



# STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION



## RECONSTRUCTION OF I-95 OVER WEST RIVER IN THE TOWNS OF NEW HAVEN AND WEST HAVEN STATE PROJECT NUMBER 092-522

VOLUME 1 : SUBSET 21

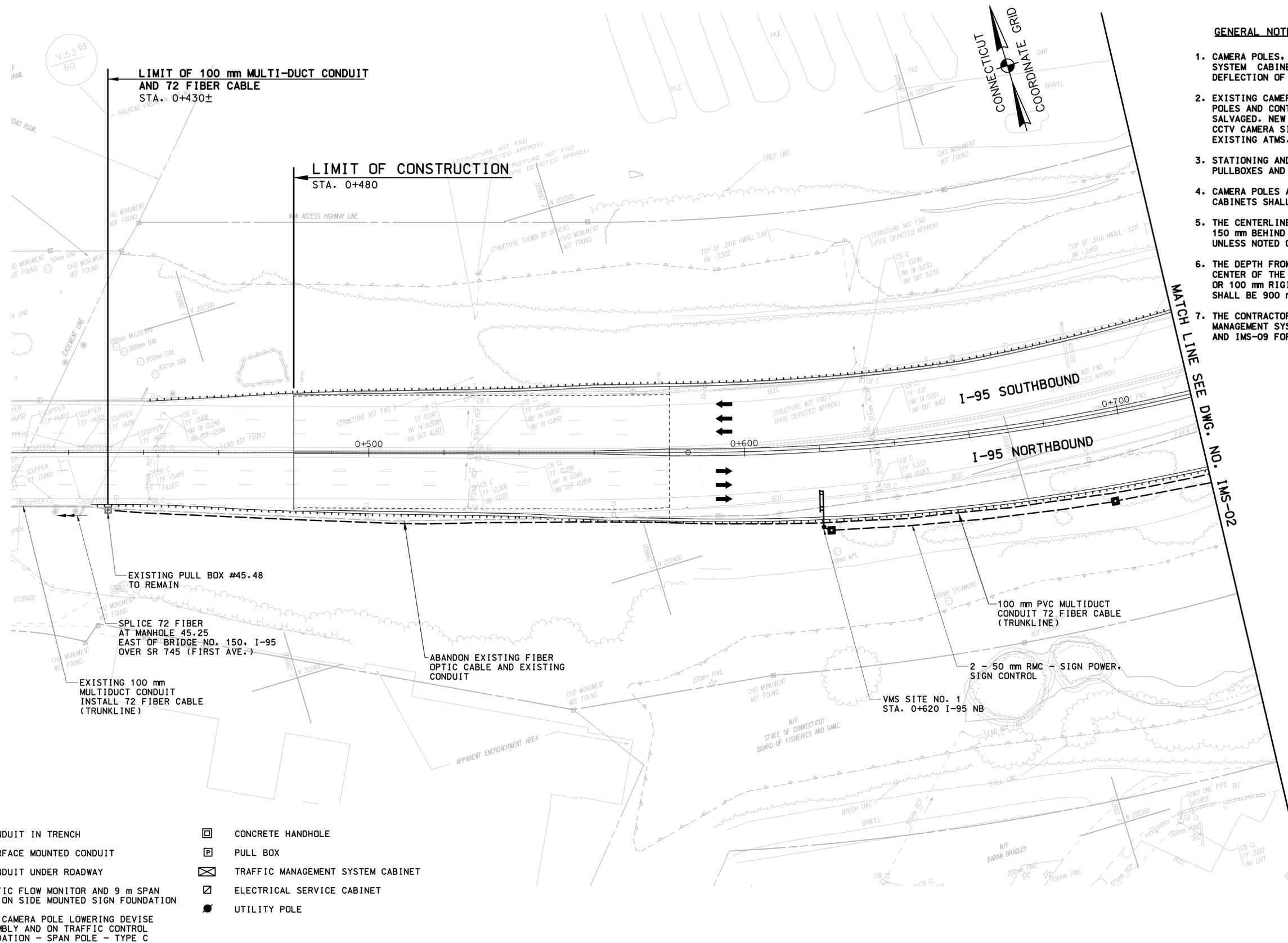
IMS PLANS AND DETAILS



\* THIS SIGNATURE BLOCK IS DEDICATED TO THE PRIME DISCIPLINE PRINCIPAL ENGINEER/ARCHITECT THAT IS RESPONSIBLE FOR CERTIFYING PLANS

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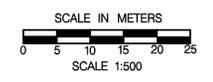
DESIGNER: R. P. TALBOT		 <b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION	PROJECT TITLE:	TOWN:	PROJECT NO.:
DRAFTER: M.C. DEEGAN			RECONSTRUCTION OF I-95 OVER WEST RIVER	NEW HAVEN / WEST HAVEN	92-522
CHECKED BY:		ENGINEER: PB AMERICAS, INC.	DRAWING TITLE:	SHEET NO.:	DRAWING NO.:
DATE CHECKED:		APPROVED BY:			SSC-01.21
REV.	DATE	DESCRIPTION	CADD ssc-01-21-092522.dgn	PLOTTED 11/22/2012	
		REVISIONS			



- GENERAL NOTES:**
1. CAMERA POLES, DETECTOR POLES AND TRAFFIC MANAGEMENT SYSTEM CABINETS SHALL BE PLACED BEHIND THE MAXIMUM DEFLECTION OF GUARDRAIL.
  2. EXISTING CAMERA ASSEMBLIES, DETECTORS, STEEL SPAN POLES AND CONTROLLER CABINETS SHALL BE REMOVED AND SALVAGED. NEW EQUIPMENT SHALL BE INSTALLED AT ALL CCTV CAMERA SITES. SEE ITEM NO. 1113813A REMOVAL OF EXISTING ATMS.
  3. STATIONING AND OFFSETS REFER TO THE CENTER OF PULLBOXES AND CAMERA LOWERING DEVICE ASSEMBLIES.
  4. CAMERA POLES AND ADJACENT TRAFFIC MANAGEMENT SYSTEM CABINETS SHALL BE SPACED 4 m CENTER TO CENTER.
  5. THE CENTERLINE OF MAINLINE CONDUIT IN TRENCH SHALL BE 150 mm BEHIND THE CENTERLINE OF ILLUMINATION CONDUIT UNLESS NOTED OTHERWISE. REFER TO ILLUMINATION PLANS.
  6. THE DEPTH FROM THE PROPOSED GROUND ELEVATION TO THE CENTER OF THE 100 mm PVC MULTIDUCT CONDUIT IN TRENCH OR 100 mm RIGID METAL MULTIDUCT CONDUIT UNDER ROADWAY SHALL BE 900 mm.
  7. THE CONTRACTOR SHALL INSTALL A TEMPORARY INCIDENT MANAGEMENT SYSTEM BYPASS. REFER TO DWG. NOS. IMS-06 AND IMS-09 FOR DETAILS.

**LEGEND**

- |      |  |   |                                   |
|------|--|---|-----------------------------------|
| —●—  | CONDUIT IN TRENCH  | □ | CONCRETE HANDHOLE                 |
| —s—  | SURFACE MOUNTED CONDUIT  | □ | PULL BOX                          |
| —●●— | CONDUIT UNDER ROADWAY  | ⊠ | TRAFFIC MANAGEMENT SYSTEM CABINET |
| ▶    | TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION                           | ⊠ | ELECTRICAL SERVICE CABINET        |
| ▶▶   | 21 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE C | ● | UTILITY POLE                      |



REV.	DATE	DESCRIPTION	SHEET NO.

DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD: ims-01-092522.dgn  
 PLOTTED: 11/13/2012

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**IMS PLAN - 1**

PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-01**

SHEET NO.: \_\_\_\_\_

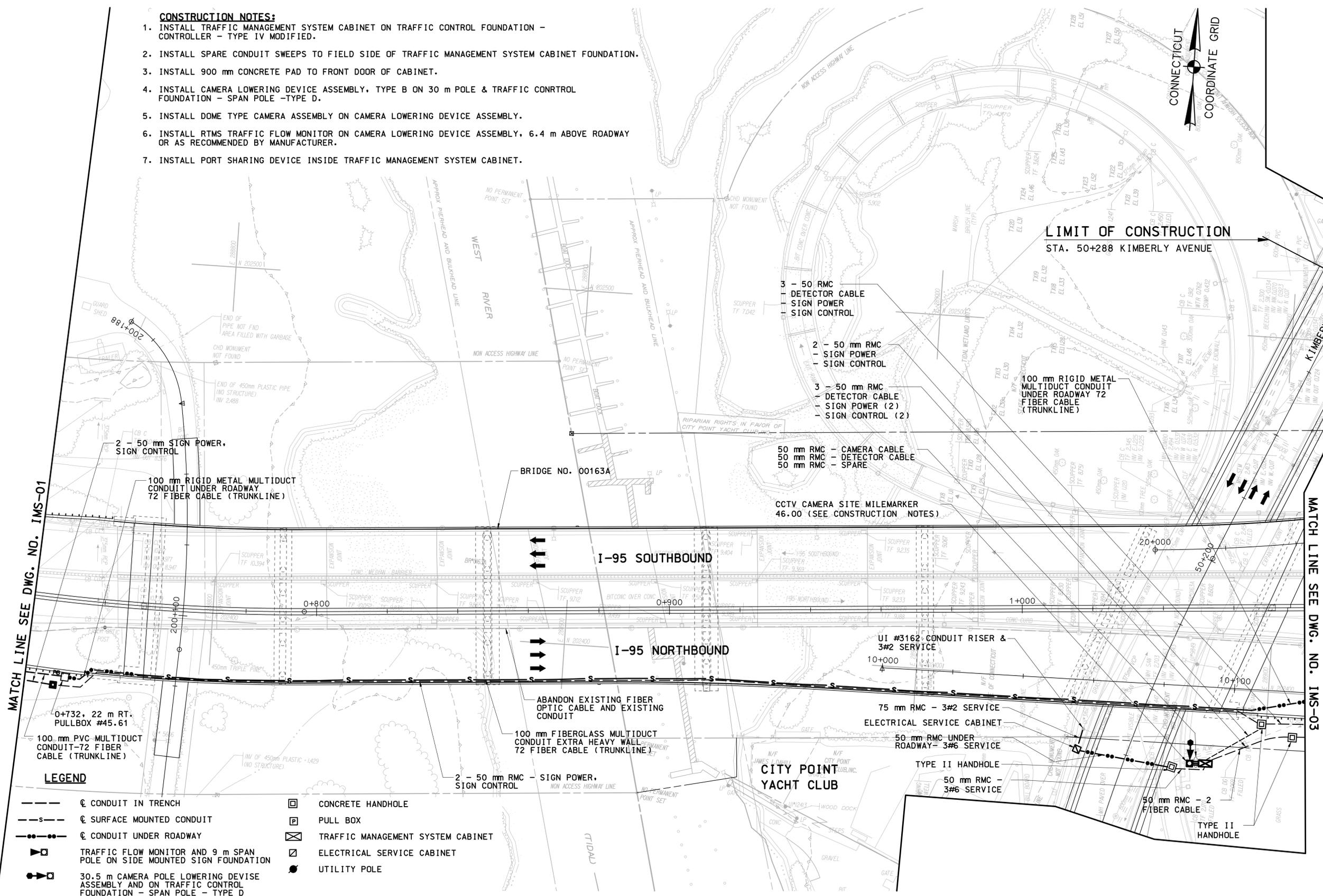
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**CONSTRUCTION NOTES:**

1. INSTALL TRAFFIC MANAGEMENT SYSTEM CABINET ON TRAFFIC CONTROL FOUNDATION - CONTROLLER - TYPE IV MODIFIED.
2. INSTALL SPARE CONDUIT SWEEPS TO FIELD SIDE OF TRAFFIC MANAGEMENT SYSTEM CABINET FOUNDATION.
3. INSTALL 900 mm CONCRETE PAD TO FRONT DOOR OF CABINET.
4. INSTALL CAMERA LOWERING DEVICE ASSEMBLY, TYPE B ON 30 m POLE & TRAFFIC CONTROL FOUNDATION - SPAN POLE -TYPE D.
5. INSTALL DOME TYPE CAMERA ASSEMBLY ON CAMERA LOWERING DEVICE ASSEMBLY.
6. INSTALL RTMS TRAFFIC FLOW MONITOR ON CAMERA LOWERING DEVICE ASSEMBLY, 6.4 m ABOVE ROADWAY OR AS RECOMMENDED BY MANUFACTURER.
7. INSTALL PORT SHARING DEVICE INSIDE TRAFFIC MANAGEMENT SYSTEM CABINET.



**LIMIT OF CONSTRUCTION**  
STA. 50+288 KIMBERLY AVENUE

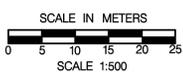


MATCH LINE SEE DWG. NO. IMS-01

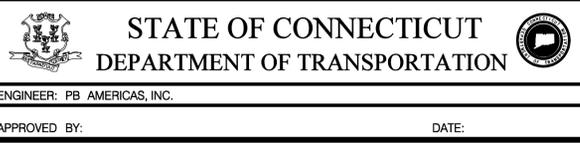
MATCH LINE SEE DWG. NO. IMS-03

**LEGEND**

- |       |  |   |                                   |
|-------|--|---|-----------------------------------|
| --- C | CONDUIT IN TRENCH  | □ | CONCRETE HANDHOLE                 |
| -s-   | CONDUIT UNDER ROADWAY  | □ | PULL BOX                          |
| ▶     | TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION                             | □ | TRAFFIC MANAGEMENT SYSTEM CABINET |
| ▶     | 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D | □ | ELECTRICAL SERVICE CABINET        |
| ●     |  | ● | UTILITY POLE                      |



DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012



PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD: ims-02-092522.dgn  
 PLOTTED: 11/13/2012

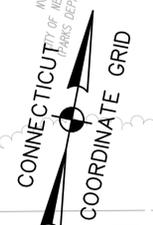
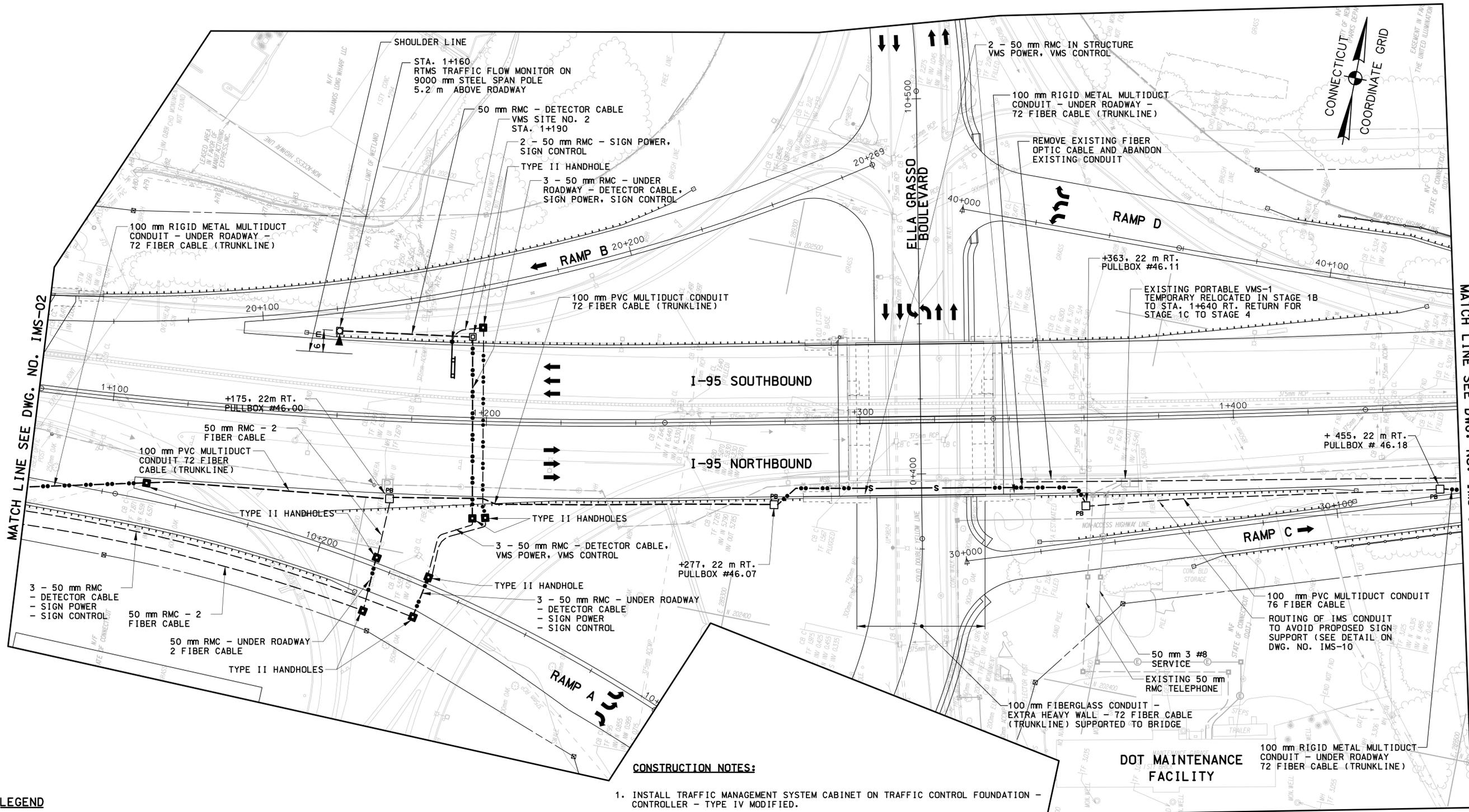
TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**IMS PLAN - 2**

PROJECT NO.: **92-522**  
 DRAWING NO.: **IMS-02**  
 SHEET NO.:

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REV.	DATE	DESCRIPTION	SHEET NO.



**LEGEND**

- C CONDUIT IN TRENCH
- s- C SURFACE MOUNTED CONDUIT
- C CONDUIT UNDER ROADWAY
- ☐ CONCRETE HANDHOLE
- ☐ PULL BOX
- ☒ TRAFFIC MANAGEMENT SYSTEM CABINET
- ☒ ELECTRICAL SERVICE CABINET
- ☐ UTILITY POLE
- ☒ TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION
- ☒ 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D

**CONSTRUCTION NOTES:**

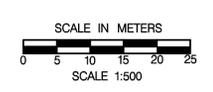
1. INSTALL TRAFFIC MANAGEMENT SYSTEM CABINET ON TRAFFIC CONTROL FOUNDATION - CONTROLLER - TYPE IV MODIFIED.
2. INSTALL SPARE CONDUIT SWEEPS TO FIELD SIDE OF TRAFFIC MANAGEMENT SYSTEM CABINET FOUNDATION.
3. INSTALL 900 mm CONCRETE PAD TO FRONT DOOR OF CABINET.
4. INSTALL CAMERA LOWERING DEVICE ASSEMBLY, TYPE B ON 30 m POLE & TRAFFIC CONTROL FOUNDATION - SPAN POLE -TYPE D.
5. INSTALL DOME TYPE CAMERA ASSEMBLY ON CAMERA LOWERING DEVICE ASSEMBLY.
6. INSTALL RTMS TRAFFIC FLOW MONITOR ON CAMERA LOWERING DEVICE ASSEMBLY, 6.4 m ABOVE ROADWAY OR AS RECOMMENDED BY MANUFACTURER.
7. INSTALL PORT SHARING DEVICE INSIDE TRAFFIC MANAGEMENT SYSTEM CABINET.

**PORTABLE VMS NOTES:**

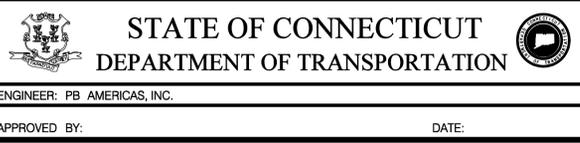
1. PORTABLE VMS POWER AND CONTROL SHALL BE RELOCATED DURING ALLOWABLE IMS SHUTDOWN PERIOD MONDAY THROUGH FRIDAY 9:00 PM TO 5:00 AM, SATURDAY AND SUNDAY ALL DAY.
2. PORTABLE VMS SHALL BE IN OPERATION AT ALL TIMES. THE CONTRACTOR SHALL NOT REMOVE PORTABLE VMS UNTIL VMS SITE NO. 1 IS OPERATIONAL, TESTED AND APPROVED BY ENGINEER.

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REV.	DATE	DESCRIPTION	SHEET NO.



DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012



PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

TOWN:  
**NEW HAVEN / WEST HAVEN**

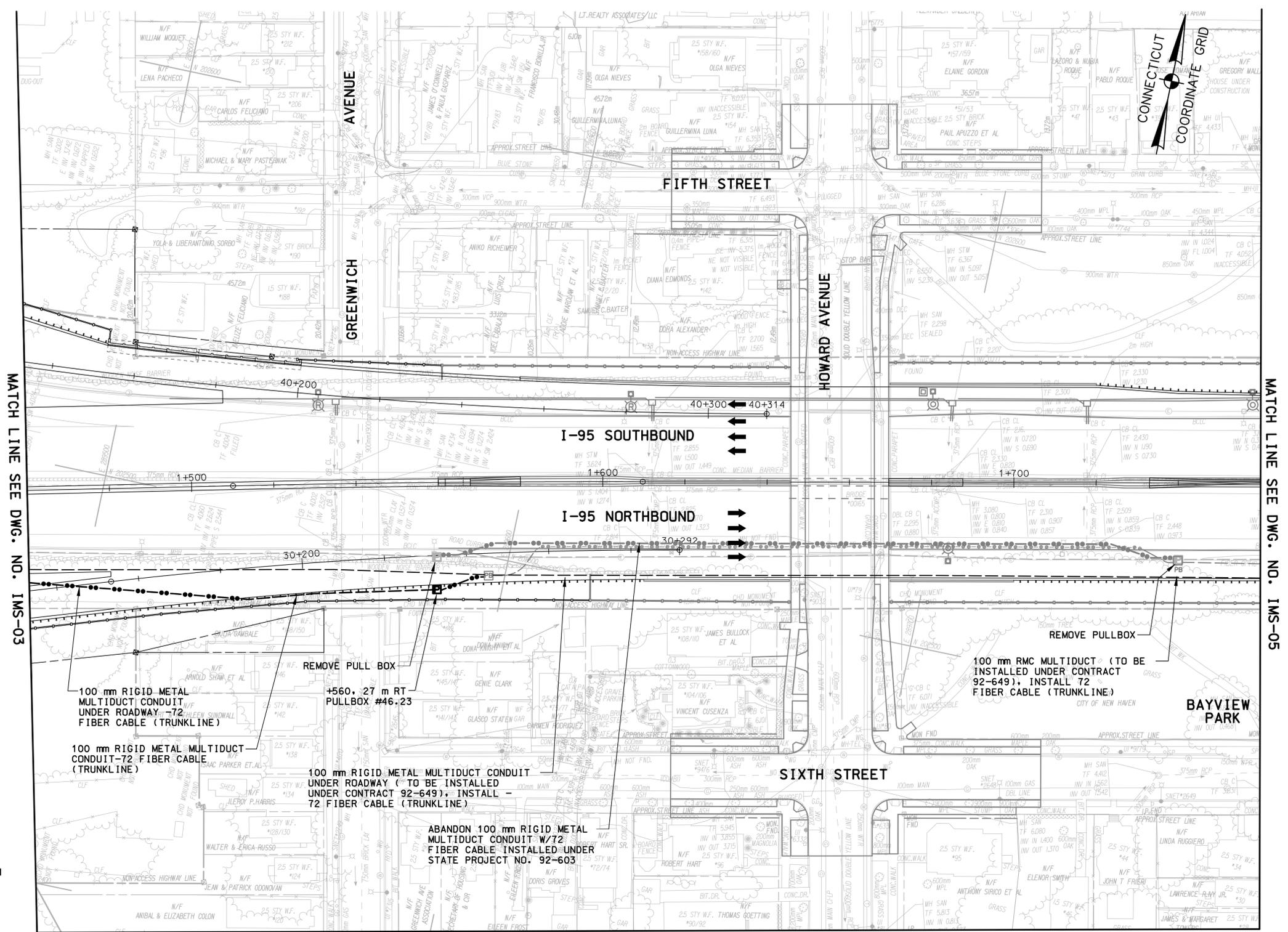
DRAWING TITLE:  
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PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-03**

SHEET NO.:

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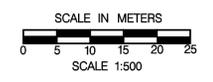


MATCH LINE SEE DWG. NO. IMS-03

MATCH LINE SEE DWG. NO. IMS-05

**LEGEND**

- C CONDUIT IN TRENCH
- - - C SURFACE MOUNTED CONDUIT
- C CONDUIT UNDER ROADWAY
- ▶ □ TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION
- ▶ □ 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D
- CONCRETE HANDHOLE
- PULL BOX
- TRAFFIC MANAGEMENT SYSTEM CABINET
- ELECTRICAL SERVICE CABINET
- UTILITY POLE



DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD: ims-04-092522.dgn PLOTTED: 11/19/2012

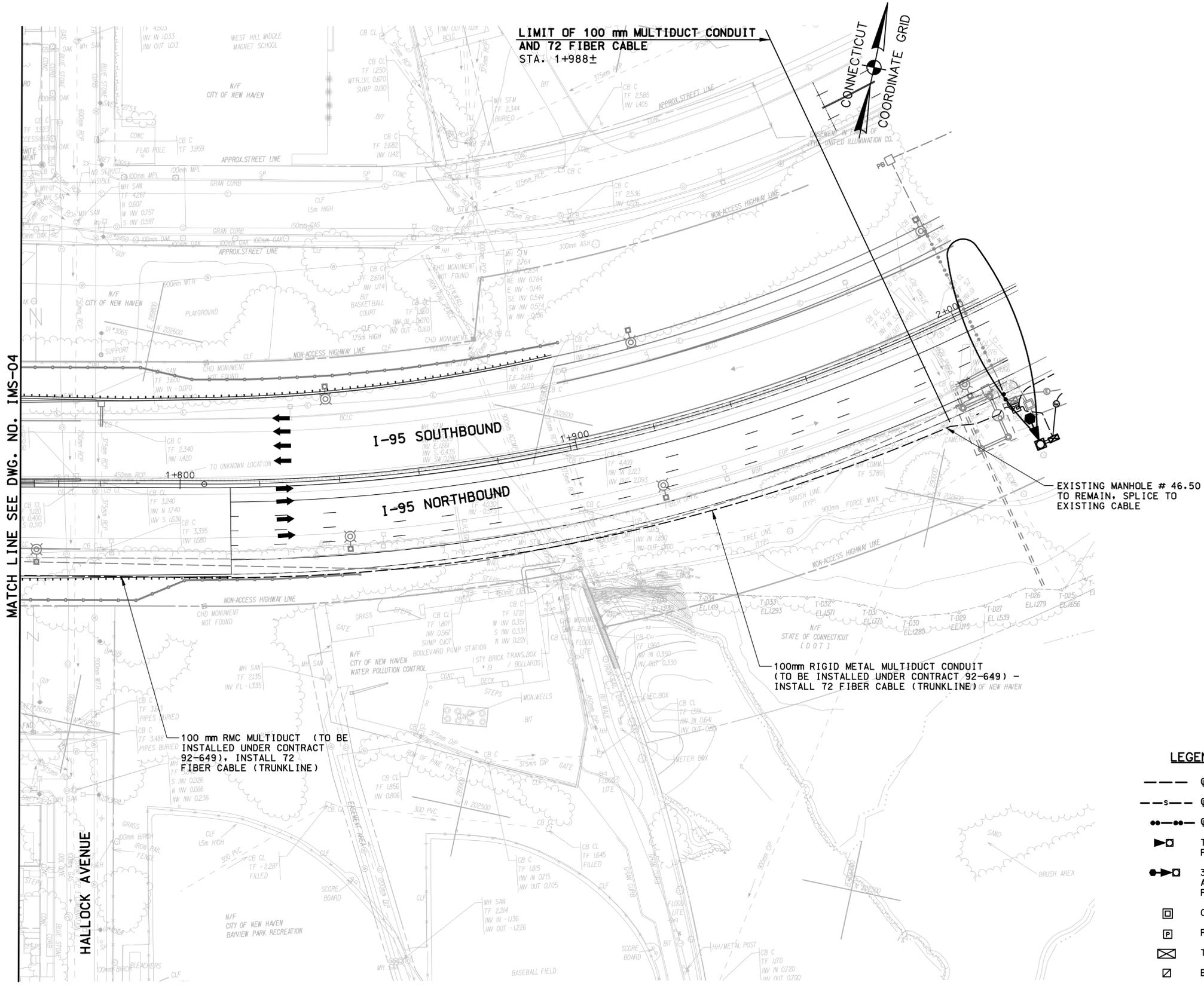
TOWN: **NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**IMS PLAN - 4**

PROJECT NO.: **92-522**  
 DRAWING NO.: **IMS-04**  
 SHEET NO.:

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REV.	DATE	DESCRIPTION	SHEET NO.



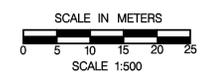
MATCH LINE SEE DWG. NO. IMS-04

**LEGEND**

- ⊕ — ⊕ — CONDUIT IN TRENCH
- s — ⊕ — SURFACE MOUNTED CONDUIT
- — ● — ⊕ — CONDUIT UNDER ROADWAY
- ▶ ⊕ 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D
- ◻ CONCRETE HANDHOLE
- ◻ PULL BOX
- ◻ TRAFFIC MANAGEMENT SYSTEM CABINET
- ◻ ELECTRICAL SERVICE CABINET
- UTILITY POLE

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REV.	DATE	DESCRIPTION	SHEET NO.



DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/21/12

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD ims-05-092522.dgn PLOTTED 11/13/2012

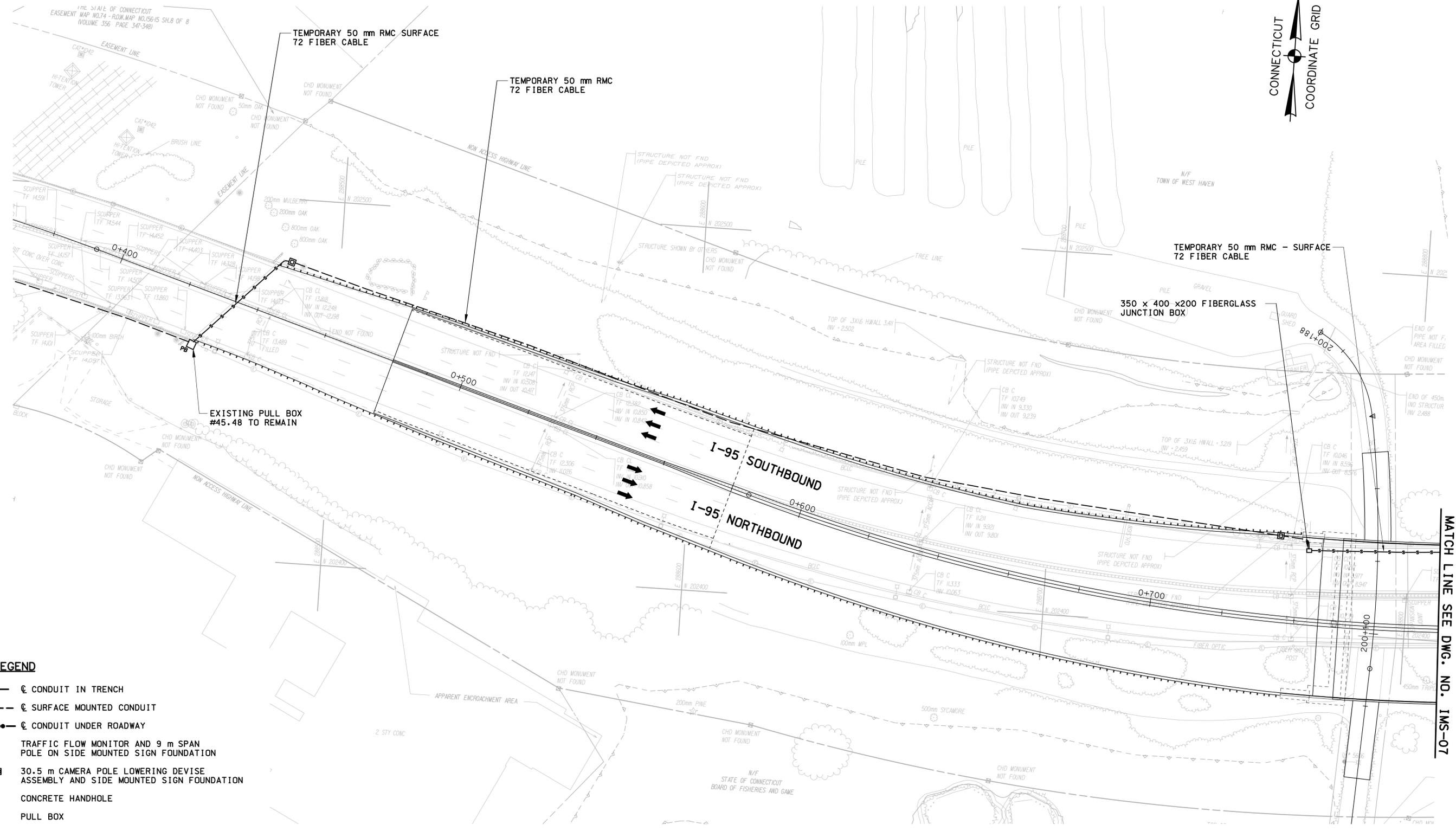
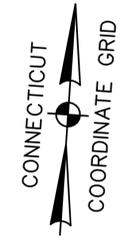
TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
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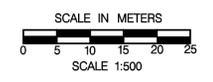
PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-05**

SHEET NO.:



- LEGEND**
- ⊕ --- CONDUIT IN TRENCH
  - - - ⊕ - - - SURFACE MOUNTED CONDUIT
  - ⊕ CONDUIT UNDER ROADWAY
  - ▶ □ TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION
  - ▶ □ 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND SIDE MOUNTED SIGN FOUNDATION
  - CONCRETE HANDHOLE
  - PULL BOX
  - TRAFFIC MANAGEMENT SYSTEM CABINET
  - ELECTRICAL SERVICE CABINET
  - UTILITY POLE



DESIGNER: J.A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J.A. HALLISEY  
 DATE CHECKED: 10/2012

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD: ims-06-092522.dgn  
 PLOTTED: 11/13/2012

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**TEMPORARY IMS PLAN**

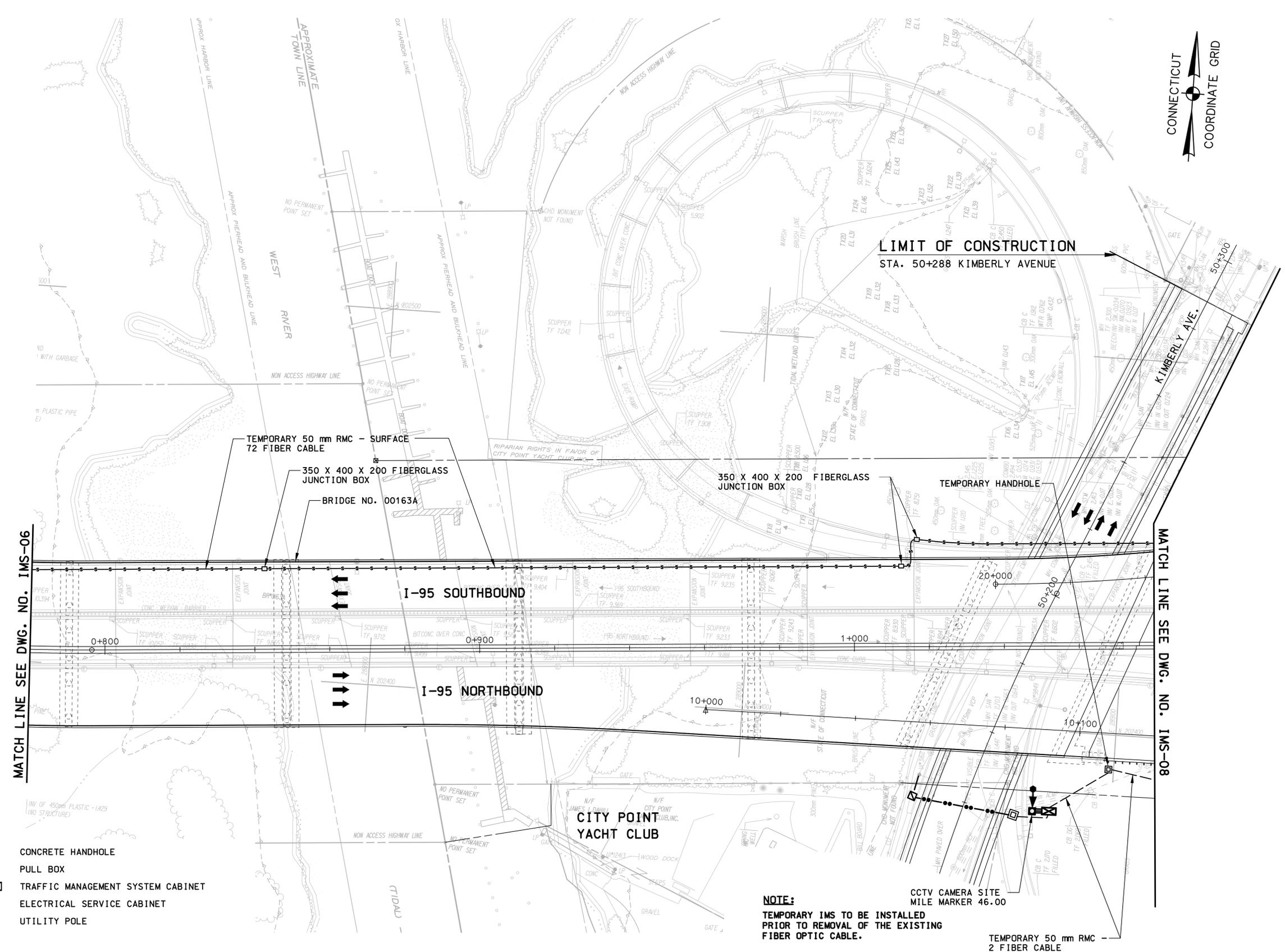
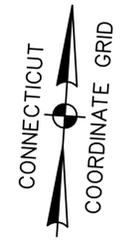
PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-06**

SHEET NO.:

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REV.	DATE	DESCRIPTION	SHEET NO.



