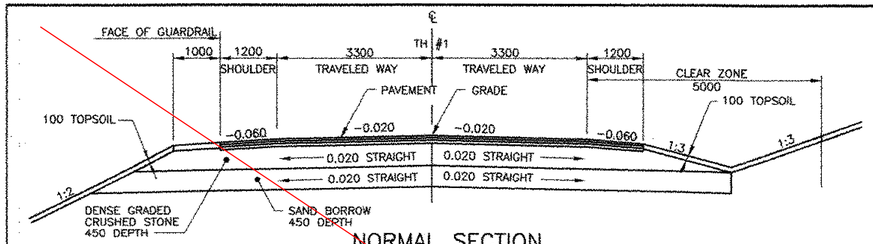
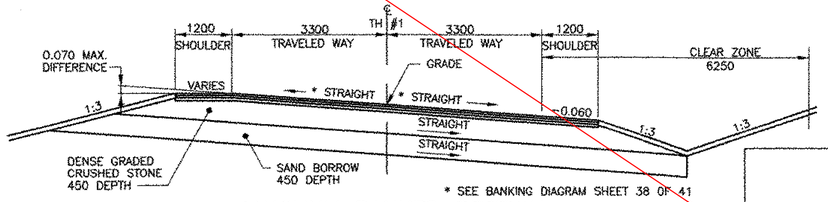


NORMAL SECTION

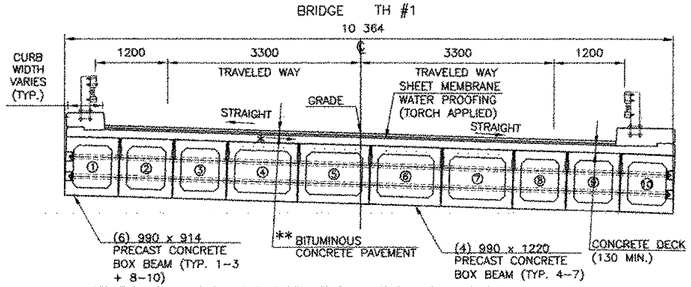
NOT TO SCALE



* SEE BANKING DIAGRAM SHEET 38 OF 41

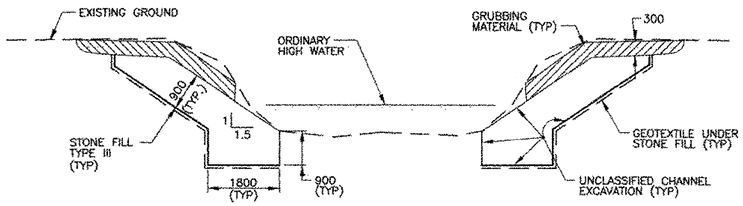
MAXIMUM BANKED SECTION

NOT TO SCALE



TYPICAL CONCRETE BOX BEAM CROSS SECTION

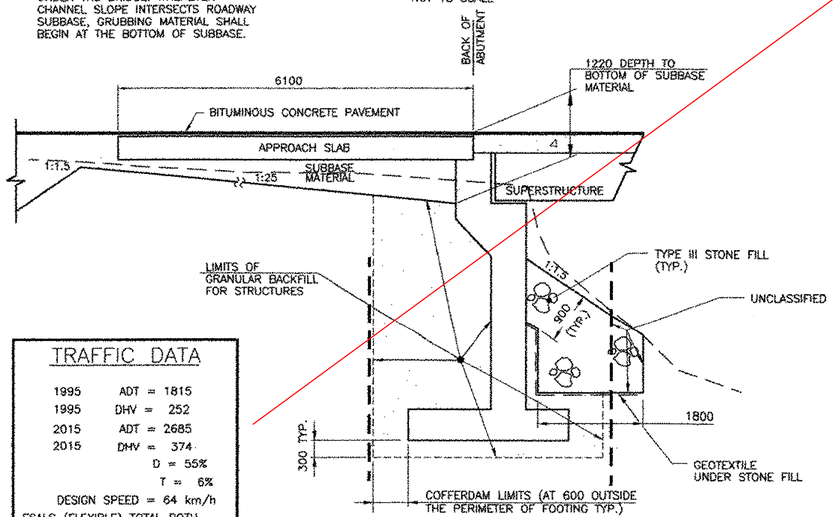
SCALE 1:50



NOTE: GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

TYPICAL CHANNEL SECTION

NOT TO SCALE



TYPICAL ABUTMENT SECTION

NOT TO SCALE

TRAFFIC DATA

1995	ADT =	1815
1995	DHV =	252
2015	ADT =	2685
2015	DHV =	374
	D =	55%
	T =	6%

DESIGN SPEED = 64 km/h

ESALS (FLEXIBLE) TOTAL BOTH DIRECTIONS (1995-2015) 196,000

TYPICAL SECTIONS ROADWAY

40 BITUMINOUS CONCRETE PAVEMENT (TYPE III OR IV) OVER
40 BITUMINOUS CONCRETE PAVEMENT (TYPE III OR IV) OVER
70 BITUMINOUS CONCRETE PAVEMENT (TYPE I OR II) OVER
450 DENSE GRADED CRUSHED STONE

450 SAND BORROW

SHOULDERS:
150 BITUMINOUS CONCRETE PAVEMENT
(40 TYPE III OVER 50 TYPE II OVER 60 TYPE I)

MATERIAL ITEM	THICKNESS TOLERANCE IN MILLIMETERS
PAVEMENT (TOTAL DEPTH)	± 5
SUBBASE	± 25
GRANULAR BORROW	± 25
SAND BORROW	± 25

STRENGTH RF = $\frac{\phi M_n - 1.3M_{DL}}{A \times M_{LL+I}}$

*SERVICEABILITY RF = B $\left[\frac{.95F_y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SC}}}{1.67\ M_{LL+I}}\right]$

LOAD RATING (METRIC TONS)

STRESS LEVELS	TRUCK H	HS	3S2	6 AXLE	3A STR	4A STR	5A SEMI
INVENTORY A=2.17, B=1.00	43	58	X	X	X	X	X
POSTED A=1.55, B=1.40	73	101	X	119	93	94	109
OPERATING A=1.30, B=1.67	X	140	164	195	X	X	X

TYPICAL SECTION BRIDGE

* TOP OF CONCRETE BOX BEAMS STRAIGHT -0.04

** 30 BIT. CONC. PAV. TYPE IV - 1st LIFT
40 BIT. CONC. PAV. TYPE III - 2nd LIFT

SEEDING FORMULA RURAL AREAS

% WT.	KG/HA	NAME	PURITY %	GERM %
37.1	26	CREEPING RED FESCUE	98	85
37.1	26	TALL FESCUE	95	90
5.7	4	RED TOP	95	90
14.4	10	BIRDSFOOT TREFOIL	98	85
5.7	4	ANNUAL RYE GRASS	95	85
100.0	70			

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.

SEED TO BE APPLIED PER SEEDING FORMULA OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 KG/HA. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 KG/HA, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 KG/HA OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.0679 L/m² BETWEEN SUCCESSIVE COURSES OF PAVEMENT AT THE DISCRETION OF THE ENGINEER.

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

FINAL HYDRAULICS REPORT

VAOT Metric

HYDROLOGIC DATA

DRAINAGE AREA= 92.720 sq km
CHARACTER OF TERRAIN: RURAL, MOUNTAINOUS
CHARACTER & TYPE OF STREAM: RURAL, HIGH ENERGY

NATURE OF STREAMBED: 2.0% GRADIENT, COBBLE BED

Q2.33= 33.7 cms Q50= 128.3 cms
Q10= 74.2 cms Q100= 156.9 cms
Q25= 99.8 cms Q500=

DATE OF FLOOD OF RECORD: NOVEMBER 1927
WATER SURFACE ELEV.: NOT AVAILABLE ESTIMATED DISCHARGE: NOT AVAILABLE
NATURAL STREAM VELOCITY @ Q 25 3.4 m/s
ICE CONDITIONS: MODERATE DEBRIS: LIGHT
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? YES
IS ORDINARY RISE RAPID? YES
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO
IF YES, DESCRIBE.

WATERSHED STORAGE YES HEADWATERS UNIFORM THROUGHOUT WATERSHED X
IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: STEEL PONY TRUSS W/ CONCRETE DECK BRIDGE YEAR BUILT: 1929
CLEAR SPAN (NORMAL TO STREAM): 22 800
VERTICAL CLEARANCE ABOVE STREAMBED: VARIES 3200 MIN. TO 3600 MAX.
WATERWAY OF FULL OPENING: 73.000 sq m
DISPOSITION OF STRUCTURE: TO BE REMOVED AND DISPOSED OF

TYPE OF MATERIAL UNDER SUBSTRUCTURE: DENSE GRANULAR WITH BOULDERS

WATER SURFACE ELEV. @ Q2.33= 172.3 VELOCITY= 2.3 m/s
Q10= 172.6 " 3.2 m/s
Q25= 172.9 " 3.5 m/s
Q50= 173.1 " 3.8 m/s
Q100= 173.3 " 4.1 m/s

LONG TERM STREAM BED CHANGES: AGGRADATION AND DEPOSITION OF MATERIAL WITHIN THE UPSTREAM APPROACH

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

UPSTREAM STRUCTURE: TOWN: CLARENDON DISTANCE: 700 000
HIGHWAY NO.: US 7 STRUCTURE NO.: 96
STRUCTURE TYPE: SINGLE SPAN PLATE GIRDER
CLEAR SPAN: 37 500 CLEAR HEIGHT: 3 100
YEAR BUILT: 1968 FULL WATERWAY: 100.3 sq m

DOWNSTREAM STRUCTURE: TOWN: CLARENDON DISTANCE: 255 000
HIGHWAY NO.: VERMONT RAILWAY STRUCTURE NO.: N/A
STRUCTURE TYPE: RAILROAD PLATE GIRDER
CLEAR SPAN: 33 200 CLEAR HEIGHT: 3 000
YEAR BUILT: N/A FULL WATERWAY: 100.0 sq m

PROPOSED STRUCTURE

STRUCTURE TYPE: PRECAST CONCRETE BOX BEAM & CONCRETE DECK SUPERSTRUCTURE

CLEAR SPAN (NORMAL TO STREAM): 23 600
VERTICAL CLEARANCE ABOVE STREAMBED: VARIES 3 200 MIN. TO 3 600 MAX.
WATERWAY OF FULL OPENING: 78.0 sq m

WATER SURFACE ELEV. @ Q2.33= 172.3 VELOCITY= 2.4 m/s
Q10= 172.7 " = 3.1 m/s
Q25= 172.9 " = 3.5 m/s
Q50= 173.1 " = 3.8 m/s
Q100= 173.3 " = 4.0 m/s

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 174.55
VERTICAL CLEARANCE @ Q100 1240

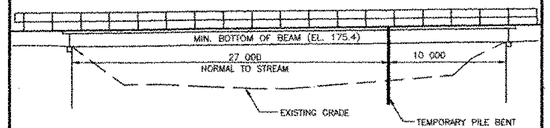
SCOUR: 1.0 m CONTRACTION SCOUR
REQUIRED CHANNEL PROTECTION: YES - TYPE III STONEFILL ON STREAM BED

PERMIT INFORMATION

AVERAGE DAILY FLOW:	2.1 cms	DEPTH :	0.45
ORDINARY LOW WATER:	1.0 cms	DEPTH :	0.34
ORDINARY HIGH WATER:	14.5 cms	DEPTH :	0.92

ADDITIONAL COMMENTS

THERE IS EVIDENCE OF SCOUR ALONG THE LEFT DOWNSTREAM ABUTMENT



TEMPORARY BRIDGE
NOT TO SCALE

SEE VALUE ENGINEERING (FOLLOWING SHEET)

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 25 400 ℄ BRG TO ℄ BRG
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 478 kPa ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO 270M/M 270M GRADE N/A
6. REINFORCING STEEL GRADE 420 160 MPa
7. CONCRETE HIGH PERFORMANCE CLASS AA f'_c 30 MPa
   CONCRETE HIGH PERFORMANCE CLASS B f'_c 25 MPa

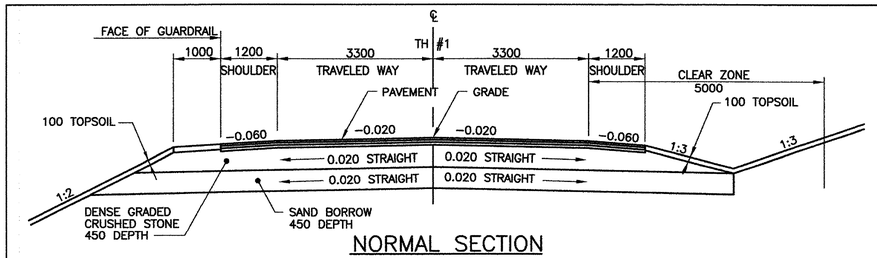
TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): 27 000 VERTICAL CLEARANCE ABOVE STREAMBED: 3.4 m
   WATERWAY OF FULL OPENING: 103 sq m
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A
   STRUCTURE TYPE: TWO SPAN BRIDGE

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

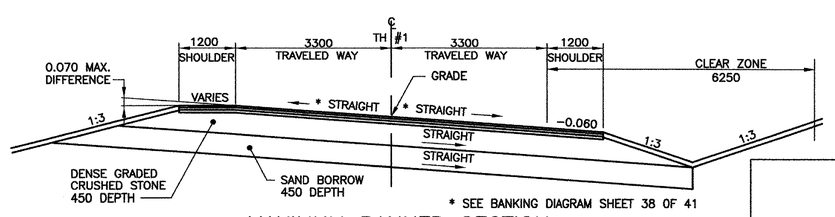
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
PRELIMINARY INFORMATION SHEET	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 3 OF 41



NORMAL SECTION

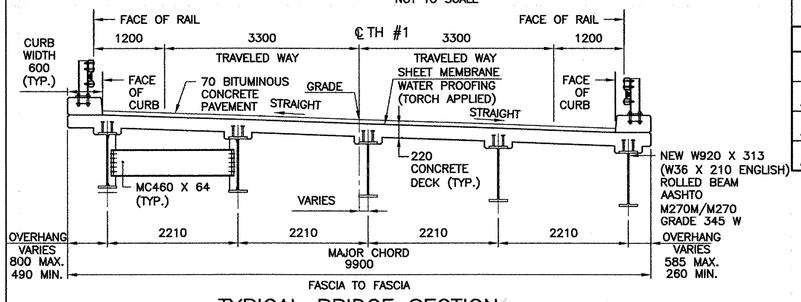
NOT TO SCALE



* SEE BANKING DIAGRAM SHEET 38 OF 41

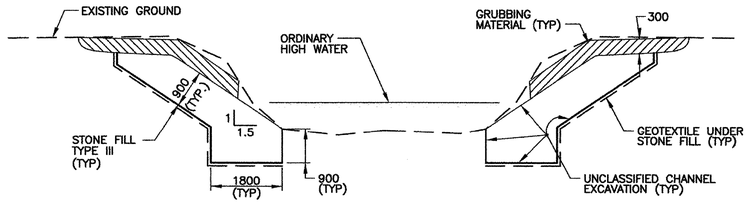
MAXIMUM BANKED SECTION

NOT TO SCALE



TYPICAL BRIDGE SECTION

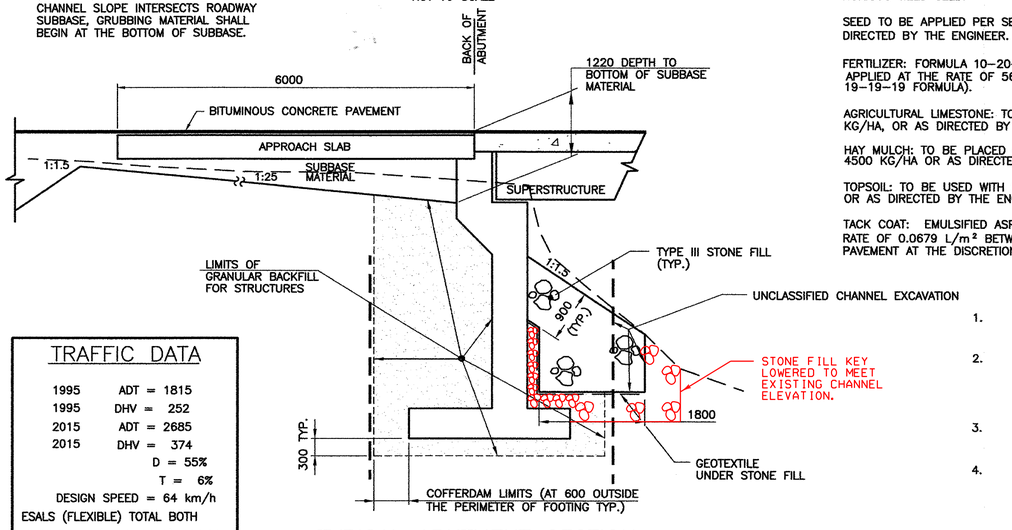
SCALE 1:50



NOTE: GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

TYPICAL CHANNEL SECTION

NOT TO SCALE



TYPICAL ABUTMENT SECTION

NOT TO SCALE

TRAFFIC DATA

1995	ADT =	1815
1995	DHV =	252
2015	ADT =	2685
2015	DHV =	374
	D =	55%
	T =	6%

DESIGN SPEED = 64 km/h

ESALS (FLEXIBLE) TOTAL BOTH DIRECTIONS (1995–2015) 196,000

TYPICAL SECTIONS ROADWAY

40 BITUMINOUS CONCRETE PAVEMENT (TYPE III)
~~40~~ ~~50~~ BITUMINOUS CONCRETE PAVEMENT (TYPE II)
~~70~~ ~~60~~ BITUMINOUS CONCRETE PAVEMENT (TYPE I)
450 DENSE GRADED CRUSHED STONE

450 SAND BORROW

SHOULDERS:
150 BITUMINOUS CONCRETE PAVEMENT
(40 TYPE III OVER 50 TYPE II OVER 60 TYPE I)

MATERIAL ITEM	THICKNESS TOLERANCE IN MILLIMETERS
PAVEMENT (TOTAL DEPTH)	± 5
SUBBASE	± 25
GRANULAR BORROW	± 25
SAND BORROW	± 25

$$\text{STRENGTH RF} = \frac{\phi M_N - 1.3M_{DL}}{A \times M_{LL+1}}$$

$$\text{*SERVICEABILITY RF} = B \left[\frac{.95F_y S_{LL+1} - M_{DL}\frac{S_{LL+1}}{S_{DL}} - M_{SDL}\frac{S_{LL+1}}{S_{DL}}}{1.67\ M_{LL+1}}\right]$$

LOAD RATING (METRIC TONS)

STRESS LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A STR	4A STR	5A SEMI
INVENTORY A=2.17, B=1.00	35	48	X	X	X	X	X
POSTED A=1.55, B=1.40	49	68	X	94	62	64	73
OPERATING A=1.30, B=1.67	X	81	95	112	X	X	X

TYPICAL SECTION BRIDGE

30 BIT. CONC. PAV. TYPE IV – 1st LIFT
40 BIT. CONC. PAV. TYPE III – 2nd LIFT

SEEDING FORMULA RURAL AREAS

% WT.	KG/HA	NAME	PURITY %	GERM %
37.1	26	CREEPING RED FESCUE	98	85
37.1	26	TALL FESCUE	95	90
5.7	4	RED TOP	95	90
14.4	10	BIRDSFOOT TREFOIL	98	85
5.7	4	ANNUAL RYE GRASS	95	85
100.0	70			

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.

SEED TO BE APPLIED PER SEEDING FORMULA OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10–20–10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 KG/HA. (HYDRO SEEDERS MAY USE 19–19–19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 KG/HA, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 KG/HA OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.0679 L/m² BETWEEN SUCCESSIVE COURSES OF PAVEMENT AT THE DISCRETION OF THE ENGINEER.

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
4. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

FINAL HYDRAULICS REPORT

Metric

HYDROLOGIC DATA

DRAINAGE AREA= 92.720 sq km
CHARACTER OF TERRAIN: RURAL, MOUNTAINOUS
CHARACTER & TYPE OF STREAM: RURAL, HIGH ENERGY

NATURE OF STREAMBED: 2.0% GRADIENT, COBBLE BED

Q2.33= 33.7 cms Q50= 128.3 cms
Q10= 74.2 cms Q100= 156.9 cms
Q25= 99.8 cms Q500=

DATE OF FLOOD OF RECORD: NOVEMBER 1927
WATER SURFACE ELEV.: NOT AVAILABLE ESTIMATED DISCHARGE: NOT AVAILABLE
NATURAL STREAM VELOCITY @ Q 25 3.4 m/s
ICE CONDITIONS: MODERATE DEBRIS: LIGHT
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? YES
IS ORDINARY RISE RAPID? YES
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO
IF YES, DESCRIBE.

WATERSHED STORAGE YES HEADWATERS UNIFORM THROUGHOUT WATERSHED X
IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: STEEL PONY TRUSS W/ CONCRETE DECK BRIDGE YEAR BUILT: 1929
CLEAR SPAN (NORMAL TO STREAM): 22 800
VERTICAL CLEARANCE ABOVE STREAMBED: VARIES 3200 MIN. TO 3600 MAX.
WATERWAY OF FULL OPENING: 73.000 sq m
DISPOSITION OF STRUCTURE: TO BE REMOVED AND DISPOSED OF

TYPE OF MATERIAL UNDER SUBSTRUCTURE: DENSE GRANULAR WITH BOULDERS

WATER SURFACE ELEV. @ Q2.33= 172.3 VELOCITY= 2.3 m/s
Q10= 172.6 " 3.2 m/s
Q25= 172.9 " 3.5 m/s
Q50= 173.1 " 3.8 m/s
Q100= 173.3 " 4.1 m/s

LONG TERM STREAM BED CHANGES: AGGRADATION AND DEPOSITION OF MATERIAL WITHIN THE UPSTREAM APPROACH

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

UPSTREAM STRUCTURE: TOWN: CLARENDON DISTANCE: 700 000
HIGHWAY NO.: US 7 STRUCTURE NO.: 96
STRUCTURE TYPE: SINGLE SPAN PLATE GIRDER
CLEAR SPAN: 37 500 CLEAR HEIGHT: 3 100
YEAR BUILT: 1968 FULL WATERWAY: 100.3 sq m

DOWNSTREAM STRUCTURE: TOWN: CLARENDON DISTANCE: 255 000
HIGHWAY NO.: VERMONT RAILWAY STRUCTURE NO.: N/A
STRUCTURE TYPE: RAILROAD PLATE GIRDER
CLEAR SPAN: 33 200 CLEAR HEIGHT: 3 000
YEAR BUILT: N/A FULL WATERWAY: 100.0 sq m

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN, NEW STEEL BEAMS WITH COMPOSITE CONCRETE DECK

CLEAR SPAN (NORMAL TO STREAM): 23 600
VERTICAL CLEARANCE ABOVE STREAMBED: VARIES 3 200 MIN. TO 3 600 MAX.
WATERWAY OF FULL OPENING: 78.0 sq m

WATER SURFACE ELEV. @ Q2.33= 172.3 VELOCITY= 2.4 m/s
Q10= 172.7 " = 3.1 m/s
Q25= 172.9 " = 3.5 m/s
Q50= 173.1 " = 3.8 m/s
Q100= 173.3 " = 4.0 m/s

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 174.498
VERTICAL CLEARANCE @ Q100 1181

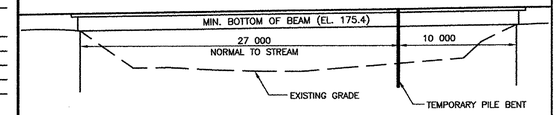
SCOUR: 1.0 m CONTRACTION SCOUR
REQUIRED CHANNEL PROTECTION: YES – TYPE III STONEFILL ON STREAM BED

PERMIT INFORMATION

AVERAGE DAILY FLOW: 2.1 cms DEPTH : 0.45
ORDINARY LOW WATER: 1.0 cms DEPTH : 0.34
ORDINARY HIGH WATER: 14.5 cms DEPTH : 0.92

ADDITIONAL COMMENTS

THERE IS EVIDENCE OF SCOUR ALONG THE LEFT DOWNSTREAM ABUTMENT



TEMPORARY BRIDGE
NOT TO SCALE

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 25 400 ℄ BRG TO ℄ BRG (MEASURED ALONG CENTERLINE OF ROAD)
   DESIGN SPAN 25 392 ℄ BRG TO ℄ BRG (MEASURED ALONG MAJOR CHORD)
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 478 kPa ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270M / M270 GRADE 345W
6. REINFORCING STEEL GRADE 420 160 MPa
7. CONCRETE HIGH PERFORMANCE CLASS A f'_c 30 MPa
   HIGH PERFORMANCE CLASS B f'_c 25 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED NO
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): 27 000 VERTICAL CLEARANCE ABOVE STREAMBED: 3.4 m
   WATERWAY OF FULL OPENING: 103 sq m
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A
   STRUCTURE TYPE: TWO SPAN BRIDGE

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT JEFFREY W. HUNT No. 5808 REGISTERED PROFESSIONAL ENGINEER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
TOWN HIGHWAY NO. 1	Log Sta.
	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

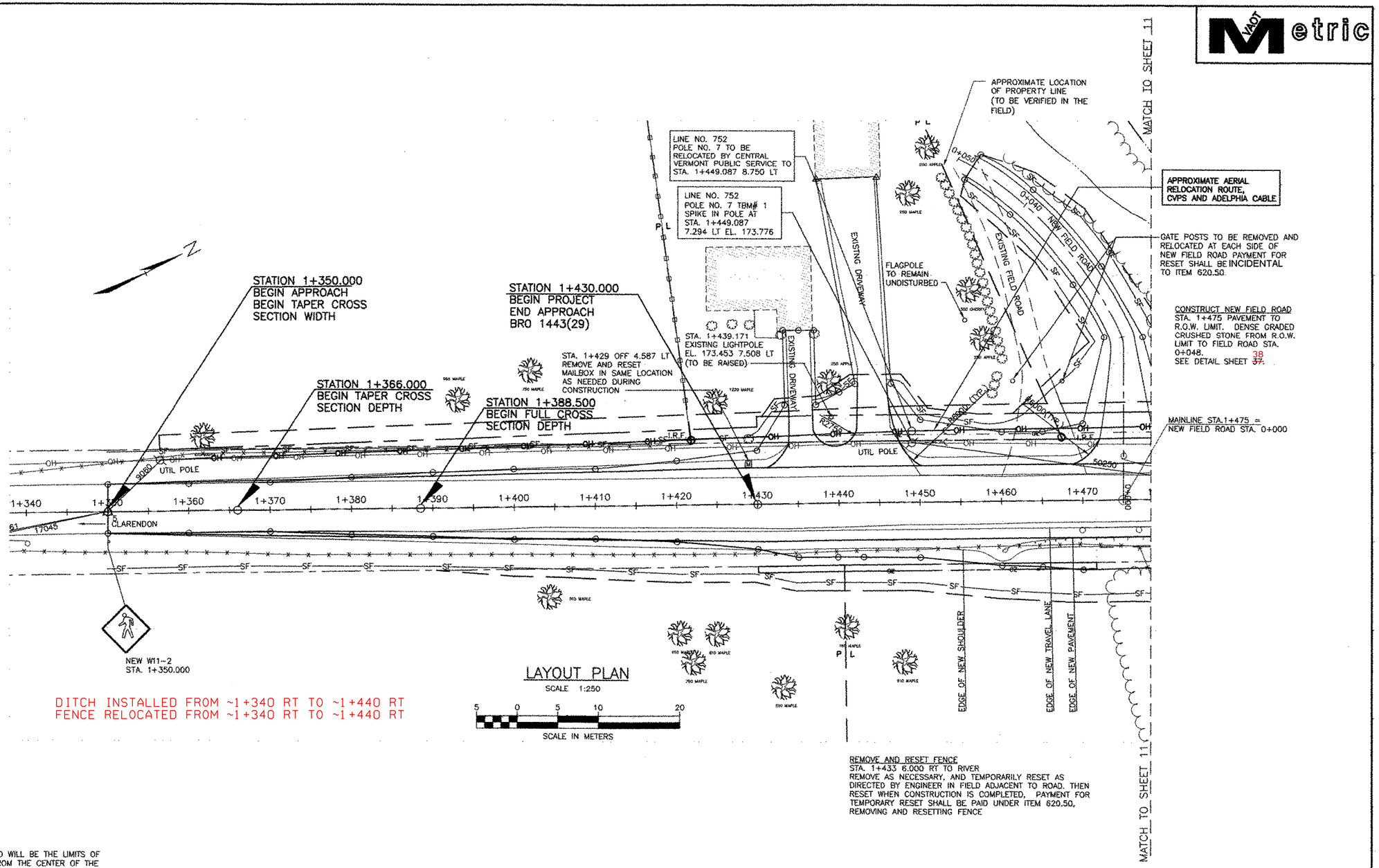
PRELIMINARY INFORMATION SHEET

Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 3A OF 41

LEGEND

- DECIDUOUS TREE
- CONIFEROUS TREE
- STUMP
- EXISTING TREE LINE
- NEW TREE LINE
- EDGE OF NEW PAVEMENT
- OVERHEAD LINE
- EXISTING GRAVEL ROAD
- PROPOSED GRAVEL ROAD
- SURVEY CONTROL LOCATION
- BUILDINGS
- UTILITY POLE
- GUY WIRE
- MAIL BOX
- STONE WALL
- R.O.W.
- GUARD RAIL
- EDGE OF RIVER
- CLEAR ZONE
- TEMPORARY BRIDGE CONSTRUCTION LIMITS

VAOT Metric



DITCH INSTALLED FROM ~1+340 RT TO ~1+440 RT
FENCE RELOCATED FROM ~1+340 RT TO ~1+440 RT

LAYOUT PLAN
SCALE 1:250

5 0 5 10 20
SCALE IN METERS

REMOVE AND RESET FENCE
STA. 1+433 6.000 RT TO RIVER
REMOVE AS NECESSARY, AND TEMPORARILY RESET AS DIRECTED BY ENGINEER IN FIELD ADJACENT TO ROAD. THEN RESET WHEN CONSTRUCTION IS COMPLETED, PAYMENT FOR TEMPORARY RESET SHALL BE PAID UNDER ITEM 620.50, REMOVING AND RESETTING FENCE

NOTES:

1. THE TOE OF SLOPE, UNLESS OTHERWISE NOTED WILL BE THE LIMITS OF CONSTRUCTION. ALL WORK MUST BE DONE FROM THE CENTER OF THE ROAD SO AS TO MINIMIZE THE IMPACT ON PROPERTY OWNERS.
2. ALL TREES OUTSIDE THE LIMITS OF CONSTRUCTION ARE TO REMAIN UNTOUCHED. ALL OTHER TREES ARE AS NOTED.
3. A MINIMUM RADIUS DRIVEWAY WILL BE CONSTRUCTED AS NOTED ON THE PLANS AT THE ENTRANCE OF EACH AFFECTED DRIVEWAY AND FIELD ROAD.
4. TEMPORARY BENCHMARKS BASED OFF U.S.G.S. DISC J-16.
5. DRIVE AT STATION 1+435.250 LT SHALL BE OVERLAYED WITH 40 MM OF BITUMINOUS CONCRETE PAVEMENT, TYPE III, TO THE LIMITS AS SHOWN.
6. DRIVE AT STATION 1+444.900 LT SHALL HAVE THE EXISTING BITUMINOUS CONCRETE PAVEMENT REMOVED UNDER THE ITEM COMMON EXCAVATION AND REPAVED WITH 50 MM OF BITUMINOUS CONCRETE PAVEMENT, TYPE III, TO THE LIMITS AS SHOWN.

