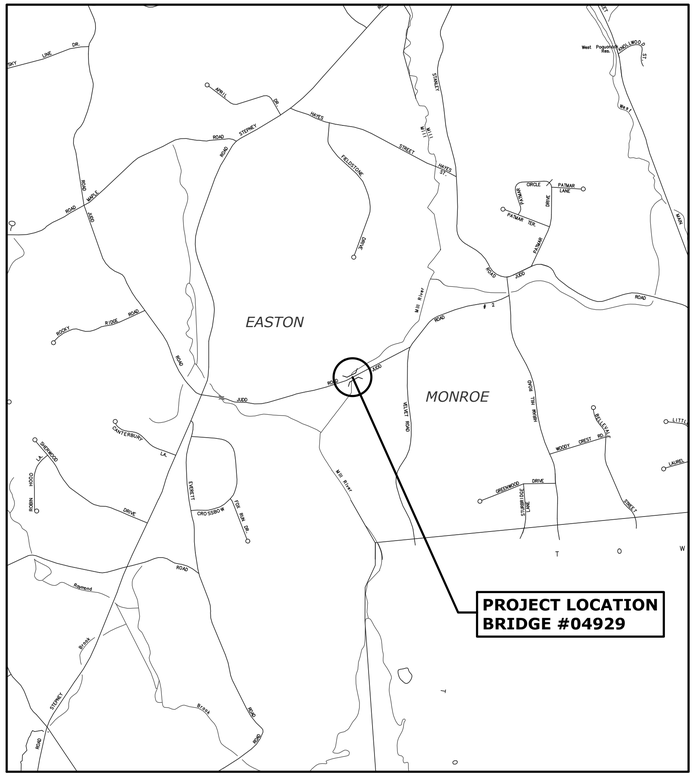
TOWN OF MONROE & EASTON, CONNECTICUT

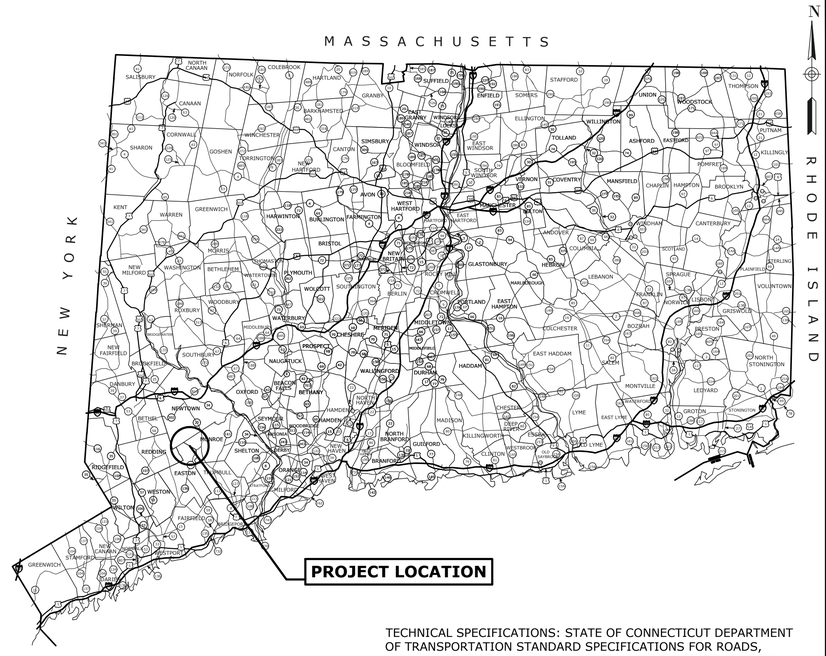
PLAN FOR
REPLACEMENT OF JUDD ROAD BRIDGE
OVER MILL RIVER

BRIDGE #04929
ROADWAY RECONSTRUCTION
TO BE MAINTAINED BY THE TOWN OF MONROE

LOTCIP PROJECT NUMBER: L084-0002



LOCATION MAP
NOT TO SCALE



ROAD CLASSIFICATION: MINOR COLLECTOR
DESIGN SPEED: 30 MPH (POSTED)
ADT: 380 V.P.D.
ROADSIDE CLEAR ZONE: 10' MIN.

TECHNICAL SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION (FORM 818 DATED 2020) AND ALL LATEST SUPPLEMENTAL SPECIFICATIONS DATED JULY 2023 OR LATEST AT THE TIME OF BID THERETO, AS WELL AS ANY SPECIAL PROVISIONS BY THE TOWN OF MONROE.

DESIGN STANDARDS: AASHTO POLICY ON THE GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, DATED 2004 AND THE CONNECTICUT DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL DATED 2003. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (AASHTO NINETH EDITION), DATED 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL DATED 2003.

SURVEY: ALL COORDINATES ON THE PROJECT ARE BASED ON 1983 N.A.D. ALL ELEVATIONS ARE BASED ON 1988 N.A.V.D.

CONNECTICUT DEPARTMENT OF TRANSPORTATION OR TOWN OF MONROE BIDDING AND OTHER INFORMATION AND DOCUMENTS WHICH ARE OBTAINED THROUGH THE INTERNET, WORLD WIDE WEB SITES OR OTHER SOURCES ARE NOT TO BE CONSTRUED TO BE OFFICIAL INFORMATION FOR THE PURPOSES OF BIDDING OR CONDUCTING OTHER BUSINESS WITH THE TOWN OF MONROE AND EASTON.

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE TOWN OF MONROE AND EASTON.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE TOWN OF MONROE TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICIAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

DESIGNED BY WMC CONSULTING ENGINEERS

SUBMITTED BY _____ DATE _____

DATE: 03/08/2024

LIST OF DRAWINGS

SHEET NO.	TITLE
1	TITLE SHEET
2	DETAILED ESTIMATE SHEET
3	DETOUR PLAN
4	EXISTING CONDITIONS PLAN
5	ROADWAY PLAN
6	ROADWAY PROFILE
7	ROADWAY DETAILS
8-10	ROADWAY CROSS SECTONS
11	HANDLING WATER PLAN
12	EROSION AND SEDIMENTATION CONTROL DETAILS
13	STRUCTURE SECTION AND ELEVATION
14	STRUCTURE LAYOUT
15	BORING LOGS
16	ABUTMENT NO. 1 PLAN AND ELEVATION
17	ABUTMENT NO. 2 PLAN AND ELEVATION
18	WINGWALL PLANS AND ELEVATIONS
19	FRAMING AND DECK PLAN
20	REBAR STRUCTURE DETAILS
21	PRESTRESSED CONCRETE DECK UNITS
22	MISCELLANEOUS STRUCTURE DETAILS
23-24	3 TUBE CURB MOUNTED BRIDGE RAIL DETAILS
25	THRIE-BEAM ATTACHMENT DETAILS

STANDARD DRAWINGS

DWG. NO.	TITLE
HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB
HW-910_20	MASH W-BEAM HARDWARE
HW-910_21	METAL BEAM RAIL (R-B MASH) GUIDERAIL
HW-910_26	THRIE-BEAM ATTACHMENT HARDWARE
HW-910_27	THRIE-BEAM ATTACHMENT
HW-911_01	R-B END ANCHORAGE TYPE I AND II
TR-1205_01	DELINEATION, DELINEATORS AND OBJECT MARKER DETAILS
TR-1208_01	SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS
TR-1208_02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS
TR-1210_04	PAVEMENT MARKING LINES AND SYMBOLS
TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS
TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

STANDARD CONVENTIONS

North Arrow W/No. Coor. — Grid Arrow

Edge Of Road
Concrete Pavement
Dirt Road
B.C.L.C.
Concrete Curb
Guide Rail
Concrete Median Barrier
Bit. Walk
Conc. Sidewalk
Railroad Tracks
Chain Link Fence
Rustic Fence
Pipe Fence
Board Fence
Water Edge
Stream
Ditch
TOWN LINE
Boring Location

Limit Of Marsh
Stone Wall
Ledge Outcrop
Connecticut Wetland Limits
Federal Wetlands Limits
STATE LINE
Power Line
Swamp
Building
Transmission Tower
Riprap
Hedge Row
Tree Line
Shrub
Evergreen Tree
Deciduous Tree
Highway Line
Street Line
Property Line
Lot Line
Easement Line

LEGEND:

Iron Pin (Found)
Monument (Found)
Sign
Manhole
"C" Catch Basin
"C-L" Catch Basin
Utility Pole
Light Pole
Metal Post
Guy Anchor
Water Gate
Gas Valve
Gas Meter
Mail Box
Underground Piping (San.,Stm.)
E — U/G Elec. Line
W — Water Line
OHW — Overhead Utilities
T — U/G Tele. Line
Property Line
100 — Contour Line
Wetlands Boundary
WF #69 — Wetlands Flag
WF #69 OHW — Ordinary High Water

THE INFORMATION INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN OF MONROE IS NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

WHEREVER THE PAY UNITS IN THE LEFT COLUMN APPEAR ON THE DETAILED ESTIMATE SHEET, THEY SHALL BE CONSTRUED TO MEAN THE EQUIVALENT PAY UNITS IN THE RIGHT COLUMN ON THE PROPOSAL FORM.

c.y.	C.Y.
l.f.	L.F.
ton	TON
s.y.	S.Y.
lb.	LB.
s.f.	S.F.
gal.	GAL.
c.f.	C.F.
c.i.	C.I.

FOR THE CONSTRUCTION OF REPLACEMENT OF BRIDGE NO. 04929, JUDD ROAD BRIDGE OVER MILL RIVER IN THE TOWN OF MONROE AND EASTON, CONNECTICUT

ROADWAY ITEMS

ITEM NUMBER	0201001	0202000	0202200	0202529	0209001	0212000	0219001	0305001	0406170	0406171	0406194A	0406236	0703011A	0822100.01	0910030	0910300	0911924	0944000	0950005	0969060A	0970007	0971001A	0975004	0976002	0977001	0979003	0980020	1205216	1208931	1210102	1220027
ITEM DESCRIPTION	CLEARING AND GRUBBING	EARTH EXCAVATION	CHANNEL EXCAVATION-EARTH	CUT BITUMINOUS CONCRETE PAVEMENT	FORMATION OF SUBGRADE	SUBBASE	SEDIMENTATION CONTROL SYSTEM	PROCESSED AGGREGATE	HMA S1	HMA S0.5	JOINT AND CRACK SEALING OF BITUMINOUS CONCRETE PAVEMENT	MATERIAL FOR TACK COAT	INTERMEDIATE RIPRAP	TEMPORARY TRAFFIC BARRIER	THRIE BEAM BRIDGE ATTACHMENT	METAL BEAM RAIL (R-B MASH)	R-B END ANCHORAGE - TYPE II	FURNISHING AND PLACING TOPSOIL	TURF ESTABLISHMENT	CONSTRUCTION FIELD OFFICE (SMALL)	TRAFFICPERSON (UNIFORMED FLAGGER)	MAINTENANCE AND PROTECTION OF TRAFFIC	MOBILIZATION AND PROJECT CLOSEOUT	BARRICADE WARNING LIGHT-HIGH INTENSITY	TRAFFIC CONE	CONSTRUCTION BARRICADE TYPE III	CONSTRUCTION SURVEYING	TYPE DE-7C DELINEATOR	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)	4" YELLOW EPOXY RESIN PAVEMENT MARKING	CONSTRUCTION SIGNS
UNIT	L.S.	C.Y.	C.Y.	L.F.	S.Y.	C.Y.	L.F.	C.Y.	TON	TON	L.F.	GAL.	C.Y.	L.F.	EA.	L.F.	EA.	S.Y.	S.Y.	MO.	HR.	L.S.	L.S.	DAY	EA.	EA.	L.S.	EA.	S.F.	L.F.	S.F.
TOTAL	1	460	20	50	390	110	415	20	140	95	50	100	20	40	4	55	4	380	380	9	80	1	1	1080	20	4	1	6	5	420	285
TOTAL	1	460	20	50	390	110	415	20	140	95	50	100	20	40	4	55	4	380	380	9	80	1	1	1080	20	4	1	6	5	420	285

STRUCTURE ITEMS

ITEM NUMBER	0202216A	0203202	0204151A	0213100	0216000	0406171	0406173	0406236	0406303A	0406312A	0503001	0514201	0514217	0520036A	0521001	0601062	0601064	0601088A	0601118	0601121	0601123	0601504	0602030	0706001	0706002	0706003	0706004	0707009A	0708001	0819002A	0904051A	0974001
ITEM DESCRIPTION	EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL	STRUCTURE EXCAVATION-EARTH (EXCLUDING COFFERDAM AND DEWATERING)	HANDLING WATER	GRANULAR FILL	PERVIOUS STRUCTURE BACKFILL	HMA S0.5	HMA S0.25	MATERIAL FOR TACK COAT	SAWING AND SEALING JOINTS	GUTTER LINE SEALING FOR BRIDGES	REMOVAL OF SUPERSTRUCTURE	PRESTRESSED DECK UNITS (3'-0" X 1'-0")	PRESTRESSED DECK UNITS (4'-0" X 1'-0")	ASPHALTIC PLUG EXPANSION JOINT SYSTEM	ELASTOMERIC BEARING PADS	FOOTING CONCRETE	ABUTMENT AND WALL CONCRETE	CONCRETE FORM LINERS	BRIDGE DECK CONCRETE	PARAPET CONCRETE	APPROACH SLAB CONCRETE	1" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES	DEFORMED STEEL BARS - GALVANIZED	MICROPILES	VERIFICATION TEST FOR MICROPILES	PROOF TEST FOR MICROPILES	MICROPILE LENGTH ADJUSTMENT	MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)	DAMPPROOFING	PENETRATING SEALER PROTECTIVE COMPOUND	3 TUBE CURB MOUNTED BRIDGE RAIL	REMOVAL OF EXISTING MASONRY
UNIT	C.Y.	C.Y.	L.S.	C.Y.	C.Y.	TON	TON	GAL.	L.F.	L.F.	L.S.	L.F.	L.F.	C.F.	C.I.	C.Y.	C.Y.	S.F.	C.Y.	L.F.	C.Y.	S.F.	LBS.	EA.	EA.	EA.	L.F.	S.Y.	S.Y.	S.Y.	L.F.	C.Y.
TOTAL	10	275	1	25	105	30	15	40	55	110	1	38	228	25	8316	5	70	230	30	110	40	35	22900	14	2	2	60	205	65	40	85	110
TOTAL	10	275	1	25	105	30	15	40	55	110	1	38	228	25	8316	5	70	230	30	110	40	35	22900	14	2	2	60	205	65	40	85	110

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NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

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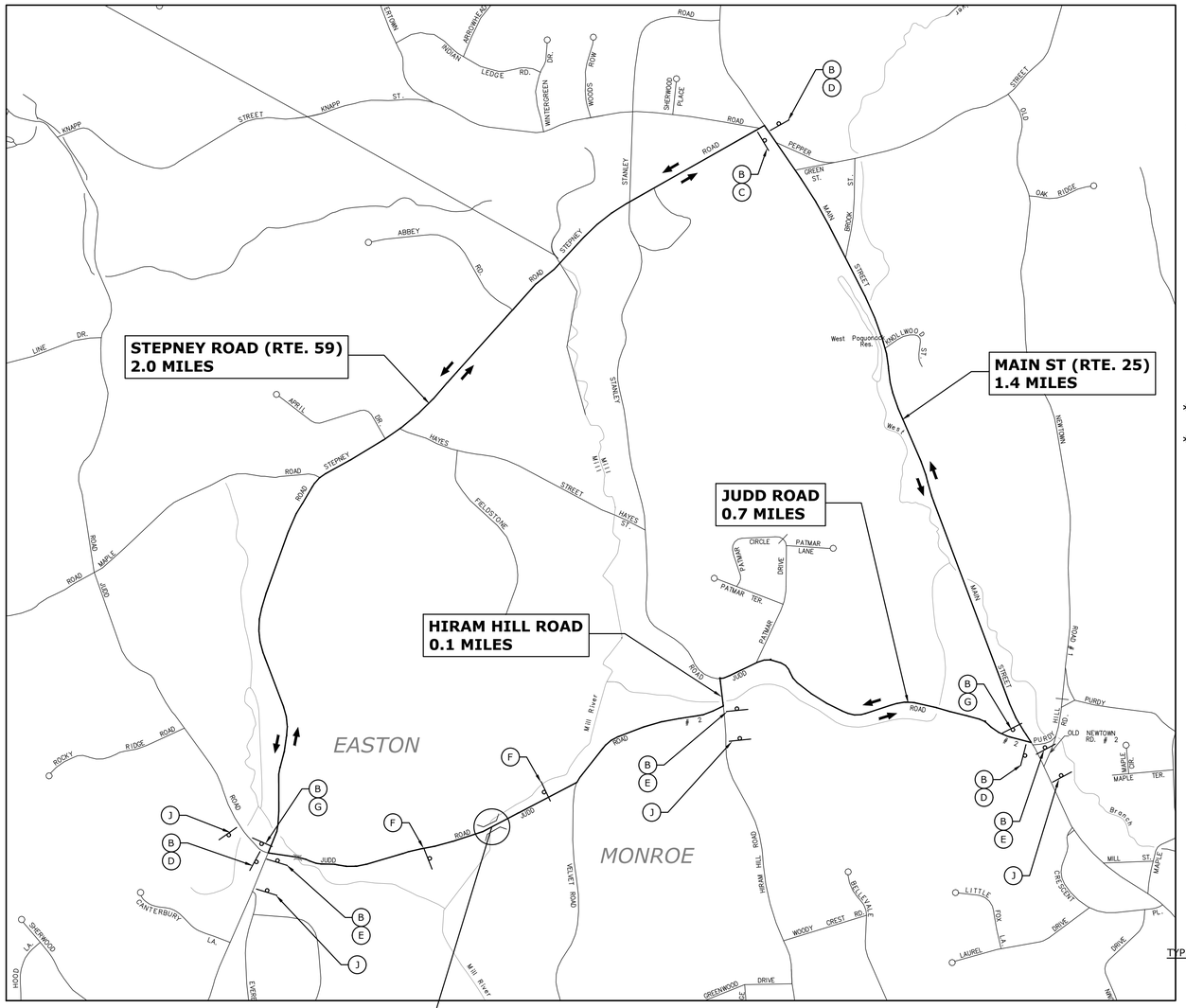
(860) 667-9624

PREPARED FOR
TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
DETAILED ESTIMATE SHEET

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		2	25



DETOUR PLAN
NOT TO SCALE

JUDD ROAD BRIDGE REPLACEMENT CONSTRUCTION SIGNING

	SIGN	CONNDOT	DIMENSION	DESCRIPTION	NO. REQ.'D
*	A	80-9929	72" X 48"	JUDD ROAD BRIDGE CLOSED TO THRU TRAFFIC FROM 00/00 TO 00/00	2
	B	80-9919	30" X 10"	JUDD ROAD	9
	C	80-9710	30" X 24"	DETOUR (RIGHT ARROW)	1
	D	80-9710	30" X 24"	DETOUR (LEFT ARROW)	3
	E	80-9710	30" X 24"	DETOUR (STRAIGHT ARROW)	3
	F	80-9078	60" X 30"	BRIDGE CLOSED 200 FEET AHEAD. LOCAL TRAFFIC ONLY	2
	G	80-9708	24" X 18"	END DETOUR	2
	H	31-0552	30"	STOP	2
**	I	80-9080	48" X 30"	ROAD CLOSED	2
**	J	80-9928	60" X 30"	JUDD ROAD CLOSED TO THRU TRAFFIC	3

* INDICATES SIGNS TO BE VISIBLE AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION AND THEN COVERED OR REMOVED DURING CONSTRUCTION (SEE NOTE 7, THIS SHEET).
** INDICATES SIGNS MOUNTED ON TYPE III CONSTRUCTION BARRICADES WHICH SHALL BE INSTALLED WITH BARRICADE WARNING LIGHT - HIGH INTENSITY.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

1. SIGNS LOCATIONS ARE APPROXIMATE AND SHALL BE ADJUSTED AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.

2. THE CONTRACTOR SHALL CLOSE JUDD ROAD DURING THE ALLOWABLE PERIOD FOR OF THE REPLACEMENT OF BRIDGE 04929 AND ROADWAY CONSTRUCTION. REFER TO SECTION 1.08.04 - PROSECUTION AND PROGRESS - LIMITATION OF OPERATIONS.

3. ALL TRAFFIC OVER JUDD ROAD SHALL BE DETOURED TO HIRAM HILL STREET, JUDD ROAD, MAIN STREET AND STEPNEY ROAD.

4. TEMPORARY TRAFFIC BARRIERS SHALL BE PROVIDED AT BOTH ENDS OF THE WORK AREA TO ADEQUATELY WARN AND PROHIBIT MOTORISTS AND PEDESTRIANS FROM USING THE BRIDGE DURING CONSTRUCTION. THE BARRIERS SHALL EXTEND ACROSS THE FULL WIDTH OF THE EXISTING ROADWAY AND BEYOND. THE CONTRACTOR SHALL ALSO PROVIDE MOVEABLE TYPE III CONSTRUCTION BARRICADE IN FRONT OF THE TEMPORARY TRAFFIC BARRIERS, OR AS ORDERED BY THE ENGINEER, TO FURTHER ENSURE MOTORIST AND PEDESTRIAN SAFETY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE UPRIGHT STABILITY OF THE TYPE III CONSTRUCTION BARRICADES AT ALL TIMES.

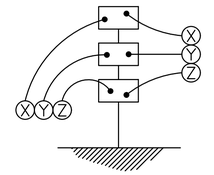
5. ALL TRAFFIC CONTROL AND PROTECTION DEVICES, INCLUDING PAVEMENT MARKINGS, SHALL BE IN PLACE BEFORE RESPECTIVE CONSTRUCTION OPERATION COMMENCES.

6. ALL TEMPORARY TRAFFIC BARRIERS TO HAVE THREE (3) TYPE DE-7A DELINEATORS MOUNTED ON TOP (10' SPACING) AND REFLECTIVE TAPE ON TRAFFIC SIDE FOR THE ENTIRE LENGTH.

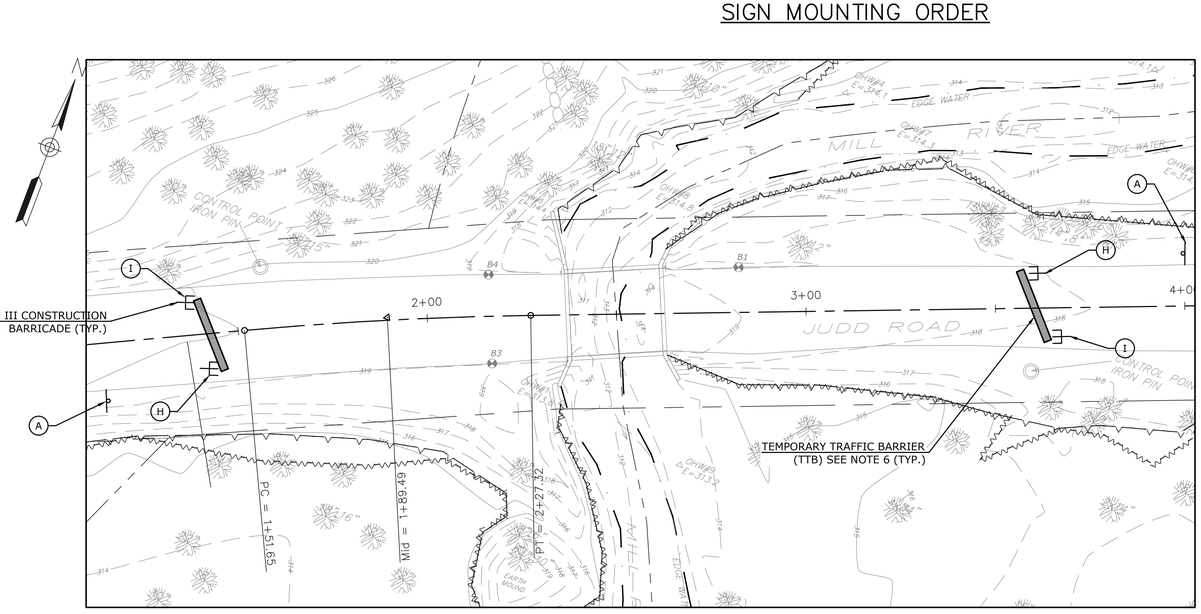
7. THE CONTRACTOR SHALL NOTIFY THE TOWN AND POST THE ADVANCE NOTICE SIGNS (SIGN A) AT LEAST 2 WEEKS PRIOR TO CLOSING THE ROAD. NOTICE TO PROCEED WILL BE GIVEN TO INSTALL THE ADVANCED NOTICE SIGNS, BUT THE ROAD MUST REMAIN OPEN UNTIL THE DATE ON THE ADVANCE NOTICE SIGNS.

8. ALL EXISTING CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHILE THE DETOUR IS IN EFFECT. ANY REMOVED SIGN SHALL BE REINSTALLED BEFORE THE BRIDGE IS REOPENED TO TRAFFIC.

9. ALL DETOUR SIGNS SHALL BE COVERED WHILE THE DETOUR IS NOT IN EFFECT.



SIGN MOUNTING ORDER



PROJECT AREA DETAIL
SCALE : 1" - 20'-0"

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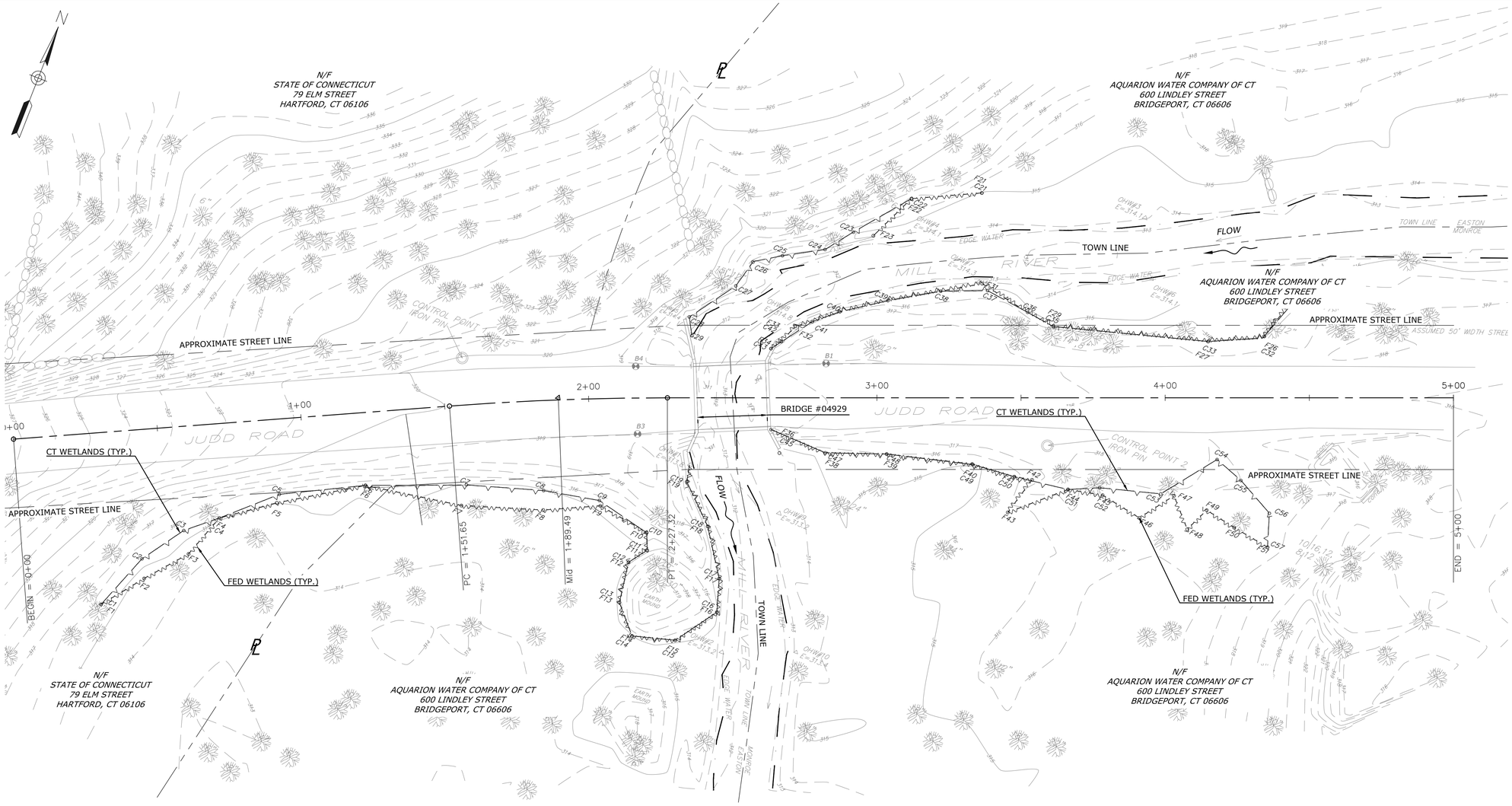
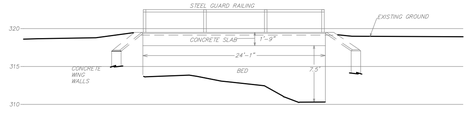
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER DETOUR PLAN

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10	–	3	25



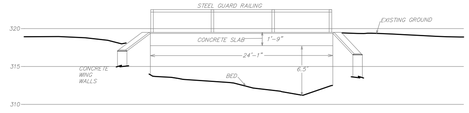
EXISTING CONDITIONS PLAN

SCALE: 1" = 20'



VIEW LOOKING UPSTREAM (DOWNSTREAM FACE OF BRIDGE)

SCALE: 1" = 10'-0"



VIEW LOOKING DOWNSTREAM (UPSTREAM FACE OF BRIDGE)

SCALE: 1" = 10'-0"

NOTES

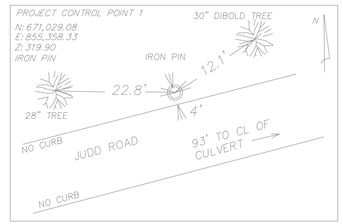
HORIZONTAL DATUM IS CT GRID 1983 NAD. VERTICAL DATUM IS 1988 NAVD. BOTH OBTAINED FROM RTK GPS READINGS. SURVEY PERFORMED IN MARCH 2023.

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT'S DEPT. OF CONSUMER PROTECTION "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26,1996. PROPERTY BOUNDARY DATA BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS D. THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY. THE TOPOGRAPHIC SURVEY CONFORMS TO A CLASS T-2 ACCURACY

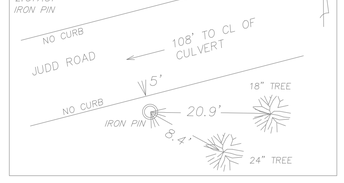
LEGEND

STONE WALL		ELECTRIC MANHOLE	E
FENCE LINE	X X	SEWER MANHOLE	S
APPRX STREET LINE		TELEPHONE MANHOLE	T
EXISTING GAS AS NOTED	G	ELEC. CABINET	
EXISTING WATER MAINS	W	LIGHT STD.	
EXISTING SEWER MAINS	S	CATCH BASINS	
EXISTING DRAINAGE PIPES	D D	SIGN	
EXISTING UNGND. ELECTRIC	E E	UTILITY POLE	
GUIDE RAIL		GAS BOX /WATER BOX	
TELEPHONE LINE	T	SIGNIFICANT TREE	
WETLANDS LIMIT	WL		

THIS MAP AND THE UTILITIES DEPICTED HEREON WERE DERIVED FROM THE BEST AVAILABLE RECORD MAPS AND MARK-OUTS AND ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED. PLEASE CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455. ALL UTILITIES MAY NOT BE DEPICTED.



HORIZONTAL DATUM IS NAD 83/87
VERTICAL DATUM IS 88 NAVD.



HORIZONTAL DATUM IS NAD 83/87
VERTICAL DATUM IS 88 NAVD.

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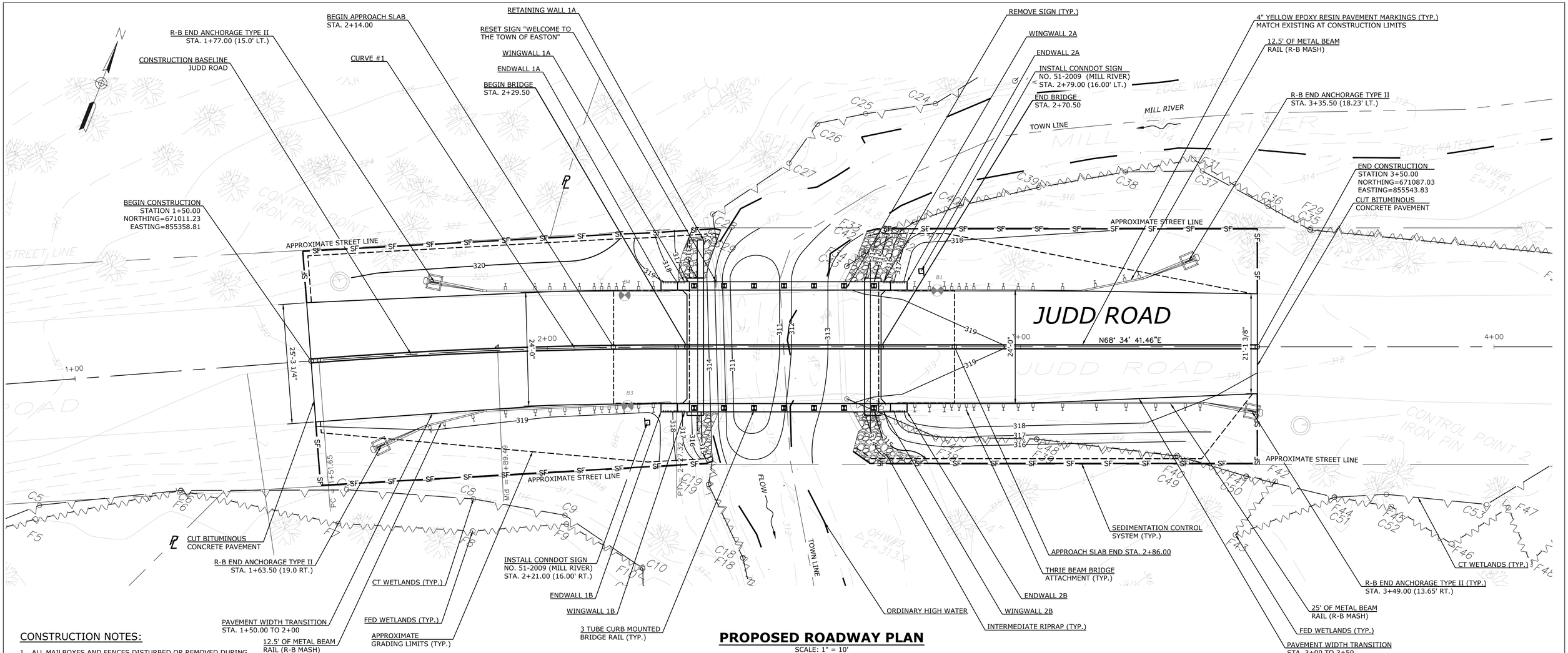
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER EXISTING CONDITION PLAN

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10 –		4	25



CONSTRUCTION NOTES:

1. ALL MAILBOXES AND FENCES DISTURBED OR REMOVED DURING CONSTRUCTION SHALL BE RESET AS NECESSARY. (PAID FOR UNDER "CLEARING AND GRUBBING".)
2. EFFLUENT FROM DEWATERED WORK AREA(S) SHOULD NOT BE DISCHARGED DIRECTLY TO THE RIVER BUT MUST BE PROCESSED THROUGH TREATMENT STRUCTURE(S). SUCH STRUCTURE(S) SHOULD NOT BE LOCATED WITHIN THE RIVER CHANNEL OR ADJACENT WETLANDS.
3. ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
4. ANY ACTIVITIES OTHER THAN THOSE SHOWN ON THE PLANS OR DETAILED IN THE WETLANDS PERMIT THAT OCCUR IN THE REGULATED WETLANDS AREA SHALL BE SUBJECT TO APPROVAL BY THE LOCAL INLAND/WETLANDS AUTHORITY OR ITS DESIGNATED REPRESENTATIVE.
5. DURING ALL PHASES OF CONSTRUCTION ACTIVITIES, ACCESS FOR THE PROPERTY OWNERS AS WELL AS ALL SERVICE VEHICLES SUCH AS MAIL, TRASH COLLECTION, FUEL DELIVERIES, ETC. SHALL BE MAINTAINED BY THE CONTRACTOR TO ABUTTING PROPERTIES WITHIN THE LIMITS OF THE WORK.
6. SURVEY INCLUDING WETLAND FLAG LOCATIONS, PERFORMED BY WILLIAM HEARN L.S..

