

STATE OF VERMONT
 AGENCY OF TRANSPORTATION



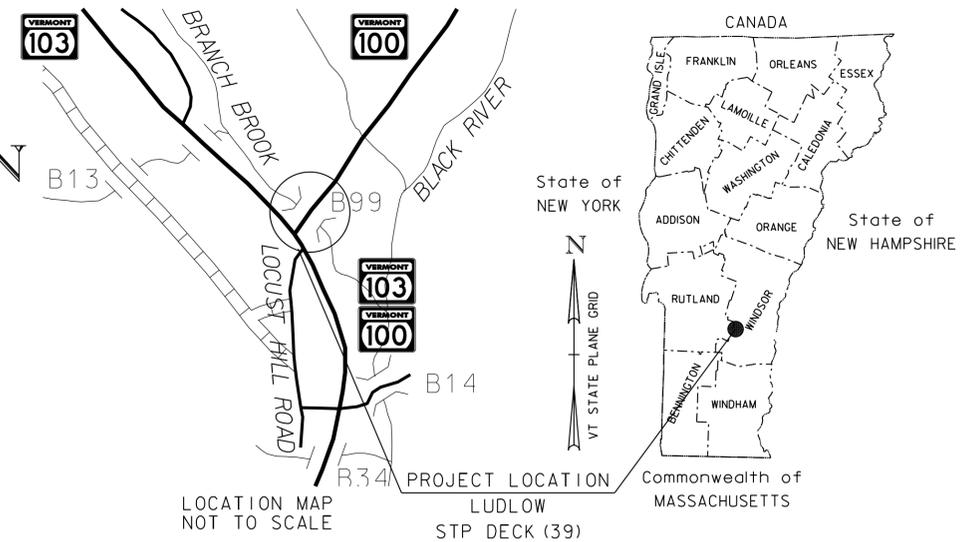
PROPOSED IMPROVEMENT
 BRIDGE PROJECT
 TOWN OF LUDLOW
 COUNTY OF WINDSOR

VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO. 99

PROJECT LOCATION: LOCATED IN THE TOWN OF LUDLOW, ON VT 100, APPROXIMATELY 0.028 MILES EASTERLY FROM THE INTERSECTION WITH VT 103.

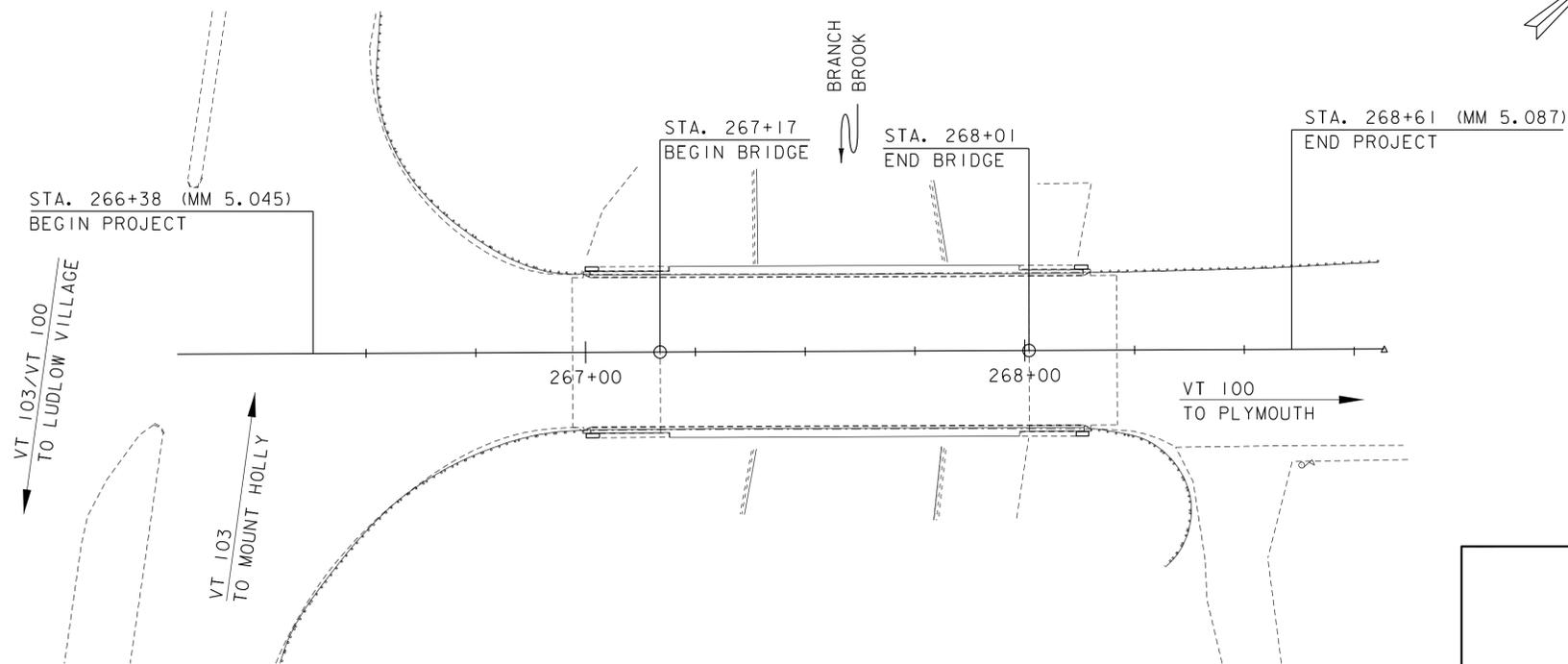
PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REPLACEMENT OF THE EXISTING BRIDGE DECK INCLUDING RELATED APPROACH WORK.

LENGTH OF STRUCTURE: 84.00 FEET
 LENGTH OF ROADWAY: 139.00 FEET
 LENGTH OF PROJECT: 223.00 FEET



**LUDLOW
 STP DECK(39)
 FINAL PLANS**

MAY 25, 2016



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2
SURVEYED BY : CLD
SURVEYED DATE : 09/21/2015
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83

SCALE 1" = 20'-0"
 20 0 20



540 Commercial Street
 Manchester, NH 03101
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 www.cldengineers.com

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE _____
PROJECT MANAGER : TODD SUMNER, P.E.
PROJECT NAME : LUDLOW
PROJECT NUMBER : STP DECK (39)
SHEET 1 OF 42 SHEETS

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- SD-502.00 10/10/2012 CONCRETE DETAILS AND NOTES
- SD-516.10 08/29/2011 BRIDGE JOINT ASPHALTIC PLUG
- SD-601.00 06/04/2010 STRUCTURAL STEEL DETAILS & NOTES

HIGHWAY SAFETY AND DESIGN DETAIL SHEETS

- HSD-621.06 11/03/2015 GUARDRAIL TERMINAL LABEL DETAIL

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- D-3 06/01/1994 TREATED GUTTERS
- E-127 08/08/1995 ROUTE MARKINGS AT RURAL INTERSECTIONS
- E-136B 08/08/1995 STATE ROUTE MARKER SIGN DETAILS
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- G-1 11/10/2015 STEEL BEAM GUARDRAIL WITH STEEL POSTS, STEEL BEAM GUARDRAIL WITH WOOD POSTS
- G-1d 02/10/2014 STEEL BEAM GUARDRAIL APPROACH END TERMINAL, STEEL BEAM GUARDRAIL TRAILING END TERMINAL
- S-360A 04/23/2012 BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM
- S-360B 12/14/2009 GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
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PROJECT NOTES

GENERAL

- 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2014, AND ITS LATEST REVISIONS.
- 2. THE DESIGN LIVE LOAD SHALL BE HL-93.
- 3. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.
- 4. THE CONTRACTOR IS MADE AWARE THAT EXISTING UTILITIES ARE WITHIN THE CONSTRUCTION LIMITS OF BRIDGE NO. 99. THE LOCATION OF ANY UTILITY INFORMATION ON THE PLANS IS APPROXIMATE. NO CLAIMS ARE MADE TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL UTILITIES ON SITE DURING ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO UTILITIES DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- 5. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL COLD PLANED SURFACES AT THE RATE OF 0.08 GAL/SY AND BETWEEN ALL COURSE OF PAVEMENT AT THE RATE OF 0.040 GAL/SY OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE IVB)".
- 6. ANY REQUIRED SAWCUT OF EXISTING PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE IVB)".
- 7. ALL EDGES OF PAVEMENT SHALL BE BACKED UP TO FULL HEIGHT WITH AGGREGATE SHOULDER MATERIAL AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID UNDER ITEM 402.12, "AGGREGATE SHOULDERS".
- 8. THE CONTRACTOR SHALL COORDINATE WITH VTRANS DISTRICT 3 TRANSPORTATION ADMINISTRATOR, ROBERT FALEY AT 802-786-5826, BEFORE CLOSING THE BRIDGE.
- 9. DURABLE PAVEMENT MARKINGS ARE OPTIONED AS SHOWN ON THE PLAN SHEETS FOR THIS PROJECT. THE CONTRACTOR SHALL BID THE SAME MARKING MATERIAL FOR ALL OPTION ITEMS.

ENVIRONMENTAL

- 10. EROSION CONTROL MEASURES SHALL BE UTILIZED AS REQUIRED AND SHALL CONFORM TO SECTION 105 OF THE STANDARD SPECIFICATIONS AND THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL FROM THE AGENCY OF NATURAL RESOURCES. PAYMENT FOR SILT FENCE WILL BE PAID FOR UNDER ITEM 649.515, "GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED". PAYMENT FOR ALL OTHER EROSION CONTROL MEASURES, IF APPLICABLE, WILL BE PAID FOR UNDER EXTRA WORK IN ACCORDANCE WITH 104.03.
- 11. THE DESIGN INTENT IS TO ALLOW THE CONTRACTOR TO STAGE IN THE TRAVELED ROADWAY OF THE APPROACHES TO THE BRIDGE DURING THE CLOSURE PERIOD. ANY STAGING AREAS OUTSIDE OF THIS SHALL BE CLEARED FOR RESOURCES THROUGH THE VTRANS ENVIRONMENTAL UNIT.

TRAFFIC CONTROL

- 12. AS PART OF ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)", THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PACKAGE FOR ALL STAGES OF CONSTRUCTION TO THE PROJECT MANAGER FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 105.03 AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN AN APPROPRIATE DISCIPLINE IN THE STATE OF VERMONT. THE PACKAGE SHALL IDENTIFY CONSTRUCTION ACTIVITIES BEFORE, DURING, AND AFTER THE BRIDGE CLOSURE PERIOD, AND SHALL INCLUDE A LAYOUT SHOWING ALL ON- AND OFF-PROJECT SIGNS AND BARRICADES AND ANY OTHER DETAILS ASSOCIATED WITH THE TRAFFIC CONTROL.
- 13. ALL ITEMS REQUIRED TO PREPARE, SUBMIT, AND IMPLEMENT THE CONTRACTOR'S PLAN, INCLUDING ANY NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". THE PAY ITEM INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

TRAFFIC CONTROL PLAN
 TEMPORARY TRAFFIC BARRIERS
 BARRICADES
 DRUMS/CONES
 PROJECT CONSTRUCTION SIGNING
 TEMPORARY PAVEMENT MARKINGS (IF REQUIRED)

TRAFFIC CONTROL ITEMS NOT PAID FOR IN THE UNIT PRICE BID FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)", AND PAID FOR SEPARATELY INCLUDE THE FOLLOWING:

ITEM 630.10, "UNIFORMED TRAFFIC OFFICERS"
 ITEM 630.15, "FLAGGERS"
 ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN"

THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.

- 14. DURING CLOSURE PERIOD, TRAFFIC SHALL BE MAINTAINED BY A REGIONAL DETOUR AS SHOWN ON SHEET 13. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING CLOSURE SIGNAGE AS SHOWN ON SHEET 13 IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND VTRANS STANDARDS. PAYMENT FOR BRIDGE CLOSURE SIGNAGE WILL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". ANY COORDINATION REQUIRED BETWEEN THE CONTRACTOR AND THE TOWN OF LUDLOW WILL BE AT NO ADDITIONAL COST TO THE STATE. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS REGARDING THE CLOSURE PERIOD.



PROJECT NAME: LUDLOW
 PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09notes-99.dgn PLOT DATE: 5/24/2016
 PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH
 DESIGNED BY: S. BEAUMONT CHECKED BY: N. CARON
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LRFR LOAD RATING FACTORS							
LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.46	1.20					
POSTING							
OPERATING	1.89	1.55	3.92	2.61	2.61	3.30	3.59
COMMENTS:	5A. SEMI CONTROLLED BY EXTERIOR BEAM SERVICE II, ALL OTHER TRUCKS CONTROLLED BY DECK						

PAVEMENT REMOVAL ON APPROACH SLABS

15. THE FINAL ONE HALF INCH OF PAVEMENT ON THE AT-GRADE APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER, OR EQUIPMENT APPROVED BY THE ENGINEER. COLD PLANING TO REMOVE BRIDGE PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
16. DURING AT-GRADE APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO ENSURE NO DAMAGE OCCURS TO THE EXISTING AT-GRADE APPROACH SLABS. ANY DAMAGE TO AT-GRADE APPROACH SLABS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIRS, IF APPLICABLE, SHALL BE MADE IN ACCORDANCE WITH SECTION 580.
17. THE AT-GRADE APPROACH SLABS SHALL BE CLEANED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF THE BARRIER MEMBRANE, IF APPLICABLE, AND THE CLEANING OF THE AT-GRADE APPROACH SLABS WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE". NO NEW BARRIER MEMBRANE WILL BE PLACED ON THE AT-GRADE APPROACH SLABS.

DECK REMOVAL AND RELATED ITEMS

18. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" WILL INCLUDE REMOVAL OF ANY PORTIONS OF THE EXISTING STRUCTURE AS SHOWN ON THE PLANS, INCLUDING THE EXISTING BRIDGE DECK AND CURBS, SHEAR STUD/SPIRALS, SCUPPERS, BARRIER MEMBRANE, PAVEMENT, AND BRIDGE RAILING. ITEM 529.25, "REMOVAL OF CONCRETE OR MASONRY" WILL INCLUDE REMOVAL OF THE TOPS OF THE EXISTING CONCRETE WINGWALLS AT THE END OF EACH WINGWALL, THE CONCRETE CHEEKWALL, AND THE APPROACH SLAB CURBS. ITEM 525.10, "REMOVAL OF EXISTING BRIDGE RAILING" WILL INCLUDE REMOVAL OF THE EXISTING BRIDGE RAIL ALONG THE TOPS OF THE WINGWALLS. SEE BITUMINOUS CONCRETE/CONCRETE REMOVAL PLAN ON SHEET 27.
19. THE TOPS OF THE EXISTING CONCRETE WINGWALLS AT THE END OF EACH WINGWALL, THE CONCRETE APPROACH SLAB CURBS, AND THE CONCRETE DECK AT THE CURTAIN WALL SHALL BE REMOVED BY MECHANICAL MEANS AND THE REMAINING CONCRETE SHALL HAVE NEAT LINES AND BE SMOOTH. PROTECT ALL ELEMENTS INTENDED TO REMAIN, AND MAINTAIN EXISTING REINFORCING AS NOTED. IF EXISTING REINFORCING IS DAMAGED OR HAS SIGNIFICANT SECTION LOSS, ADDITIONAL STEEL SHALL BE DRILLED AND GROUTED. PAYMENT FOR THIS WORK SHALL BE INCLUDED UNDER ITEM 507.11, "REINFORCING STEEL, LEVEL 1" AND ITEM 507.16, "DRILLING AND GROUTING DOWELS". THE QUANTITIES FOR THESE TWO ITEMS AS SHOWN ON THE QUANTITY SUMMARY SHEETS INCLUDE AN ADDITIONAL ESTIMATED AMOUNT TO ACCOUNT FOR THIS WORK.
20. ONCE THE EXISTING PAVEMENT AND MEMBRANE ARE REMOVED FROM THE EXISTING AT-GRADE APPROACH SLABS, AND AFTER REMOVAL OF THE EXISTING BRIDGE DECK, ANY AREAS ON THE CONCRETE APPROACH SLABS, CONCRETE BEAM SEATS, AND THE FACES OF THE EXISTING CURTAIN WALLS THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO WHAT CLASS REPAIR IS REQUIRED TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BEAM SEAT AND THE LIMITS OF THE REPAIR. THE REPAIRS FOR THE CONCRETE BEAM SEAT WILL BE PAID FOR UNDER ITEM 580.13, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I" OR ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II, AS APPLICABLE. THE REPAIRS FOR THE CONCRETE APPROACH SLABS, CURTAIN WALLS, AND THE CLEANING OF ALL EFFLORESCENCE ON THE CONCRETE CURTAIN WALLS WILL BE PAID FOR UNDER ITEM 580.10, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I", ITEM 580.11, "REPAIR OF CONCRETE SUPERSTRUCTURE, CLASS II", OR ITEM 580.12, "REPAIR OF CONCRETE SUPERSTRUCTURE, CLASS III", AS APPLICABLE. QUANTITIES FOR ITEMS 580.10, 580.11, 580.12, 580.13 AND 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED. HIGH PERFORMANCE CONCRETE, RAPID SET IS AN ACCEPTABLE ALTERNATE REPLACEMENT MATERIAL BUT WILL BE PAID FOR UNDER THE APPLICABLE REPAIR ITEM AS DETAILED ABOVE.

DECK REMOVAL AND RELATED ITEMS (CONTINUED)

21. AFTER THE REMOVAL OF THE EXISTING CONCRETE CHEEKWALL AT EACH BRIDGE CORNER, FLOWABLE FILL SHALL BE USED TO FILL ANY VOIDS BEHIND THE EXISTING CURTAIN WALL. THIS WORK WILL BE PAID FOR UNDER ITEM 541.45, "CONTROLLED DENSITY (FLOWABLE) FILL". THE EDGE SURFACE OF THE EXISTING CONCRETE CURTAIN WALL AT EACH BRIDGE CORNER SHALL BE CLEANED OF ANY DEBRIS OR LOOSE CONCRETE, ANY UNSOUND CONCRETE SHALL BE REMOVED, AND THE NEW CAST-IN-PLACE CONCRETE CURTAIN WALL EXTENSION SHALL BE POURED UP AGAINST THE EXISTING CONCRETE CURTAIN WALL SURFACE. PREPARING THE EXISTING CONCRETE SURFACE AND PLACING THE CURTAIN WALL EXTENSION WILL BE PAID FOR UNDER ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)".
22. THE JOINT BETWEEN THE NEW CONCRETE CURTAIN WALL EXTENSION AND THE END OF THE EXISTING CONCRETE WINGWALL SHALL BE FILLED WITH AN IMPERMEABLE CLOSED-CELL JOINT SEAL WITH EPOXY ADHESIVE CAPABLE OF ACCOMMODATING 1 INCH OF MOVEMENT. A JOINT DETAIL SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL. ALL COMPONENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)".

STEEL

23. AFTER ALL PAVEMENT AND MEMBRANE ARE REMOVED BUT PRIOR TO THE REMOVAL OF THE EXISTING CONCRETE DECK, THE CONTRACTOR SHALL TAKE TOP OF DECK ELEVATIONS ALONG THE CENTERLINE OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED, THE CONTRACTOR SHALL TAKE ELEVATIONS ALONG THE TOP OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. THE TOP OF DECK AND TOP OF BEAM ELEVATIONS SHALL THEN BE SENT TO THE ENGINEER FOR USE IN DETERMINING THE FINAL PROFILE AND HAUNCH DEPTHS. THE CONTRACTOR SHALL EXPECT 3 WORKING DAYS FOR VTRANS TO PREPARE THE REVISED PROFILE AND HAUNCH DEPTH CALCULATIONS.
24. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. ANY REMOVED STRUCTURAL STEEL, IF APPLICABLE, IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
25. UPON REMOVING THE DECK, THE TOPS OF THE BEAMS IN THE AREA OF THE SHEAR STUDS SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP11 REQUIREMENTS AND ALL APPLICABLE PROVISIONS PRIOR TO THE WELDING OF THE SHEAR STUDS. THE CONTRACTOR IS NOT REQUIRED TO APPLY NEW PAINT. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE", EXCEPT AS NOTED IN PROJECT NOTE 26.
26. THE CONTRACTOR SHALL TEST ALL AREAS WHERE EXISTING PAINT IS TO BE REMOVED FOR LEAD. PAYMENT FOR LEAD PAINT TESTING WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE". IF LEAD PAINT REMOVAL IS REQUIRED, PAINT REMOVAL, SURFACE PREPARATION, CONTAINMENT, AND DISPOSAL WILL BE PAID FOR AS EXTRA WORK IN ACCORDANCE WITH 104.03. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL NECESSARY LEAD ABATEMENT PERMITS.

REINFORCED CONCRETE

27. ALL CAST-IN-PLACE CONCRETE SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE, HIGH PERFORMANCE CLASS A, EXCEPT AS NOTED. THE CONTRACTOR SHALL PROVIDE TESTING EQUIPMENT FOR CONCRETE IN ACCORDANCE WITH SUBSECTION 631.05.
28. A REINFORCING STEEL SCHEDULE AND SHOP DRAWINGS MEETING THE REQUIREMENTS OF SUBSECTION 105.03 SHALL BE SUBMITTED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 507.11, "REINFORCING STEEL, LEVEL 1". ALL REINFORCING STEEL SHALL BE LEVEL 1 - EPOXY COATED AND MEET THE REQUIREMENTS OF SECTION 507.
29. TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE. A MINIMUM OF TWO TEST SECTIONS ARE REQUIRED FOR EACH SIZE, BRAND, AND GRADE OR TYPE OF REINFORCING. SEE THE MANUAL FOR ACCEPTABLE DIMENSIONS OF TEST SECTIONS. EXTRA BARS FOR TESTING PURPOSES SHALL BE SPECIFIED IN THE WORKING DRAWING SUBMITTAL.
30. SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES.
31. THE 1/2" EXPANSION MATERIAL IN THE JOINT BETWEEN THE CONCRETE WINGWALL AND THE APPROACH SLAB CURB WILL BE CONSIDERED INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".
32. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG BACK FACES OF WALL AGAINST EARTH:	2.0 INCH
ALONG TOP SURFACE OF DECK SLAB:	3.0 INCH
ALONG BOTTOM SURFACE OF DECK SLAB:	1.5 INCH
ELSEWHERE UNLESS OTHERWISE INDICATED:	3.0 INCH

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09notes-99.dgn PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH
DESIGNED BY: S. BEAUMONT CHECKED BY: N. CARON
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PRECAST CONCRETE DECK AND POST-TENSIONING

- 33. DESIGN VALUES:
 - A. PRECAST CONCRETE COMPRESSIVE STRENGTH: $f'c = 5,000$ PSI
 - B. REINFORCING STEEL, LEVEL I - EPOXY COATED: $f_y = 60,000$ PSI
 - C. POST TENSIONING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW RELAXATION 7-WIRE STRANDS.
 - D. ASSUMED MODULUS OF ELASTICITY: 28,500 KSI
 - E. THERE SHALL BE THREE STRANDS PER CONDUIT.
 - F. DESIGN BASED ON THE FOLLOWING POST-TENSION CONDUIT PARAMETERS:
 - COEFFICIENT OF FRICTION = 0.23
 - WOBBLE FRICTION COEFFICIENT = 0.0002/FT
 - NET FINAL COMPRESSIVE STRESS = 750 PSI
 IF THE PROPOSED CONDUIT DOES NOT MEET THESE VALUES, THEN THE CONTRACTOR SHALL ADJUST THE JACKING FORCE TO PRODUCE THE FINAL POST-TENSIONING FORCE LISTED BELOW.
 - G. JACKING FORCE PER STRAND: 32.7 KIPS
 - H. FINAL FORCE PER STRAND: 30.34 KIPS (AFTER ALL LOSSES DUE TO FRICTION, ANCHORAGE SET, AND ELASTIC SHORTENING).
 - I. FINAL FORCE IN STRANDS SHALL BE UNIFORM ACROSS THE PANEL.
- 34. ALL DECK PANELS SHALL BE CAST FOR A MINIMUM OF 56 DAYS PRIOR TO POST-TENSIONING.
- 35. DECK PANELS SHALL BE ALLOWED TO SLIDE ON THE BEAMS DURING POST TENSIONING.
- 36. CONDUIT SHALL BE GROUTED WITH A CEMENTIOUS, PRE-BAGGED NON-SHRINK GROUT SPECIFICALLY FORMULATED FOR POST TENSIONING DUCTS.
- 37. POST-TENSIONING AND GROUTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL WITH PREVIOUS EXPERIENCE IN PRECAST DECK PLACEMENT.
- 38. SHEAR KEY FACES SHALL HAVE $\frac{1}{8}$ " COARSE AGGREGATE EXPOSED WITH A PROFILE SIMILAR TO ICRI ROUGHNESS PLAQUE CSP #7 COPYRIGHT 1997.
- 39. BEGIN POST-TENSIONING AT THE CENTER OF PANELS. DO NOT ALLOW MORE THAN 12.5 PERCENT OF THE POST-TENSIONING FORCE TO BE ECCENTRIC AT ANY TIME. SUBMIT STRESSING SEQUENCE TO THE ENGINEER AS PART OF THE ERECTION PLAN.
- 40. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL LIFTING POINTS, LEVELING DEVICE, POST-TENSIONING ELEMENTS IN THE ANCHORAGE ZONE INCLUDING, BUT NOT LIMITED TO, THE BEARING PLATE ANCHOR HEADS AND METAL TRUMPETS, AND ADDITIONAL REINFORCEMENT IN THE ANCHORAGE ZONE (REQUIRED FOR SPLITTING, BURSTING, SPALLING, ETC.) INCLUDING THE LOCAL ZONE (REGION IMMEDIATELY SURROUNDING THE POST-TENSIONING DEVICE). THE CONTRACTOR IS RESPONSIBLE FOR CONSIDERATION OF STRENGTH, SERVICEABILITY, STIFFNESS, AND STABILITY OF THE PRECAST CONCRETE ELEMENTS AND ANY ADDITIONAL STRESSES ON THE PRECAST CONCRETE ELEMENTS FOR LOADS GENERATED DURING FABRICATION, TRANSPORTATION, ERECTION, AND CONSTRUCTION OPERATIONS. THE MANUFACTURER SHALL OBTAIN WRITTEN APPROVAL FROM THE VERMONT AGENCY OF TRANSPORTATION STRUCTURE SECTION PRIOR TO FABRICATION. DESIGN MUST CONFORM TO AASHTO LRFD SPECIFICATIONS.
- 41. ANY DAMAGE TO THE PRECAST CONCRETE DECK SLABS DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

PRECAST CONCRETE DECK AND POST-TENSIONING (CONTINUED)

- 42. GALVANIZE BEARING PLATE ANCHOR HEADS AND METAL TRUMPETS AT ANCHORAGES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. DO NOT GALVANIZE GRIPPING WEDGES.
- 43. POST-TENSIONING STRANDS AND CONDUIT SHALL MEET THE REQUIREMENTS OF SECTION 510.
- 44. ANCHOR ASSEMBLIES, CONDUIT, GROUT FOR THE CONDUIT AND PANEL JOINTS, SPLIT SLEEVE CONNECTORS, AND POST-TENSIONING STRANDS SHALL BE INCLUDED IN ITEM 540.10.
- 45. SHEAR CONNECTOR BLOCKOUTS, SHEAR KEYS, HAUNCHES, LEVELING DEVICE BLOCKOUTS, AND HANDHOLES FOR DUCT CONNECTIONS SHALL BE FILLED WITH MORTAR, TYPE IV CONFORMING TO THE REQUIREMENTS OF SUBSECTION 707.03. COST FOR MORTAR WILL BE CONSIDERED INCIDENTAL TO ITEM 540.10, "PRECAST CONCRETE STRUCTURE (8½" DECK SLABS)".
- 46. THE DRILLING OF HOLES IN THE PRECAST CONCRETE ELEMENTS SHALL NOT BE PERMITTED, UNLESS APPROVED IN WRITING BY THE VERMONT AGENCY OF TRANSPORTATION STRUCTURES' SECTION. ANY LIFTING HOLES SHALL BE FILLED WITH MORTAR, TYPE IV CONFORMING TO THE REQUIREMENTS OF SUBSECTION 707.03. COST FOR MORTAR WILL BE CONSIDERED INCIDENTAL ITEM 540.10, "PRECAST CONCRETE STRUCTURE (8½" DECK SLABS)".
- 47. PROPOSED SEQUENCE OF CONSTRUCTION:
 - A. ERECT DECK SLABS.
 - B. ADJUST SLABS TO GRADE USING LEVELING DEVICES. ALL LEVELING BOLTS SHALL BE TORQUED TO APPROXIMATELY THE SAME VALUE WITHIN 20 PERCENT.
 - C. INSTALL POST TENSIONING STRANDS LOOSE IN CONDUIT AND SEAL CONDUIT.
 - D. PLACE MORTAR, TYPE IV IN TRANVERSE JOINTS ONLY. THE MORTAR SHALL BE RODDED OR VIBRATED TO ENSURE ALL VOIDS ARE FILLED.
 - E. MORTAR SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MANUFACTURE'S RECOMMENDATIONS PRIOR TO STRESSING. THE GROUT NEED NOT BE CURED FOR THREE DAYS PRIOR TO COMMENCING POST-TENSIONING.
 - F. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES, AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1000 PSI MINIMUM.
 - G. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK.
 - H. INSTALL SHEAR CONNECTORS.
 - I. GROUT POST TENSIONING CONDUIT, SHEAR CONNECTOR BLOCKOUTS, AND HAUNCHES BETWEEN THE BEAMS AND THE BOTTOM OF THE PRECAST DECK SLABS WITH MORTAR, TYPE IV.
 - J. POUR THE END CLOSURE POUR CONCRETE.
 - K. REMOVE LEVELING BOLTS AND GROUT RECESS WITH MORTAR, TYPE IV.

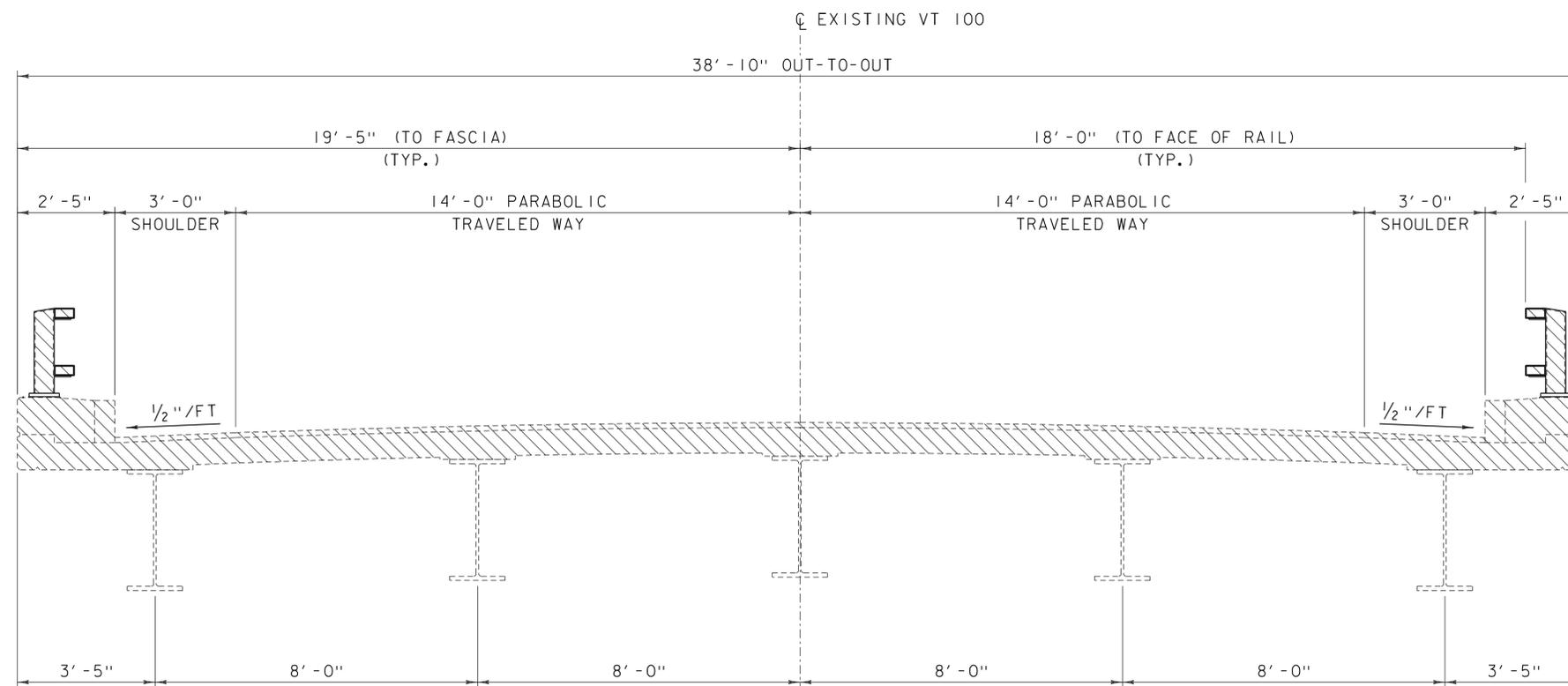
ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

CLD 15-0223 MODEL: Sheet03



PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

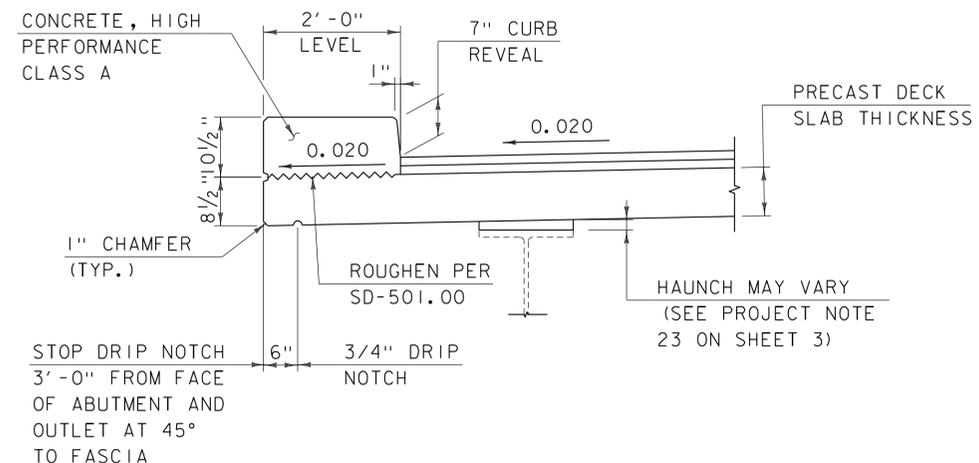
FILE NAME: z15bl09notes-99.dgn PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH
DESIGNED BY: S. BEAUMONT CHECKED BY: N. CARON
INDEX OF SHEETS & PROJECT NOTES SHEET 3 SHEET 4 OF 42



