Junction boxes shall be installed flush with finished grade. See Junction Box Type B detail.

All splices shall be made with butt splices. Butt splices shall be copper and of the correct wire range. Butt splices shall be covered with a 3M Mastic Pad or approved equal and then taped with a 3M brand # 33 electrical tape. Mastic pad must cover at least 3 inches past each end of butt splice. Underground splices include splices in junction boxes and pole bases. Each conductor shall be encased in a separate splice kit. Cost of the splices shall be incidental to the cost of wire or cable. The splicing specification listed here takes precedence over any other splicing specifications listed in the Standard Specifications for Road and Bridge Construction.

Induction loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a Contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

Information provided in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown.

It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.

The Contractor will be responsible for all damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. Clean the site and dispose of all waste and debris off the right-of-way at sites obtained by the Contractor at no additional cost to the Department. Sow all disturbed earthen areas with Seed Mixture No. 1.

IV. MEASUREMENT.

Conduit shall include furnishing and installing specified conduit in accordance with specifications. This item includes conduit fittings, expansion joints, clamps, and weatherheads.

Junction box shall include furnishing and installing specified junction box in accordance with the specifications and shown on the Junction Box Type B detail. This item includes # 57 aggregate, backfilling, and the restoration of disturbed areas to the satisfaction of the Engineer.

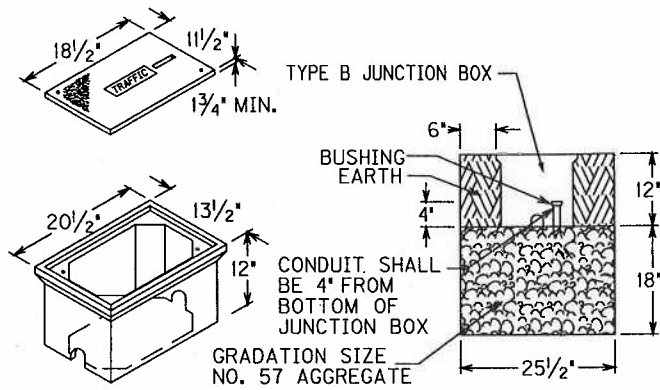
Trenching and backfilling shall include excavation, backfilling, and the restoration of disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing underground utility warning tape as shown on the Depth of Conduit detail.

Wire or cable shall include furnishing and installing specified wire or cable within conduit, saw slot, or overhead as required. Incidental to this item shall be furnishing and installing splice boots, cable rings or other hardware required for installing cable. Wire installed in saw slots shall be installed as shown on the Saw Slot detail. The contractor shall install all cable runs splice-free from the controller to each loop wire the cable is feeding. Exceptions to this must be approved by the Engineer. The removal of existing lead-in cable shall be incidental to this item. The removal of existing lead-in cable shall be incidental to this item.

Loop saw slot and fill shall include sawing, cleaning saw slot as well as furnishing and installing loop sealant, backer rod and non-shrink grout as shown on the details. The contractor shall saw according to the dimensions shown on the detail sheets and not cut out any sections of pavement by over-sawing any slot. The 3/4" conduit referenced in the Loop Wire Transition details is incidental to this project and not a separate pay item.

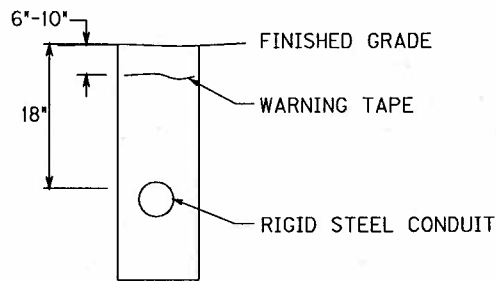
V. PAYMENT. The Department will make payment for completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
4793	Conduit 1 1/4"	Linear Foot
4795	Conduit 2"	Linear Foot
4811	Junction Box Type B	Each
4820	Trenching and Backfilling	Linear Foot
4830	Loop Wire	Linear Foot
4850	Cable-No. 14/1 Pair	Linear Foot
4895	Loop Saw Slot and Fill	Linear Foot

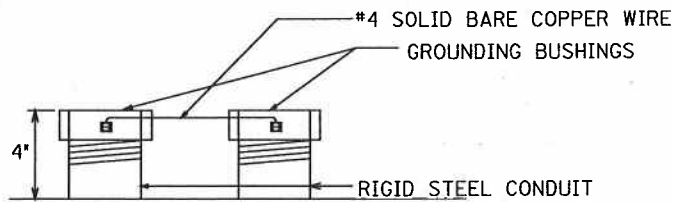


JUNCTION BOXES SHALL CONFORM TO ANSI/SCTE 77 "SPECIFICATIONS FOR UNDERGROUND ENCLOSURE INTEGRITY" FOR TIER 15. COVERS SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.05 IN ACCORDANCE WITH ASTM C1028, SHALL BE MARKED 'TRAFFIC' AND BE ATTACHED WITH 3/8" STAINLESS HEX BOLTS. JUNCTION BOXES SHALL BE INSTALLED FLUSH WITH FINISHED GRADE.

JUNCTION BOX TYPE B

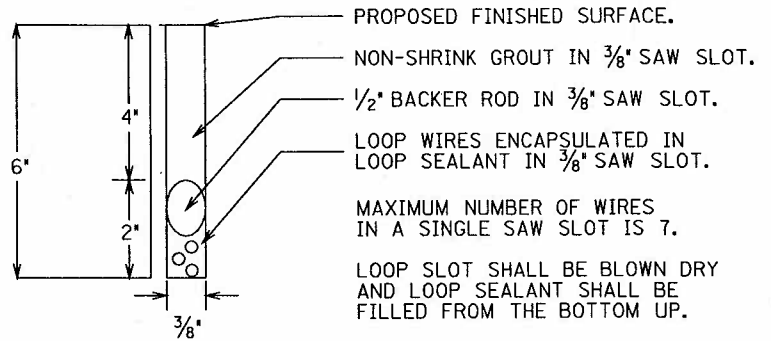


DEPTH OF CONDUIT

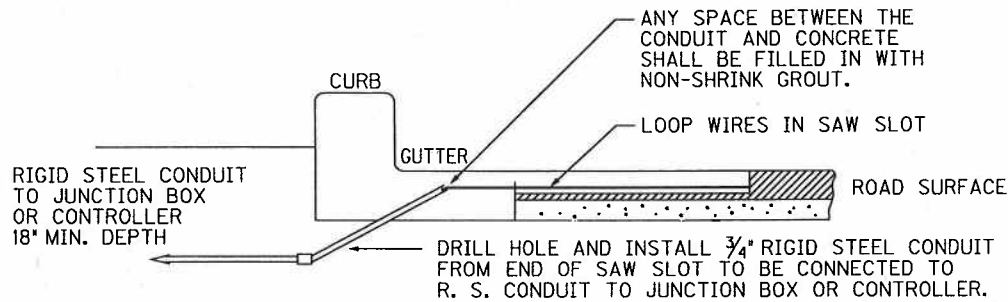


TYPICAL GROUNDING DETAIL

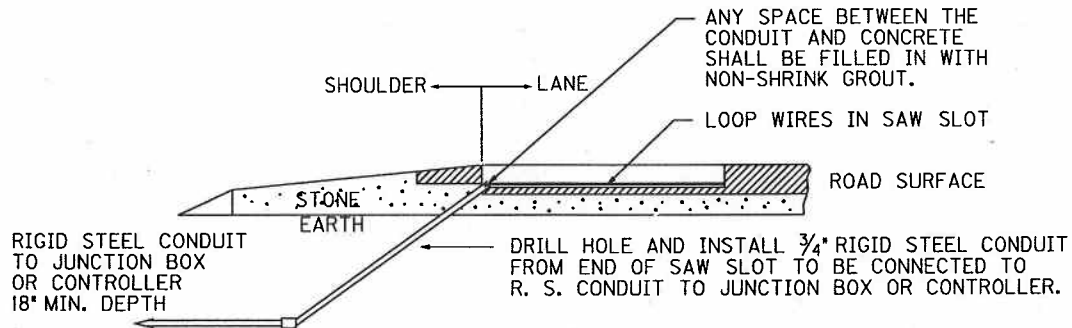
LOOP WIRES SHALL BE ENCAPSULATED WITH LOOP SEALANT PER MANUFACTURER'S INSTRUCTIONS. ALL LOOP SEALANT SHALL BE COVERED WITH A CONTINUOUS LAYER OF BACKER ROD. BACKER ROD SHALL BE INSTALLED SUCH THAT NO VOIDS ARE PRESENT BETWEEN LOOP SEALANT AND BACKER ROD. FILL REMAINING SAW SLOT WITH NON-SHRINK GROUT PER MANUFACTURER'S INSTRUCTIONS. IF LOOP IS INSTALLED AFTER FINAL SURFACE HAS BEEN APPLIED, INSTALL 1/2" OF LOOP SEALANT ON TOP OF NON-SHRINK GROUT. LOOP SEALANT SHALL BE STOPPED 1/8" BELOW FINISHED SURFACE.



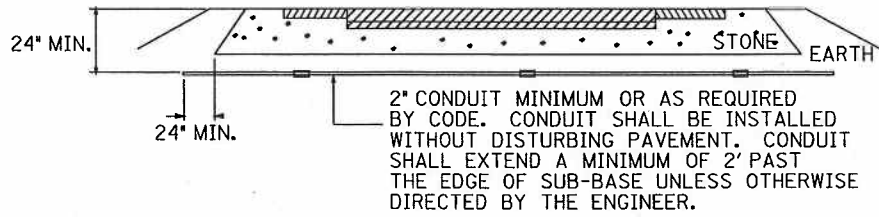
SAW SLOT DETAIL



LOOP WIRE TRANSITION - CONCRETE CURB



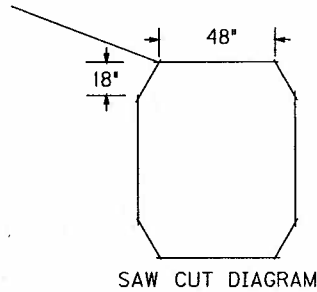
LOOP WIRE TRANSITION - FLAT SHOULDER



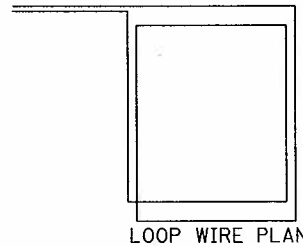
CONDUIT UNDER EXISTING PAVEMENT DETAIL

LOOP LEAD-IN WIRES SHALL BE TWISTED WITH THREE TO FIVE TURNS PER FOOT UNTIL TERMINATED AT FIELD CONNECTIONS IN THE CABINET OR CONNECTED TO SHIELDED CABLE.

TO PULL BOX AND/OR CONTROL BOX



TO PULL BOX AND/OR CONTROL BOX



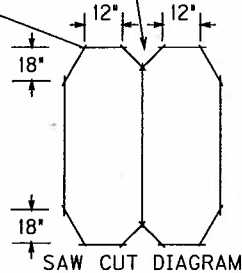
STANDARD LOOP

*ALL 6'x6' LOOPS SHALL BE STANDARD

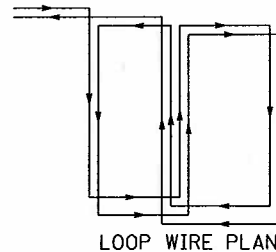
LOOP LEAD-IN WIRES SHALL BE TWISTED WITH THREE TO FIVE TURNS PER FOOT UNTIL TERMINATED AT FIELD CONNECTIONS IN THE CABINET OR CONNECTED TO SHIELDED CABLE.

DO NOT SAW CUT MIDDLE SECTION (TYP.)

TO PULL BOX AND/OR CONTROL BOX



TO PULL BOX AND/OR CONTROL BOX



QUADRAPOLE LOOP

*ALL 6'x30' LOOPS SHALL BE QUADRAPOLE

TRAFFIC CONTROL PLAN FD05 059-0025-006-008

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain and control traffic in accordance with the 2004 Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane closures will be allowed during the following days and hours:

6:00 a.m. – 6:00 p.m.

Sunday through Saturday

With prior approval from the engineer minor operations that do not require a lane closure and cause little disruption to traffic will be permitted weekdays between 9:00 a.m. to 2:30 p.m. No work of any kind will be allowed from one hour before kickoff until one hour after completion of Dixie Heights High School home football games. At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed.

Maintain a minimum of one traffic lane in each direction at all times during construction. The clear lane width shall be 10 feet; however, make provisions for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

Do not leave lane closures in place during non-working hours.

Night work will be required on this project. Obtain the Engineer's approval of the method of lighting prior to beginning work.

Take these restrictions into account when preparing bid. The Department will not make any additional payment or consider any claims for any delays to the Contractor as a result of these restrictions.

Traffic Control Plan
FD05 059-0025-006-008
Page 2 of 4

ACCESS TO PROPERTY

The department will not require the Contractor to provide continuous access to single family, duplex, or triplex residential properties during working hours; however, the Contractor shall provide reasonable egress and ingress to each such property when actual operations are not in progress at that location. Limit the time during which a residential entrance is blocked to the minimum length of time required for actual operations, do not extend the time of closure for Contractor's convenience, and in no case do not allow a closure exceeding six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of disabled residents.

Maintain access to side streets and roads, schools, churches, commercial properties and apartments or apartment complexes of four or more units at all times.

The Department will make payment at the unit price bid for asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however, no direct payment will be allowed for aggregates, excavation, embankment, or other incidentals. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

SIGNS

Contrary to Section 112.04.02 and 112.04.03, Low Shoulder signs will not be measured for payment, but shall be incidental to Maintain and Control Traffic. Contrary to section 112.04.02, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but shall be incidental to Maintain and Control Traffic.

BARRICADES

Barricades used in lieu of barrels and cones for channelization or delineation will be incidental to Maintain and Control Traffic according to Section 112.04.01. Barricades used to protect pavement removal areas will be bid as each according to Section 112.04.05.

TRAFFIC COORDINATOR

Furnish a Traffic Coordinator according to Section 112. The Traffic Coordinator shall inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. Provide the personnel on the project with access to a radio or telephone to be used in case of emergencies or accidents.

Traffic Control Plan
FD05 059-0025-006-008
Page 3 of 4

VARIABLE MESSAGE SIGNS

Provide variable message signs in advance of and within the project at locations designated by the Engineer. If work is in progress concurrently in both directions of travel, provide additional variable message signs as determined by the Engineer. The Engineer may change the designated locations as the work progresses. The Engineer will designate the required messages. Operate the variable message signs at all times. In the event of damage or mechanical/electrical failure, repair or replace the variable message sign within 24 hours.

PAVEMENT MARKINGS

Coordinate the installation of all temporary and permanent striping with the Engineer. Apply Permanent and Temporary Striping according to Section 112 with the following exceptions:

1. Permanent striping pattern may vary from the existing; the Engineer will provide a striping plan prior to beginning work if there are to be any changes from existing patterns; and
2. Include edgelines when applying temporary striping; and
3. Have Temporary or Permanent striping in place before a lane is opened to traffic; and
4. If the Contractor's operations or phasing requires temporary markings that must be subsequently removed from the final surface course, use an approved removable lane tape; however, if removable lane is used, the tape will not be measured separately but shall be measured and paid as temporary striping.; and
5. Place thermoplastic intersection markings at locations shown on the summary and detail drawings or as designated by the Engineer.

PAVEMENT EDGE DROP-OFFS

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1/2". Warning signs (MUTCD W8-9 or W8-9A, or W8-11) shall be placed in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. All transverse transitions between the newly surfaced area and the existing surface areas that traffic may cross shall be wedged with asphalt mixture for leveling and wedging. The wedges shall be removed prior to placement of the final surface course.

Traffic Control Plan
FD05 059-0025-006-008
Page 4 of 4

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2 inches - No protection required.

2 inches to 4 inches - Place plastic drums, vertical panels, or barricades every 50 feet. The Engineer will allow the use of cones to be used in lieu of plastic drums, panels, and barricades during daylight working hours only. Wedge with asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

TRAFFIC CONTROL PLAN
FD05 059-0025-008-010
FE01 059-0025-008-010

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain and control traffic in accordance with the 2004 Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane closures will be allowed during the following days and hours:

6:00 a.m. – 6:00 p.m. Monday through Friday

With prior approval from the engineer minor operations that do not require a lane closure and cause little disruption to traffic will be permitted weekdays between 9:30 a.m. to 2:45 p.m. No work of any kind will be allowed from one hour before kickoff until one hour after completion of Beechwood High School home football games. At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed.

Maintain a minimum of one traffic lane in each direction at all times during construction. The clear lane width shall be 10 feet; however, make provisions for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

Do not leave lane closures in place during non-working hours.

Night work will be allowed on this project. Obtain the Engineer's approval of the method of lighting prior to beginning work.

Take these restrictions into account when preparing bid. The Department will not make any additional payment or consider any claims for any delays to the Contractor as a result of these restrictions.

Traffic Control Plan
FD05 059-0025-008-010
FE01 059-0025-008-010
Page 2 of 4

ACCESS TO PROPERTY

The department will not require the Contractor to provide continuous access to single family, duplex, or triplex residential properties during working hours; however, the Contractor shall provide reasonable egress and ingress to each such property when actual operations are not in progress at that location. Limit the time during which a residential entrance is blocked to the minimum length of time required for actual operations, do not extend the time of closure for Contractor's convenience, and in no case do not allow a closure exceeding six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of disabled residents.

Maintain access to side streets and roads, schools, churches, commercial properties and apartments or apartment complexes of four or more units at all times.

The Department will make payment at the unit price bid for asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however, no direct payment will be allowed for aggregates, excavation, embankment, or other incidentals. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

SIGNS

Contrary to Section 112.04.02 and 112.04.03, Low Shoulder signs will not be measured for payment, but shall be incidental to Maintain and Control Traffic. Contrary to section 112.04.02, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but shall be incidental to Maintain and Control Traffic.

BARRICADES

Barricades used in lieu of barrels and cones for channelization or delineation will be incidental to Maintain and Control Traffic according to Section 112.04.01. Barricades used to protect pavement removal areas will be bid as each according to Section 112.04.05.

TRAFFIC COORDINATOR

Furnish a Traffic Coordinator according to Section 112. The Traffic Coordinator shall inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. Provide the personnel on the project with access to a radio or telephone to be used in case of emergencies or accidents.

Traffic Control Plan
FD05 059-0025-008-010
FE01 059-0025-008-010
Page 3 of 4

VARIABLE MESSAGE SIGNS

Provide variable message signs in advance of and within the project at locations designated by the Engineer. If work is in progress concurrently in both directions of travel, provide additional variable message signs as determined by the Engineer. The Engineer may change the designated locations as the work progresses. The Engineer will designate the required messages. Operate the variable message signs at all times. In the event of damage or mechanical/electrical failure, repair or replace the variable message sign within 24 hours.

PAVEMENT MARKINGS

Coordinate the installation of all temporary and permanent striping with the Engineer. Apply Permanent and Temporary Striping according to Section 112 with the following exceptions:

1. Permanent striping pattern may vary from the existing; the Engineer will provide a striping plan prior to beginning work if there are to be any changes from existing patterns; and
2. Include edgelines when applying temporary striping; and
3. Have Temporary or Permanent striping in place before a lane is opened to traffic; and
4. If the Contractor's operations or phasing requires temporary markings that must be subsequently removed from the final surface course, use an approved removable lane tape; however, if removable lane is used, the tape will not be measured separately but shall be measured and paid as temporary striping.; and
5. Place thermoplastic intersection markings at locations shown on the summary and detail drawings or as designated by the Engineer.

PAVEMENT EDGE DROP-OFFS

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1½". Warning signs (MUTCD W8-9 or W8-9A, or W8-11) shall be placed in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. All transverse transitions between the newly surfaced area and the existing surface areas that traffic may cross shall be wedged with asphalt mixture for leveling and wedging. The wedges shall be removed prior to placement of the final surface course.

Traffic Control Plan
FD05 059-0025-008-010
FE01 059-0025-008-010
Page 4 of 4

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2 inches - No protection required.

2 inches to 4 inches - Place plastic drums, vertical panels, or barricades every 50 feet. The Engineer will allow the use of cones to be used in lieu of plastic drums, panels, and barricades during daylight working hours only. Wedge with asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4 inches (Curb and Gutter Construction) – The Engineer allow drop-offs exceeding 4 inches during active pavement removal operations for construction of curb and gutter only during the interval between pavement removal and the placement of the concrete. Place Type III Barricades facing oncoming traffic in both directions. Place plastic drums, vertical panels or barricades every 25 feet. Protect drop-offs less than eight feet behind a lane or shoulder closure with cuttings from excavation for curb and gutter with a 3:1 or flatter slope when active operations are not being performed in the pavement removal area and remove the wedge and place the concrete curb and gutter in the drop-off area as soon as possible. In lieu of a wedge, drop-offs at lateral trenches may be covered by a 1” thick steel plate when work is not actively in progress at the pavement removal area; anchor the plate to the pavement by any method approved by the Engineer that will prevent it being dislodged by accidental impact. If for any reason, it is necessary to excavate small areas adjacent to traffic where there exists a possibility that a vehicle may drop a wheel into the holes or in areas where pedestrians are present, plate the hole or fill with cuttings from excavation for curb and gutter when active operations are not in progress. No direct payment will be made for the wedges or steel plates, but shall be incidental to other items of work. Perform all excavation and concrete placement in such a manner that excavation and concrete placement are performed on the same day at each location..

TRAFFIC CONTROL PLAN FD05 059-0025-010-013

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain and control traffic in accordance with the 2004 Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane closures will be allowed during the following days and hours:

6:00 a.m. – 6:00 p.m. Monday through Friday

With prior approval from the engineer minor operations that do not require a lane closure and cause little disruption to traffic will be permitted weekdays between 9:30 a.m. to 2:45 p.m. No work of any kind will be allowed from one hour before kickoff until one hour after completion of Covington Catholic High School home football games. At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed.

Maintain a minimum of one traffic lane in each direction at all times during construction. The clear lane width shall be 10 feet; however, make provisions for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

Do not leave lane closures in place during non-working hours.

Night work will be allowed on this project. Obtain the Engineer's approval of the method of lighting prior to beginning work.

Take these restrictions into account when preparing bid. The Department will not make any additional payment or consider any claims for any delays to the Contractor as a result of these restrictions.

Traffic Control Plan
FD05 059-0025-010-013
Page 2 of 4

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Maintain access to side streets and roads, schools, churches, commercial properties and apartments or apartment complexes of four or more units at all times.

The Department will make payment at the unit price bid for asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however, no direct payment will be allowed for aggregates, excavation, embankment, or other incidentals. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

SIGNS

Contrary to Section 112.04.02 and 112.04.03, Low Shoulder signs will not be measured for payment, but shall be incidental to Maintain and Control Traffic. Contrary to section 112.04.02, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but shall be incidental to Maintain and Control Traffic.

BARRICADES

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Traffic Control Plan
FD05 059-0025-010-013
Page 3 of 4

VARIABLE MESSAGE SIGNS

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Traffic Control Plan
FD05 059-0025-010-013
Page 4 of 4

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POLICY FOR THE USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

The following policy is based upon current Changeable Message Signs (CMS) standards and practice from many sources, including the Federal Highway Administration (FHWA), other state Departments of Transportation, and Traffic Safety Associations. It is understood that each CMS installation or use requires individual consideration due to the specific location or purpose. However, there will be elements that are constant in nearly all applications. Accordingly these recommended guidelines bring a level of uniformity, while still being open to regional experience and engineering judgement.

Application

The primary purpose of CMS is to advise the driver of unexpected traffic and routing situations. Examples of applications where CMS can be effective include:

- Closures (road, lane, bridge, ramp, shoulder, interstate)
- Changes in alignment or surface conditions
- Significant delays, congestion
- Construction / maintenance activities (delays, future activities)
- Detours / alternate routes
- Special events with traffic and safety implications
- Crash / incidents
- Vehicle restrictions (width, height, weight, flammable)
- Advance notice of new traffic control device
- Real-time traffic conditions (must be kept up-to-date)
- Weather/driving conditions, environmental conditions, Roadway Weather Information Systems
- Public Service Announcements that improve highway safety*
- Emergency situations
- Referral to Highway Advisory Radio (if available)
- Messages as approved by the State Highway Engineer's Office

* Use the CMS for special campaigns that will have a specified beginning and ending date. The CMS should not be used for more than three weeks with any special campaign.

CMS should not be used for:

- Replacement of static signs (e.g. road work ahead), regulatory signs (e.g. speed limits), pavement markings, standard traffic control devices, conventional warning or guide signs
- Replacement of lighted arrow board
- Advertising* (*Don't advertise the event unless clarifying "action" to be taken by driver - e.g. Speedway traffic next exit)
- Generic messages
- Test messages (portable signs only)
- Describe recurrent congestion (e.g. rush hour)
- Public service announcements (not traffic related)

Changeable Message Sign Policy Page 2 of 7

Messages

Basic principles that are important to providing proper messages and insuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- No more than two message panels should be used (Three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words *left* and *right*
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid using local names or landmarks
- Avoid use of speed limits
- Use words (not numbers) for dates

Placement

Placement of the CMS is important to insure that the sign is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway, but should be place closest to affected lane so either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent thief (if necessary)
- Do not place in sags or just beyond crests
- Check for reflection of sun to prevent the blinding of motorists
- Should be turned ~3° outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use

Changeable Message Sign Policy
Page 3 of 7

STANDARD ABBREVIATIONS

The following is a list of standard abbreviations to be used on CMS.

<u>Word</u>	<u>Abbrev.</u>	<u>Example</u>
Access	ACCS	ACCIDENT AHEAD/USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT AHEAD/USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/USE ALT RTE
Cardinal Directions	N, E, S, W	N I75 CLOSED/ DETOUR EXIT 30
Center	CNTR	CNTR LANE CLOSED/MERGE LEFT
Commercial	COMM	OVRSZ COMM VEH/USE I275
Condition	COND	ICY COND POSSIBLE
Congested	CONG	HVY CONG NEXT 3MI
Construction	CONST	CONST WORK AHEAD/EXPECT DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/PREPARE TO STOP
Entrance, Enter	ENT	TRUCK ENT NEXT RIGHT
Exit	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/DETOUR EXIT 10
Freeway	FRWY, FWY	GN SNYDR FWY CLOSED/DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ALL TRAF EXIT 25
Highway	HWY	ACCIDENT ON AA HWY/EXPECT DELAYS
Hour	HR	ACCIDENT ON AA HWY/2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240AM
Interstate	I	E-BND I64 CLOSED/DETOUR EXIT 20
Lane	LN	LN CLOSED /MERGE LEFT
Left	LFT	LANE CLOSED /MERGE LFT
Local	LOC	LOC TRAF USE ALT RTE
Maintenance	MAINT	MAINT WRK ON BRDG/SLOW
Major	MAJ	MAJ DELAYS I75/USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes(s)	MIN	ACCIDENT 3 MI /30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MI/PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT

Changeable Message Sign Policy
Page 4 of 7

Road	RD	HAZMAT IN RD/ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/SLOW SPD
Street	ST	MAIN ST CLOSED/USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/DETOUR EXIT 50
Work	WRK	CONST WORK 2 MI/POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NOT USE THESE ABBREVIATIONS.