PAVEMENT MARKING NOTES:

1. FINAL PAVEMENT MARKING SHALL BE EPOXY RESIN AND SHALL MATCH EXISTING MARKINGS AT CONSTRUCTION LIMITS.

SIGNING NOTES:

1. ALL EXISTING SIGNS WITHIN THE SIGNING LIMITS ARE TO BE REMOVED UNLESS OTHERWISE NOTED ON THE PLAN OR DIRECTED BY THE ENGINEER.
2. SIGNS TO BE INSTALLED PER TRAFFIC STANDARD SHEETS TR-1208_01AND TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS", EXCEPT AS NOTED.
3. EXACT SIGN LOCATIONS TO BE VERIFIED BY THE ENGINEER.
4. SIGNS SHALL BE PLACED NO CLOSER THAN 10 FEET FROM UTILITY POLES.

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PROPOSED ROADWAY PLAN

SCALE: 1" = 10'

APPROXIMATE BORING LOCATIONS

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

1 inch = 10 ft.

CURVE DATA	
CURVE #1	
PI N855394.39	
PI E671028.39	
L=75.67'	
Δ=4.3355	
R=1000.00'	
T=75.65'	

DESIGN DATA	
ROAD CLASS	MINOR COLLECTOR
DESIGN SPEED	30 MPH
ADT	380
RADIUS (MIN.)	1000'
e	N/A
MAXIMUM GRADE	1.25%
CROSS SLOPE	2.00%
K (SAG MIN.)	47.10
K (CREST MIN.)	30.21
STOPPING SIGHT DISTANCE	> 200 FT.

SURVEY NOTES:

HORIZONTAL DATUM:	NAD83
HORIZONTAL ACCURACY:	CLASS A-2
VERTICAL DATUM IS	NAVD88
VERTICAL ACCURACY:	CLASS T-2

NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

WMC CONSULTING ENGINEERS

• WENGELL, McDONNELL & COSTELLO •
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR

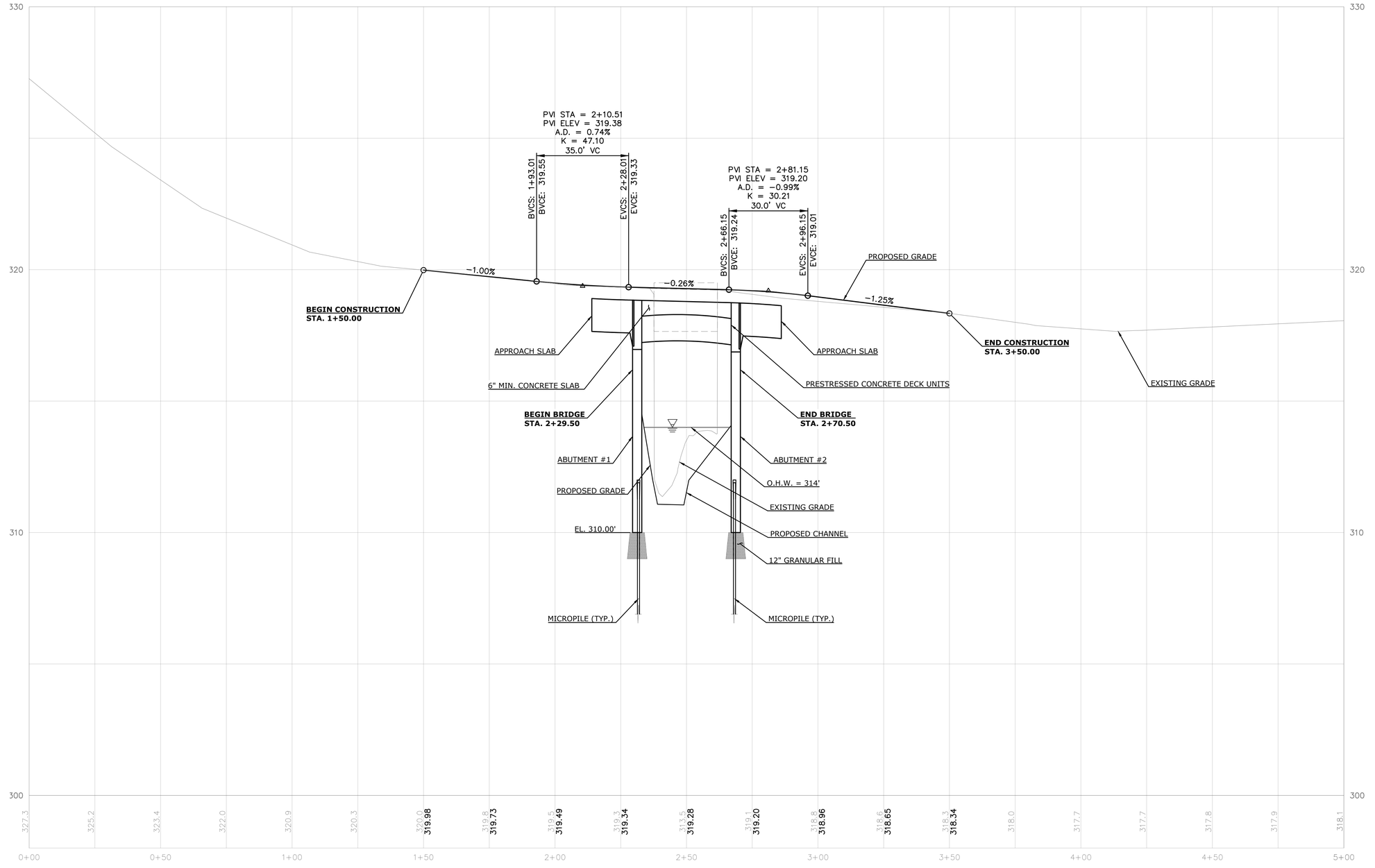
TOWN OF MONROE

7 FAN HILL ROAD

MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER ROADWAY PLAN

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		5	25



PROPOSED ROADWAY PROFILE

SCALE: 1" =20' (HORIZONTAL)
SCALE: 1"=2' (VERTICAL)

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DESIGN DATA	
ROAD CLASS	MINOR COLLECTOR
DESIGN SPEED	30 MPH
ADT	380
RADIUS (MIN.)	1000'
e	N/A
MAXIMUM GRADE	1.25%
CROSS SLOPE	2.00%
K (SAG MIN.)	47.10
K (CREST MIN.)	30.21
STOPPING SIGHT DISTANCE	> 200 FT.

SURVEY NOTES:
HORIZONTAL DATUM: NAD83
HORIZONTAL ACCURACY: CLASS A-2
VERTICAL DATUM IS NAVD88
VERTICAL ACCURACY: CLASS T-2

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NO.	DATE	DESCRIPTION

REVISIONS

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DATE	03/08/2024

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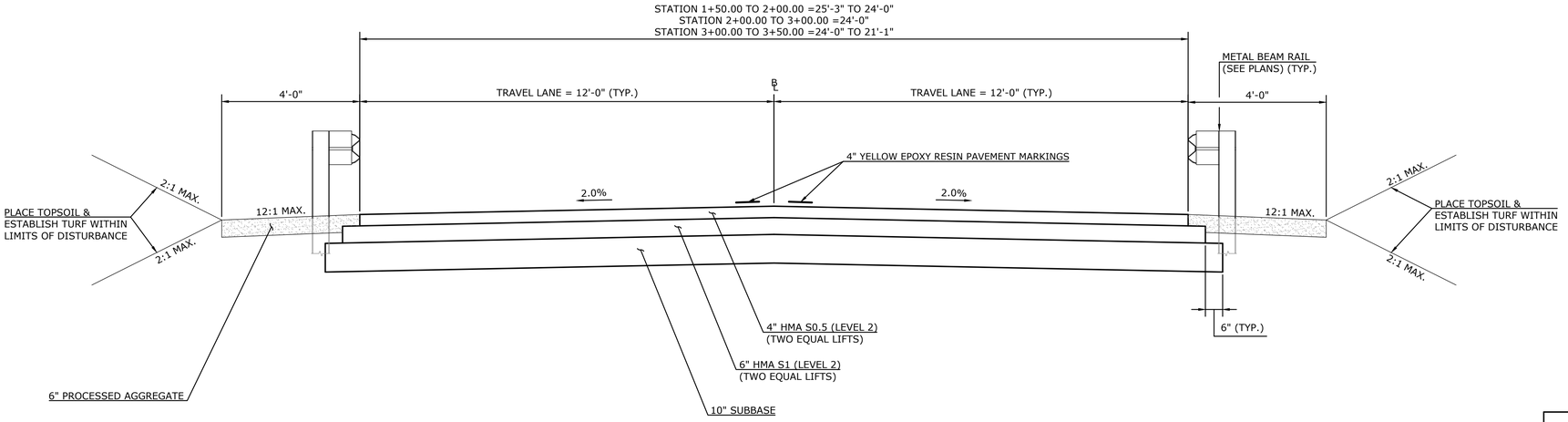
MONROE, CT 06468

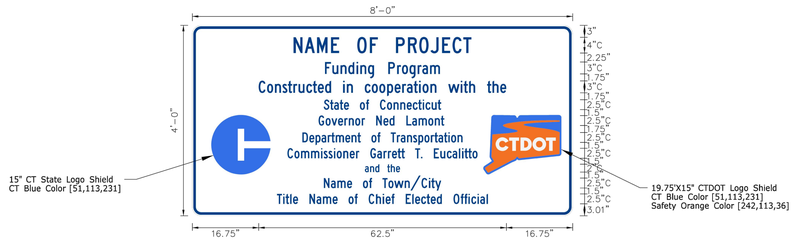
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER ROADWAY PROFILE

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		6	25



JUDD ROAD STA. 1+50.00 - 2+14.00 / 2+86.00 - 3+50.00
TYPICAL ROADWAY SECTION

SCALE: 1" =2'



FUNDING PROGRAM SIGN DETAIL

NOT TO SCALE

PROJECT FUNDING PROGRAM SIGN REQUIREMENTS:
FUNDING PROGRAM SIGN SHALL BE PAID FOR UNDER ITEM "1220027 - CONSTRUCTION SIGNS" AND ADHERE TO THE FOLLOWING REQUIREMENTS:
NAME OF PROJECT: REPLACEMENT OF JUDD ROAD BRIDGE NO. 04929 OVER MILL RIVER
FUNDING PROGRAM: LOCAL TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM
NAME OF TOWN OR CITY: TOWN OF MONROE
NAME OF CHIEF ELECTED OFFICIAL: TERRENCE P. ROONEY, FIRST SELECTMAN

SIGN PANEL:

- SIGNS SHOULD BE MADE FROM SUITABLE MATERIALS TO PERFORM EFFECTIVELY FOR A MINIMUM OF 3 YEARS. EXAMPLE OF ALLOWABLE MATERIALS INCLUDE ¾" MDO-EXT-APA PLYWOOD OR 0.125-GAUGE SHEET ALUMINUM. THE FOLLOWING TYPES OF MATERIALS SHALL NOT BE USED: MESH, NON-RIGID, ROLL-UP, CORRUGATED OR WAFFLE BOARD TYPES SUBSTRATES, FOAM CORE AND COMPOSITE ALUMINUM SIGN SUBSTRATES.
- SUITABLE ATTACHMENTS SHALL BE PROVIDED SO THAT THE SIGNS CAN BE FIRMLY ATTACHED TO THE SIGN SUPPORTS WITHOUT CAUSING DAMAGE TO THE SIGNS.
- SIGNS MAY BE PAINTED OR USE NON-REFLECTIVE PLASTIC SHEETING. PAINT SHALL BE EXTREMELY DURABLE, HIGH QUALITY, SEMI-GLOSS ENAMEL RESISTANT TO AIR, SUN AND WATER. NON-REFLECTIVE PLASTIC SHEETING SHALL BE PERMANENTLY ADHERED TO THE BACKING. THE MATERIAL SHALL WITHSTAND 3 YEARS' VERTICAL, SOUTH-FACING EXTERIOR EXPOSURE.

COLORS: ALL LETTERS AND SYMBOLS SHALL BE BLUE CODE #0000FF, RGB (0, 0, 255), PANTONE 294, OR APPROVED EQUAL. BACKGROUND SHALL BE WHITE CODE #FFFFFF, RGB (255, 255, 255), OR APPROVED EQUAL. IF PLYWOOD IS USED FOR THE SIGN PANEL, THE BACK OF THE PANEL SHALL BE PAINTED MATTE BLACK.

TYPEFACE: HELVETICA MEDIUM

SIGN SUPPORT: SIGN PANELS SHALL BE ATTACHED TO VERTICAL SIGN SUPPORT POSTS. ALL SIGN SUPPORTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS". THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGN PANEL AT 60-MPH WIND LOADING. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A MINIMUM 2-FT EMBEDMENT DEPTH BELOW THE GROUND LINE IS REQUIRED.

LOCATION:

- THE SIGNS SHALL BE INSTALLED PARALLEL TO THE TRAVELWAY, SO THEY ARE NOT EASILY VIEWABLE BY DRIVERS, AS THE SIGNS ARE NOT MUTCD COMPLIANT AND NOT INTENDED TO BE ROADWAY SIGNS.
- THE LATERAL OFFSET FROM THE EDGE OF ROAD TO THE FACE OF SIGN SHOULD BE 6-12 FEET. 12 FEET IS PREFERRED WHERE SPACE IS AVAILABLE FOR INSTALLATION. WHEN INSTALLED ON A TRAIL, THE LATERAL OFFSET SHOULD BE 2 FEET.
- THE BOTTOM OF THE SIGN SHOULD BE MOUNTED 7 FEET ABOVE THE EDGE OF ROAD.

DURATION: THE SIGNS SHALL BE ERECTED FOR THE LIFE OF THE CONSTRUCTION PROJECT. THIS MEANS THAT THEY SHOULD BE ERECTED ONLY AFTER NOTICE TO PROCEED HAS BEEN GIVEN TO THE CONTRACTOR AND SHOULD BE REMOVED WITH ALL OTHER CONSTRUCTION RELATED SIGNS AT THE END OF THE PROJECT CONSIDERED TO BE THE POINT THAT ACCEPTANCE OF THE CONSTRUCTION WORK IS GIVEN.

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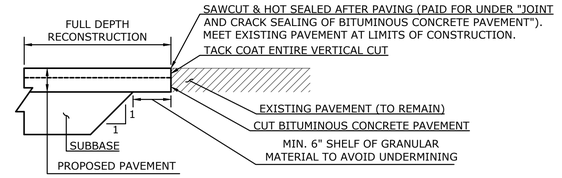
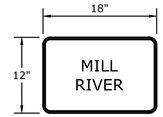


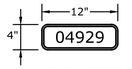
ROADWAY PAVEMENT TRANSITION DETAIL AT CONSTRUCTION LIMITS

SCALE: N.T.S.



CONNDOT SIGN NO. 51-2009

NOT TO SCALE

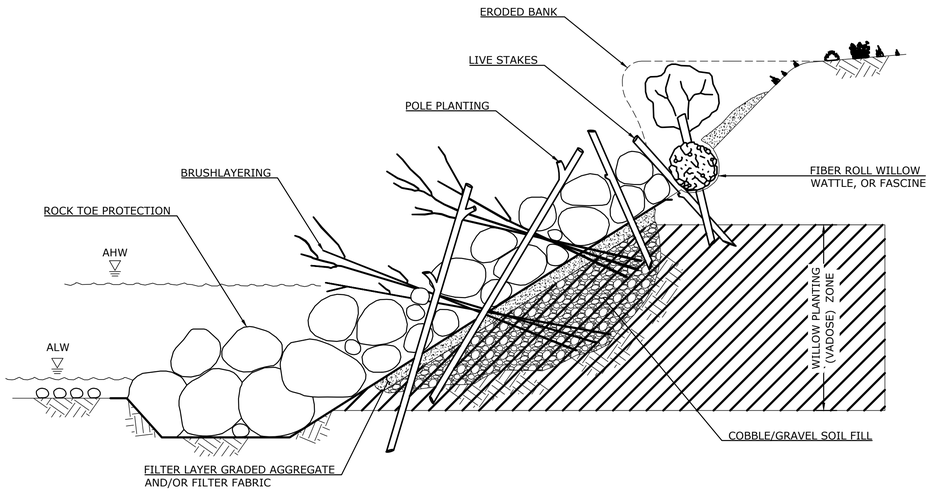


BRIDGE IDENTIFCATION PLACARD

NOT TO SCALE

SCHEDULE OF SIGNS							
CONNDOT SIGN NO.	SIZE	LEGEND	LOCATION	ALUM. THK.	POSTS	BACKGROUND COLOR	LEGEND COLOR
51-2009	18" X 12"	MILL RIVER	STA. 2+21, 16.00'± R	0.080	2	GREEN	WHITE
51-2009	18" X 12"	MILL RIVER	STA. 2+79, 16.00'± L	0.080	2	GREEN	WHITE
N/A	12" X 4"	055002	ENDWALL 1B	-	-	GREEN	WHITE
N/A	12" X 4"	055002	ENDWALL 2A	-	-	GREEN	WHITE

* NOTE: ALL COLORS SHALL BE TYPE IX RETROREFLECTIVE WITH THE EXCEPTION OF BLACK WHICH SHALL BE OPAQUE.



NOTES:

1. INSTALL WILLOW POLE PLANTING AND BRUSHLAYERING DURING BANK GRADING AND RIPRAP PLACEMENT TO ENSURE GOOD CONTACT WITH NATIVE GROUND' AND/OR SOIL FILL.
2. WILLOW POLES AND BRUSH LAYERS SHOULD EXTEND DOWN INTO EXPECTED SOIL MOISTURE ZONES (VADOSE).
3. CUT SMALL HOLES OR SLITS IN FILTER FABRIC AS NECESSARY.
4. PLACE SOIL FILL (COBBLES, GRAVEL, SOIL) AROUND CUTTINGS.
5. PLACE RIPRAP CAREFULLY, DO NOT END DUMP. SOME DAMAGE TO BRUSH LAYERS AND WILLOW POLES IS UNAVOIDABLE AND ACCEPTABLE. DEEPLY PLANTED WILLOW MATERIAL WILL REGENERATE.
6. VEGETATED RIPRAP SHALL BE PAID FOR ITEM "INTERMEDIATE RIPRAP". SEE SPECIAL PROVISION.

VEGETATED RIPRAP DETAIL

NOT TO SCALE

NO.	DATE	DESCRIPTION

REVISIONS

SUPV. K.O.E.
DESIGN E.O.D.
DRAWN P.W.S.
CHECKED K.K.
DATE 03/08/2024

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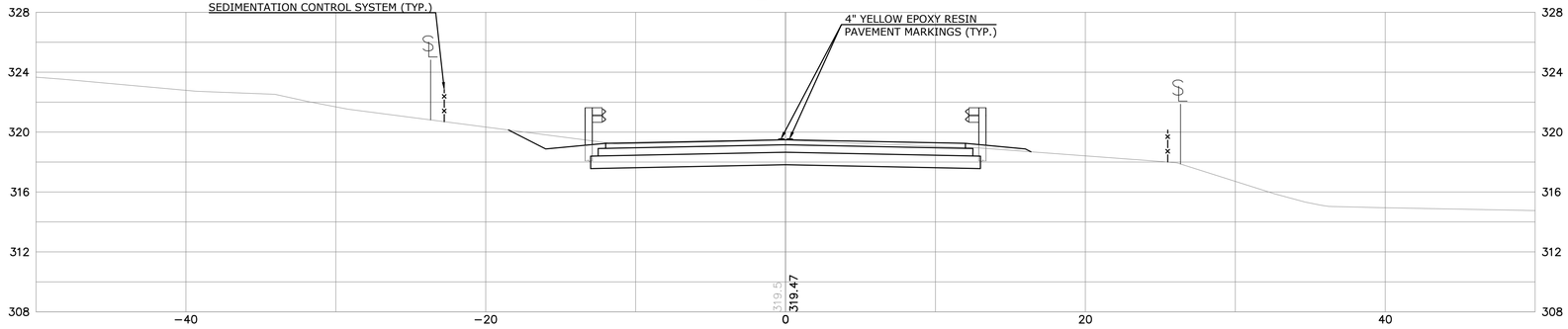
PREPARED FOR
TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER ROADWAY DETAILS

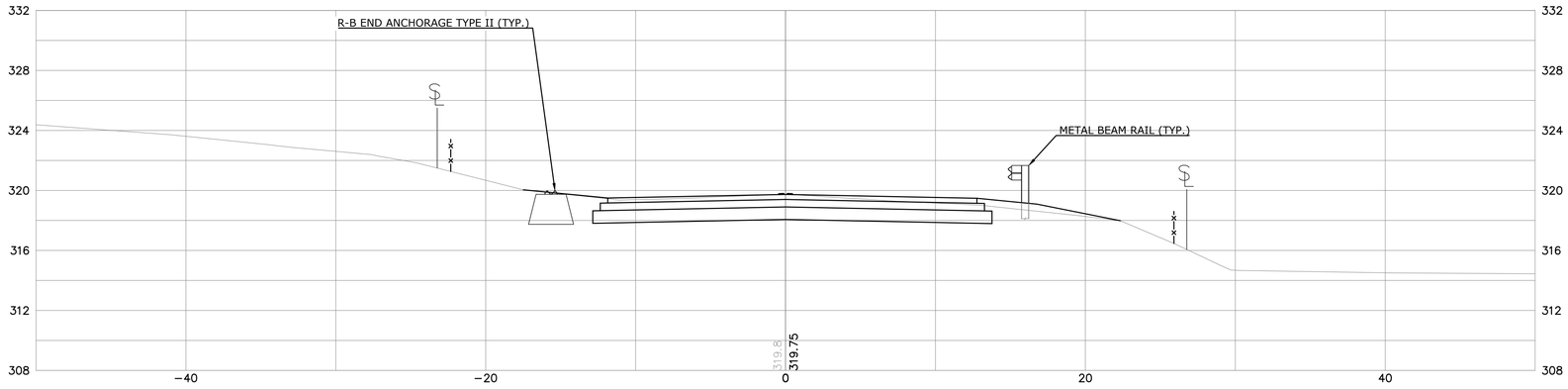
D – JUDD ROAD – F.D. – 22007.10 –
SIZE PROJECT FILE NAME NUMBER REV.

SHEET 7
OF 25

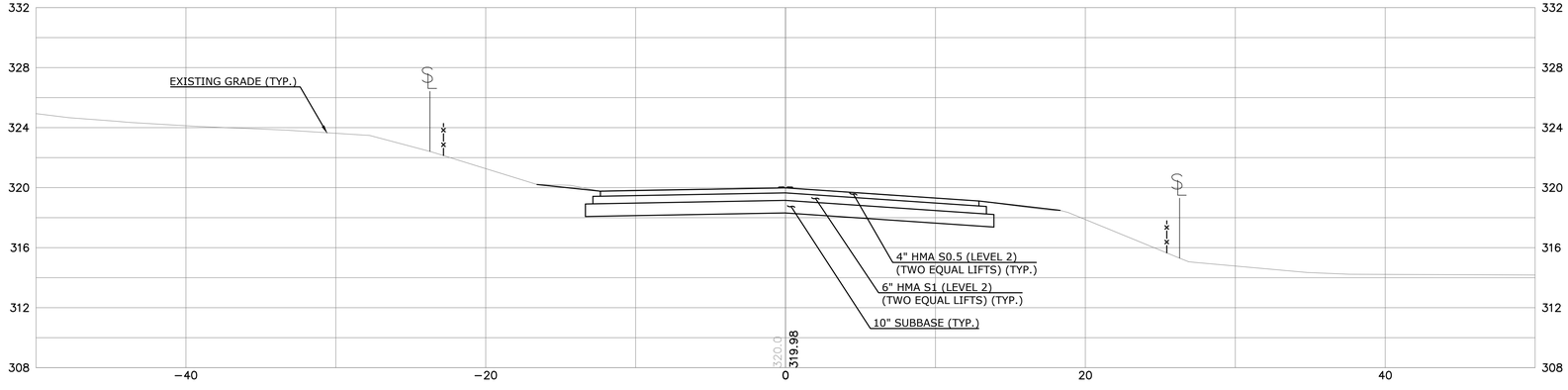
2+00



1+75



1+50



ROADWAY SECTIONS

SCALE: 1" =5'

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PREPARED FOR

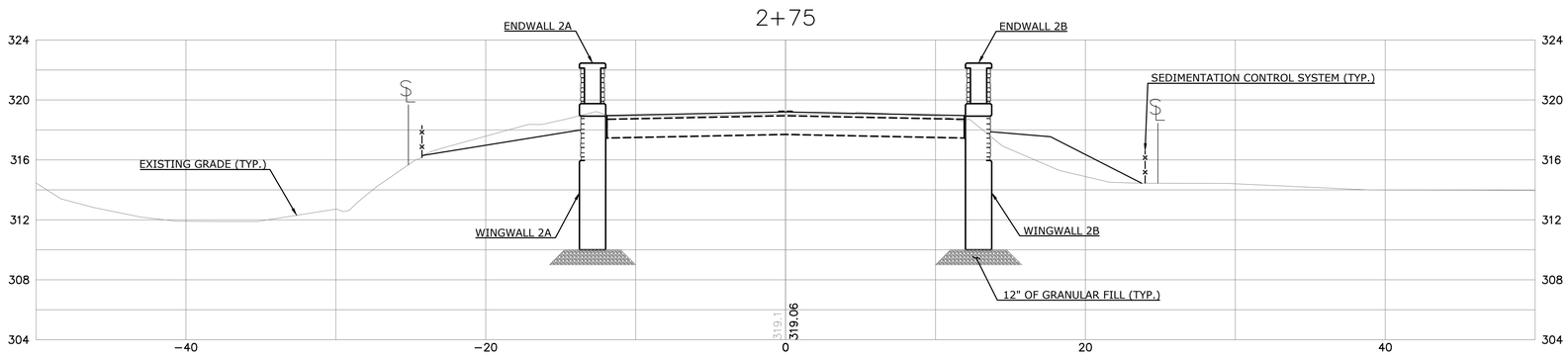
TOWN OF MONROE

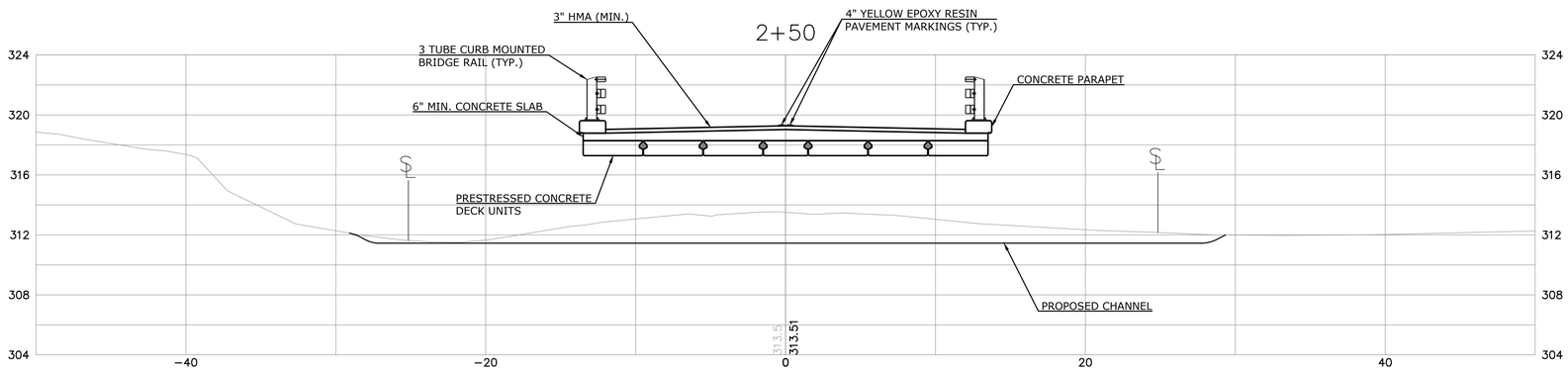
7 FAN HILL ROAD

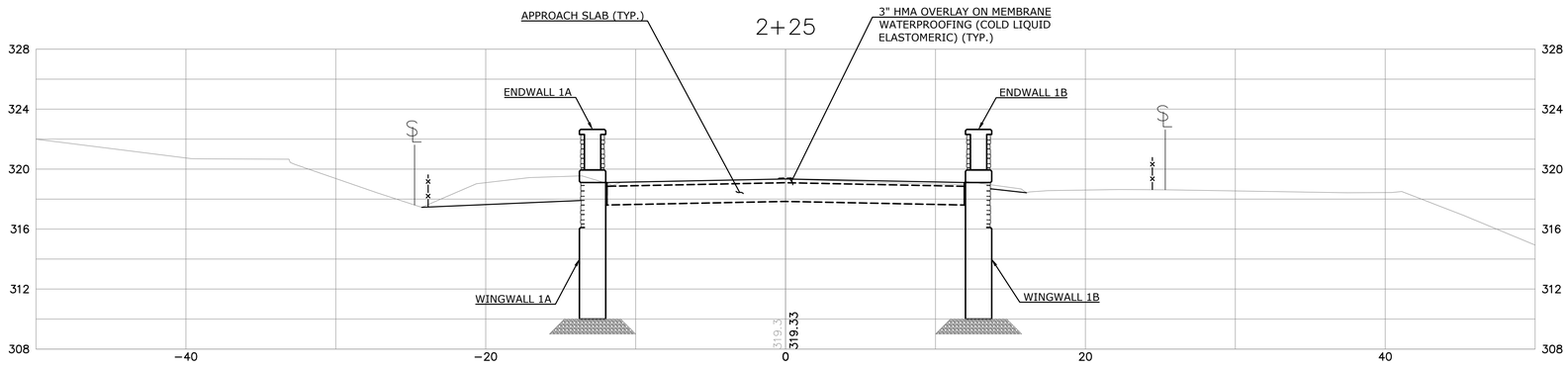
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
ROADWAY CROSS SECTIONS - 1

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D.	– 22007.10	–	8	25







ROADWAY SECTIONS

SCALE: 1" =5'

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PREPARED FOR

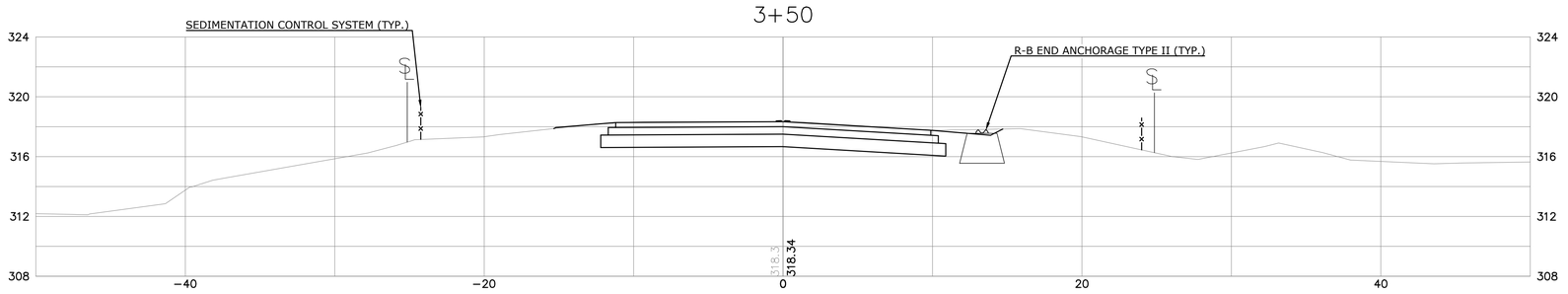
TOWN OF MONROE

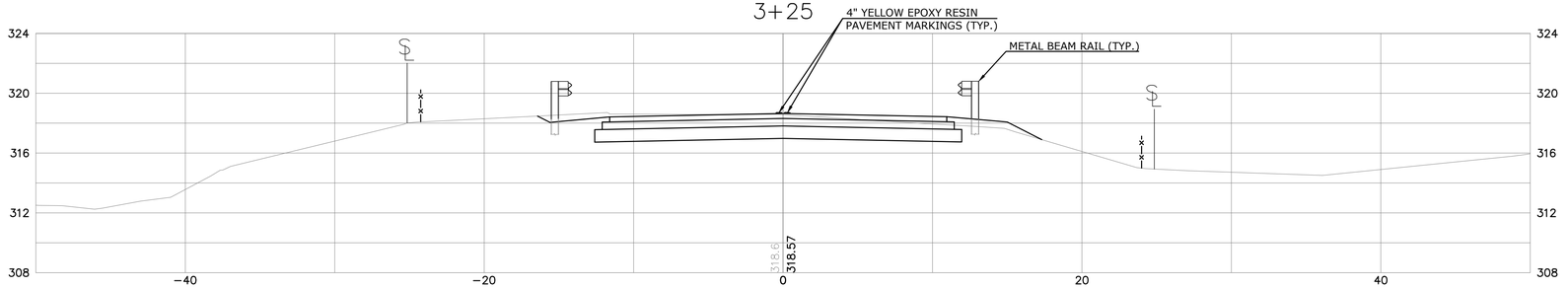
7 FAN HILL ROAD

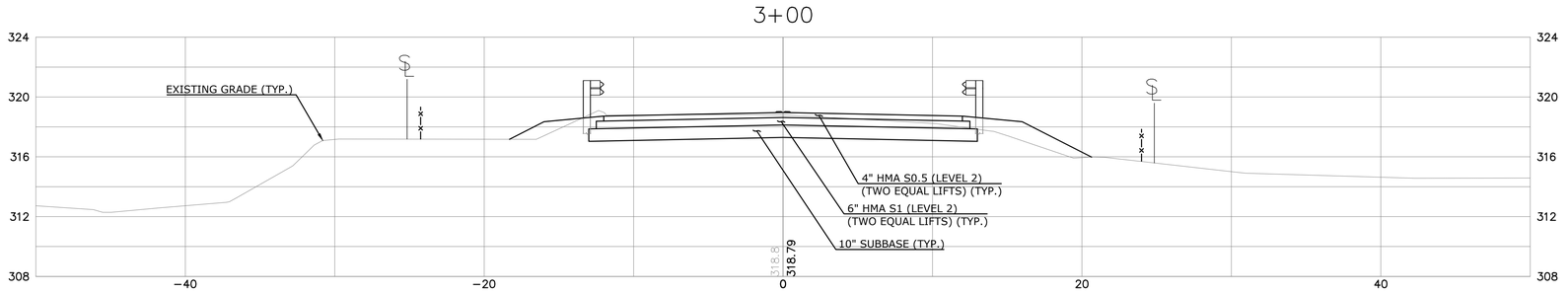
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
ROADWAY CROSS SECTIONS - 2

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10	–	9	25







ROADWAY SECTIONS

SCALE: 1" =5'

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PREPARED FOR

TOWN OF MONROE

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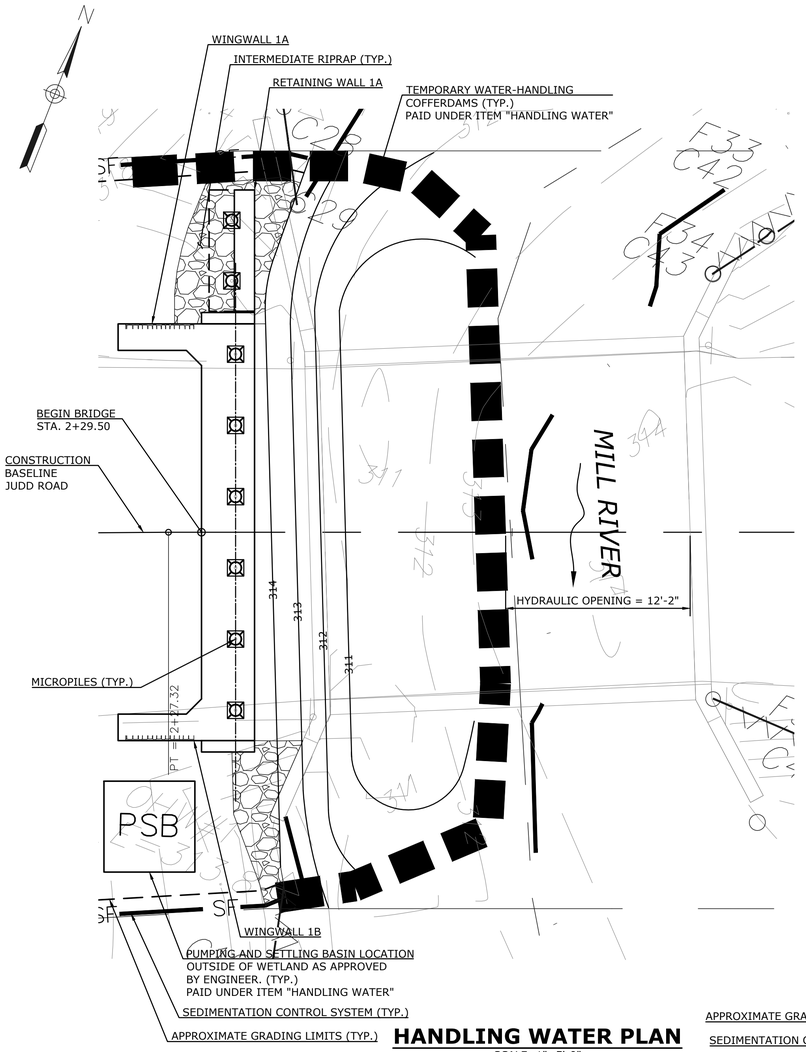
MONROE, CT 06468