**LIMIT OF CONSTRUCTION**  
STA. 50+288 KIMBERLY AVENUE

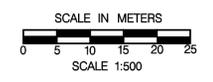
MATCH LINE SEE DWG. NO. IMS-06

MATCH LINE SEE DWG. NO. IMS-08

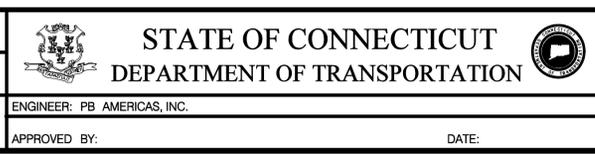
**LEGEND**

- C CONDUIT IN TRENCH
- s- C SURFACE MOUNTED CONDUIT
- C CONDUIT UNDER ROADWAY
- ▶ TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION
- ▶ 30.5 m CAMERA POLE LOWERING DEVISE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D
- CONCRETE HANDHOLE
- PULL BOX
- ⊠ TRAFFIC MANAGEMENT SYSTEM CABINET
- ⊠ ELECTRICAL SERVICE CABINET
- UTILITY POLE

**NOTE:**  
TEMPORARY IMS TO BE INSTALLED PRIOR TO REMOVAL OF THE EXISTING FIBER OPTIC CABLE.



DESIGNER: J. A. KOOLIS  
DRAFTER: M.C. DEEGAN  
CHECKED BY: J. A. HALLUSEY  
DATE CHECKED: 10/2012



PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**TEMPORARY IMS PLAN**

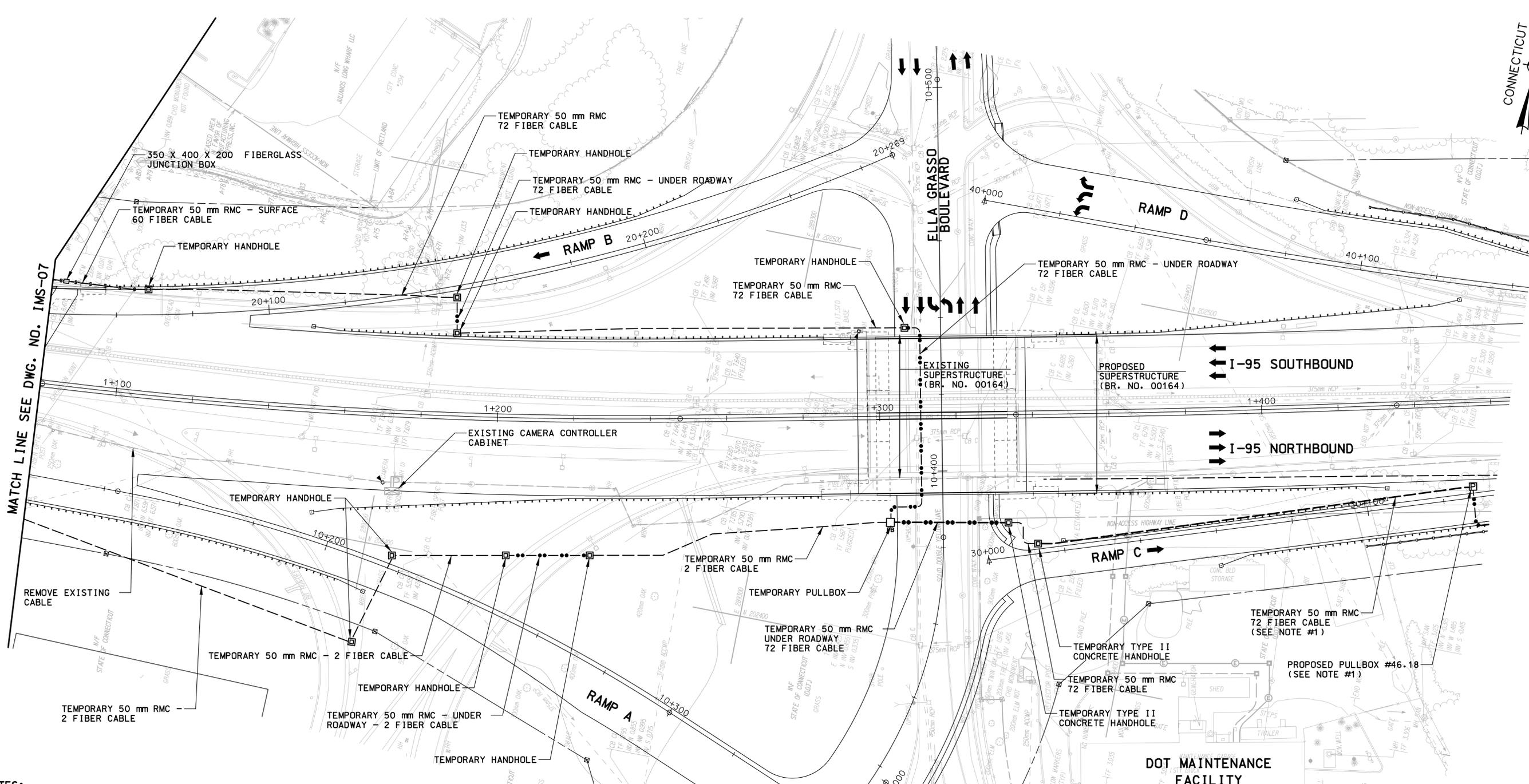
PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-07**

SHEET NO.:

REV.	DATE	DESCRIPTION	SHEET NO.

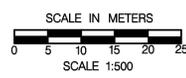
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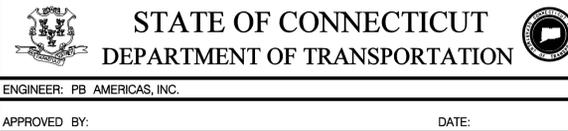
- NOTES:**
1. CONTINUE INSTALLATION OF 72 FIBER CABLE IN NEWLY INSTALLED CONDUIT FROM PULLBOX #46.18 TO EXISTING MANHOLE #46.50 AT THE EAST END OF THE PROJECT. REFER TO DWG. NOS. IMS-4 AND IMS-5 FOR LOCATION OF CONDUIT.
  2. THE TEMPORARY IMS TO BE INSTALLED DURING STAGE 1A AND PRIOR TO CONSTRUCTION SURCHARGE UNLESS NOTED OTHERWISE.
  3. THE CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE FOR THE TEMPORARY CCTV CAMERA WITH THE UTILITY REPRESENTATIVE.

**LEGEND**

- C CONDUIT IN TRENCH
- s--- C SURFACE MOUNTED CONDUIT
- C CONDUIT UNDER ROADWAY
- ▶ C TRAFFIC FLOW MONITOR AND 9 m SPAN POLE ON SIDE MOUNTED SIGN FOUNDATION
- ▶ C 30.5 m CAMERA POLE LOWERING DEVICE ASSEMBLY AND ON TRAFFIC CONTROL FOUNDATION - SPAN POLE - TYPE D
- CONCRETE HANDHOLE
- ▣ PULL BOX
- ⊠ TRAFFIC MANAGEMENT SYSTEM CABINET
- ⊞ ELECTRICAL SERVICE CABINET
- UTILITY POLE



DESIGNER: J.A. LOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J.A. HALLISEY  
 DATE CHECKED: 10/2012



PROJECT TITLE:  
 RECONSTRUCTION OF I-95 OVER WEST RIVER  
 CADD: ims-08-092522.dgn

TOWN:  
 NEW HAVEN / WEST HAVEN  
 DRAWING TITLE:  
 TEMPORARY IMS PLAN

PROJECT NO.: 92-522  
 DRAWING NO.: IMS-08  
 SHEET NO.:

REV.	DATE	DESCRIPTION	SHEET NO.

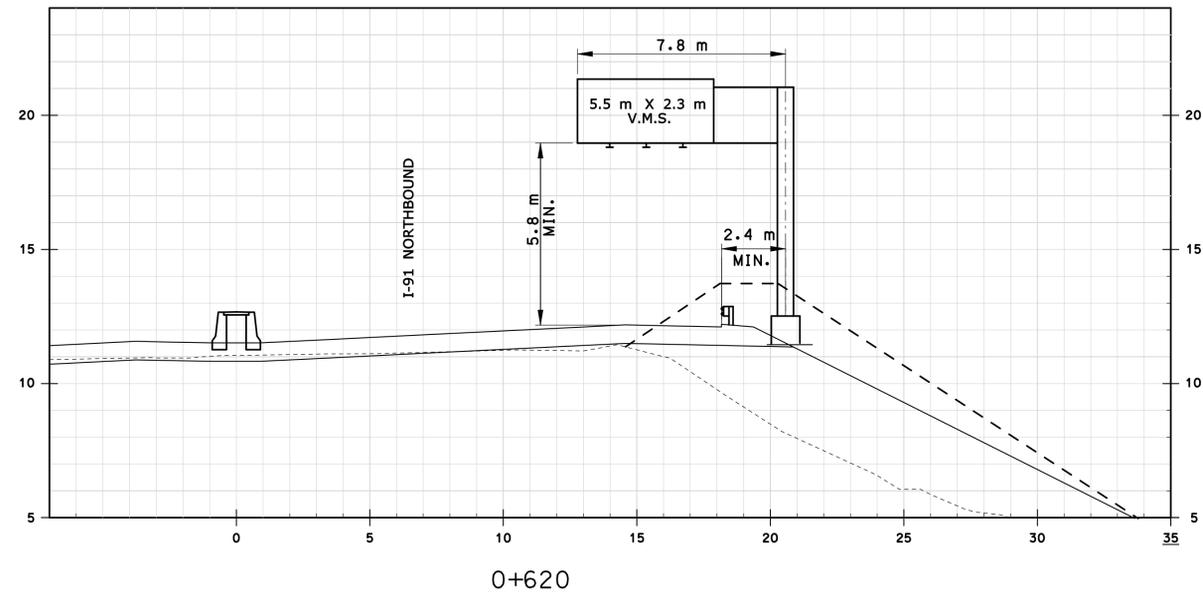
INTERSECTION ##

CONSTRUCTION NOTES

- (A) INSTALL CANTILEVER TRUSS TYPE 1A SIGN SUPPORT AND FOUNDATION. INSTALL TYPE B VARIABLE MESSAGE SIGN AND SIGN SUPPORT ON THE CANTILEVER. A 2.5' WIDE CATWALK THE FULL LENGTH OF THE SIGN IS TO BE INSTALLED ON THE SIGN SUPPORTS BEHIND SIGN. THE CANTILEVER SIGN SUPPORT SHALL BE INSTALLED AT A 91.5° ANGLE BETWEEN THE FRONT SIDE OF THE SIGN SUPPORT AND THE TANGENT LINE AS SHOWN IN THE DIRECTION OF ONCOMING TRAFFIC. AFTER INSTALLATION OF VMS FOUNDATION, THE CONTRACTOR IS TO GRADE THE AREA TO DRAIN AWAY FROM THE FOUNDATION.
- (B) THE CONTRACTOR IS TO PROVIDE EXPANSION FITTINGS AS REQUIRED AND LIQUIDTIGHT FLEXIBLE METAL BETWEEN THE BRIDGE AND BRIDGE PIER TO ACCOUNT FOR THE MOVEMENT OF THE BRIDGE.

SEE NOTICE TO CONTRACTOR - SERVICE CONNECTIONS (UTILITIES) AND NOTICE TO CONTRACTOR - IMS ELECTRICAL SERVICES SPECIAL PROVISIONS FOR MORE INFORMATION.

THE CONTRACTOR SHALL NOTIFY MR. ROBERT KENNEDY (860) 594-3458 AT LEAST 45 DAYS PRIOR TO TELEPHONE INSTALLATION.



ROUTE 95 NORTHBOUND  
CANTILEVER SIGN SUPPORT (TYPE VMS 1)  
VARIABLE MESSAGE SIGN - (TYPE B)

VMS CROSS SECTION  
SCALE: 1: 125

SIGN SUPPORT  
INVENTORY NO. XXXX

CUMULATIVE MILEAGE  
I-95 - 45.56 MI.

VMS SITE #1

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUR. OF ENGINEERING & HWY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING  
VARIABLE MESSAGE SIGN

CITY OF WEST HAVEN  
I-95 NORTHBOUND

FIELD SURVEY ENGINEER DRAFTER CHECKED BY SUBMITTED BY APPROVED BY DATE	TRAFFIC		ELECTRICAL	
	DATE	DATE	DATE	DATE
	PARSONS BRINCKERHOFF, INC.			

UTILITY REPRESENTATIVES - VMS SITE 1

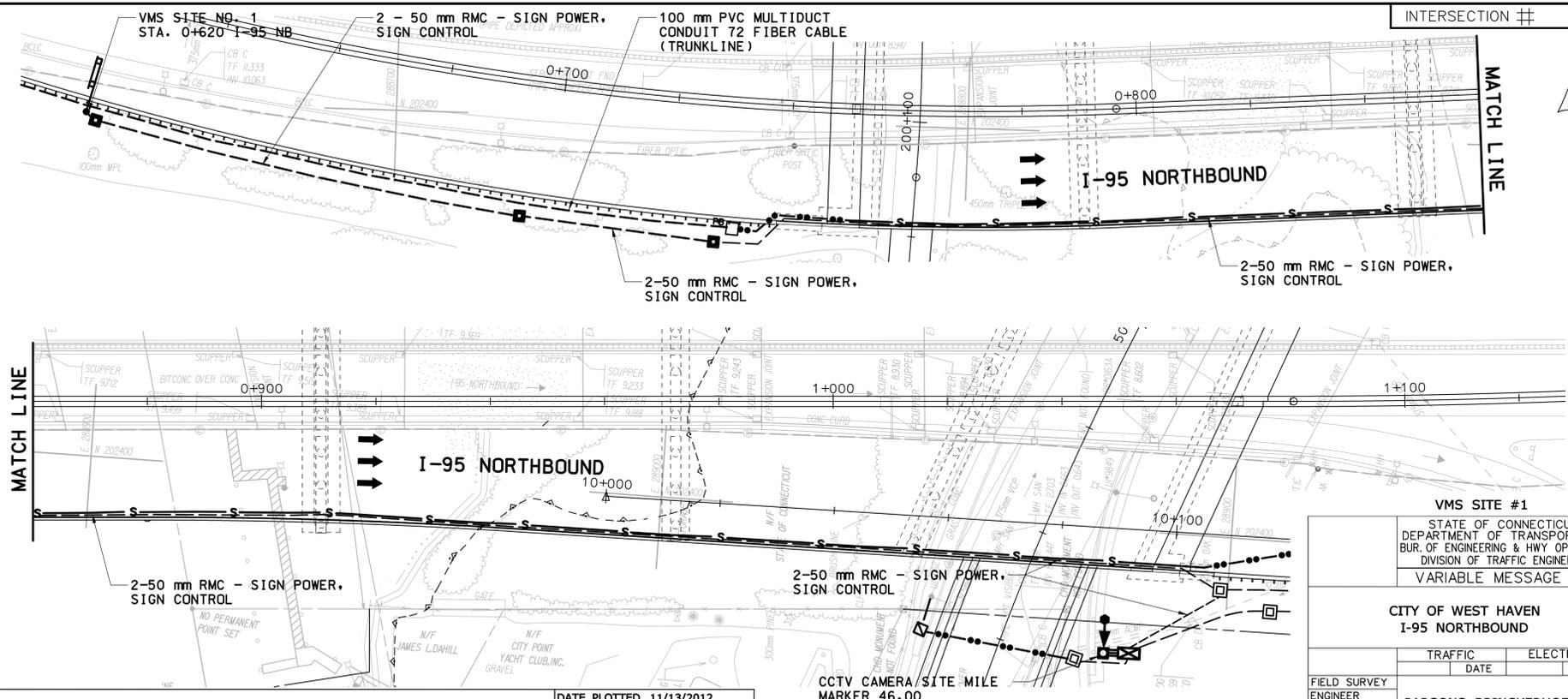
POWER  
UNITED ILLUMINATION COMPANY

TELEPHONE  
AT&T CONNECTICUT

REP:  
THOMAS JUDGE  
(203) 926-4772

REP:  
BOB POST  
(203) 771-4014

INTERSECTION ##



VMS SITE #1  
STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUR. OF ENGINEERING & HWY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING  
VARIABLE MESSAGE SIGN

CITY OF WEST HAVEN  
I-95 NORTHBOUND

FIELD SURVEY ENGINEER DRAFTER CHECKED BY SUBMITTED BY APPROVED BY DATE	TRAFFIC		ELECTRICAL	
	DATE	DATE	DATE	DATE
	PARSONS BRINCKERHOFF, INC.			

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING

VMS SITE 1 LOCATION PLAN

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.
1	CONN.	WEST HAVEN		92-522	2012	95	

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- FILE#
- |   |   |   |  |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>□ PROPOSED HANDHOLE - TYPE II</li> <li>□ EXISTING HANDHOLE</li> <li>□ PROPOSED STEEL CAMERA POLE</li> <li>□ EXISTING STEEL CAMERA POLE</li> <li>○ PROPOSED UTILITY POLE</li> </ul> | <ul style="list-style-type: none"> <li>● EXISTING UTILITY POLE</li> <li>● EXISTING PULL BOX</li> <li>□ PROPOSED PULL BOX</li> <li>□ CABINET (CCTV/MINI/HUB/VMS)</li> <li>□ AUXILIARY DETECTOR CONNECTION CABINET</li> </ul> | <ul style="list-style-type: none"> <li>□ SERVICE CABINET</li> <li>● PROPOSED CCTV CAMERA</li> <li>● TRAFFIC FLOW MONITOR</li> <li>● PROPOSED VMS ON CANTILEVER TRUSS</li> <li>● PROPOSED VMS, SIDE MOUNTED</li> </ul> | <ul style="list-style-type: none"> <li>□ AUXILIARY TERMINATION CABINET</li> <li>— RIGID METAL CONDUIT, SURFACE</li> <li>— RIGID METAL CONDUIT, IN TRENCH/UNDER ROADWAY</li> <li>— EXISTING RIGID METAL CONDUIT (R.M.C.)</li> <li>— 36 FIBER OPTIC CABLE</li> </ul> |
|---|---|---|--|
- DATE PLOTTED 11/13/2012
- CCTV CAMERA / SITE MILE MARKER 46.00
- SCALE IN METERS  
SCALE: 1:500

REV. # INTERSECTION ##

INTERSECTION #

CONSTRUCTION NOTES

(A) INSTALL CANTILEVER TRUSS TYPE 1A SIGN SUPPORT AND FOUNDATION. INSTALL TYPE B VARIABLE MESSAGE SIGN AND SIGN SUPPORT ON THE CANTILEVER. A 2.5' WIDE CATWALK THE FULL LENGTH OF THE SIGN IS TO BE INSTALLED ON THE SIGN SUPPORTS BEHIND SIGN. THE CANTILEVER SIGN SUPPORT SHALL BE INSTALLED AT A 91.5° ANGLE BETWEEN THE FRONT SIDE OF THE SIGN SUPPORT AND THE TANGENT LINE AS SHOWN IN THE DIRECTION OF ONCOMING TRAFFIC. AFTER INSTALLATION OF VMS FOUNDATION, THE CONTRACTOR IS TO GRADE THE AREA TO DRAIN AWAY FROM THE FOUNDATION.

(B) THE CONTRACTOR IS TO PROVIDE EXPANSION FITTINGS AS REQUIRED AND LIQUIDTIGHT FLEXIBLE METAL BETWEEN THE BRIDGE AND BRIDGE PIER TO ACCOUNT FOR THE MOVEMENT OF THE BRIDGE.

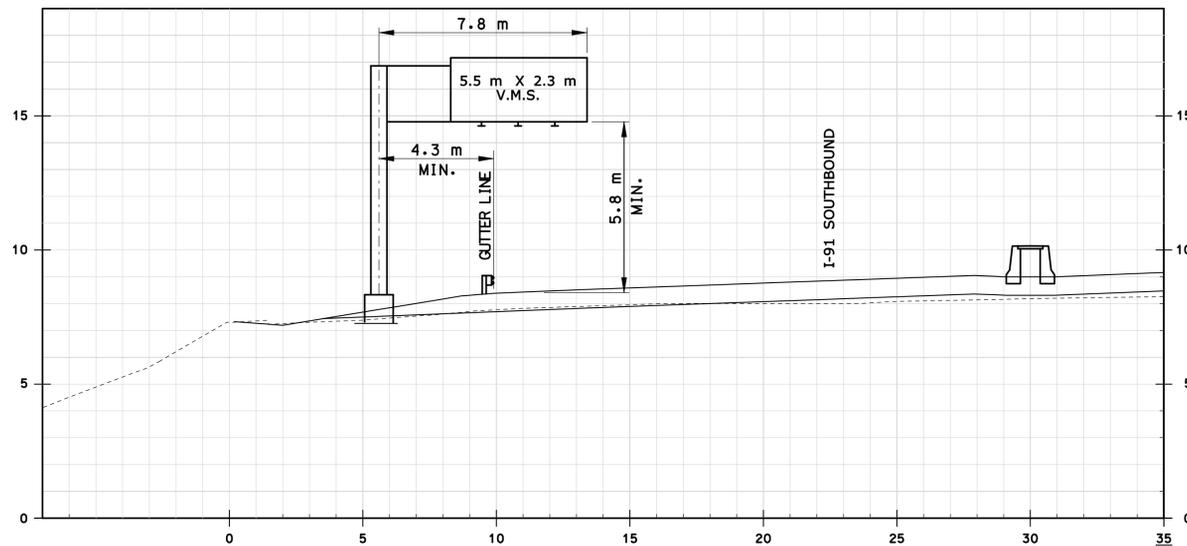
SEE NOTICE TO CONTRACTOR - SERVICE CONNECTIONS (UTILITIES) AND NOTICE TO CONTRACTOR - IMS ELECTRICAL SERVICES SPECIAL PROVISIONS FOR MORE INFORMATION.

THE CONTRACTOR SHALL NOTIFY MR. ROBERT KENNEDY (860) 594-3458 AT LEAST 45 DAYS PRIOR TO TELEPHONE INSTALLATION.

UTILITY REPRESENTATIVES - VMS SITE 1

POWER UNITED ILLUMINATION COMPANY TELEPHONE AT&T CONNECTICUT

REP: THOMAS JUDGE (203) 926-4772 REP: BOB POST (203) 771-4014



1+190

ROUTE 95 NORTHBOUND  
CANTILEVER SIGN SUPPORT (TYPE VMS 1)  
VARIABLE MESSAGE SIGN - (TYPE B)

VMS CROSS SECTION  
SCALE: 1: 125

SIGN SUPPORT  
INVENTORY NO. XXXX

CUMULATIVE MILEAGE  
I-95 - 46.01 MI.

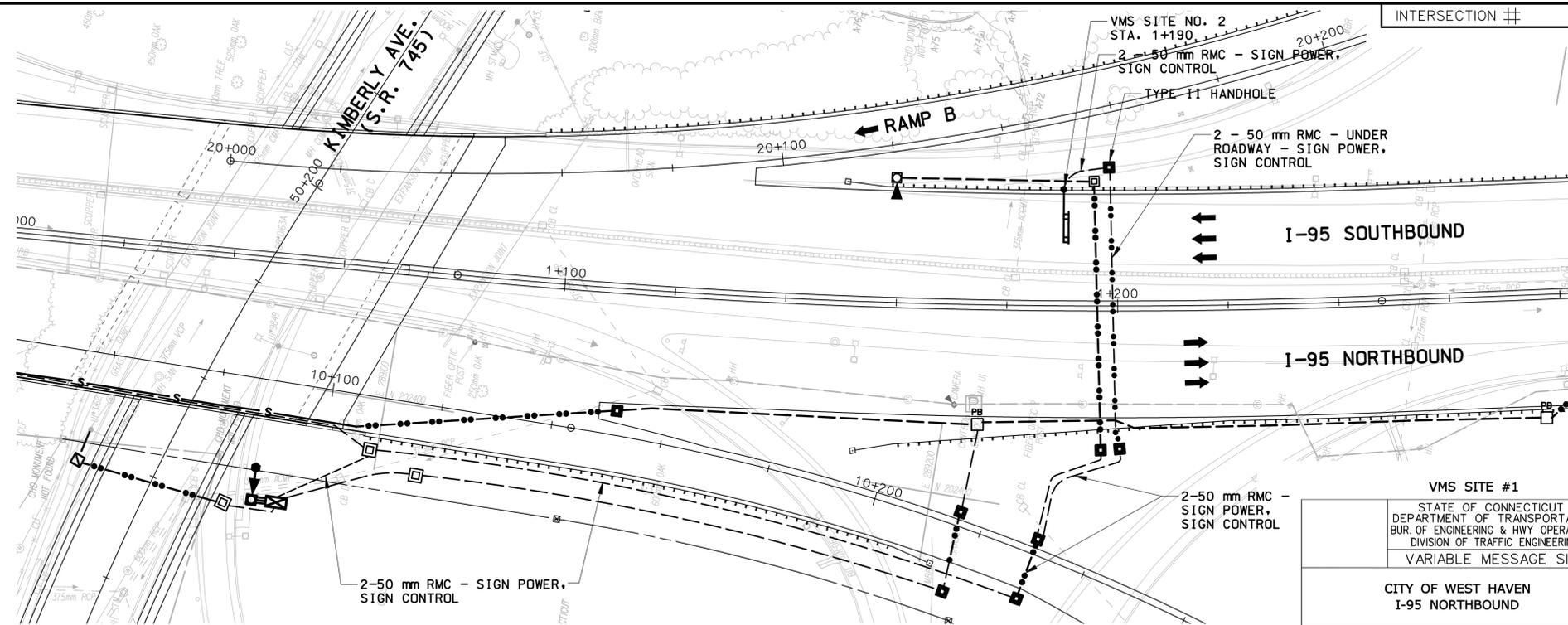
VMS SITE #2

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUR. OF ENGINEERING & HWY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING  
VARIABLE MESSAGE SIGN

CITY OF WEST HAVEN  
I-91 NORTHBOUND

FIELD SURVEY	TRAFFIC	ELECTRICAL
ENGINEER	DATE	DATE
DRAFTER	PARSONS BRINCKERHOFF, INC.	
CHECKED BY		
SUBMITTED BY		
APPROVED BY		
DATE		

INTERSECTION #



VMS SITE #1  
SIGN POWER.  
SIGN CONTROL

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUR. OF ENGINEERING & HWY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING  
VARIABLE MESSAGE SIGN

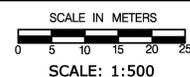
CITY OF WEST HAVEN  
I-95 NORTHBOUND

FIELD SURVEY	TRAFFIC	ELECTRICAL
ENGINEER	DATE	DATE
DRAFTER	PARSONS BRINCKERHOFF, INC.	
CHECKED BY		
SUBMITTED BY		
APPROVED BY		
DATE		

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING & HIGHWAY OPERATIONS  
DIVISION OF TRAFFIC ENGINEERING

VMS SITE 2 LOCATION PLAN

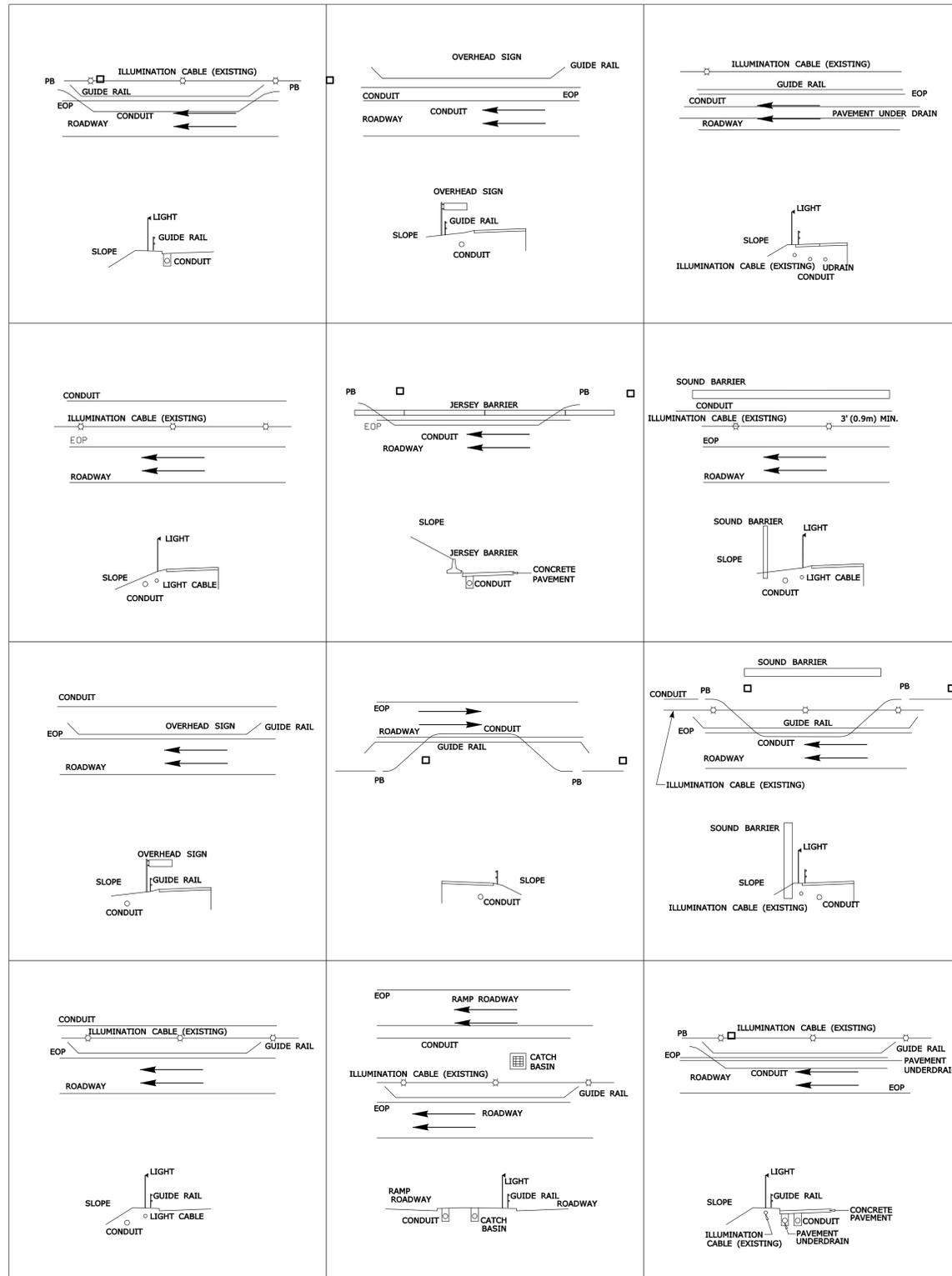
PROPOSED HANDHOLE - TYPE II	EXISTING UTILITY POLE	SERVICE CABINET	AUXILIARY TERMINATION CABINET
EXISTING HANDHOLE	EXISTING PULL BOX	PROPOSED CCTV CAMERA	RIGID METAL CONDUIT, SURFACE
PROPOSED STEEL CAMERA POLE	PROPOSED PULL BOX	TRAFFIC FLOW MONITOR	RIGID METAL CONDUIT, IN TRENCH/UNDER ROADWAY
EXISTING STEEL CAMERA POLE	CABINET (CCTV/MINI/HUB/VMS)	PROPOSED VMS ON CANTILEVER TRUSS	EXISTING RIGID METAL CONDUIT (R.M.C.)
PROPOSED UTILITY POLE	AUXILIARY DETECTOR CONNECTION CABINET	PROPOSED VMS, SIDE MOUNTED	36 FIBER OPTIC CABLE



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REV. # INTERSECTION #

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.
1	CONN.	NEW HAVEN		92-522	2012	95	



**GENERAL NOTES:**

1. THE LIMITS OF WORK FOR THIS PROJECT SHALL BE AS DETAILED IN THE SPECIAL PROVISIONS AND SHOWN ON THE CONDUIT PLANS.
2. CLEAR AND THIN VEGETATION IN AREAS INDICATED TO PROVIDE MAXIMUM VISIBILITY OF ADJACENT CAMERAS.
3. SURFACE MOUNTED CONDUIT SHALL BE MOUNTED ON STRUCTURE SURFACE, PARAPET, ABUTMENT OR PIER WALLS. IN-STRUCTURE CONDUIT SHALL BE THAT CONDUIT INSTALLED UNDER THE BRIDGE DECK AND WITHIN THE GIRDERS. SUPPORTED FIBER OPTIC CABLE SHALL BE STRAPPED TO EXISTING SURFACE MOUNTED OR IN-STRUCTURE CONDUIT.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING, VERIFYING AND PROTECTING ALL UTILITIES, BELOW AND ABOVE GROUND. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AND ALL UTILITIES WITHIN THE TOWNS ALONG THE PROJECT CORRIDOR. THE CONTRACTOR SHALL ALSO CONTACT D.O.T. DISTRICT ELECTRICAL TO MARK OUT THE UNDERGROUND ILLUMINATION CONDUIT AND APPURTENANCES AND MS. JACQUELINE HENRY-RAFIG OF PLANNING INVENTORY AND DATA AT 860-594-2089 TO MARK OUT TRAFFIC MONITORING STATION.
5. IN AREAS WHERE THE MAINLINE CONDUIT CROSSES THE EXISTING ILLUMINATION DUCT, THE CONTRACTOR WILL BE REQUIRED TO HAND EXCAVATE. THE MAINLINE CONDUIT WILL BE INSTALLED AT A SUFFICIENT DEPTH BELOW THE ILLUMINATION DUCT. ANY DAMAGE CAUSED TO THE ILLUMINATION AND TRAFFIC MONITORING STATIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. MARK OUT OF THE ILLUMINATION AND TRAFFIC MONITORING STATIONS WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY.
6. THE CONTRACTOR SHALL CONTACT MR. JAMES GANNON OF HIGHWAY OPERATIONS AT 203-673-7373 ONCE THE LOCATIONS OF THE PULLBOXES AND VAULTS ARE STAKED, FOR APPROVAL. THE LOCATIONS OF THESE ITEMS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY, AND SHALL BE ADJUSTED FOR FIELD CONDITIONS.
7. IT IS NOT THE INTENT OF THESE DRAWINGS TO INCLUDE EVERY DETAIL OF THE WORK REQUIRED TO BE PERFORMED BY THE CONTRACTOR TO MAKE A COMPLETE INSTALLATION. ITEMS NOT SPECIFICALLY SHOWN ON THE DRAWINGS OR INCLUDED IN THE SPECIFICATIONS THAT ARE REQUIRED TO BE PERFORMED BY THE CONTRACTOR TO PERFORM THE WORK, ARE TO BE INCLUDED AS PART OF THE CONTRACTOR'S WORK.
8. THE CONDUIT IN TRENCH SHALL BE 4" (100) SCHEDULE 40 PVC UNLESS OTHERWISE NOTED ON THE PLANS. ALL CONDUIT UNDER ROADWAYS SHALL BE RIGID METAL. SURFACE MOUNTED OR IN-STRUCTURE CONDUIT SHALL BE RMC OR FIBERGLASS CONDUIT AS NOTED. MAINLINE CONDUIT SHALL BE DEFINED AS THAT WHICH WILL CARRY FIBER OPTIC COMMUNICATION CABLE WITHIN THE PROJECT LIMITS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERENCE TO ALL "CALL BEFORE YOU DIG" LOCATION RULES AND REQUIREMENTS PRIOR TO EXCAVATION.
10. THESE PLANS DEPICT THE INSTALLATION OF A 4" (100) MULTI-DUCT CONDUIT TO ACCOMMODATE A FUTURE FIBER OPTIC CABLE AS WELL AS 2" (50) BRANCH CONDUIT OVERLAPS WITHIN THE SAME TRENCH AS THE 4" (100) MAINLINE CONDUIT.
11. THE INSTALLATION OF 4" (100) CONDUIT SHALL INCLUDE AN EXPANSION COUPLING AT EACH BRIDGE JOINT AS NOTED IN THE APPROPRIATE DETAILS.
12. AT ALL RAMP CROSSINGS, THE RMC SHALL BE INSTALLED ACROSS THE ROADWAY IN THE STRAIGHTEST MANNER POSSIBLE.
13. ALL PROPOSED HANDHOLES SHALL BE TYPE II, EXCEPT WHERE NOTED.
14. AT SPECIFIED LOCATIONS SHOWN ON THE PLANS, THE 4" (100) MAINLINE CONDUIT WILL SHARE THE MAINLINE CONDUIT TRENCH WITH A 2" (50) RIGID METAL CONDUIT (RMC) FOR THE BRANCH CONDUIT OVERLAP RUNS. THESE 2" (50) BRANCH CONDUITS WILL SERVE AS FUTURE SERVICE CONNECTIONS FOR CCTV AND VMS LOCATIONS, TERMINATING AT PULLBOXES AND TYPE II CONCRETE HANDHOLES.

**TYPICAL CROSS SECTION NOTES:**

THESE TYPICAL PLAN AND CROSS SECTION DETAILS ARE DRAWN NOT TO SCALE AND PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THESE DETAILS DO NOT NECESSARILY REFLECT ALL OF THE SITE CONDITIONS IN THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FIELD CONDITIONS AND SELECTING THE APPROPRIATE DETAIL FOR INSTALLATION OF THE CONDUIT.