<u>Abbrev.</u>	<u>Intended Word</u>	<u>Word Erroneously Given</u>
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LOC	Local	Location
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
TEMP	Temporary	Temperature
WRNG	Warning	Wrong

TYPICAL MESSAGES

The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

Reason / Problem

- ACCIDENT
- ACCIDENT/xx MILES
- xx ROAD CLOSED
- xx EXIT CLOSED
- BRIDGE CLOSED

Changeable Message Sign Policy
Page 5 of 7

BRIDGE/(SLIPPERY, ICE, etc.)
CENTER/LANE/CLOSED
DELAY(S), MAJOR/DELAYS
DEBRIS AHEAD
DENSE FOG
DISABLED/VEHICLE
EMER/VEHICLES/ONLY
EVENT PARKING
EXIT xx/CLOSED
FLAGGER/xx MILES
FOG/xx MILES
FREEWAY CLOSED
FRESH/OIL
HAZMAT/SPILL
ICE
INCIDENT AHEAD
LANES/(NARROW, SHIFT, MERGE, etc.)
LEFT LANE CLOSED
LEFT LANE NARROWS
LEFT/2 LANES/CLOSED
LEFT/SHOULDER/CLOSED
LOOSE/GRAVEL
MEDIAN/WORK/xx MILES
MOVING/WORK/ZONE, WORKERS/IN/ROADWAY
NEXT EXIT CLOSED
NO/OVERSIZED/LOADS
NO/PASSING
NO/SHOULDER
ONE/LANE/BRIDGE
PEOPLE/CROSSING
RAMP CLOSED
RAMP/(SLIPPERY, ICE, etc.)
RIGHT/LANE/CLOSED
RIGHT/2 LANES/CLOSED
RIGHT/LANE/NARROWS
RIGHT/SHOULDER/CLOSED
ROAD CLOSED
ROAD/CLOSED/xx MILES
ROAD/(SLIPPERY, ICE, etc.)
ROAD/WORK
ROAD/WORK (or CONSTRUCTION)/(TONIGHT, TODAY TOMORROW, DATE, etc.)
ROAD/WORK/xx MILES
SHOULDER/(SLIPPERY, ICE, SOFT, BLOCKED, etc.)
NEW SIGNAL/xx MILES
SINGLE LANE

Changeable Message Sign Policy
Page 6 of 7

SLOW/1 (or 2) –WAY/TRAFFIC
SOFT/SHOULDER
STALLED VEHICLES AHEAD
TRAFFIC/BACKUP
TRAFFIC/SLOWS
TRUCK/CROSSING
TRUCKS/ENTERING
TOW TRUCK AHEAD
UNEVEN/LANES
WATER/ON/ROAD
WET PAINT
WORK/ZONE/xx MILES
WORKERS AHEAD

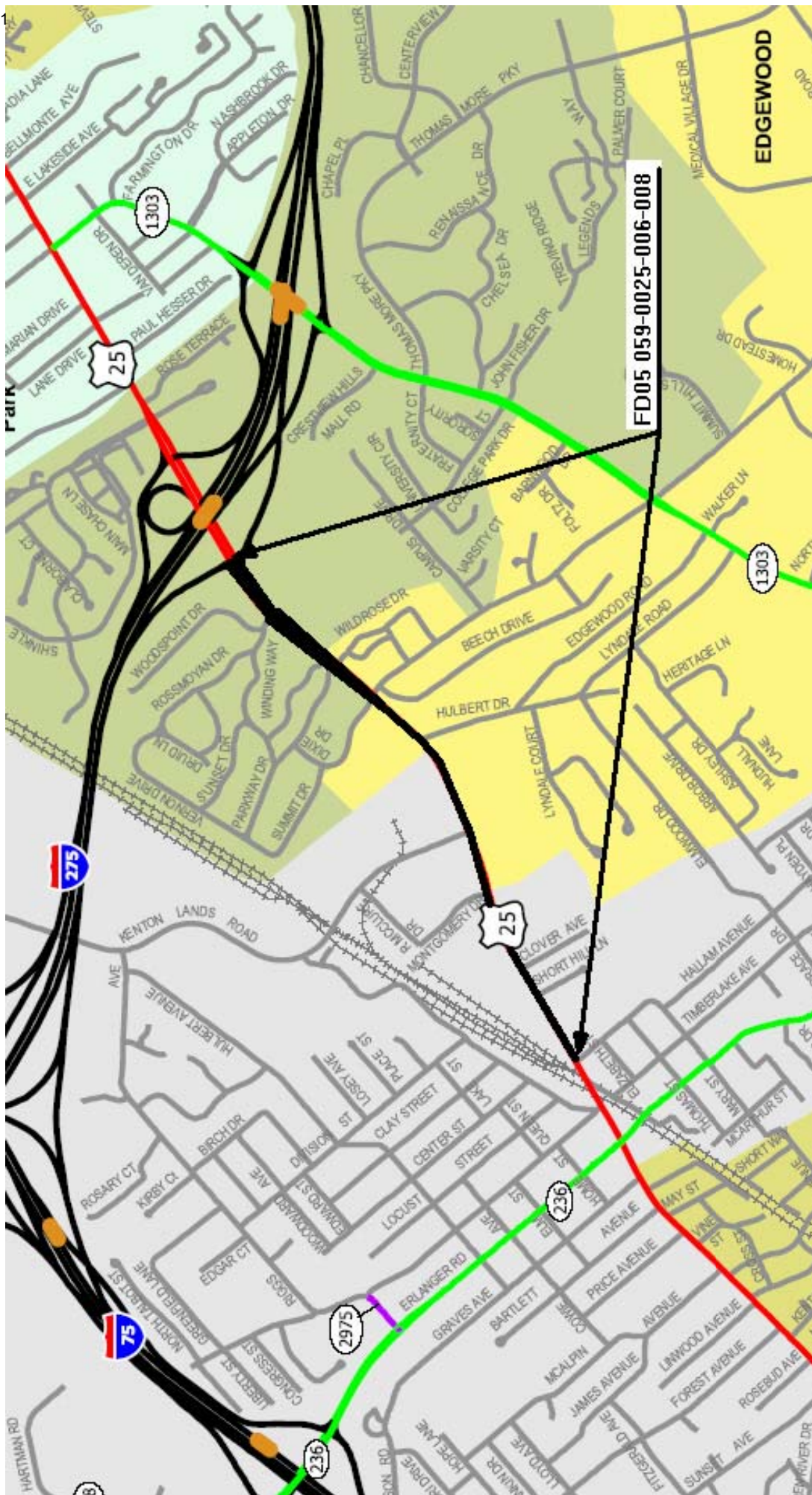
Action

ALL/TRAFFIC/ EXIT RT
AVOID/DELAYS/USE xx
CONSIDER/ALT/ROUTE
DETOUR
DETOUR/xx MILES
DO NOT/PASS
EXPECT/DELAYS
FOLLOW/ALT/ROUTE
KEEP LEFT
KEEP RIGHT
MERGE/xx MILES
MERGE/LEFT
MERGE/RIGHT
ONE-WAY/TRAFFIC
PASS/TO/LEFT
PASS TO/RIGHT
PREPARE/TO/STOP
REDUCE/SPEED
SLOW
SLOW/DOWN
STAY IN/LANE
STAY ON/xx
STOP/AHEAD
STOP/xx MILES
TUNE/RADIO/1610 AM
USE/mn/ROAD
USE/CENTER/LANE
USE/DETOUR/ROUTE

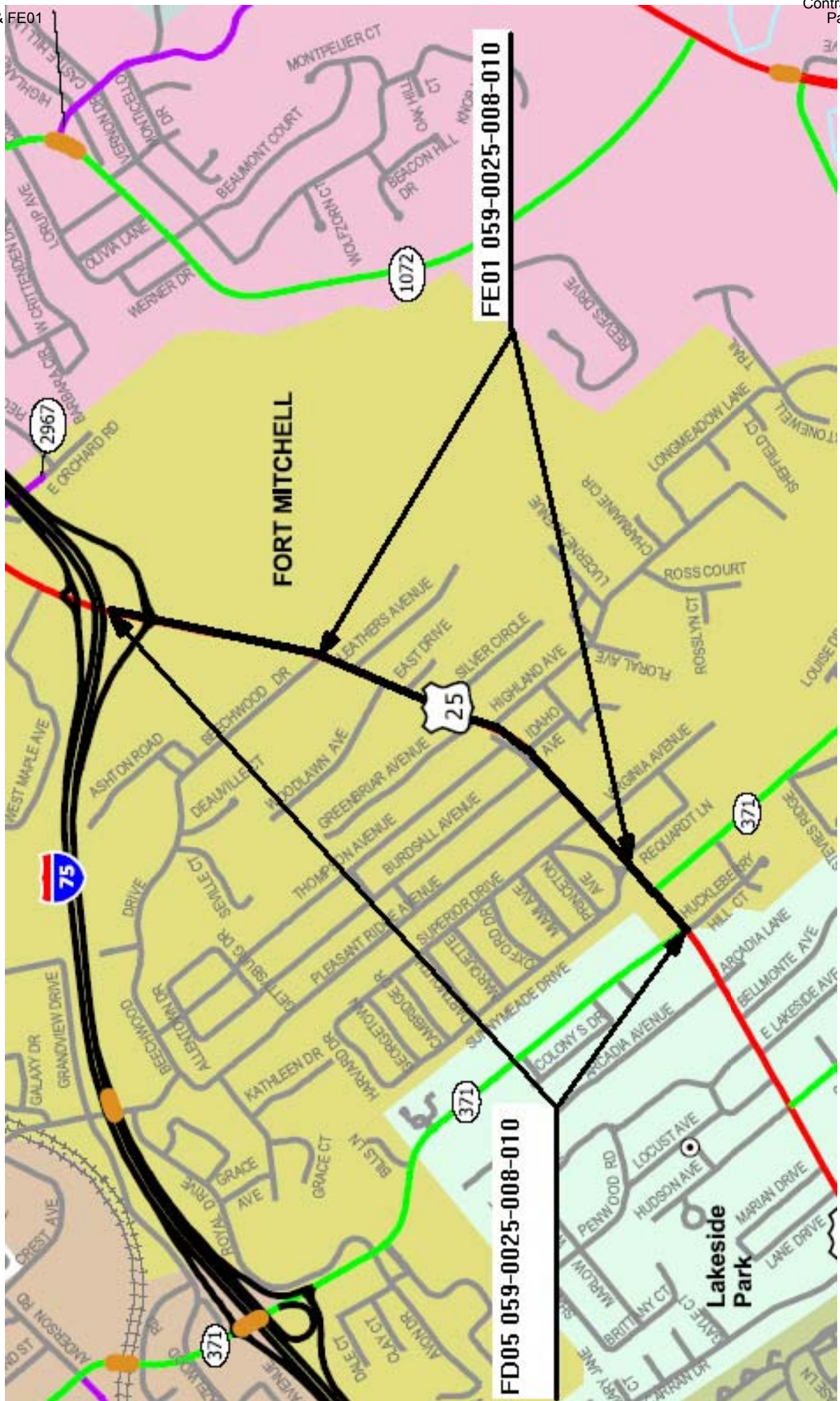
Changeable Message Sign Policy
Page 7 of 7

USE/LEFT/LANE
USE/NEXT/EXIT
USE/RIGHT/LANE
WATCH/FOR/FLAGGER

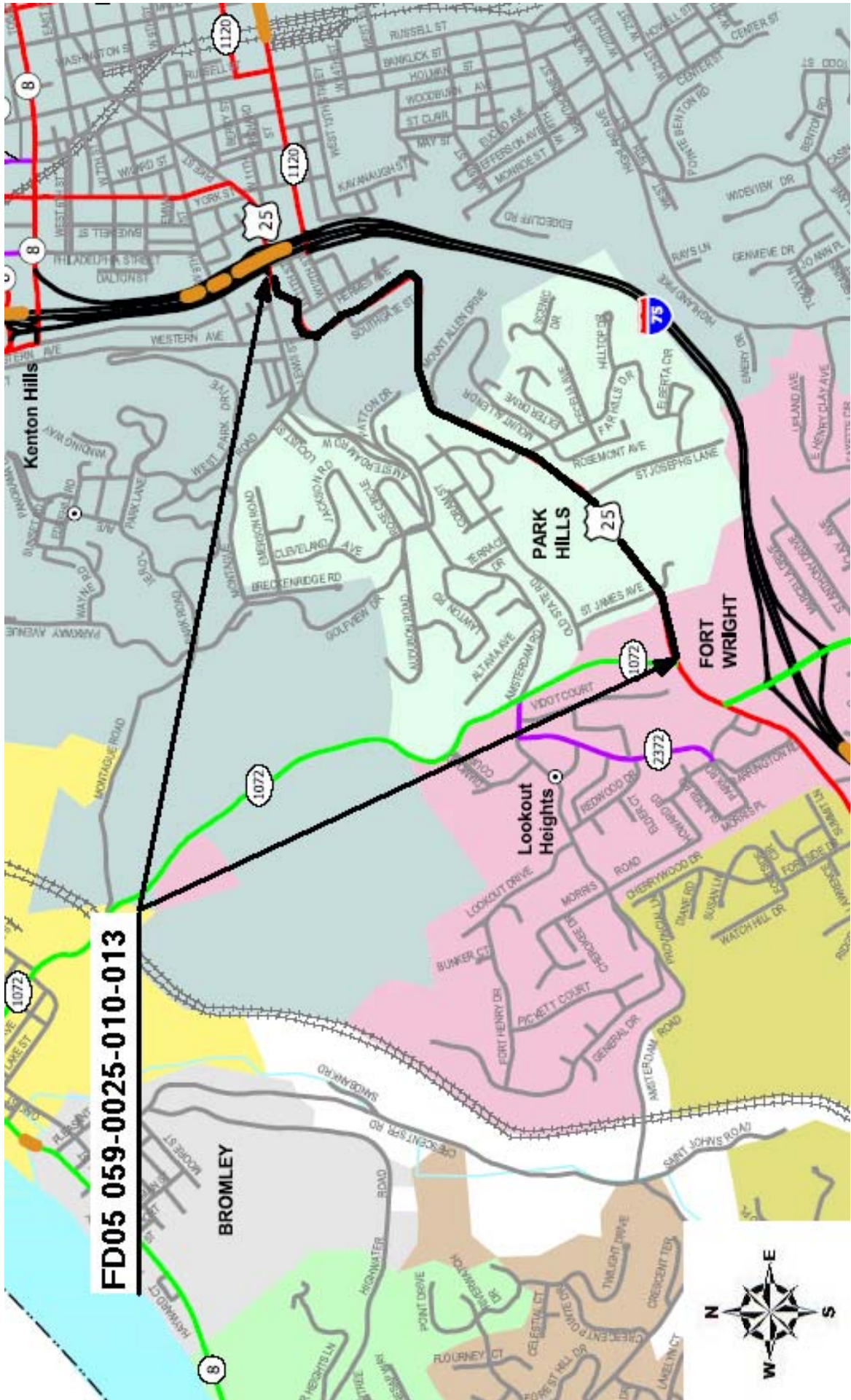
KENTON COUNTY



KENTON COUNTY



KENTON COUNTY



MATERIAL SUMMARY

CONTRACT ID: 072259

FD05 059 0025 010-013 PES NO: MP05900250604
DIXIE HIGHWAY (US 25) FROM SLEEPY HOLLOW ROAD (MP 10.955) EXTENDING NORTH TO I-75 SB
OFF RAMP AT BULLOCK STREET (MP 12.708), A DISTANCE OF 1.71 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0020	00190	LEVELING & WEDGING PG64-22	180.00	TON
0040	02562	SIGNS	500.00	SQFT
0050	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING SLEEPY HOLLOW TO BULLOCK	1.00	LS
0060	02671	VAR MESSAGE SIGN-PORT 3 LINE	2.00	EACH
0065	02676	MOBILIZATION FOR MILL & TEXT SLEEPY HOLLOW TO BULLOCK	1.00	LS
0070	02677	ASPH PAVE MILLING & TEXTURING	2,660.00	TON
0055	02775	FLASHING ARROW	2.00	EACH
0110	04830	LOOP WIRE TRAFFIC SIGNAL LOOPS	2,440.00	LF
0130	04895	LOOP SAW SLOT AND FILL TRAFFIC SIGNAL LOOPS	1,616.00	LF
0140	06510	PAVE STRIPING-TEMP PAINT-4 IN	23,000.00	LF
0150	06514	PAVE STRIPING-PERM PAINT-4 IN	41,000.00	LF
0190	06542	PAVE STRIPING-THERMO-6 INCH W CAT TRAX	160.00	LF
0160	06565	PAVE MARKING-THERMO X-WALK-6 INCH	2,024.00	LF
0170	06568	PAVE MARKING-THERMO STOP BAR-24IN	538.00	LF
0180	06574	PAVE MARKING-PRE THERM CURV ARROW	9.00	EACH
0185	06575	PAVE MARKING-PRE THERM COMB ARROW	4.00	EACH
0175	06576	PAVE MARKING-PREF THERMO ONLY	1.00	EACH
0195	06600	REMOVE PAVEMENT MARKER TYPE V	50.00	EACH
0200	10000NS	LOT PAY ADJUSTMENT	7,000.00	DOLL
0210	10020NS	FUEL ADJUSTMENT	3,100.00	DOLL
0220	10030NS	ASPHALT ADJUSTMENT	6,225.00	DOLL
0030	20469ES403	CL3 ASPH SURF 0.38B PG76-22	3,280.00	TON
0250	20588NC	INSTALL PROJECT IDENTIFICATION SIGNS 44 X 72 WITH CHANNEL POSTS	2.00	EACH
0260	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 072259

FD05 059 0025 006-008

PES NO: MP05900250702

DIXIE HIGHWAY (US 25) FROM HALLAM AVENUE (MP 6.308) EXTENDING NORTH TO I-275 (MP 7.589), A DISTANCE OF 1.28 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0055	00190	LEVELING & WEDGING PG64-22	100.00	TON
0010	00336	CL3 ASPH SURF 0.38A PG76-22	3,945.00	TON
0020	02562	SIGNS	400.00	SQFT
0030	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING HALLAM TO I-275	1.00	LS
0180	02671	VAR MESSAGE SIGN-PORT 3 LINE	2.00	EACH
0040	02676	MOBILIZATION FOR MILL & TEXT HALLAM TO I-275	1.00	LS
0050	02677	ASPH PAVE MILLING & TEXTURING	3,945.00	TON
0175	02775	FLASHING ARROW	2.00	EACH
0060	04830	LOOP WIRE	4,880.00	LF
		TRAFFIC SIGNAL LOOPS		
0070	04895	LOOP SAW SLOT AND FILL TRAFFIC SIGNAL LOOPS	3,232.00	LF
0080	06510	PAVE STRIPING-TEMP PAINT-4 IN	37,500.00	LF
0090	06514	PAVE STRIPING-PERM PAINT-4 IN	34,000.00	LF
0100	06565	PAVE MARKING-THERMO X-WALK-6 INCH	1,828.00	LF
0110	06568	PAVE MARKING-THERMO STOP BAR-24IN	684.00	LF
0120	06574	PAVE MARKING-PRE THERM CURV ARROW	38.00	EACH
0130	06600	REMOVE PAVEMENT MARKER TYPE V	515.00	EACH
0140	10000NS	LOT PAY ADJUSTMENT	8,000.00	DOLL
0150	10020NS	FUEL ADJUSTMENT	3,600.00	DOLL
0160	10030NS	ASPHALT ADJUSTMENT	7,200.00	DOLL
0170	20588NC	INSTALL PROJECT IDENTIFICATION SIGNS 44 X 72 WITH CHANNEL POSTS	2.00	EACH
0135	22418EN	SEPARATOR ISLAND REMOVE AND RESET	600.00	LF
0260	02569	DEMOBILIZATION	1.00	LS
0185	04793	CONDUIT-1 1/4 INCH	80.00	LF
0190	04795	CONDUIT-2 INCH	10.00	LF
0210	04820	TRENCHING AND BACKFILLING	65.00	LF
0220	04830	LOOP WIRE	2,360.00	LF
		TRAFFIC COUNTING LOOPS		
0230	04895	LOOP SAW SLOT AND FILL TRAFFIC COUNTING LOOPS	472.00	LF
0240	20359EC	GALVANIZED STEEL CABINET NEMA TYPE 3R 20" X 20" X 8"	1.00	EACH
0250	20360ES818	WOOD POST 4" X 4" X 8'	2.00	EACH
0200	20391ES835	JUNCTION BOX TYPE A	1.00	EACH

MATERIAL SUMMARY

CONTRACT ID: 072259

FD05 059 0025 008-010

PES NO: MP05900250703

DIXIE HIGHWAY (US 25) FROM BUTTERMILK PIKE (MP 8.583) EXTENDING NORTH TO I-75
OVERPASS (MP 9.749), A DISTANCE OF 1.17 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0015	00190	LEVELING & WEDGING PG64-22	60.00	TON
0010	00336	CL3 ASPH SURF 0.38A PG76-22	2,650.00	TON
0020	02562	SIGNS	254.00	SQFT
0030	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING BUTTERMILK TO I-75	1.00	LS
0040	02671	VAR MESSAGE SIGN-PORT 3 LINE	2.00	EACH
0045	02676	MOBILIZATION FOR MILL & TEXT BUTTERMILK TO I-75	1.00	LS
0050	02677	ASPH PAVE MILLING & TEXTURING	2,650.00	TON
0035	02775	FLASHING ARROW	2.00	EACH
0060	04830	LOOP WIRE	4,575.00	LF
		TRAFFIC SIGNAL LOOPS		
0070	04895	LOOP SAW SLOT AND FILL TRAFFIC SIGNAL LOOPS	3,030.00	LF
0080	06510	PAVE STRIPING-TEMP PAINT-4 IN	20,000.00	LF
0090	06514	PAVE STRIPING-PERM PAINT-4 IN	28,575.00	LF
0100	06542	PAVE STRIPING-THERMO-6 INCH W CAT TRAX	108.00	LF
0110	06565	PAVE MARKING-THERMO X-WALK-6 INCH	1,290.00	LF
0120	06568	PAVE MARKING-THERMO STOP BAR-24IN	491.00	LF
0130	06574	PAVE MARKING-PRE THERM CURV ARROW	19.00	EACH
0200	06575	PAVE MARKING-PRE THERM COMB ARROW	2.00	EACH
0140	06576	PAVE MARKING-PREF THERMO ONLY	5.00	EACH
0150	10000NS	LOT PAY ADJUSTMENT	5,100.00	DOLL
0160	10020NS	FUEL ADJUSTMENT	2,300.00	DOLL
0170	10030NS	ASPHALT ADJUSTMENT	4,600.00	DOLL
0190	20588NC	INSTALL PROJECT IDENTIFICATION SIGNS 44 X 72 WITH CHANNEL POSTS	2.00	EACH
0250	02569	DEMobilIZATION	1.00	LS
0190	04793	CONDUIT-1 1/4 INCH	30.00	LF
0200	04820	TRENCHING AND BACKFILLING	18.00	LF
0210	04830	LOOP WIRE	1,284.00	LF
		TRAFFIC COUNTING LOOPS		
0220	04895	LOOP SAW SLOT AND FILL TRAFFIC COUNTING LOOPS	238.00	LF
0230	20359EC	GALVANIZED STEEL CABINET NEMA TYPE 3R 20" X 20" X 8"	1.00	EACH
0180	20360ES818	WOOD POST 4" X 4" X 8'	2.00	EACH

MATERIAL SUMMARY

CONTRACT ID: 072259

FE01 059 0025 008-010 PES NO: MP05900250704
DIXIE HIGHWAY (US 25) FROM 0.01 MILES NORTH OF REQUARDT LANE (MP 8.774) EXTENDING
NORTH TO BEECHWOOD DRIVE (MP 9.492), A DISTANCE OF 0.72 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0030	01456	CURB BOX INLET TYPE A	5.00	EACH
0010	01490	DROP BOX INLET TYPE 1	1.00	EACH
0020	01810	STANDARD CURB AND GUTTER	2,500.00	LF
0070	02014	BARRICADE-TYPE III	2.00	EACH
0040	02650	MAINTAIN & CONTROL TRAFFIC DRAINAGE REQUARDT TO BEECHWOOD	1.00	LS
0060	02671	VAR MESSAGE SIGN-PORT 3 LINE	1.00	EACH
0080	02726	STAKING	1.00	LS
0050	02775	FLASHING ARROW	1.00	EACH
0025	21415ND	EROSION CONTROL	1.00	LS
0100	02569	DEMOBILIZATION	1.00	LS

**THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 059-0025-006-008**

INTERSECTION	STOP BARS		X-WALKS	ARROWS	
	24 INCH LF	6 INCH LF		STR	CURVED COMBO
Various Dual Left Turn Lane	0	0	0	6	0
Hallam Ave.	32	0	0	2	0
Kroger Entrance	84	280	0	3	0
Montgomery Avenue	84	280	0	3	0
Kenton Lands Road	84	280	0	4	0
Lyndale Road	72	300	0	2	0
Dudley Pike	84	200	0	4	0
Rosemont Drive	80	320	0	5	0
Winding Way	84	168	0	8	0
I-275 Entrance Ramp	80	0	0	1	0
TOTALS	684	1828	0	38	0

**THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 059-0025-008-010**

INTERSECTION	STOP BARS		X-WALKS		ARROWS			CAT TRAX	ONLY
	24 INCH	6 INCH		STR	CURVED	COMBO	4 INCH	MARKER	
	LF	LF	EA	EA	EA	EA	LF	EA	
Buttermilk pike	141	547	0		11	2	200	4	
Orphanage Road	96	345	0		4	2	0	1	
Pleasant Ridge/Blessed Sacrament	55	140	0		0	0	0	0	
Highland Avenue	58	207	0		0	0	0	0	
Beechwood Road	73	161	0		4	0	0	2	
Kroger Entrance	111	177	0		3	0	108	0	
I-75 Northbound Ramps	98	260	0		8	0	0	2	
TOTALS	632	1837	0		30	4	308	9	

THERMOPLASTIC INTERSECTION PAVEMENT MARKINGS SUMMARY
FD05 059-0025-010-013

INTERSECTION	STOP BARS 24 INCH		X-WALKS 6 INCH		STR		ARROWS CURVED		COMBO		CAT TRAX 4 INCH		ONLY MARKER	
	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA
Sleepy Hollow road	111		444		0		6		3		160		1	
St. James/Notre Dqame	92		236		0		0		0		0		0	
Covington Catholic	65		181		0		0		0		0		0	
Arlington/South Arlington	113		359		0		2		0		0		0	
Montague/Western	61		287		0		0		0		0		0	
Milepoint 12.632	0		77		0		0		0		0		0	
I-75/Bullock	96		440		0		1		1		0		0	
TOTALS	538		2024		0		9		4		160		1	

TRAFFIC SIGNAL LOOP DETECTORS SUMMARY FD05 059-0025-006-008

INTERSECTION	Loops		Loop Saw Slot & Fill LF	Loop Wire LF
	Regular EA	GES EA		
Hallam Ave.	1	0	202	305
Kroger Entrance	2	0	404	610
Montgomery Avenue	2	0	404	610
Kenton Lands Road	2	0	404	610
Lyndale Road	1	0	202	305
Dudley Pike	2	0	404	610
Rosemont Drive	2	0	404	610
Winding Way	3	0	606	915
I-275 Outer Loop Ramps	1	0	202	305
Totals	16		3232	4880

- NOTES:**
1. Regular loops require 202' Loop Saw Slot & Fill with 305' Loop Wire, including tail
 2. GES Loops require 124' Loop Saw Slot & Fill with 272' of wire, including tail.

TRAFFIC SIGNAL LOOP DETECTORS SUMMARY FD05 059-0025-008-010

INTERSECTION	Loops		Loop Saw Slot & Fill LF	Loop Wire LF
	Regular EA	GES EA		
Buttermilk Pike	1	0	202	305
Orphanage Road	4	0	808	1220
Pleasant Ridge	2	0	404	610
Highland Avenue	2	0	404	610
Beechwood Road	3	0	606	915
Expressway Plaza		0	606	915
Totals	12		3030	4575

NOTES: 1. Regular loops require 202' loop Saw Slot & Fill with 305' Loop Wire, including tails.
2. GES Loops require 124' Loop Saw Slot & Fill with 272' of wire, including tail.