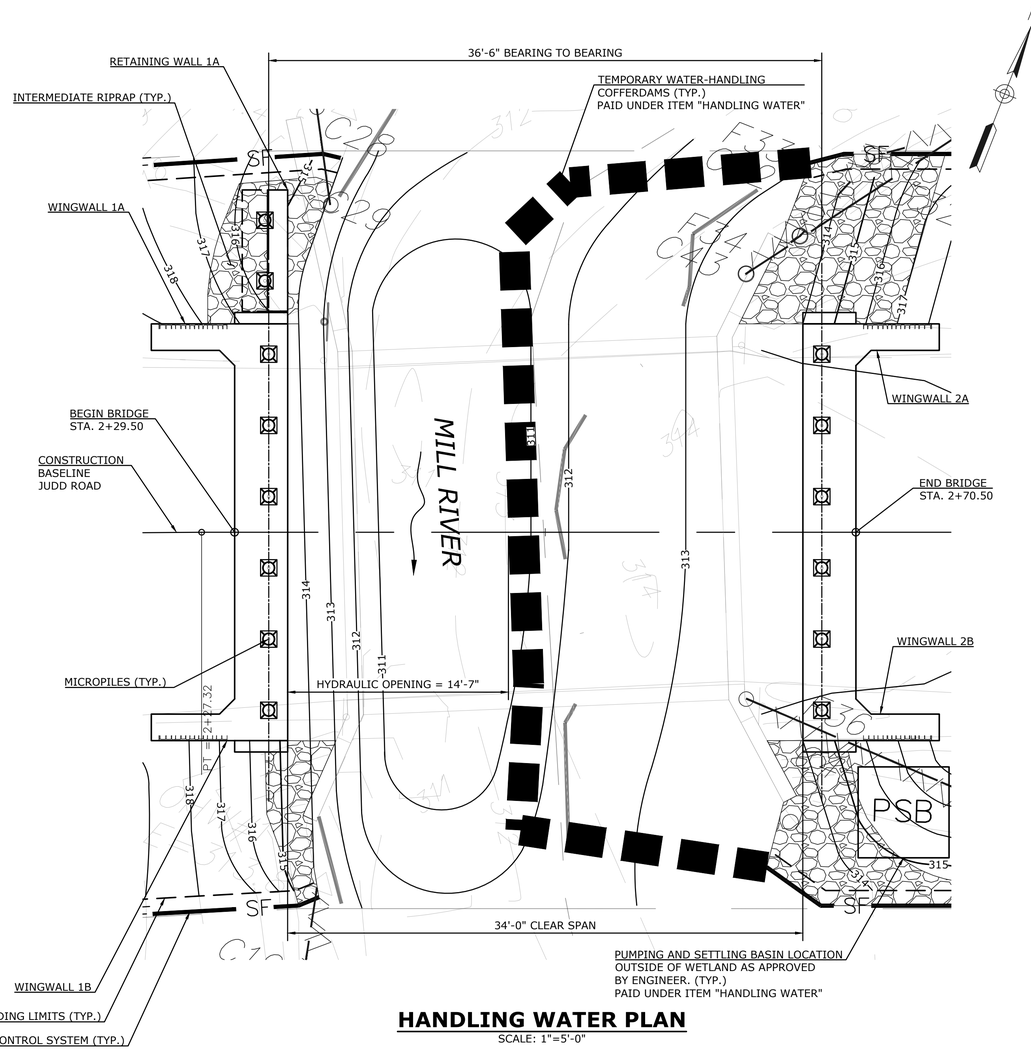
REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
ROADWAY CROSS SECTIONS - 3

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10 –		10	25



HANDLING WATER PLAN

SCALE: 1"=5'-0"



HANDLING WATER PLAN

SCALE: 1"=5'-0"

TEMPORARY HYDRAULIC DATA		
	STAGE 1	STAGE 2
AVERAGE DAILY FLOW (CFS)	5.18	5.18
AVERAGE SPRING FLOW (CFS)	10.12	10.12
2-YEAR FREQUENCY DISCHARGE (CFS)	126	126
TEMPORARY DESIGN DISCHARGE (CFS)	10.12	10.12
TEMPORARY DESIGN FREQUENCY (YEARS)	2	2
TEMPORARY WATER SURFACE ELEVATION - UPSTREAM (FEET)	313.46	312.87
TEMPORARY WATER SURFACE ELEVATION - DOWNSTREAM (FEET)	313.22	312.63

SEQUENCING NOTES:

SUGGESTED STAGE 1 CONSTRUCTION SEQUENCE NOTES:

1) MOBILIZE AND INSTALL CONSTRUCTION SIGNS.
2) INSTALL AND MAINTAIN NECESSARY EROSION AND SEDIMENTATION CONTROLS.
3) PERFORM CLEARING AND GRUBBING.
4) INSTALL TEMPORARY TRAFFIC BARRIERS AND CLOSE JUDD ROAD TO TRAFFIC.
5) INSTALL DEBRIS SHIELD UNDER THE BRIDGE AT ELEVATION 317.0'.
6) REMOVE SUPERSTRUCTURE OF EXISTING BRIDGE 04929.THE CONTRACTOR SHALL PREVENT DEBRIS, TOOLS, AND/OR OTHER MATERIALS FROM ENTERING OR DROPPING INTO THE WATERWAY ADJACENT TO THE STRUCTURE. ALL DEBRIS DROPPED INTO THE WATERWAY SHALL BE PROMPTLY CLEANED UP AND REMOVED FROM THE SITE AT THE SOLE EXPENSE OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE MUNICIPALITY.
7) INSTALL STAGE 1 WATER-HANDLING-COFFERDAMS AS SHOWN. TOP OF COFFERDAMS ELEVATION ON THE STREAM SIDE SHALL BE 314.50 FEET WHICH SHOULD PROVIDE PROTECTION FOR THE 2-YEAR FLOW DISCHARGE WITH 1 FOOT OF FREEBOARD.
8) REMOVE EXISTING WESTERN ABUTMENT, WINGWALLS, AND FOOTINGS.
9) CONSTRUCT WESTERN VERIFICATION TEST PILE, MICROPILES, ABUTMENTS WINGWALLS, AND RETAINING WALL AS SHOWN.
10) PERFORM LOW FLOW CHANNEL AND EMBANKMENT GRADING, AND INSTALL RIPRAP.
11) REMOVE STAGE 1 HANDLING COFFERDAM AND PREPARE FOR STAGE 2

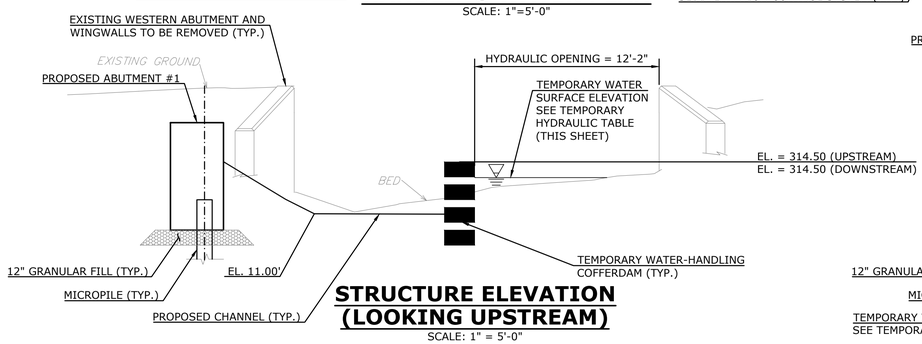
SUGGESTED STAGE 2 CONSTRUCTION SEQUENCE NOTES:

1) INSTALL STAGE 2 WATER-HANDLING-COFFERDAMS AS SHOWN. TOP OF COFFERDAMS ELEVATION ON THE STREAM SIDE SHALL BE 314.50 FEET WHICH SHOULD PROVIDE PROTECTION FOR THE 2-YEAR FLOW DISCHARGE WITH 1 FOOT OF FREEBOARD.
2) REMOVE EXISTING EASTERN ABUTMENT, WINGWALLS, AND FOOTINGS.
3) CONSTRUCT EASTERN VERIFICATION TEST PILE, MICROPILES, ABUTMENTS AND WINGWALLS AS SHOWN.
4) PERFORM LOW FLOW CHANNEL AND EMBANKMENT GRADING, AND INSTALL RIPRAP.
5) REMOVE STAGE 2 HANDLING-WATER-COFFERDAM
6) INSTALL PRESTRESSED DECK UNITS AND CONSTRUCT DECK SLAB CONCRETE, CHEEK WALLS AND END DIAPHRAGMS.
7) CONSTRUCT PARAPET, APPROACH WALL, BRIDGE RAIL, AND APPROACH SLAB.
8) INSTALL MEMBRANE WATERPROOFING AND PAVE.
9) INSTALL REMAINING GUIDERAILS, TURF ESTABLISHMENT, PAVEMENT MARKINGS AND REOPEN JUDD ROAD TO TRAFFIC. THE FINAL COURSE OF PAVEMENT SHALL BE PLACED IN ONE CONTINUOUS LIFT.
10) THE SEDIMENTATION CONTROL SYSTEM IS TO BE REMOVED AFTER IMPACTED AREAS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

TIME RESTRICTIONS:
UNCONFINED IN-STREAM: UNCONFINED IN-STREAM ACTIVITIES MUST BE LIMITED TO THE TIME PERIOD JUNE 1 THROUGH SEPTEMBER 30.

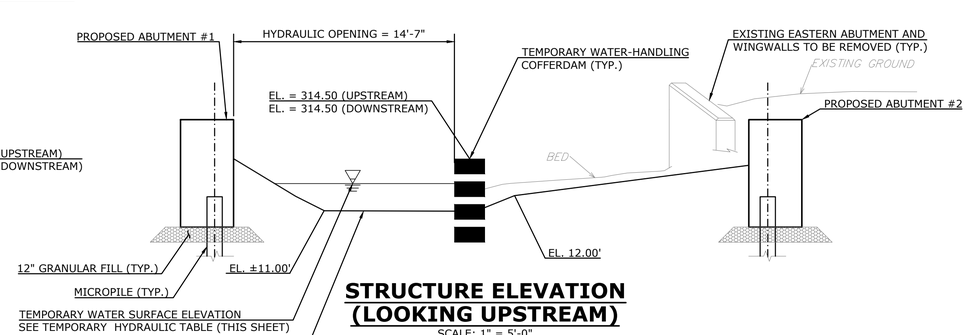
WATER HANDLING NOTES:

1. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WITHOUT APPROVAL FROM THE ENGINEER.
2. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY WATER HANDLING COFFERDAM SYSTEM AS REQUIRED DURING CONSTRUCTION OF THE NEW STRUCTURE.
3. A DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS.
4. TEMPORARY WATER HANDLING COFFERDAM SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND SHALL CONFORM TO PERMITS.
5. TEMPORARY WATER HANDLING COFFERDAM MEASURES SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE WETLAND AND FLOODPLAIN IMPACT SHEETS OF THE PERMITS.
6. ANY STORM DRAINAGE DISCHARGING INTO A CONFINED WORK AREA FROM EXISTING OR PROPOSED STORM DRAINAGE PIPES SHALL BE DIVERTED OR PUMPED OUTSIDE THE CONFINED AREAS. PUMPS/PIPES SHALL BE SIZED BY THE CONTRACTOR TO HANDLE THE EXPECTED FLOWS AND BE DISCHARGED TO A STABLE LOCATION.



STRUCTURE ELEVATION (LOOKING UPSTREAM)

SCALE: 1" = 5'-0"



STRUCTURE ELEVATION (LOOKING UPSTREAM)

SCALE: 1" = 5'-0"

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NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

WMC
CONSULTING ENGINEERS
• WENGELL, McDONNELL & COSTELLO •
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR

TOWN OF MONROE

7 FAN HILL ROAD

MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER HANDLING WATER PLAN

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10 –		11	25

1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE. ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING.

2. ATTACH THE WIRE MESH FENCING TO POST.

3. ATTACH GEOTEXTILE TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

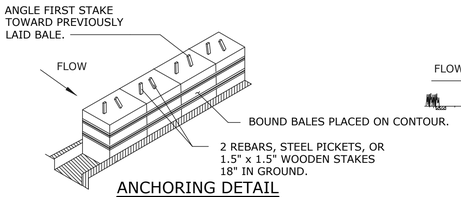
* WHEN INSTALLATION OF TRENCH IS IMPRACTICAL, ALTERNATE INSTALLATION SHALL BE TO LAY 6" FLAP HORIZONTALLY ON GROUND AND BURY FLAP BY RAMP SOIL OR STONE UP TO CONTROL FENCE. DEPTH OF RAMP SHALL BE AS REQUIRED TO HOLD DOWN FLAP WITHOUT LEAKAGE UNDER CONTROL FENCE WHILE MAINTAINING MINIMUM HEIGHT.

GEOTEXTILE FENCE SYSTEM

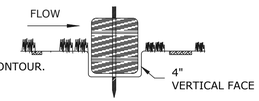
REFER TO PAGE 5-11-35 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 55 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

SEDIMENTATION CONTROL SYSTEM INSTALLATION

N.T.S.



ANCHORING DETAIL



BEDDING DETAIL

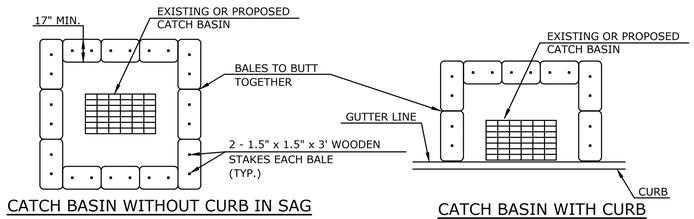
HAY BALE CONSTRUCTION SPECIFICATIONS:

1. HAY BALES SHALL BE PLACED AROUND NEWLY INSTALLED CATCH BASINS IN SAGS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REFER TO PAGE 5-11-30 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 53 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

HAY BALE DETAIL

N.T.S.



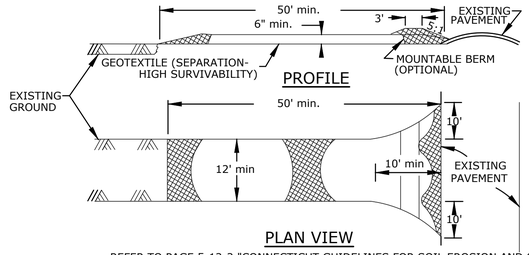
CATCH BASIN WITHOUT CURB IN SAG

CATCH BASIN WITH CURB

REFER TO PAGE 5-11-33 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 40 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

SEDIMENTATION CONTROL DETAILS

N.T.S.



PROFILE

PLAN VIEW

REFER TO PAGE 5-12-2 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 50 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

CONSTRUCTION SPECIFICATION:

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FT (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN 6".
4. WIDTH - 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. GEOTEXTILE WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SETTLING AREA SIZED TO HOLD THE VOLUME OF WATER USED DURING ANY 2-HOUR PERIOD.
9. PERIODIC INSPECTION AND NECESSARY MAINTENANCE SHALL BE PROVIDED AFTER EACH RAINFALL.
10. THE COST OF CONSTRUCTING THE STABILIZED CONSTRUCTION ENTRANCE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE GENERAL WORK.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

GENERAL

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES. REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" (2002), AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, 79 ELM STREET, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS. AN ADDITIONAL REFERENCE IS THE 1994 CONNDOT PUBLICATION "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

EROSION CONTROL

ALL AREAS SHALL BE PROTECTED FROM EROSION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENTATION CONTROL SYSTEM (I.E. HAY BALES AND/OR GEOTEXTILE FENCE). DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE. STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING. THIS MATTING IS MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TO 3 TONS PER ACRE. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. THE METHODS RECOMMENDED BY THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" SHALL BE USED FOR THE ANCHORING OF MULCH OR NETTING.

EROSION AND SEDIMENTATION CONTROL PLAN

AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF A GEOTEXTILE BARRIER FENCE. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

EROSION AND SEDIMENTATION CONTROL MAINTENANCE PROCEDURES

ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF THE REQUEST AND THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION OF CONSTRUCTION, AND AS REQUESTED BY THE RESIDENT INSPECTOR TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND BE MAINTAINED THROUGH ALL CONSTRUCTION PHASES.

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7 FAN HILL ROAD

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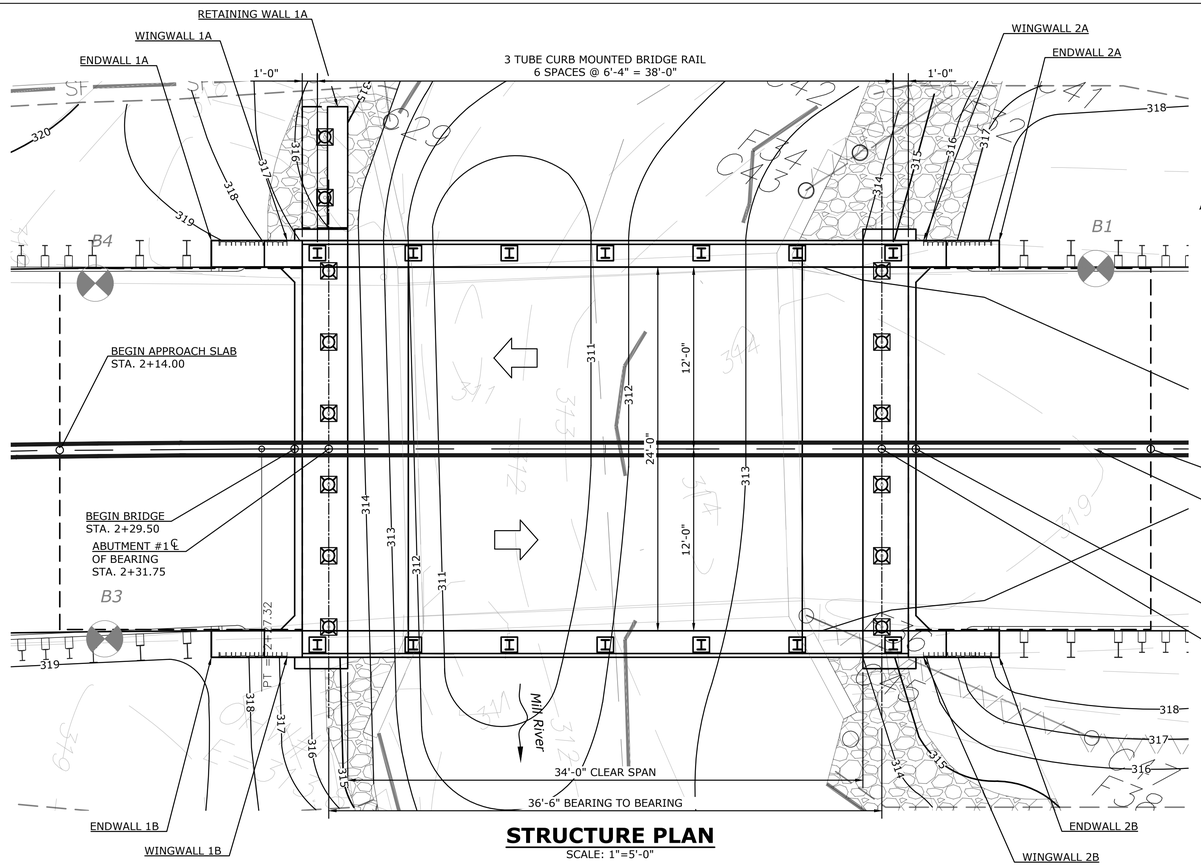
REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
EROSION AND SEDIMENTATION CONTROL DETAILS

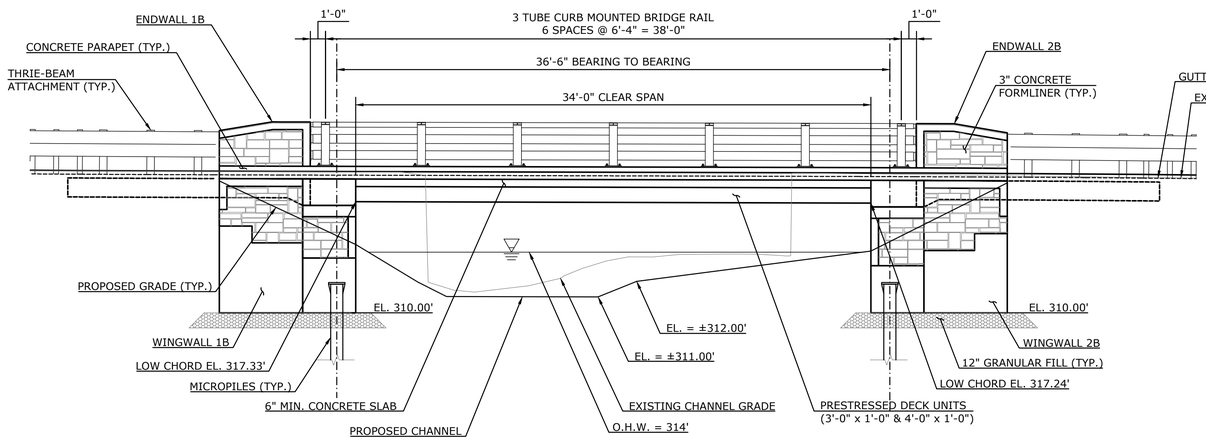
SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	F.D.	22007.10	–	12	25



STRUCTURE PLAN

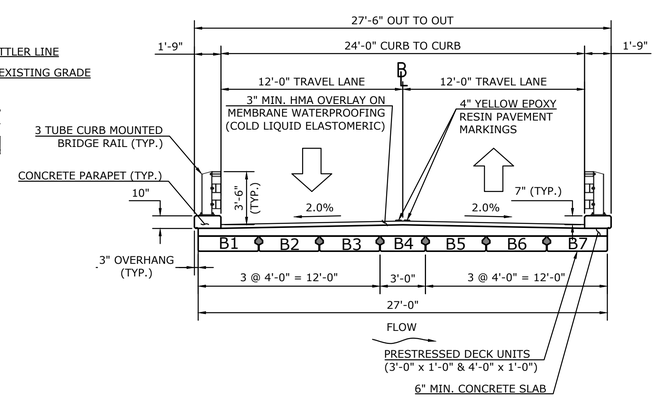
SCALE: 1"=5'-0"

APPROXIMATE BORING LOCATIONS



STRUCTURE ELEVATION (LOOKING UPSTREAM)

SCALE: 1" = 5'-0"



BRIDGE SECTION (NORMAL TO BASELINE)

SCALE: 1" = 5'-0"

NOTICE TO BRIDGE INSPECTORS	
THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS (THE LISTING OF COMPONENTS FOR SPECIAL ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF THE INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE). THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF BRIDGES AND STRUCTURES, OR NOTED BELOW.	
COMPONENT OR DETAIL	BRIDGE SHEET REF.
NONE	NONE

HYDRAULIC DATA	
DRAINAGE AREA	2.83 SQ. MILES
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	675 C.F.S.
AVERAGE DAILY FLOW ELEVATION DOWNSTREAM	312.52 FT. ESTIMATED
UPSTREAM DESIGN WATER SURFACE ELEVATION	316.15 FT.
DOWNSTREAM DESIGN WATER ELEVATION	315.54 FT.
MAXIMUM SCOUR ELEVATION	305.38 FT.
FREQUENCY	500-YEAR
DISCHARGE	950 C.F.S.
WORST CASE SCOUR SUB-STRUCTURE UNIT	ABUTMENT #2

GENERAL NOTES:

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 (2020) SUPPLEMENTAL SPECIFICATIONS DATED JULY 2023 OR LATEST AT THE TIME OF BID AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (AASHTO NINTH EDITION, DATED 2017 INCLUDING INTERIM SPECIFICATIONS UP TO 2018), AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003), UP TO AND INCLUDING 2019.

MATERIAL STRENGTHS:

CONCRETE:

CLASS PCC 03340 f'c = 3000 P.S.I.

CLASS PCC 04460 f'c = 4000 P.S.I.

CLASS PCC 04462 f'c = 4000 P.S.I.

CLASS PCC 06662 f'c = 6000 P.S.I.

THE CONCRETE STRENGTH, f'c, USED IN DESIGN OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 6.01 - CONCRETE FOR STRUCTURES, AND M.03 - PORTLAND CEMENT CONCRETE

REINFORCEMENT:

ASTM A615 GRADE 60, fy=60,000 PSI

LIVE LOAD: HL-93, LEGAL AND PERMIT VEHICLES

BITUMINOUS CONCRETE OVERLAY: SHALL CONSIST OF 2" (MIN.) HMA S0.5 ON 1" OF HMA S0.25 ON MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC).

FOUNDATION PRESSURES AND PILE LOADS: THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE GROUP LOADS AS GIVEN IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

FUTURE PAVING ALLOWANCE: NONE

DIMENSIONS: WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR REVIEW, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

SUPERSTRUCTURE REMOVAL: BEFORE INITIATING CONSTRUCTION, CONTRACTOR SHALL SUBMIT A PLAN FOR APPROVAL DEFINING METHOD FOR PROTECTION OF THE STREAM AREA DURING REMOVAL OF EXISTING BRIDGE. COST TO BE INCLUDED IN THE COST OF "REMOVAL OF SUPERSTRUCTURE".

HANDLING WATER: BEFORE INITIATING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A PLAN FOR APPROVAL THAT DEFINES METHODS AND MATERIALS FOR CONTROLLING STREAM WATER (COFFERDAMS, ETC.), DEWATERING, STRUCTURE EXCAVATION AND PROTECTING THE STREAM DURING VARIOUS STAGES OF CONSTRUCTION. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF "WATER-HANDLING-COFFERDAMS ".

UNCONFINED IN-STREAM ACTIVITY: ACTIVITIES MUST BE LIMITED TO THE TIME PERIOD BETWEEN JUNE 1 THROUGH SEPTEMBER 30.

BRIDGE IDENTIFICATION PLACARDS: THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW BRIDGE IDENTIFICATION SIGNS AT EACH LEADING AND OF THE BRIDGE ON THE TRAFFIC SIDE. THE SIGNS SHALL BE FABRICATED WITH 40 GUAGE ALUMINUM SHEET METAL. THE SIGNS SHALL BE 4" X 12" WITH 3" WHITE REFLECTIVE BLOCK LETTERS ON GREEN REFLECTIVE SHEETING. EACH SIGN SHALL READ "04929". ALL COST ASSOCIATED WITH PROVIDING AND INSTALLING THE BRIDGE SIGNS SHALL BE COVERED UNDER ITEM "SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)". THE FINAL LOCATION AND ATTACHMENT METHOD FOR THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

MASH TEST LEVEL: THE 3 TUBE CURB MOUNTED BRIDGE RAIL MEETS THE TL-4 CRITERIA FOR MASH 2016.

CONCRETE NOTES:

CONCRETE: THE FOLLOWING PAY ITEMS AND CONCRETE CLASSES ARE REQUIRED FOR CAST-IN-PLACE BRIDGE COMPONENTS:

ITEM	BRIDGE COMPONENTS	PCC CLASS
FOOTING CONCRETE	RETAINING WALL FOOTING	PCC03340
ABUTMENT AND WALL CONCRETE	WINGWALL STEMS, ABUTMENT STEMS	PCC03340
APPROACH SLAB CONCRETE	APPROACH SLABS	PCC04460
PARAPET CONCRETE	BRIDGE AND ENDWALL PARAPETS	PCC04462
BRIDGE DECK CONRETE	BRIDGE DECK CONCRETE SLAB, CHEEKWALL, END DIAPHRAGM	PCC04462

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLER IS PAID FOR AS "1" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES".

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1"X1" UNLESS DIMENSIONED OTHERWISE

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE MIN. 2" COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. THE COST OF FURNISHING AND PLACING THIS REINFORCEMENT SHALL BE INCLUDED IN THE ITEM " DEFORMED STEEL BARS-GALVANIZED."

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

TRANSPORTATION DIMENSIONS AND WEIGHT				
MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
B1, B7	38'-0"	2'-2"	4'-10"	22,189 LBS
B2, B3, B5 & B6	38'-0"	1'-3"	4'-0"	21,599 LBS
B4	38'-0"	1'-3"	3'-0"	15.899 LBS

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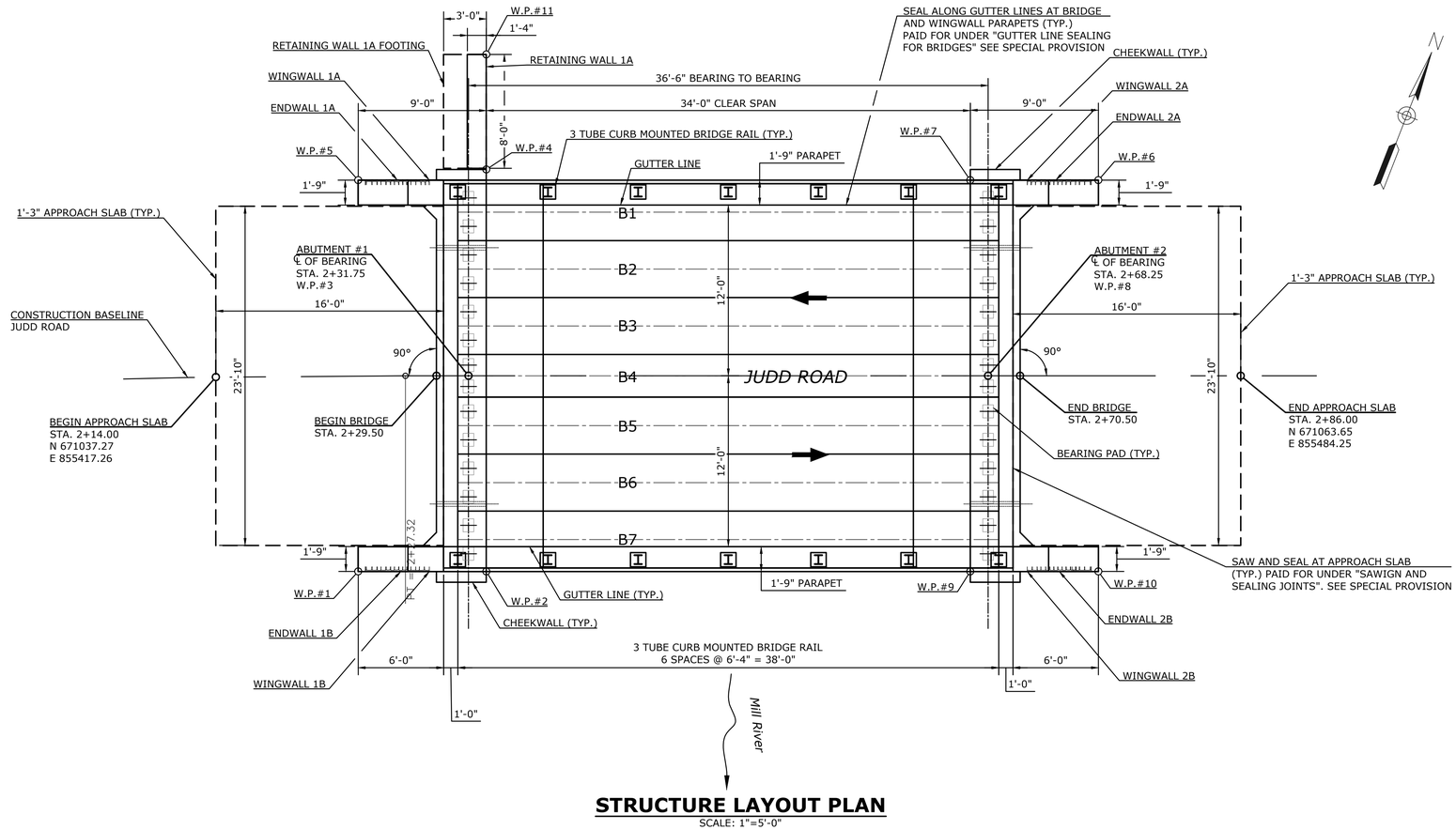
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER STRUCTURE SECTION AND ELEVATION

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10 –		13	25



STRUCTURE LAYOUT PLAN

SCALE: 1"=5'-0"

WORKING POINTS		
W.P. #	NORTHING	EASTING
1	671028.21	855431.56
2	671031.49	855439.94
3	671043.84	855433.75
4	671057.79	855429.62
5	671053.81	855421.51
6	671072.80	855469.92
7	671069.51	855461.54
8	671057.17	855467.73
9	671043.91	855471.59
10	671047.20	855479.97
11	671065.32	855426.67
12	671042.33	855426.25
13	671061.17	855474.25

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

WMC CONSULTING ENGINEERS

• WENGELL, McDONNELL & COSTELLO •
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR

TOWN OF MONROE

7 FAN HILL ROAD

MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER STRUCTURE LAYOUT

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		14	25

Jaime Lloret	**TEST BORING REPORT**		SHEET 1 OF 1
DRILLER	**ASSOCIATED BORINGS CO., INC.**		
Keegan Elder	**119 MARGARET CIRCLE, NAUGATUCK, CT 06770**		CME-55
INSPECTOR	**Tel (203) 729-5435 Fax (203) 729-5116**		DRILLING EQUIPMENT
	PROJECT NAME: Judd Road Bridge		Wengall McDonnell Costello
SOILS ENGINEER	PROJECT NUMBER:		CLIENT
Surface Elevation:	LOCATION: Monroe, Connecticut		
Date Started: 3/20/2023	Auger Type HSA	Casing	Sampler Type SS / Core Bar NV2	Hole No. **B-1**
Date Finished: 3/21/2023				Line & Station
Groundwater Observations	Size I. D. 3 1/4 in		2 in	Offset
AT 7 ' AFTER 0 HRS	Hammer		140 lb / Bit	N Coordinate
AT ' AFTER HRS	Fall		30 in	E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0 - 6	6 - 12	12-18	18-24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Br. M-F Sand, Little C-F Gravel, Little Silt Cobbles, Boulders (Fill)
5		5.0 - 7.0	1	24	3	D	12	12	14	21	7	
											9	Dk. Br. F. Sand and Silt (Possible Organic)
10		10.0 - 12.0	2	24	12	D	14	16	21	29		Br. M-F Sand, Some Silt
15		15.0 - 17.0	3	24	10	D	12	12	21	29	16	
											19	Br. M-F Sand, Some C-F Gravel, Little Silt Cored Cobbles and Boulders up to 24" in Diameter
20		20.0 - 22.0	4	24	2	D	10	14	15	20		Br. C-F Sand, Little C-F Gravel, Little Silt Cobbles
25		25.0 - 27.0	5	24	0	D	10	12	15	15		
		29.0 - 34.0	1	60	55	C					29	
30	9											Cored Run # 1 From 29.0 feet to 34.0 feet Recovery - 55" RQD - 30/60 = 50%
	10											
	12											
	9											
	10	34.0 - 39.0	2	60	58	C					34	
35	8											Cored Run # 2 From 34.0 feet to 39.0 feet Recovery - 58" RQD - 32/60 = 53%
	9											
	12											
	11											
	11										39	
40												End of Boring - 39.0

From Ground Surface to Feet Used Inch Casing Then Inch Casing For Feet

Footage in Earth 29.0 Footage in Rock 10.0 No. of Samples 5 Hole No. B-1

SAMPLE TYPE CODING: D = DRIVEN C = CORE A = AUGER UP = UNDISTURBED PISTON
PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

B-1
STATION= 2+82.37
OFFSET= 11.90L
NORTHING=671073.40
EASTING=855476.53
ELEV.=318.86

Jaime Lloret	**TEST BORING REPORT**		SHEET 1 OF 1
DRILLER	**ASSOCIATED BORINGS CO., INC.**		
Keegan Elder	**119 MARGARET CIRCLE, NAUGATUCK, CT 06770**		CME-55
INSPECTOR	**Tel (203) 729-5435 Fax (203) 729-5116**		DRILLING EQUIPMENT
	PROJECT NAME: Judd Road Bridge		Wengall McDonnell Costello
SOILS ENGINEER	PROJECT NUMBER:		CLIENT
Surface Elevation:	LOCATION: Monroe, Connecticut		
Date Started: 3/22/2023	Auger Type HSA	Casing	Sampler Type SS / Core Bar NV2	Hole No. **B-3**
Date Finished: 3/22/2023				Line & Station
Groundwater Observations	Size I. D. 3 1/4 in		2 in	Offset
AT 7 ' AFTER 0 HRS	Hammer		140 lb / Bit	N Coordinate
AT ' AFTER HRS	Fall		30 in	E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0 - 6	6 - 12	12-18	18-24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											2	Br. M-F Sand, Little C-F Gravel, Little Silt Cobbles, Boulders (Fill)
											5	Dk. Br. F. Sand and Silt (Possible Organic)
5		5.0 - 5.5	1	6	4	D	50	X	X	X		Br. C-F Sand, Some C-F Gravel, Little Silt
10		10.0 -11.0	2	12	4	D	16	50	X	X	14	
15		15.0 - 17.0	3	24	5	D	5	9	12	16		Br. F. Sand, Some Silt
20		20.0 - 21.5	4	18	10	D	16	31	50	X	20	Br. M-F Sand, Some C-F Gravel, Little Silt,
25											25	
											27	Br. M-F Sand, Some C-F Gravel, Little Silt, Cobbles, Boulders
30												Refusal - 27.0 End of Boring - 27.0
35												
40												