**LEGEND**

- PB □ CONCRETE PULLBOX
- JB □ CAST IRON JUNCTION BOX - SIZE AS INDICATED
- V □ CONCRETE VAULT
- CONCRETE HANDHOLE TYPE II
- 2" (50) RMC OR 4" (100) PVC (MULTIDUCT)
- 2" (50) RMC OR 4" (100) RMC UNDER ROADWAY (MULTIDUCT)
- 2" (50) RMC OR 4" (100) RMC OR FIBERGLASS SURFACE & IN-STRUCTURE MOUNTED (MULTIDUCT)
- EXISTING LUMINAIRE
- EXISTING CATCH BASIN
- EXISTING CONCRETE HANDHOLE
- EXISTING GUIDE RAIL

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REV.	DATE	DESCRIPTION	SHEET NO.

NOT TO SCALE

DESIGNER: J.A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J.A. HALLISY  
 DATE CHECKED: 10/2012



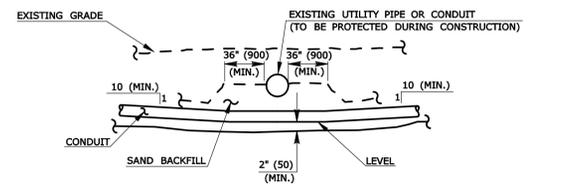
ENGINEER:  
 APPROVED BY: DATE:

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**  
 CADD ims-11-092522.dgn PLOTTED 11/13/2012

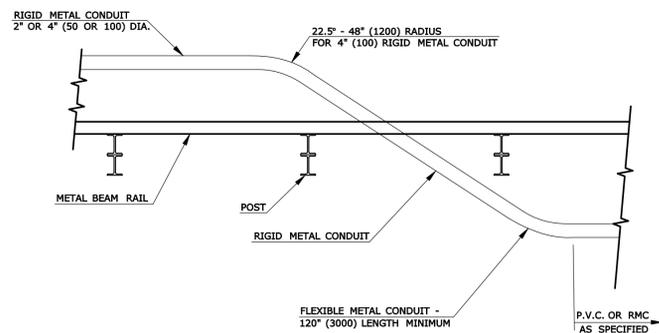
TOWN:  
**NEW HAVEN / WEST HAVEN**  
 DRAWING TITLE:  
**GENERAL NOTES TYPICAL SECTIONS**

PROJECT NO.: **92-522**  
 DRAWING NO.: **IMS-11**  
 SHEET NO.:



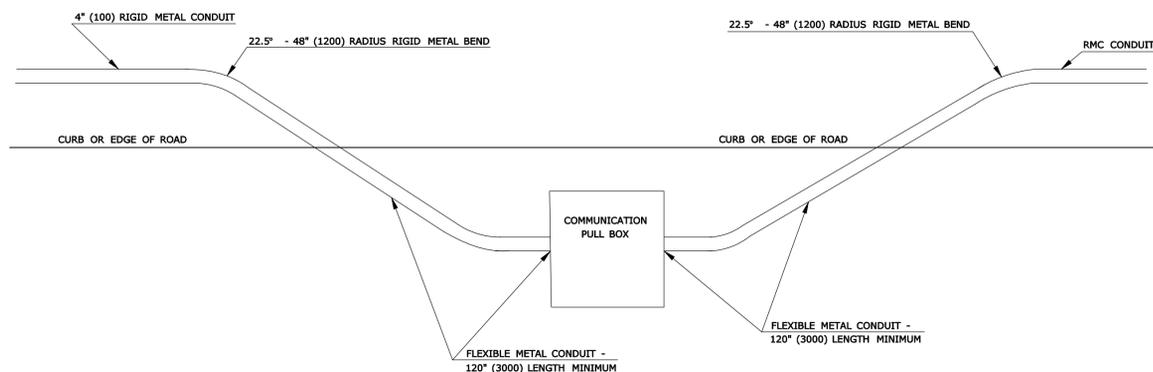


**CONDUIT CROSSING UNDER EXISTING UTILITY**



NOTES:  
 CONTRACTOR TO RESTORE AREAS DISTURBED BY TRENCH TO ORIGINAL CONDITION.  
 CONTRACTOR SHALL INSTALL CONDUIT AT A MINIMUM DEPTH OF 40" (1000).  
 CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING THAT CONDUIT WILL NOT CONFLICT WITH UNDERGROUND UTILITIES.

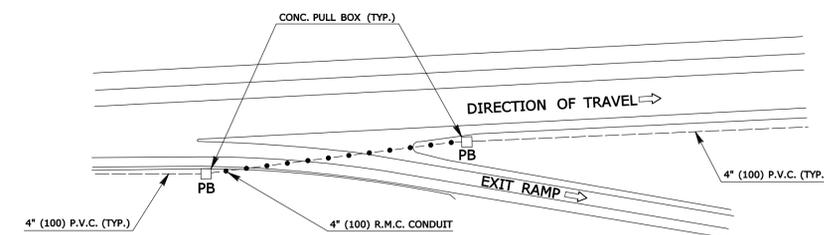
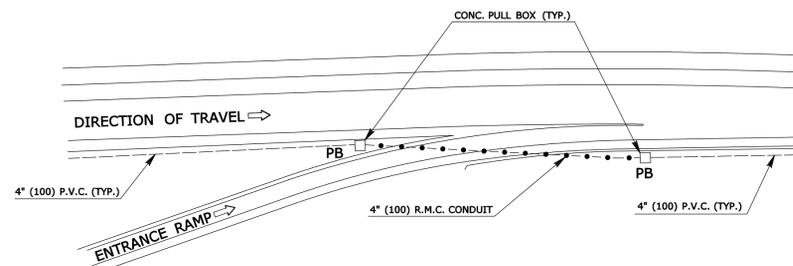
**TYPICAL GUIDE RAIL CROSSING**



NOTE:  
 THE CONTRACTOR SHALL BE REQUIRED TO INSTALL A MINIMUM OF 120" (3000) OF FLEXIBLE CONDUIT ON EACH SIDE OF THE PULLBOX. THIS IS REQUIRED TO INSURE THAT THE INNERDUCTS ENTERING AND EXITING THE PULLBOX WILL LINE UP AND BE PERPENDICULAR TO THE SIDEWALL OF THE PULLBOX.

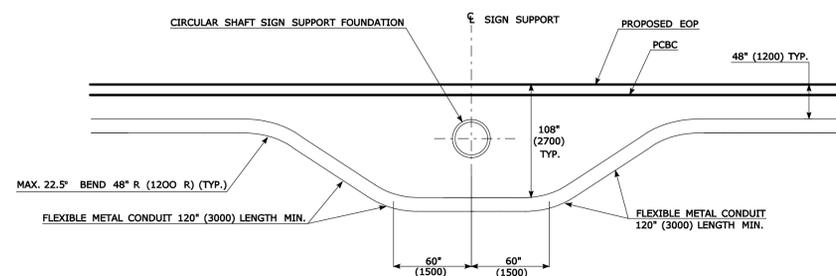
THE CONTRACTOR SHALL BE RESPONSIBLE TO TO ENSURE THAT THE RADIUS OF THE INSTALLED FLEXIBLE METAL PIPE IS GREATER THAN THE MINIMUM ALLOWED FOR THE FIBER OPTIC CABLE.

**TYPICAL PULLBOX INSTALLATION - CONDUIT UNDER ROADWAY**



NOTES:  
 PULLBOXES SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.  
 PULLBOXES SHALL BE ORIENTED TO PROVIDE THE STRAIGHTEST POSSIBLE PULL IN THE CABLE.

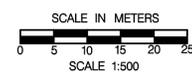
**TYPICAL RAMP CROSSING**



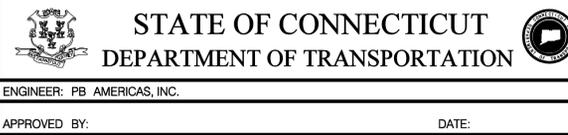
**4" (100) CONDUIT TREATMENT AT SIGN SUPPORT**

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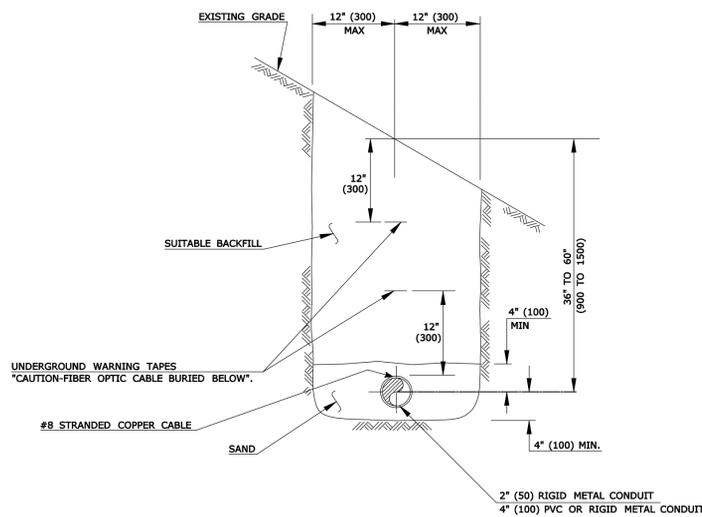
DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012



PROJECT TITLE:  
 RECONSTRUCTION OF I-95 OVER WEST RIVER  
 CADD ims-13-092522.dgn

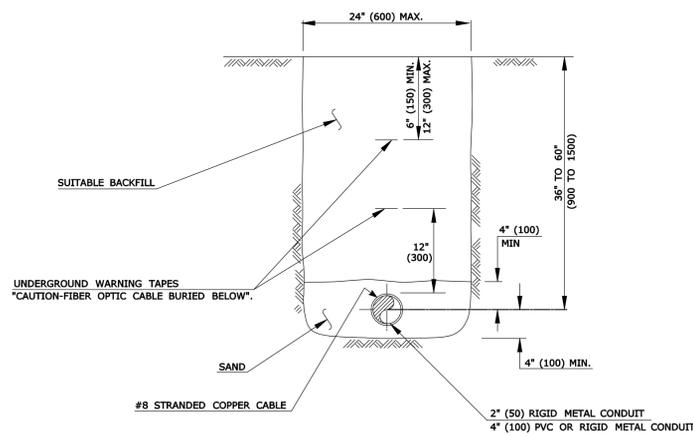
TOWN:  
 NEW HAVEN / WEST HAVEN  
 DRAWING TITLE:  
 TYPICAL IMS CONDUIT CROSSING DETAILS  
 PLOTTED 11/13/2012

PROJECT NO.: 92-522  
 DRAWING NO.: IMS-13  
 SHEET NO.:

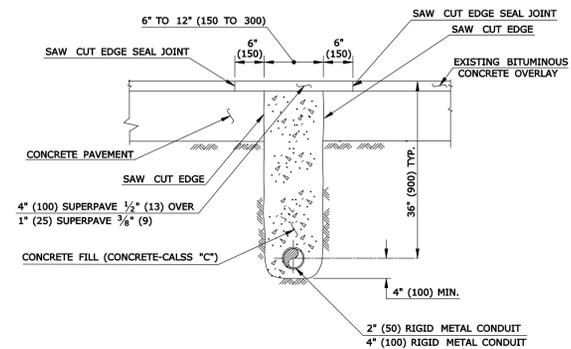


**CONDUIT IN SLOPED EARTH**

NOTE: IN SLOPES STEEPER THAN 1:2, CONDUIT SHALL HAVE A MINIMUM COVER OF 24" (600) PERPENDICULAR TO THE SLOPE.

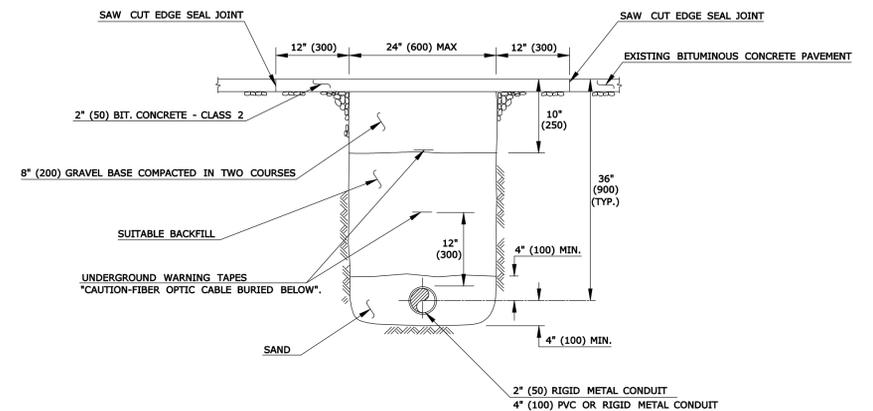


**CONDUIT IN LEVEL EARTH**

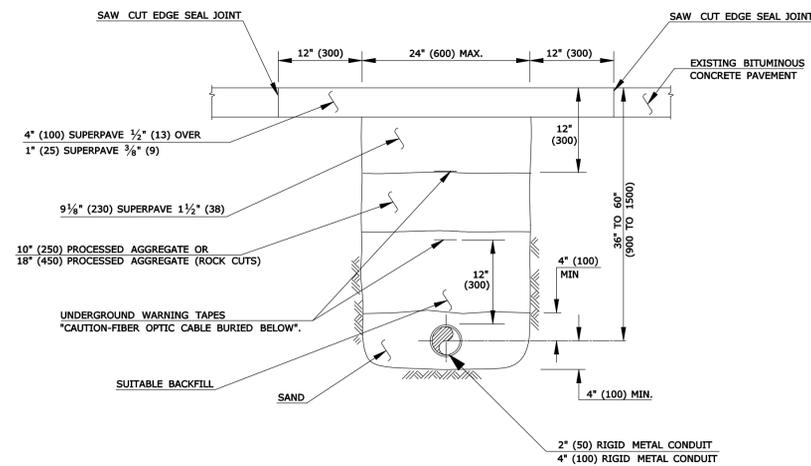


**R.M.C. UNDER BITUMINOUS CONCRETE OVERLAYED CONCRETE PAVEMENT**

NOTE: USE SUPERPAVE LAYERS AS SHOWN OR AS DIRECTED BY THE ENGINEER

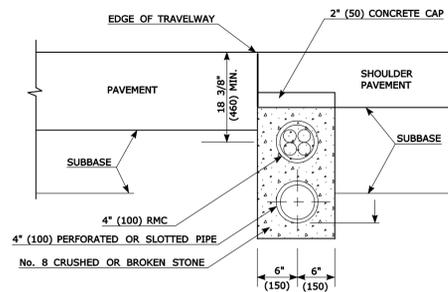


**R.M.C. UNDER BITUMINOUS CONCRETE SIDEWALK OR DRIVEWAY**

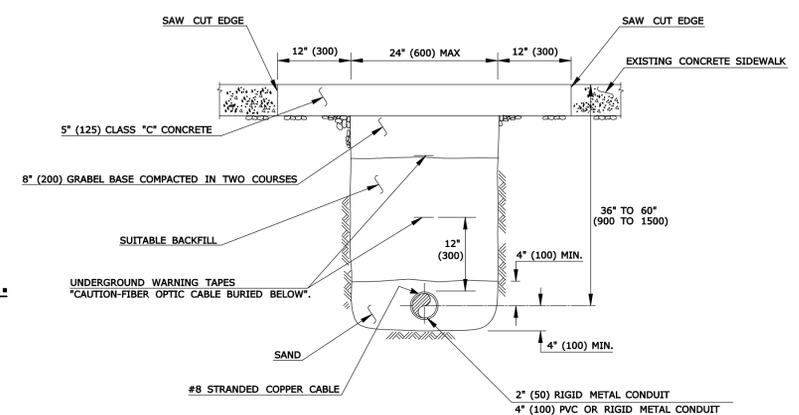


**R.M.C. UNDER BITUMINOUS CONCRETE PAVEMENT**

NOTE: USE SUPERPAVE LAYERS AS SHOWN OR AS DIRECTED BY THE ENGINEER



**TYPICAL CONDUIT INSTALLATION IN AREAS OF PAVEMENT EDGE DRAIN OR UNDERDRAIN.**



**CONDUIT UNDER CONCRETE SIDEWALK**

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REV.	DATE	DESCRIPTION	SHEET NO

NOT TO SCALE

DESIGNER:	J. A. KOOLIS
DRAFTER:	M.C. DEEGAN
CHECKED BY:	J. A. HALLISEY
DATE CHECKED:	10/20/12

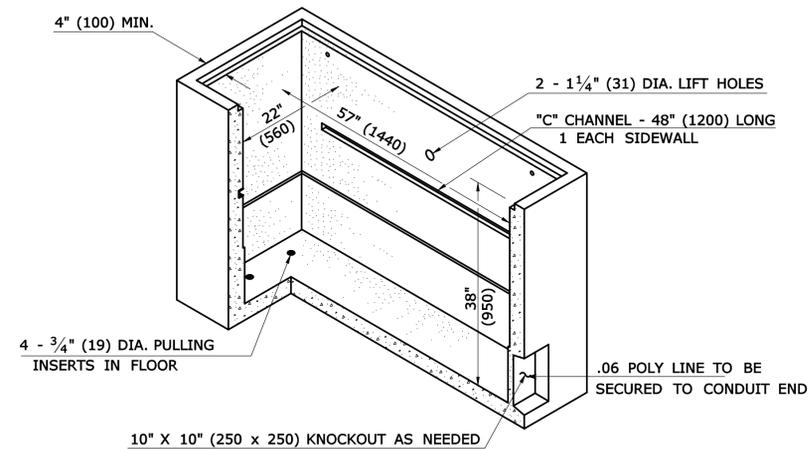

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER:	PB AMERICAS, INC.
APPROVED BY:	
DATE:	

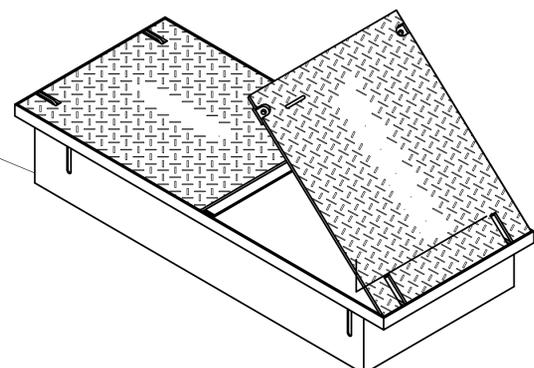
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CADD	ims-14-092522.dgn
PLOTTED	11/13/2012

TOWN:	NEW HAVEN / WEST HAVEN
DRAWING TITLE:	IMS TRENCHING DETAILS

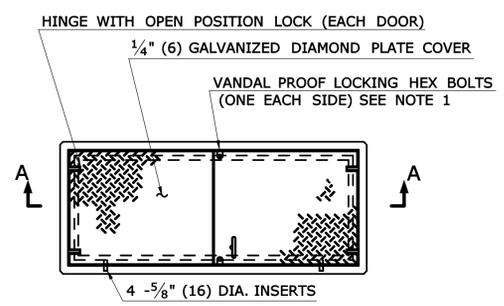
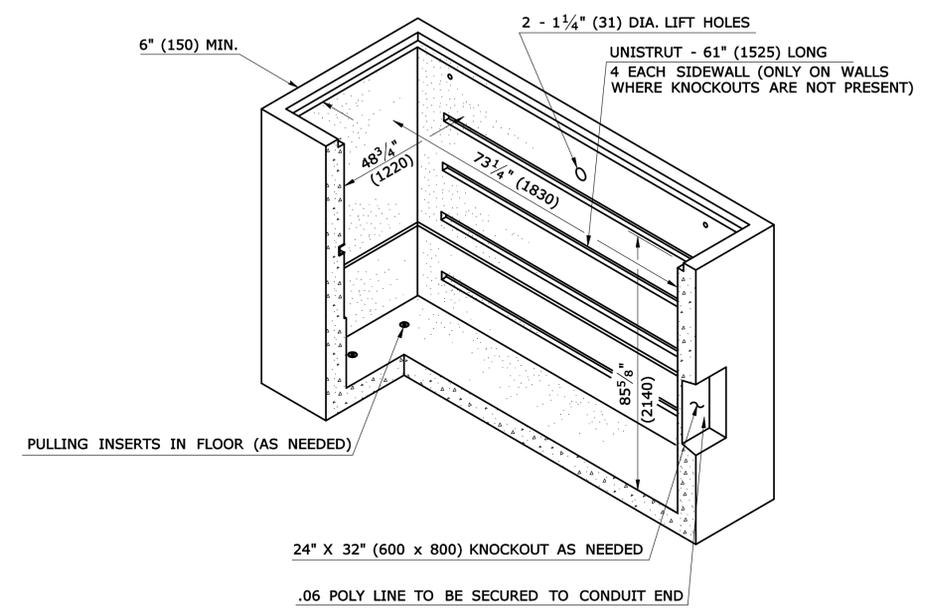
PROJECT NO.:	92-522
DRAWING NO.:	IMS-14
SHEET NO.:	



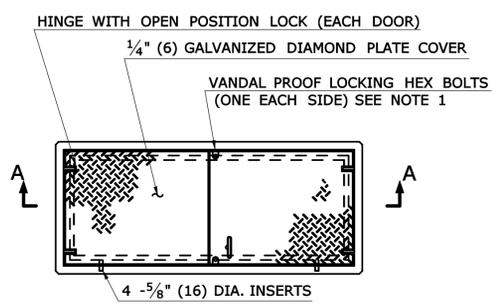
COVER WITH ADJ.  
FRAME 220lbs. (100 kg.)



RECESSED COVER



PLAN VIEW



PLAN VIEW

**GENERAL NOTES:**

- 1) SUITABLE IN OFF-STREET LOCATIONS WHERE NOT SUBJECTED TO HIGH DENSITY TRAFFIC.
- 2) FOR EACH PULL BOX INSTALLED, ONE OF THE SPECIAL TOOLS REQUIRED TO OPEN THE HEX BOLTS SHALL BE PROVIDED TO THE STATE. COST OF TOOL IS INCLUDED IN THE ITEM FOR PULLBOX.
- 3) PULLBOXES SHALL BE INSTALLED SO THAT THE KNOCKOUTS ARE PARALLEL TO THE MIANLINE CONDUIT DIRECTION.

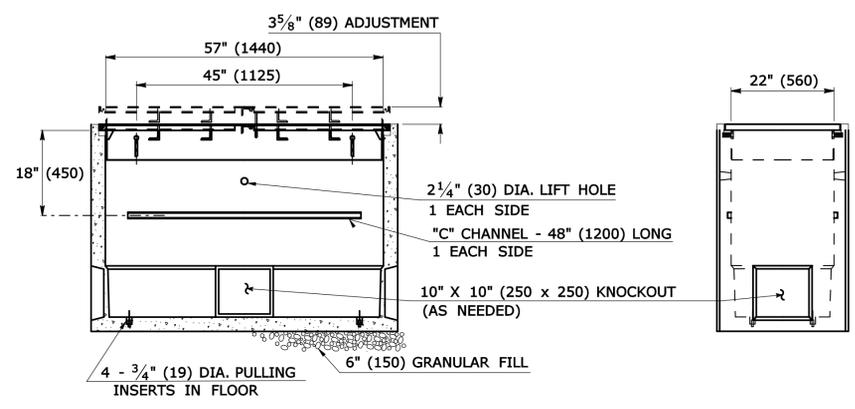
**DESIGN CRITERIA:**

**LIVE LOAD**

PULLBOX AND COVER SHALL BE DESIGNED BY THE CONTRACTOR TO SUPPORT H2O LIVE LOAD, WITH 30% IMPACT.

**EARTH PRESSURE**

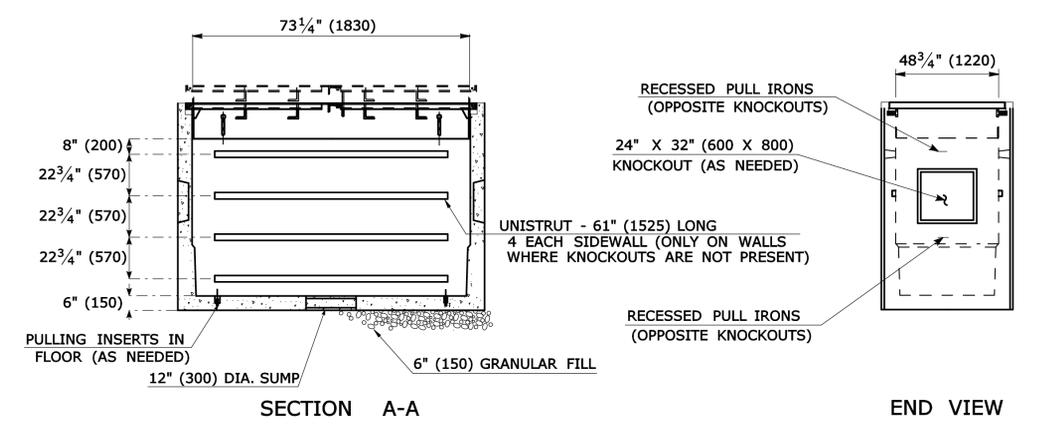
AN EQUIVALENT FLUID PRESSURE (HORIZONTAL) OF NOT LESS THAN 53 lbs./S.F. (264 kg./Sq. m) SHALL BE USED FOR DESIGN. SITE CONDITIONS MAY NECESSITATE MODIFICATIONS TO THE EQUIVALENT FLUID PRESSURE (I.E. SLOPING, BACKFILL, WATER TABLE ETC.). THE CONTRACTOR IS RESPONSIBLE FOR EVALUATING SITE CONDITIONS WITH REGARDS TO DESIGN REQUIREMENTS.



SECTION A-A

END VIEW

**PULL BOX - DETAIL**



SECTION A-A

END VIEW

**VAULT - DETAIL**

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REV.	DATE	DESCRIPTION	SHEET NO.

NOT TO SCALE

DESIGNER: J. A. KOOLIS	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>
DRAFTER: M.C. DEEGAN	
CHECKED BY: J. A. HALLISEY	ENGINEER:
DATE CHECKED: 10/2012	APPROVED BY:
	DATE:

PROJECT TITLE:  
RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD ims-15-092522.dgn PLOTTED 11/13/2012

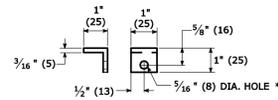
TOWN:  
NEW HAVEN / WEST HAVEN

DRAWING TITLE:  
PULLBOX AND VAULT DETAILS

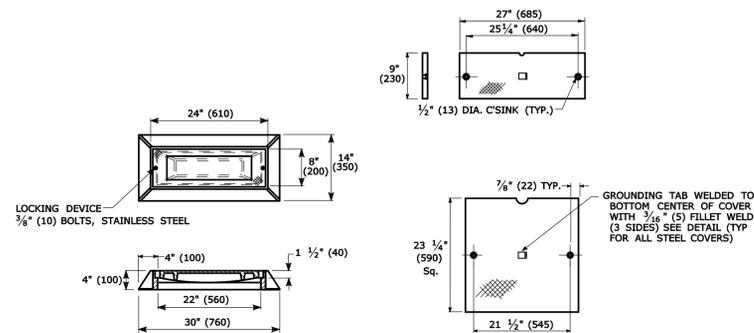
PROJECT NO.:  
92-522

DRAWING NO.:  
IMS-15

SHEET NO.:



**STEEL GROUNDING TAB**

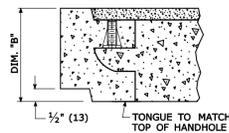


**HANDHOLE COVERS**

**CONCRETE HANDHOLE NOTES:**

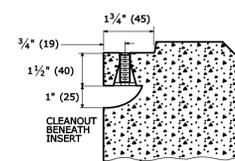
- 1) BLOCK UNUSED OPENINGS OF HANDHOLE ON THE OUTSIDE WITH PRESSURE TREATED PLYWOOD.
- 2) GROUT AROUND ALL CONDUITS
- 3) USE 1 1/2" X 3/8" (40 X 10) CONCRETE INSERT. STANDARD THREAD, STAINLESS STEEL, FLAT HEAD BOLT, RECESSED IN PLATE COVER. INSERTS TO HAVE CLEANOUTS.
- 4) TYPE II HANDHOLE 30" (760) SIDE INSTALLED PARALLEL TO ROAD UNLESS OTHERWISE NOTED.
- 5) WHERE AN EXISTING CONCRETE SIDEWALK SLAB ABUTTING A HANDHOLE IS DAMAGED OR CUT DURING INSTALLATION THE ENTIRE SECTION SHALL BE REPLACED.
- 6) 12-#3 REINFORCING BARS REQUIRED FOR ALL HANDHOLES.

DIM. "B" CHART		
ENGLISH HEIGHT	METRIC HEIGHT	
2"	50	
4" SHOWN	100	
6"	150	
12"	300	

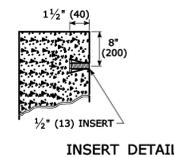


**SECTION "A-A"**

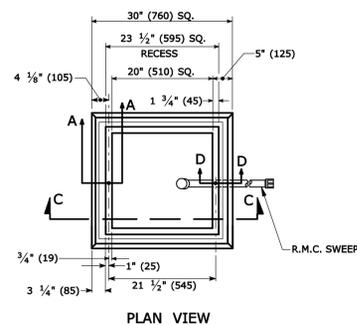
**HANDHOLE EXTENSIONS**  
12 - #8 REINFORCING BARS REQ'D



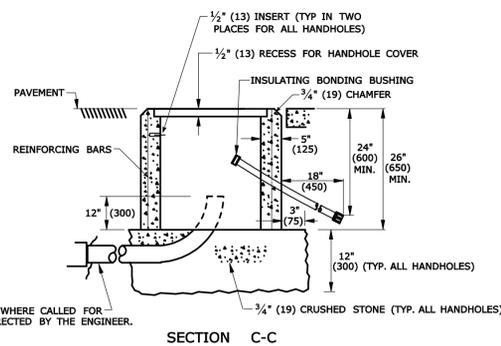
**SECTION "D-D"**



**INSERT DETAIL**

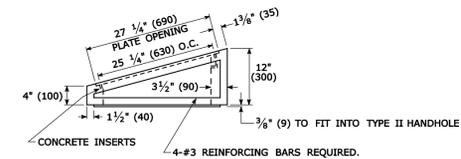


**PLAN VIEW**

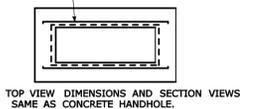


**SECTION C-C**

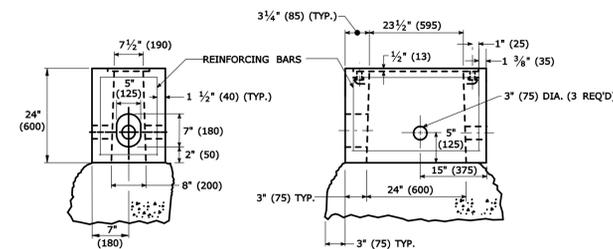
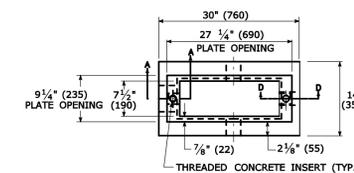
**CONCRETE HANDHOLE CLASS "A" CONCRETE**



**CONCRETE HANDHOLE TYPE II BANK ADAPTER**



**CONCRETE HANDHOLE TYPE II BANK ADAPTER**



**CONCRETE HANDHOLE TYPE II CLASS "C" CONCRETE**

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
DRAFTER: M.C. DEEGAN  
CHECKED BY: J. A. HALLISEY  
DATE CHECKED: 10/21/02

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
ENGINEER: PB AMERICAS, INC.  
APPROVED BY: DATE:

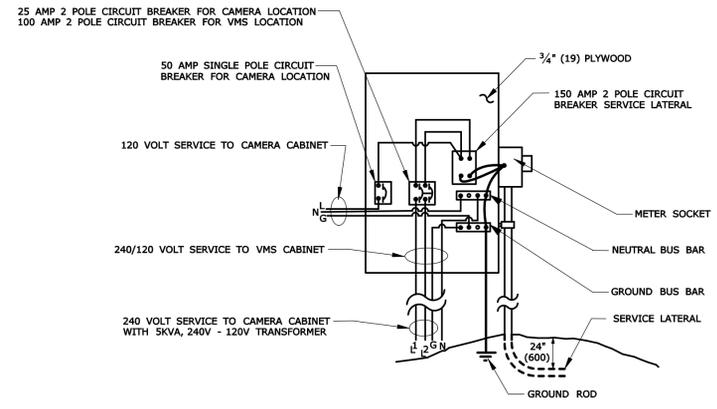
PROJECT TITLE:  
RECONSTRUCTION OF I-95 OVER WEST RIVER  
CADD ims-16-092522.dgn PLOTTED 11/13/2012

TOWN:  
NEW HAVEN / WEST HAVEN  
DRAWING TITLE:  
CONCRETE HANDHOLE DETAILS

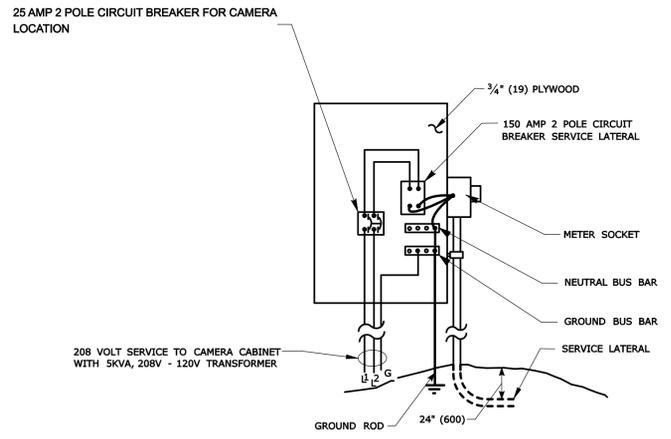
PROJECT NO.: 92-522  
DRAWING NO.: IMS-16  
SHEET NO.:

REV.	DATE	DESCRIPTION	SHEET NO.

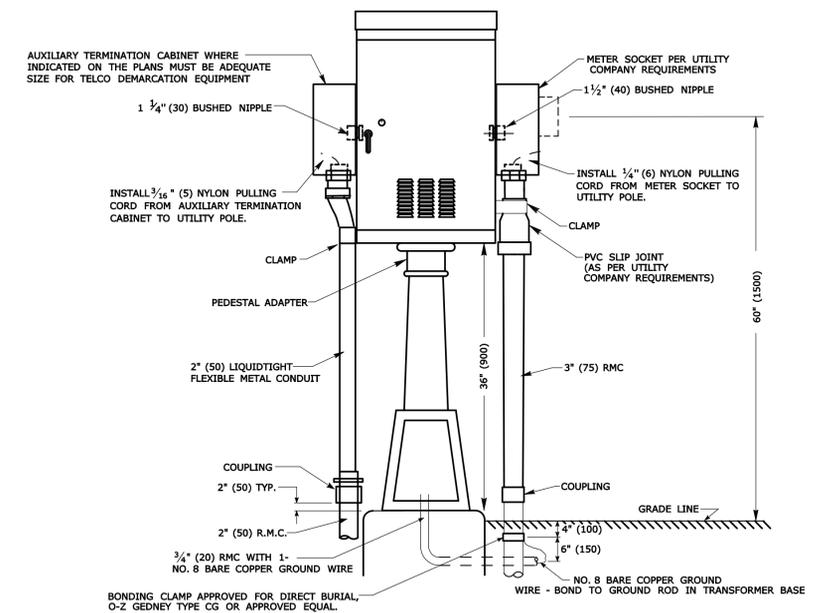




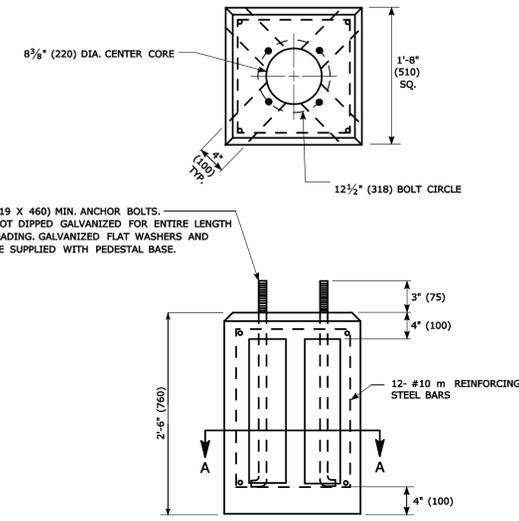
**SERVICE CABINET LAYOUT**  
SERVICE (120 VOLT, 240 VOLT AND 240/120 VOLT)



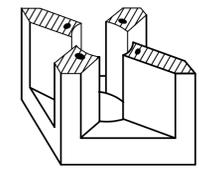
**SERVICE CABINET LAYOUT**  
SERVICE (208 VOLT)



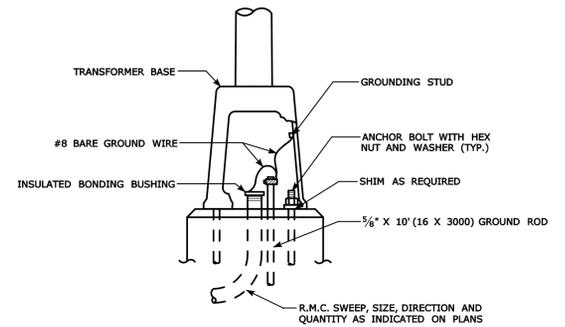
CABINET TYPE	HEIGHT	WIDTH	DEPTH
SERVICE CABINET	36" (900)	20" (500)	16" (400)
AUX. TERM. CABINET	16" (400)	12" (300)	6" (150)



**PRECAST PEDESTAL BASE - TYPE I**

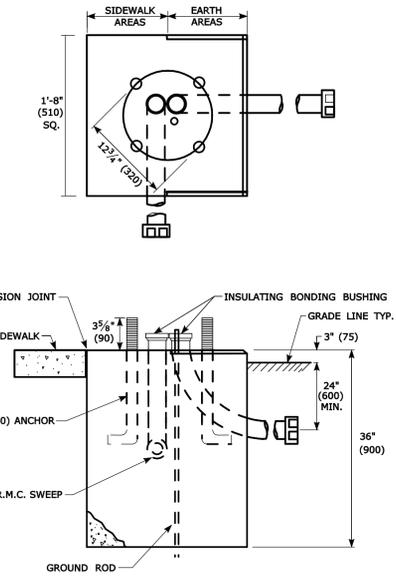


**SECTION A - A**



**36" (900) ALUMINUM PEDESTAL**

NOTES:  
PLACE NO. 6 CRUSHED STONE IN CENTER OPENING AFTER CONDUITS AND GROUND ROD HAVE BEEN INSTALLED. THE OPENING SHOULD BE CAPPED WITH 2" (50) GROUT LEVEL WITH THE TOP OF FOUNDATION AND NEATLY FINISHED. THE GROUT SHALL CONFORM WITH THE REQUIREMENTS OF ARTICLE M.03.01-12.