EXISTING BRIDGE SECTION

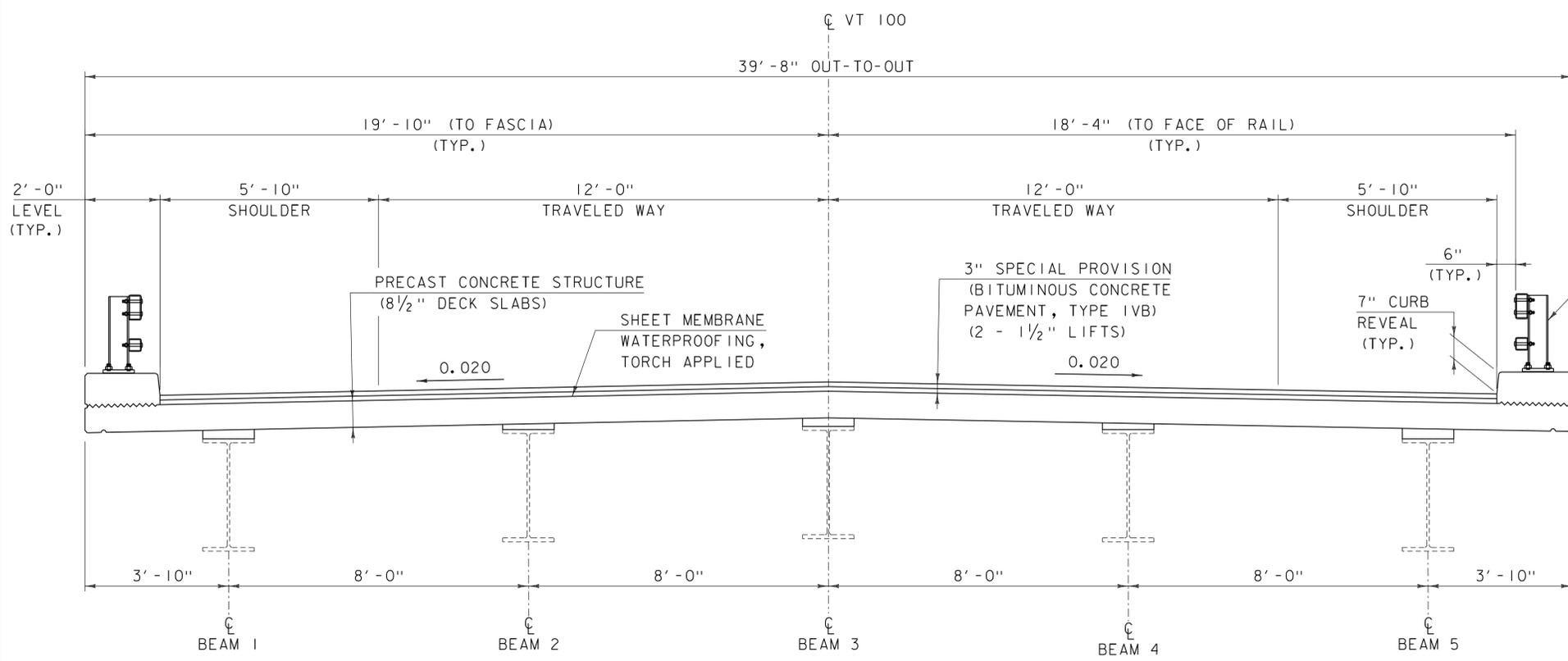
SCALE: 1/2" = 1'-0"

PARTIAL REMOVAL OF STRUCTURE



FASCIA & DRIP NOTCH DETAIL

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



TYPICAL BRIDGE SECTION

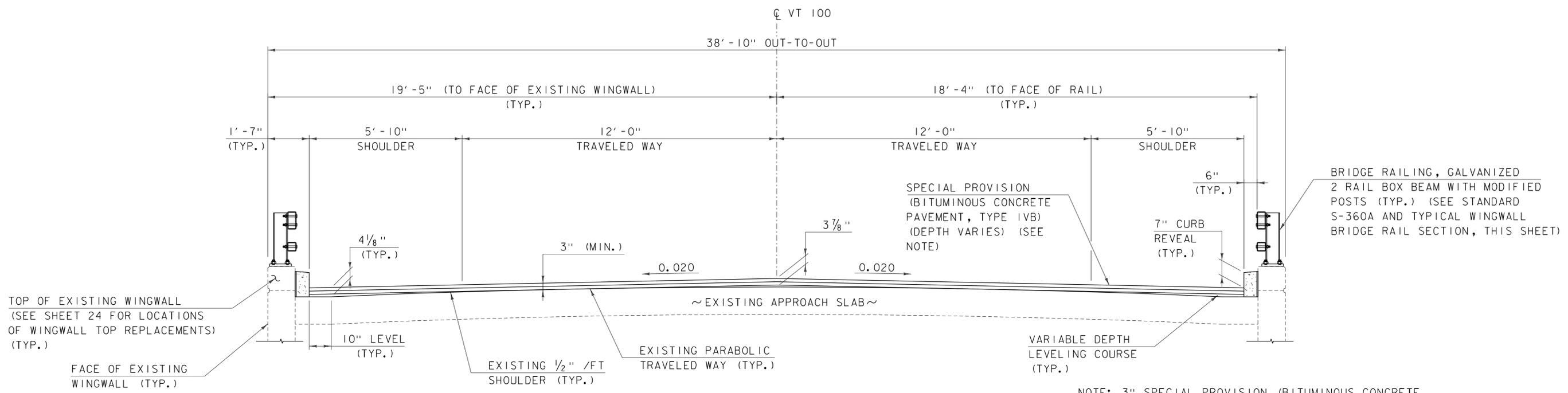
SCALE: 1/2" = 1'-0"

PROJECT NAME:	LUDLOW	FILE NAME:	z15bl09+yp-99.dgn	PLOT DATE:	5/24/2016
PROJECT NUMBER:	STP DECK(39)	PROJECT LEADER:	J. BYATT	DRAWN BY:	M. SMITH
		DESIGNED BY:	S. BEAUMONT	CHECKED BY:	J. BYATT
		TYPICAL BRIDGE SECTIONS SHEET 1		SHEET	5 OF 42



CLD 15-0223 MODEL: Sheet 01

CLD 15-0223 MODEL: Sheet02



TYPICAL APPROACH SLAB SECTION

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

NOTE: 3" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE 1VB) (2 - 1 1/2" LIFTS AND 1 - VARIABLE DEPTH LEVELING COURSE.)

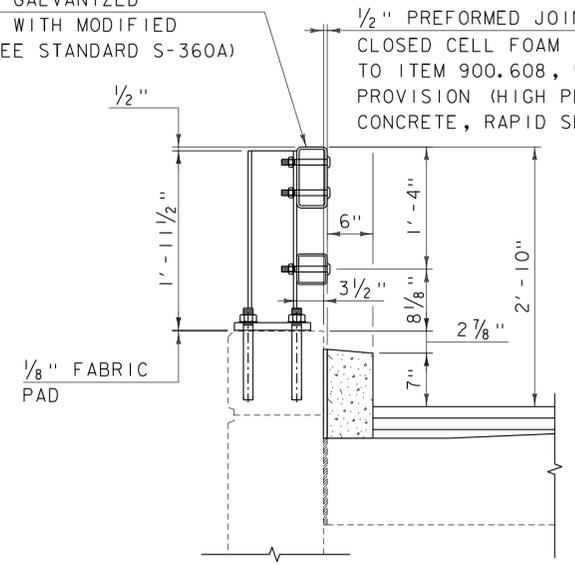
BRIDGE RAILING, GALVANIZED
2 RAIL BOX BEAM WITH MODIFIED
POSTS (TYP.) (SEE STANDARD
S-360A AND TYPICAL WINGWALL
BRIDGE RAIL SECTION, THIS SHEET)

TOP OF EXISTING WINGWALL
(SEE SHEET 24 FOR LOCATIONS
OF WINGWALL TOP REPLACEMENTS)
(TYP.)

FACE OF EXISTING
WINGWALL (TYP.)

BRIDGE RAILING, GALVANIZED
2 RAIL BOX BEAM WITH MODIFIED
POSTS (TYP.) (SEE STANDARD S-360A)

1/2" PREFORMED JOINT FILLER,
CLOSED CELL FOAM (INCIDENTAL
TO ITEM 900.608, "SPECIAL
PROVISION (HIGH PERFORMANCE
CONCRETE, RAPID SET) (FPQ)"))



TYPICAL WINGWALL BRIDGE RAIL SECTION

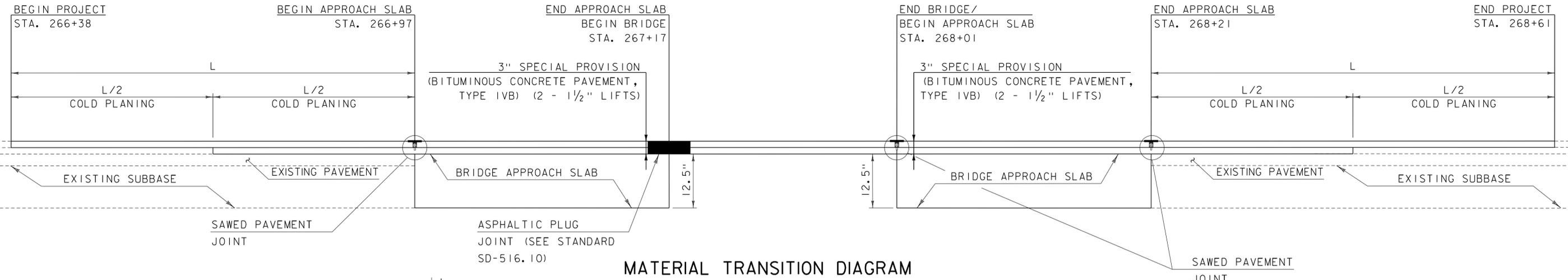
SCALE: 1" = 1'-0"

NOTES: SEE SHEET 22 FOR APPROACH SLAB
CURB MASONRY DETAILS.

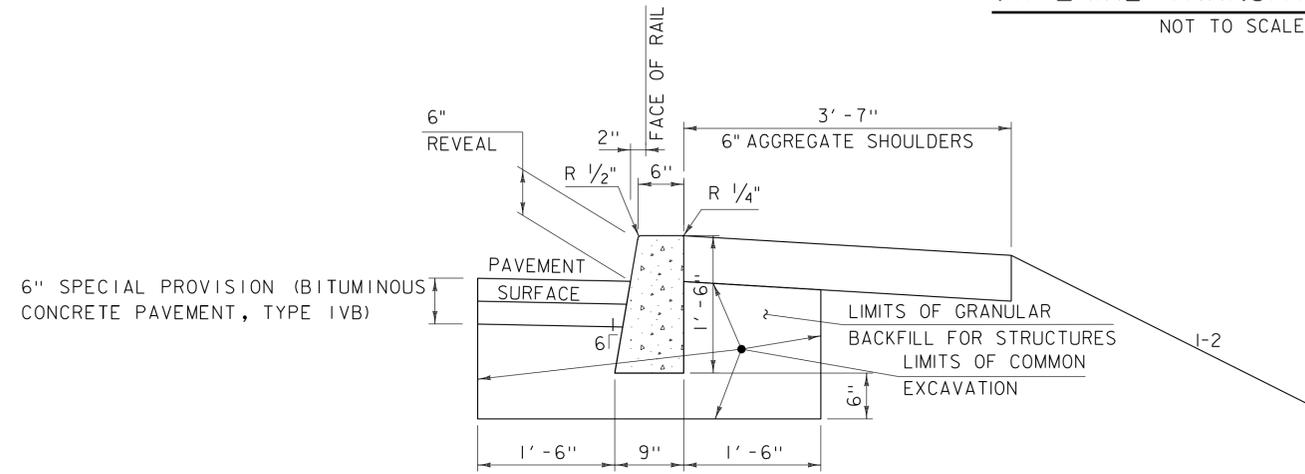
CONCRETE, HIGH PERFORMANCE CLASS A

PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15bl09+yp-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: J. FOWLER
DESIGNED BY: S. BEAUMONT	CHECKED BY: J. BYATT
TYPICAL BRIDGE SECTIONS SHEET 2	SHEET 6 OF 42

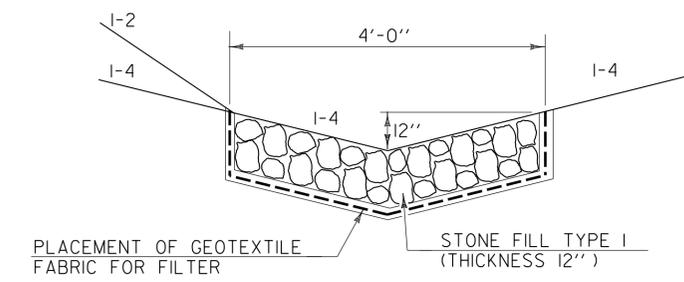




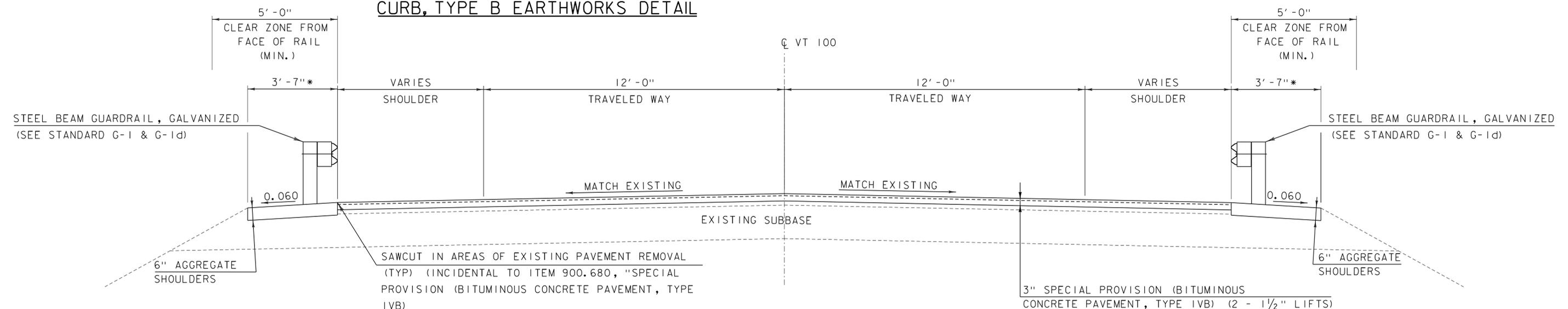
MATERIAL TRANSITION DIAGRAM
NOT TO SCALE



TYPICAL CAST-IN-PLACE CONCRETE CURB, TYPE B EARTHWORKS DETAIL



TYPICAL STONE FILL DITCH



VT 100 TYPICAL SECTION
SCALE: 1/2" = 1'-0"

MATERIAL TOLERANCES	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"

*GUARDRAIL PANEL SHALL BE REDUCED TO A MINIMUM OF 2'-7" AS SHOWN IN THE LAYOUT SHEET

PROJECT NAME:	LUDLOW	FILE NAME:	z15b109+yp-99.dgn	PLOT DATE:	5/24/2016
PROJECT NUMBER:	STP DECK(39)	PROJECT LEADER:	J. BYATT	DRAWN BY:	S. FORTIER
		DESIGNED BY:	S. FORTIER	CHECKED BY:	L. GREER
		TYPICAL ROADWAY SECTIONS SHEET		SHEET	7 OF 42



CLD 15-0223 MODEL: Sheet03

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE NO. 4	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							50				50		CY	COMMON EXCAVATION	203.15	2.3			
							20				20		CY	EARTH BORROW	203.30	2.6			
							1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
							30				30		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	1			
							730				730		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	2			
							1				1		CY	AGGREGATE SURFACE COURSE	401.10	0.3			
							50				50		TON	AGGREGATE SHOULDERS	402.12	6			
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
									10		10		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	0.87			
									1945		1945		LB	REINFORCING STEEL, LEVEL I	507.11	0.74			
									143		143		LF	DRILLING AND GROUTING DOWELS	507.16	0.6			
									1		1		LS	SHEAR CONNECTORS (800 - 7" X 1")	508.15	-			
									14		14		GAL	WATER REPELLENT, SILANE	514.10	0.56			
									36		36		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	0.33			
									492		492		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	0.59			
									107		107		LF	JOINT SEALER, HOT POURED	524.11	-			
									69		69		LF	REMOVAL OF EXISTING BRIDGE RAILING	525.10	-			
									229		229		LF	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	525.33	-			
									159		159		SY	REMOVAL OF BRIDGE PAVEMENT	529.10	0.48			
									1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	-			
									6		6		CY	REMOVAL OF CONCRETE OR MASONRY	529.25	0.53			
									1		1		LS	PRECAST CONCRETE STRUCTURE (8 1/2" DECK SLABS)	540.10	-			
									5		5		CY	CONTROLLED DENSITY (FLOWABLE) FILL	541.45	1			
									6		6		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10	EST.			
									9		9		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11	EST.			
									2		2		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12	EST.			
									4		4		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	EST.			
									2		2		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	EST.			
									4423		4423		SF	SURFACE PREPARATION FOR MEMBRANE	580.16	0.33			
									3		3		CY	STONE FILL, TYPE I	613.10	0.04			
									20		20		CY	STONE FILL, TYPE II	613.11	4.89			
							160				160		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	3.24			
							187.5				187.5		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	-			
							1				1		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
									4		4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	621.72	-			
							275				275		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	2			
							140				140		HR	UNIFORMED TRAFFIC OFFICERS	630.10	-			
							140				140		HR	FLAGGERS	630.15	-			
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)
FILE NAME: z15b109qss-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: S. BEAUMONT
QUANTITY SHEET 1
PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: A. GIRALDI
SHEET 8 OF 42

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE NO. 4	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
							3				3		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-	74	TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE IVB)
														BEGIN OPTION AA			97	TON	TYPE IVB - ROADWAY
							500				500		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402		171	TON	TYPE IVB - BRIDGE
							500				500		LF	DURABLE 4 INCH WHITE LINE, EPOXY PAINT	646.403		4	TON	SUBTOTAL
							500				500		LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.404		175	TON	ROUNDING
														END OPTION AA					TOTAL
														BEGIN OPTION BB					
							430				430		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412				
							430				430		LF	DURABLE 4 INCH YELLOW LINE, EPOXY PAINT	646.413				
							430				430		LF	DURABLE 4 INCH YELLOW LINE, POLYUREA	646.414				
														END OPTION BB					
														BEGIN OPTION CC					
							30				30		LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482				
							30				30		LF	DURABLE 24 INCH STOP BAR, EPOXY PAINT	646.483				
							30				30		LF	DURABLE 24 INCH STOP BAR, POLYUREA	646.484				
														END OPTION CC					
														BEGIN OPTION DD					
							4				4		EACH	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	646.492				
							4				4		EACH	DURABLE LETTER OR SYMBOL, EPOXY PAINT	646.493				
							4				4		EACH	DURABLE LETTER OR SYMBOL, POLYUREA	646.494				
														END OPTION DD					
								65			65		SY	GEOTEXTILE UNDER STONE FILL	649.31	0.8			
								180			180		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	4			
								3			3		LB	SEED	651.15	0.5			
								11			11		LB	FERTILIZER	651.18	0.5			
								0.1			0.1		TON	AGRICULTURAL LIMESTONE	651.20	0.06			
								0.1			0.1		TON	HAY MULCH	651.25	0.06			
								10			10		CY	TOPSOIL	651.35	4.4			
							1				1		SF	TRAFFIC SIGNS, TYPE A	675.20	0.17			
							30				30		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	-			
							2				2		EACH	REMOVING SIGNS	675.50	-			
							1				1		EACH	DELINEATOR WITH STEEL POST	676.10	-			
									5		5		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)	900.608	0.1			
										35000	35000		DL	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE) (N.A.B.I.)	900.615	-			
							8				8		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620	-			
							1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645	-			
							1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, TYPE IVB) (N.A.B.I.)	900.650	-			
							75		100		175		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, TYPE IVB)	900.680	4			

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)
FILE NAME: z15b109qss-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: S. BEAUMONT
QUANTITY SHEET 2
PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: A. GIRALDI
SHEET 9 OF 42

GENERAL INFORMATION

SYMBOLOLOGY LEGEND NOTE

THE SYMBOLOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOLOGY. THE SYMBOLOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊗	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
⊙	BM BENCHMARK
▣	BND BOUND
▣	CB CATCH BASIN
⊕	COMB COMBINATION POLE
▣	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
⊙	FPOLE FLAGPOLE
⊙	GASFIL GAS FILLER
⊙	GP GUIDE POST
⊗	GSO GAS SHUT OFF
⊙	GUY GUY POLE
⊙	GUYW GUY WIRE
⊗	GV GATE VALVE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
⊙	IP IRON PIN
⊙	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
⊙	MH MANHOLE (MH)
▣	MM MILE MARKER
⊙	PM PARKING METER
▣	PMK PROJECT MARKER
⊙	POST POST STONE/WOOD
⊕	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
⊕	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
⊕	WELL WELL
⊗	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOLOGY

UNDERGROUND UTILITIES	
— UGU —	UTILITY (GENERIC-UNKNOWN)
— TELEPHONE —	TELEPHONE
— ELECTRIC —	ELECTRIC
— CABLE (TV) —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— GAS LINE —	GAS LINE
— WATER LINE —	WATER LINE
— SANITARY SEWER (SEPTIC) —	SANITARY SEWER (SEPTIC)
ABOVE GROUND UTILITIES (AERIAL)	
— AGU —	UTILITY (GENERIC-UNKNOWN)
— TELEPHONE —	TELEPHONE
— ELECTRIC —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— UTILITY POLE GUY WIRE —	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOLOGY	
— CZ —	CLEAR ZONE
— PLAN LAYOUT MATCHLINE —	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

— TOP OF CUT SLOPE —	TOP OF CUT SLOPE
— TOE OF FILL SLOPE —	TOE OF FILL SLOPE
— STONE FILL —	STONE FILL
— BOTTOM OF DITCH —	BOTTOM OF DITCH
— CULVERT PROPOSED —	CULVERT PROPOSED
— STRUCTURE SUBSURFACE —	STRUCTURE SUBSURFACE
— PROJECT DEMARCATION FENCE —	PROJECT DEMARCATION FENCE
— BARRIER FENCE —	BARRIER FENCE
— TREE PROTECTION ZONE (TPZ) —	TREE PROTECTION ZONE (TPZ)
— STRIPING LINE REMOVAL —	STRIPING LINE REMOVAL
— SHEET PILES —	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOLOGY

BOUNDARY LINES	
— TOWN BOUNDARY LINE —	TOWN BOUNDARY LINE
— COUNTY BOUNDARY LINE —	COUNTY BOUNDARY LINE
— STATE BOUNDARY LINE —	STATE BOUNDARY LINE
— PROPOSED STATE R.O.W. (LIMITED ACCESS) —	PROPOSED STATE R.O.W. (LIMITED ACCESS)
— PROPOSED STATE R.O.W. —	PROPOSED STATE R.O.W.
— STATE ROW (LIMITED ACCESS) —	STATE ROW (LIMITED ACCESS)
— STATE ROW —	STATE ROW
— TOWN ROW —	TOWN ROW
— PERMANENT EASEMENT LINE (P) —	PERMANENT EASEMENT LINE (P)
— TEMPORARY EASEMENT LINE (T) —	TEMPORARY EASEMENT LINE (T)
— SURVEY LINE —	SURVEY LINE
— PROPERTY LINE (P/L) —	PROPERTY LINE (P/L)
— SR —	SLOPE RIGHTS
— 6F PROPERTY BOUNDARY —	6F PROPERTY BOUNDARY
— 4F PROPERTY BOUNDARY —	4F PROPERTY BOUNDARY
— HAZARDOUS WASTE —	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOLOGY

EPSC MEASURES	
— FILTER CURTAIN —	FILTER CURTAIN
— SILT FENCE —	SILT FENCE
— SILT FENCE WOVEN WIRE —	SILT FENCE WOVEN WIRE
— CHECK DAM —	CHECK DAM
— DISTURBED AREAS REQUIRING RE-VEGETATION —	DISTURBED AREAS REQUIRING RE-VEGETATION
— EROSION MATTING —	EROSION MATTING

ENVIRONMENTAL RESOURCES

— WETLAND BOUNDARY —	WETLAND BOUNDARY
— RIPARIAN BUFFER ZONE —	RIPARIAN BUFFER ZONE
— WETLAND BUFFER ZONE —	WETLAND BUFFER ZONE
— SOIL TYPE BOUNDARY —	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
— HAZARDOUS WASTE AREA —	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
— STORM WATER —	STORM WATER
— USDA FOREST SERVICE LANDS —	USDA FOREST SERVICE LANDS
— WILDLIFE HABITAT SUIT/CONN —	WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
— (H) —	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY

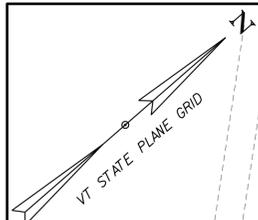
EXISTING FEATURES	
— ROAD EDGE PAVEMENT —	ROAD EDGE PAVEMENT
— ROAD EDGE GRAVEL —	ROAD EDGE GRAVEL
— DRIVEWAY EDGE —	DRIVEWAY EDGE
— DITCH —	DITCH
— FOUNDATION —	FOUNDATION
— FENCE (EXISTING) —	FENCE (EXISTING)
— FENCE WOOD POST —	FENCE WOOD POST
— FENCE STEEL POST —	FENCE STEEL POST
— GARDEN —	GARDEN
— ROAD GUARDRAIL —	ROAD GUARDRAIL
— RAILROAD TRACKS —	RAILROAD TRACKS
— CULVERT (EXISTING) —	CULVERT (EXISTING)
— STONE WALL —	STONE WALL
— WALL —	WALL
— WOOD LINE —	WOOD LINE
— BRUSH LINE —	BRUSH LINE
— HEDGE —	HEDGE
— BODY OF WATER EDGE —	BODY OF WATER EDGE
— LEDGE EXPOSED —	LEDGE EXPOSED

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09legend-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: L. GREER
CONVENTIONAL SYMBOLOLOGY LEGEND SHEET

PLOT DATE: 5/24/2016
DRAWN BY: P. McKECHNE
CHECKED BY: S. FORTIER
SHEET 10 OF 42





VT 103
TO MOUNT HOLLY

EXISTING
RIGHT-OF-WAY

DURABLE 4 INCH WHITE LINE (OPTION ITEM)
266+28 TO 268+61 SOLID RT
266+45 TO 268+61 SOLID LT
DURABLE 4 INCH YELLOW LINE (OPTION ITEM)
266+48 TO 268+61 SOLID LT & RT
DURABLE 24 INCH STOP BAR (OPTION ITEM)
266+48 TO 266+52 LT
DURABLE LETTER OR SYMBOL (OPTION ITEM)
266+58 LT - "STOP"
REMOVING SIGNS
266+93 RT
268+28 LT

STONE FILL, TYPE I
GEOTEXTILE UNDER STONE FILL
266+21 TO 266+98 RT
266+53 TO 266+98 LT
268+30 TO 268+40 RT
268+54 TO 268+58 LT
STONE FILL, TYPE II
GEOTEXTILE UNDER STONE FILL
266+88 TO 267+17 LT
268+01 TO 268+25 LT

REMOVAL AND DISPOSAL OF GUARDRAIL
266+21 TO 266+98 RT
266+53 TO 266+98 LT
268+17 TO 268+38 RT
268+17 TO 268+62 LT
STEEL BEAM GUARDRAIL, GALVANIZED
266+22 TO 266+72 RT
266+53 TO 266+66 LT
268+37 TO 268+40 RT
268+43 TO 268+55 LT

ANCHOR FOR STEEL BEAM RAIL
268+36 RT
DELINEATOR WITH STEEL POST
268+37 RT
CAST-IN-PLACE CONCRETE CURB, TYPE B
266+62 TO 267+00 RT
266+62 TO 267+00 LT
268+15 TO 268+39 RT
268+15 TO 268+53 LT
CONSTRUCT DRIVES
268+49 RT (27 FT WIDE, GRAVEL, RES.)

BEGIN PROJECT
STA 266+38

END PROJECT
STA 268+61

SAWCUT FOR CAST-IN-PLACE
CONCRETE CURB, TYPE B (TYP)
(INCIDENTAL TO ITEM 900.680,
"SPECIAL PROVISION (BITUMINOUS
CONCRETE PAVEMENT, TYPE IVB)")

BRG. ABUT. 1
(FIXED) SAWED PAVEMENT
JOINT

BRG. ABUT. 2
(EXP.)

90°-00'-00"
ANGLE OF CROSSING

ASPHALTIC PLUG JOINT
(SEE STANDARD SD-516.10)

FACE OF BRIDGE
RAIL (TYP.) 4" WL

FACE OF CURB
(TYP.) 4" WL

SAWED PAVEMENT
JOINT

VT 100
TO PLYMOUTH

BARTON DRIVE

END BRIDGE
STA 268+01

BEGIN BRIDGE
STA 267+17

HVCTRL 266+62.8

NORTH = 335389.02
EAST = 1585420.95
ELEV. = 1034.00

HVCTRL 268+34.7

NORTH = 335482.64
EAST = 1585575.30
ELEV. = 1030.82

BARTON DRIVE PVT

EXISTING BRIDGE DATA:

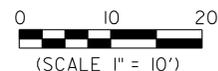
ROLLED BEAMS, CONCRETE DECK
SPAN = 82'-0"
WIDTH = 38'-10" OUT-TO-OUT
BUILT IN 1966.

LEGEND

[N]	NEW SIGN
[RET]	RETAIN SIGN
[S]	SALVAGE SIGN
[R]	REMOVE SIGN

KEY TO PAVEMENT MARKINGS

WL	= SOLID WHITE LINE
YL	= SOLID YELLOW LINE

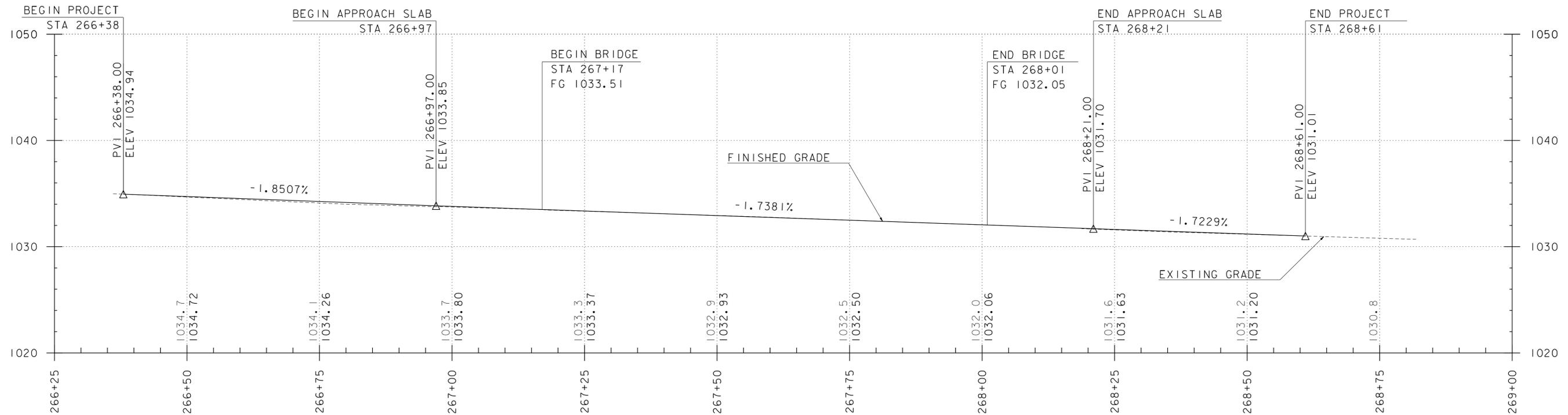


PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09bdr-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: S. FORTIER
LAYOUT SHEET

PLOT DATE: 5/24/2016
DRAWN BY: S. FORTIER
CHECKED BY: L. GREER
SHEET 11 OF 42

CLD 15-0223 MODEL: LAYOUT1



NOTES

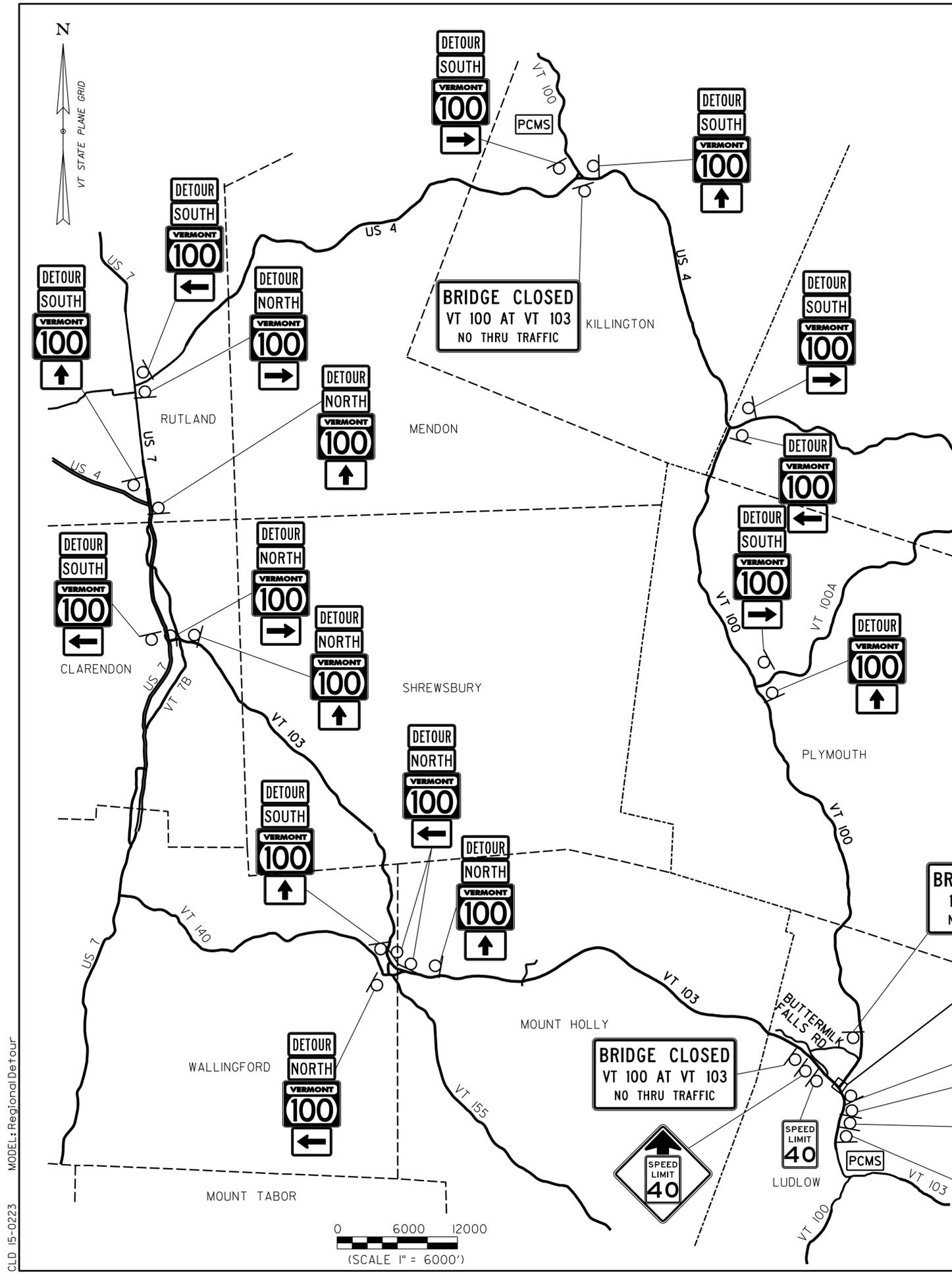
1. STATIONS AND ELEVATIONS ARE IN FEET.
2. THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ALONG THE CENTERLINE.
3. THE ELEVATIONS SHOWN TO THE NEAREST HUNDRETH ARE THE FINISHED GRADE ALONG THE CENTERLINE.
4. PROPOSED PROFILE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. FINAL FINISHED GRADE SHALL BE DETERMINED BY THE PROJECT MANAGER AFTER TOP OF DECK AND TOP OF BEAM ELEVATIONS ARE SURVEYED. SEE PROJECT NOTE 23 ON SHEET 3.