From Ground Surface to Feet Used Inch Casing Then Inch Casing For Feet

Footage in Earth 27.0 Footage in Rock 0.0 No. of Samples 4 Hole No. B-3

SAMPLE TYPE CODING: D = DRIVEN C = CORE A = AUGER UP = UNDISTURBED PISTON
PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

B-3
STATION= 2+16.83
OFFSET= 12.47R
NORTHING=671026.77
EASTING=855424.56
ELEV.=318.93

Jaime Lloret	**TEST BORING REPORT**		SHEET 1 OF 2
DRILLER	**ASSOCIATED BORINGS CO., INC.**		
Keegan Elder	**119 MARGARET CIRCLE, NAUGATUCK, CT 06770**		CME-55
INSPECTOR	**Tel (203) 729-5435 Fax (203) 729-5116**		DRILLING EQUIPMENT
	PROJECT NAME: Judd Road Bridge		Wengall McDonnell Costello
SOILS ENGINEER	PROJECT NUMBER:		CLIENT
Surface Elevation:	LOCATION: Monroe, Connecticut		
Date Started: 3/21/2023	Auger Type HSA	Casing	Sampler Type SS / Core Bar NV2	Hole No. **B-4**
Date Finished: 3/22/2023				Line & Station
Groundwater Observations	Size I. D. 3 1/4 in		2 in	Offset
AT 7 ' AFTER 0 HRS	Hammer		140 lb / Bit	N Coordinate
AT ' AFTER HRS	Fall		30 in	E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0 - 6	6 - 12	12-18	18-24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Br. M-F Sand, Little C-F Gravel, Little Silt Cobbles, Boulders (Fill)
5		5.0 - 7.0	1	24	10	D	16	31	40	40	7	
											10	Dk. Br. F. Sand and Silt (Possible Organic)
10		10.0 - 12.0	2	24	6	D	16	18	20	16		Br. C-F Sand, Little C-F Gravel, Little Silt
15		15.0 - 17.0	3	24	4	D	11	16	16	13		
											20	Br. M-F Sand, Tr. Silt
25		25.0 - 27.0	5	24	6	D	8	12	15	50		
30											29	Augered Continious Cobbles and Boulders
		33.0 - 38.0	1	60	58	C					33	
35	14											Cored Run # 1 From 33.0 feet to 38.0 feet Recovery - 58" RQD - 48/60 = 80%
	13											
	15											
	12											
	13										38	
40												CONTINUED ON PAGE 2

From Ground Surface to Feet Used Inch Casing Then Inch Casing For Feet

Footage in Earth 33.0 Footage in Rock 5.0 No. of Samples 5 Hole No. B-4

SAMPLE TYPE CODING: D = DRIVEN C = CORE A = AUGER UP = UNDISTURBED PISTON
PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

B-4 (1)
STATION= 2+16.46
OFFSET= 10.99L
NORTHING=671048.38
EASTING=855415.41
ELEV.=319.12

Jaime Lloret	**TEST BORING REPORT**		SHEET 2 OF 2
DRILLER	**ASSOCIATED BORINGS CO., INC.**		
Keegan Elder	**119 MARGARET CIRCLE, NAUGATUCK, CT 06770**		CME-55
INSPECTOR	**Tel (203) 729-5435 Fax (203) 729-5116**		DRILLING EQUIPMENT
	PROJECT NAME: Judd Road Bridge		Wengall McDonnell Costello
SOILS ENGINEER	PROJECT NUMBER:		CLIENT
Surface Elevation:	LOCATION: Monroe, Connecticut		
Date Started: 3/21/2023	Auger Type HSA	Casing	Sampler Type SS / Core Bar NV2	Hole No. **B-4**
Date Finished: 3/22/2023				Line & Station
Groundwater Observations	Size I. D. 3 1/4 in		2 in	Offset
AT 7 ' AFTER 0 HRS	Hammer		140 lb / Bit	N Coordinate
AT ' AFTER HRS	Fall		30 in	E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0 - 6	6 - 12	12-18	18-24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												CONTINUED FROM PAGE 1
		33.0 - 38.0	2	60	53	C					38	
45	14											Cored Run # 2 From 38.0 feet to 43.0 feet Recovery - 53" RQD - 30/60 = 50%
	12											
	9											
	10											
	11										43	
50												End of Boring - 43.0
55												
60												
65												
70												
75												
80												

From Ground Surface to Feet Used Inch Casing Then Inch Casing For Feet

Footage in Earth 0.0 Footage in Rock 5.0 No. of Samples 0 Hole No. B-4

SAMPLE TYPE CODING: D = DRIVEN C = CORE A = AUGER UP = UNDISTURBED PISTON
PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

B-4 (2)
STATION= 2+16.46
OFFSET= 10.99L
NORTHING=671048.38
EASTING=855415.41
ELEV.=319.12

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NO.	DATE	DESCRIPTION

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DESIGN E.O.D.
DRAWN P.W.S.
CHECKED K.K.
DATE 03/08/2024

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87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

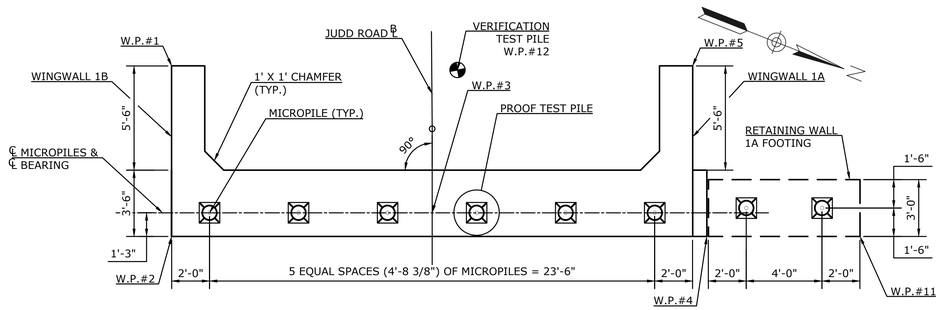
PREPARED FOR

TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER BORING LOGS

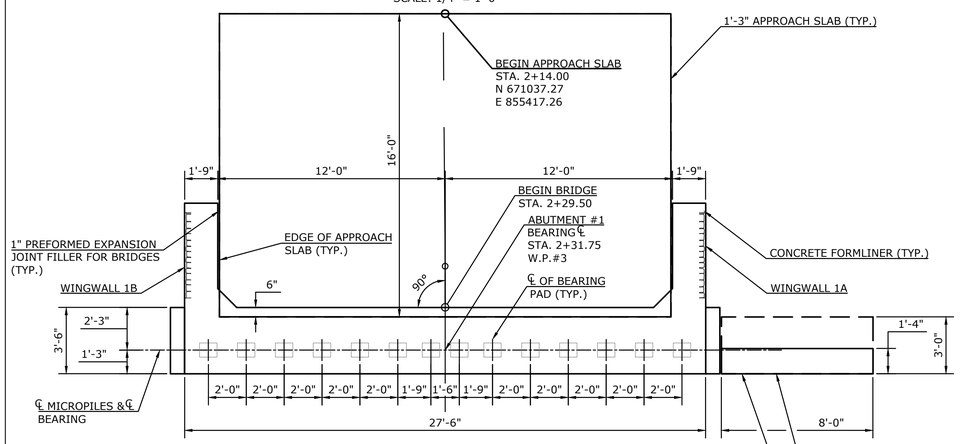
D – JUDD ROAD – F.D. – 22007.10 –
SIZE PROJECT FILE NAME NUMBER REV.

SHEET 15
OF 25



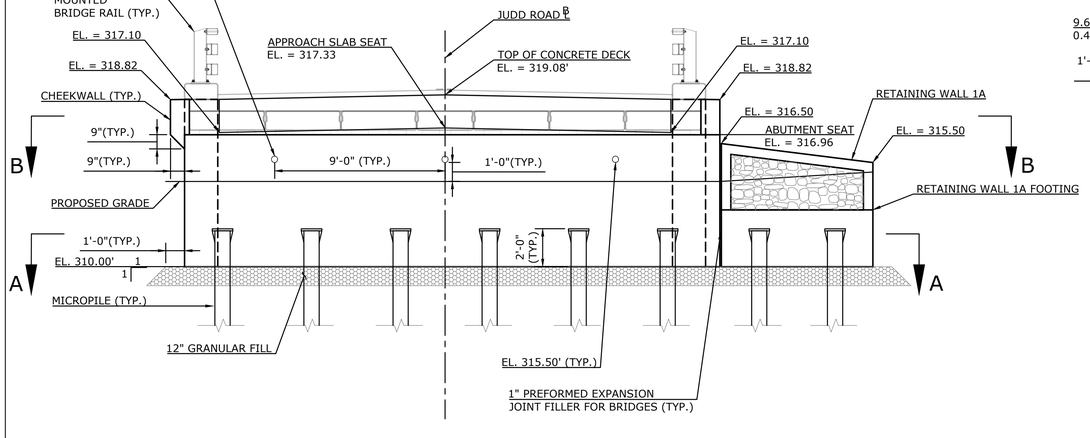
SECTION A-A - ABUTMENT #1 - MICROPILE LAYOUT

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



SECTION B-B - ABUTMENT #1 PLAN

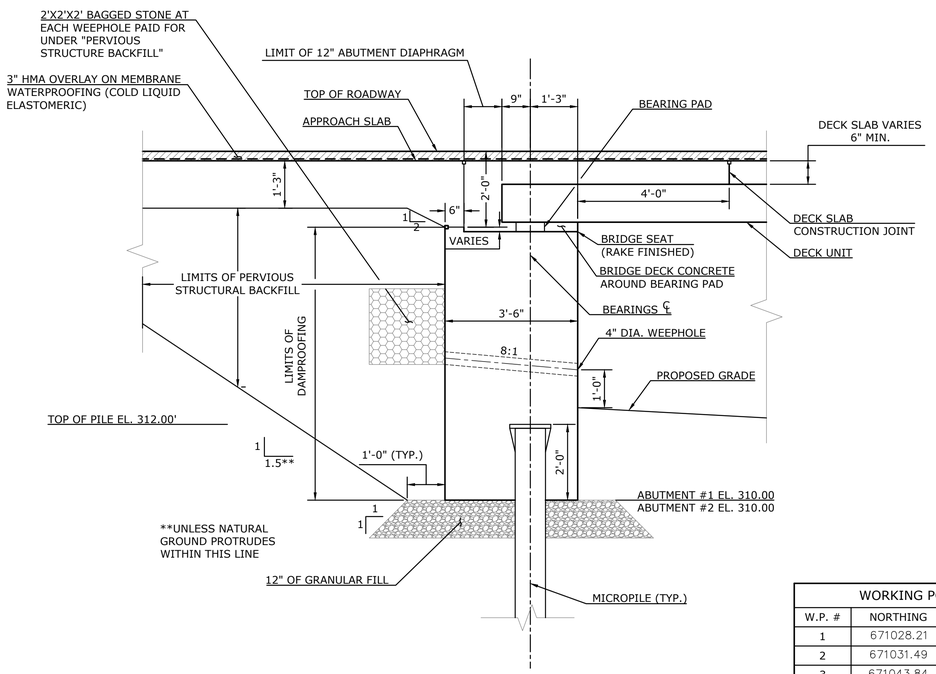
SCALE: 1/4" = 1'-0"



ABUTMENT #1 ELEVATION

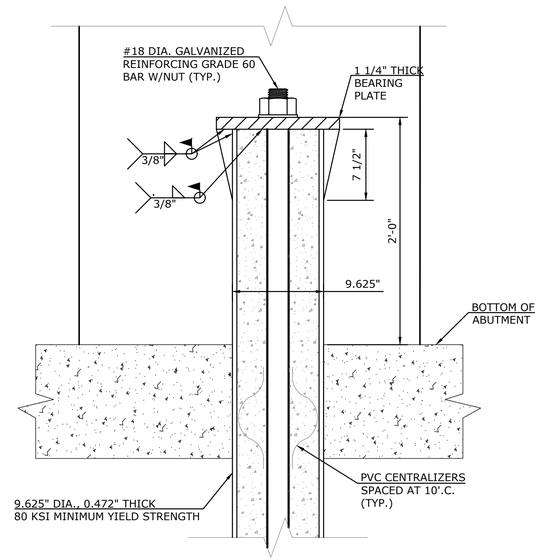
SCALE: 1/4" = 1'-0"

NOTE:
ALL ELEVATIONS TAKEN AT CENTERLINE OF BEARING UNLESS NOTED OTHERWISE.



TYPICAL ABUTMENT PILE SECTION

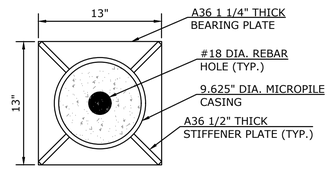
SCALE: 1/2" = 1'-0"



MICROPILE DETAIL

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

WORKING POINTS		
W.P. #	NORTHING	EASTING
1	671028.21	855431.56
2	671031.49	855439.94
3	671043.84	855433.75
4	671057.79	855429.62
5	671053.81	855421.51
11	671065.32	855426.67
12	671042.33	855426.25

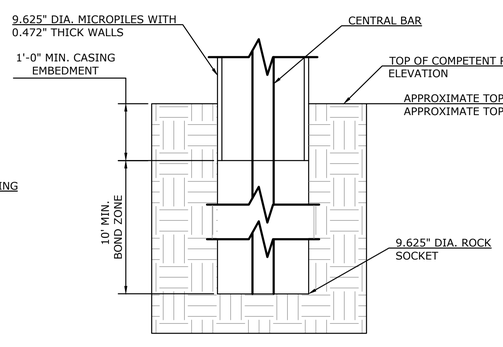


MICROPILE BEARING PLATE DETAIL

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

REQUIRED PILE LOCATION TOLERANCES:

1. CONFORMANCE TO THE FOLLOWING TOLERANCES IS OF EXTREME IMPORTANCE TO FOUNDATION OF THIS TYPE.
2. PRIOR TO PLACEMENT, EACH ABUTMENT PILE SHALL BE HELD BY TEMPLATE TO WITHIN 1" OF PLAN LOCATION.
3. AFTER EACH ABUTMENT PILE IS PLACED, THE TOP OF THE PILE SHALL BE WITHIN 3" OF PLAN LOCATION.



MICROPILE ROCK SOCKET DETAIL

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

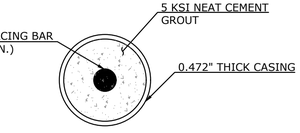
NOTES:
1. THE PRELIMINARY MINIMUM SIZE IS 9.625" DIA. MICROPILES WITH 0.472" THICK WALLS AND 80 KSI MINIMUM YIELD STRENGTH. INTERNAL REBAR SHALL BE #18 GALVANIZED, GRADE 60.

2. MAXIMUM STRENGTH LIMIT PILE LOAD = 67.50 TONS
MAXIMUM SERVICE LIMIT PILE LOAD = 48.50 TONS
ULTIMATE PILE CAPACITY = 96.50 TONS

3. ESTIMATED LENGTH OF PILES:
ABUTMENT 1 = 36.00'
ABUTMENT 2 = 32.00'

4. ESTIMATED CASING LENGTH:
ABUTMENT 1 = 28.00'
ABUTMENT 2 = 24.00'

LOCATION	TOP OF PILE ELEVATION	ESTIMATED BOTTTOM OF PILE TIP ELEVATION
ABUTMENT 1	312.00'	276.00'
ABUTMENT 2	312.00'	280.00'



MICROPILE DETAIL

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

NOTES:
1. NEAT CEMENT GROUT SHALL HAVE AN ANTI-WASHOUT ADDITIVE FOR GROUTING BELOW THE WATER TABLE.

2. GROUTING PRESSURE SHALL BE AS DETERMINED BY THE MICROPILE CONTRACTOR.

3. IF SPLICE IS NEEDED FOR THE CENTRAL BAR, THE COUPLERS SHALL BE RATED AT 125% OF THE YIELD STRENGTH OF THE BAR.
4. UPPER AND LOWER MOST CENTRALIZER SHALL BE LOCATED A MAXIMUM OF 3 FEET FROM THE TOP AND BOTTOM OF THE MICROPILE.

5. THE MICROPILE DETAILS ARE A PRELIMINARY MINIMUM RECOMMENDATION. FINAL DESIGN SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

6. IT IS NOTED THAT COBBLES AND BOULDERS WERE ENCOUNTERED IN THE EXISTING FILL MATERIAL AND SOME DIFFICULTIES MAY BE EXPECTED DURING THE DRILLING OPERATIONS AT ISOLATED LOCATIONS.

7. THE MICROPILE CASING SHALL BE FROM DOMESTIC ORIGIN.

8. THE #18 REINFORCING BAR IS PAID UNDER ITEM "MICROPILES".

9. MICROPILES SHALL BE CONSTRUCTED USING "TYPE A" INSTALLATION METHOD.

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NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

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(860) 667-9624

PREPARED FOR

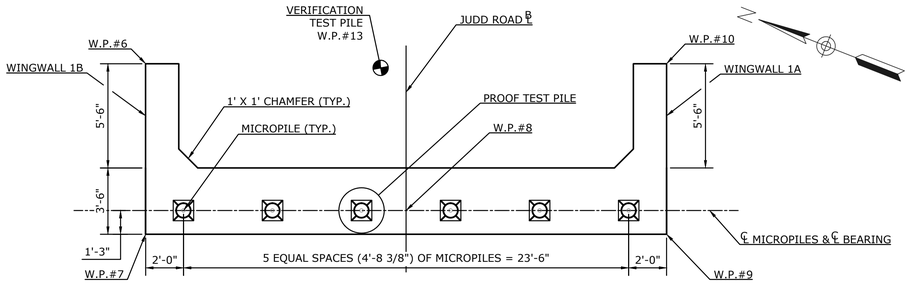
TOWN OF MONROE

7 FAN HILL ROAD

MONROE, CT 06468

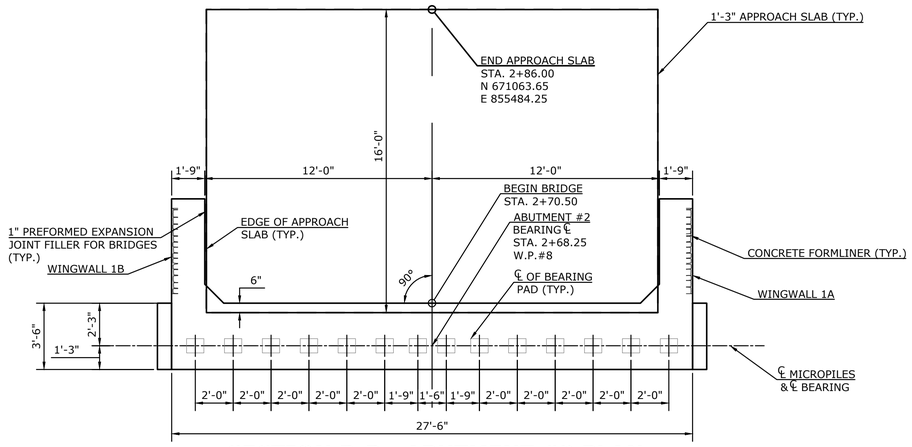
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER ABUTMENT NO. 1 PLAN AND ELEVATION

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		16	25



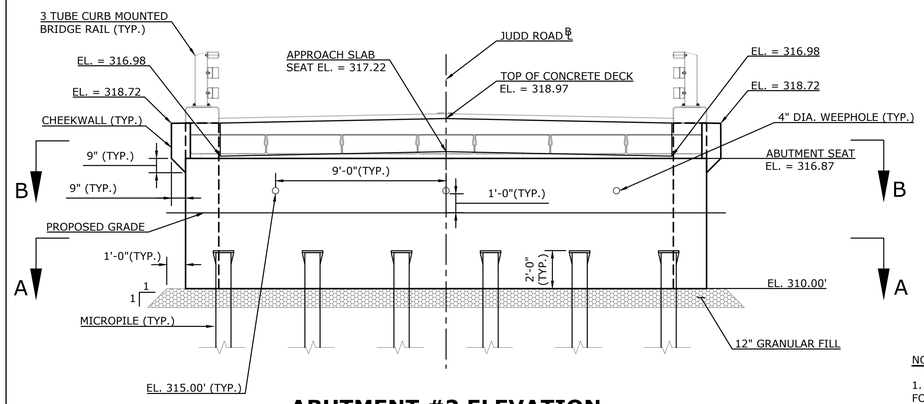
SECTION A-A - ABUTMENT #2 - MICROPILE LAYOUT

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



SECTION B-B - ABUTMENT #2 PLAN

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

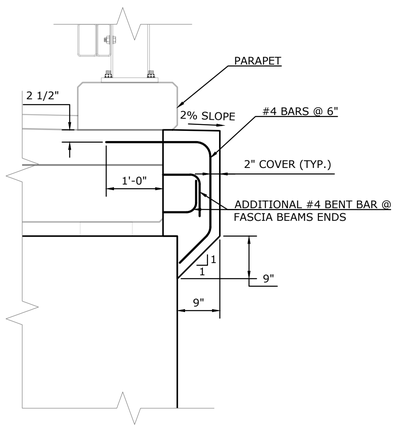


ABUTMENT #2 ELEVATION

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

NOTE:
ALL ELEVATIONS TAKEN AT CENTERLINE OF BEARING UNLESS NOTED OTHERWISE.

WORKING POINTS		
W.P. #	NORTHING	EASTING
6	671072.80	855469.92
7	671069.51	855461.54
8	671057.17	855467.73
9	671043.91	855471.59
10	671047.20	855479.97
13	671061.17	855474.25



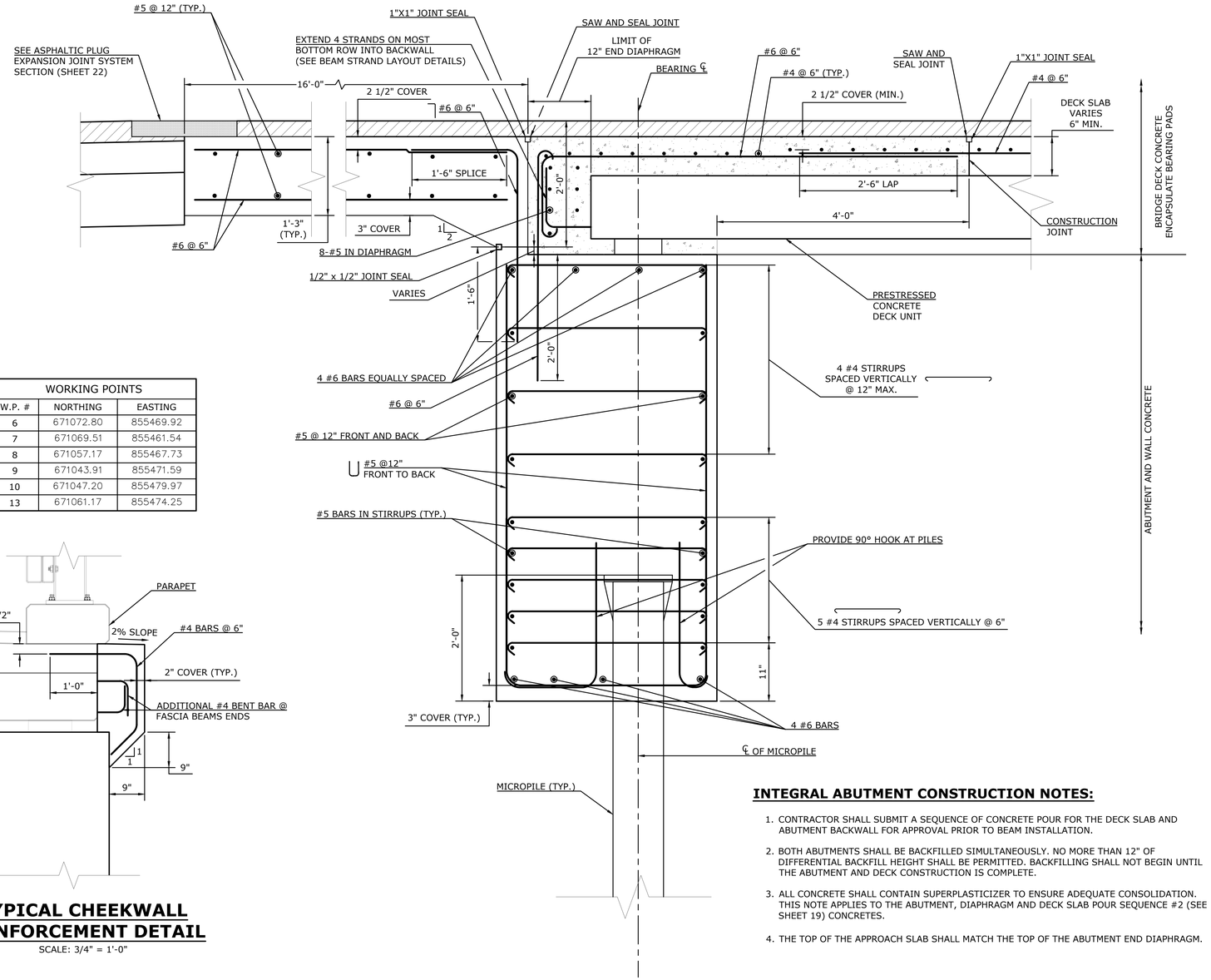
TYPICAL CHEEKWALL REINFORCEMENT DETAIL

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

NOTES:

1. CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONCRETE POUR FOR THE DECK SLAB AND DIAPHRAGM FOR APPROVAL PRIOR TO BEAM INSTALLATION.

2. BOTH ABUTMENTS SHALL BE BACKFILLED SIMULTANEOUSLY. NO MORE THAN 12" OF DIFFERENTIAL BACKFILL HEIGHT SHALL BE PERMITTED. BACKFILLING SHALL NOT BEGIN UNTIL THE ABUTMENT AND DECK CONSTRUCTION IS COMPLETE.



TYPICAL ABUTMENT, APPROACH SLAB AND DECK END REINFORCEMENT DETAIL

SCALE: 1" = 1'-0"

INTEGRAL ABUTMENT CONSTRUCTION NOTES:

1. CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONCRETE POUR FOR THE DECK SLAB AND ABUTMENT BACKWALL FOR APPROVAL PRIOR TO BEAM INSTALLATION.
2. BOTH ABUTMENTS SHALL BE BACKFILLED SIMULTANEOUSLY. NO MORE THAN 12" OF DIFFERENTIAL BACKFILL HEIGHT SHALL BE PERMITTED. BACKFILLING SHALL NOT BEGIN UNTIL THE ABUTMENT AND DECK CONSTRUCTION IS COMPLETE.
3. ALL CONCRETE SHALL CONTAIN SUPERPLASTICIZER TO ENSURE ADEQUATE CONSOLIDATION. THIS NOTE APPLIES TO THE ABUTMENT, DIAPHRAGM AND DECK SLAB POUR SEQUENCE #2 (SEE SHEET 19) CONCRETES.
4. THE TOP OF THE APPROACH SLAB SHALL MATCH THE TOP OF THE ABUTMENT END DIAPHRAGM.

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NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

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PREPARED FOR

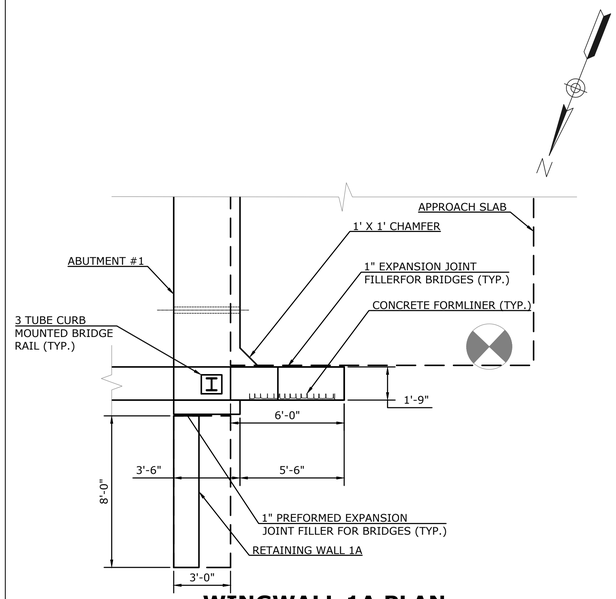
TOWN OF MONROE

7 FAN HILL ROAD

MONROE, CT 06468

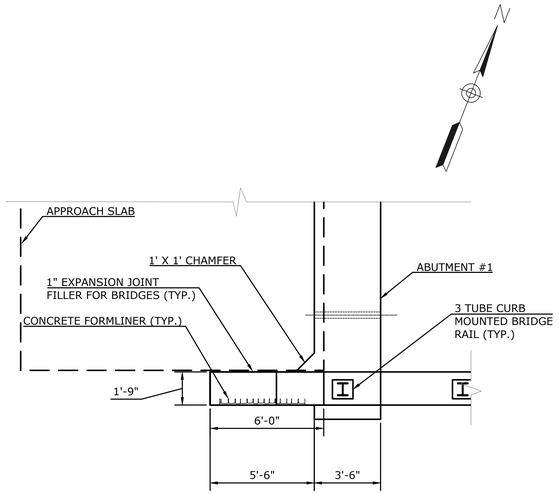
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER ABUTMENT NO. 2 PLAN AND ELEVATION

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D.	– 22007.10	–	17	25



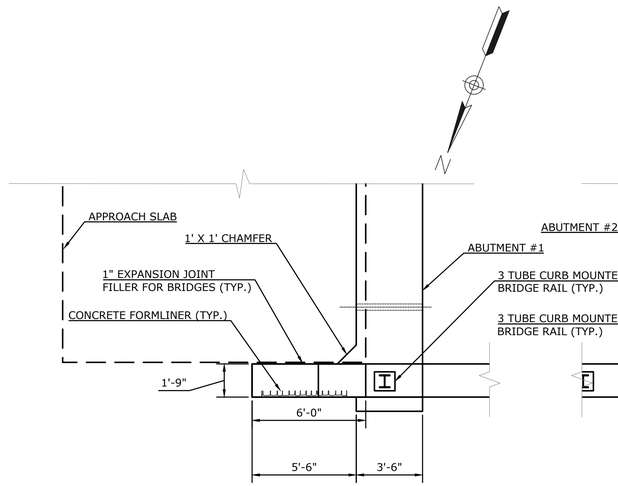
WINGWALL 1A PLAN

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



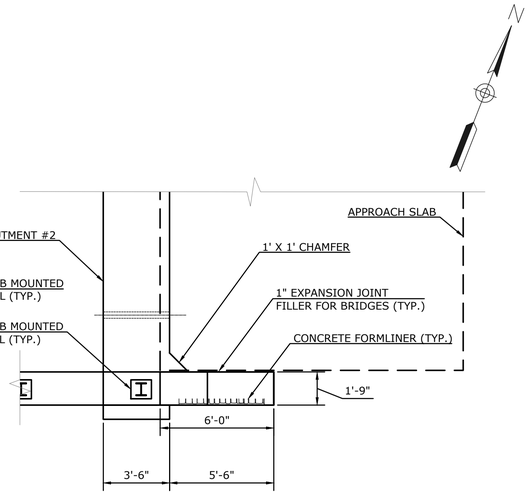
WINGWALL 1B PLAN

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



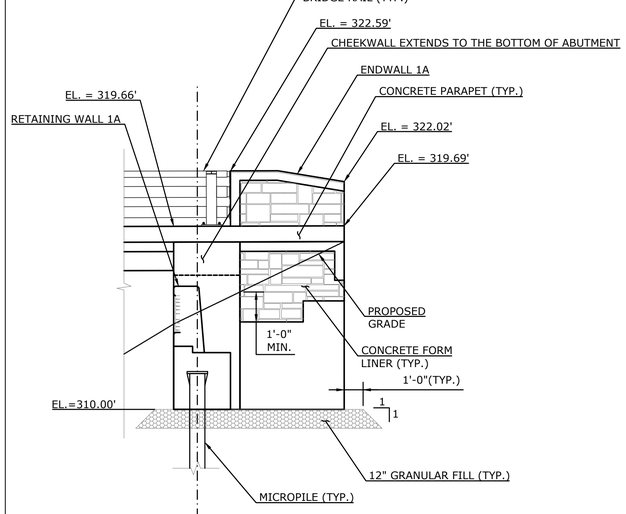
WINGWALL 2A PLAN

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



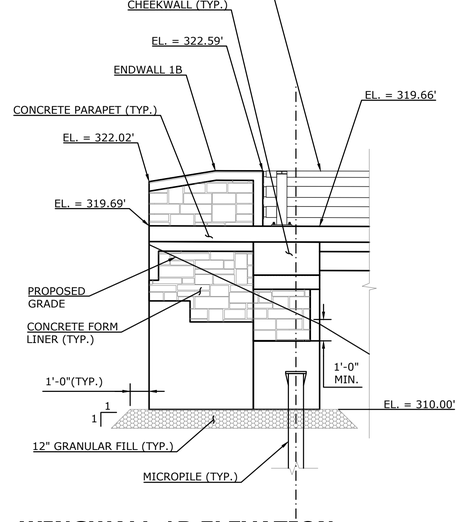
WINGWALL 2B PLAN

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



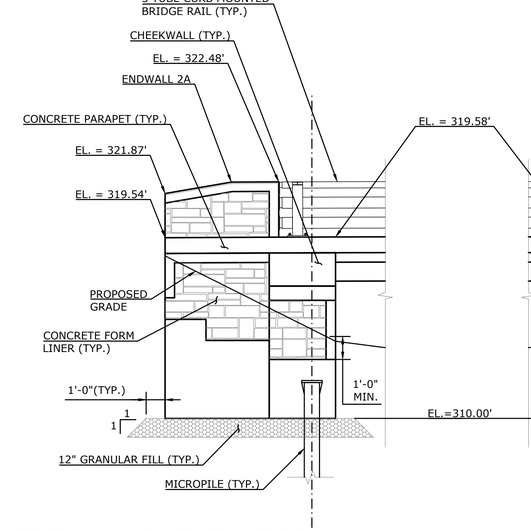
WINGWALL 1A ELEVATION

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



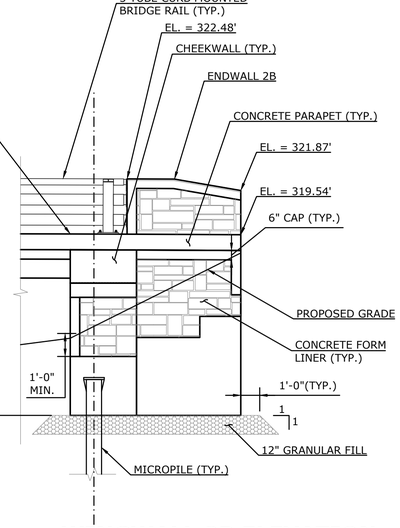
WINGWALL 1B ELEVATION

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



WINGWALL 2A ELEVATION

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



WINGWALL 2B ELEVATION

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

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NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

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PREPARED FOR

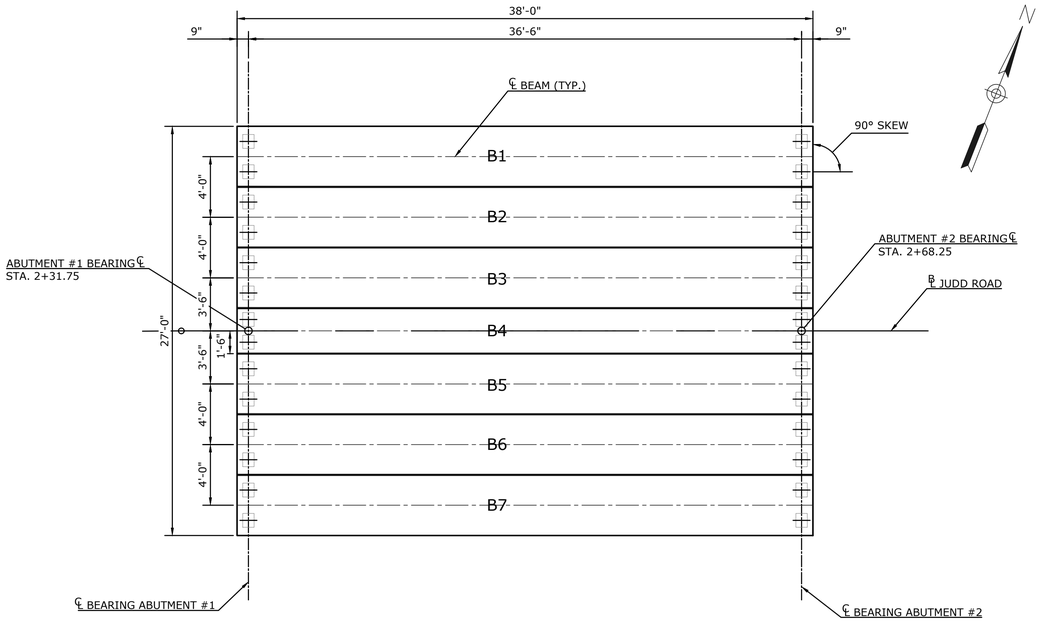
TOWN OF MONROE

7 FAN HILL ROAD

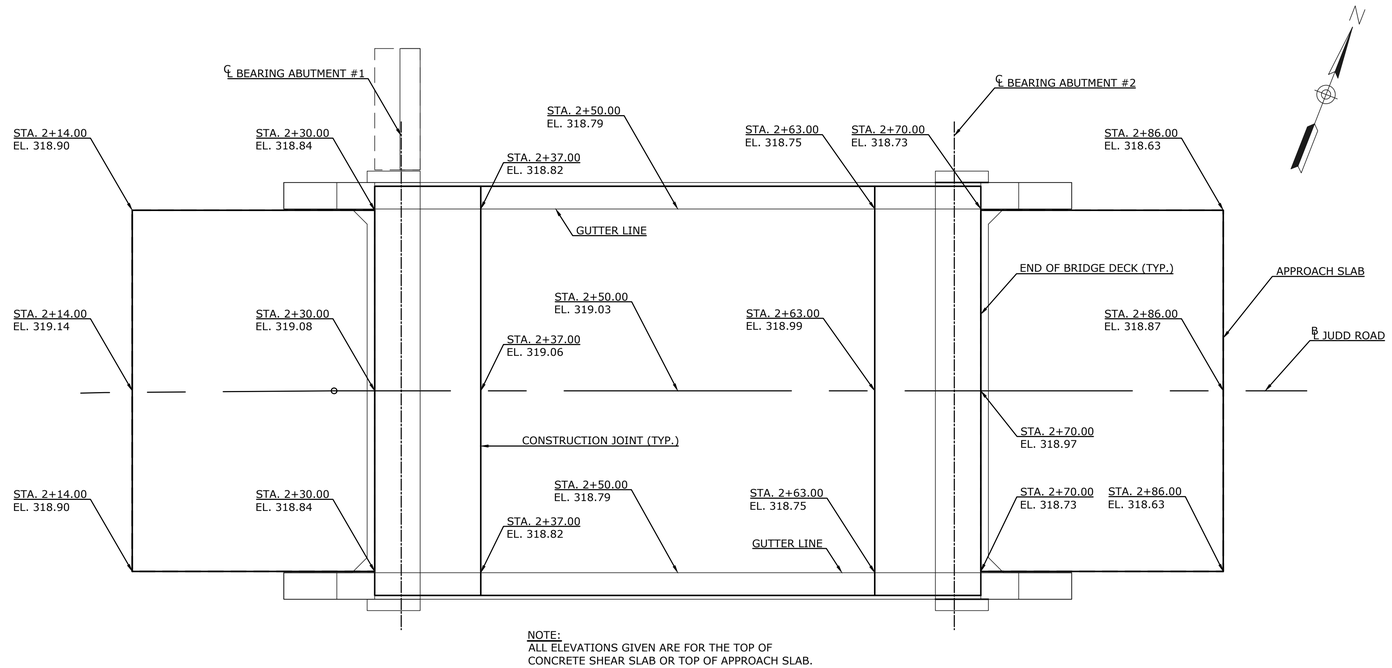
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER WINGWALL PLANS AND ELEVATIONS

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D.	– 22007.10	–	18	25

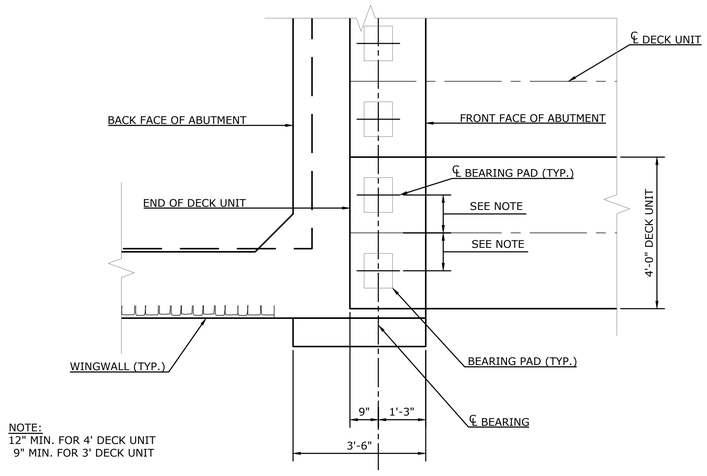


FRAMING PLAN
SCALE: 1"=5'-0"



NOTE:
ALL ELEVATIONS GIVEN ARE FOR THE TOP OF CONCRETE SHEAR SLAB OR TOP OF APPROACH SLAB.