UTILITY RELOCATION PLAN:

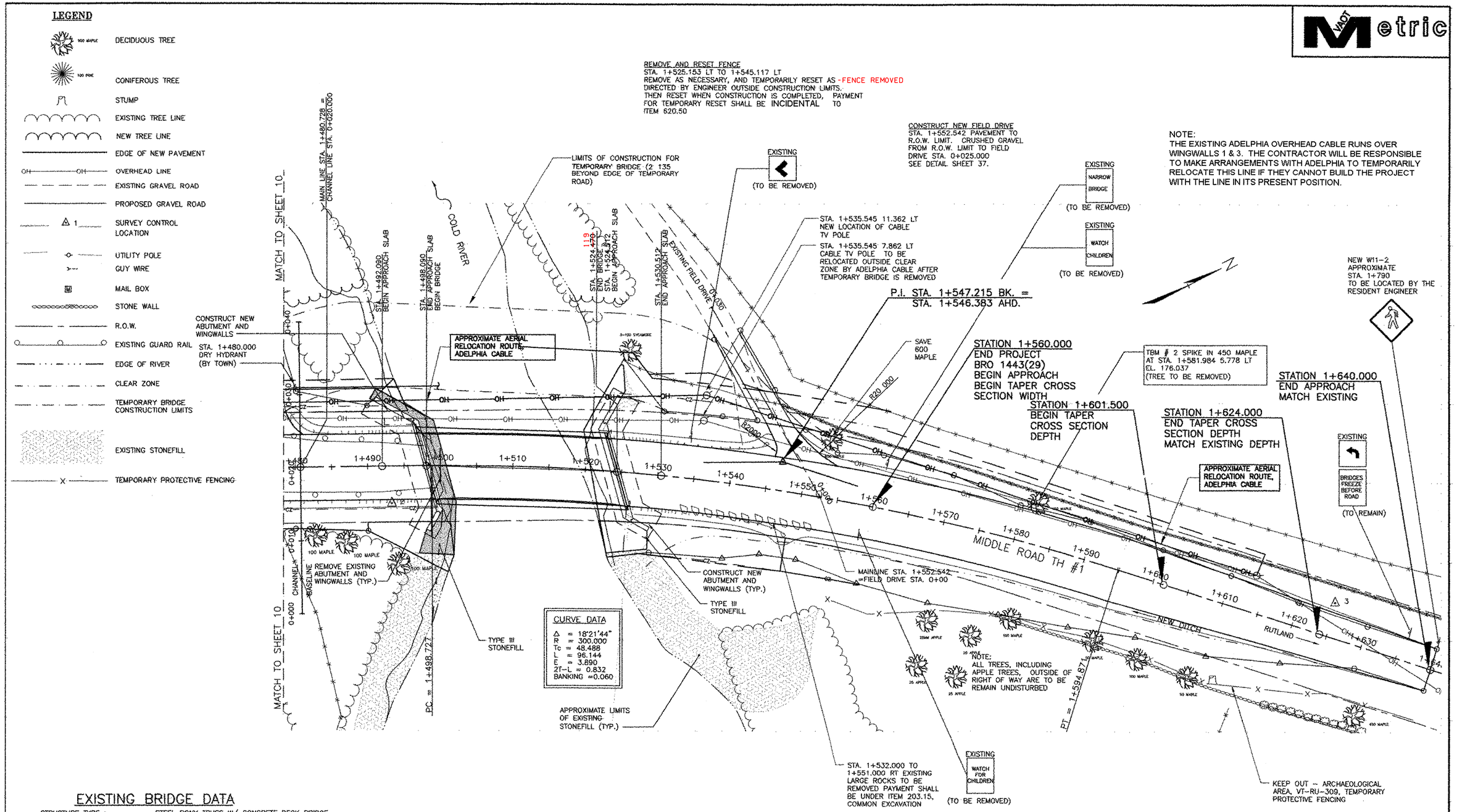
1. EXISTING UTILITY POLE NO. 752 STA. 1+449.087 7.294 LT TO BE RELOCATED OUTSIDE THE CLEAR ZONE TO STA. 1+449.087 8.750 LT BY CENTRAL VERMONT PUBLIC SERVICE.
2. EXISTING CABLE TV POLE STA. 1++535.545 7.862 LT TO BE RELOCATED OUTSIDE THE CLEAR ZONE BY ADELPHIA CABLE AFTER THE TEMPORARY ROAD IS REMOVED.

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
LAYOUT SHEET	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 10 OF 41



EXISTING BRIDGE DATA

STRUCTURE TYPE : STEEL PONY TRUSS W/ CONCRETE DECK BRIDGE
CLEAR SPAN: 22.8 m
DISPOSITION OF STRUCTURE: TO BE REMOVED AND DISPOSED OF

REMOVE AND RESET FENCE
STA. 1+433.000 to STA. 1+477.000 RT
STA. 1+525.153 to STA. 1+545.117 LT

RELOCATE MAILBOX SINGLE SUPPORT
STA. 1+429.000 LT

CONSTRUCT DRIVES
STA. 1+435.250 LT
STA. 1+444.900 LT
STA. 1+475.000 LT
STA. 1+552.542 LT

CONSTRUCT DITCH
STA. 1+528.000 to STA. 1+625.000 RT

BRIDGE RAILING
STA. 1+494.173 to STA. 1+525.725 LT
STA. 1+498.457 to STA. 1+529.074 RT

GUARDRAIL APPROACH SECTION, NETC 2 RAIL
STA. 1+486.553 to STA. 1+494.173 LT
STA. 1+488.837 to STA. 1+496.457 RT
STA. 1+525.725 to STA. 1+533.345 LT
STA. 1+529.074 to STA. 1+536.694 RT

MODIFIED ECCENTRIC LOAD TERMINAL
STA. 1+533.345 to STA. 1+544.745 LT
STA. 1+460.268 to STA. 1+471.668 RT
STA. 1+536.694 to STA. 1+548.094 RT

HEAVY DUTY STEEL BEAM GUARDRAIL
STA. 1+471.668 to STA. 1+488.837 RT
STA. 1+479.614 to STA. 1+486.553 LT

ANCHOR FOR GUARDRAIL
STA. 1+480.883 LT

LAYOUT PLAN

SCALE 1:250

5 0 5 10 20
SCALE IN METERS

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CLARENDON, VERMONT	Bridge No. 14
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TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

LAYOUT SHEET

Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 11 OF 41

VAOT Metric

HIGH POINT ELEV = 176.094
HIGH POINT STA = 1+524.763
PVI STA = 1+495
PVI ELEV = 176.369
A.D. = -4.750
K = 18
87.000m VC

END APPROACH SLAB
STA 1+498.048
F.G. ELEV. =175.899

LOW POINT ELEV = 175.953
LOW POINT STA = 1+557.465
PVI STA = 1+572
PVI ELEV = 175.791
A.D. = 3.061
K = 19
57.000m VC

STA 1+492.048
BEGIN APPROACH SLAB

STA 1+498.090
BEGIN BRIDGE
END APPROACH SLAB
FINISH EL. 175.900

STA 1+524.478
END BRIDGE
BEGIN APPROACH SLAB
STA 1+524.760
FINISH EL. 176.044

STA 1+530.61
END APPROACH SLAB

EVCS: 1+538.500
EVCE: 176.042

BVCS: 1+543.500
BVCE: 176.005

STATION 1+560.000
END PROJECT
BRO 1443(29)
BEGIN APPROACH
BEGIN TAPER
CROSS SECTION WIDTH

EVCS: 1+600.500
EVCE: 176.450

STA.1+640.000
END APPROACH
MATCH EXISTING

-0.7500%

2.422%

APPROACH SLAB (TYP.)

ABUTMENT NO. 1

ABUTMENT NO. 2

EXISTING GRADE AT CENTERLINE

~~NEW LOW CHORD EL. 174.551~~

STA.1+601.500
BEGIN TAPER
CROSS SECTION
DEPTH

STA.1+624.000
END TAPER CROSS
SECTION DEPTH
MATCH EXISTING DEPTH

EXISTING WATERWAY OPENING
MEASURED ALONG SKEW 22.800

NEW WATERWAY OPENING
MEASURED ALONG ROADWAY 24.764

STONE FILL, TYPE III

BOTTOM OF FOOTING
ELEV. 169.8

GEOTEXTILE UNDER
STONEFILL (TYP.)

BOTTOM OF FOOTING
ELEV. 169.8

MATCH LINE — ELEVATION NGVD — 180 / 178 / 176 / 174 / 172 / 170

1+460	1+480	1+500	1+520	1+540	1+560	1+580	1+600	1+620	1+640
174.15 / 174.949	174.64 / 175.275	175.12 / 175.547	175.54 / 175.764	171.30 / 175.927	171.11 / 176.034	171.17 / 176.088	175.76 / 176.086	175.66 / 176.031	175.67 / 175.967	175.74 / 175.954	175.88 / 175.995	176.00 / 176.089	176.18 / 176.237	176.38 / 176.438	176.62 / 176.680	176.82 / 176.922	177.26 / 177.256	177.61 / 177.609	177.93

EXISTING — NEW

PVI STA = 1+414.500
PVI ELEV = 173.149
A.D. = 3.468
K = 18
64.000m VC

BVCS: 1+382.500
BVCE: 172.978

STATION 1+350.000
BEGIN APPROACH
BEGIN TAPER CROSS
SECTION WIDTH

0.5320%

NEW GRADE
GRADE AT
CENTERLINE

STATION 1+430.000
BEGIN PROJECT
BRO 1443(29)

EVCS: 1+446.500
EVCE: 174.429

BVCS: 1+451.500
BVCE: 174.629

4.0000%

EXISTING GRADE AT CENTERLINE

STATION 1+366.000
BEGIN TAPER
CROSS SECTION DEPTH

STATION 1+388.500
BEGIN FULL CROSS
SECTION DEPTH

MATCH LINE — ELEVATION NGVD — 178 / 176 / 174 / 172 / 170

1+360	1+380	1+400	1+420	1+440	1+460
172.96 / 172.964	172.93 / 172.928	172.91 / 172.912	172.90 / 172.965	172.90 / 173.033	172.97 / 173.154	173.08 / 173.330	173.21 / 173.559	173.33 / 173.842	173.48 / 174.160	173.71 / 174.569	174.15 / 174.949

PROFILE SHEET
SCALE HORIZ. 1:250
VERT. 1:50

VERTICAL: 0, 1, 2
HORIZONTAL: 0, 5, 10
SCALE IN METERS

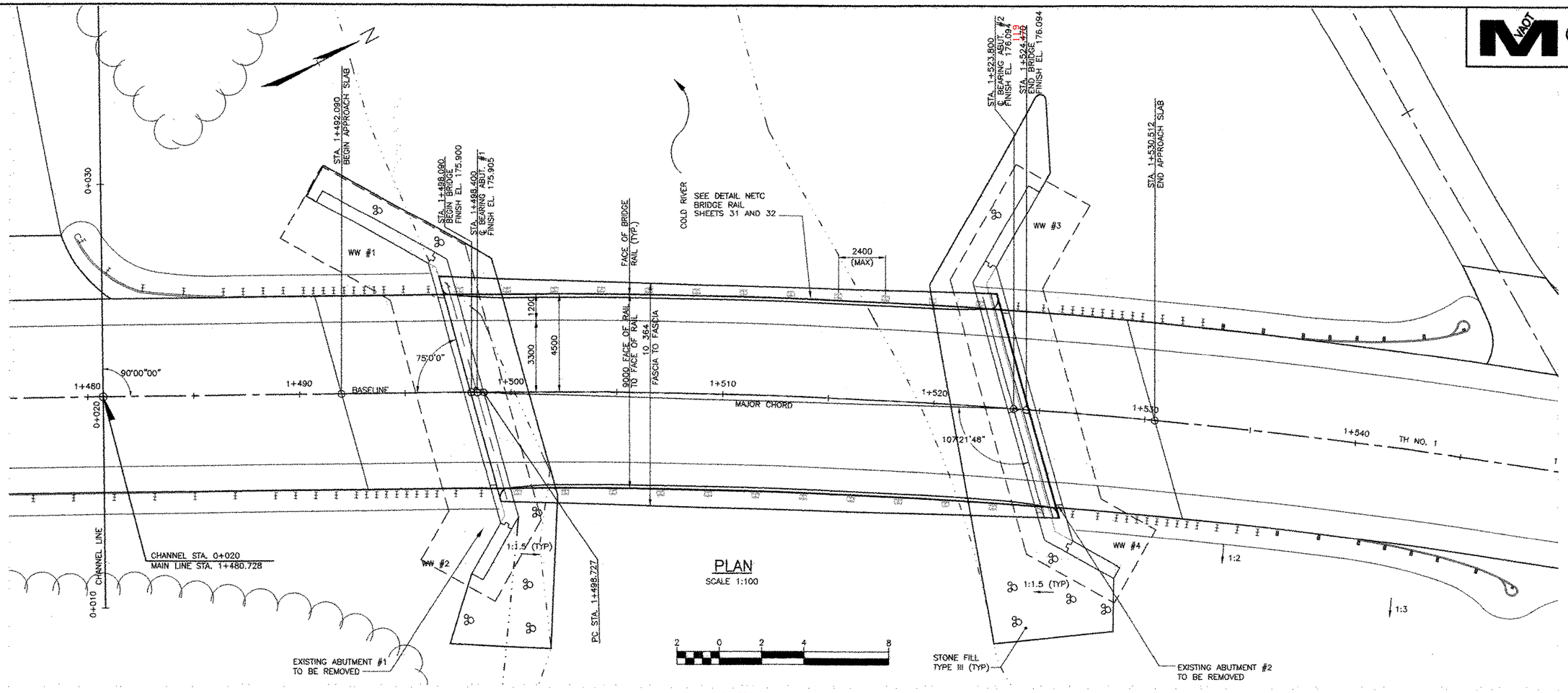
REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

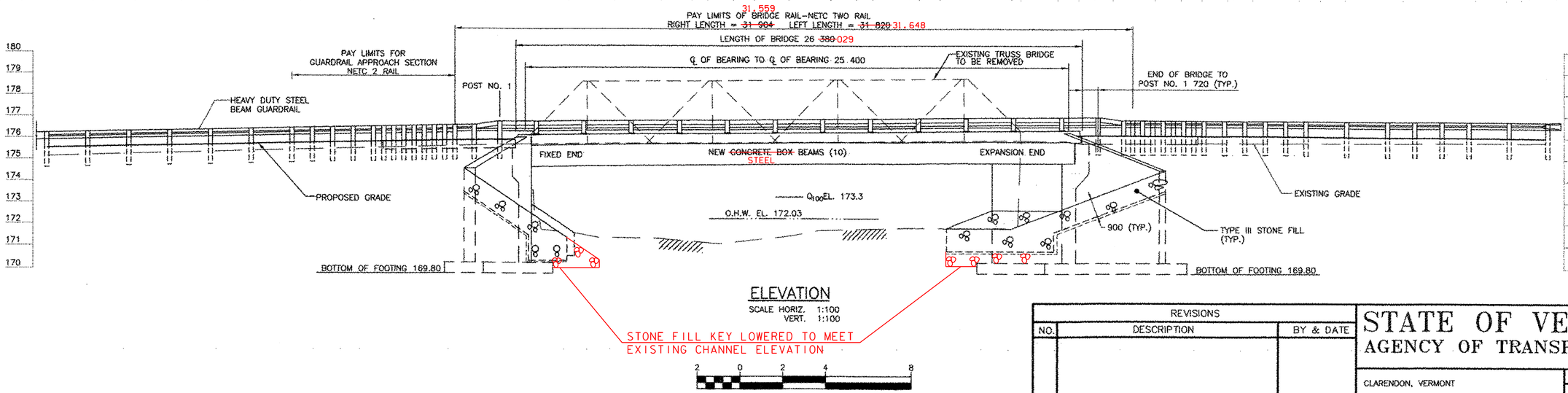
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
PROFILE SHEET	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 12 OF 41

VAOT Metric



PLAN
SCALE 1:100

2 0 2 4 8



ELEVATION
SCALE HORIZ. 1:100
VERT. 1:100

2 0 2 4 8

REVISIONS		
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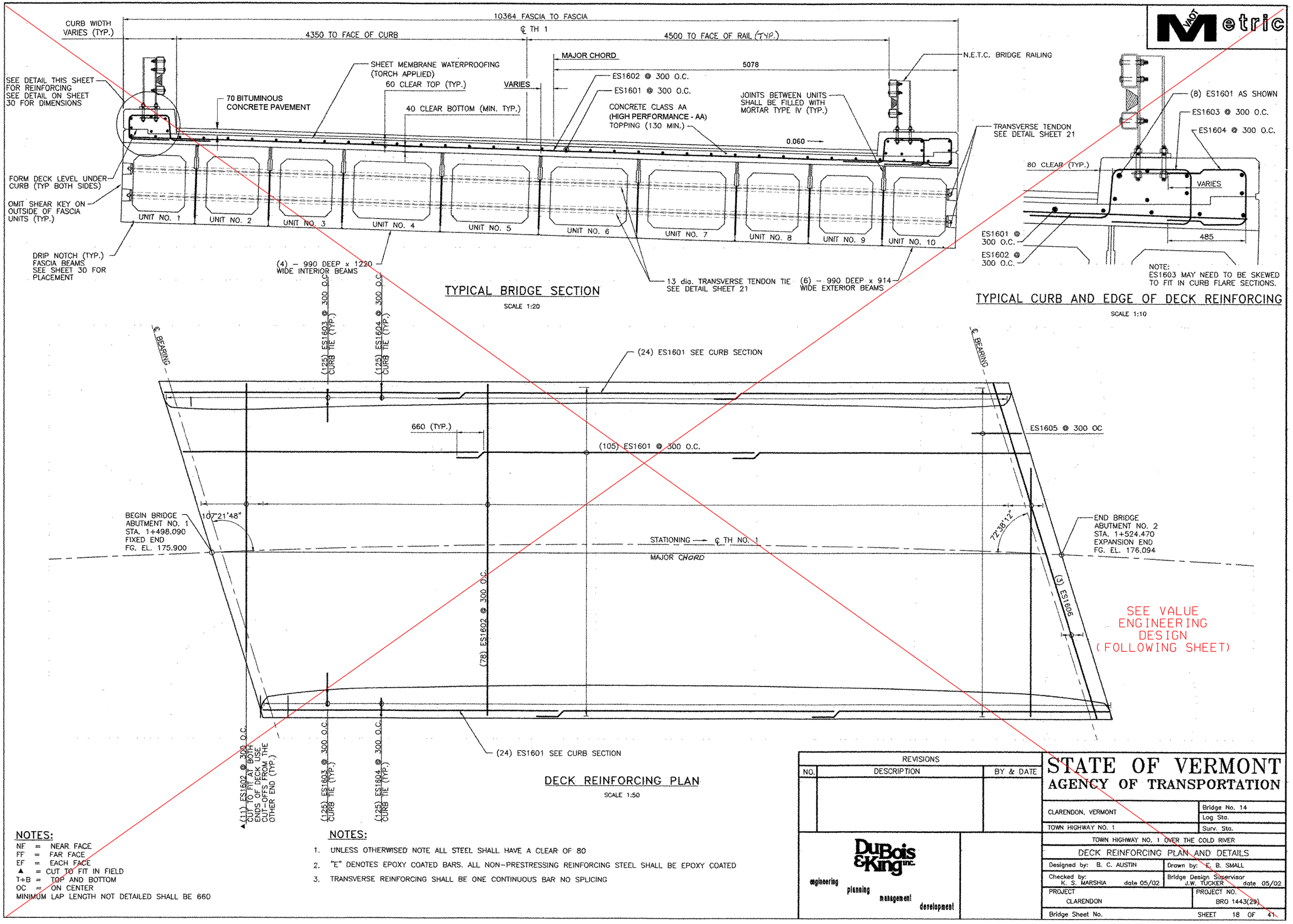
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
PLAN AND ELEVATION SHEET	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 15 of 41

VAOT Metric



TYPICAL BRIDGE SECTION

SCALE 1:20

TYPICAL CURB AND EDGE OF DECK REINFORCING

SCALE 1:10

SEE VALUE ENGINEERING DESIGN (FOLLOWING SHEET)

DECK REINFORCING PLAN

SCALE 1:50

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

NOTES:

1. UNLESS OTHERWISED NOTE ALL STEEL SHALL HAVE A CLEAR OF 80
2. "E" DENOTES EPOXY COATED BARS. ALL NON-PRESTRESSING REINFORCING STEEL SHALL BE EPOXY COATED
3. TRANSVERSE REINFORCING SHALL BE ONE CONTINUOUS BAR NO SPLICING

REVISIONS		
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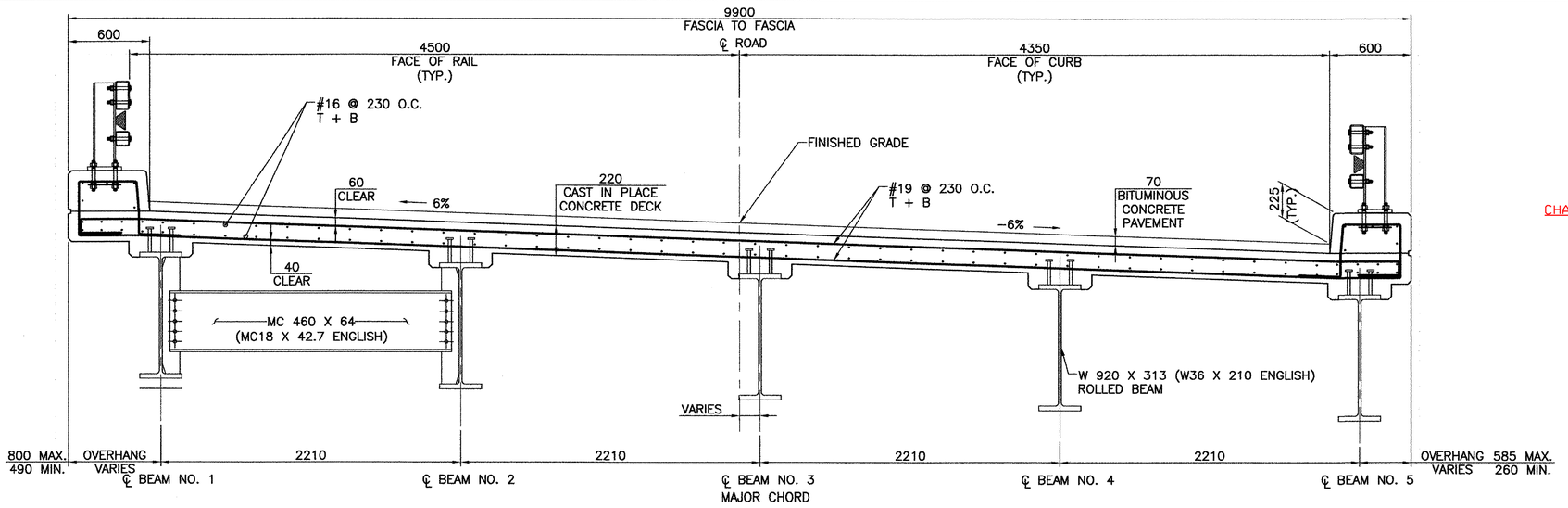
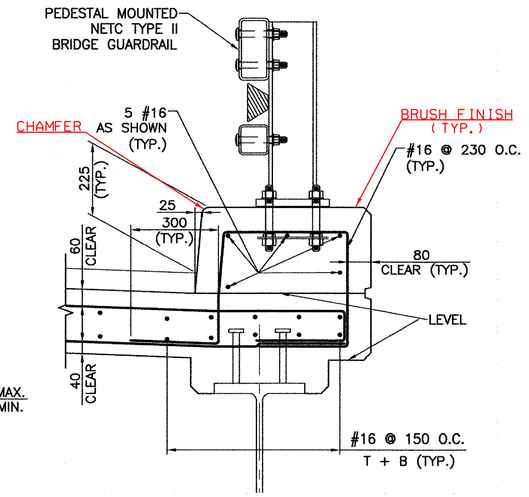
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
DECK REINFORCING PLAN AND DETAILS	
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 18 OF 41



TYPICAL BRIDGE SECTION

SCALE 1:20

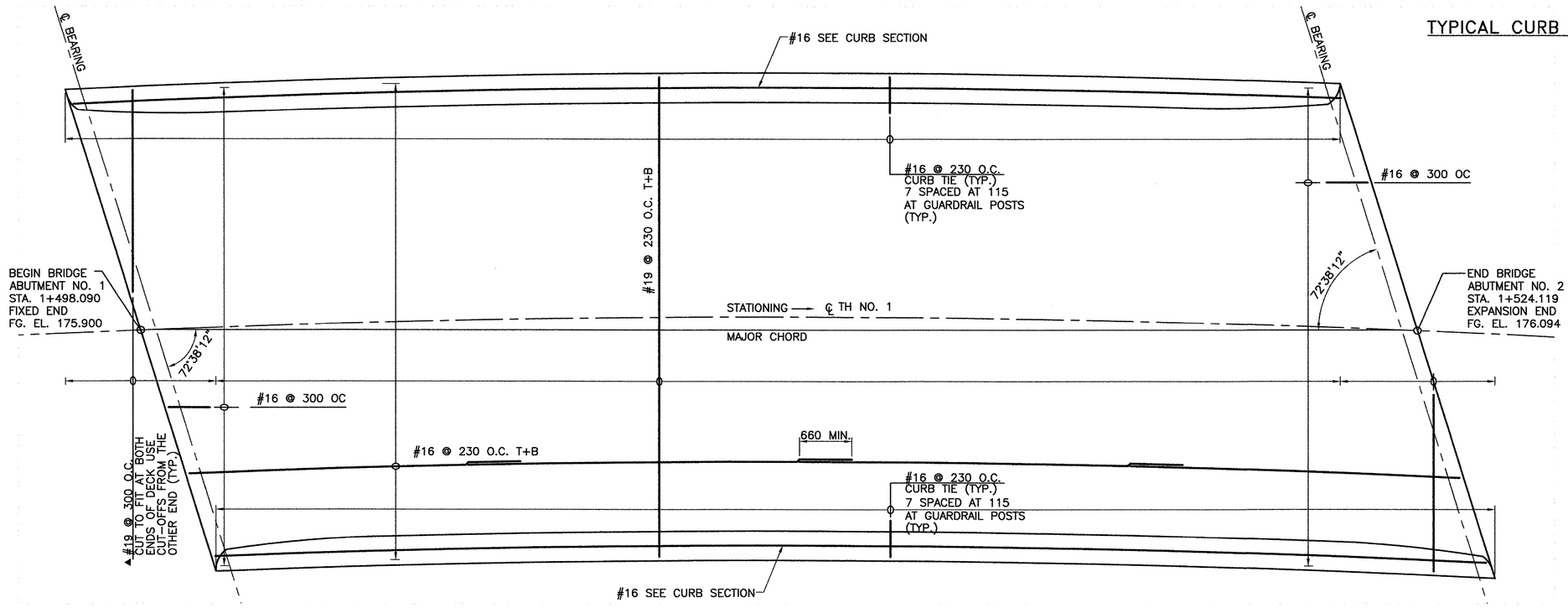


TYPICAL CURB AND EDGE OF DECK REINFORCING

SCALE 1:10

NOTE:

SEE SHEET 20A FOR SHEAR STUD AND HAUNCH DETAILS



DECK REINFORCING PLAN

SCALE 1:50

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

NOTES:

1. ALL REINFORCEMENT IN DECK AND CURTAIN WALLS SHALL BE EPOXY COATED.

2. CONTRACTOR SHALL VERIFY ALL REINFORCING STEEL LENGTHS AND DIMENSIONS PRIOR TO ORDERING REINFORCEMENT. THE CURRENT REINFORCING STEEL SCHEDULE IS NOT ACCURATE AND SHALL NOT BE USED AS THE BASIS FOR ORDERING REINFORCMENT.