VT 100 PROFILE

HOR. SCALE 1" = 20' - 0"
 VER. SCALE 1" = 10' - 0"



PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15bl09pro-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: L. GREER
PROFILE SHEET	SHEET 12 OF 42



TRAFFIC CONTROL NOTES

1. TRAFFIC WILL BE MAINTAINED ON A REGIONAL DETOUR VIA ROUTES VT 103, US 7, US 4, AND VT 100 BETWEEN LUDLOW, MOUNT HOLLY, WALLINGFORD, SHREWSBURY, CLARENDON, RUTLAND TOWN, RUTLAND CITY, MENDON, KILLINGTON, BRIDGEWATER, AND PLYMOUTH.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DETOUR AND CONSTRUCTION SIGNING. THE EXACT LOCATION WILL BE COORDINATED WITH THE ENGINEER AND SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD.
3. TRAFFIC CONTROL WARNING SIGNS SHALL BE PROVIDED PER STANDARD T-1 AND THE LATEST EDITION OF THE MUTCD. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS REQUIRED FOR THE DETOUR WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PAID FOR UNDER THE ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". ALL SIGNS AND BARRICADES SHALL BE CLEARED OF DUST AND DEBRIS WEEKLY.
4. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED AT THE APPROXIMATE LOCATIONS SHOWN ON THE PLANS OR WHERE DIRECTED BY THE ENGINEER. TWO PCMS SHALL BE PLACED AT THE PROJECT LOCATION 14 DAYS PRIOR TO THE START OF CONSTRUCTION TO WARN OF THE IMPENDING DETOUR. THESE PCMS SHALL THEN BE REMOVED AND DEPLOYED TO THE LOCATIONS SHOWN ONCE CONSTRUCTION HAS BEGUN. PAYMENT FOR THESE SIGNS, INCLUDING ANY RELOCATING REQUIRED, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.15 "PORTABLE CHANGEABLE MESSAGE SIGN".
5. THE ROUTE MARKERS USED FOR THE DETOUR AS SHOWN ON THE PLANS SHALL FOLLOW STANDARDS E-127 AND E-136B. THESE SIGNS SHALL BE REMOVED AT THE END OF THE CONSTRUCTION PERIOD. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
6. ACCESS TO ALL EXISTING DRIVES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.
7. INSTALLATION OF DETOUR SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES AND SHALL MODIFY OR BE PLACED ADJACENT TO EXISTING SIGN ASSEMBLIES WHEN POSSIBLE. THE CONTRACTOR SHALL MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES WHENEVER POSSIBLE.
8. EXISTING SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC FLOW OF THE DETOUR SHALL BE REMOVED OR COVERED BY THE CONTRACTOR. ALL SIGNS REMOVED OR COVERED SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
9. CONTACT DIG-SAFE AT LEAST 48 HOURS PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.
10. TEMPORARY TRAFFIC BARRIER SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)" AND SHALL BE USED FOR THE CLOSURE OF THE BRIDGE. CONTRACTOR SHALL INSTALL BARRIER AS NECESSARY TO PREVENT THE TRAVELLING PUBLIC FROM ENTERING THE CONSTRUCTION SITE.
11. REDUCED SPEED ZONE FOR VT 103 TRAFFIC SHALL BE SIGNED BETWEEN VT 100 AND BUTTERMILK FALLS ROAD. RETAIN EXISTING 50 MPH SIGN ON VT 103 NORTHBOUND, NORTH OF BUTTERMILK FALLS ROAD, AND VT 103 SOUTHBOUND, SOUTH OF VT 100.

SPEED LIMIT 40 B/W

BRIDGE CLOSED VT 100 AT VT 103 NO THRU TRAFFIC B/W

BRIDGE CLOSED 1 MILE AHEAD NO THRU TRAFFIC B/W

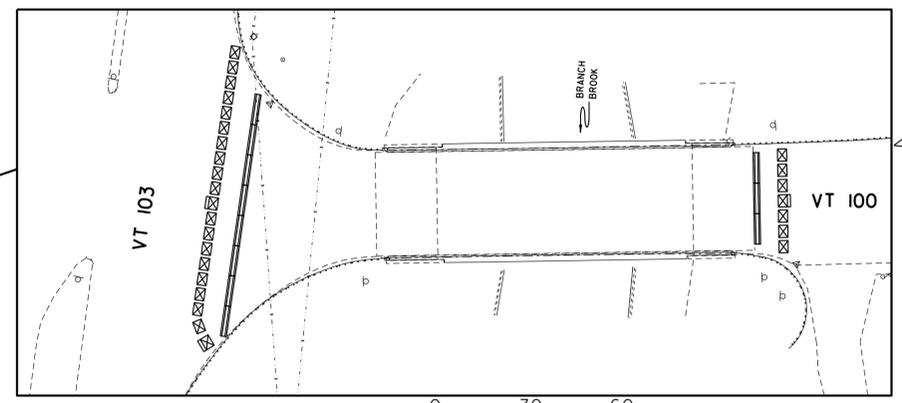
SOUTH B/O
NORTH B/O
DETOUR B/O

VERMONT 100 G/W

ROAD CLOSED

TRAFFIC DATA

LOCATION	AADT		DHV		%T		%D		ADTT	
	2017	2037	2017	2037	2017	2037	2017	2037	2017	2037
VT 103	3000	3200	420	450	1.8	3.1	51	51	160	290



LEGEND

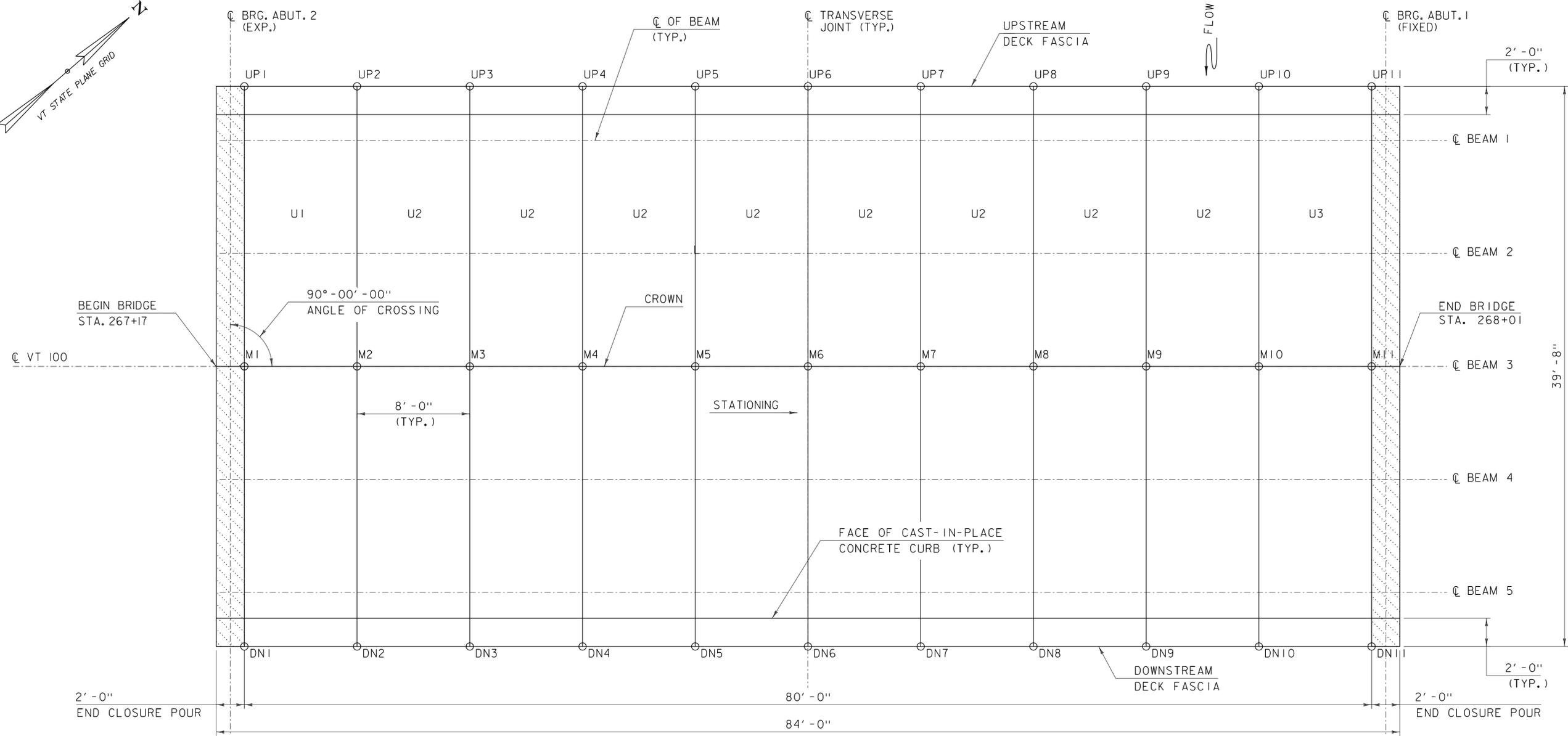
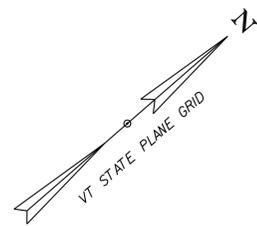
- N/C NEW SIGN/CONSTRUCTION ONLY
- B/O BLACK/ORANGE
- B/W BLACK/WHITE
- G/W GREEN/WHITE
- ☒ TYPE III BARRICADE
- ☒ TYPE III BARRICADE (MOD.)
- TEMPORARY TRAFFIC BARRIER

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09detour-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: S. FORTIER
REGIONAL DETOUR SHEET

PLOT DATE: 5/24/2016
DRAWN BY: S. FORTIER
CHECKED BY: L. GREER
SHEET 13 OF 42

CLD_15-0223 MODEL: Regional Detour



PRECAST CONCRETE DECK SLAB LAYOUT

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

SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)

UPSTREAM FASCIA POINTS					
POINT	STATION	OFFSET	SLAB FINAL ELEV.	SDL DEFLECTION	SLAB ELEV. AT INSTALLATION
UP1	267+19.00	19.83 LT	1033.07'	0"	1032.82'
UP2	267+27.00	19.83 LT	1032.93'	1/8"	1032.70'
UP3	267+35.00	19.83 LT	1032.80'	1/4"	1032.57'
UP4	267+43.00	19.83 LT	1032.66'	5/16"	1032.43'
UP5	267+51.00	19.83 LT	1032.52'	3/8"	1032.30'
UP6	267+59.00	19.83 LT	1032.38'	3/8"	1032.16'
UP7	267+67.00	19.83 LT	1032.24'	3/8"	1032.02'
UP8	267+75.00	19.83 LT	1032.10'	5/16"	1031.88'
UP9	267+83.00	19.83 LT	1031.96'	1/4"	1031.73'
UP10	267+91.00	19.83 LT	1031.82'	1/8"	1031.58'
UP11	267+99.00	19.83 LT	1031.68'	0"	1031.43'

MIDPOINT POINTS					
POINT	STATION	OFFSET	SLAB FINAL ELEV.	SDL DEFLECTION	SLAB ELEV. AT INSTALLATION
M1	267+19.00	0	1033.47'	0"	1033.22'
M2	267+27.00	0	1033.33'	1/8"	1033.09'
M3	267+35.00	0	1033.19'	1/4"	1032.96'
M4	267+43.00	0	1033.05'	5/16"	1032.83'
M5	267+51.00	0	1032.91'	3/8"	1032.69'
M6	267+59.00	0	1032.78'	3/8"	1032.56'
M7	267+67.00	0	1032.64'	3/8"	1032.42'
M8	267+75.00	0	1032.50'	5/16"	1032.27'
M9	267+83.00	0	1032.36'	1/4"	1032.13'
M10	267+91.00	0	1032.22'	1/8"	1031.98'
M11	267+99.00	0	1032.08'	0"	1031.83'

DOWNSTREAM FASCIA POINTS					
POINT	STATION	OFFSET	SLAB FINAL ELEV.	SDL DEFLECTION	SLAB ELEV. AT INSTALLATION
DN1	267+19.00	19.83 RT	1033.07'	0"	1032.82'
DN2	267+27.00	19.83 RT	1032.93'	1/8"	1032.70'
DN3	267+35.00	19.83 RT	1032.80'	1/4"	1032.57'
DN4	267+43.00	19.83 RT	1032.66'	5/16"	1032.43'
DN5	267+51.00	19.83 RT	1032.52'	3/8"	1032.30'
DN6	267+59.00	19.83 RT	1032.38'	3/8"	1032.16'
DN7	267+67.00	19.83 RT	1032.24'	3/8"	1032.02'
DN8	267+75.00	19.83 RT	1032.10'	5/16"	1031.88'
DN9	267+83.00	19.83 RT	1031.96'	1/4"	1031.73'
DN10	267+91.00	19.83 RT	1031.82'	1/8"	1031.58'
DN11	267+99.00	19.83 RT	1031.68'	0"	1031.43'

PRECAST DECK SLAB ELEVATIONS

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

NOTES:

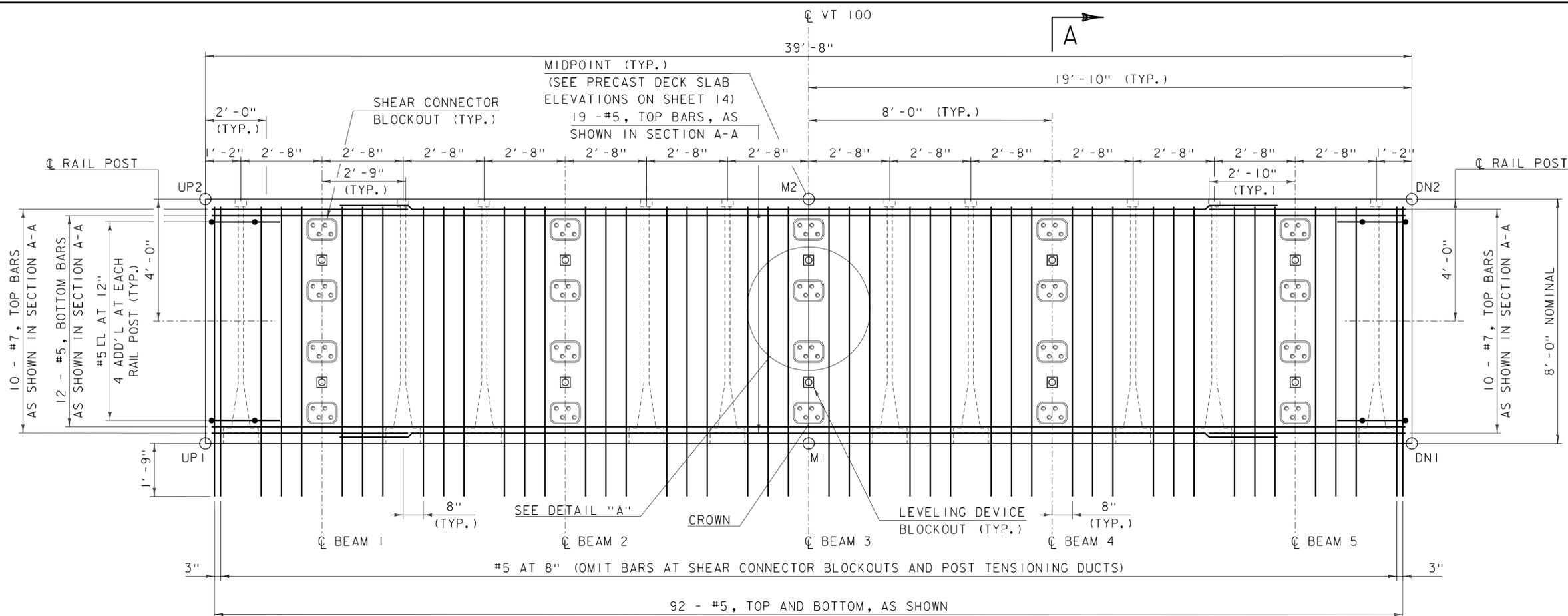
- SLAB ELEVATIONS WERE CALCULATED AT THE UPSTREAM (UP), AND DOWNSTREAM (DN) SCORE MARK ELEVATIONS, AS WELL AS TOP OF SLAB AT MIDPOINT (M) LOCATIONS AS SHOWN. SEE SHEETS 15 AND 16.
- SLAB ELEVATION AT INSTALLATION ASSUMES THAT ALL DECK SLABS ARE IN PLACE.

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
DECK DETAILS SHEET 1

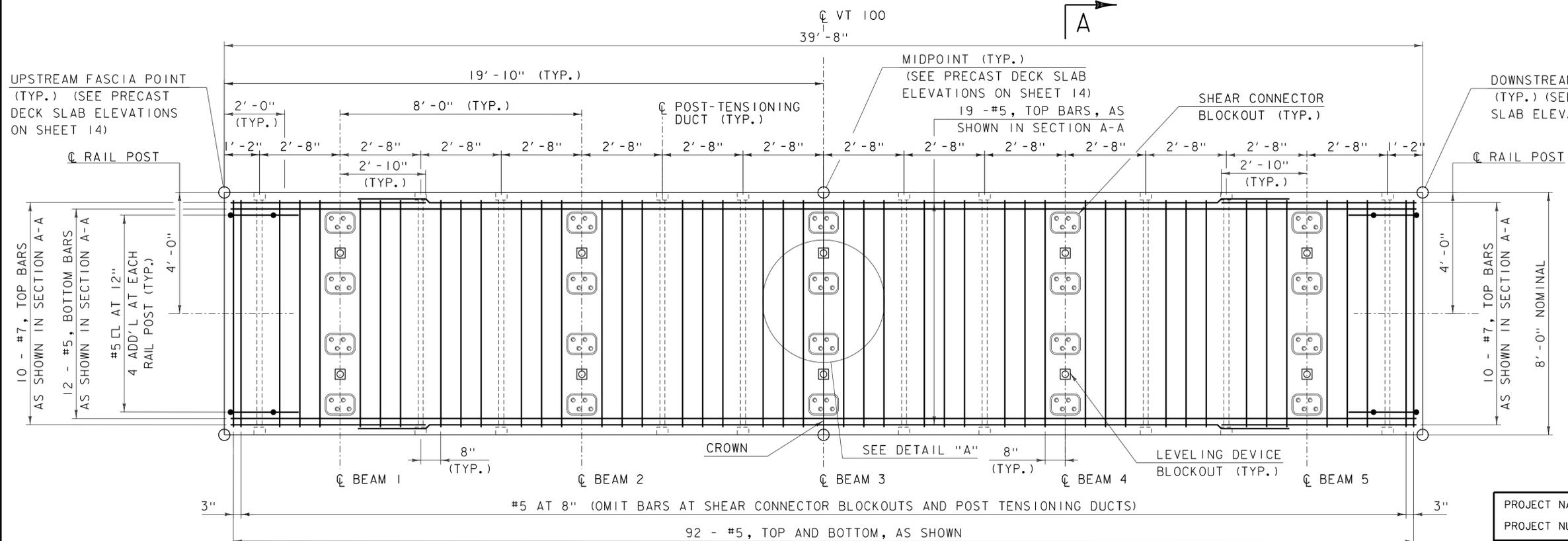
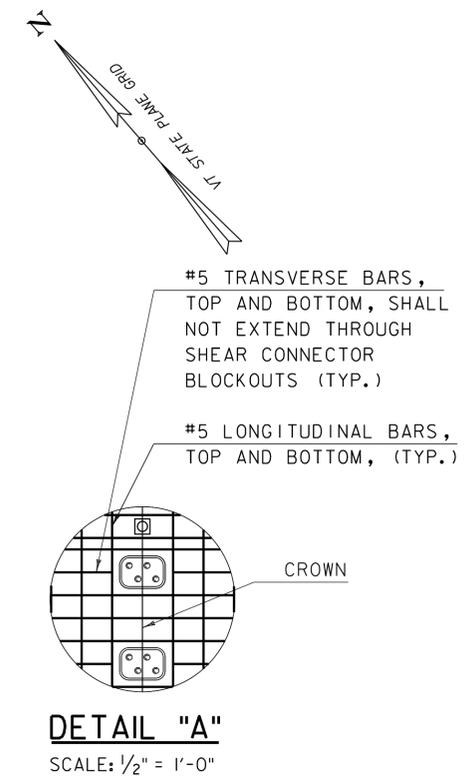
PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 14 OF 42





PRECAST SLAB U1 PLAN

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



PRECAST SLAB U2 PLAN

SCALE: 1/2" = 1'-0"
(8 REQUIRED)

NOTES:

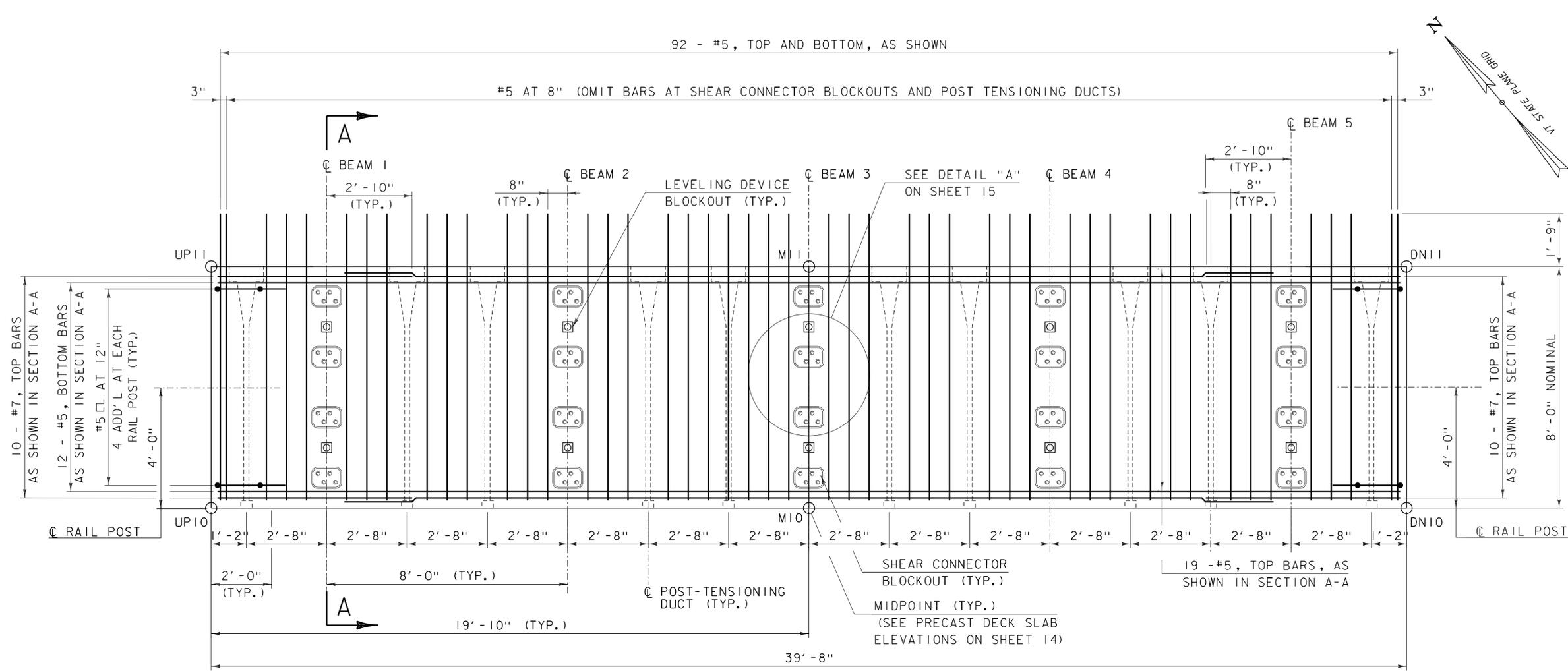
- 3" CLEAR FROM SLAB EDGES. 1" MIN. CLEAR FROM ALL BLOCKOUTS, POCKETS, OR LEVELING DEVICES.
- 2'-2" SPLICE UNLESS OTHERWISE SPECIFIED ON PLANS.
- 10" HOOK UNLESS OTHERWISE SPECIFIED ON PLANS.
- SEE SHEET 17 FOR TYPICAL PRECAST SLAB SECTION AND SECTION A-A.
- SEE SHEET 20 FOR ANCHORAGE ZONE REINFORCEMENT.

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

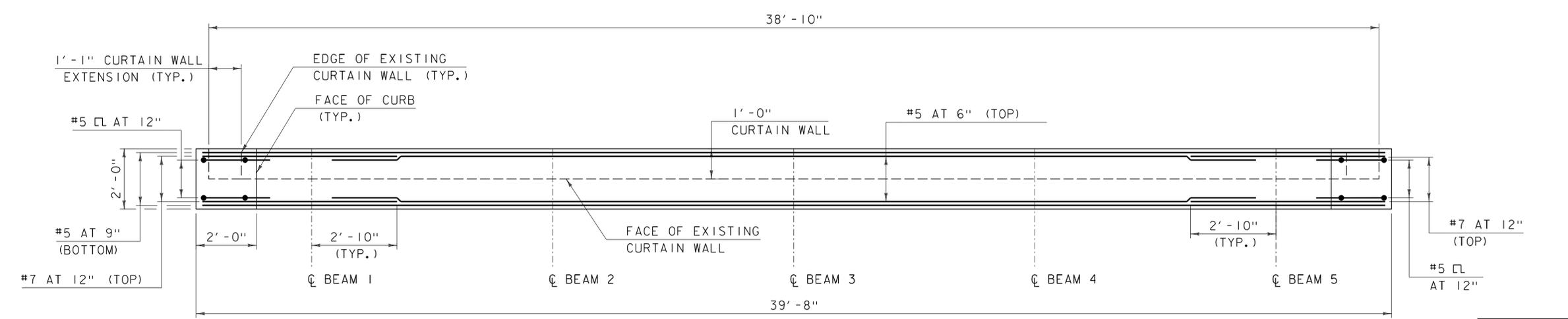
FILE NAME: z15bl09+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
DECK DETAILS SHEET 2

PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 15 OF 42





PRECAST SLAB U3 PLAN
SCALE: 1/2" = 1'-0"



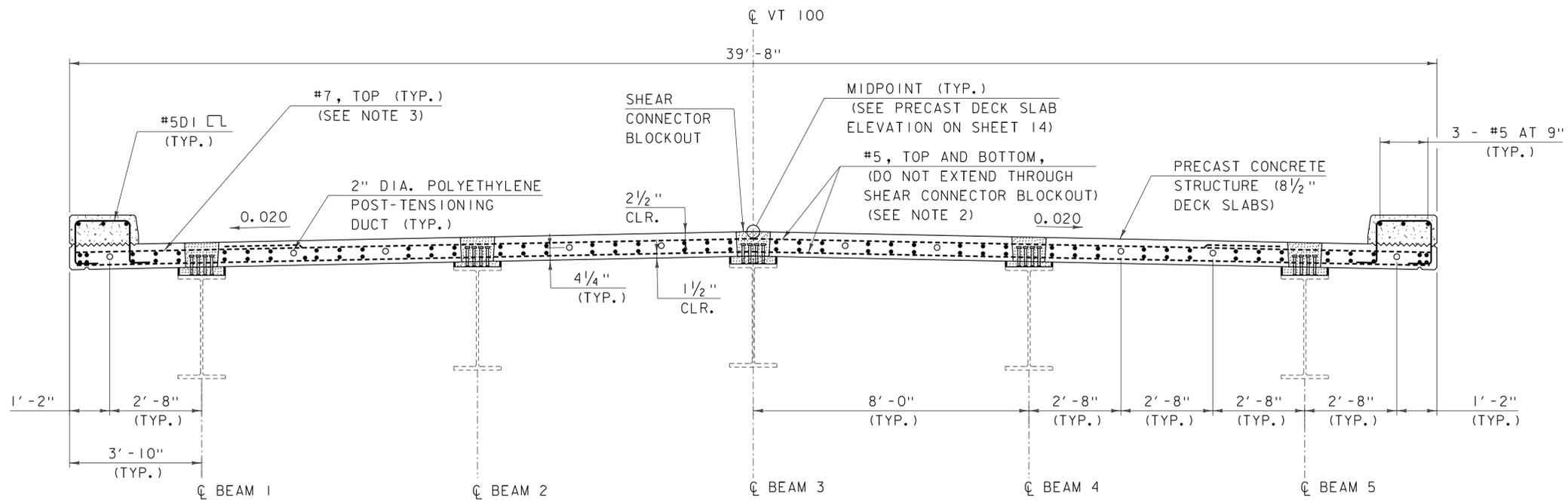
END CLOSURE POUR MASONRY AND REINFORCING PLAN
SCALE: 1/2" = 1'-0"

- NOTES:
- 3" CLEAR FROM SLAB EDGES. 1" MIN. CLEAR FROM ALL BLOCKOUTS, POCKETS, OR LEVELING DEVICES.
 - 2'-2" SPLICE UNLESS OTHERWISE SPECIFIED ON PLANS.
 - 10" HOOK UNLESS OTHERWISE SPECIFIED ON PLANS.
 - SEE SHEET 17 FOR TYPICAL PRECAST SLAB SECTION AND SECTION A-A.
 - SEE SHEET 20 FOR ANCHORAGE ZONE REINFORCEMENT.
 - FOR END CLOSURE POUR SECTION, SEE "JOINT DETAIL AT ABUTMENT 2" ON SHEET 21.
 - FOR END CLOSURE POUR REINFORCEMENT, SEE END CLOSURE POUR AND CURTAIN WALL EXTENSION MASONRY AND REINFORCING ELEVATION ON SHEET 25.

PROJECT NAME:	LUDLOW
PROJECT NUMBER:	STP DECK(39)
FILE NAME:	z15bl09+yp-99.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	N. CARON
DECK DETAILS SHEET 3	
PLOT DATE:	5/24/2016
DRAWN BY:	M. SMITH
CHECKED BY:	S. BEAUMONT
SHEET	16 OF 42

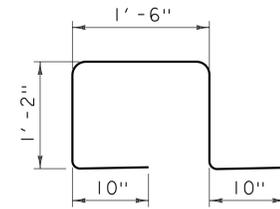


CLD 15-0223 MODEL: Sheet06



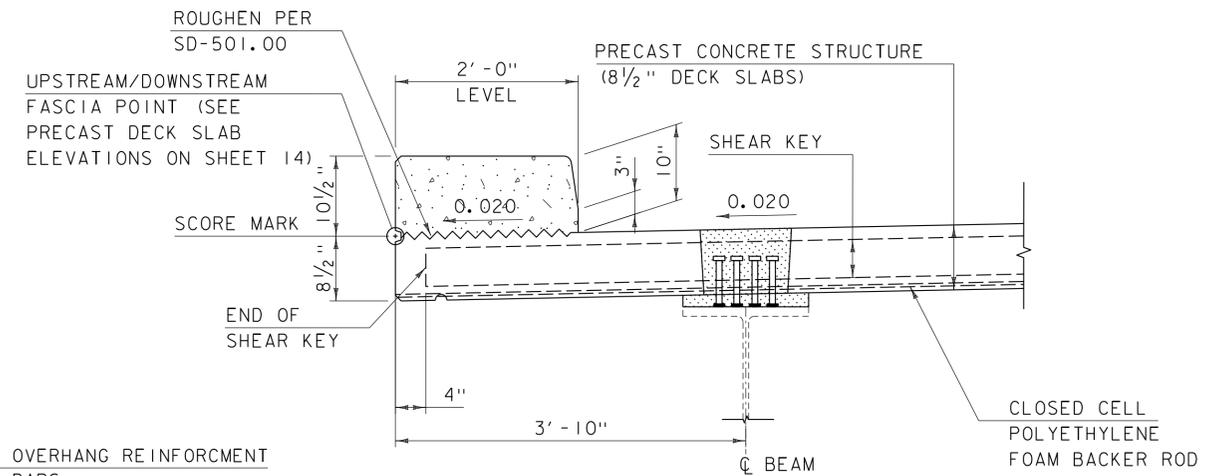
TYPICAL PRECAST SLAB SECTION

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



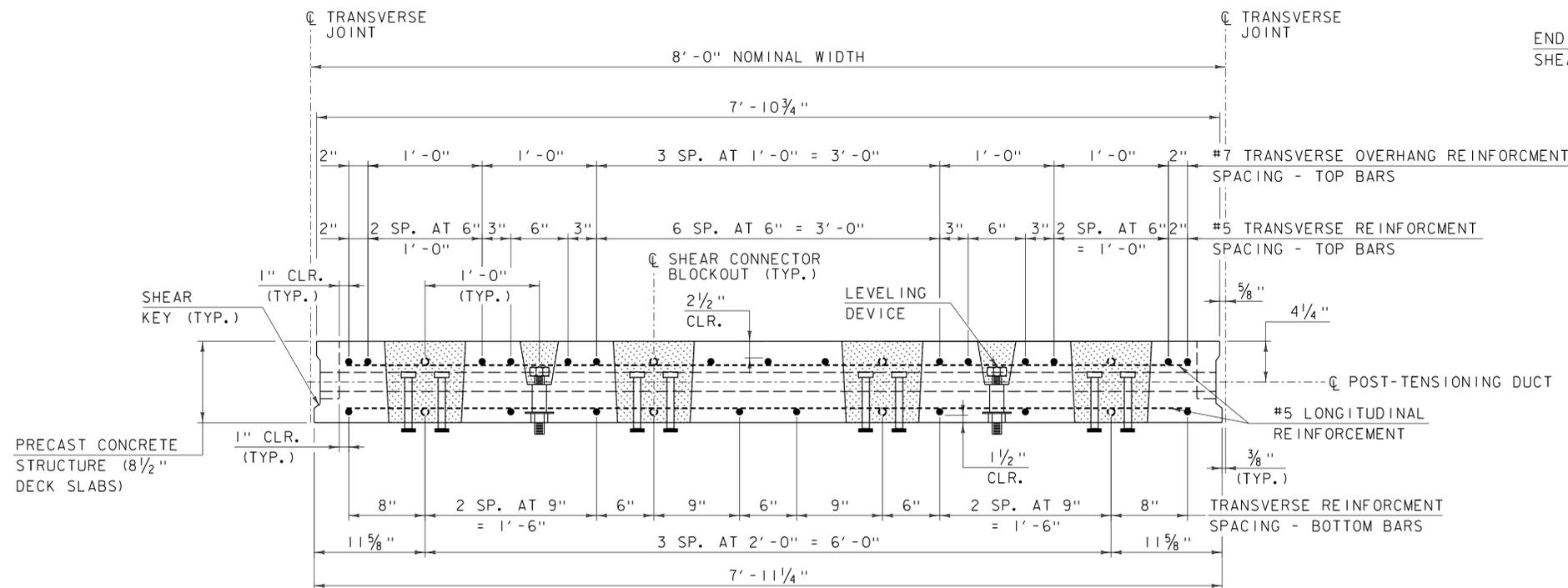
BAR #5DI

(260 - REQUIRED)
SCALE: 1" = 1'-0"



TYPICAL OVERHANG SECTION

SCALE: 1" = 1'-0"



SECTION A-A

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

NOTES:

- 3" CLEAR FROM SLAB/CURB EDGES. 1" MIN. CLEAR FROM ALL BLOCKOUTS, POCKETS, OR LEVELING DEVICES.
- TRANSVERSE AND LONGITUDINAL REINFORCING DO NOT EXTEND THROUGH SHEAR CONNECTOR BLOCKOUT. REINFORCEMENT SHOWN DASHED FOR CLARITY. SEE PRECAST SLAB PLANS AND DETAIL "A" ON SHEETS 15 AND 16.
- #7 TRANSVERSE OVERHANG REINFORCEMENT SHOWN FOR CLARITY ONLY. BARS ARE NOT LOCATED AT SHEAR CONNECTOR BLOCKOUT LOCATIONS. SEE SECTION A-A FOR TRANSVERSE OVERHANG REINFORCEMENT SPACING.
- SEE SHEET 5 FOR FASCIA AND DRIP NOTCH DETAIL.