DECK & APPROACH SLAB PLAN
SCALE: 1"=5'-0"



NOTE:
12" MIN. FOR 4' DECK UNIT
9" MIN. FOR 3' DECK UNIT

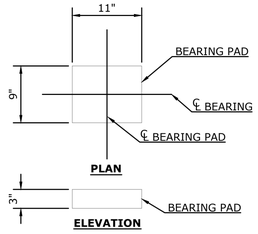
ELASTOMERIC BEARING PAD LAYOUT
SCALE: 1/2"=1'-0"

BEARING ASSEMBLY NOTES:

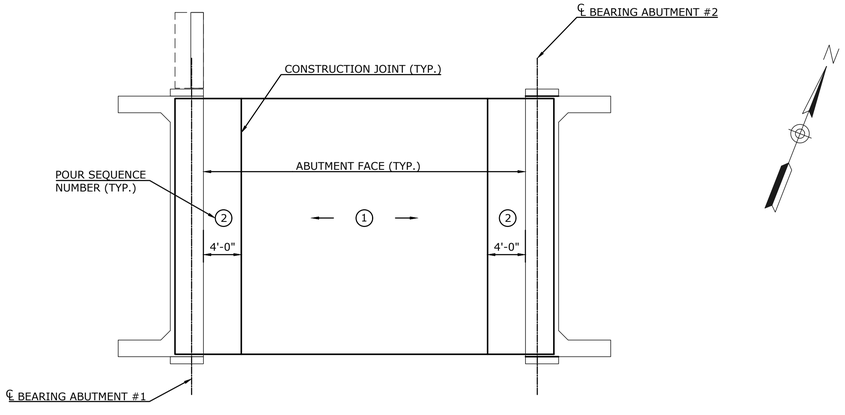
1. THE ELASTOMER SHALL BE TYPE CR, GRADE 3 AS DEFINED BY ASTM D4014 AND SHALL HAVE A SHORE A DUROMETER HARDNESS OF 70+/- 5 POINTS AND A SHEAR MODULUS WITHIN LIMITS 200 TO 250 PSI.

2. THE ELASTOMERIC BEARING SHALL BE INSTALLED WHEN THE AMBIENT AIR TEMPERATURE IS BETWEEN 41 F AND 77 F AND HAS BEEN WITHIN THIS RANGE FOR MORE THAN TWO HOURS.

3. THE CONCRETE ABUTMENT SEATS SHALL BE CAREFULLY RAKE FINISHED TO AN EVEN, LEVEL SURFACE AND SHALL SHOW NO VARIATIONS FROM A TRUE PLANE GREATER THAN 1/16".



ELASTOMERIC BEARING PAD DETAIL
SCALE: 1"=1'-0"



SHEAR SLAB PLACEMENT/POUR SEQUENCE
SCALE: 1/8"=1'-0"

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PREPARED FOR
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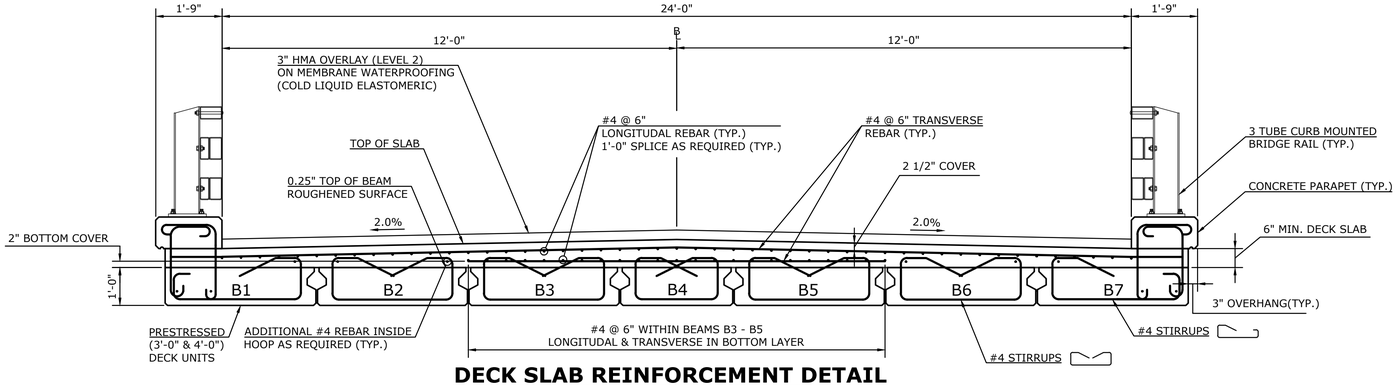
7 FAN HILL ROAD
MONROE, CT 06468

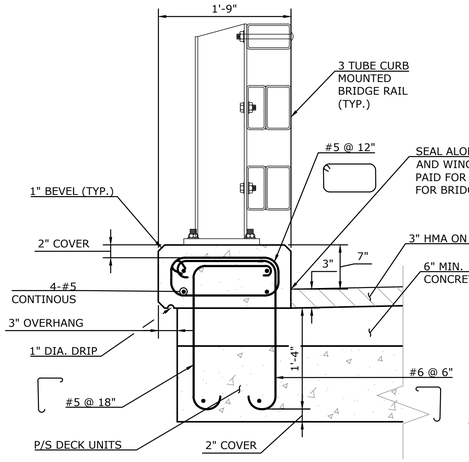
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER FRAMING AND DECK PLAN

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		19	25



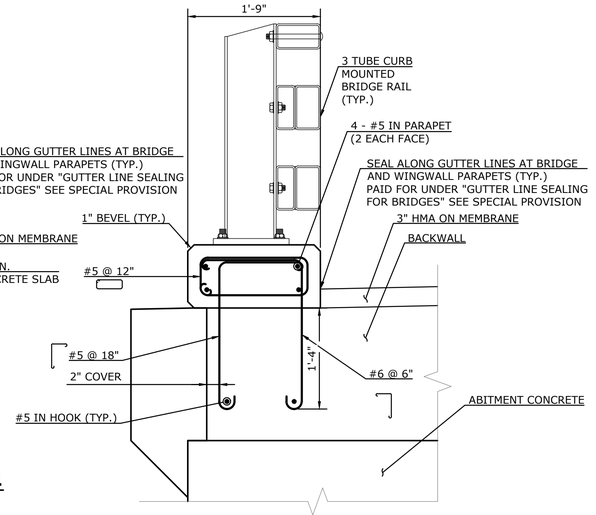
DECK SLAB REINFORCEMENT DETAIL

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



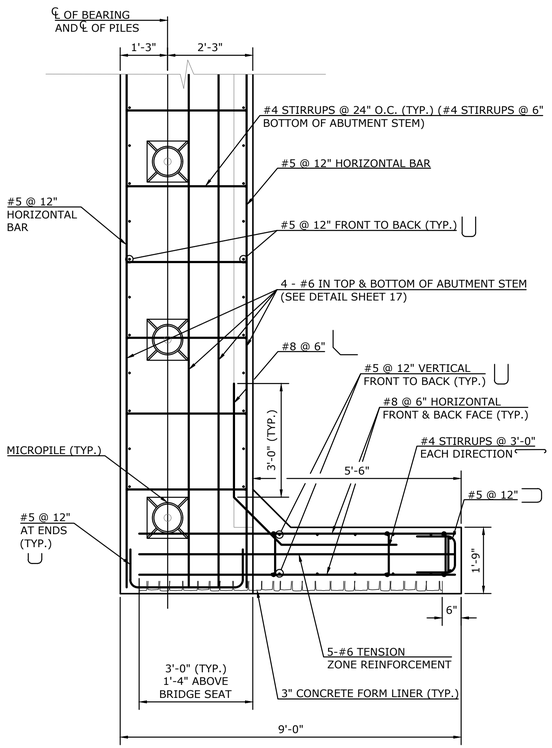
PARAPET REINFORCING DETAIL - 1

SCALE: 1"=1'-0"



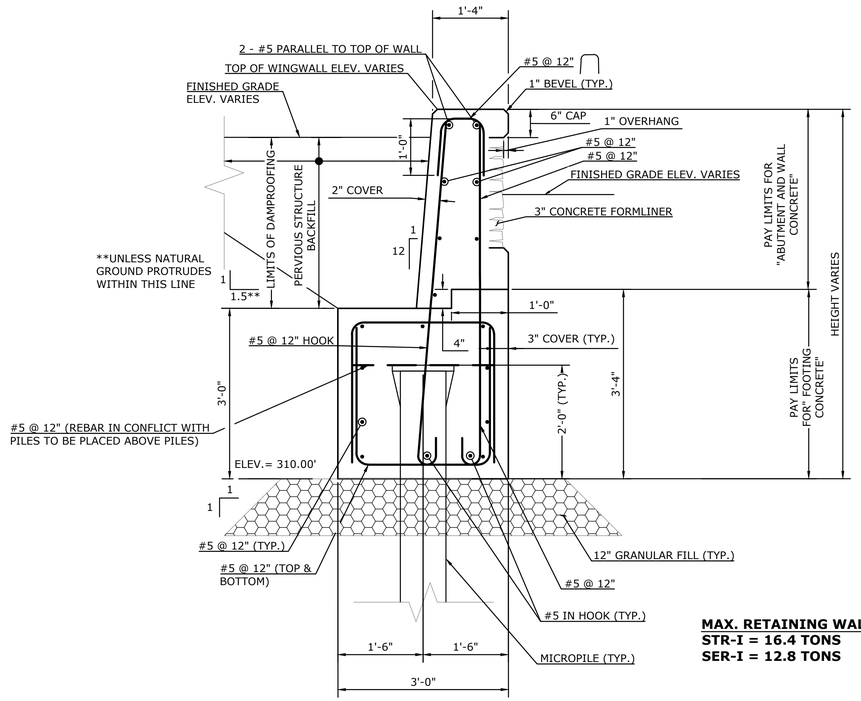
PARAPET REINFORCING DETAIL - 2

SCALE: 1"=1'-0"



PILE CAP AND WINGWALL REINFORCEMENT SECTION PLAN

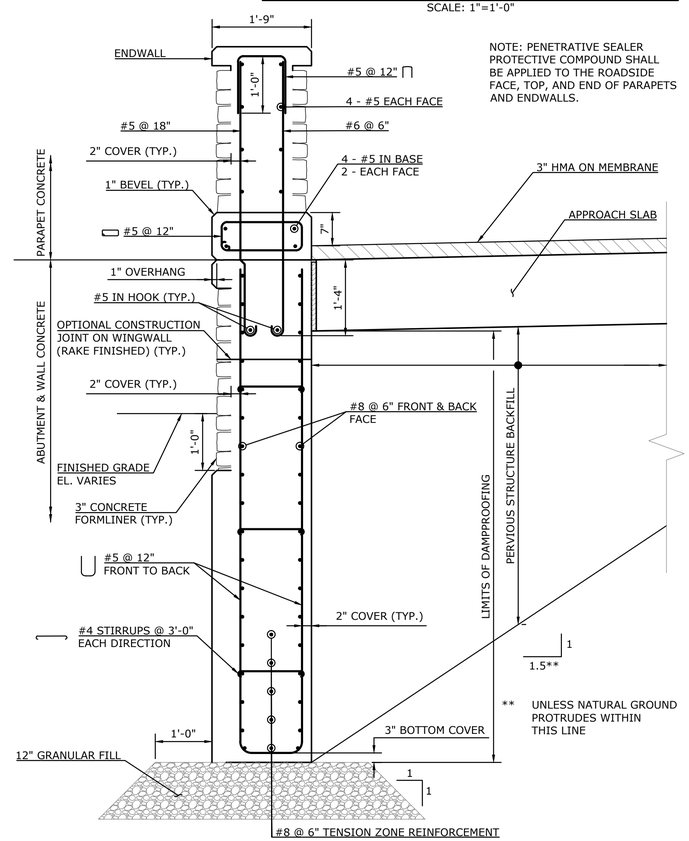
SCALE: 1/2"=1'-0"



RETAINING WALL 1A REINFORCEMENT

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

MAX. RETAINING WALL PILE LOADS
STR-I = 16.4 TONS
SER-I = 12.8 TONS



NOTE: PENETRATIVE SEALER PROTECTIVE COMPOUND SHALL BE APPLIED TO THE ROADSIDE FACE, TOP, AND END OF PARAPETS AND ENDWALLS.

TYPICAL WINGWALL SECTION

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

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7 FAN HILL ROAD

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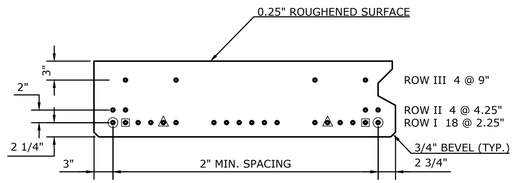
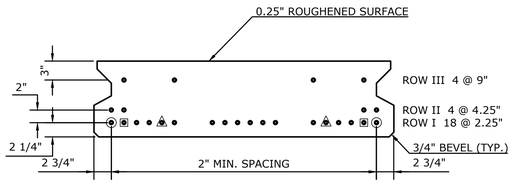
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER REBAR STRUCTURE DETAILS

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D.	– 22007.10	–	20	25



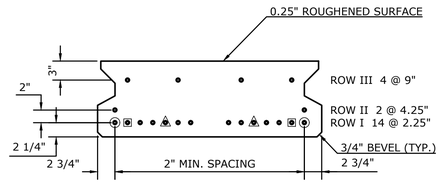
BEAM B1 & B7 STRAND LAYOUT

SCALE: 1" = 1'-0"



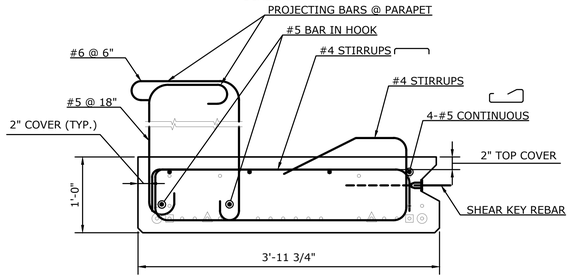
BEAM B2, B3, B5 & B6 STRAND LAYOUT

SCALE: 1" = 1'-0"



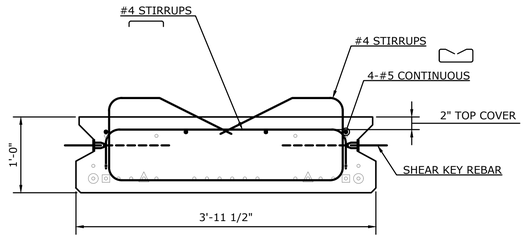
BEAM B4 STRAND LAYOUT

SCALE: 1" = 1'-0"



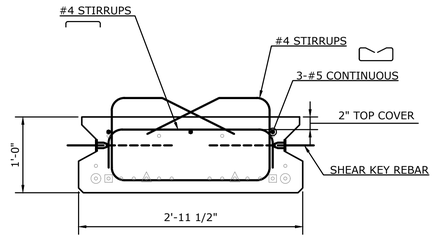
DIMENSIONS FOR BEAMS B1 & B7

SCALE: 1" = 1'-0"



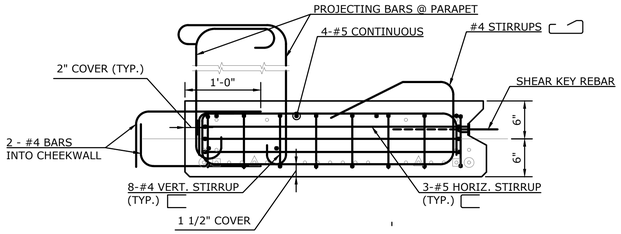
DIMENSIONS FOR BEAMS B2, B3, B5 & B6

SCALE: 1" = 1'-0"



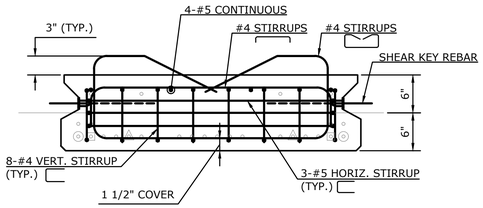
DIMENSIONS FOR BEAM B4

SCALE: 1" = 1'-0"



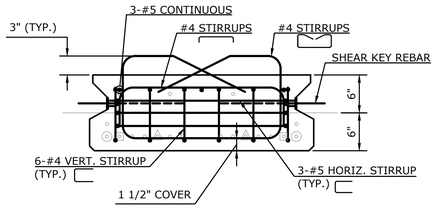
END SECTION FOR BEAMS B1 & B7

SCALE: 1" = 1'-0"



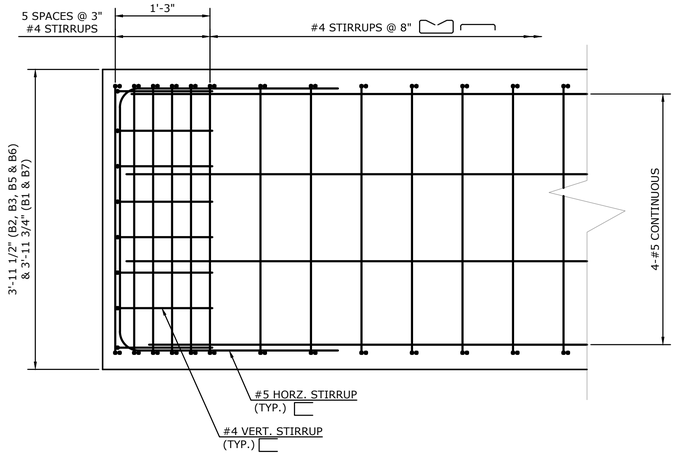
END SECTION FOR BEAMS B2, B3, B5 & B6

SCALE: 1" = 1'-0"



END SECTION FOR BEAM B4

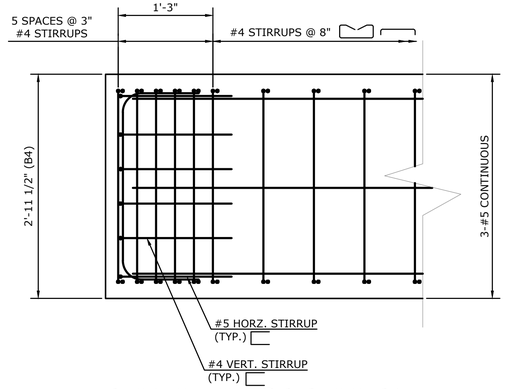
SCALE: 1" = 1'-0"



PLAN VIEW FOR BEAMS B1, B2, B3, B5, B6 & B7

(STRANDS NOT SHOWN FOR CLARITY)

SCALE: 1" = 1'-0"



PLAN VIEW FOR BEAM B4

(STRANDS NOT SHOWN FOR CLARITY)

SCALE: 1" = 1'-0"

STRAND LEGEND	
•	FULLY BONDED
⊙	FULLY BONDED & EXTENDED P/S STRANDS 1'-6" WITH 90 DEGREE BEND
▲	DEBONDED 4'-0" FROM ENDS
▣	DEBONDED 7'-0" FROM ENDS

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PRESTRESSED DECK UNIT NOTES:

1. PRESTRESSED DECK UNITS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

F'C= 6,000 PSI
F'CI=5,000 PSI

2. PRESTRESSED STRANDS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
0.6" DIAMETER, UNCOATED, 7 WIRE, LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF AASHTO M203, GRADE 270

ULTIMATE STRENGTH (f's) = 270,000 PSI
JACKING TENSION (FJ) = 43,900 LBS. PER STRAND

3. PRESTRESSED STRANDS SHALL BE PLACED 2" MINIMUM ON CENTER AND SHALL HAVE A MINIMUM COVER OF 2".

4. ENDS OF DECK UNITS SHALL BE VERTICAL AFTER APPLICATION OF FULL DEAD LOAD.

5. THE DRILLING OF HOLES IN PRESTRESSED DECK UNITS, OR THE USE OF POWER ACTUATED TOOLS ON PRESTRESSED DECK UNITS WILL NOT BE PERMITTED.

6. NO ADDITIONAL DEAD LOADS OR LIVE LOADS SHALL BE APPLIED TO THE PRESTRESSED DECK UNITS UNTIL THE GROUT IN THE LONGITUDINAL SHEAR KEYS HAS REACHED A SEVEN-DAY COMPRESSIVE STRENGTH OF 4500 PSI. NO ADDITIONAL DEAD LOADS OR LIVE LOADS SHALL BE APPLIED TO THE PRESTRESSED DECK UNITS UNTIL THE CAST-IN-PLACE DECK SLAB HAS REACHED A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

7. THE DECK UNITS SHALL BE PLACED AT THE NOMINAL SPACING SHOWN ON THE PLANS WITH A 1/2" WIDE GAP BETWEEN THE UNITS. THE WIDTH OF THIS GAP CAN VARY DUE TO SWEEP OF THE BEAMS.

8. GROUT FOR SHEAR KEYS SHALL BE RODDED OR VIBRATED TO ENSURE THAT ALL VOIDS IN THE SHEAR KEY ARE FILLED.

9. SHEAR KEY SHALL BE OMITTED ON OUTSIDE FACE OF FASCIA PRESTRESSED DECK UNITS AND THE OUTSIDE FACE OF DECK UNIT B7 FOR STAGED CONSTRUCTION.

10. TOPS OF BEAMS ARE TO BE INTENTIONALLY ROUGHENED TO PROVIDE ADEQUATE CONTACT SURFACE WITH THE CONCRETE SHEAR SLAB.

11. EXTEND LONGITUDINAL LEGS OF HORIZONTAL STIRRUPS A MINIMUM DISTANCE EQUAL TO THE DEPTH OF THE BEAM OR 12" INTO THE WEB OF THE VOIDED SECTION, WHICHEVER IS LARGER.

12. HORIZONTAL LEGS OF THE VERTICAL STIRRUPS ARE EQUAL TO THE DEPTH OF THE BEAMS.

13.ALL NON-PRESTRESSED REINFORCING BARS SHALL BE GALVANIZED AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60, AFTER FABRICATION, TO THE REQUIREMENTS OF ASTM A 767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. BARS SHALL BE SECURELY TIED TO PREVENT DISLOCATION. ALL TIES SHALL BE GALVANIZED.

14.PRECAST MANUFACTURING PLANT FURNISHING PRECAST PRESTRESSED BRIDGE MEMBERS SHALL BE CERTIFIED BY THE PRECAST PRESTRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM. THE CERTIFICATION SHALL BE AS A MINIMUM IN THE B3 CATEGORY. THE MANUFACTURER SHALL SUBMIT PROOF OF CERTIFICATION PRIOR TO THE START OF PRODUCTION.

15. TOLERANCES FOR PRESTRESSED MEMBERS SHALL CONFORM TO THE LIMITS SPECIFIED IN THE "MANUAL FOR QUALITY CONTROL FOR PLANS AND PRODUCTION OF PRECAST PRESTRESSED CONCRETE PRODUCTS."

16. PROPER BEAM HANDLING HOOKS LOCATED ON THE TOP OF THE PRESTRESSED DECK UNITS SHALL BE PROVIDED BY THE FABRICATOR. THE FABRICATOR SHALL CONSIDER THE LOCATION OF THE CENTER OF GRAVITY. DURING HANDLING, THE BEAMS MUST BE MAINTAINED IN AN UPRIGHT POSITION AT ALL TIMES AND MUST BE PICKED UP ONLY BY MEANS OF APPROVED LIFTING DEVICES AT THEIR APPROVED SUPPORT POINTS.

17. ANY STRUCTURAL MEMBERS DAMAGED DURING FABRICATION, SHIPPING OR ERECTION, SUCH THAT THEIR STRUCTURAL INTEGRITY IS COMPROMISED, SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S OWN EXPENSE. THE ENGINEER SHALL BE THE SOLE JUDGE IN DETERMINING THE STRUCTURAL INTEGRITY OF DAMAGED PRESTRESSED MEMBERS.

18. INSERTS, ANCHORS AND ANY OTHER ITEMS REQUIRED TO BE CAST INTO THE DECK UNITS SHALL BE SHOWN ON THE SHOP DRAWINGS. ALL HARDWARE SHALL BE GALVANIZED.

19. BEAM WIDTH FABRICATION TOLERANCE SHALL BE WITHIN .25" DUE TO STAGE 3 BEAM ERECTION.

STRAND DATA			
MEMBER NUMBER	NUMBER OF STRANDS	C.G. OF STRANDS (INCHES)	
		END (A)	MIDSPAN (B)
B1-B3 & B5-B7	26	3.84	3.60
B4	20	4.19	3.80

CAMBER TABLE				
MEMBER NUMBER	ESTIMATED CAMBER AT MIDSPAN			
	AT TRANSFER	AT ERECTION	TOTAL CAMBER	FINAL
	CAMBER DUE TO PRETENSIONING FORCE AT TRANSFER MINUS THE DEFLECTION DUE TO THE DEAD LOAD OF THE MEMBER.	CAMBER (DUE TO PRETENSIONING FORCE AT TRANSFER MINUS DEFLECTION DUE TO THE DEAD LOAD OF THE MEMBER) APPROXIMATELY 30 DAYS AFTER TRANSFER.	CAMBER AFTER ALL DEAD LOADS ARE APPLIED TO THE STRUCTURE.	CAMBER AFTER ALL DEAD LOADS ARE APPLIED TO THE STRUCTURE, AND AFTER LONG TERM CREEP AND RELAXATION HAVE TAKEN PLACE
B1, B7	1.131''	1.991''	1.403''	0.808''
B2, B3, B5 & B6	1.131''	1.991''	1.423''	0.851''
B4	0.987''	1.731''	1.091''	0.317''

NO.	DATE	DESCRIPTION

REVISIONS

SUPV.	K.O.E.
DESIGN	E.O.D.
DRAWN	P.W.S.
CHECKED	K.K.
DATE	03/08/2024

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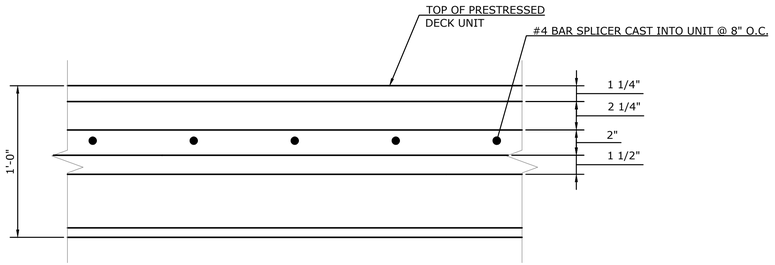
PREPARED FOR

TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER PRESTRESSED CONCRETE DECK UNITS

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	– JUDD ROAD	– F.D.	– 22007.10	–	21	25

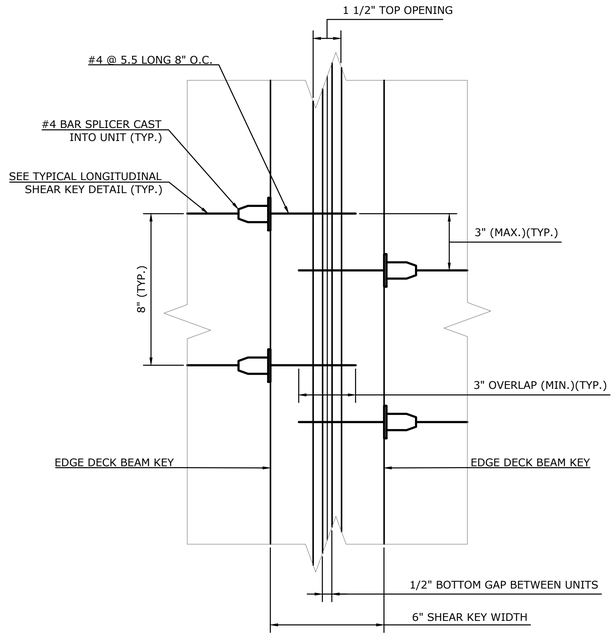


SHEAR KEY FOR PRECAST CONCRETE DECK UNITS

2"=1'-0"

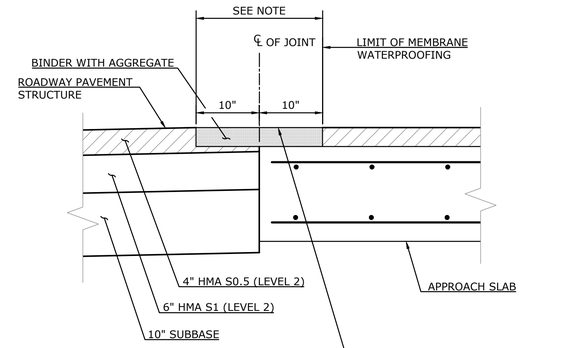
NON-SHRINK GROUT SHEAR KEY NOTES:

1. NON-SHRINK GROUT SHALL CONFORM TO THE FOLLOWING:
   F'C = 6,000 PSI
2. SHEAR KEYS TO BE FILLED WITH NON-SHRINK GROUT SHALL BE ROUGHENED AND CLEANED PRIOR TO DECK UNIT PLACEMENT.
3. SECURE #4 SPLICE BARS TO DECK UNIT AFTER ROUGHENING CONCRETE BUT PRIOR TO DECK UNIT PLACEMENT.
4. AFTER FINAL DECK UNIT PLACEMENT, SHEAR KEYS SHALL BE FILLED WITH NON-SHRINK GROUT IN ONE CONTINUOUS POUR PER KEY.
5. IF THE TOP SURFACES OF THE ADJACENT DECK UNITS DO NOT MATCH, THE GROUT SHALL BE SLOPED FOR A SMOOTH TRANSITION.
6. GRIND ANY NON-SHRINK GROUT OVER FLOW FLUSH AFTER CURING.
7. NON-SHRINK GROUT TO BE PAID FOR UNDER ITEMS "PRESTRESSED DECK UNITS (3'-0" X 1'-0") , (4'-0" X 1'-0")".



