

* ROADWAY WIDTH AND CROSS SLOPES VARY. REFER TO PLAN SHEET AND ROADWAY CROSS SECTIONS FOR WIDTHS AND SLOPES AT SPECIFIC STATIONS.

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

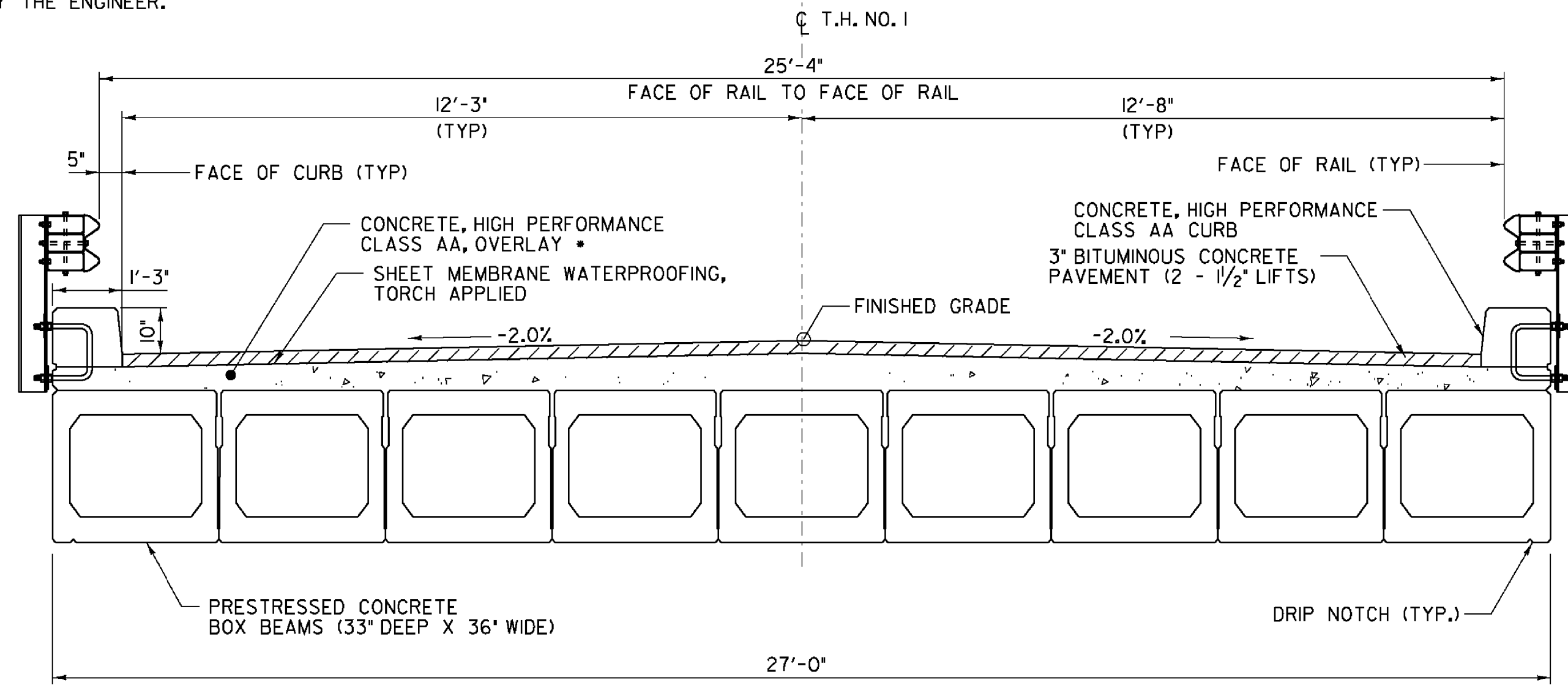
TYPICAL ROADWAY CROSS SECTION

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

** SEE MATERIAL DEPTH TRANSITION DETAIL SHEET 36

TYPICAL SECTIONS

1/2" TYPE III BITUMINOUS CONCRETE PAVEMENT
 1/2" TYPE III BITUMINOUS CONCRETE PAVEMENT
 3' TYPE I BITUMINOUS CONCRETE PAVEMENT
 1'-6" SUBBASE OF GRAVEL
 1'-6" SAND BORROW
 FOR PG BINDER SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS



TYPICAL BRIDGE CROSS SECTION

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

BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING SEE STD SB-R7-90

BRIDGE DECK PAVEMENT

TOP LIFT = 1-1/2" TYPE III
 BOTTOM LIFT = 1-1/2" TYPE III OR TYPE IV

* MINIMUM CONCRETE OVERLAY THICKNESS
 5 IN. AT FACE OF CURB
 8 IN. AT CENTERLINE

TRAFFIC DATA

2000 ADT = 636
2000 DHV = 90
2000 ADTT = 13
2020 ADT = 865
2020 DHV = 122
2020 ADTT = 17
D = 60%
T = 2%
DESIGN SPEED = 35 mph
ESALS
(2000-2020) 269,254
(2000-2040) 859,221