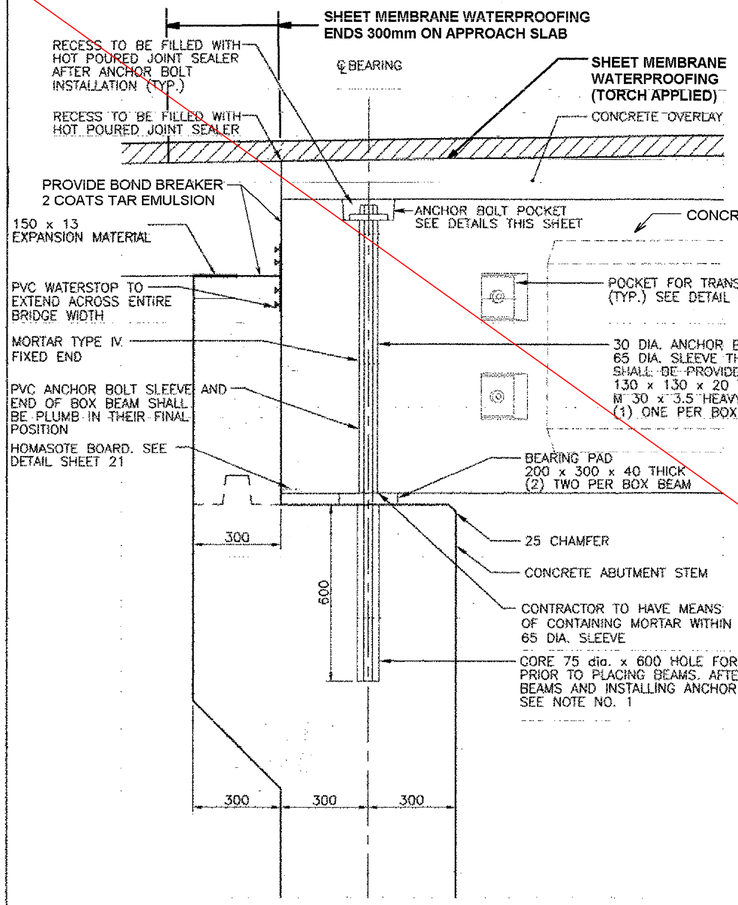
REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED PROFESSIONAL ENGINEER

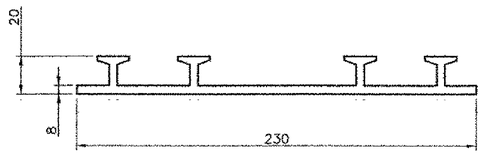
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
DECK REINFORCING PLAN AND DETAILS	
Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 18A OF 41

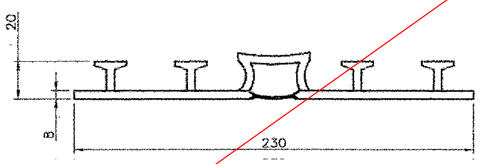


ABUTMENT NO. 1 END DETAIL

SCALE 1:10



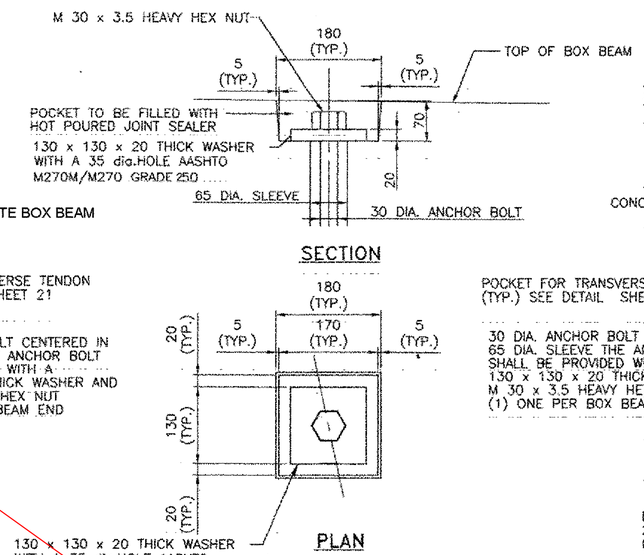
ABUTMENT NO. 1



ABUTMENT NO. 2

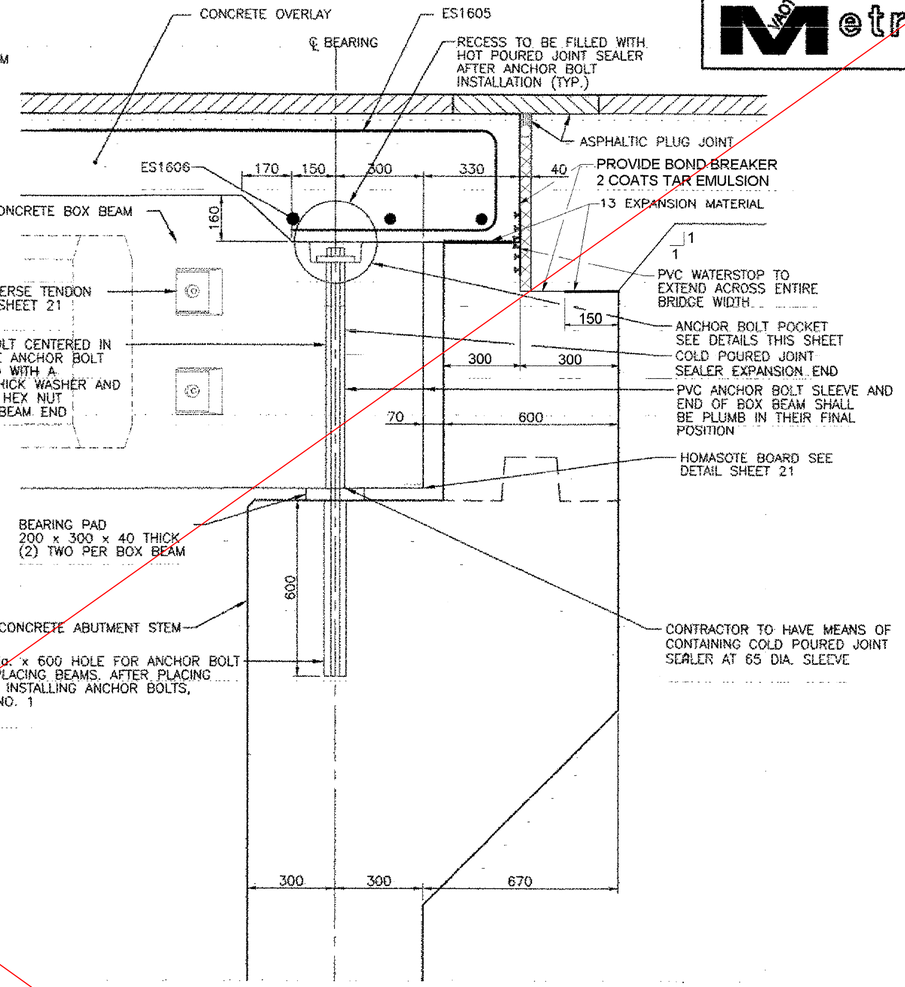
P. V. C. WATERSTOP FOR JOINT AT BACKWALL

THE COST FOR P. V. C. WATERSTOPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE ENGINEER.



ANCHOR BOLT POCKET

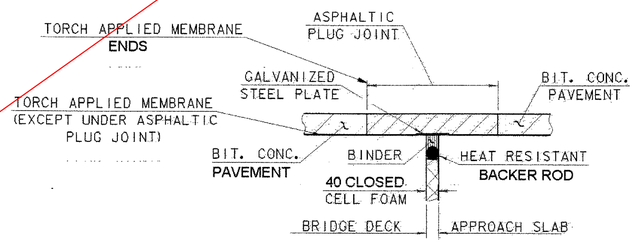
SCALE: 1:5



ABUTMENT NO. 2 END DETAIL

SCALE 1:10

SEE VALUE ENGINEERING DESIGN (FOLLOWING SHEET)



ASPHALTIC PLUG JOINT
DETAIL AT EXPANSION END

NOT TO SCALE

NOTE:

1. UPON APPROVAL THE CONTRACTOR SHALL DRILL AND THOROUGHLY CLEAN ALL HOLES. THE ANCHOR RODS SHALL BE SET USING A VAOT MATERIALS AND RESEARCH APPROVED EPOXY BASED ADHESIVE IN ACCORDANCE WITH SPECIFICATION SECTION 530 . APPLICATION OF THE ADHESIVE AND INSTALLATION OF THE ANCHOR RODS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER.
2. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO SECTION 714.07.
3. ALL COSTS TO SUPPLY AND INSTALL THE ANCHOR BOLTS, INCLUDING ALL ASSOCIATED DRILLING AND HARDWARE AND MATERIALS SHALL BE INCLUDED IN THE COSTS OF ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAM (990 X 914)" AND ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAM (990 X 1220)".

REVISIONS		
NO.	DESCRIPTION	BY & DATE

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engineering planning management development

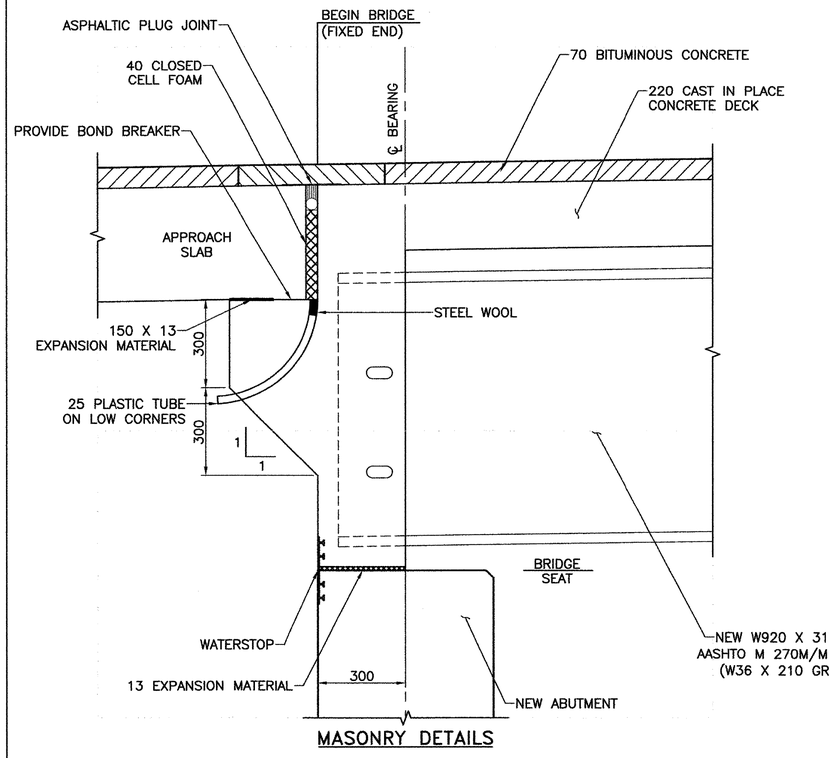
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

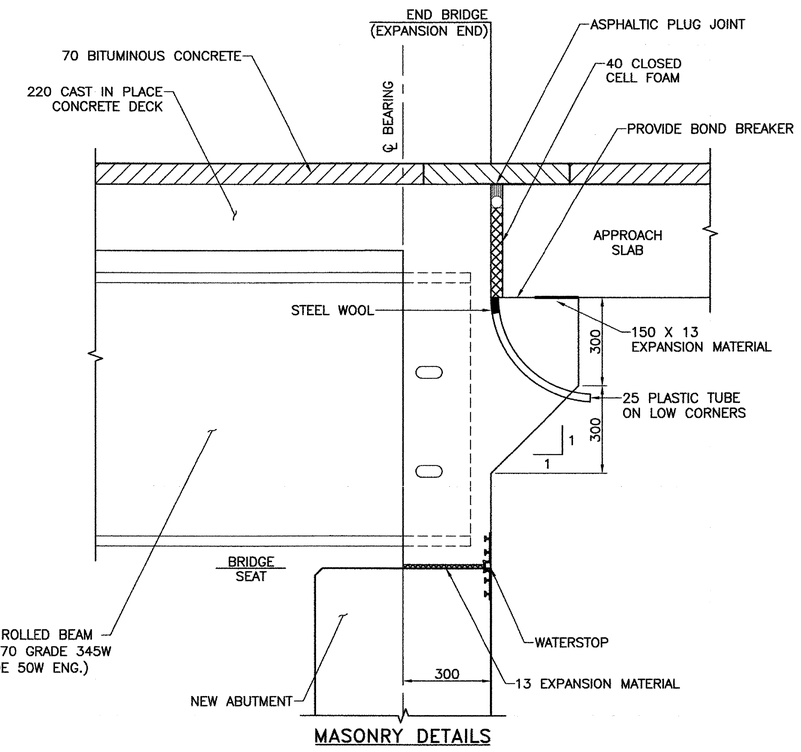
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

BRIDGE END DETAILS

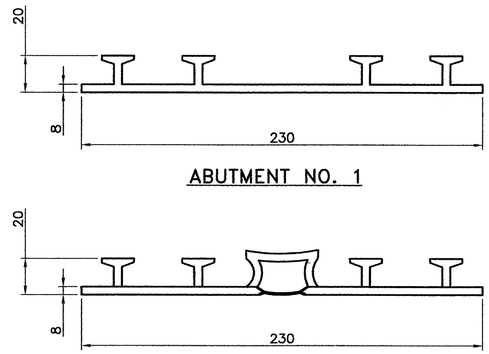
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 19 OF 41



MASONRY DETAILS



MASONRY DETAILS

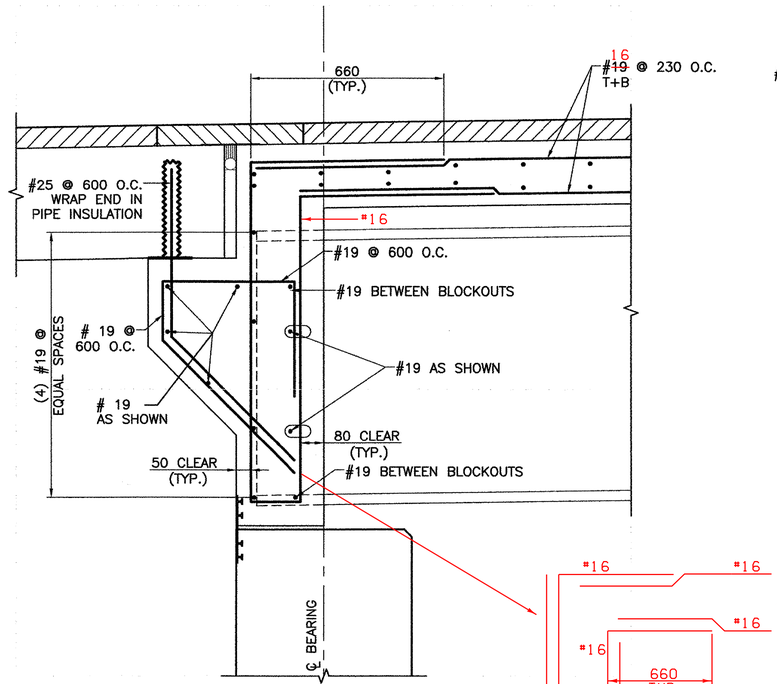


ABUTMENT NO. 1

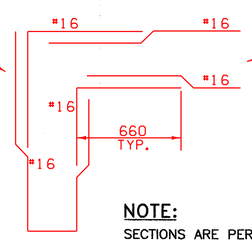
ABUTMENT NO. 2

P. V. C. WATERSTOP FOR JOINT AT BACKWALL

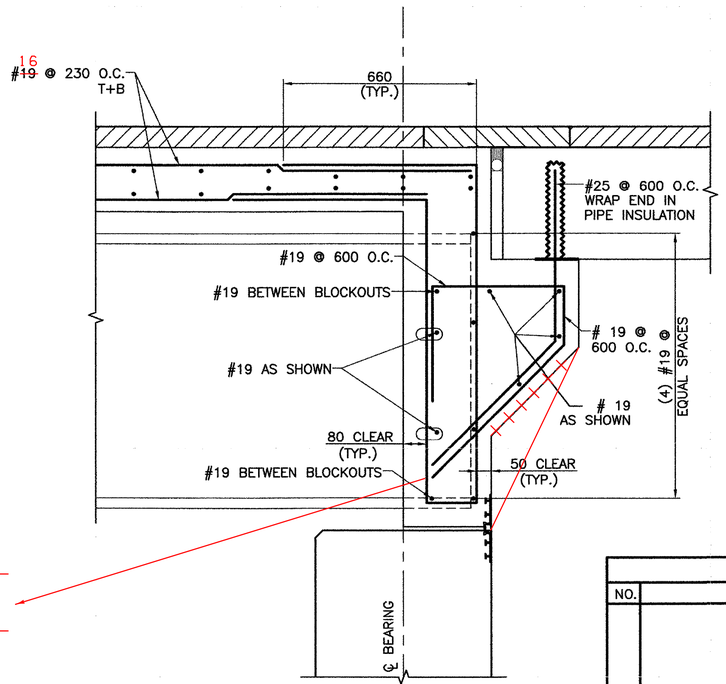
THE COST FOR P. V. C. WATERSTOPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE ENGINEER.



REINFORCING DETAILS



NOTE:
SECTIONS ARE PERDENDICULAR TO FACE OF ABUTMENT.

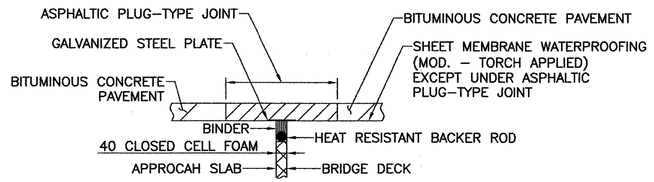


REINFORCING DETAILS

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

ABUTMENT NO. 1 DECK END DETAIL
(FIXED END)
SCALE: 1:10

ABUTMENT NO. 2 DECK END DETAIL
(EXPANSION END)
SCALE: 1:10



ASPHALTIC PLUG–TYPE
JOINT DETAIL
NTS

NOTE:

1. ALL REINFORCEMENT IN DECK AND CURTAIN WALLS SHALL BE EPOXY COATED.

2. CONTRACTOR SHALL VERIFY ALL REINFORCING STEEL LENGTHS AND DIMENSIONS PRIOR TO ORDERING REINFORCEMENT. THE CURRENT REINFORCING STEEL SCHEDULE IS NOT ACCURATE AND SHALL NOT BE USED AS THE BASIS FOR ORDERING REINFORCMENT.

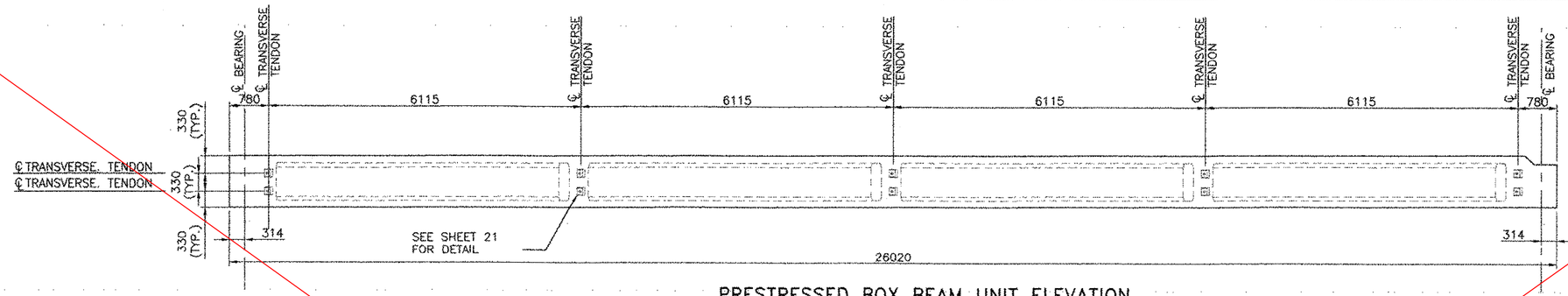
REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED
PROFESSIONAL ENGINEER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
BRIDGE END DETAILS	
Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 19A OF 41

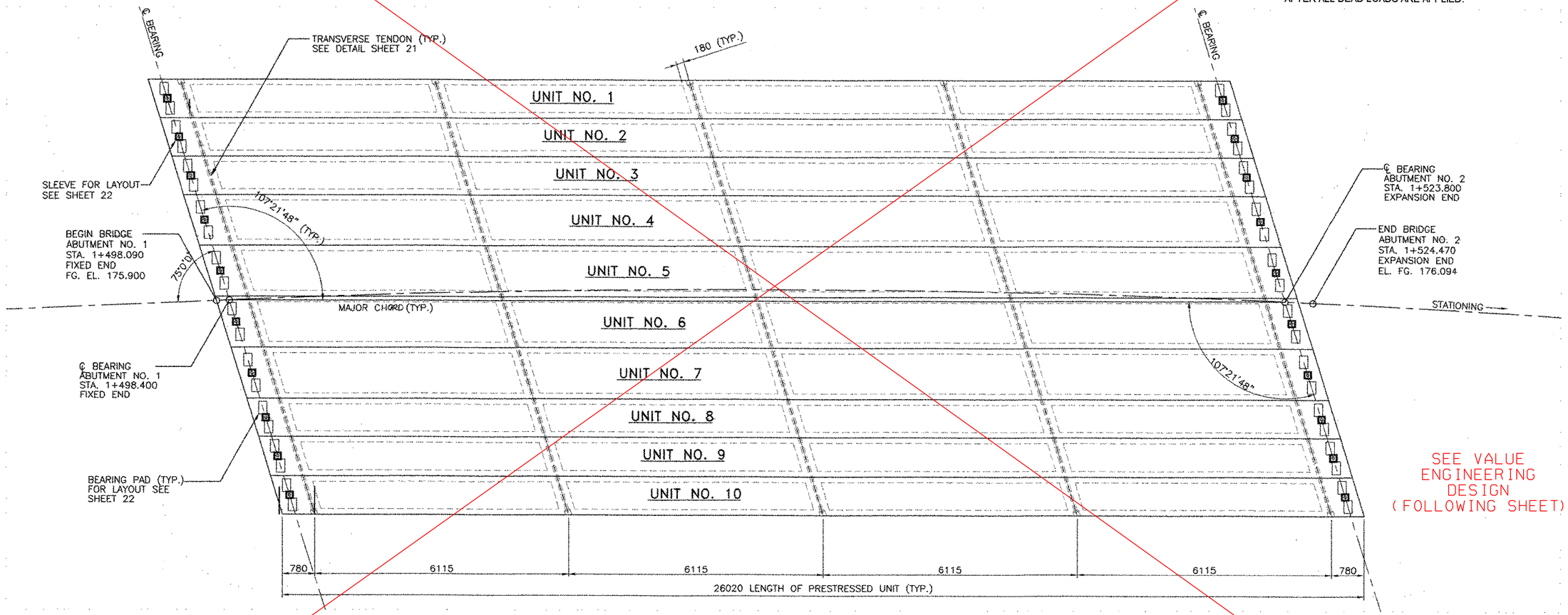


PRESTRESSED BOX BEAM UNIT ELEVATION

SCALE 1:50

NOTES:

1. BOX BEAMS SHALL HAVE POSITIVE CAMBER AFTER ALL DEAD LOADS ARE APPLIED.



SEE VALUE ENGINEERING DESIGN (FOLLOWING SHEET)

SERVICE LOADS PER UNIT (UNIT NO. 1, 2, 3, 8, 9 AND 10)		
MEMBER MOMENT, kNm (NON-COMPOSITE)	834	AT MIDSPAN
DECK MOMENT, kNm (NON-COMPOSITE)	361	AT MIDSPAN
SUPERIMPOSED DEAD LOAD MOMENT, kNm (COMPOSITE)	197	AT MIDSPAN
LIVE LOAD + IMPACT MOMENT, kNm (POSITIVE)	748	AT MIDSPAN
DEAD LOAD REACTION, kN AT ABUTMENTS	231	N/A
LIVE LOAD REACTION, kN AT ABUTMENTS	129	N/A
TOTAL REACTION , kN AT ABUTMENTS	360	N/A

SERVICE LOADS PER UNIT (UNIT NO. 4, 5, 6, AND 7)		
MEMBER MOMENT, kNm (NON-COMPOSITE)	995	AT MIDSPAN
DECK MOMENT, kNm (NON-COMPOSITE)	479	AT MIDSPAN
SUPERIMPOSED DEAD LOAD MOMENT, kNm (COMPOSITE)	233	AT MIDSPAN
LIVE LOAD + IMPACT MOMENT, kNm (POSITIVE)	748	AT MIDSPAN
DEAD LOAD REACTION, kN AT ABUTMENTS	276	N/A
LIVE LOAD REACTION, kN AT ABUTMENTS	129	N/A
TOTAL REACTION , kN AT ABUTMENTS	405	N/A

PRESTRESSED BOX BEAM UNIT PLAN

SCALE 1:50

NOTES:

1. UNIT NO. 1, 2, 3, 8, 9, AND 10 ARE 914 WIDE x 990 DEEP
2. UNIT NO. 4, 5, 6 AND 7 ARE 1220 WIDE x 990 DEEP
3. SEE SHEET 18 FOR MORE DETAIL AT ABUTMENTS
4. PROVIDE 20 dia. WEEP HOLE AT BOTH ENDS OF ALL VOIDS

REVISIONS		
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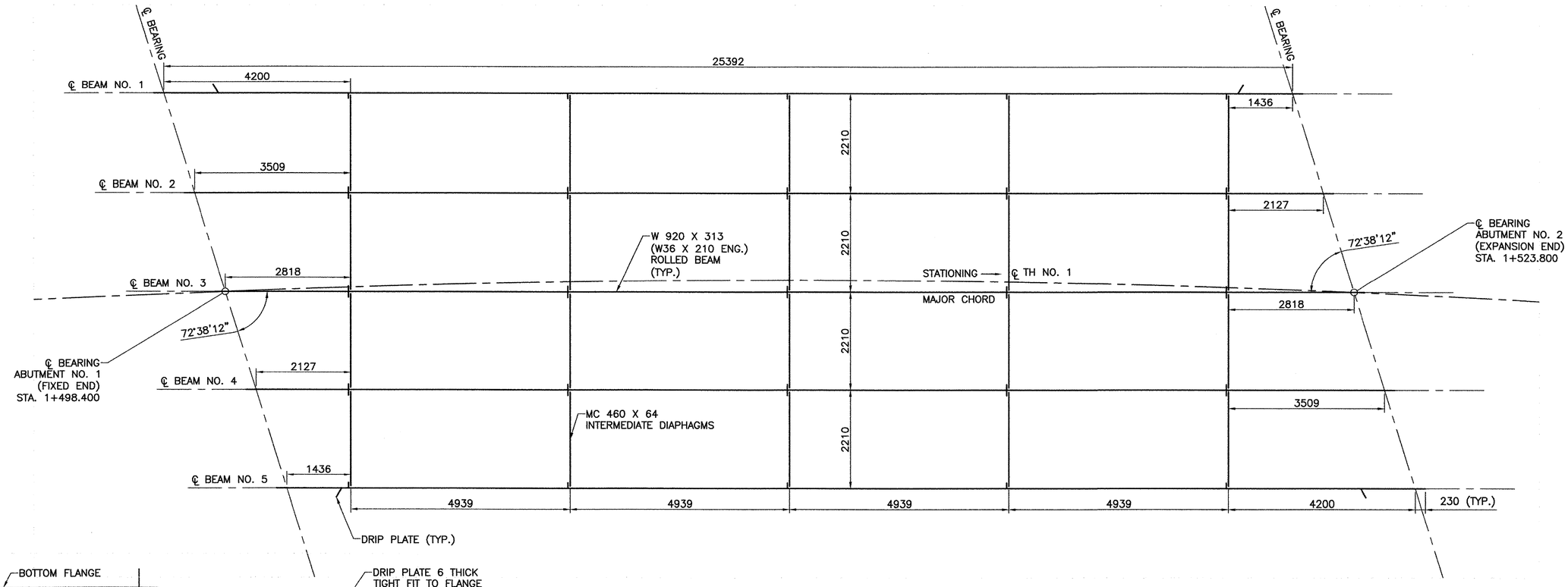
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

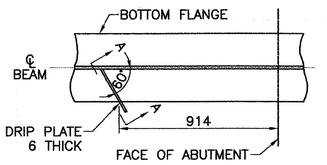
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
PRESTRESSED UNIT DETAILS	
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 20 OF 41

VAOT Metric



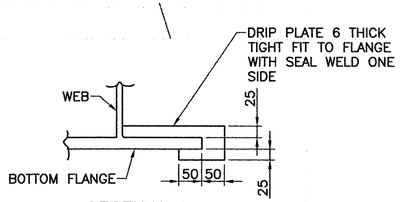
FRAMING PLAN

SCALE 1:50



PLAN DRIP PLATE

NTS

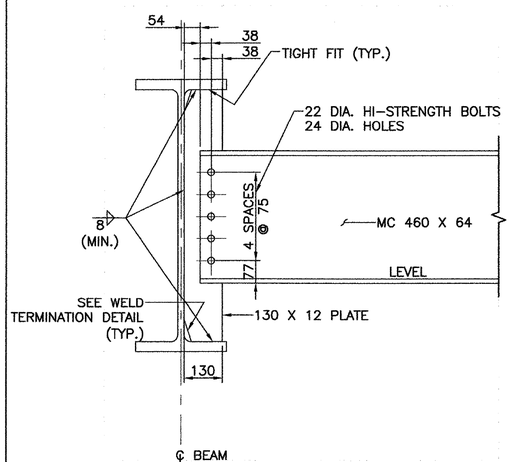


SECTION A–A

NTS

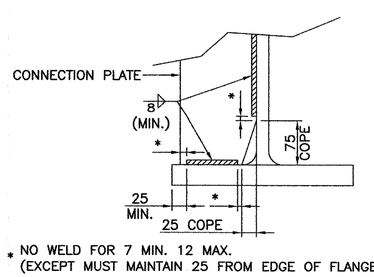
NOTE:

DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGES OF FASCIA CORNERS, AND ON THE HIGH SIDE OF ALL ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



INTERMEDIATE DIAPHRAGMS

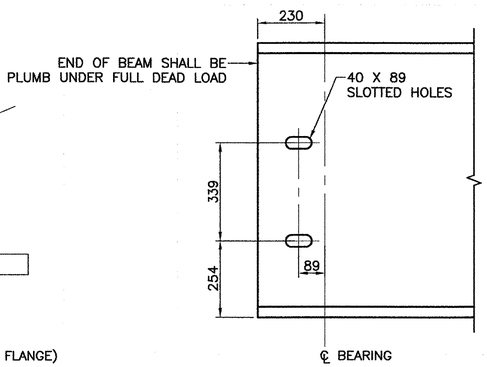
SCALE 1:10



* NO WELD FOR 7 MIN. 12 MAX.
(EXCEPT MUST MAINTAIN 25 FROM EDGE OF FLANGE)

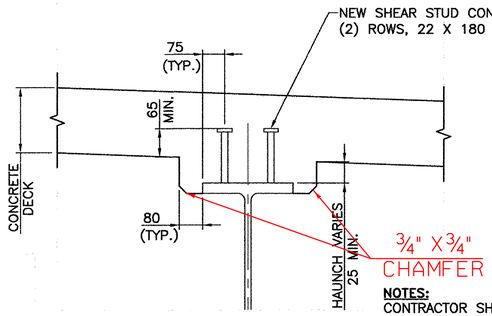
WELD TERMINATION AND COPING DETAILS FOR STEEL BEAMS

SCALE 1:5



ELEVATION – END OF BEAM

SCALE 1:10

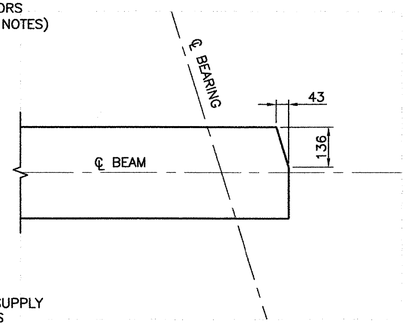


HAUNCH DETAIL

SCALE 1:10

NOTES:

CONTRACTOR SHALL SUPPLY LONGER SHEAR STUDS WHERE NEEDED TO COMPLY WITH MINIMUM EMBEDMENT OF 65 ABOVE THE BOTTOM OF THE DECK.