NON-SHRINK GROUT SHEAR KEY PLAN

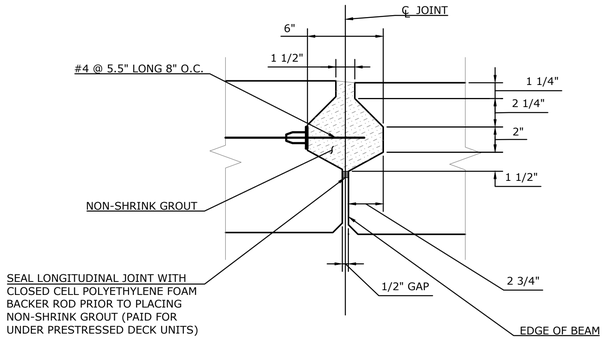
3"=1'-0"



NOTE:
REMOVE NEW BITUMINOUS CONCRETE OVERLAY AND MEMBRANE WATERPROOFING. REPLACE WITH ASPHALTIC PLUG EXPANSION JOINT SYSTEM. TO BE PAID UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM" (SEE SPECIAL PROVISION)

ASPHALTIC PLUG EXPANSION JOINT SYSTEM SECTION

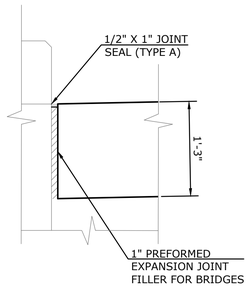
SCALE: 1" = 1'-0"



NOTES:
THE DECK UNITS SHALL BE PLACED AT THE NOMINAL SPACING SHOWN ON THE PLAN WITH A GAP BETWEEN THE UNITS. THE WIDTH OF THE GAPS WILL VARY DUE TO THE SWEEP OF THE UNITS

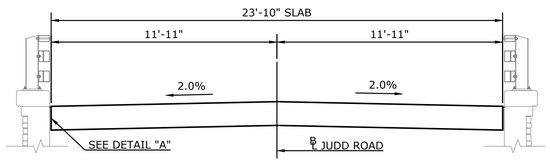
TYPICAL LONGITUDINAL SHEAR KEY PRESTRESSED CONCRETE DECK UNITS

SCALE: 2"=1'-0"



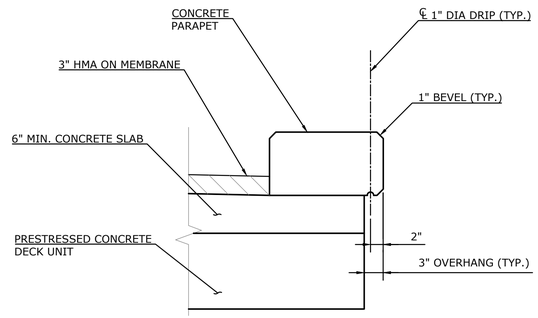
DETAIL "A"

SCALE: 1"=1'-0"



TYPICAL NORMAL CROWN APPROACH SLAB SECTION

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



TYPICAL PARAPET OVERHANG DETAIL

SCALE: 1" = 1'-0"

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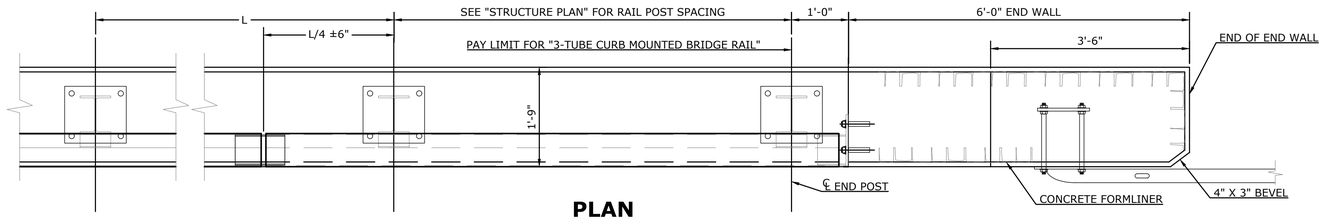
PREPARED FOR

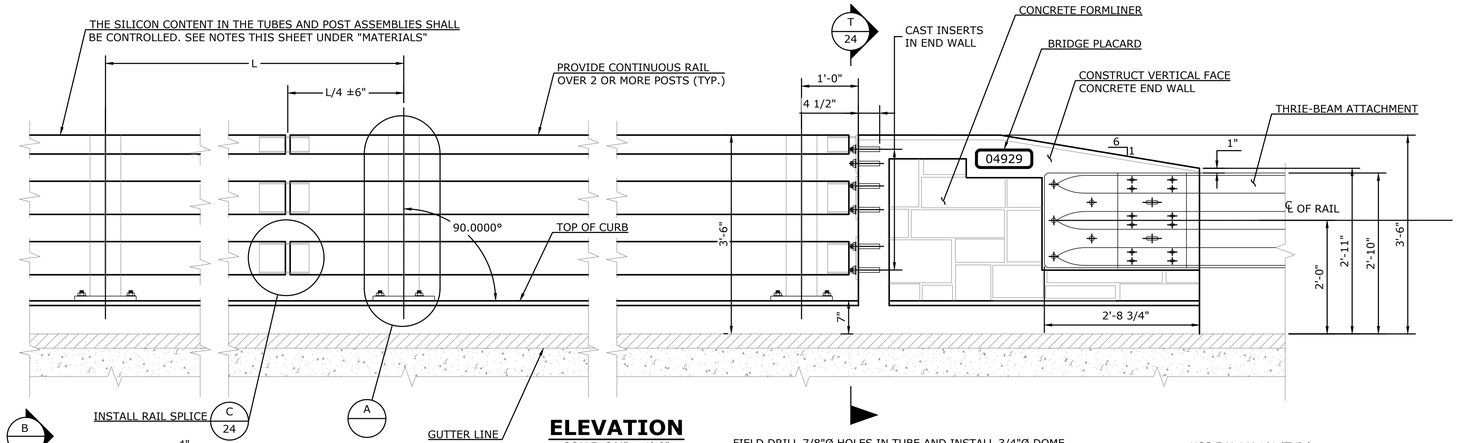
TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER MISCELLANEOUS STRUCTURE DETAILS

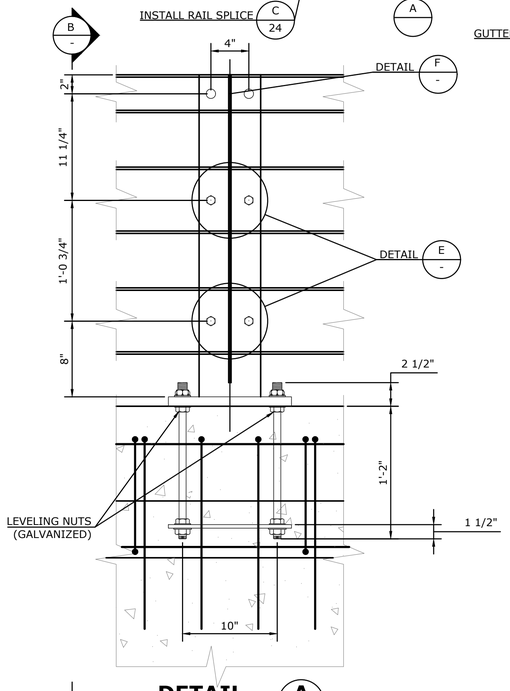
SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D	JUDD ROAD	F.D.	22007.10		22	25



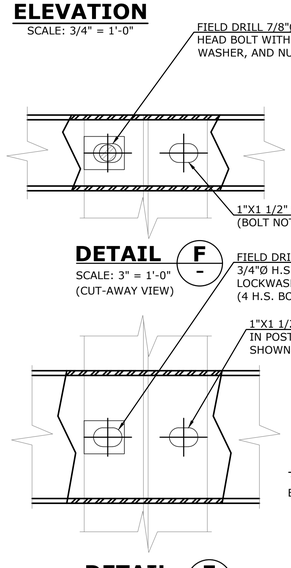
PLAN
SCALE: 3/4" = 1'-0"



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



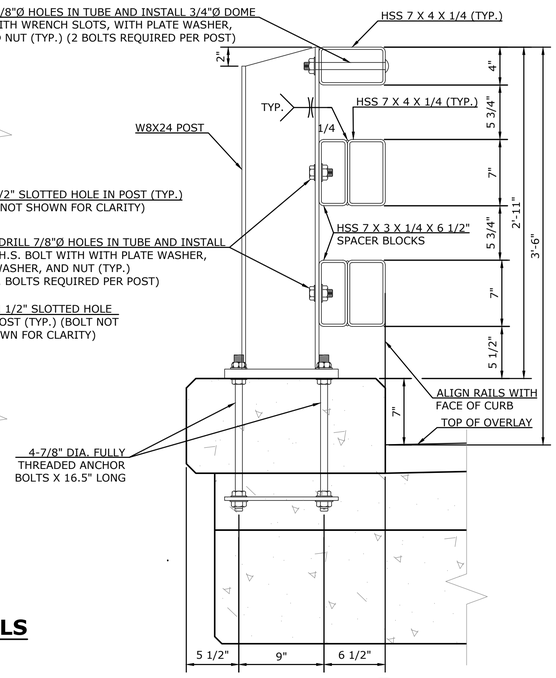
DETAIL A
SCALE: 1 1/2" = 1'-0"



DETAIL F
SCALE: 3" = 1'-0"
(CUT-AWAY VIEW)

DETAIL E
SCALE: 3" = 1'-0"
(CUT-AWAY VIEW)

CURB AND POST DETAILS
SCALE: AS NOTED



SECTION B
SCALE: 1 1/2" = 1'-0"

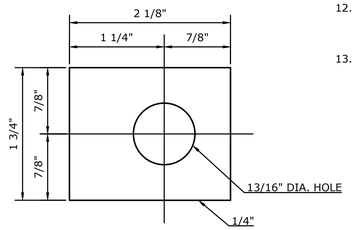
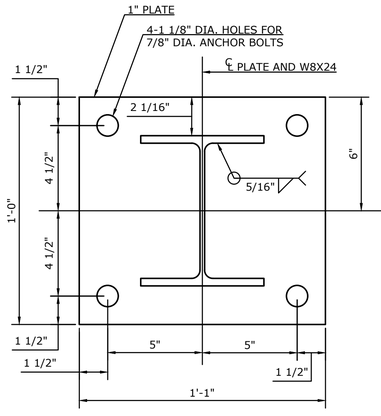
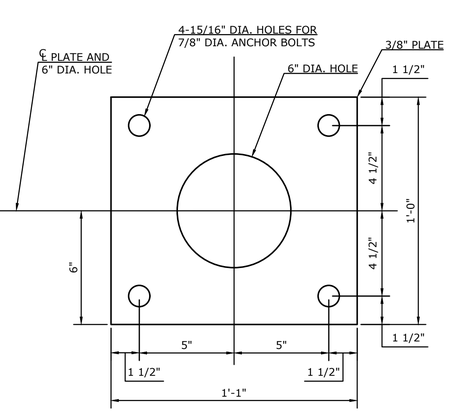


PLATE WASHER DETAIL
SCALE: N.T.S.



BASE PLATE DETAIL
SCALE: 3" = 1'-0"



ANCHORAGE PLATE DETAIL
SCALE: 3" = 1'-0"

BRIDGE RAIL NOTES:

1. THE 3-TUBE CURB MOUNTED BRIDGE RAIL HAS BEEN EVALUATED AT TEST LEVEL 4 (TL-4) AND COMPLIES WITH MASH 2016.
2. CONCRETE FOR THE CURB AND END WALL SHALL BE CLASS PCC04462. THE COMPRESSIVE STRENGTH OF THE CONCRETE, BASED ON TEST CYLINDERS, SHALL BE NO LESS THAN 4,000 PSI PRIOR TO ALLOWING THE CJRB AND END WALL TO BE PLACED INTO SERVICE FOR THE PROTECTION OF VEHICULAR TRAFFIC.
3. THE REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 AND BE HOT DIP GALVANIZED.
4. THE 1 IN. DIAMETER PIPE SHALL CONFORM TO ASTM A53, GRADE B OR ASTM A501 AND SHALL BE GALVANIZED IN ACCORDANCE WITH REQUIREMENTS OF ASTM A123.
5. HOLLOW STRUCTURAL SHAPES SHALL CONFORM TO ASTM A500 GRADE C OR ASTM A501, GRADE B.
6. ALL OTHER STEEL SHALL CONFORM TO ASTM A572, GRADE 50 UNLESS NOTED OTHERWISE.
7. THE SILICON CONTENT OF THE STEEL USED FOR THE EXPOSED MEMBERS AND PLATE COMPONENTS SHALL FALL WITHIN THE RANGE OF 0 TO 0.04% OR 0.15% TO 0.25%.
8. ALL STEEL SHAPES, PLATES AND HOLLOW STRUCTURAL SECTIONS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
9. THE ANCHOR BOLTS SHALL CONFORM TO ASTM F1551, GRADE 105. THE NUTS SHALL CONFORM TO ASTM A563, GRADE DH. THE WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.
10. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125 GRADE A325, TYPE 1. NUTS HALL CONFORM TO ASTM A563, GRADE DH. CIRCULAR FLAT, HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695, CLASS 55.
11. DOME HEAD BOLTS WITH WRENCH SLOTS USED FOR THE TOP RAIL SHALL CONFORM TO ASTM F3125 GRADE A325, TYPE 1 OR ASTM A449, GRADE 1. NUTS SHALL CONFORM TO ASTM A563, GRADE DH. CIRCULAR FLAT, HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695, CLASS 55.
12. RAIL ELEMENTS SHALL BE FABRICATED TO THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE STRUCTURE. POSTS SHALL BE INSTALLED NORMAL TO GRADE IN THE LONGITUDAL DIRECTION AND VERTICAL IN THE TRANSVERSE DIRECTION.
13. ALL BRIDGE RAIL MATERIALS, INCLUDING ANCHOR PLATES, ANCHOR BOLTS, CONCRETE INSERTS AND HARDWARE, SHALL BE PAID FOR UNDER THE ITEM "3-TUBE CURB MOUNTED BRIDGE RAIL".

NO.	DATE	DESCRIPTION

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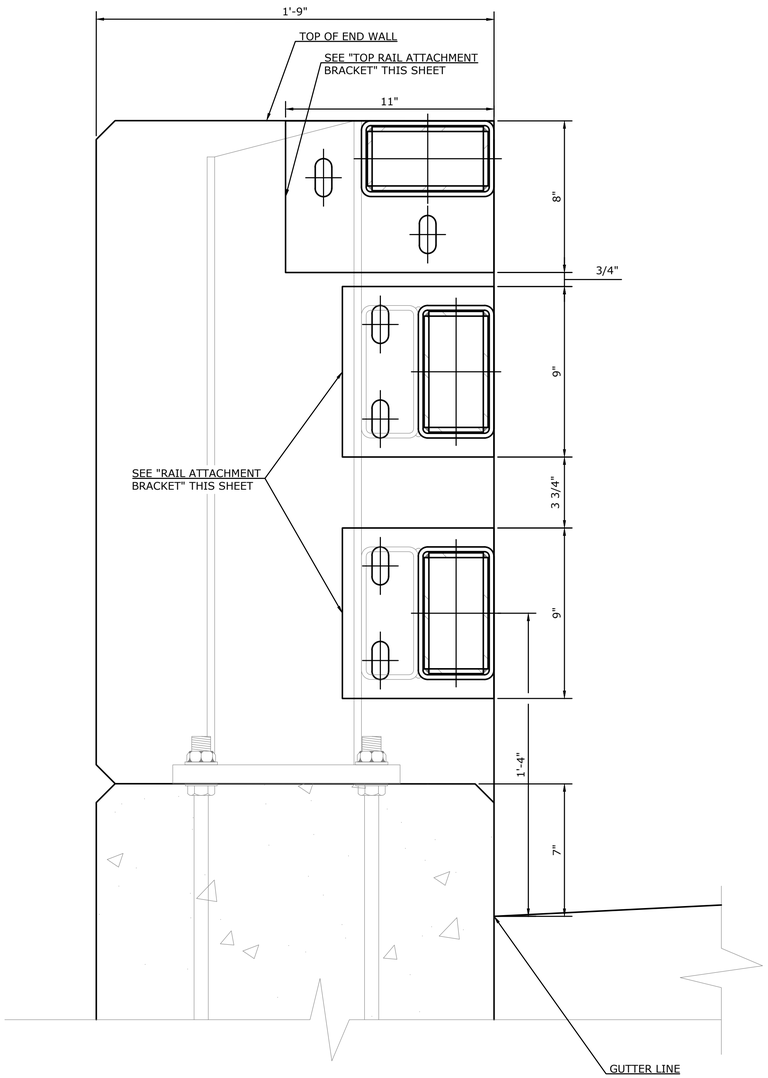
PREPARED FOR

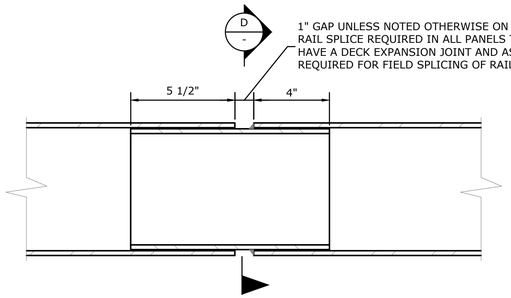
TOWN OF MONROE
7 FAN HILL ROAD
MONROE, CT 06468

REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
3 TUBE CURB MOUNTED BRIDGE RAIL
DETAILS - 1

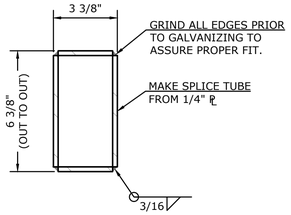
SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D. –	22007.10	–	23	25



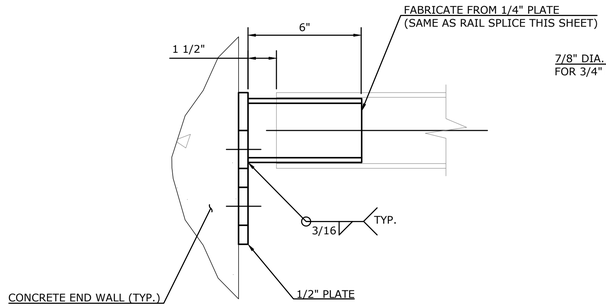
SECTION T 23
SCALE: 3" = 1'-0"



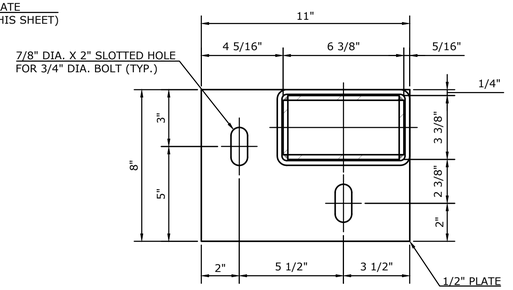
SECTION C 23
SCALE: 3" = 1'-0"



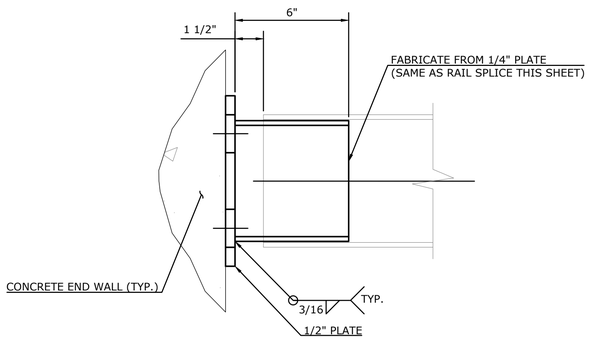
SECTION D -
SCALE: 3" = 1'-0"



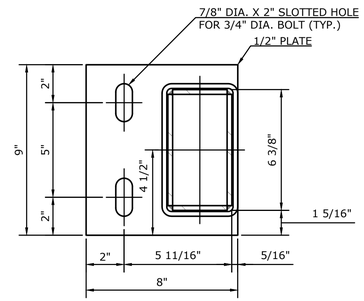
TOP RAIL ATTACHMENT BRACKET DETAIL ELEVATION
SCALE: 3" = 1'-0"



TOP RAIL ATTACHMENT BRACKET DETAIL PLAN
SCALE: 3" = 1'-0"



RAIL ATTACHMENT BRACKET DETAIL ELEVATION
SCALE: 3" = 1'-0"



RAIL ATTACHMENT BRACKET DETAIL PLAN
SCALE: 3" = 1'-0"

CONCRETE INSERTS: *

HOT-DIP GALVANIZED EXPANDED COIL CONCRETE INSERTS WITH CLOSED-BACK INSERTS THREADED TO RECEIVE 3/4" DIA. ASTM A307 BOLTS.
MINIMUM INSERT LENGTH = 4"
MINIMUM SAFE WORKING LOAD IN TENSION = 4000 LBS.

*****

AS AN ALTERNATIVE TO CAST IN INSERTS, THE CONTRACTOR MAY FIELD DRILL HOLES IN THE COMPLETED END BLOCKS AND INSTALL A THREADED ROD/NUT SYSTEM TO SECURE THE BRACKETS. DRILLING METHODS SHALL BE BY CORE DRILLING AND SHALL NOT DAMAGE THE CONCRETE. IF THE CONTRACTOR ELECTS TO USE A DRILLED IN SYSTEM HE/SHE SHALL SUBMIT HIS/HER METHODS AND MATERIALS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF THE END BLOCKS. ALL MATERIALS SHALL MEET OR EXCEED THE REQUIREMENTS INDICATED FOR THE CONCRETE INSERTS.

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PREPARED FOR
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REPLACEMENT OF BRIDGE 04929
JUDD ROAD OVER MILL RIVER
3 TUBE CURB MOUNTED BRIDGE RAIL
DETAILS - 2

SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	– F.D.	– 22007.10	–	24	25

NOTES FOR GUIDE RAIL ATTACHMENTS:

THE 7/8" DIAMETER ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A449.

NUTS SHALL BE HEAVY HEX AND CONFORM TO THE REQUIREMENTS OF ASTM A563, PROPERTY CLASS 10S.

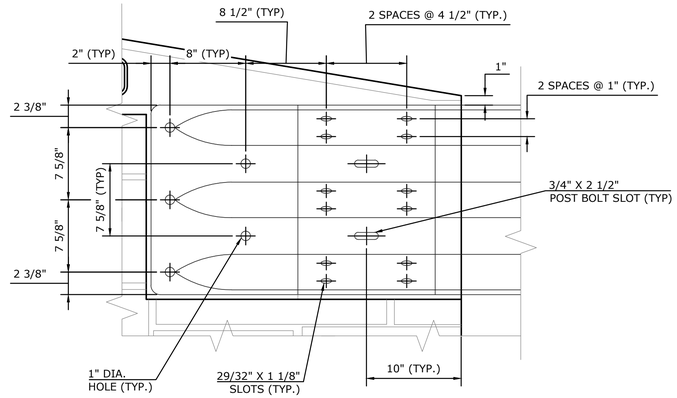
WASHERS SHALL BE CIRCULAR, HARDENED WASHERS CONFORMING TO THE REQUIREMENTS OF ASTM F436.

ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.

ANCHOR PLATES SHALL CONFORM TO ASTM A36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

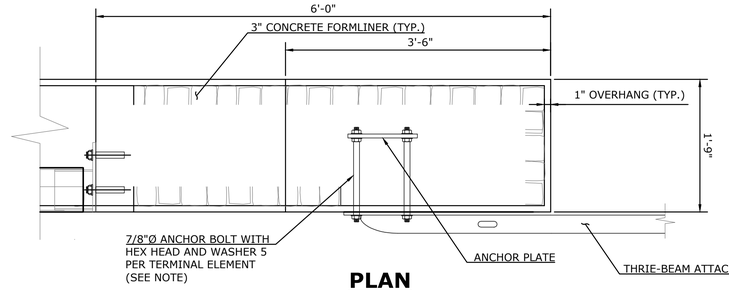
ALL ANCHORAGE MATERIALS-INCLUDING THE ANCHOR PLATES, ANCHOR BOLTS AND HARDWARE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "THRIE BEAM BRIDGE ATTACHMENT".

BRIDGE IDENTIFICATION PLACARDS:
THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW BRIDGE IDENTIFICATION SIGNS AT THE LEADING END OF EACH WINGWALL ON THE TRAFFIC SIDE. THE SIGNS SHALL BE FABRICATED WITH 40 GAUGE ALUMINUM SHEET METAL. THE SIGNS SHALL BE 14" X 12" WITH 3" WHITE REFLECTIVE BLOCK LETTERS ON GREEN REFLECTIVE SHEETINGS. EACH SIGN SHALL READ "04929". ALL COST ASSOCIATED WITH PROVIDING AND INSTALLING THE BRIDGE SIGNS SHALL BE COVERED UNDER ITEM #1208931 - SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING). THE FINAL LOCATION AND ATTACHMENT METHOD FOR THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

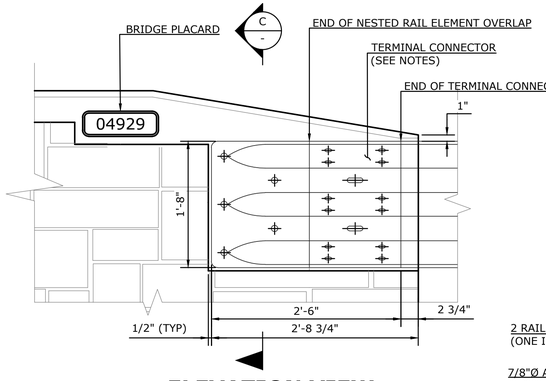


DETAIL A
SCALE: 1 1/2" = 1'-0"

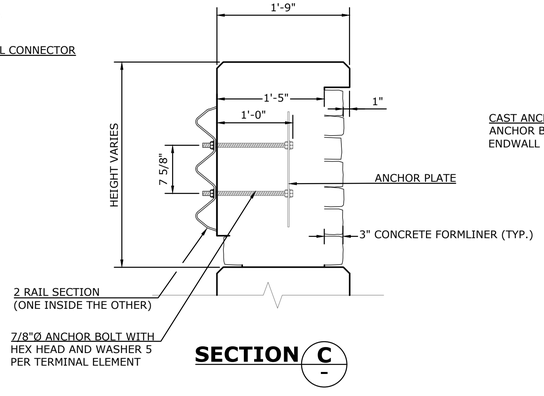
NOTE:
1. SEE CONNDOT STANDARD SHEETS HW-910_26-27 FOR DETAILS



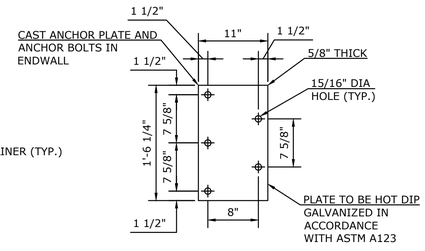
PLAN
SCALE: 1" = 1'-0"



ELEVATION VIEW

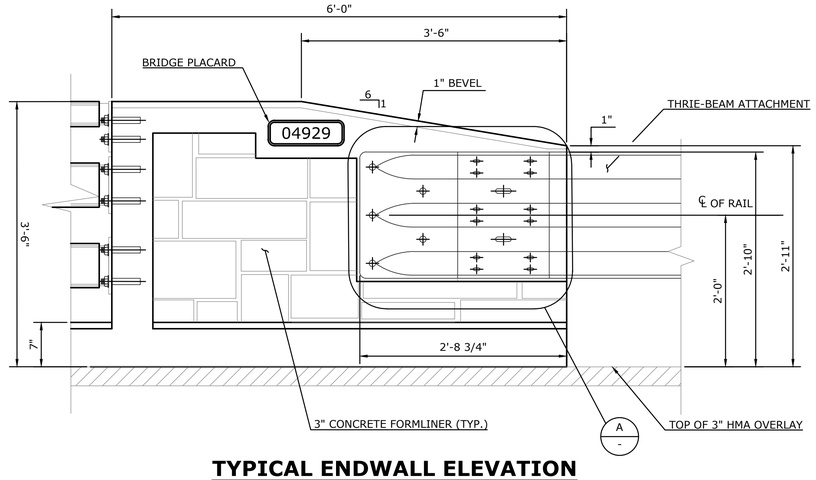


SECTION C



ANCHOR PLATE DETAIL

THRIE-BEAM ATTACHMENT ANCHORED TO ENDWALL DETAILS
SCALE: 1" = 1'-0"



TYPICAL ENDWALL ELEVATION (THRIE-BEAM ATTACHMENT)
SCALE: 1" = 1'-0"

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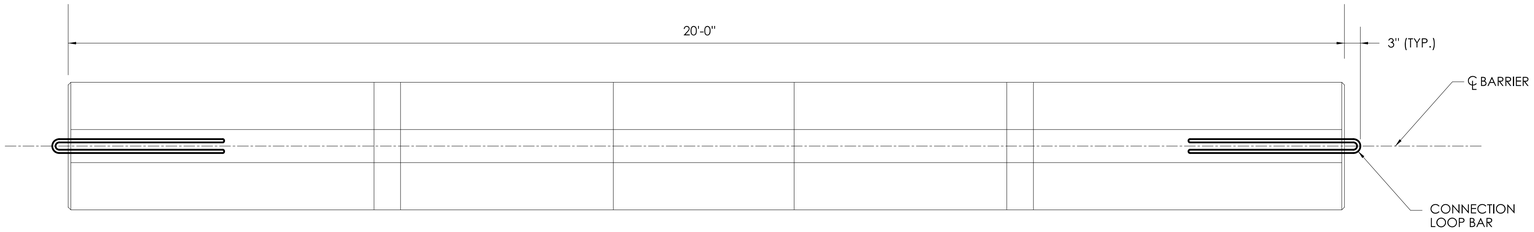
REPLACEMENT OF BRIDGE 04929 JUDD ROAD OVER MILL RIVER THRIE-BEAM ATTACHMENT DETAILS

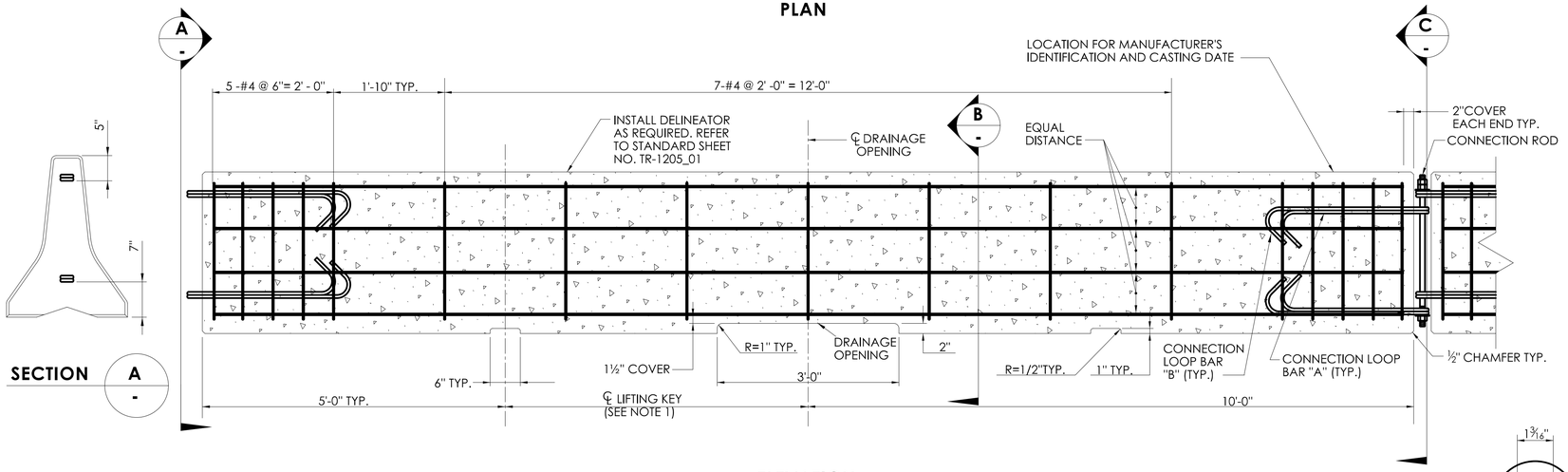
SIZE	PROJECT	FILE NAME	NUMBER	REV.	SHEET	OF
D –	JUDD ROAD	F.D. – 22007.10	–		25	25

GENERAL NOTES:

1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" BASED ON TL-3 CRASH TESTS WITH 240' OF TPCBC.

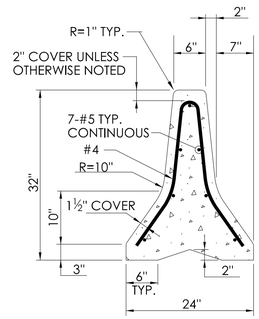


PLAN

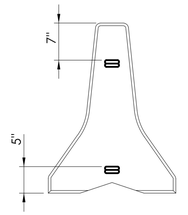


ELEVATION

SECTION A -



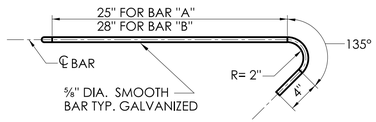
SECTION B -



END VIEW C -

WASHER DETAIL

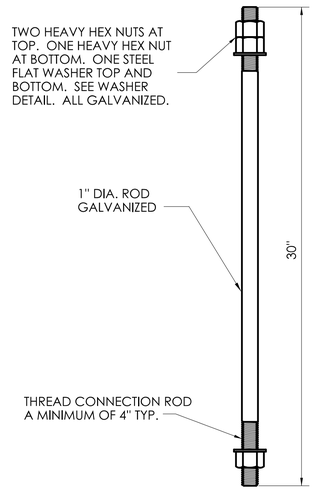
PLAN



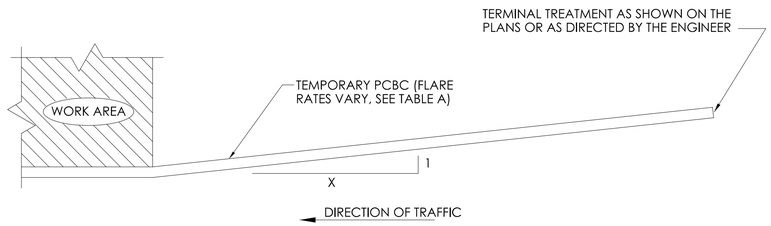
ELEVATION

BAR " A " = 6' - 0" TOTAL
BAR " B " = 6' - 6" TOTAL

CONNECTION LOOP BAR



CONNECTION ROD



PLAN - TYPICAL INSTALLATION

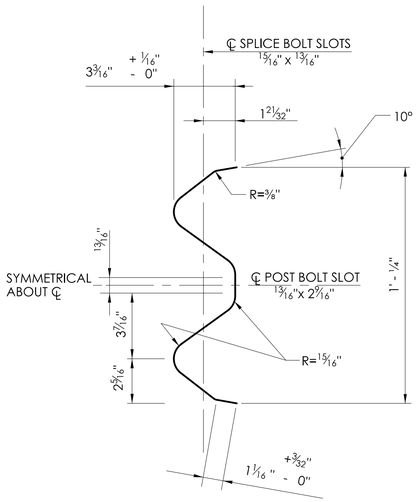
TABLE A FLARE RATES

* SPEED	FLARE RATE (X : 1)
≤ 30MPH	4 : 1
> 30MPH BUT < 45MPH	6 : 1
≥ 45MPH NON-LIMITED ACCESS HIGHWAYS	8 : 1
ALL LIMITED ACCESS HGHWAYS	10 : 1

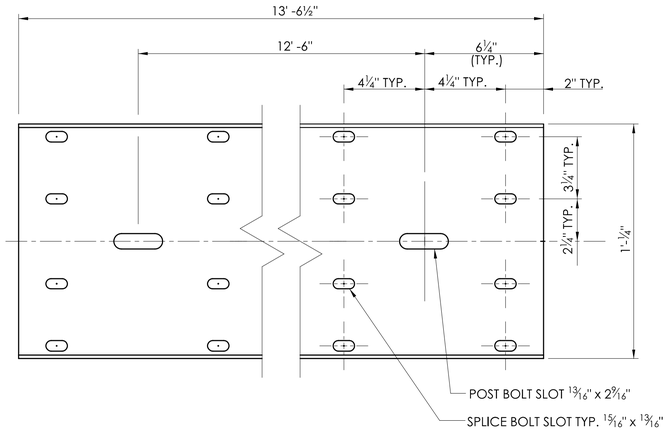
* DESIGN SPEED THROUGH THE WORK AREA.

	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:00:00-04'00'	APPROVED BY: Digitally signed by Calabrese, Michael Date: 2022.11.08 10:22:53-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: TEMPORARY PRECAST CONCRETE BARRIER CURB	STANDARD SHEET NO.: HW- 822_01

PLOTTED DATE: 9/21/2022

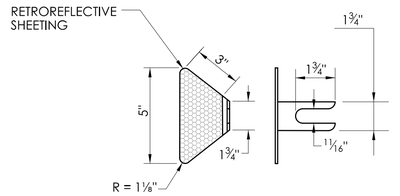


SECTION VIEW



ELEVATION VIEW

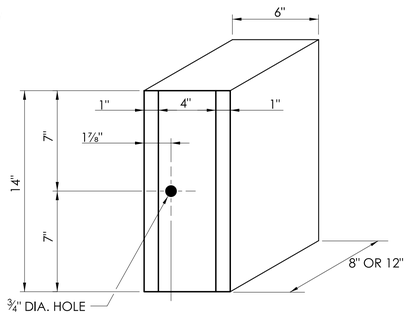
TYPICAL W-BEAM RAIL ELEMENT



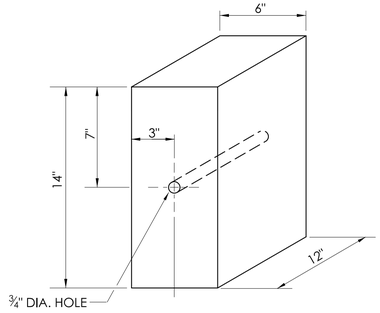
W-BEAM DELINEATOR

GENERAL NOTES:

1. W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.
2. W-BEAM GUIDERAIL SHALL USE CLASS A (12 GAUGE), TYPE II W-BEAM RAIL ELEMENTS.
3. SEVEN FOOT LONG STEEL POSTS (W6 X 8.5) ARE TO BE INSTALLED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



8" or 12" PLASTIC BLOCKOUT
NOMINAL DIMENSIONS

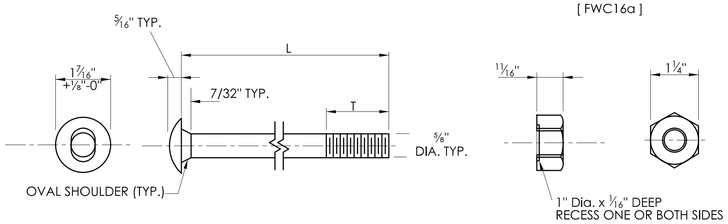


12" WOOD BLOCKOUT

W-BEAM DELINEATOR INSTALLATION NOTES:

1. INSTALL W-BEAM DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 8' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE W-BEAM DELINEATORS SHALL BE INSTALLED ON ANY LENGTH OF GUIDERAIL.
2. THE SPACING OF W-BEAM DELINEATORS IS 50 FEET, INSTALLED AT RAIL SPLICE LOCATIONS. SPACING IS 25 FEET ON RADII LESS THAN 300 FEET.
3. NO W-BEAM DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
4. RETROREFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.

