



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Joseph W. Prather
Secretary

October 23, 2008

CALL NO. 100
CONTRACT ID NO. 081030
ADDENDUM # 1

Subject: Christian County, DPR 0171 (004)
Letting October 31, 2008

- (1) Revised - Plan Sheets - T1, T2, T3, T4, T4A, T5, T6, T6A, T7, T8, T9, T10, T11, T12, T13, T14, T15, 1, 2, 3, 4, 5, 6, 7
- (2) Revised - Bid Items - Pages 191-193 of 193

Proposal revisions are available at <http://transportation.ky.gov/contract/>.
Plan sheet revisions are mailed to all plan holders.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Waddle".

Steve Waddle
Director
Division of Construction Procurement

Enclosures
SW:ks



An Equal Opportunity Employer M/F/D

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 081030
COUNTY: CHRISTIAN
PROPOSAL: DPR 0171(004)

PAGE: 1
LETTING: 10/31/08
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
SECTION 0001 ROADWAY					
0010	00001	DGA BASE	274.500 TON		
0020	00100	ASPHALT SEAL AGGREGATE	5.410 TON		
0030	00291	EMULSIFIED ASPHALT RS-2	0.520 TON		
0040	02351	GUARDRAIL-STEEL W BEAM-S FACE (REVISED: 10-23-08)	1,035.000 LF		
0050	02360	GUARDRAIL TERMINAL SECTION NO 1	2.000 EACH		
0060	02367	GUARDRAIL END TREATMENT TYPE 1	2.000 EACH		
0070	02369	GUARDRAIL END TREATMENT TYPE 2A	2.000 EACH		
0080	02650	MAINTAIN & CONTROL TRAFFIC	(1.00) LS		
0090	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.000 EACH		
0100	02775	ARROW PANEL	2.000 EACH		
0110	05950	EROSION CONTROL BLANKET	1,637.000 SQYD		
0120	21533EN	EMBANKMENT	60.000 CUYD		
0130	21554EN	EXCAVATION	19.000 CUYD		
SECTION 0002 BRIDGE					
0140	06490	CLASS A CONCRETE FOR SIGNS	31.200 CUYD		
0150	06491	STEEL REINFORCEMENT FOR SIGNS	2,582.000 LB		
0160	20419ED	ROADWAY CROSS SECTION	1.000 EACH		
0170	21055ND	OSS GALVANIZED STEEL 100 FT	1.000 EACH		
SECTION 0003 SIGNING					
0180	06400	GMSS GALV STEEL TYPE A	1,722.600 LB		
0190	06490	CLASS A CONCRETE FOR SIGNS	4.360 CUYD		

KENTUCKY TRANSPORTATION CABINET
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FRANKFORT, KY 40622

CONTRACT ID: 081030
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PAGE: 2
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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0200	20419ED	ROADWAY CROSS SECTION	2.000 EACH		
	SECTION 0004	HITS			
0210	02187	SITE PREPARATION	4.000 EACH		
0220	02562	SIGNS	200.000 SQFT		
0230	03381	PVC PIPE-2 IN	5,675.000 LF		
0240	04742	POLE BASE-HIGH MAST	2.000 EACH		
0250	04795	CONDUIT-2 IN	520.000 LF		
0260	04820	TRENCHING AND BACKFILLING	2,832.500 LF		
0270	04834	WIRE-NO. 6	2,400.000 LF		
0280	04835	WIRE-NO. 4	6,126.000 LF		
0290	04836	WIRE-NO. 2	4,870.000 LF		
0300	04899	ELECTRICAL SERVICE	4.000 EACH		
0310	20391NS835	JUNCTION BOX TYPE A	8.000 EACH		
0320	20392NS835	JUNCTION BOX TYPE C	4.000 EACH		
0330	21058ND	WINCH LOWERING TOOL	1.000 EACH		
0340	21065ND	MODEL 334 ENCLOSURE	3.000 EACH		
0350	21066ND	MODEL 336 ENCLOSURE	5.000 EACH		
0360	21069ND	SURGE DEVICE 120 VOLT	8.000 EACH		
0370	21071ND	DATA SURGE DEVICE	13.000 EACH		
0380	21076ND	FIBER TERMINATION RACK	6.000 EACH		
0390	21077ED	FIBER OPTIC CABLE	1,325.000 LF		

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PAGE: 3
LETTING: 10/31/08
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0400	21079ND	TRANSFORMER 480/120	1.000 EACH		
0410	21117ND	VARIABLE MESSAGE SIGN-DYNAMIC	1.000 EACH		
0420	21458ND	FIBER TRANSCEIVER SIGN	6.000 EACH		
0430	21487ND	VIDEO MONITOR	1.000 EACH		
0440	22403NN	WEB CAMERA ASSEMBLY	10.000 EACH		
0450	22407NN	POLE BASE-40 FT POLE	2.000 EACH		
0460	22408NN	VARIABLE MESSAGE SIGN-DYNAMIC SIDE MOUNT	2.000 EACH		
0470	22409NN	STEEL STRAIN POLE-40 FT	2.000 EACH		
0480	23022NN	INSTALL HIGH MAST CONTROL CABLE	1.000 EACH		
0490	23023NN	RETROFIT HIGH MAST LOWERING DEVICE	1.000 EACH		
0500	23149NN	CCTV CONTROL CABLE	200.000 LF		
0510	23150NN	COMMUNICATION CABLE	680.000 LF		
0520	23151NN	POLE WITH LOWERING DEVICE	2.000 EACH		
SECTION 0005 DEMOBILIZATION					
0530	02569	DEMOBILIZATION	LUMP		
		TOTAL BID			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
T1	LAYOUT SHEET
T2	QUANTITY SHEET
T3-T6	DETAIL SHEETS
T7-T15	ITS PLANS
SI-S7	STRUCTURE PLANS

SHEETS NOT INCLUDED IN TOTAL SHEETS

STANDARD DRAWINGS

NUMBER
RBI-001-09
RBI-004-03
RBI-006-06
RBI-002-06
RBR-001-11
RBR-005-10
RBR-010-05
RBR-015-04
RBR-020-03
RBR-025-03
TTC-120
TTC-125
TTC-135
TTD-100
TTD-105
TTD-110
TTD-115

DESIGN CRITERIA

CLASS OF HIGHWAY _____
 TYPE OF TERRAIN _____
 DESIGN SPEED _____
 REQUIRED PSD _____
 LEVEL OF SERVICE _____
 AOT PRESENT () _____
 AOT FUTURE () _____
 DHV _____
 D % _____
 T % _____

GEOGRAPHIC COORDINATES

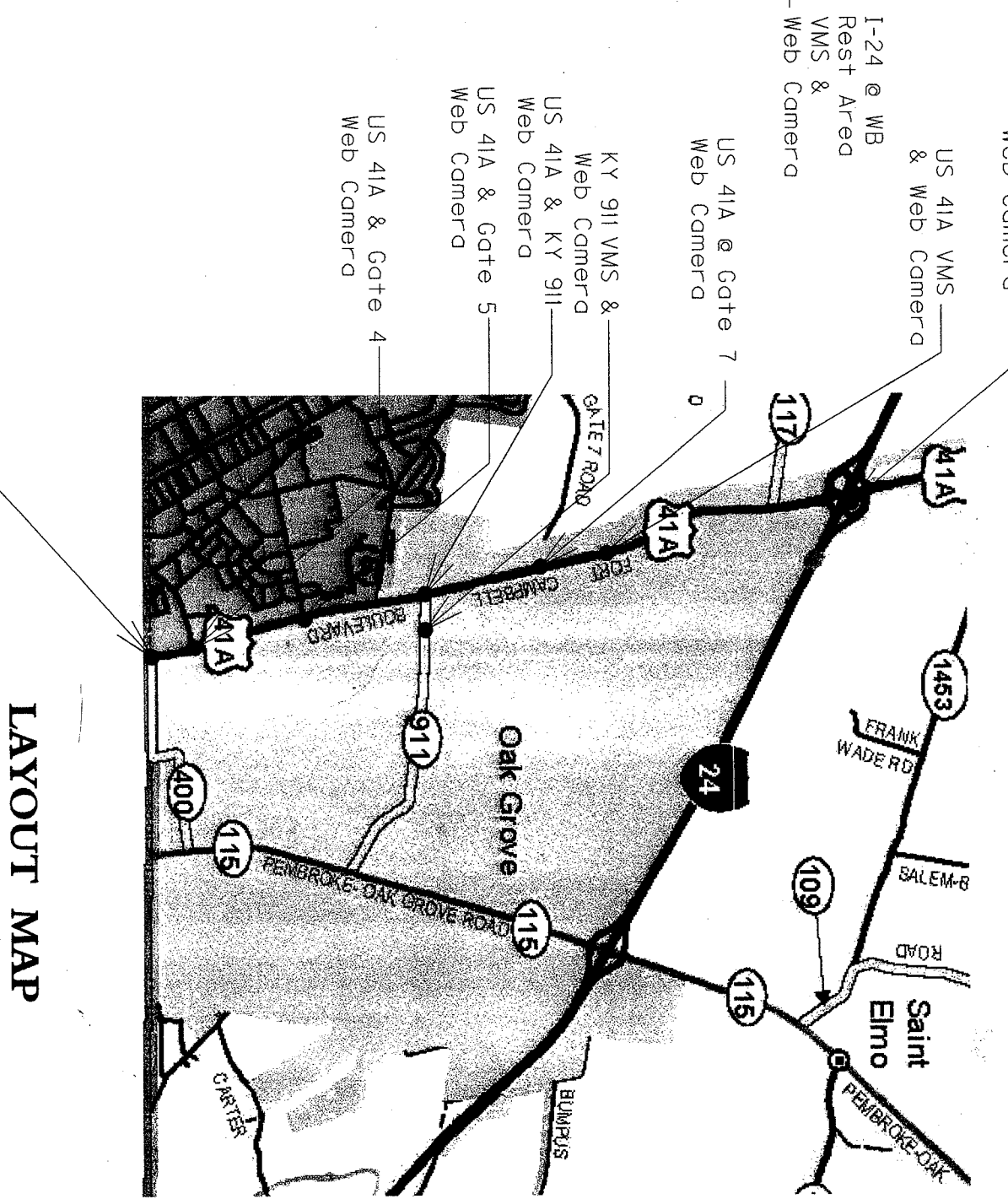
LATITUDE _____ DEGREES _____ MINUTES NORTH
 LONGITUDE _____ DEGREES _____ MINUTES WEST

DESIGNED

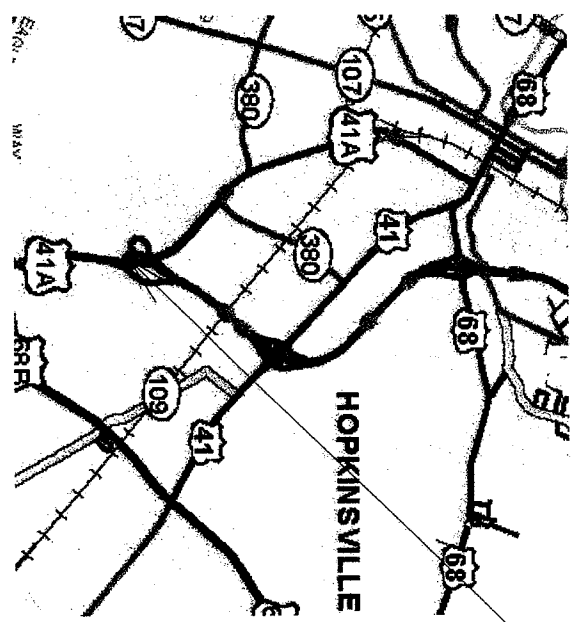
% RESTRICTED SD _____
 LEVEL OF SERVICE _____
 MAX. DISTANCE W/O PASSING _____

**Commonwealth of Kentucky
 DEPARTMENT OF HIGHWAYS**

**PLANS OF
 PROPOSED PROJECT
 HIGHWAY INFORMATION FOR TRAVELING SERVICEPERSONS (HITS)
 ITEM NUMBER 2-192.00
 DPR 0171(004)**



LAYOUT MAP



BEFORE YOU DIG

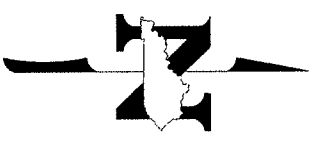
CALL 1-800-752-6007 TOLL FREE A MINIMUM OF TWO AND NO MORE THAN TEN BUSINESS DAYS PRIOR TO EXCAVATION FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES WHICH SUBSCRIBE TO THE BEFORE-U-DIG (BUD) SERVICE. COORDINATE EXCAVATION WITH ALL UTILITY OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO BUD.

**Commonwealth of Kentucky
 DEPARTMENT OF HIGHWAYS**
 COUNTY OF
CHRISTIAN

ITEM NO. 2-192.00
 PROJECT DPR 0171(004)
 LETTING DATE: October 31, 2008

RECOMMENDED BY: *Janae Mayes* PROJECT MANAGER DATE: 10-22-08
 PLANN APPROVED BY: *W. W. ...* STATE HIGHWAY ENGINEER DATE: 10/21/08

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T1



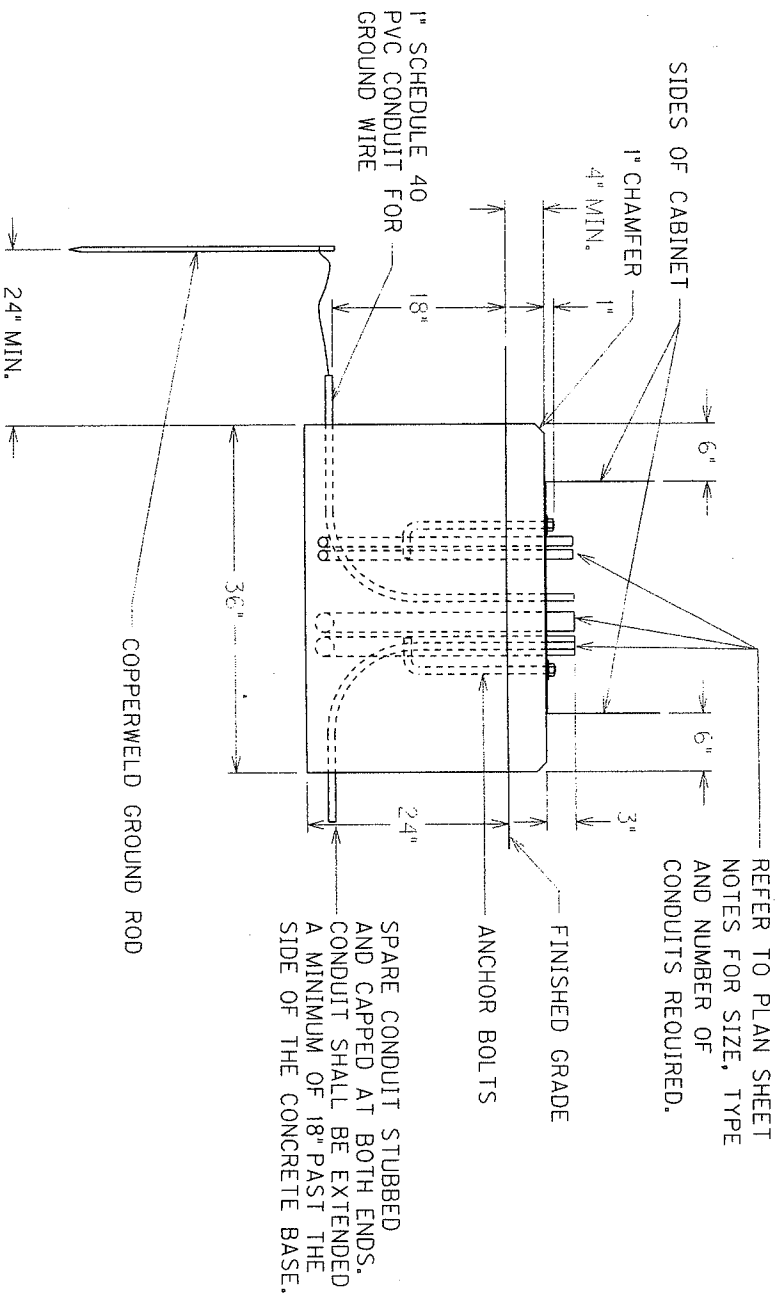
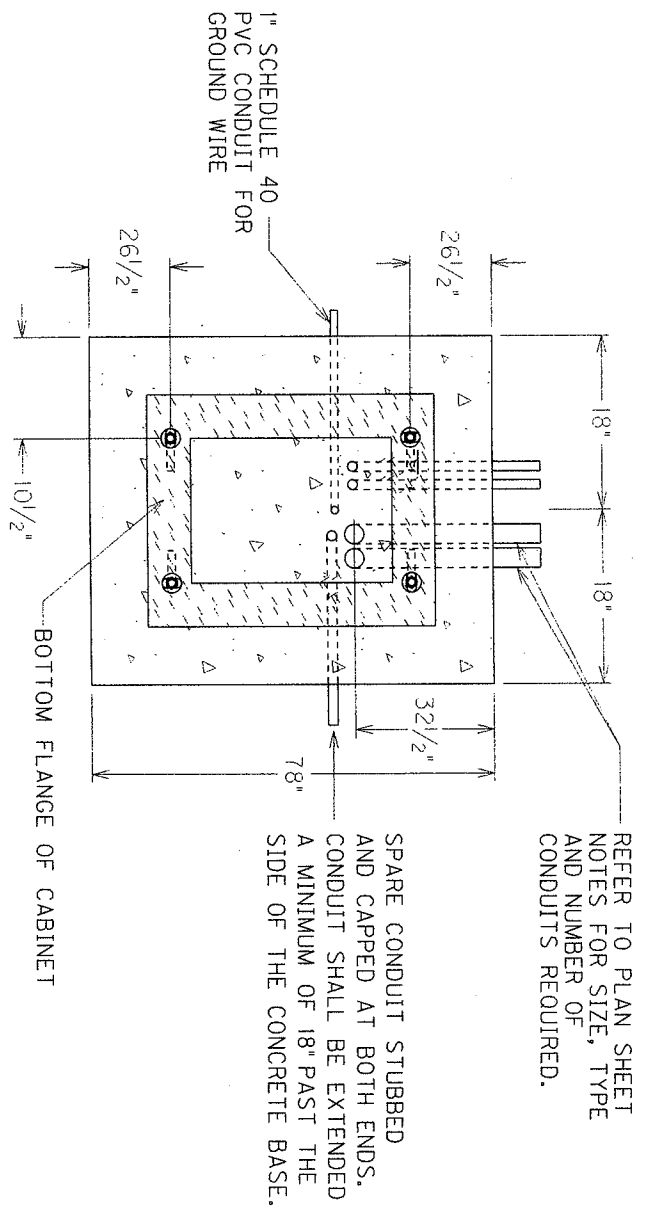
QUANTITIES

US 41A VMS # 1 & Web Cam #1	I-24 VMS # 2 & Web Cam #2	KY 911 VMS # 3 & Web Cam #3 & #4	Web Cam #5 & #9	I-24 @ US41A WEB CAM	ETB PKY @ US 41A HIGH MAST WEB CAM	TOTAL	UNITS	CODE	ITEM DESCRIPTION
0	273	1.50	0	0	0	274.50	TON	0001	DGA BASE
0	3.896	1.40	0	0	0	5.41	TON	0100	ASPHALT SEAL AGGREGATE
0	.4	0.12	0	0	0	0.52	TON	0291	EMULSIFIED ASPHALT RS-2
0	50	10	0	0	0	60	CUYD	21553EN10Z	EMBANKMENT
0	375	430	0	0	0	805	LIN FT	2351	GUARDRAIL -STEEL W BEAM-S FACE
0	2	0	0	0	0	2	EACH	2367	GUARDRAIL END TREATMENT TYPE 1
0	2	0	0	0	0	2	EACH	2369	GUARDRAIL END TREATMENT TYPE 2A
0	1637	0	0	0	0	1637	SOYD	5950	EROSION CONTROL BLANKET
0	0	2	0	0	0	2	EACH	2360	GUARDRAIL TERMINAL SECTION NO 1
0	0	19	0	0	0	19	CU YDS	21554EN	EXCAVATION
0	1	0	0	0	0	1	EACH	2117ND	VARIABLE MESSAGE SIGN - DYNAMIC
1	0	1	0	0	0	2	EACH	22408NN	VARIABLE MESSAGE SIGN- DYNAMIC SIDE MOUNT
1	0	1	0	1	0	4	EACH	2187	SITE PREPARATION
120	180	110	0	110	250	520	LIN FT	4795	CONDUIT 2 INCH
1390	2710	405	0	920	450	5675	LIN FT	3381	CONDUIT 2 INCH PVC
2	4	0	0	2	0	8	EACH	2039INS835	JUNCTION BOX TYPE A
1	3	0	0	0	0	4	EACH	20392NS835	JUNCTION BOX TYPE C
675	1445	152.5	0	460	100	2832.50	LIN FT	4820	TRENCHING AND BACKFILLING
1230	0	1170	0	0	0	2400	LIN FT	4834	WIRE-NO. 6
0	2100	0	0	1740	2286	6126	LIN FT	4835	WIRE-NO. 4
1120	3750	0	0	0	0	4870	LIN FT	4836	WIRE-NO. 2
932.4	0	794	0	0	0	1724.40	LB	6400	GMSS GALV STEEL TYPE A
2.18	31.2(see note)	2.18	0	0	0	4.36	CU YDS	6490	CLASS "A" CONCRETE FOR SIGNS
1	1	1	0	0	0	3	EACH	20419ED	ROADWAY CROSS SECTION
0	0	2	0	0	0	2	EACH	2671	PORTABLE CHANGEABLE MESSAGE SIGN
0	0	2	0	0	0	2	EACH	2775	ARROW PANEL
1	0	1	0	0	0	2	EACH	22407NN	POLE BASE - 40' POLE
1	1	2	0	1	1	10	EACH	22403NN	WEB CAMERA ASSEMBLY
1	1	0	0	0	1	3	EACH	21065ND	MODEL 334 ENCLOSURE
1	1	2	0	1	0	5	EACH	21066ND	MODEL 336 ENCLOSURE
1	0	1	0	0	0	2	EACH	22409NN	STEEL STRAIN POLE-40 FT
2	2	2	0	1	1	8	EACH	21069ND	120 VOLT SURGE DEVICE
2	2	3	0	1	1	13	EACH	21071ND	DATA SURGE DEVICE
2	2	2	0	1	0	6	EACH	21458ND	FIBER TRANSCIEVER- SIGN
2	2	2	0	0	0	6	EACH	21076ND	FIBER TERMINATION RACK
35	100	140	0	0	0	680	LIN FT	23150NN	COMMUNICATION CABLE
375	650	300	0	0	0	1325	LIN FT	21077ED	FIBER OPTIC CABLE
0	1	0	0	0	0	1	EACH	21079ND	480/120 TRANSFORMER
1	1	1	0	1	0	4	EACH	4899	ELECTRICAL SERVICE
0	0	0	0	0	0	1	EACH	21487ND	VIDEO MONITOR
0	0	0	0	0	0	1	EACH	23151NN	POLE WITH LOWERING DEVICE
0	1	0	0	1	0	2	EACH	23022NN	INSTALL HIGH MAST CONTROL CABLE
0	0	0	0	0	1	1	EACH	23023NN	RETROFIT HIGH MAST LOWERING DEVICE
0	0	0	0	0	1	2	EACH	4742	POLE BASE - HIGH MAST
0	0	0	0	1	0	1	EACH	21058ND	WINCH LOWERING TOOL
0	100	0	0	100	0	200	LIN FT	23149NN	CGTV CONTROL CABLE
0	0	0	0	0	0	200	SO FT	2562	SIGNS
0	0	0	0	0	0	1	LP SUM	2569	DEMOBILIZATION
0	0	0	0	0	0	1	LP SUM	2650	MAINTAIN & CONTROL TRAFFIC

Note: This quantity is on the bridge quantities.