FLANGE CLIP

SCALE 1:10

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.

engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED PROFESSIONAL ENGINEER

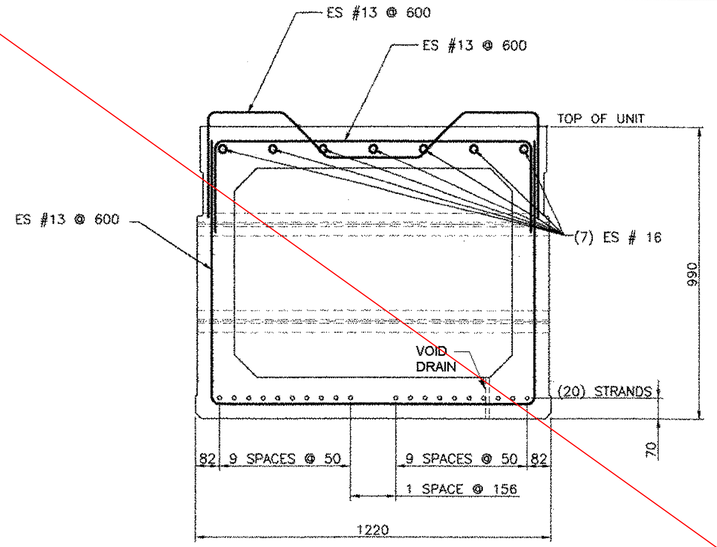
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

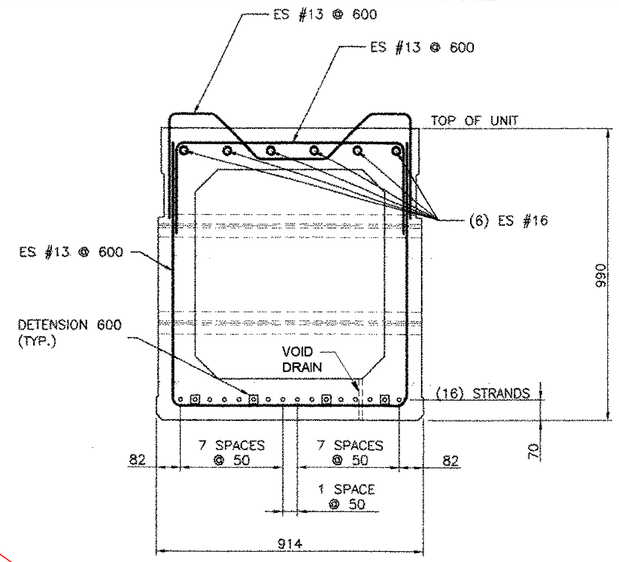
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

FRAMING PLAN AND STEEL DETAILS

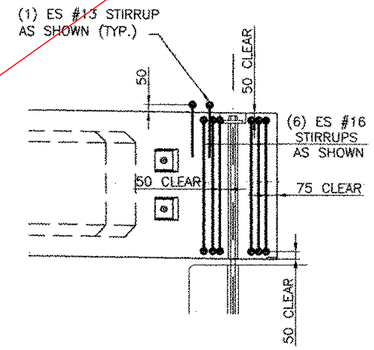
Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 20A OF 41



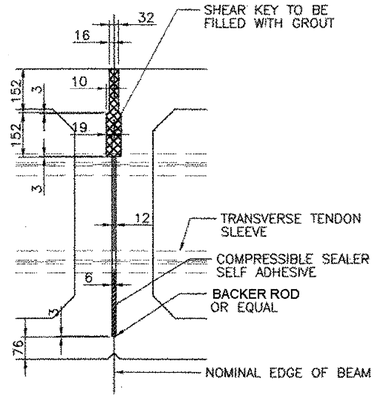
UNIT NO. 4, 5, 6 AND 7 SECTION
SCALE: 1 : 10



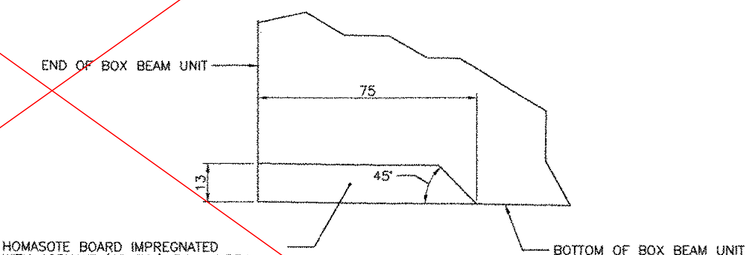
UNIT NO. 1, 2, 3, 8, 9 AND 10 SECTION
SCALE: 1 : 10



PRESTRESSED BOX BEAM UNIT
END DETAIL ELEVATION
SCALE: 1:20

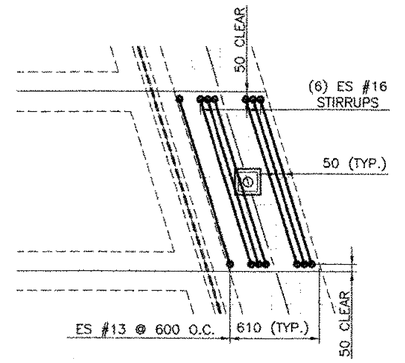


TYPICAL SHEAR KEY DETAIL
SCALE: 1 : 10



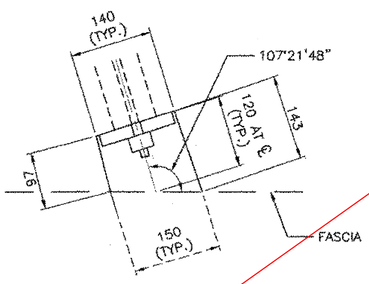
HOMASOTE BOARD IMPREGNATED WITH ASPHALT (OR EQ.) FULL WIDTH, OF END, OF PRECAST UNIT FASTENED TO PRECAST UNIT TYP. EACH END) PAYMENT SHALL BE INCIDENTAL TO ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAM (990 X 914)" AND ITEM 510.21, "PRESTRESSED CONCRETE BOX BEAM (990 X 1220)".

HOMASOTE DETAIL
FULL SCALE:

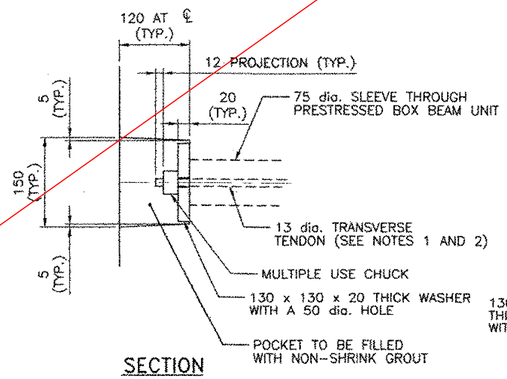


PRESTRESSED BOX BEAM UNIT
END DETAIL PLAN
SCALE: 1:20

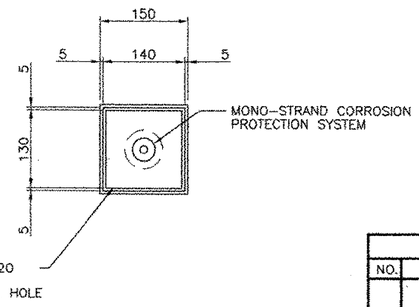
SHEET NOT USED



PLAN OF POCKET



SECTION



PLAN

TRANSVERSE TENDON DETAIL
SCALE: 1:5

NOTES:

1. TRANSVERSE TIES SHALL BE COVERED BY SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITER GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF STRAND. EXCEPT AT ANCHORAGE LOCATIONS, TIES SHALL BE TENSIONED TO 133.5 kn
2. THE 20 THICK BAR SHALL CONFORM TO AASHTO M270/M270M GRADE 250, GALVANIZED AFTER FABRICATION, ACCORDING TO AASHTO M232. THE CHUCK SHALL ALSO BE GALVANIZED PER AASHTO M232.

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

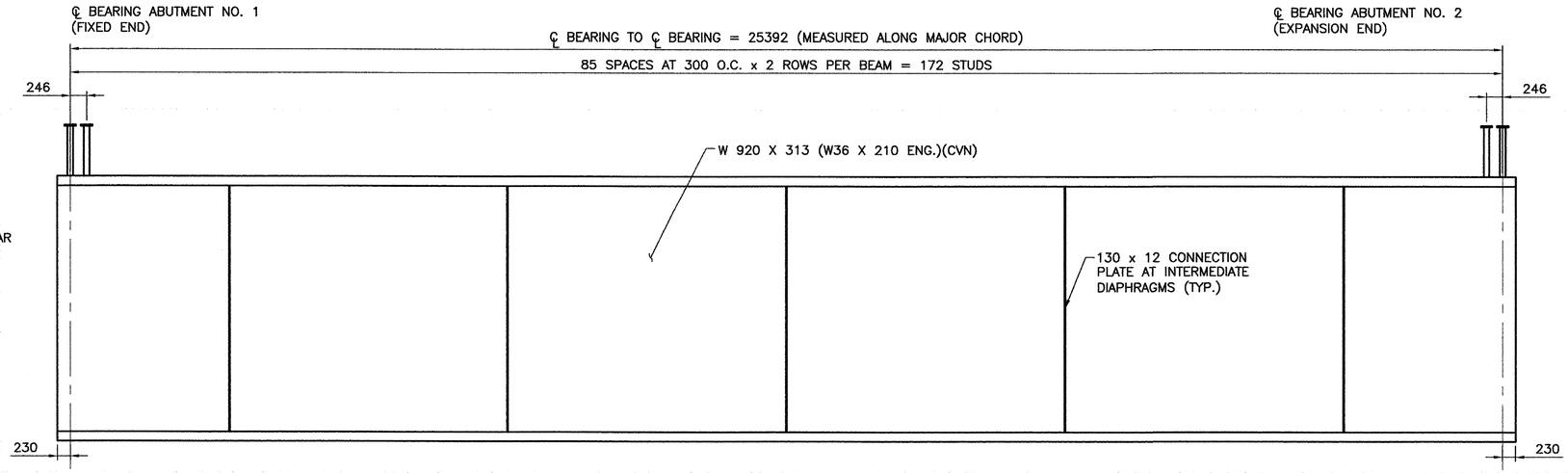
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
PRESTRESS UNIT DETAILS	
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 21 OF 41

VAOT Metric

NOTES:

1. CONNECTION PLATES SHALL BE PERPENDICULAR TO THE FLANGES AND THE WEB.
2. ENDS OF THE BEAMS SHALL BE FABRICATED SO THAT THEY WILL BE PLUMB UNDER FULL DEAD LOAD.

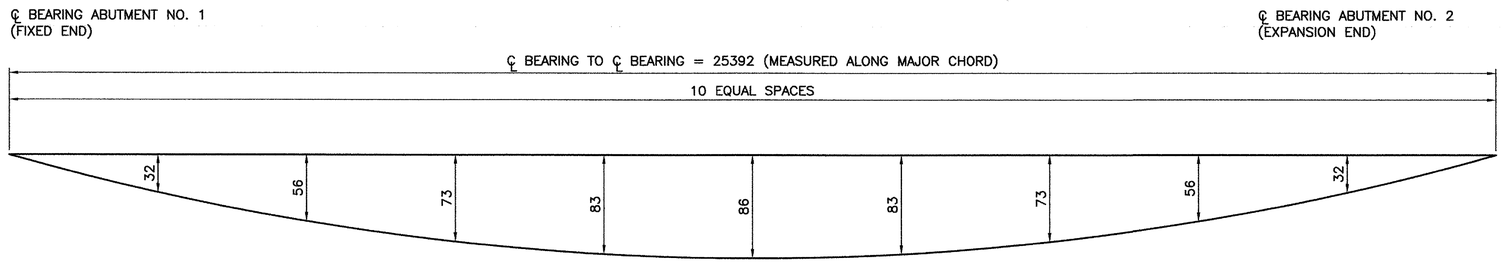


NOTES:

1. CONNECTION PLATES AND DIAPHRAGMS TO BE LOCATED AS SHOWN ON FRAMING PLAN.
2. CVN = CHARPY V–NOTCH TEST REQUIRED PER SPECIFICATION.

TYPICAL BEAM ELEVATION

SCALE H: 1:50
V: 1:10



NOTES:

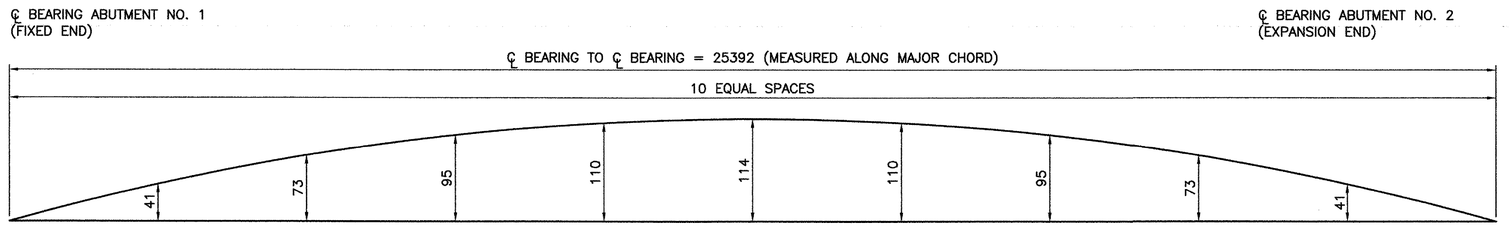
1. DEAD LOAD DEFLECTIONS INCLUDE ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS INCLUDING BEAM SELF WEIGHT AND DIAPHRAGM WEIGHT.

℄ BEARING TABLE

BEAM	1	2	3	4	5
℄ BEARING ABUT. NO. 1	1+497.201	1+497.801	1+498.400	1+499.001	1+499.612
℄ BEARING ABUT. NO. 2	1+522.255	1+523.022	1+523.800	1+524.589	1+525.391

DEAD LOAD DEFLECTION DIAGRAM

SCALE H: 1:50
V: NTS



BEAM CAMBER DIAGRAM

SCALE H: 1:50
V: NTS

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED PROFESSIONAL ENGINEER

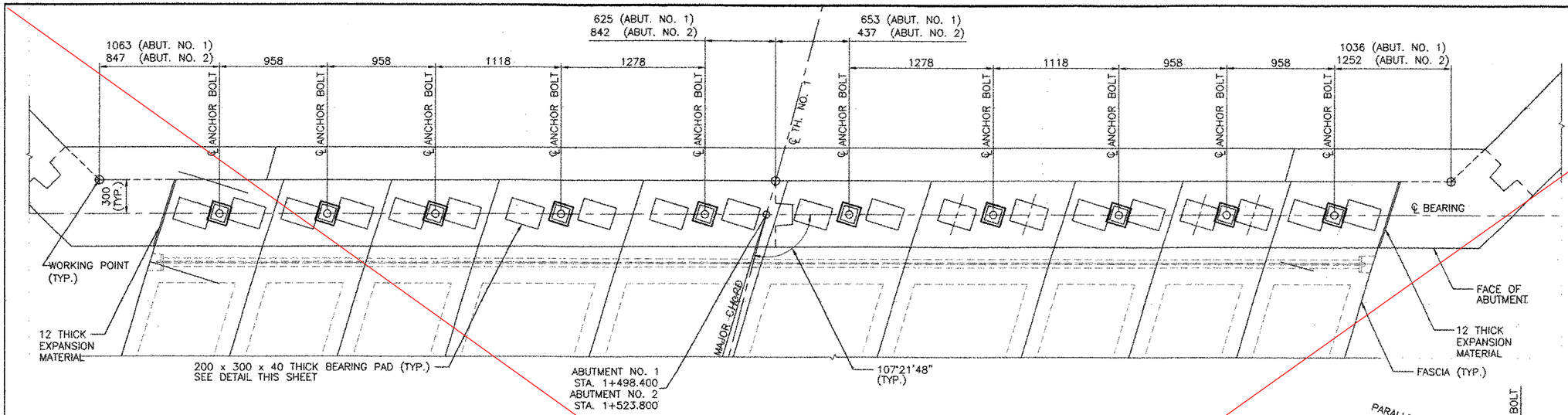
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

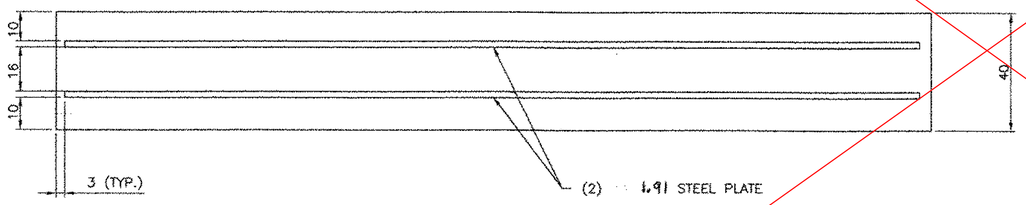
STRUCTURAL STEEL DETAILS

Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 21A OF 41



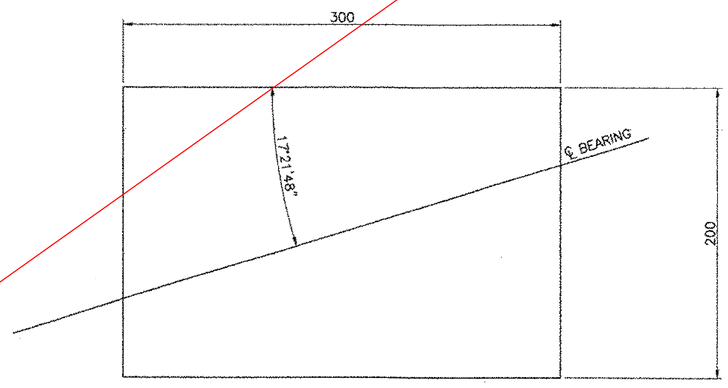
TYPICAL BEARING PAD PLACEMENT PLAN

SCALE 1:20



BEARING PAD DETAIL (CROSS SECTION)

FULL SCALE



BEARING PAD DETAIL (PLAN)

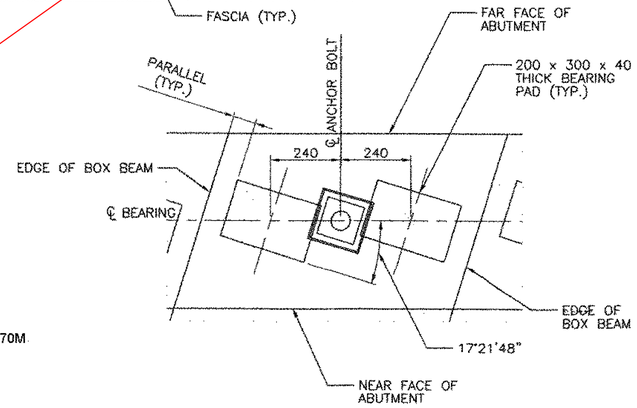
SCALE: 1:2

BEARING NOTES:

1. BEARING PADS ARE TO BE SET PARALLEL TO THE EDGES OF THE PRESTRESSED UNITS.
2. THERE WILL BE 40 BEARING PADS REQUIRED.
3. A TOTAL OF 20 ANCHOR BOLT ASSEMBLIES WILL BE REQUIRED.
4. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL GRADE 250-ASTM A570/A570M. NO FABRIC REINFORCEMENT WILL BE PERMITTED.
5. ELASTOMERIC BEARINGS REINFORCED WITH STEEL SHALL HAVE A 3 EDGE SEAL OF ELASTOMERIC INTEGRAL WITH THE BEARING OVER ALL PLATES.
6. ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO DIVISION II SECTION 18.2 AND AASHTO MATERIAL SPECIFICATION M251.
7. DESIGN CRITERIA:
   - A) TEMPERATURE RANGE: 26.95 c
   - B) 60 DUROMETER ELASTOMERIC
   - C) MAXIMUM BEARING STRESS: 6.89 MPa
   - D) DESIGN ROTATION: 0.014 RADIANS
   - D) BEARING SHAPE FACTOR
8. WITH APPROVAL ALTERNATE CONFIGURATION ARE ALLOWABLE.

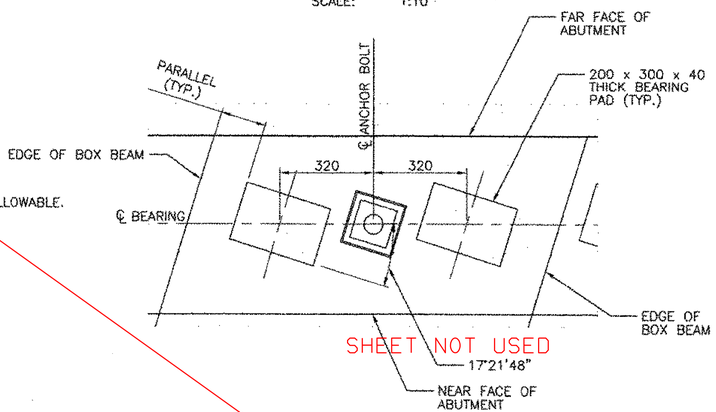
NOTE:

ALL WORK AND MATERIALS REQUIRED FOR BEARINGS SHALL BE PAID UNDER PAY ITEM NO. 531.10 "BEARING DEVICE ASSEMBLY (ELASTOMERIC)"



TYPICAL BEARING PAD PLACEMENT UNIT 1, 2, 3, 8, 9 AND 10

SCALE: 1:10



SHEET NOT USED

TYPICAL BEARING PAD PLACEMENT UNIT 4, 5, 6 AND 7

SCALE: 1:10

REVISIONS		
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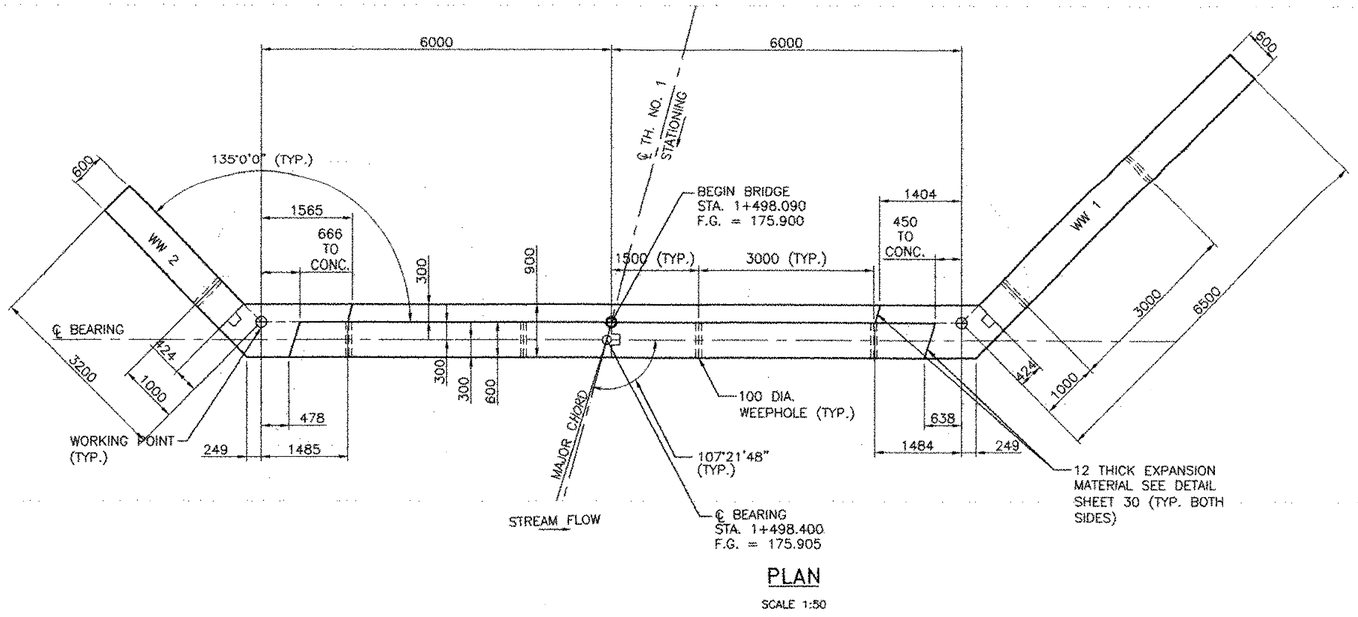
STATE OF VERMONT
AGENCY OF TRANSPORTATION

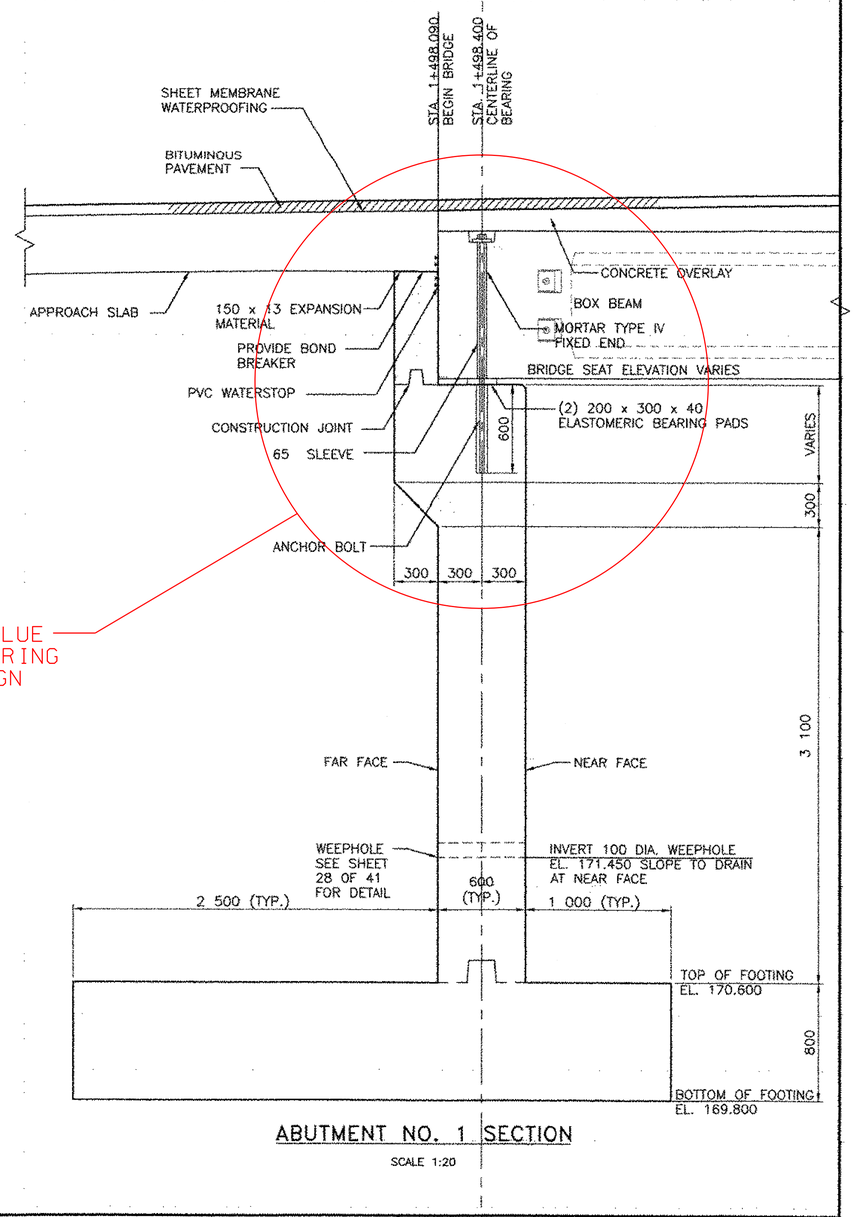
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
BEARING DETAILS	
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 22 OF 41