TRAFFIC SIGNAL LOOP DETECTORS SUMMARY FD05 059-0025-010-013

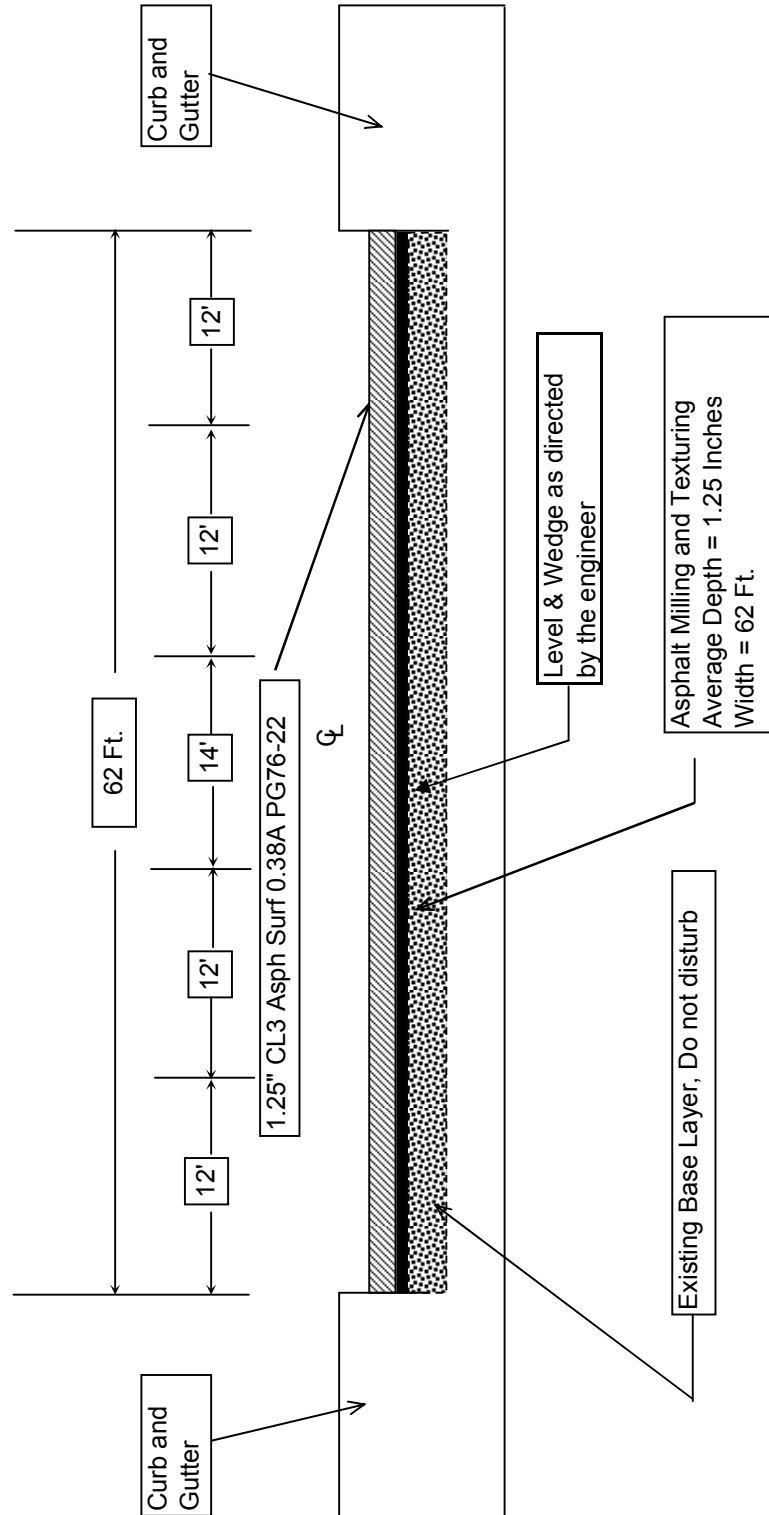
INTERSECTION	Loops		Loop Saw Slot & Fill LF	Loop Wire LF
	Regular EA	GES EA		
Sleepy Hollow Road	1		202	305
St. James Avenue	2		404	610
Covington Catholic Entrance	1		202	305
Arlington Road	2		404	610
Western Avenue/Montague Road	2		404	610
Totals	8		1616	2440

NOTES: 1. Regular loops require 202' loop Saw Slot & Fill with 305' Loop Wire, including tails.
2. GES Loops require 124' Loop Saw Slot & Fill with 272' of wire, including tail.

TYPICAL SECTION

KENTON COUNTY

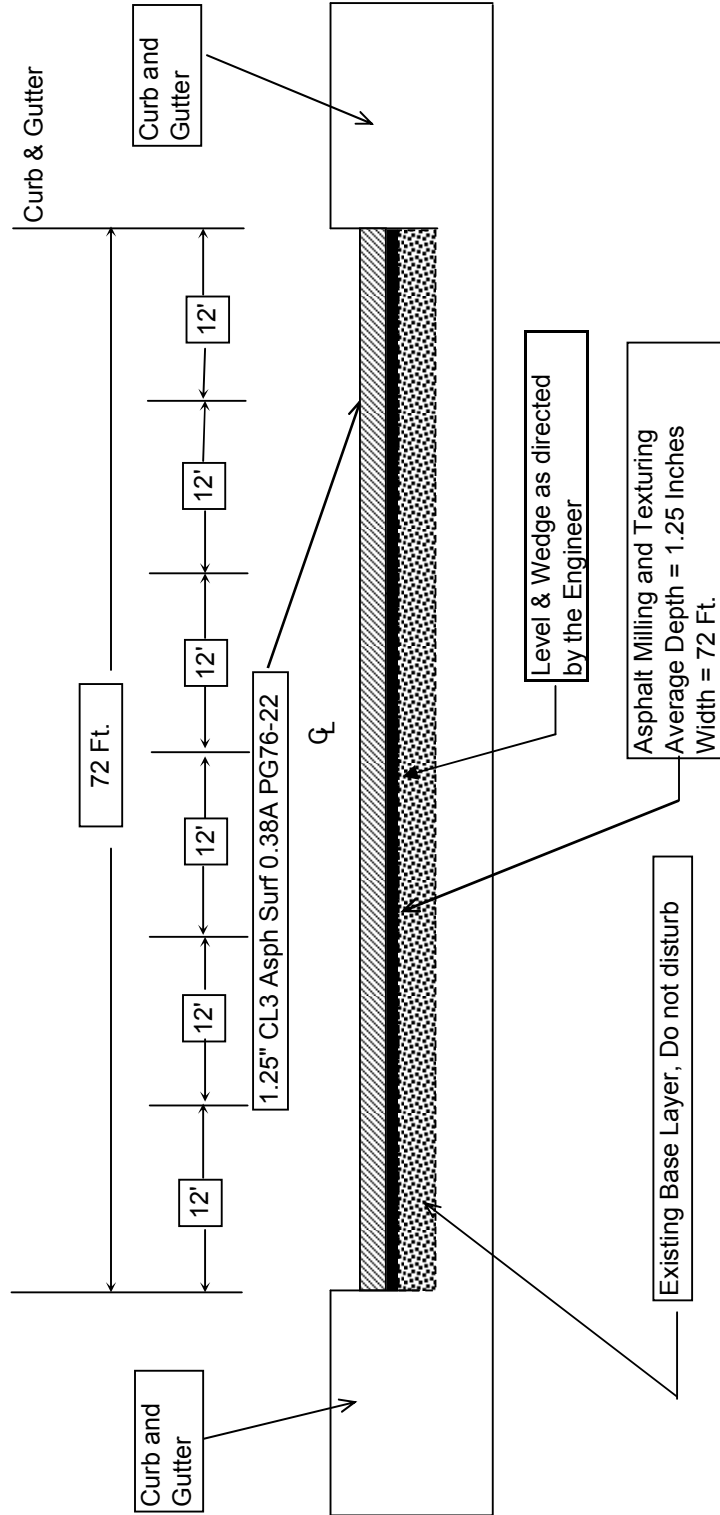
FD05 059 0025 006-008
MILEPOINT 6.308 - 6.978



TYPICAL SECTION

KENTON COUNTY

FD05 059 0025 006-008
MILEPOINT 6.978 - 7.589

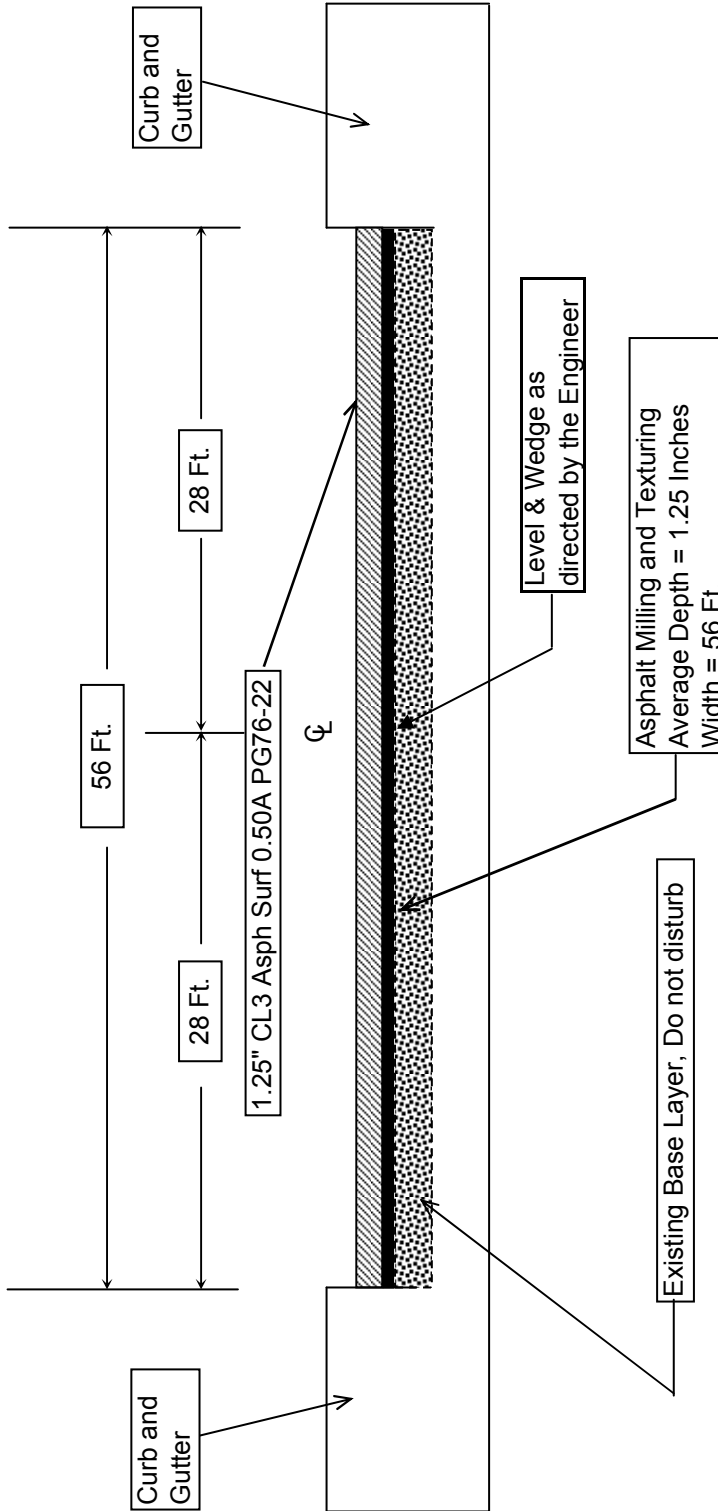


Note: Remove and reset 600 LF of Quick Kurb Separator Island
at ~milepoint 7.406 in front of Crestview Hills Mall

TYPICAL SECTION

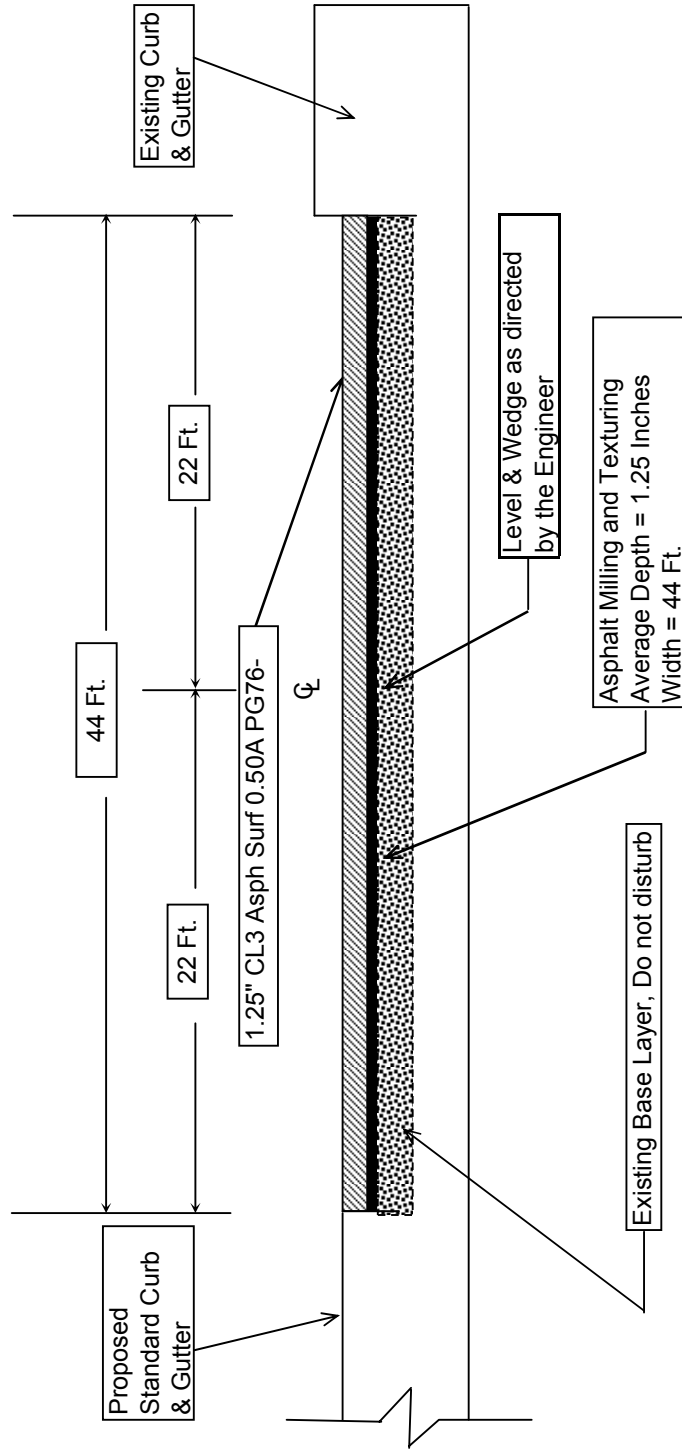
KENTON COUNTY

FD05-059-0025-008-010
MILEPOINT 8.583 - 8.774
MILEPOINT 9.492 - 9.749



TYPICAL SECTION
KENTON COUNTY

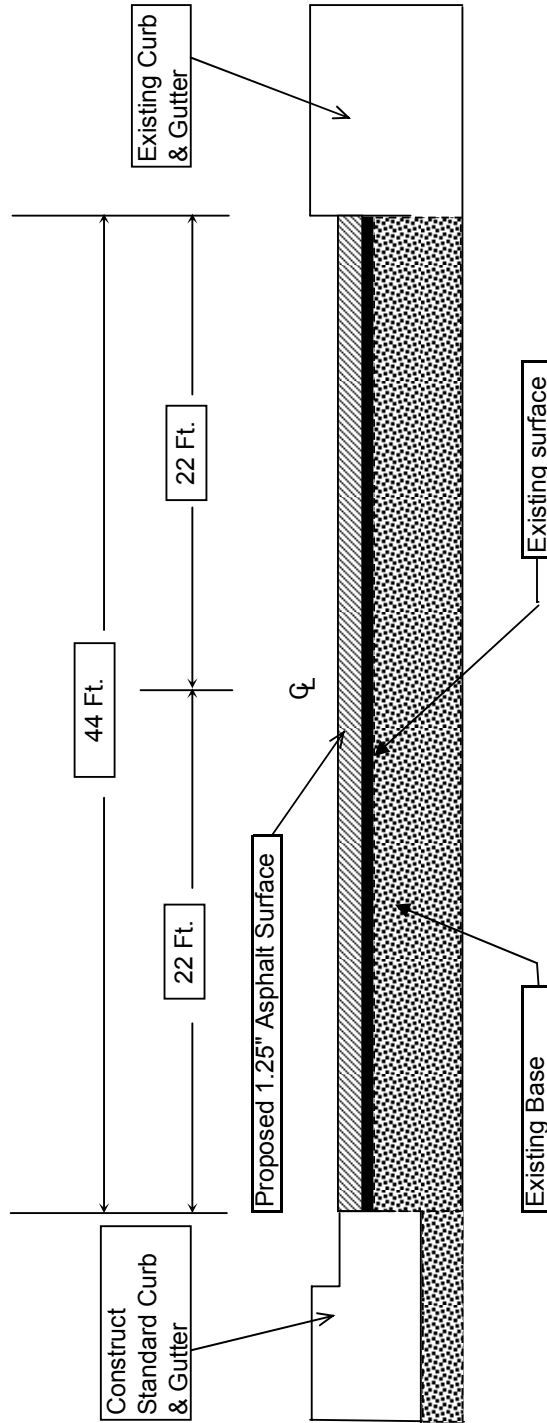
FD05 059-0025-008-010
MILEPOINT 8.774 - 9.492



NOTES: Construct curb & gutter prior to resurfacing. See Special Notes for Curb and Gutter and Typical section for FE01 059-0059-0025-008-010.

**TYPICAL SECTION
KENTON COUNTY**

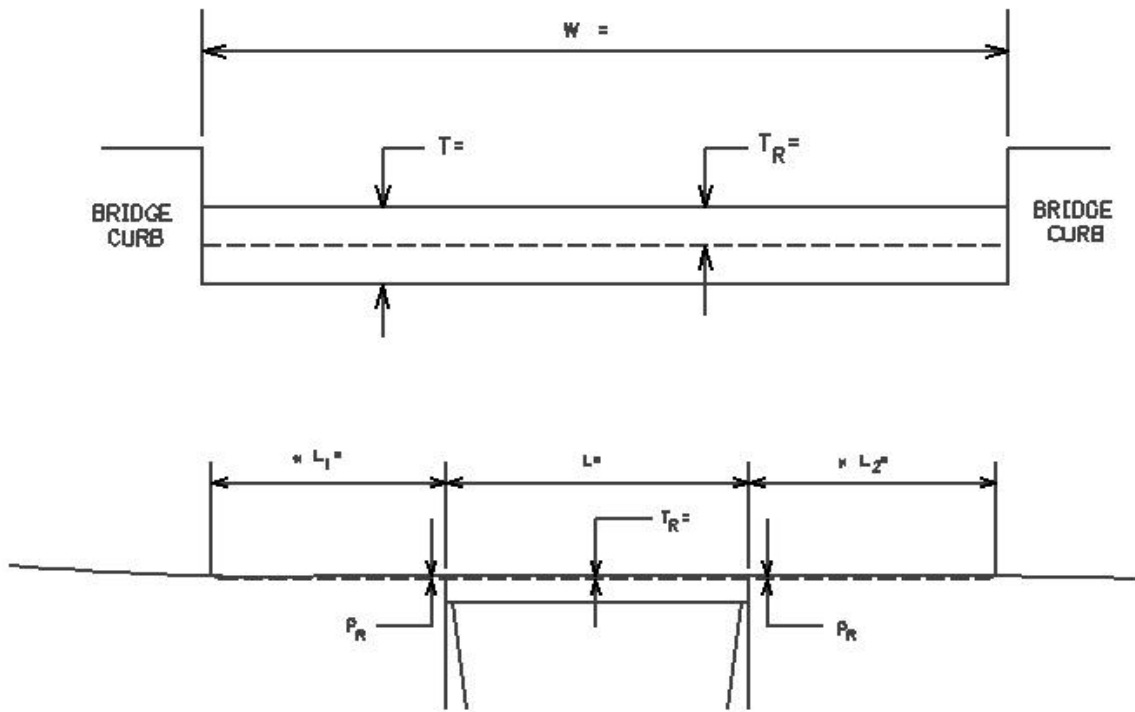
**FE01 059-0025-008-010
MILEPOINT 8.774 - 9.492**



- NOTES:**
- 1. Construct 2500 LF Standard Curb & Gutter
 - 2. Construct Drop Box Inlet Type 1 for 15"-18" Pipe at ~ milepoint 9.1
 - 3. Construct 5 Curb Box Inlets Type A at locations to be determined by the Engineer at the time of construction.

BRIDGE DETAIL FOR PAVING PROJECT
FD05 059-0025-008-010

BRIDGE NUMBER B000099



DIMENSIONS

$W = \underline{72'}$

$T = \underline{0''}$

$L_1 = \underline{125'}$

removed

$L_2 = \underline{0'}$

$T_R = \underline{0''}$
bridge

$L = \underline{108'}$

$P_R = \underline{1.25}$
pavement

ELEVATION

W = bridge width curb to curb

T = thickness of existing bituminous overlay

L_1 & L_2 = length of approach pavement to be

T_R = thickness to be removed and replaced on

L = length of bridge

P_R = thickness to be removed and replaced on

Note: L_1 & L_2 lengths shall be determined by using a transition rate of 100 ft / inch of thickness.

Department will place One Step Membrane Water Proofing System Prior to Bridge Overlay.