**TRAFFIC CONTROL FOUNDATION PEDESTAL TYPE I**

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REV.	DATE	DESCRIPTION	SHEET NO.

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
DRAFTER: M. C. DEEGAN  
CHECKED BY: J. A. HALLISEY  
DATE CHECKED: 10/2012


**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

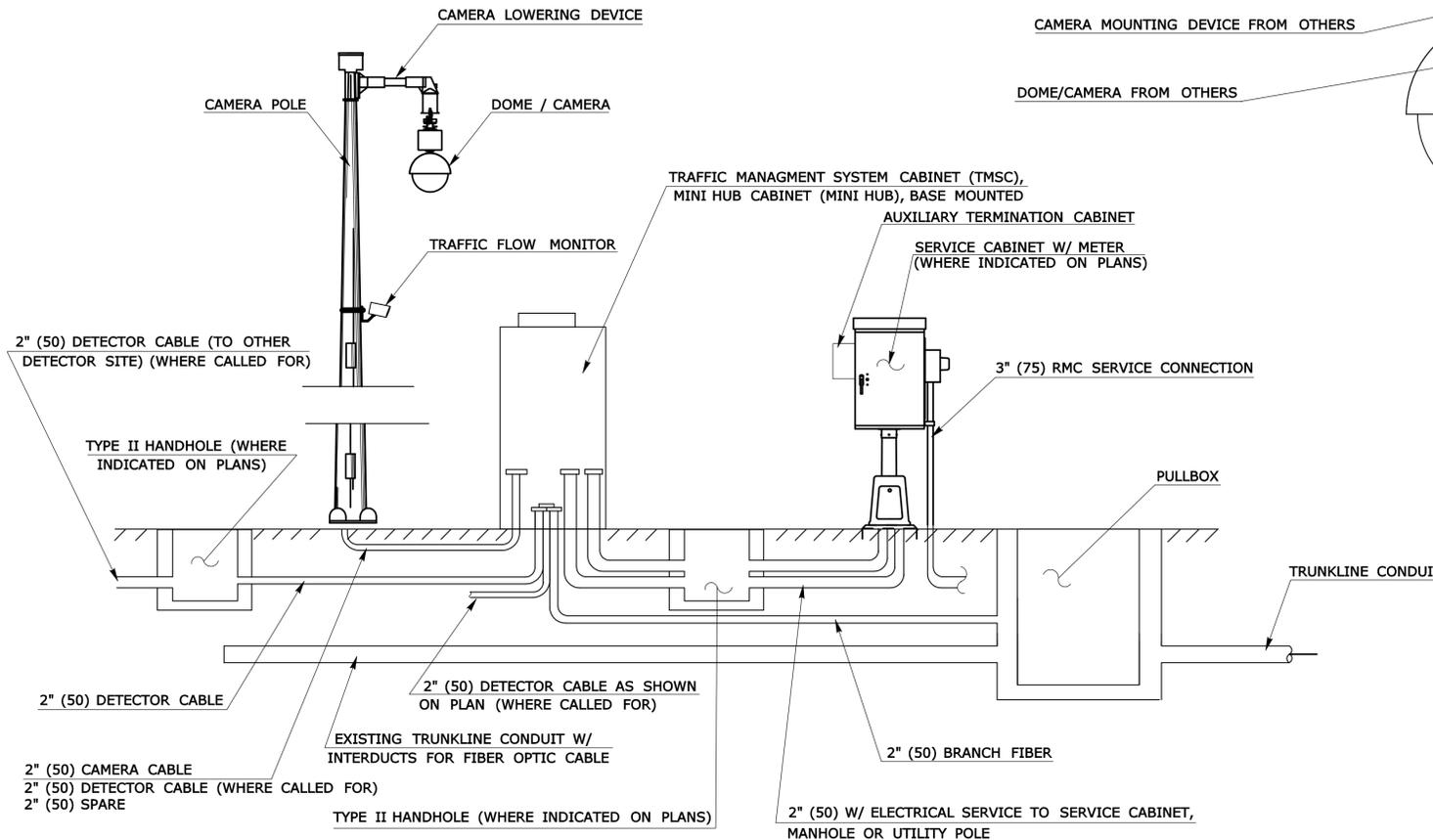
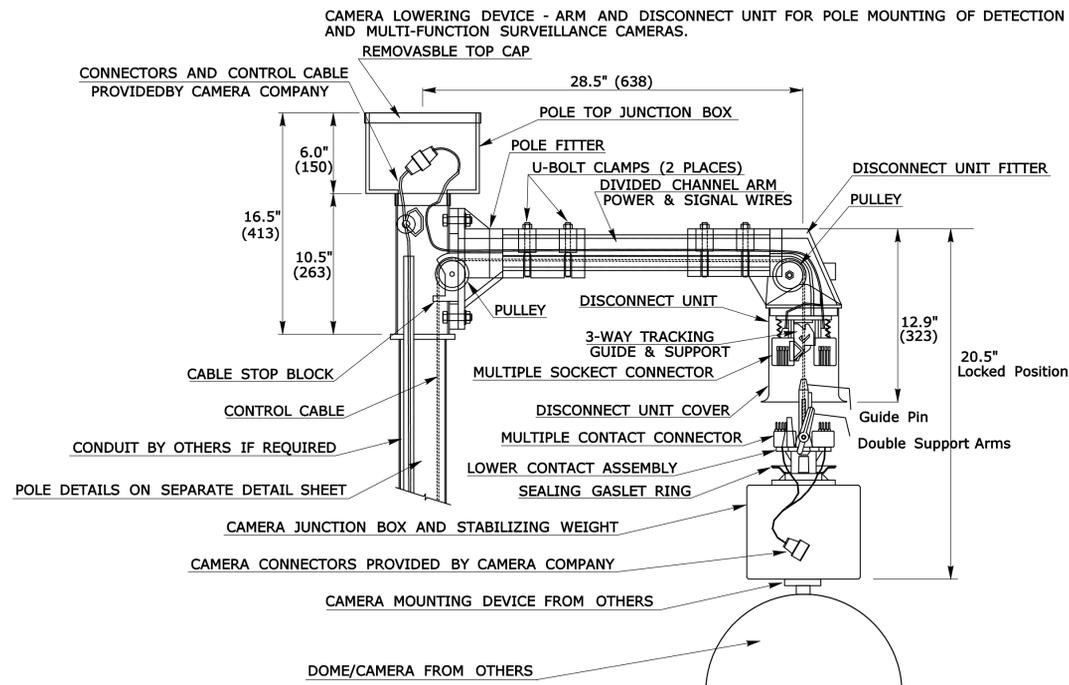
PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD ims-18-092522.dgn PLOTTED 11/13/2012

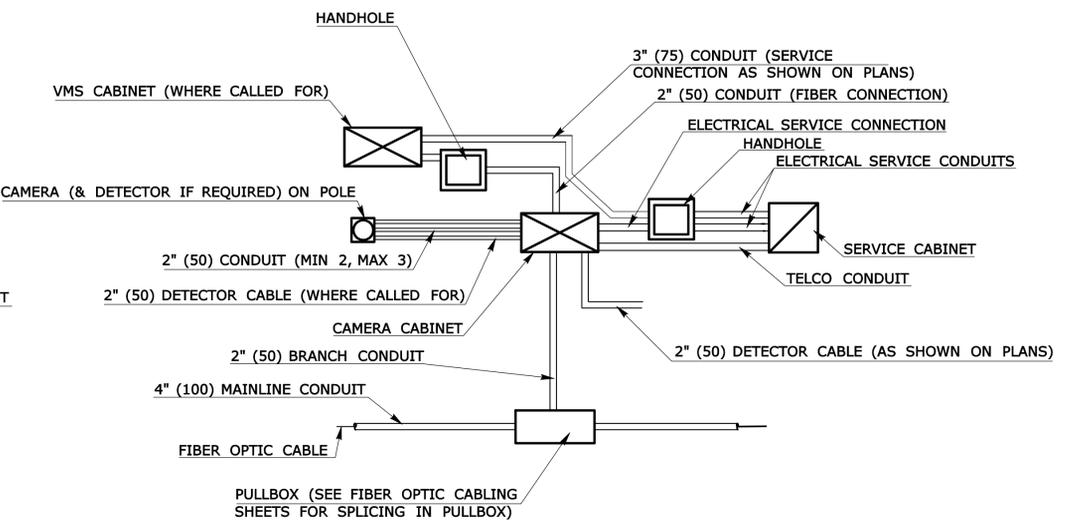
TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**TYPICAL ELECTRICAL AND ATC DETAILS**

PROJECT NO.: **92-522**  
DRAWING NO.: **IMS-18**  
SHEET NO.: \_\_\_\_\_



**CCTV ELEVATION SCHEMATIC**



**CCTV SCHEMATIC PLAN**  
SEE SITE PLANS FOR SPECIFIC LAYOUT

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REV.	DATE	DESCRIPTION	SHEET NO.

NOT TO SCALE

DESIGNER: J.A. KOOLIS	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>
DRAFTER: M.C. DEEGAN	
CHECKED BY: J.A. HALLISEY	ENGINEER:
DATE CHECKED: 10/2012	APPROVED BY:
	DATE:

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD: ims-19-092522.dgn    PLOTTED: 11/13/2012

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**LOWERING DEVICE AND CAMERA LOCATION SCHEMATICS**

PROJECT NO.:  
**92-522**

DRAWING NO.:  
**IMS-19**

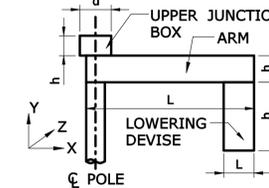
SHEET NO.:

**FOUNDATION DESIGN ASSUMPTIONS:**

**POLE ASSUMPTIONS:**  
 CROSS-SECTIONAL SHAPE: CIRCULAR  
 DIAMETER = 2' (UNIFORM, FULL HEIGHT FOR WIND CALCS)  
 HEIGHT = 70'  
 THICKNESS = 5/16"

**LOWERING ARM ASSEMBLY ASSUMPTIONS:**

**UPPER JUNCTION BOX:**  
 CROSS-SECTIONAL SHAPE: CIRCULAR  
 d = 8"  
 h = 6"  
**ARM:**  
 CROSS-SECTIONAL SHAPE: RECTANGULAR  
 L = 52"  
 h = 6.5"  
 w = 18"  
**LOWERING DEVICE:**  
 CROSS-SECTIONAL SHAPE: RECTANGULAR  
 L = 23"  
 h = 14"  
 w = 18"



**LOWER ARM ASSEMBLY DIAGRAM**  
 NOT TO SCALE

**WIND LOAD ASSUMPTIONS:**  
 DIRECTIONS: NORMAL (+ Z-AXIS), TRANSVERSE-LEFT (+ X-AXIS), AND TRANSVERSE-RIGHT (- X-AXIS)  
 RECURRENCE INTERVAL, DESIGN LIFE = 50 YR  
 FATIGUE CATEGORY = II  
 FATIGUE DESIGN LOADS = NATURAL WIND GUSTS ONLY  
 EXPOSURE CONDITION = C (ANSI/ASCE7-95)  
 $\alpha = 9.5$   
 $Z_0 = 900'$  (AASHTO 3-1)  
 $G = 1.14$  (AASHTO 3.8.5, 3-SECOND GUST SPEED)  
 $V = 120$  mph (AASHTO 3-1)  
 $C_s = 1$  (mph/ft)<sup>1</sup> (AASHTO TABLE 3-4)

MEMBER	LENGTH (in)	C <sub>d normal</sub>	C <sub>d T-L and T-R</sub>	K <sub>z</sub>
1 POLE (BOTTOM SEGMENT)	360	0.774	0.774	0.865
2 POLE (MIDDLE SEGMENT)	466	0.774	0.774	1.091
3 POLE (TOP SEGMENT)	14	0.774	0.774	1.172
4 ARM	1.423	1.792	1.175	
5 LOWERING DEVICE	1.837	1.792	1.172	
6 UPPER JUNCTION BOX	0.45	0.45	1.177	

**ICE LOAD ASSUMPTIONS:**  
 ALL MEMBER FACES EXPOSED  
 ICE = 3 lb/ft<sup>2</sup>

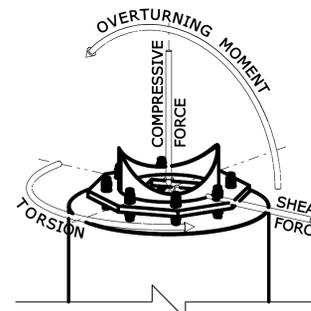
**DEAD LOAD ASSUMPTIONS:**  
 $P_{steel} = 490$  lb / ft<sup>3</sup>  
 ARM WEIGHT = 50 lb  
 LOWERING DEVICE WEIGHT = 58.36 lb (INCLUDING CAMERA = 8.36 lb)  
 UPPER JUNCTION BOX WEIGHT = 3 lb

**FATIGUE SPECIFICATIONS:**  
 $P_{WV} = 5.2 C_u I_e$  (psf) (FOR YEARLY MEAN WIND SPEED OF 11.2 mph) (SECTION 11.7.3)  
 $C_u =$  SEE WIND LOAD ASSUMPTIONS  
 $I_e = 0.72$  (TABLE 11-1)  
 $P_{V0} = 0$  (VORTEX SHEDDING IS IGNORED FOR POLES WITH A TAPER  $\geq 0.14$  in/ft) (SECTION 11.7.2)  
 CONSTANT AMPLITUDE FATIGUE LIMIT FOR ANCHOR BOLTS = 7ksi (AASHTO TABLES 11-2 AND 11-3)

**SOIL ASSUMPTIONS**  
 COHESION LESS  
 $\rho = 120$  lb/ft<sup>3</sup>  
 $\phi = 30$   
 WATER TABLE = -5'  
 LATERAL SOIL LAYER MODEL = SAND (REESE)  
 AXIAL SOIL LAYER MODEL = DRILLED SHAFT SAND  
 TORSIONAL LAYER MODEL = HYPERBOLIC  
 TIP LAYER MODEL = DRILLED SHAFT SAND

**ASSUMED DESIGN LOADS APPLIED @ TOP OF BASE PLATE**  
 OVERTURNING MOMENT = 195 ft<sup>2</sup>kip  
 COMPRESSIVE FORCE = 5.5 kip  
 TORSION = 675 ft<sup>2</sup>lb  
 SHEAR FORCE = 4.9 kip

**ASSUMED FATIGUE LOADS APPLIED @ TOP OF FOUNDATION:**  
 OVERTURNING MOMENT = 21 ft<sup>2</sup>kip  
 SHEAR FORCE = 3.6 kip



**GENERAL NOTES:**

**SPECIFICATIONS:** CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 816, (2004), SUPPLEMENTAL SPECIFICATIONS DATED JANUARY, 2007

**DESIGN SPECIFICATIONS:** STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4<sup>TH</sup> EDITION (AASHTO - 2001) WITH INTERIM SPECIFICATIONS UP TO AND INCLUDING 2006, AND STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17<sup>TH</sup> EDITION, AASHTO - 2002, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003).

**POLE REQUIREMENTS:** DESIGNED BY CONTRACTOR  
 1' 6"  $\leq$  DIAMETER @ BASE  $\leq$  2'  
 HEIGHT = 70'  
 TAPER  $\geq 0.14$  in/ft (POLE DIA. / ΔPOLE HGT.)  
 SHAPE: 16-SIDED OR CIRCULAR

**FOUNDATION REQUIREMENTS:** TYPE: DRILLED SHAFT  
 DIAMETER = 4'  
 DEPTH = 15'

**CLASS "A" CONCRETE:** CLASS "A" CONCRETE SHALL BE USED FOR THE ENTIRE FOUNDATION BASED ON  $f_c = 3,000$  psi.

**EXPOSED EDGES:** EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

**CONCRETE COVER:** ALL REINFORCEMENT SHALL HAVE 4" COVER UNLESS DIMENSIONED OTHERWISE.

**REINFORCEMENT:** ALL REINFORCEMENT SHALL BE ASTM A615, GRADE 60

**CONSTRUCTION JOINTS:** CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

**STRUCTURAL STEEL:** SEE STRUCTURAL STEEL NOTES FOR DESIGNATIONS AND REQUIREMENTS.

**STRUCTURAL STEEL COATINGS:** ALL STEEL COMPONENTS OF THE CAMERA SUPPORT SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION AND SHALL MEET THE REQUIREMENTS OF ASTM A123, OR A153, CLASS C, WHICHEVER SHALL APPLY, EXCEPT ASTM A325 TYPE 1 BOLTS MAY BE MECHANICALLY GALVANIZED AND SHALL MEET THE REQUIREMENTS OF ASTM B695 CLASS 50. ZINC-RICH FIELD PRIMER FOR TOUCH UP SHALL CONFORM TO THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-P-641 TYPE 1 AND ASTM A780. THE USE OF AEROSOL SPRAY CANS SHALL NOT BE PERMITTED.

**FOUR RIGID METAL CONDUIT:** ONE 2"  $\phi$  RMC FOR CAMERA CABLE, ONE 2"  $\phi$  RMC FOR DETECTOR CABLE, ONE 2"  $\phi$  RMC SPARE, AND ONE 3/4"  $\phi$  RMC FOR GROUND WIRE.

**TRAFFIC:** ALL WORK SHALL BE PERFORMED ACCORDING TO THE SPECIAL PROVISIONS "MAINTENANCE AND PROTECTION OF TRAFFIC" AND "PROSECUTION AND PROGRESS."

**STRUCTURAL STEEL NOTES:**

THE CONTRACTOR SHALL DESIGN AND ANALYZE THE "70" - CAMERA POLE, BASE PLATE, AND ANCHORAGE.

**STRUCTURAL STEEL:** ALL STRUCTURAL STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 36 ksi. CHARTY V-NOTCH TOUGHNESS SAMPLING SHALL BE REQUIRED FOR THE POLE AND IMPACT VALUES SHALL BE AT LEAST 25 ft-lbs AT 40 F. CHARTY V-NOTCH SAMPLING AND TESTING SHALL BE IN ACCORDANCE WITH AASHTO T243 (ASTM A673).

**WELDING DETAILS, PROCEDURES AND TESTING METHODS** SHALL CONFORM TO ANSI/AWS D1.1-2002 STRUCTURAL WELDING CODE-STEEL. POLE AND BASE PLATE COMPONENTS ARE CONSIDERED FRACTURE CRITICAL AND SHALL BE FABRICATED IN ACCORDANCE WITH CHAPTER 12 (FRACTURE CONTROL PLAN) OF AASHTO/AWS D1.5 BRIDGE WELDING CODE. MEMBERS SHALL BE DESIGNATED FRACTURE CRITICAL ON THE SHOP DRAWINGS.

**BOLTED FIELD SPLICES, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE ALLOWED EXCEPT WITH THE WRITTEN PERMISSION OF THE ENGINEER PRIOR TO THE SUBMISSION OF THE SHOP PLANS. IF ALLOWED, THESE SPLICES SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE COST OF THESE SPLICES, INCLUDING THE COST OF DESIGN, SHALL BE AT NO EXTRA EXPENSE TO THE STATE. WELDED FIELD SPLICES WILL NOT BE ALLOWED.**

UNLESS NOTED OTHERWISE, ALL GROVE WELDS SHALL BE COMPLETE JOINT PENETRATION AND SHALL BE COMPLETELY INSPECTED BY ULTRASONIC TESTING.

ALL FILLET WELDS SHALL BE INSPECTED IN THEIR ENTIRETY BY MAGNETIC PARTICLE METHODS. WHERE MULTIPLE PASS WELDS ARE MADE, EACH PASS SHALL BE INSPECTED AND ACCEPTED BEFORE PROCEEDING TO THE NEXT PASS OR LAYER, AS DETERMINED BY THE ENGINEER.

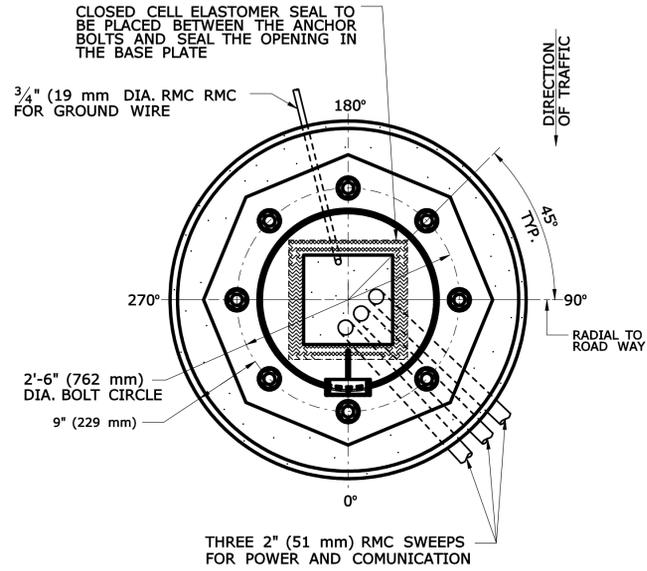
ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 55. ALL BOLTS, THREADED RODS, AND ANCHOR RODS SHALL HAVE COMPATIBLE NUTS AND WASHERS. THE LEVELING NUTS SHALL CONFORM TO ASTM A563, HEAVY HEX GRADE DH. THE INTERNAL THREADS OF NUTS SHALL BE RETAPPED AFTER GALVANIZING TO ACCOMMODATE THE INCREASED DIAMETER OF THE RODS. WASHERS SHALL CONFORM TO ASTM F436, TYPE 1 OR TYPE 2.

HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325 TYPE 1. NUTS SHALL CONFORM TO ASTM F436.

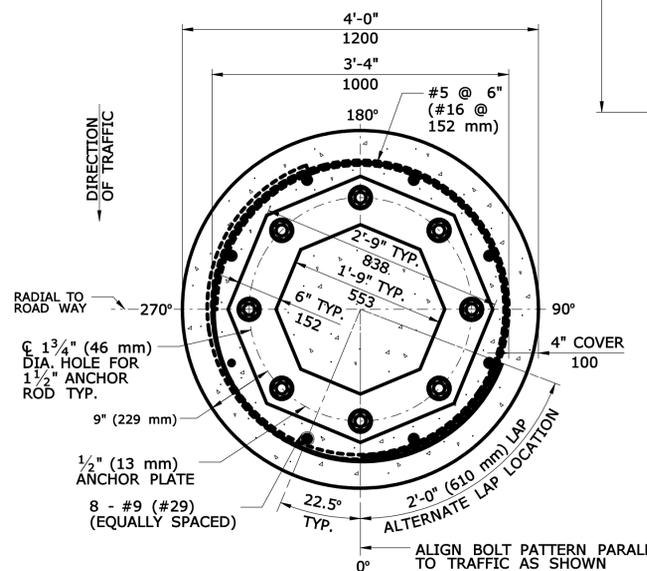
STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM A193, SERIES 300.

ALL HOLES FOR BOLTED CONNECTIONS SHALL BE STANDARD HOLES EXCEPT AS NOTED.

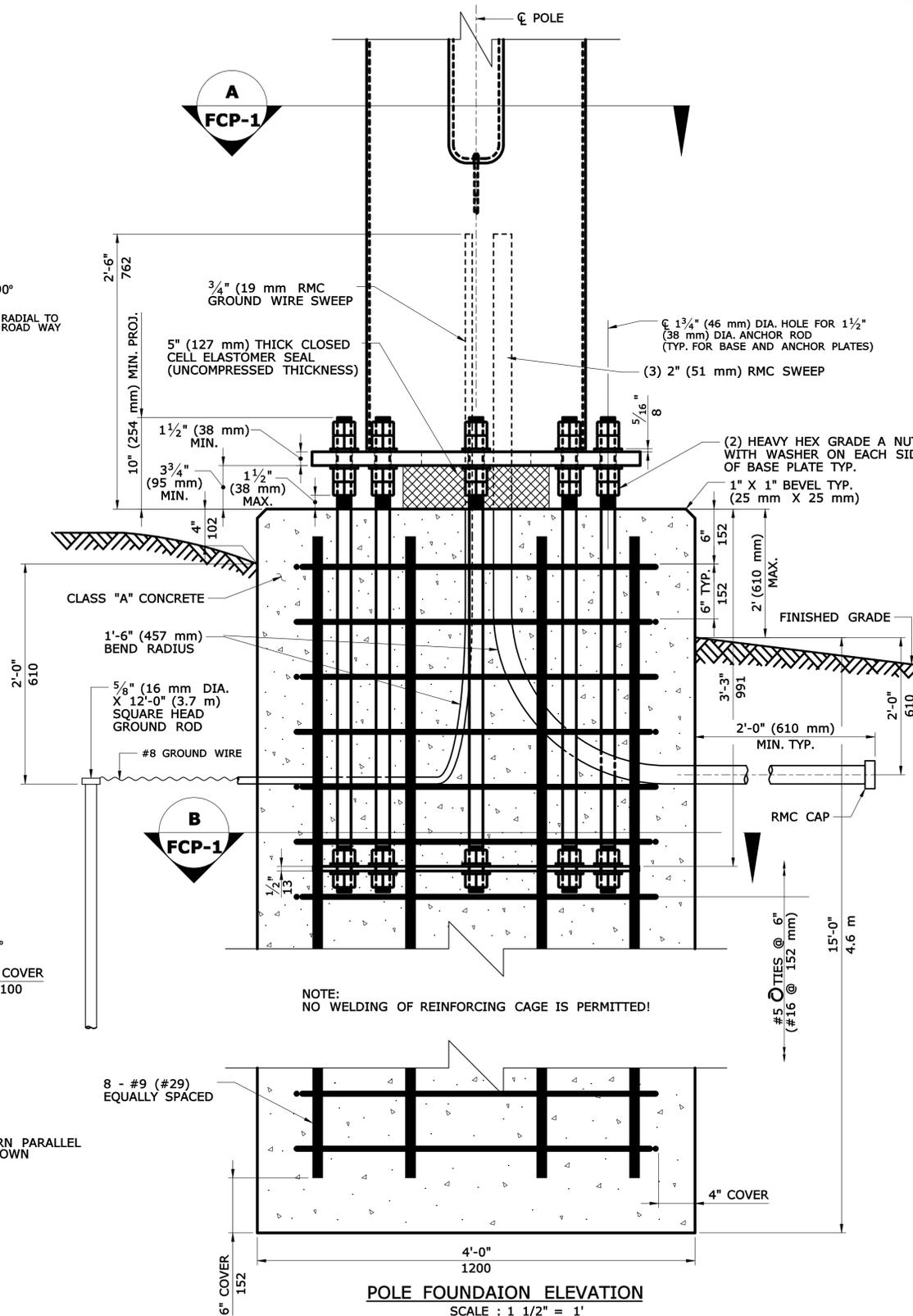
THE STEEL POLE SHALL BE INSTALLED PLUMB.  
**21 m CAMERA POLE**



**SECTION A**  
 SCALE: 1" = 1'-0" FCP-1



**SECTION B**  
 SCALE: 1" = 1'-0" FCP-1



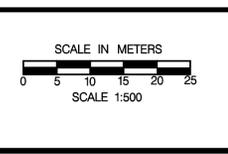
NOTE: NO WELDING OF REINFORCING CAGE IS PERMITTED!

**POLE FOUNDATION ELEVATION**  
 SCALE: 1 1/2" = 1'

NOTE: "ITEM #1002232A - TRAFFIC CONTROL FOUNDATION - SPAN POLE TYPE C" IS THE PAY ITEM FOR THE DETAIL "POLE FOUNDATION ELEVATION."

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REV.	DATE	DESCRIPTION	SHEET NO.



DESIGNER: J.A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J.A. HALLISEY  
 DATE CHECKED: 10/2012

STATE OF CONNECTICUT  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_  
 DATE: 6/21/2010

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

CADD lms-20-092522.dgn PLOTTED 11/13/2012

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**INCIDENT MANAGEMENT SYSTEM**

PROJECT NO.: **92-522**  
 DRAWING NO.: **IMS-20**  
 SHEET NO.: \_\_\_\_\_

		POLE HEIGHT								
		45' POLE	70' POLE	85' POLE	100' POLE					
<b>TENON PLATE</b>	A	DIAMETER	-	1'-6 1/2"	1'-6 1/2"	1'-6 1/2"				
	B	THICKNESS	-	3/8"	3/8"	3/8"				
	C	BOLT CIRCLE	-	1'-1 1/2"	1'-1 1/2"	1'-1 1/2"				
	D	BOLT HOLE DIA.	-	7/8"	7/8"	7/8"				
	E	BOLT GROUP SEPARATION ANGLE	-	56.25°	56.25°	56.25°				
<b>POLE TOP PLATE</b>	F	DIAMETER	-	1'-5 1/2"	1'-5 1/2"	1'-5 1/2"				
	G	THICKNESS	-	1"	1"	1"				
	H	BOLT CIRCLE	-	1'-1 1/2"	1'-1 1/2"	1'-1 1/2"				
	I	SLOT WIDTH	-	13/16"	13/16"	13/16"				
	J	SLOT LENGTH	-	1 7/8"	1 7/8"	1 7/8"				
	K	NUMBER OF SLOTS	-	16	16	16				
<b>TUBE</b>	L	SECTION	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
	M	TOP DIAMETER	-	-	10"	-	10"	-	10"	-
	N	BASE DIAMETER	-	-	2'-0"	-	2'-8"	-	2'-8"	-
	O	LENGTH	-	-	42'-0"	-	47'-0"	-	52'-6"	-
	P	HEIGHT TO BOTTOM OF SPLICE	-	-	28'-0"	-	38'-0"	-	47'-6"	-
	Q	THICKNESS	-	-	3/16"	1/4"	3/16"	1/4"	3/16"	1/4"
	R	SPLICE LENGTH	SEE SPECIAL PROVISION "CAMERA LOWERING DEVICE ASSEMBLY-TYPE B"							
<b>BASE PLATE</b>	S	FLAT-TO-FLAT WIDTH	-	3'-0"	3'-8"	3'-8"				
	T	THICKNESS	-	1 1/2"	1 1/2"	1 1/2"				
	U	ANCHOR ROD CIRCLE	-	2'-6"	3'-2"	3'-2"				
	V	ANCHOR ROD HOLE	-	1 13/16"	1 13/16"	1 13/16"				
	W	ANCHOR ROD DIAMETER	-	1 1/2"	1 1/2"	1 1/2"				
TRAFFIC CONTROL FOUNDATION - SPAN POLE		-	TYPE C	TYPE D	TYPE D					

**STEEL POLE DESIGN CRITERIA**

MINIMUM DESIGN LIFE = 50 YEARS

**LOADS:**

DESIGN WIND PRESSURE:  
DESIGN WIND SPEED = 120 MPH (3-SECOND GUST WIND SPEED)

GOVERNING GROUP LOAD COMBINATION: DL + WIND

ALL POLES WERE DESIGNED FOR WIND PRESSURE ASSUMING THE POLE TOP WAS 100' ABOVE THE GROUND TO ACCOUNT FOR POLES PLACED ON ELEVATED LOCATIONS.

WIND DIRECTION: PERPENDICULAR TO THE LOWERING DEVICE ASSEMBLY ARM

**FATIGUE:**

CATEGORY 1, IMPORTANCE FACTOR = 1.0

LOADING: NATURAL WIND GUSTS (VORTEX SHEDDING NOT CONSIDERED FOR POLE WITH TAPER RATE EXCEEDING 0.14" / FT)

FATIGUE THRESHOLD: DETAIL CATEGORY E' (2.6 KSI) (BASED ON ASSUMED FILLET WELDED SOCKET CONNECTION OF POLE TO BASE PLATE)

**DESIGN METHOD:**

ALLOWABLE STRESS DESIGN

**DEFLECTION:**

DEFLECTIONS ARE BASED ON A 3-SECOND GUST WIND SPEED OF 40 MPH. THIS APPROXIMATES A 30 MPH WIND WITH 30% GUSTS.

EXPANSION BOLTS OF SUFFICIENT LENGTH AND DIAMETER TO SUPPORT 100lbs. (45ka)

GRIND SMOOTH FULL PENETRATION SEAM WELDS FOR THE SLIP JOINT LENGTH PLUS 6" ON FEMALE TUBES

JOINTS TO BE SNUG FIT WITH MAX. DEVIATION OF 1/16"

MARK EACH POLE WITH LOW STRESS DIES - MARK FOR ALIGNMENT WITH 2" ARROWS - BOTH POLES SHALL HAVE A MIN. TAPER OF 0.14 IN/FT

1/2" DIA. HOLES SEALED W/ GROMMETS

6" X 9" HANDHOLE  
STAINLESS STEEL BANDING 3/4" WIDE X 0.3" THICK

TRAFFIC FLOW MONITOR (TFM)

TUBE 1 SHALL HAVE AN O.D. OF 2'-0" MAX. AT THE BASE

ROUND OR 16-SIDED CAMERA POLE

6" X 2'-3" HANDHOLE

CLOSED CELL ELASTOMER SEAL  
FORMED CONCRETE FOUNDATION ON DRILLED SHAFT (SEE DRAWINGS CP-2 AND CP-3)

**ELEVATION - CAMERA POLE**

SCALE: 3/4" = 1'-0"

**GENERAL NOTES**

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 816, (2004), SUPPLEMENTAL SPECIFICATIONS DATED JULY, 2007 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (AASHTO - 2001) WITH INTERIM SPECIFICATIONS UP TO AND INCLUDING 2006, AND STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, AASHTO -2002, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATIONS BRIDGE DESIGN MANUAL (2003).

FIELD CONDITIONS: IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS AND/OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.

TRAFFIC: ALL WORK SHALL BE PERFORMED ACCORDING TO THE SPECIAL PROVISIONS "MAINTENANCE AND PROTECTION OF TRAFFIC" AND "PROSECUTION AND PROGRESS."

FOUNDATION DETAILS: FOR FOUNDATIONS DETAILS, INCLUDING ANCHOR RODS, ANCHOR PLATE, REINFORCING AND ELECTRICAL CONDUIT AND GROUNDING DETAILS, SEE TRAFFIC CONTROL FOUNDATION SHEET AND SPECIAL PROVISION, "TRAFFIC CONTROL FOUNDATION - SPAN POLE-TYPE (C OR D)."

STEEL POLE AND BASE PLATE: SEE SPECIAL PROVISION, "CAMERA LOWERING DEVICE ASSEMBLY - TYPE B."

CLOSED CELL ELASTOMER SEAL: A SEALING RING SHALL BE FURNISHED AND INSTALLED BETWEEN THE FOUNDATION AND THE BASE PLATE. THE COST WILL BE INCLUDED IN THE PRICE UNDER THE ITEM, "CAMERA LOWERING DEVICE ASSEMBLY - TYPE B."

**STRUCTURAL STEEL NOTES**

- ALL STRUCTURAL STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 36 KSI. CHARPY V-NOTCH TOUGHNESS SAMPLING IS REQUIRED FOR THE POLE AND BASE PLATE; SEE THE SPECIAL PROVISION, "CAMERA LOWERING DEVICE ASSEMBLY - TYPE B."
- ALL STEEL COMPONENTS OF THE CAMERA SUPPORT SHALL BE HOT-DIP GALVANIZED AFTER FABRICATIONS AND SHALL MEET THE REQUIREMENTS OF ASTM A123, OR A153, CLASS C, WHICHEVER SHALL APPLY, EXCEPT ASTM A325 TYPE-1 BOLTS MAY BE MECHANICALLY GALVANIZED AND SHALL MEET THE REQUIREMENTS OF ASTM B695 CLASS 50. STAINLESS STEEL BOLTS SHALL NOT BE GALVANIZED. ZINC-RICH FIELD PRIMER FOR TOUCH UP SHALL CONFORM TO THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-P-641 TYPE 1 AND ASTM A780. THE USE OF AEROSOL SPRAY CANS SHALL NOT BE PERMITTED.
- ALL HOLES FOR BOLTED CONNECTIONS SHALL BE STANDARD HOLES EXCEPT AS NOTED.
- HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325 TYPE 1.
- STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM A193, SERIES 300.
- BOLTED FIELD SPLICES WILL NOT BE ALLOWED.
- WELDING DETAILS, PROCEDURES AND TESTING METHODS SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE-STEEL." POLE AND BASE PLATE COMPONENTS ARE CONSIDERED FRACTURE CRITICAL AND SHALL BE FABRICATED IN ACCORDANCE WITH CHAPTER 12 (FRACTURE CONTROL PLAN) OF ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE. MEMBERS SHALL BE DESIGNATED FRACTURE CRITICAL ON THE FABRICATION DRAWINGS.
- UNLESS NOTED OTHERWISE, ALL GROOVE WELDS SHALL BE COMPLETE JOINT PENETRATION AND SHALL BE COMPLETELY INSPECTED BY ULTRASONIC TESTING.
- ALL FILLET WELDS SHALL BE INSPECTED IN THEIR ENTIRETY BY MAGNETIC PARTICLE METHODS. WHERE MULTIPLE PASS WELDS ARE MADE, EACH PASS SHALL BE INSPECTED AND ACCEPTED BEFORE PROCEEDING TO THE NEXT PASS OR LAYER, AS DETERMINED BY THE ENGINEER.
- THE STEEL POLE SHALL BE INSTALLED PLUMB. THE PERMISSIBLE VARIATIONS FOR LENGTH, DIAMETER, WALL THICKNESS AND STRAIGHTNESS OF THE TAPERED TUBE SHALL BE AS SPECIFIED IN ASTM A595.
- THE STRUCTURAL STEEL FABRICATOR SHALL BE CERTIFIED UNDER AISC QUALITY CONTROL PROGRAM SBRF - SIMPLE STEEL BRIDGES - FRACTURE CRITICAL ENDORSEMENT.