VAOT Metric



PLAN

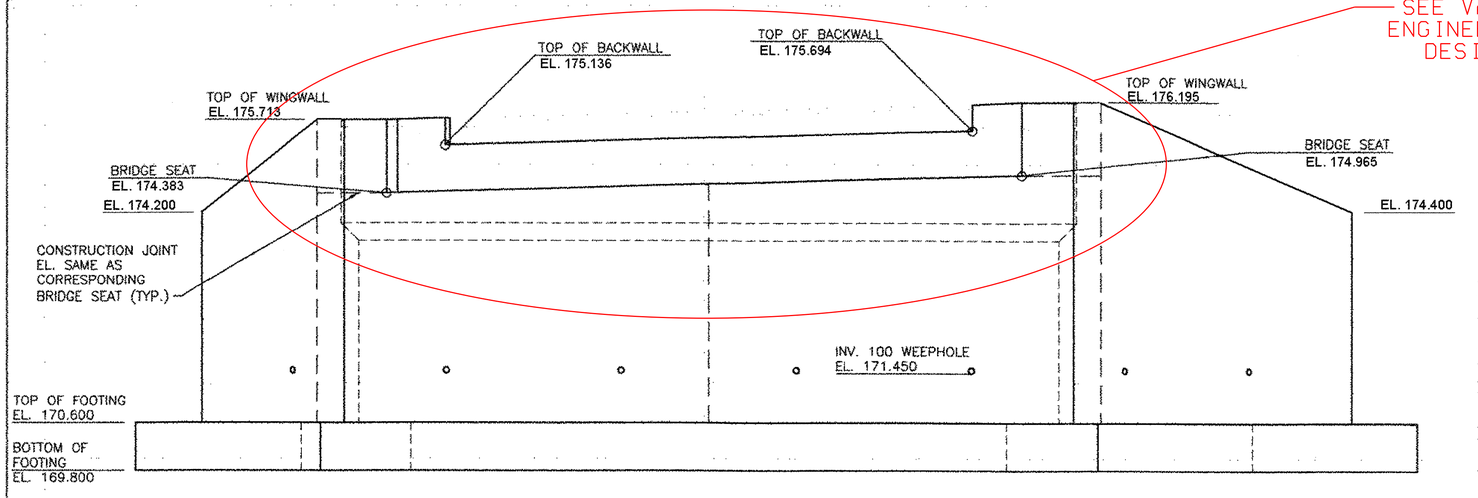
SCALE 1:50



ABUTMENT NO. 1 SECTION

SCALE 1:20

SEE VALUE ENGINEERING DESIGN



ELEVATION

SCALE 1:50

REVISIONS		
NO.	DESCRIPTION	BY & DATE

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engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

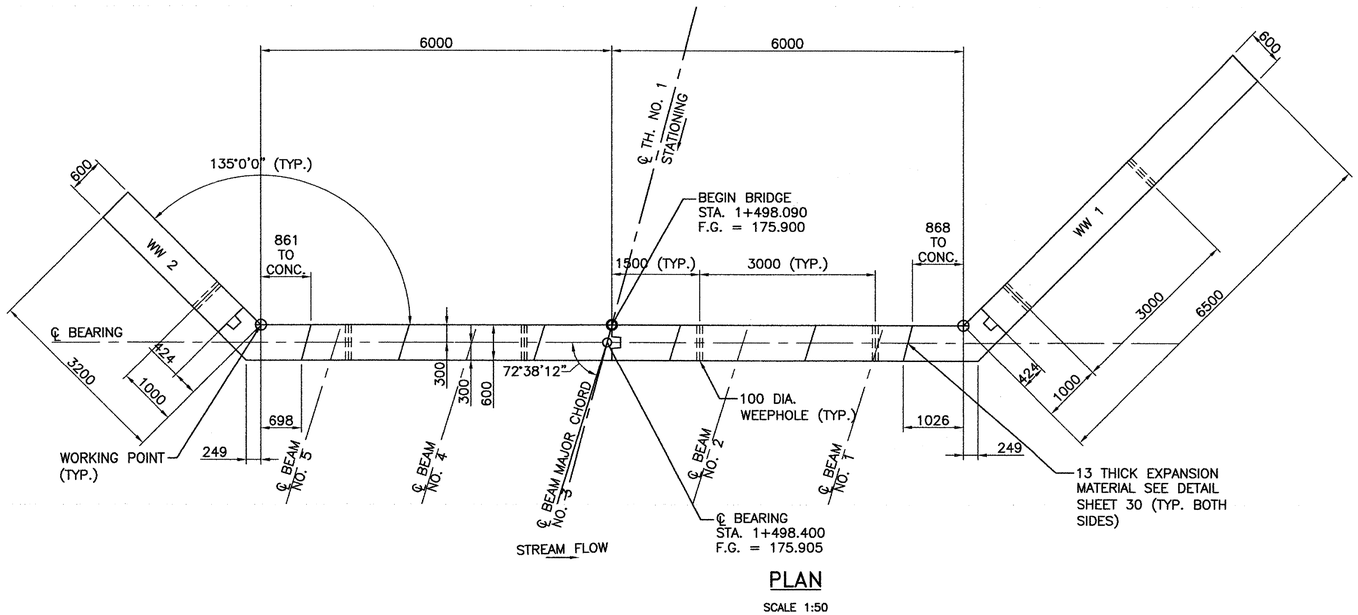
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

ABUTMENT NO. 1 MASONRY

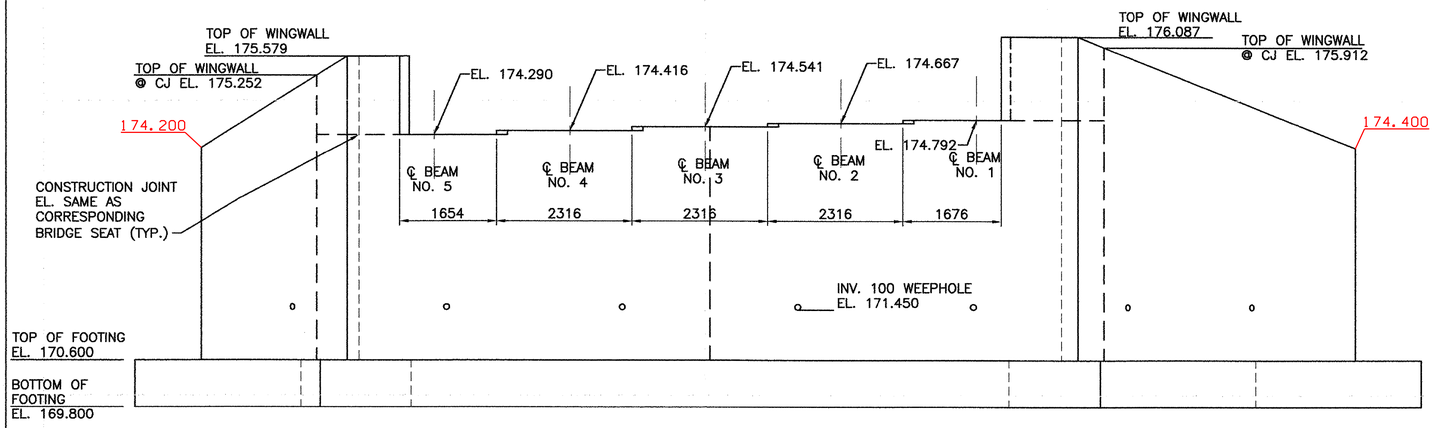
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 23 OF 41

VAOT Metric



PLAN

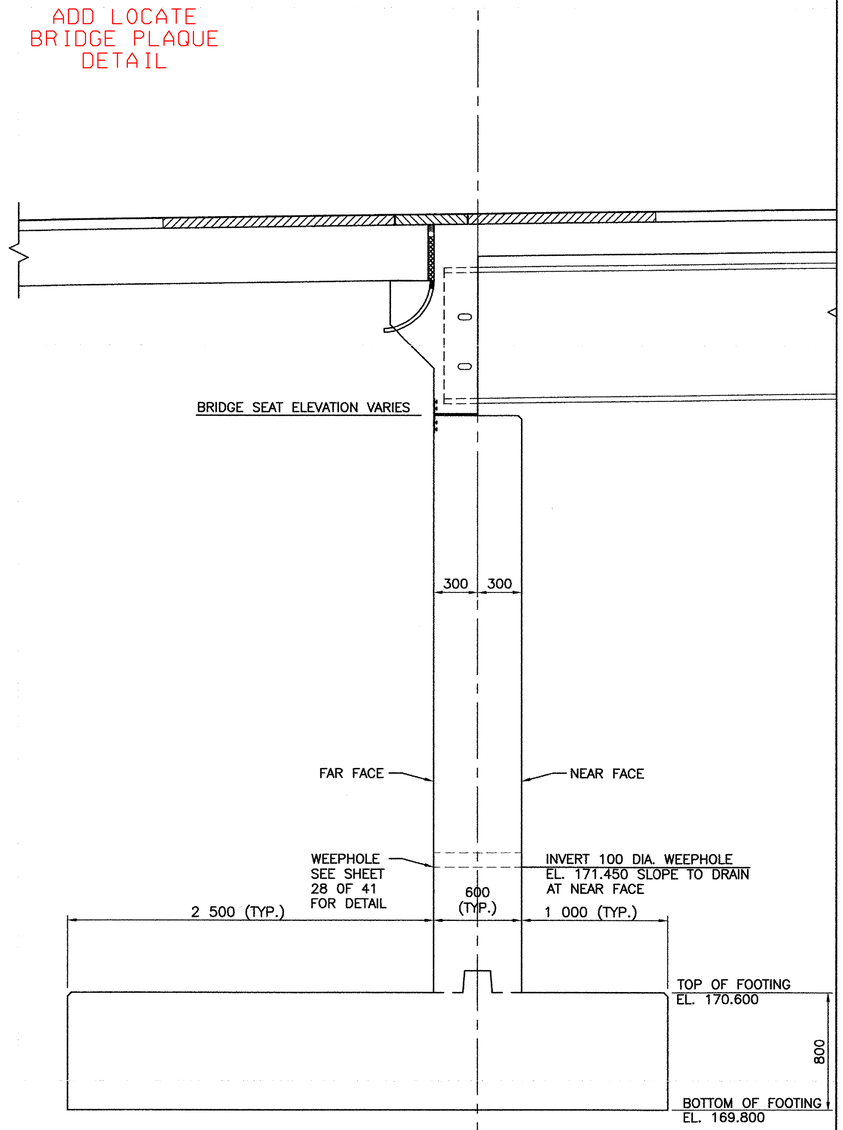
SCALE 1:50



ELEVATION

SCALE 1:50

ADD LOCATE
BRIDGE PLAQUE
DETAIL



ABUTMENT NO. 1 SECTION

SCALE 1:20

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED PROFESSIONAL ENGINEER

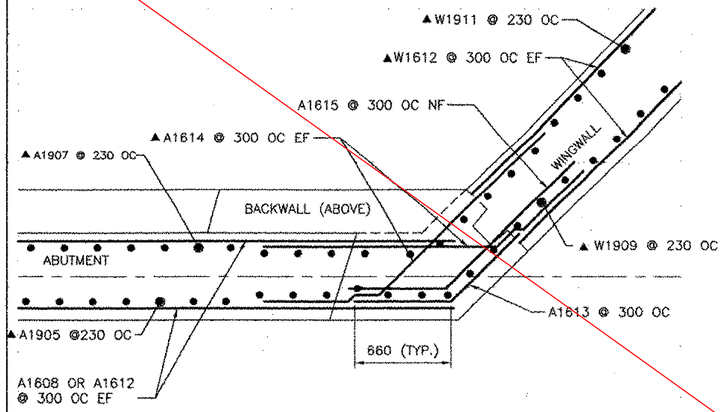
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

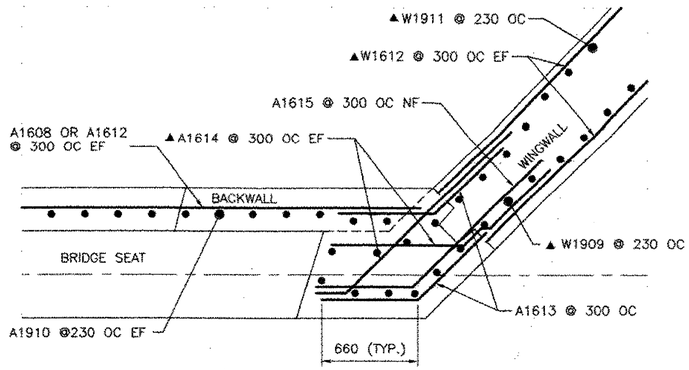
ABUTMENT NO. 1 MASONRY

Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 23A OF 41



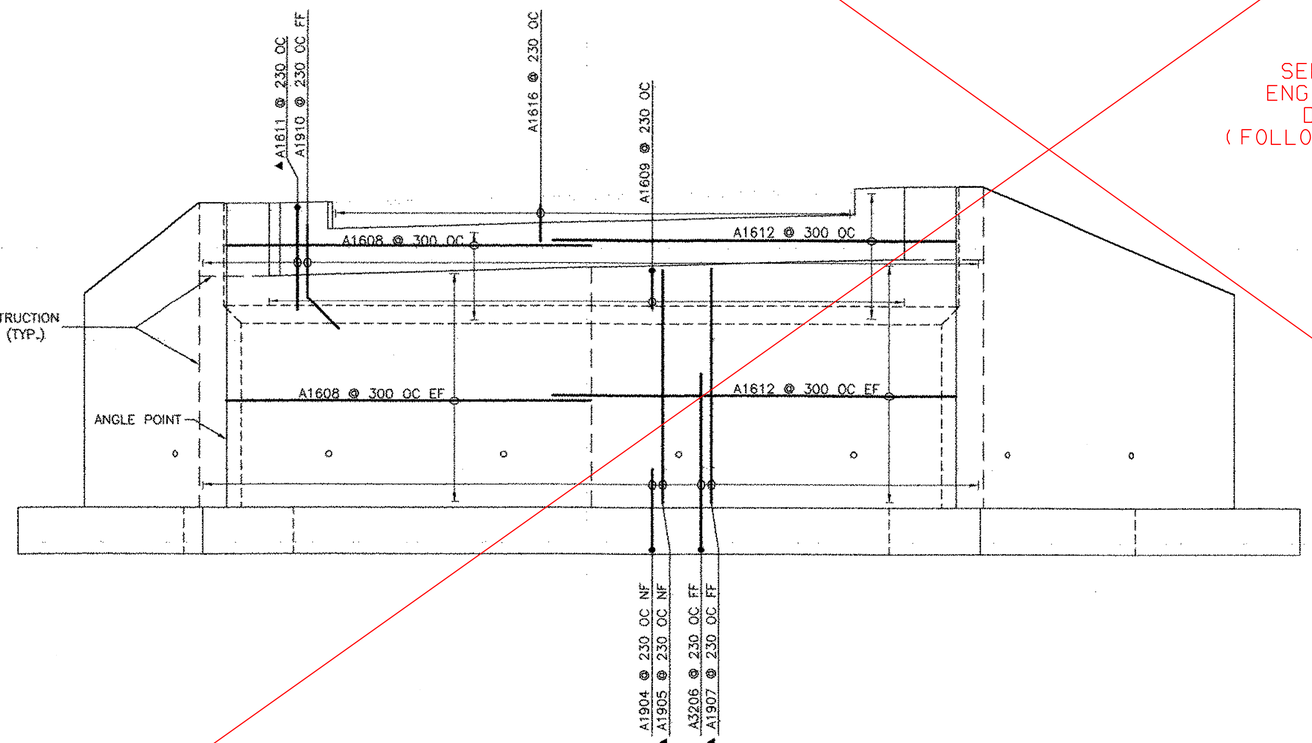
TYPICAL CORNER DETAIL ABUTMENT NO 1
BELOW HAUNCH

SCALE 1:20



TYPICAL CORNER DETAIL ABUTMENT NO 1
ABOVE BRIDGE SEAT

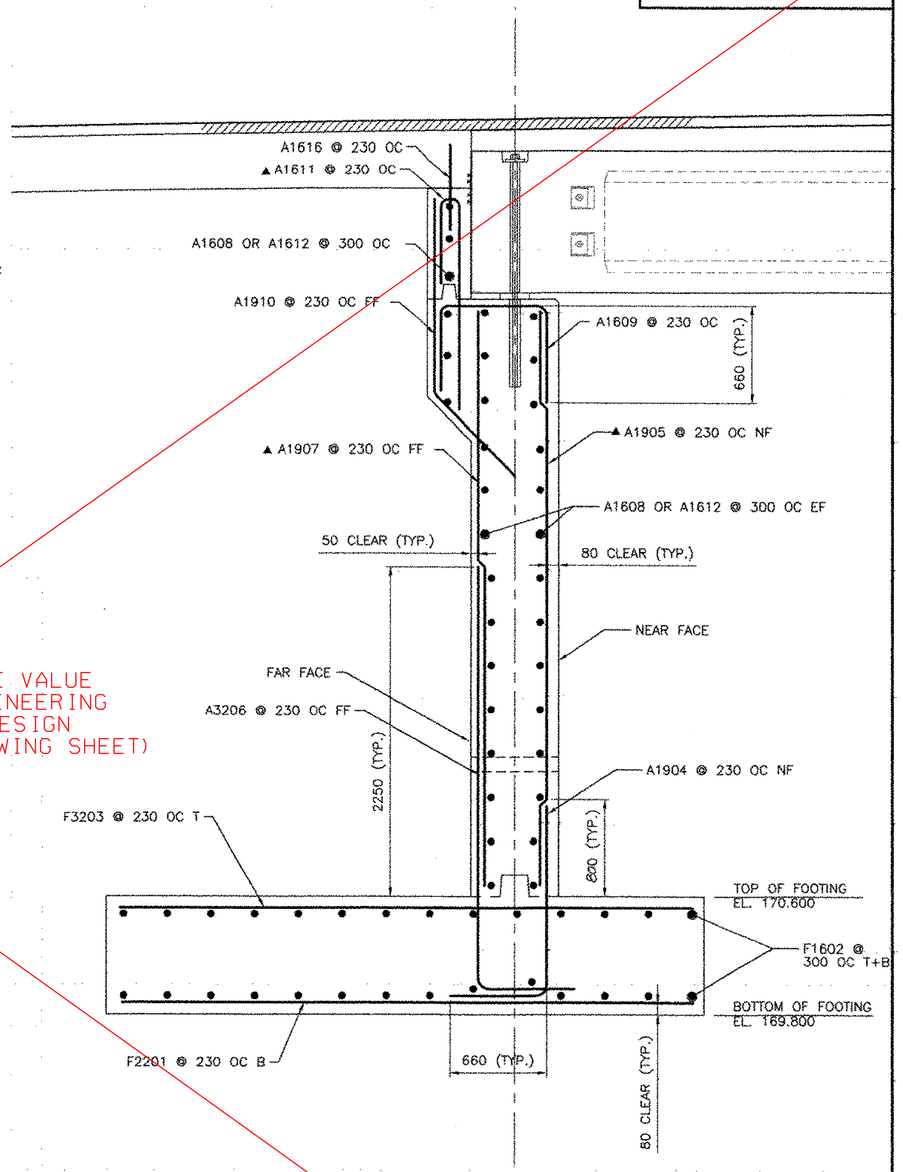
SCALE 1:20



ELEVATION

SCALE 1:50

SEE VALUE
ENGINEERING
DESIGN
(FOLLOWING SHEET)



ABUTMENT NO. 1 SECTION

SCALE 1:20

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

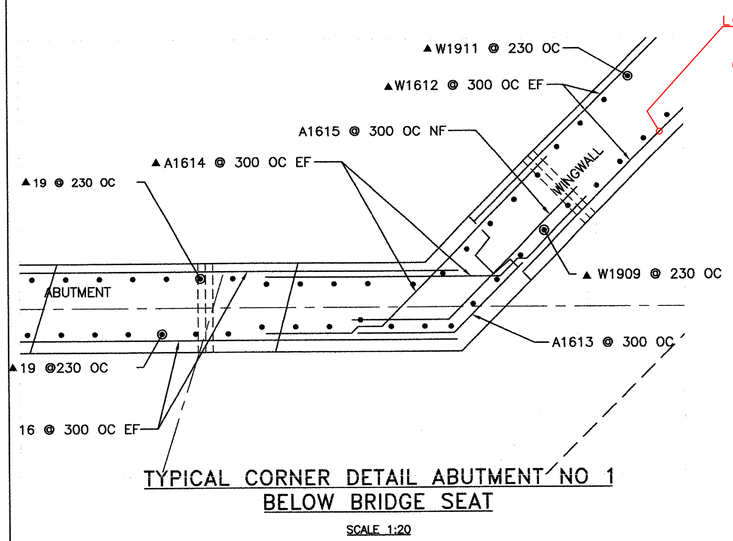
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

ABUTMENT NO. 1 REINFORCING

Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 24 OF 41

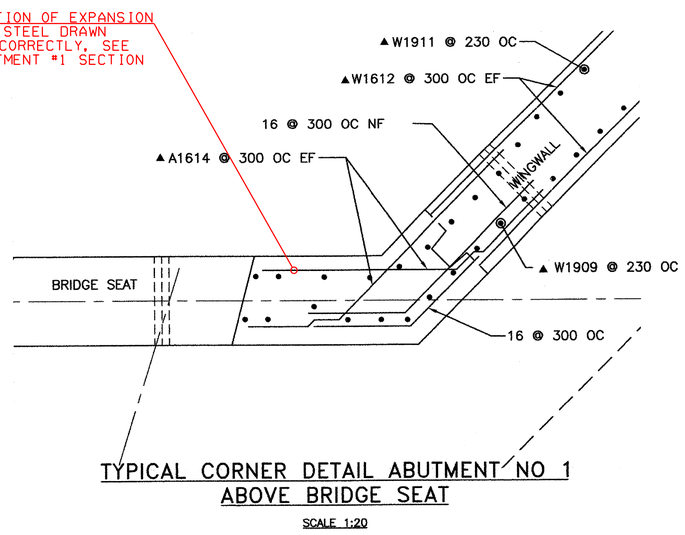
VAOT Metric



TYPICAL CORNER DETAIL ABUTMENT NO 1
BELOW BRIDGE SEAT

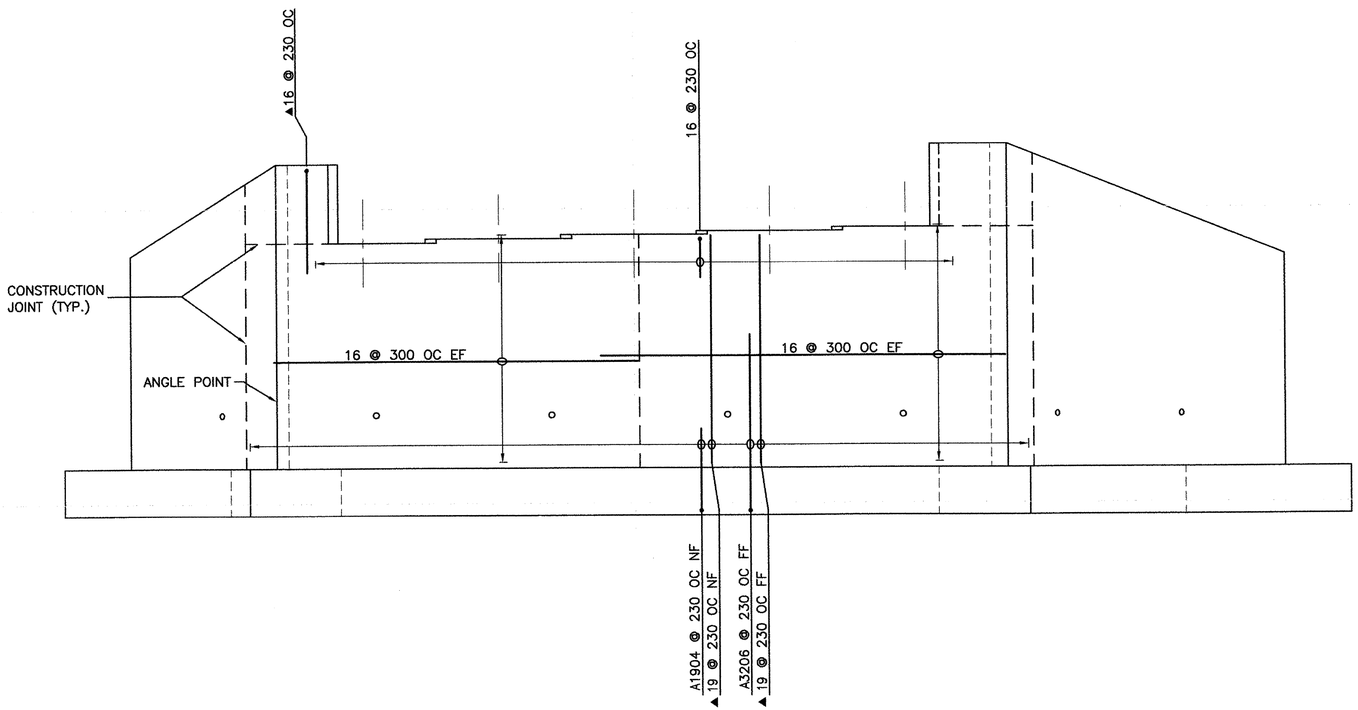
SCALE 1:20

LOCATION OF EXPANSION STEEL DRAWN INCORRECTLY, SEE ABUTMENT #1 SECTION



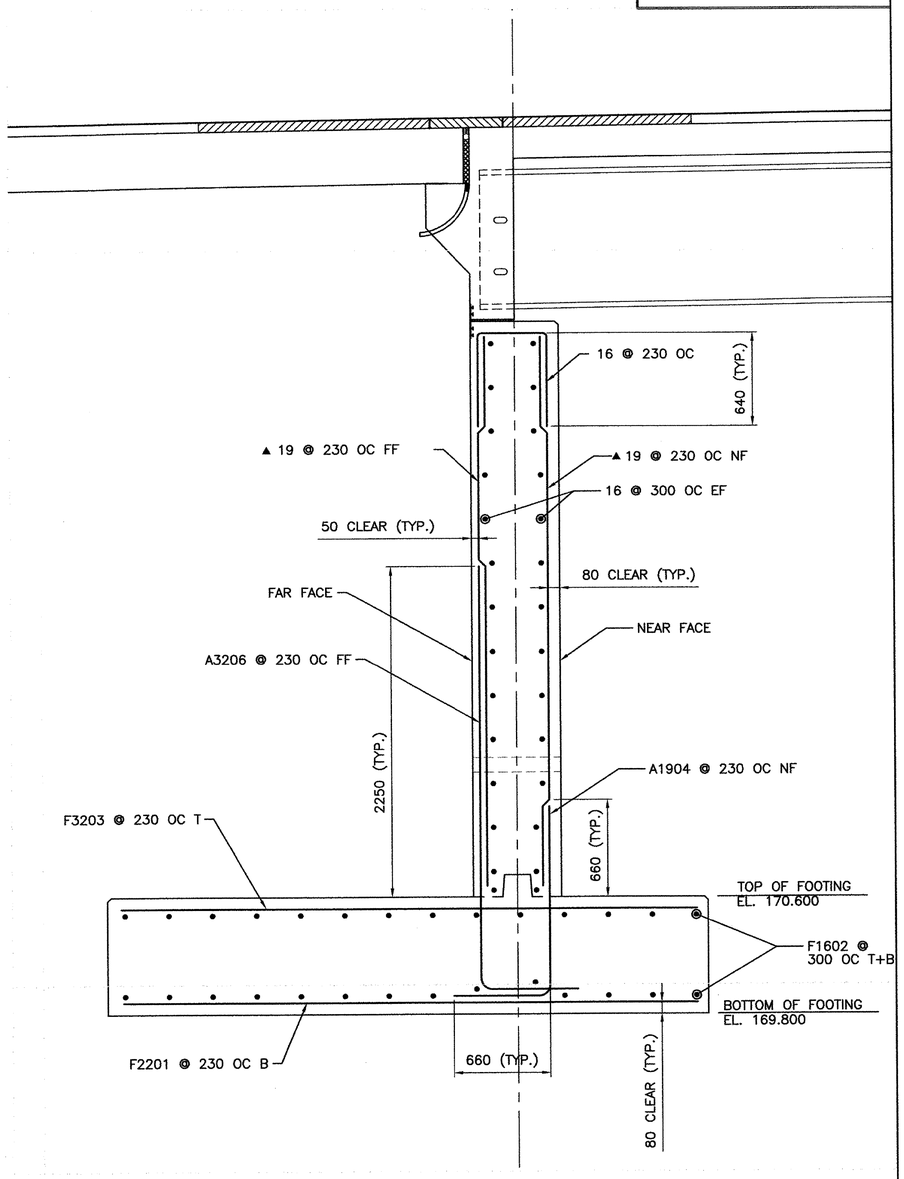
TYPICAL CORNER DETAIL ABUTMENT NO 1
ABOVE BRIDGE SEAT

SCALE 1:20



ELEVATION

SCALE 1:50



ABUTMENT NO. 1 SECTION

SCALE 1:20

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

NOTE:

CONTRACTOR SHALL VERIFY ALL REINFORCING STEEL LENGTHS AND DIMENSIONS PRIOR TO ORDERING REINFORCEMENT. THE CURRENT REINFORCING STEEL SCHEDULE IS NOT ACCURATE AND SHALL NOT BE USED AS THE BASIS FOR ORDERING REINFORCMENT.