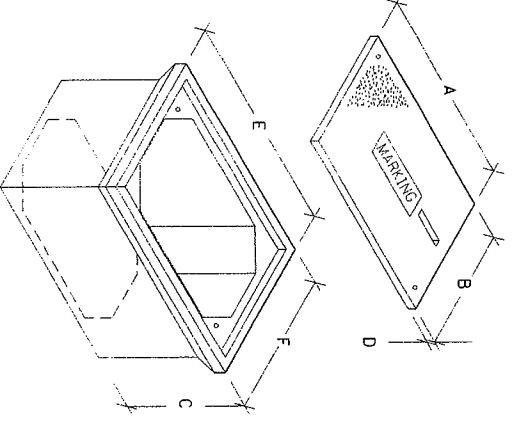
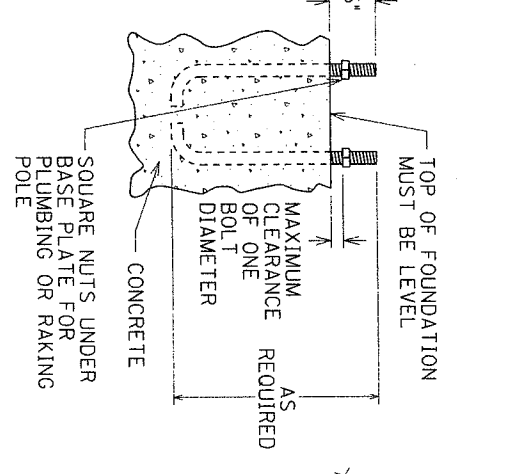
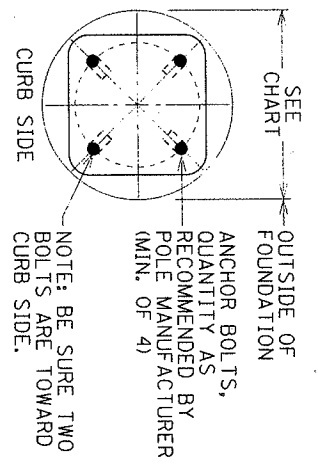
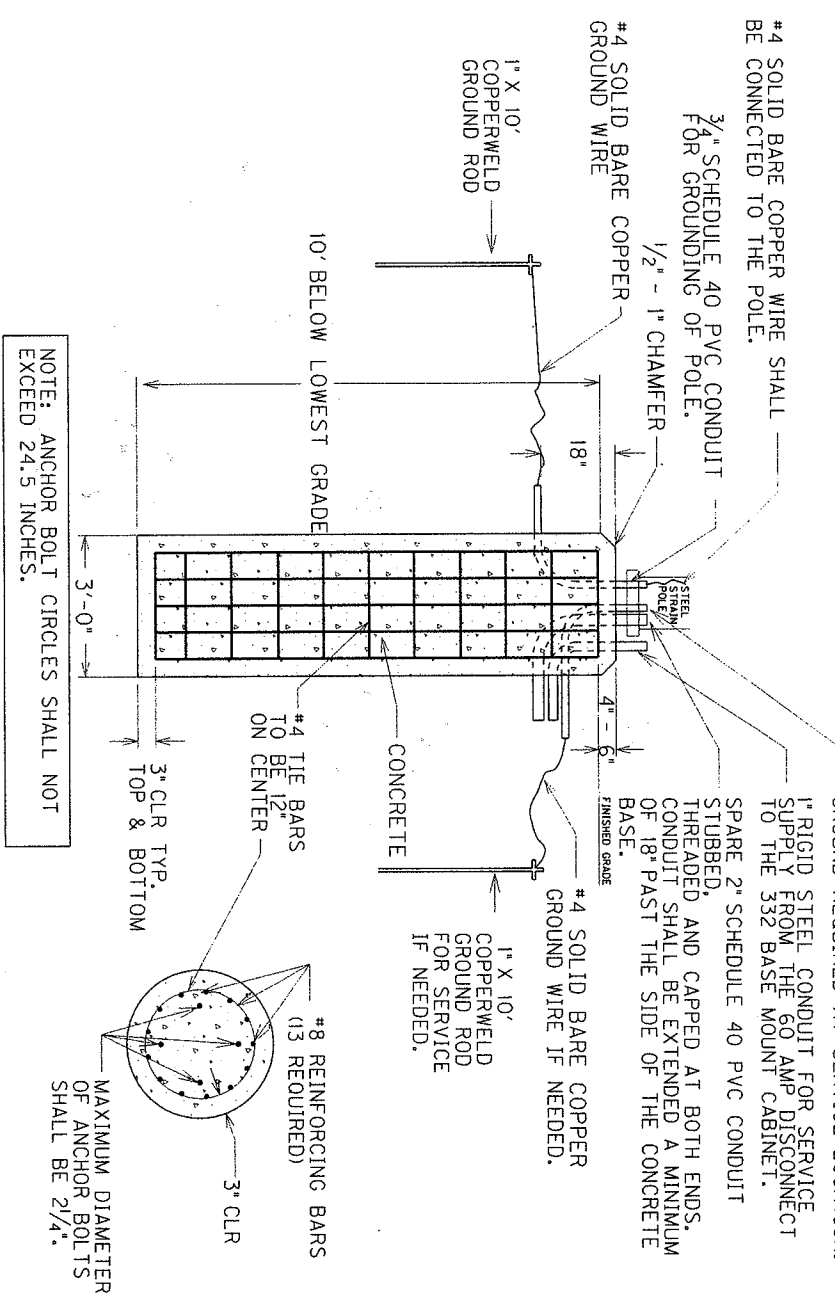
ITS QUANTITIES

5/2002



BASE MOUNTED 334 CABINET DETAIL

NOTE: SERVICE WIRES SHALL BE INSTALLED ON THE OUTSIDE OF THE POLE IN A 1" RIGID STEEL CONDUIT WITH A WEATHERHEAD OR IN FLEXIBLE CONDUIT WITHIN THE STEEL STRAIN POLE, AS DETAILED ON THE CABINET BASE DETAIL SHEET.

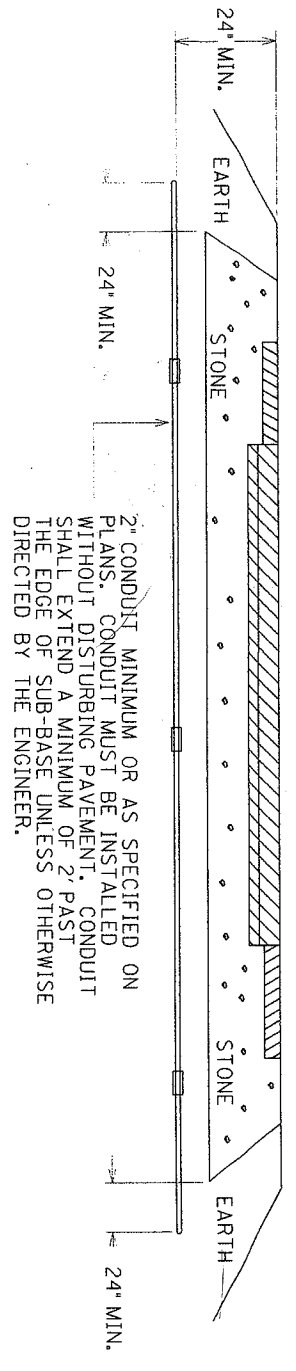


CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE IMMEDIATELY ABOVE THE CIRCUIT CABLES AS SHOWN. THE TAPE SHALL CONFORM WITH THE APWA-ULCC NATIONAL COLOR CODE WITH BLACK LETTERING ON RED. THE TAPE SHALL CONTINUOUSLY READ "CAUTION: ELECTRIC LINE BURIED BELOW" ALTERNATING WITH A NO DIGGING SYMBOL. IT SHALL BE DURABLE AND COLORFAST TO WITHSTAND YEARS OF UNDERGROUND BURIAL AND EASILY DIRECT BURIED.

THE TAPE SHALL BE 6 INCHES WIDE AND 7.0 MILS (NOMINAL) THICK. IT SHALL HAVE A MINIMUM TENSILE STRENGTH OF 600# PER 6 INCH WIDTH. IT SHALL BE COLOR CODE IMPREGNATED WITH ALKALI AND ACID STABLE, LEAD-FREE, ORGANIC PIGMENT'S SUITABLE FOR DIRECT BURIAL. IT SHALL BE ULTRAVIOLET COLORFAST ALSO. THE TAPE SHALL BE NONDISTORTING WITH NO ELONGATION.

UNDERGROUND UTILITY WARNING TAPE

DEPTH OF CONDUIT



CONDUIT UNDER EXISTING PAVEMENT DETAIL

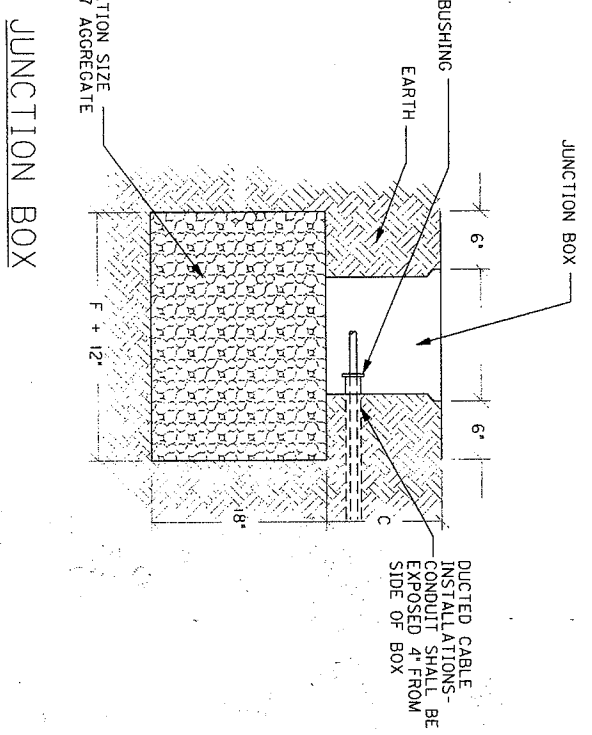
JUNCTION BOX SHALL MEET OR EXCEED ANS/SC1E 17-2002, TIER 15 AND SHALL BE INSTALLED FLUSH WITH THE FINISHED GRADE AS SHOWN.

JUNCTION BOX FOR TRAFFIC SIGNAL INSTALLATIONS SHALL BE MARKED "TRAFFIC SIGNAL". JUNCTION BOX FOR LIGHTING INSTALLATIONS SHALL BE MARKED "LIGHTING". COVERS SHALL BE ATTACHED WITH A MINIMUM OF TWO 3/8 STAINLESS STEEL HEX BOLTS.

WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.

JUNCTION BOX DIMENSIONS (NOMINAL)					
A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"
TYPE B	18"	11"	12"	1 3/4"	20"
TYPE C	36"	24"	30"	3"	38"
					26"

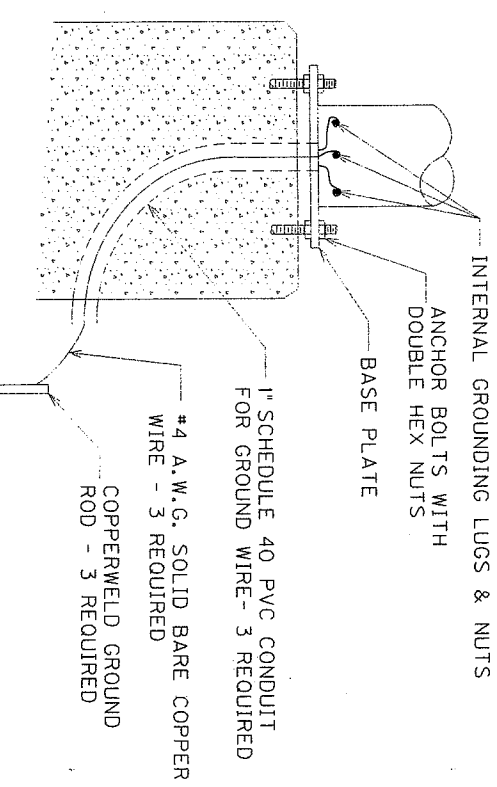
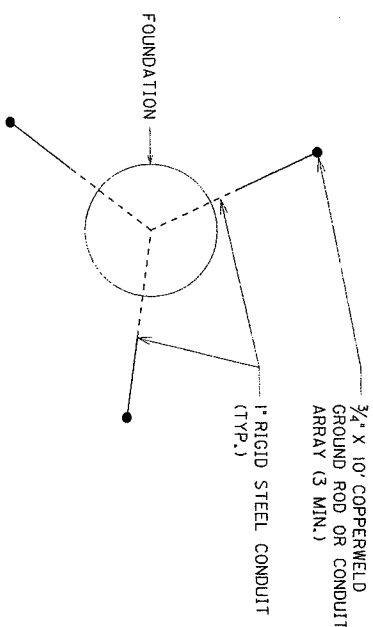
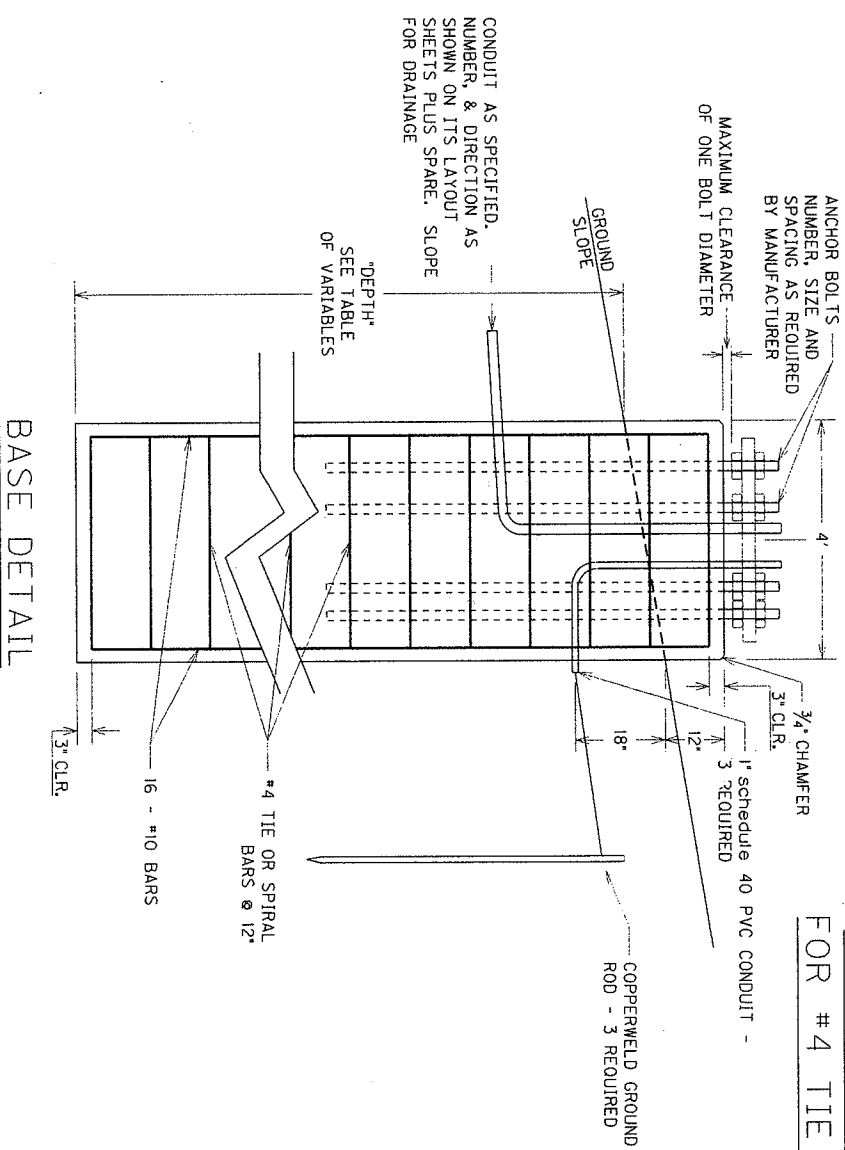
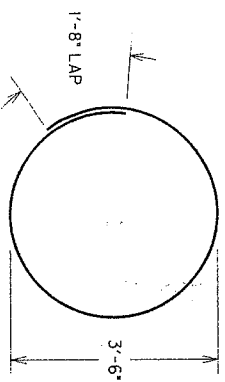
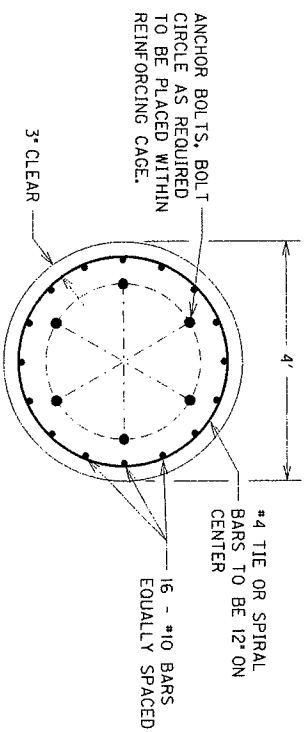
* MINIMUM
NOTE: STACKABLE BOXES ARE PERMITTED



JUNCTION BOX

JB/CONDUIT/POLE BASE DETAILS

BASE DESIGN FOR UP TO 80' HIGH MAST POLES (TO SUPPORT CAMERA LOWERING DEVICE AND CCTV CAMERA)



GROUNDING AND CONDUIT ENTRANCE DETAIL

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

TOP NUTS SHALL BE TIGHTENED TO ONE-SIXTH TURN BEYOND SNUG-TIGHT. SNUG-TIGHT IS DEFINED AS THE CONDITION WHERE THE NUT IS IN FULL CONTACT WITH THE BASE PLATE. IT IS ASSUMED THAT THE FULL EFFORT OF A WORKMAN ON A 12-INCH WRENCH RESULTS IN A SNUG-TIGHT CONDITION. THE CLEARANCE BETWEEN THE BOTTOM OF THE LEVELING NUTS AND THE TOP OF THE CONCRETE FOUNDATION SHALL NOT EXCEED ONE BOLT DIAMETER.

A MINIMUM OF 6 ANCHOR BOLTS SHALL BE USED. WELDING OF ANCHOR BOLTS TO THE REINFORCING CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED. THE COST OF ALL MATERIALS & INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE.

CONCRETE CLASS A
STEEL REINFORCEMENT: 60,000 PSI
DRILLED SHAFT DATA
EXPPOSED PORTIONS OF THE FOUNDATION SHALL BE FORMED TO CREATE A SMOOTH FINISHED SURFACE. ALL FORMING SHALL BE REMOVED UPON COMPLETION OF FOUNDATION CONSTRUCTION.

MAXIMUM SERVICE FORCES		DRILLED SHAFT DATA						VERTICAL BARS		TIES OR SPIRAL	
MAX MOMENT (ft-kips)	MAX SHEAR (kips)	LEVEL SOIL	GROUND ROCK	3:1 GROUND SOIL	2:1 GROUND SOIL	1.5:1 GROUND SOIL	SIZE	TOTAL	SIZE	SPACING OR PITCH	
230.0	22.0	17.0	7.0	19.0	7.0	20.0	#10	16	#4	12"	

8/2008

GROUNDING NOTE: TOWERS SHALL BE GROUNDED BY MEANS OF THREE NO. 4 A.W.G. SOLID BARE COPPER GROUND WIRES ATTACHED TO THE INTERNAL GROUNDING LUGS WITHIN THE TOWER. GROUND WIRES SHALL BE EXOTHERMICALLY WELDED TO THREE GROUND RODS.

HIGHMAST BASE C. AI

SIGNING SPECIFICATION NOTES

THE FOLLOWING PUBLICATIONS ARE APPLICABLE TO THE WORK DESCRIBED HEREIN:

- KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2008)
- STANDARD HIGHWAY SIGNS -- FEDERAL HIGHWAY ADMINISTRATION
- MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2003 EDITION) -- FEDERAL HIGHWAY ADMINISTRATION

SCOPE OF WORK

TO FURNISH, FABRICATE AND ERECT IN PLACE ALL MATERIALS NECESSARY TO FORM COMPLETED SIGNS AS INDICATED AT LOCATIONS DESCRIBED ELSEWHERE IN THESE PLANS.

SIGN BASE MATERIAL

PANEL SIGNS:

PANEL SIGNS ARE TO BE FABRICATED FROM TWELVE INCH (12") WIDE ALUMINUM EXTRUSIONS AND, WHERE NOTED, COMPATIBLE SIX INCH (6") WIDE ALUMINUM EXTRUSIONS. WHEN A SIX INCH (6") EXTRUSION IS SPECIFIED, IT SHALL BE USED AS THE BOTTOM PANEL OF THE SIGN. TYPICAL CROSS-SECTIONS AND MINIMUM WEIGHTS PER FOOT ARE SHOWN ON THE MISCELLANEOUS DETAIL SHEET. COMPATIBLE SIDE EXTRUSIONS SHALL BE USED ON ALL SIGN EDGES. ALUMINUM MATERIAL FOR ALL EXTRUSIONS SHALL BE ALLOY 6063-T6 ASTM B221. ALL PORTIONS OF EXTRUSIONS WHICH ARE TO COMPOSE THE SIGN FACE SHALL BE PREPARED TO RECEIVE RETROREFLECTIVE BACKGROUND MATERIAL ACCORDING TO THE EXTRUSION AND RETROREFLECTIVE MATERIAL MANUFACTURER'S RECOMMENDATIONS. ALL REMAINING PORTIONS OF EXTRUSIONS (FRONT AND BACK) AND SIDE EXTRUSIONS ARE TO HAVE A SOFT MATTE FINISH. PANEL SIGNS SHALL BE LABELED AS P-*.
SHEET SIGNS:
 SHEET SIGNS SHALL BE FABRICATED FROM EITHER 0.080 GAUGE OR 0.125 GAUGE ALUMINUM ALLOY 5052-H38 OR 6061-T6 SHEETS IN ACCORDANCE WITH ASTM B209 AND SHALL BE OF THE SIZE AND SHAPE SPECIFIED. THE SIDE OF THE SHEET TO BE USED AS THE SIGN FACE SHALL BE PREPARED TO RECEIVE RETROREFLECTIVE BACKGROUND MATERIAL ACCORDING TO THE ALUMINUM SHEET AND RETROREFLECTIVE MATERIAL MANUFACTURER'S RECOMMENDATIONS. SHEETING SIGNS SHALL BE LABELED AS S-*.

SIGN MATERIALS

BACKGROUND MATERIAL:

SIGN SHEETING USED AS BACKGROUND MATERIAL FOR SIGN FACES IS TO BE THE COLOR SPECIFIED AND VISUALLY IN ACCORDANCE WITH STANDARD INTERSTATE COLORS. THIS MATERIAL (EXCEPT BLACK PORTIONS) SHALL BE RETROREFLECTORIZED AND MUST CONFORM TO THE REQUIREMENTS OF ASTM D 4956 FOR TYPE III SHEETING, AND SHALL MEET THE REQUIREMENTS OF SECTION 830 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 IN THE EVENT THAT GLASS BEAD ENCAPSULATED TYPE III SHEETING IS UTILIZED IT SHALL CONSIST OF:

- RETROREFLECTIVE SHEETING HAVING AN INTEGRAL OR AIR CAVITY BETWEEN THE FRONT SURFACE AND THE OPTICAL ELEMENTS,
- MOUNTED ON AND FULLY COVERING ALUMINUM BASE COPY STOCK
- NOT OTHERWISE EMBOSSED OR CRIMPED BUT HAVING SUFFICIENT THICKNESS AND RIGIDITY TO PREVENT WARPING WHEN MOUNTED OR FASTENED TO THE SIGN PANEL.

ALL RETROREFLECTIVE MATERIALS SHALL BE FABRICATED AND ASSEMBLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS.
LETTERS, SYMBOLS, AND BORDERS:
 LETTER, SYMBOLS, AND BORDERS FOR PANEL SIGNS SHALL MEET REQUIREMENTS OF SECTION 830 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THIS MATERIAL SHALL BE RETROREFLECTORIZED AND MUST CONFORM TO ALL THE REQUIREMENTS OF ASTM D 4956 FOR TYPE VIII, OR IX SHEETING.
 ALL ATTACHMENTS OF REMOVABLE COPY TO SIGN FACES SHALL BE MADE WITH *POP FASTENERS (*POP RIVETS). *POP RIVETS SHALL BE OF THE PROTRUDING HEAD TYPE. BOTH THE RIVET AND MANDREL SHALL BE CORROSION RESISTANT TO THE MATERIAL IN WHICH IT IS INSERTED. COPY SHALL BE AFFIXED WITH A MINIMUM SIZE OF 1/8 INCH DIAMETER *POP RIVETS, AND THE LENGTH SHALL BE AS NECESSARY TO PROPERLY APPLY COPY IN A WORKMANLIKE MANNER. PANEL OVERLAY SECTIONS SHALL BE AFFIXED WITH A *POP RIVET WITH A MINIMUM DIAMETER OF 3/16 INCH, AND THE

LENGTH SHALL BE AS NECESSARY TO PROPERLY APPLY COPY IN A WORKMANLIKE MANNER. ALL RIVETS SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK ON THE PROJECT.

ROUTE MARKERS:

ROUTE MARKERS FOR PANEL SIGN MOUNTING ONLY, ARE TO BE A RETROREFLECTORIZED WHITE CUT-OUT OF THE U.S. ROUTE SHIELD OR KENTUCKY ROUTE SHIELD, OMITTING THE BLACK BACKGROUND ON THE STANDARD RECTANGULAR SHAPES. BORDERS ARE NOT TO BE USED ON THE CUT-OUT SHAPES AND THEIR DIMENSIONS ARE TO BE AS SHOWN IN THE STANDARD HIGHWAY SIGNS MANUAL. ROUTE MARKERS ARE TO BE SPACED EVENLY ACROSS THE PANEL SIGN FACE.

ROUTE MARKERS FOR PANEL SIGNS SHALL MEET THE REQUIREMENTS OF SECTION 830 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THIS MATERIAL SHALL BE RETROREFLECTORIZED AND MUST CONFORM TO THE REQUIREMENTS OF ASTM D 4956 FOR TYPE III SHEETING. THE SHEETING SHALL BE MOUNTED ON ALUMINUM BASE COPY STOCK WITH A MINIMUM THICKNESS OF 0.080 INCHES.

DESTINATION-DIRECTION SIGNS:

DESTINATION-DIRECTION SIGNS ARE TO BE OF THE SIZE INDICATED, AND SHALL HAVE SILVER/WHITE LETTERS, SYMBOLS, AND BORDERS. THIS MATERIAL SHALL BE RETROREFLECTORIZED AND MUST CONFORM TO THE REQUIREMENTS OF ASTM D 4956 FOR TYPE III SHEETING, AND SHALL MEET THE CONDITIONS OF SECTION 830 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. (SHEETING SIGNS ONLY)
SIGN MESSAGES:
 SIGN MESSAGES SHOWN ARE ULTIMATE MESSAGES. DUE TO PARTIAL CONSTRUCTION, IT MAY BE NECESSARY TO MAKE CHANGES IN SOME OF THESE MESSAGES. THESE CHANGES WILL BE DETERMINED BY THE ENGINEER. SHOULD A SIGN CHANGE BE DETERMINED BEFORE THE SIGN IS INSTALLED, THE ULTIMATE MESSAGE COPY WILL BE STORED ON THE PROJECT BY THE CONTRACTOR. SHOULD A SIGN CHANGE BE DETERMINED AFTER INSTALLATION, STATE FORCES WILL REMOVE THE ULTIMATE MESSAGE. COPY WILL BE STORED BY THE STATE UNTIL APPLICABLE, AT WHICH TIME IT WILL BE INSTALLED BY STATE FORCES. ANY COPY NEEDED FOR A TEMPORARY MESSAGE WILL BE SUPPLIED AND INSTALLED BY THE STATE.

HARDWARE:

ALL HARDWARE FOR THE ASSEMBLY OF PANEL SIGNS AND THE ATTACHMENT OF THESE SIGNS TO THEIR SUPPORTS SHALL BE AS RECOMMENDED BY THE PANEL MANUFACTURER. PLACEMENT OF POST CLIP SHALL BE AS SHOWN ON THE SIGNING MISCELLANEOUS DETAIL SHEET.
 ALL HARDWARE FOR THE ERECTION OF SHEETING SIGNS SHALL BE CADMIUM PLATED STEEL IN ACCORDANCE WITH ASTM B-776 AND ASTM A-307.