**LIST OF DRAWINGS**

DWG. NO.	DRAWING TITLE
CP-1	CAMERA POLE GENERAL PLAN
CP-2	CAMERA POLE FOUNDATION - TYPE C
CP-3	CAMERA POLE FOUNDATION - TYPE D
CP-4	CAMERA POLE DETAILS
CP-5	6" X 2'-3" HANDHOLE
CP-6	6" X 9" HANDHOLE
CP-7	SUGGESTED POLE INSTALLATION SEQUENCE

THE CAMERA POLE AND FOUNDATION ARE DETAILED IN U.S. CUSTOMARY UNITS. NO METRIC CONVERSION IS REQUIRED FOR METRIC PROJECTS FOR THE ITEMS, "CAMERA LOWERING DEVICE ASSEMBLY - TYPE B" AND "TRAFFIC CONTROL FOUNDATION - SPAN POLE TYPE (C OF D)", WHICH ARE PAID FOR AS EACH.

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REV.	DATE	DESCRIPTION	SHEET NO.

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
DRAFTER: M.C. DEEGAN  
CHECKED BY: J. A. HALLISEY  
DATE CHECKED: 10/2012

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

PROJECT TITLE:  
RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD ims-21-092522.dgn PLOTTED 11/13/2012

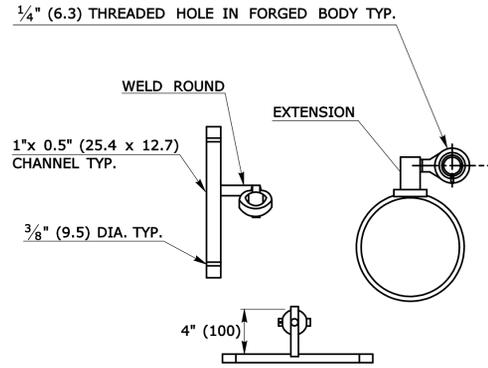
TOWN:  
NEW HAVEN / WEST HAVEN

DRAWING TITLE:  
GENERAL PLAN  
CAMERA POLE

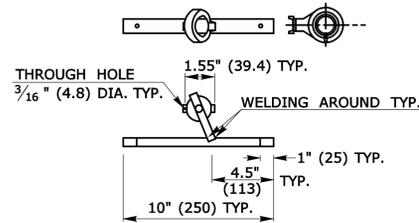
PROJECT NO.:  
92-522

DRAWING NO.:  
IMS-21

SHEET NO.:



**TYPICAL BRACKET SUPPORT  
SIDE MOUNT WITH  
EXTENDED BRACKET**  
(SEE NOTE 3)



**TYPICAL BRACKET SUPPORT  
POLE FRONT MOUNT**  
(SEE NOTE 3)

NO. OF LANES DETECTED	REQUIRED MINIMUM SETBACK ' (m.)	* RECOMMENDED MOUNTING HEIGHT ' (m.)
9 OR FEWER	13' (4) OR SHORTER	17' (5.2)
10	14'-9" (4.5)	17' (5.2)
12	17'-5" (5.3)	17' (5.2)
14	19'-8" (6.0)	17' (5.2)
18	24'-7" (7.5)	20' (6.1)
20 OR MORE	26'-0" (7.9)	20'-4" (6.2) OR HIGHER

**REQUIRED MINIMUM SETBACK AND  
RECOMMENDED MOUNTING HEIGHT CHART**

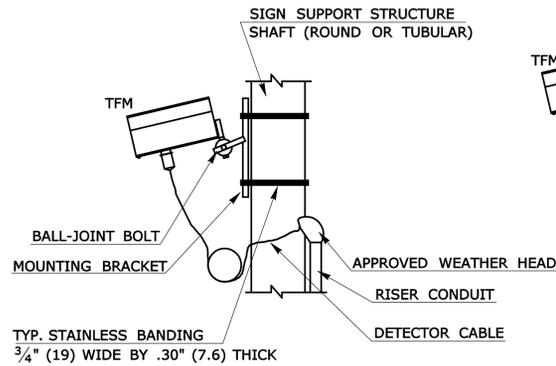
**NOTES:**

TFM - TRAFFIC FLOW MONITOR

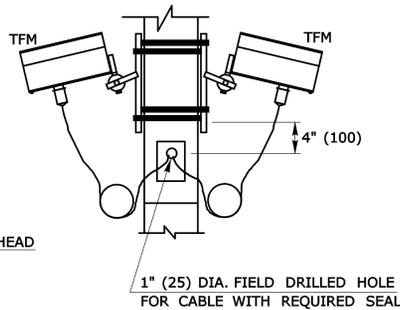
TFM'S AND APPURTENANCES SHALL BE ATTACHED TO EXISTING STRUCTURES IN ACCORDANCE WITH THE FOLLOWING AND AS APPROVED BY THE ENGINEER:

\* SETBACK DISTANCE IS DETERMINED FROM THE EDGE OF THE CLOSEST TRAVEL LANE.

- FIELD DRILL HOLES IN CONCRETE STRUCTURES, HOLE DIAMETER AND ANCHOR DEPTH FOR THE CHEMICAL ANCHORAGE TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- CHEMICAL ANCHORS-SYSTEM APPROVED BY CONNECTICUT D.O.T. WITH THREADED RODS, ANCHOR BOLTS, NUTS AND WASHERS CONFORMING TO ASTM A449.
- BRACKET SUPPORT TO BE PROVIDED BY TRAFFIC FLOW MONITOR MANUFACTURER.
- THE BRACKETS SHALL BE ATTACHED WITH MANUFACTURER APPROVED " (20) WIDE, " (0.6) THICK, STAINLESS STEEL BANDS OR TO A CONCRETE WALL/BRIDGE USING 2 STAINLESS STEEL

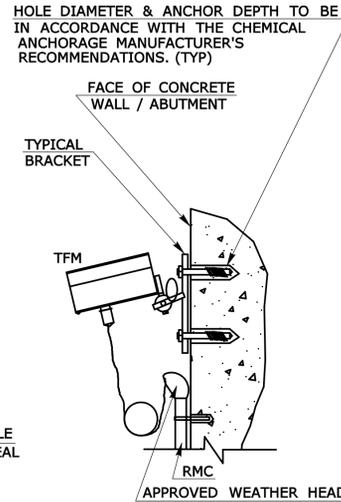


**TYPICAL ATTACHMENT  
DETAIL EXISTING  
SIGN SUPPORT**

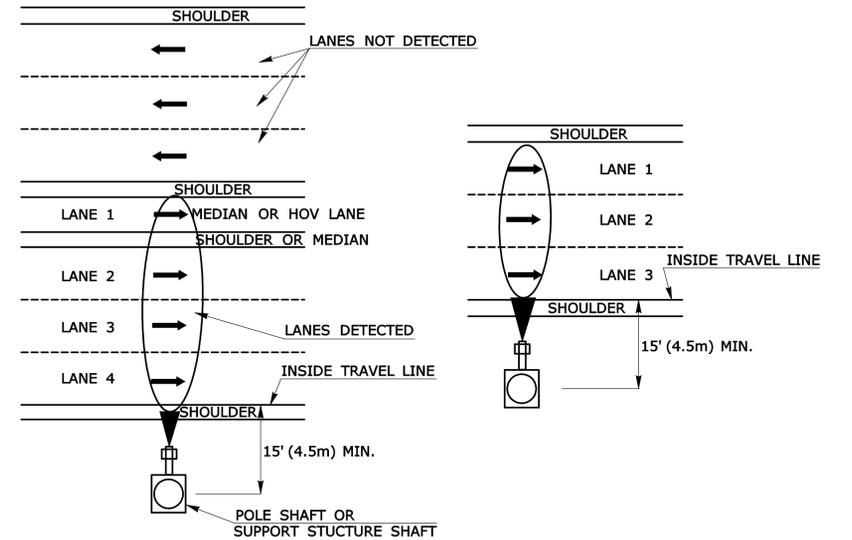


**TYPICAL ATTACHMENT  
DETAIL DUAL  
DETECTORS**

NOTE:  
TFM CAN BE MOUNTED ON SIDE OR ON FRONT FACE OF POLE. SIDE MOUNTED IS SHOWN ONLY AS AN EXAMPLE.



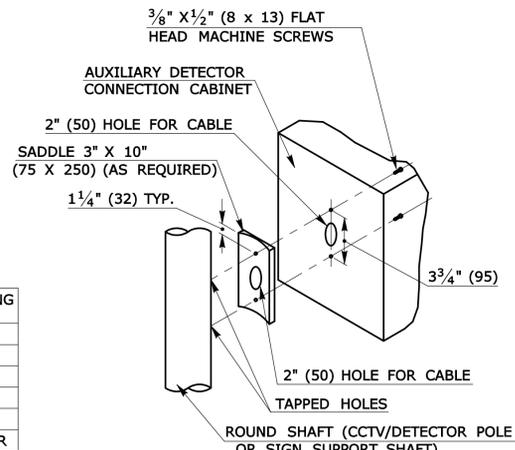
**TYPICAL ATTACHMENT  
DETAIL CONCRETE  
WALL / SURFACE**



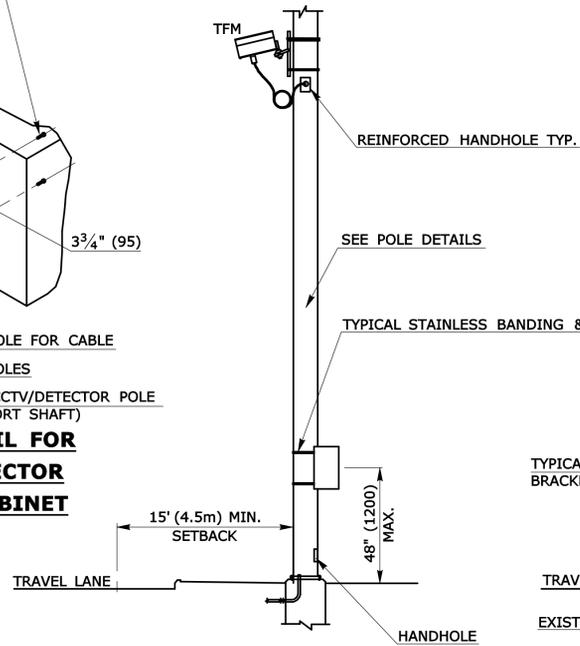
**TYPICAL HOV LANE  
INSTALLATION SCHEMATIC**

**TYPICAL NON-HOV LANE  
INSTALLATION SCHEMATIC**

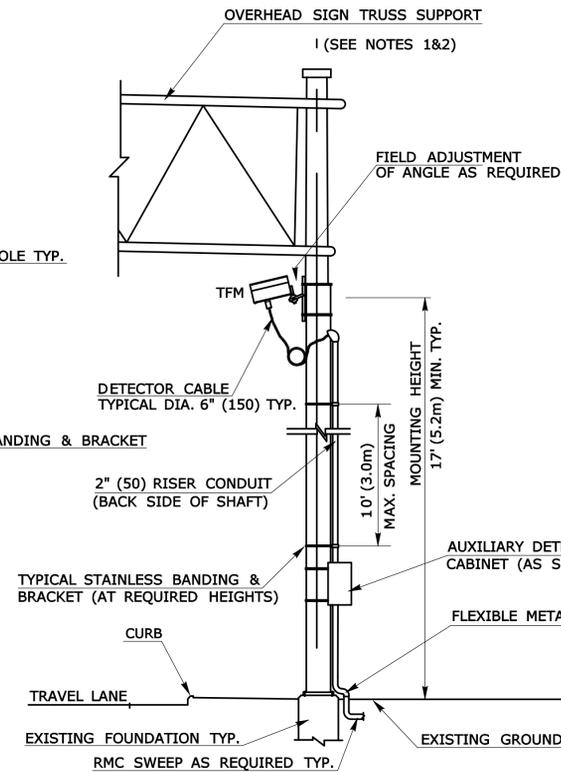
**TYPICAL BRACKET SUPPORT  
POLE FRONT MOUNT**  
(SEE NOTE 3)



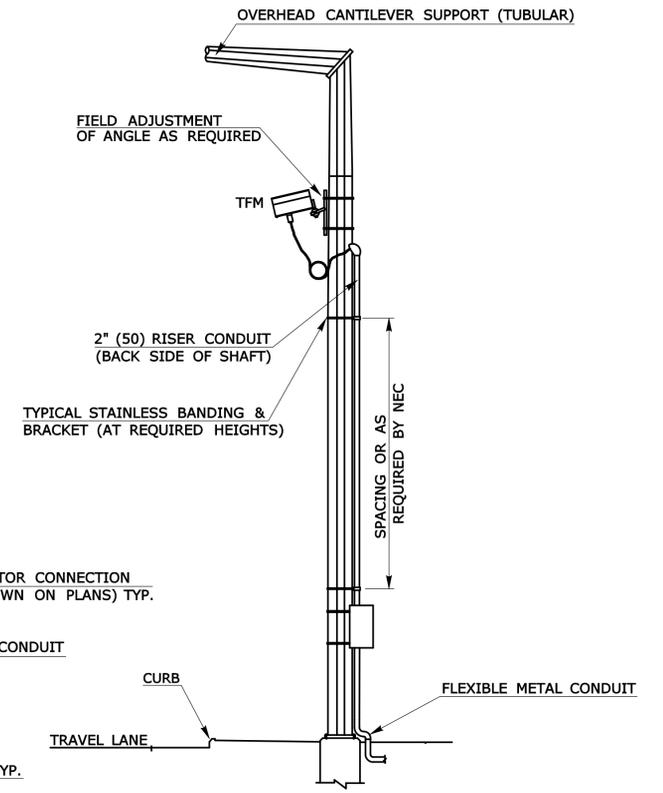
**MOUNTING DETAIL FOR  
AUXILIARY DETECTOR  
CONNECTION CABINET**



**TYPICAL POLE SIDE  
MOUNTING DETAIL**



**TYPICAL OVERHEAD SIGN  
SUPPORT MOUNTING DETAIL  
(ROUND SHAFT)**



**TYPICAL CANTILEVER SIGN  
SUPPORT MOUNTING DETAIL  
(TUBULAR SHAFT)**

EXPANSION BOLTS OF SUFFICIENT LENGTH AND DIAMETER TO SUPPORT 100lbs. (45kg)

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
DRAFTER: M.C. DEEGAN  
CHECKED BY: J. A. HALLISEY  
DATE CHECKED: 10/2012

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
ENGINEER: PB AMERICAS, INC.  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
RECONSTRUCTION OF I-95 OVER  
WEST RIVER  
CADD: ims-22-092522.dgn PLOTTED: 11/13/2012

TOWN:  
NEW HAVEN / WEST HAVEN  
DRAWING TITLE:  
RTMS DETAILS

PROJECT NO.: 92-522  
DRAWING NO.: IMS-22  
SHEET NO.:

REV.	DATE	DESCRIPTION	SHEET NO.

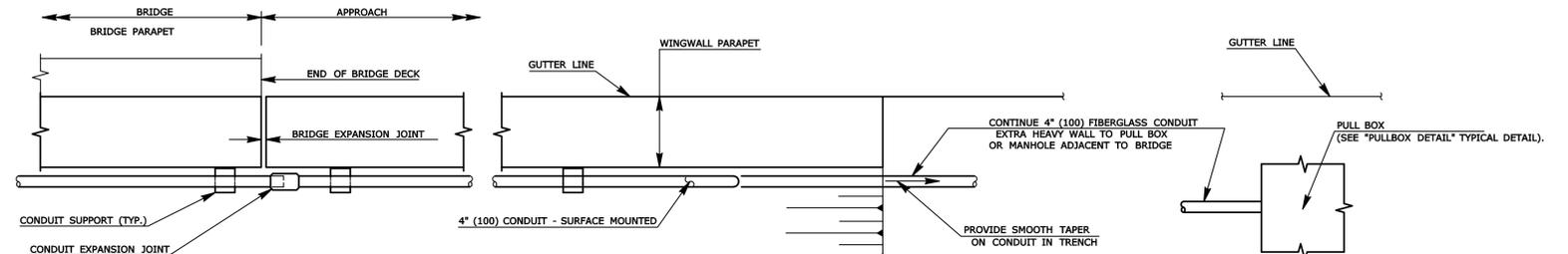
**CONDUIT SUPPORT INSTALLATION SEQUENCE:**

- A. MOUNT CONDUIT SUPPORTS ON EXISTING BRIDGES AND WALLS. PLACE SUPPORTS ACCORDING TO MOUNTING LAYOUTS AND DETAILS AS SHOWN. DRILL HOLES IN EXISTING STRUCTURES ACCORDING TO "FIELD FASTENER NOTES" AND "STRUCTURAL NOTES".
- B. FASTEN CONDUIT TO SUPPORTS WITH U-BOLTS.

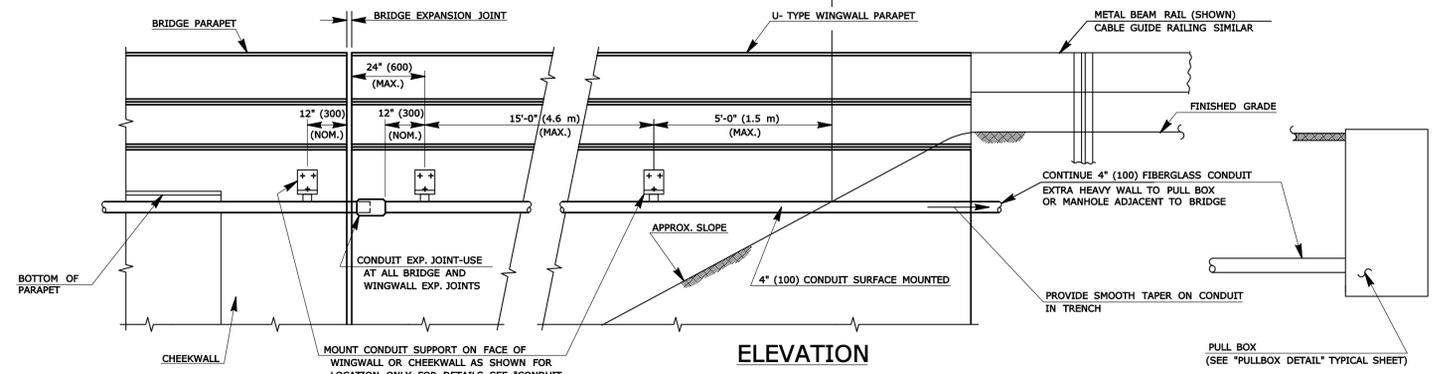
**4" (100) SURFACE MOUNTED CONDUIT SUPPORT SPACING NOTES:**

- A. SPACE CONDUIT SUPPORTS AT 14'-9" (4.5 m) O.C. MAXIMUM FOR STRUCTURE MOUNTED 4" (100) CONDUIT - SURFACE MOUNTED AS SHOWN ON THE DETAILS AND AS DIRECTED BY THE ENGINEER.
- B. ADDITIONAL CONDUIT SUPPORTS ARE REQUIRED AT LOCATIONS OF EXPANSION FITTINGS AND FIXED AND FLEXIBLE SWEEP BENDS AS SHOWN ON THE DETAILS OR AS DIRECTED BY THE ENGINEER.

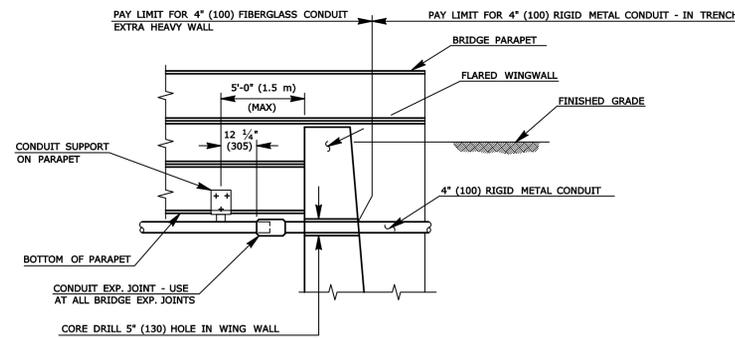
FOR INFORMATION ONLY



- NOTES:
1. BRIDGE RAILING NOT SHOWN
  2. CONDUIT SUPPORTS ON BRIDGE PARAPET NOT SHOWN
  3. APPROACH RAILING NOT SHOWN
  4. INSTALL EXPANSION JOINTS AS RECOMMENDED BY THE MANUFACTURER.
  5. INSTALLATION OF JUNCTION BOXES MAY BE REQUIRED.

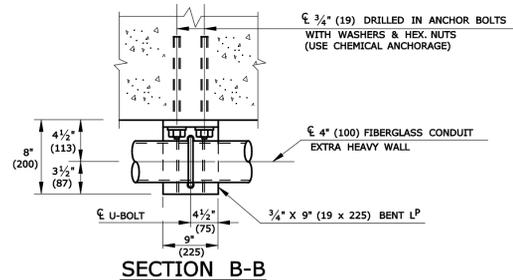


**U - TYPE WINGWALL CONDUIT - PARAPET TO FILL**  
N.T.S.



**FLARED WINGWALL CONDUIT - PARAPET TO FILL**  
N.T.S.

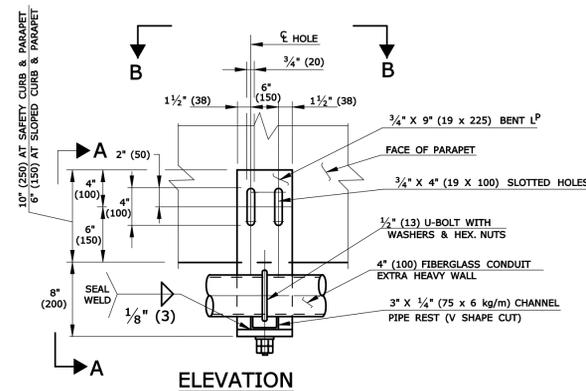
NOTE: BRIDGE RAILING & APPROACH RAILING NOT SHOWN.



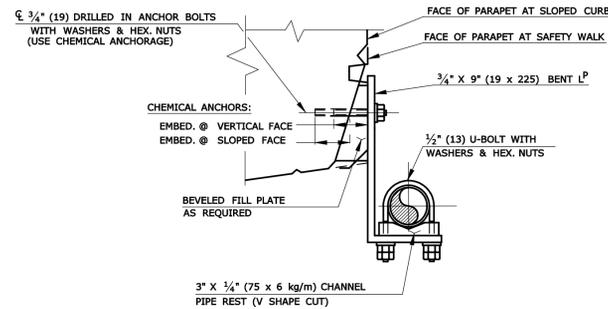
**SECTION B-B**

**NOTES**

1. DETAILS SHOWN AT PARAPET, ATTACHMENT SIMILAR ON WALLS.
2. PROVIDE 3/4" (19) DIA. HOLES FOR 5/8" (16) DIA. BOLTS AND U-BOLTS IN CONDUIT SUPPORT AND CHANNEL PIPE REST.
3. MATERIAL FOR THREADED ANCHORS, NUTS, AND WASHERS FOR DRILLING AND CHEMICAL ANCHORING IN EXISTING CONCRETE ELEMENTS SHALL BE STAINLESS STEEL ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A193(M), CLASS 2, GRADE B8M (TYPE 316). WASHERS SHALL CONFORM TO ASTM A276(M), TYPE 316, ANNEALED.



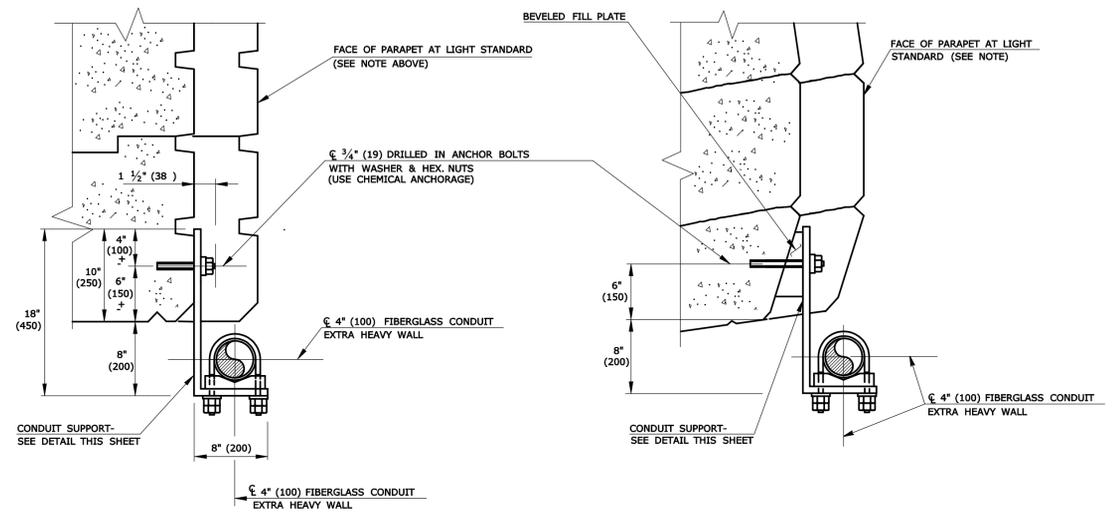
**ELEVATION**



**SECTION A-A**

**NOTE**

1. FACE OF PARAPET AT LIGHT STANDARDS SHOWN TO ILLUSTRATE CONDUIT MOUNTED TO CLEAR WIDENED PARAPET, DETAIL AT PARAPET MOUNTED SIGN SUPPORTS AND NOISE BARRIER WALLS, ETC. SIMILAR.



**(SAFETY CURB & PARAPET)**

**(SLOPED CURB AND PARAPET)**

**4" (100) SURFACE MOUNTED CONDUIT SUPPORT DETAILS**  
CONDUIT SUPPORT SPACING: SPACE 4" (100) CONDUIT SUPPORTS AT 14 3/4' (4.5 m) O.C. MAXIMUM.

**4" (100) SURFACE MOUNTED CONDUIT ATTACHMENT TO BRIDGE PARAPET**

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
DRAFTER: M.C. DEEGAN  
CHECKED BY: J. A. HALLISEY  
DATE CHECKED: 10/2012

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
ENGINEER: PB AMERICAS, INC.  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

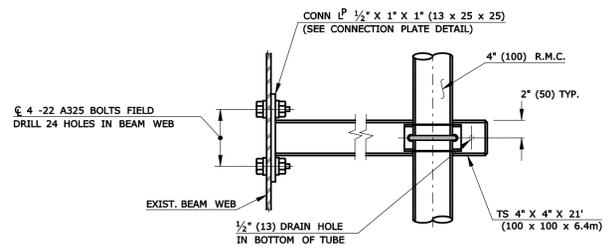
PROJECT TITLE:  
RECONSTRUCTION OF I-95 OVER WEST RIVER  
CADD: ims-23-092522.dgn

TOWN:  
NEW HAVEN / WEST HAVEN  
DRAWING TITLE:  
U-TYPE & FLARED WINGWALL CONDUIT PARAPET MTG, CONDUIT SUPPORT & ATTCHMENTS

PROJECT NO.: 92-522  
DRAWING NO.: IMS-23  
SHEET NO.:

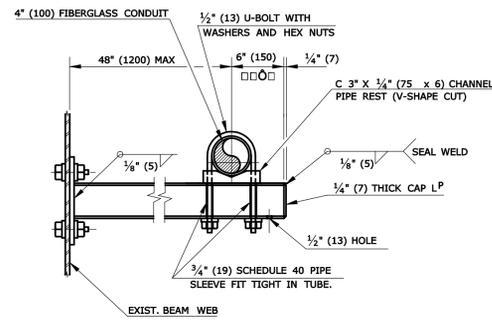
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REV.	DATE	DESCRIPTION	SHEET NO.



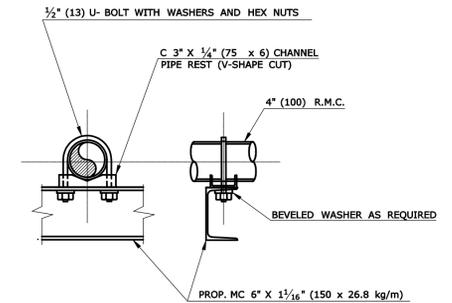
NOTE: FOR INFORMATION NOT SHOWN, SEE ELEVATION.

**PLAN**

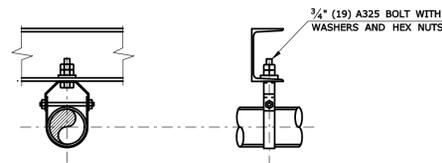


**ELEVATION**

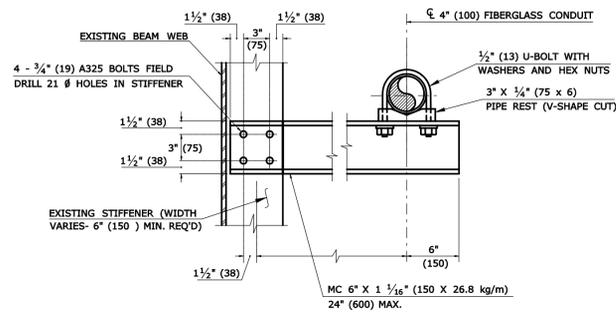
**TS CONDUIT SUPPORT**



**U-BOLT DETAILS**

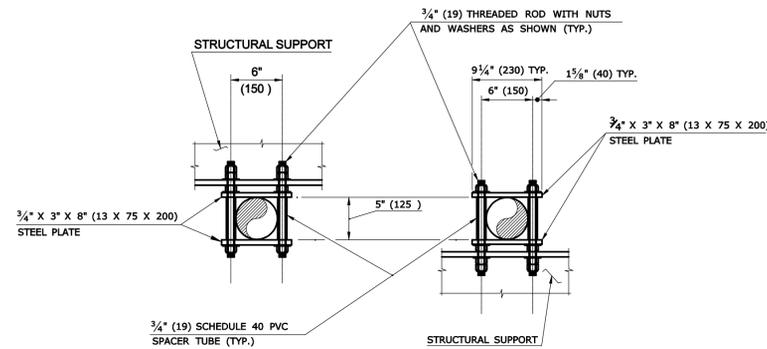


**DIRECT BOLTED ATTACHMENT**



**ELEVATION**

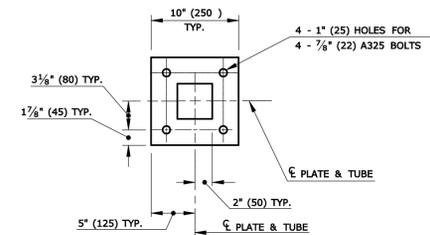
**CANTILEVER CHANNEL CONDUIT SUPPORT**



**ATTACHED HANGER**

**SUPPORTED HANGER**

**CONDUIT RACK HANGER DETAILS**



**CONNECTION PLATE DETAIL**

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REV.	DATE	DESCRIPTION	SHEET NO

DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012

**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95 OVER WEST RIVER**

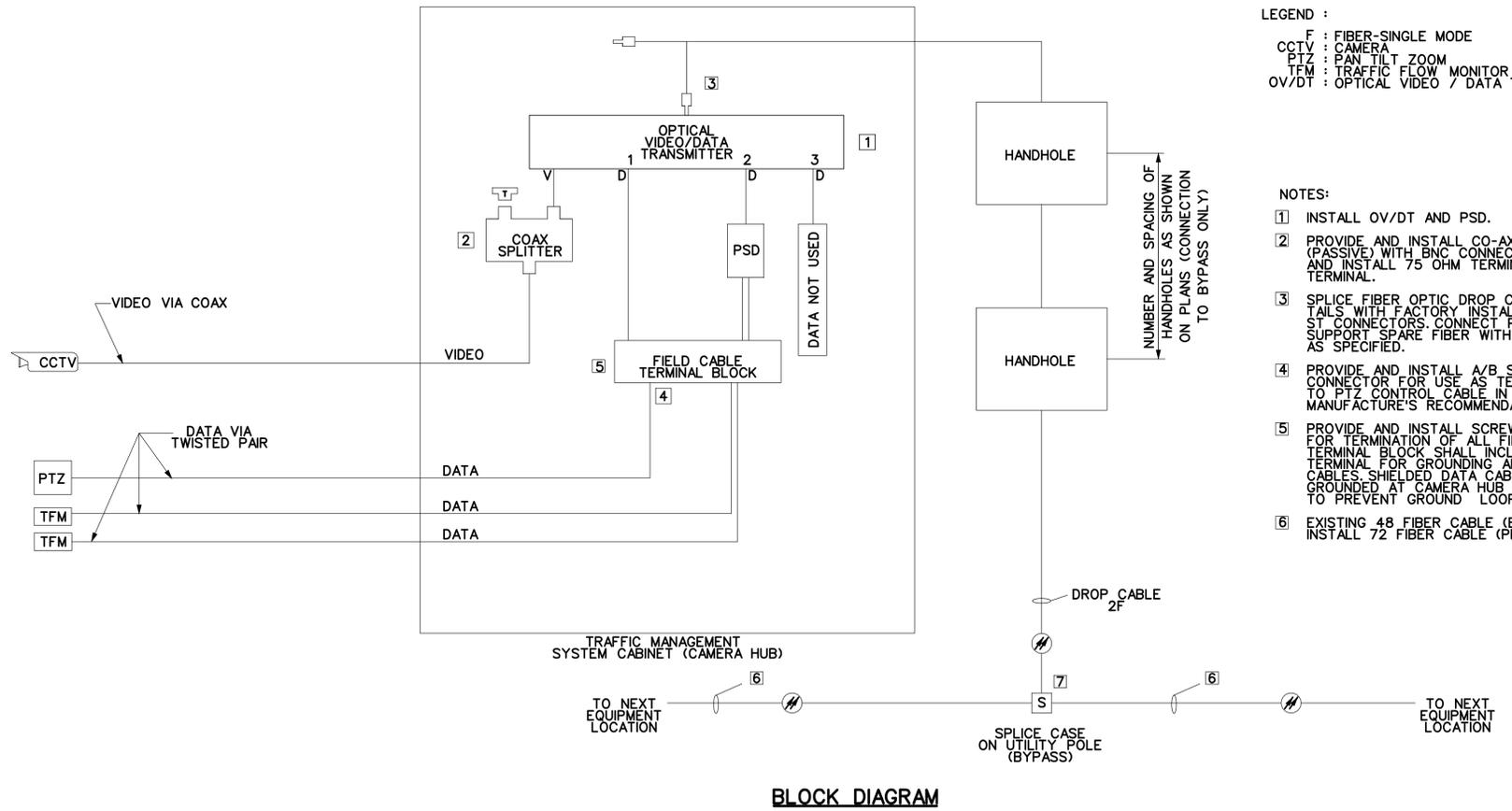
CADD ims-24-092522.dgn PLOTTED 11/13/2012

TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**TS CONDUIT SUPPORT, CANTILEVER CHANNEL CONDUIT SUPPORT, U-BOLTS, CONDUIT RACK HANGER, CONNECTION PLATE**

PROJECT NO.: **92-522**  
 DRAWING NO.: **IMS-24**  
 SHEET NO.: \_\_\_\_\_





LEGEND :

F : FIBER-SINGLE MODE  
 CCTV : CAMERA  
 PTZ : PAN TILT ZOOM  
 TFM : TRAFFIC FLOW MONITOR  
 OV/DT : OPTICAL VIDEO / DATA TRANSMITTER

- NOTES:
- 1 INSTALL OV/DT AND PSD.
  - 2 PROVIDE AND INSTALL CO-AXIAL CABLE SPLITTER (PASSIVE) WITH BNC CONNECTORS. PROVIDE AND INSTALL 75 OHM TERMINATION ON UNUSED TERMINAL.
  - 3 SPLICE FIBER OPTIC DROP CABLE TO PIG-TAILS WITH FACTORY INSTALLED TYPE ST CONNECTORS. CONNECT PIG-TAIL TO OV/DT SUPPORT SPARE FIBER WITH PIG-TAIL IN CABINET AS SPECIFIED.
  - 4 PROVIDE AND INSTALL A/B SWITCH AND DB-9 CONNECTOR FOR USE AS TEST PORT. CONNECT TO PTZ CONTROL CABLE IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
  - 5 PROVIDE AND INSTALL SCREW TERMINAL BLOCK FOR TERMINATION OF ALL FIELD DATA CABLES. TERMINAL BLOCK SHALL INCLUDE A GROUND TERMINAL FOR GROUNDING ALL SHIELDED DATA CABLES. SHIELDED DATA CABLES SHALL BE GROUND AT CAMERA HUB CABINET ONLY TO PREVENT GROUND LOOPS.
  - 6 EXISTING 48 FIBER CABLE (BYPASS) OR INSTALL 72 FIBER CABLE (PROPOSED TRUNKLINE).
  - 7 PROVIDE AND INSTALL ALL FIELD CABLING REQUIRED FOR CONNECTION OF CAMERA EQUIPMENT (INCLUDING VIDEO AND CONTROL CABLING), TRAFFIC FLOW MONITORS AT EACH SITE. CONNECT ALL FIELD CABLING IN CAMERA HUB CABINET TO COMMUNICATIONS EQUIPMENT.
  - 8 PORT SHARING DEVICES SHALL BE USED TO CONNECT TFM UNITS TO DATA CHANNEL OF THE OPTICAL VIDEO/DATA TRANSMITTER.
  - 9 PROVIDE CAMERAS (ITEM # 1112210A) WITH DOME ENCLOSURES AND INTEGRATED PTZ.
  - 10 INSTALL AN OPTICAL VIDEO/DATA RECEIVER (SAME MANUFACTURER AS THE OV/DT) AND RACK ASSEMBLY AT THE BRIDGEPORT TRAFFIC OPERATIONS CENTER. CONNECT THE CORRECT FIBER OPTIC CONNECTORS TO THE OPTICAL PORT ON THE OV/DR FIBER OPTIC CARD UNITS TO THE FIBER OPTIC COMMUNICATION SYSTEM.
  - 11 NEATLY TRAIN ALL OPTICAL PATCH CORDS AND PIG-TAILS TOGETHER (IF ROUTED ALONG THE SAME PATH) AND ALONG THE SUPPORT RAILS IN THE CAMERA CONTROL EQUIPMENT CABINET.
  - 12 BLOCK DIAGRAM SHOWS CONNECTION OF FIELD EQUIPMENT TO A TEMPORARY BYPASS. BLOCK DIAGRAM FOR CONNECTION OF FIELD EQUIPMENT TO TRUNKLINE SIMILAR.
  - 13 CONTACT MR. SCOTT CAMPBELL (BTOC) AT 203-696-2681 TO ARRANGE INSTALLATION OF OV/DR RACK ASSEMBLY AT THE BRIDGEPORT TRAFFIC OPERATIONS CENTER.