MATERIALS TOLERANCE TABLE

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT	± 1/4" (TOTAL)
BASE COURSE	± 1/2"
SUBBASE	± 1"
SAND BORROW	± 1"

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	48	65					
POSTED	52	67	79		60	62	72
OPERATING		70	86	106	63	66	

STRENGTH RF = $\frac{F_{ALL} - F_{DL}}{F_{LL}}$

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA = 13.4 SQ. MI.
 CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS, MOSTLY FORESTED, A FEW OPEN AREAS.
 CHARACTER & TYPE OF STREAM: SINUOUS WITH ERODING BANKS AND GRAVEL BARS, LOCALLY BRAIDED.
 NATURE OF STREAMBED: SAND, GRAVEL AND COBBLES.
 02.33 = 600 CFS 050 = 1950 CFS
 010 = 1200 CFS 0100 = 2300 CFS
 025 = 1600 CFS 0500 = 3200 CFS
 DATE OF FLOOD OF RECORD: UNKNOWN
 WATER SURFACE ELEV.: UNKNOWN ESTIMATED DISCHARGE: UNKNOWN
 NATURAL STREAM VELOCITY @ 0: @ 025 = 7.3 FPS
 ICE CONDITIONS: MODERATE DEBRIS: MODERATE
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY YES
 IS ORDINARY RISE RAPID? YES
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? MAYBE
 IF YES, DESCRIBE: WATER MAY BACK UP THROUGH THIS SITE FROM THE LITTLE RIVER DURING LARGE FLOOD EVENTS. THAT COULD NOT BE DETERMINED DUE TO THE USE OF LOCAL DATUMS.
 WATERSHED STORAGE: HEADWATERS UNIFORM THROUGHOUT WATERSHED X IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: SINGLE SPAN STEEL BEAM WITH CONCRETE DECK YEAR BUILT: 1968
 CLEAR SPAN (NORMAL TO STREAM): 65 FT.
 VERTICAL CLEARANCE ABOVE STREAMBED: 10'
 WATERWAY OF FULL OPENING: 477 SQ. FT.
 DISPOSITION OF STRUCTURE: EXISTING SUPERSTRUCTURE TO BE REMOVED AND DISPOSED OF BY CONTRACTOR. EXISTING SOUTHERN ABUTMENT TO REMAIN. EXISTING NORTHERN ABUTMENT TO BE PARTIALLY REMOVED.
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: SEE BORING LOGS.
 WATER SURFACE ELEV. @ 02.33 = 317.9' VELOCITY = 5.0 FPS
 010 = 319.4' 6.8 FPS
 025 = 320.2' 8.0 FPS
 050 = 320.9' 9.0 FPS
 0100 = 321.5' 10.0 FPS

LONG TERM STREAM BED CHANGES: CHANNEL WIDENING AND AGGRADATION UPSTREAM WITH LOCAL SCOUR THROUGH THE BRIDGE.

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: ABOVE Q100
 RELIEF ELEVATION: 326.4' DISCHARGE OVER ROAD @ Q100: NONE

UPSTREAM STRUCTURE: TOWN: STOWE DISTANCE: 3,400'
 HIGHWAY NO.: T.H. 43 STRUCTURE NO.: 51

NOTE: STRUCTURE TYPE: SINGLE SPAN STEEL BEAM BRIDGE.
 CLEAR HEIGHT: 8.5'

DOWNSTREAM STRUCTURE: TOWN: SEE NOTE DISTANCE: 900'
 HIGHWAY NO.: STRUCTURE NO.:

NOTE: N.A. - CONFLUENCE WITH LITTLE RIVER

DESIGN CRITERIA:

- DESIGN LIVE LOAD AASHTO HS-25-44
- DESIGN SPAN 74.5 FT. @ BEARING TO @ BEARING
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
- ALLOWABLE LOAD FOR PILING AXIAL = 130 KIPS TYPE HP 12 X 53 ESTIMATED LENGTH 92.37 FT. AVERAGE
 2.25 TIMES ALLOWABLE LOAD FOR PILING AXIAL = 293 KIPS
- STRUCTURAL STEEL ASTM A-572, GRADE 50 (PILING)
- REINFORCING STEEL GRADE 60
- CONCRETE, HIGH PERFORMANCE CLASS AA f_c 4000 psi
 CONCRETE, HIGH PERFORMANCE CLASS B f_c 3500 psi
 PRESTRESSED f_c 6000 psi