CONCRETE, HIGH PERFORMANCE CLASS A

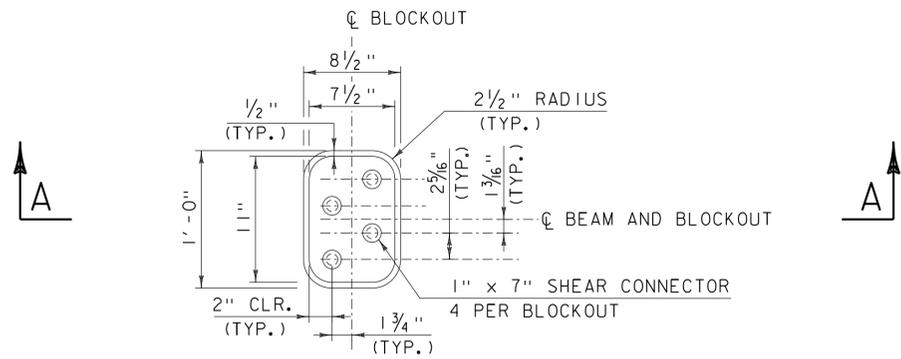
MORTAR, TYPE IV (COST INCIDENTAL TO ITEM 540.10)



PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

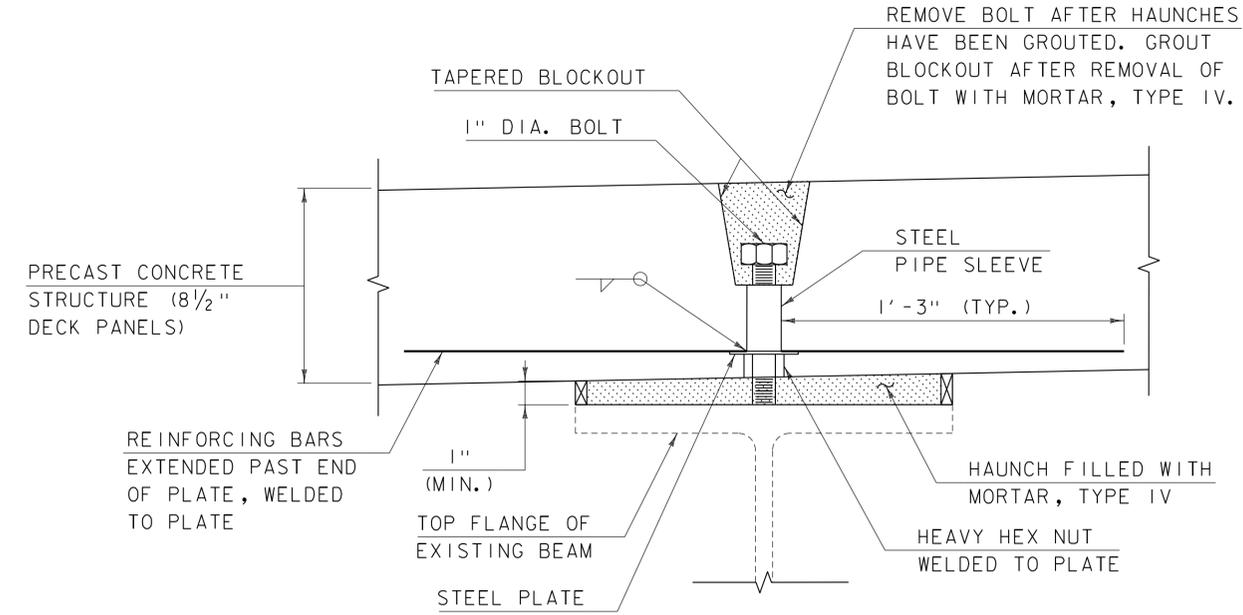
FILE NAME: z15bl09+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
DECK DETAILS SHEET 4

PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 17 OF 42



SHEAR CONNECTOR BLOCKOUT DETAIL

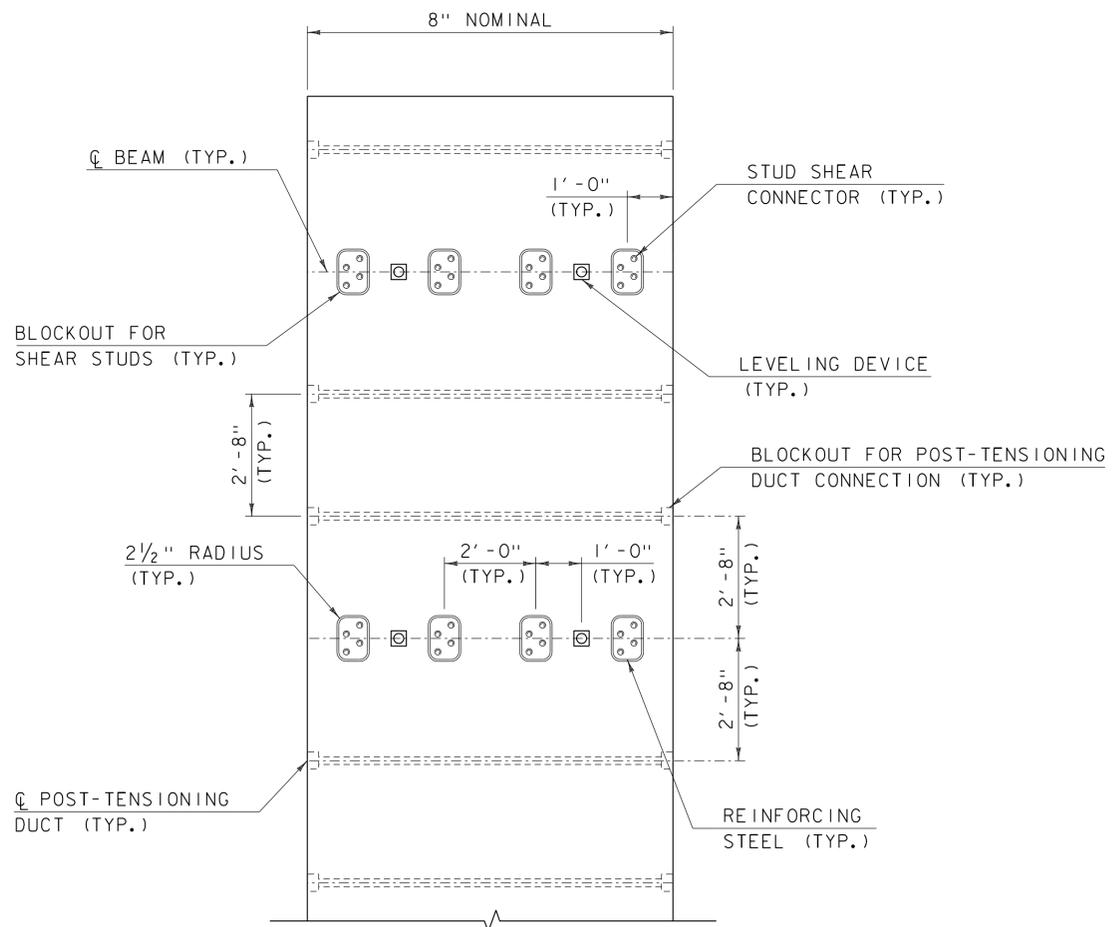
SCALE: 1/2" = 1'-0"



LEVELING DEVICE DETAIL

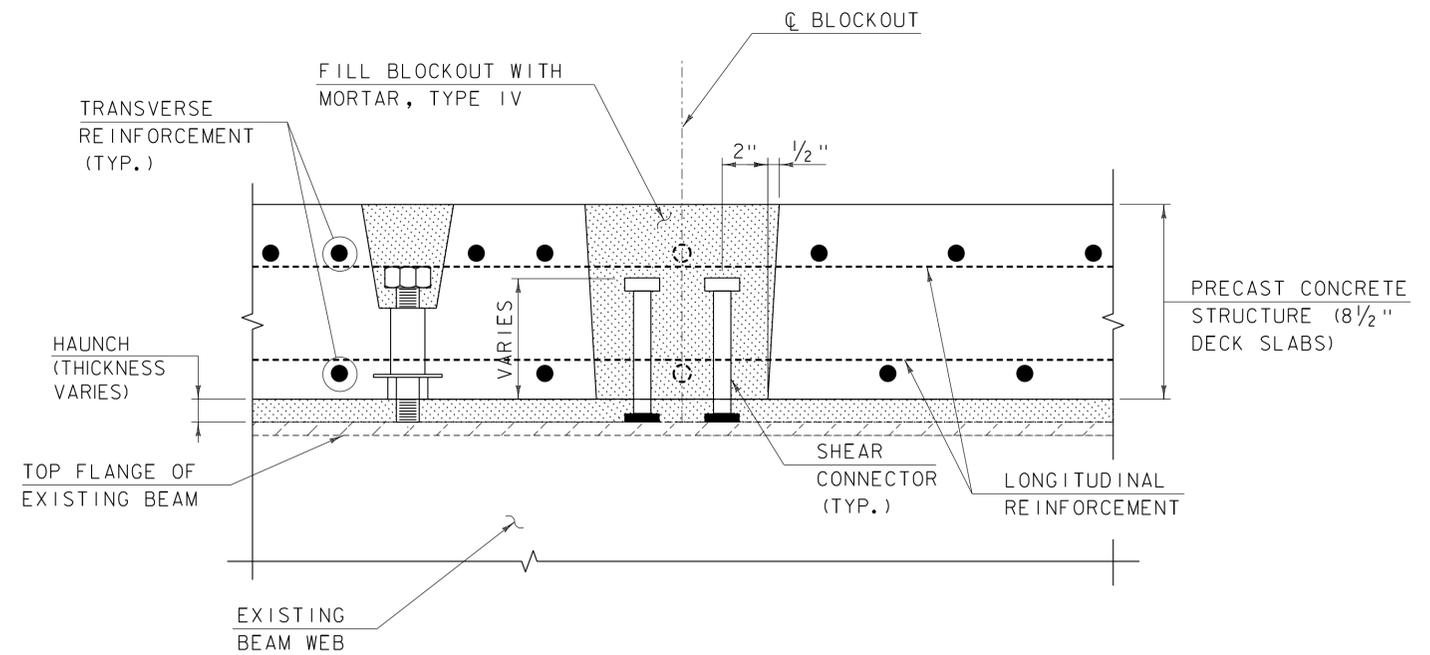
SCALE: 3" = 1'-0"

NOTES:
 THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE LEVELING DEVICE BASED ON THE WEIGHT OF THE SLABS AND THE NUMBER OF DEVICES.
 ALTERNATE DEVICES MAY BE SUBSTITUTED WITH APPROVAL FROM THE PROJECT MANAGER.



SHEAR CONNECTOR BLOCKOUT PLAN

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



SECTION A-A

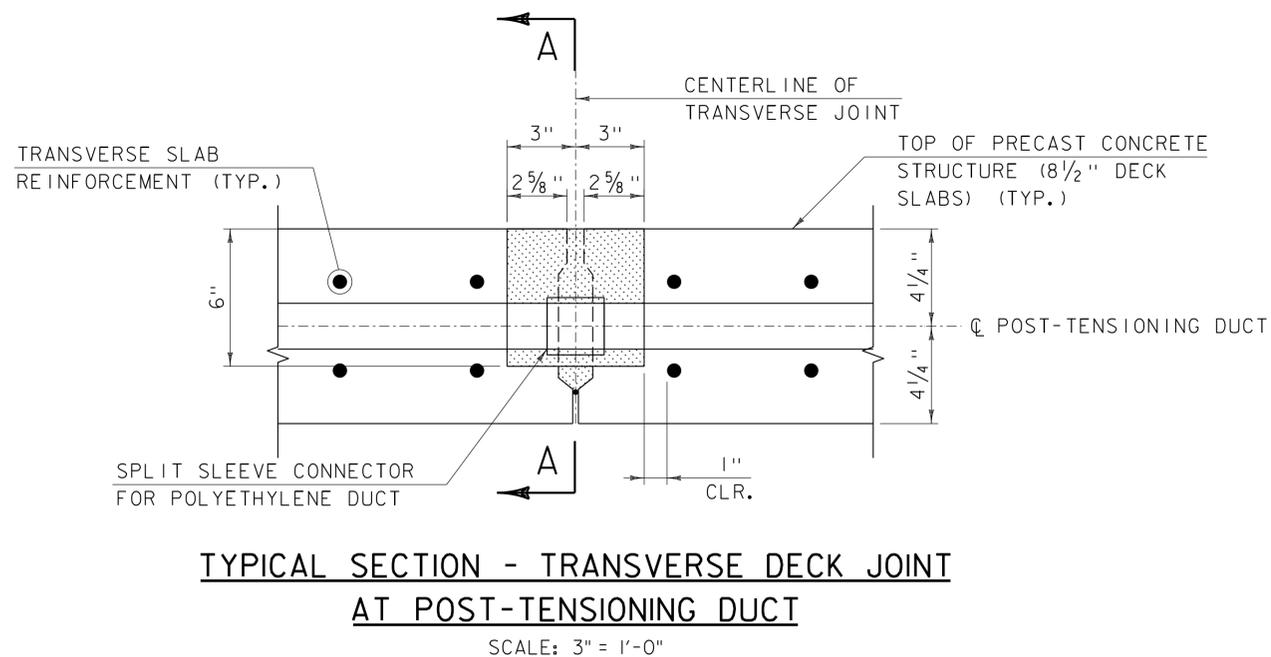
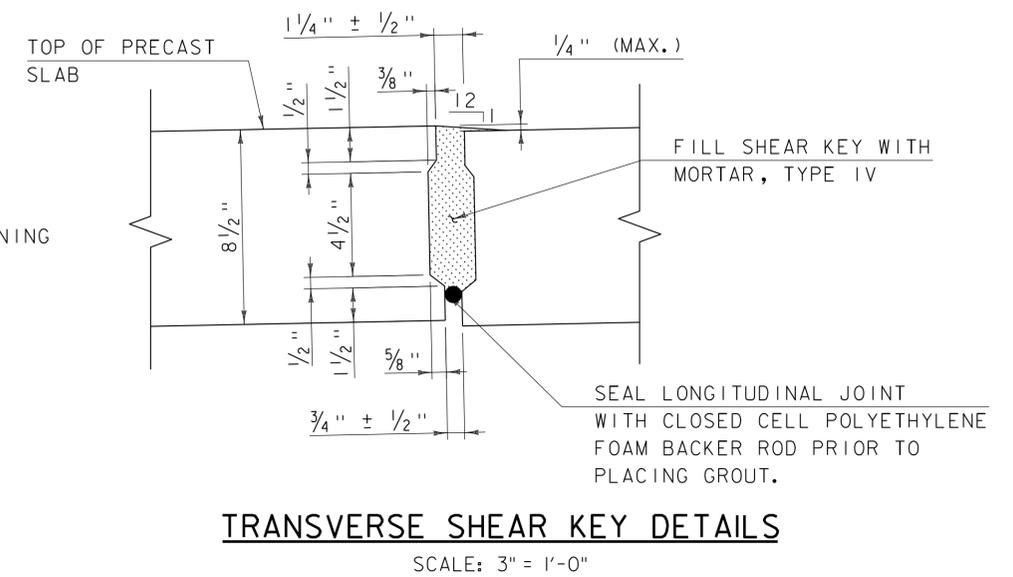
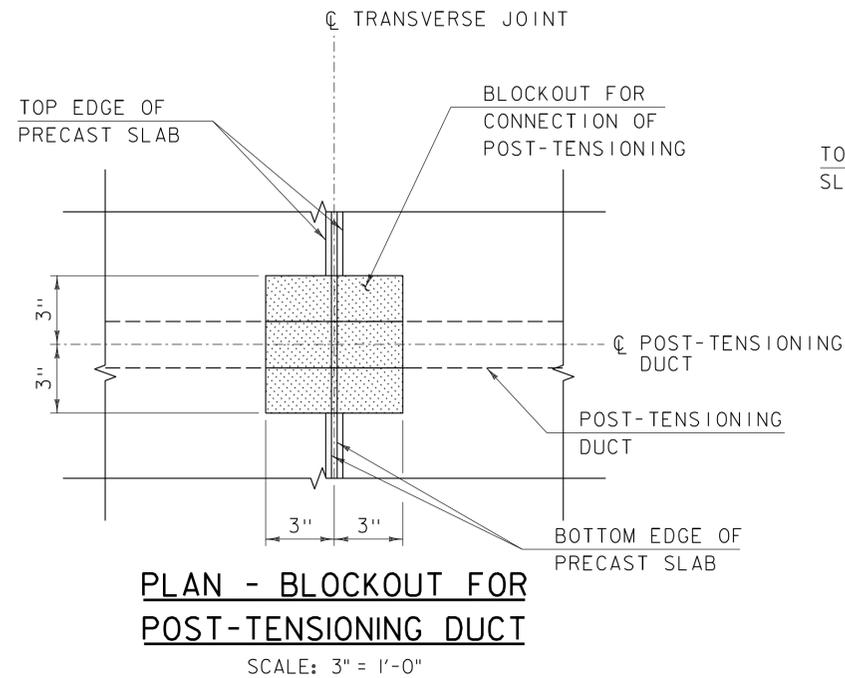
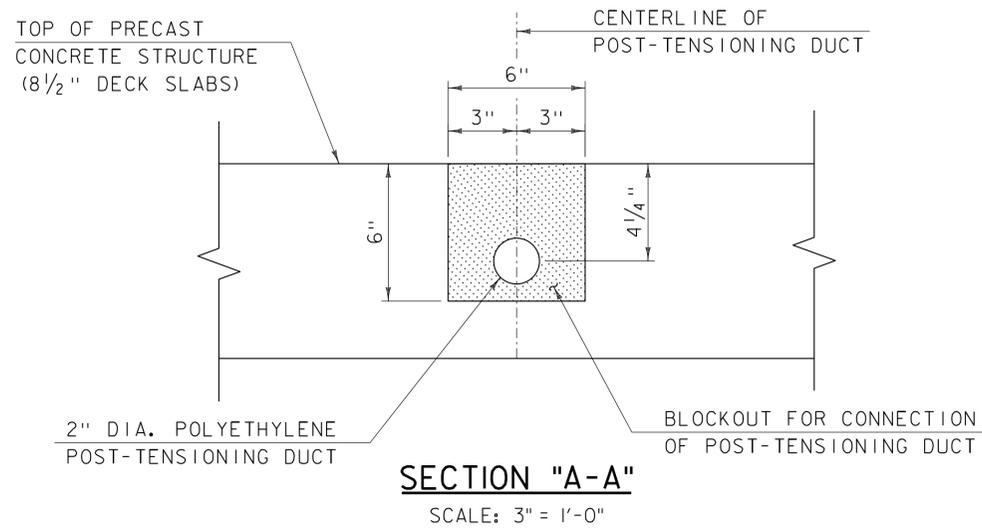
SCALE: 3" = 1'-0"

MORTAR, TYPE IV (COST INCIDENTAL TO ITEM 540.10)

NOTE:
 TRANSVERSE AND LONGITUDINAL REINFORCING DO NOT EXTEND THROUGH SHEAR CONNECTOR BLOCKOUT. REINFORCEMENT SHOWN DASHED FOR CLARITY. SEE PRECAST SLAB PLANS AND DETAIL "A" ON SHEETS 15 AND 16.



PROJECT NAME:	LUDLOW	PLOT DATE:	5/24/2016
PROJECT NUMBER:	STP DECK(39)	DRAWN BY:	M. SMITH
FILE NAME:	z15bl09+yp-99.dgn	DESIGNED BY:	N. CARON
PROJECT LEADER:	J. BYATT	CHECKED BY:	S. BEAUMONT
DECK DETAILS SHEET 5		SHEET	18 OF 42



1. THE SLAB SHALL BE PLACED AT THE NOMINAL SPACING SHOWN ON THE PLANS WITH A 3/4" WIDE GAP BETWEEN THE SLABS. THE WIDTH OF THIS GAP CAN VARY DUE TO TOLERANCES OF THE SLABS.
2. MORTAR, TYPE IV FOR SHEAR KEYS SHALL BE RODDED OR VIBRATED TO ENSURE THAT ALL VOIDS IN THE SHEAR KEYS ARE FILLED.
3. POST-TENSIONING DUCT SHOWN IS FOR 3 - 0.6" DIA. PRESTRESSING STRANDS. ALTERNATE DUCTS MAY BE USED. THE CONNECTION OF THE DUCT SHALL BE WATERTIGHT.
4. FILL BLOCKOUT WITH MORTAR TYPE IV SIMULTANEOUSLY WITH THE TRANSVERSE SHEAR KEYS.
5. FORM SHEAR KEY ALONG INTERFACE OF PRECAST SLABS AND CLOSURE POUR.

 MORTAR, TYPE IV (COST INCIDENTAL TO ITEM 540.10,

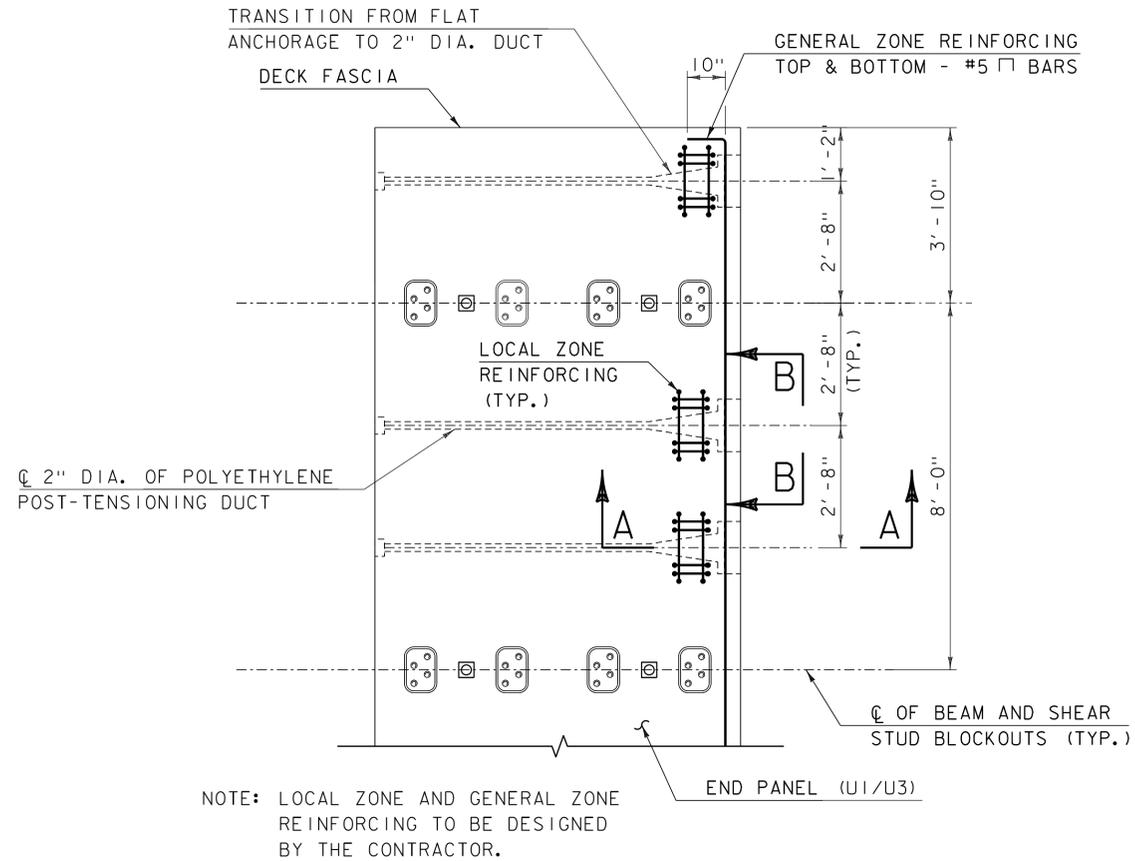
NOTE: LONGITUDINAL SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
DECK DETAILS SHEET 6

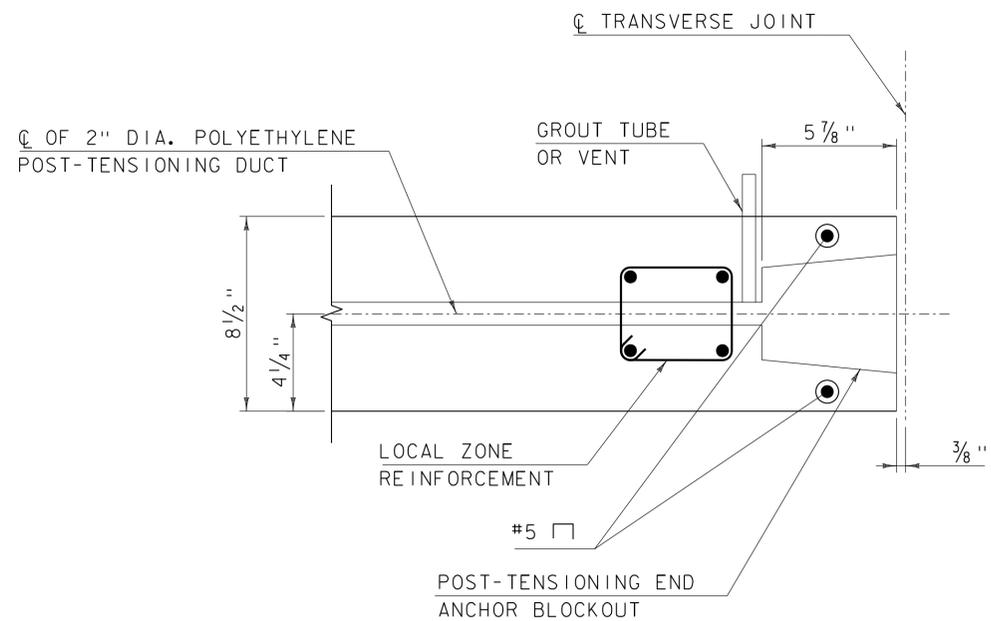
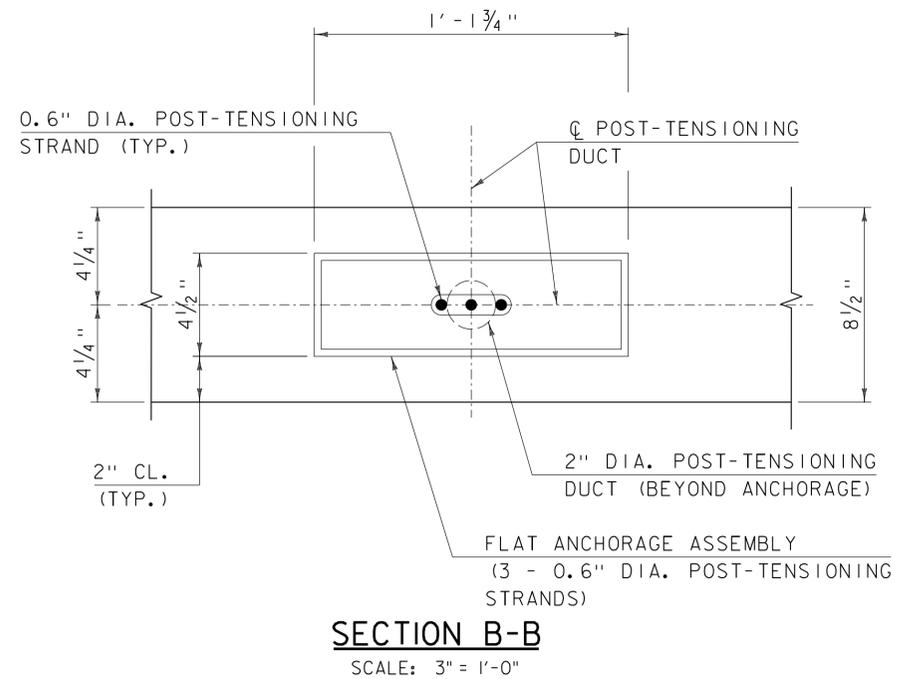
PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 19 OF 42





END ANCHORAGE DETAILS FOR POST-TENSIONING

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



SECTION A-A

SCALE: 3" = 1'-0"

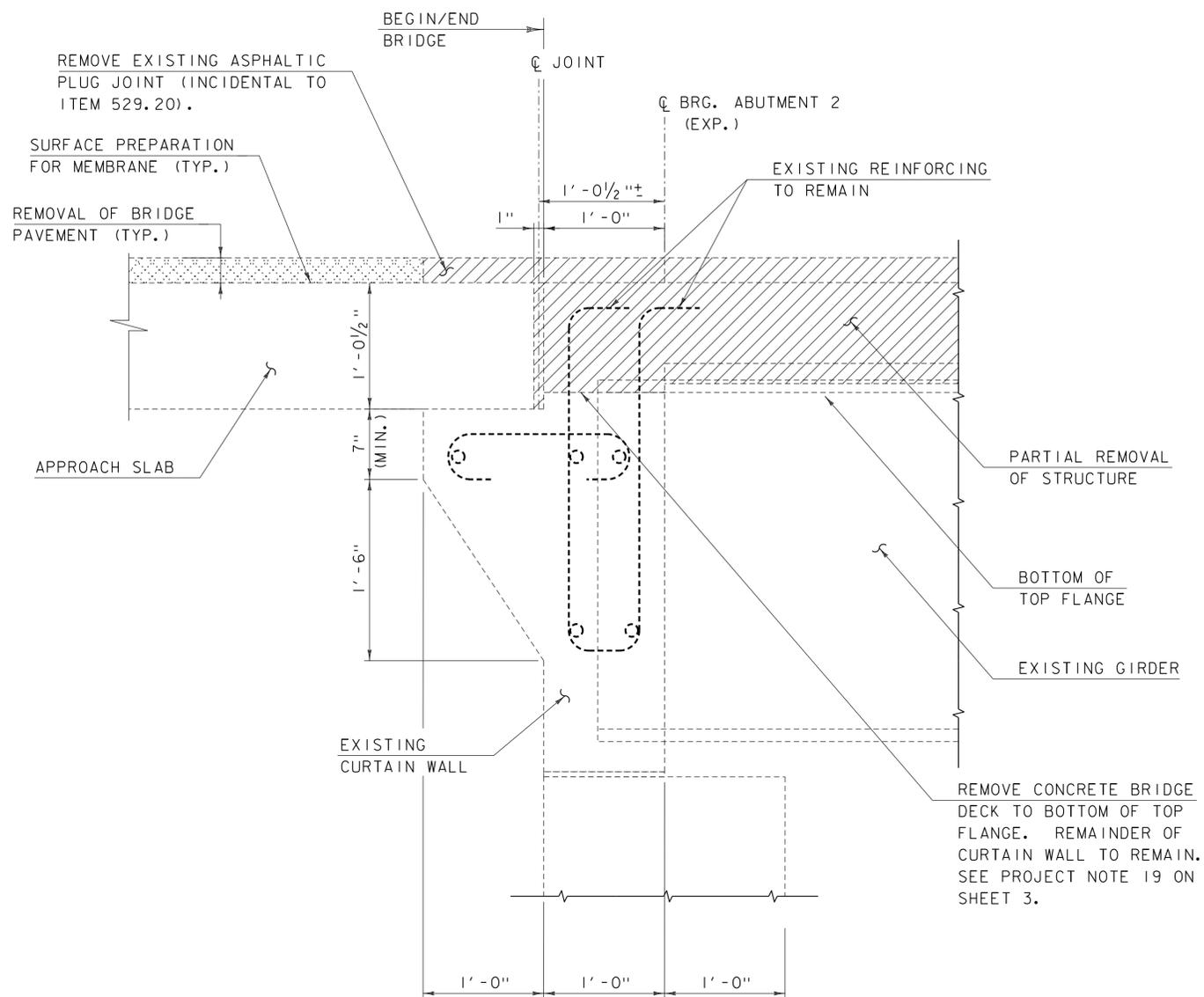
NOTE: 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15bl09+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
DECK DETAILS SHEET 7

PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 20 OF 42

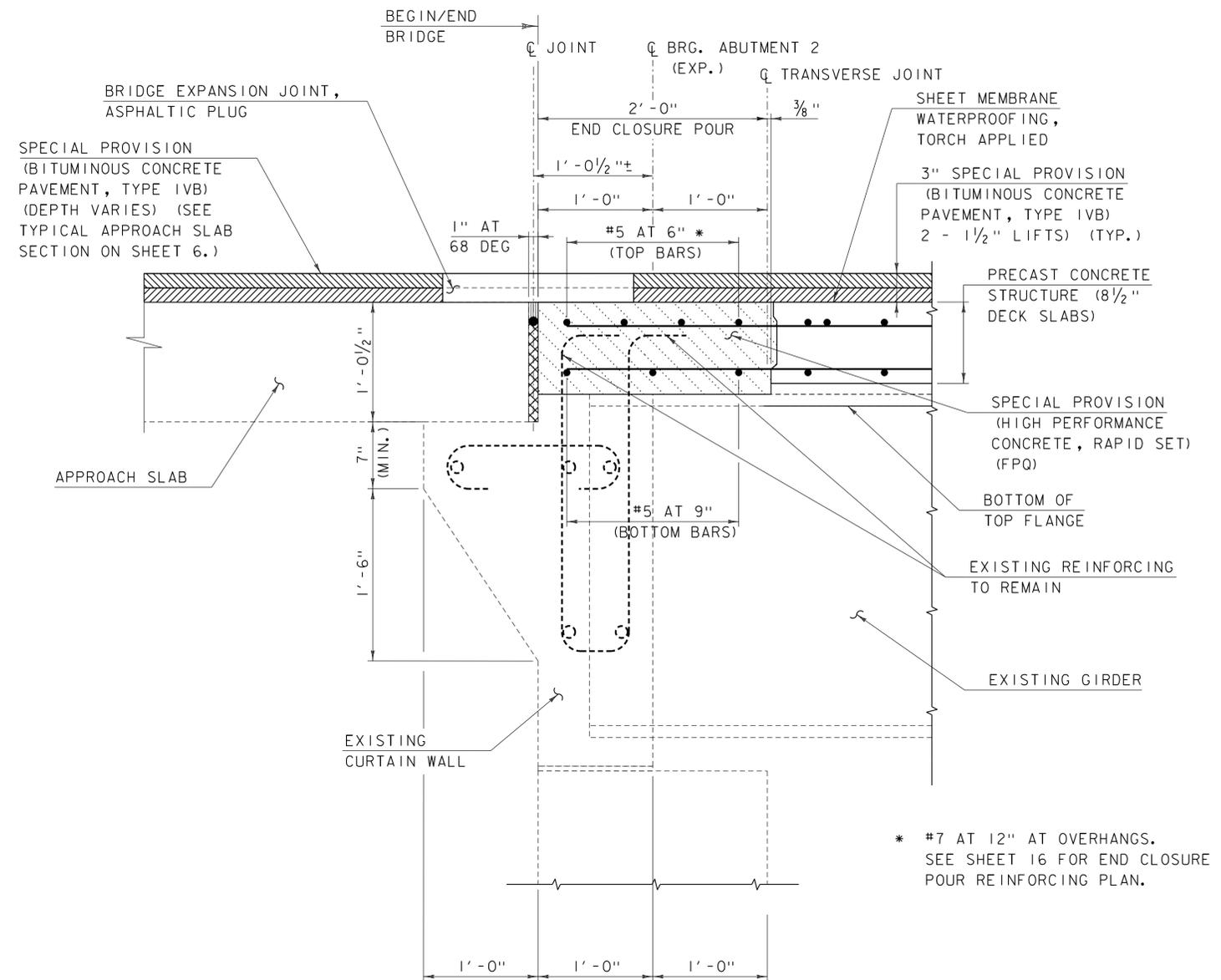




DECK REMOVAL DETAIL AT ABUTMENT 2

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

NOTE: ABUTMENT 2 REMOVAL AND ASPHALTIC PLUG JOINT DETAILS SHOWN. ABUTMENT 1 REMOVAL AND SAWED PAVEMENT JOINT DETAILS SIMILAR.