REVISIONS		
NO.	DESCRIPTION	BY & DATE

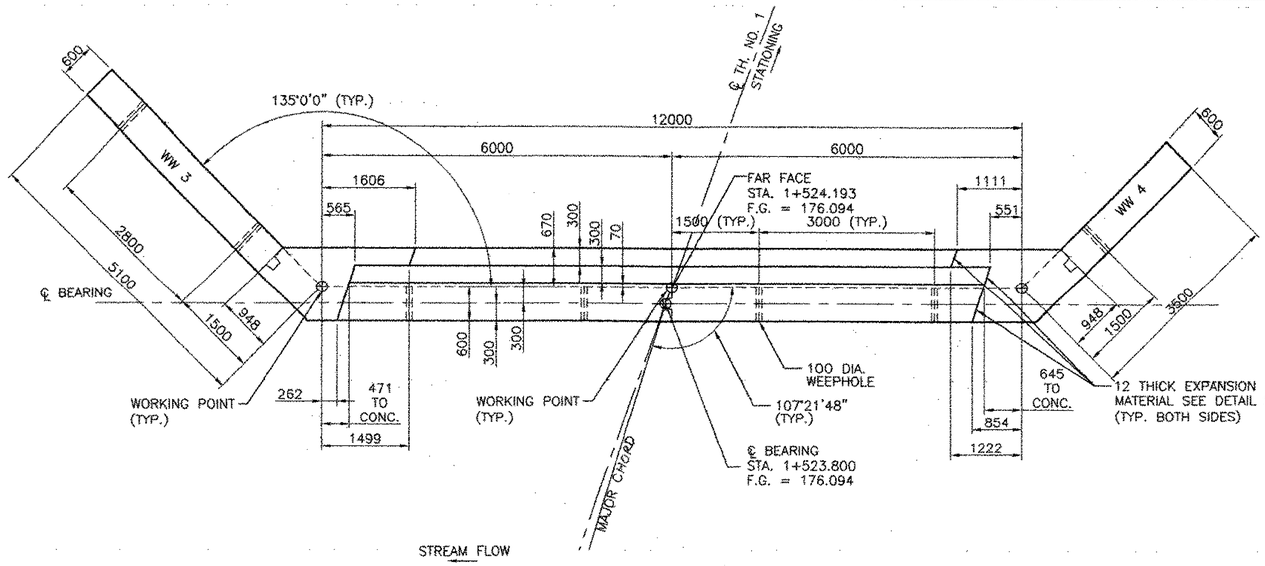
DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER No. 5805 REGISTERED PROFESSIONAL ENGINEER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

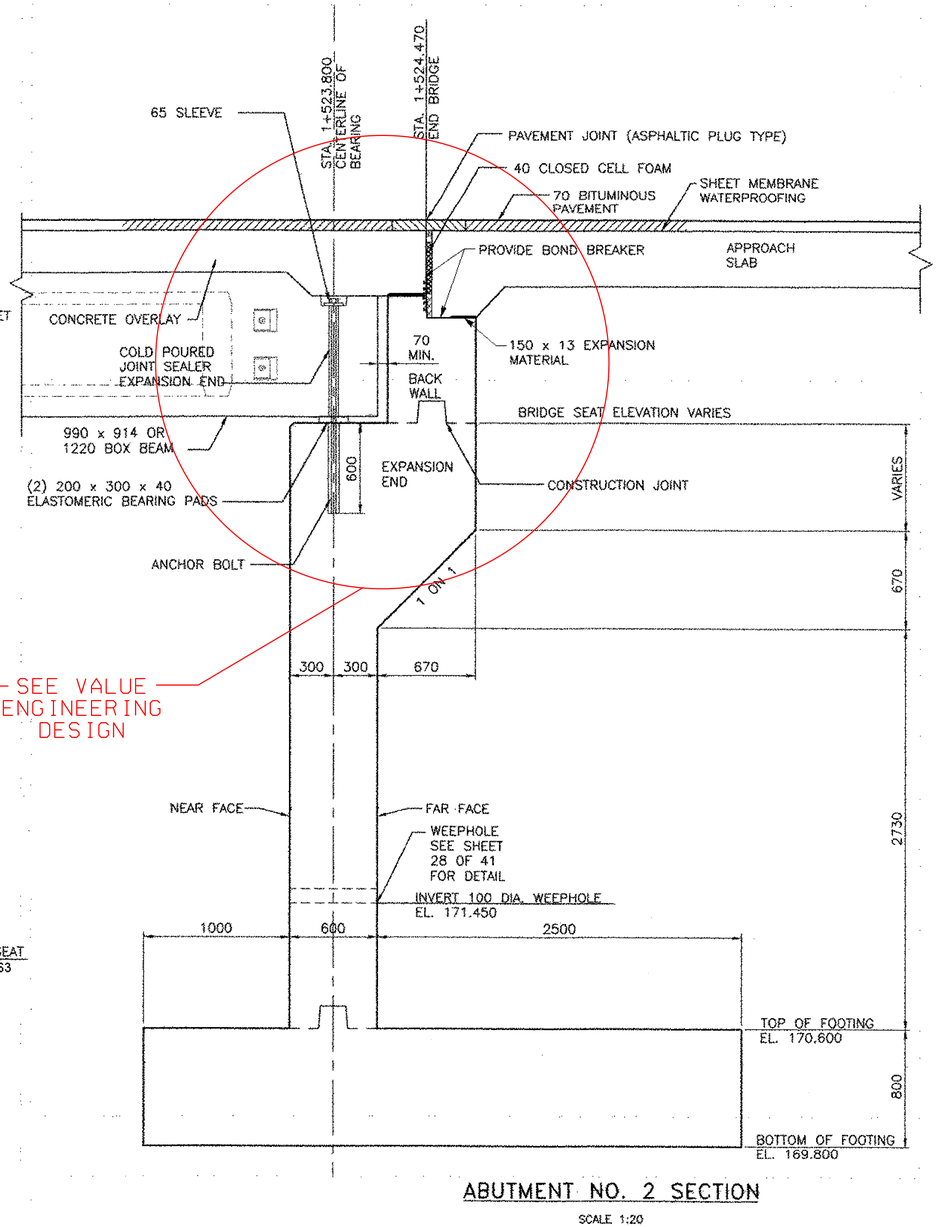
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
ABUTMENT NO. 1 REINFORCING	
Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 24A OF 41

VAOT Metric



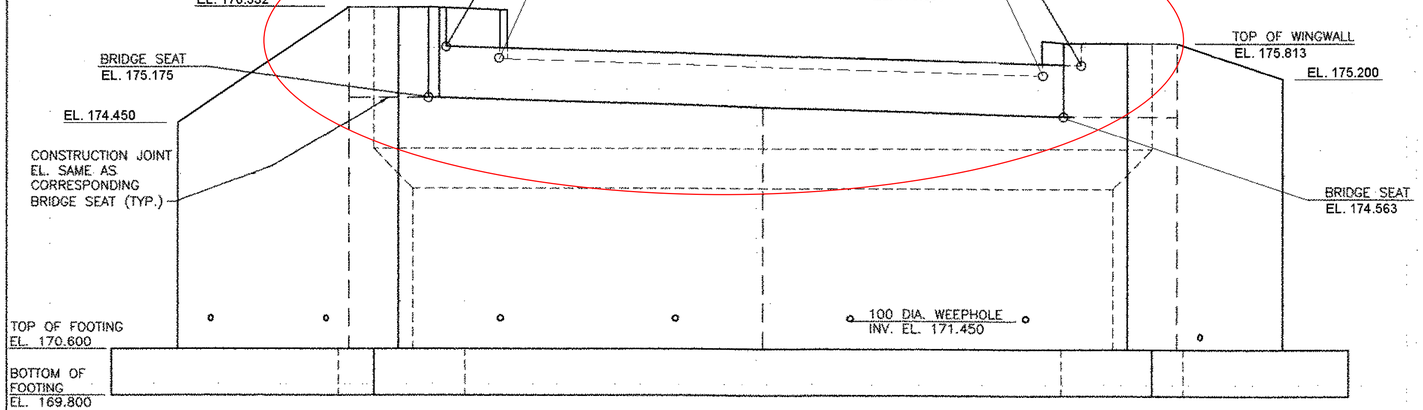
PLAN

SCALE 1:50



ABUTMENT NO. 2 SECTION

SCALE 1:20



ELEVATION

SCALE 1:50

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

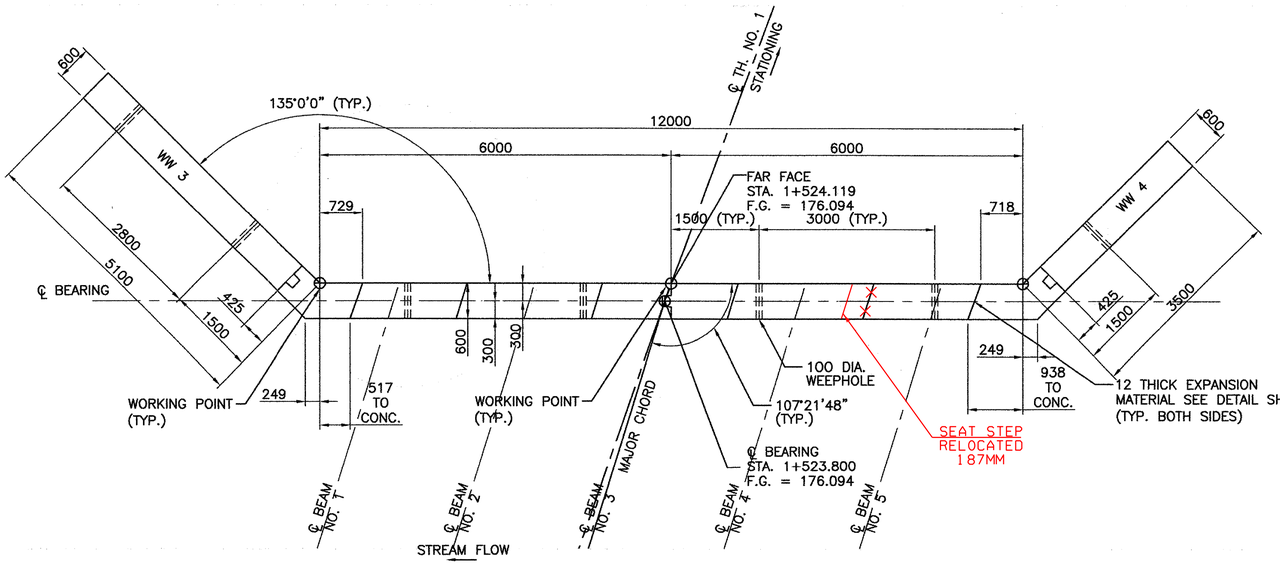
CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

ABUTMENT NO. 2 MASONRY

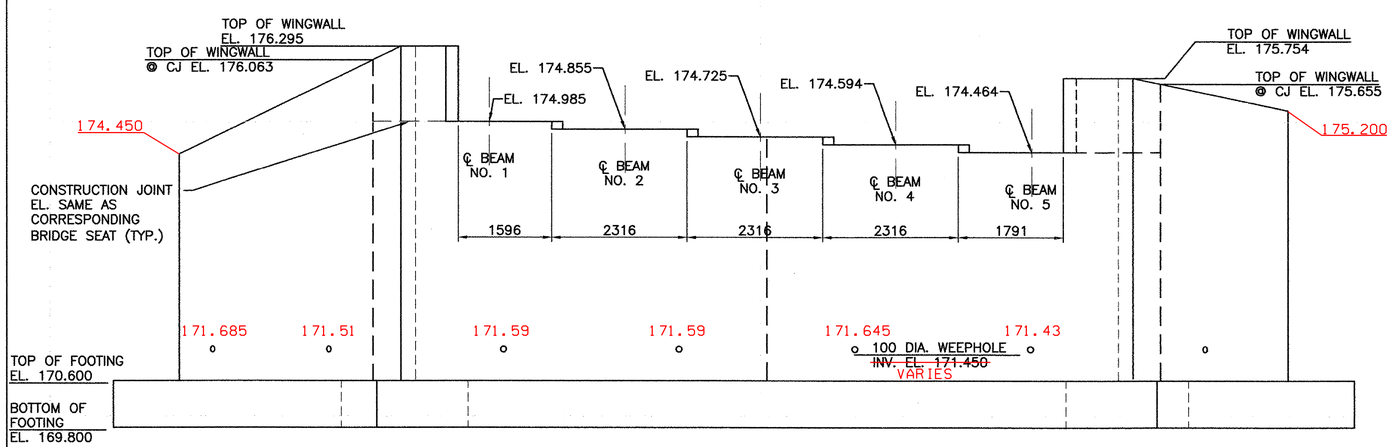
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 25 OF 41

VAOT Metric



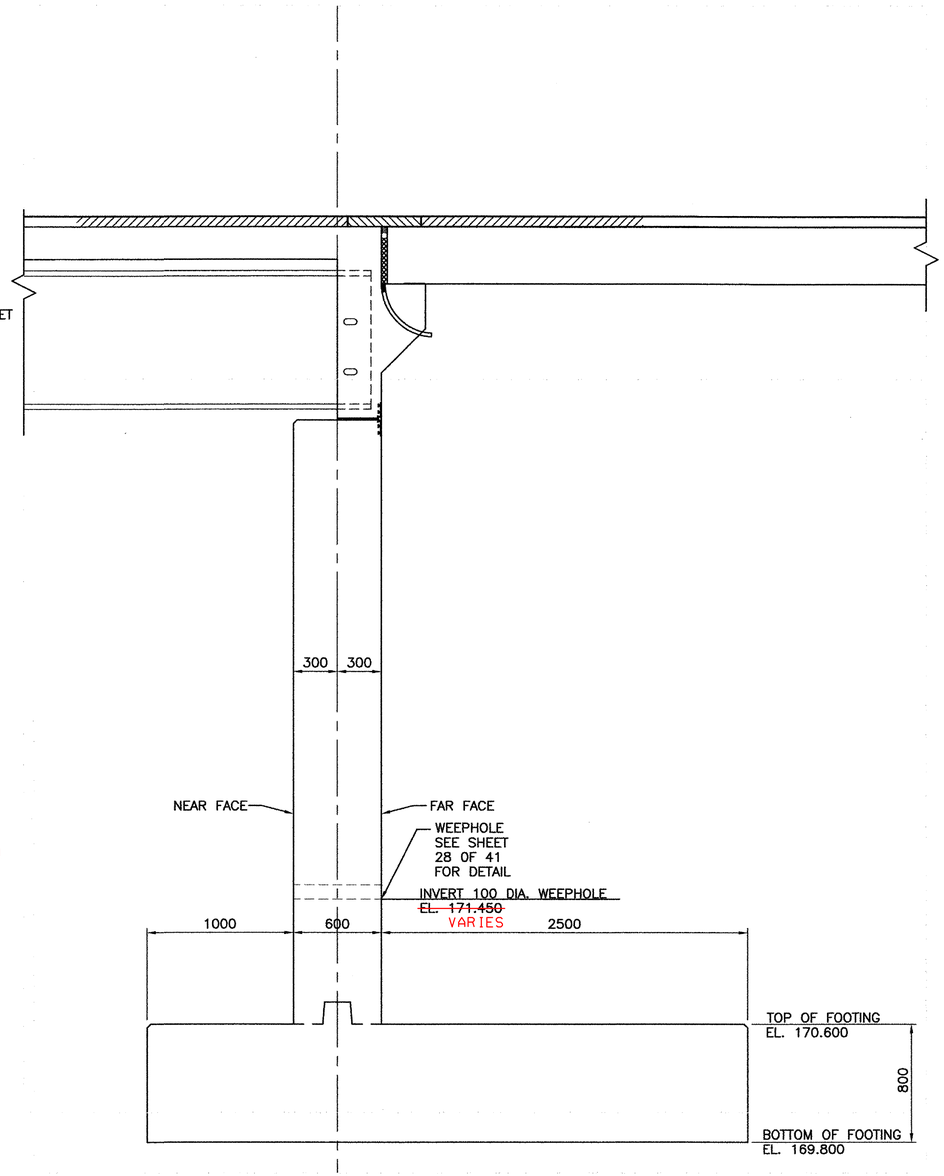
PLAN

SCALE 1:50



ELEVATION

SCALE 1:50



ABUTMENT NO. 2 SECTION

SCALE 1:20

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5906
REGISTERED PROFESSIONAL ENGINEER

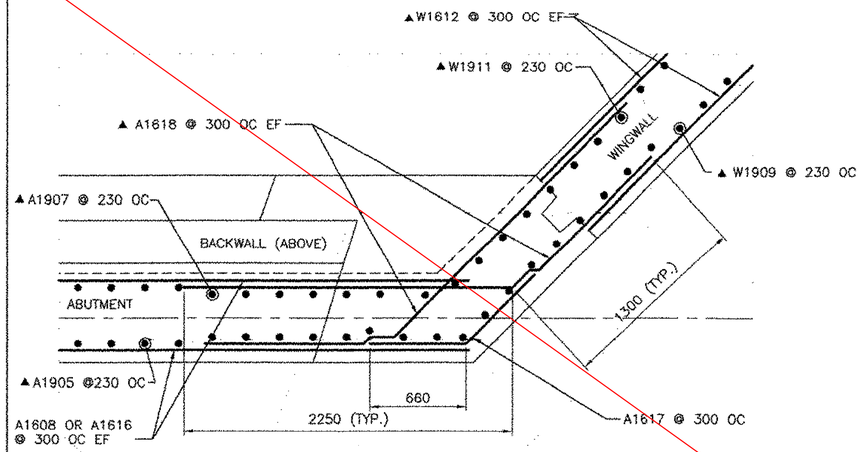
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

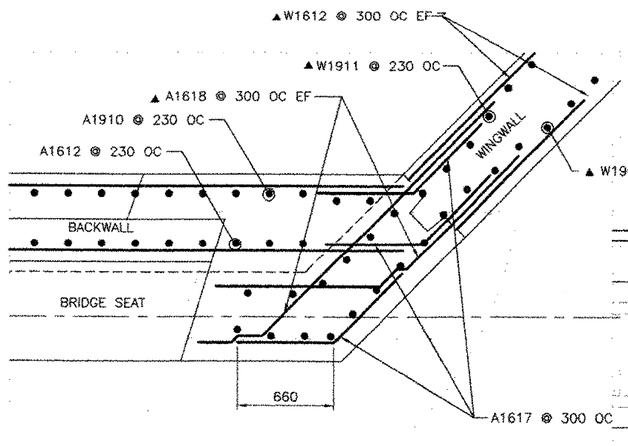
ABUTMENT NO. 2 MASONRY

Designed by: A.P. GUYETTE	Drawn by: A.P.GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 25A OF 41



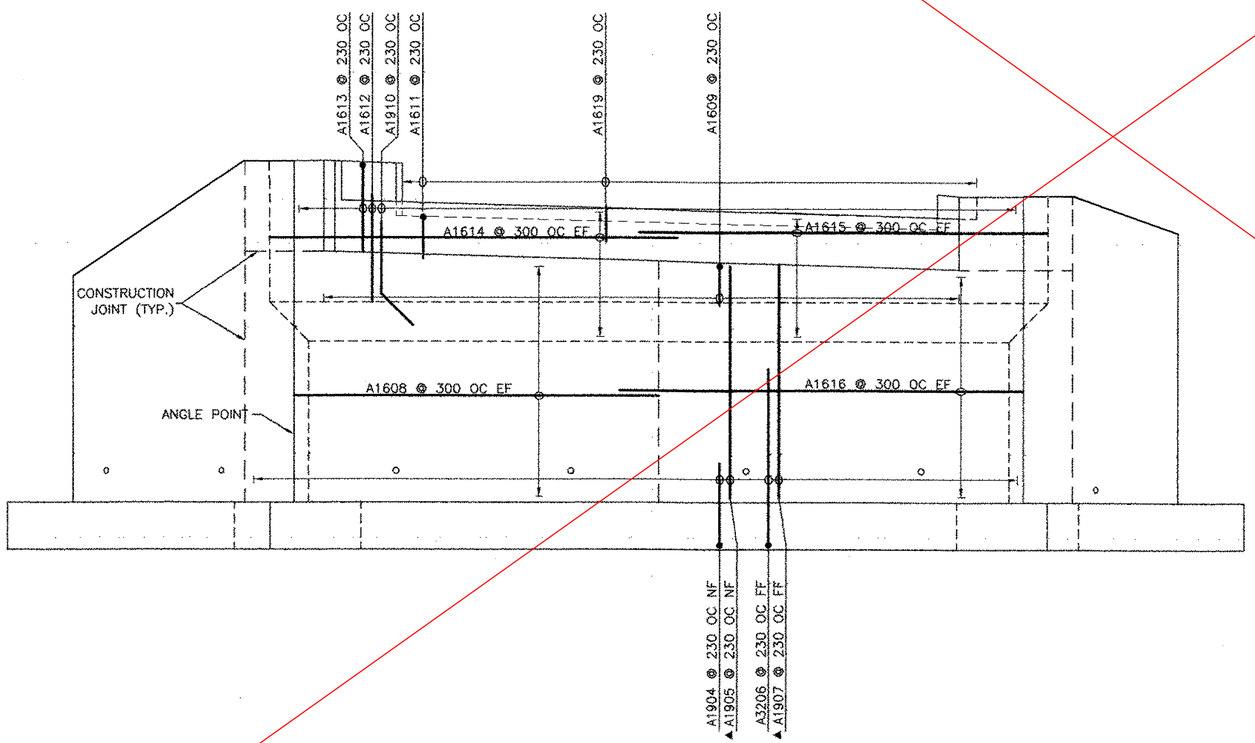
TYPICAL CORNER DETAIL ABUTMENT NO 2
(BELOW HAUNCH)

SCALE 1:20



TYPICAL CORNER DETAIL ABUTMENT NO 2
(ABOVE BRIDGE SEAT)

SCALE 1:20



ELEVATION

SCALE 1:50

NOTES:
NF = NEAR FACE
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EF = EACH FACE
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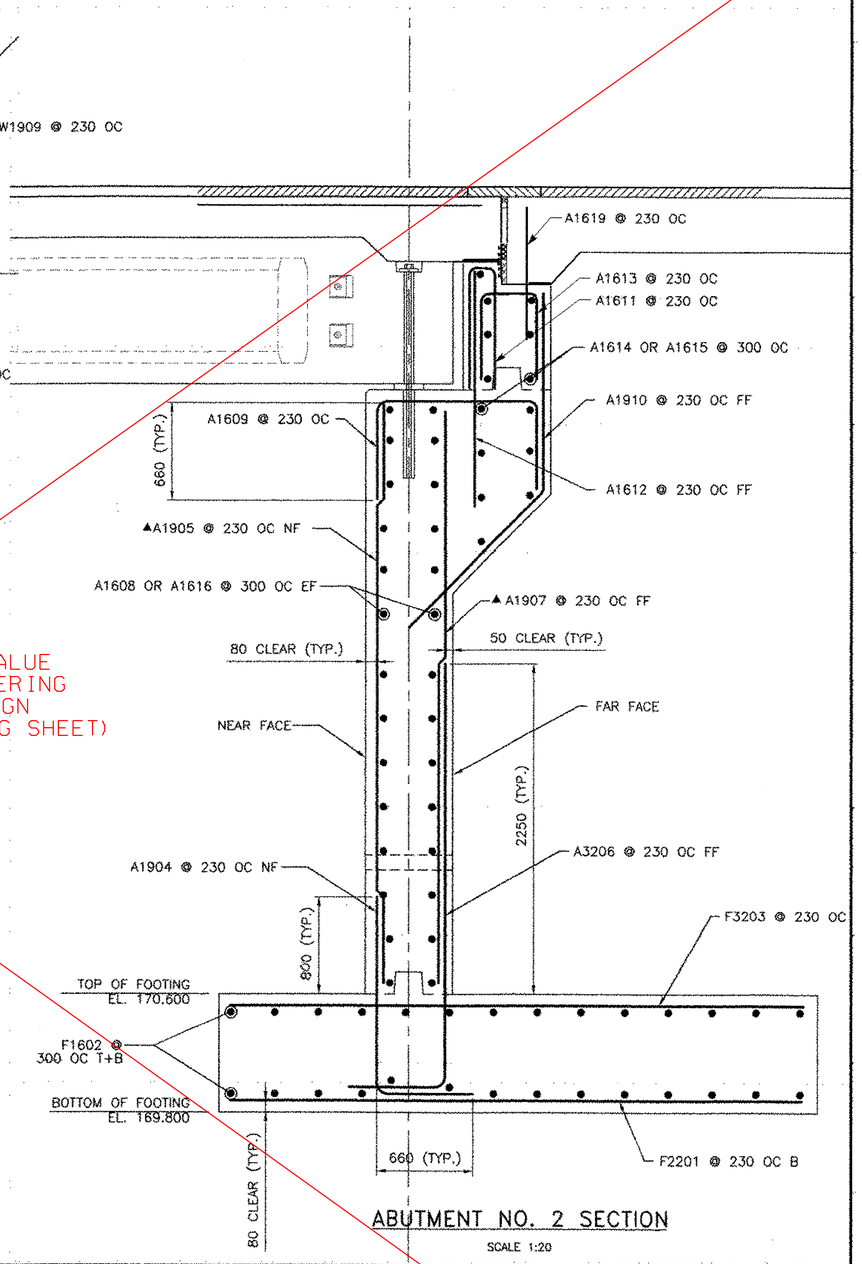
T+B = TOP AND BOTTOM
OC = ON CENTER
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 660

SEE VALUE ENGINEERING DESIGN (FOLLOWING SHEET)



ABUTMENT NO. 2 SECTION

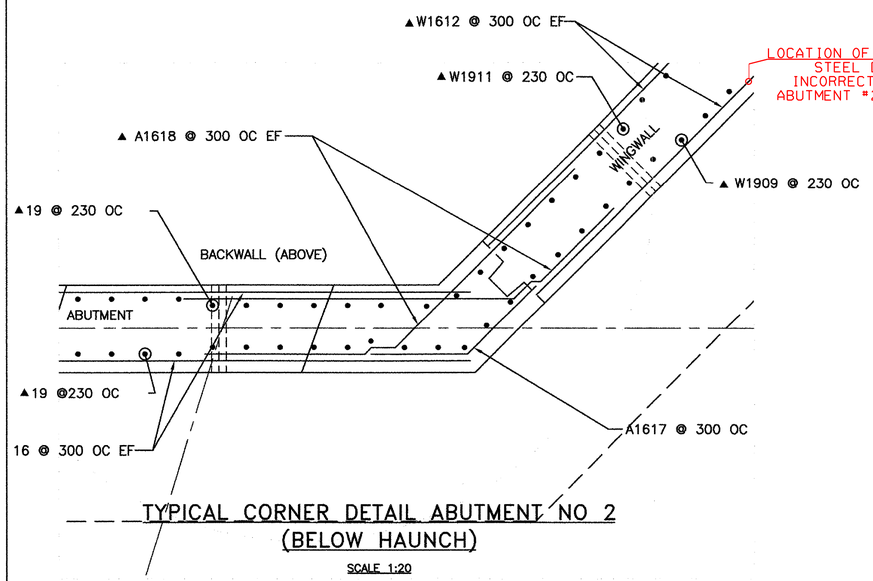
SCALE 1:20

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

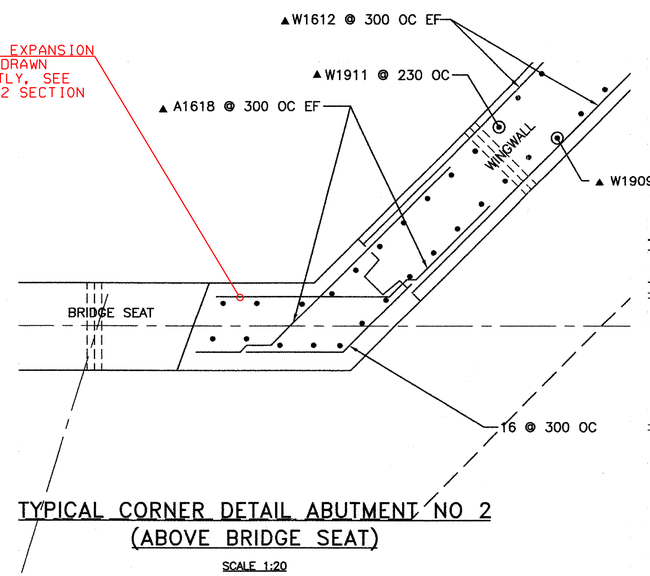
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
ABUTMENT NO. 2 REINFORCING	
Designed by: A. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 26 OF 41