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
 EXISTING BRIDGE TO BE CLOSED, TRAFFIC TO BE DETOURED ON A TEMPORARY BRIDGE.
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY ONE TRAFFIC CONTROL SIGNALS REQUIRED NO
 MINIMUM CLEAR SPAN (NORMAL TO STREAM): 63 FT. VERTICAL CLEARANCE ABOVE STREAMBED: NO LOWER THAN EXISTING BRIDGE BEAMS.
 WATERWAY OF FULL OPENING:
 ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A
 STRUCTURE TYPE:

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN, NEW PRESTRESSED BOX BEAM SUPERSTRUCTURE.
 NEW NORTHERN ABUTMENT ON PILES. EXISTING SOUTHERN ABUTMENT IS TO REMAIN.
 CLEAR SPAN (NORMAL TO STREAM): 73 FT.
 VERTICAL CLEARANCE ABOVE STREAMBED: 10 FT.
 WATERWAY OF FULL OPENING: 524 SQ. FT.
 WATER SURFACE ELEV. @ 02.33 = 317.9' VELOCITY: 5.0 FPS
 010 = 319.4' 6.8 FPS
 025 = 320.2' 8.0 FPS
 050 = 320.9' 9.0 FPS
 0100 = 321.5' 10.0 FPS

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: ABOVE Q100
 RELIEF ELEVATION: 326.4' DISCHARGE OVER ROAD @ Q100: NONE

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 324.2'
 VERTICAL CLEARANCE @ Q100: 2.7'

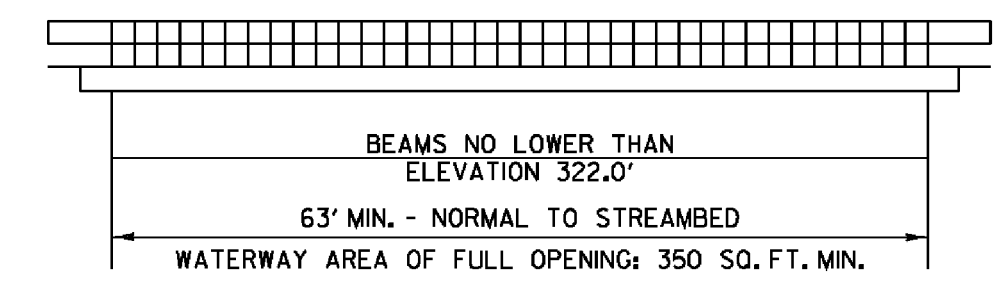
SCOUR: CONTRACTION SCOUR = 2.0' AT Q100 AND 5.0' AT Q500.
 REQUIRED CHANNEL PROTECTION: STONE FILL, TYPE IV WHERE NEEDED

PERMIT INFORMATION

AVERAGE DAILY FLOW: 30 CFS
 ORDINARY LOW WATER: 15 CFS DEPTH: ELEV. 315.0'
 ORDINARY HIGH WATER: 260 CFS DEPTH: ELEV. 317.0'