JOINT DETAIL AT ABUTMENT 2

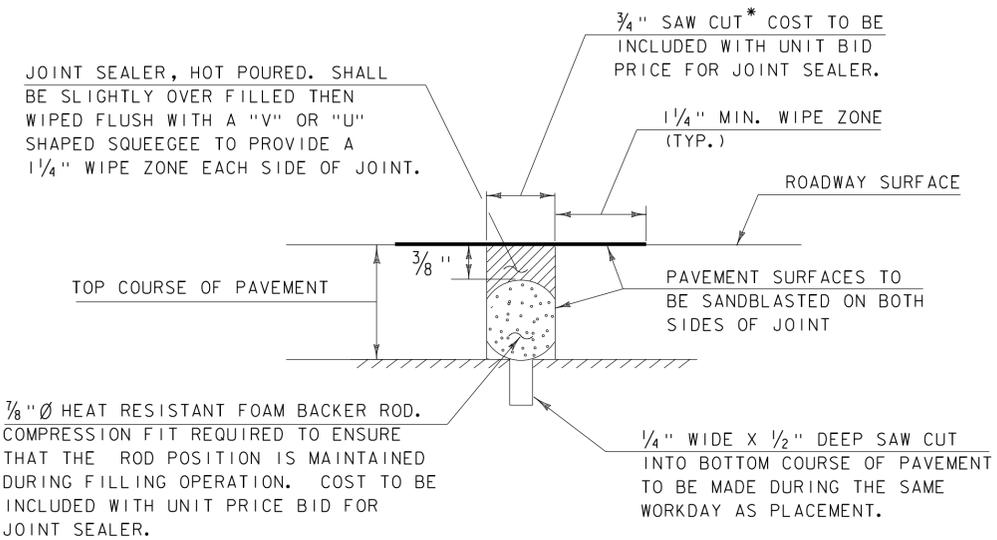
SCALE: 1 1/2" = 1'-0"

* #7 AT 12" AT OVERHANGS. SEE SHEET 16 FOR END CLOSURE POUR REINFORCING PLAN.

-  REMOVAL OF BRIDGE PAVEMENT
-  PARTIAL REMOVAL OF STRUCTURE
-  SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)

PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15bl09+yp-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: N. CARON	CHECKED BY: S. BEAUMONT
JOINT DETAILS SHEET 1	SHEET 21 OF 42

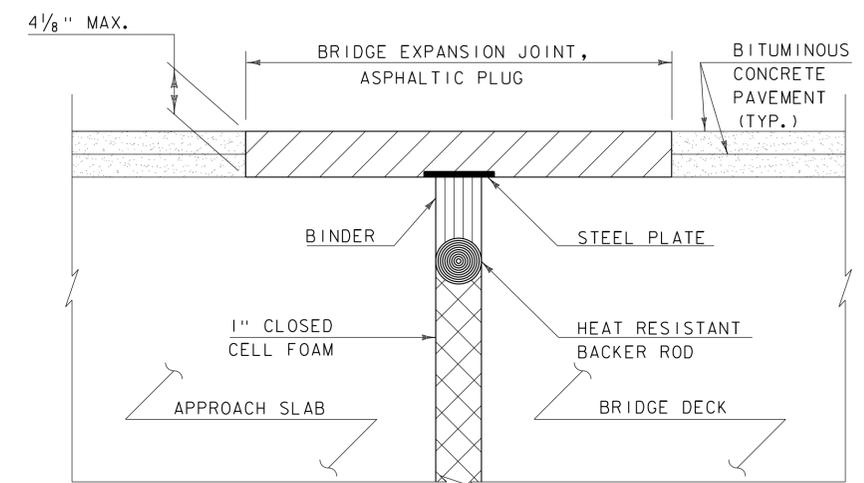




SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

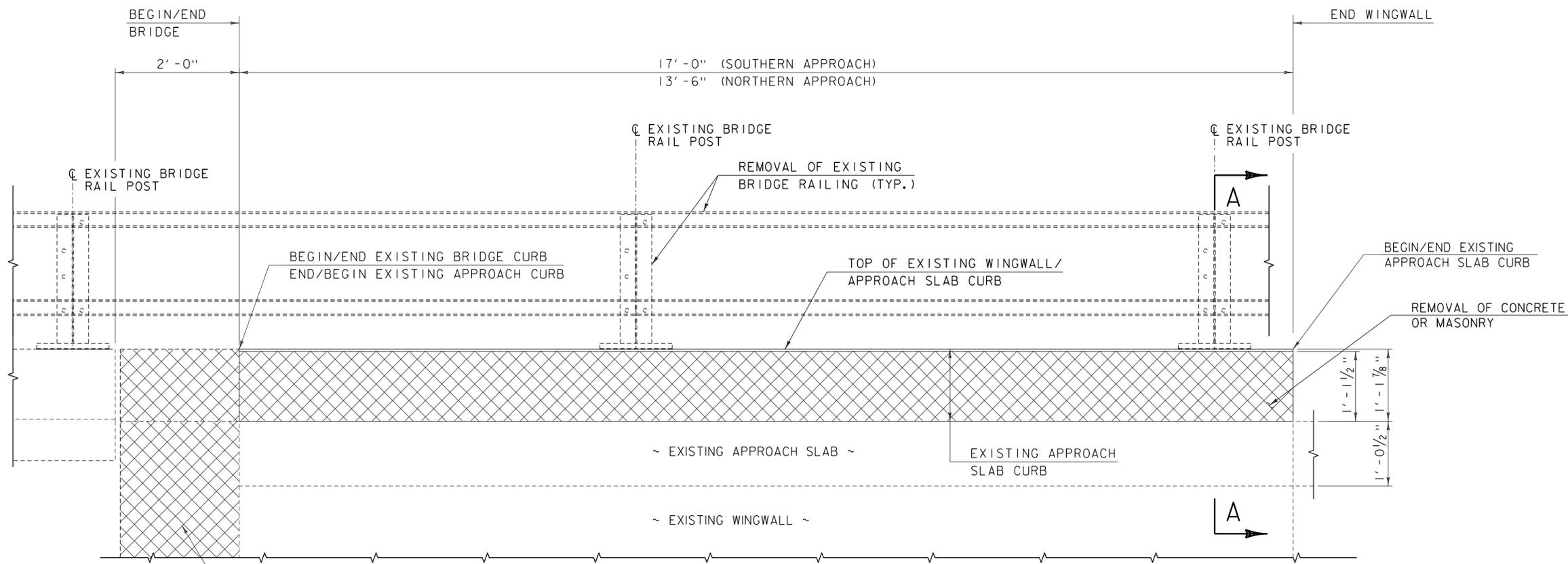
* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUT WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. ALL WORK WILL BE PAID FOR UNDER ITEM 524.11, "JOINT SEALER, HOT Poured".



ASPHALTIC PLUG-TYPE JOINT DETAIL

(NOT TO SCALE)

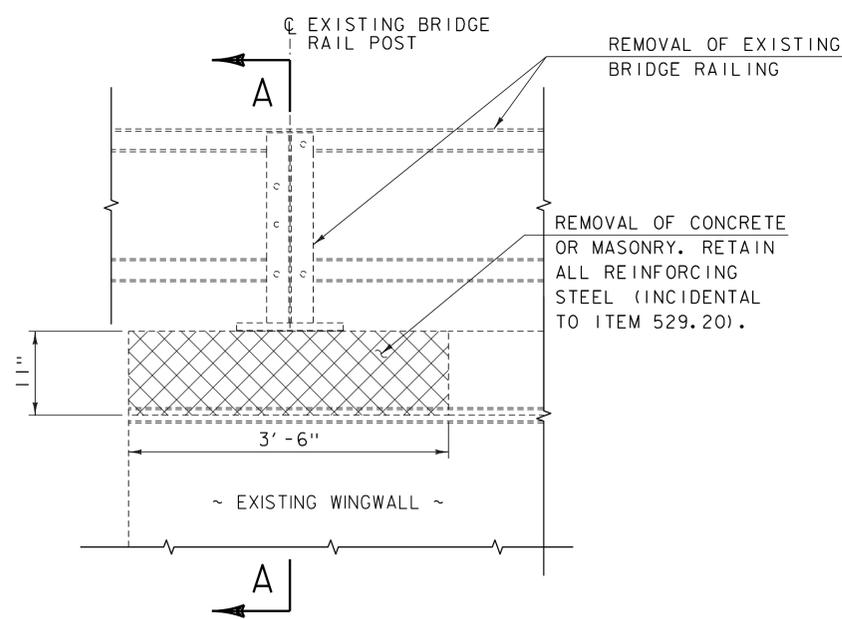
NOTE: SEE STANDARD SD-516.10 FOR ADDITIONAL INFORMATION.



EXISTING CHEEKWALL
(SEE NOTE 2)

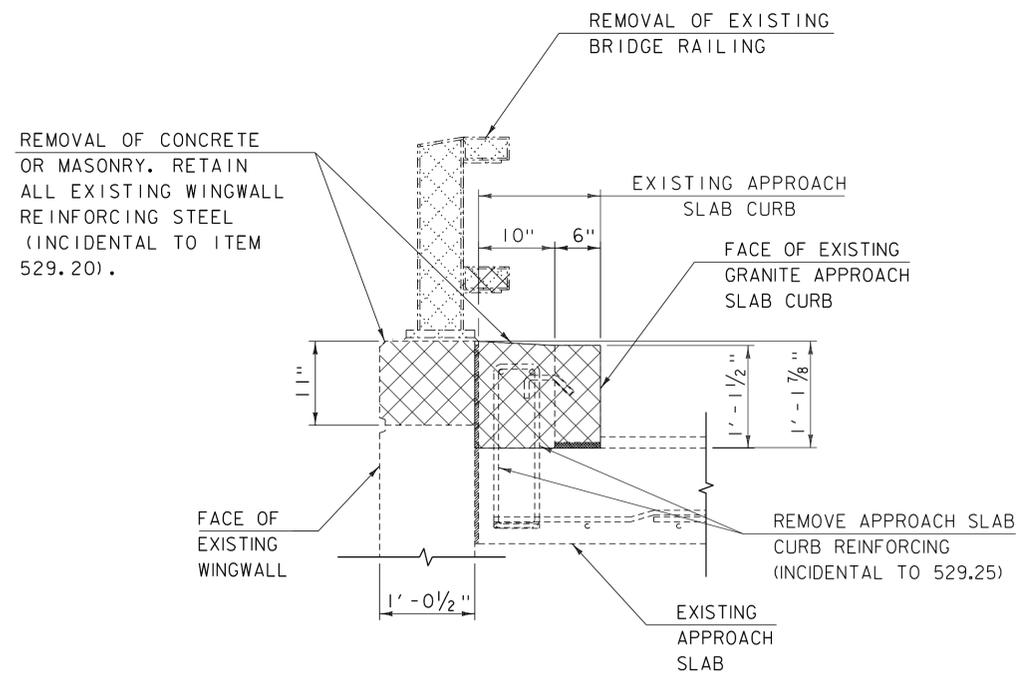
APPROACH SLAB CURB REMOVAL ELEVATION

(SW CURB SHOWN, OTHERS SIMILAR)
SCALE: 1" = 1'-0"



WINGWALL REMOVAL ELEVATION

SCALE: 1" = 1'-0"



NOTE: REMOVAL OF GRANITE CURB WILL BE CONSIDERED INCIDENTAL TO ITEM 529.25, "REMOVAL OF CONCRETE OR MASONRY".

SECTION A-A

SCALE: 1" = 1'-0"

NOTE:

1. SEE SHEET 24 FOR PROPOSED CONCRETE APPROACH SLAB AND PROPOSED CONCRETE WINGWALL DETAILS.
2. SEE SHEETS 25 AND 26 FOR EXISTING CHEEKWALL REMOVAL DETAILS.

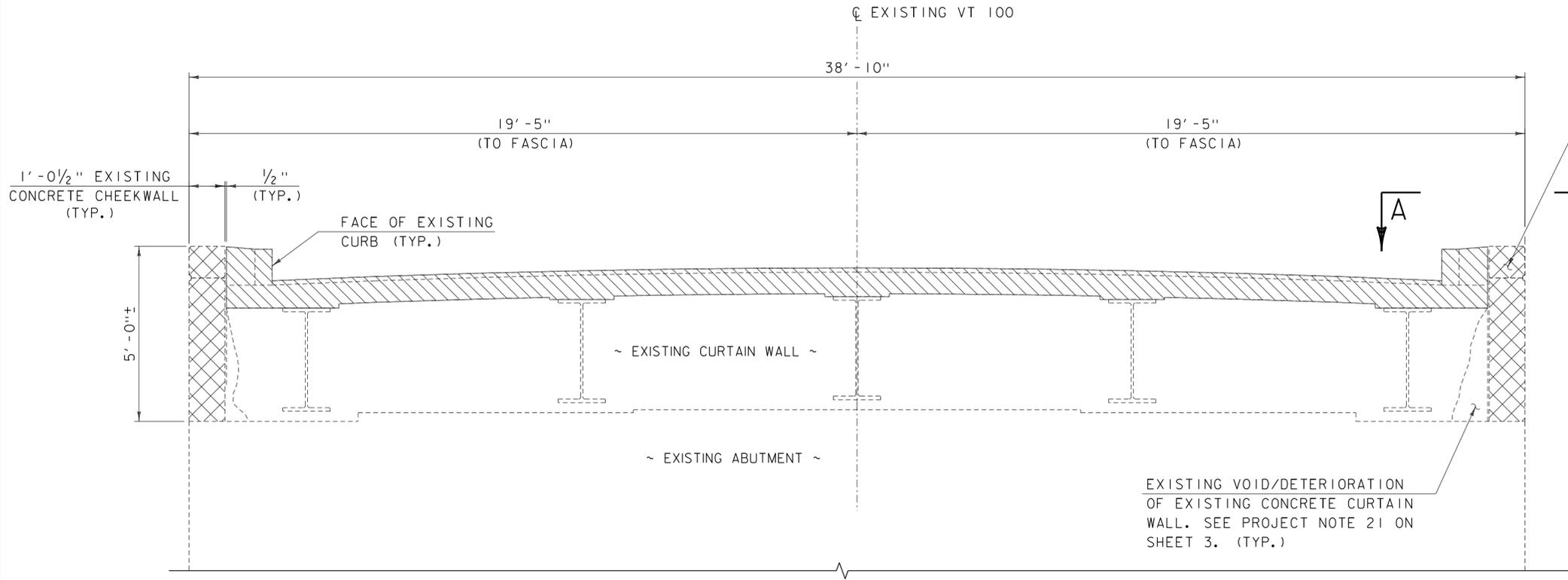
-  REMOVAL OF EXISTING BRIDGE RAILING
-  REMOVAL OF CONCRETE OR MASONRY (SEE PROJECT NOTES 18 AND 19 ON SHEET 3).

PROJECT NAME: LUDLOW
PROJECT NUMBER: STP DECK(39)

FILE NAME: z15b109+yp-99.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: J. FRENCH
CONCRETE CURB REMOVAL DETAILS SHEET

PLOT DATE: 5/24/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 23 OF 42





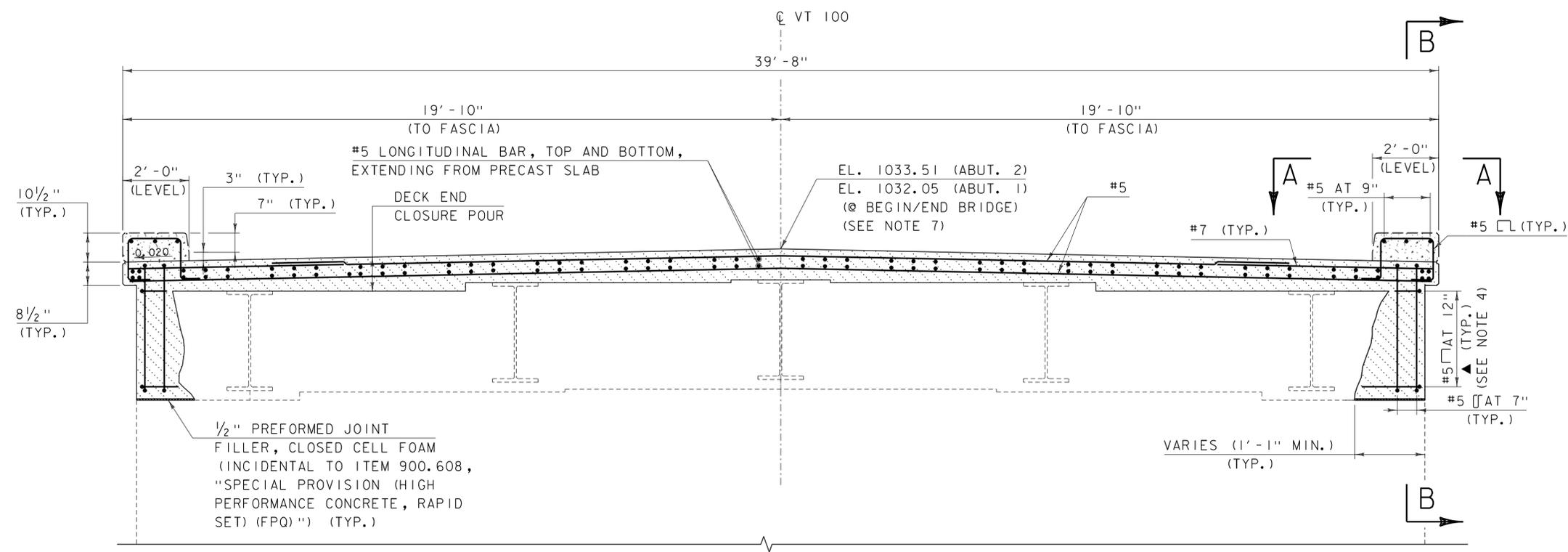
CHEEKWALL REMOVAL LIMITS

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

REMOVE EXISTING CONCRETE CHEEKWALL TO BEGIN/END BRIDGE LOCATION.

NOTES:

1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 2'-2" SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. 10" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. SPLICE NEW CURTAIN WALL EXTENSION REINFORCING TO EXISTING EXPOSED CURTAIN WALL REINFORCING.
5. SEE SHEET 26 FOR SECTION A-A AND B-B.
6. SEE SHEET 16 FOR END CLOSURE POUR MASONRY AND REINFORCING PLAN.
7. ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL FINISHED GRADES SHALL BE DETERMINED BY VTRANS AFTER EXISTING TOP OF DECK AND TOP OF BEAM ELEVATIONS ARE SURVEYED. SEE PROJECT NOTE 23 ON SHEET 3.



END CLOSURE POUR AND CURTAIN WALL MASONRY AND REINFORCING ELEVATION

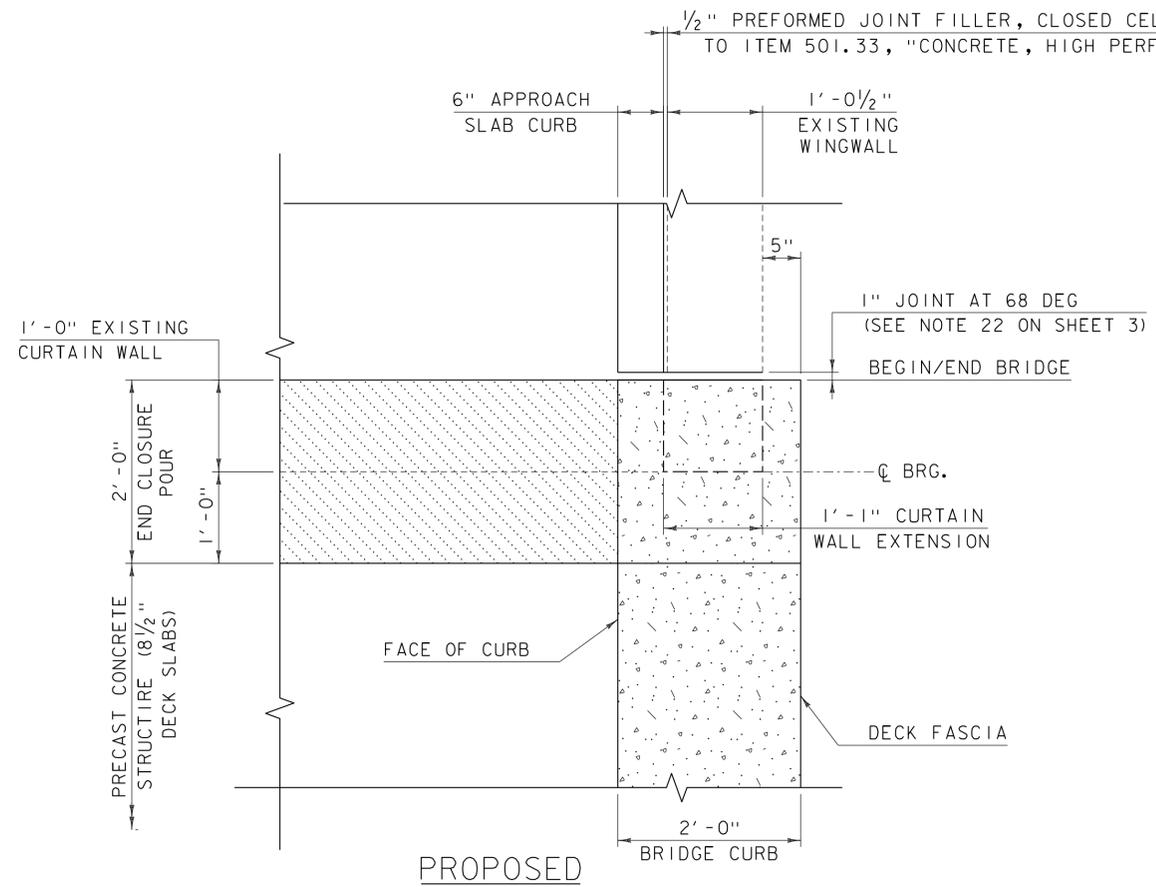
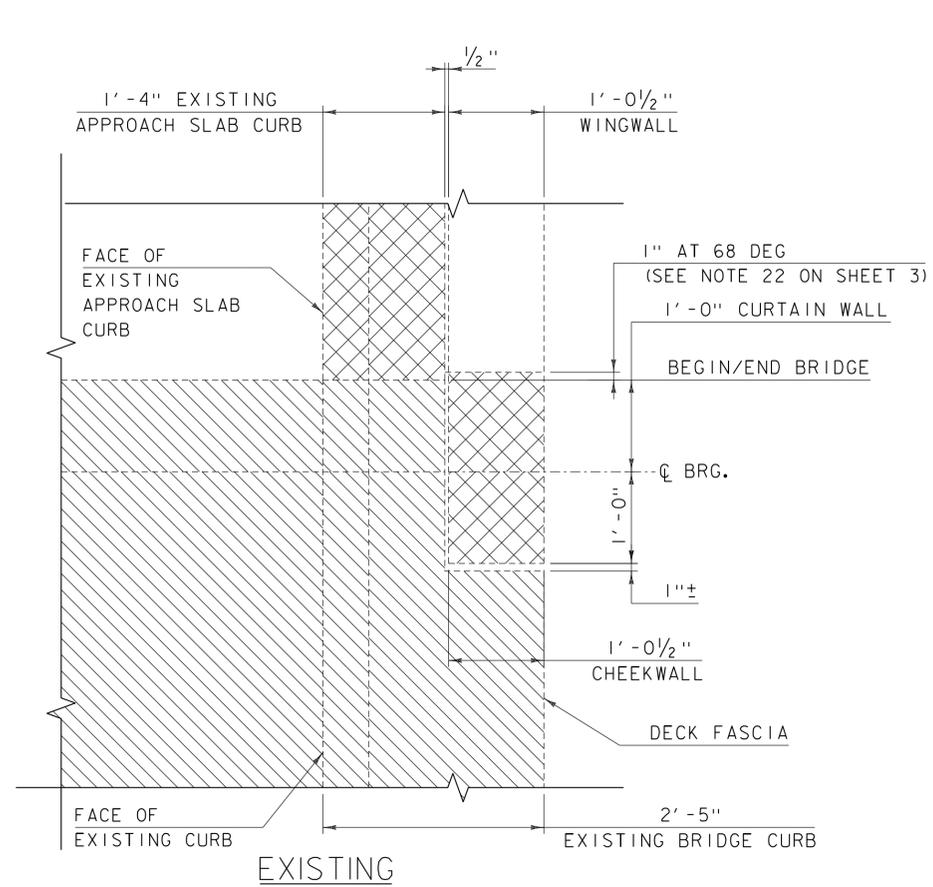
SCALE: 1/2" = 1'-0"

- PARTIAL REMOVAL OF STRUCTURE
- REMOVAL OF CONCRETE OR MASONRY (SEE PROJECT NOTES 18 AND 19 ON SHEET 3).
- SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)
- CONCRETE, HIGH PERFORMANCE CLASS A

PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15bl09+yp-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: N. CARON	CHECKED BY: S. BEAUMONT
REMOVAL AND CURTAIN WALL DETAILS SHEET 1 SHEET 25 OF 42	

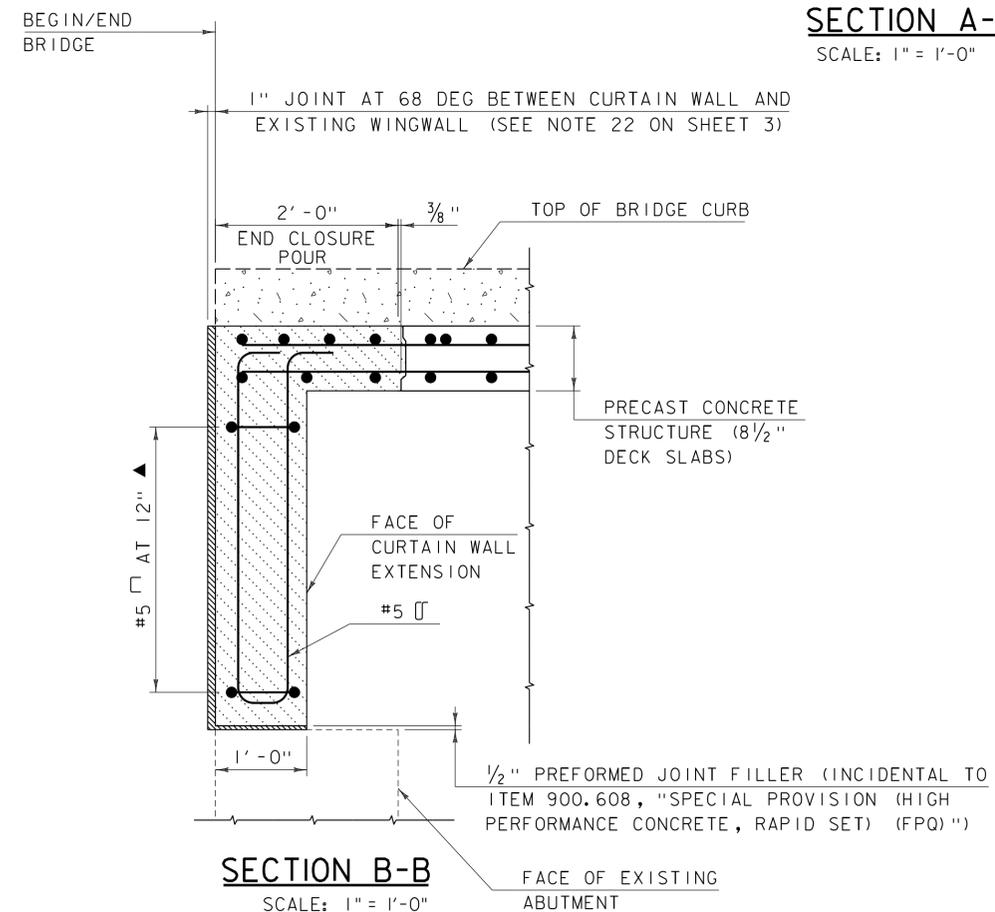
CLD 15-0223 MODEL: Sheet15





SECTION A-A

SCALE: 1" = 1'-0"



SECTION B-B

SCALE: 1" = 1'-0"

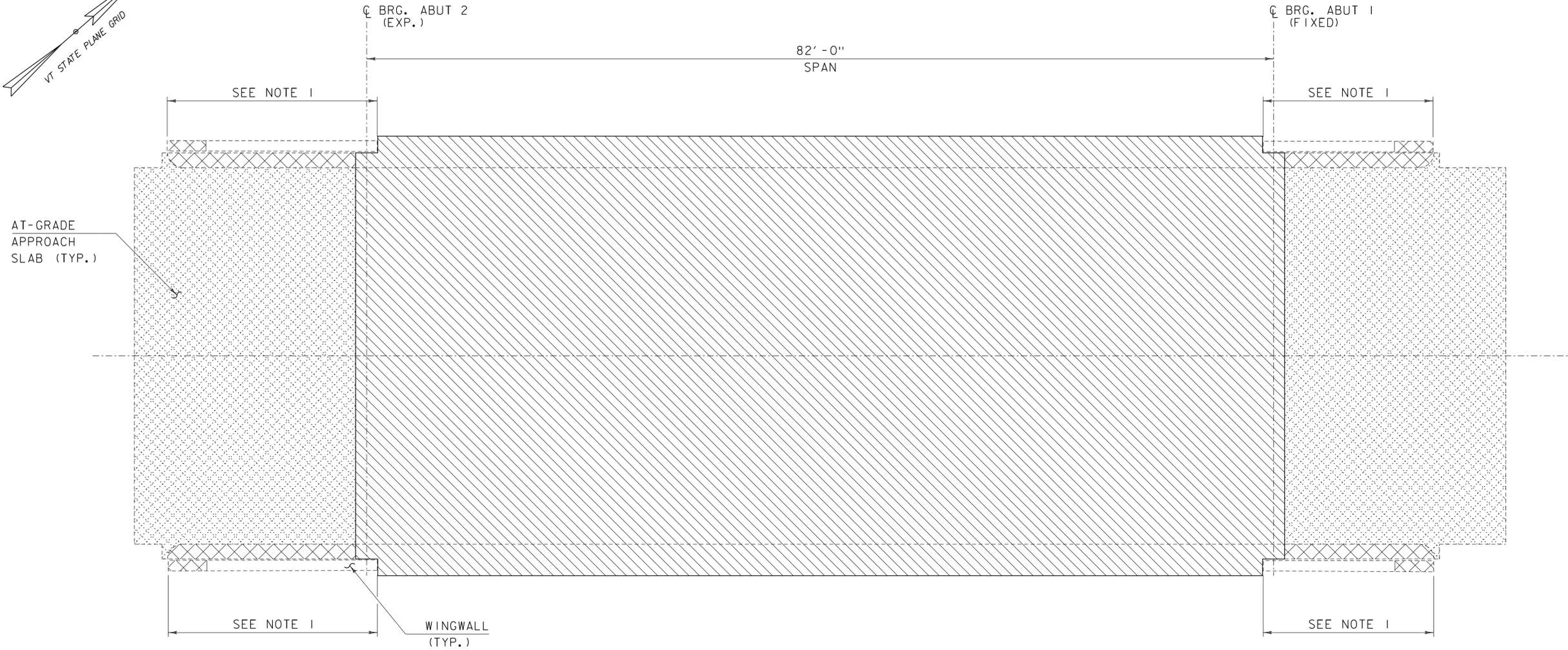
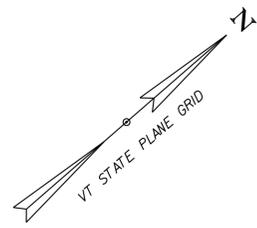
NOTES:

1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 10" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.

- PARTIAL REMOVAL OF STRUCTURE
- REMOVAL OF CONCRETE OR MASONRY (SEE PROJECT NOTES 18 AND 19 ON SHEET 3).
- SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)
- CONCRETE, HIGH PERFORMANCE CLASS A

PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15b109+yp-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: S. BEAUMONT
REMOVAL AND CURTAIN WALL DETAILS SHEET 2 SHEET 26 OF 42	





BITUMINOUS CONCRETE/ CONCRETE REMOVAL PLAN

SCALE: 3/16" = 1'-0"

- REMOVE BIT. CONC. PAVEMENT TO TOP OF AT-GRADE APPROACH SLABS (PAID FOR UNDER ITEM 529.10). SEE PROJECT NOTE 15 ON SHEET 3. REMOVE BARRIER MEMBRANE (PAID FOR UNDER ITEM 580.16), IF APPLICABLE. SEE PROJECT NOTE 17 ON SHEET 3.
- REMOVE CONCRETE BRIDGE DECK (PAID FOR UNDER ITEM 529.20). SEE PROJECT NOTE 18 ON SHEET 3.
- REMOVE CONCRETE APPROACH SLAB CURB AND TOPS OF WINGWALLS AT ENDS (PAID FOR UNDER ITEM 529.25). SEE PROJECT NOTES 18 AND 19 ON SHEET 3.