bridgedetailsheetonestepdepartment
05/08/2003

DIVISION OF PLANNING

STANDARD DETAILS FOR INSTALLATION

OF TRAFFIC COUNTING INDUCTANCE

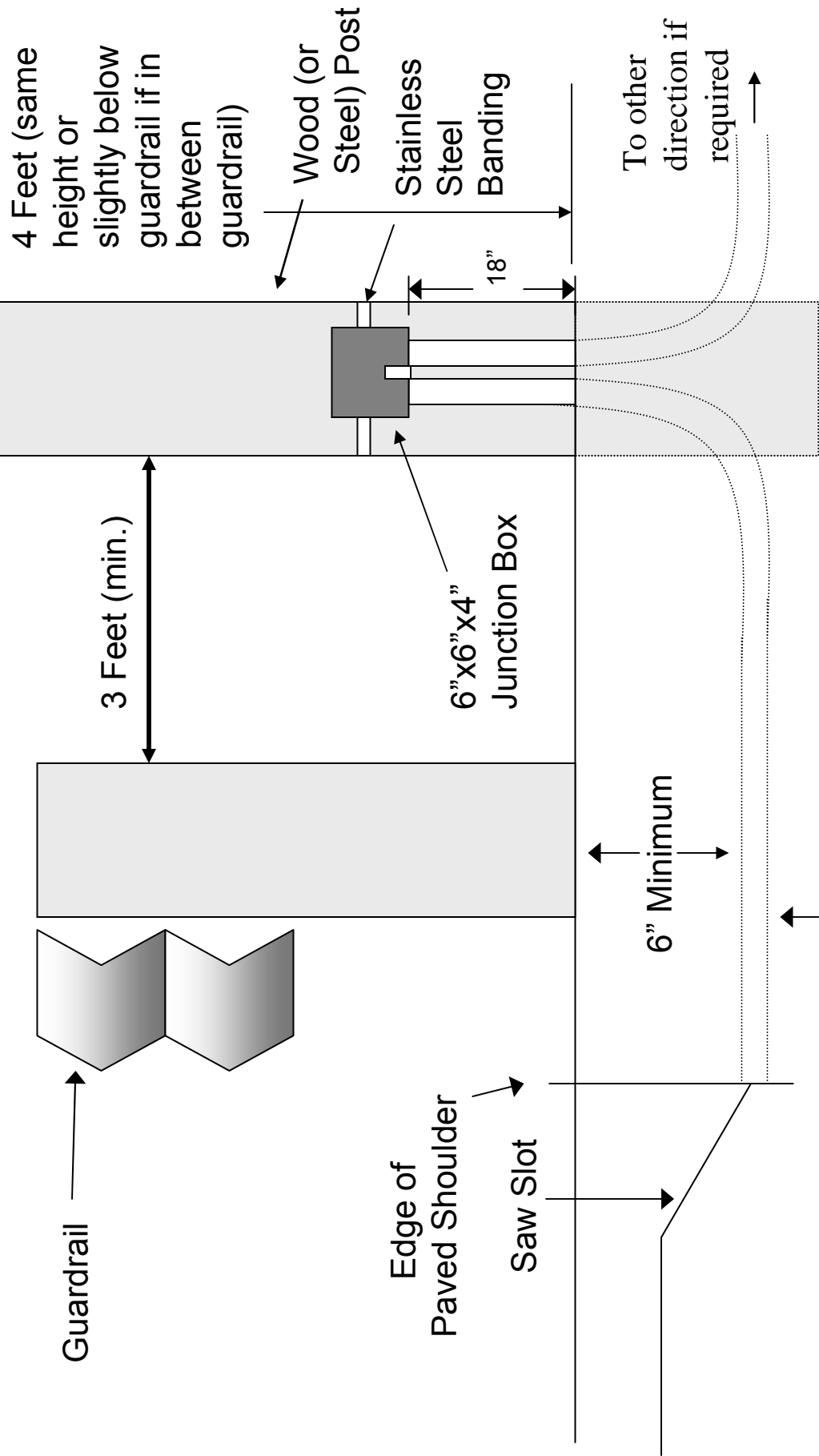
LOOPS AND AXLE SENSORS

DRAWINGS ARE NOT TO SCALE

02/27/06

Junction Box Type 6" x 6" x 4" Detail

Figure 2a



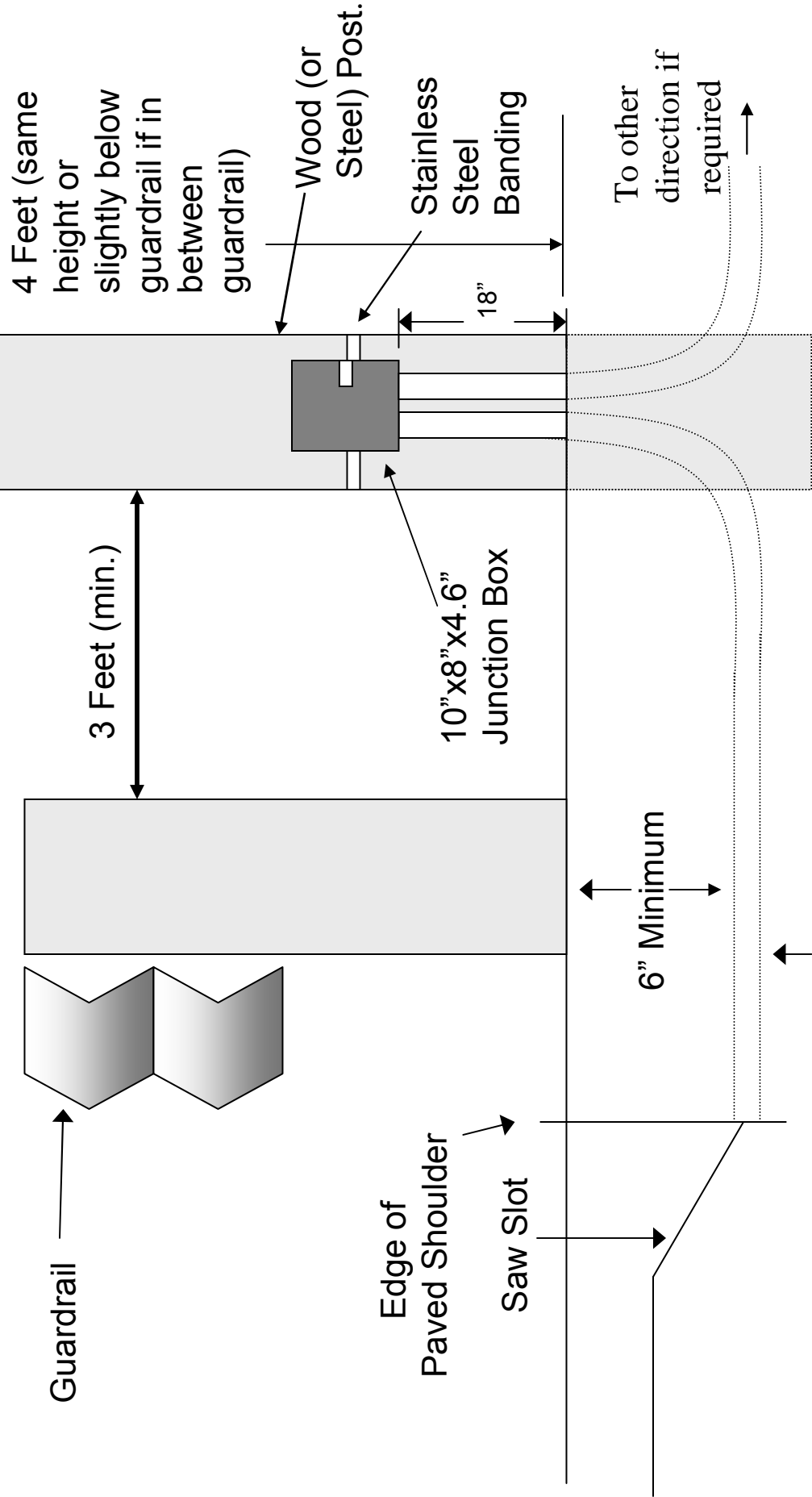
DRAWING NOT TO SCALE

Rigid Steel Conduit

02/27/06

Junction Box Type 10"x8"x4" Detail

Figure 2b



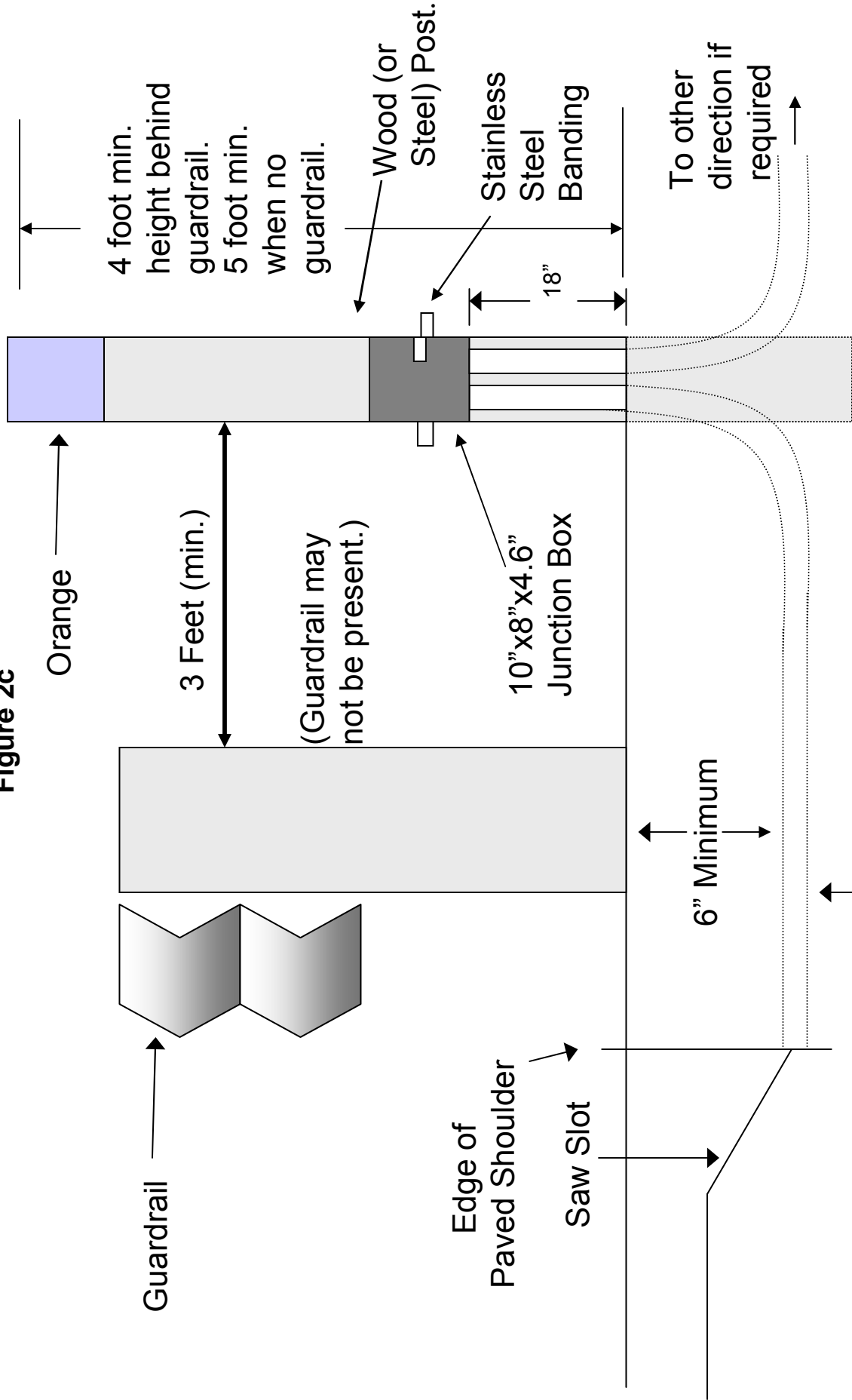
DRAWING NOT TO SCALE

Rigid Steel Conduit

02/27/06

Junction Box Type 10" x 8" x 4" Detail

Figure 2c



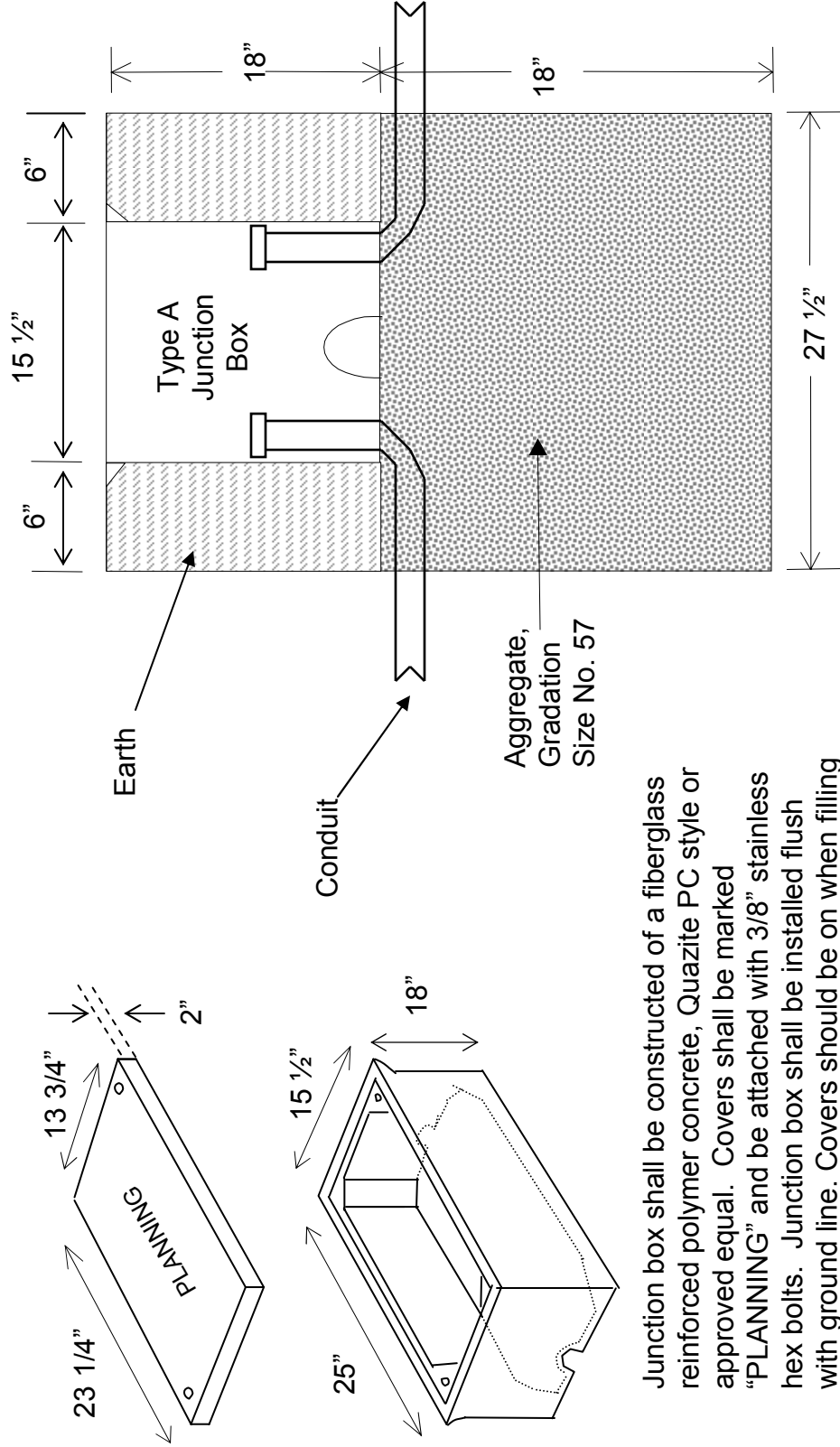
DRAWING NOT TO SCALE

Rigid Steel Conduit

04/21/06

Junction Box Type A Installation

Figure 3a



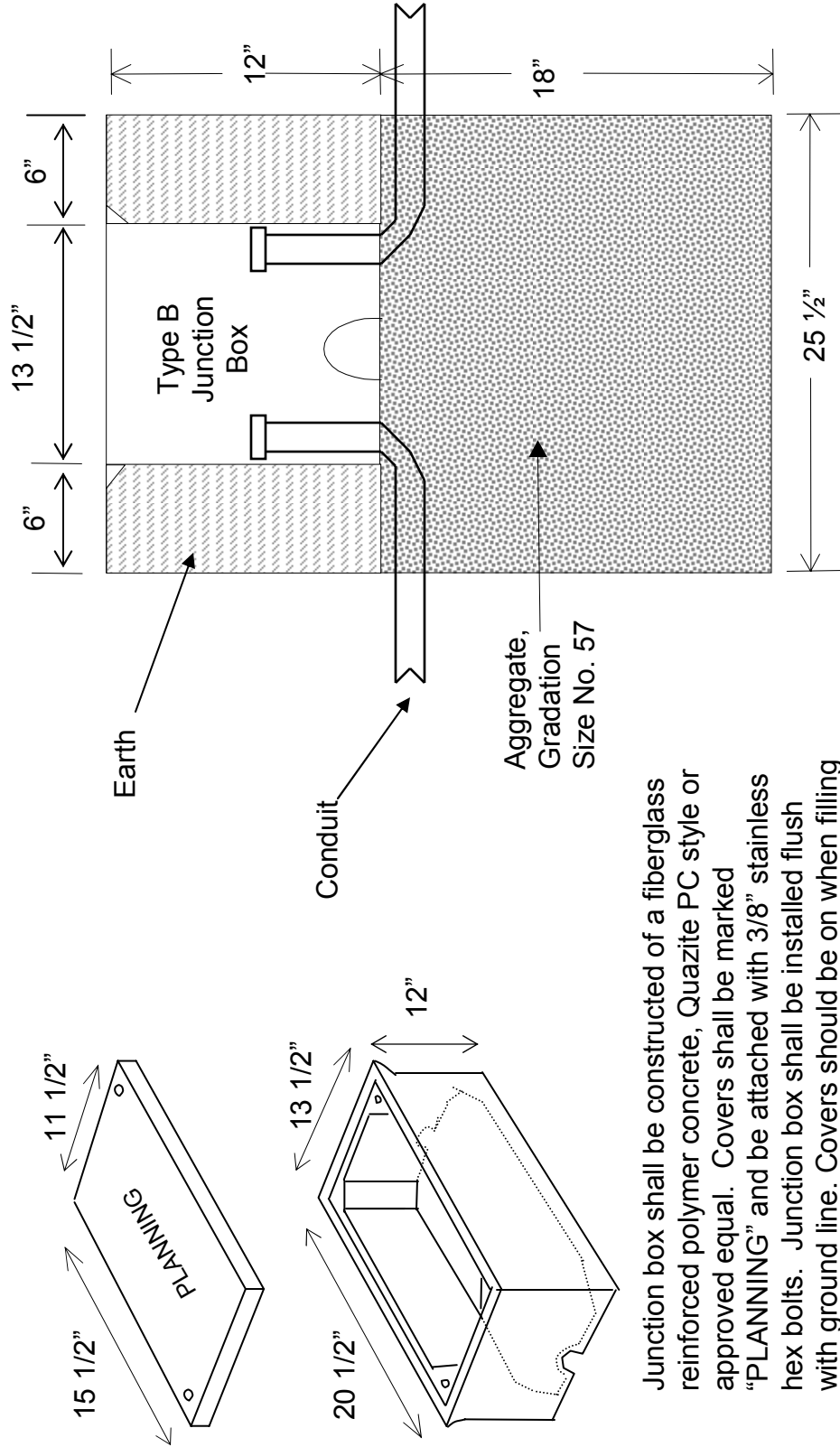
Junction box shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

DRAWING NOT TO SCALE

02/23/06

Junction Box Type B Installation

Figure 3b



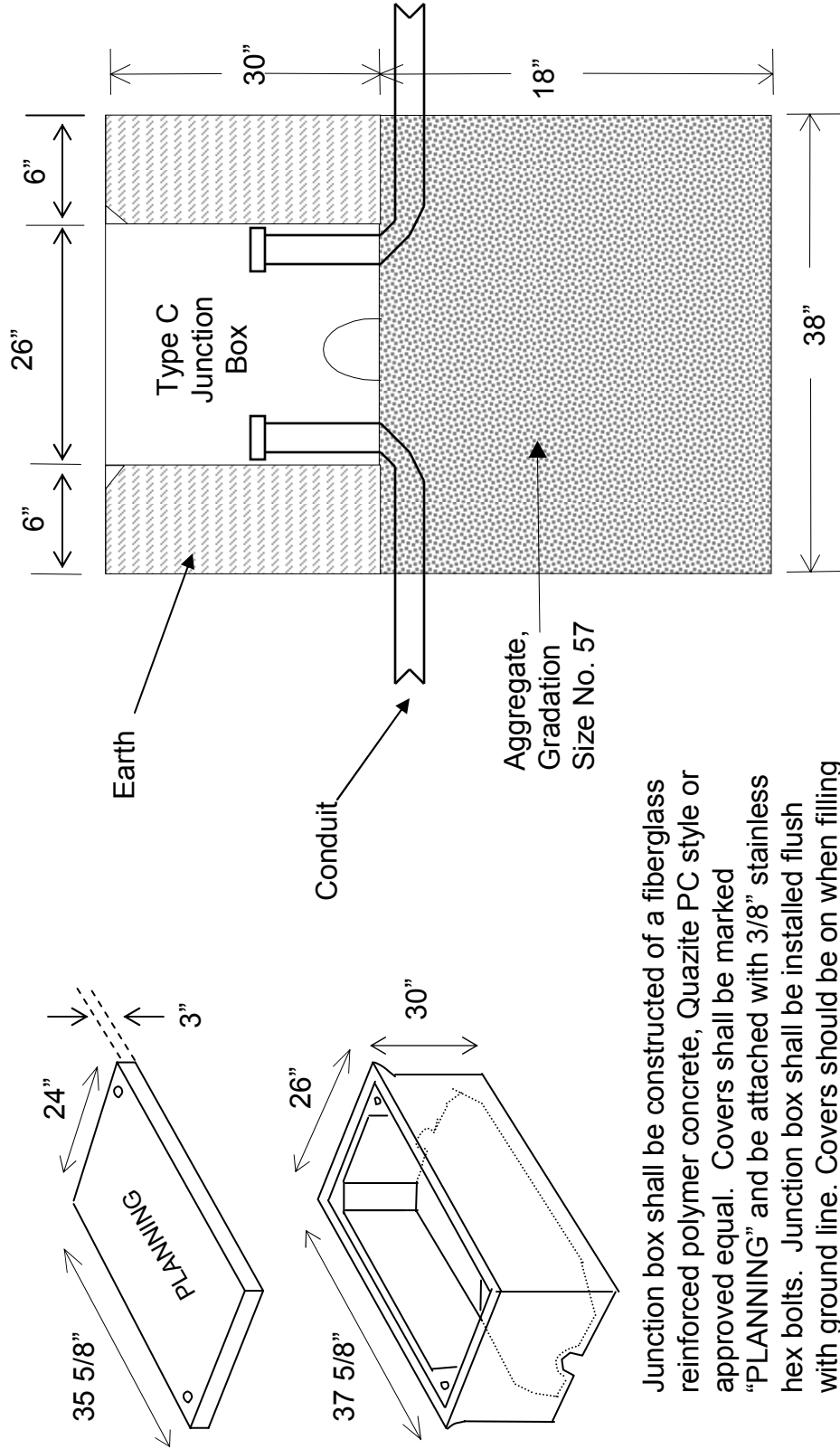
Junction box shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

DRAWING NOT TO SCALE

02/23/06

Junction Box Type C Installation

Figure 3c



Junction box shall be constructed of a fiberglass reinforced polymer concrete, Quazite PC style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

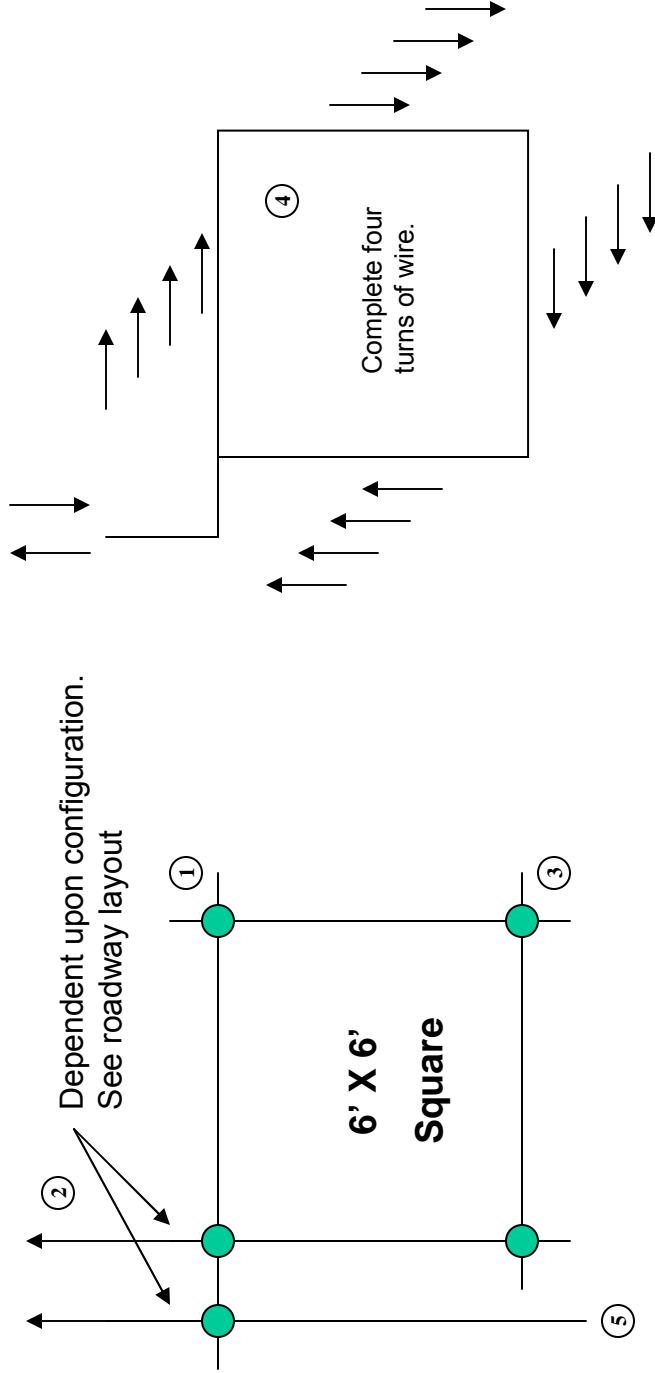
DRAWING NOT TO SCALE

02/23/06

Loop Installation Instructions

Loop Installation in Existing Roadways

Figure 4



Saw Slot Plan

Loop Wiring Plan

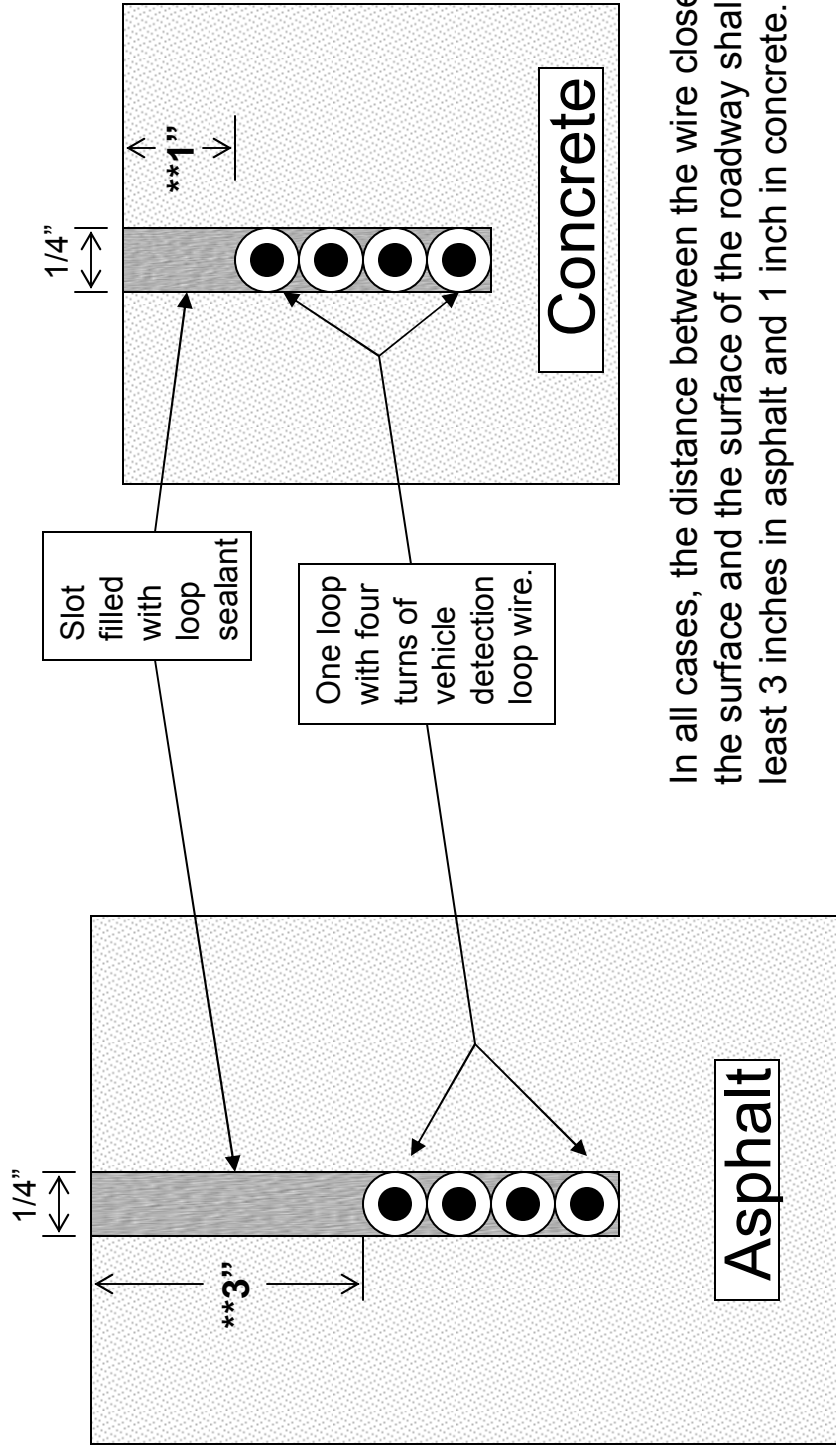
Notes:

- ① Overlap cuts so that slots are full depth at corners.
- ② Configuration is dependent upon loop layout.
- ③ Drill 1.5" hole in each corner to prevent sharp bends in the wire.
- ④ Unless denoted otherwise, all loops are 6' x 6' square, positioned in center of lane with 4 turns of 14 AWG loop wire.
- ⑤ The distance between adjacent loops is 6' for 12' lanes, 5.5' for 11' lanes, etc. It cannot be less than the loop is wide.

04/12/05

Loop Installation in Existing Roadway

Figure 5



In all cases, the distance between the wire closest to the surface and the surface of the roadway shall be at least 3 inches in asphalt and 1 inch in concrete.

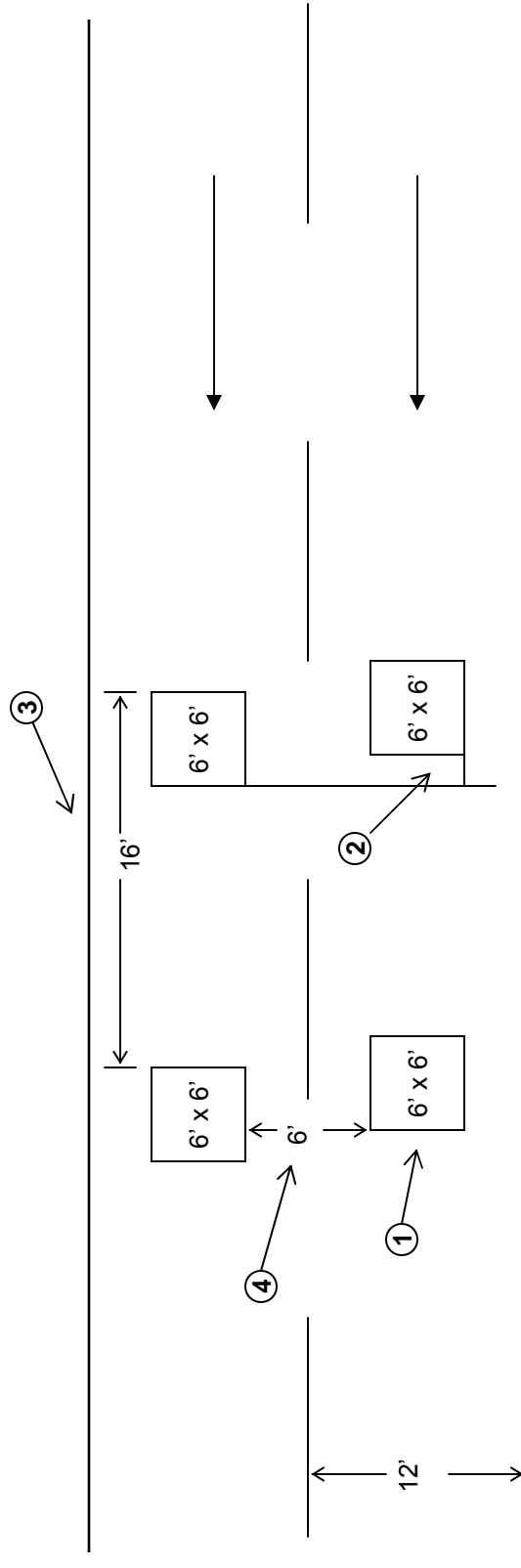
**Saw slot level shall be lowered at edge of roadway to meet the conduit level.