GROUND-MOUNTED SIGN SUPPORTS

GENERAL:

ALL SIGNS SHALL BE POSITIONED AS SHOWN ON THE POSITIONING DETAIL SHEET. ALL BEAMS AND POSTS SHALL BE OF SUFFICIENT LENGTHS TO EXTEND FROM THE TOP OF THE SIGN TO THE REQUIRED BASE EMBEDMENT.

BEAMS:

ALL BEAMS SHALL BE EITHER TYPE *A (STANDARD BEAM INSTALLATION), OR TYPE *C (BREAKAWAY SIGN POST SUPPORT SYSTEM INSTALLATION). TYPE *A BEAMS ARE SHOWN ON THE PANEL SIGN DETAIL SHEET, AND THE TYPE *C BEAMS ARE SHOWN ON THE BREAKAWAY SIGN SUPPORT SYSTEM FOR *C BEAM SHEET. APPROVED MANUFACTURERS FOR BREAKAWAY TYPE *C BEAM SUPPORT SYSTEMS HAVE BEEN PLACED ON THE LIST OF APPROVED MATERIALS. THE TYPE AND SIZE OF BEAM TO BE USED SHALL BE INDICATED FOR EACH PANEL SIGN ON THE SIGN DETAIL SHEETS. BEAM LENGTHS INCLUDED IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AT EACH SIGN LOCATION AND CROSS SECTIONS SHALL BE DEVELOPED TO VERIFY BEAM LENGTHS, WITH ANY DISCREPANCIES BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
 BEAMS SHALL BE A-36 STEEL GALVANIZED IN ACCORDANCE WITH ASTM A-123, CURRENT EDITION.
STEEL POSTS:
 TYPE I STEEL POSTS SHALL BE EITHER STANDARD INSTALLATION IN SOIL, WITH SOIL STABILIZER, OR TYPE *D (BREAKAWAY SIGN POST SUPPORT SYSTEM INSTALLATION). APPROVED MANUFACTURERS FOR BREAKAWAY (TYPE *D) POST SYSTEMS HAVE BEEN PLACED ON THE LIST OF APPROVED MATERIALS. BRACING, IF REQUIRED, SHALL BE INCIDENTAL

TO TYPE I POST.
 TYPE II POST SHALL BE STANDARD INSTALLATION IN SOIL, WITH A SOIL STABILIZER. INSTALLATION PROCEDURES AND BRACING REQUIREMENTS ARE DETAILED ON THE SHEETING SIGN DETAIL SHEET.
 ALL STEEL POST SHALL MEET THE REQUIREMENTS OF SECTION 832 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION WITH THE EXCEPTION THAT TYPE I POST SHALL BE PROVIDED IN THE FOLLOWING SIZES:

Outside Dimensions	Corner Rods	Wall Thickness Gauge	Weight
(In.)	(In.)	(In.)	(lb/ft)
2 by 2	5/32	1.105/12	2.42
2 1/2 by 2 1/2	5/32	1.105/12	3.14
2 1/2 by 2 1/2	5/32	1.135/10	4.01

MILEPOST MARKERS

MILEPOST MARKERS SHALL CONFORM TO THE GENERAL REQUIREMENTS SET FORTH IN SECTION 20-45 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ADDITIONAL REQUIREMENTS ARE GIVEN ON THE SIGNING POSITIONING DETAIL SHEET.
 SIGN PANELS ARE TO BE FABRICATED FROM 0.080 GAUGE ALUMINUM ALLOY 5052-H38 SHEET IN ACCORDANCE WITH ASTM B209, AND SECTION 833 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 THE SIGN PANELS SHALL BE PROPERLY PREPARED TO RECEIVE THE RETROREFLECTIVE BACKGROUND MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. DIMENSIONS FOR ONE, TWO, AND THREE DIGIT SIGNS ARE SHOWN ON THE SIGNING POSITIONING DETAIL SHEET.

BACKGROUND MATERIAL SHALL BE STANDARD INTERSTATE GREEN IN COLOR AND SHALL BE RETROREFLECTORIZED. COPY IS TO BE SILVER/WHITE RETROREFLECTORIZED, TEN INCH (10") SERIES *C NUMERALS OF THE CUT-OUT, NONREMOVABLE TYPE. BOTH BACKGROUND AND COPY MATERIAL MUST MEET TYPE III, CLASS *I REQUIREMENTS OF SECTION 830 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 MINIMUM LENGTHS OF POST SHALL BE TEN FEET (10') WHEN USED WITH ONE DIGIT MARKER, ELEVEN FEET (11') WITH TWO DIGIT MARKER, AND TWELVE FEET (12') WITH THREE DIGIT MARKER. POSTS SHALL BE DRIVEN AND SIGN PANELS MOUNTED TO MAINTAIN FOUR FEET (4') VERTICAL CLEARANCE FROM THE ELEVATION OF THE NEAREST EDGE OF ROADWAY PAVEMENT TO THE BOTTOM OF THE SIGN FACE.

FLEXIBLE DELINEATORS

THE FLEXIBLE DELINEATOR POST SHALL BE AS DESCRIBED IN SECTION 838 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND INSTALLED AS DIRECTED BY THE MANUFACTURER'S RECOMMENDATIONS. THE RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF TYPE C, CLASS *I AS DESCRIBED IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THEY SHALL BE ERECTED IN SUCH A MANNER THAT THE TOP OF THE REFLECTIVE UNIT SHALL BE SEVEN FEET (7') ABOVE THE GRADE OF THE PAVEMENT EDGE. THE COLOR OF THE DELINEATORS SHALL IN ALL CASES CONFORM TO THE COLOR OF EDGELINES STIPULATED. DELINEATORS SHALL ONLY BE ERECTED ON THE HORIZONTAL CURVES ON THE RIGHT SIDE OF THE MAINLINE OF EXPRESSWAY AND FREEWAY ROADWAYS AND ON AT LEAST ONE SIDE OF INTERCHANGE RAMPS WHETHER OR NOT A FIXED SOURCE LIGHTING IS INSTALLED. NO DELINEATORS SHALL BE ERECTED ON MAINLINE TANGENT SECTIONS OF EXPRESSWAYS AND FREEWAYS. DELINEATORS SHOULD BE ERECTED AT 100 FOOT (100') INTERVALS ALONG ACCELERATION AND DECELERATION LANES. THE SPACING OF THE DELINEATORS ON HORIZONTAL CURVES SHALL BE BASED ON THE TABLE AND FORMULA SHOWN ON THE POSITIONING DETAIL SHEET. DELINEATORS AT INTERCHANGE RAMPS SHALL BE SPACED AT A MAXIMUM OF 100 FEET (100').
 INTERCHANGE RAMP DESIGN IS SUFFICIENTLY VARIED THAT NO SINGLE DELINEATOR SPACING CAN FIT EVERY SITUATION; THEREFORE, THE TYPICAL DELINEATION AND SPACING VALUE TABLE SHOWN ON THE POSITIONING DETAIL SHEET AND SECTION 30-04 OF THE 2003 MUTCD SHOULD BE EMPLOYED AS A GUIDE TO DELINEATOR PLACEMENT ON INTERCHANGE RAMPS.
 LATERAL AND VERTICAL CLEARANCES ARE SHOWN ON THE POSITIONING DETAIL SHEET. INSTALLATION OF DELINEATORS ON CROSSROADS SHALL BE LIMITED TO DECELERATION AND ACCELERATION LANES SERVING MAIN LINE RAMPS.

SIGNING SPECIFICATION NOTES

ANY AREA DISTURBED SHALL BE SIDE GRADED TO THE EXISTING SLOPES AND RESEEDED AS DIRECTED BY THE ENGINEER, AND AT NO ADDITIONAL COST TO THE DEPARTMENT.

MEDIAN CROSSOVER SIGN

THE CONTRACTOR SHALL INSTALL 48" X 48", "NO U TURN" SIGNS (R3-4) AT EACH MEDIAN CROSSOVER. THIS IS TO BE DONE WHETHER ALL NEEDED INSTALLATIONS ARE MENTIONED IN THE FOLLOWING SHEETS OR NOT. AT CROSSOVERS ON MEDIANS SIXTY FEET (60') WIDE AND UNDER, THE SIGNS SHALL BE MOUNTED PERPENDICULAR TO THE ROADWAY ON THE SAME POSTS IN THE CENTER OF THE MEDIAN, ONE FACING TRAFFIC IN EACH DIRECTION. AT CROSSOVERS ON MEDIANS OVER SIXTY FEET (60') WIDE, THE SIGNS SHALL BE MOUNTED PERPENDICULAR TO THE ROADWAY ON SEPARATE POSTS AT THE MEDIAN SHOULDER ON THE FAR SIDE OF THE CROSSOVER, ONE FACING TRAFFIC IN EACH DIRECTION.

CONCRETE BASES

ALL CONCRETE BASES SHALL BE OF CLASS "A" CONCRETE FOR SIGNS AND SHALL BE AS SHOWN ELSEWHERE IN THESE PLANS.
EXCAVATION NECESSARY TO CONSTRUCT BASES AND FOOTINGS IS INCIDENTAL TO THE COST OF CLASS "A" CONCRETE FOR SIGNS.

SAMPLES, TESTING, ETC.

BEFORE BEGINNING INSTALLATION, THE CONTRACTOR SHALL FURNISH TO THE RESIDENT OR PROJECT ENGINEER FOR WRITTEN APPROVAL, DRAWINGS, DESCRIPTIONS, MANUFACTURER'S CUTS ETC. COVERING ALL MATERIALS TO BE USED. MILL TEST REPORTS FOR BEAMS, STEEL PANELS, AND EACH DIFFERENT GAUGE OF ALUMINUM OR STEEL SHEETING USED MUST BE SUBMITTED TO THE DIVISION OF CONSTRUCTION AND APPROVED PRIOR TO ERECTION.

MISCELLANEOUS

RIGHT IS RESERVED TO INSPECT FABRICATION AND ERECTION WORK, AN INSPECTION (DAY AND NIGHT) WILL BE MADE AFTER COMPLETION OF INSTALLATION TO DETERMINE IF THE INTENT OF THE SPECIFICATIONS IS SATISFIED.

NEW CONCRETE BASES, SUPPORT BEAMS, ETC. ARE TO BE INSTALLED PRIOR TO DISMANTLING ANY EXISTING SIGN. IF ANY EXISTING SIGNS ARE TO BE OUT OF SERVICE FOR MORE THAN ONE WORK SHIFT, TEMPORARY SIGNING OF THE PROPER SHAPE, AND WITH COPY OF SIMILAR CONFIGURATION TO THE EXISTING SIGNING SHALL BE INSTALLED AT THE SAME APPROXIMATE STATION AS THE OUT-OF-SERVICE SIGN. THE COST OF ANY TEMPORARY SIGNING SO USED SHALL BE INCIDENTAL TO THE COST OF REMOVAL OF EXISTING SIGN SUPPORT BEAMS.

THE REMOVAL OF BEAM SIGN SUPPORTS IS TO BE DONE CONCURRENTLY WITH THE RELOCATION OF AFFECTED SIGNS TO NEW SUPPORTS.

IF A MANUFACTURER'S WARRANTY IS FURNISHED TO THE CONTRACTOR ON ANY MATERIALS COVERED UNDER THESE SPECIFICATIONS, THE SAME WARRANTY SHALL BE FURNISHED TO THE STATE BY THE CONTRACTOR.

ALL SIGNS ARE TO BE LOCATED AT THE APPROXIMATE STATIONS LISTED AND THE EXACT LOCATION FOR EACH SIGN SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER; HOWEVER, IF AN SIGN IS RELOCATED MORE THAN TWENTY-FIVE FEET (25') FROM THE STATION LISTED, THE NEW LOCATION MUST BE APPROVED BY THE DIVISION OF HIGHWAY DESIGN AT (502) 564-3280.

ON SHEETING SIGNS WHERE THERE ARE MORE THAN ONE SIGN ASSEMBLY MOUNTED BEDSIDE EACH OTHER, THE POST SHALL BE SPACED TO PROVIDE APPROXIMATELY SIX INCHES (6") OF SPACING BETWEEN SIGNS.

CLEARING AND GRUBBING, AND TREE TRIMMING, WHEN REQUIRED FOR CONSTRUCTION OF THE SIGN PANELS, WILL BE INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE ALLOWED.

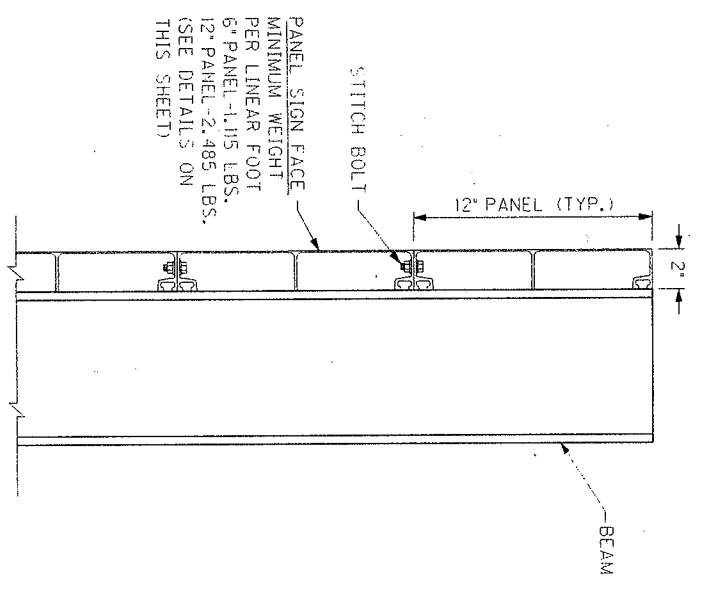
SIGN COVERING IS NOT RECOMMENDED, HOWEVER, IF IT IS ABSOLUTELY NECESSARY TO COVER THE SIGN FACE TEMPORARILY FOLLOWING ERECTION, USE CAUTION SINCE SOME COVERINGS MAY CAUSE PERMANENT DAMAGE TO THE SIGN FACE FOLLOWING EXPOSURE TO MOISTURE, SUNLIGHT, ETC. USE ONLY POROUS CLOTH OR GEOTEXTILE FABRIC WHICH HAVE BEEN FOLDED OVER THE SIGN EDGES AND SECURED AT THE BACK OF THE SIGN. DO NOT USE TAPE, PAPER, PLASTIC, OR SHEET METAL COVERS. ANY SIGNS THAT ARE DAMAGED AS A RESULT OF COVERING SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT.

TYPE I AND II STEEL POST IN SOIL SHALL BE DRIVEN FOUR FEET (4') BELOW THE GROUND LINE AS SHOWN. HOWEVER, IF SOLID ROCK IS ENCOUNTERED THE CONTRACTOR SHALL DRILL HOLES OF THE REQUIRED DEPTH INTO THE ROCK, AND BACKFILL WITH CONCRETE. THE COST SHALL BE INCIDENTAL TO STEEL POST, AND SOIL STABILIZERS WILL NOT BE REQUIRED.

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	16

SHEET # 2

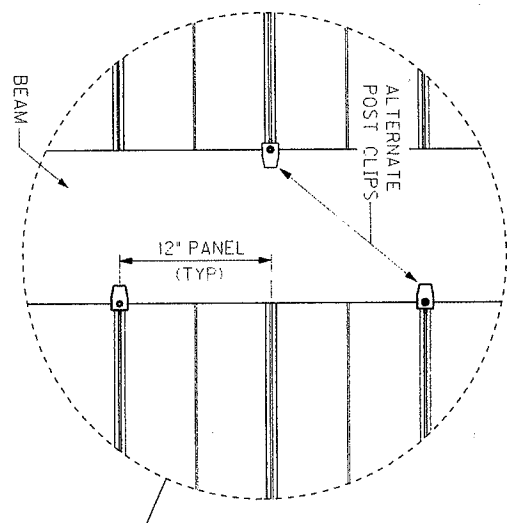
SIGNING SPECIFICATION SHEET



SECTION "A-A"

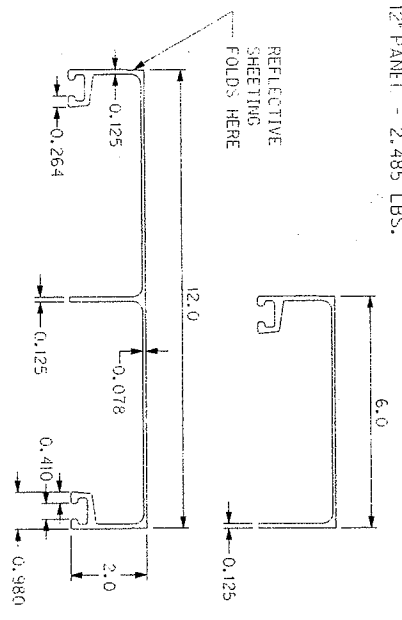
MINIMUM WEIGHT PER LINEAR FOOT
 6" PANEL - 1.115 LBS.
 12" PANEL - 2.485 LBS.

PANEL SIGN FACE
 MINIMUM WEIGHT
 PER LINEAR FOOT
 6" PANEL - 1.115 LBS.
 12" PANEL - 2.485 LBS.
 (SEE DETAILS ON
 THIS SHEET)



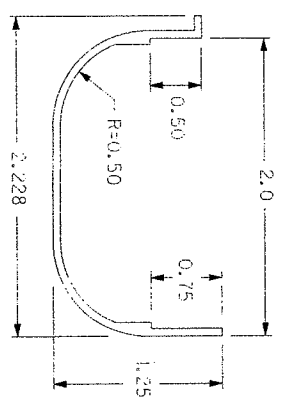
STITCH BOLT DETAIL

3/8-16 x 3/4"
 HEX HEAD BOLT
 25/64 x 3/4 x .091
 FLATWASHER
 3/8-16 HEX NUT



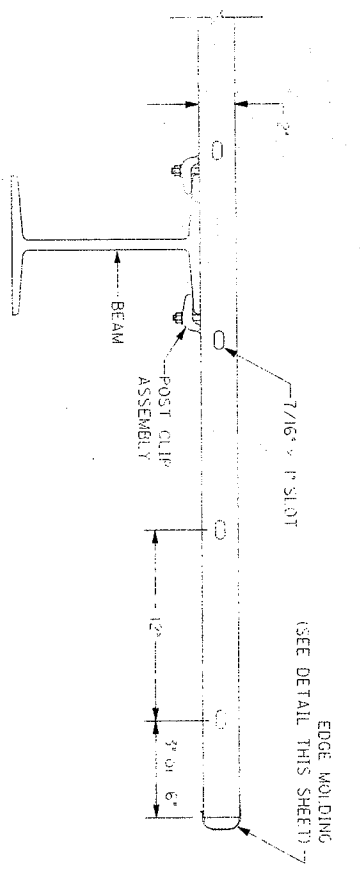
ALUMINUM PANEL DETAILS

EDGE MOLDING DETAIL

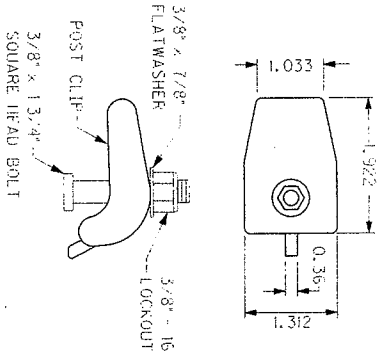


TYPE "C" OMNI-DIRECTIONAL
 BREAK-A-WAY BEAM SUPPORT
 (SEE DETAIL SHEETS FOR MORE
 INFORMATION)

TOP VIEW OF PANEL SIGN

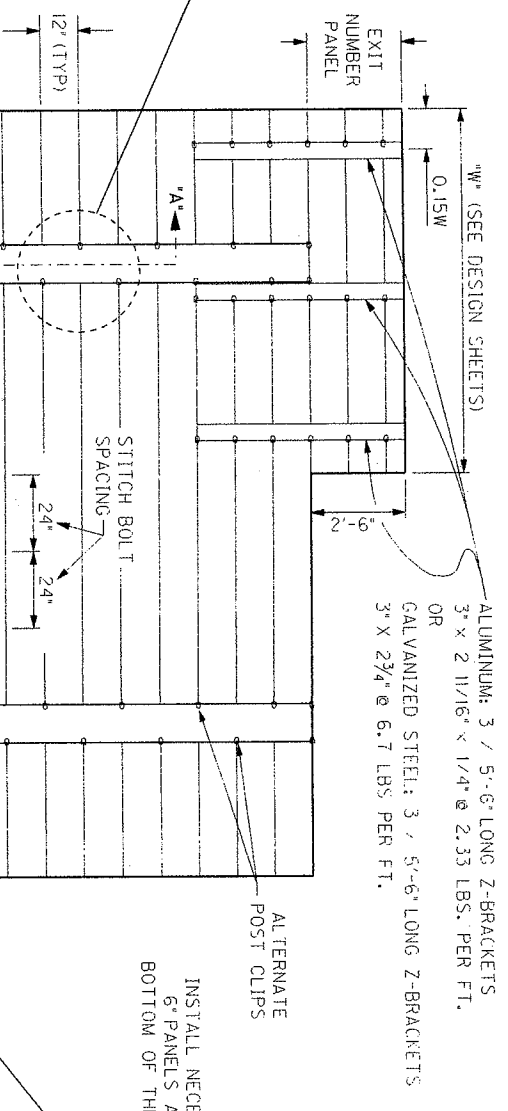


POST CLIP ASSEMBLY

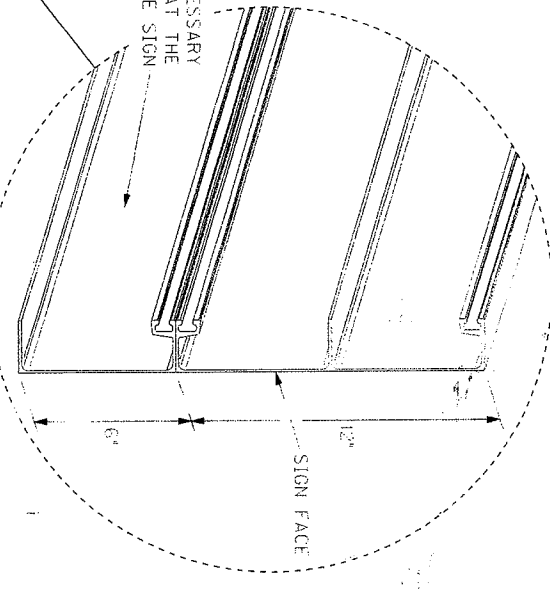


4" MAXIMUM
 CLEARANCE ABOVE
 THE GROUND LINE
 (SEE NOTE #7 ON THE
 TYPE "C" BREAKAWAY
 FOOTING DETAIL SHEET)

NOTE:
 THE COST FOR ATTACHING EXIT NUMBER SIGN SHALL BE INCLUDED IN THE BID ITEM FOR SIGN
 BASE MATERIAL FOR PANEL SIGNS AND SHALL INCLUDE ALL Z-BRACKETS AND HARDWARE.
 THE EXIT NUMBER SIGN SHALL BE CENTERED OVER THE LEFT OR RIGHT SIDE OF SIGN AS SHOWN
 ON THE PLANS.



INSTALL NECESSARY
 6" PANELS AT THE
 BOTTOM OF THE SIGN



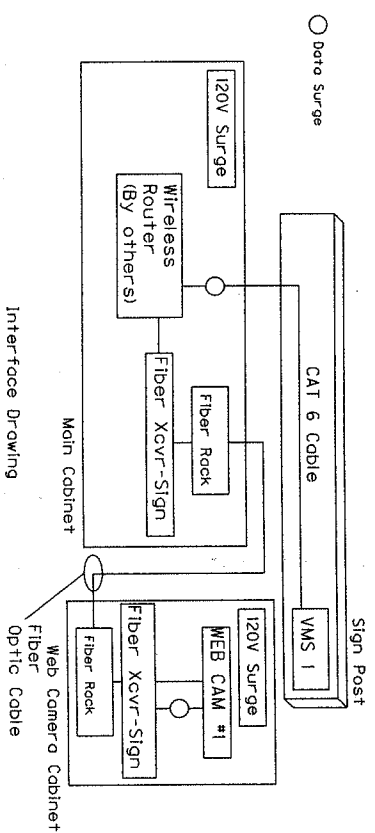
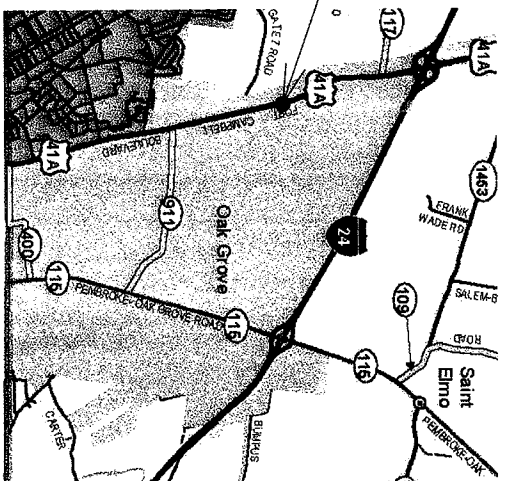
6'-0" IF PROTECTED BY GUARDRAIL (TYPE "A")
 18'-0" IF NOT PROTECTED BY GUARDRAIL (TYPE "C")

(SEE DETAIL SHEETS FOR MORE
 INFORMATION)

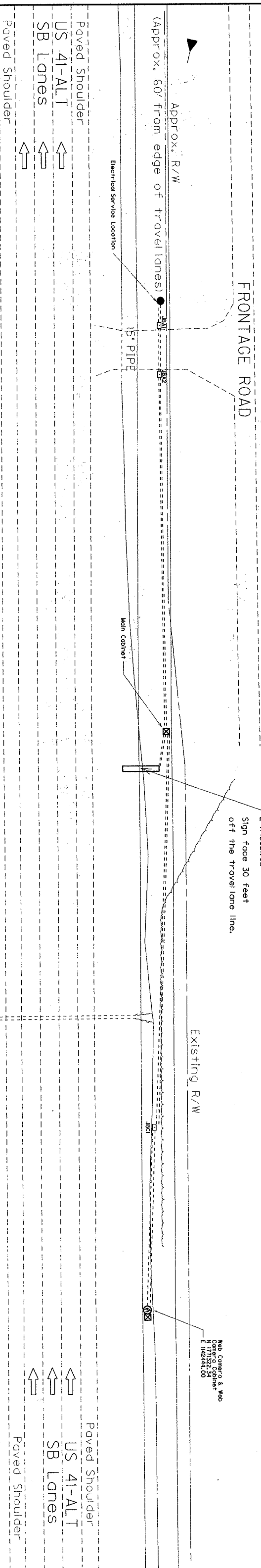
TYPE "A" FIXED SUPPORT
 BEAM SHALL BE ONE
 PIECE FROM THE TOP OF
 THE SIGN TO THE BOTTOM
 OF THE CONCRETE

NOTE:
 SHOULD THE CONTRACTOR OVERDRILL THE HOLES, THE EXTRA
 CONCRETE WILL BE AT THE EXPENSE OF THE CONTRACTOR.
 PAYMENT WILL BE DETERMINED BY THE DIRECTION SHOWN
 ON THE DESIGN SHEETS.
 THE TOPS OF THE BASES ARE TO BE FINISHED TO ASSURE THAT
 THERE IS ADEQUATE DRAINAGE AWAY FROM THE CENTER OF
 THE BASE.
 SEE SIGN DESIGN SHEETS FOR "C" AND "B" DIMENSIONS

QUANTITY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T6A



- Web Camera Location**
 Install 336 pole mount cabinet.
 Install a 15 AMP breaker for the camera inside the cabinet.
 Install 40' Steel Strain pole.
 Install Web camera on the Porpoet mount on top of the 40 foot steel strain pole.
 Install all equipment specified on Interface Drawing on 19' shelf inside the cabinet.
- Electrical Service Location**
 Install 35' wood pole with 120/240 volt service and communication lines.
- Main Cabinet**
 Install WMS Sign on Sign Posts.
 Install 334 pole mount cabinet.
 Install additional disconnect before the main power goes into the basement.
 Install a 60 AMP breaker (main breaker) inside the cabinet.
 Install a 15 AMP breaker for the camera inside the cabinet.
 Install two 40 AMP breakers for the WMS inside the cabinet.
 Install all equipment specified on Interface Drawing on 19' shelf inside the cabinet.
- Notes**
 Contractor shall transition all PVC conduit to rigid steel for above ground installation.
 ANY JUNCTION BOXES THAT CONTAIN FIBER OPTIC CABLE SHALL BE TYPE 'C'.
 All installation of conduit under the roadway shall be incidental to bid item 'Trenching and Backfilling'.