BLOCK DIAGRAM

NOTE: THE BLOCK DIAGRAM DETAIL SHOWN ON THIS SHEET WAS PROVIDED BY CONNDOT HIGHWAY OPERATIONS. MODIFICATIONS WERE MADE ONLY TO MEET CONDITIONS SPECIFIC TO THIS PROJECT.

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REV.	DATE	DESCRIPTION	SHEET NO

NOT TO SCALE

DESIGNER: J. A. KOOLIS  
 DRAFTER: M.C. DEEGAN  
 CHECKED BY: J. A. HALLISEY  
 DATE CHECKED: 10/2012

STATE OF CONNECTICUT  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

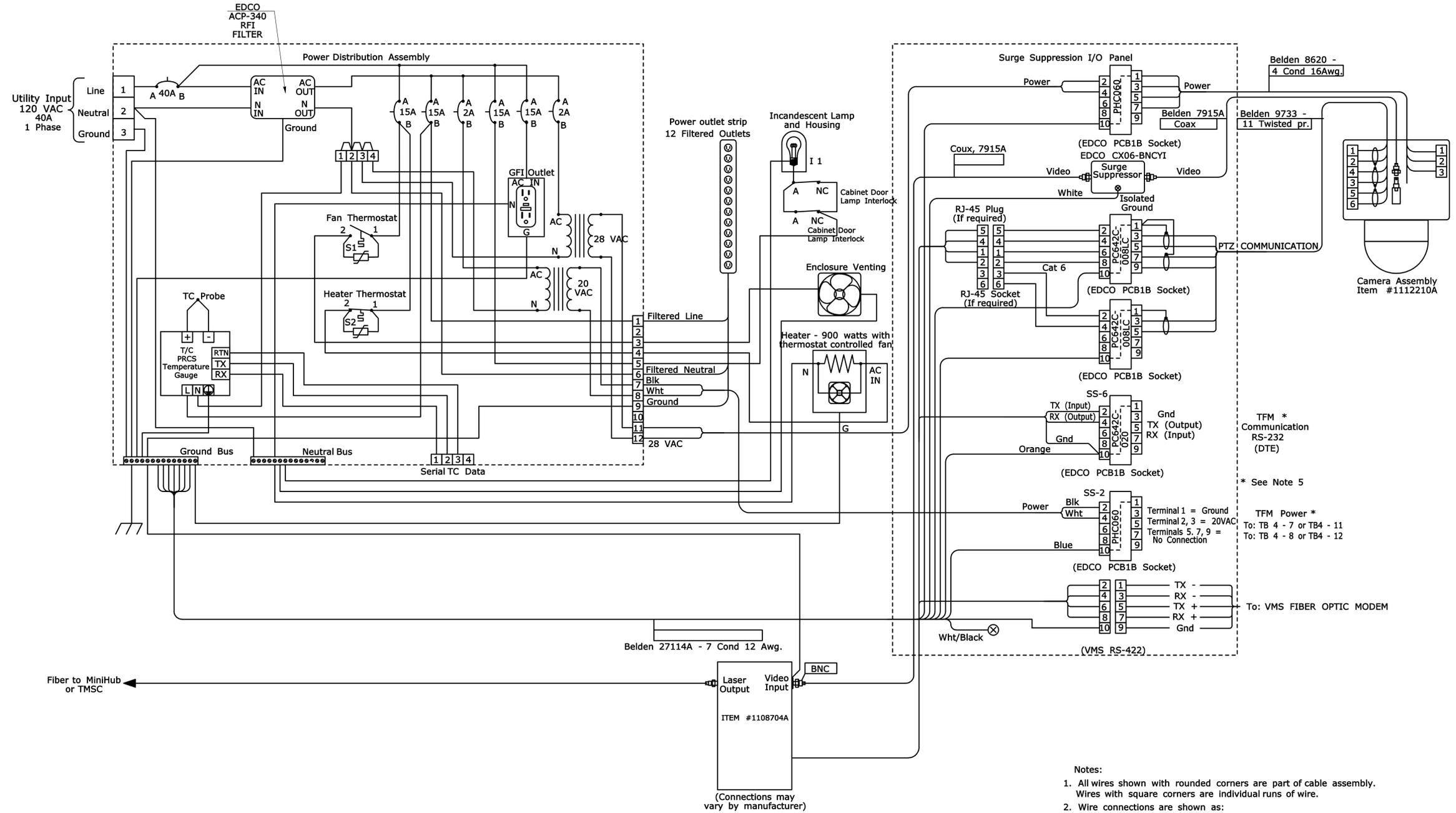
PROJECT TITLE:  
 RECONSTRUCTION OF I-95 OVER  
 WEST RIVER

CADD ims-26-092522.dgn PLOTTED 11/13/2012

TOWN:  
 NEW HAVEN / WEST HAVEN

DRAWING TITLE:  
 CAMERA HUB DIAGRAMS

PROJECT NO.: 92-522  
 DRAWING NO.: IMS-26  
 SHEET NO.: \_\_\_\_\_



- Notes:
- All wires shown with rounded corners are part of cable assembly. Wires with square corners are individual runs of wire.
  - Wire connections are shown as:
 

Connections	No Connections
  - All wires will be labeled to industry standards using slip on wire markers with both ends labeled to identify each end of the wire.
  - This sheet is shown as typical. Actual wiring and layout is dependent on material submitted and approved.
  - The wiring / surge suppression I/O panel shall be wired for a minimum

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	NOT TO SCALE	DESIGNER: J. A. KOOLIS DRAFTER: M.C. DEEGAN CHECKED BY: J. A. HALLSEY DATE CHECKED: 10/2012	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION ENGINEER: PB AMERICAS, INC. APPROVED BY: _____ DATE: _____	PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER CADD ims-27-092522.dgn PLOTTED 11/13/2012	TOWN: NEW HAVEN / WEST HAVEN DRAWING TITLE: <b>VIDEO AND DATA INTERFACE WIRING PANEL ASSEMBLY</b>	PROJECT NO.: 92-522 DRAWING NO.: IMS-27 SHEET NO.:								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>SHEET NO.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV.	DATE	DESCRIPTION	SHEET NO.										
REV.	DATE	DESCRIPTION	SHEET NO.											

**GENERAL NOTES:**

**SPECIFICATIONS:** Connecticut Department of Transportation Form 816 (2004), Supplemental Specifications Dated July, 2007 and Special Provisions.

**DESIGN SPECIFICATIONS:** Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition (AASHTO-2001) with Interim Specifications up to and including 2006, and Standard Specifications for Highway Bridges, 17th Edition, (AASHTO-2002), as supplemented by the Connecticut Department of Transportation Bridge Design Manual (2003).

**ALLOWABLE STRESSES:**

Class "A" Concrete based on f'c = 3000 psi  
 Concrete for Drilled Shaft based on f'c = 4000 psi  
 Reinforcement, ASTM A615, Grade 60, fy = 60 ksi, fs = 24 ksi  
 Structural Steel AASHTO M270, Grade 50 / ASTM A709, Fy = 50 ksi, Fu = 65 ksi  
 Hollow Structural Sections, A500 Round, Grade C, Fy = 46 ksi, Fu = 62 ksi  
 & A500 Shaped, Grade B, Fy = 46 ksi, Fu = 58 ksi

**LIVE LOADS:**

The design wind pressures is based on a 3-second gust windspeed of 120 mph. The sign support is designed for a VMS cabinet of the size and weight shown. No additional signs are permitted.  
 Catwalk Load = 500 lbs concentrated load.

**DESIGN CRITERIA:**

Recurrence Interval = 50 Years  
 Design Life = 50 Years  
 Fatigue Category I.  
 Fatigue Design Loads: Galloping, Natural Wind Gusts, and Truck-Induced Gusts.

**CLASS "A" CONCRETE:** Class "A" Concrete shall be used for the entire foundation with the exception that Concrete for Drilled Shaft shall be used for the drilled shafts.

**CONCRETE FOR DRILLED SHAFT:** Mix design to be supplied by Contractor. See Special Provision.

**EXPOSED EDGES:** Exposed edges of concrete shall be beveled 1"x1" unless dimensioned otherwise.

**CONCRETE COVER:** All reinforcement shall have 3" cover unless dimensioned otherwise.

**REINFORCEMENT:** All reinforcement shall be ASTM A615, Grade 60.

**CONSTRUCTION JOINTS:** Construction joints, other than those shown on the plans, will not be permitted without the prior approval of the Engineer.

**STRUCTURAL STEEL:** See Structural Notes for designations and requirements.

**STRUCTURAL STEEL COATINGS:** All steel components of the sign support shall be hot-dip galvanized after fabrication and shall meet the requirement of ASTM A123, or A153, whichever shall apply, except ASTM A325 Type-I bolts and steel shims shall be mechanically galvanized and shall meet the requirement of ASTM B695 Class 50.

**FOUNDATION PRESSURE:** The various Group Loadings noted on the foundation details refer to Group Loads as given in the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

**SITE LOCATION:** Clearances and Elevations shown on the Roadway Plans are for general information. The Contractor shall verify the location, the elevation and all dimensions in the field to assure proper fit of the finished work and assume full responsibility for their accuracy. Prior to the start of fabrication of a sign support structure, a field survey for the specific site shall be obtained, and the field survey and shop drawings based on the field measurements shall be submitted for approval.

**FIELD ADJUSTMENT OF SIGN:** Prior to the final installation of the sign on the support system shown on these plans, field adjustments in both the horizontal and vertical sign orientation shall be made as directed by the Engineer. Field adjustment in the horizontal orientation of the sign shall be made by rotating the sign up to 3° right or left from base orientation, as directed, with the center support beam as the pivot point (see 'Catwalk and Horizontal Adjustment Plan'). Field adjustment in the vertical orientation of the sign shall be made by tilting the sign up to 3° up or down, as directed, with the steel rods as the pivot point (see 'Vertical Adjustment Detail'). A sufficient number of plate spacers shall be used as required to adequately support the sign in the final position. No additional payment will be made for adjustments.

**TRAFFIC:** All work shall be performed according to the special provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress".

**STRUCTURAL STEEL NOTES:**

1. Structural Steel: See Special Provisions.

All structural steel shall meet the following minimum values for notch toughness requirement:

15 Ft.Lb @ 40°F

2. Welding details, procedures and testing methods shall conform to ANSI/AWS D1.1-2002 Structural Welding Code-Steel. All structural steel truss components are considered fracture critical and shall be fabricated in accordance with Chapter 12 (Fracture Control Plan) of AASHTO/AWS D1.5-2002 Bridge Welding Code. All members shall be designated Fracture Critical on the shop drawings.

3. Bolted field splices, other than those shown on the plans, will not be allowed except with the written permission of the Engineer prior to the submission of the shop plans. If allowed, these splices shall be designed by the Contractor and submitted to the Engineer for approval. The cost of these splices, including the cost of design, shall be at no extra expense to the State. Welded field splices will not be allowed.

4. Unless noted otherwise, all groove welds shall be complete joint penetration and shall be completely inspected by ultrasonic testing.

5. All fillet welds shall be inspected in their entirety by magnetic particle methods. Where multiple pass welds are made, each pass shall be inspected and accepted before proceeding to the next pass or layer, as determined by the Engineer.

6. All structural bolts shall conform to ASTM A325 Type-I except U-bolts and J-bolts shall conform to ASTM A307. Threaded rods shall conform to ASTM A449 Type I. Anchor rods shall conform to ASTM F1554, Grade 105. All bolts, threaded rods, and anchor rods shall have compatible nuts and washers. Lock nuts shall be of the self-locking type.

7. All holes for bolted connections shall be standard holes except as noted.

8. The structural steel fabricator shall be certified under the AISC Quality Control Program as noted below:

Category MBrF - Major Steel Bridges - Fracture Critical Endorsement

9. The Contractor shall take the proper precautions to ensure the stability of the sign support until the total structure is in being.

10. The Cantilever Truss Sign Support will be paid for under these items:

"Cantilever Truss Sign Support (Type VMS 1)",  
 "Cantilever Truss Sign Support (Type VMS 2)",  
 "Cantilever Truss Sign Support (Type VMS 3)".

11. All members in the structure with the exception of the catwalk and railings are Fracture Critical Members (FCM) and are to be fabricated accordingly.

**NOTES:**

\* See the roadway plans for the following:

1. Type of Barrier System in Front of Sign Support
2. Length of Sign Support Arm
3. Location of Sign over Roadway
4. Location of Post behind Barrier
5. Soil Boring Logs
6. Roadway Plan of Specific Sites
7. Roadway Cross Section, including Elevations at Specific Sites

**FOUNDATION NOTES:**

1. The contractor shall choose the foundation type from the two options detailed within these plans. Soil boring logs are available on the roadway plans.

2. Determine top of pedestal elevation as follows:

- a. For the required post setback, determine existing ground elevation at the face of the pedestal and roadway elevation at point of minimum vertical clearance to truss arm.
- b. Compute top of base plate elevation using 1'-0" pedestal projection, gap, and base plate thickness.
- c. Compute required post height between top of base plate and centerline truss.
- d. If post height computed in step 'c' is equal to or less than 27'-0", determine height of pedestal between 3'-0" and 5'-0", maintaining minimum soil cover at the far side of cap as shown.
- e. If post height computed in step 'c' is greater than 27'-0", set post height at 27'-0" and compute top of pedestal elevation and height of pedestal, max. 5'-0".

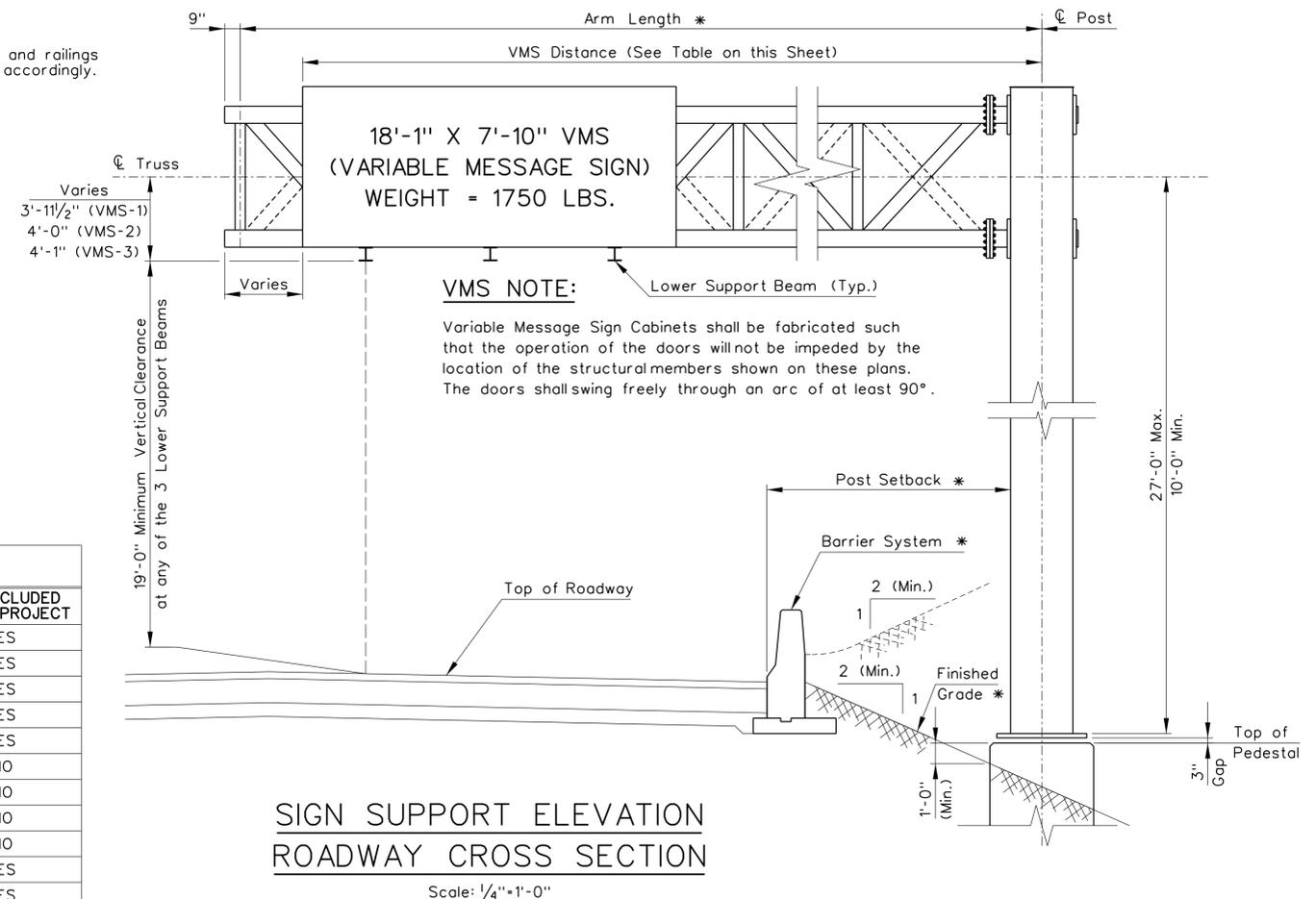
3. If site conditions require the pedestal height to exceed 5'-0", the Contractor shall notify the Engineer for direction.

4. The foundation will be paid for under the item "Cantilever Truss Sign Support Foundation". See the special provision for work to be included in this item.

5. The sign support may be erected on the foundation only after the concrete has attained the specified compressive strength.

INSPECTION OF FIELD WELDS		
METHOD	UNITS	QUANTITY
ULTRASONIC	in	0
MAGNETIC PARTICLE	ft	0

STRUCTURE TYPE	ARM LENGTH	VMS DISTANCE
VMS 1A	25'-8"	20'-0" to 26'-5"
VMS 1B	31'-6"	26'-5" to 32'-3"
VMS 2A	36'-2"	32'-3" to 36'-11"
VMS 2B	41'-9"	36'-11" to 42'-6"
VMS 3A	44'-1 1/2"	42'-6" to 44'-11"
VMS 3B	50'-0"	44'-11" to 50'-9"



**SIGN SUPPORT ELEVATION ROADWAY CROSS SECTION**

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

**LIST OF DRAWINGS**

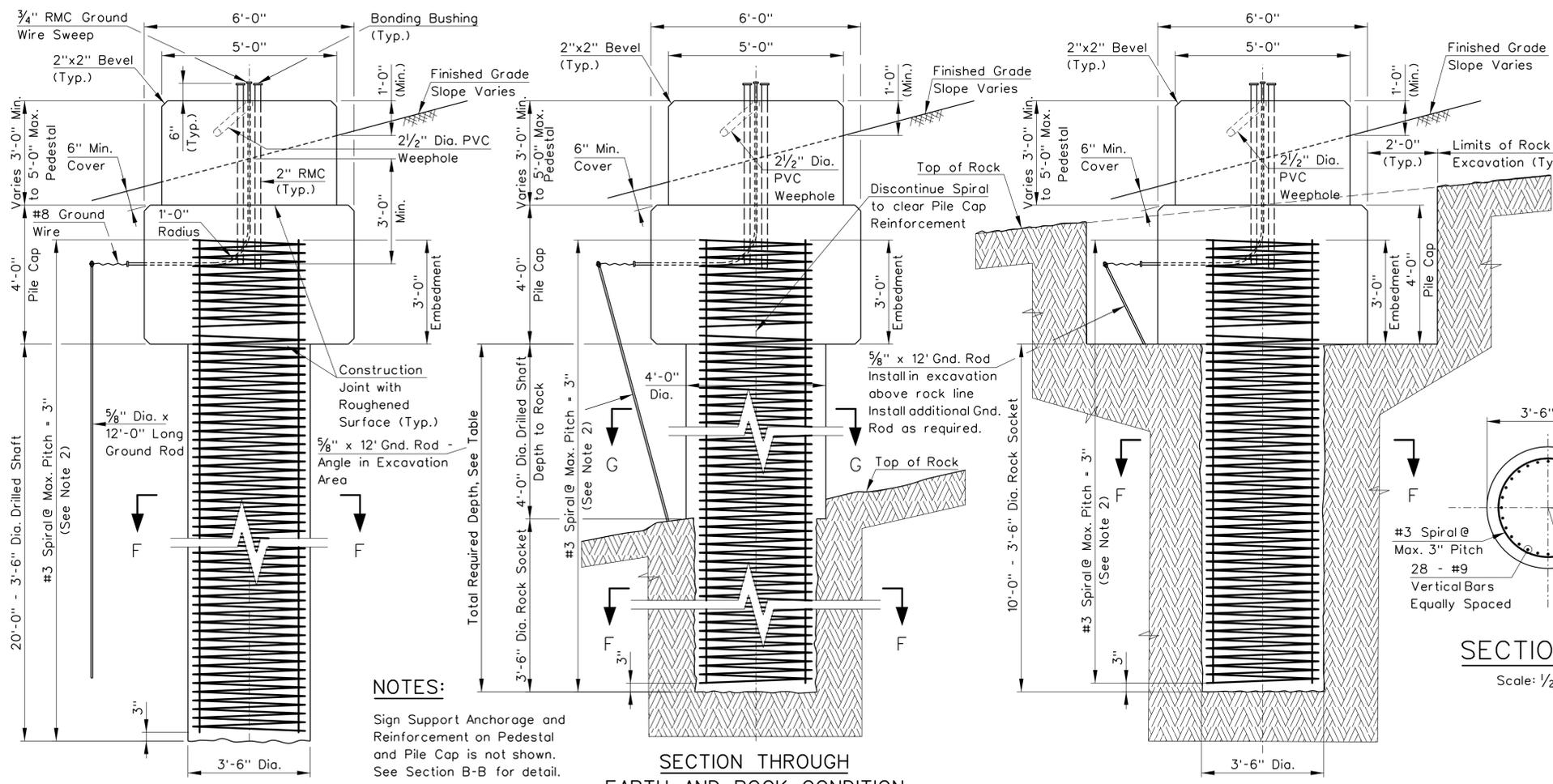
DWG. NO.	DESCRIPTION	DWG. INCLUDED IN THIS PROJECT
CTS-01	GENERAL PLAN	YES
CTS-02	DRILLED SHAFT FOUNDATION	YES
CTS-03	SPREAD FOOTING FOUNDATION	YES
CTS-04	TYPE VMS 1 - SHEET 1 OF 2	YES
CTS-05	TYPE VMS 1 - SHEET 2 OF 2	YES
CTS-06	TYPE VMS 2 - SHEET 1 OF 2	NO
CTS-07	TYPE VMS 2 - SHEET 2 OF 2	NO
CTS-08	TYPE VMS 3 - SHEET 1 OF 2	NO
CTS-09	TYPE VMS 3 - SHEET 2 OF 2	NO
CTS-10	COMMON DETAILS - SHEET 1 OF 3	YES
CTS-11	COMMON DETAILS - SHEET 2 OF 3	YES
CTS-12	COMMON DETAILS - SHEET 3 OF 3	YES

SHIPPING DATA				
MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
ARM TRUSS - TYPE VMS 1A	24'-6"	5'-4"	7'-4"	4.2 TONS
ARM TRUSS - TYPE VMS 1B	30'-4"	5'-4"	7'-4"	5.2 TONS
ARM TRUSS - TYPE VMS 2A	34'-9"	5'-6"	7'-6"	7.6 TONS
ARM TRUSS - TYPE VMS 2B	40'-4"	5'-6"	7'-6"	8.8 TONS
ARM TRUSS - TYPE VMS 3A	42'-5"	7'-11"	7'-11"	12.3 TONS
ARM TRUSS - TYPE VMS 3B	48'-3"	7'-11"	7'-11"	13.9 TONS
POSTS - TYPE VMS 1	31'-7" (Max.)	7'-4"	4'-4"	9.8 TONS
POSTS - TYPE VMS 2	31'-7" (Max.)	7'-4"	4'-4"	11.2 TONS
POSTS - TYPE VMS 3	31'-7" (Max.)	10'-0"	4'-4"	17.0 TONS

\* Post Shipping Weights are for the entire post assembly. See Post Fabrication and Erection Notes for more information

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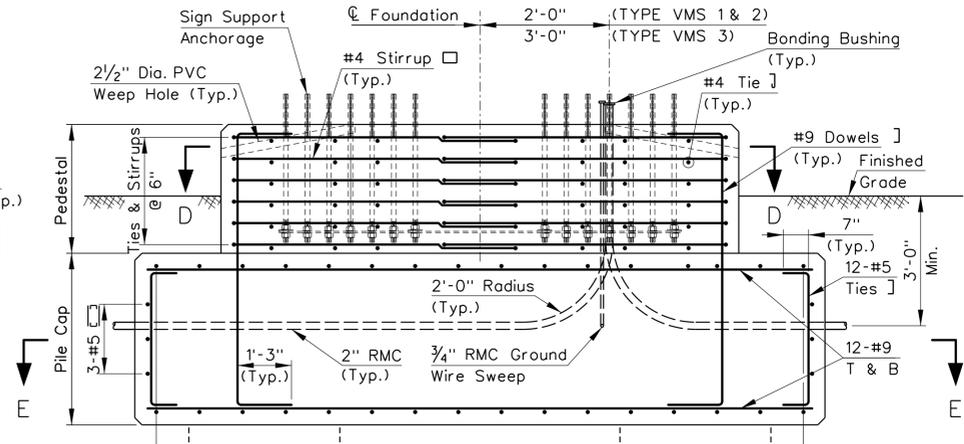
<p>DESIGNER: M. K. GUPTA</p> <p>DRAFTER: T. P. NGUYEN</p> <p>CHECKED BY: M. M. GUPTA</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p> <p>ENGINEER: GM2 ASSOCIATES, INC.</p> <p>APPROVED BY: _____ DATE: _____</p>	<p>PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)</p> <p>CADD FILE: SB_MSH_VMS_92_535_CTS-01.dgn PLOTTED DATE: 11/13/2012</p>	<p>TOWN: NEW HAVEN / WEST HAVEN</p> <p>DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT GENERAL PLAN</p>	<p>PROJECT NO.: 92-522</p> <p>DRAWING NO.: CTS-01</p> <p>SHEET NO.:</p>
<p>REV. DATE DESCRIPTION REVISIONS SHEET NO.</p>	<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>			



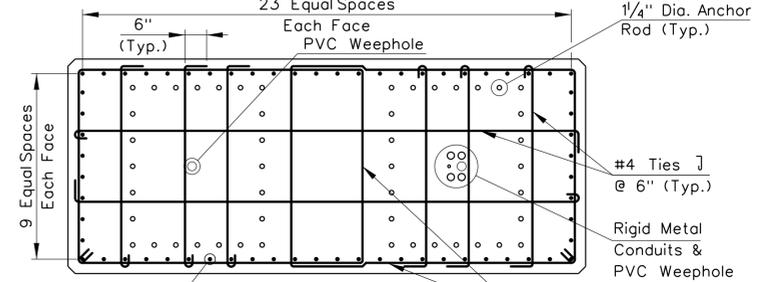
SECTION THROUGH EARTH CONDITION

SECTION THROUGH EARTH AND ROCK CONDITION

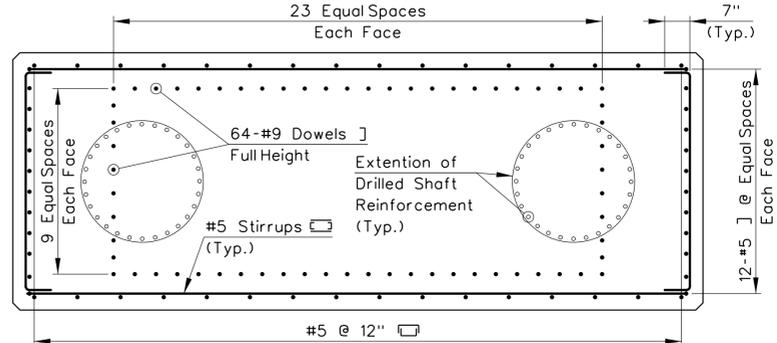
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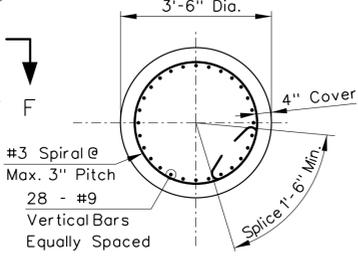
SECTION C-C



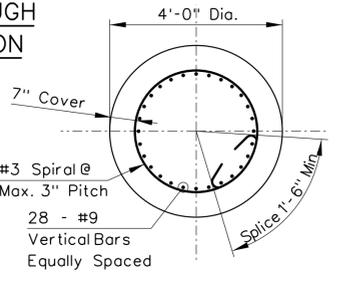
SECTION D-D



SECTION E-E



SECTION F-F

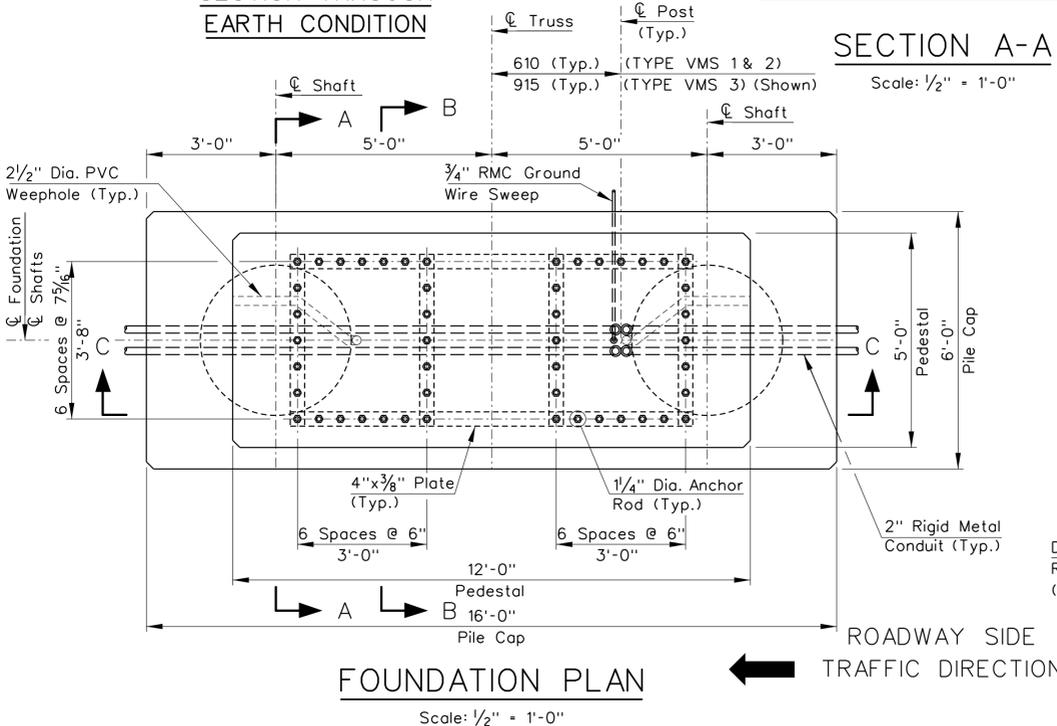


SECTION G-G

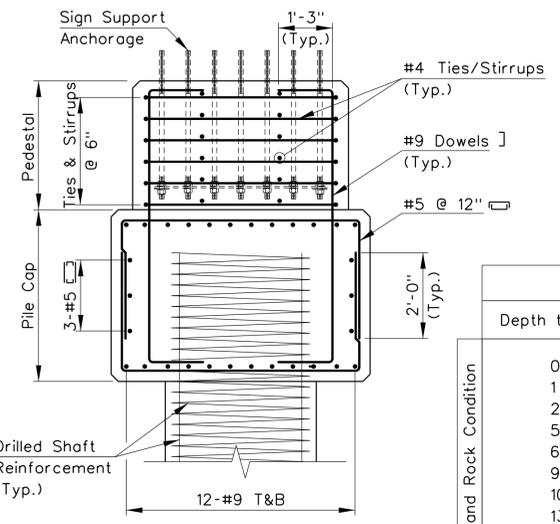
**NOTES:**  
 Sign Support Anchorage and Reinforcement on Pedestal and Pile Cap is not shown. See Section B-B for detail.

**NOTES:**

- If unsuitable material or cohesive soil is encountered during excavation for the foundation, the engineer shall be notified to determine if additional depth is required for the drilled foundation.
- #4 closed ties @ Max. 12" spacing may be substituted for spirals. The tie detail should look similar as shown on Section F-F & Section G-G on this sheet. Location of the lap splice shall be shifted 90° in adjacent ties.
- All unused rigid metal conduits shall be capped.
- Rigid metal conduits shall extend a minimum of 2'-0" from side of foundation.
- Ground rod clamp shall be approved for direct burial.
- Additional rigid metal conduits shall be provided as directed by the Engineer.
- See Dwg. No. CTS-10 for Anchorage Detail.
- Concrete in a recently concreted shaft must achieve an initial set before drilling can be done in the vicinity if there is a possibility of communication between the nearby excavations. The Contractor assumes all responsibility for cross-communication of concrete between shafts.
- The spirals shall be tied to the longitudinal bars and no welding of the reinforcement cage will be allowed. It is the responsibility of the Contractor to ensure that a means of lifting the rebar cage during construction is provided so that the tie wires do not break.



FOUNDATION PLAN



SECTION B-B

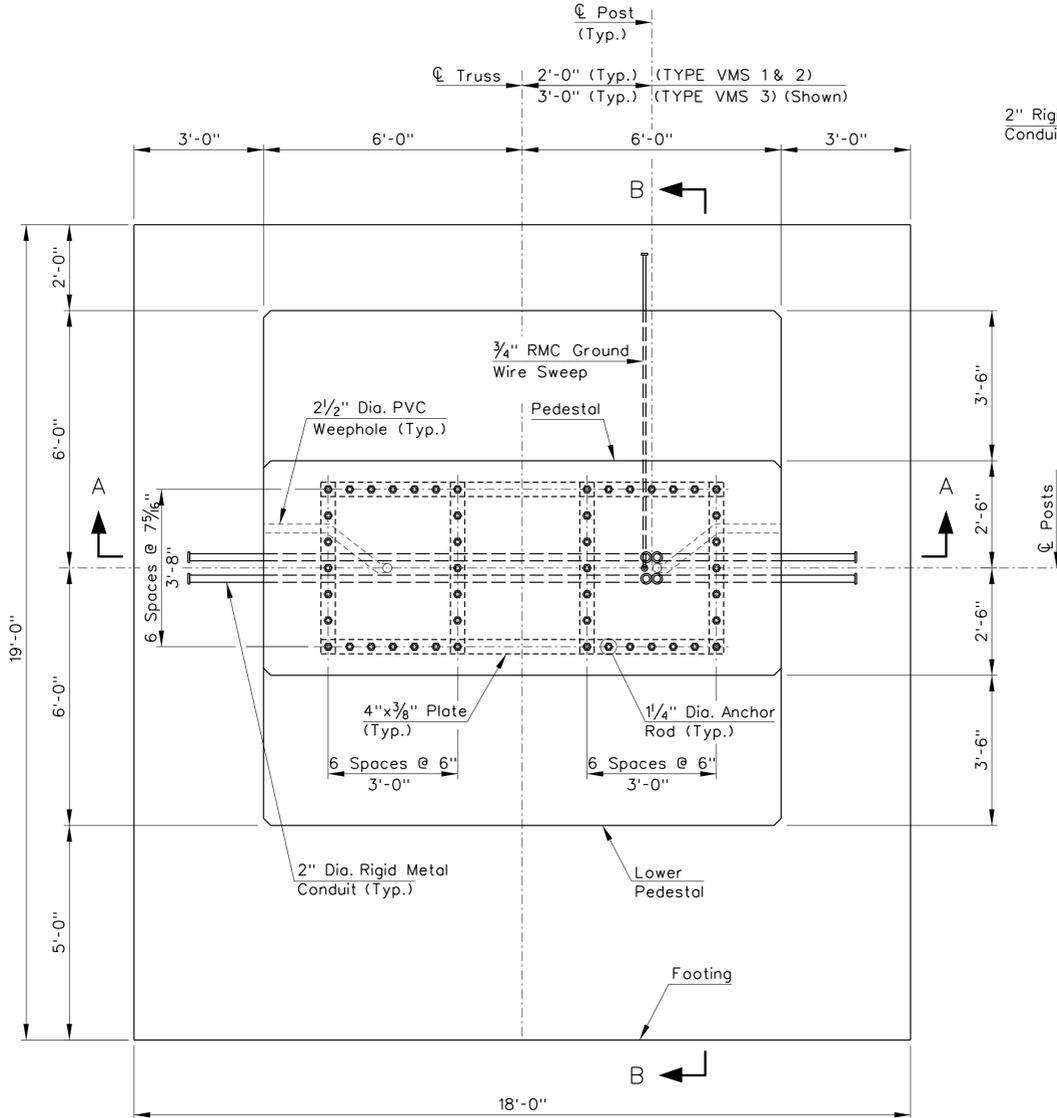
Earth and Rock Condition	TABLE		
	Depth to Rock	Rock Socket Depth	Total Required Depth
	0 ft.	10 ft.	10 ft.
	1 ft.	10 ft.	11 ft.
	2 ft.	10 ft.	12 ft.
	5 ft.	8 ft.	13 ft.
	6 ft.	8 ft.	14 ft.
	9 ft.	6 ft.	15 ft.
	10 ft.	6 ft.	16 ft.
	13 ft.	4 ft.	17 ft.
	16 ft.	2 ft.	18 ft.
	17 ft.	2 ft.	19 ft.
	20 ft.	0 ft.	20 ft.