05/10/06

DRAWING NOT TO SCALE

Loop Characteristics

Figure 6

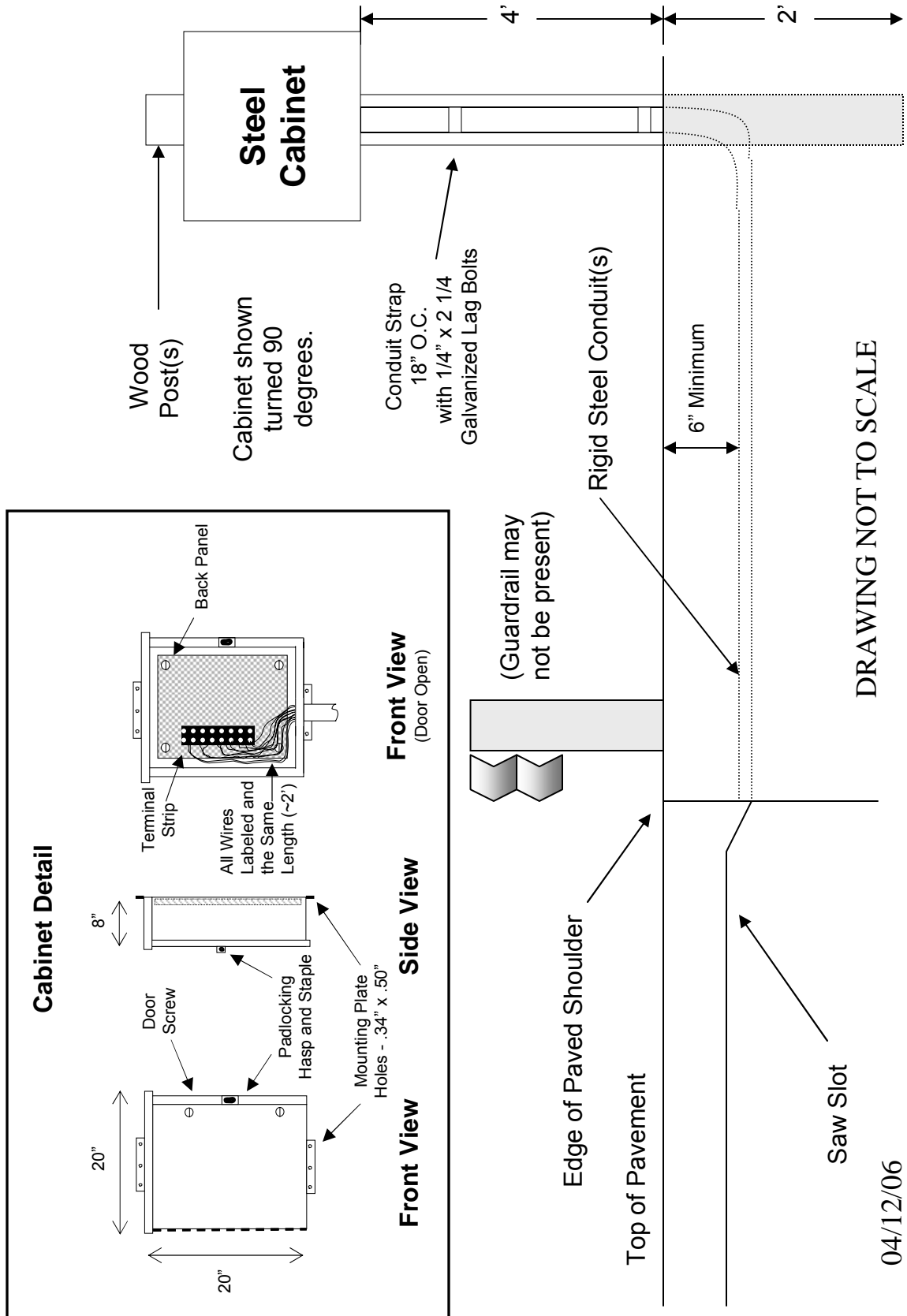


- ① Unless denoted otherwise, all loops are 6' x 6' square, positioned in center of lane with 4 turns of 14 AWG loop wire.
- ② Minimum 12" between loop and lead-ins. Lead-ins should be on the trailing edge of the loop.
- ③ If two loops are installed in a lane, space loops 16' from leading edge to leading edge unless denoted otherwise.
- ④ This distance is typically 6' for 12' lanes, 5.5' for 11' lanes, etc. It cannot be less than the loop is wide.

04/11/05

Galvanized Steel Cabinet and Post Installation

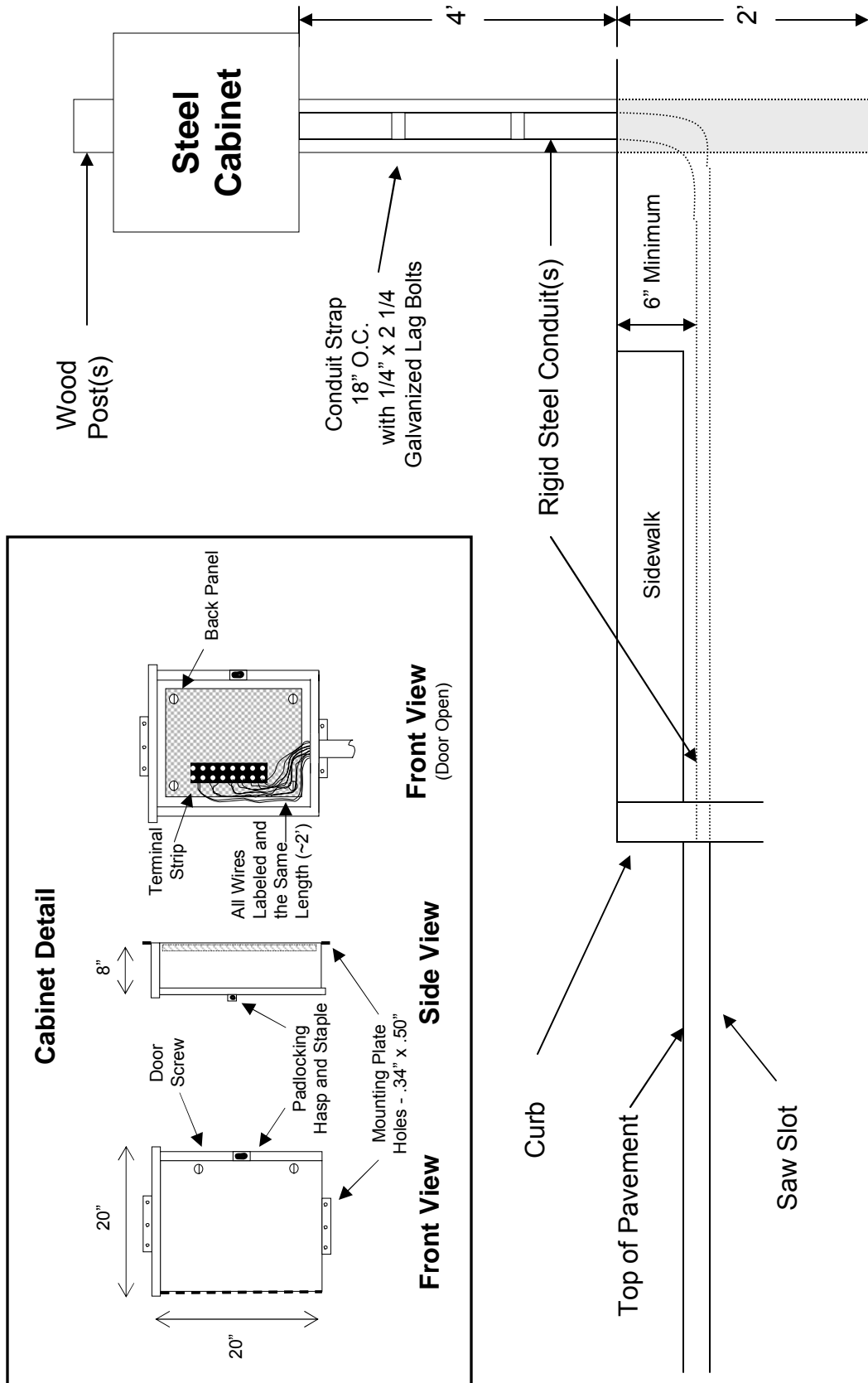
Figure 7a



04/12/06

Galvanized Steel Cabinet and Post Installation

Figure 7b

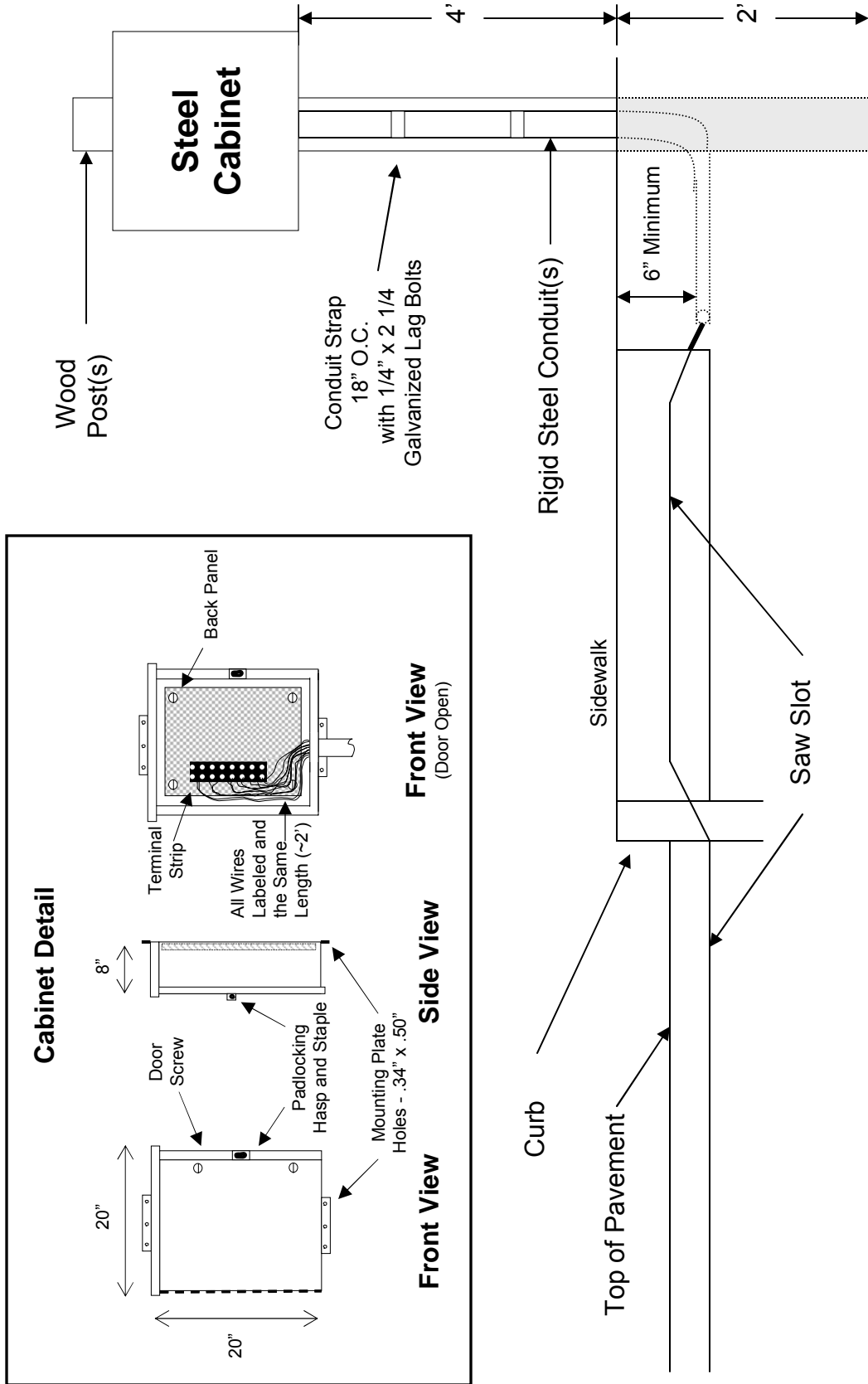


DRAWING NOT TO SCALE

02/25/05

Galvanized Steel Cabinet and Post Installation

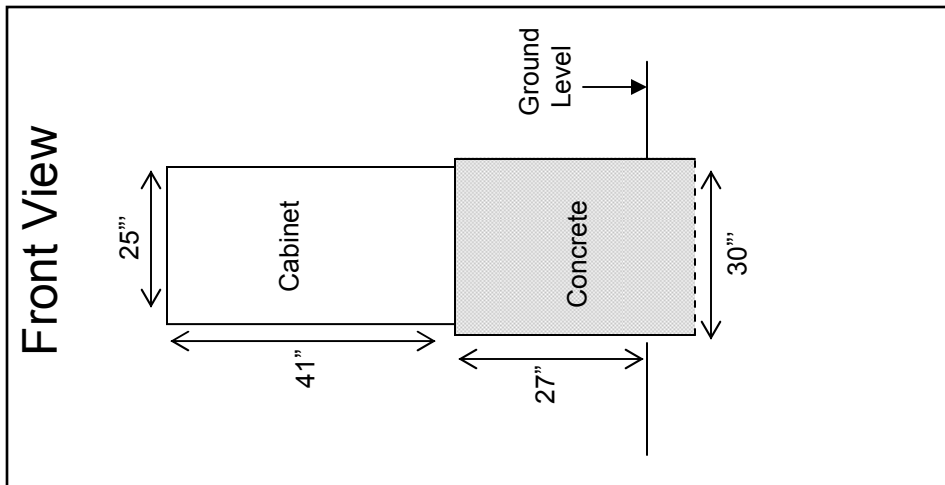
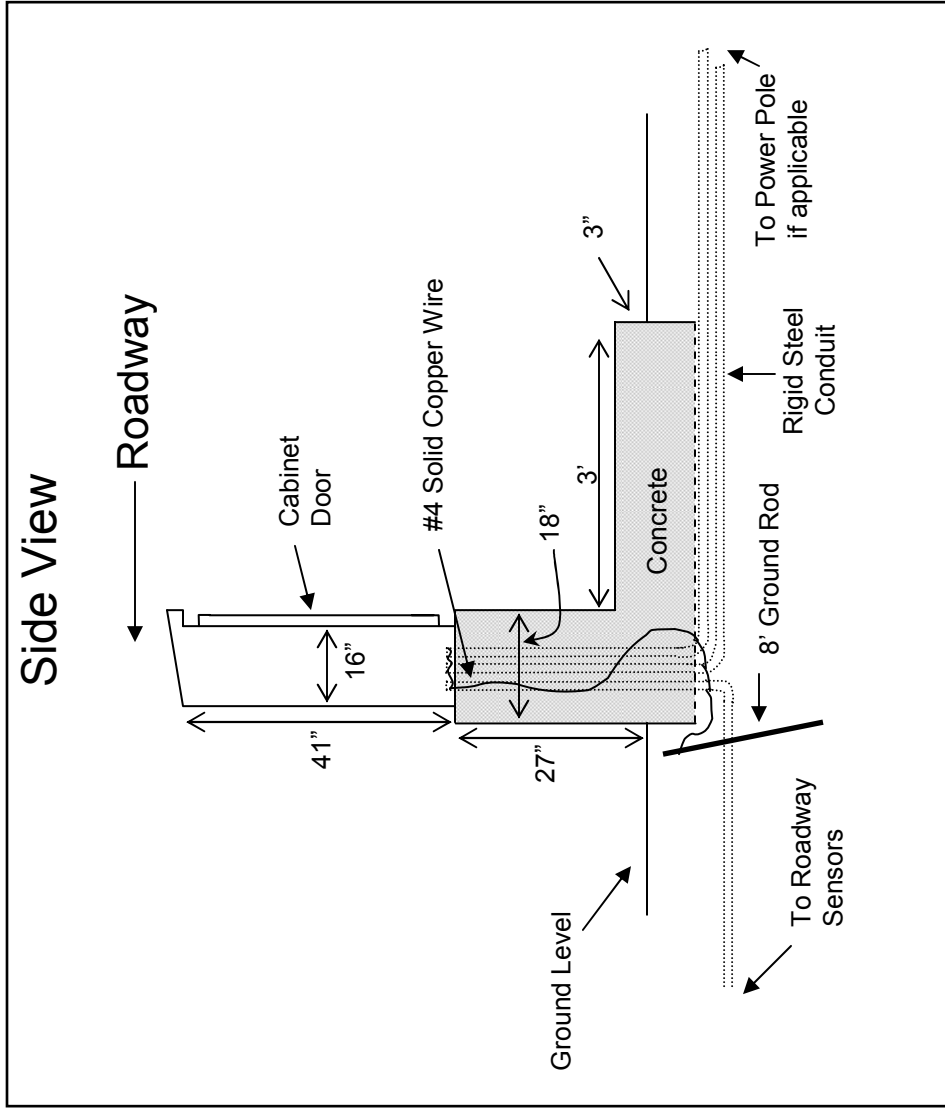
Figure 7c



DRAWING NOT TO SCALE

02/08/06

Cabinet Type G
Figure 8

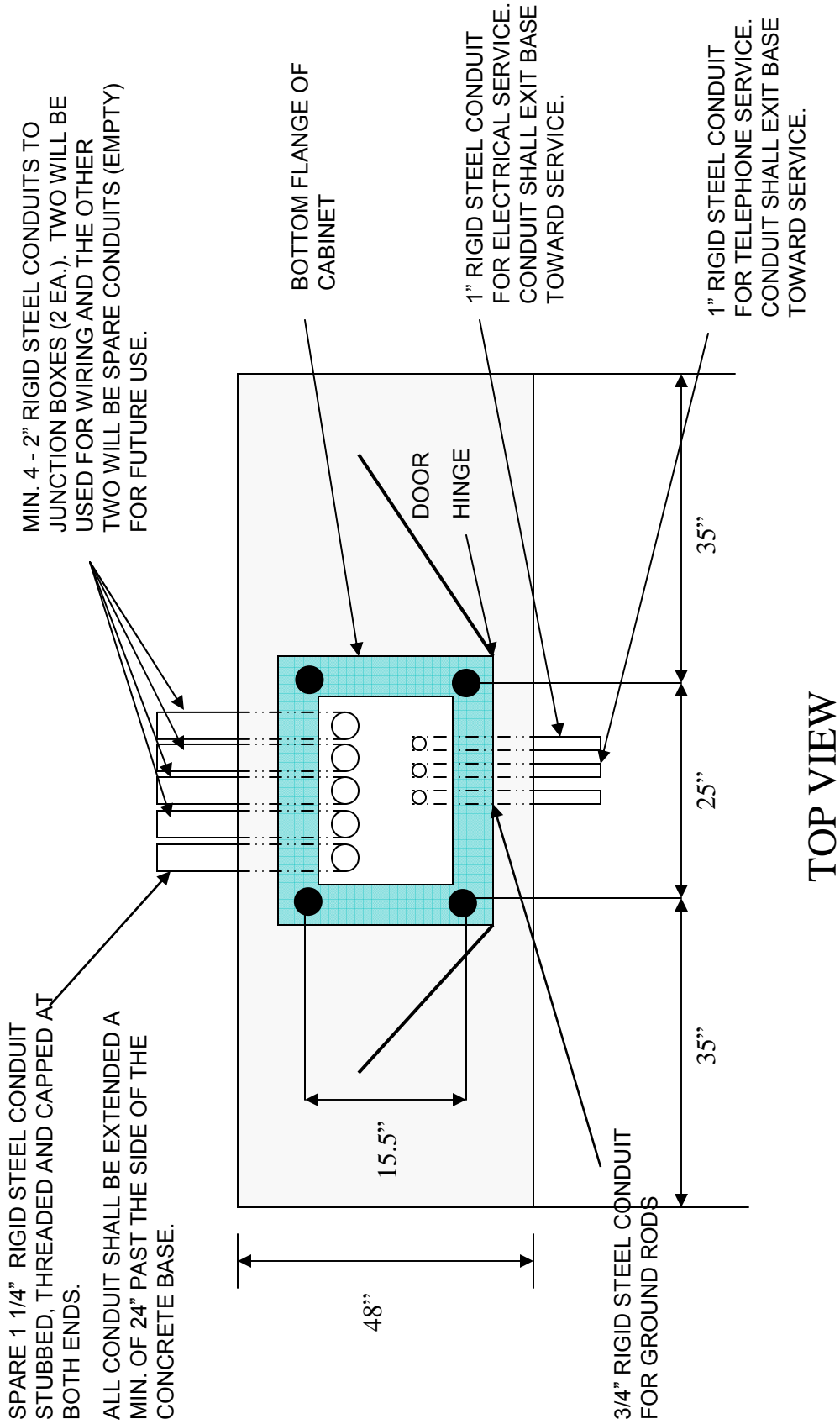


DRAWING NOT TO SCALE

02/15/05

Base Mounted 170 Cabinet Detail

Figure 9a

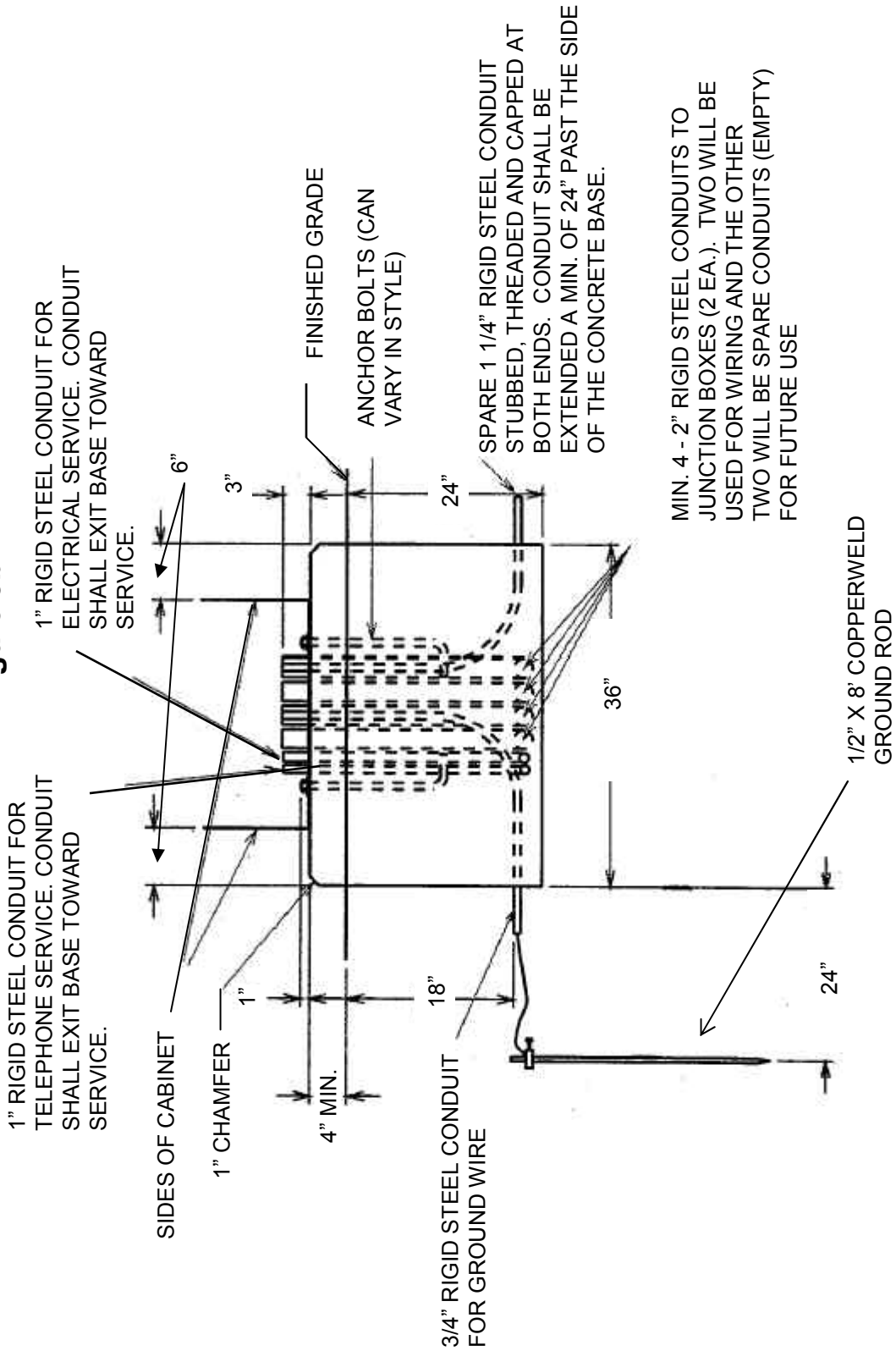


DRAWING NOT TO SCALE

02/15/05

Base Mounted 170 Cabinet Detail

Figure 9b



SIDE VIEW

DRAWING NOT TO SCALE

02/15/05

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: 105.07 COOPERATION WITH UTILITIES. REVISION: In the last paragraph, replace “KRS 367 Sections 1 through 10” with “KRS 367.4901 through 367.4917”
SUBSECTION: 108.01 SUBCONTRACTING OF CONTRACT. REVISION: Replace the second and third sentence of the first paragraph with the following: When the Engineer gives such consent, the Engineer will allow the Contractor to subcontract a portion, but the Contractor must perform with his own organization work amounting to no less than 30 percent of the total Contract cost. The Department will not allow any subcontractor to exceed the percentage to be performed by the Contractor and will require the Contractor to maintain a supervisory role over the entire project.
SUBSECTION: 109.07 PRICE ADJUSTMENT. REVISION: Replace the section with the following: 109.07 PRICE ADJUSTMENTS. Due to the fluctuating costs of petroleum products, the Department will adjust the compensation of specified liquid asphalt items and diesel fuel in contracts when contract quantity thresholds are met. 109.07.01 Liquid Asphalt. The Department will compare the Kentucky Average Price Index (KAPI), for the month that the Contract is let, to the index for the month that the Contractor places the material on the project to determine the percent change. When the original contract quantity for asphalt items is equal to or greater than 3,000 tons and when the average price of the liquid asphalt products increases or decreases more than 5 percent, the Department will adjust the Contractor’s compensation. The KAPI is calculated monthly using the average price, per ton at the terminal, from the active suppliers of liquid asphalt. <u>Adjustable Contract Items:</u> <ul style="list-style-type: none">• Asphalt Curing Seal• Asphalt Material for Prime• Asphalt Base, All Classes• Asphalt Binder• Asphalt Surface, All Classes• Sand Asphalt Surface• Asphalt Open-Graded Surface• Asphalt Seal Coat• Asphalt Mixture for Leveling and Wedging• Drainage Blanket - Type II - Asphalt The Department will determine the price adjustment using the following formulas: <u>When PC is greater than PL</u> Asphalt Price Adjustment = $(Q \times A)/100 \times PL \times [(PC-PL)/PL - 0.05]$ <u>When PC is less than PL</u> Asphalt Price Adjustment = $(Q \times A)/100 \times PL \times [(PC-PL)/PL + 0.05]$ Where: Q = Tons of material or mixture placed each month. A = Percent of material or mixture that is asphalt. PL = KAPI for the month that the Contract is let. PC = KAPI for the month that the Contractor places the material or mixture. The job-mix formula for asphalt base, binder, and surface mixtures determines “A”, which is the percent of asphalt. For recycled mixtures, the Department will determine the adjustment for the new asphalt cement only. The Department will consider materials for prime and seal as 100 percent asphalt.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

Revision
Continued

109.07.02 Fuel. The Department will adjust the Contractor's compensation when the average price of diesel fuel increases or decreases more than 5 percent and the original Contract quantity for the item on which the fuel is consumed is equal to or greater than the threshold quantities listed in the following table.

<u>Item</u>	<u>Threshold Quantity</u>	<u>Fuel/Work</u>
Roadway Excavation	10,000 cubic yards	0.25
Embankment-in-Place	10,000 cubic yards	0.25
Borrow Excavation	10,000 cubic yards	0.25
DGA Base or Crushed Stone Base	5,000 tons	0.52
Stabilized Aggregate Base	5,000 tons	0.52
Drainage Blanket, Cement Treated or Untreated	5,000 tons	0.52
Drainage Blanket, Asphalt Treated	5,000 tons	3.00
Crushed Sandstone Base (Cement Treated)	5,000 tons	0.52
Hot-Mixed Asphalt Mixtures for Pavements or Shoulders	3,000 tons ⁽¹⁾	3.00
PCC Pavement, Base, or Shoulders	2,000 square yards ⁽²⁾	0.14

⁽¹⁾Total of all hot mixed asphalt Contract items.

⁽²⁾Total of all JPC pavement, JPC shoulder, and PCC base, Contract items.

The Department will determine the price adjustment using the following formulas:

When PC is greater than PL

$$\text{Fuel Price Adjustment} = Q \times F \times PL \times [(PC-PL)/PL - 0.05]$$

When PC is less than PL

$$\text{Fuel Price Adjustment} = Q \times F \times PL \times [(PC-PL)/PL + 0.05]$$

Where:

Q = Quantity for applicable item placed or performed that month.

F = The fuel to work unit ratio for each applicable item.

PL = Average reseller price of diesel fuel, excluding taxes, discounts, and superfund line items, in the Kentucky region for the month that the Contract is let.

PC = Average reseller price of diesel fuel, excluding taxes, discounts, and superfund line items, in the Kentucky region for the month that the Contractor uses the fuel on the project.