SIGN LOCATION / SUPPORT	
ROAD & MILE POINT	US 41A
TRAFFIC DIRECTION	South
SIDE OF ROAD	Right
MOUNTING STYLE	Ground Mount
BEAM MATERIAL	See Spec
BEAM SIZE	W8x18
BEAM/POST LENGTH	1. = 25.4'
BEAM/POST LENGTH	2. = 26.4'
BEAM/POST LENGTH	3. = N/A
BEAM/POST LENGTH	4. = N/A
CONC 'd' =	30"
CONC 'b' =	6'
	2.18 Cu. Yds.

From	To	Conduit Required	Wire Required
Service Pole (220/240 Volt phase)	JBA1	2 Schedule 40 PVC conduit	4-#2 AWG wires
Service Pole (220/240 Volt phase)	JBA1	2 Schedule 40 PVC conduit	the communication provider
JBA1	JBA2	2 Rigid Steel conduit	4-#2 AWG wires
JBA1	JBA2	2 Rigid Steel conduit	the communication provider
JBA2	Main Cabinet	2 Schedule 40 PVC conduit	4-#2 AWG wires
JBA2	Main Cabinet	2 Schedule 40 PVC conduit	the communication provider
Main Cabinet	Main Cabinet	2 Schedule 40 PVC conduit	3-#6 AWG wires
Main Cabinet	Web Camera Pole	2 Schedule 40 PVC conduit	Fiber Optic Cable
Main Cabinet	Sign Post	2 Schedule 40 PVC conduit	4-#6 AWG wires
Main Cabinet	Sign Post	2 Schedule 40 PVC conduit	CAT 6 Cable
West side of Sign Post	WMS Sign	2 Rigid steel conduit for transitional Flexible Conduit for transitional	4-#6 AWG wires
West side of Sign Post	WMS Sign	2 Rigid steel conduit for transitional Flexible Conduit for transitional	CAT 6 Cable
Web Camera Pole	Web Camera Pole	Spore 2 Schedule 40 PVC conduit	None
Main Cabinet	Main Cabinet	Spore 2 Schedule 40 PVC conduit	None

COORDINATE SYSTEM

Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/FBN System.
 Coordinates are based on State Plane Coordinate System South Zone and in U.S. Survey Feet.

CONTROL POINTS
 CP1: N 171755.532
 E 1142251.82
 ELEV. 575.492
 CP2: N 177243.370
 E 1142251.787
 ELEV. 586.510

LEGEND

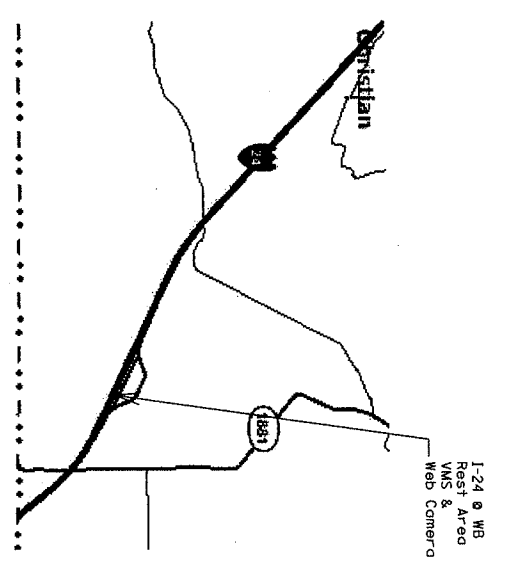
- CABINET
- WMS Sign on Sign Post
- CAMERA POLE
- WOOD POLE
- JUNCTION BOX
- CONDUIT AS INDICATED BY NOTES

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
 COUNTY OF
CHRISTIAN

SCALE: 1"=30'

PROJECT NUMBER: DPR 0171(004)

WMS SIGN AT US 41A & WEB CAMERA # 1



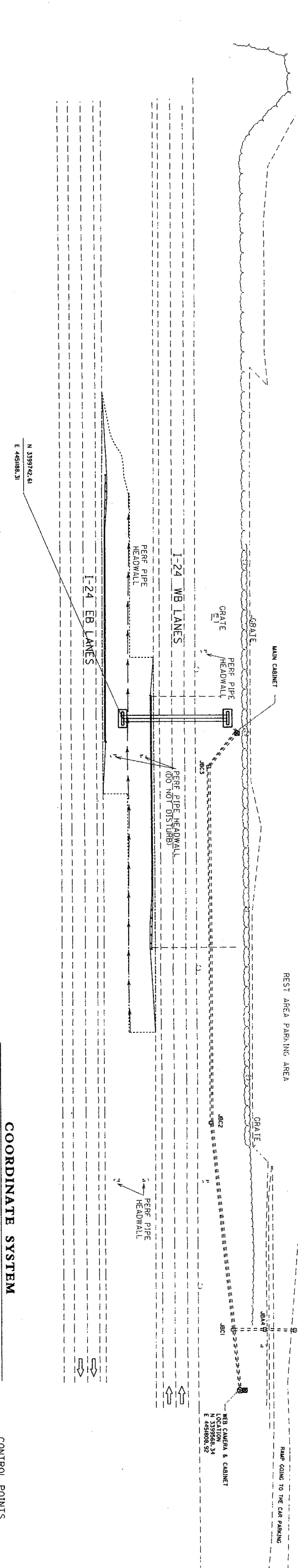
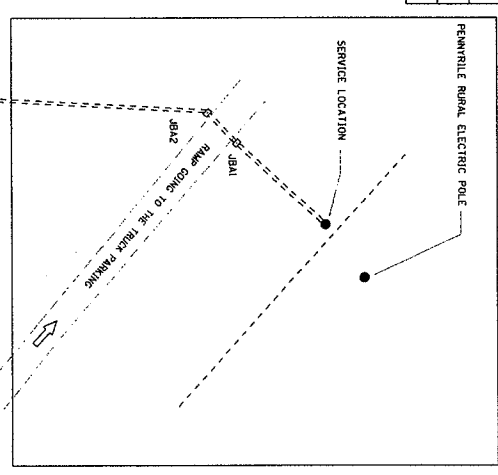
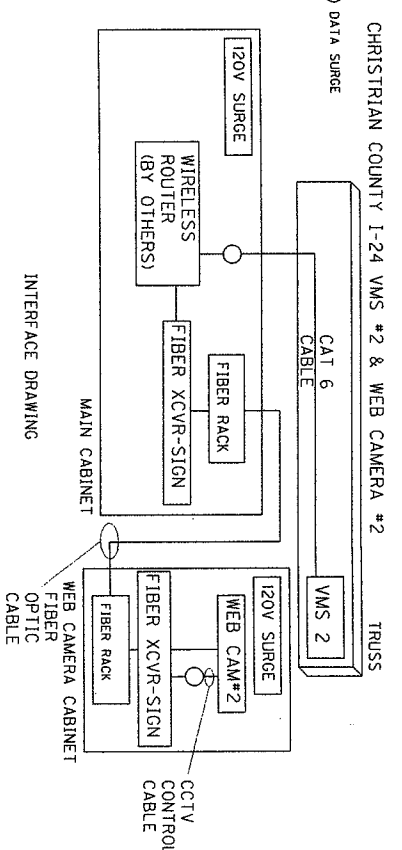
WEB CAMERA LOCATION
 INSTALL 336 POLE MOUNT CABINET.
 INSTALL A 15 AMP BREAKER FOR THE CAMERA INSIDE THE CABINET.
 INSTALL 70' STEEL STRAIN POLE WITH LOWERING DEVICE.
 INSTALL WEB CAMERA ON LOWERING DEVICE.
 INSTALL ALL EQUIPMENT SPECIFIED ON INTERFACE DRAWING ON 19" SHELF INSIDE THE CABINET.
SERVICE LOCATION
 INSTALL 35' WOOD POLE WITH 480 VOLT SERVICE AND COMMUNICATION LINES.

MAIN CABINET
 INSTALL OVERHEAD VMS SIGN ON 100 FOOT TRUSS
 INSTALL 334 BASE MOUNT CABINET WITH 1-7.5KVA 480VOLT/120 VOLT TRANSFORMER MOUNTED TO CABINET.
 INSTALL ADDITIONAL DISCONNECT AT THE MAIN CABINET BEFORE THE SERVICE GOES TO THE TRANSFORMER AND THERE SHALL BE A DISCONNECT BEFORE IT GOES TO THE BREAKER IN THE 334 CABINET.
 INSTALL A 40 AMP BREAKER (MAIN BREAKER) INSIDE THE CABINET.
 INSTALL A 15 AMP BREAKER FOR THE CAMERA INSIDE THE CABINET.
 INSTALL TWO 40 AMP BREAKERS FOR THE VMS INSIDE THE CABINET.
 INSTALL ALL EQUIPMENT SPECIFIED ON INTERFACE DRAWING ON 19" SHELF INSIDE THE CABINET.

NOTES
 CONTRACTOR SHALL TRANSITION ALL PVC CONDUIT TO RIGID STEEL FOR ABOVE GROUND INSTALLATION.
 THE GROUNDING SYSTEM FOR THE TRUSS SHALL HAVE AT LEAST A FOOT EXTRA #4 BARE COPPER SO THAT THE INSPECTOR CAN TEST THE GROUNDING SYSTEM.
 ANY JUNCTION BOXES THAT CONTAIN FIBER OPTIC CABLE SHALL BE TYPE 'C'.
 All installation of conduit under the roadway shall be incidental to bid item 'Trenching and Back-filling'.

WIDEN INSIDE SHOULDER OF WB 1-24 FROM NE = 339793.88, 4451025.03 TO NE = 3398642.03, 4451025.03 ACCORDING TO STANDARD DRAWING RBI-004-03, USING DGA, ASPHALT SEAL AGGREGATE AND EMULSIFIED ASPHALT RS-2 TO CONSTRUCT SHOULDER.

FROM	TO	CONDUIT REQUIRED	WIRE REQUIRED
SERVICE POLE (480 VOLT SINGLE PHASE)	MAIN CABINET	2" SCHEDULE 40 PVC CONDUIT & 2" RIGID STEEL CONDUIT UNDER THE ROADWAY	3-#2 AWG WIRES
SERVICE POLE (480 VOLT SINGLE PHASE)	WEB CAMERA CABINET	2" SCHEDULE 40 PVC CONDUIT & 2" RIGID STEEL CONDUIT UNDER THE ROADWAY	THE COMMUNICATION PROVIDER
MAIN CABINET	CAMERA POLE	2" SCHEDULE 40 PVC CONDUIT & 2" RIGID STEEL CONDUIT UNDER THE ROADWAY	3-#4 AWG WIRES
MAIN CABINET	TRUSS BASE	2" SCHEDULE 40 PVC CONDUIT TO TRUSS BASE	FIBER OPTIC CABLE
MAIN CABINET	TRUSS BASE	2" SCHEDULE 40 PVC CONDUIT TO TRUSS BASE	4-#2 AWG WIRES
NORTHEAST SIDE OF TRUSS BASE	VMS SIGN (INSIDE THE COLUMNS OF THE TRUSS)	RUN 2" RIGID STEEL ALONG TRUSS & RIGID STEEL CONDUIT FOR TRANSITIONS & FLEXIBLE CONDUIT FOR TRANSITIONS	CAT 6 CABLE
NORTHEAST SIDE OF TRUSS BASE	MAIN CABINET	SPARE 2" SCHEDULE 40 PVC CONDUIT	NONE
CAMERA POLE	CAMERA POLE	SPARE 2" SCHEDULE 40 PVC CONDUIT	NONE



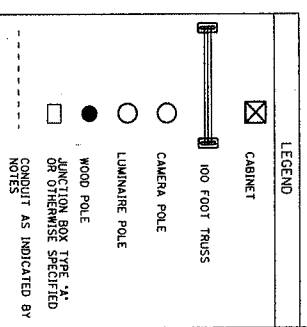
BID CODE	DESCRIPTION	BEGIN		END	
		NORTHING	EASTING	NORTHING	EASTING
02351	GUARDRAIL - STEEL W BEAM	3399800.92	4451025.03	3399718.07	4451200.17
02367	GUARDRAIL END TREATMENT TY 1	3399822.33	4450979.84	3399800.92	4451025.03
02369	GUARDRAIL END TREATMENT TY 2A	3399718.07	4451200.17	3399715.42	4451205.56
02369	GUARDRAIL END TREATMENT TY 2A	3399778.87	4451175.59	3399776.20	4451181.24
002351	GUARDRAIL - STEEL W BEAM	3399776.20	4451181.24	3399695.91	4451350.68
02367	GUARDRAIL END TREATMENT TY 1	3399695.91	4451350.68	3399673.20	4451395.25

COORDINATE SYSTEM

Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/BN System.
 Coordinates are based on State Plane Coordinate System Single Zone and in U.S. Survey Feet.

CONTROL POINTS

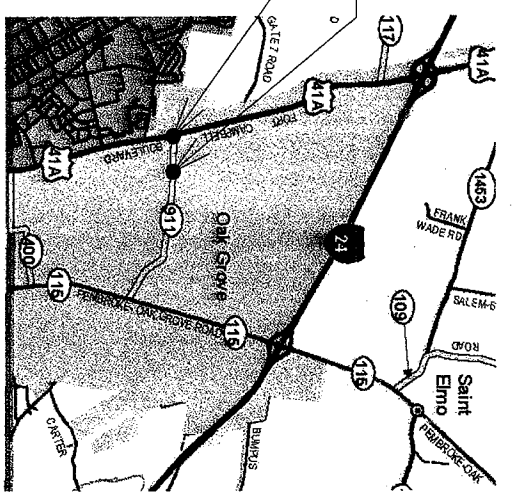
CP1:
 N 3399805.781
 E 4451250.887
 ELEV. 545.816
 CP2:
 N 3399715.037
 E 4451435.904
 ELEV. 546.921



WIDEN INSIDE SHOULDER OF EB 1-24 FROM NE = 3399857.70, 4450901.15 TO NE = 3399694.89, 4451244.50 ACCORDING TO STANDARD DRAWING RBI-004-03, USING DGA, ASPHALT SEAL AGGREGATE AND EMULSIFIED ASPHALT RS-2 TO CONSTRUCT SHOULDER.
 GRADE AREA BETWEEN THE ADDITIONAL SHOULDER TO DRAIN TO MEDIAN DITCH. LINE AREA WITH 1,637 SQ YDS OF EROSION CONTROL BLANKET.

SCALE: 1"=50'

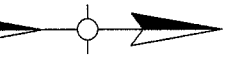
1-24 VMS # 2 & WEB CAMERA # 2



From	To	Conduit Required	Wire Required
Service Pole (20/240 Volt phase)	Main Cabinet	2" Schedule 40 PVC conduit	4-#6 AWG wires
Service Pole (20/240 Volt phase)	Main Cabinet	2" Schedule 40 PVC conduit	the communication provider
Main Cabinet	Web Camera Pole	2" Schedule 40 PVC conduit	3-#6 AWG wires
Main Cabinet	Web Camera Pole	2" Schedule 40 PVC conduit	Fiber optic cable
Main Cabinet	Sign Post	2" Schedule 40 PVC conduit	4-#6 AWG wires
Main Cabinet	Sign Post	2" Schedule 40 PVC conduit	CAT 6 cable
North side of Sign Post	VMS Sign	2" rigid steel conduit for transitional	4-#6 AWG wires
North side of Sign Post	VMS Sign	2" rigid steel conduit for transitional	CAT 6 cable
Web Camera Pole	Web Camera Pole	Spore 2" Schedule 40 PVC conduit	None

Web Camera Location
 Web camera is located 246 feet from the center of the VMS Sign Post/STA. 5+30 and 10 feet from the edge of the shoulder.
 Install 336 pole mount cabinet.
 Install a 15 AMP breaker for the camera inside the cabinet.
 Install 40' Steel Strain pole.
 Install Web camera on the Parapet mount on top of the 40 foot steel strain pole.
 Install all equipment specified on Interface Drawing on 19' shelf inside the cabinet.

Service Location & Main Cabinet
 Install 35' wood pole with 120/240 volt service and communication lines.
 Install 336 pole mount cabinet.
 Install a 60 AMP breaker (main breaker) inside the cabinet.
 Install a 15 AMP breaker for the camera inside the cabinet.
 Install two 40 AMP breakers for the VMS inside the cabinet.
 Install all equipment specified on Interface Drawing on 19' shelf inside the cabinet.



Notes
 Contractor shall transition all PVC conduit to rigid steel for above ground installation.

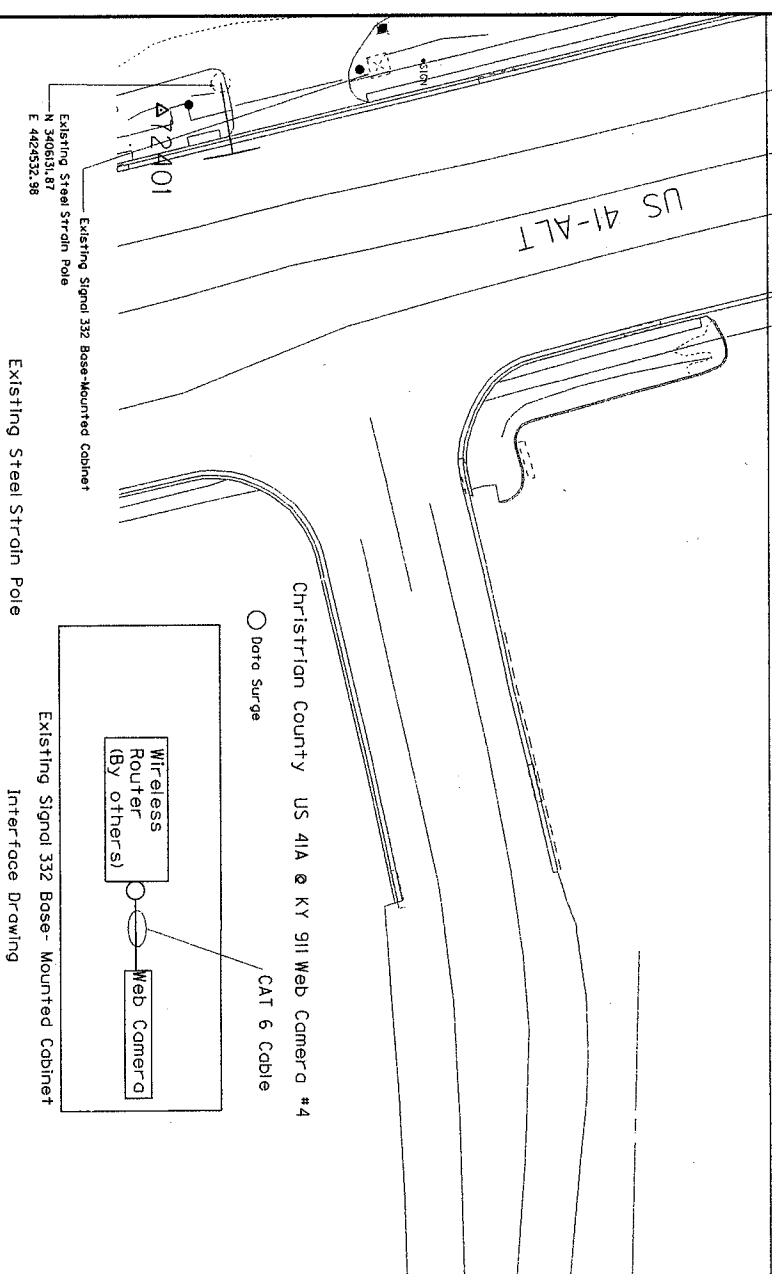
SIGN LOCATION / SUPPORT	ROAD & MILE POINT	TRAFFIC DIRECTION	SIDE OF ROAD	MOUNTING STYLE	GROUND MOUNT	BEAM MATERIAL	SEE SPEC
	KY 911	West	Right	Ground Mount		See Spec	
						WBX18	
						21.2'	
						22.8'	
						N/A	
						N/A	
						2.18	CLL Yds.

BEGIN STEEL GUARDRAIL W-BEAM AT NE = 3406248.30, 4425086.65, AND END AT NE = 3406285.65, 4425472.84. ATTACH ONE TERMINAL SECTION NO 1 TO EACH END OF GUARDRAIL. FOR A TOTAL OF TWO TERMINAL SECTIONS.

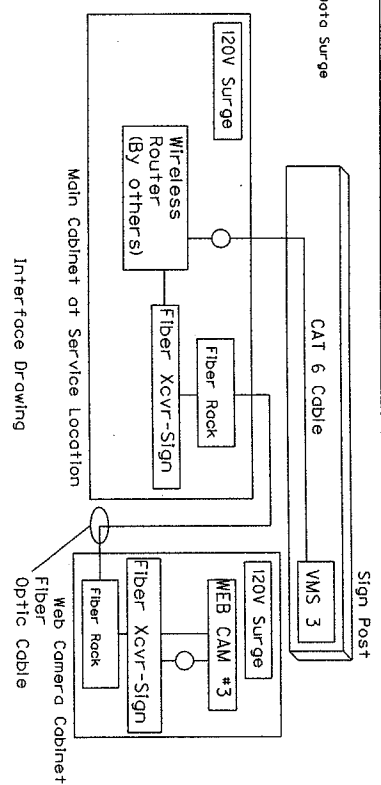
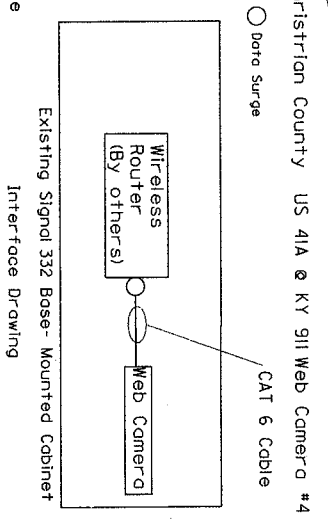
Electrical Service Location
 Existing Main Cabinet
 N 3406246.44
 E 4425086.84
 SAN SEWER VALVE

Web Camera Location
 N 3406113.030
 E 4425454.380

WEB CAMERA #4 LOCATION



Install Parapet mount on existing traffic steel strain pole.
 Install web camera on the parapet mount on top of the existing traffic steel strain pole.
 Existing Signal 332 Base-Mounted Cabinet
 Install all equipment and wiring specified on Interface Drawing inside the existing cabinet.



CONTROL POINTS
 CP-72401:
 N 3406113.030
 E 4424541.380
 ELEV. 547.680

CP-72402:
 N 3406227.680
 E 4425811.810
 ELEV. 546.630

COORDINATE SYSTEM

Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/FBN System.
 Coordinates are based on State Plane Coordinate System Single Zone and in U.S. Survey Feet.

There is a possibility that 72402 has been torn out due to construction of a business. You can see on the survey a note about "area of new construction." If this is the case, we can find other control just east of here on the Survey Report from that project.