WASHER
[FWC16a]



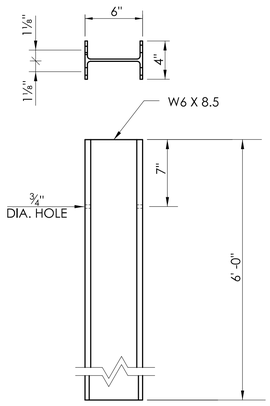
BUTTONHEAD BOLT

HEX NUT

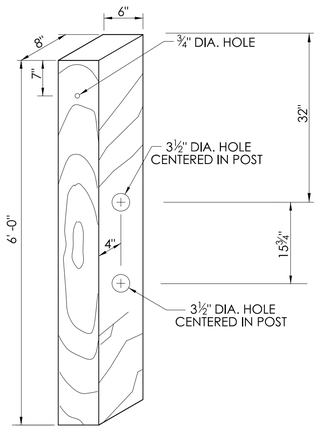
DESIGNATOR	L	T	INTENDED USE
FBB01	1 1/4"	1 1/8"	RAIL SPLICE BOLTS
FBB02	2"	1 3/4"	RUB RAIL BOLTS
FBB03	10"	4"	POST BOLTS (8" BLOCK OUTS)
	14"	4"	POST BOLTS (12" BLOCK OUTS)
FBB04	18"	4"	POST BOLTS (2-8" BLOCK OUTS)
	22"	4"	POST BOLTS (CRT WOOD POST SYSTEM)

5/8" BUTTON HEAD BOLT(S) AND RECESSED NUT(S)

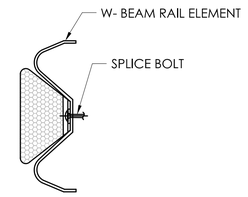
NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.



STEEL POST
6' - 0" LONG



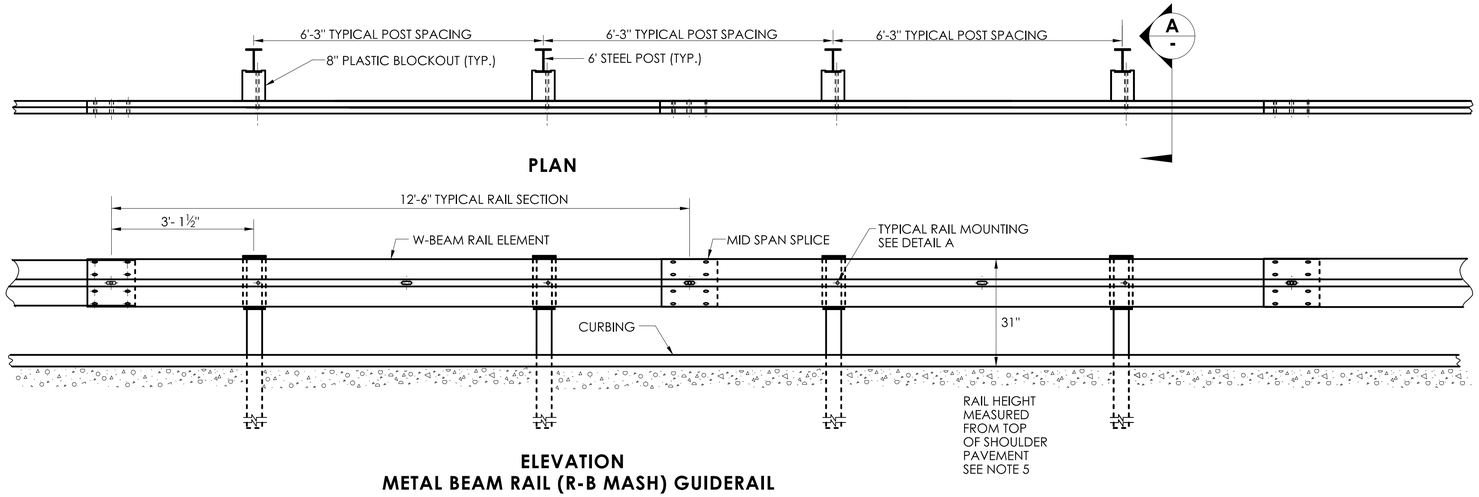
CONTROL RELEASE TIMBER (CRT) POST
6' - 0" LONG



W-BEAM DELINEATOR INSTALLATION

	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:10:20-04'00'	APPROVED BY: Digitally signed by Calabrese, Michael Date: 2022.11.08 09:54:27-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: MASH W-BEAM HARDWARE	STANDARD SHEET NO.: HW- 910_20

PLOTTED DATE: 9/21/2022

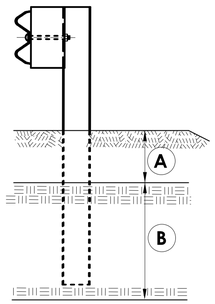


PLAN

ELEVATION
METAL BEAM RAIL (R-B MASH) GUIDERAIL

GENERAL NOTES:

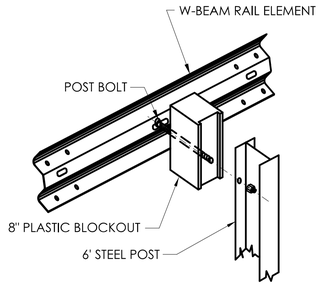
1. SEE SHEET HW-910_20 FOR MASH W-BEAM HARDWARE AND W-BEAM DELINEATOR DETAILS.
2. THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITIONS TO BRIDGE PARAPETS SHOULD BE AVOIDED. DO NOT USE ADDITIONAL BLOCKS IF IT CAUSES THE POST TO BE DRIVIEN BEYOND AN EMBANKMENT HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.
3. IF BLOCKOUTS DO NOT AVOID POST FROM OBSTRUCTION, ONE POST MAY BE OMITTED IF 50 FEET OF GUIDERAIL EXISTS ON BOTH SIDES OF LOCATION. USE METAL BEAM RAIL SPAN SECTION TYPE II OR III FOR MORE THAN ONE CONSECUTIVE OMITTED POST, SEE SHEET HW-910_24.
4. W-BEAM GUIDERAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING.
5. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
6. RAIL HEIGHT CONSTRUCTION TOLERANCE IS +/- 1 INCH.
7. FOR NEW CONSTRUCTION, PLACE 6 INCH LAYER OF PROCESS AGGREGATE. FOR CONSTRUCTION PROJECTS WITH GUIDERAIL UPGRADE, THE CONTRACT PLANS MAY CALL OUT PROCESS AGGREGATE ONLY TO BE PLACE IN LOCATION(S) OF EXISTING VERTICAL PAVEMENT EDGE DROP OFF AS A LEVELING MATERIAL, FILLING IN DEPRESSED AREAS.



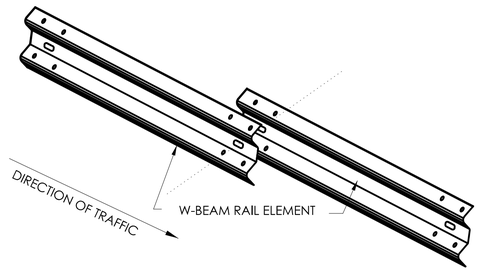
ELEVATION

CONDITION 1 :
IF SOIL DEPTH IS ≤ 18" DEEP (A) DRILL 20" DIA. HOLE 24" INTO LEDGE. (B)

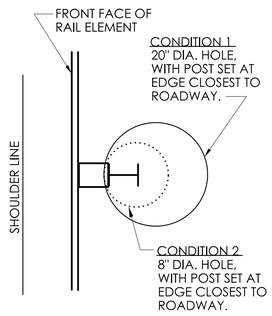
CONDITION 2 :
IF SOIL DEPTH IS > 18" DEEP (A) DRILL 8" DIA. HOLE 12" INTO LEDGE (B) OR TO THE DEPTH OF FULL EMBEDMENT WHICHEVER IS LESS.



DETAIL A
RAIL MOUNTING

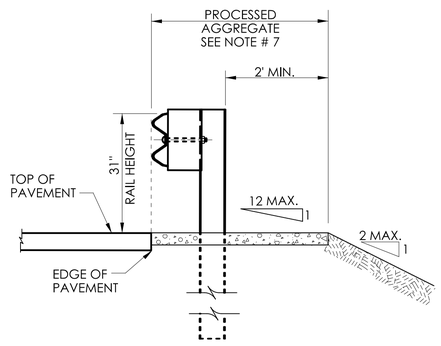


LAP W-BEAM RAIL SECTIONS
NOTE: EIGHT (8) SPLICE BOLTS PER JOINT



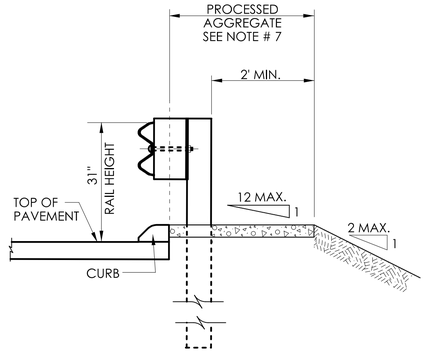
PLAN

GUIDERAIL POSTS IN ROCK



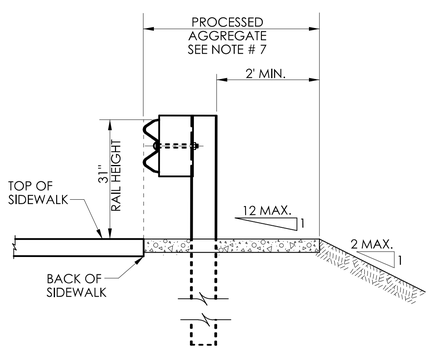
SECTION A -

NO CURB APPLICATION



SECTION A -

CURB APPLICATION



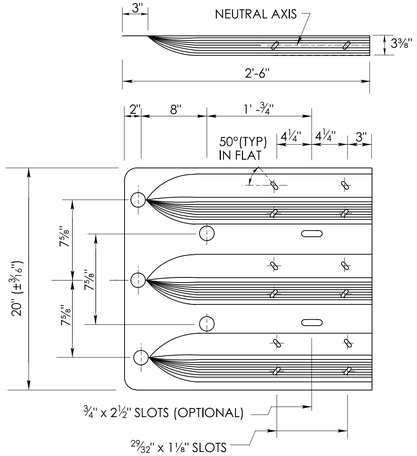
SECTION A -

SIDEWALK APPLICATION

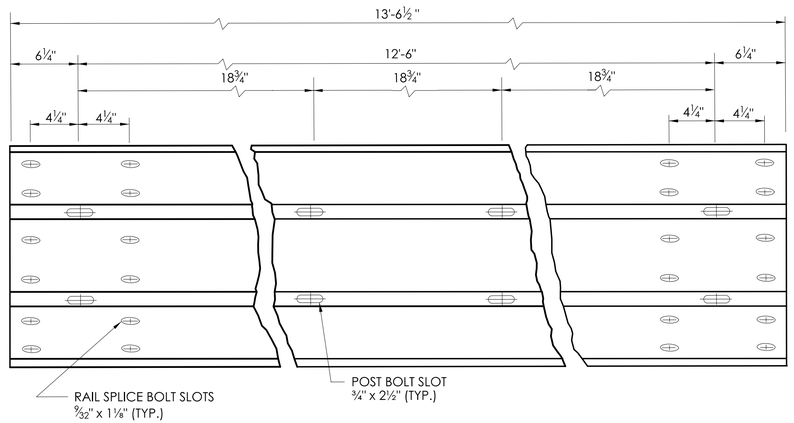
	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:11:06-04'00'	APPROVED BY: Digitally signed by Calabrese, Michael Date: 2022.11.08 09:53:37-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	**CTDOT STANDARD SHEET**	STANDARD SHEET TITLE: **METAL BEAM RAIL (R-B MASH) GUIDERAIL**	STANDARD SHEET NO.: **HW- 910_21**

PLOTTED DATE: 9/21/2022

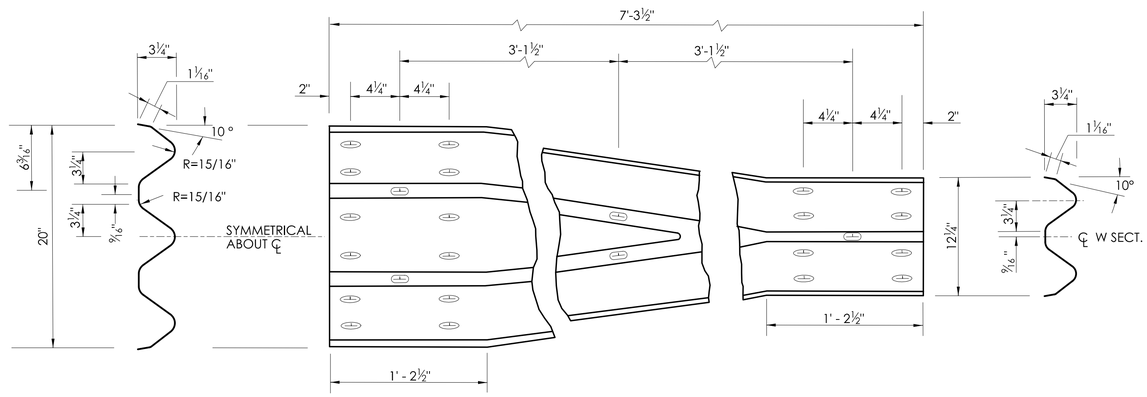
GENERAL NOTE:
1. ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



THRIE-BEAM TERMINAL CONNECTOR
[RTE01b]
(10 GUAGE)



TYPICAL THRIE-BEAM RAIL ELEMENT
[RTM19a FOR 6'-3" AND RTM08a FOR 12'-6" THRIE-BEAM LENGTHS]
(12 GUAGE)



TYPICAL THRIE-BEAM TRANSITION ELEMENT
[RWT01b]
(10 GAUGE)

12" WOOD BLOCKOUT
[PDB18]
(FOR POSTS 1 TO 8)

STEEL POST 7' - 0" LONG
[PDB18]
(FOR POSTS 1 TO 3)

STEEL POST 6' - 0" LONG
[PDB18]
(FOR POSTS 4 TO 8)

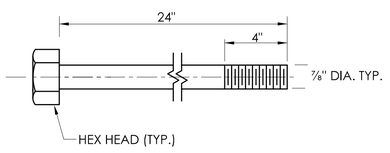
12" WOOD BLOCKOUT
[PDB18]
(FOR POST 9 ONLY)

END VIEW OF TRANSITION

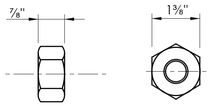
STEEL POST 6' - 0" LONG
[PDB18]
(FOR POST 9 ONLY)

12" WOOD BLOCKOUT
[PDB10a]
(FOR POSTS 10 TO 12)

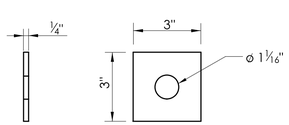
STEEL POST 6' - 0" LONG
[PDB18]
(POSTS 10 TO 12)



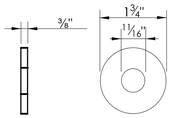
LONG HEAVY HEX HEAD BOLT
[FBX22b]
(FOR THRIE-BEAM TERMINAL CONNECTOR)



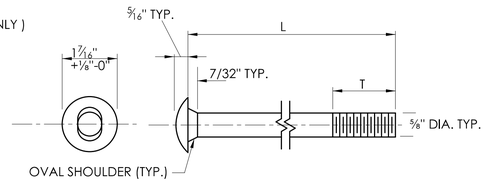
HEX NUT



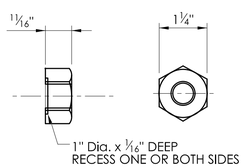
SQUARE PLATE WASHER
[FWR10]
(For THRIE-BEAM TERMINAL CONNECTOR, PLACED BETWEEN HEX NUT AND BACKSIDE OF CONCRETE STRUCTURE)



WASHER
[FWC16a]
(FOR WASHERS PLACED BETWEEN SPLICE NUT AND THRIE-BEAM TERMINAL CONNECTOR)



BUTTONHEAD BOLT



HEX NUT

DESIGNATOR	L	T	INTENDED USE
FBB02	2"	1⅜"	RAIL SPLICE BOLTS
FBB06	14"	4"	POST BOLT (12" BLOCK OUTS)

5/8" BUTTON HEAD BOLT(S) AND RECESSED NUT(S)

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.

NOT TO SCALE

SIGNATURE BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:
Digitally signed by Leo Fontaine, P.E.
Date: 2022.09.27 15:12:04-04'00'

APPROVED BY:
Digitally signed by Calabrese, Michael
Date: 2022.11.08 09:50:41-05'00'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

CTDOT STANDARD SHEET

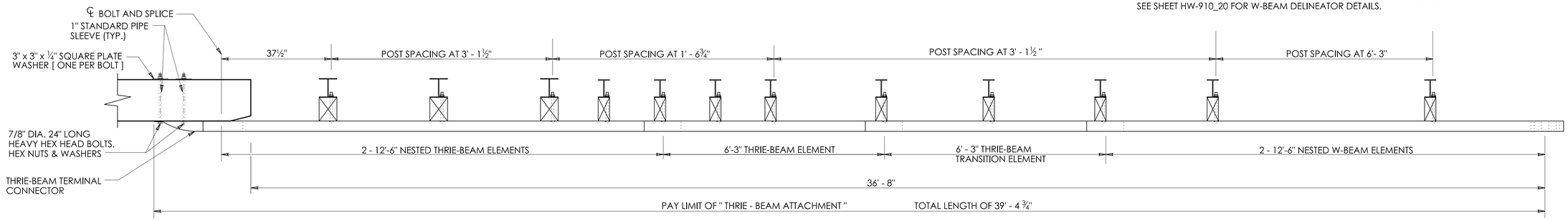
STANDARD SHEET TITLE:
THRIE-BEAM ATTACHMENT HARDWARE

STANDARD SHEET NO.:
HW- 910_26

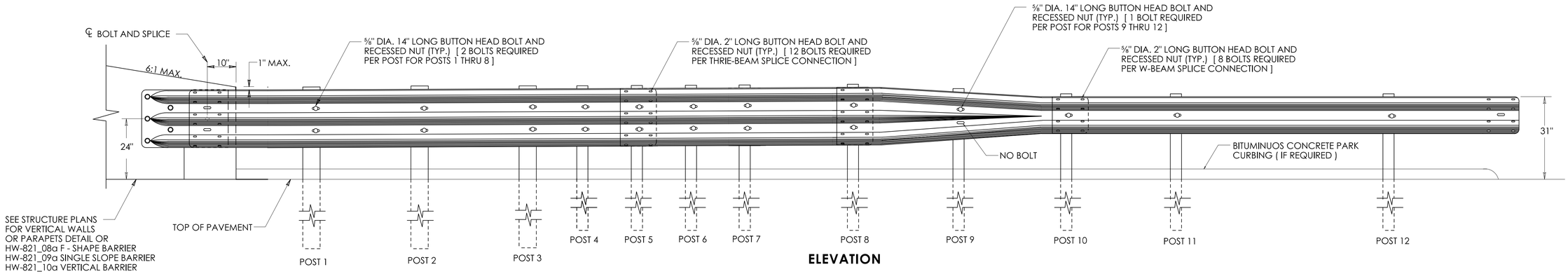
PLOTTED DATE: 9/21/2022

GENERAL NOTES:

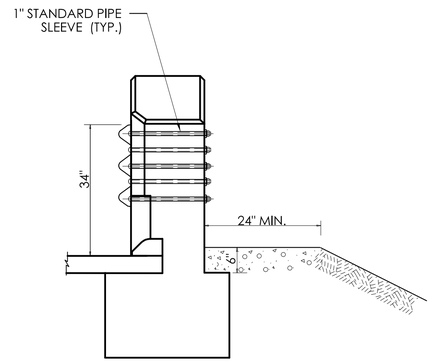
1. PROVIDE 2 FOOT MINIMUM EMBANKMENT BETWEEN THE BACK OF THE GUIDERAIL POST(S) / CONCRETE BARRIER AND THE BREAK IN THE FILL SLOPE.
2. INSTALL THRIE - BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDERAIL ELEMENTS, EXCEPT FOR SINGLE DIRECTION ROADWAY APPPLICATION ONLY WHERE THE THRIE - BEAM TERMINAL CONNECTOR IS INSTALLED OUTSIDE OF NESTED GUIDERAIL ELEMENTS ON THE TRAILING END.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING. SEE SHEET HW-910_20 FOR W-BEAM DELINEATOR DETAILS.



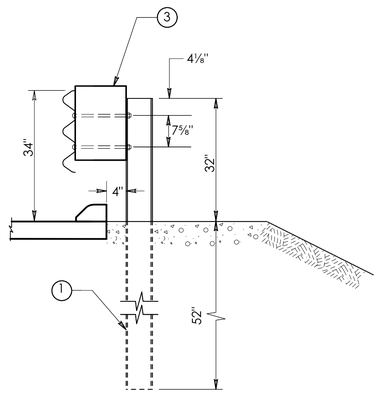
PLAN



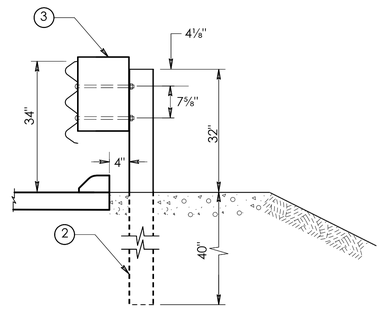
ELEVATION



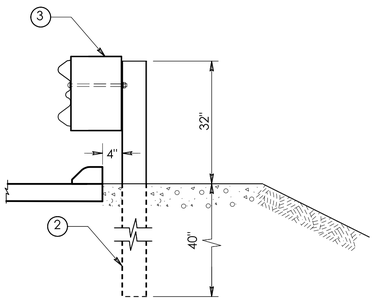
THRIE BEAM CONNECTION



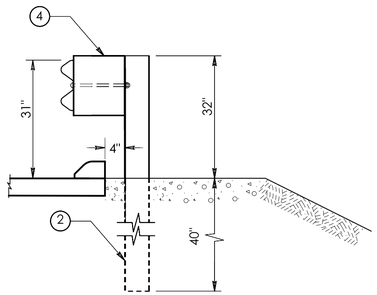
POST 1,2 & 3



POST 4,5,6,7 & 8



POST 9



POST 10, 11 & 12

LEGEND

1. W6 x 15, 7 FOOT LONG STEEL POST
2. W6 x 8.5 OR W6 x 9, 6 FOOT LONG STEEL POST
3. 6" x 12" x 19" TREATED TIMBER BLOCKOUT
4. 6" x 12" x 14 ¼" TREATED TIMBER BLOCKOUT

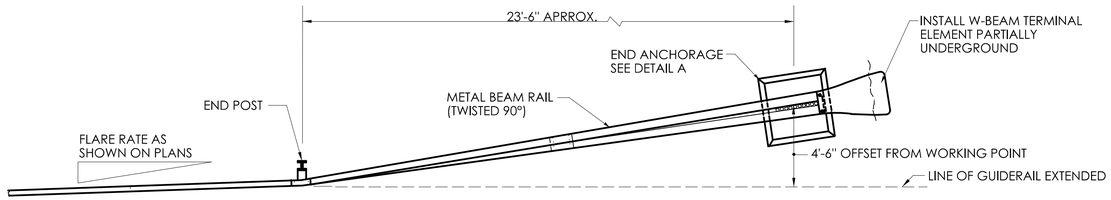
MASH 2016 COMPLIANT
APPROVAL ID. 2019-01

	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:13:03-04'00'	APPROVED BY: Digitally signed by Calabrese, Michael Date: 2022.11.08 09:50:07-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: THRIE-BEAM ATTACHMENT / STANDARD SHEET NO.: HW- 910_27

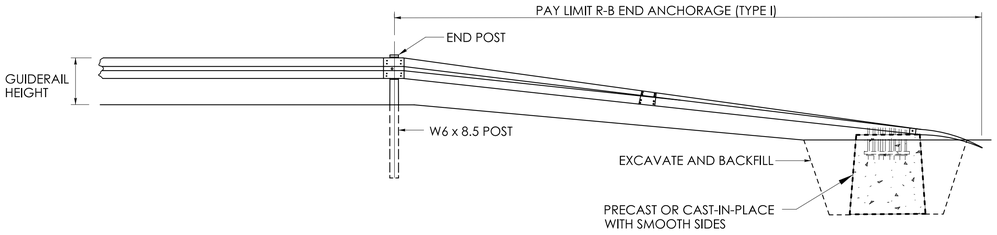
PLOTTED DATE: 9/21/2022

GENERAL NOTES:

1. J-HOOK BOLTS MAY BE SUBSTITUTED FOR BOTTOM PLATE ANCHORAGE IN CONCRETE END ANCHORS USING THE SAME SIZE, STRENGTH, AND LENGTH AS NOTED ON THE PLANS.
2. INSTALLATION OF RADII DIFFERENT THAN WHAT IS SHOWN IN DETAIL "C" FOR R-B END ANCHORAGE TYPE II MUST BE APPROVED BY THE ENGINEER.

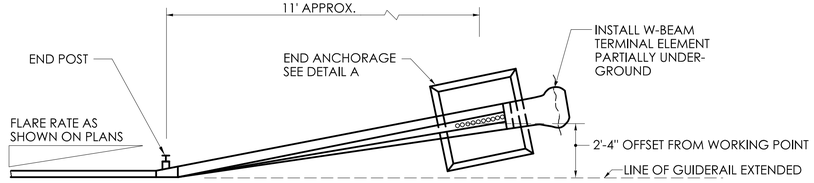


PLAN

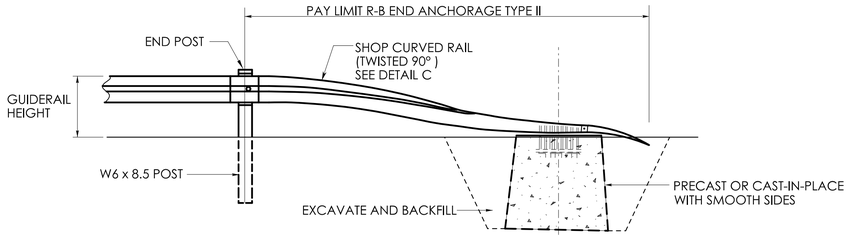


ELEVATION

R-B END ANCHORAGE TYPE I

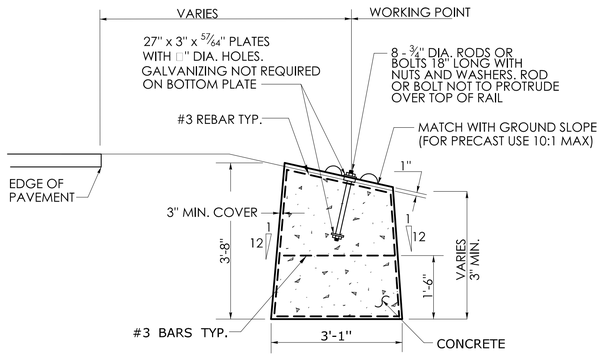


PLAN

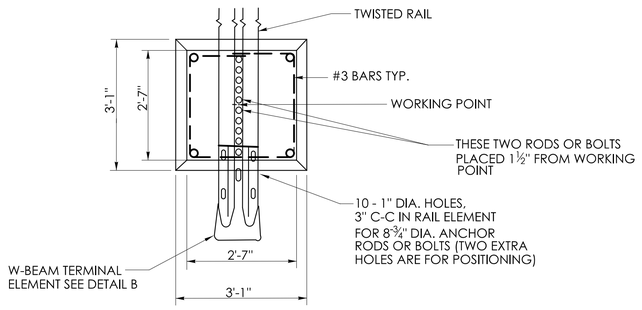


ELEVATION

R-B END ANCHORAGE TYPE II

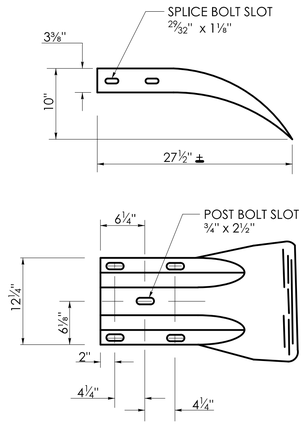


ELEVATION

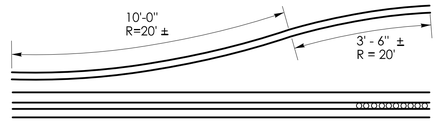


PLAN

DETAIL A
ROADSIDE CONCRETE END ANCHOR
SEE NOTE 2



DETAIL B
W-BEAM TERMINAL ELEMENT



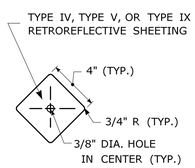
DETAIL C
SHOP CURVED RAIL
SEE NOTE 2

	NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:11:34-04'00'	APPROVED BY: Digitally signed by Calabrese, Michael Date: 2022.11.08 09:48:55-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: R-B END ANCHORAGE TYPE I AND II	STANDARD SHEET NO.: HW- 911_01

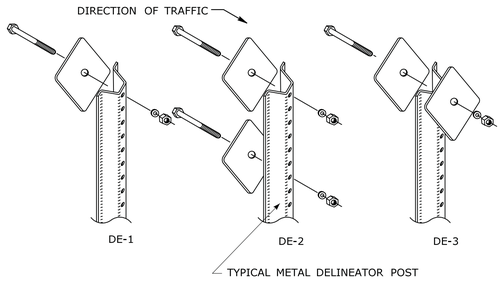
PLOTTED DATE: 9/21/2022

DELINEATORS DE-1, DE-2, DE-3

INSTALLATION ON DELINEATOR POSTS



SIGN #51-5028 WHITE
SIGN #51-5029 YELLOW



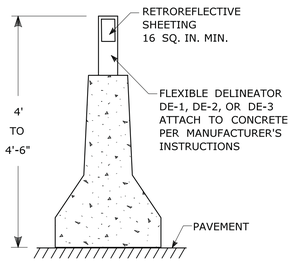
COLORS: - YELLOW OR WHITE.

DELINEATORS - .0625" THK. ALUMINUM ALLOY.

FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.

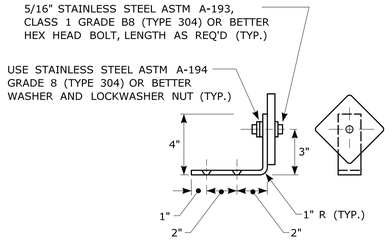
DELINEATORS SHALL BE FASTENED WITH 5/16" STAINLESS STEEL ASTM A-193 CLASS 1, GRADE B8 (TYPE 304) OR BETTER HEX HEAD BOLT (LENGTH AS REQUIRED), WASHER AND FIBER INSERT SELF LOCKING NUT, ON STANDARD METAL DELINEATOR POST.

INSTALLATION ON PERMANENT CONCRETE BARRIER, BRIDGE PARAPETS AND RETAINING WALLS

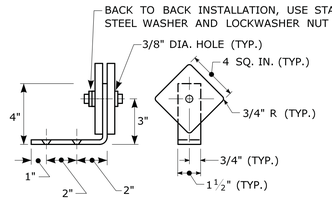


DELINEATORS DE-1, DE-2, DE-3 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

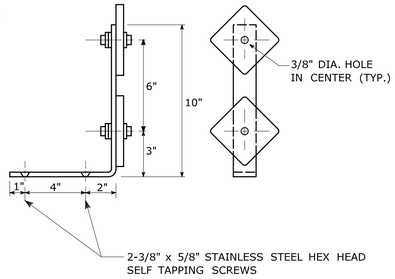
DELINEATORS DE-4, DE-4A, DE-5 FOR INSTALLATION ON METAL BRIDGE RAIL



DE-4



DE-4A

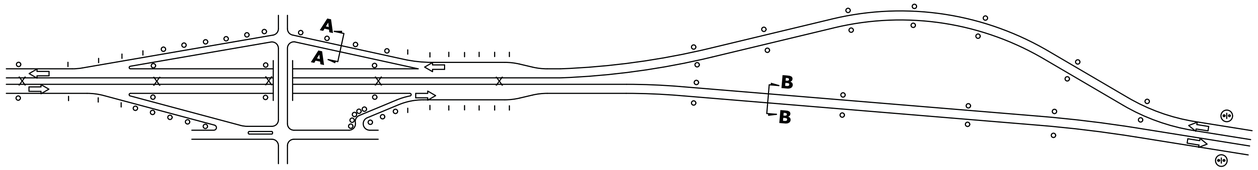


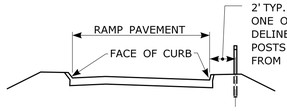
DE-5

COLORS: - YELLOW OR WHITE.
DELINEATORS - .0625" THK. ALUMINUM ALLOY.
BRACKET - .125" THK. ALUMINUM ALLOY, AND SHALL CONFORM TO SPECIFICATION M.18.07-03 BRIDGE RAIL MOUNTING BRACKETS.
FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.
USE STAINLESS STEEL WASHERS ON FACE OF DELINEATORS, 5/8" O.D. X 3/8" I.D. X .032" THK. (TYP.)

DELINEATORS TYPE DE-4, DE-4A, AND DE-5 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

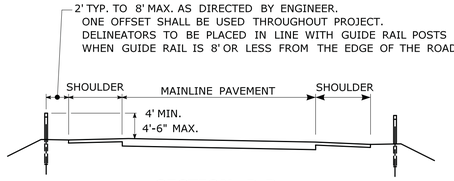
TYPICAL MAINLINE & INTERCHANGE DELINEATION





SECTION A-A

DELINEATOR PLACEMENT ON RAMPS
ON TANGENT SECTIONS - RIGHT SIDE OF RAMP
ON CURVED SECTIONS - BOTH SIDES OF CURVE



SECTION B-B

DELINEATOR PLACEMENT ON MAINLINE

DELINEATOR SPACING NOTES:

1) AT LOCATIONS WHERE THE MEDIAN WIDTH (BETWEEN SHOULDERS) IS 12' OR LESS, AND MEDIAN BEAM RAIL IS PRESENT, TYPE DE-3 DELINEATORS SHALL BE MOUNTED WITHIN THE MEDIAN BEAM RAIL.
2) SPACING ON MAINLINE EXPRESSWAY TANGENTS SHALL BE 400'.
3) SPACING ON MAINLINE EXPRESSWAY CURVES SHALL BE AS SPECIFIED IN TABLE 3F-1 OF THE MUTCD.
4) ON ACCELERATION AND DECELERATION LANES AND ON-RAMP TANGENT SECTIONS, DELINEATOR SPACING SHALL BE 100'.
5) ON CURVED PORTIONS OF RAMPS, DELINEATOR SPACING SHALL BE IN ACCORDANCE WITH TABLE 3F-1 OF THE MUTCD, BUT NOT TO EXCEED 100'.

LEGEND:

- ∘ DE-1 DELINEATORS OR DE-4 DELINEATOR ASSEMBLY
- ı DE-2 DELINEATORS OR DE-5 DELINEATOR ASSEMBLY
- X DE-3 DELINEATORS ASSEMBLY OR DE-4A DELINEATOR
- (H) D10-1, 2, 3, OR 4 ASSEMBLY TO BE INSTALLED WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

COLOR APPLICATION, FOR DE-1 THRU DE-5

LEFT SIDE OF ALL ROADWAYS AND RAMPS - YELLOW
RIGHT SIDE OF ALL ROADWAYS AND RAMPS - WHITE

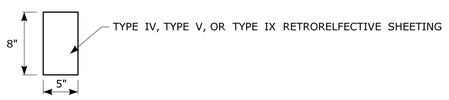
MUTCD TABLE 3F-1 APPROXIMATE SPACING FOR DELINEATORS ON HORIZONTAL CURVES

RADIUS (R) OF CURVE (feet)	APPROXIMATE SPACING (S) ON CURVE (feet)
50	20
115	25
180	35
250	40
300	50
400	55
500	65
600	70
700	75
800	80
900	85
1,000	90

DISTANCE IN FEET WERE ROUNDED TO THE NEAREST 5 FEET. SPACING FOR SPECIFIC RADII MAY BE INTERPOLATED FROM TABLE. THE MINIMUM SPACING SHOULD BE 20 FEET. THE SPACING ON CURVES SHOULD NOT EXCEED 300 FEET. IN ADVANCE OF OR BEYOND A CURVE, AND PROCEEDING AWAY FROM THE END OF THE CURVE, THE SPACING OF THE FIRST DELINEATOR IS 2S, THE SECOND IS 3S, AND THE THIRD 6S BUT NOT TO EXCEED 300 FEET.