109.07.03 Payments and Deductions. When thresholds are met, the Department will adjust the Contractor's compensation for each eligible pay item, paid or deducted, monthly.

If later price decreases indicate that the Department made an overpayment, the Department will withhold the overpayment from succeeding pay estimates on the project, or the Contractor shall immediately refund the over payment to the Department.

When the Contractor places materials during any month after the month that the Contract time (including all approved time extensions) expires, the Department will use the average price for the month that the Contractor places the material or the average price for the last month of the Contract time; whichever is least.

The Department will not grant a time extension for any overrun in the Contract amount due to payments made according to this section. The Department will not make any additional compensation due to adjustments made according to this section.

The Department will adjust the Contractor's compensation on the following months pay estimate and on the final pay estimate. The Department will make the final adjustment of the Contractor's compensation on the final estimate for the project.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

<p>SUBSECTION: 110.01 MOBILIZATION. REVISION: Replace the third paragraph with the following:</p>	<p>Do not bid an amount for Mobilization that exceeds 5 percent of the sum of the total amounts bid for all items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any bids in excess of this amount to 5 percent for bid comparisons. The Department will base the award on the maximum allowable bid of 5 percent. If any errors in unit bid prices for other Contract items in a Contractor's Bid Proposal are discovered after bid opening and such errors reduce the total amount bid for all other items, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives, so that the percent bid for Mobilization is larger than 5 percent, the Department will adjust the amount bid for Mobilization to 5 percent of the sum of the corrected total bid amounts.</p>						
<p>SUBSECTION: 110.02 DEMOBILIZATION. REVISION: Replace the first sentence of the third paragraph with the following:</p>	<p>Do not bid an amount for Demobilization that is less than 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives.</p>						
<p>SUBSECTION: 206.03.03 Compaction. REVISION: Replace "KM 64-412" with "KM 64-002"</p>							
<p>SUBSECTION: 206.04.01 Embankment-in-Place. REVISION: Replace the first sentence of the sixth paragraph with the following:</p>	<p>When payment is made for Embankment-in-Place, the Department will make payment for all embankment constructed on the project, including roadway embankment, refill in cuts, and embankment placed in embankment benches.</p>						
<p>SUBSECTION: 212.03.03 Permanent Seeding and Protection. PART: Delete Part C) and replace Parts A) and B) with the following: REVISION: A) Seed Mixtures for Permanent Seeding.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Seed Mix Type I:</td> <td style="padding: 5px;"> 30% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 20% Creeping Red Fescue (<i>Festuca rubra</i>) 35% Hard Fescue (<i>Festuca (Festuca longifolia)</i>) 10% Ryegrass, Perennial (<i>Lolium perenne</i>) 5% White Dutch Clover (<i>Trifolium repens</i>) </td> </tr> <tr> <td style="padding: 5px;">Seed Mix Type II:</td> <td style="padding: 5px;"> 55% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 15% Ryegrass, Perennial (<i>Lolium perenne</i>) 15% (based on pure live seed, PLS) Little Bluestem (<i>Schizachyrium scoparium</i>) 15% Crown Vetch (<i>coronilla varia</i>) </td> </tr> <tr> <td style="padding: 5px;">Seed Mix Type III:</td> <td style="padding: 5px;"> 40% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 15% Perennial Ryegrass <i>Lolium perenne</i>) 20% Sericea Lespedeza (<i>Lespedeza cuneata</i>) 25% (based on pure live seed, PLS) Little Bluestem (<i>Schizachyrium scoparium</i>) </td> </tr> </table> <p style="margin-left: 40px;">1) Permanent Seeding on Slopes 3:1 or Less. Apply seed mix Type I at a minimum application rate of 100 pounds per acre.</p> <p style="margin-left: 40px;">2) Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 4, 5, 6, and 7. Apply seed mix Type II at a minimum application rate of 100 pounds per acre plus a nurse crop of either Cereal Rye or German Foxtail-Millet based on the time of year. During the months of June through August, apply 10 pounds of German Foxtail-Millet (<i>Setaria italica</i>). During the months of September through May, apply 56 pounds of Cereal Rye (<i>Secale cereale</i>). If adjacent to golf courses replace the crown vetch with Kentucky 31 Tall Fescue</p>	Seed Mix Type I:	30% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 20% Creeping Red Fescue (<i>Festuca rubra</i>) 35% Hard Fescue (<i>Festuca (Festuca longifolia)</i>) 10% Ryegrass, Perennial (<i>Lolium perenne</i>) 5% White Dutch Clover (<i>Trifolium repens</i>)	Seed Mix Type II:	55% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 15% Ryegrass, Perennial (<i>Lolium perenne</i>) 15% (based on pure live seed, PLS) Little Bluestem (<i>Schizachyrium scoparium</i>) 15% Crown Vetch (<i>coronilla varia</i>)	Seed Mix Type III:	40% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 15% Perennial Ryegrass <i>Lolium perenne</i>) 20% Sericea Lespedeza (<i>Lespedeza cuneata</i>) 25% (based on pure live seed, PLS) Little Bluestem (<i>Schizachyrium scoparium</i>)
Seed Mix Type I:	30% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 20% Creeping Red Fescue (<i>Festuca rubra</i>) 35% Hard Fescue (<i>Festuca (Festuca longifolia)</i>) 10% Ryegrass, Perennial (<i>Lolium perenne</i>) 5% White Dutch Clover (<i>Trifolium repens</i>)						
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Seed Mix Type III:	40% Kentucky 31 Tall Fescue (<i>Festuca arundinacea</i>) 15% Perennial Ryegrass <i>Lolium perenne</i>) 20% Sericea Lespedeza (<i>Lespedeza cuneata</i>) 25% (based on pure live seed, PLS) Little Bluestem (<i>Schizachyrium scoparium</i>)						

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

revision continued	<p>3) Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 1, 2, 3, 8, 9, 10, 11, and 12. Apply seed mix Type III at a minimum application rate of 100 pounds per acre plus a nurse crop of either Cereal Rye or German Foxtail-Millet based on the time of year. During the months of June through August, apply 10 pounds of German Foxtail-Millet (<i>Setaria italica</i>). During the months of September through May, apply 56 pounds of Cereal Rye (<i>Secale cereale</i>). If adjacent to crop land or golf course replace the <i>Sericea Lespedeza</i> with Kentucky 31 Tall Fescue.</p> <p>B) Procedures for Permanent Seeding. Include a seeding plan in the Best Management Practices plan (BMP) according to Section 213. Prepare a seedbed and incorporate fertilizer and agricultural limestone as needed. Do not apply dry agricultural Limestone when it may generate a traffic hazard. Remove all rock and dirt clods over 4 inches in diameter from the surface of the seedbed. Unless the Engineer directs otherwise, track all slopes 3:1 or greater. Ensure that tracking is performed up and down and not across. Native Grass seed should be calculated figuring seed on a pure live seed basis (PLS), using the least amount of inert matter available. Seed and mulch to produce a uniform vegetation cover using the seeding rates as indicated to each application. Mulch with clean, weed free straw. Place straw to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. For the periods of March 1 through May 15 and from September 1 through November 1, the Department will allow the option of using hydromulch at minimum rate of 1,500 pounds per acre in place of straw with tackifier. Regardless of materials used, ensure the protective cover holds until seeding is acceptably established according to part G) of this subsection.</p>
SUBSECTION: REVISION:	213.03.01 Best Management Practices (BMP). Replace the third sentence of the first paragraph with the following: Ensure that the BMP provides storage for 3,600 cubic feet of water per surface acre disturbed.
SUBSECTION: REVISION:	213.03.02 Progress Requirements. Add the following after the first sentence of the third paragraph: Seed and mulch areas at final grade within 14 days. Temporary mulch areas not at final grade if work stops for longer than 21 days. Temporary mulch soil stock piles within 14 days of the last construction activity in that area.
SUBSECTION: REVISION:	213.03.03 Inspection and Maintenance Replace both "0.1-inch" references with "0.5-inch". Add the following sentence to the end of the second paragraph: Initiate corrective action within 24 hours of any reported deficiency.
SUBSECTION: PART: REVISION:	213.03.05 Temporary Control Measures. B) Silt Checks. B) Silt Checks. Use one of the following types: <ol style="list-style-type: none"> 1) Silt Check Type II - Crushed stone such as cyclopean stone riprap, quarry run stone, or other size material approved by the Engineer, dumped in place and shaped to the configuration required. 2) Silt Check Type III - Blasted or broken rock dumped in place and shaped to the configuration required. <p>Remove and properly dispose of sediment deposited at silt checks as necessary. When no longer needed, remove the silt checks and dispose of surplus materials as excavated materials according to Section 204. Seed and protect the entire area disturbed, as directed. Do not leave silt checks in place after completion of the project unless allowed by the Engineer or specified in the Plans.</p>

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	213.03.05 Temporary Control Measures.
PART:	F) Temporary Seeding and Protection.
REVISION:	Replace the first sentence with the following: Apply seed mix Type I at a minimum application rate of 100 pounds per acre plus a nurse crop of either Cereal Rye or German Foxtail-Millet based on the time of year. During the months of June through August, apply 10 pounds of German Foxtail-Millet (<i>Setaria italica</i>). During the months of September through May, apply 56 pounds of Cereal Rye (<i>Secale cereale</i>). Obtain the Engineer's approval for the seed before use.
SUBSECTION:	213.03.05 Temporary Control Measures.
PART:	G) Temporary Mulch.
REVISION:	Replace the last sentence with the following: Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and apply tackifier.
SUBSECTION:	213.04.15 Temporary Silt Ditch.
REVISION:	Replace with the following: The Department will measure the quantity in linear feet.
SUBSECTION:	213.04 MEASUREMENT.
REVISION:	Add the following Subsection: 213.04.24 Clean Temporary Silt Ditch. The Department will measure the quantity in linear feet along the ditch line.
SUBSECTION:	213.05 PAYMENT.
REVISION:	Add the following lines: 20594 Temporary Silt Ditch Linear Foot 20601 Clean Temporary Silt Ditch Linear Foot
SUBSECTION:	303.03.01 Mixture
PART:	C) Cement Treated Mixture.
REVISION:	Delete the "For asphalt pavements" from the second paragraph.
SUBSECTION:	303.03.01 Mixture
PART:	C) Cement Treated Mixture.
REVISION:	Delete requirement "2".
SUBSECTION:	402.03.02 Acceptance.
PART:	D) Testing Responsibilities.
NUMBER:	4) Density.
REVISION:	Replace the first sentence of the third paragraph with the following: For surface mixtures placed on driving lanes and ramps, furnish 2 cores per subplot to the nearest laboratory facility (Contractor or Department lab) for density determination by the Engineer.
SUBSECTION:	402.03.02 Acceptance.
PART:	H) Unsatisfactory Work.
NUMBER:	1) Based on Lab Data.
REVISION:	Replace the "AASHTO MP2" references in the second paragraph with "AASHTO M 323".
SUBSECTION:	402.04 MEASUREMENT.
REVISION:	Replace the last sentence with the following: The Department will not measure construction of rolled rumble strips or pavement wedge texturing for payment and will consider them incidental to the asphalt mixture.
SUBSECTION:	402.04.01 Weight.
REVISION:	Replace first sentence of the second paragraph with the following: The Department will determine the bulk, oven-dry specific gravity for the fine and coarse aggregates according to KM64-605 and AASHTO T 85, respectively.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

<p>SUBSECTION: 402.04.02 Thickness on New Construction. REVISION: Delete the third paragraph and add the following at the end of the subsection:</p>	<p>The Department will not measure initial thickness check coring or coring of corrective work for payment and will consider it incidental to the asphalt mixture.</p>												
<p>SUBSECTION: 402.05.02 PARTS: Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures Lot Pay Adjustment Schedule, Compaction Option B Mixtures REVISION: Replace the VMA table with the following:</p>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">VMA</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">≤ 0.5 below min. VMA</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">0.6-1.0 below min.</td> </tr> <tr> <td style="text-align: center;">0.90⁽²⁾</td> <td style="text-align: center;">1.1-1.5 below min.</td> </tr> <tr> <td style="text-align: center;">⁽¹⁾/₍₂₎</td> <td style="text-align: center;">> 1.5 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≤ 0.5 below min. VMA	0.95	0.6-1.0 below min.	0.90 ⁽²⁾	1.1-1.5 below min.	⁽¹⁾ / ₍₂₎	> 1.5 below min.
VMA													
Pay Value	Deviation From Minimum												
1.00	≤ 0.5 below min. VMA												
0.95	0.6-1.0 below min.												
0.90 ⁽²⁾	1.1-1.5 below min.												
⁽¹⁾ / ₍₂₎	> 1.5 below min.												
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: A) Mixture Composition. REVISION: Replace the “AASHTO MP2” reference in the first paragraph with “AASHTO M 323”.</p>	<p>From the aggregate requirements list, delete 3) Type C.</p>												
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: C) Mix Design Criteria. REVISION: Replace the “AASHTO MP2” references with “AASHTO M 323”.</p>	<p>Replace the “AASHTO PP28” references in the second paragraph with “AASHTO R 35”.</p>												
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: C) Mix Design Criteria. NUMBER 1) Preliminary Mix Design. REVISION: Add the following footnote to the table and associate it with the ESAL’s field “<0.3”:</p>	<p>* For CL1 ASPH SURF 0.38D PG64-22 only.</p>												
<p>SUBSECTION: 403.03.06 Thickness Tolerances. PART: B) New Construction. REVISION: Replace the first paragraph with the following:</p>	<p>Under the Engineer’s supervision, perform coring for thickness checks according to KM 64-420, as soon as practical after completion of all, or a major portion, of the asphalt base. The Engineer will measure the cores. Fill all core holes either with compacted asphalt mixture or non-shrink grout. Complete all remedial overlay work before placing the final course.</p>												

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: 403.03.08 Rumble Strips.
REVISION: Replace with the following:

403.03.08 Shoulder Rumble Strips and Pavement Wedge Texturing.

A) Shoulder Rumble Strips.

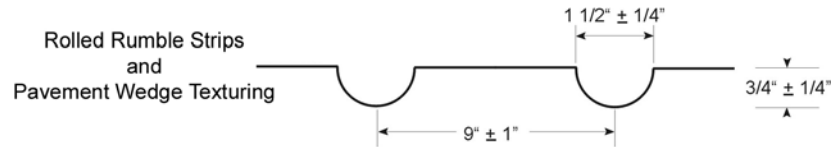
1) Interstates and Parkways. Construct sawed rumble strips on all mainline shoulders to the dimensions shown below. Do not place rumble strips on ramps.

2) Other Roads. Construct rolled rumble strips on shoulders of facilities with posted speed limits greater than 45 MPH. Unless specified in the plans or directed by the Engineer, do not construct rumble strips on facilities with posted speed limits of 45 MPH or less.

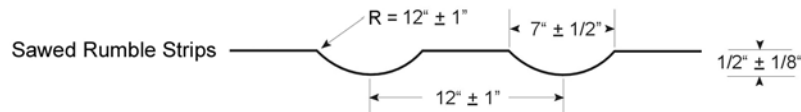
Construct rolled rumble strips on mainline shoulders to the dimensions shown below. On shoulders less than 3 feet wide, shorten the width and distance of the strips as the Engineer directs. Time the rolling operation so indentations are at the specified size and depth without causing unacceptable displacement of the asphalt mat. Correct unacceptable rolled rumble strips by sawing.

B) Pavement Wedge Texturing. Perform texturing on all pavement wedges constructed monolithically with the mainline or constructed using a surface mixture. When furnishing Asphalt Mixture for Pavement Wedge, binder, or a base mixture for the wedge, the Department will not require texturing.

Texture to the dimensions shown below. On wedges less than 3 feet, shorten the length and distance of the texturing as the Engineer directs. Time the rolling operation so indentations are at the specified size and depth without causing unacceptable displacement of the asphalt mat.



Place one foot out from the mainline pavement and to a width of 2 feet.



Place one foot out from the mainline pavement and to a width of 16 inches.

SUBSECTION: 403.04.03 Asphalt Mixtures.
REVISION: Replace the second sentence with the following:

The Department will not measure rolled rumble strips or pavement wedge texturing for payment and will consider them incidental to this bid item.

SUBSECTION: 403.04.07 Sawed Rumble Strips.
REVISION: Add the following subsection:

403.04.07 Sawed Rumble Strips. The Department will measure the quantity in linear feet. When rolled in rumble strips are specified, the Department will not measure sawed rumble strips for payment and will consider them incidental to the asphalt mixture.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	403.05 PAYMENT						
REVISION:	Add the following bid item:						
	<table border="0"> <thead> <tr> <th align="left"><u>Code</u></th> <th align="left"><u>Pay Item</u></th> <th align="left"><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>20362</td> <td>Shoulder Rumble Strips – Sawed</td> <td>Linear Foot</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	20362	Shoulder Rumble Strips – Sawed	Linear Foot
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>					
20362	Shoulder Rumble Strips – Sawed	Linear Foot					
SUBSECTION:	501.03.20 Opening to Public Traffic.						
REVISION:	Delete the last sentence of the first paragraph.						
SUBSECTION:	501.03.21 Tolerance in Pavement Thickness.						
REVISION:	Add the following: Core the pavement as the Engineer directs.						
SUBSECTION:	501.04.06 Thickness.						
REVISION:	Add the following: The Department will not measure coring for payment and will consider it incidental to the concrete pay items.						
SUBSECTION:	502.03 CONSTRUCTION.						
PART:	C) Curing and Protecting Pavement.						
NUMBER:	3)						
REVISION:	Replace the last sentence with the following: The Department will allow permanent removal of the cover when the concrete attains the required opening strength of 3,000 psi.						
SUBSECTION:	502.03 CONSTRUCTION.						
PART:	D) Strength Testing and Opening to Traffic.						
NUMBER:	2) Testing.						
REVISION:	Replace the second paragraph with the following: When the average compressive strength is 3,000 psi, the Department will allow the pavement to be opened to traffic and will test the remaining sets of cylinders at the required age. When the average compressive strength is less than 3,000 psi at the required age, do not open the pavement to traffic until the pavement has been in place for 7 days. The Engineer may accept the pavement based on additional testing.						
SUBSECTION:	503.03.09 Ride Quality.						
REVISION:	Replace parts 5) and 6) with the following: 5) Perform corrective work to achieve the required IRI by regrinding the entire width of the traffic lane at areas having a high IRI. The Engineer may exclude pavement areas where grinding alone will not correct deficiency. 6) The Department will create a strip chart when the test results show that the IRI is greater than 60 or upon request for lower IRI values.						
SUBSECTION:	601.03.02 Concrete Producer Responsibilities.						
REVISION:	Replace the first sentence with the following: Use a concrete producer from the List of Approved Materials when the quantity of concrete delivered to the project in a plastic condition is 250 cubic yards or more. Ensure that the concrete producer complies with the following requirements:						

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: C) Quality Control. REVISION: Replace the first paragraph with the following: Take full responsibility for the batch weight calculations and quality control of concrete mixtures at the plant. Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content and unit weight tests, and monitoring the concrete temperature, all to provide concrete to the project conforming to specifications. A Level I concrete technician is responsible for testing production material for slump, entrained air, unit weight and temperature of the mixture. Ensure the technician performs all sampling and testing according to the appropriate Kentucky Methods. Delete the third paragraph.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: F) Records. REVISION: Retain all concrete technician records, test results and batch tickets pertaining to concrete produced for a Department project for at least 3 years after formal acceptance of the project. Make all records available to the Engineer and the Contractor on the project for review upon request.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. REVISION: Replace the last sentence of the first paragraph with the following: Before producing any concrete for the project, submit a proposed mixture design to the Engineer and obtain the District Materials engineer's or the Central Office Material's approval.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 1) New Mixture Designs. REVISION: Replace the first sentence with the following: Base the proposed mix design on standard Department methods unless the District Materials Engineer, or Central Office Materials approves otherwise.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 1) Changes in Approved Mix Designs. REVISION: Replace the second sentence with the following: The District Materials Engineer or Central Office Materials will provide an average value of the specific gravity aggregate absorption.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 3) Changes in Approved Mix Designs. LETTER: g) REVISION: Replace the fourth and fifth sentence with the following: Central Office Materials will observe all phases of the trial batches. Have the producer submit a report containing mix proportions and test results for slump, air content, water/cement ratio, unit weight, and compressive strength for each trial batch to the Engineer for Central Office Materials review and approval.
SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 2) Approval. REVISION: Replace the first sentence with the following: The District Materials Engineer or Central Office Materials will base approval of the mixture design on the following criteria:

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 3) Changes in Approved Mix Designs. REVISION: Replace the first sentence with the following: Do not change the source of supply of the mixture ingredients without the District Materials Engineer's or Central Office Materials written permission. Replace the third sentence with the following: Upon the District Materials Engineer's or Central Office Materials written approval, the Department will allow the use of aggregate from the new source.
SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. TABLE: INGREDIENT PROPORTIONS AND REQUIREMENTS FOR VARIOUS CLASSES OF CONCRETE REVISION: Under Class of Concrete replace "AAA ⁽⁹⁾ " with "AAA ⁽⁸⁾ "
SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. FOOTNOTE: (6) REVISION: Add the following after the first sentence of the first paragraph: For products with voids, the slump may be increased to 7 inches. Replace the "0.3" requirement for Spring and Fall mix designs with "0.37".
SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. FOOTNOTE: (7) REVISION: Replace with the following: The precast fabricator may increase the slump of Class A concrete to a maximum of 7 inches provided the fabricator uses a high range water reducer (Type F and G) and maximum water/cement ratio of 0.46.
SUBSECTION: 601.03.03 Proportioning and Requirements. PART: E) Measuring. NUMBER: 3) Water. REVISION: Delete the last sentence of the second paragraph.
SUBSECTION: 601.03.03 Proportioning and Requirements. PART: E) Measuring. NUMBER: 4) Measuring Admixtures. REVISION: Replace with the following: 4) Measuring Admixtures. Introduce liquid admixtures into the concrete batch along with, or as part of, the mixing water. Keep air-entraining admixtures completely separate from all other admixtures until introduction into the batch. Maintain and equip dispensing equipment to ensure no chlorides are introduced into any Department mix. Use approved dispensing equipment with a meter, gauge, or scale that can accurately be pre-set for the needed amount of admixture and can consistently deliver quantities of admixture to successive batches at any setting with satisfactory accuracy. The dispensing equipment must be visible to the batch operator if the actual dispensed amounts are not recorded on the computer batch ticket. Ensure admixture dispensers are inspected, calibrated and certified every 6 months. The Department may allow admixtures to be added, to the truck, at the project site provided the Engineer's approval is obtained first.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	601.03.04 Classes and Primary Uses.
REVISION:	Add the following part: R) Dry Cast. Precast units.
SUBSECTION:	601.03.05 Admixtures.
REVISION:	Replace the last sentence of the fourth paragraph with the following: Store admixtures where the liquid temperatures can be maintained between 32 and 110 °F.
SUBSECTION:	601.03.09 Placing Concrete.
PART:	D) Weather Limitations and Protection.
REVISION:	Delete the last sentence of paragraph two.
SUBSECTION:	605.03 CONSTRUCTION.
REVISION:	Insert the following sentence after the first sentence: Ensure all non-composite box beam concrete contains an approved corrosion inhibitor from the List of Approved Materials.
SUBSECTION:	605.03.03 Casting.
REVISION:	Delete the first sentence in the first paragraph. Add the following after the first sentence of the third paragraph: Do not vibrate Self-Consolidating Concrete (SCC).
SUBSECTION:	605.03.04 Tack welding.
REVISION:	Replace the first sentence with the following: When tack welding steel reinforcement, use ASTM A 706 steel and conform to the following conditions.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	3)
REVISION:	Replace the first sentence with the following: Tack weld only at intersections of bars except do not tack weld in any bend or within 2 bar diameters of a bend.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	5)
REVISION:	Replace the last sentence with the following: Each sample must meet the minimum requirement for elongation, ductility, tensile and yield strength of the bar stock.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	6)
REVISION:	Delete the last sentence.
SUBSECTION:	605.03.04 Tack Welding.
REVISION:	Change footnote “(4) (d)” to “(5)”
SUBSECTION:	605.03.07 Removal of Forms and Surface Finish.
REVISION:	Add the following sentence before the last sentence of the paragraph: Finish dry cast products according to the Precast/Prestressed Concrete Manual.
SUBSECTION:	611.02.01 Concrete.
REVISION:	Replace with the following: Conform to Subsections 601.02 and 601.03 and the Precast/Prestress Concrete Manual.
SUBSECTION:	611.03.02 Precast Unit Construction.
REVISION:	Replace “AASHTO C 1433” with “ASTM C 1433”