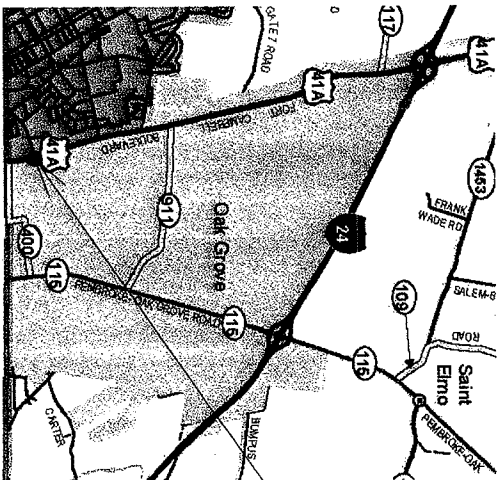
SCALE: 1"=30'

LEGEND

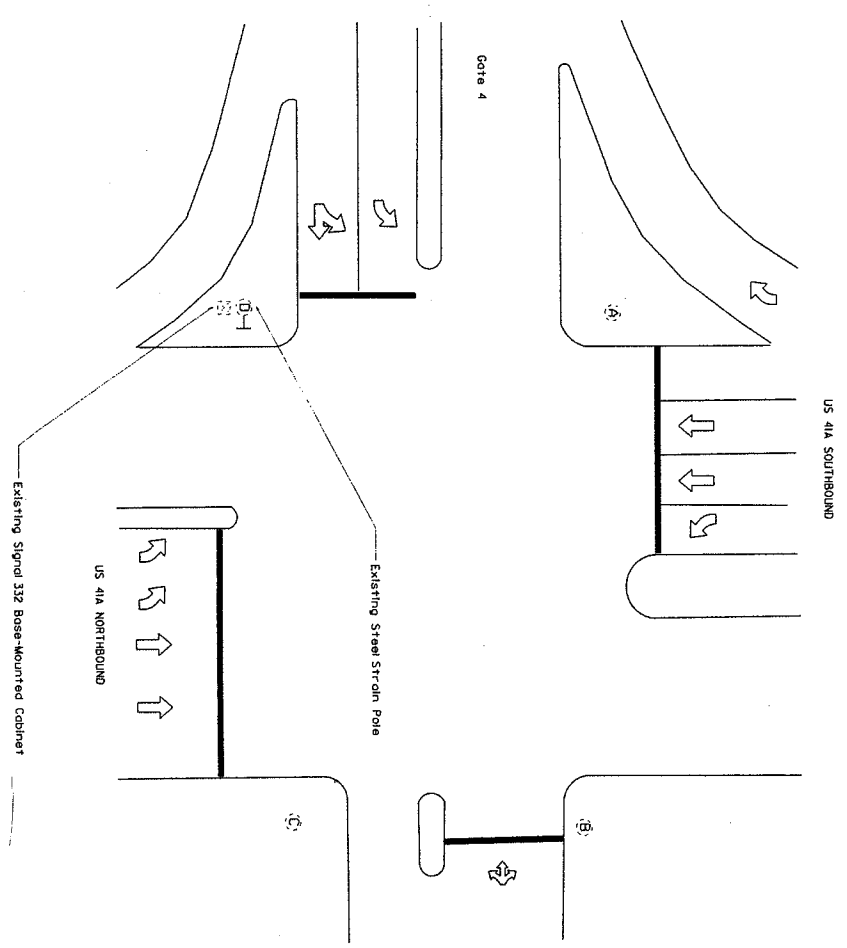
- CABINET
- VMS Sign on Sign Post
- CAMERA POLE
- WOOD POLE
- JUNCTION BOX
- CONDUIT AS INDICATED BY NOTES
- EXISTING CABINET
- EXISTING POLE
- PROPOSED WEB CAMERA

KY 911 VMS #3 & WEB CAMERA #3/#4

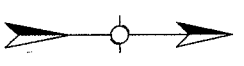
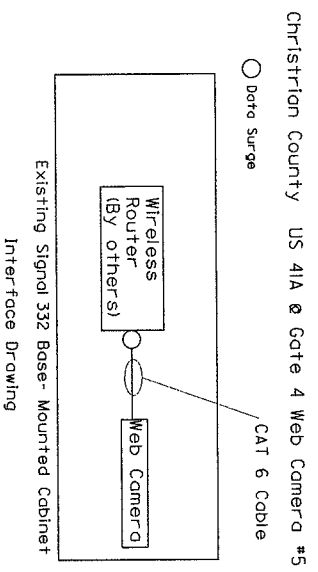
WAL-MART ENTRANCE



US 41A & Gate 4
 Web Camera



Existing Steel Strain Pole
 Install web camera on the parapet mount on top of the existing traffic steel strain pole D.
 Existing Signal 332 Base-Mounted Cabinet
 Install 15 Amp Breaker in line with the existing signal power. Install all equipment and wiring specified on Interface Drawing inside the existing cabinet.

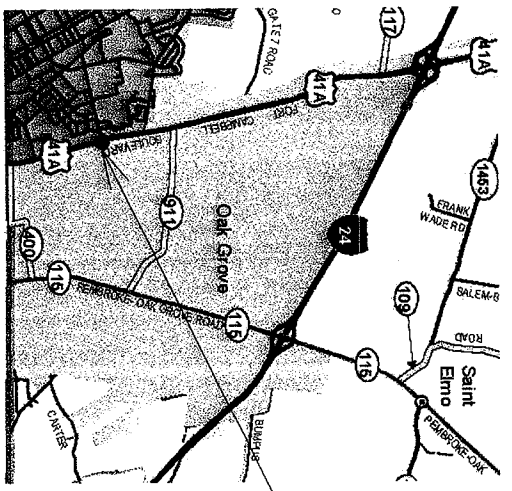


LEGEND	
	EXISTING CABINET
	EXISTING POLE
	PROPOSED WEB CAMERA
	JUNCTION BOX
CONDUIT AS INDICATED BY NOTES	

NOT TO SCALE

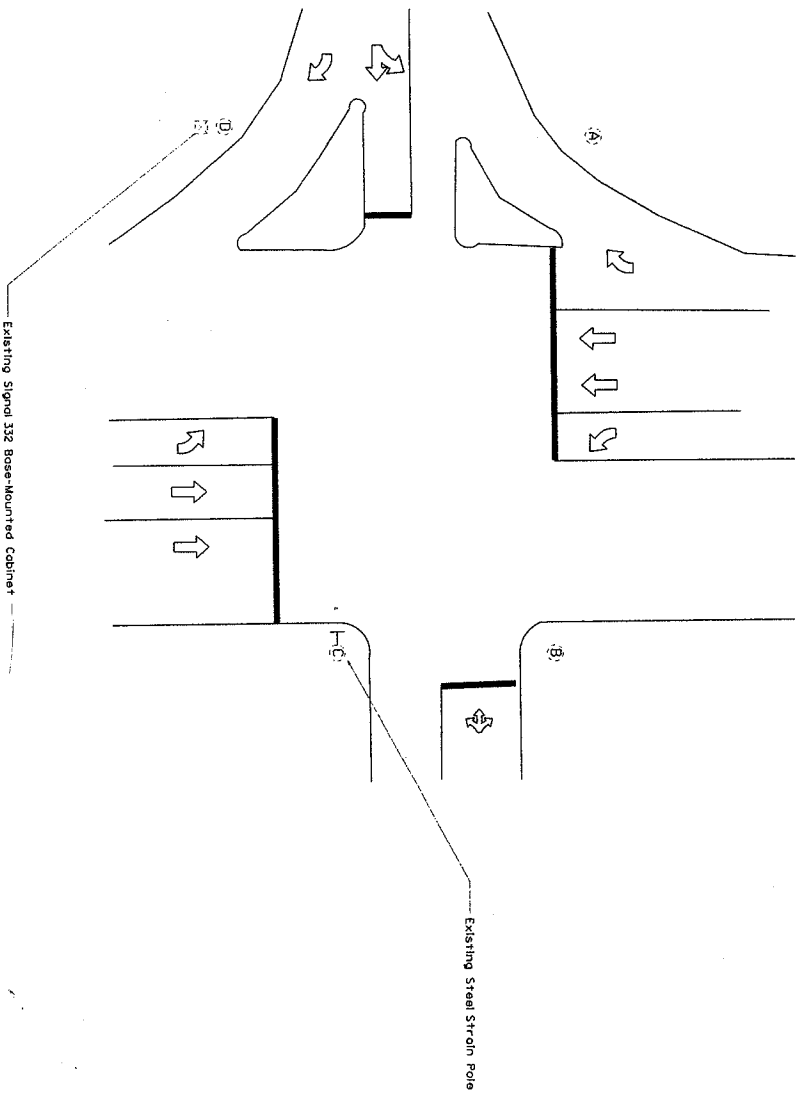
Camera Location US 41A @ Gate 4

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T10

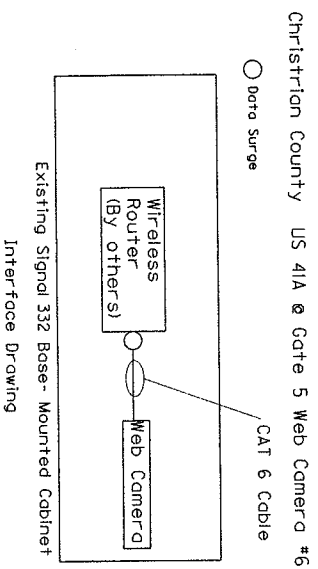


LOCATION MAP
 (Not to Scale)

US 41A & Gate 5
 Web Camera



Existing Steel Strain Pole
 Install web camera on the parapet mount on top of the existing traffic steel strain pole C.
 Existing Signal 332 Base-Mounted Cabinet
 Install 15 Amp Breaker in line with the existing signal power.
 Install all equipment and wiring specified on Interface Drawing inside the existing cabinet.

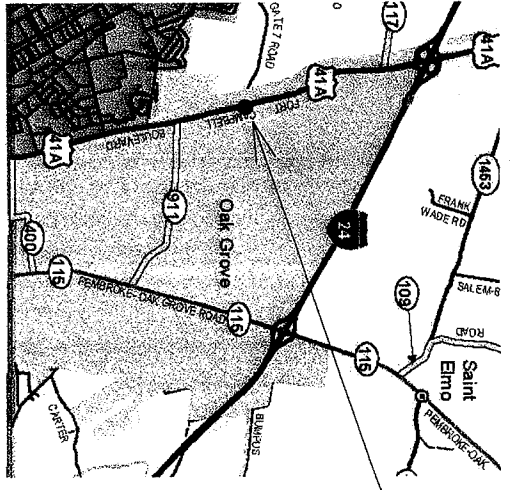


LEGEND	
	EXISTING CABINET
	EXISTING POLE
	PROPOSED WEB CAMERA
	JUNCTION BOX
	CONDUIT AS INDICATED BY NOTES

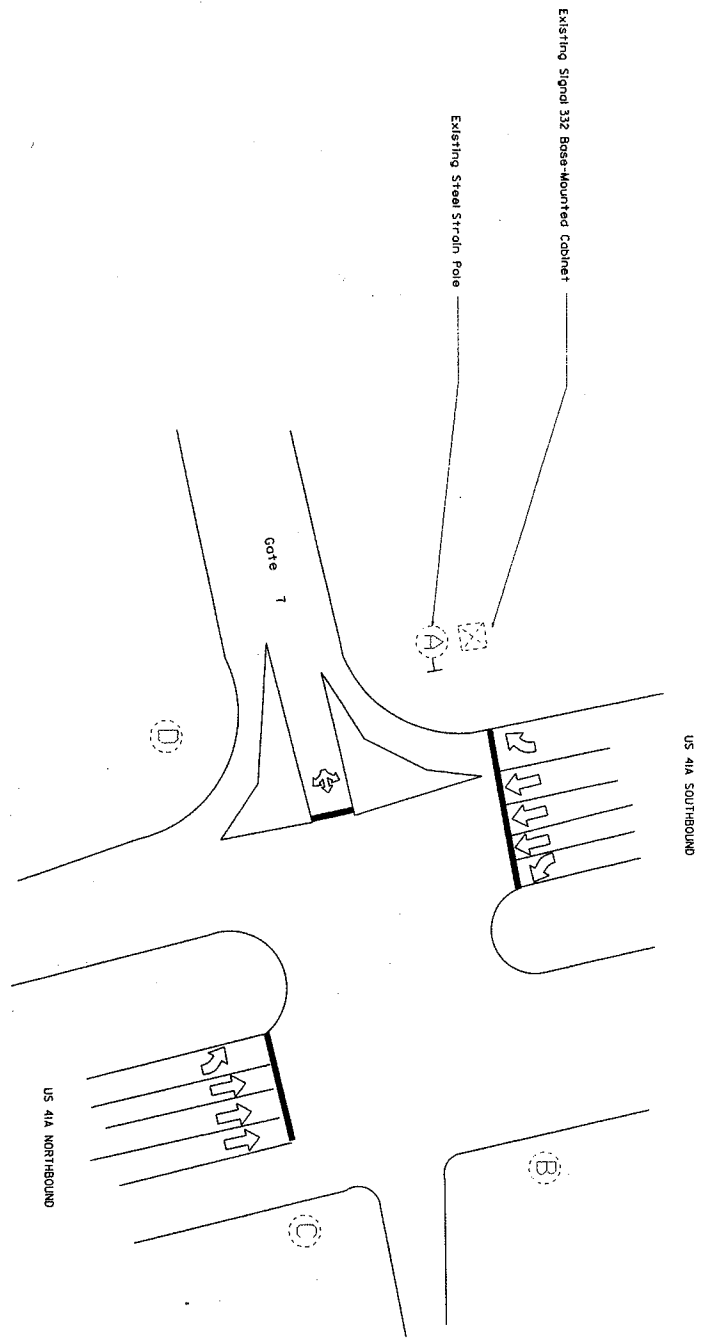
NOT TO SCALE

Camera Location US 41A @ Gate 5

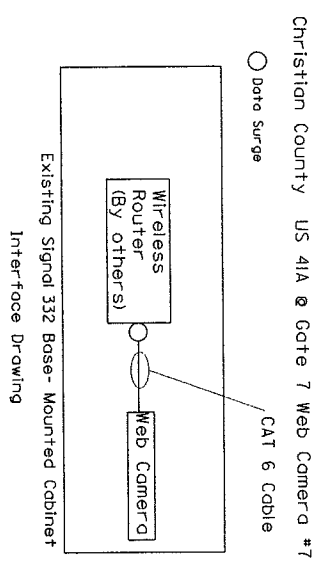
COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	111



LOCATION MAP
 (Not to Scale)



- Existing Steel Strain Pole
- Install web camera on the parapet mount on top of the existing traffic steel strain pole A.
- Existing Signal 332 Base-Mounted Cabinet
- Install 15 Amp Breaker in line with the existing signal power. Install all equipment and wiring specified on Interface Drawing inside the existing cabinet.



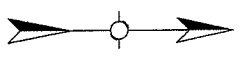
LEGEND

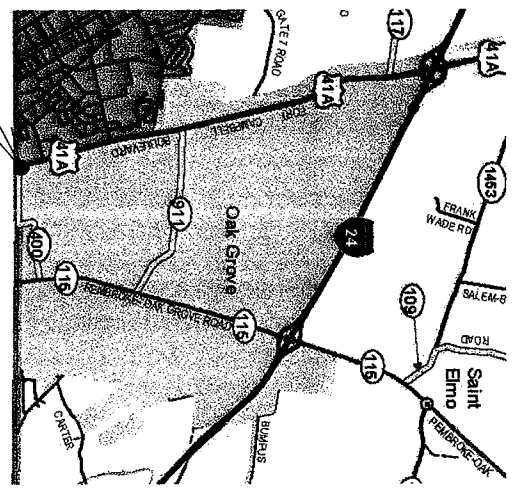
	EXISTING CABINET
	EXISTING POLE
	PROPOSED WEB CAMERA
	JUNCTION BOX
	CONDUIT AS INDICATED BY NOTES

NOT TO SCALE

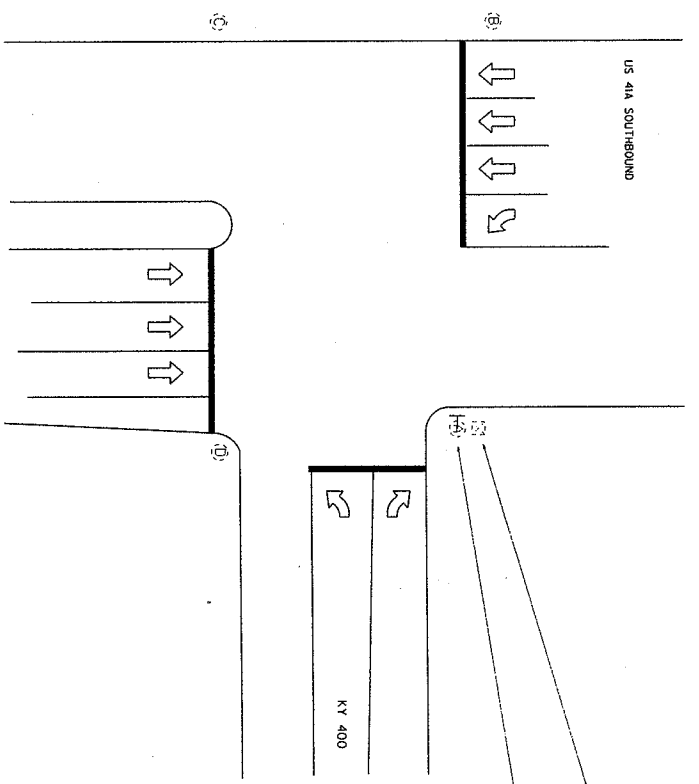
Camera Location US 41A @ GATE 7

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T12

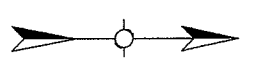
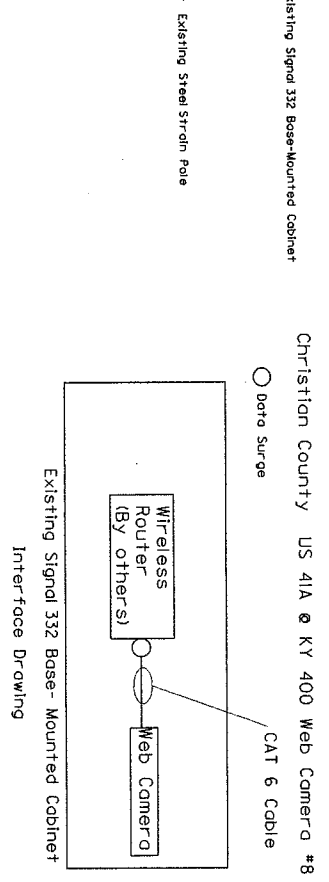




US 41A & KY 400
 Web Camera
 LOCATION MAP
 (Not to Scale)



Existing Steel Strain Pole
 Install web camera on the parapet mount on top of the existing traffic steel strain pole A.
 Existing Signal 332 Base-Mounted Cabinet
 Install 15 Amp Breaker in line with the existing signal power.
 Install all equipment and wiring specified on Interface Drawing inside the existing cabinet.

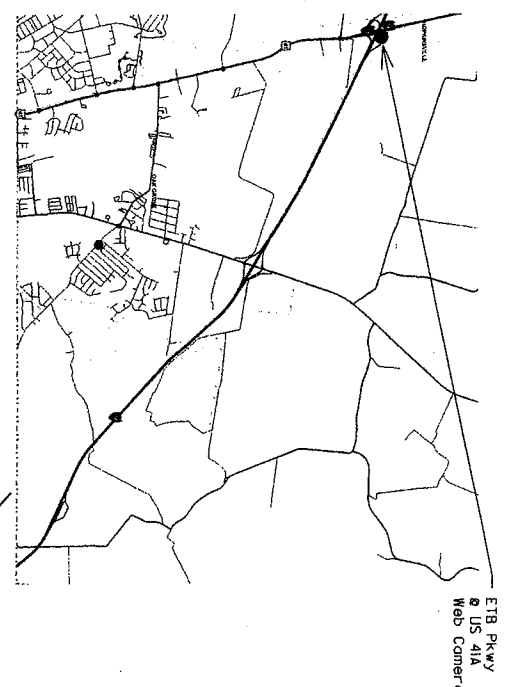


COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T13

LEGEND	
	EXISTING CABINET
	EXISTING POLE
	PROPOSED WEB CAMERA
	JUNCTION BOX
CONDUIT AS INDICATED BY NOTES	

NOT TO SCALE

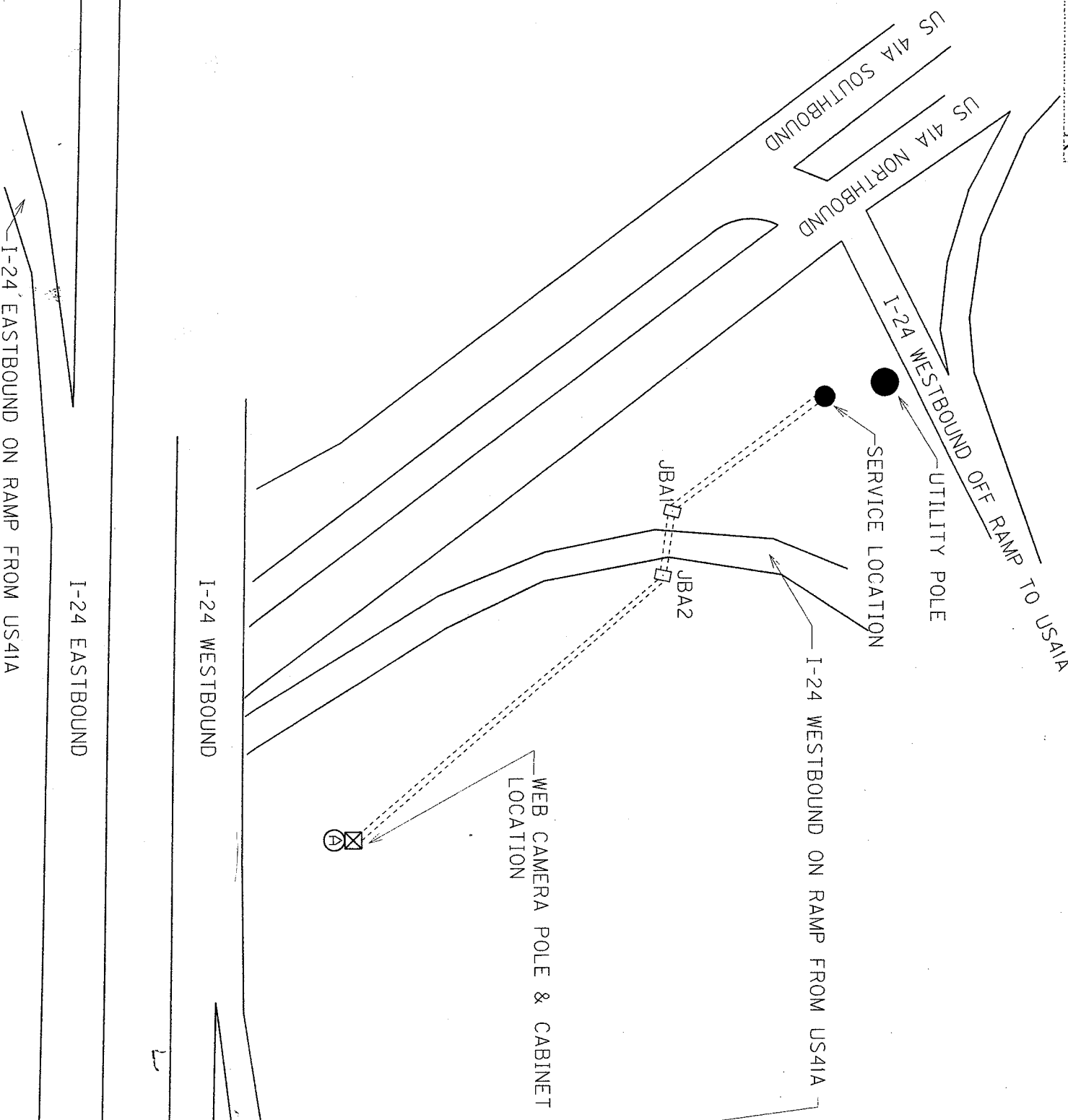
Camera Location US 41A @ KY 400



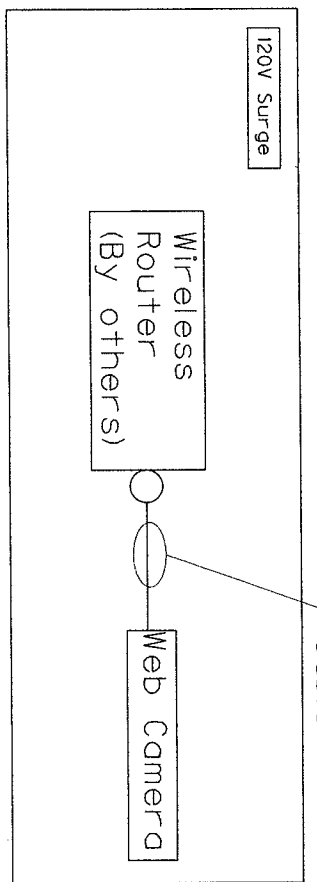
WEB CAMERA LOCATION
 INSTALL 336 POLE MOUNT CABINET.
 INSTALL A 15 AMP BREAKER FOR THE CAMERA INSIDE THE CABINET.
 INSTALL TO STEEL STRAIN POLE WITH LOWERING DEVICE.
 INSTALL WEB CAMERA SHALL BE INSTALL ON LOWERING DEVICE.
 INSTALL ALL EQUIPMENT SPECIFIED ON INTERFACE DRAWING ON 19" SHELF INSIDE THE CABINET.

SERVICE LOCATION
 INSTALL 35' WOOD POLE WITH 120/240 VOLT SERVICE AND CONDUIT FOR FUTURE COMMUNICATION LINES BY OTHERS.
 INSTALL METER AND 60 AMP DISCONNECT ON 35' WOOD POLE.

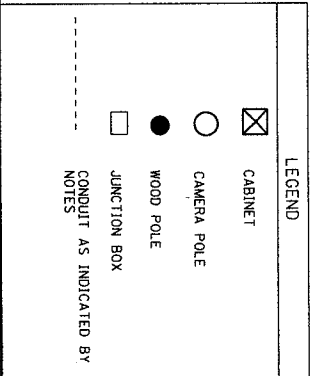
NOTES
 CONTRACTOR SHALL TRANSITION ALL PVC CONDUIT TO RIGID STEEL FOR ABOVE GROUND INSTALLATION.
 All installation of conduit under the roadway shall be incidental to bid item "Trenching and Backfilling".