S REFERS TO THE DELINEATOR SPACING FOR SPECIFIC RADII COMPUTED FROM THE FORMULA: $S=3\sqrt{R-50}$.

DELINEATORS DE-7, DE-7A, DE-7B, DE-7D FOR INSTALLATION ON TEMPORARY PRECAST CONCRETE BARRIER CURB AND TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)



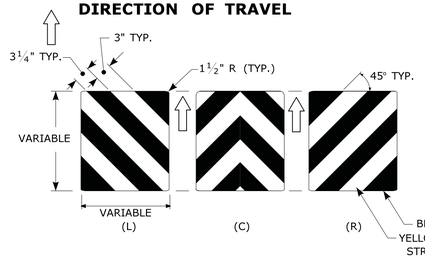
DE-7 ONE WAY WHITE
DE-7A ONE WAY YELLOW
DE-7B TWO WAY YELLOW
DE-7D TWO WAY WHITE
TEMPORARY PRECAST CONCRETE BARRIER DELINEATORS ARE TO BE FABRICATED OF ALUMINUM, STEEL, PLASTIC, OR OF A MATERIAL APPROVED BY THE ENGINEER AND MOUNTED IN THE CENTER OF EACH SECTION OF TEMPORARY BARRIER AS REQUIRED AND PER MANUFACTURER'S INSTRUCTIONS.

SPACING FOR TEMPORARY BARRIER CURB DELINEATORS:

ON THE LEADING TAPERED SECTION - EVERY 20',
ON THE FIRST 100' OF THE PARALLEL SECTION - EVERY 20',
ON THE REMAINING LENGTH - EVERY 100', MINIMUM OF 2 IF LESS THAN 100',
ALTERNATING ONE WAY TRAFFIC - EVERY 20',
ALL OTHER ROADWAYS SHALL BE DELINEATED IN ACCORDANCE WITH MUTCD.

DELINEATORS DE-7, DE-7A, DE-7B, AND DE-7D TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

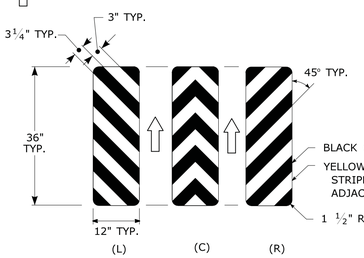
ATTENUATOR REFLECTORS SIGN #40-4266



THIS SHEETING WITHOUT A SUBSTRATE TO BE INSTALLED ON THE NOSE OF THE IMPACT ATTENUATOR WITH ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
THE SHEETING SHALL COVER THE NOSE OF THE IMPACT ATTENUATOR.
ON A CURVED NOSE, THE WIDTH OF THE SHEETING SHALL EXTEND 1" BEYOND THE POINT OF CURVATURE ON EACH SIDE OF THE NOSE.
THE HEIGHT AND WIDTH OF THE SHEETING VARIES DEPENDING ON THE SIZE OF THE NOSE OF THE IMPACT ATTENUATOR.

ATTENUATOR REFLECTOR TO BE PAID FOR UNDER SECTION 18.0 IMPACT ATTENUATOR

TYPE 3 OBJECT MARKERS SIGN #41-4267



SIGN #41-4267 MARKER MOUNTED ON 4lb. METAL SIGN POST.
BOTTOM OF SIGN #41-4267 TO BE 4' ABOVE ADJACENT EDGE OF PAVEMENT.
FINAL LOCATIONS OF SIGN #41-4267 MARKERS WILL BE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

TYPE 3 OBJECT MARKER TO BE PAID FOR UNDER SECTION 12.08 SIGN FACE SHEET ALUMINUM

REV.	DATE	REVISION DESCRIPTION
5	8-2018	INCLUDED DE-7D AND REMOVED DE-7C, DE-9, AND DE-10.
4	4-2017	REVISED ATTENUATOR REFLECTOR AND TYPE 3 OBJECT MARKERS.
3	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.
2	2-2011	MINOR REVISIONS.
1	1-2010	INCLUDED DETAILS IN D10-1, D10-2, D10-3 DELINEATORS.

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 OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1205..01..1..2018.dgn Model: TR-1205..01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:04:28-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:47:46-04'00'

CTDOT STANDARD SHEET

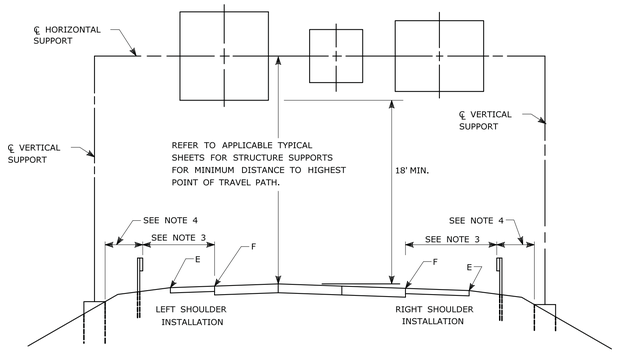
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

DELINEATION, DELINEATORS AND OBJECT MARKER DETAILS

STANDARD SHEET NO.:

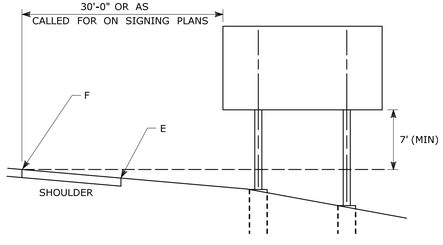
TR-1205_01



TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS

NOTES:

1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.



TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.

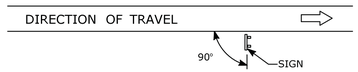


DIAGRAM "A"

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

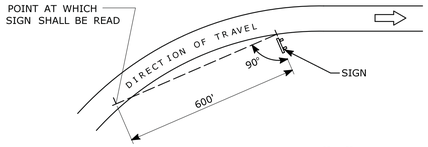
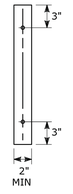


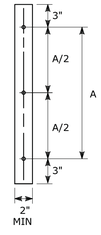
DIAGRAM "B"

SIGN ORIENTATION DETAILS FOR SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

RETROREFLECTIVE STRIPS 48" LONG OR LESS:



RETROREFLECTIVE STRIPS OVER 48" LONG:

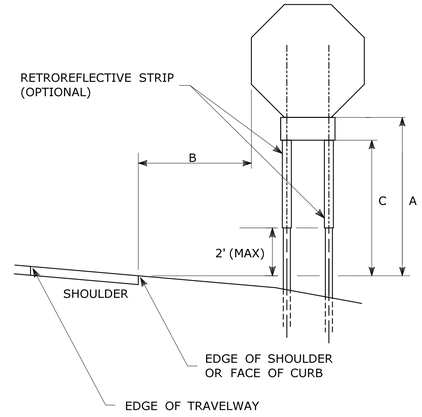


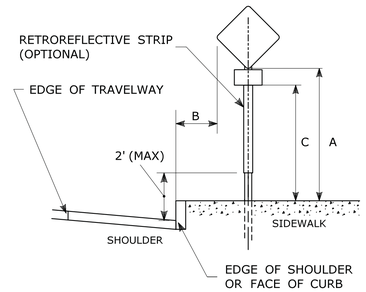
RETROREFLECTIVE STRIP DETAIL

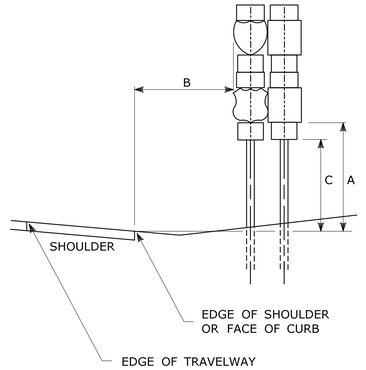
NOTES:

RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE.
REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.

RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.







TYPICAL SIGN PLACEMENT DETAIL

NOTES:

ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY.

REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.

IF A RETFOREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY.

PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

DIM."A" MIN SIGN HEIGHT	DIM."B" MIN LATERAL OFFSET ①	DIM."C" MIN PLAQUE HEIGHT ①	ASSEMBLY LOCATION
7' ②	6' 12' ③	5'	SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS
5'	2'	4'	• SIGNS IN RURAL AREAS • DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMPS • DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS
5'	2'	N/A	• CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS • ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS
4'	6' 12' ③	N/A	INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS
4'	2'	4'	CENTRAL ISLANDS OF ROUNDABOUTS
7'	2' ④	6'	BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
7'	2' ④	7'	SIDEWALKS ⑤

① OR AS DIRECTED BY THE ENGINEER

② 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.

③ 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.

④ A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.

⑤ A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

REV.	DATE	REVISION DESCRIPTION
3	8-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.
2	4-2017	MINOR REVISIONS.
1	2-2011	MINOR REVISIONS.

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 OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR_1208_01_1_2018.dgn Model: TR-1208_01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:06:06-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:48:06-04'00'

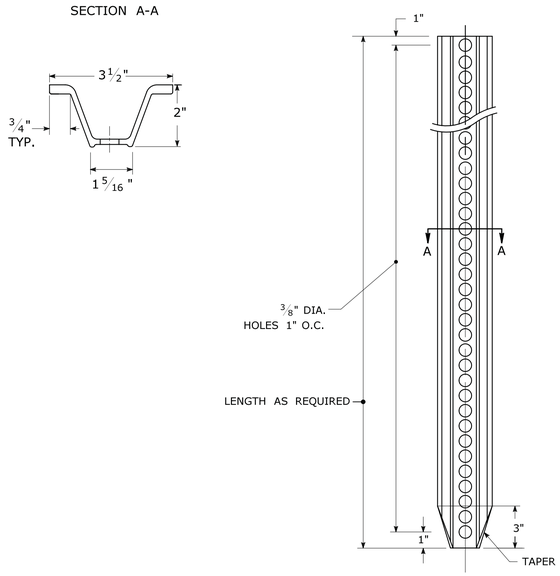
CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

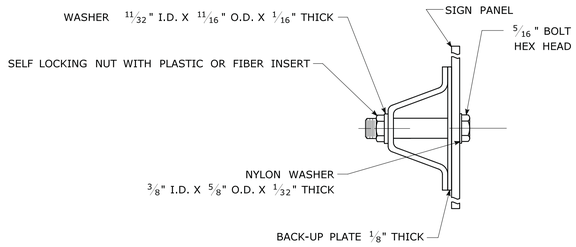
STANDARD SHEET TITLE:
SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS

STANDARD SHEET NO.:
TR-1208_01

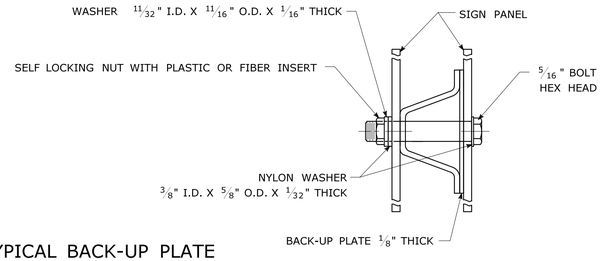
TYPICAL METAL SIGN POSTS



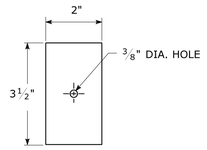
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



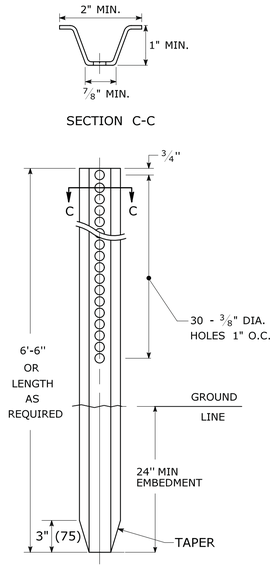
TYPICAL BACK-UP PLATE



BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

METAL DELINEATOR POST

WT./FT. = 1.12 LBS./FT. MIN.

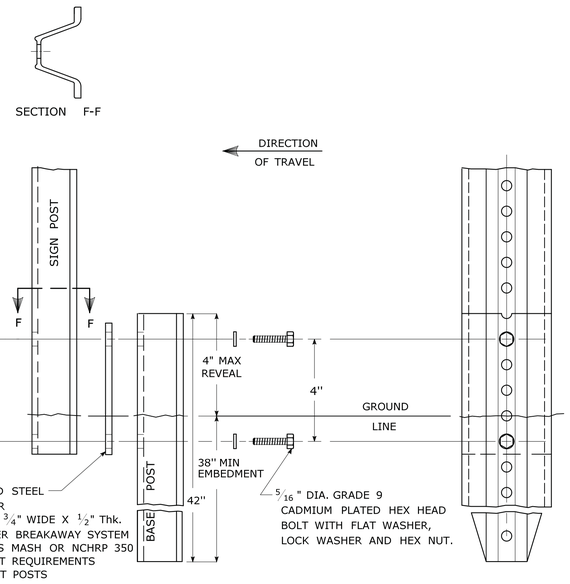


GENERAL NOTES:

1. STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 80 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123.
3. WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
4. SPACER BAR FOR BREAKAWAY INSTALLATION SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A36.
5. ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153.
6. ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 mph WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. SIGN POSTS SHALL BE 4 LBS./FT.

BREAKAWAY INSTALLATION

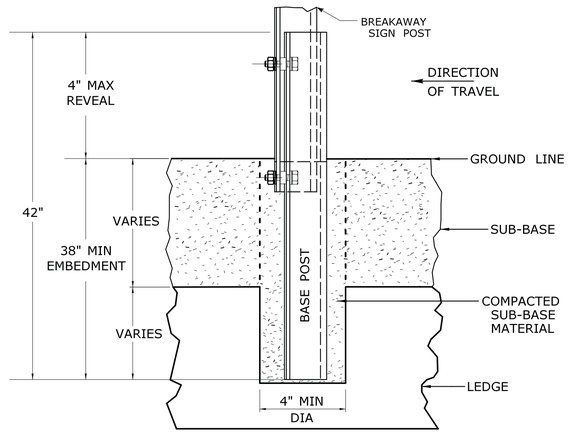
FOR 4 LBS./FT. POSTS



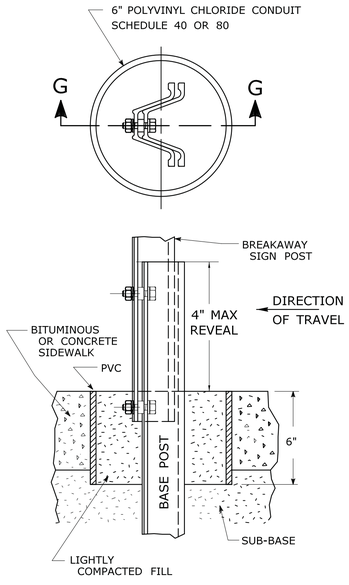
TYPICAL SIGN POST INSTALLATION IN LEDGE

LEDGE SHALL BE REMOVED TO DRIVE THE BASE POST TO A DEPTH OF 38".

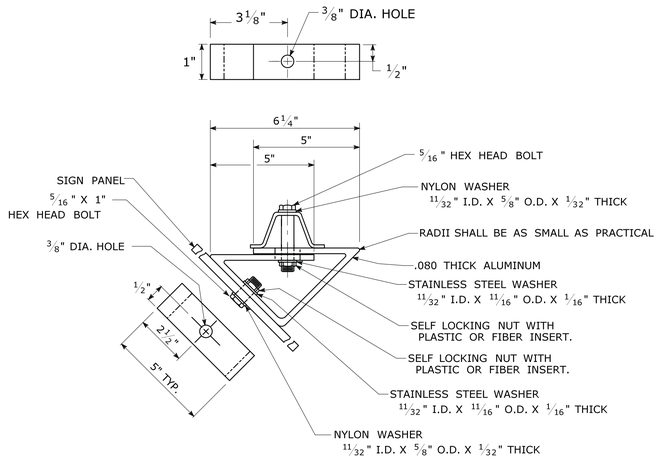
HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.



TYPICAL SLEEVE FOR PAVED AREAS



45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS



REV.	DATE	REVISION DESCRIPTION
2	6-2017	SIGN POST REVISIONS.
1	2-2011	MINOR REVISIONS.

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Plotted Date: 6/6/2017

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1208_02_May_2017_Revision.dgn Model: TR-1208_02

SUBMITTED BY:	NAME/DATE/TIME:
Mark Makuch	Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00'
Mary E. Baker	Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00'
APPROVED BY:	NAME/DATE/TIME:
Gregory M. Dorosh	Gregory M. Dorosh, P.E. 2017.06.15 09:27:29-04'00'

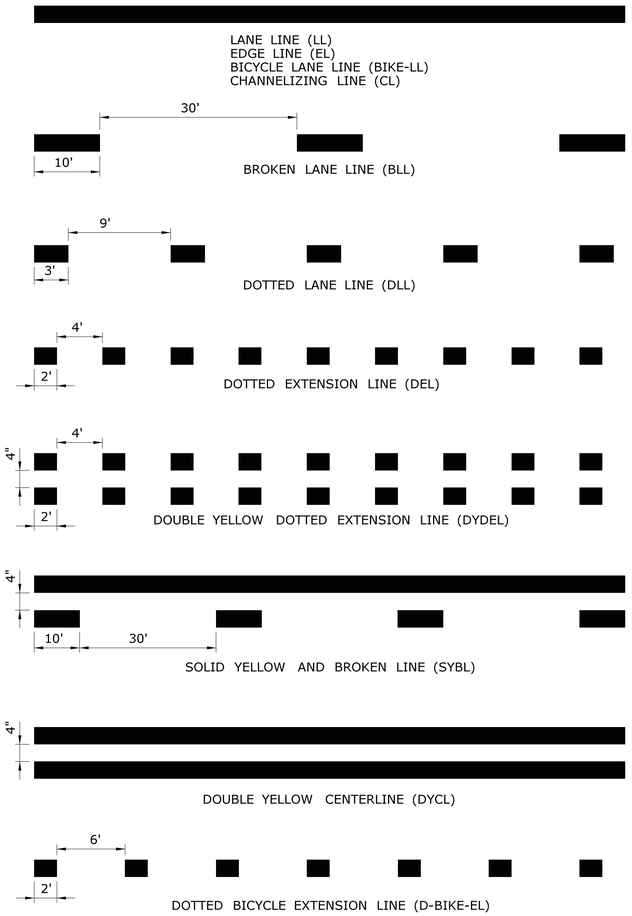
CTDOT STANDARD SHEET

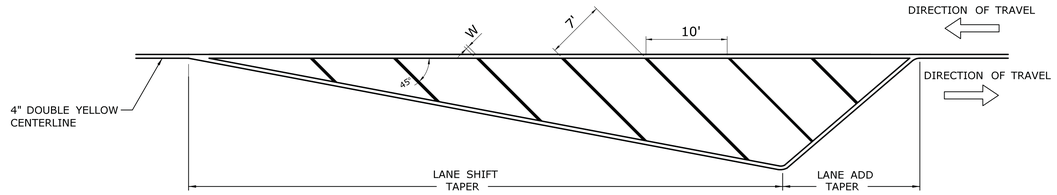
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

METAL SIGN POSTS AND SIGN MOUNTING DETAILS

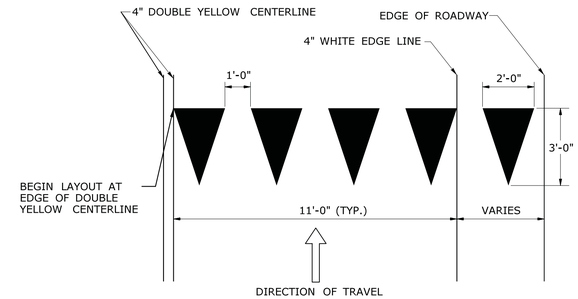
GUIDE SHEET NO.: **TR-1208_02**



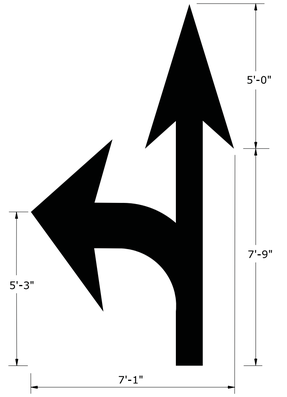


CROSS HATCHED ISLAND DETAIL
(YELLOW)

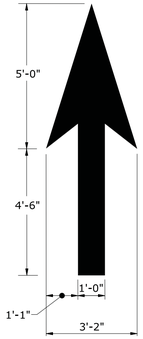
W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS



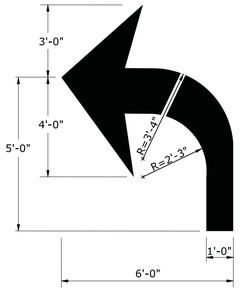
YIELD LINE DETAIL
(WHITE)



REFER TO ADJACENT VIEWS FOR DIMENSIONING
27.0 S.F.



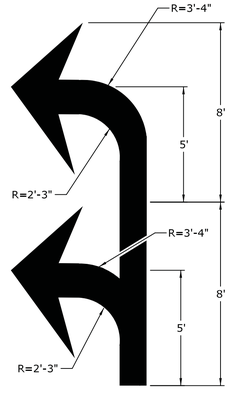
12.5 S.F.



15.5 S.F.

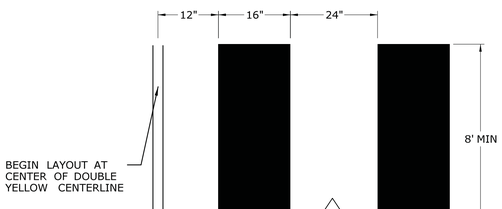
27.0 S.F.
LEFT & RIGHT
ARROW COMBO

38.5 S.F.
3 WAY ARROW
COMBO



35 S.F.
DOUBLE LEFT
ARROW

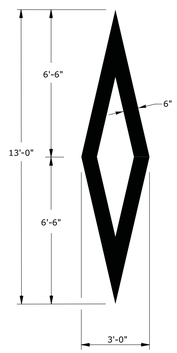
PAVEMENT ARROW DETAILS
(WHITE)
ARROWS SHALL BE CENTERED IN TRAVEL LANE



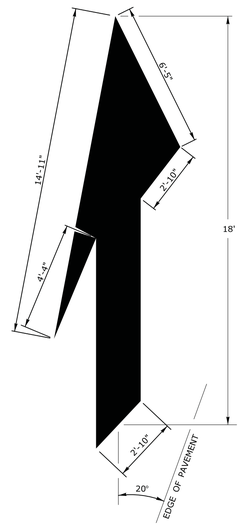
CROSSWALK DETAIL
(WHITE)

NOTES :

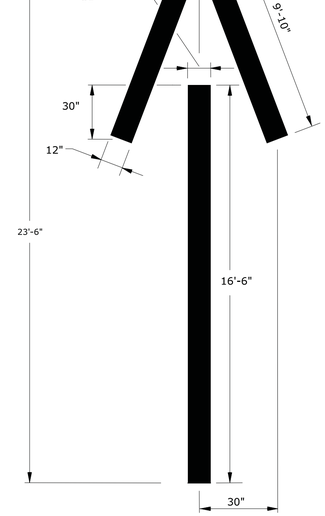
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.



WHITE PREFERENTIAL
LANE SYMBOL
13.0 S.F.



WHITE LANE
REDUCTION ARROW
41.8 S.F.



WHITE WRONG WAY
PAVEMENT ARROW
36.2 S.F.

REV.	DATE	REVISION DESCRIPTION
1	8-2018	REMOVED ROUNDABOUT MARKINGS.

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210_04.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY:	NAME/DATE/TIME:
Mark Makuch	Mark F. Makuch, P.E. 2018.08.17 09:07:44-04'00'
APPROVED BY:	NAME/DATE/TIME:
	Mark F. Carlino, P.E. 2018.08.21 07:48:45-04'00'

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

PAVEMENT MARKING LINES AND SYMBOLS

STANDARD SHEET NO.:

TR-1210_04

E5 - SERIES

E5-1

COPY & BORDER - WHITE
BACKGROUND - GREEN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	51-6147	2

16 - SERIES

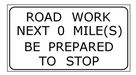
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-M	5.0	30X24	80-1613	1
16-H	17.5	60X42	80-1608	2
16-E	35.0	84X60	80-1605	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-S	10.0	48X30	80-1619	2

G20 - SERIES

G20-2a

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	8.0	48X24	80-9612	2



VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	90.0	120X108	80-9728	

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9711	1
	16.0	48	80-9712	2

VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	7.0	72X14	80-9720	

VARIABLE ARROW
COPY & BORDER - WHITE
BACKGROUND - BLUE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	50-5934	2

M4 - SERIES

M4-8

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9707	1

M4-9b

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9703	1

M4-8a

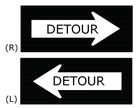
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	24X18	80-9708	1

M4-9b

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30X30	80-9706	1

M4-10



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.0	48X18	80-9701R	2
	6.0	48X18	80-9702L	2

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9710	1

R1 - SERIES

R1-1

COPY & BORDER - WHITE
BACKGROUND - RED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.19	30	31-0552	1
	13.30	48	31-0557	2

R1-2

COPY & BORDER - RED
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.90	36	31-0523	1
	10.83	60	31-0528	2

R4 - SERIES

R4-7

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	24X30	31-1526	1

R4-9

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	24X30	31-1517	1
	12.0	36X48	31-1518	1
	20.0	48X60	31-1519	2

R9 & R11 - SERIES

R9-9

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.75	30X18	80-9076	1

R11-3a

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9077	2

R9-11

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	24X18	80-9074	1

R11-3b

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

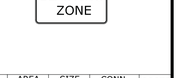
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9078	2

R9-11a

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9075	1

R11-3b



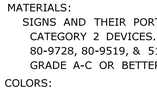
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9081	2

R11-2

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.0	48X30	80-9080	2

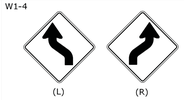


COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	22.5	60X54	31-1907	2

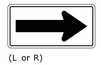
W1 - SERIES

W1-4



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9432L	1
	9.0	36	80-9431R	1
	16.0	48	80-9452L	2
	16.0	48	80-9451R	2

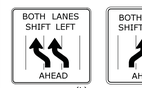
W1-6



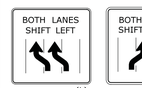
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	8.0	48X24	80-9424	2
	12.5	60X30	80-9423	2

W1-8

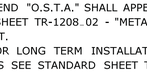
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	18X24	80-9401	1
	5.0	24X30	80-9403	1
	7.5	30X36	80-9404	1



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9433L	2
	16.0	48	80-9435R	2

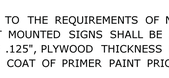


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9434L	2
	16.0	48	80-9436R	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9443L	2
	25.0	60	80-9445R	2

W1-4b



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9444L	2
	25.0	60	80-9446R	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9483L	2
	25.0	60	80-9485R	2

W1-4c

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9484L	2
	25.0	60	80-9486R	2

W3 - SERIES

W3-1

OCTAGON - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9050	1
	16.0	48	80-9051	2

W3-2

TRIANGLE - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9054	1
	16.0	48	80-9055	2

W3-3

TOP CIRCLE - RED
MIDDLE CIRCLE - YELLOW
BOTTOM CIRCLE - GREEN
COPY & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9052	1
	16.0	48	80-9053	2

W4-W6 - SERIES

W4-2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9918L	2
	16.0	48	80-9917R	2

W6-3

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9945	2

W8-W9 - SERIES

W8-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9901	1
	16.0	48	80-9902	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9801	1
	16.0	48	80-9802	2

W9-2

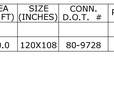
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9910L	2
	16.0	48	80-9911R	2

W13 - SERIES

W13-1

SUBPLATE
VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.0	24	80-9569	1
	6.25	30	80-9567	1



VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9506	1
	16.0	48	80-9508	2

W3-5

VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9520	1
	16.0	48	80-9521	2

W16 - SERIES

W16-15P

COPY & BORDER - BLACK
BACKGROUND - ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9049	

W20 - SERIES

W20-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30	80-9602	1
	9.0	36	80-9603	1
	16.0	48	80-9604	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9836	2
(R)	16.0	48	80-9839	2

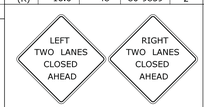
W20-7a

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9803	1
	16.0	48	80-9804	2

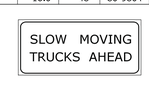
W20-1

VARIABLE DISTANCE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9614	1
	16.0	48	80-9615	2

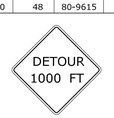


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9837	2
(R)	16.0	48	80-9838	2

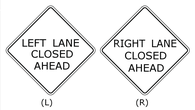


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	32.0	96X48	80-9815	2

W20-2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9805	1
	16.0	48	80-9806	2

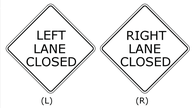


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9847	2
(R)	16.0	48	80-9848	2

W16-9P

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9870	
	3.75	30X18	80-9871	

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9834	1
	16.0	48	80-9835	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9846	2
(R)	16.0	48	80-9849	2

W16-3aP

VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.5	30X12	80-9872	
	4.5	36X18	80-9873	

W21 - SERIES

W21-6

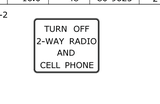
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9607	1

W22 - SERIES

W22-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9620	1
	16.0	48	80-9625	2

W22-2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.5	42X36	80-9623	2

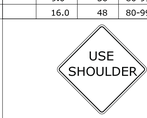
W22-3

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.5	42X36	80-9621	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.17	60X10	80-9913	2
	12.0	96X18	80-9914	2
	3.33	48X10	80-9916	2

BLANK OR
VARIABLE LEGEND

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9933	1
	16.0	48	80-9934	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9956	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9928	2
	24.0	72X48	80-9929	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(1)	16.0	48	80-9957	2
(2)	9.0	36	80-9958	1
(2)	16.0	48	80-9959	2

STOP-SLOW PADDLE

SIDE A
BACKGROUND - RED
COPY & BORDER - WHITE
SIDE B
BACKGROUND - ORANGE
COPY & BORDER - BLACK PLAIN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.25	18	80-9950	PADDLE

NOTES:
1. R1-SERIES SIGN THE LEGEND "O.S.T.A." SHALL APPEAR.
2. POSTS - SEE STANDARD SHEET TR-1208_02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
3. POSTS SHALL BE 4 LBS./FT.
4. ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE STANDARD SHEET TR-1208_02.
5. FOR TEMPORARY SUPPORTS SEE STANDARD SHEET TR-1220_02 - "CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
6. FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
7. ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
8. MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS.

MATERIALS:
SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES. ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100" EXCEPT SIGN #s. 80-1605, 80-9914, 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125", PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2" EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

COLORS:
BACKGROUND - FLUORESCENT ORANGE - EXCEPT AS NOTED.
LEGEND - BLACK - EXCEPT AS NOTED.
ALL SIGNS WITH FLUORESCENT ORANGE BACKGROUND TO USE TYPE VIII RETROREFLECTIVE SHEETING.
ALL OTHER SIGNS TO USE TYPE IX RETROREFLECTIVE SHEETING.

REV.	DATE	REVISION DESCRIPTION
6	8-2018	REVISED POST REQUIREMENTS AND SHEETING TYPE.
5	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.
4	6-2012	REVISED NOTE #1 TO REFERENCE "O.S.T.A."
3	4-2012	REVISED NEW SIGNAL SIGN(S) TO CONFORM TO 2009 MUTCD.
2	2-2011	MINOR REVISIONS.
1	3-2010	REMOVED OBSOLETE SIGNS (50-5925, 50-5935).

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 OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_01_1_2018.dgn Model: TR-1220_01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:11:08-04'00'

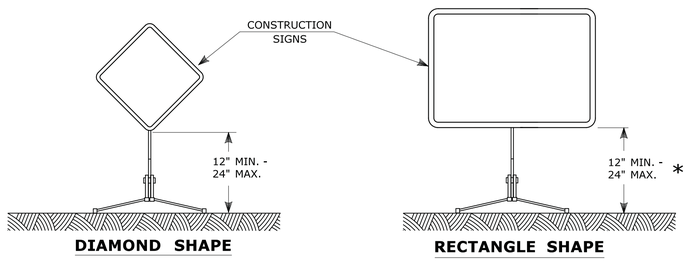
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:49:34-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS

STANDARD SHEET NO.:
TR-1220_01

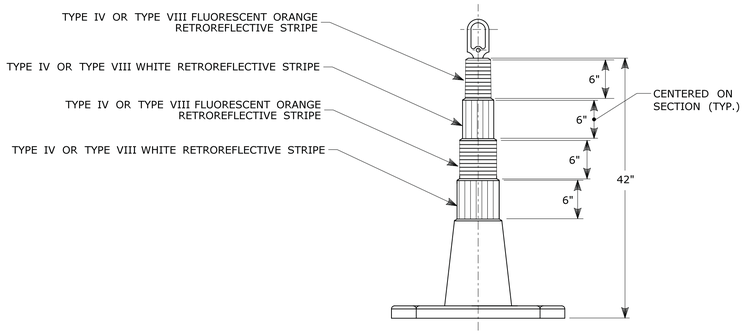


PORTABLE CONSTRUCTION SIGNS

NOTES FOR PORTABLE SIGN SUPPORTS:

1. SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
5. PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220_01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

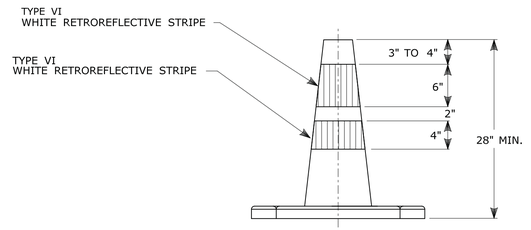
* FOR E5-1 (EXIT SIGNS) USE MIN 48".



42" TRAFFIC CONE

NOTES:

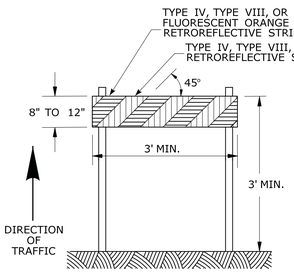
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



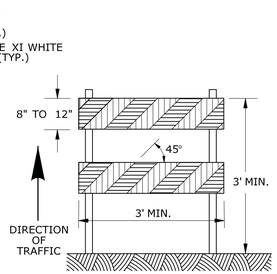
TRAFFIC CONE

NOTES:

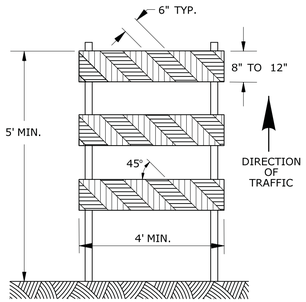
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
7. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



TYPE I BARRICADE



TYPE II BARRICADE

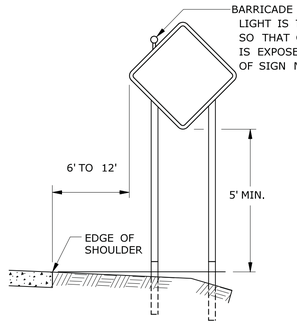


TYPE III BARRICADE

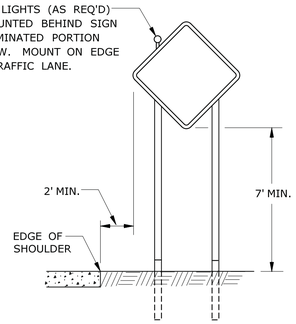
CONSTRUCTION BARRICADES

NOTES:

1. CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
2. MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
6. SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.



RURAL AREA



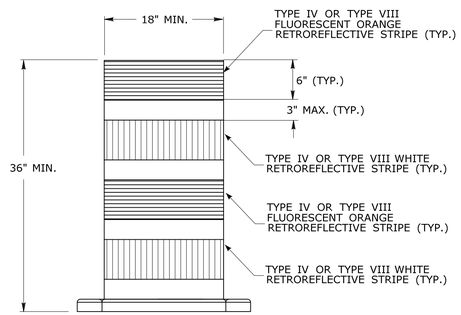
URBAN AREA

PLACEMENT OF CONSTRUCTION SIGNS
TYPICAL LONG TERM INSTALLATION

NOTES:

SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.

REFER TO STANDARD SHEETS:
TR-1208_01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."
TR-1208_02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."



TRAFFIC DRUM
FRONT VIEW

NOTES:

1. TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
4. THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

REV.	DATE	REVISION DESCRIPTION
3	8-2018	UPDATED SHEETING TYPE AND COLOR.
2	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.
1	2-2011	MINOR REVISIONS.

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_02_3_2018.dgn Model: TR-1220_02

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:12:43-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:49:51-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

STANDARD SHEET NO.:
TR-1220_02