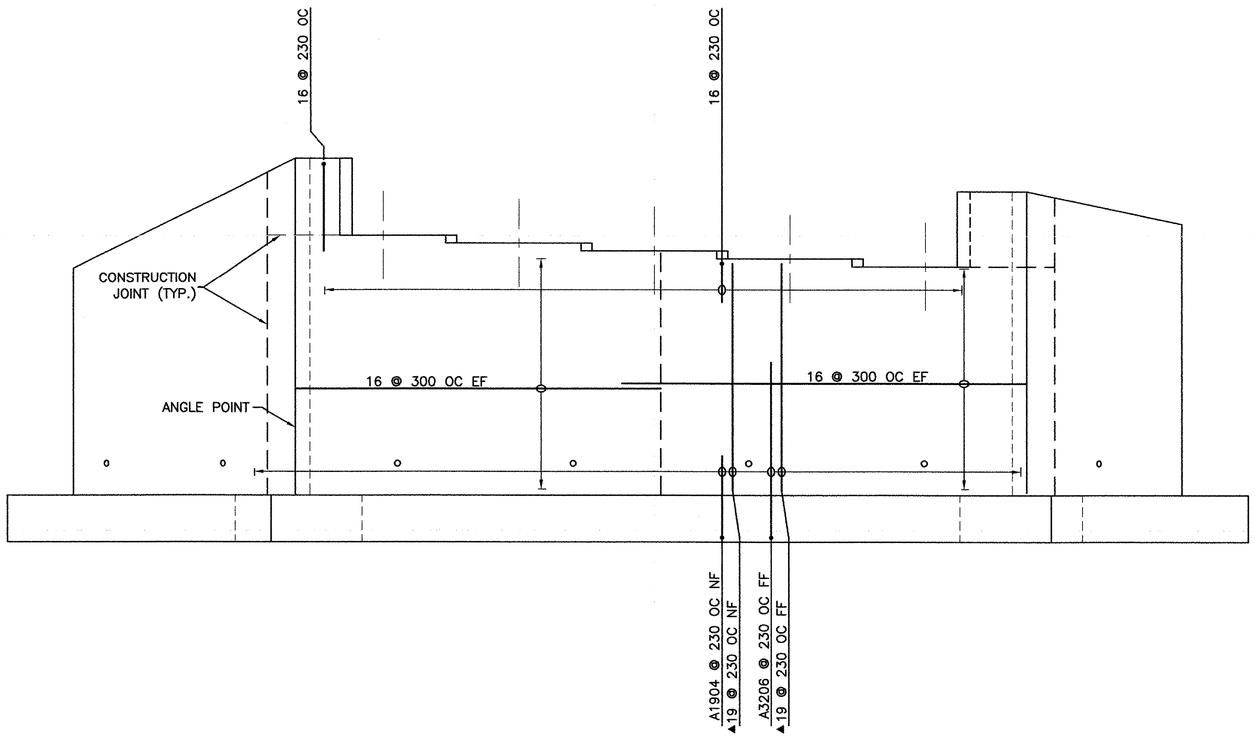
TYPICAL CORNER DETAIL ABUTMENT NO 2
(BELOW HAUNCH)

SCALE 1:20



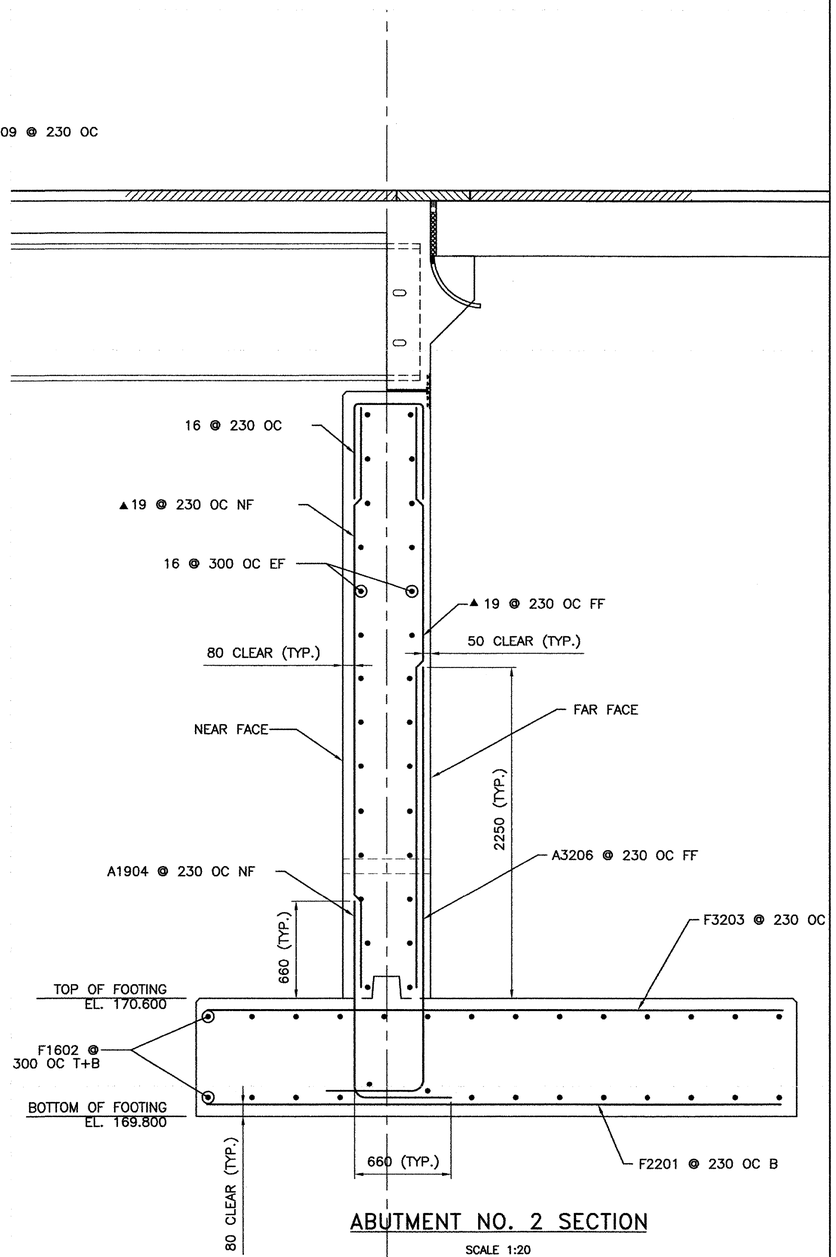
TYPICAL CORNER DETAIL ABUTMENT NO 2
(ABOVE BRIDGE SEAT)

SCALE 1:20



ELEVATION

SCALE 1:50



ABUTMENT NO. 2 SECTION

SCALE 1:20

NOTES:

NF = NEAR FACE
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EF = EACH FACE
▲ = CUT TO FIT IN FIELD
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REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
JEFFREY W. TUCKER
No. 5806
REGISTERED PROFESSIONAL ENGINEER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

ABUTMENT NO. 2 REINFORCING

Designed by: A.P. GUYETTE	Drawn by: A.P. GUYETTE
Checked by: J.W. TUCKER date 1/06	Bridge Design Supervisor J.W. TUCKER date 1/06
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 26A OF 41

VAOT Metric

STA. 1+490.712
OFFSET LT. 4 350
TOP OF APPROACH SLAB
EL. 175.969

STA. 1+496.924
OFFSET LT. 4 350
TOP OF APPROACH SLAB
EL. 176.074

ES1607 @ 300 OC

BEGIN BRIDGE
STA. 1+498.090
END APPROACH SLAB NO. 1
TOP OF APPROACH SLAB
EL. 175.830

BEGIN APPROACH
SLAB NO. 1
STA. 1+492.090
TOP OF APPROACH SLAB
EL. 175.732

4 350

6 000 ALONG CENTERLINE

ES2908 @ 250 OC

105°0'0" (TYP.)

4 350

STA. 1+499.263
OFFSET RT. 4 350
TOP OF APPROACH SLAB
EL. 175.586

STA. 1+493.255
OFFSET RT. 4 350
TOP OF APPROACH SLAB
EL. 175.492

STA. 1+522.960
OFFSET LT. 4 350
TOP OF APPROACH SLAB
EL. 176.284

STA. 1+528.862
OFFSET LT. 4 350
TOP OF APPROACH SLAB
EL. 176.280

BEGIN APPROACH
SLAB NO. 2
STA. 1+524.512
TOP OF APPROACH SLAB
EL. 176.024

ES1607 @ 300 OC

4 350

END APPROACH
SLAB NO. 2
STA. 1+530.512
TOP OF APPROACH SLAB
EL. 176.015

6 000 ALONG CENTERLINE

ES2908 @ 250 OC

4 350

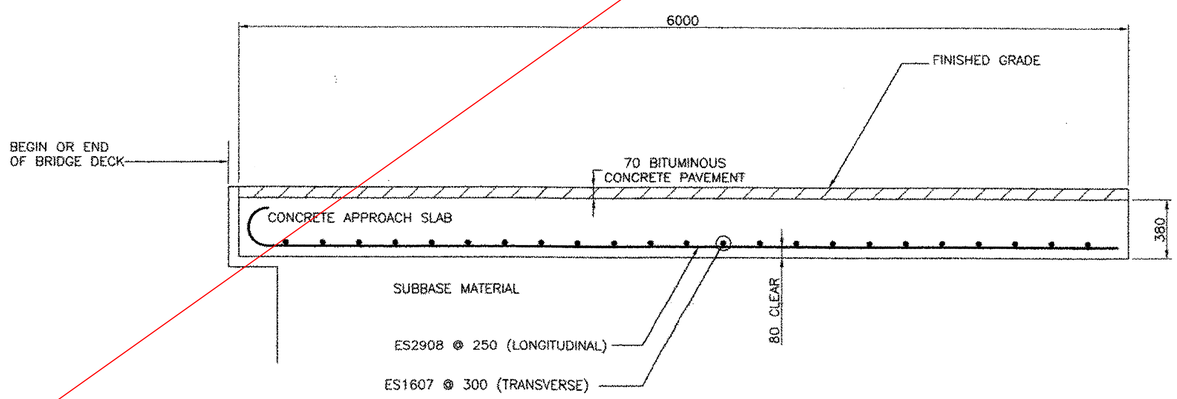
STA. 1+532.215
OFFSET RT. 4 350
TOP OF APPROACH SLAB
EL. 175.748

STA. 1+526.114
OFFSET RT. 4 350
TOP OF APPROACH SLAB
EL. 175.762

APPROACH SLAB PLAN VIEW

SCALE 1:50

SEE VALUE ENGINEERING DESIGN (FOLLOWING SHEET)



APPROACH SLAB DETAIL

SCALE 1:20

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

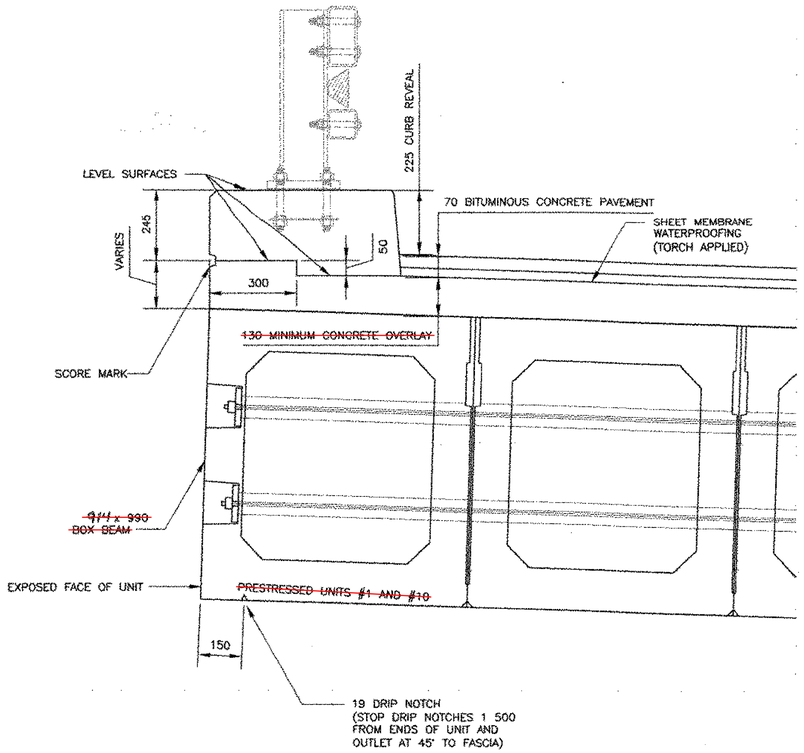
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

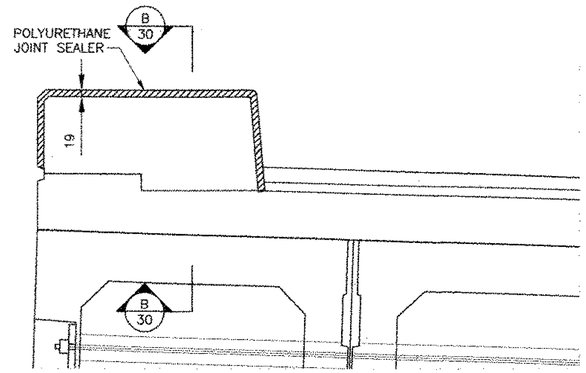
APPROACH SLAB DETAILS

Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 29 OF 41



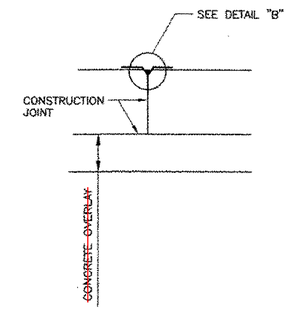
TYPICAL CURB SECTION

SCALE 1:10

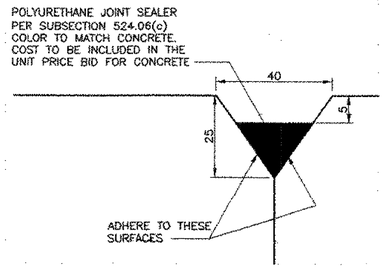


TYPICAL SECTION THROUGH CONCRETE CONSTRUCTION JOINT

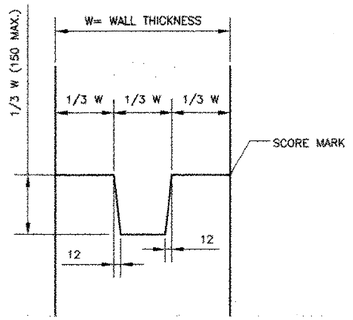
SCALE 1:10



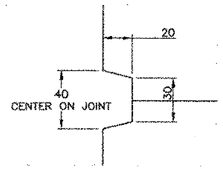
SECTION B–30



DETAIL "B"

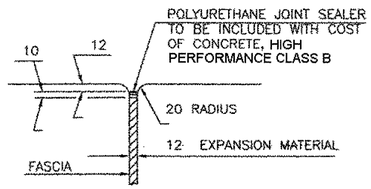


TYPICAL CONCRETE CONSTRUCTION JOINT



SCORE MARK DETAIL

NOT TO SCALE



JOINT BETWEEN FASCIA AND WINGWALL

NOTES:

1. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING (TORCH APPLIED).
2. SHEET MEMBRANE WATERPROOFING (TORCH APPLIED) SHALL EXTEND TO FACE OF CURB.
3. "E" DENOTES EPOXY COATED BARS.
4. CONSTRUCTION JOINTS IN THE CURBS SHALL BE PROVIDED AS SHOWN ABOVE. JOINTS SHALL BE SPACED MAXIMUM OF 4500 CENTER TO CENTER AND SHALL BE 460 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
5. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CONSTRUCTION JOINTS.
6. ALL EPOXY COATED STEEL THAT NEEDS TO BE CUT IN THE FIELD IS TO BE SAW CUT AND THE EXPOSED END IS TO BE TREATED AS PER SECTION 507.04.

REVISIONS		
	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
CURB DETAILS	
Designed by: B. C. AUSTIN	Drawn by: E. B. SMALL
Checked by: K. S. MARSHIA date 05/01	Bridge Design Supervisor J.W. TUCKER date 05/01
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 30 OF 40

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

Metric

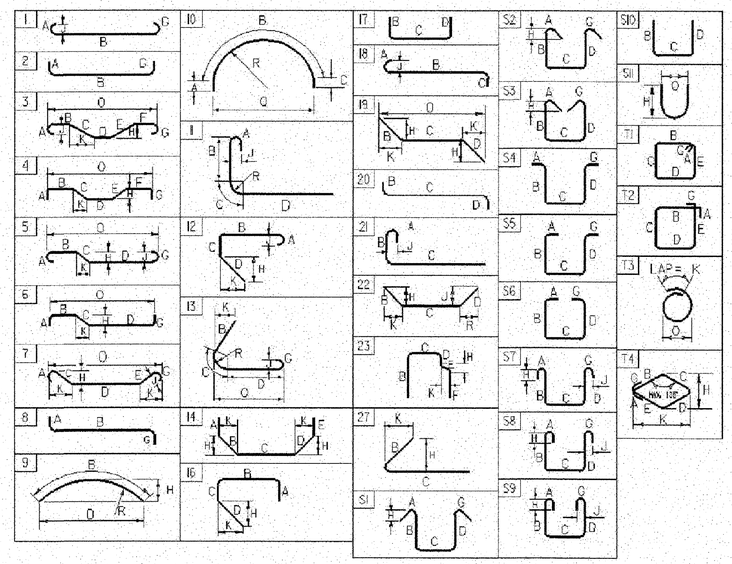
ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
	153	16	9180	ES1601	STR												
✳ ▲	90	16	10200	ES1602	STR												
	176	16	1600	ES1603	S5	300	300	400	300			300					
	176	16	1980	ES1604	17		840	300	840								
	35	16	2340	ES1605	17		1530	190	620								
	3	16	10700	ES1606	STR												
FOOTING NO. 1																	
	59	22	3940	F2201	STR												
	28	16	13260	F1602	STR												
	59	32	3940	F3203	STR												
	53	22	3840	F2204	STR												
▲	28	16	7650	F1605	STR												
▲	28	16	4350	F1606	STR												
	53	32	3840	F3207	STR												
FOOTING NO. 2																	
	59	22	3940	F2201	STR												
	28	16	13260	F1602	STR												
	59	32	3940	F3203	STR												
	49	22	3840	F2204	STR												
▲	28	16	4670	F1605	STR												
▲	28	16	6250	F1606	STR												
	49	32	3840	F3207	STR												
ABUTMENT NO. 1																	
	56	19	2180	A1904	17		660	1520									
✳ ▲	57	19	4280	A1905	STR												
✳	55	32	3630	A3206	17		660	2970									
▲	56	19	4280	A1907	STR												
✳	40	16	6170	A1608	STR												
	56	16	1835	A1609	17		660	740	435								
	56	19	1950	A1910	22		800	1150									
	56	16	2100	A1611	17		650	140	1310								
	39	16	6910	A1612	STR												
	34	16	1320	A1613	22		660	660									
▲	78	16	2390	A1614	22		790	1600									
	39	16	1980	A1615	22		660	1320									
	40	16	610	A1616	STR												
ABUTMENT NO. 2																	
	59	19	2040	A1904	17		660	1380									
✳ ▲	60	19	4490	A1905	STR												
✳	58	32	3630	A3206	17		660	2970									
▲	57	19	4490	A1907	STR												
✳	31	16	6170	A1608	STR												
	49	16	2390	A1609	17		660	1110	620								
	57	19	2520	A1910	22		1220	1300									
	41	16	1340	A1611	17		600	140	600								
	59	16	1550	A1612	STR												
	59	16	1920	A1613	17		740	440	740								
	14	16	6620	A1614	STR												
	14	16	7360	A1615	STR												
	30	16	6910	A1616	STR												
	58	16	1320	A1617	22		660	660						465		465	
▲	60	16	3550	A1618	22		2250	1300						2890		1635	
	41	16	610	A1619	STR												
WINGWALL NO.1																	
	33	19	2180	W1908	17		660	1520									
▲	33	19	5510	W1909	STR												
	32	32	3630	W3210	17		660	2970									
▲	32	19	5510	W1911	STR												
▲	36	16	5995	W1612	STR												
	29	16	1790	W1613	S10		660	470	660								
	2	16	6800	W1614	STR												
WINGWALL NO. 2																	
	18	19	2180	W1908	17		660	1520									
▲	18	19	5030	W1909	STR												
	16	32	3630	W3210	17		660	2970									
▲	16	19	5030	W1911	STR												
▲	34	16	2695	W1612	STR												
	15	16	1790	W1613	S10		660	470	660								
	2	16	3600	W1614	STR												

SEE BARKER STEEL ABUTMENTS & DECK REINFORCEMENT ROI FOR ADDITIONAL BARS

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
WINGWALL NO. 3																	
	12	19	2040	W1908	17		660	1380									
▲	25	19	5650	W1909	STR												
	12	32	3630	W3210	17		660	2970									
▲	12	19	5650	W1911	STR												
▲	36	16	4070	W1612	STR												
	23	16	1790	W1613	S10		660	470	660								
	2	16	5500	W1614	STR												
WINGWALL NO. 4																	
	12	19	2040	W1908	17		660	1380									
▲	12	19	5130	W1909	STR												
	12	32	3630	W3210	17		660	2970									
▲	12	19	5130	W1911	STR												
▲	36	16	2470	W1612	STR												
	16	16	1790	W1613	S10		660	470	660								
	2	16	3600	W1614	STR												
APPROACH SLAB NO. 1																	
✳	22	16	8845	ES1607	STR												
✳	38	29	6455	ES2908	1	375	5840							240			
APPROACH SLAB NO. 2																	
✳	22	16	8845	ES1607	STR												
✳	38	29	6455	ES2908	1	375	5840							240			

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



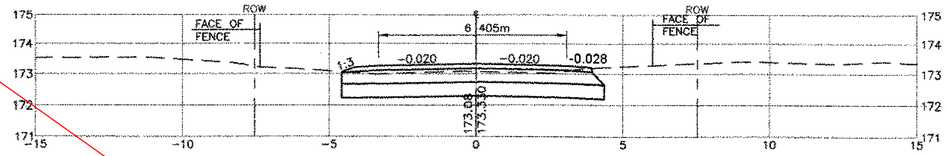
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: **Clarendon**
PROJECT NUMBER: **BRO 1443(29)**

FILE NAME: **93j019rss.xls**
PROJECT MANAGER: **R. Whitcomb**
DESIGNED BY: **Dubois & King**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **5/26/2005**
DRAWN BY: **L. Bullock**
CHECKED BY: **C. Carlson**
SHEET **34** OF **41**



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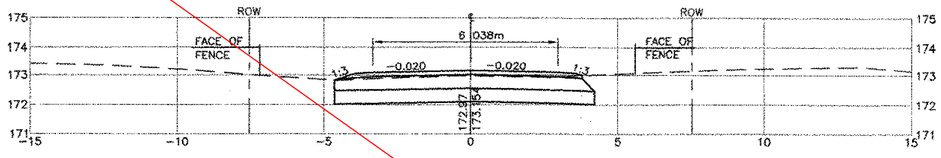

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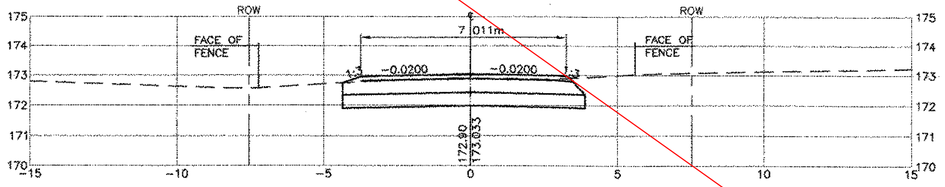

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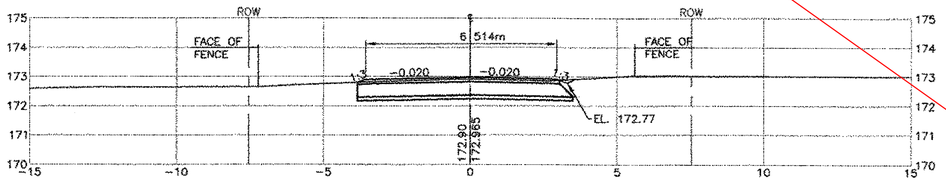

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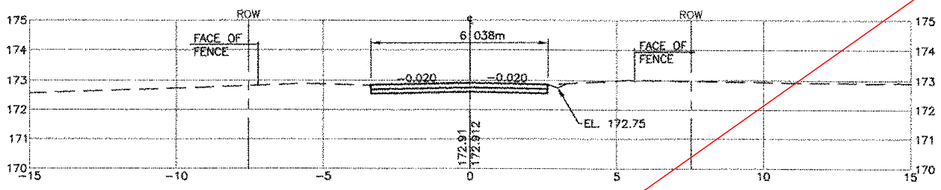

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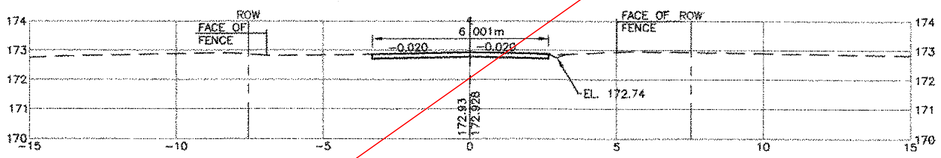

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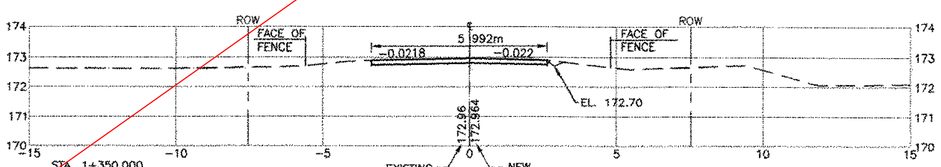

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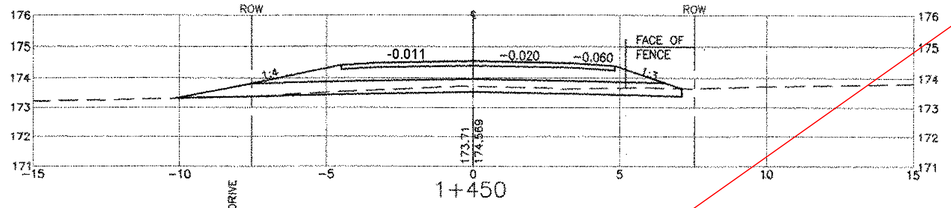
BEGIN TAPER CROSS SECTION WIDTH

1+350



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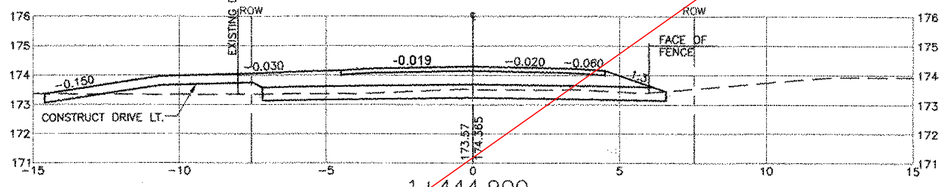

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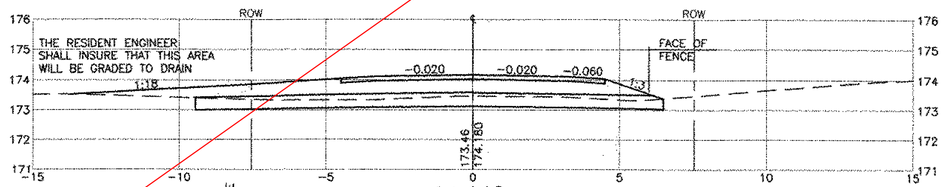

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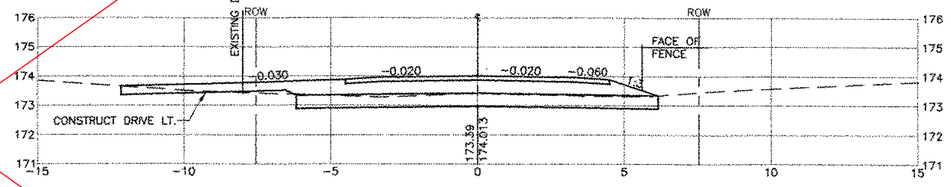

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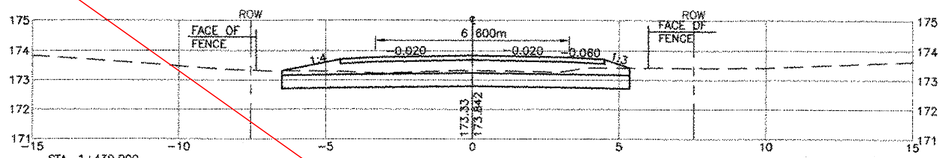

STA. 1+430.000
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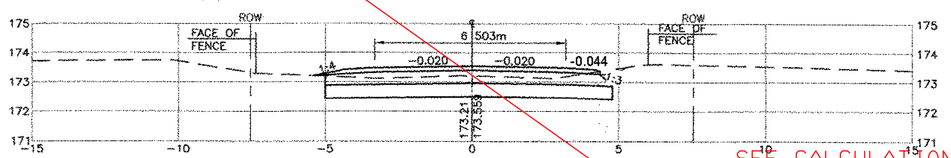
BEGIN FULL CROSS SECTION WIDTH
BEGIN PROJECT BRO 1443(29)