Christian County I-24 @ US41A Web Camera #9



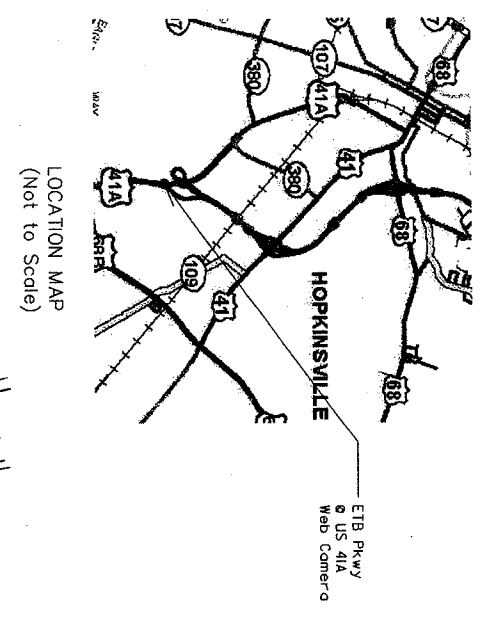
FROM	TO	CONDUIT REQUIRED	WIRE REQUIRED
SERVICE POLE (120/240 VOLT)	JBA1	2" SCHEDULE 40 PVC CONDUIT	3-#4 AWG WIRES
SERVICE POLE (120/240 VOLT)	JBA2	2" SCHEDULE 40 PVC CONDUIT	THE COMMUNICATION PROVIDER
JBA1	JBA2	2" RIGID STEEL CONDUIT UNDER THE ROADWAY	3-#4 AWG WIRES
JBA1	JBA2	2" RIGID STEEL CONDUIT UNDER THE ROADWAY	THE COMMUNICATION PROVIDER
JBA2	WEB CAMERA POLE	2" SCHEDULE 40 PVC CONDUIT	3-#4 AWG WIRES
JBA2	WEB CAMERA POLE	2" SCHEDULE 40 PVC CONDUIT	3-#4 AWG WIRES
CAMERA POLE	CAMERA POLE	SPARE 2" SCHEDULE 40 PVC CONDUIT	CAP ON BOTH ENDS



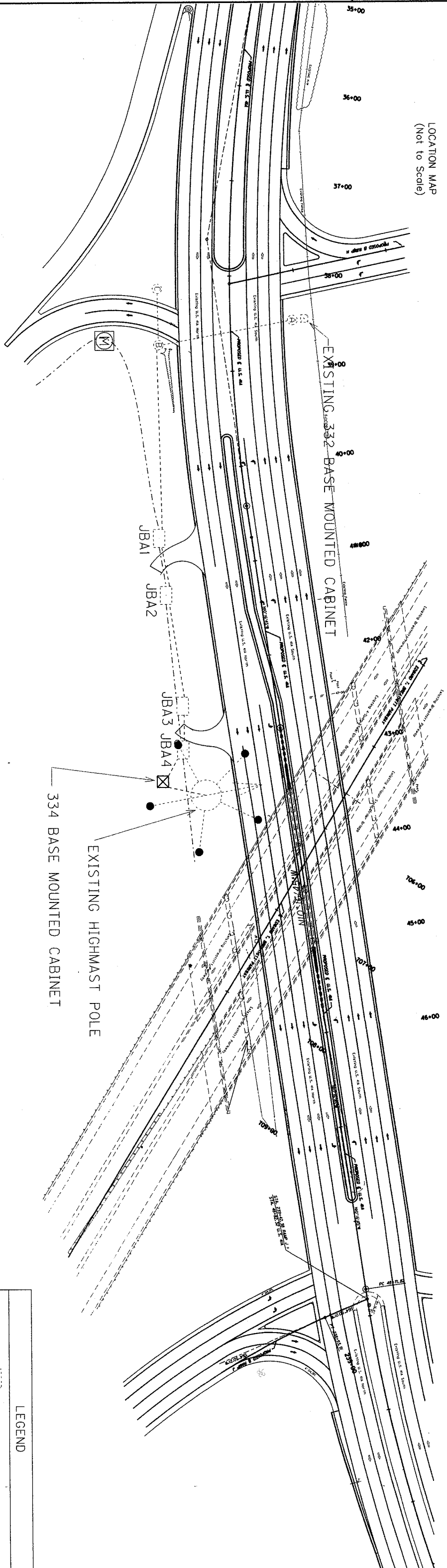
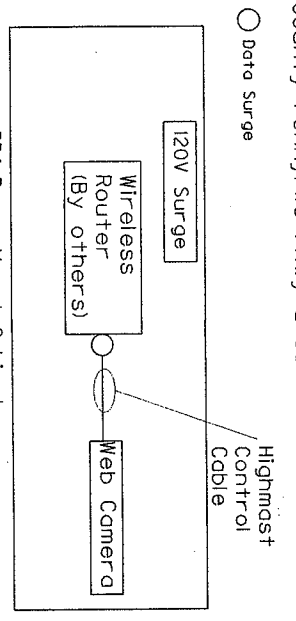
NOT TO SCALE

I-24 @ US41A WEB CAMERA #9

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T14



Christian County Pennyrile Pkwy @ US 41A Web Camera #9



From	To	Conduit/Existing Pole Required	Wire Required
Existing 332 cabinet (120/240 volt)	Steel Strain Pole A	Though existing 2" conduit	3-#4 AWG wires
Bottom of steel strain pole A	Top of steel strain pole A	Though existing steel strain pole A	3-#4 AWG wires
Top of steel strain pole A	Top of steel strain pole B	Across messenger wire	3-#4 AWG wires
Top of steel strain pole B	Bottom of steel strain pole B	Though existing steel strain pole B	3-#4 AWG wires
Bottom of steel strain pole B	JBA1	Though existing 1/4" spore conduit	3-#4 AWG wires
JBA1	JBA2	2" Schedule 40 PVC conduit	3-#4 AWG wires
JBA2	JBA3	2" Rigid Steel conduit	3-#4 AWG wires
JBA3	JBA4	2" Schedule 40 PVC conduit	3-#4 AWG wires
JBA4	334 base mount cabinet	2" Schedule 40 PVC conduit	3-#4 AWG wires
334 base mount cabinet	Existing Highmast Pole	2" Schedule 40 PVC conduit	Highmast Camera Control Cable
334 base mount cabinet	334 base mount cabinet	Spore 2" Schedule 40 PVC conduit	Capped on Both Ends

Wire and Conduit Sizes

334 Base Mounted Cabinet Location

EXISTING HIGHMAST POLE

334 BASE MOUNTED CABINET

334 Base Mounted Cabinet Location
 Install 334 base mount cabinet.
 Install a 15 AMP breaker for the camera inside the cabinet.
 Install all equipment specified on Interface Drawing on 19" shelf inside the cabinet.
 Install additional disconnect on side of base mount cabinet.
 Existing Highmast Pole
 Install web camera on the existing high mast pole's lowering device.
 Existing 332 Base Mount Cabinet Location
 Install separate 15 AMP breaker inside of 332 base mount cabinet.

Notes
 Contractor shall transition all PVC conduit to rigid steel for above ground installation.
 All junction boxes are existing and being used for the ducted cable feeds to the highmast.
 All trenches around highmast and the traffic signal shall be hand dug because of the ducted cable run through this area.
 All installation of conduit under the roadway shall be incidental to bid item "Trenching and Backfilling".

SCALE: 1"=50'

LEGEND

- EXISTING SIGNAL CABINET
- 334 CABINET
- EXISTING HIGHMAST POLE
- EXISTING SIGNAL POLE
- EXISTING JUNCTION BOX
- CONDUIT AS INDICATED BY NOTES
- EXISTING DUCTED CABLE

PENNYRILE PKWY @ US 41A HM CAMERA

COUNTY OF	ITEM NO.	SHEET NO.
CHRISTIAN	2-192.00	T15

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS CHRISTIAN COUNTY VMS SIGN TRUSS SUPPORTS OVER I-24 ITEM NUMBER 2-192.00

LIST OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	GENERAL PLAN AND ELEVATION
4	TRUSS SUPPORT DETAILS
5	PARTIAL PLAN & ELEVATION
6	CATWALK AND LADDER DETAILS
7	HANGER AND LADDER DETAILS

QUANTITIES FOR VMS			
CODE	ITEM	QUANTITY	UNITS
6490	Class "A" Concrete for signs	31.2	Cu. Yds.
6491	Steel Reinforcement for signs	2582	Lbs.
21055ND	OSS 100' Galvanized Steel (VMS)	1	Each
20419ED	Roadway Cross Section	1	Each

Note: The quantities shown are for information only. Refer to the Sign Summary Schedule for bid items.

THE CONTRACTOR IS ADVISED TO EXERCISE EXTREME CAUTION IN HIS OPERATIONS IN AREAS WHERE PLANS INDICATE THE PRESENCE OF A GAS LINE OR OTHER LINES CARRYING HAZARDOUS MATERIAL.

REVISION _____ DATE _____ DATE: July, 2008 CHECKED BY _____ DESIGNED BY: J. Rogers D. Carpenter DETAILED BY: J. Rogers J. Rogers	
COUNTY CHRISTIAN	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
ROUTE I-24	
TITLE SHEET OSS 100' GALVANIZED STEEL (VMS)	
PREPARED BY Division of Bridge Design D. Carpenter Section	
SHEET NO.	DRAWING NO.

RUSS GENERAL NOTES

SPECIFICATIONS: THE KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION WITH REVISIONS, SHALL APPLY TO THIS PROJECT.

DESIGN: DESIGNED FOR A SIGN WITH DIMENSIONS OF 8'-6" X 30'-8" W X 45/4" DEEP AND A LATIC LOAD OF 3.7IK PLUS A CATWALK DEAD AND LIVE LOAD. WITH A 80 MI/ES/HOUR WIND LOAD AND A 3 PSF ICE LOAD ON ALL TRUSS MEMBERS, SIGN AND CATWALK AND IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS* PUBLISHED BY AASHTO, 1994.

SUPERELEVATION OF ROADWAY: THE CONTRACTOR SHALL ALLOW FOR DIFFERENCES IN ELEVATION ACROSS THE FULL SHOULDER WIDTH OF THE ROADWAY WHEN MAINTAINING THE REQUIRED 18" MINIMUM CRITICAL CLEARANCE TO THE BOTTOM OF THE LOWEST PART OF THE SIGN SUPPORT. SIGNS ARE TO BE CENTERED OVER THE LANE OR LANES TO WHICH THEY APPLY UNLESS SHOWN OTHERWISE.

CONCRETE: CLASS "A" CONCRETE IS TO BE USED THROUGHOUT.

BEVELED EDGES: ALL EXPOSED CONCRETE EDGES ARE TO BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

REINFORCEMENT: DIMENSIONS FROM FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES EXCEPT AS OTHERWISE SHOWN. DIMENSIONS FOR BAR SPACINGS ARE DISTANCES CENTER TO CENTER OF BARS.

SHOP DRAWINGS: THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS TO THE DIVISION OF BRIDGE DESIGN FOR REVIEW PRIOR TO FABRICATION IN ACCORDANCE WITH THE SPECIFICATIONS.

FABRICATION: THE SIGN SUPPORT SHALL BE FABRICATED IN ACCORDANCE WITH THE SPECIFICATIONS. ALL OTHER COMPONENTS OF THE SUPPORT EXCEPT STAINLESS STEEL HARDWARE SHALL BE HOT-DIP GALVANIZED. AFTER ALL FABRICATION HAS BEEN COMPLETED, THE GALVANIZED MATERIAL SHALL BE LOADED, HAULED AND UNDED IN SUCH A MANNER THAT THE GALVANIZING WILL NOT BE DAMAGED. ALL ABRADED AND DAMAGED SURFACES SHALL BE REGALVANIZED OR REPAIRED BY PAINTING WITH TWO COATS OF ZINC OXIDE. ZINC DUST SHALL CONFORMING TO THE REQUIREMENT OF FEDERAL SPECIFICATIONS. THE PAINT IS TO BE PROPERLY COMPOUNDED IN A SUITABLE VEHICLE IN THE RATIO OF ONE PART ZINC OXIDE TO FOUR PARTS ZINC JUST BY WEIGHT. ALL REPAIRS SHALL BE AS DIRECTED BY THE ENGINEER.

MILL TEST REPORTS: NOTARIZED TEST REPORTS IN TRIPLICATE SHALL BE FURNISHED TO FOR THE KENTUCKY TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS STATING THAT THE MATERIAL USED CONFORMS TO THE SPECIFICATIONS.

WELDERS AND WELDING PROCEDURE: WELDED FABRICATION SHALL BE LIMITED TO THE INERT GAS SHIELDED, JINGSTEN OR CONSUMABLE ELECTRODE METHODS OF ARC WELDING. WELDING PROCEDURE, WELDERS AND WELDING OPERATORS SHALL BE QUALIFIED ACCORDING TO SECTION IX OF THE ASME BOILER AND PRESSURE VESSEL CODE, 1971 EDITION, PART A, REQUIREMENTS FOR FERROUS METALS. CERTIFIED COPIES IN TRIPLICATE OF ASME BOILER CODE APPENDIX II, QUALIFICATION TEST FORMS, A-1, A-1F, A-1F OR APPROVED EQUAL SHALL BE SUBMITTED TO THE DEPARTMENT OF HIGHWAYS. PERTINENT FORMS SHALL INDICATE ACCEPTABLE QUALIFICATIONS OF WELDING PROCEDURES AND WELDER PERFORMANCE OF GROOVE AND FILLET WELDS.

MATERIAL SPECIFICATIONS: THE FOLLOWING ASTM DESIGNATIONS SHALL GOVERN ALL MATERIAL USED:

- ASTM MATERIAL
- A53-96 GRADE B STEEL PIPE GALVANIZED IN ACCORDANCE WITH ASTM A-123.
- A36-96 STRUCTURAL SHAPES, PLATES, BARS AND ANCHOR BOLTS, GALVANIZED IN ACCORDANCE WITH ASTM-123.
- A106-95 GRADE B CARBON STEEL PIPE GALVANIZED IN ACCORDANCE WITH ASTM-123.
- A27-84 OR APPROVED EQUALS CARBON STEEL CASTINGS, GRADE 70-36.
- A320-84A STAINLESS STEEL HARDWARE - NUTS, BOLTS, WASHERS AND SCREWS

FOOTINGS: ALL FOOTINGS SHALL BE POURED AGAINST UNDISTURBED EARTH AND ARE DESIGNED TO TRANSFER MORE THAN 3 Ksf BEARING PRESSURE TO THE SOIL UNDER ANY DESIGN LOADING CONDITION.

THE VMS AND ALL MOUNTING HARDWARE FOR ATTACHMENT TO THE TRUSS SHALL BE PROVIDED BY THE VMS MANUFACTURER. THE VMS IS TO BE ATTACHED TO THE TRUSS BY THE CONTRACTOR BEFORE ERECTION OF THE TRUSS BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE VMS DURING ATTACHMENT AND ERECTION. THE DEVICES CONTRACTOR, THROUGH THE ENGINEER, SHALL VERIFY WORKING CONDITION OF THE VMS BOTH BEFORE AND AFTER ATTACHMENT AND ERECTION. CLOSE COORDINATION BETWEEN THE CONTRACTOR AND THE DEVICES CONTRACTOR IS REQUIRED FOR THIS INSTALLATION. SHOP PLANS MUST INCLUDE A DOCUMENTATION OF A REVIEW BY THE VMS MANUFACTURER VERIFYING THAT THE TRUSS MOUNTING HARDWARE AND CATWALK/VMS DOOR CLEARANCES ARE COMPATIBLE WITH THE VMS DETAILS.

MASONRY COATING: A MASONRY COATING SHALL BE APPLIED 6" BELOW THE GROUND LINE AND UP TO ALL CONCRETE. THE COST TO FINISH THE CONCRETE FOOTINGS WITH A MASONRY COATING IS INCLUDED IN THE UNIT PRICE BID FOR "CLASS A CONCRETE FOR SIGNS".

PIPE SIZES ARE NOMINAL DIAMETER.

PIPE SECTIONS SHALL NOT BE SHOP OR FIELD SPLICED EXCEPT AS SHOWN. OTHER SECTIONS MAY BE SHOP SPLICED WITH FULL PENETRATION GROOVE WELDS ONLY.

18. MISCELLANEOUS CONNECTIONS: THE BID FOR THIS TRUSS INCLUDES THE COST TO DESIGN AND DEVELOP PLANS FOR CONNECTING THE SIGN PANEL TO THE TRUSS. THE CONTRACTOR SHALL SUBMIT THIS CONNECTION DESIGN PLAN PRIOR TO RECEIVING APPROVAL FOR TRUSS SHOP PLANS. DETAILS FOR THE SIGN PANEL DOOR AND CATWALK/HANDRAIL CLEARANCES SHALL BE INCLUDED.

19. Roadway Cross Section : The unit price bid for Roadway Cross Section includes all cost to survey the sign location and develop a Cross Section showing the Heights of the Sign Footings and Truss End Posts. The height and shape of the barrier must match the existing barrier. A copy of this Cross Section approved by the Engineer must accompany the Shop Drawings. This operation also serves as a check to verify the "H" & "F" dimensions. Any necessary changes approved by the Engineer are to be noted on the Cross-Section accompanying the Shop Drawings.

20. 100' GALVANIZED TRUSS: THE LIMIT PRICE BID FOR "OSS GALVANIZED STEEL (VMS)" INCLUDES ALL MATERIALS AND LABOR TO FABRICATE AND ERECT THE 100' TRUSS AS DETAILED IN THESE PLANS. THIS INCLUDES ALL GALVANIZED STEEL, CATWALK, LADDER, CONNECTIONS AND OTHER MATERIALS NOT COVERED BY THE VMS SIGN BID ITEMS.

21. VERTICAL DIMENSIONS: Vertical Dimensions HR and HL shall not exceed 27 feet and the combined Dimensions (HR + FR) or (HL + FL) shall not exceed 36 feet.

CATWALK AND LADDER GENERAL NOTES

1. DESIGN SPECIFICATIONS: THIS CATWALK STRUCTURE CONFORMS TO THE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, LATEST EDITION, AND TO THE STRUCTURAL WELDING CODE OF THE AMERICAN WELDING SOCIETY, LATEST EDITION.

2. DESIGN DATA: LOADING: WALKWAY LIVE LOAD = 85 psf

3. MATERIAL: STRUCTURAL STEEL ASTM A36 MINIMUM YIELD STRENGTH FY = 36 KSI WELDING ELECTRODE GRADE AND WELDING PROCESS: E60XX OR E70XX MANUAL SHIELDED METAL-ARC. F6X-EXXX OR FTX-EXXX SUBMERGED-ARC. E705-X OR E700-1 GAS METAL-ARC. MAIN CONNECTIONS BOLTS: ASTM A325 OTHER BOLTS (AS NOTED): ASTM A307 THREADED BARS (STOCK) ASTM A36

STEEL SHALL BE GALVANIZED TO CONFORM TO ASTM A123 AFTER CUTTING BENDING AND WELDING. BOLTS, NUTS, WASHERS AND SIMILAR THREADED FASTENERS SHALL BE GALVANIZED AS PER ASTM A153. THIS ITEM MAY BE MECHANICALLY ZINC COATED IN ACCORDANCE WITH ASTM B695 CLASS 50.

4. WORK DESCRIPTION: THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF A HUNG CATWALK STRUCTURE AS DESCRIBED ON SHEETS 6 TO 8, SPECIFICATIONS AND STANDARD DRAWINGS.

THE CONTRACTOR SHALL PREPARE FULL CATWALK STRUCTURE CONSTRUCTION DRAWINGS TO FIT THE SPAN REQUIREMENTS BY THE PROJECT PLAN.

THE CONTRACTOR SHALL COORDINATE WITH THE DEVICES CONTRACTOR AS TO THE EXACT PLACEMENT OF THE SIGN ON THE SIGN SUPPORT TRUSS TO DETERMINE THE LENGTH OF CATWALK REQUIRED.

IF THE WORKING SURFACE OF THE PROPOSED CATWALK IS NOT AT THE SAME LEVEL AS THE BEARING DECK OF THE SIGN, STEPS SHALL BE PROVIDED. THE CONTRACTOR SHALL COORDINATE WITH THE DEVICE CONTRACTOR TO DETERMINE THE WIDTH OF TREAD AND HEIGHT OF RISER STEPS TO ASSURE THAT THE SIGN ENCLOSURE DOOR WILL OPEN OUT. A LANDING AREA SHALL BE PROVIDED TO ALLOW TOTAL OPENING OF THE DOOR.

5. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BEFORE FABRICATION.

6. GRATING SHALL BE ATTACHED PER MANUFACTURER'S RECOMMENDATIONS.

DATE	REVISION	CHECKED BY	DATE
July, 2008		D. Carpenter	
		J. Rogers	

DESIGNED BY: J. Rogers
 DETAILED BY: J. Rogers

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
CHRISTIAN

GENERAL NOTES

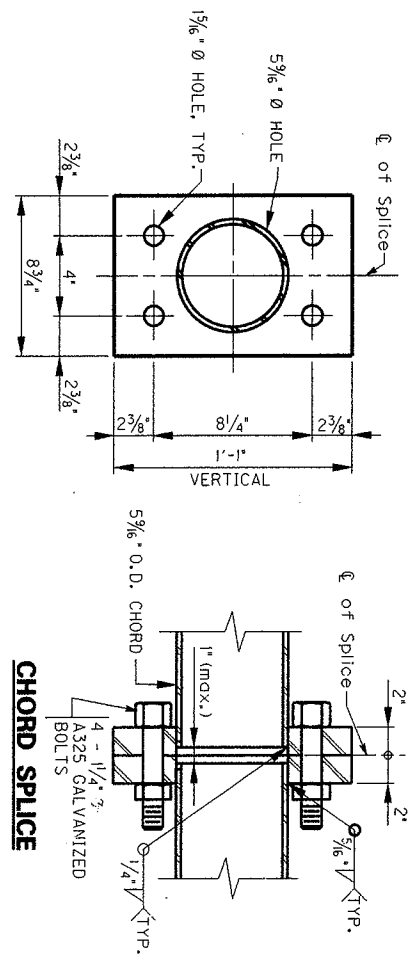
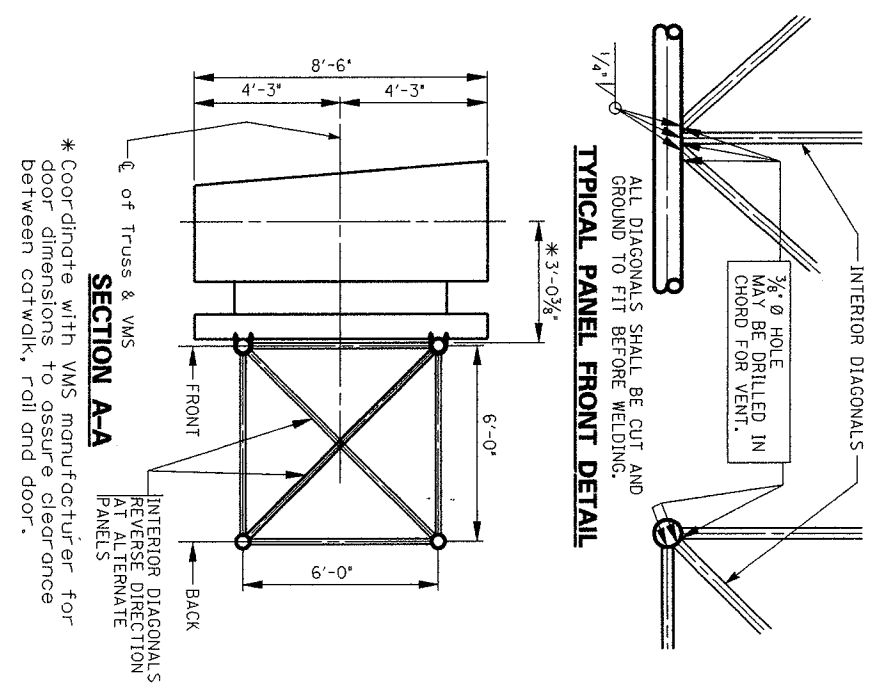
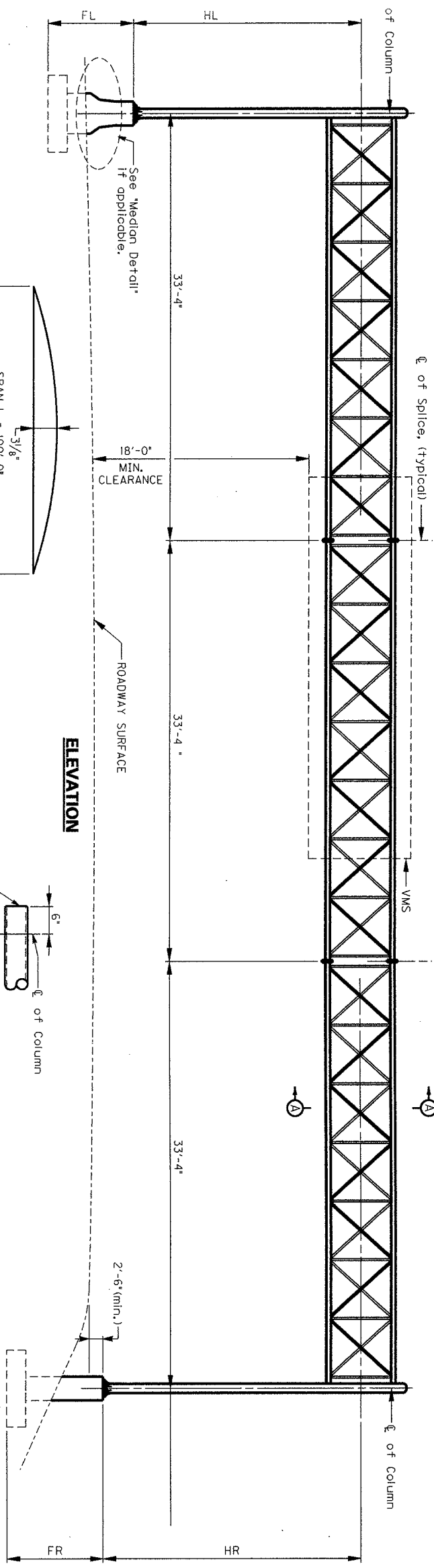
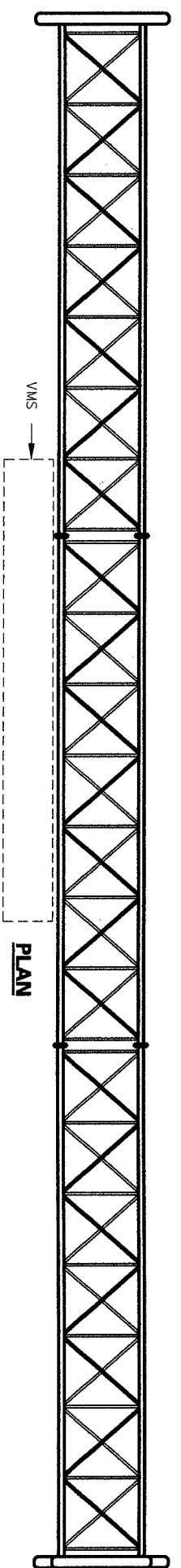
ROUTE I-24 **OSS 100' GALVANIZED STEEL (VMS)**

PREPARED BY
Division of Bridge Design

D. Carpenter Section

ITEM NUMBER
2-192.00

SHEET NO. 2
 DRAWING NO.



