SEE SHEET 2 FOR LIST OF SHEETS AND LIST OF STANDARDS

# STATE OF VERMONT
# AGENCY OF TRANSPORTATION

# PROPOSED IMPROVEMENT
# BRIDGE PROJECT

## TOWN OF STAMFORD
## COUNTY OF BENNINGTON

ROUTE NO : T.H. 12, (LOCAL ROAD, CLASS III) - BRIDGE NO. 14

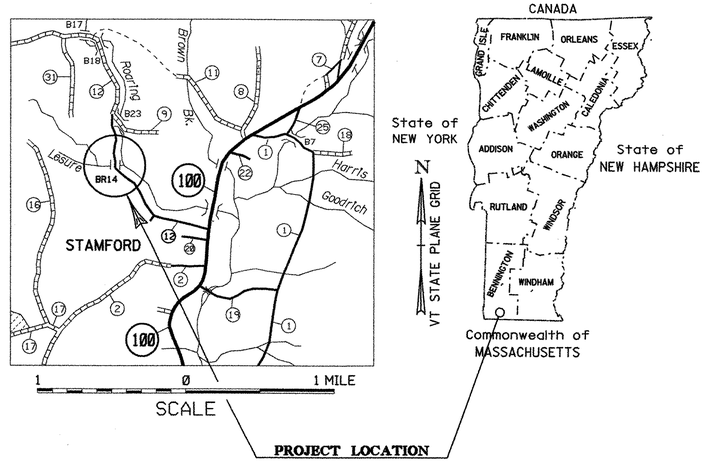
PROJECT LOCATION : BEGINNING AT A POINT ON TH 12 APPROXIMATELY 1.3 KM NORTH- WESTERLY OF THE INTERSECTION OF TH 12 AND VT ROUTE 100 OVER LESURE BROOK.

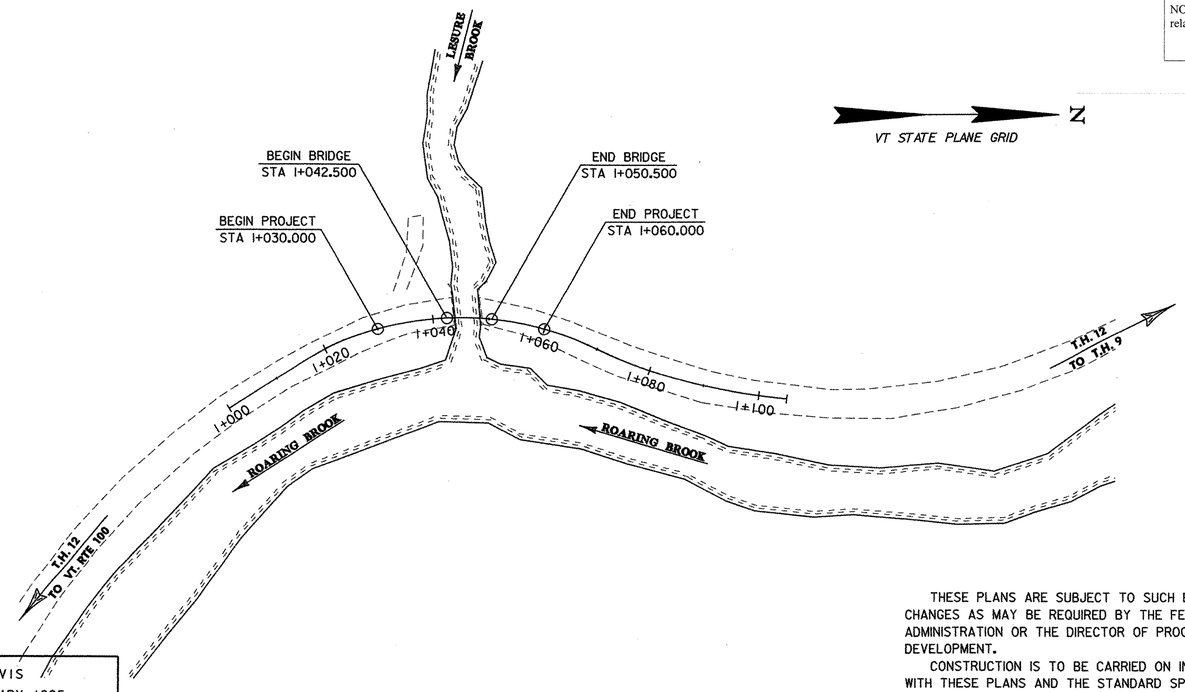
PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING STRUCTURE WITH RELATED ROADWAY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE = 8.000 METERS

LENGTH OF ROADWAY = 22.000 METERS

LENGTH OF PROJECT = 30.000 METERS




## CONVENTIONAL SYMBOLS

| | |
|---|---|
| COUNTY LINE | COUNTY LINE |
| TOWN LINE | TOWN LINE |
| LIMITS OF ACCESS | |
| POINT OF ACCESS | X |
| FENCE LINE | |
| STONE WALL | |
| TRAVELED WAY | |
| GUARD RAIL | |
| RAILROAD | |
| SURVEY LINE | |
| CULVERT | |
| POWER POLE | |
| TELEPHONE POLE | |
| TREES | |
| CONTROL OF ACCESS | |
| PROPERTY LINE | |
| R.O.W. TAKING LINE | |
| SLOPE RIGHTS | SR SR SR |
| TOP OF CUT | |
| TOE OF SLOPE | |