1+430

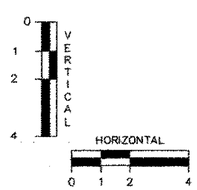


1+420

SEE CALCULATIONS FILE IN ONBASE FOR FINAL CROSS SECTIONS

ROADWAY CROSS SECTIONS

SCALE: HORIZ. 1:100
VERT. 1:100

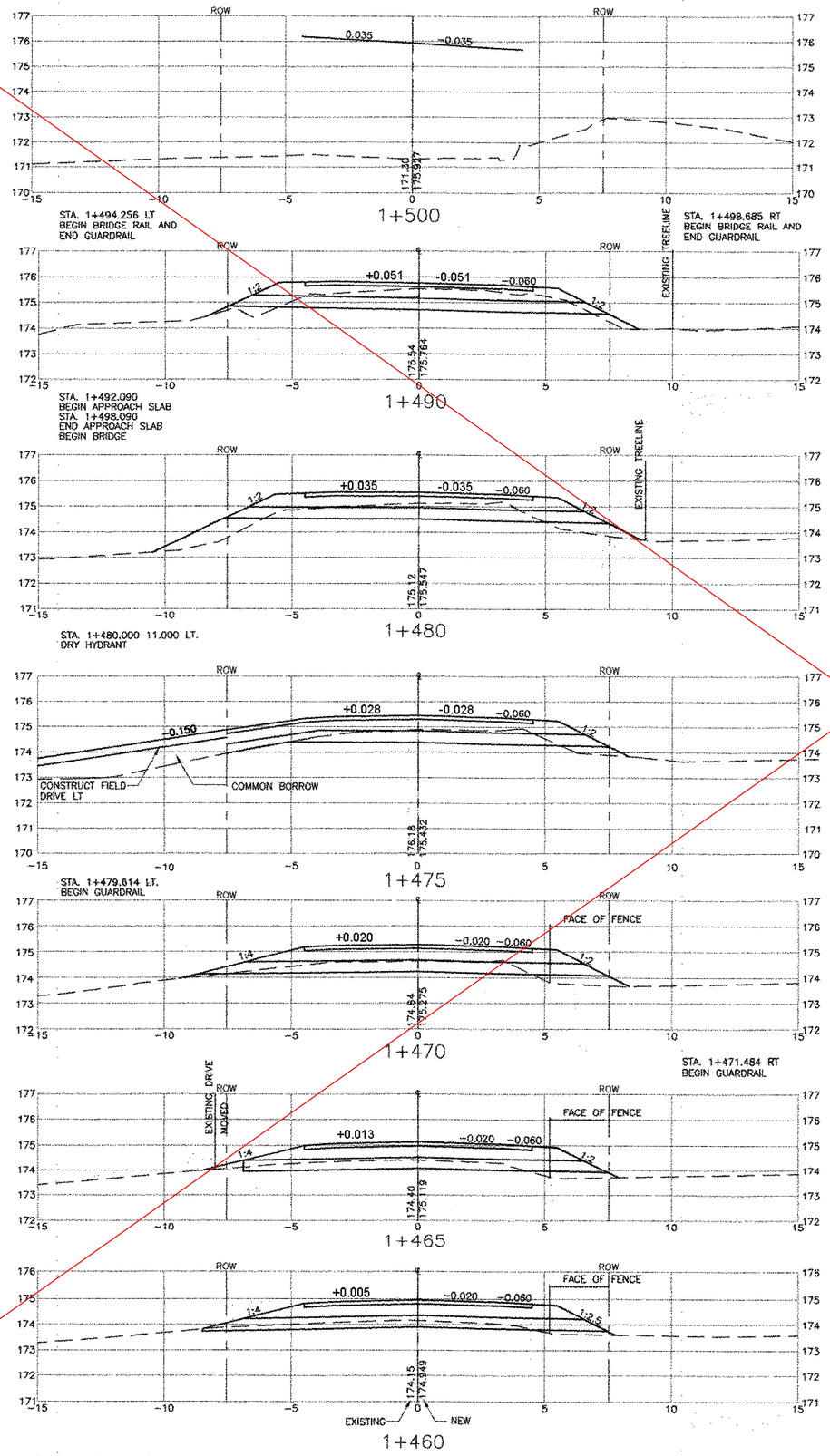


REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
ROADWAY CROSS SECTIONS	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 35 OF 41



ROADWAY CROSS SECTIONS

SCALE: HORIZ. 1:100
VERT. 1:100

VERTICAL 0 1 2 4
HORIZONTAL 0 1 2 4

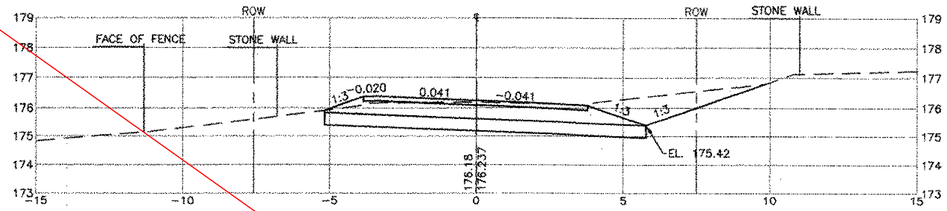
SEE CALCULATIONS FILE
IN ONBASE FOR FIANL
CROSS SECTIONS

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
ROADWAY CROSS SECTIONS	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 36 OF 41



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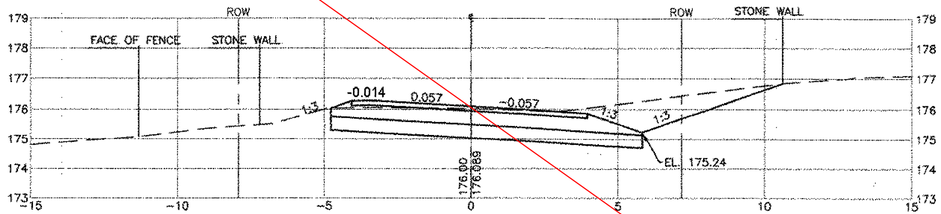

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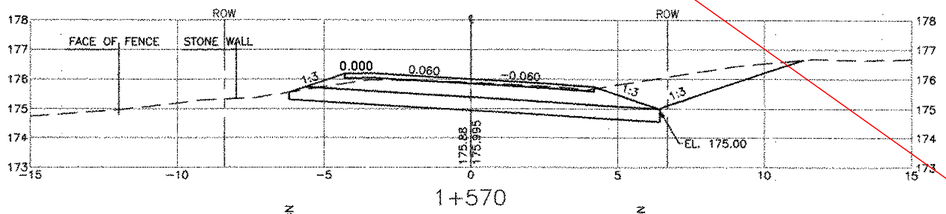

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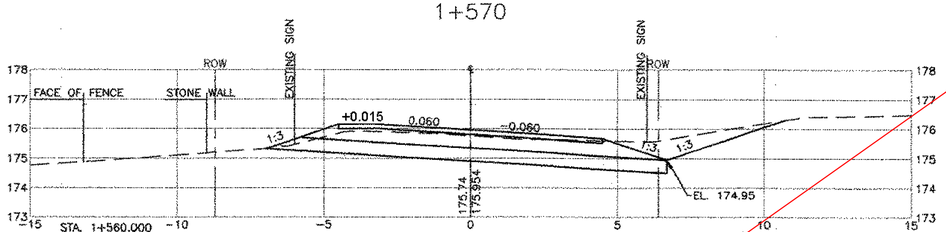

STA. 1+560.000
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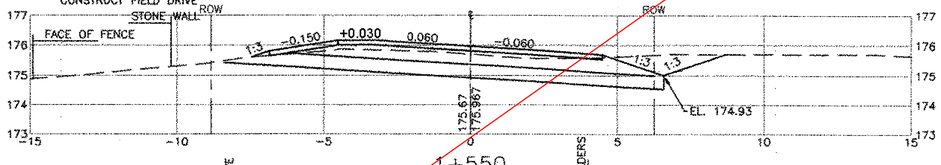
BEGIN APPROACH
BEGIN TAPER CROSS SECTION WIDTH
STA. 1+552.542 LT
CONSTRUCT FIELD DRIVE

1+560



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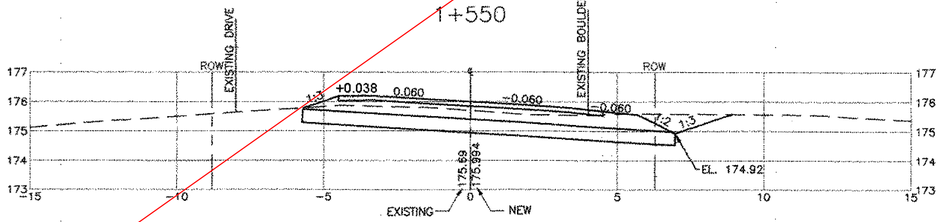

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ROADWAY CROSS SECTIONS

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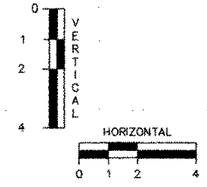
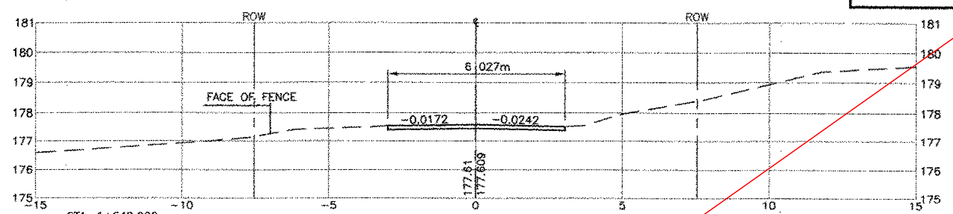
VERT. 1:100

SEE CALCULATIONS FILE IN ONBASE FOR FINAL CROSS SECTIONS





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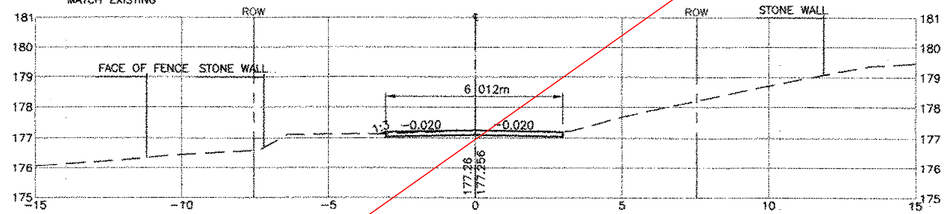
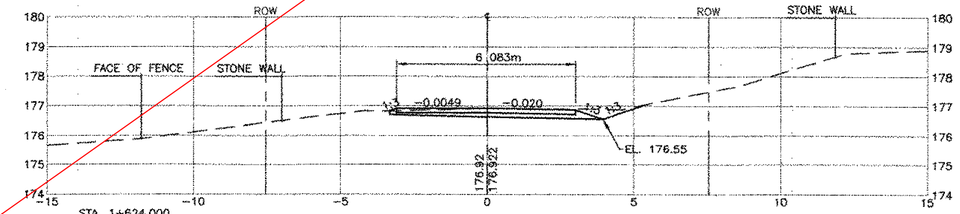
MATCH EXISTING

1+640



1+630

STA. 1+625.000 RT
END DITCH



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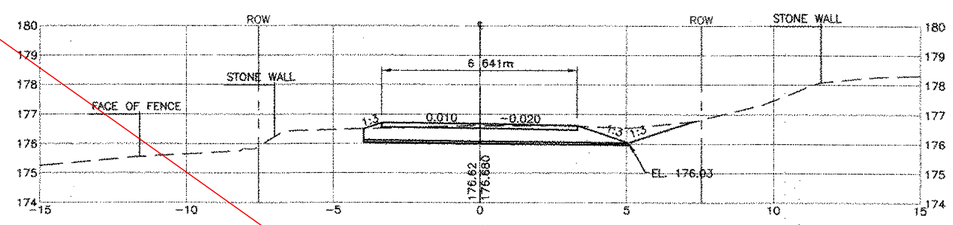
END TAPER
CROSS SECTION DEPTH
MATCH EXISTING DEPTH

1+620



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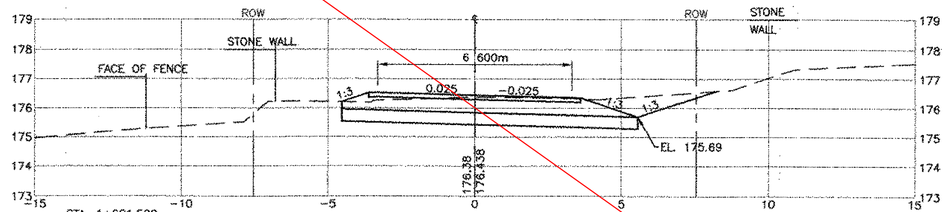


STA. 1+601.500
BEGIN TAPER
CROSS SECTION DEPTH

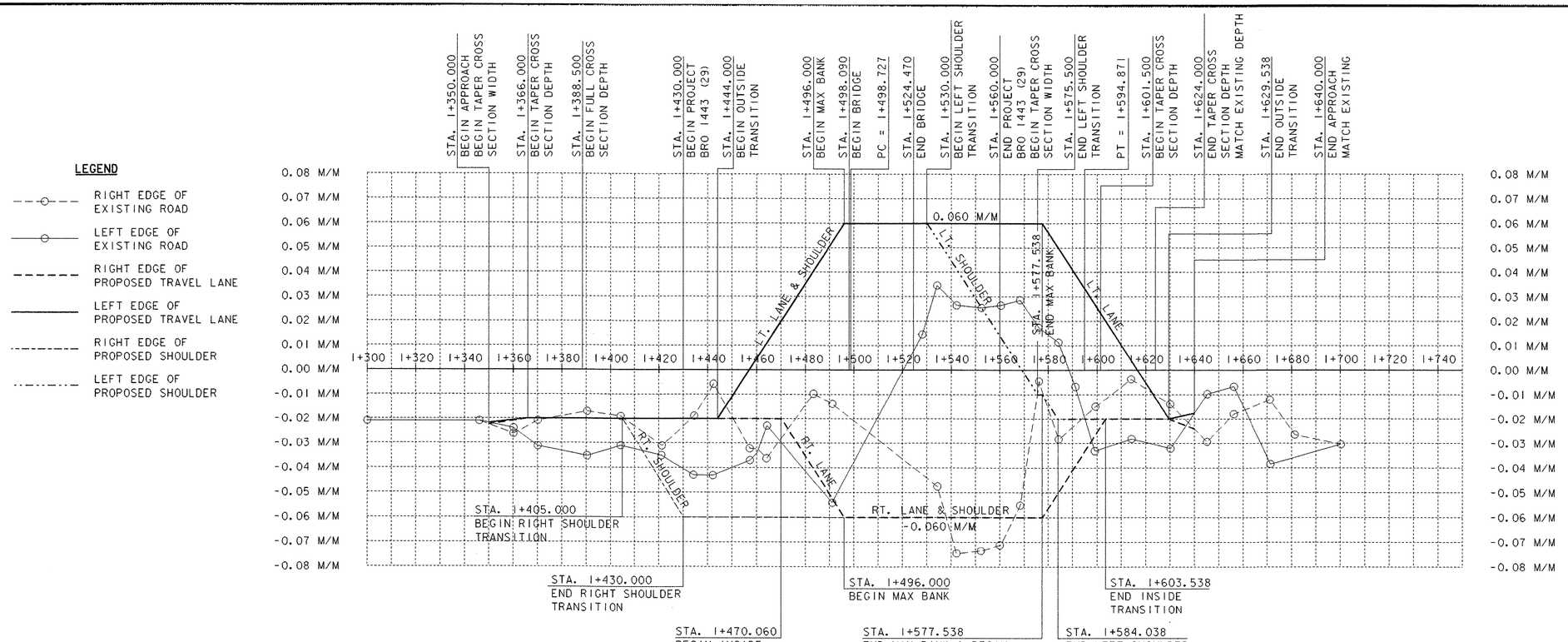
1+600

REVISIONS		
NO.	DESCRIPTION	BY & DATE

DuBois & King inc.
engineering planning management development

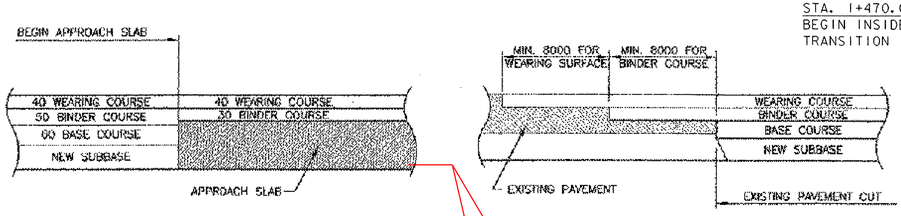
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
ROADWAY CROSS SECTIONS	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 37 OF 41



BANKING DIAGRAM

SCALE: HORIZ. 1:100
VERT. 0.01 M/M

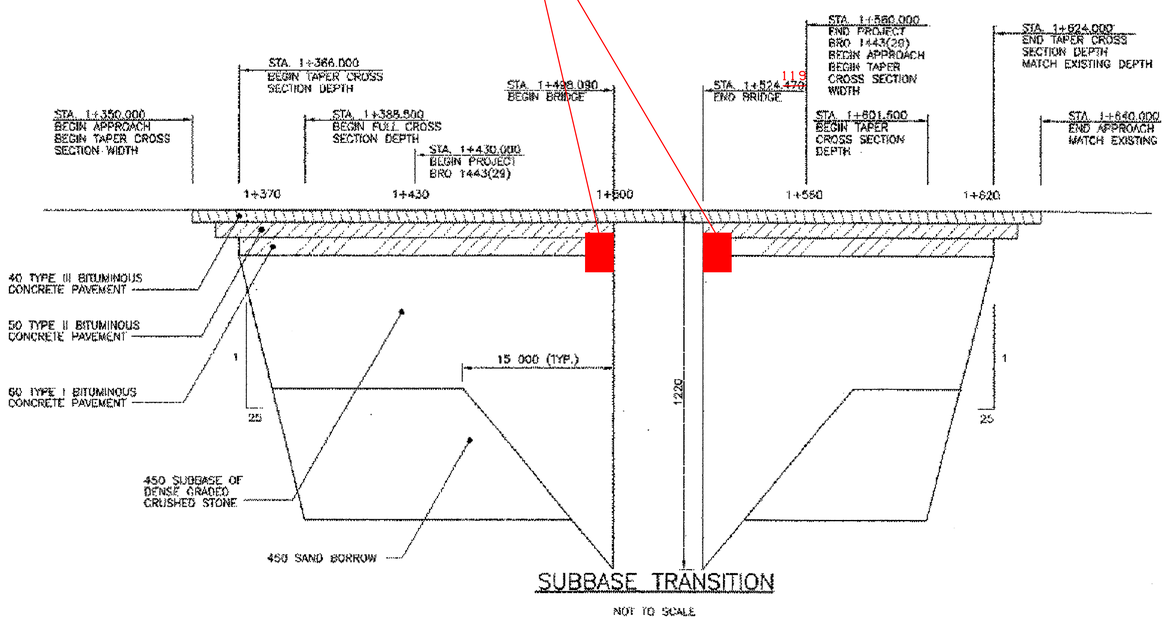


TYPICAL PAVEMENT TRANSITION AT BRIDGE SECTION

NOT TO SCALE

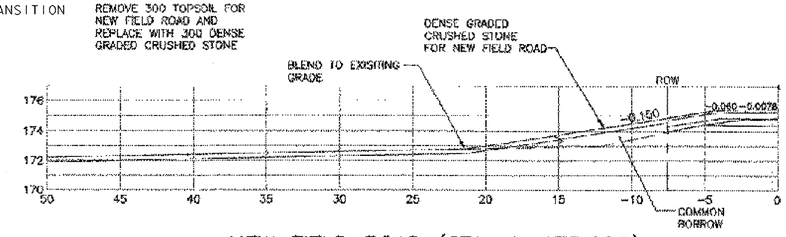
TYPICAL COLD PLANING SECTION

NOT TO SCALE



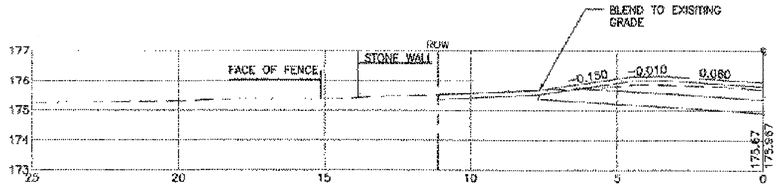
SUBBASE TRANSITION

NOT TO SCALE



NEW FIELD ROAD (STA. 1+475.000)

SCALE: HORIZ. 1:200



NEW FIELD DRIVE (STA. 1+552.542)

SCALE: HORIZ. 1:100

REVISIONS		
NO.	DESCRIPTION	BY & DATE

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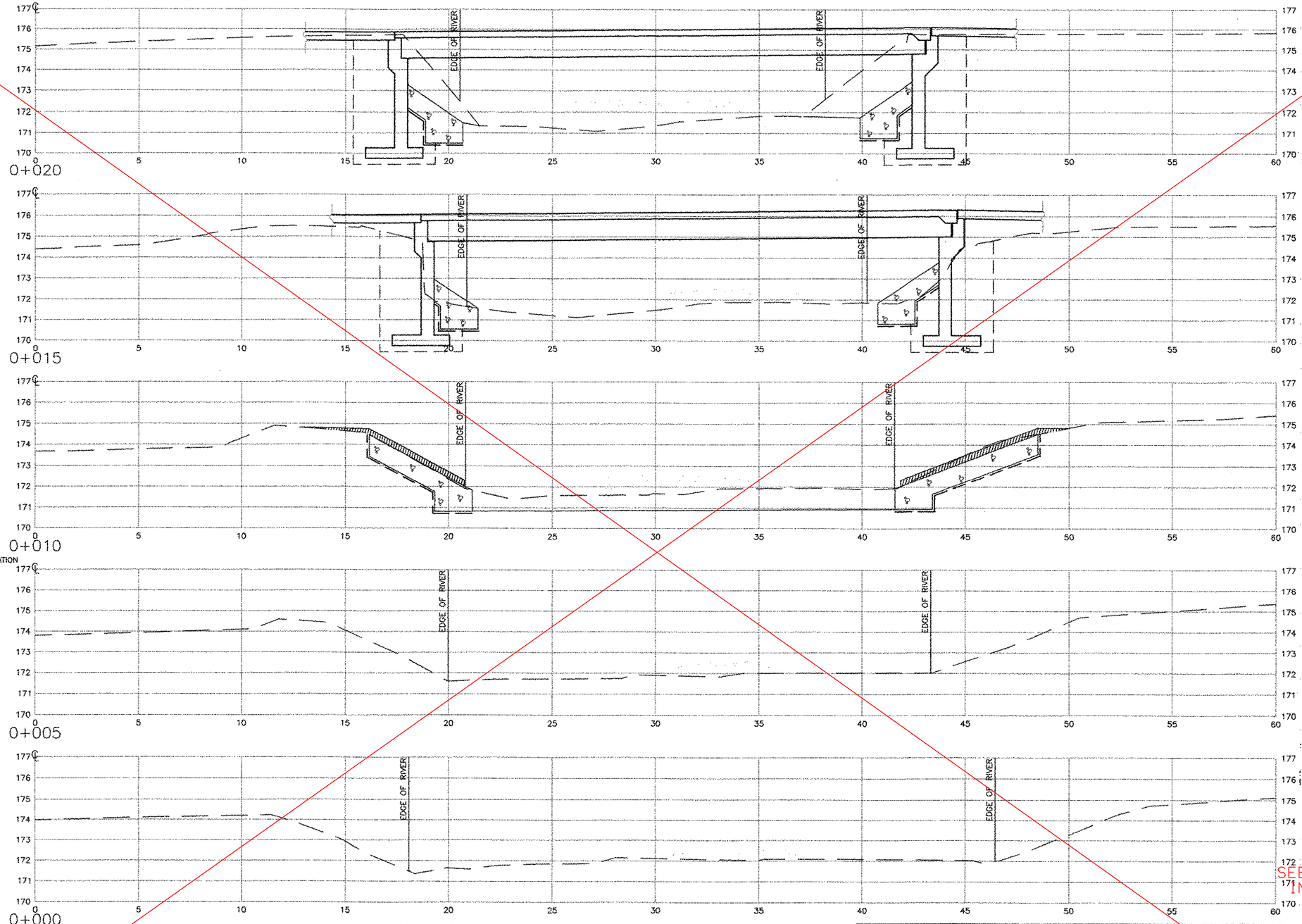
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
BANKING DIAGRAM AND PAVEMENT TRANSITION	
Designed by: W.S. CHESBROUGH	Drawn by: E.D. SMALL
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor: J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 38 OF 41



STA. 0+014.9 LT
END GRUBBING MATERIAL

STA. 0+014.1 RT
END GRUBBING MATERIAL

STA. 0+007.9 LT AND RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE III
BEGIN GRUBBING MATERIAL

SEE CALCULATIONS FILE IN ONBASE FOR FINAL CROSS SECTIONS

CHANNEL CROSS SECTIONS

SCALE: HORIZ. 1:100
VERT. 1:100

VERTICAL 0 1 2 4
HORIZONTAL 0 1 2 4

REVISIONS		
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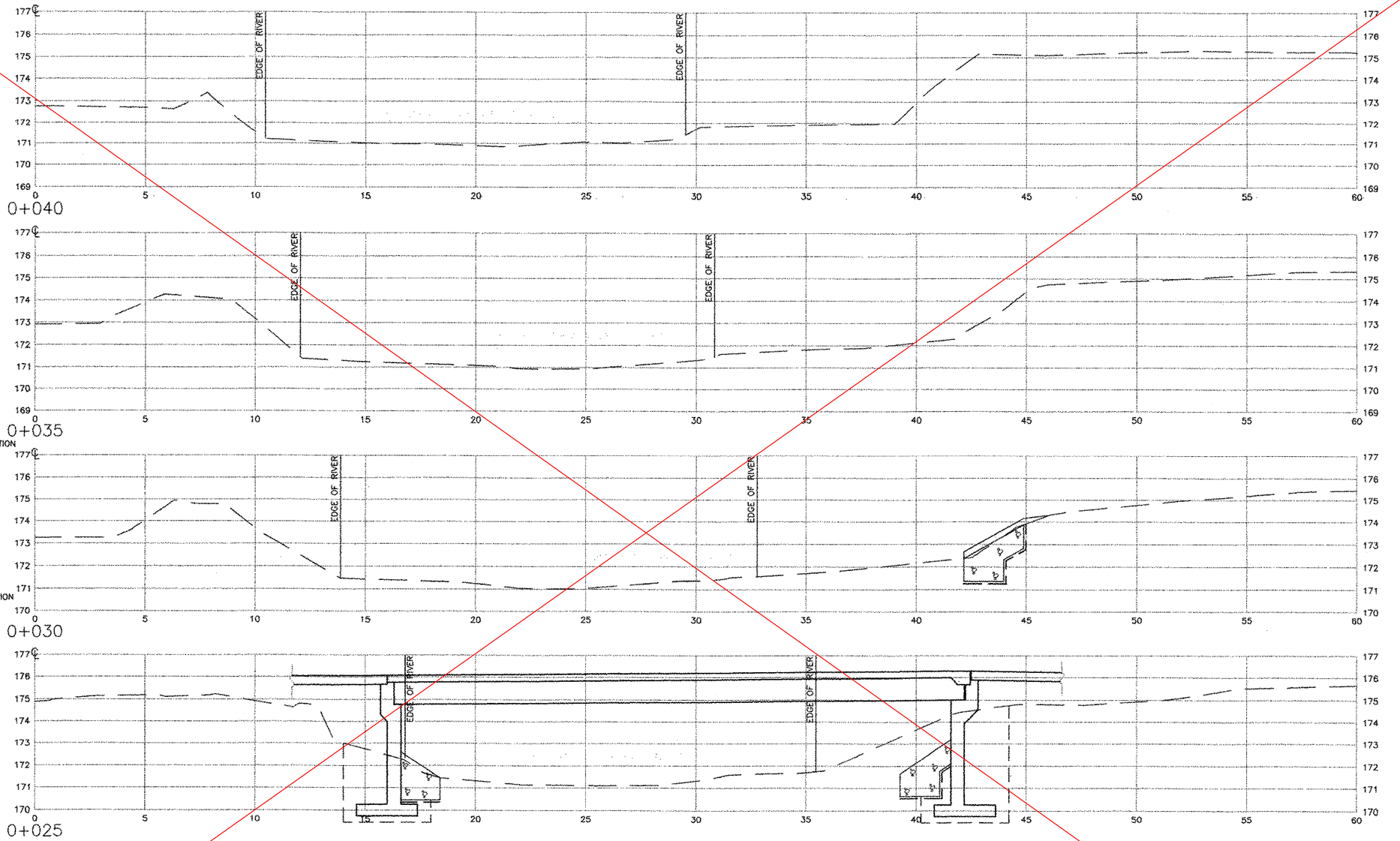
STATE OF VERMONT
AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
	Log Sta.
TOWN HIGHWAY NO. 1	Surv. Sta.
TOWN HIGHWAY NO. 1 OVER THE COLD RIVER	
CHANNEL CROSS SECTIONS	
Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT CLARENDON	PROJECT NO. BRO 1443(29)
Bridge Sheet No.	SHEET 40 of 41



STA. 0+034.3 RT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE III
END GRUBBING MATERIAL

STA. 0+029.8 LT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE III
END GRUBBING MATERIAL

STA. 0+025.1 LT
BEGIN GRUBBING MATERIAL

STA. 0+024.2 RT
BEGIN GRUBBING MATERIAL

SEE CALCULATIONS FILE IN ONBASE FOR FINAL CROSS SECTIONS

CHANNEL CROSS SECTIONS

SCALE: HORIZ. 1:100
VERT. 1:100

VERTICAL 0 1 2 4
HORIZONTAL 0 1 2 4

REVISIONS		
NO.	DESCRIPTION	BY & DATE

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AGENCY OF TRANSPORTATION

CLARENDON, VERMONT	Bridge No. 14
TOWN HIGHWAY NO. 1	Log Sta.
	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER THE COLD RIVER

CHANNEL CROSS SECTIONS

Designed by: W.S. CHESBROUGH	Drawn by: N.B. DIMICK
Checked by: K. S. MARSHIA date 05/02	Bridge Design Supervisor J.W. TUCKER date 05/02
PROJECT: CLARENDON	PROJECT NO.: BRO 1443(29)
Bridge Sheet No.	SHEET 41 of 41