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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER: J. YANG DRAFTER: C. MARQUES CHECKED BY: L. PIPPIN	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION ENGINEER: GM2 ASSOCIATES, INC. APPROVED BY: _____ DATE: _____	PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)	TOWN: NEW HAVEN / WEST HAVEN	PROJECT NO.: 92-522 DRAWING NO.: CTS-02 SHEET NO.:
REV. DATE DESCRIPTION REVISIONS SHEET NO.	CADD FILE: SB_MSH_VMS_92_535_CTS-02.dgn PLOTTED DATE: 11/13/2012		DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT DRILLED SHAFT FOUNDATION		

**NOTES:**

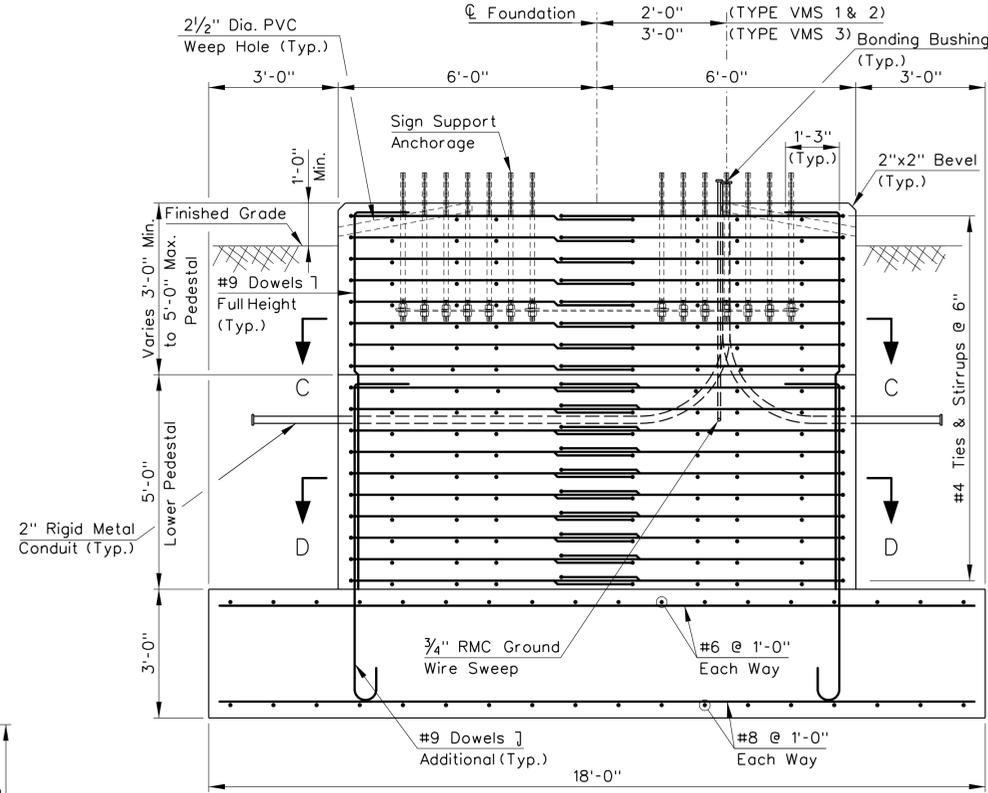
- All unused rigid metal conduits shall be capped.
- Rigid metal conduits shall extend a minimum of 2'-0" from side of foundation.
- Ground rod clamp shall be approved for direct burial.
- Additional rigid metal conduits shall be provided as directed by the Engineer.
- See Dwg. No. CTS-10 for Anchorage Detail.
- If the Contractor elects to place a Spread Footing on Rock, he shall do the following before performing any construction:
  - Provide the Engineer with a detailed plan of action for approval.
  - Indicate the extents of rock excavation and show a means for the footing to engage the rock during twisting of the footing.
  - Determine if rock is stratified in a manner that is likely to cause slippage of the foundation.



Maximum Design Foundation Pressure:  
2.31 Ksf (Group II)

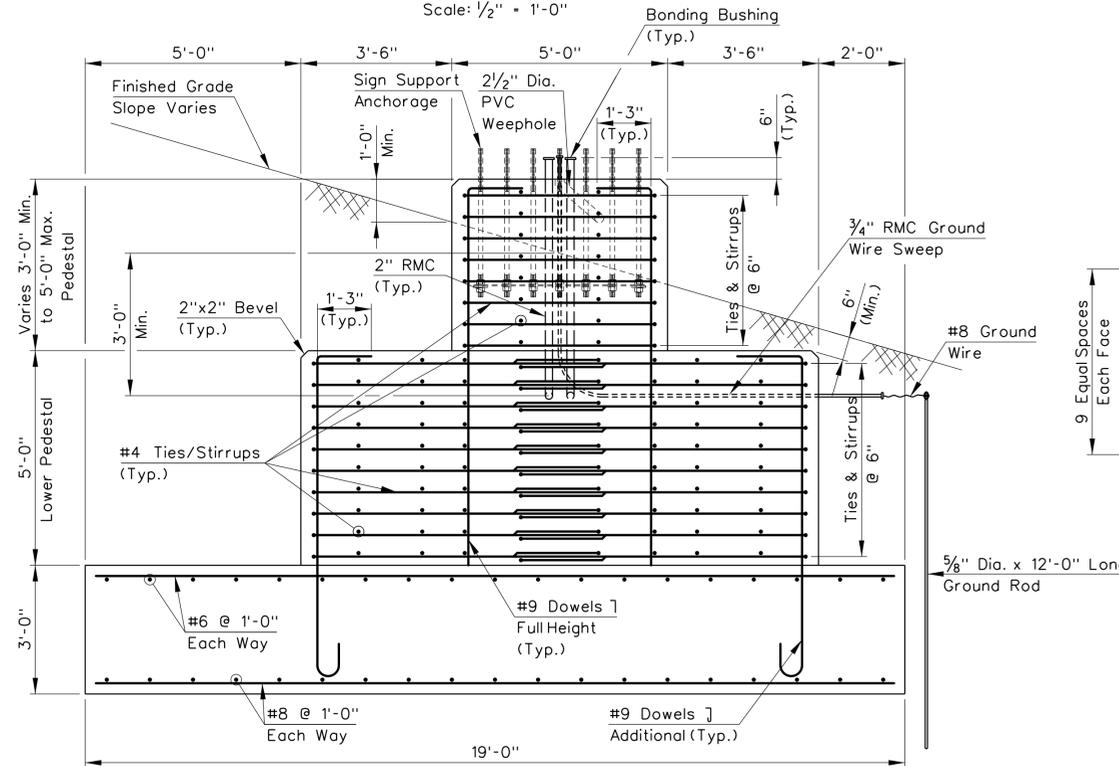
**FOUNDATION PLAN**

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



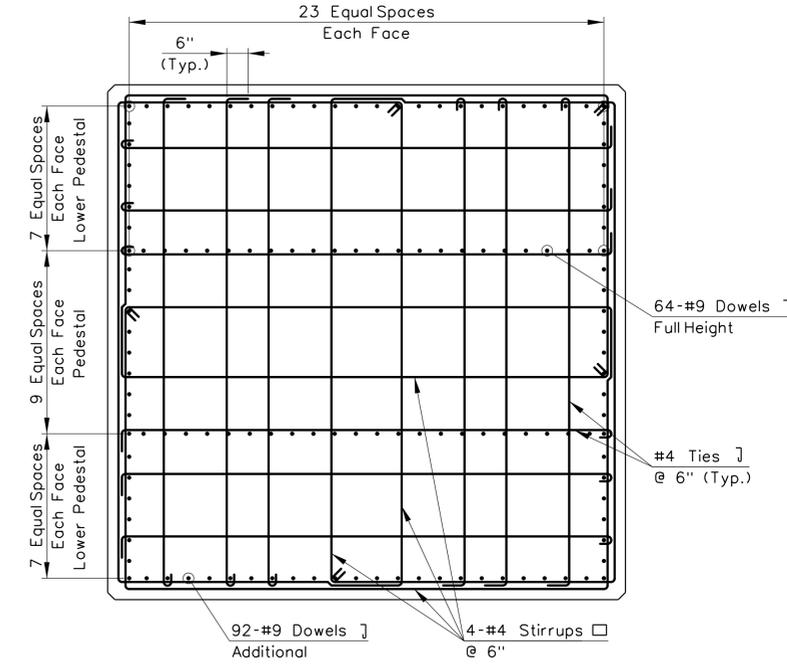
**SECTION A-A**

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



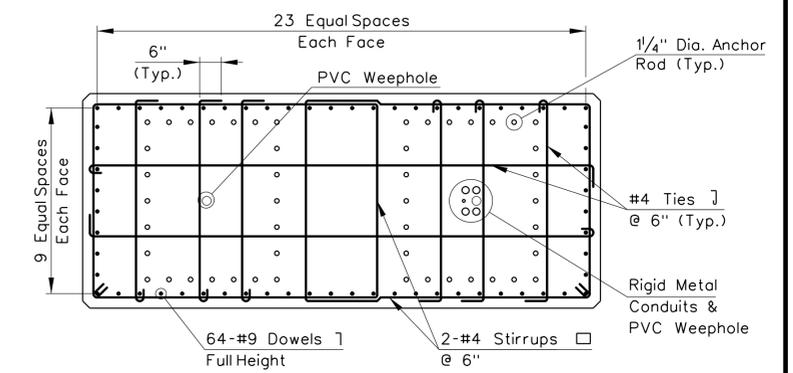
**SECTION B-B**

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



**SECTION D-D**

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

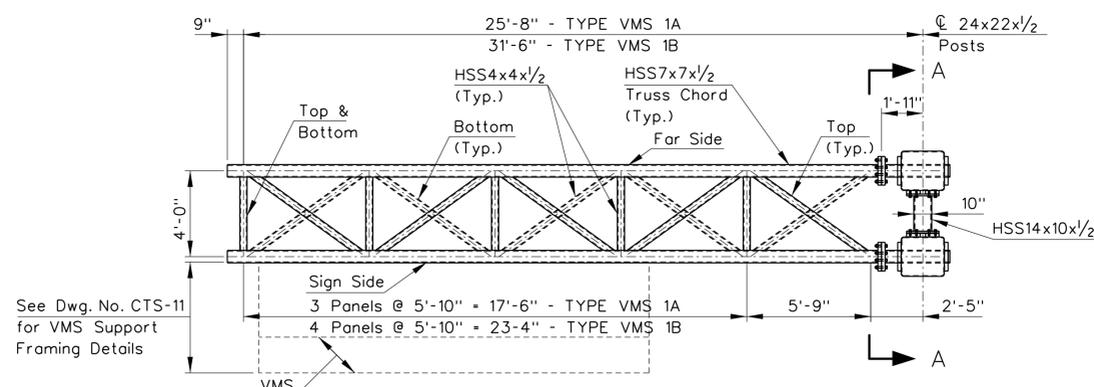


**SECTION C-C**

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

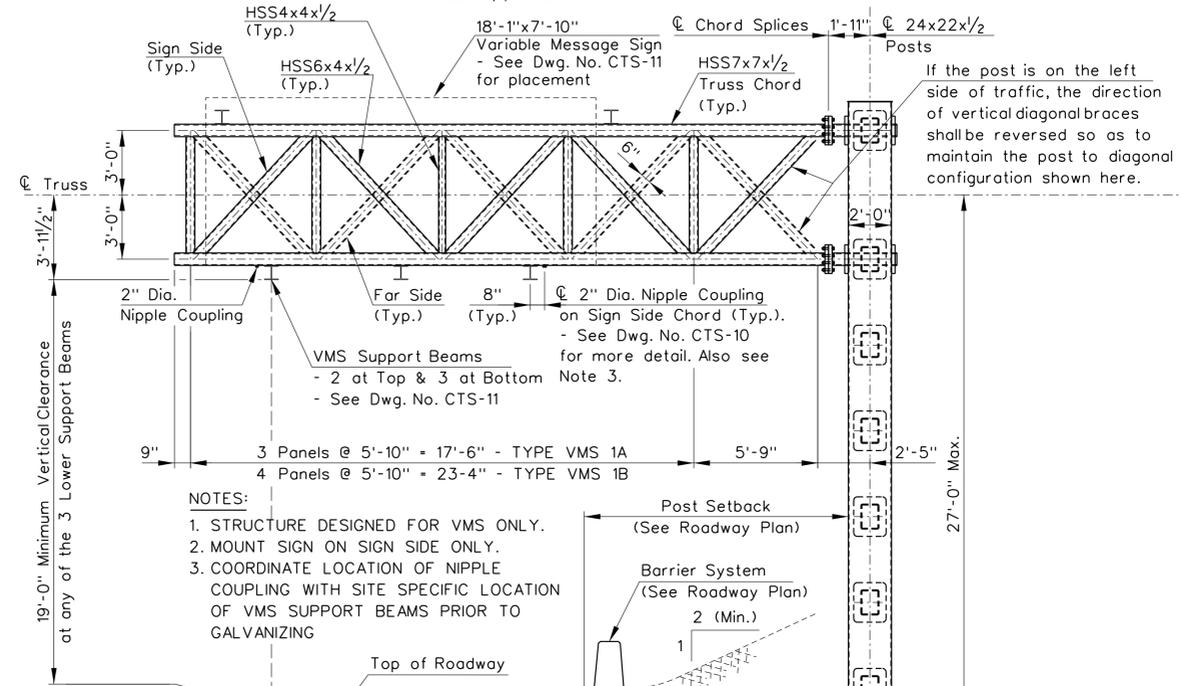
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	DRAFTER: T. P. NGUYEN		ENGINEER: GM2 ASSOCIATES, INC.	DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT SPREAD FOOTING FOUNDATION	DRAWING NO.: CTS-03
	CHECKED BY: M. M. GUPTA	APPROVED BY:	CADD FILE: SB_MSH_VMS_92_535_CTS-03.dgn	PLOTTED DATE: 11/13/2012	SHEET NO.:



**PLAN**

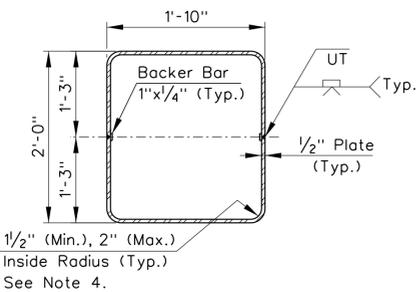
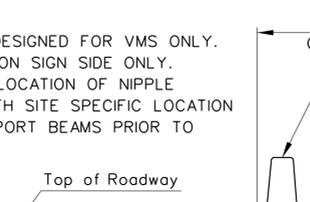
Scale: 1/4"=1'-0"



**ELEVATION**

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

- NOTES:**
1. STRUCTURE DESIGNED FOR VMS ONLY.
  2. MOUNT SIGN ON SIGN SIDE ONLY.
  3. COORDINATE LOCATION OF NIPPLE COUPLING WITH SITE SPECIFIC LOCATION OF VMS SUPPORT BEAMS PRIOR TO GALVANIZING

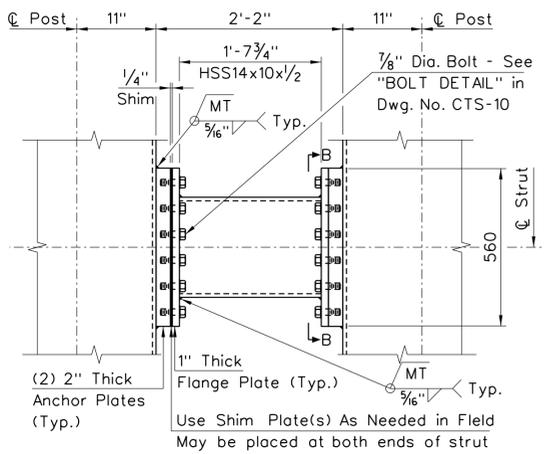


**POST FABRICATION DETAIL**

Scale: 1"=1'-0"

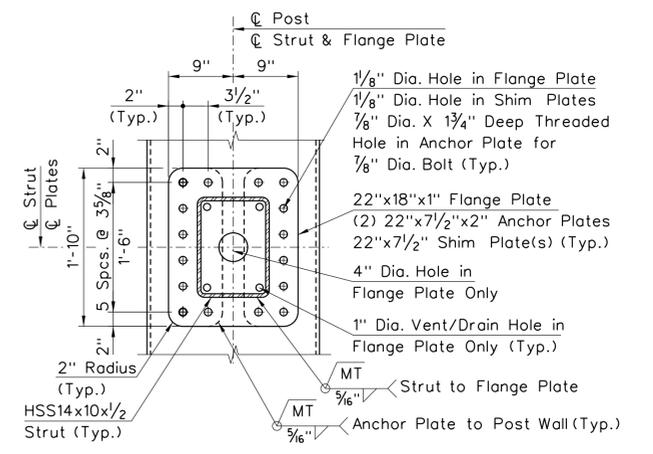
**POST FABRICATION NOTES:**

1. The posts shall be produced by a member of the Steel Tube Institute of North America.
2. The posts shall be fabricated by forming two [ ] sections and welding them together using two longitudinal seam welds. The longitudinal seam welds shall be 100% penetration butt welds and shall have a backer bar.
3. Structural steel plate for the posts shall conform to ASTM A709, Fy=50 ksi steel and the inside radius of the corners shall be as detailed on this sheet.
4. The same bend radius shall be used for each structure.



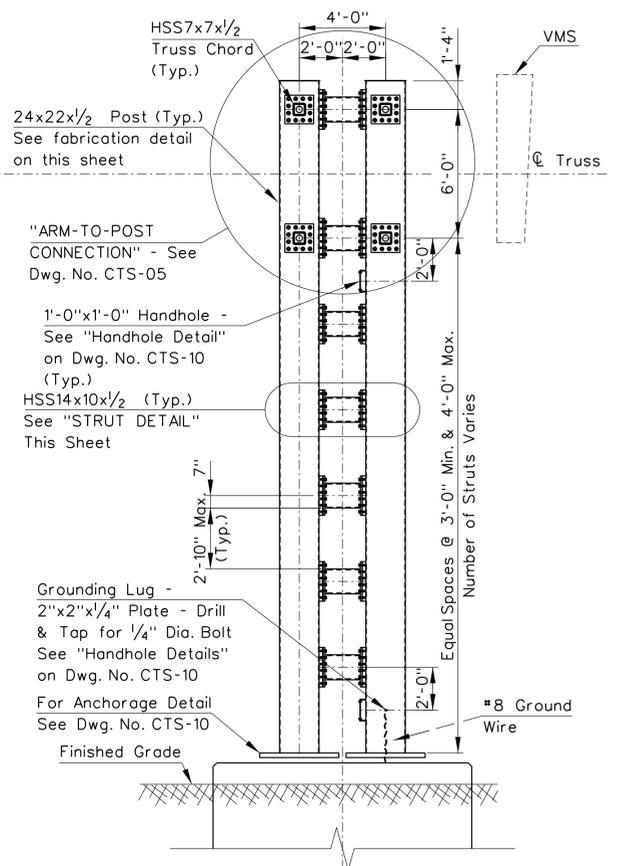
**STRUT DETAIL**

Scale: 1"=1'-0"



**SECTION B-B**

Scale: 1"=1'-0"



**SECTION A-A**

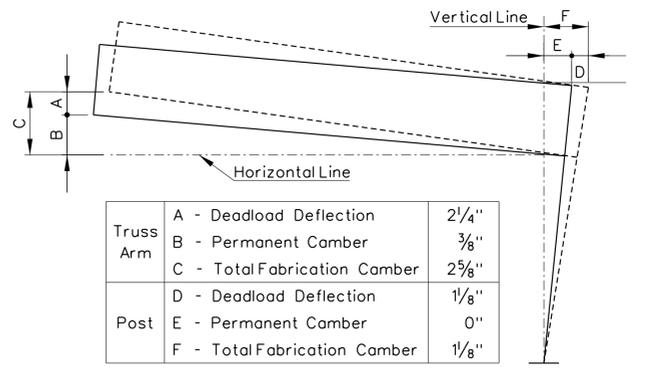
Scale: 1/4"=1'-0"

**NOTE:**

The Cantilever Truss Sign Support Type VMS 1A & Type VMS 1B shall be paid for under the same item "Cantilever Truss Sign Support (Type VMS 1)".

**POST FABRICATION AND ERECTION NOTES:**

1. It is recommended that a single template be fabricated at each site to ensure the same bolt pattern in both the posts and anchor bolts. Holes in the templates should be standard size. Base plates shall be aligned with the templates prior to welding to the posts.
2. When the strut-to-post connections are tight, the struts should be square to the posts and the base plates should be even with one another.
3. Shop-assemble the posts and struts with shim plates having a total thickness of 1/4" as shown in "Strut Detail". It is critical that the shim plates be installed during this assembly, since the space the shims occupy will facilitate field installation of the struts.
4. Disassemble the posts and struts and plug the topped holes in the strut anchor plates. Galvanize all components and reassemble in the shop to ensure proper fit. Disassemble for shipping. New bolts shall be used for the final, field assembly. Do not reuse shop erection bolts in final assembly.
5. The Contractor shall prepare and submit complete fabrication and erection sequences with the shop drawings to the Engineer for approval.
6. It is suggested that the posts be erected individually, then the struts installed with the bolts only hand-tight. Once the arm has been bolted tightly to the posts, the strut bolts shall be tightened 1/6th of a turn beyond snug tight.



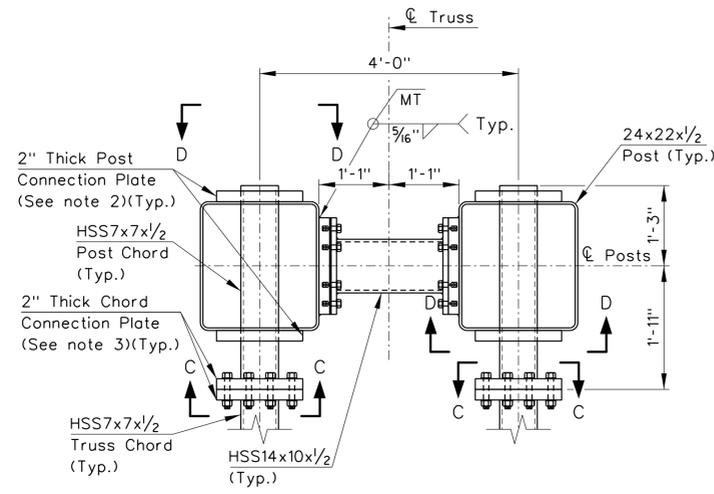
**DEFLECTION & CAMBER DIAGRAM**

N.T.S.

Truss Arm	A - Deadload Deflection	2 1/4"
	B - Permanent Camber	3/8"
	C - Total Fabrication Camber	2 5/8"
Post	D - Deadload Deflection	1 1/8"
	E - Permanent Camber	0"
	F - Total Fabrication Camber	1 1/8"

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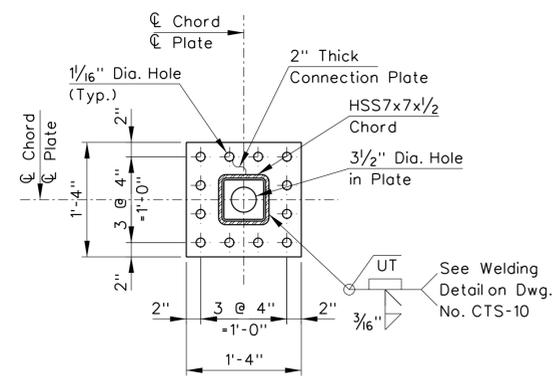
REV.	DATE	DESCRIPTION	SHEET NO.	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER: M. K. GUPTA		PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)	TOWN: NEW HAVEN / WEST HAVEN	PROJECT NO.: 92-522
				DRAFTER: T. P. NGUYEN	ENGINEER: GM2 ASSOCIATES, INC.		DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT TYPE VMS 1 - SHEET 1 OF 2	DRAWING NO.: CTS-04	
				CHECKED BY: M. M. GUPTA	APPROVED BY:		CADD FILE: SB_MSH_VMS_92_535_CTS-04.dgn	PLOTTED DATE: 11/13/2012	SHEET NO.:



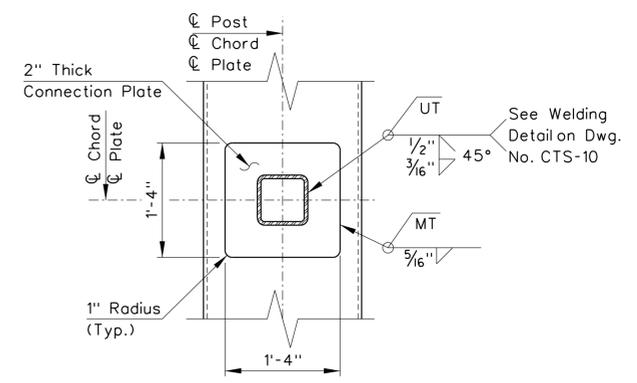
**SECTION A-A**  
Scale: 3/4"=1'-0"

**FABRICATION NOTES:**

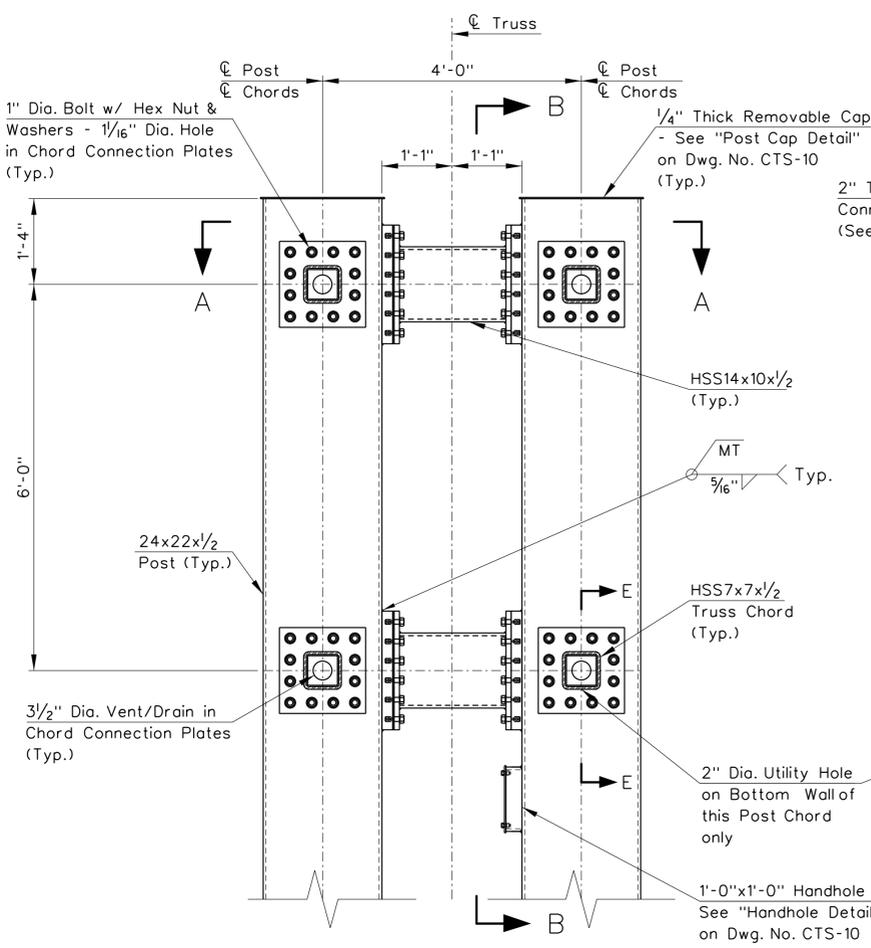
1. The holes in the post walls for chord members shall provide a gap of 3/32" maximum.
2. The post connection plates shall be welded to the posts prior to welding the post chord members to these plates.
3. It is suggested that bolt holes in the chord connection plate welded to the post chord be drilled after the truss arm and chord plates are fabricated. Bolt holes in the truss arm chord connection plates may be used as a template to mark the bolt holes in the matching chord connection plates.
4. It is recommended to fabricate the entire truss arm first, leaving the chords long. Then trim the chords to the correct length.
5. All welding, drilling of holes, and any other fabrication practices that would damage the galvanized coating shall be completed prior to galvanizing the posts and truss.



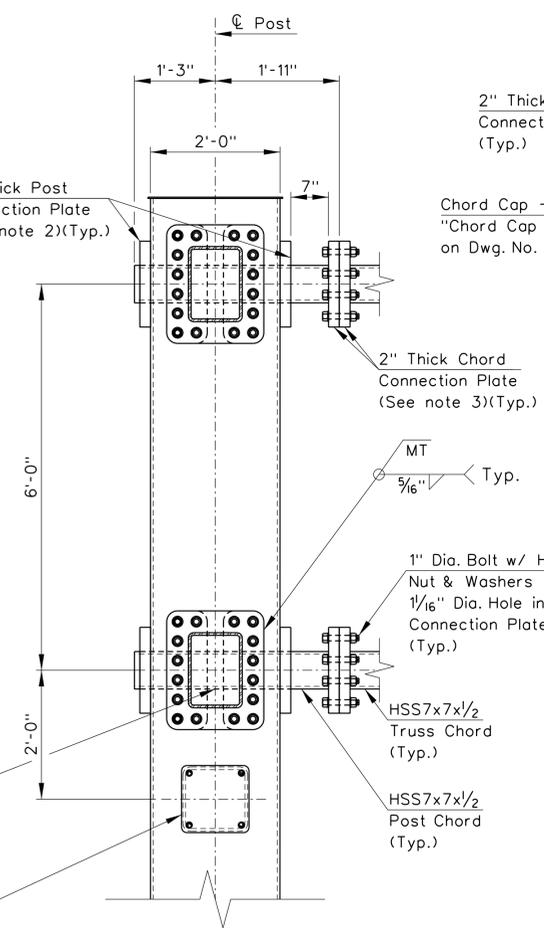
**SECTION C-C**  
**CHORD CONNECTION PLATE**  
Scale: 1"=1'-0"



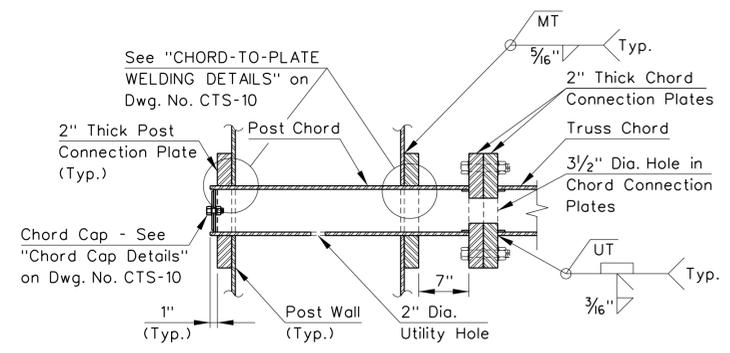
**SECTION D-D**  
**POST CONNECTION PLATE**  
Scale: 1"=1'-0"



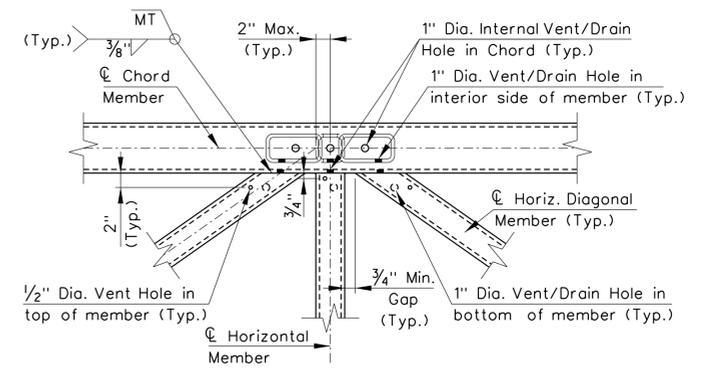
**ARM-TO-POST CONNECTION**  
Scale: 3/4"=1'-0"



**SECTION B-B**  
Scale: 3/4"=1'-0"



**SECTION E-E**  
Scale: 1"=1'-0"

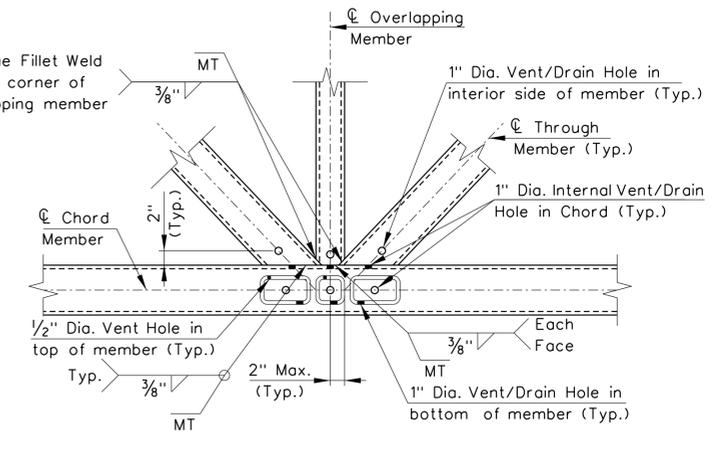


**PLAN SECTION - PANEL POINT**  
(Bottom Chord shown and Top similar)

**VENT/DRAIN HOLE NOTES:**

1. All of Vent/Drain Holes located on top or vertical surfaces are to be plugged with plastic plugs after galvanizing. Vent Holes on bottom surfaces are to be left unplugged.
2. The Number, Size, and Location of Vent/Drain holes are shown on the plans and are considered adequate for galvanizing. However, the details must be coordinated with the galvanizer before shop drawings are submitted for review.
3. Any deviation from the details shown on the plans shall be requested in writing prior to submission of shop drawings and shall be accompanied by a complete analysis prepared and stamped by a professional engineer licensed in Connecticut. The analysis shall demonstrate no adverse effect on the structure as a result of the proposed change.

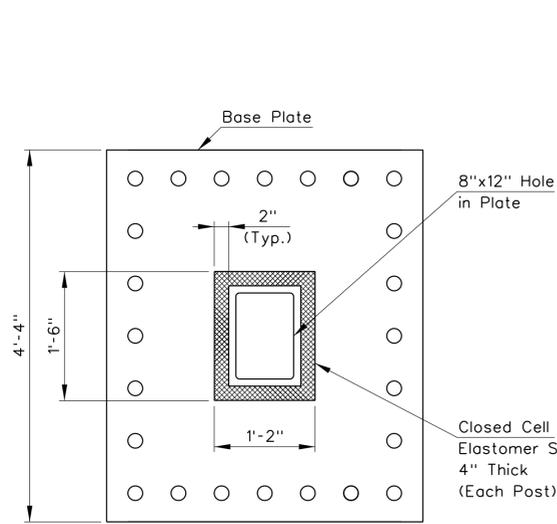
**NOTE:**  
All holes in the horizontal and horizontal diagonal members shall be drilled adjacent to the corner radius.



**SIDE SECTION - PANEL POINT**  
(Far Side Chord shown and Near Side similar)  
**TRUSS MEMBER CONNECTION**  
Scale: 1"=1'-0"

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					DRAFTER: T. P. NGUYEN		ENGINEER: GM2 ASSOCIATES, INC.	DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT TYPE VMS 1 - SHEET 2 OF 2	DRAWING NO.: CTS-05
					CHECKED BY: M. M. GUPTA		APPROVED BY:	CADD FILE: SB_MSH_VMS_92_535_CTS-05.dgn	PLOTTED DATE: 11/13/2012

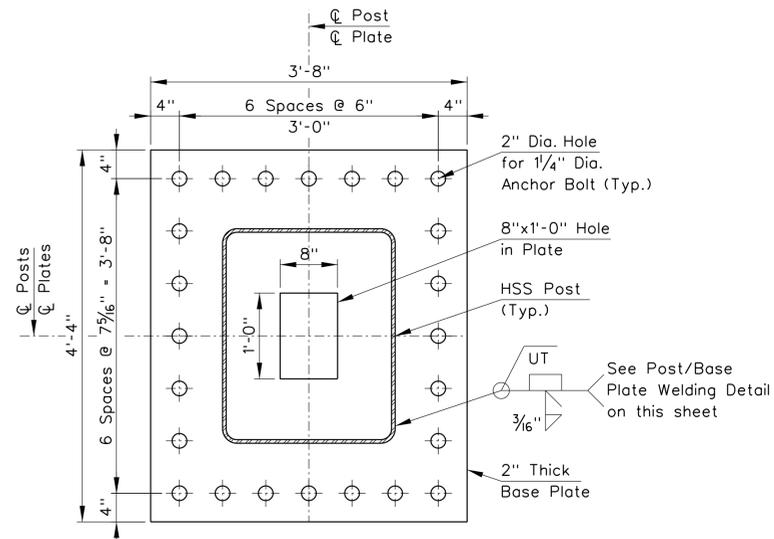


**CLOSED CELL ELASTOMER SEAL DETAIL**

N.T.S.