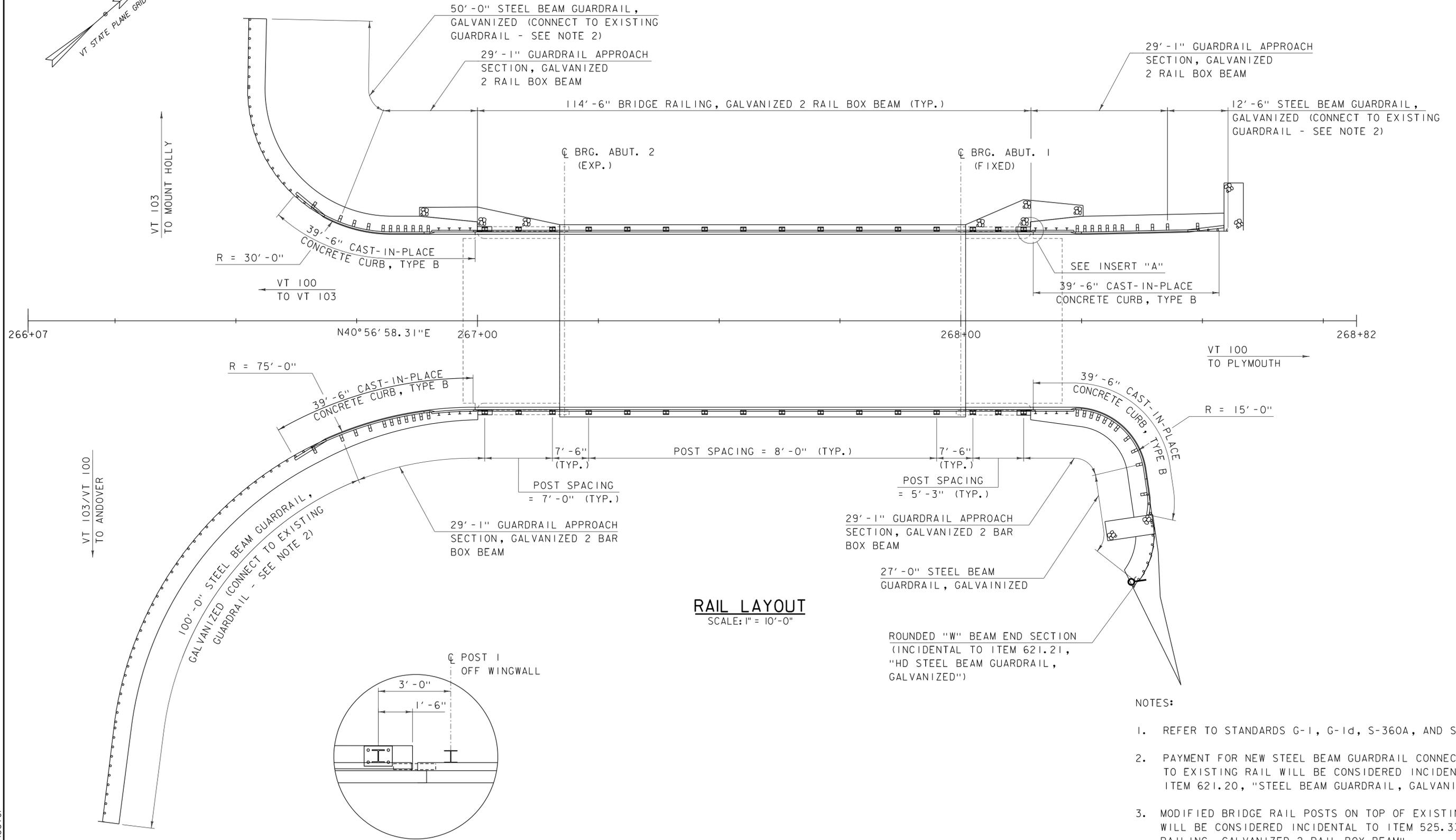
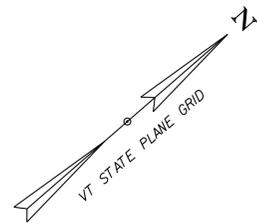
NOTES:

1. REMOVE BRIDGE RAIL (PAID FOR UNDER ITEM 525.10).
2. SEE DECK REMOVAL AND RELATED ITEMS NOTES AND PAVEMENT REMOVAL ON APPROACH SLABS NOTES ON SHEET 3.

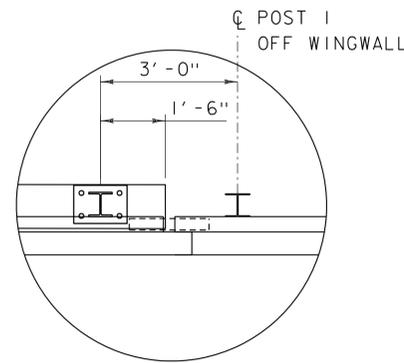
CLD 15-0223 MODEL: Sheet17



PROJECT NAME: LUDLOW	
PROJECT NUMBER: STP DECK(39)	
FILE NAME: z15bl09+yp-99.dgn	PLOT DATE: 5/24/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: N. CARON	CHECKED BY: S. BEAUMONT
BITUMINOUS CONCRETE REMOVAL PLAN SHEET SHEET 27 OF 42	



RAIL LAYOUT
SCALE: 1" = 10'-0"



INSERT "A"
(NW CORNER SHOWN, OTHERS SIMILAR)
SCALE: 1/2" = 1'-0"

NOTES:

1. REFER TO STANDARDS G-1, G-1d, S-360A, AND S360B.
2. PAYMENT FOR NEW STEEL BEAM GUARDRAIL CONNECTION TO EXISTING RAIL WILL BE CONSIDERED INCIDENTAL TO ITEM 621.20, "STEEL BEAM GUARDRAIL, GALVANIZED".
3. MODIFIED BRIDGE RAIL POSTS ON TOP OF EXISTING WINGWALL WILL BE CONSIDERED INCIDENTAL TO ITEM 525.33, "BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM".

PROJECT NAME:	LUDLOW
PROJECT NUMBER:	STP DECK(39)
FILE NAME:	z15bl09rail_bdr-99.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	N. CARON
RAIL LAYOUT SHEET	
PLOT DATE:	5/24/2016
DRAWN BY:	M. SMITH
CHECKED BY:	S. BEAUMONT
SHEET	28 OF 42



CLD 15-0223 MODEL: Layout1

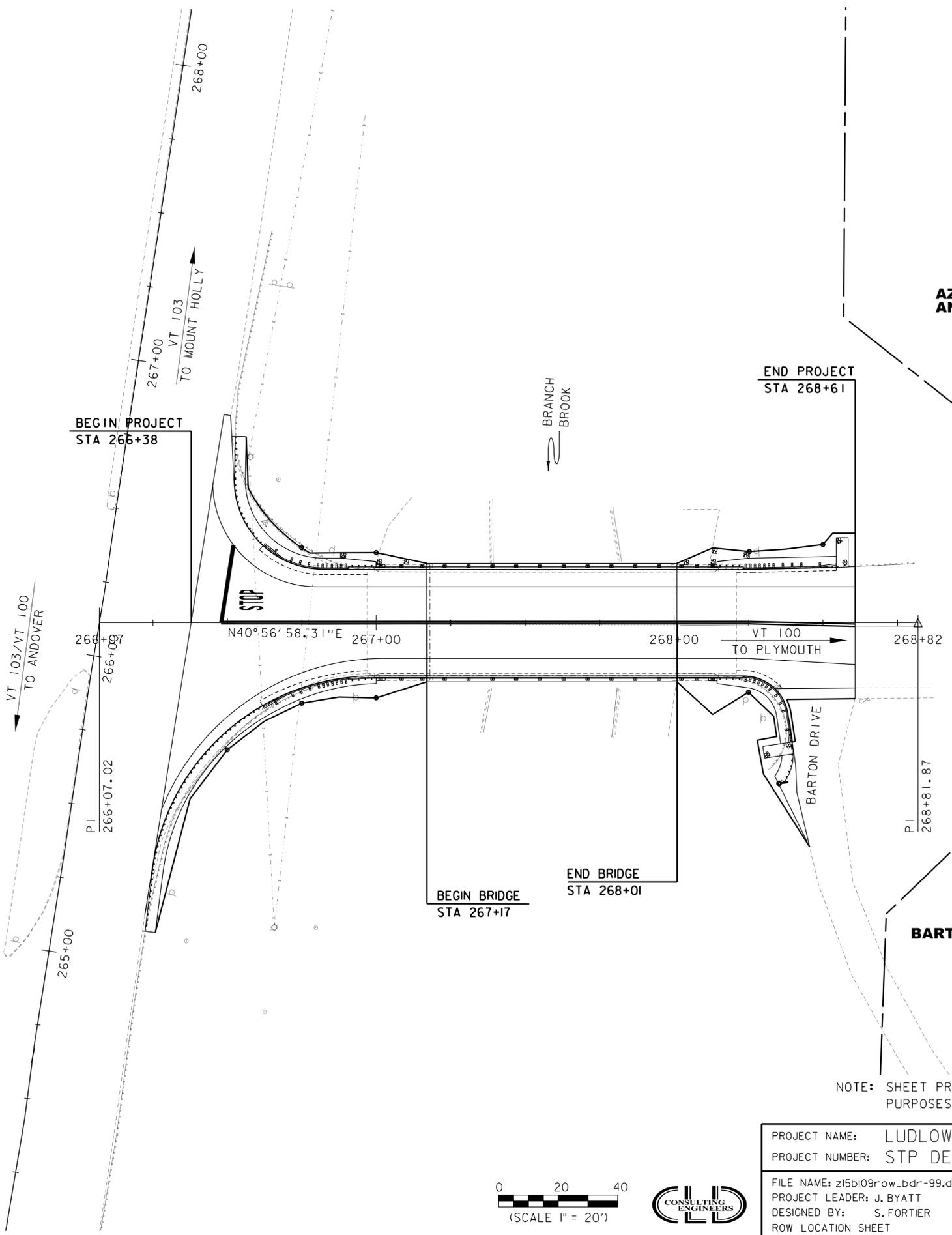
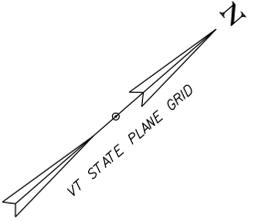
DEBICK, JOHN

MOLTA, DEAN D. & SYLVIA L.

AZZARETTO, AUSTIN AND DANYEW, ROGER

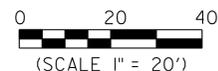
KRUM, DAVID E.

BARTON, ROBERT J. & COLLEEN



NOTE: SHEET PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

PROJECT NAME:	LUDLOW	PLOT DATE:	5/24/2016
PROJECT NUMBER:	STP DECK(39)	DRAWN BY:	S. FORTIER
FILE NAME:	z15bl09row_bdr-99.dgn	CHECKED BY:	L. GREER
PROJECT LEADER:	J. BYATT	SHEET	29 OF 42
DESIGNED BY:	S. FORTIER		
ROW LOCATION SHEET			



INDEX OF SHEETS

- 1 TITLE
- 2-2A COMPOSITE QUANTITY
- 3 LUDLOW F 025-1(29)S TYPICAL
- 4 TRAFFIC ITEM AND SIGN SUMMARY
- 5 PAVEMENT MARKING DETAILS F 025-1(29)S
- 6-8 DECK REHABILITATION AND GENERAL NOTES
- 9 ONE WAY TEMPORARY TRAFFIC SIGNAL DETAIL BRIDGE #33 (WITH TEMPORARY FLASHING BEACON)
- 10 ONE WAY TEMPORARY TRAFFIC SIGNAL DETAIL BRIDGE #99
- 11 TRAFFIC SIGN SUMMARY SHEET AND NOTES F-DECK (22)S
- 12 PAVEMENT MARKING DETAILS F-DECK (22)S
- 13-14 TYPICAL DETAILS F-DECK (22)S
- 15-18 BRIDGE #99 INFORMATION SHEETS (4 SHEETS)
- 19-21 BRIDGE #33 INFORMATION SHEETS (3 SHEETS)

STANDARD SHEETS

22	B-16	12-14-71
23	E-2	2-3-86R
24	E-6	2-3-86R
25	E-7	2-3-86R
26	E-7A	2-3-86R
27	E-8	2-3-86R
28	E-15	2-3-86R
29	E-15B	2-3-86R
30	E-15C	2-3-86R
31	E-19	2-3-86R
32	E-19B	2-3-86R
33	E-24A	2-3-86R
34	E-29	2-3-86R
35	E-33	2-3-86R
36	E-34	2-3-86R
37	E-36	2-3-86R
38	E-39	2-3-86R
39	E-50	2-3-86R
40	SCB-DI-75	9-14-81R

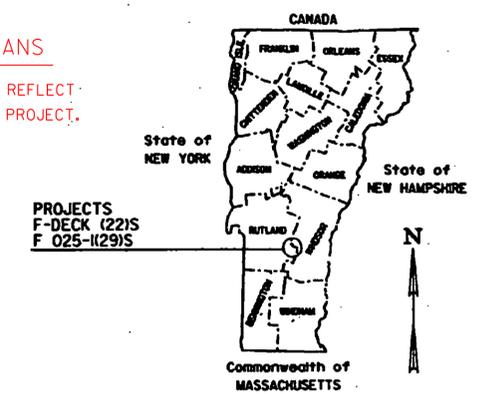
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
TOWNS OF LUDLOW & MT. HOLLY
COUNTYS OF WINDSOR & RUTLAND

CONTRACT PLANS

THESE PLANS DO NOT REFLECT
CHANGES MADE ON THE PROJECT.



BEGINNING IN THE TOWN OF LUDLOW ON VT 103 MM 2.862 ~ MM 4.059, RESURFACING AND NEW PAVEMENT MARKINGS (F025-1(29)S)
LUDLOW VT 100 BRIDGE #99, INSTALL TRAFFIC CONTROL, REHABILITATE DECK, REMOVE TRAFFIC CONTROL
MT. HOLLY VT 103 BRIDGE #33, INSTALL TRAFFIC CONTROL, REHABILITATE DECK, REMOVE TRAFFIC CONTROL.

LENGTH OF F 025-1(29)S : 1.197 MILES
6320 FEET
LENGTH OF STRUCTURE : BRIDGE #99 = 84.00'
BRIDGE #33 = 84.51'
TOTAL LENGTH OF STRUCTURES = 168.51'

Date OCT 27 1987

FRANK W. Whitcomb CONSTRUCTION Corporation
Contractor

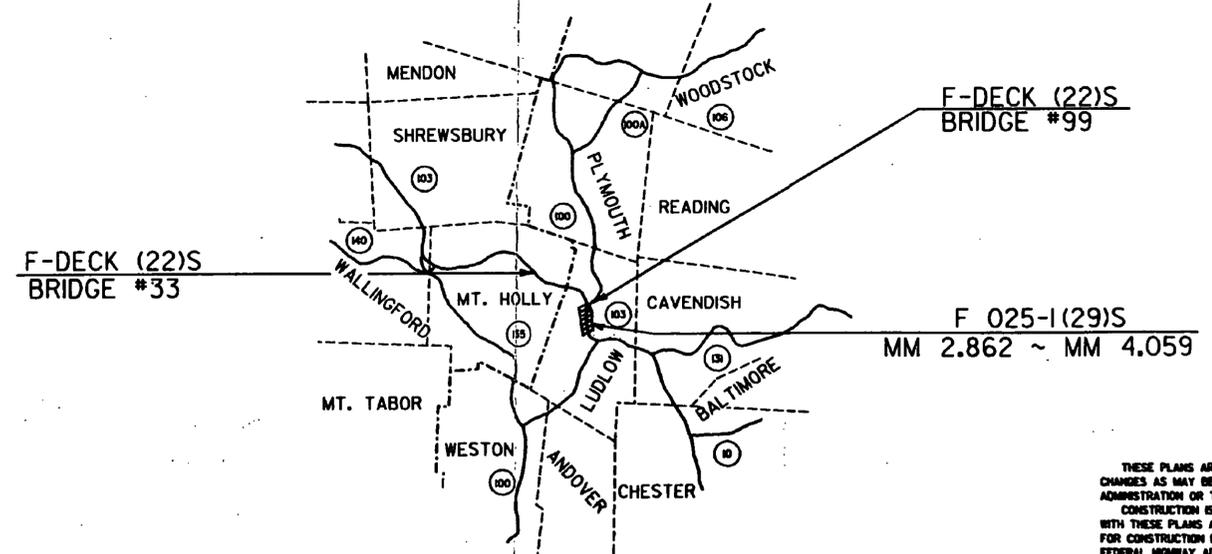
[Signature]
Signature

[Signature]
Title

[Signature]
Transportation Secretary's Signature

CONVENTIONAL SIGNS

COUNTY LINE	---
TOWN LINE	- - - -
LIMITS OF ACCESS	—○—○—○—
POINT OF ACCESS	X
FENCE LINE	—x—x—x—
STONE WALL	o-o-o-o-o-o-o-o
TRAVELED WAY	—x—x—x—
GUARD RAIL	—x—x—x—
RAILROAD	—x—x—x—
SURVEY LINE	—x—x—x—
CULVERT	—x—x—x—
POWER POLE	—x—x—x—
TELEPHONE POLE	—x—x—x—
TREES	•
CONTROL OF ACCESS	///
PROPERTY LINE	—x—x—x—
RAIL TAKING LINE	—x—x—x—
SLOPE RIGHTS	—x—x—x—
TOP OF CUT	—x—x—x—
TOE OF SLOPE	—x—x—x—



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE CHIEF ENGINEER.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 1984, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON NOVEMBER 2, 1985
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

APPROVED David P. Kelley DATE 7/14/87
CHIEF ENGINEER

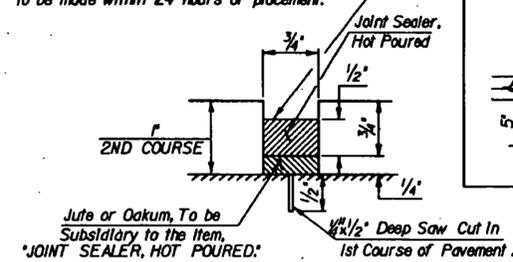
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

LUDLOW, MT. HOLLY
PROJECT F DECK (22)S
F 025-1(29)S
SHEET 1 OF 40 SHEETS

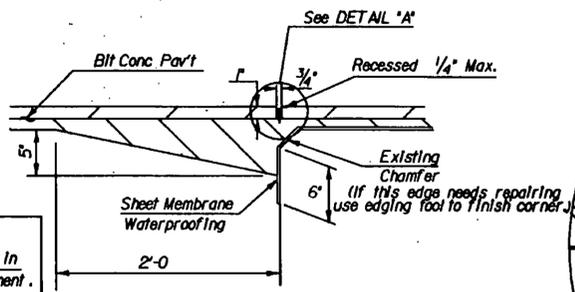
PROJECT PROCESSED UNDER
SECONDARY ROAD PLAN

3/4" X 1" Deep Saw Cut In 2nd course of pavement to be made within 24 hours of placement.



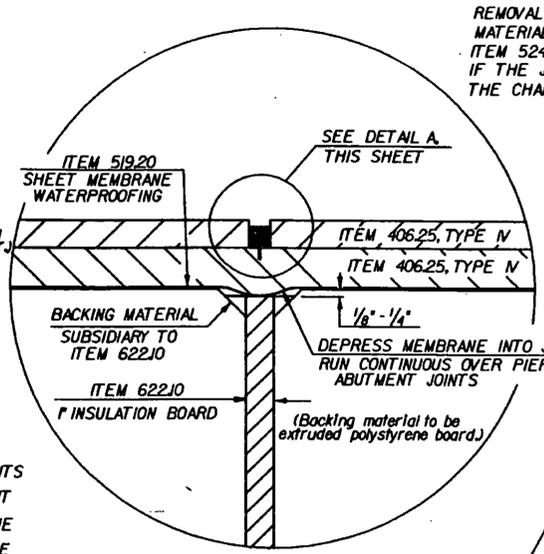
DETAIL A
Scale 1" = 1'

Note: Clean sawing dust and other foreign material from the sawed joint before applying the Hot Poured Joint Sealer. See VT.SPEC. 524.05



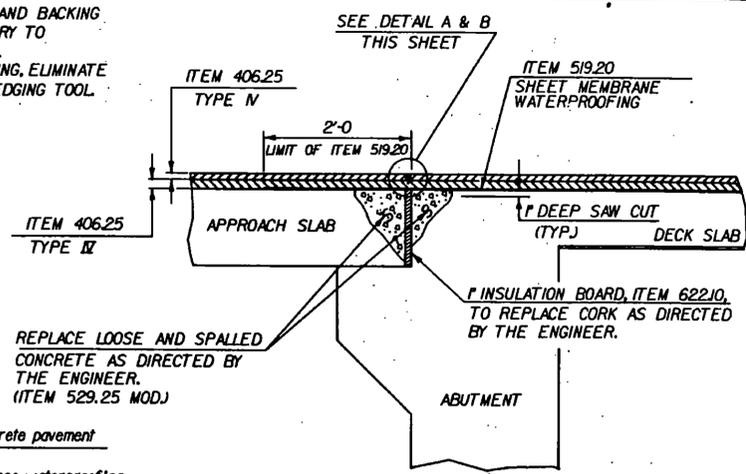
JOINT SEALER DETAIL WITHOUT SURFACE APPROACH SLAB
Scale 1/2" = 1'-0"

MEMBRANE WILL BE DEPRESSED INTO DECK JOINTS AND RUN CONTINUOUS OVER PIER AND ABUTMENT JOINTS. ON BRIDGES WITH APPROACH SLABS, THE MEMBRANE WILL EXTEND TWO (2) FEET ONTO THE SLAB FROM THE END OF THE BRIDGE.



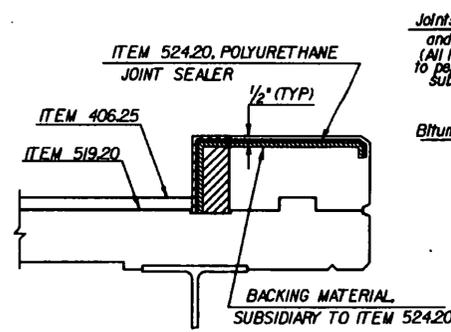
DETAIL B
NTS

REMOVAL OF EXISTING JOINT AND BACKING MATERIAL SHALL BE SUBSIDIARY TO ITEM 524.15 OR ITEM 622.10. IF THE JOINT NEEDS REPAIRING, ELIMINATE THE CHAMFER BY USING AN EDGING TOOL.

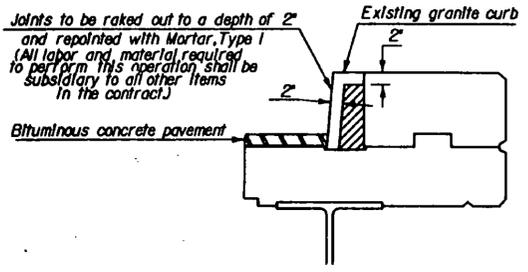


TYPICAL ABUTMENT JOINT DETAIL WITH SURFACE APPROACH SLAB
NTS

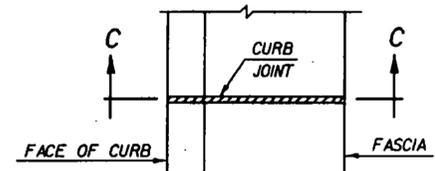
REPLACE LOOSE AND SPALLED CONCRETE AS DIRECTED BY THE ENGINEER. (ITEM 529.25 MOD.)



SECTION C - C

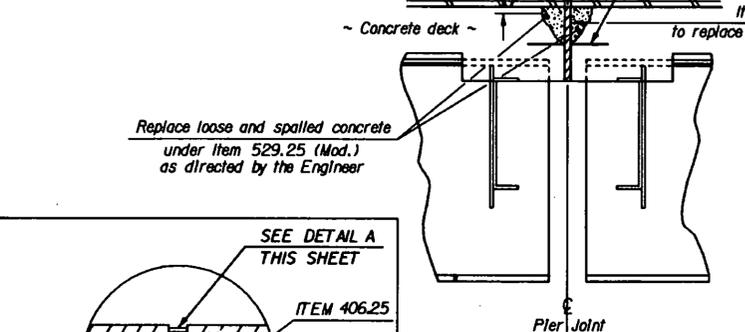
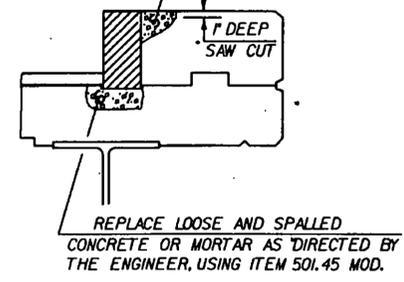


REPLACE LOOSE AND SPALLED CONCRETE AS DIRECTED BY THE ENGINEER, USING ITEM 529.25 MOD.

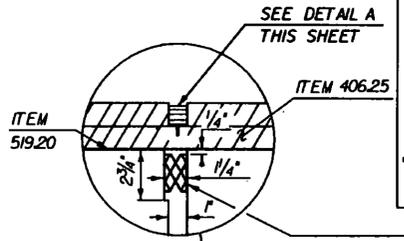


PLAN VIEW

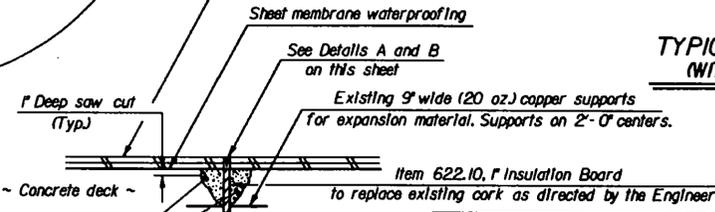
CURB JOINT DETAIL
NTS



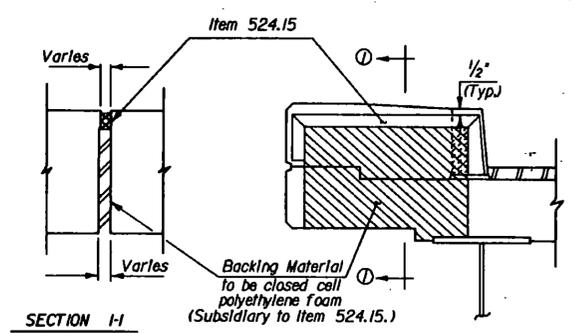
TYPICAL PIER JOINT DETAIL
NTS



COMPRESSION SEAL DETAILS
NTS



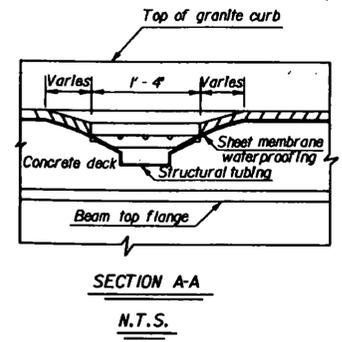
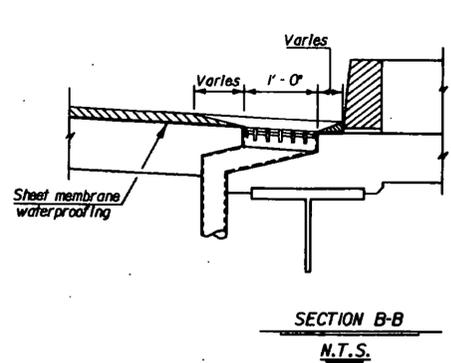
TYPICAL PIER JOINT DETAIL
NTS



CURB JOINT DETAIL A
NTS

ADHESIVE SPECIFICATION
REQUIRED ADHESIVE FOR STRUCTURAL JOINT SEALS SERVES AS A LUBRICANT FOR INSERTION OF THE COMPRESSION SEALS IN STEEL AND CONCRETE JOINTS; PRIMES THE JOINT FACES; SEALS SMALL HOLES AND IMPERFECTIONS IN CONCRETE WALLS. ONE PART MOISTURE CURING POLYURETHANE AND AROMATIC HYDROCARBON SOLVENT MIXTURE. SOLID CONTENT 72% ± 3% BY WEIGHT. APPROXIMATE WEIGHT 8 1/2 ± POUNDS PER GALLON. COLOR, CONCRETE GRAY.

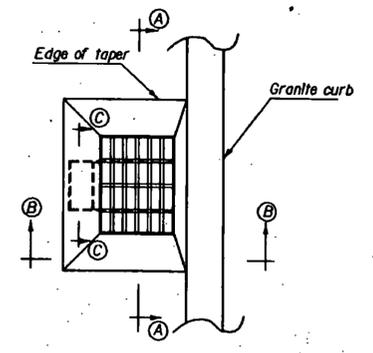
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of LUDLOW - MT. HOLLY	Bridge No. _____
Highway No. VT. 100 & VT. 103	Log Sta. _____ Surv. Sta. _____
DECK REHABILITATION	
TYPICAL DETAILS	
Designed By G.S. ROGERS	Drawn By G. Schellie / D. Newton
Checked By _____	Date _____ Bridge Design Supervisor
G.S. ROGERS	6/87 R.L. OATLEY Date
PROJECT LUDLOW - MT. HOLLY	PROJECT NO. F-DECK (22) 5
L&C Info. OSAH.30.33 DECKREHAB	Bridge Sheet No. _____ Sheet 13 of 40



Note: Mark location of scupper; install membrane; make a "X" incision on diagonals of scupper; trim, seal, and wrap into scupper.

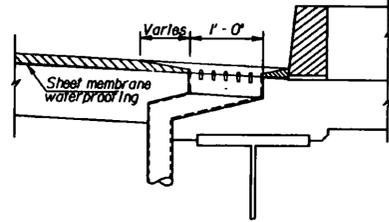
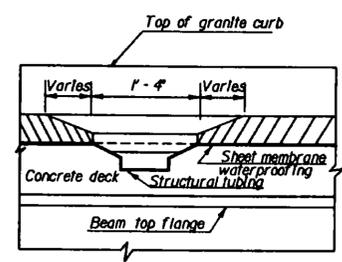
MEMBRANE DETAIL FOR SCUPPERS FLUSH WITH DECK

①

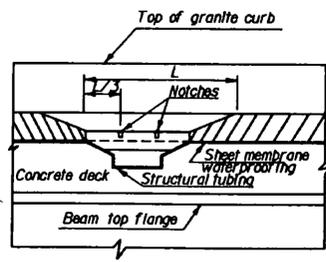


PLAN VIEW
(TYP. FOR DETAILS NO. 1 & 2)
N.T.S.

③



Fit membrane to outside perimeter of scupper.

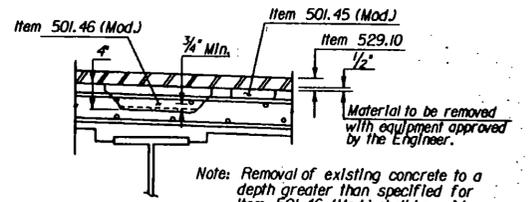


Note: Notch scupper 1/2" wide to top of concrete on three sides. This work to be subsidiary to the Item 519.20

MEMBRANE DETAIL FOR RAISED SCUPPERS

②

Note: All edges of repair areas are to be saw cut square and a minimum of one (1) inch deep.
Note: Item 501.45 (Mod.) shall include removal of concrete to a maximum depth as determined by the top of the top bars of reinforcing steel.