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: NUMBER: REVISION:	<p>611.03.02 Precast Unit Construction. 2) Replace with the paragraph with the following:</p> <p>Mark all box culverts sections with the following information on the inside top of each section with letters no less than 2 inches high:</p> <ul style="list-style-type: none">a) Span, rise, maximum and minimum design earth cover, and KY Table 3.b) Date of manufacture.c) Name and trademark of the manufacturer. <p>For entrance and exit box sections, indent the required information. Mark interior sections by indenting or with waterproof paint.</p>
SUBSECTION: PART: NUMBER: REVISION:	<p>701.02.05 Backfill Materials. A) Granular Backfill. 1) Remove "A2" from the list of acceptable materials.</p>
SUBSECTION: REVISION:	<p>701.03.03 Pipe Bedding. Replace with the following:</p> <p>701.03.03 Pipe Bedding.</p> <p>A) Reinforced Concrete Pipe. Construct bedding according to the Standard Drawings and this section.</p> <ul style="list-style-type: none">1) Type 1 Installation. When working on a rock foundation, place bedding to a depth of 6 inches or equal to $Bc/12$, the pipe diameter in inches divided by 12, whichever is greater. For all other foundations, place a minimum of 4 inches of bedding. Shape the bedding to conform to the invert shape throughout the entire width and length of the proposed structure. Compact the bedding, but leave the center third of the pipe diameter ($Bc/3$) uncompacted. Place and compact additional bedding material in lifts 6 inches or less to an elevation of 0.30 the culvert diameter.2) Type 4 Installation. When working on a rock foundation, place bedding to a depth of 6 inches or equal to $Bc/12$, the pipe diameter in inches divided by 12, whichever is greater. For all other foundations, place a minimum of 4 inches of bedding. <p>B) Corrugated Metal, Thermoplastic, and Structural Plate Pipe. Place and compact bedding to provide 4 inches of bedding below the outside invert of the pipe after shaping. Shape the bedding to conform to the invert shape throughout the entire width and length of the proposed structure. Place and compact additional bedding material in lifts 6 inches or less to an elevation of 0.30 the culvert diameter.</p>
SUBSECTION: PART: REVISION:	<p>701.03.06 Initial Backfill. A) Reinforced Concrete Replace with the following:</p> <p>A) Reinforced Concrete Pipe.</p> <ul style="list-style-type: none">1) Type 1 Installation. When the top of the pipe is not within one pipe diameter of the subgrade, backfill with granular backfill, additional bedding material, or flowable fill from the top of the bedding to an elevation equal to 1/2 the pipe diameter, and either granular backfill, flowable fill, or embankment material in 6-inch lifts to an elevation of one-foot above the pipe.2) Type 4 Installation. Backfill from the top of the bedding with granular backfill, flowable fill, or embankment material in 6-inch lifts to an elevation of one-foot above the pipe. The Department will allow Type 4 installations for median drains and pipe installations located 35 feet or more from the edge of shoulder, back of curb, or any paved surface.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	701.05 PAYMENT.
REVISION:	Replace bid item “2599 Fabric-Geotextile, Type IV Square Yard” with “21433ES214 Fabric-Geotextile, Type IV for Pipe Square Yard ⁽²⁾ ”
	Replace foot note “** The unit bid price is \$2.00 per square yard for Geotextile Fabric, Type III” with “ ⁽²⁾ The unit price is \$2.00 per square yard for Fabric-Geotextile, Type IV for Pipe”
SUBSECTION:	710.02.15 Plastic Adjusting Rings.
REVISION:	Replace this section with:
	710.02.15 Plastic or Rubber Adjusting Rings. Provide plastic or rubber adjusting rings that are on the Department’s List of Approved Materials.
SUBSECTION:	710.03.03 Adjusted Small Drainage Structures.
REVISION:	Replace the last sentence of the first paragraph:
	For plastic or rubber adjusting rings, install and seal according to the manufacturer’s recommendations.
SUBSECTION:	711.02 MATERIALS.
REVISION:	Replace with the following:
	Conform to the Contract requirements.
SUBSECTION:	713.03 CONSTRUCTION.
REVISION:	Add the following after the third paragraph:
	Offset longitudinal lines at least 2 inches from longitudinal pavement construction joints. Offset longitudinal lane lines on multi-lane highways 2 inches towards the median.
SUBSECTION:	714.03.06 Proving Period for Durable Markings.
PART:	B) Failure.
REVISION:	Replace the first sentence with the following:
	During the proving period, the Department will consider markings defective when the retroreflectivity falls below the minimum required or the material fails to meet the other requirements of A) above. Additionally, when more than 10 percent of any one-mile section or individual gore area is defective, the Department will consider the entire section defective.
SUBSECTION:	716.03.08 Testing.
REVISION:	Replace “10 megohms” with “100 megohms”
SUBSECTION:	721.03 CONSTRUCTION.
REVISION:	Replace the third paragraph with the following:
	Install fence 18 inches inside the right-of-way line or in other locations specifically indicated.
SUBSECTION:	723.03 CONSTRUCTION.
REVISION:	Replace the first sentence of the fourth paragraph with the following:
	Set right-of-way markers within 12 inches of the right-of-way line.
SUBSECTION:	724.02.01 Plants.
REVISION:	Replace the reference “American Association of Nurserymen” with “American Nursery and Landscape Association”.
SUBSECTION:	801.01 REQUIREMENTS.
REVISION:	Add the following sentence after the third sentence of the first paragraph:
	Mills must request and be approved by the Department to supply cement with an SO ₃ content above the value in Table 1 of ASTM C 150.
SUBSECTION:	804.01.03 Conglomerate Sand.
REVISION:	Replace second sentence of the paragraph with the following:
	Conglomerate sand may include some material which has been produced by crushing larger pieces of the parent material.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	804.02 Approval.
REVISION:	Replace first sentence of the second paragraph with the following: The Department will consider a source for inclusion on the Aggregate Source List when the aggregate producer complies with KM 64-608 and provides the following:
SUBSECTION:	804.03 Concrete.
REVISION:	Second sentence in first paragraph should be a separate paragraph immediately following the first and should read as follows: Provide natural, crushed, or conglomerate sand. The Department will allow any combination of natural, crushed, or conglomerate sand when the combination is achieved in the concrete plant weigh hopper. The Engineer may allow other sands. Use natural or conglomerate sands as fine aggregates in concrete intended as a wearing surface for traffic. Conform to the following:
SUBSECTION:	804.04.03 Polish-Resistant Aggregate.
REVISION:	Add the following paragraph: Provide a signed certification from the aggregate producer for the manufactured polish-resistant fine aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials, Polish-Resistant Aggregate Source List and Guidelines on the Division of Materials' webpage.
SUBSECTION:	804.04.04 Requirements for Combined Aggregates.
PART:	D) Absorption.
REVISION:	Delete the first sentence and replace the second sentence with the following: Provide total combined fine aggregates having a water absorption of no more than 4.0 percent.
SUBSECTION:	804.11 Sampling and Testing.
REVISION:	For Absorption (Fine Aggregate), replace method "AASHTO T 84" with "KM 64-605"
SUBSECTION:	805.02 Approval.
REVISION:	Replace first sentence of the second paragraph with the following: The Department will consider a source for inclusion on the Aggregate Source List when the aggregate producer complies with KM 64-608 and provides the following:
SUBSECTION:	805.04.01 JPC Base, JPC Pavement, JPC Shoulders, and Concrete for Bridge Decks.
REVISION:	Replace the subsection heading and first sentence with the following: 805.04.01 JPC Base, JPC Pavement, JPC Shoulders, Concrete for Bridge Decks, and Precast Products. Add the following paragraph: Provide a signed certification from the aggregate producer for the approved freeze-thaw coarse aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials and Concrete Aggregate Restriction List.
SUBSECTION:	805.04.01 JPC Base, JPC Shoulders, and Concrete for Bridge Decks.
PART:	3)
REVISION:	Replace the "tests" with "test" in the last sentence.
SUBSECTION:	805.05.05 Polish-Resistant Aggregate.
REVISION:	Add the following paragraph: Provide a signed certification from the aggregate producer for the manufactured polish-resistant coarse aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials, Polish-Resistant Aggregate Source List and Guidelines on the Division of Materials' webpage.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION: REVISION:	805.13.01 Cyclopean Stone Riprap and Channel Lining Class III. Replace the subsection with the following: 805.13.01 Cyclopean Stone Riprap and/or Channel Lining Class III. Provide material meeting the general requirements of Section 805. Ensure that 100 percent passes through a square opening of 16 inches by 16 inches, and no more than 20 percent passes through square openings of 8 inches by 8 inches. The Department may allow stones of smaller sizes for filling voids in the upper surface and dressing to the proper slope.
SUBSECTION: TEST: REVISION:	806.03.01 General Requirements. Dynamic Shear Replace the 100% pay range "5,000-5,500" with "0-5,500"
SUBSECTION: REVISION:	806.03.03 Modification. Replace the first sentence with the following: Use only styrene-butadiene (SB) or styrene-butadiene-styrene (SBS) modifiers.
SUBSECTION: REVISION:	810.02 APPROVAL. Replace reference "KM 114" with "KM 115".
SUBSECTION: REVISION:	810.03.06 Identification and Markings. Delete the following text from the first paragraph: "When the manufacturer has more than one plant, include the plant letter assigned by the Division of Materials after the date of manufacture as follows: L-Louisville N-London" Delete the following paragraph: "The Department will not require the certification on the shipment approval form to be notarized. The Department will not require the information under "Pipe Data" on the approval form when the manufacture's shipment ticket is attached and contains the necessary information."
SUBSECTION: REVISION:	811.02.01 Requirements. Replace the subsection with the following: Furnish bar reinforcement for bridges, cast-in-place culverts, and cast-in-place retaining walls that conforms to ASTM A 615 (billet) or ASTM A 996 (rail). ASTM A 706 steel is acceptable with prior approval of the Division of Materials. Do not weld any steel bar reinforcement unless it is ASTM A 706 rebar. The Engineer will accept rail steel bar reinforcement in straight lengths only. Do not use rail steel reinforcement where field bending is allowed or required.
SUBSECTION: REVISION:	811.09.02 Dowel Bars. Replace the reference to "ASTM A 616" with "ASTM A 996" Insert the following sentence between the third and fourth sentence of the first paragraph: Broken or sheared ends are acceptable with prior approval of the Division of Materials.
SUBSECTION: REVISION:	811.06 BAR MATS. Replace the subsection with the following: Conform to ASTM A 184 and fabricate by welding deformed Grade 60 weldable bars.
SUBSECTION: REVISION:	811.09.02 Dowel Bars. Replace the first paragraph with the following: Furnish dowel bars that are plain round bars conforming to ASTM A 706, A 615, A 996, or A 617 with respect to mechanical properties only. Provide either Grade 40, 50 or 60 steel. Saw cut the free ends of the dowels and ensure that they are free of burrs or projections. Broken or sheared ends are acceptable with prior approval of the Division of Materials. Coat dowel bars according to AASHTO M 254 with the following exceptions for Type B coatings:

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

SUBSECTION:	811.10.02 Epoxy Coating Material.																												
REVISION:	Replace both the reference to "ASTM D 3963 Annex" and "ASTM D 3963" with "AASHTO M 284".																												
SUBSECTION:	812.01.02 Hot-Rolled Carbon Steel Sheets and Strip of Structural Quality, Grade 33 (Corrugated Steel Plank for Bridge Floors).																												
REVISION:	Replace the reference to "ASTM A 570" with "ASTM A 1011"																												
SUBSECTION:	827.04 SEED.																												
REVISION:	Replace with the following: 827.04 SEED. Conform to the requirements outlined in the "Kentucky Seed Law and Provisions for Seed Certification in Kentucky" and the "Regulations under the Kentucky Seed Law", with following exceptions: <ol style="list-style-type: none"> 1) Obtain seed only through registered dealers that are permitted for labeling of seed. 2) Ensure all deliveries and shipments of premixed seed are accompanied with a master blend sheet. 3) Ensure all bags and containers have an acceptable seed tag attached. 4) The Department may sample the seed at the job site at any time. <p>Do not use seed (grasses, native grasses, and legumes) if the weed seed is over one percent, total germination (including hard seed) is less than 80 percent, if the seed test date is over 9 months old exclusive of the month tested, or if the limits of noxious weed seed is exceeded.</p> <p>Ensure that noxious weed seeds contained in any seed or seed mixture does not exceed the maximum permitted rate of occurrence per pound.</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Name of Kind</u></th> <th style="text-align: right;"><u>Max. No. Seeds (per pound)*</u></th> </tr> </thead> <tbody> <tr> <td>Balloon Vine (<i>Cardiospermum halicacabum</i>)</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Purple Moonflower (<i>Ipomoea turbinata</i>)</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Canada Thistle (<i>Cirsium Arvense</i>)</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Johnsongrass (<i>Sorghum halepense</i> and <i>Sorghum almum</i> and perennial rhizomatous derivatives of these species)</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Quackgrass (<i>Elytrigia Repens</i>)</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Annual Bluegrass (<i>Poa annua</i>)</td> <td style="text-align: right;">120</td> </tr> <tr> <td>Buckhorn Plantain (<i>Plantago lanceolata</i>)</td> <td style="text-align: right;">120</td> </tr> <tr> <td>Corncockle (<i>Agrostemma githago</i>)</td> <td style="text-align: right;">18</td> </tr> <tr> <td>Dodder (<i>Cuscuta</i> spp.)</td> <td style="text-align: right;">18</td> </tr> <tr> <td>Giant Foxtail (<i>Setaria faberii</i>)</td> <td style="text-align: right;">18</td> </tr> <tr> <td>Oxeye Daisy (<i>Chrysanthemum leucanthemum</i>)</td> <td style="text-align: right;">120</td> </tr> <tr> <td>Sorrel (<i>Rumex acetosella</i>)</td> <td style="text-align: right;">120</td> </tr> <tr> <td>Wild Onion and Wild Garlic (<i>Allium</i> spp.)</td> <td style="text-align: right;">18</td> </tr> </tbody> </table> <p>* Seed or seed mixtures that contain in excess of 120 total noxious seeds per pound is prohibited</p> <p>Wildflower seed shall not be planted until approved by the MCL.</p>	<u>Name of Kind</u>	<u>Max. No. Seeds (per pound)*</u>	Balloon Vine (<i>Cardiospermum halicacabum</i>)	0	Purple Moonflower (<i>Ipomoea turbinata</i>)	0	Canada Thistle (<i>Cirsium Arvense</i>)	0	Johnsongrass (<i>Sorghum halepense</i> and <i>Sorghum almum</i> and perennial rhizomatous derivatives of these species)	0	Quackgrass (<i>Elytrigia Repens</i>)	0	Annual Bluegrass (<i>Poa annua</i>)	120	Buckhorn Plantain (<i>Plantago lanceolata</i>)	120	Corncockle (<i>Agrostemma githago</i>)	18	Dodder (<i>Cuscuta</i> spp.)	18	Giant Foxtail (<i>Setaria faberii</i>)	18	Oxeye Daisy (<i>Chrysanthemum leucanthemum</i>)	120	Sorrel (<i>Rumex acetosella</i>)	120	Wild Onion and Wild Garlic (<i>Allium</i> spp.)	18
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**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

REQUIREMENTS FOR SEEDS			
	Purity (Min. %)	Germination (Min. %) Including Hard Seed and Dormant Seed	Hard Seed (Max. %) Allowed in Germination
Grasses			
Bentgrass (<i>Argrostis palustris</i>)	98	85	-
Bermudagrass, common (<i>Cynodon dactylon</i>)	97	85	-
Bluegrass, Kentucky (<i>Poa pratensis</i>)	98	85	-
Brome, smooth (<i>Bromus inermis</i>)	95	80	-
Canarygrass, reed (<i>Phalaris arundinacea</i>)	95	80	-
Fescue, chewings (<i>Festuca rubra</i> var. <i>commutata</i>)	97	85	-
Fescue, hard (<i>Festuca trachyphlla</i>)	97	85	-
Fescue, meadow (<i>Festuca elatior</i>)	97	85	-
Fescue, red (<i>Festuca rubra</i>)	97	85	-
Fescue, tall (<i>Festuca arundinacca</i>)	97	85	-
Orchardgrass (<i>Dactylis glomerata</i>)	97	85	-
Redtop (<i>Agrostis alba</i>)	95	80	-
Ryegrass, annual, common or Italian (<i>Lolium multiflorum</i>)	97	85	-
Ryegrass, perennial (<i>Lolium perenne</i>)	97	85	-
Lovegrass, Weeping (<i>Eragrostis curvula</i>)	96	80	-
Oat (<i>Avena Sativa</i>)	98	85	-
Rye (<i>Secale cereale</i>)	98	85	-
Timothy (<i>Phleum pratense</i>)	98	85	-
Wheat, common (<i>Triticum aestivum</i>)	98	85	-
Legumes			
Alfalfa (<i>Medicago sativa</i>)	98	85	25
Clover, alsike (<i>Trifolium hybridum</i>)	97	85	25
Clover, ladino (<i>Trifolium repens</i>)	98	85	25
Clover, white (<i>Trifolium repens</i>)	98	85	25
Crownvetch (<i>Coronilla varia</i>)	97	85	25
Lespedeza, Korean (<i>Lespedeza stipulacea</i>)	97	85	20
Lespedeza, Sericea (<i>Lespedeza cuneata</i>)	97	85	20
Sweetclover, white (<i>Melilotus alba</i>)	98	85	25
Sweetclover, yellow (<i>Melilotus officinalis</i>)	98	85	25
Trefoil, birdsfoot (<i>Lotus corniculatus</i>)	97	85	25
Native Grasses			
Little Bluestem (<i>Schizachyrium scoparium</i>)	85	80	-
Big Blustem (<i>Andropogon gerardii</i>)	85	80	-
Indian Grass (<i>Sorghastrum nutans</i>)	85	80	-
Switchgrass (<i>Panicum virgatum</i>)	85	80	-

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the May 25, 2007 Letting)

<p>SUBSECTION: 827.07 EROSION CONTROL BLANKET. REVISION: Replace the subsection with the following:</p> <p>827.07 EROSION CONTROL BLANKET. Use a blanket from the Department's List of Approved Materials. Blankets must be machine constructed with two-sided netting filled with curled wood fiber mat, straw, or a straw and coconut fiber combination. Ensure the blanket is smolder resistant without the use of chemical additives.</p> <p>A) Dimensions. Furnish in strips either 4 or 8 feet wide and at least 50 feet long. B) Weight.</p> <p>1) Curled Wood Fiber. Ensure a minimum mass per unit area of 7.25 ounce per square yard according to ASTM D 6475. 2) Straw. Ensure a minimum mass per unit area of 7.5 ounce per square yard according to ASTM D 6475. 3) Straw/Coconut Fiber. Ensure a minimum mass per unit area of 6.75 pounds per square yard according to ASTM D 6475.</p> <p>C) Fill. Ensure the fill is evenly distributed throughout the blanket.</p> <p>1) Curled Wood Fiber. Use curled wood fiber of consistent thickness with at least 80 percent of its fibers 6 inches or longer in length. 2) Straw. Use only weed free agricultural straw. 3) Straw/Coconut Fiber. Conform to the straw requirements above and ensure the coconut fiber is evenly distributed throughout the blanket and accounts for 30% or more of the fill.</p> <p>D) Netting. Use photodegradable extruded plastic mesh or netting, with a maximum spacing width of one inch square, on both sides of the blanket. Secure the netting by stitching or other method to ensure the blanket retains its integrity. E) Staples. Use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch, and a minimum length of 6 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils. Provide staples with colored tops when requested by the Engineer. F) Performance.</p> <p>1) C-Factor. Ensure the ratio of soil loss from protected slope to ratio of soil loss from unprotected is ≤ 0.15 for a slope of 3:1 when tested according to ECTC method 2. 2) Shear Stress. Ensure the blanket can sustain a minimum shear stress of 1.75 pounds per square foot without physical damage or excess erosion (> 0.5 inches soil loss) when tested according to ECTC Method 3.</p>
<p>SUBSECTION: 828.02 APPROVAL. REVISION: Add the following:</p> <p>The Department will continue to include the masonry coatings on the list contingent upon receiving an annual certification containing the following information:</p> <p>1) A statement that the masonry coating to be furnished during the particular calendar year is of the same composition as that previously approved for inclusion on the approved list. 2) A statement that the masonry coating conforms to the appropriate requirements of the Kentucky Standard Specifications for Road and Bridge Construction. 3) A statement that notification will be made to the Division of Materials of any changes in composition for review and approval before furnishing the material to projects.</p>
<p>SUBSECTION: 843.01.02 Acceptance Procedures for Non-Specification Fabric. TABLE: GRAB STRENGTH PAYMENT REDUCTION REVISION: Add the following note:</p> <p>The Department will use the lowest value of MACHINE and CROSS for the reduction calculation.</p>

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**

(Effective with the May 25, 2007 Letting)

SUBSECTION: 844.02.01 Fly Ash. PART: 1) REVISION: Delete the last sentence.
SUBSECTION: 844.02.01 Fly Ash. REVISION: Replace the subsection with the following: 844.02.01 Fly Ash. Select from the Department's List of Approved Materials for fly ash sources. To be placed on the list, furnish samples and ASTM C 618 test data developed over the previous 3 months, and confirm to the requirements in KM 64-325.

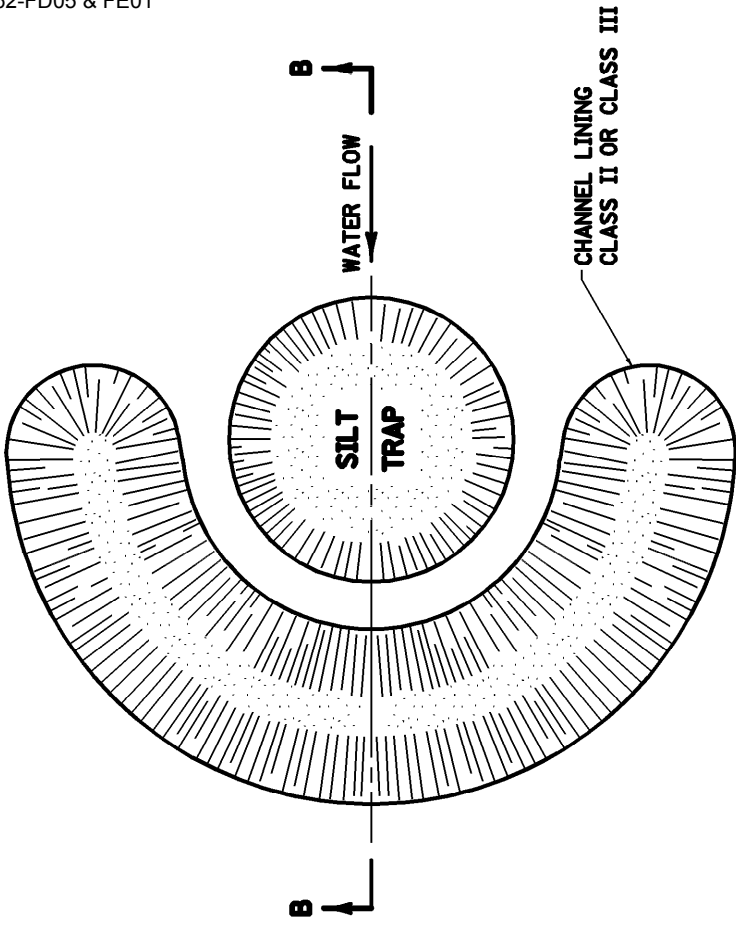
STANDARD DRAWINGS THAT APPLY

FD05 059-0025-006-008 FD05 059-0025-008-010
FD05 059-0025-010-013 FE01 059-0025-008-010

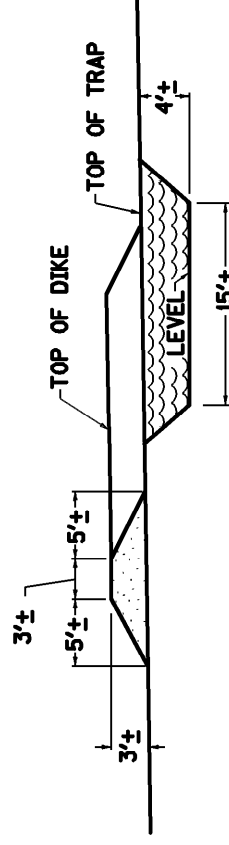
DROP BOX INLET TYPE 1.....	RDB-001-11
CURB BOX INLET TYPE A (DETAIL DRAWING).....	RDB-270-07
CURB BOX INLET TYPE A (STEEL DRAWING).....	RDB-271-04
CURB BOX INLET TYPE A (TOP PHASE TABLES).....	RDB-272-06
CURB BOX INLET TYPE A (DETAIL & BAR CHART FOR 8" LID).....	RDB-273-05
SECURITY DEVICES FOR FRAMES, GRATES AND LIDS.....	RDX-160-05
CURVE WIDENING AND SUPERELEVATION TRANSITIONS.....	RGS-001-06
SUPERELEVATION FOR MULTILANE PAVEMENTS.....	RGS-002-04
MISCELLANEOUS STANDARDS PART 1.....	RGX-001-04
CURB AND GUTTER, CURBS AND VALLEY GUTTER.....	RPM-100-09
APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT.....	RPM-110-04
NETTING.....	RRE-002-04
PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS.....	TPM-100
PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS.....	TPM-105
PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS.....	TPM-110
PAVEMENT MARKER ARRANGEMENTS TWO-LANE TWO-WAY ROADWAYS.....	TPM-115
PAVEMENT MARKER ARRANGEMENT TWO-LANE TO FOUR-LANE TRANSITIONS.....	TPM-120
PAVEMENT MARKER ARRANGEMENT EXIT-GORE AND OFF-RAMP.....	TPM-125
PAVEMENT MARKER ARRANGEMENTS ON-RAMP WITH TAPERED ACCELERATION LANETPM-130	TPM-130
PAVEMENT MARKER ARRANGEMENT ON-RAMP WITH PARALLEL ACCELERATION LANETPM-135	TPM-135
PAVEMENT MARKER ARRANGEMENTS TWO-WAY LEFT TURN LANE.....	TPM-140
PAVEMENT MARKER ARRANGEMENT CHANNELIZED INTERSECTION.....	TPM-145
LANE CLOSURE TWO-LANE HIGHWAY CASE I.....	TTC-100
LANE CLOSURE TWO-LANE HIGHWAY CASE II.....	TTC-105
LANE CLOSURE MULTI-LANE HIGHWAY CASE I.....	TTC-115
DOUBLE LANE CLOSURE.....	TTC-125
SHOULDER CLOSURE.....	TTC-135
MISCELLANEOUS TRAFFIC CONTROL DEVICES.....	TTD-100
MISCELLANEOUS TRAFFIC CONTROL DEVICES.....	TTD-105
POST SPLICING DETAIL.....	TTD-110
ARROW PANEL.....	TTD-115
MOBILE OPERATION FOR PAINT STRIPING CASE I.....	TTS-100
MOBILE OPERATION FOR PAINT STRIPING CASE II.....	TTS-105
MOBILE OPERATION FOR PAINT STRIPING CASE III.....	TTS-110
MOBILE OPERATION FOR PAINT STRIPING CASE IV.....	TTS-115

COUNTY OF	ITEM NO.	SHEET NO.

ALTERNATE NO. 2

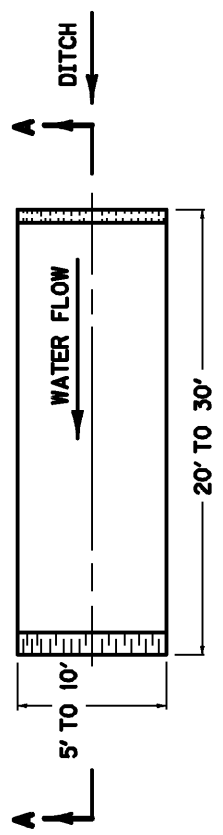


PLAN VIEW



SECTION B-B

ALTERNATE NO. 1



PLAN VIEW



SECTION A-A

~NOTES~

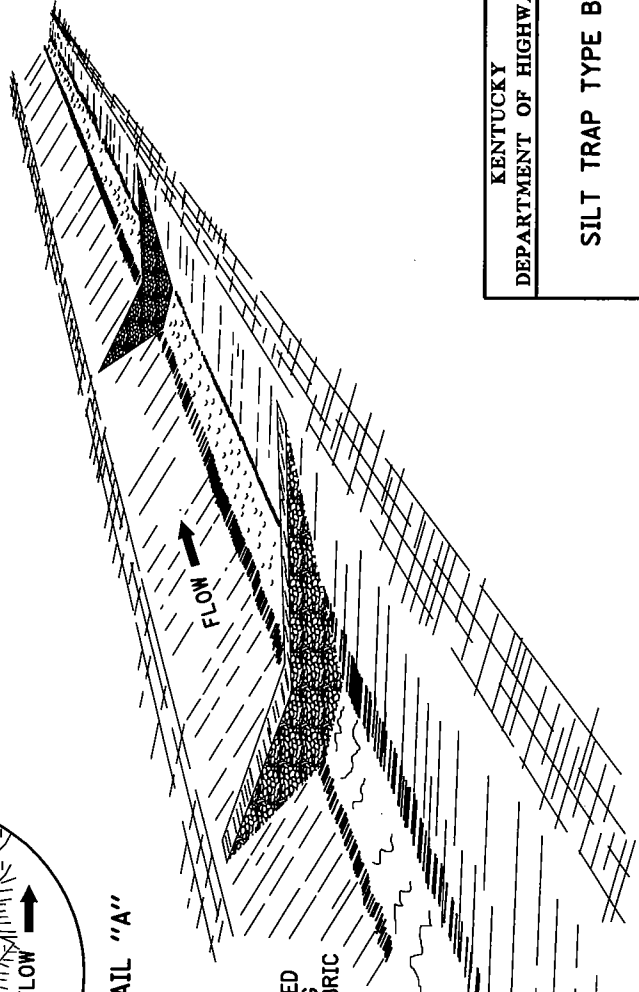
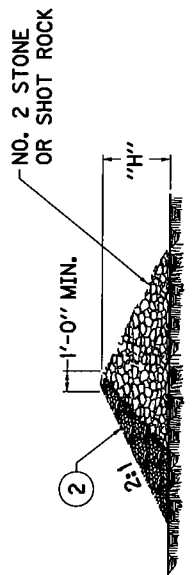
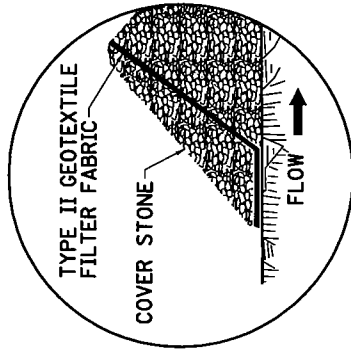
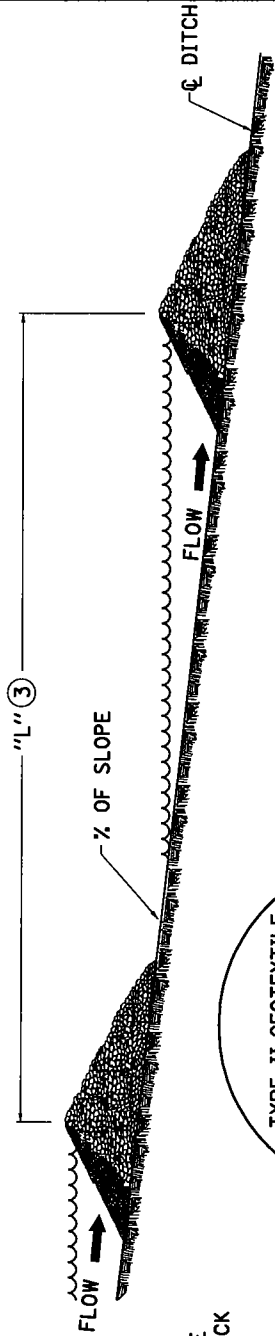
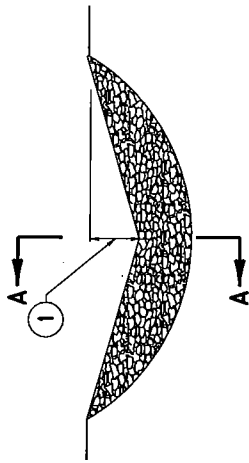
BID ITEM AND UNIT TO BID:
 CODE PAY ITEM PAY UNIT
 2703 SILT TRAP TYPE A EACH
 2706 CLEAN SILT TRAP TYPE A EACH
 THE SIZE, SHAPE AND LOCATION OF TRAP MAY BE ADJUSTED FROM THAT SHOWN IN THE PLANS, AS DIRECTED BY THE ENGINEER.
 THE SILT TRAP SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER TO MEET VOLUME REQUIREMENTS INDICATED ON THE PLANS.
 MATERIAL REMOVED IN THE PROCESS OF CONSTRUCTING SILT TRAP TYPE A SHALL BE WASTED ON SITE AT NO ADDITIONAL COST.