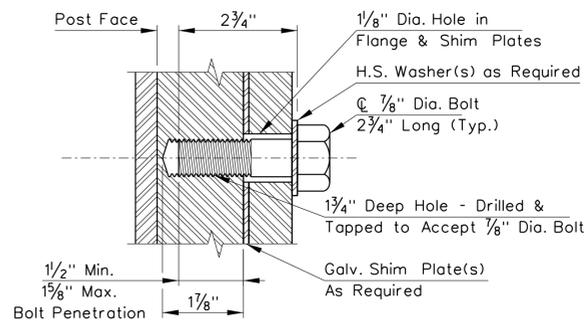
**NOTE:**

Closed Cell Elastomer shall conform to the requirements of ASTM D1056 Grade RE-41 B2, and shall have a pressure-sensitive adhesive backing on one side. Place adhesive-side upward.



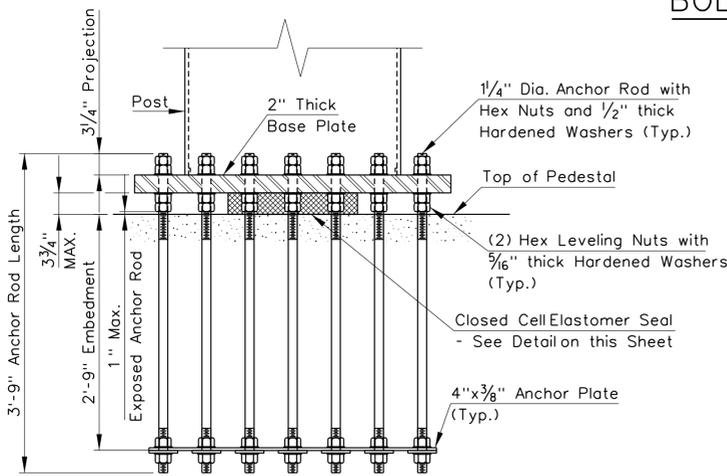
**BASE PLATE**

N.T.S.



**BOLT DETAIL**

N.T.S.

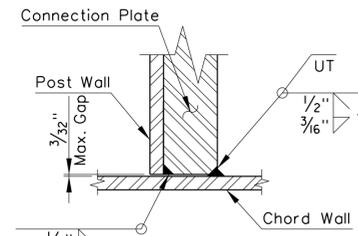


**ANCHORAGE DETAIL**

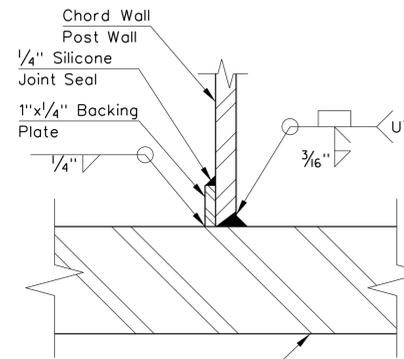
N.T.S.

**NOTE:**

- Anchor Plates shall conform to AASHTO M270, Grade 50 and shall be galvanized.
- The first nuts on the anchor rods shall be tightened to 1/6 turns beyond snug tight. The double nuts shall be snug tight to these nuts.



**CHORD-TO-PLATE**



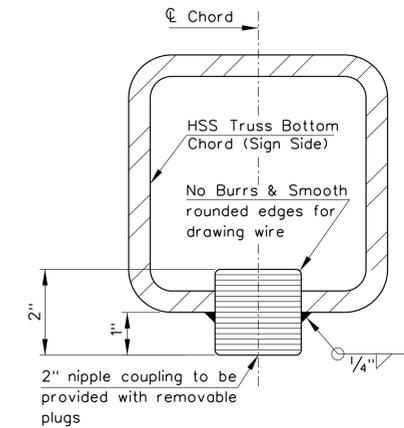
**CHORD/CONNECTION PLATE POST/BASE PLATE WELDING DETAILS**

N.T.S.

If several root passes are required to completely fill the gap, inspection of the root passes is required before proceeding with the weld.

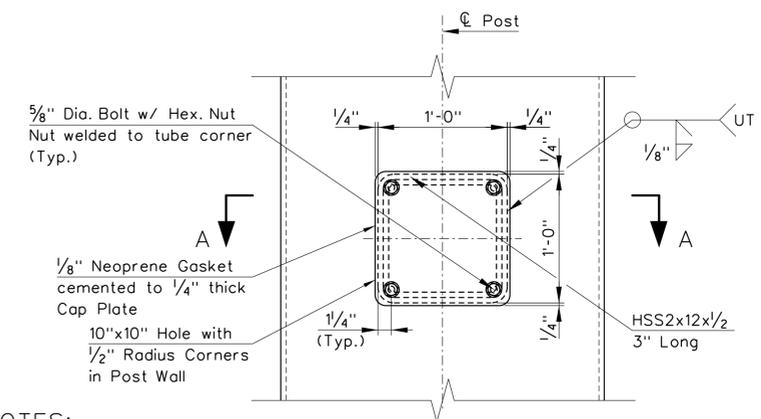
**WELDING NOTES:**

- Preheat and interpass temperature shall be sufficient to prevent cracking.
- The Contractor shall submit a written welding sequence and distortion control program. The program shall specify preheat and interpass temperature ranges and how the weld will be performed to meet these requirements.
- Steel backing shall be made continuous for the full length of the weld.



**NIPPLE COUPLING DETAIL**

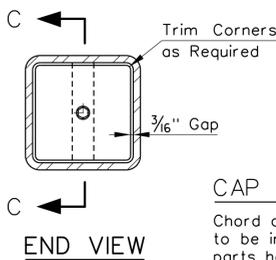
N.T.S.



**ELEVATION VIEW**

**HANDHOLE NOTES:**

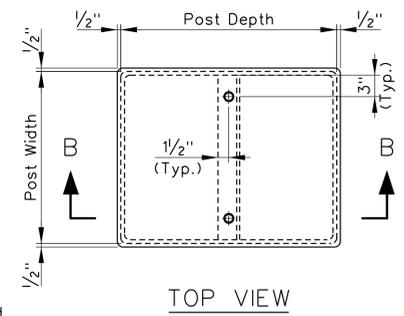
- There shall be no sharp edges, protrusions or burrs around the handhole.
- The Cap Plate shall be trial-bolted on in the shop before galvanizing to ensure that the nuts are welded on with the proper alignment.
- Plug the welded nuts before galvanizing.
- Neoprene Gasket shall conform to ASTM D1056, Grade 2A2 or 2A3.



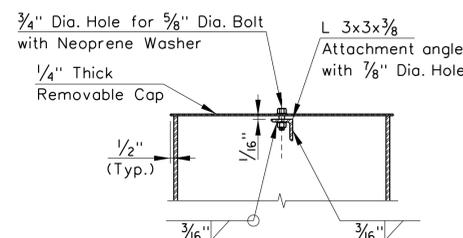
**END VIEW**

**CAP NOTE:**

Chord and post caps are to be installed after all parts have been galvanized.



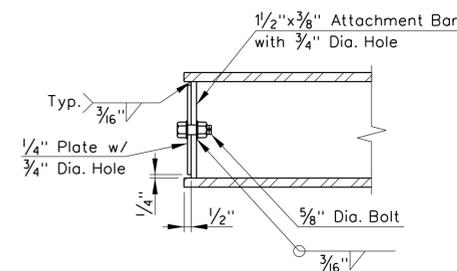
**TOP VIEW**



**SECTION B-B**

**POST CAP DETAILS**

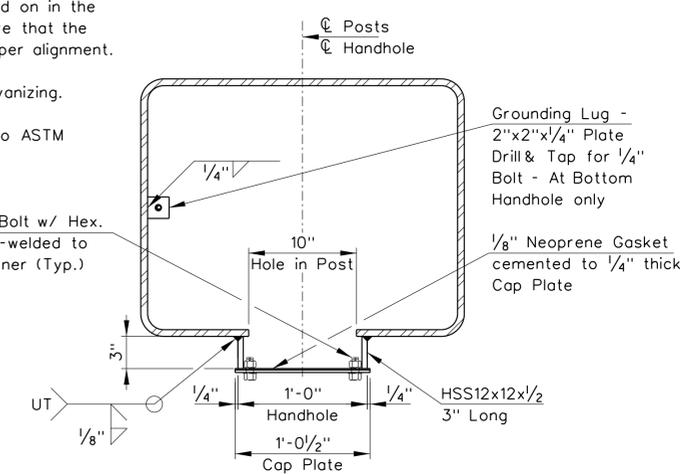
N.T.S.



**SECTION C-C**

**CHORD CAP DETAILS**

N.T.S.



**SECTION A-A**

**HANDHOLE DETAILS**

N.T.S.

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REV.	DATE	DESCRIPTION	REVISIONS	SHEET NO.

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DESIGNER: M. K. GUPTA  
DRAFTER: T. P. NGUYEN  
CHECKED BY: M. M. GUPTA

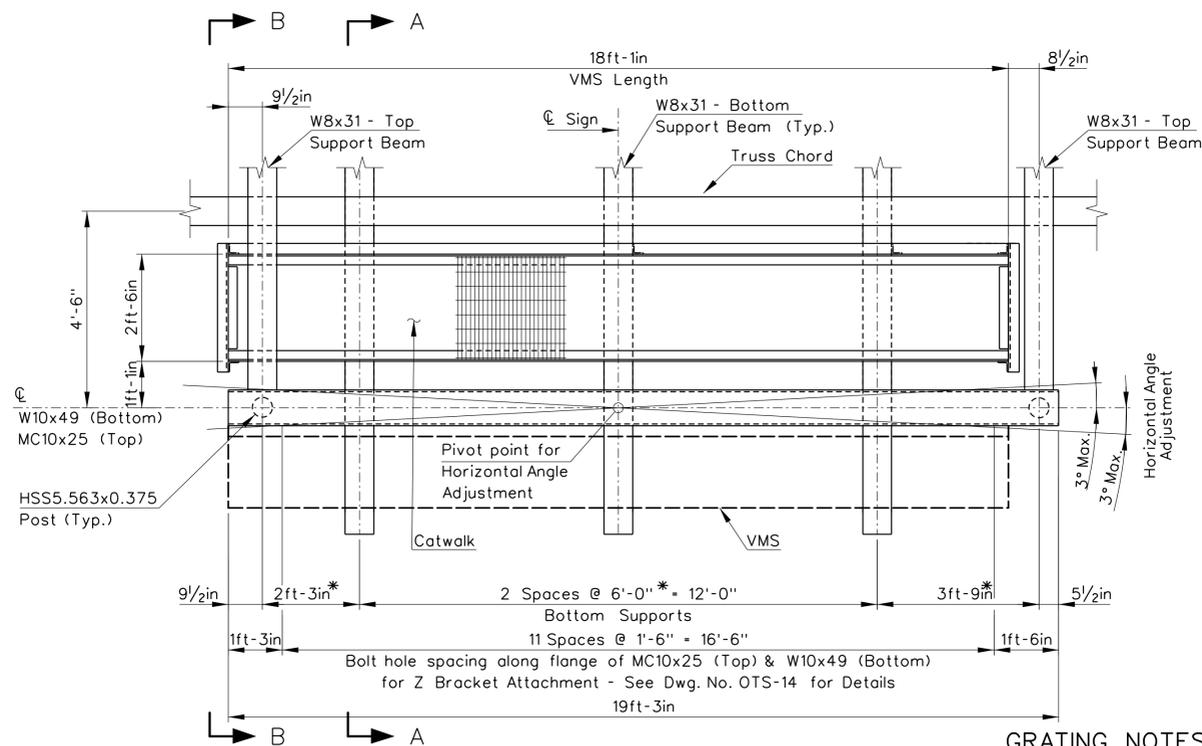
STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

ENGINEER: GM2 ASSOCIATES, INC.  
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)  
CADD FILE: SB\_MSH\_VMS\_92\_535\_CTS-10.dgn PLOTTED DATE: 11/13/2012

TOWN: NEW HAVEN / WEST HAVEN  
DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT COMMON DETAILS - SHEET 1 OF 4

PROJECT NO.: 92-522  
DRAWING NO.: CTS-10  
SHEET NO.:



**PLAN VIEW  
VMS SUPPORT FRAMING AND CATWALK**

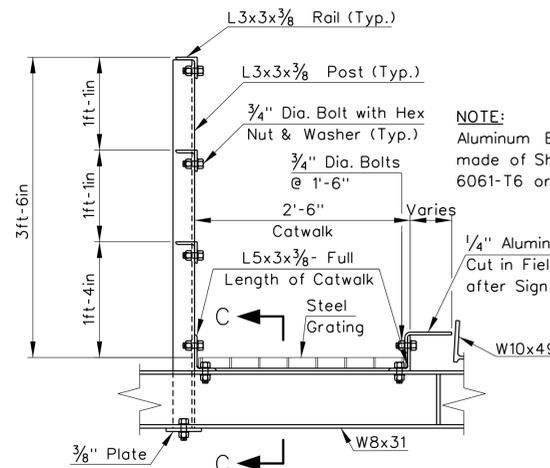
Scale: 1/2"=1'-0"

**\*NOTE:**

Bottom Support Beams may be slightly adjusted to avoid interference with truss members.

**GRATING NOTES:**

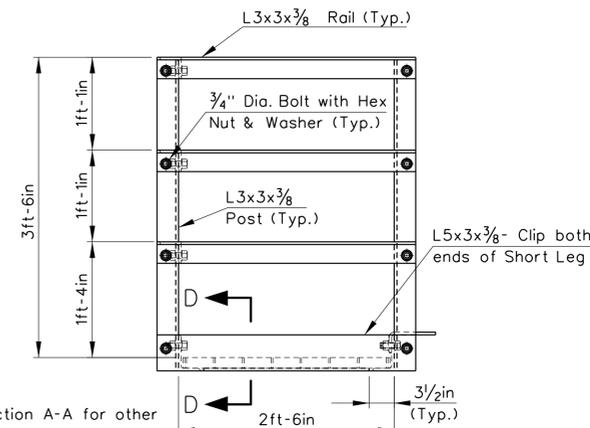
1. Steelserrated grating shall conform to ASTM A709 and shall be similar to "McNichols GW-150" or equal.
2. All components of the steelgrating shall be shop galvanized. Areas where the galvanizing has been damaged shall be given two coats of zinc paint conforming to the requirements of the Federal Specification TT-P-641-b(2).



**SECTION A-A**

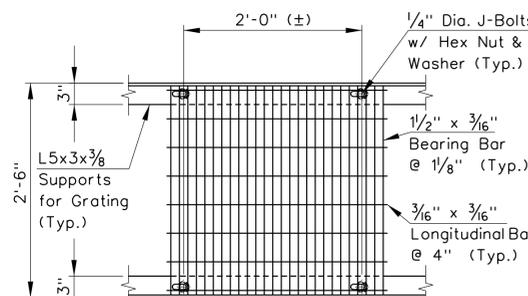
**CATWALK AND RAILING**

Scale: 1"=1'-0"



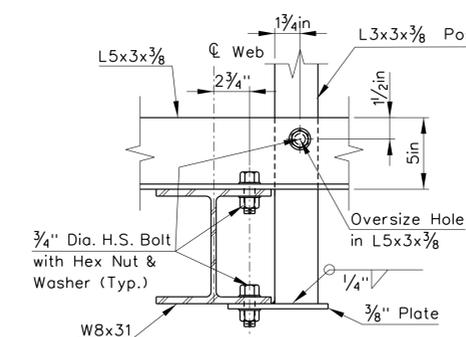
**SECTION B-B**

**NOTE:**  
See Section A-A for other call-outs not shown.



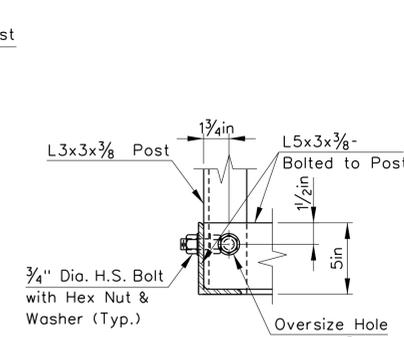
**GRATING DETAIL**

Scale: 1"=1'-0"



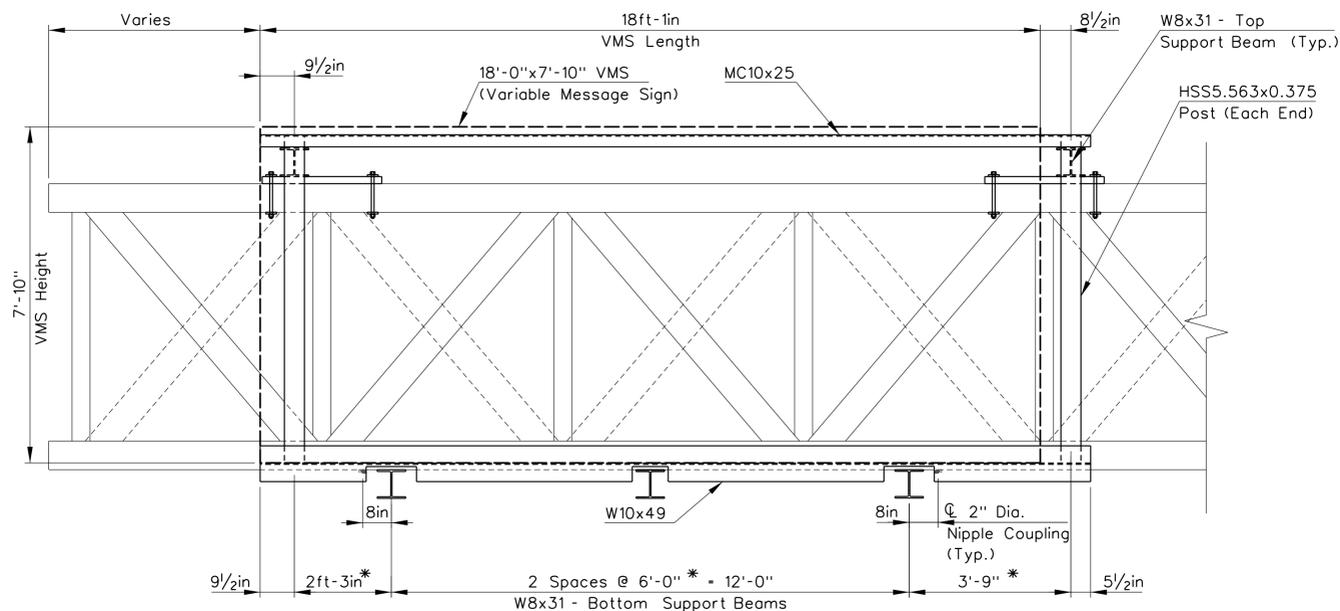
**SECTION C-C**

Scale: 2"=1'-0"



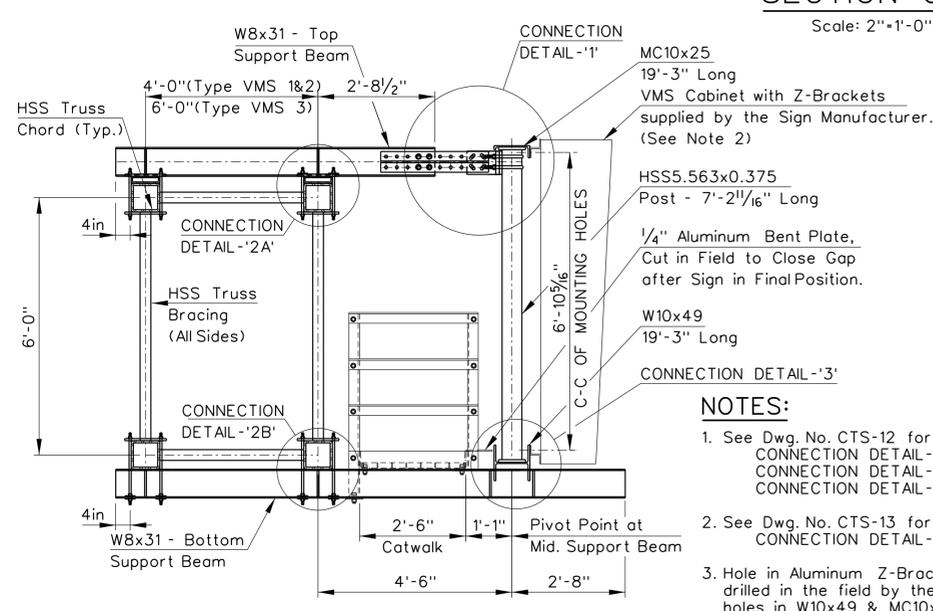
**SECTION D-D**

Scale: 2"=1'-0"



**FRONT ELEVATION VIEW**

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

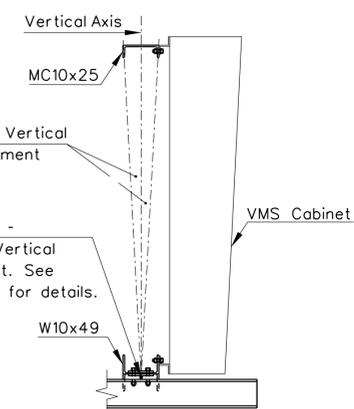


**SIDE ELEVATION VIEW**

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

**NOTES:**

1. See Dwg. No. CTS-12 for: CONNECTION DETAIL -'1', CONNECTION DETAIL -'2A', CONNECTION DETAIL -'2B'.
2. See Dwg. No. CTS-13 for: CONNECTION DETAIL -'3'.
3. Hole in Aluminum Z-Brackets shall be drilled in the field by the Contractor using holes in W10x49 & MC10x25 as the templates.
4. It is the Contractor's responsibility to ensure that the interface between the VMS and the cantilever truss structure are coordinated.



**VERTICAL ANGLE  
ADJUSTMENT DETAIL**

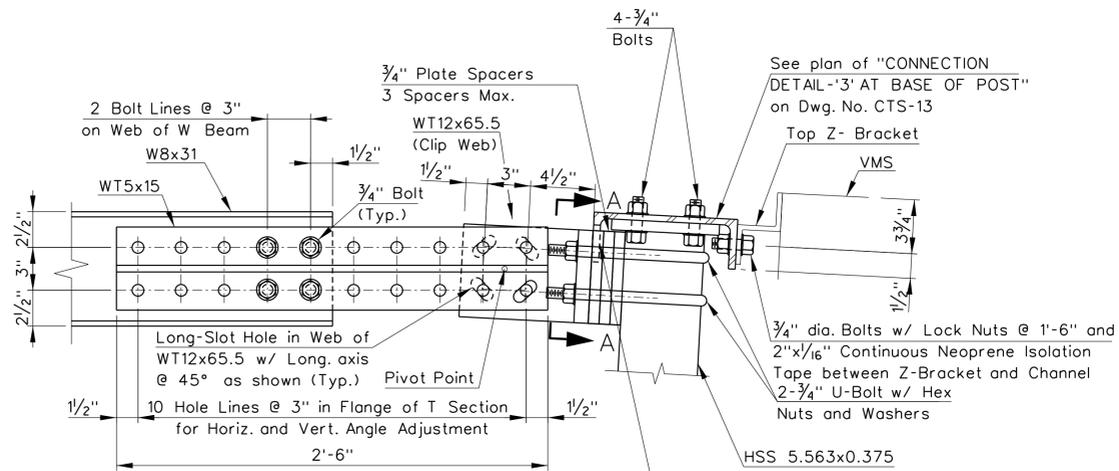
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REV.	DATE	DESCRIPTION REVISIONS	SHEET NO.	<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>	<p>DESIGNER: M. K. GUPTA</p> <p>DRAFTER: T. P. NGUYEN</p> <p>CHECKED BY: M. M. GUPTA</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p> <p>ENGINEER: GM2 ASSOCIATES, INC.</p> <p>APPROVED BY: _____ DATE: _____</p>	<p>PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)</p> <p>CADD FILE: SB_MSH_VMS_92_535_CTS-11.dgn PLOTTED DATE: 11/13/2012</p>	<p>TOWN: NEW HAVEN / WEST HAVEN</p> <p>DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT COMMON DETAILS - SHEET 2 OF 4</p>	<p>PROJECT NO.: 92-522</p> <p>DRAWING NO.: CTS-11</p> <p>SHEET NO.:</p>
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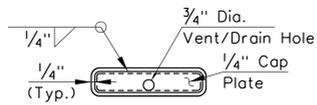
**NOTE:**

Neoprene Isolation Tape shall conform to ASTM D1056, Grade 2A2 or 2A3.



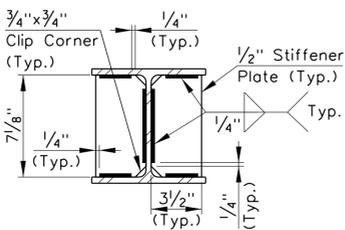
**CONNECTION DETAIL -1'  
TOP SUPPORT BEAM-TO-POST  
(VMS TYPE-1 ONLY)**

Scale: 2"=1'-0"



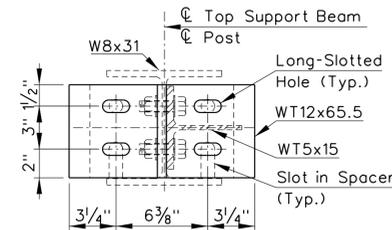
**CAP DETAIL**

Scale: 2"=1'-0"



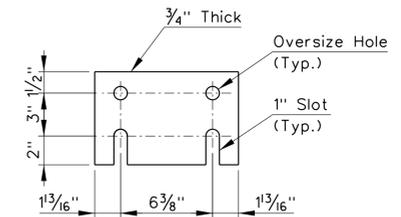
**STIFFENER DETAIL**

Scale: 2"=1'-0"



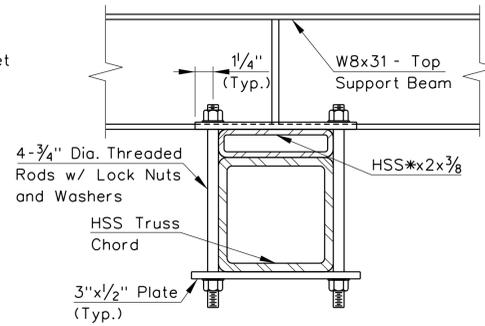
**SECTION A-A**

Scale: 2"=1'-0"



**SPACER DETAIL**

Scale: 2"=1'-0"

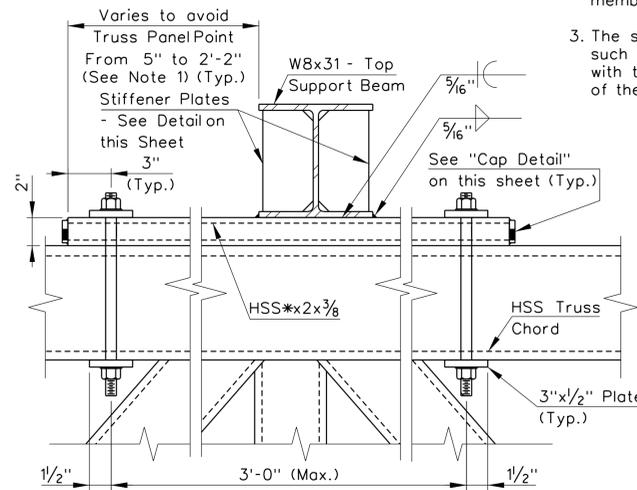


**SECTION**

\* - Depth to match Chord

**NOTES:**

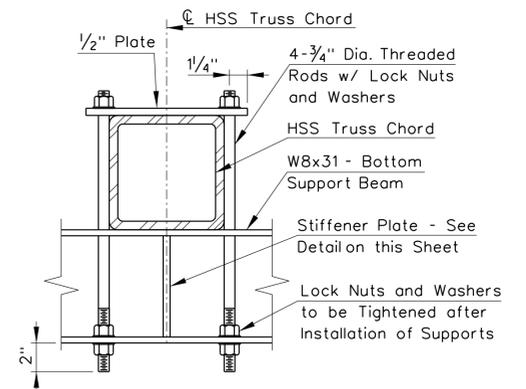
1. VMS to be located on Contractor's schematic cross section. Top support beams to be located accordingly and welded in the shop before galvanizing.
2. Connection Detail -2B' can be used (inverted) for the top support beams if they do not interfere with the truss members.
3. The support beams shall be positioned such that all connections avoid conflict with the diagonal and transverse members of the truss.



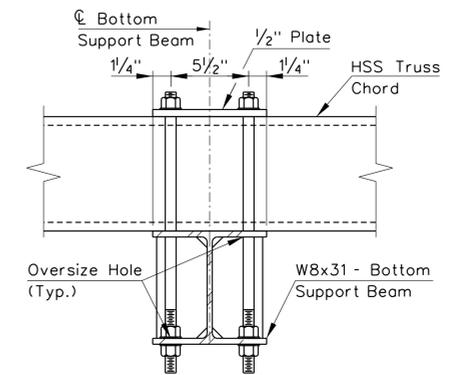
**ELEVATION**

**CONNECTION DETAIL -2A'  
TOP SUPPORT BEAM-TO-TRUSS**

Scale: 2"=1'-0"



**SECTION**



**ELEVATION**

**CONNECTION DETAIL -2B'  
BOTTOM SUPPORT BEAM-TO-TRUSS**

Scale: 2"=1'-0"

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DESIGNER: M. K. GUPTA  
 DRAFTER: T. P. NGUYEN  
 CHECKED BY: M. M. GUPTA


**STATE OF CONNECTICUT**  
 DEPARTMENT OF TRANSPORTATION

ENGINEER: GM2 ASSOCIATES, INC.  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT TITLE:  
**RECONSTRUCTION OF I-95  
 OVER WEST RIVER  
 (BRIDGE NO. 00163)**

CADD FILE: SB\_MSH\_VMS\_92\_535\_CTS-12.dgn PLOTTED DATE: 11/13/2012

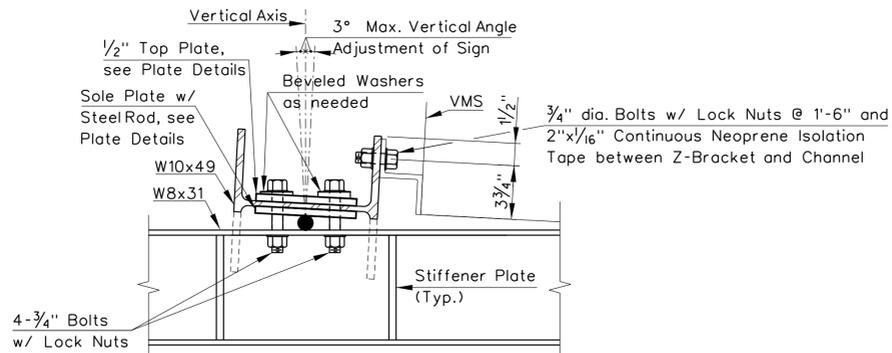
TOWN:  
**NEW HAVEN / WEST HAVEN**

DRAWING TITLE:  
**CANTILEVER TRUSS SIGN SUPPORT  
 COMMON DETAILS - SHEET 3 OF 4**

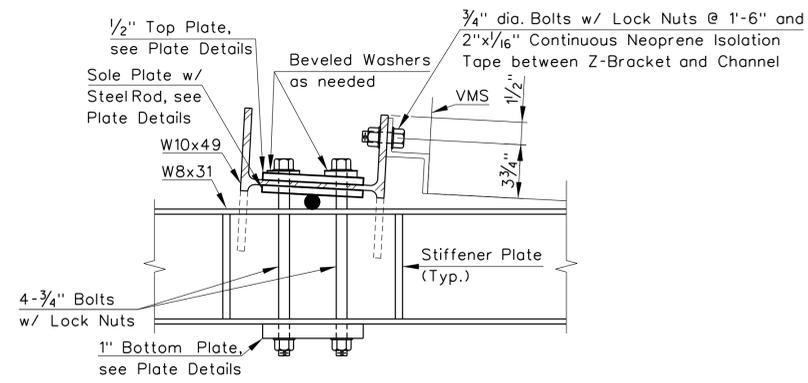
PROJECT NO.:  
**92-522**

DRAWING NO.:  
**CTS-12**

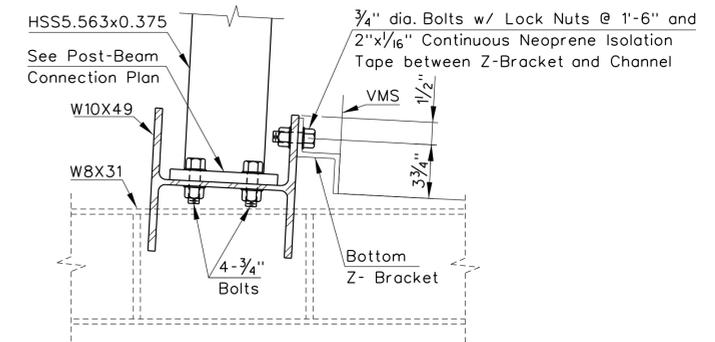
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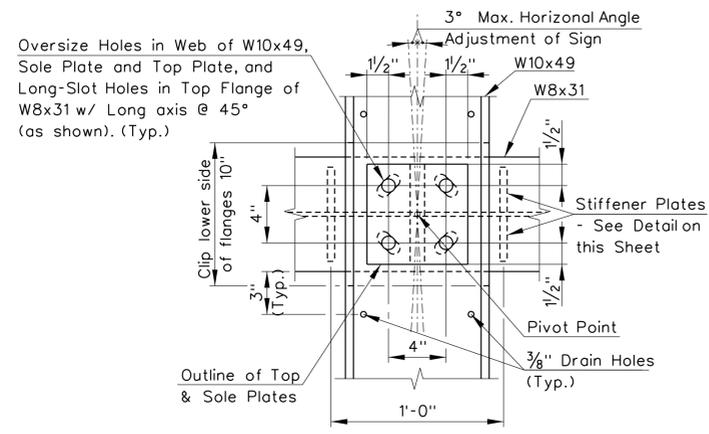
SECTION



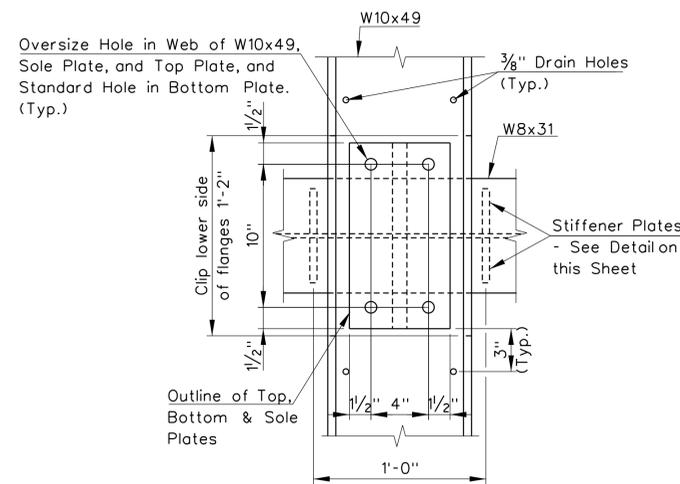
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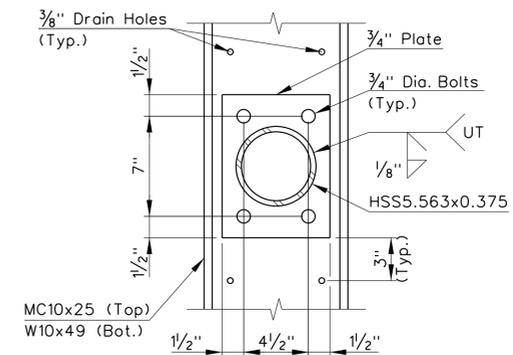
SECTION



PLAN



PLAN



PLAN

CONNECTION DETAIL - '3'  
AT MIDDLE BOTTOM SUPPORT BEAM

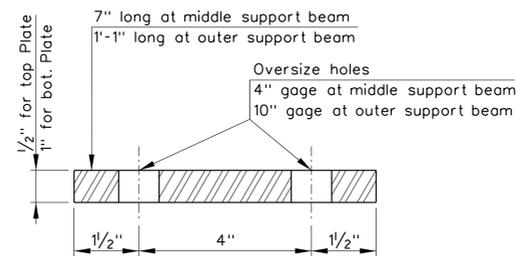
Scale: 2"=1'-0"

CONNECTION DETAIL - '3'  
AT OUTER BOTTOM SUPPORT BEAM

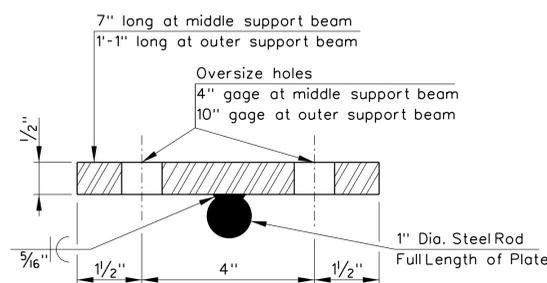
Scale: 2"=1'-0"

CONNECTION DETAIL - '3'  
AT BASE OF POST  
(TOP OF POST SIMILAR)

Scale: 2"=1'-0"



TOP & BOTTOM PLATE



SOLE PLATE

PLATE DETAILS

Scale: 6"=1'-0"

12:22:59 PM 11/13/2012 X:\Parsons-195\Caddwgs\MSH\_VMS\_92\_535\_CTS-13.dgn

REV.	DATE	DESCRIPTION REVISIONS	SHEET NO.	<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OR ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>	<p>DESIGNER: T. P. NGUYEN</p> <p>DRAFTER: T. P. NGUYEN</p> <p>CHECKED BY: M. M. GUPTA</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p> <p>ENGINEER: GM2 ASSOCIATES, INC.</p>	<p>PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER (BRIDGE NO. 00163)</p> <p>CADD FILE: SB_MSH_VMS_92_535_CTS-13.dgn</p>	<p>TOWN: NEW HAVEN / WEST HAVEN</p> <p>DRAWING TITLE: CANTILEVER TRUSS SIGN SUPPORT COMMON DETAILS - SHEET 4 OF 4</p>	<p>PROJECT NO.: 92-522</p> <p>DRAWING NO.: CTS-13</p> <p>SHEET NO.:</p>
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