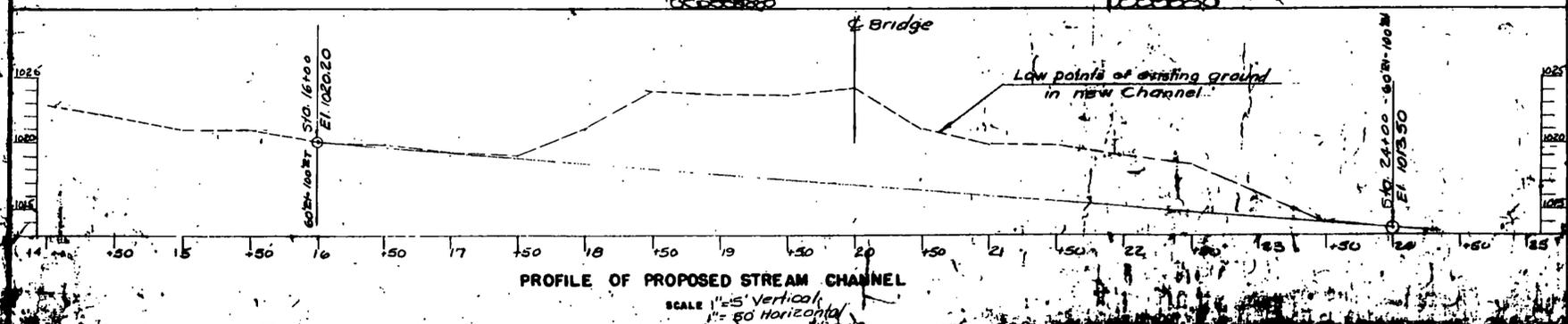
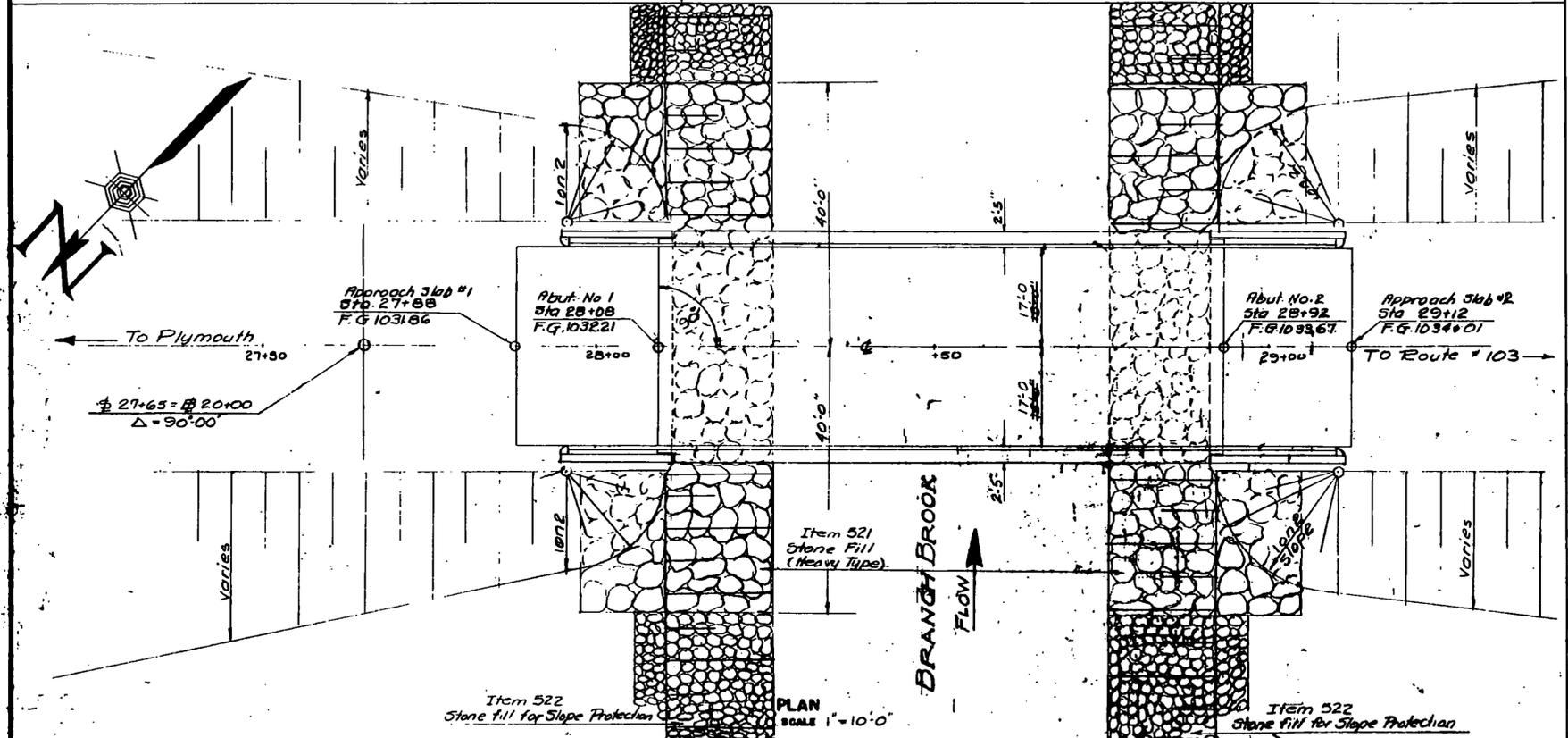
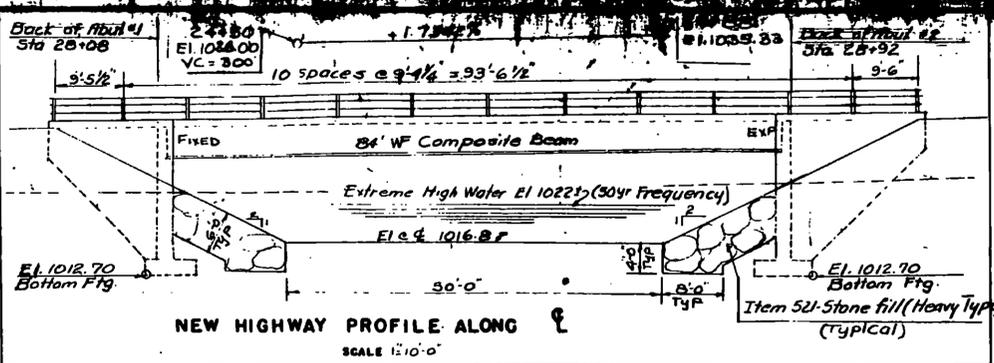
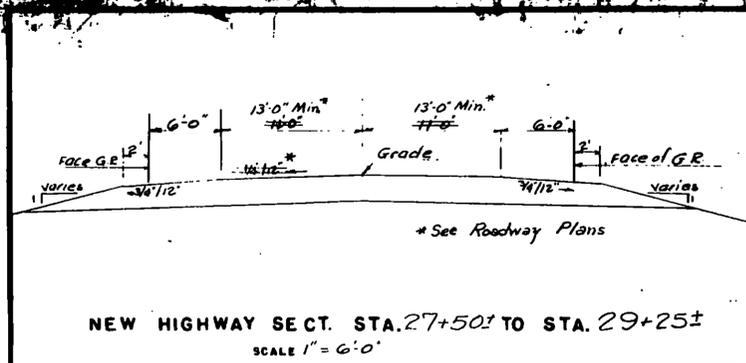
Note: Removal of existing concrete to a depth greater than specified for Item 501.46 (Mod.) shall be paid under the Item 529.25 (Mod.).

TYPICAL LIMITS FOR REMOVAL ITEMS

N T S

④

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of LUDLOW - MT. HOLLY	Bridge No. _____		
Highway No. VT 100 & VT 103	Log Sta. _____		
DECK REHABILITATION			
TYPICAL DETAILS			
Designed By G.S. ROGERS	Drawn By D.W. NEWTON		
Checked By G.S. ROGERS	Date 6/87	Bridge Design Supervisor R.L. DARTLEY	Date 6/87
PROJECT LUDLOW - MT. HOLLY	PROJECT NO. F-DECK (22) S		
I&C Info. ZFA/30.32/SCUPREHAB/DGN PRF.LUDMTHLY			
Bridge Sheet No. _____	Sheet 14 of 40		



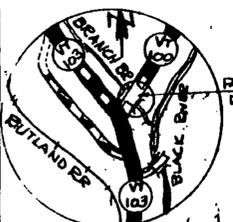
HIGHWAY NO. <u>VT 100</u>	NAME OF HIGHWAY
STRUCTURE NO. <u>F025-1(6)</u>	COUNTY <u>WINDSOR</u> TOWN <u>LUDLOW</u>
PROJECT NO. <u>F025-1(6)</u>	LOCATION <u>BRANCH BROOK</u>

EXISTING STRUCTURE	
1 RATED LOADING OF EXISTING STRUCTURE	<u>H-15 Live Loading</u>
2 TYPE OF EXISTING STRUCTURE	<u>Concrete T Beams</u>
3 UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE	<u>4.4'</u>
4 WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE	<u>Remove. COST OF REMOVAL \$ 500.</u>
5 SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE	<u>NO</u>
6 SHOULD NEW TEMPORARY STRUCTURE BE BUILT	<u>NO</u>
7 ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE	<u>1021.0 (2)</u> WATERWAY TO ORDINARY H.W. <u>1200</u>
8 EXTREME HIGH WATER AT EXISTING STRUCTURE	<u>1022.7</u> WATERWAY TO EXTREME H.W. <u>500' up fl.</u>
9 SPAN OF EXISTING BRIDGE UPSTREAM	<u>30</u>
10 SPAN OF EXISTING BRIDGE DOWNSTREAM	<u>None</u>
11 TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS	
12 DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE	
13 IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED	
14 ADDITIONAL WATERWAY AREA PROVIDED	

NEW STRUCTURE	
1 RECOMMENDED TYPE OF STRUCTURE	<u>one span Composite WF Beam</u>
2 RECOMMENDED CLEAR SPAN OR SPANS	<u>one span, 80</u>
3 MEASURED PARALLEL TO NEW HIGHWAY	<u>80</u>
4 MEASURED AT RIGHT ANGLES TO STREAM	<u>80</u>
5 ARE THERE OBJECTIONS TO A PIER IN THE STREAM, ANSWER YES OR NO	<u>NA</u>
6 ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE	<u>1020 ± (3.5)</u>
7 EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE	<u>1022.7</u> SOURCE OF INFORMATION <u>Computed</u>
8 IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?	<u>YES</u>
9 DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?	<u>NO</u> IS ORDINARY ONE
10 LOW WATER ELEVATION AT NEW STRUCTURE	<u>1018.1 (1.5)</u>
11 DRAINAGE AREA IN ACRES ABOVE STRUCTURE	<u>2432</u> CHARACTER OF TERRAINE <u>Mountainous</u>
12 IS STREAM EVER DRY?	<u>NO</u>
13 VELOCITY OF STREAM AT HIGH WATER STAGE	<u>8.15</u> ESTIMATED DISCHARGE <u>2600 CFS</u>
14 AREA FULL OPENING	<u>900 sq ft</u> AREA BELOW ORDINARY H.W. <u>175 sq ft</u>
15 CHARACTER OF SCOUR	<u>DRIFT</u>
16 ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE	<u>NA</u>
17 VERTICAL CLEARANCE ABOVE FLOOD ELEVATION	<u>7.0'</u>
18 ARE SIDEWALKS REQUIRED, IF SO ON WHAT SIDE	<u>NO</u>
19 RECOMMENDED TYPE OF PAVEMENT	<u>1 1/2" Bit Conc. Pavt. over 4" Gravel</u>
20 TRAFFIC TO BE MAINTAINED UNDER ITEM NO.	<u>NA</u> ONE OR TWO WAYS <u>PROBABLE ONE</u>
21 PROBABLE COST OF CLEARING AND GRUBBING STREAM CHANNEL AT STRUCTURE SITE	<u>NA</u>
22 SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?	<u>NO</u>
23 ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS	<u>21000 lbs</u> SHOULD PILES BE USED? <u>NO</u>

FOUNDATION INFORMATION
OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. SOULDER ROCKS ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

Note - For Detail of Superstructure see BR 3A of 99



F-DECK (22)S, BR# 99
THIS SHEET FOR INFORMATION ONLY

Recommended for Approval: Ameyan 11/16/64
Bridge Engineer Date
Recommended for Approval: R.H. Cannon 6/1/64
Asst. Chief Engineer Date
Approved by: A.O. Smith 6/1/64
Chief Engineer Date

Sheet Revised 5/2/64
BR 3 OF 99
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
M. J. HADLEY - CHIEF ENGINEER
ROUTE NO. VT 100 100 ST. J.
SURVEYED BY W. J. HADLEY
DRAWN BY W. J. HADLEY
PROJECT NO. F025-1(6)
SHEET 13 OF 14

GENERAL RAILING NOTES

All posts to be set normal to the grade.
 Prior to fabrication of the railing, shop drawings shall be submitted to the Highway Department for approval.
 One anchor bolt template shall be supplied for each type of post.
 Tubular rails, rail posts, box section inserts, wedges, end caps, anchor bolts, nuts, washers, anchor bolt templates, shims & all labor, tools, equipment and incidentals necessary to complete the acceptable railing installation shall be included in the Unit Price bid for Item 572.
 All bolts, nuts & washers shall be galvanized to A.S.T.M.-A-153-61.

GALVANIZED METAL RAILING

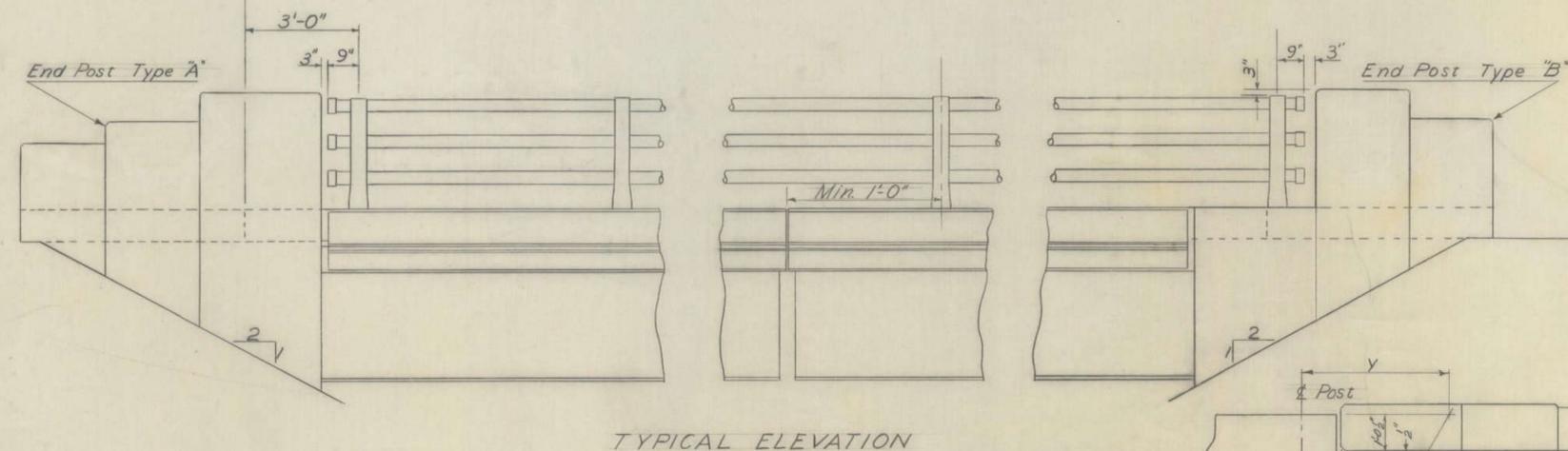
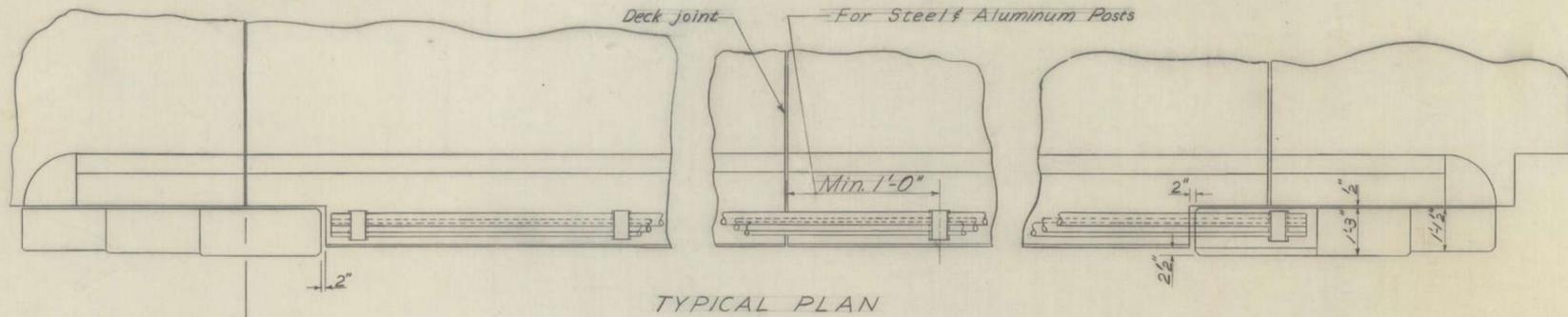
Intermediate Three Tube Post - Malleable Iron Casting - A.S.T.M. A-47 GR. 35018, galvanize to A.S.T.M. A-123-59.
 Maximum post spacing shall be 10'-0".
 Except for end sections and panels over expansion joints, all rails shall run continuous through two consecutive posts. Rails shall be so arranged, that no more than two splices will be adjacent to any given post. (In effect stagger joints as much as is practical.)

ALUMINUM RAILING

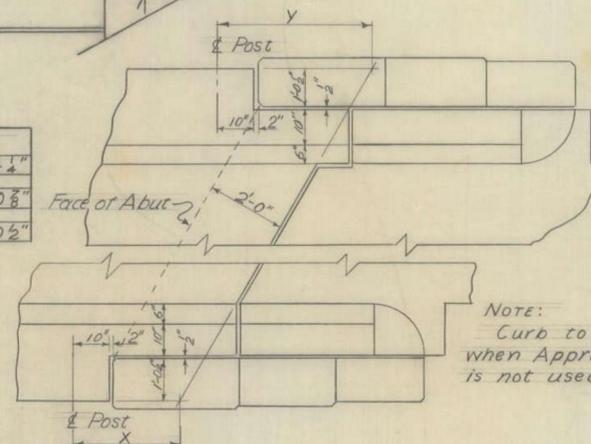
Posts shall meet A.A.S.H.O. Designation M-193-61. Rails shall meet A.S.T.M. - Specification B 235-61 Alloy-6061 Cond. T-6.
 Maximum post spacing shall be 7'-2".
 Aluminum railing posts are to be set on pads $\frac{1}{8}$ " thick of a non-conductive material meeting the approval of the Engineer and the edges are to be sealed with an Aluminum Impregnated Caulking Compound.
 Except for end sections all rails shall run continuous through three consecutive railing spans. With the exclusion of the end posts, the joints shall be placed so that there will be no more than one rail splice at each post.

GALVANIZED METAL RAILING (CONTINUED)

All rail splices and end caps shall be tested after galvanizing to assure proper clearances for field erection.



SKEW	X	Y
15°	2'-9 1/2"	3'-4 1/4"
30°	2'-8 1/2"	3'-10 3/8"
45°	2'-9 1/2"	4'-10 1/2"



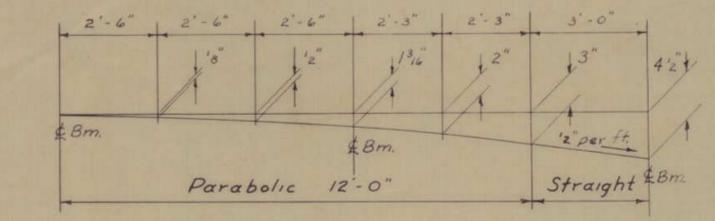
REVISIONS & CORRECTIONS
 Note added for testing rail splices after galvanizing. 9/29/64 WMS.

Drawn By: W Date: Dec. 4/1962
 Traced By: W Date: Dec. 1/1962
 Checked By: EER, WMS, RSH Date: Dec. 1/1962
 Recommended: WMS Date: 12/7/62
 For Approval: Bridge Engineer Date: _____
 Recommended: R.H. Crowl Date: 1/4/63
 For Approval: Assist. Chief Engineer Date: _____
 Approved By: A. D. Burtch Date: 1/4/63
 Chief Engineer

**DETAILS OF BRIDGE RAILING
 PLAN & ELEVATION**

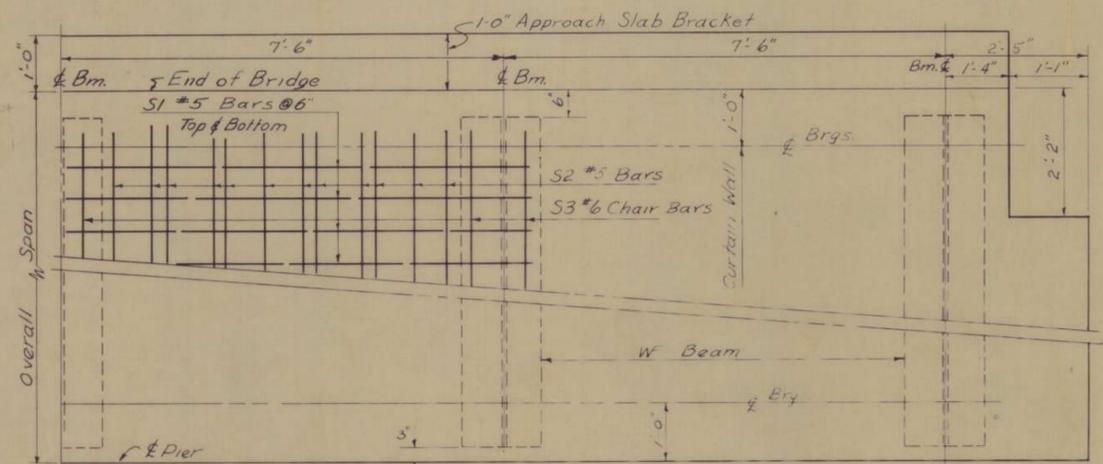
EITHER ALUMINUM OR GALVANIZED METAL RAILING MAY BE USED

VERMONT
 DEPARTMENT OF HIGHWAYS
 STRUCTURE STANDARDS
SB-5G-62 SHEET 1 OF 2

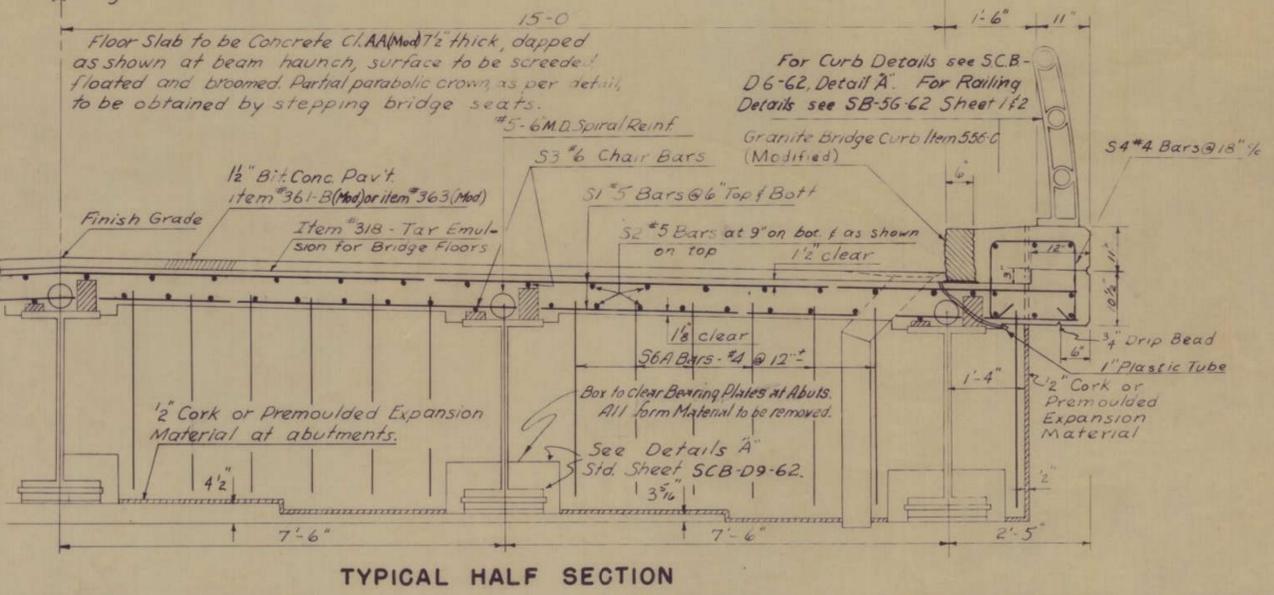


DETAIL OF PARTIAL PARABOLIC CROWN OF SLAB

*Excluding Scuppers & Bearing Devices



HALF PLAN



TYPICAL HALF SECTION

TABLE OF QUANTITIES FOR SINGLE (SQUARE) SPAN														
Span, Out to Out	99-0	94-0	89-0	84-0	79-0	74-0	69-0	64-0	59-0	54-0	49-0	44-0	39-0	34-0
Span, E to E Brngs.	97-0	92-0	87-0	82-0	77-0	72-0	67-0	62-0	57-0	52-0	47-0	42-0	37-0	32-0
Length of Bms.	98-0	93-0	88-0	83-0	78-0	73-0	68-0	63-0	58-0	53-0	48-0	43-0	38-0	33-0
Size W Beam	36WF280	36WF245	36WF230	36WF230	36WF194	36WF170	36WF150	36WF135	36WF135	36WF135	36WF135	36WF135	33WF118	30WF108
Lgth of Size Cover (Bott. only)	6'-1 1/2"	6'-7 1/2"	5'-5 1/2"	4'-5 1/2"	4'-0 1/2"	3'-7 1/2"	3'-5 1/2"	3'-3 1/2"	3'-1 1/2"	2'-11 1/2"	2'-9 1/2"	2'-7 1/2"	2'-5 1/2"	2'-3 1/2"
Dead Load Deflection	3 1/2"	3 3/8"	2 5/8"	2 1/4"	1 7/8"	1 5/8"	1 3/8"	1 1/8"	7/8"	5/8"	1/2"	3/8"	1/4"	1/4"
Dia. of Spiral Bars							5/8"						Non Composite	
Mean Dia. of Spiral							6"							
Spiral Pitch 0'-10" from Brng.	Double @ 5 1/2"	Double @ 5"	Double @ 5"	Double @ 5"	Double @ 5"	Double @ 5"	Double @ 5 1/2"	Double @ 5 1/2"						
" " 10'-20" or E Span	Double @ 6 1/2"	Double @ 6 1/2"	Double @ 6 1/2"	Double @ 7"	Double @ 7"	Double @ 7 1/2"	Double @ 7 1/2"	Double @ 7"	Double @ 7"	Double @ 7"	Double @ 7 1/2"			
" " 20'-30" or E Span	4"	4"	4 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"	5"	5 1/2"	6"	6"			
" " 30'-40" or E Span	5"	5"	5 1/2"	6"	6"	6"	6"	5"						
" " 40'-E Span	6 1/2"	6 1/2"	6"	6"										
*Tot. Struct. Steel (I span) (lbs.)	169,590	145,670	126,840	112,050	92,150	76,670	62,740	52,610	45,490	41,150	35,830	32,390	24,240	19,280
Reinforcing Bars ~ S1	376	376	356	336	316	296	276	256	236	216	196	176	156	136
" " ~ S2	225	225	225	225	225	225	225	150	150	150	150	150	150	75
" " ~ S3	30	30	30	30	30	30	30	20	20	20	20	20	20	10
" " ~ S4	132	126	120	112	106	100	92	86	80	72	66	60	52	46
" " ~ S5	16	16	16	16	16	16	16	16	16	16	16	16	16	16
" " ~ S6A	52	52	52	52	52	52	52	52	52	52	52	52	52	52
" " ~ S7	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Tot. Weight - Reinf. Bars (lbs.)	25,300	24,100	22,900	21,700	20,400	19,300	18,000	16,600	15,400	14,200	13,000	11,800	10,600	9,200
Approx. Wt. Spiral Reinf. (lbs.)	2,580	2,550	2,380	2,190	2,160	2,040	1,990	1,860	1,700	1,560	1,440	1,300	1,160	1,000
Tot. Cu Yds. Conc. Class AA (Cyls)	116	111	106	101	95	90	85	79	73	68	63	58	51	45
Tot. Wt. Bitum. Conc. Pavt. (Mod.) (Tons)	32	30	29	27	26	24	22	21	19	18	16	15	13	12
Tar Emulsion for Bridge Floors (Gals)	132	125	119	112	105	99	92	85	79	72	65	59	52	45
Approx. Quantity 3/4" x 7 Studs	3,180	3,120	2,940	2,680	2,640	2,500	2,440	2,280	2,120	1,900	1,760	1,600	1,440	1,280
Approx. Quantity 7/8" x 7 Studs	2,110	2,080	1,960	1,790	1,760	1,670	1,630	1,520	1,410	1,270	1,170	1,060	950	840

REINFORCING STEEL SCHEDULE

Span	S1-#5 34'-4" Straight		S5-#5 32'-2" Straight	
	Str.	Length	Str.	Length
34	S2-#5	33'-6"	S3-#6	33'-6"
39	S2-#5	20'-3"	S3-#6	20'-6"
44	S2-#5	22'-9"	S3-#6	23'-0"
49	S2-#5	25'-3"	S3-#6	25'-6"
54	S2-#5	27'-9"	S3-#6	28'-0"
59	S2-#5	30'-3"	S3-#6	30'-6"
64	S2-#5	32'-9"	S3-#6	33'-0"
69	S2-#5	24'-3"	S3-#6	24'-6"
74	S2-#5	26'-0"	S3-#6	26'-3"
79	S2-#5	27'-6"	S3-#6	28'-0"
84	S2-#5	29'-3"	S3-#6	29'-6"
89	S2-#5	31'-0"	S3-#6	31'-3"
94	S2-#5	32'-6"	S3-#6	33'-0"
99	S2-#5	34'-3"	S3-#6	34'-6"

Revisions & Corrections

Drawn By: R.S.H. June 1960
 Traced By: R.S.H. June 1960
 Checked By: R.T.B. & R.S.H. July 1960

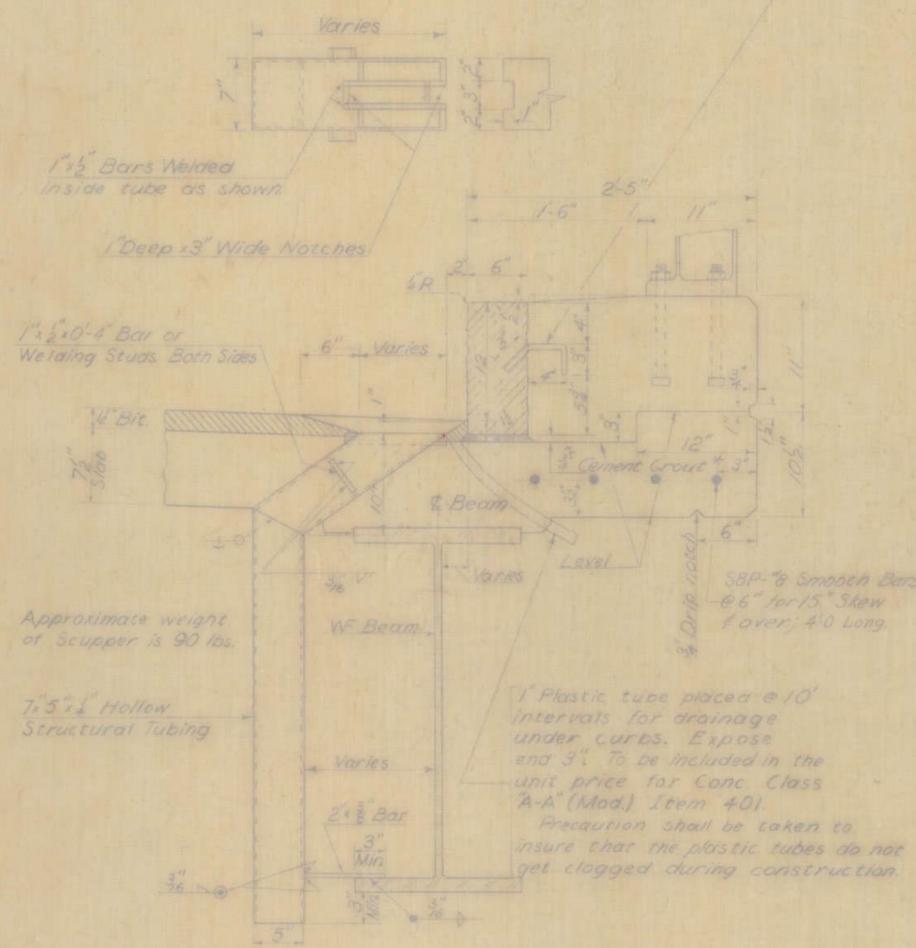
Recommended For Approval: *Ludlow* 12/1/62
 Bridge Engineer Date
 Recommended For Approval: *A.O. [Signature]* 11/1/63
 Asst. Chief Engineer Date
 Approved By: *A.O. [Signature]* 11/1/63
 Chief Engineer Date

TYPICAL SECTION, PLAN VIEW, & QUANTITIES
 30 FOOT ROADWAY W/ BEAM BRIDGES
 DESIGN LOADING - H-20-S16-44 (A.S.T.M. - A 36-62T STEEL)
 34-44 NON COMPOSITE, 49-99 COMPOSITE
 FOR ADDITIONAL DETAILS SEE STANDARD SCB-D-62

DEPARTMENT OF HIGHWAYS
 STANDARD STRUCTURES
SCB-30-62

*After aligning the curbs, both horizontally & vertically on steel wedges, cement grout shall be forced under the curbs completely filling all voids.

*4 Bar 12" from either end (Two required for each curb section) Drilling & leading of bars to be paid for under the Unit Price bid for Item 556-C.



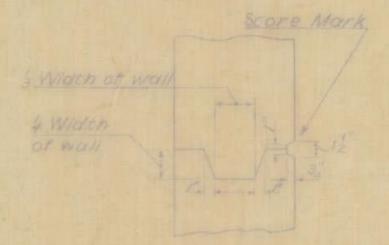
Approximate weight of Scupper is 90 lbs.

7x5x1/4 Hollow Structural Tubing

End scupper to be placed midway between E or Brg of first diaphragm assembly. Intermediate scuppers to be placed midway between diaphragm assemblies.

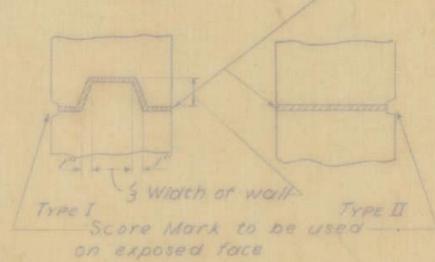
SCUPPER & CURB DETAILS (A)

Construction joints shall be placed as indicated on the plans. Horizontal score marks shall be placed as indicated on the plans or as directed by the Engineer.

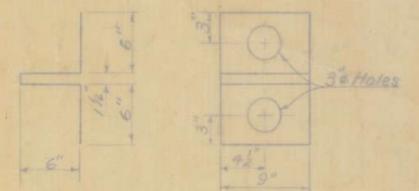


TYPICAL DETAIL OF CONST JOINT & SCORE MARKS (B)

1/2" Cork or pre-moulded expansion material

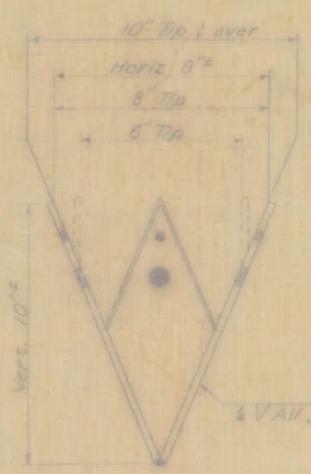


DETAILS OF VERTICAL EXPANSION JOINTS (C)

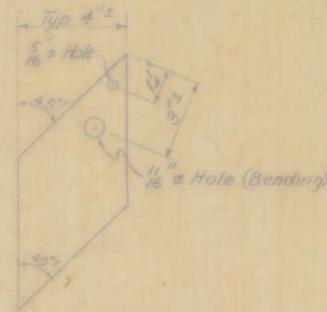


Support shall be 1/6 oz. copper. Place supports @ 2' intervals. Furnishing & placing of supports shall be included in the unit price bid for concrete, Item 40.

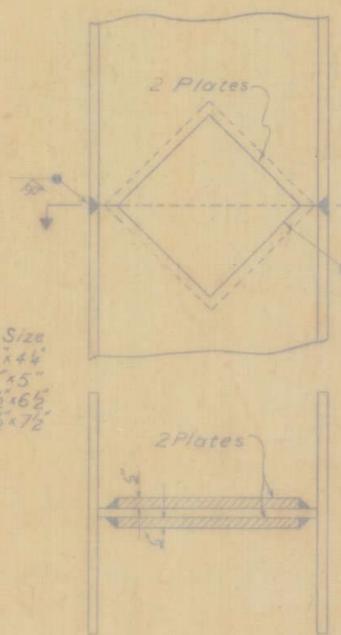
DETAIL OF COPPER SUPPORT FOR EXPANSION MATERIAL (D)



Approximate Weight - 6 1/2 lbs. Other types of shoes may be furnished with the approval of the Engineer.