NOTES:
CATWALK AND LADDER NOT SHOWN.
SEE SHEETS 6, 7 and 8.
SEE TITLE SHEET FOR VMS LOCATION.
FABRICATOR SHALL PERMANENTLY MARK THE TOP, BOTTOM, FRONT, AND BACK OF TRUSS SEGMENTS. THE FABRICATOR SHALL ALSO MARK THE UNIT IDENTIFIER ON EACH SEGMENT.

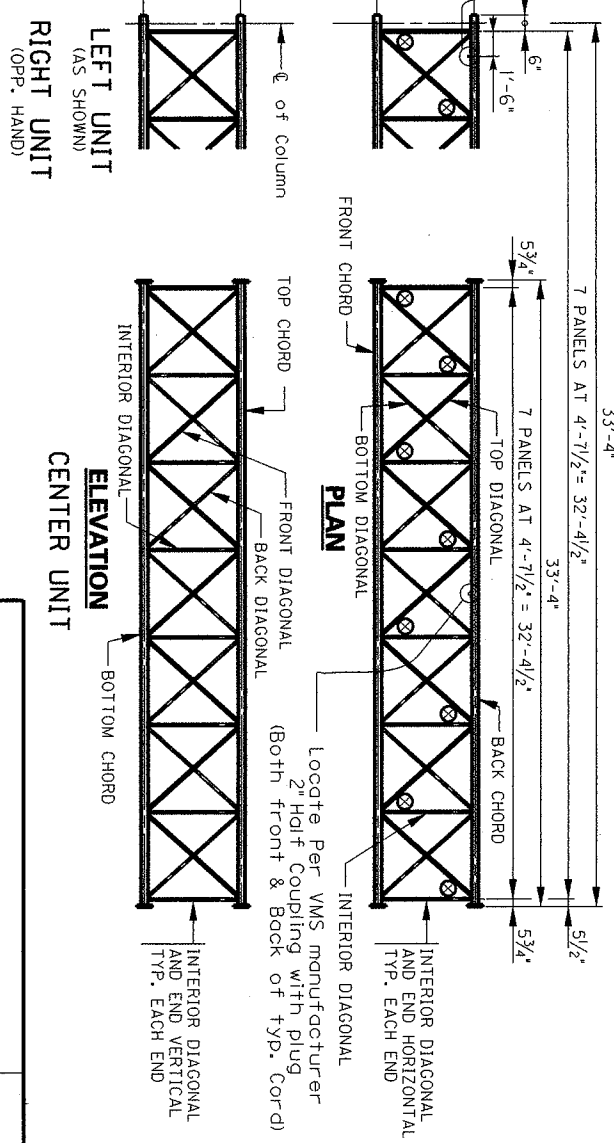


TABLE OF VARIABLES FOR TRUSS MEMBERS - VMS #1 & #2

UNIT	TOP CHORDS	BOTTOM CHORDS	FRONT Δ DIAGONALS	BACK Δ DIAGONALS	INTERIOR ○ DIAGONALS	TOP □ DIAGONALS	BOTTOM □ DIAGONALS
LEFT	5" XS PIPE 0.375" WALL	5" XS PIPE 0.375" WALL	2 1/2" XXS PIPE 0.552" WALL	2 1/2" XXS PIPE 0.552" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL
CENTER	5" XS PIPE 0.375" WALL	5" XS PIPE 0.375" WALL	2 1/2" XXS PIPE 0.552" WALL	2 1/2" XXS PIPE 0.552" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL
RIGHT	5" XS PIPE 0.375" WALL	5" XS PIPE 0.375" WALL	2 1/2" XXS PIPE 0.552" WALL	2 1/2" XXS PIPE 0.552" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL	2" STD. PIPE 0.154" WALL

Δ INCLUDES VERTICAL MEMBERS PERPENDICULAR TO CHORD AT EACH END OF UNIT, EXCEPT VERTICAL MEMBERS PERPENDICULAR TO CHORDS AND ADJACENT TO SPLICES MAY BE 1/2" STD. PIPE WITH 0.145" WALL.

○ INTERIOR DIAGONALS PERPENDICULAR TO CHORDS AND ADJACENT TO SPLICES MAY BE 1/2" STD. PIPE WITH 0.145" WALL.

□ INCLUDES HORIZONTAL MEMBER PERPENDICULAR TO CHORD AT EACH END OF UNIT.

SUPPORT No.	LOCATION	SPAN	SUPPORT HEIGHT	FOOTING HEIGHT
VMS #1 CHRISTIAN CO.	single zone nod83/fbn N 3399742.61 E 4451188.51	100'	17'	21'

* Note: These measurements are for bidding purposes only and may change due to field conditions.

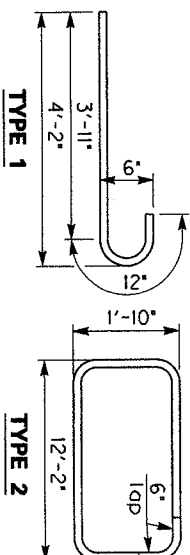
Note:
See Median Barrier Sheet
for M.B. dimension.

ITEM NUMBER		2-1922.00	
DEPARTMENT OF HIGHWAYS Commonwealth of Kentucky COUNTY CHRISTIAN			
ROUTE	OSS 100' GALVANIZED STEEL (VMS)		
GENERAL PLAN & ELEVATION			
Prepared by Division of Bridge Design			
D. Carpenter Section			
DATE	REVISION	CHECKED BY	DATE
July, 2008		D. Carpenter	
DESIGNED BY: J. Rogers			
DETAILED BY: J. Rogers			

BILL OF REINFORCEMENT

FOR ONE FOOTING

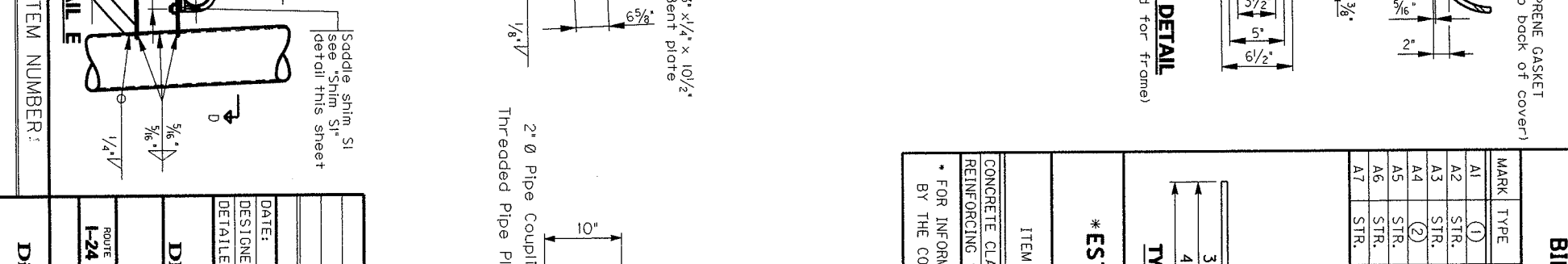
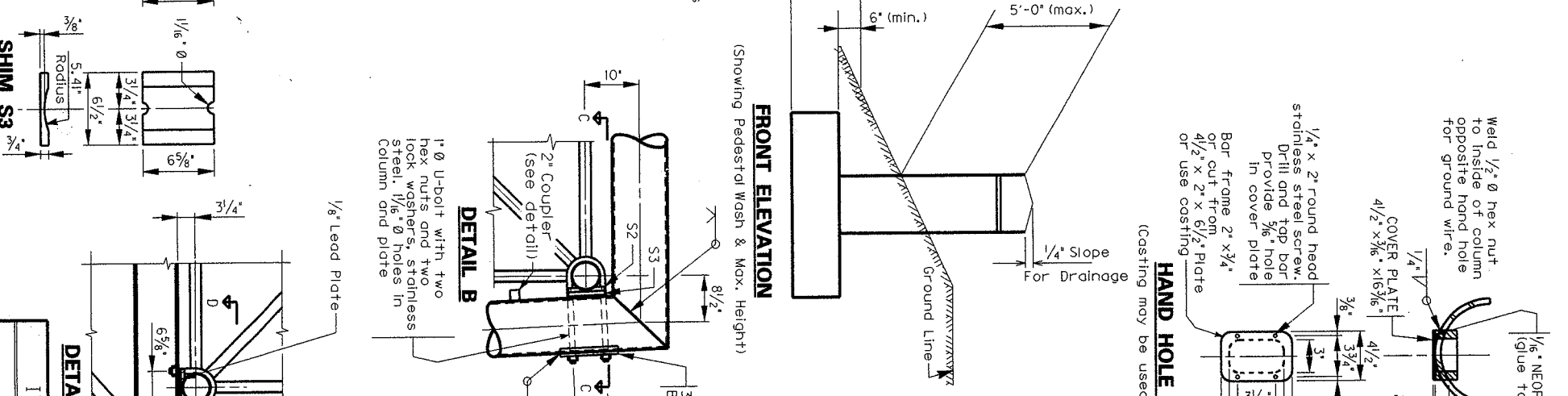
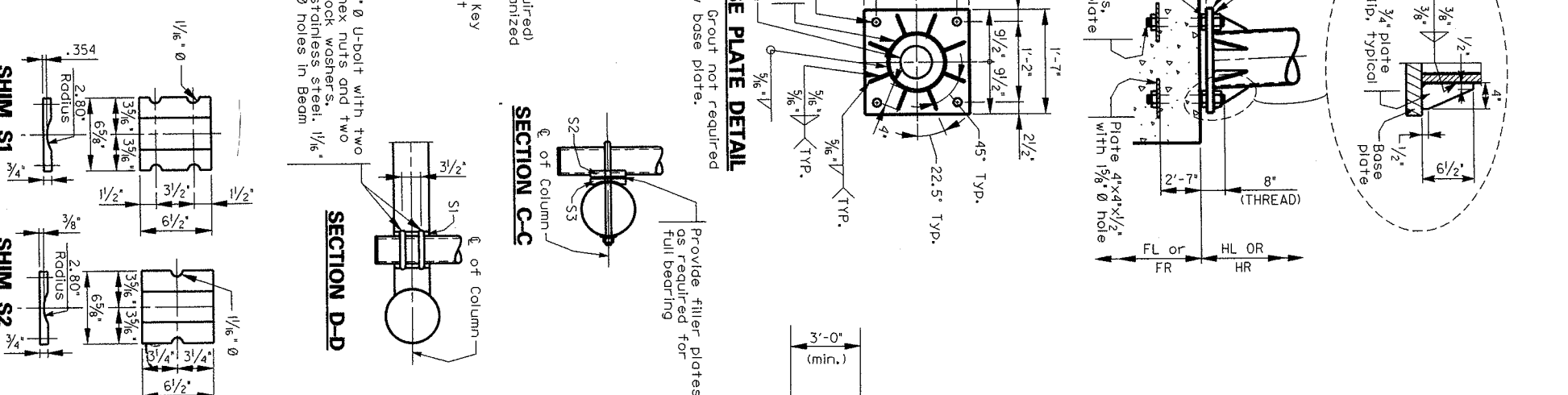
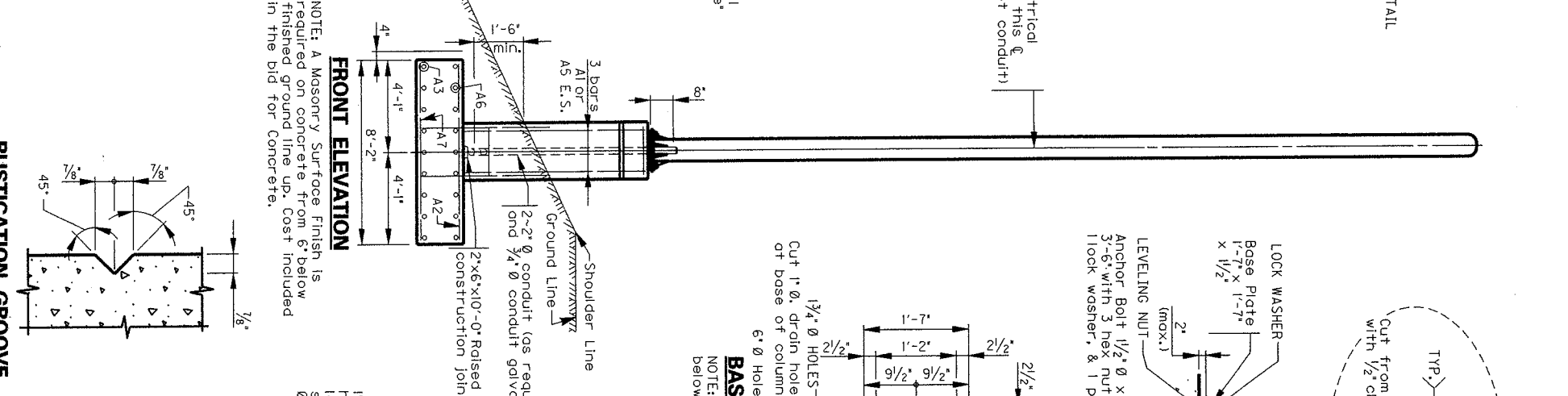
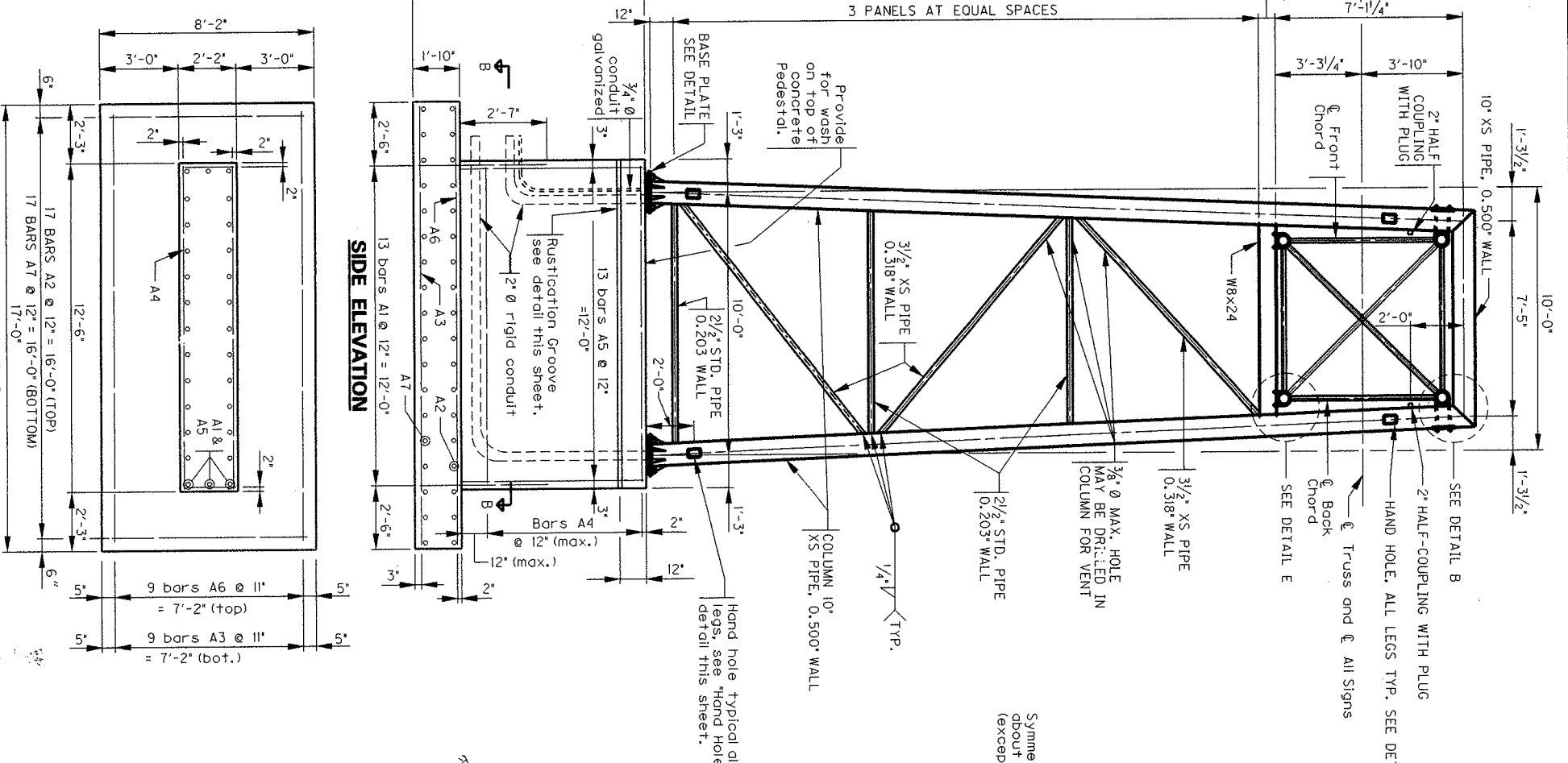
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION
A1	(1)	28	#6	4'-11"	FOOTING & WALL
A2	STR.	17	#5	7'-10"	FOOTING
A3	STR.	9	#6	16'-8"	FOOTING
A4	(2)	VARIES	#4	28'-10"	WALL
A5	STR.	28	#5	F-(2'-0")	WALL
A6	STR.	9	#5	16'-8"	FOOTING
A7	STR.	17	#6	7'-10"	FOOTING



*** ESTIMATE OF QUANTITIES**
(for one footing only)

ITEM	QUANTITY	ADDITIONAL
F-6'-0"	13.6 cu. yds.	1.0 cu. yd.
CONCRETE CLASS "A"	193 lbs.	49 lbs.
REINFORCING STEEL		

* FOR INFORMATION ONLY. FL AND FR SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.



TRUSS SUPPORT DETAILS

Prepared by: **D. Carpenter**
Division of Bridge Design
D. Carpenter Section

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY: CHRISTIAN

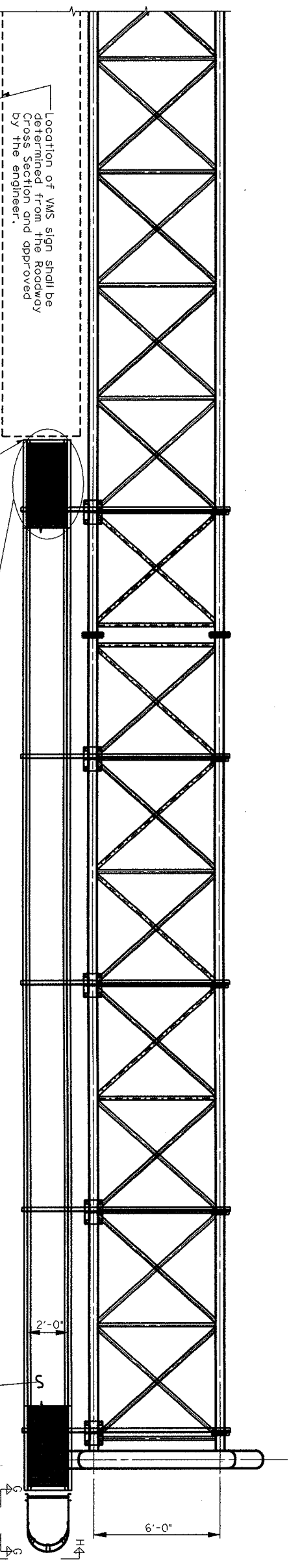
ROUTE: L-24
OSS 100' GALVANIZED STEEL (VMS)

DATE: July, 2008
DESIGNED BY: J. Rogers
CHECKED BY: D. Carpenter
DETAILED BY: J. Rogers

REVISION: _____
DATE: _____

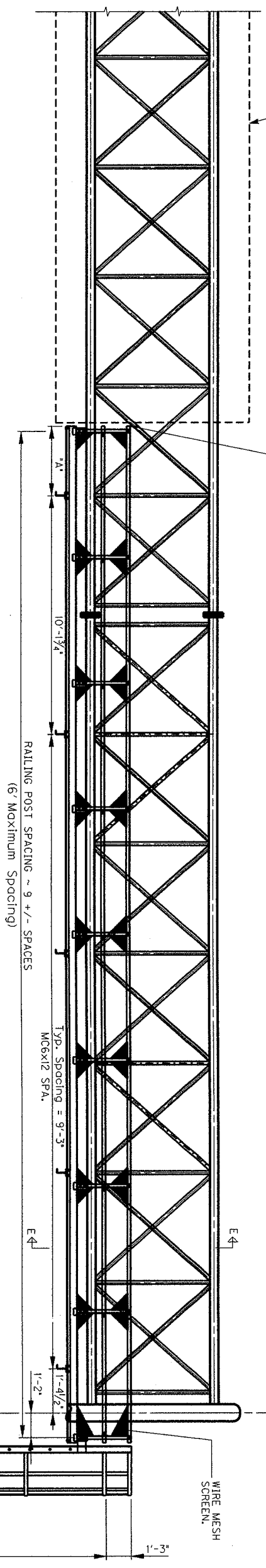
ITEM NUMBER: 2-192.00

SHEET NO. 4
DRAWING NO. _____



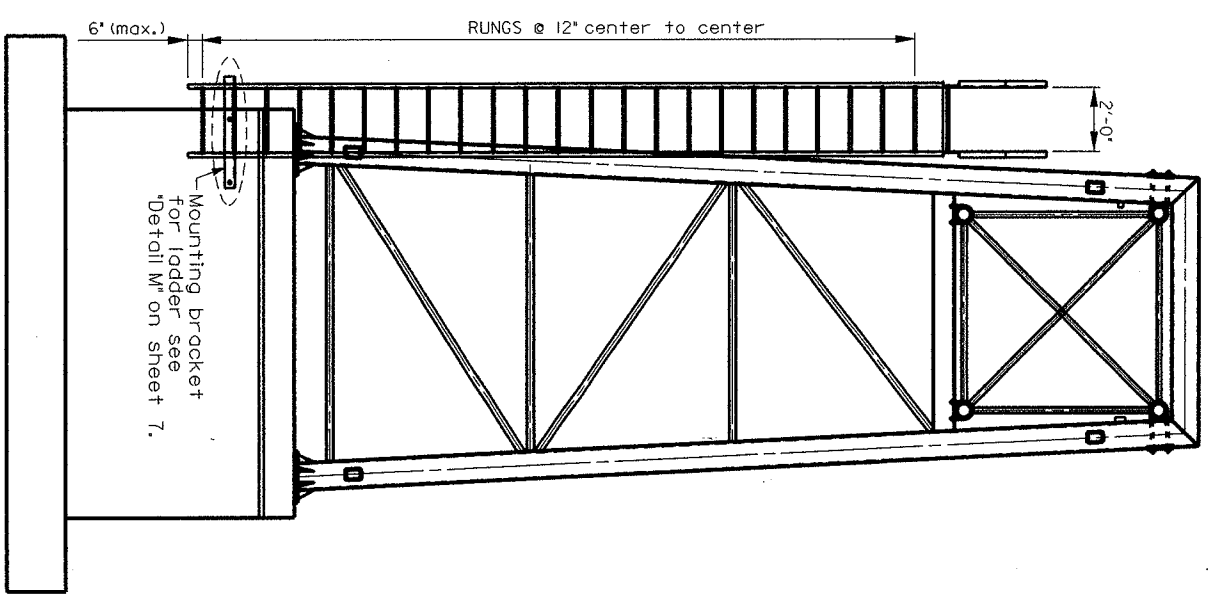
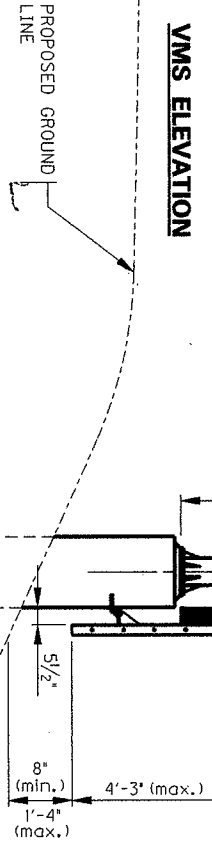
Note:
The VMS Sign manufacturer must verify that the door has ample opening clearance before shop plans are submitted.