KENTUCKY
 DEPARTMENT OF HIGHWAYS

**SILT TRAP
 TYPE A**

Contract ID: 072259
 Page 15 of 204
 DATE: 2-21-94
 SUBMITTED BY: [Signature]
 CHECKED BY: [Signature]
 DESIGNED BY: [Signature]

COUNTY OF	ITEM NO.	SHEET NO.



DETAIL "A"

SECTION "A~A"

~NOTES~

BID ITEM AND UNIT TO BID:	PAY ITEM	PAY UNIT
2704 SILT TRAP TYPE B		EACH
2707 CLEAN SILT TRAP TYPE B		EACH

① MIDDLE OF SILT TRAP SHALL BE A MINIMUM OF 1'-0" LOWER THAN SIDES SO FLOW WILL NOT BYPASS TRAP OR ERODE BANKS.

② UPSTREAM FACE OF SILT TRAP SHALL BE A FOUR INCH MIN. LAYER OF CRUSHED AGGREGATE HAVING 100% PASSING A 3" SIEVE AND NO MORE THAN 5% PASSING A NO. 8 SIEVE (SEE SECTION "A~A"). LINE UPSTREAM FACE WITH FILTER FABRIC UP TO BOTTOM OF THE V AND COVER FABRIC WITH STONE TO HOLD IN PLACE (SEE DETAIL "A").

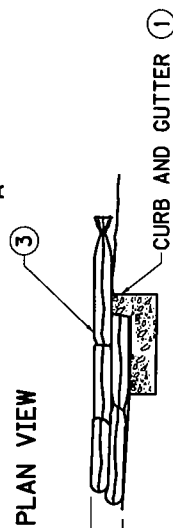
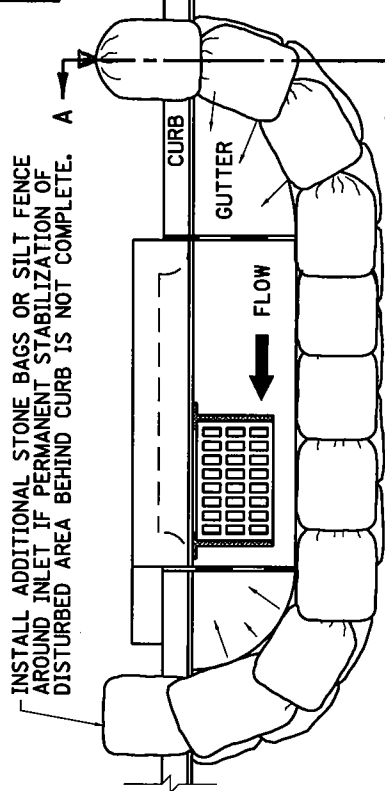
- ③ "L" = $\frac{H}{\text{SLOPE OF DITCH}}$
- ④ SPACE SILT TRAPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ⑤ SILT TRAP TYPE A SHALL BE USED ON ALL SLOPES GREATER THAN 2%.
- ⑥ SILT TRAP TYPE A MAY BE USED ON ALL SLOPES LESS THAN 2%.

KENTUCKY
DEPARTMENT OF HIGHWAYS

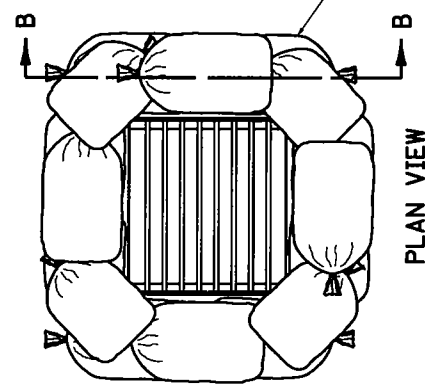
SILT TRAP TYPE B

SUBMITTED _____
DATE 1-25-05

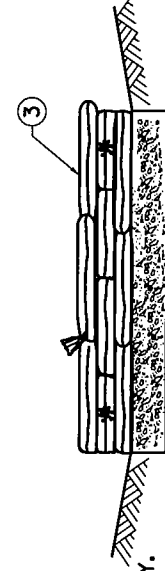
COUNTY OF	ITEM NO.	SHEET NO.



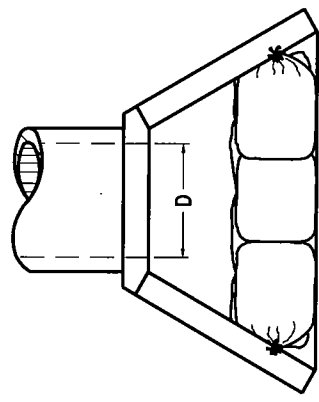
SECTION A~A



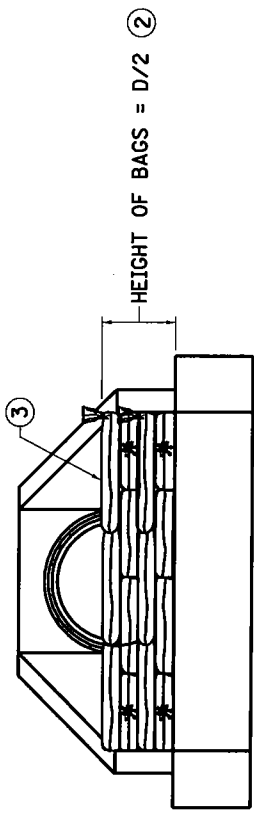
PLAN VIEW



SECTION B~B



PLAN VIEW



FRONT ELEVATION

~NOTES~

SILT TRAP TYPE C SHALL INCLUDE GEOTEXTILE FABRIC BAGS, NO. 57 STONE, LABOR AND ALL INCIDENTALS NECESSARY FOR ONE COMPLETE INSTALLATION. BID ITEM AND UNIT TO BID:

CODE	PAY ITEM	PAY UNIT
20496NS843	SILT TRAP TYPE C	EACH
20497NS843	CLEAN SILT TRAP TYPE C	EACH

1. INLET PROTECTION IS SUITABLE FOR USE IN BOTH PAVED AND UNPAVED AREAS.
2. THE HEIGHT REQUIREMENT IS WAIVED IN CASES WHERE IT WILL CREATE AN UNACCEPTABLE PONDING SITUATION ON THE PAVEMENT OR ON AN ADJACENT PROPERTY.
3. INTERWEAVE BAG ENDS TO FILL GAPS BETWEEN BAGS.
4. CONSTRUCT 18" X 30" BAGS OF NON-WOVEN TYPE II GEOTEXTILE FABRIC CONFORMING TO SECTION 843 OF THE STANDARD SPECIFICATIONS. DOUBLE STITCH BAG SEAMS WITH 1 LB. POLYESTER THREAD. ATTACH ONE (1) TIE STRING TO EACH BAG. BAG OPENING SHALL BE ON 18" SIDE.
5. FILL BAGS WITH NO. 57 STONE BETWEEN 1/2 TO 2/3 FULL (50 LB TO 60 LB).
6. SILT TRAP TYPE C SHALL NOT BE USED IN BLUE LINE STREAMS.

KENTUCKY
DEPARTMENT OF HIGHWAYS

SILT TRAP TYPE C

SUBMITTED _____ DATE **1-25-08**

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

LABOR AND WAGE REQUIREMENTS APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS

- I. Application
- II. Nondiscrimination of Employees (KRS 344)
- III. Payment of Predetermined Minimum Wages
- IV. Statements and Payrolls

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

II. NONDISCRIMINATION OF EMPLOYEES

AN ACT OF THE KENTUCKY GENERAL ASSEMBLY TO PREVENT DISCRIMINATION IN EMPLOYMENT KRS CHAPTER 344 EFFECTIVE JUNE 16, 1972

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy). The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual

because of his race, color, religion, national origin, sex, disability or age (between forty and seventy), in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

III. PAYMENT OF PREDETERMINED MINIMUM WAGES

1. These special provisions are supplemented elsewhere in the contract by special provisions which set forth certain predetermined minimum wage rates. The contractor shall pay not less than those rates.

2. The minimum wage determination schedule shall be posted by the contractor, in a manner prescribed by the Department of Highways, at the site of the work in prominent places where it can be easily seen by the workers.

IV. STATEMENTS AND PAYROLLS

1. All contractors and subcontractors affected by the terms of KRS 337.505 to 337.550 shall keep full and accurate payroll records covering all disbursements of wages to their employees to whom they are required to pay not less than the prevailing rate of wages. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of one (1) year from the date of completion of this contract.

2. The payroll records shall contain the name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.

3. The contractor shall make his daily records available at the project site for inspection by the State Department of Highways contracting office or his authorized representative.

Periodic investigations shall be conducted as required to assure compliance with the labor provisions of the contract. Interrogation of employees and officials of the contractor shall be permitted during working hours.

Aggrieved workers, Highway Managers, Assistant District Engineers, Resident Engineers and Project Engineers shall report all complaints and violations to the Division of Contract Procurement.

The contractor shall be notified in writing of apparent violations. The contractor may correct the reported violations and notify the Department of Highways of the action taken or may request an informal hearing. The request for hearing shall be in writing within ten (10) days after receipt of the notice of the reported violation. The contractor may submit

records and information which will aid in determining the true facts relating to the reported violations.

Any person or organization aggrieved by the action taken or the findings established as a result of an informal hearing by the Division of Contract Procurement may request a formal hearing.

4. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payments, the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

5. No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

6. No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

7. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

8. Every employee on the project covered by this contract shall be an employee of either the prime contractor or an approved subcontractor.

9. No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

10. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals.

No Covered employee may be employed on the work except in accordance with the classification set forth in the schedule mentioned above; provided, however, that in the event additional classifications are required, application shall be made by the contractor to the Department of Highways and (1) the Department shall request appropriate classifications and rates from the proper agency, or (2) if there is urgent need for additional classification to avoid undue delay in the work, the contractor may employ such workmen at rates deemed comparable to rates established for similar classifications provided he has made written application through the Department of Highways, addressed to the proper agency, for the supplemental rates. The contractor shall retroactively adjust, upon receipt of the supplemental rates schedule, the wages of any employee paid less than the established rate and may adjust the wages of any employee overpaid.

11. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in such work-week unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work-week. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. This agreement shall be in writing and shall be executed prior to the employee working in excess of eight (8) hours, but not more than ten (10) hours, in any one (1) calendar day.

12. Payments to the contractor may be suspended or withheld due to failure of the contractor to pay any laborer or

mechanic employed or working on the site of the work, all or part of the wages required under the terms of the contract. The Department may suspend or withhold payments only after the contractor has been given written notice of the alleged violation and the contractor has failed to comply with the wage determination of the Department of Highways.

13. Contractors and subcontractors shall comply with the sections of Kentucky Revised Statutes, Chapter 337 relating to contracts for Public Works.

Revised 2-16-95

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Kentucky Equal Employment Opportunity Act of 1978

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:
<https://www.eProcurement.ky.gov>.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **finance.contractcompliance@ky.gov** or by phone at 502-564-2874.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

**HIGHWAY
BASIC HOURLY
RATES**

**FRINGE
BENEFIT PAYMENTS
COMBINED**

CRAFTS:

Boone, Campbell, Kenton and Pendleton Counties:

Bricklayers	25.96	8.64
Carpenters and Piledrivermen	22.42	4.73
Divers	33.63	4.73
Millwrights	21.90	7.92
Cement Masons	24.53	7.95
Electricians	24.24	9.34
Sound & Communication Technician:		
Installer	18.00	3.475
Cable Puller	9.00	2.64

Ironworkers:

Reinforcing: Up to and including 30- mile radius of Hamilton County, Ohio Courthouse	23.70	14.00
Beyond 30- mile radius of Hamilton County, Ohio Courthouse	23.95	14.00
Structural	24.50	14.62
Fence Erector	22.05	14.62

Painters:

(Heavy and Highway Bridges-
Guardrails-Lightpoles-Striping):

Bridge/Equipment Tender and/or Containment Builder	19.93	6.20
Brush and Roller	22.45	6.20
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	23.45	6.20
Sandblasting and Water Blasting	23.20	6.20
Spray	22.95	6.20
Plumbers	26.93	12.61

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS:

Pendleton County:

GROUP 1 - Aging and Curing of Concrete, Asbestos Abatement Worker, Asphalt Plant, Asphalt, Batch Truck Dump, Carpenter Tender, Cement Mason Tender, Cleaning Of Machines, Concrete, Demolition, Dredging, Drill Tender, Environmental -- Nuclear, Radiation, Toxic and Hazardous Waste - Level D, Flagperson, Grade Checker, Hand Digging and Hand Back Filling, Highway Marker Placer, Landscaping, Mesh Handler and Placer, Puddler, Railroad, Rip-Rap and Grouter, Right-Of-Way, Sign, Guardrail and Fence Installer, Signal Person, Sound Barrier Installer, Storm and Sanitary Sewer, Swamper, Truck Spotter and Dumper and Wrecking of Concrete Forms, General Cleanup.

BASE RATE18.83
FRINGE BENEFITS8.78

GROUP 2 - Batter Board Man (Sanitary and Storm Sewer), Brickmason Tender, Mortar Mixer Operator, Scaffold Builder, Burner and Welder, Bushhammer, Chain Saw Operator, Concrete Saw Operator, Deckhand Scow Man, Dry Cement Handler, Environmental - Nuclear, Radiation, Toxic and Hazardous Waste - Level C, Forklift Operator For Masonary, Form Setter, Green Concrete Cutting, Hand Operated Grouter and Grinder Machine Operator, Jackhammer, Pavement Breaker, Paving Joint Machine, Pipelayer, Plastic Pipe Fusion, Power Driven Georgia Buggy and Wheel Barrow, Power Post Hole Digger, Precast Manhole Setter, Walk-Behind Tamper, Walk-Behind Trencher, Sand Blaster, Concrete Chipper, Surface Grinder, Vibrator Operator and Wagon Driller.

BASE RATE19.08
FRINGE BENEFITS8.78

GROUP 3 - Asphalt Luteman and Raker, Gunnite Nozzleman, Gunnite Operator and Mixer, Grout Pump Operator, Side Rail Setter, Rail Paved Ditch, Screw Operator, Tunnel (free air) and Water Blaster.

BASE RATE19.13
FRINGE BENEFITS8.78

GROUP 4 - Caisson Worker (free air), Cement Finisher, Environmental - Nuclear, Radiation, Toxic and Hazardous Waste - Levels A and B, Miner and Driller (free air), Tunnel Blaster and Tunnel Mucker (free air), Directional & Horizontal Boring, Air Track Driller (all types), Powderman & Blaster, Troxler & Concrete Tester if laborer is utilized.

BASE RATE19.13
FRINGE BENEFITS8.78

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS: (continued)

Boone, Campbell and Kenton Counties:

Group 1

Asphalt Laborer, Carpenter Tender, Concrete Curing Applicator, Dump Man (Batch Truck), Guardrail And Fence Installer, Joint Setter, Laborer (Construction), Landscape Laborer, Mesh Handlers And Placer, Right-Of-Way Laborer, Riprap Laborer And Grouter, Scaffold Erector, Seal Coating, Surface Treatment Or Road Mix Laborer, Sign Installer, Slurry Seal, Utility Man, Bridgeman, Handyman, Waterproofing Laborer, Flagperson, Hazardous Waste (Level D), Diver Tender, Zone Person & Traffic Control.

BASE RATE22.97
FRINGE BENEFITS6.55

GROUP 2

Skidsteer, Asphalt Raker, Concrete Puddler, Kettle Man (Pipeline), Machine Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Power Buggy or Power Wheelbarrow, Sheeting & Shoring Man, Surface Grinder Man, Plastic Fusing Machine Operator, Pug Mill Operator, & Vacuum Devices (wet or dry), Rodding Machine Operator, Diver, Screw Man or Paver, Screed Person, Water Blast, Hand Held Wand, Pumps 4" and under (gas, air or electric), Hazardous Waste (Level C), Air Track and Wagon Drill, Bottom Person, Cofferdam (below 25 ft. deep), Concrete Saw Person, cutting with Burning Torch, Form Setter, Hand Spiker (Railroad), Pipelayer, Tunnel Laborer (without air) & Caisson, Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning), Sandblaster Nozzleperson and Hazardous Waste (Level B).

BASE RATE23.14
FRINGE BENEFITS6.55

GROUP 3

Blaster, Mucker, Powder Person, Top Lander, Wrencher (Mechanical Joints and Utility Pipeline), Yarner, Hazardous Waste (Level A), Concrete Specialist, Concrete Crew in Tunnels (with air pressurized \$1.00 premium), Curb Setter & Cutter, Grade Checker, Utility Pipeline Tapper, Waterline, and Caulker.

BASE RATE23.47
FRINGE BENEFITS6.55

GROUP 4

Miner (with air pressurized \$1.00 premium), and Gunnite Nozzle Person.

BASE RATE23.92
FRINGE BENEFITS6.55

Signal person will receive the rate equal to the rate paid the labor classification for which he or she is signaling.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

TEAMSTERS:

Drivers

BASE RATE15.85
FRINGE BENEFITS4.60

Euclid Wagon, End Dump, Low-Boy, Heavy Duty Equipment, Tractor-Trailer Combination & Drag.

BASE RATE16.29
FRINGE BENEFITS4.60

OPERATING ENGINEERS:

Master Mechanic

BASE RATE27.59
FRINGE BENEFITS 9.31

Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. Capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Horizontal Directional Drill (over 500,000 ft. lbs. thrust); Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; & Wheel Excavator

BASE RATE 27.34
FRINGE BENEFITS9.31

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

OPERATING ENGINEERS: (continued)

Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); & Vermeer type Concrete Saw

BASE RATE27.22
FRINGE BENEFITS9.31

A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); & Welding Machines.

BASE RATE26.18
FRINGE BENEFITS 9.31

Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway) except Masonry); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift (highway); Form Trencher; Hydro Hammer; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); & Vibratory Compactor with Integral Power.

BASE RATE25.00
FRINGE BENEFITS 9.31

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

OPERATING ENGINEERS: (continued)

Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt); Generator; Masonry fork Lift; Inboard-Outboard Motor Boat Launch; Masonry Fork Lift; Oil Heater (asphalt plant); Oiler; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4” discharge); Signalperson; Tire Repairperson; & VAC/ALLS.

BASE RATE19.54
FRINGE BENEFITS9.31

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to Kentucky Determination No. CR-05-IV HWY dated May 16, 2006 and/or Federal Decision No. KY20070028 dated February 9, 2007.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Steve Waddle, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

PART IV
INSURANCE

INSURANCE

The Contractor shall carry the following insurance in addition to the insurance required by law:

1. Contractor's Public Liability Insurance not less than \$100,000.00 for damages arising out of bodily injuries to or death to one person. Not less than \$300,000.00 for damages arising out of bodily injuries to or death to two or more persons.
2. Contractor's Property Damages Liability Insurance. Not less than \$100,000.00 for all damages arising out of injury or destruction of property in any one accident. Not less than \$300,000.00 for all damages during the policy period.
3. Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall furnish evidence with respect to operations performed for him by subcontractors that he carries in his own behalf for the above stipulated amounts.
4. The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a. "policy contains no deductible clauses."
 - b. "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
5. WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

PART V

STATEMENT OF INCOMPLETE WORK

STATEMENT OF INCOMPLETED WORK

All active prime contracts must be reported. This includes prime contracts with public and private owners and joint-ventured contracts. The names of the joint venturers must be shown when reporting these projects. A machine or typed listing reporting the status of each contract is acceptable when attached to this report; however, the total amounts on the itemized listing must be reported in the space provided below:

CONTRACT WITH	PROJECT IDENTIFICATION	PRIME CONTRACT AMOUNT	EARNINGS THROUGH LAST APPROVED ESTIMATE	TOTAL AMOUNT OF WORK REMAINING
TOTAL (Attach Summary if not itemized above)		\$	\$	\$

PART VI

BID ITEMS

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 1

Contract ID: 07-2259

KENTON COUNTY

059GR07P062 - FD05 & FE01

Letting: 5/25/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
		ROADWAY			.	.
0010	00190	LEVELING & WEDGING PG64-22	340.00	TON	.	.
0020	00336	CL3 ASPH SURF 0.38A PG76-22	6,595.00	TON	.	.
0030	02562	SIGNS	1,154.00	SQFT	.	.
0040	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING BUTTERMILK TO I-75	1.00	LS	.	.
0050	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING HALLAM TO I-275	1.00	LS	.	.
0060	02650	MAINTAIN & CONTROL TRAFFIC RESURFACING SLEEPY HOLLOW TO BULLOCK	1.00	LS	.	.
0070	02671	VAR MESSAGE SIGN-PORT 3 LINE	6.00	EACH	.	.
0080	02676	MOBILIZATION FOR MILL & TEXT BUTTERMILK TO I-75	1.00	LS	.	.
0090	02676	MOBILIZATION FOR MILL & TEXT HALLAM TO I-275	1.00	LS	.	.
0100	02676	MOBILIZATION FOR MILL & TEXT SLEEPY HOLLOW TO BULLOCK	1.00	LS	.	.
0110	02677	ASPH PAVE MILLING & TEXTURING	9,255.00	TON	.	.
0120	02775	FLASHING ARROW	6.00	EACH	.	.
0130	04830	LOOP WIRE TRAFFIC SIGNAL LOOPS	11,895.00	LF	.	.
0140	04895	LOOP SAW SLOT AND FILL TRAFFIC SIGNAL LOOPS	7,878.00	LF	.	.
0150	06510	PAVE STRIPING-TEMP PAINT-4 IN	80,500.00	LF	.	.
0160	06514	PAVE STRIPING-PERM PAINT-4 IN	103,575.00	LF	.	.
0170	06542	PAVE STRIPING-THERMO-6 INCH W CAT TRAX	268.00	LF	.	.
0180	06565	PAVE MARKING-THERMO X-WALK-6 INCH	5,142.00	LF	.	.
0190	06568	PAVE MARKING-THERMO STOP BAR-24IN	1,713.00	LF	.	.
0200	06574	PAVE MARKING-PRE THERM CURV ARROW	66.00	EACH	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 2

Contract ID: 07-2259

KENTON COUNTY

059GR07P062 - FD05 & FE01

Letting: 5/25/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
0210	06575	PAVE MARKING-PRE THERM COMB ARROW	6.00	EACH	.	.
0220	06576	PAVE MARKING-PREF THERMO ONLY	6.00	EACH	.	.
0230	06600	REMOVE PAVEMENT MARKER TYPE V	565.00	EACH	.	.
0240	10000NS	LOT PAY ADJUSTMENT	20,100.00	DOLL	1.0000	20,100.00
0250	10020NS	FUEL ADJUSTMENT	9,000.00	DOLL	1.0000	9,000.00
0260	10030NS	ASPHALT ADJUSTMENT	18,025.00	DOLL	1.0000	18,025.00
0270	20469ES403	CL3 ASPH SURF 0.38B PG76-22	3,280.00	TON	.	.
0280	20588NC	INSTALL PROJECT IDENTIFICATION SIGNS 44 X 72 WITH CHANNEL POSTS	6.00	EACH	.	.
0290	22418EN	SEPARATOR ISLAND REMOVE AND RESET DRAINAGE	600.00	LF	.	.
0300	01456	CURB BOX INLET TYPE A	5.00	EACH	.	.
0310	01490	DROP BOX INLET TYPE 1	1.00	EACH	.	.
0320	01810	STANDARD CURB AND GUTTER	2,500.00	LF	.	.
0330	02014	BARRICADE-TYPE III	2.00	EACH	.	.
0340	02650	MAINTAIN & CONTROL TRAFFIC DRAINAGE REQUARDT TO BEECHWOOD	1.00	LS	.	.
0350	02671	VAR MESSAGE SIGN-PORT 3 LINE	1.00	EACH	.	.
0360	02726	STAKING	1.00	LS	.	.
0370	02775	FLASHING ARROW	1.00	EACH	.	.
0380	21415ND	EROSION CONTROL TRAFFIC LOOPS	1.00	LS	.	.
0390	04793	CONDUIT-1 1/4 INCH	110.00	LF	.	.
0400	04795	CONDUIT-2 INCH	10.00	LF	.	.
0410	04820	TRENCHING AND BACKFILLING	83.00	LF	.	.
0420	04830	LOOP WIRE TRAFFIC COUNTING LOOPS	3,644.00	LF	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 3

Contract ID: 07-2259

KENTON COUNTY

059GR07P062 - FD05 & FE01

Letting: 5/25/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
0430	04895	LOOP SAW SLOT AND FILL	710.00	LF	.	.
		TRAFFIC COUNTING LOOPS				
0440	20359EC	GALVANIZED STEEL CABINET	2.00	EACH	.	.
		NEMA TYPE 3R 20" X 20" X 8"				
0450	20360ES818	WOOD POST	4.00	EACH	.	.
		4" X 4" X 8'				
0460	20391ES835	JUNCTION BOX TYPE A	1.00	EACH	.	.
		DEMobilIZATION				
0470	02569	DEMobilIZATION	1.00	LS	.	.
TOTAL BID					\$.

PART VII
CERTIFICATIONS

PROVISIONS RELATIVE TO SENATE BILL 258 (1994)

During the performance of the contract, the contractor agrees to comply with applicable provisions of:

1. KRS 136 Corporation and Utility Taxes
2. KRS 139 Sale and Use Taxes
3. KRS 141 Income Taxes
4. KRS 337 Wages and Hours
5. KRS 338 Occupational Safety and Health of Employees
6. KRS 341 Unemployment Compensation
7. KRS 342 Workers Compensation

Any final determinations of a violation by the contractor within the previous five (5) years pursuant to the applicable statutes above are revealed as follows:

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY _____

PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)

penalty of perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)

its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY _____

PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)

penalty of perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)

its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

CERTIFICATION OF BID PROPOSAL

We (I) propose to furnish all labor, equipment and materials necessary to construct and/or improve the subject project in accordance with the plans, the Transportation Cabinet's Standard Specifications for Road and Bridge Construction, current edition, special provisions, notes applicable to the project as indicated herein and all addenda issued on this project subsequent to purchase of proposal.

We (I) attach a bid proposal guaranty as provided in the special provisions in an amount not less than 5% of the total bid. We agree to execute a contract in accordance with this bid proposal within 15 calendar days after the receipt of the notice of award for the project.

We (I) have examined the site of proposed work, project plans, specifications, special provisions, and notes applicable to the project referred to herein. We understand that the quantities shown herein are estimated quantities subject to increase or decrease as provided in the specifications.

We (I) acknowledge receipt of all addendum(s) (if applicable) and have made the necessary revisions to the bid proposal. We have considered all addendum(s) in the calculation of the submitted bid and applied the updated bid items, which are included.

- No Addendum(s) have been posted

Name of Contracting Firm

BY: _____
Authorized Agent (Signature) Title

Address City State Zip Code

Telephone Number

When two or more organizations bid as a joint venture, enter names of each organization and an authorized agent for each organization must sign above.