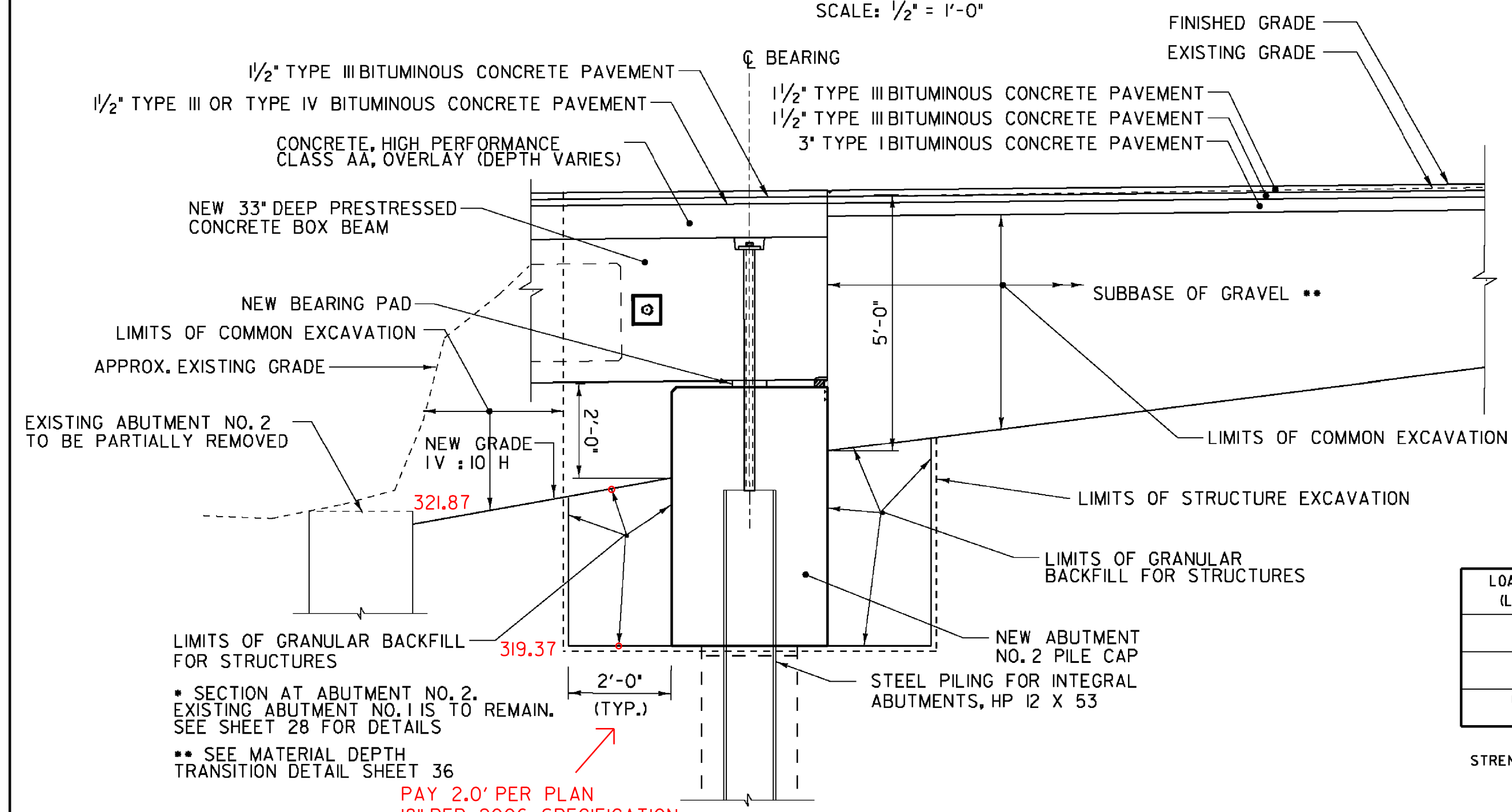
ADDITIONAL COMMENTS

HYDRAULICS AT THIS SITE MAY BE AFFECTED BY TAILWATER FROM THE LITTLE RIVER DURING LARGE FLOOD EVENTS. THAT COULD NOT BE DETERMINED DUE TO THE USE OF LOCAL DATUMS. SO THE FINAL HYDRAULICS IS BASED ON NO TAILWATER FROM THE LITTLE RIVER. ACTUAL WATER SURFACE ELEVATIONS MAY BE HIGHER THAN SHOWN IF WATER BACKS UP FROM THE LITTLE RIVER.



TEMPORARY BRIDGE

NOT TO SCALE



* SECTION AT ABUTMENT NO. 2. EXISTING ABUTMENT NO. 1 IS TO REMAIN. SEE SHEET 28 FOR DETAILS

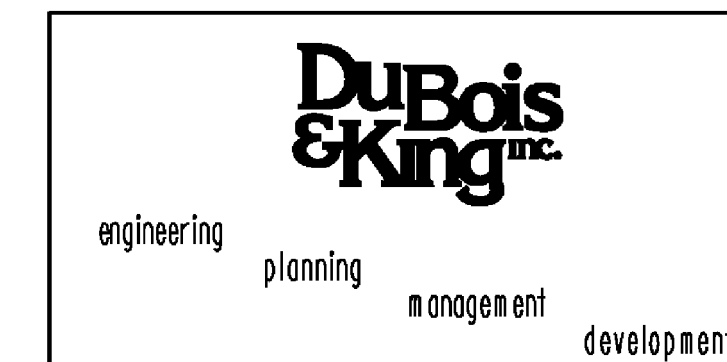
** SEE MATERIAL DEPTH TRANSITION DETAIL SHEET 36

PAY 2.0' PER PLAN
 18" PER 2006 SPECIFICATION

PLAN SUPERCEDES SPEC
 CHRIS WILLIAMS PROJECT MANAGER
 7-8-10

TYPICAL ABUTMENT NO. 2 SECTION*

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



PLOTTED 11/4/2009

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	STOWE	Bridge No.	3
Highway No.	T.H. 1	Log Sta.	
		Surv. Sta.	
MOSCOW ROAD OVER MILLER BROOK			
PRELIMINARY INFORMATION SHEET			
Designed By	R.H. BARNES	Drawn By	S.J. BIJOLLE
Checked By	Date	Bridge Design Supervisor	Date
E.P. DETRICK	5/09	J.W. TUCKER	5/09
PROJECT	STOWE	PROJECT NO.	BHO 1446 (30)
I.G.C. Info.	... \DGN\z99j244d+1.dgn		
D & K DWG NO.		Sheet	2 of 37