VMS PLAN



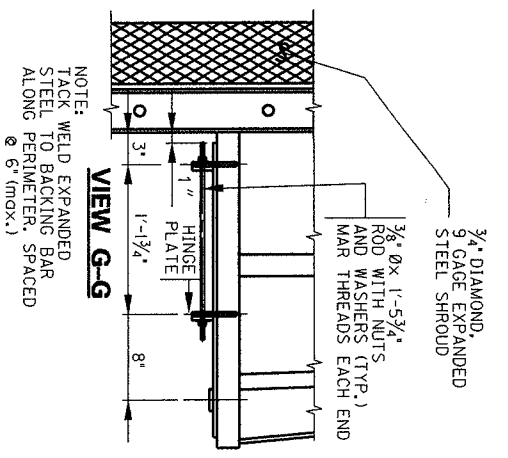
- Dimension 'A' Must Not Exceed 4'-6".
- Number of Brackets dependent on Field Conditions

CATWALK AND LADDER PLAN AND ELEVATIONS

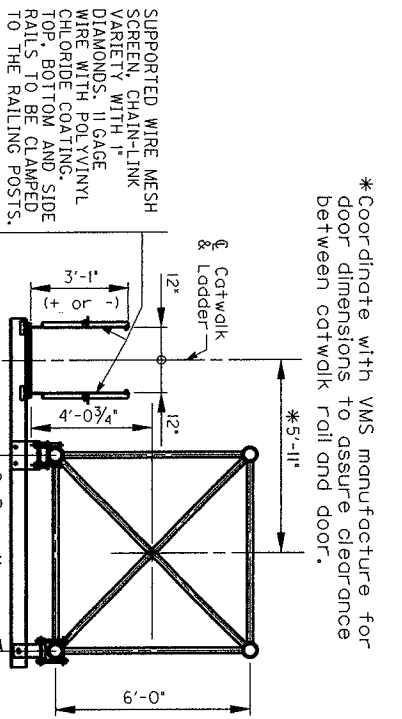
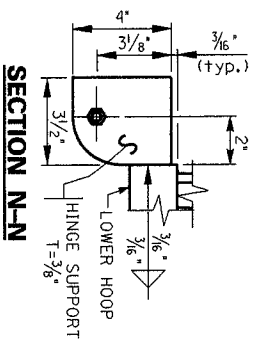
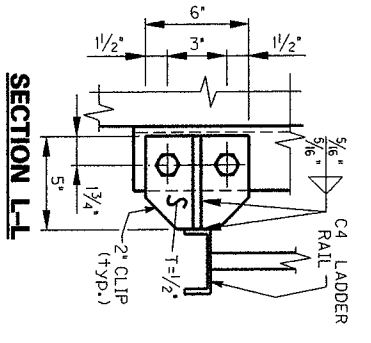
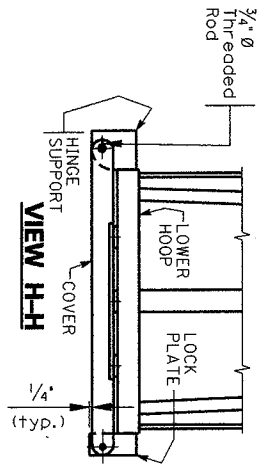


NOTES:
FOR LADDER DETAILS, SEE SHEETS 6 & 7.
FOR WALKWAY DETAILS, SEE SHEET 6.
SEE CROSS-SECTION SHEETS FOR FOOTING ELEVATIONS.

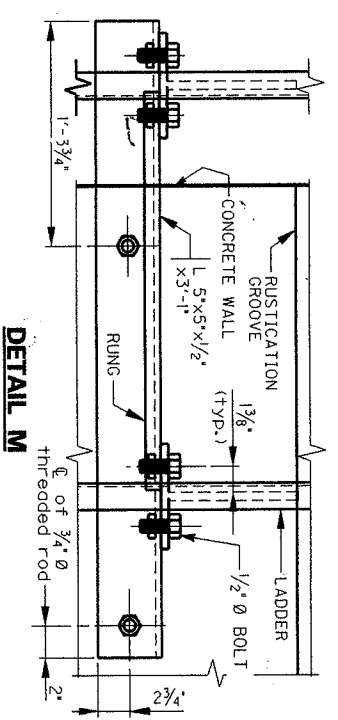
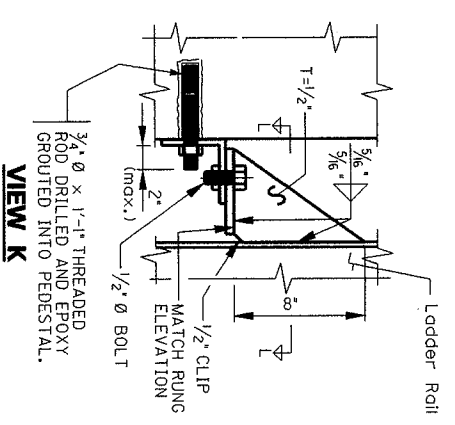
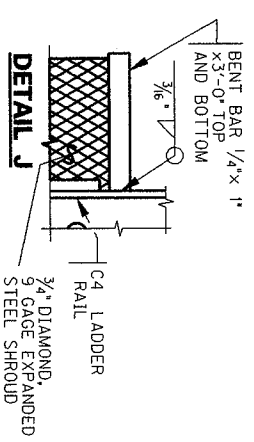
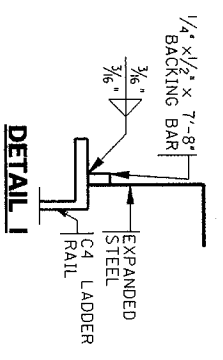
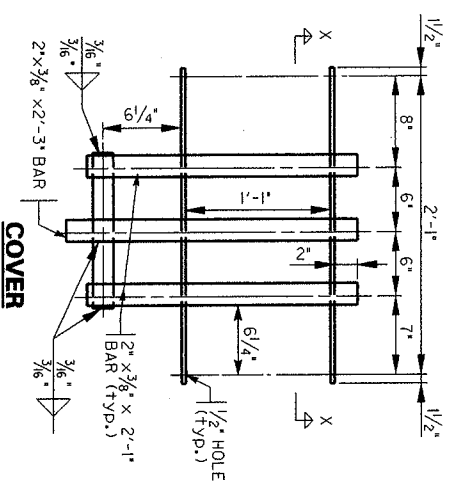
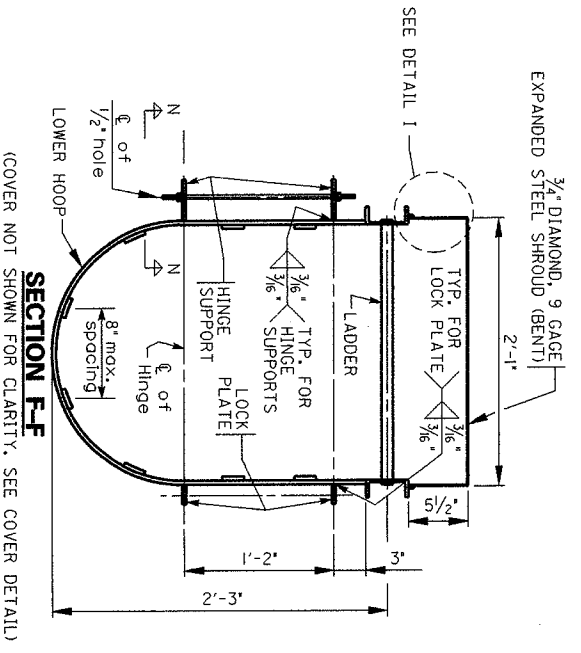
ITEM NUMBER		2-192.00	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY CHRISTIAN			
ROUTE 1-24 OSS 100' GALVANIZED STEEL (VMS) PARTIAL PLAN & ELEVATION PREPARED BY Division of Bridge Design D. Carpenter Section			
DATE:	JULY, 2008	CHECKED BY:	
DESIGNED BY:	J. ROGERS	DRAWN BY:	J. ROGERS
REVISION		DATE	
SHEET NO. 5 DRAWING NO.			



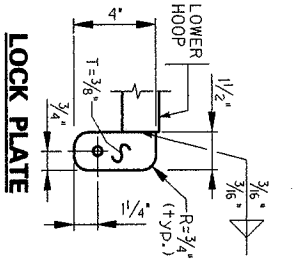
NOTE: WELD EXPANDED STEEL TO BACKING BAR ALONG PERIMETER, SPACED @ 6\" (max.)

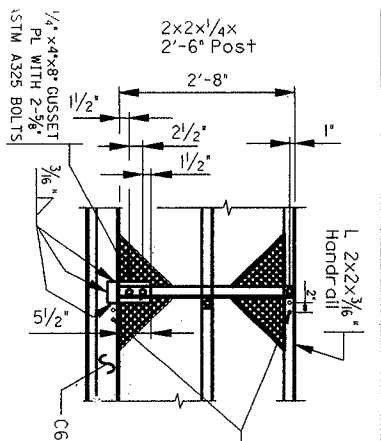


*Coordinate with VMS manufacture for door dimensions to assure clearance between cotwalk rail and door.



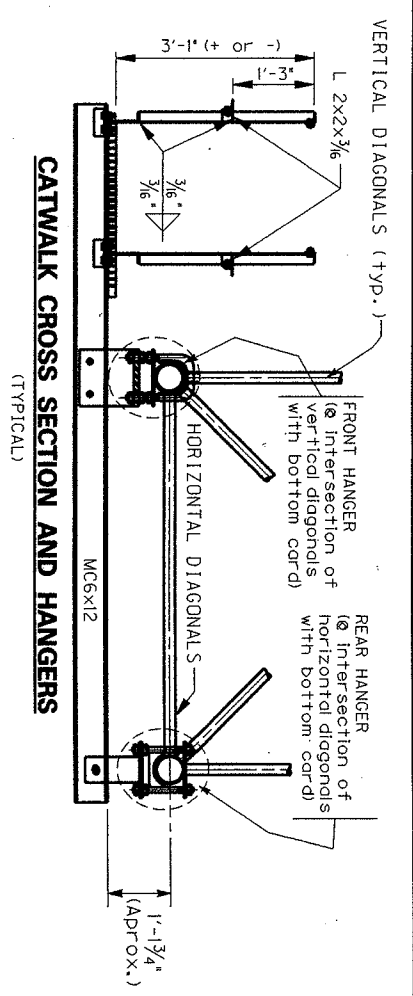
ITEM NUMBER		2-192.00	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS CHRISTIAN COUNTY			
ROUTE	L-24	OSSE 100' GALVANIZED STEEL (VMS)	CATWALK & LADDER DETAILS
PREPARED BY	D. Carpenter		
CHECKED BY	D. Carpenter		
DATE	July, 2008		
DESIGNED BY	J. Rogers		
DETAILED BY	J. Rogers		
REVISION	DATE	CHECKED BY	DATE



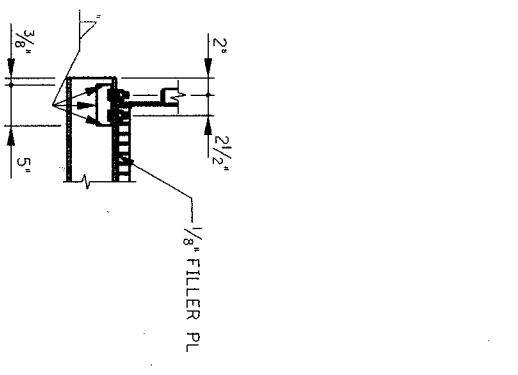


HANDRAIL AND POST
(TYPICAL ELEVATION AT POSTS)

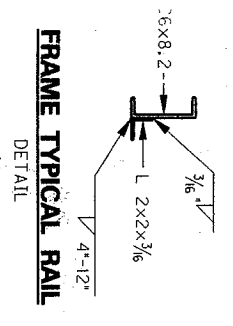
Connect fencing to top & bottom rail with 2-3/8" dia. carriage bolts with a 1"x0-3"x1/8" strap spaced @ 3' o.c.



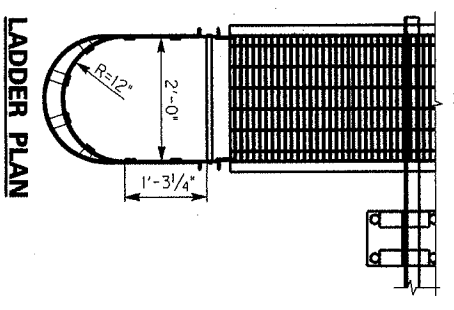
CATWALK CROSS SECTION AND HANGERS
(TYPICAL)



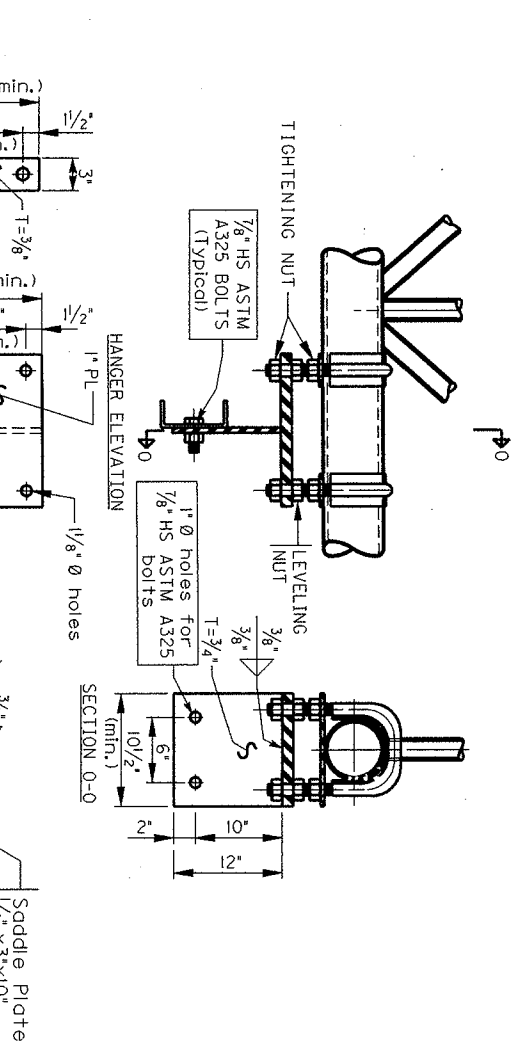
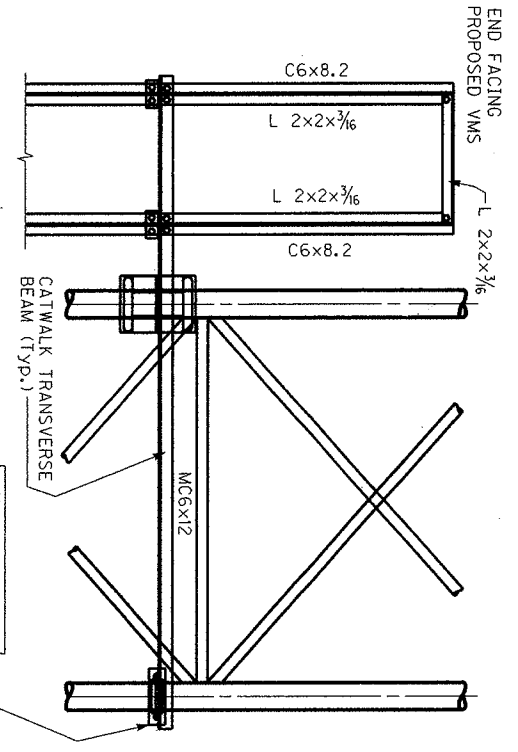
DETAIL OF CONNECTION
5/8" HS BOLTS ASTM A325 (TYPICAL)



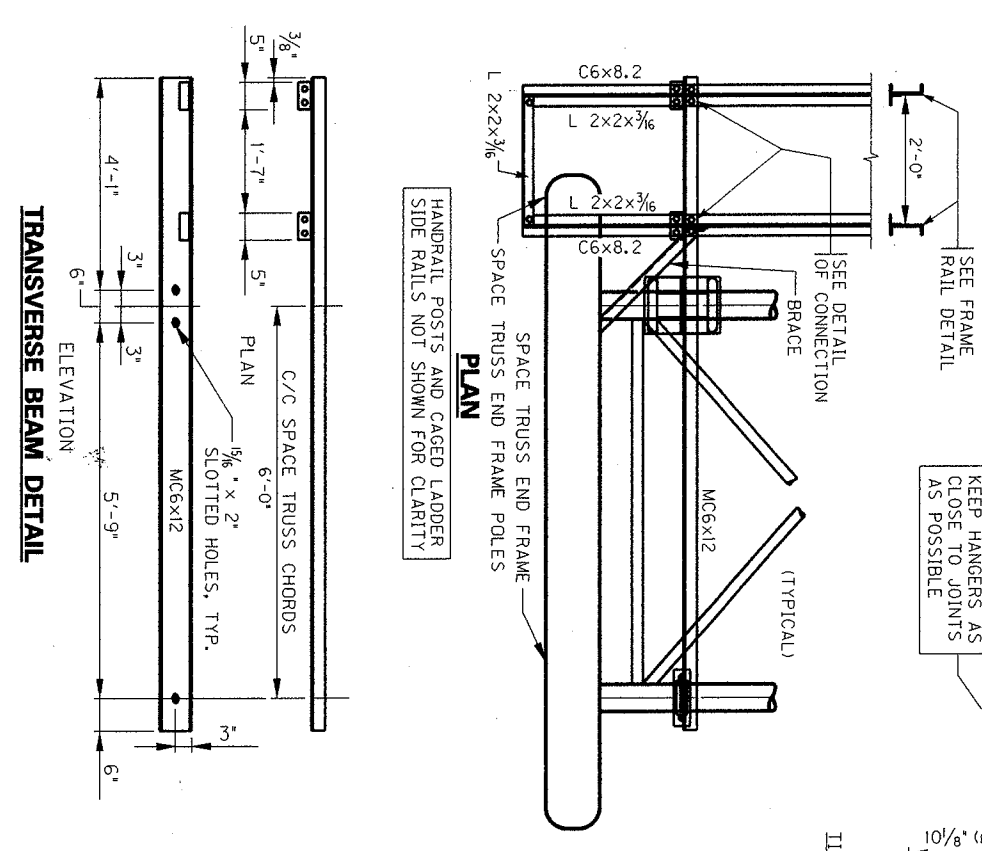
FRAME TYPICAL RAIL DETAIL



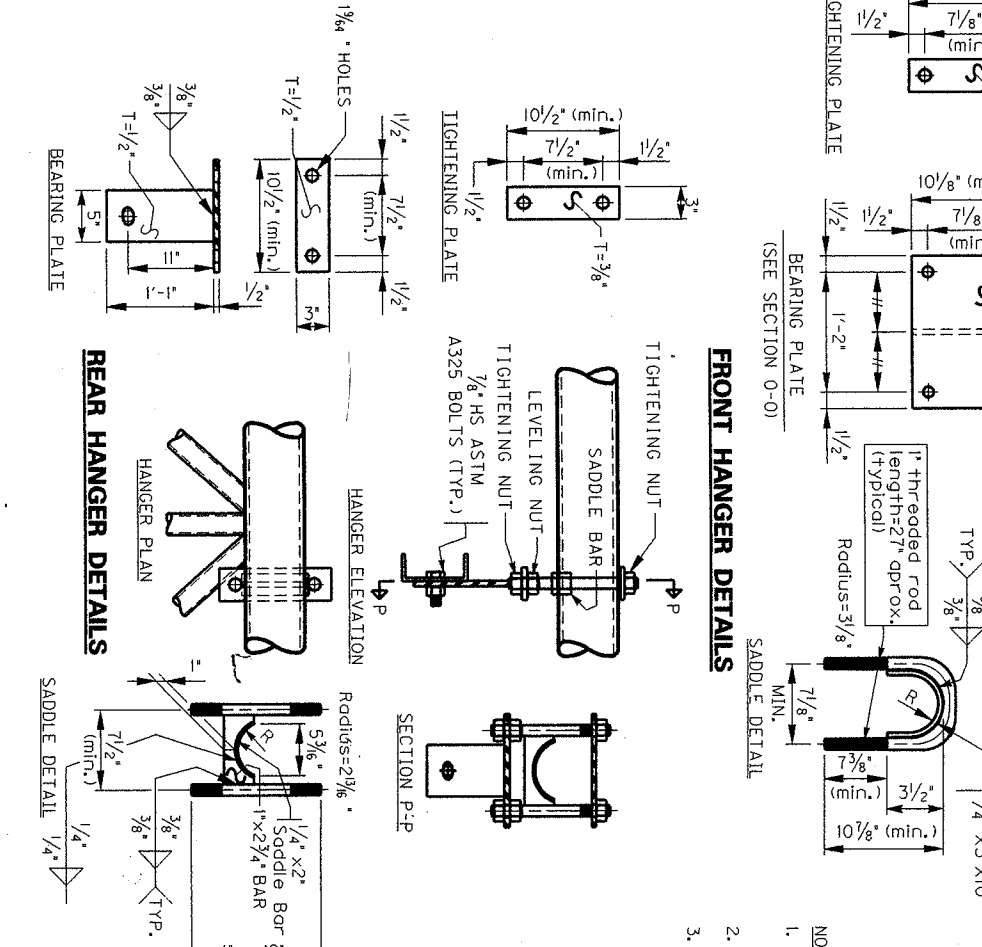
LADDER PLAN



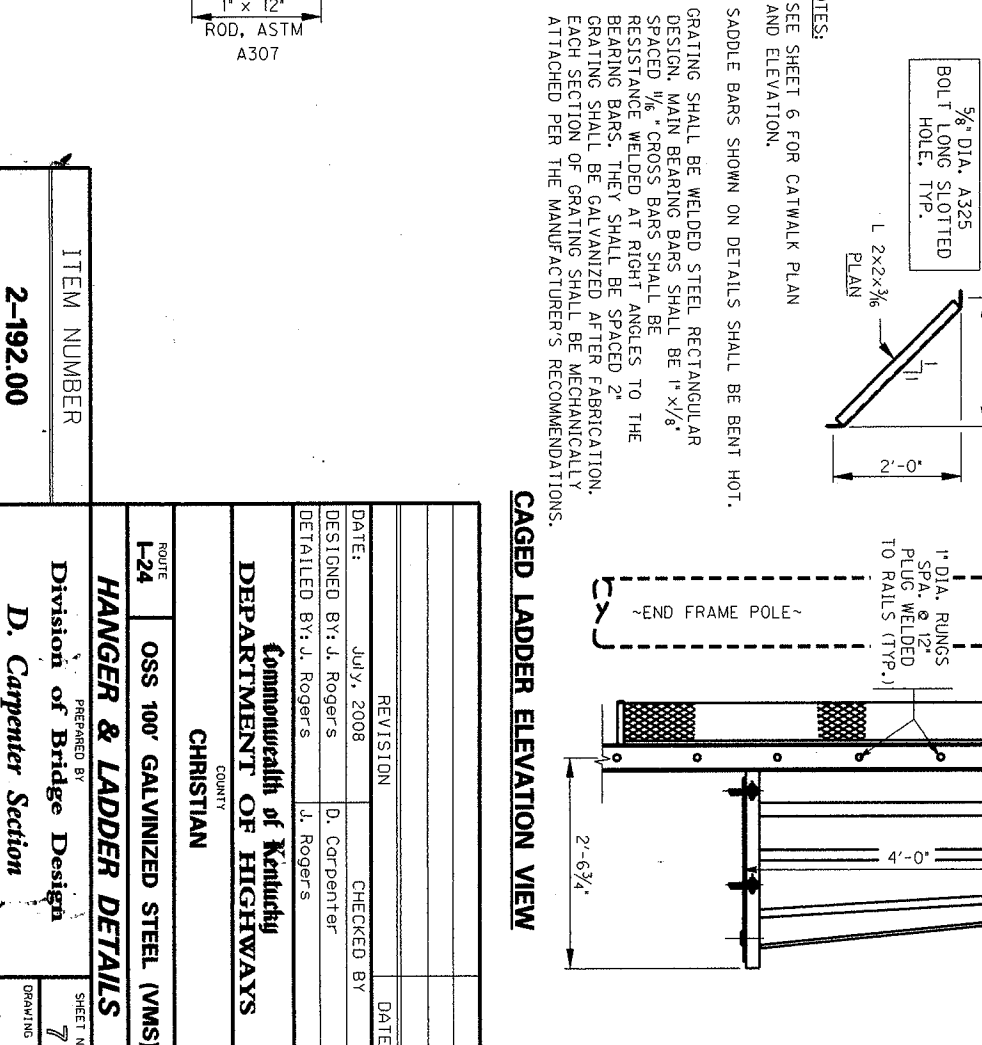
FRONT HANGER DETAILS



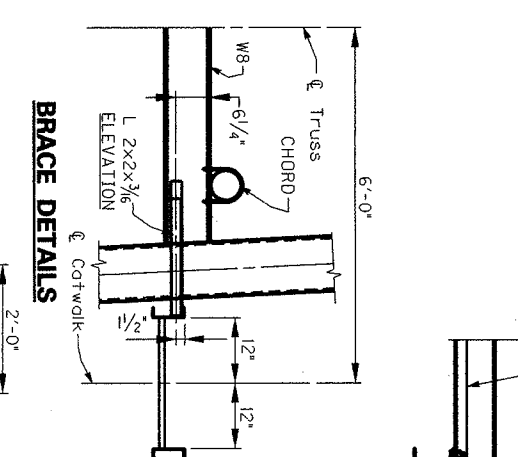
SPACE TRUSS END FRAME PLAN



REAR HANGER DETAILS



CAGED LADDER ELEVATION VIEW



BRACE DETAILS

NOTES:
1. SEE SHEET 6 FOR CATWALK PLAN AND ELEVATION.
2. SADDLE BARS SHOWN ON DETAILS SHALL BE BENT HOT.
3. GRATING SHALL BE WELDED STEEL RECTANGULAR DESIGN. MAIN BEARING BARS SHALL BE 1' x 1/8" SPACED 1/8" CROSS BARS SHALL BE RESISTANCE WELDED AT RIGHT ANGLES TO THE BEARING BARS. THEY SHALL BE SPACED 2" EACH SECTION OF GRATING SHALL BE MECHANICALLY ATTACHED PER THE MANUFACTURER'S RECOMMENDATIONS.

REVISION	DATE	CHECKED BY	DATE
DESIGNED BY: J. Rogers	JULY, 2008	D. Carpenter	
DETAILED BY: J. Rogers		J. Rogers	

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
 COUNTY: CHRISTIAN
 ROUTE: I-24
OSS 100' GALVANIZED STEEL (VMS)
HANGER & LADDER DETAILS
 PREPARED BY: Division of Bridge Design
 D. Carpenter Section
 SHEET NO. 7
 DRAWING NO. 2-192.00