DETAIL OF STEEL SHOE FOR TIMBER PILES (E)



H-Piles	IR Size
8 BP	4 1/2 x 4 1/2
10 BP	5 x 5
12 BP	6 1/2 x 6 1/2
14 BP	7 1/2 x 7 1/2

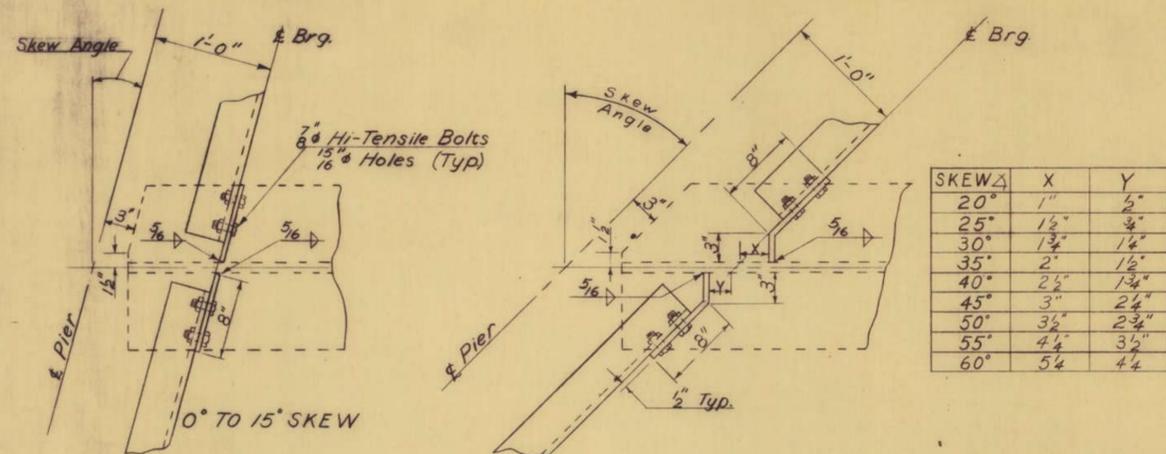
Prefabricated Pile Splice may be used with the approval of the Engineer.

DETAIL OF PILE SPLICE (F)

REVISIONS & CORRECTIONS		Drawn By: <i>[Signature]</i> Date: Dec 1, 1962	
1	Dimensioned SBP Bars	6/21/63	<i>[Signature]</i>
		Traced By: <i>[Signature]</i> Date: Dec 1, 1962	
		Checked By: EEP/WMS/RSU Date: Dec 1, 1962	
		Recommended: <i>[Signature]</i> 12/1/62	
		For Approval: Bridge Engineer Date	
		Recommended: <i>[Signature]</i> 11/1/63	
		For Approval: Assist. Chief Engineer Date	
		Approved By: <i>[Signature]</i> 1/1/63	
		Chief Engineer Date	

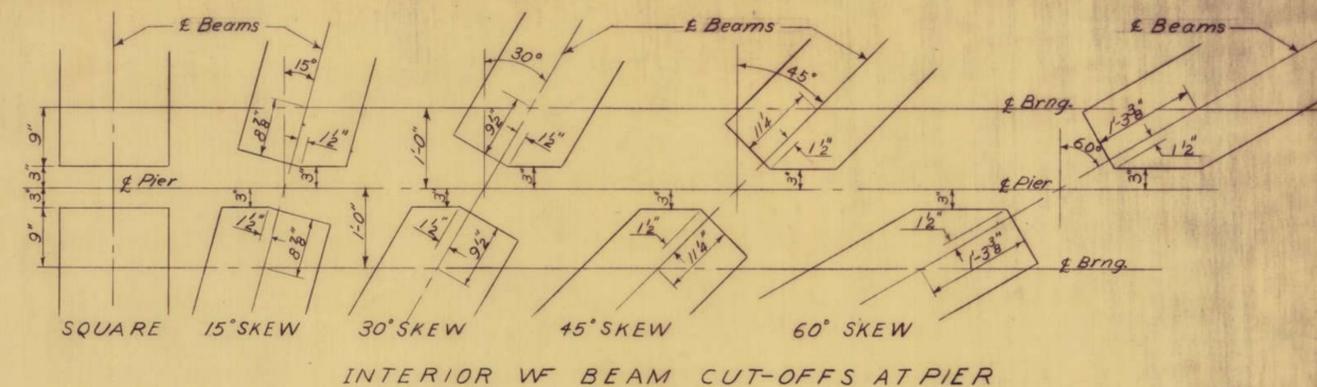
DETAILS OF WF BEAM BRIDGES
 (A) SCUPPER & CURB DETAILS
 (B) (C) (D) CONSTRUCTION DETAILS
 (E) (F) PILE DETAILS

VERMONT
 DEPARTMENT OF HIGHWAYS
 STRUCTURE STANDARDS
SCB-D6-62



DETAILS OF PIER DIAPHRAGM CONNECTIONS

SKEW Δ	X	Y
20°	1"	2"
25°	1 1/2"	3"
30°	1 3/4"	4"
35°	2"	1/2"
40°	2 1/2"	1 3/4"
45°	3"	2 1/2"
50°	3 1/2"	3 1/2"
55°	4 1/2"	3 1/2"
60°	5 1/4"	4 1/4"



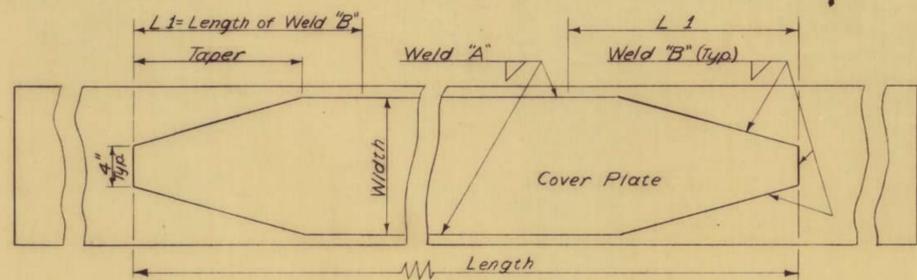
INTERIOR WF BEAM CUT-OFFS AT PIER

Max. Design 7-6 Bm Spacing S.C.B-24, 30, 38, 44-62

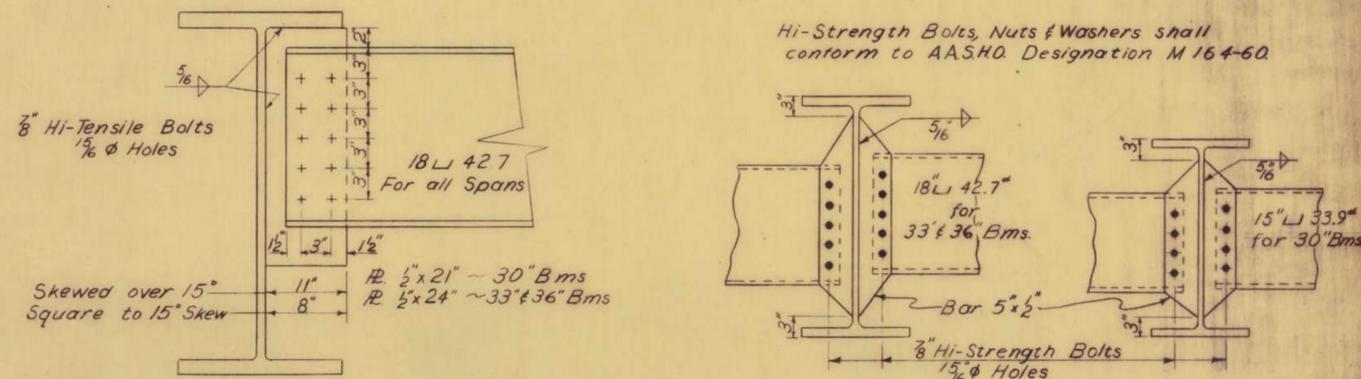
SPAN	COVER PLATE LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L 1
99'-0"	66'-1"	14"	1 1/2"	1'-6"	3/8"	1/2"	3'-5 1/2"
94'-0"	65'-7"	14"	1 1/2"	1'-6"	3/8"	1/2"	3'-5 1/2"
89'-0"	59'-5"	14"	1 1/2"	1'-6"	3/8"	1/2"	2'-10"
84'-0"	49'-5"	14"	3/8"	1'-6"	3/8"	1/2"	1'-11"
79'-0"	49'-10"	10"	1/4"	1'-0"	3/8"	1/2"	2'-0"
74'-0"	47'-1"	10"	1/8"	1'-0"	3/8"	1/2"	1'-9 1/2"
69'-0"	45'-9"	10"	1"	1'-0"	3/8"	3/8"	---
64'-0"	42'-5"	10"	3/8"	1'-0"	3/8"	3/8"	---
59'-0"	31'-11"	10"	1/2"	1'-0"	3/8"	3/8"	---
54'-0"	27'-1"	8"	1/2"	1'-0"	3/8"	3/8"	---

Max. Design 7-0 Bm Spacing S.C.B-42-62

COVER PLATE LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L 1
67'-5"	14"	1 1/2"	1'-6"	3/8"	1/2"	3'-5"
64'-7"	14"	1 3/8"	1'-6"	3/8"	1/2"	3'-5 1/2"
54'-9"	14"	1"	1'-6"	3/8"	1/2"	2'-3"
45'-1"	14"	3/8"	1'-6"	3/8"	3/8"	---
48'-11"	10"	1 1/8"	1'-0"	3/8"	1/2"	1'-9 1/2"
48'-1"	10"	1"	1'-0"	3/8"	3/8"	---
41'-3"	10"	3/8"	1'-0"	3/8"	3/8"	---
37'-8"	10"	3/8"	1'-0"	3/8"	3/8"	---
29'-1"	8"	1/2"	1'-0"	3/8"	3/8"	---
27'-1"	8"	1/2"	1'-0"	3/8"	3/8"	---

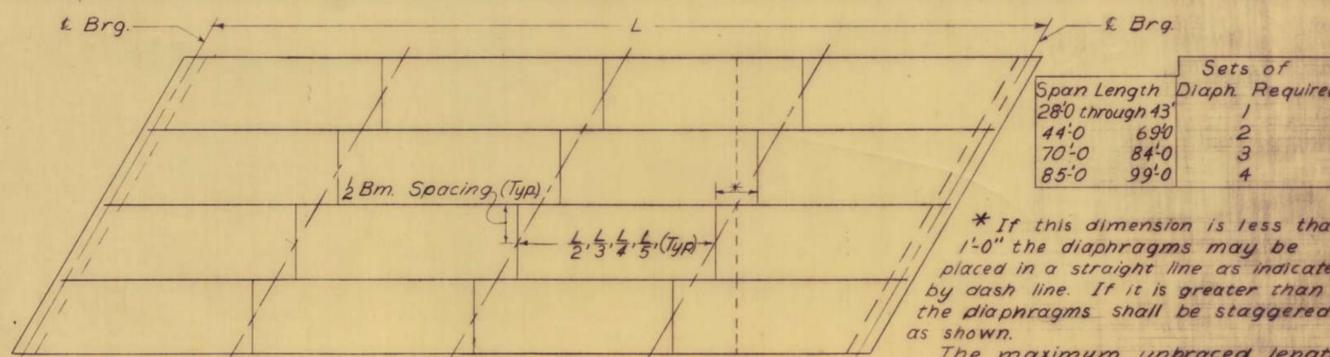


COVER PLATE DETAILS



PIER DIAPHRAGMS

INTERMEDIATE DIAPHRAGMS



DIAPHRAGM LOCATION PLAN

REVISIONS & CORRECTIONS
Added size of Diaphragms on Detail D 6/21/63 *

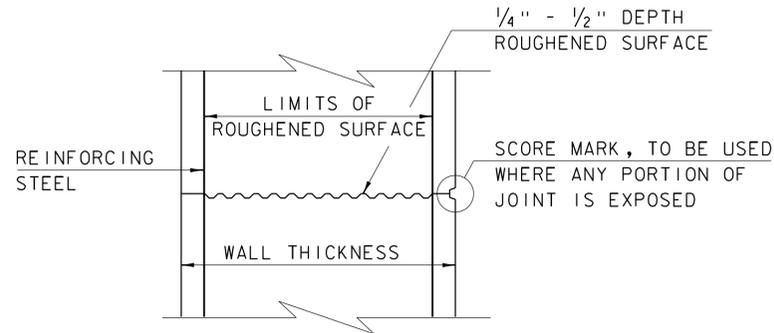
Drawn By: *[Signature]* Date: Dec 1, 1962
Traced By: *[Signature]* Date: Dec 1, 1962
Checked By: EER, WMS, RSH Date: Dec 1, 1962
Recommended For Approval: *[Signature]* Date: 12/1/62
Recommended For Approval: *[Signature]* Date: 1/4/63
Approved By: *[Signature]* Date: 1/4/63
Chief Engineer

DETAILS OF WF BEAM BRIDGES
STRUCTURAL STEEL DETAILS
A D E DIAPHRAGM DETAILS
B WF BEAM CUT-OFFS
C COVER PLATE DETAILS

VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS
SCB-D7-62

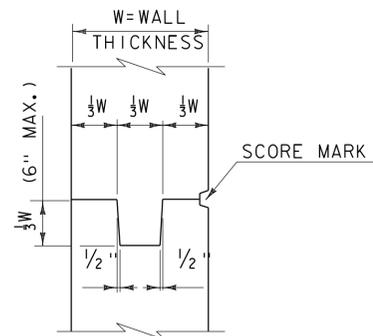
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

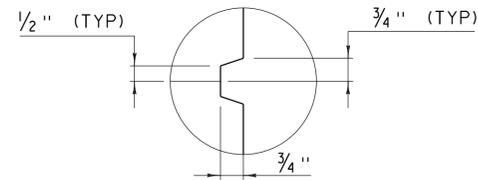


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

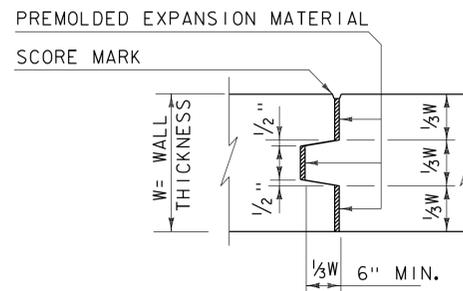
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



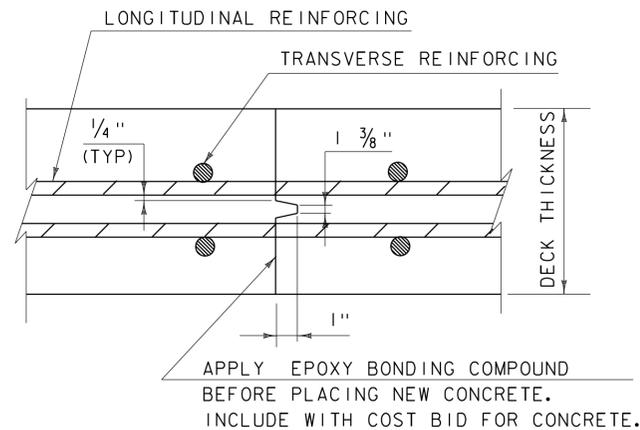
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



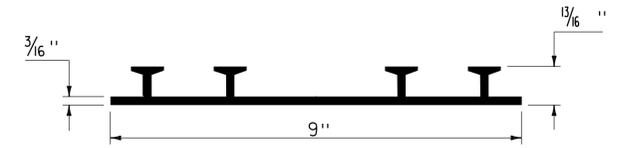
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



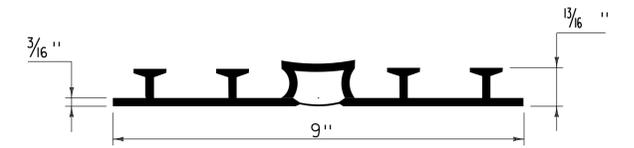
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

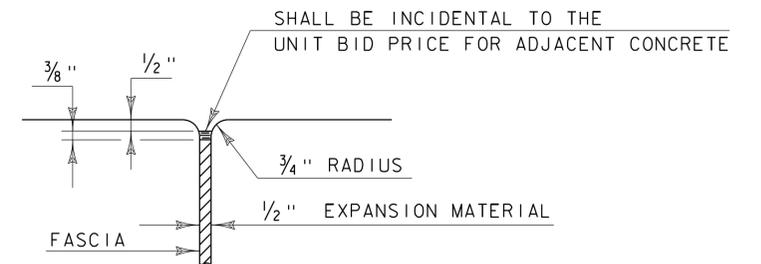
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



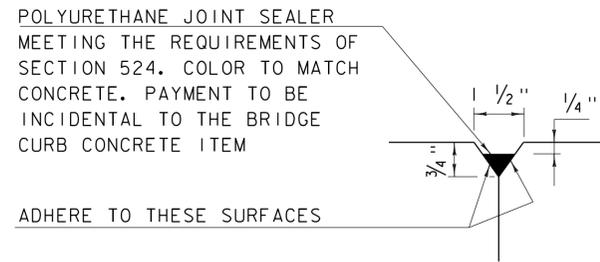
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

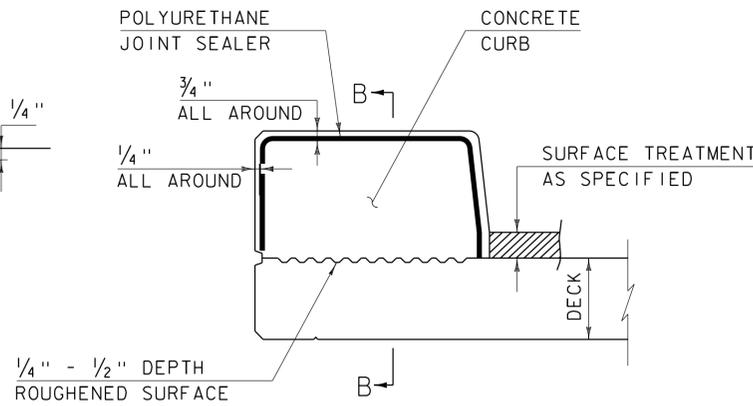
**CONCRETE
DETAILS AND NOTES**



**STRUCTURES
DETAIL
SD-501.00**

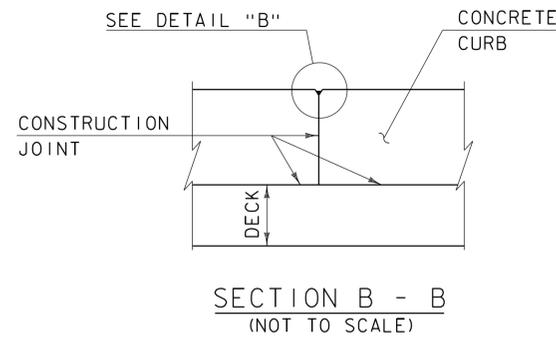


DETAIL "B"
(NOT TO SCALE)

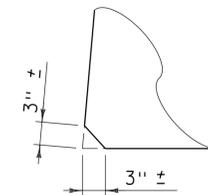


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



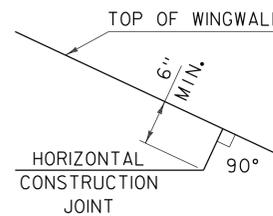
SECTION B - B
(NOT TO SCALE)



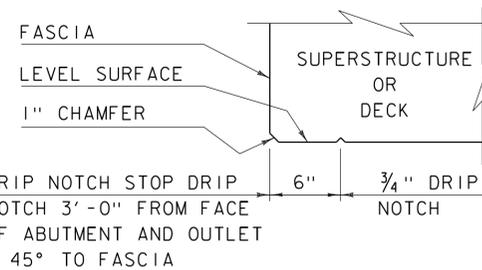
ACUTE ANGLE
CLIP DETAIL
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

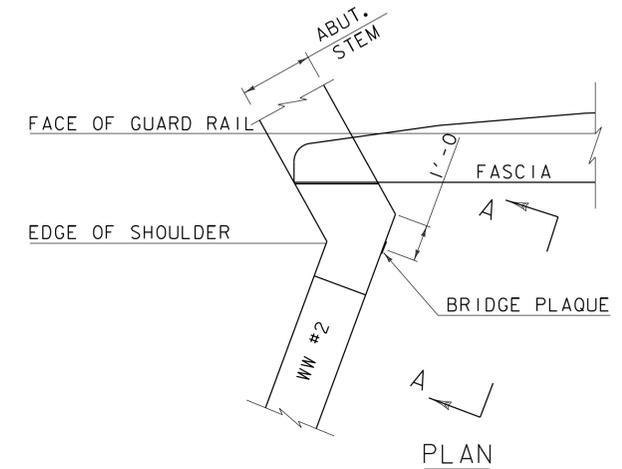
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



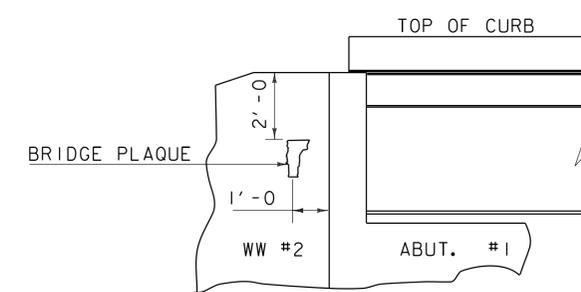
HORIZONTAL WINGWALL
CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE
DETAILS AND NOTES



STRUCTURES
DETAIL
SD-502.00

ASPHALTIC PLUG JOINT NOTES

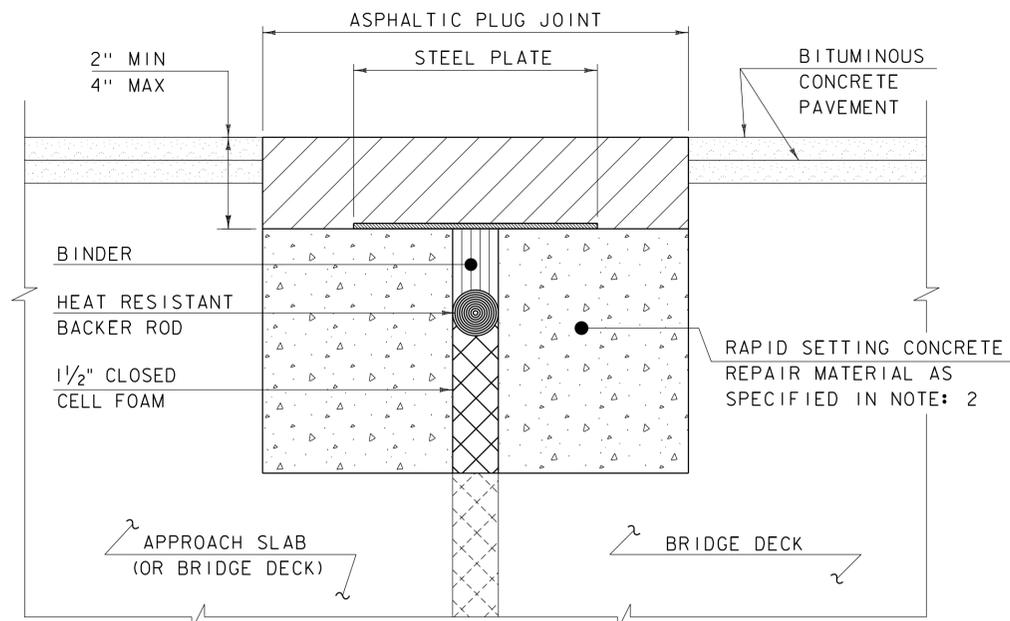
INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

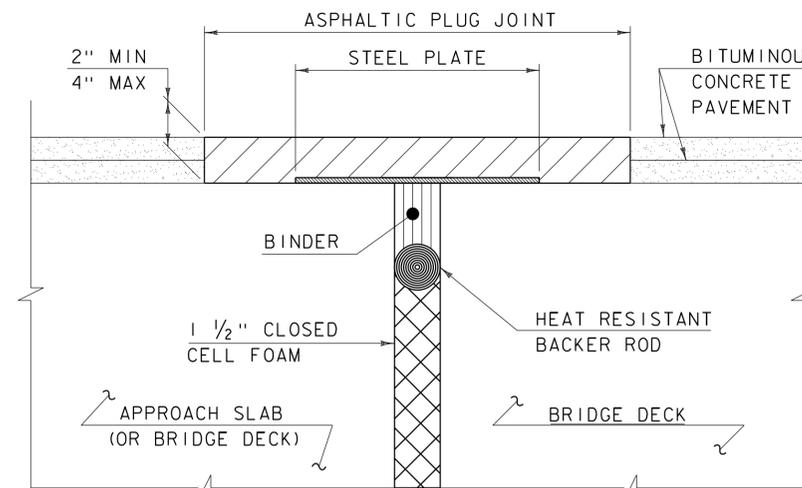
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

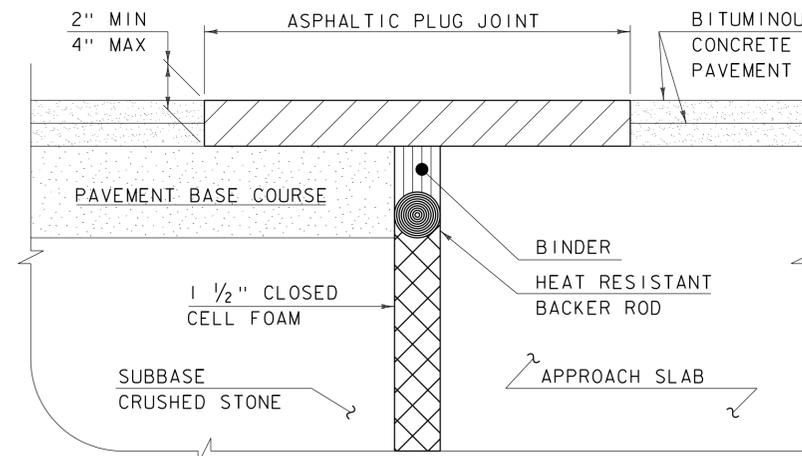
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

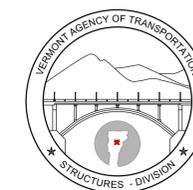


ASPHALTIC PLUG JOINT DETAIL "B" - NEW

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

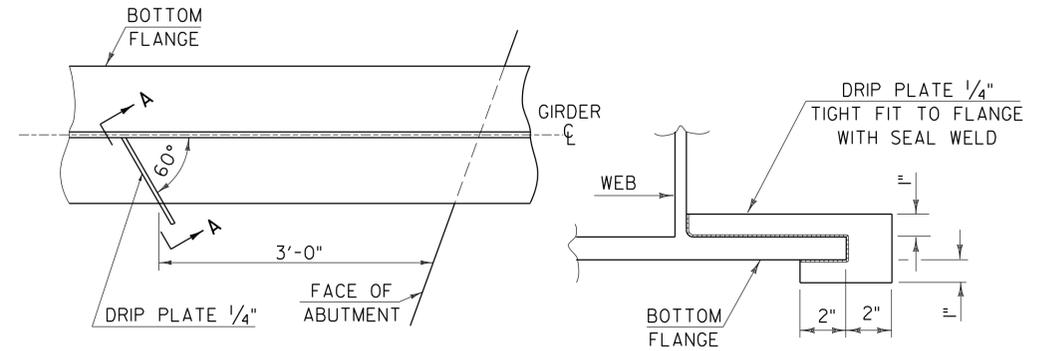
BRIDGE JOINT
ASPHALTIC PLUG



STRUCTURES
DETAIL
SD-516.10

STRUCTURAL STEEL GENERAL NOTES:

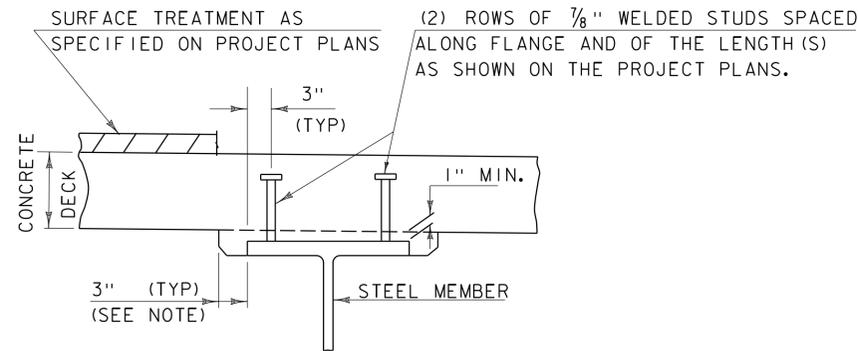
1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.I9.
3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.I0.
4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

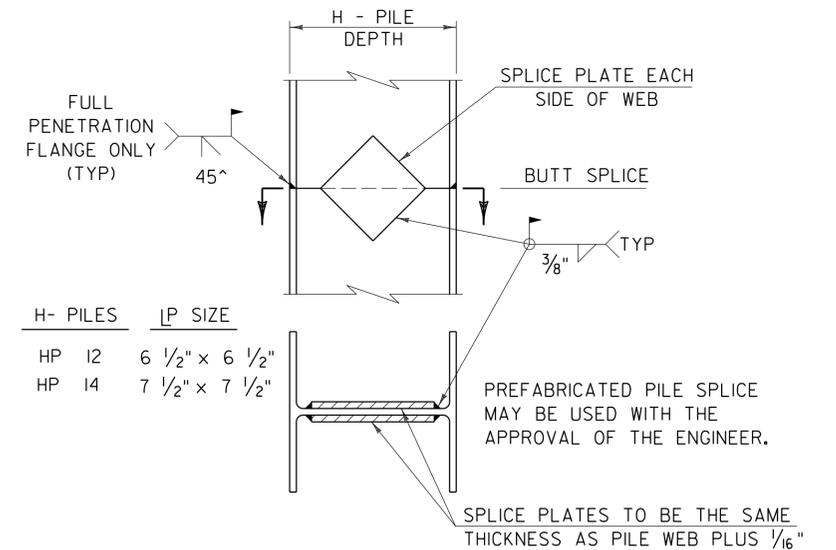
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



NOTE:
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL

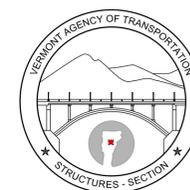


DETAIL OF PILE SPLICE

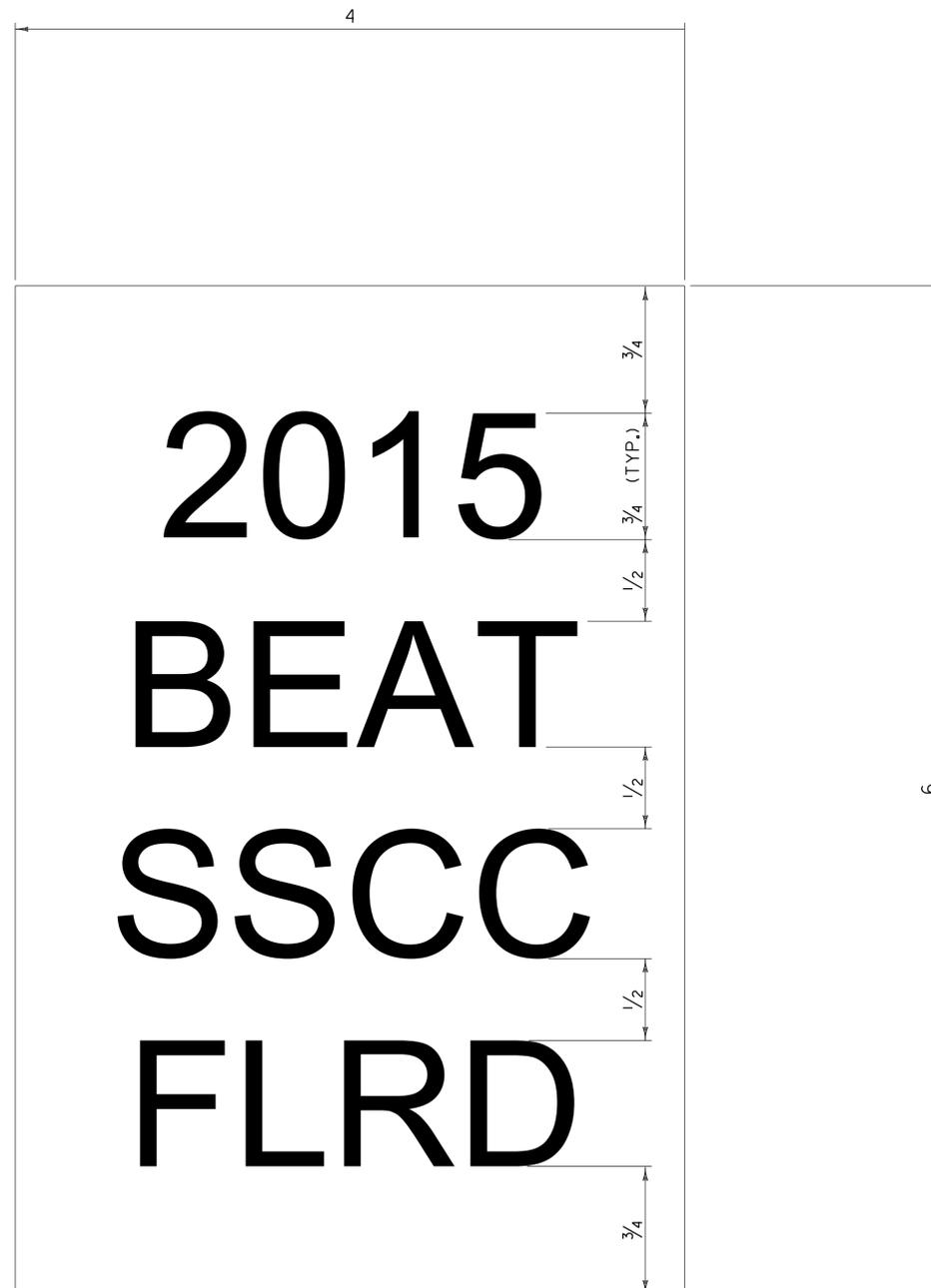
DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

STRUCTURAL STEEL DETAILS & NOTES



STRUCTURES DETAIL SD-601.00



GENERAL NOTES:

1. LINE ONE SHALL INDICATE THE INSTALLATION YEAR (YYYY).
2. LINE TWO SHALL INDICATE THE MODEL AS IDENTIFIED ON THE APPROVED PRODUCTS LIST. FOR GENERIC INSTALLATIONS THE STANDARD DRAWING DESIGNATION OR NAME AS IDENTIFIED IN THE FHWA ELIGIBILITY LETTER SHALL BE USED.
3. LINE THREE SHALL INDICATE ADDITIONAL MODEL INFORMATION IF NECESSARY.
4. LINE FOUR SHALL INDICATE FLARED (FLRD) OR TANGENT (TANG).
5. LEGEND SHALL BE ONE ARIEL FONT.
6. LEGEND SHALL BE BLACK ON A WHITE BACKGROUND, LEGEND AND BACKGROUND SHALL NOT BE REFLECTIVE.
7. SUITABLE MATERIAL SHALL BE USED SO AS TO NOT DETERIORATE DURING EXPOSURE TO WEATHER.
8. LABELS SHALL BE APPLIED IN SUCH A WAY THAT THEY REMAIN INTACT DURING THE LIFE OF THE TERMINAL.
9. FOR W-BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE TOP OF POST ONE FACING AWAY FROM TRAFFIC.
10. FOR BOX BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE BOX BEAM ADJACENT TO POST ONE FACING AWAY FROM TRAFFIC.
11. PAYMENT SHALL BE INCIDENTAL TO OTHER TRAFFIC BARRIER ITEMS.
12. ALL DIMENSIONS IN INCHES.

REV.	DATE	DESCRIPTION
0	NOV. 3, 2015	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: NONE		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

GUARDRAIL TERMINAL LABEL DETAIL



HIGHWAY SAFETY
& DESIGN DETAIL
HSD - 621.06