SURVEYED BY : L. ORVIS
SURVEYED DATE : FEBRUARY 1995

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

RECORD PLANS

CONTRACTOR: KUBRICKY CONSTRUCTION CORP. - GLENS FALLS, NY
RESIDENT ENGINEER: TIM POCKETTE
CONSTRUCTION BEGAN: May 6, 2004
CONSTRUCTION COMPLETE: NOVEMBER 4, 2005
RECORD PLANS BY: T. POCKETTE & NICK GARBACIK

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER
DATE 03-22-2006

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

VAOT Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

/str1/94J072/sj072bdr.dgn sj072tl.i 18-SEP-2003

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 9/19/03

PROJECT MANAGER : **GARY S. ROGERS**

PROJECT NAME : **STAMFORD**
PROJECT NUMBER : **TH3-9411**

SHEET 1 OF 38 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# PRELIMINARY INFORMATION SHEET

Metric

## INDEX OF SHEETS


1. TITLE SHEET
2. PRELIMINARY INFORMATION SHEET
3. TYPICAL SECTIONS
4. QUANTITY SHEET #1
5. QUANTITY SHEET #2
6. R.O.W. PLAN SHEET
7. TIE SHEET
8. PLAN
9. MAINLINE PROFILE
10. TRAFFIC CONTROL PLAN SHEET
11. BORING LAYOUT SHEET
12. BORING LOGS
13. PLAN AND ELEVATION
14. EROSION CONTROL NARRATIVE
15. EXISTING CONDITIONS, RESOURCES, PERIMETER EROSION CONTROL
16. EROSION AND SEDIMENT CONTROL PLAN
17. EROSION CONTROL DETAILS
18. DRAINAGE AND UTILITIES
19. DRAINAGE DETAIL SHEET
20. MANUFACTURED END TERMINAL
21. GENERAL NOTES SHEET
22. SLAB DETAILS
23. ABUTMENT #1 PLAN
24. ABUTMENT #1 ELEVATION
25. WW #1 & WW #2 ELEVATIONS
26. FOOTING REINFORCING
27. ABUTMENT #2 PLAN
28. ABUTMENT #2 ELEVATION
29. WW #3 & WW #4 ELEVATIONS
30. REINFORCING STEEL SCHEDULE
31. BANKING DIAGRAM
32. MAINLINE CROSS SECTIONS
33. MAINLINE CROSS SECTIONS
34. MAINLINE CROSS SECTIONS
35. MAINLINE CROSS SECTIONS AND SUBBASE TRANSITION DETAILS
36. CHANNEL CROSS SECTIONS
37. CHANNEL CROSS SECTIONS
38. CHANNEL CROSS SECTIONS


## LIST OF STANDARDS

| | |
|---|---|
| B-5M | 01-03-00 |
| D-3M | 06-13-97 |
| D-6M | 06-13-97 |
| D-8M | 01-03-00 |
| D-15M | 06-13-97 |
| E-100M | 06-13-97 |
| E-101M | 06-13-97 |
| E-102M | 06-13-97 |
| E-102AM | 06-13-97 |
| E-106M | 06-13-97 |
| E-107M | 06-13-97 |
| E-107AM | 06-13-97 |
| G-1dM | 01-03-00 |
| G-1M | 01-03-00 |
| G-4M | 06-13-97 |
| SB-R6-82M | 07-10-97 |
| T-1M | 06-13-97 |
| T-2M | 06-13-97 |

## FINAL HYDRAULIC REPORT

### HYDROLOGIC DATA

Date: 9/20/00

DRAINAGE AREA : 4.9 sq. km
CHARACTER OF TERRAIN : Forested and mountainous
STREAM CHARACTERISTICS : Steep, flashy, sinuous
NATURE OF STREAMBED : Cobbles to large boulders

PEAK FLOW DATA

| | | | |
|---|---|---|---|
| Q 2.33 = | 5.8 cms | Q 50 = | 16.4 cms |
| Q 10 = | 11.3 cms | Q 100 = | 18.8 cms |
| Q 25 = | 14.2 cms | Q 500 = | 24.1 cms |

DATE OF FLOOD RECORD : November 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 3.0 mps
ICE CONDITIONS : moderate
DEBRIS: moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: The confluence of Roaring Brook and Lesure Brook is just below Bridge 14.

WATERSHED STORAGE: 1% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

### EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single Span Steel Beam Bridge
YEAR BUILT: 1934
CLEAR SPAN(NORMAL TO STREAM): 4.3 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.1 m
WATERWAY OF FULL OPENING: 8.3 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

| | | | |
|---|---|---|---|
| Q2.33 = | 393.0 m | VELOCITY = | 3.3 mps |
| Q10 = | 393.2 m | " | 4.1 mps |
| Q25 = | 393.3 m | " | 4.4 mps |
| Q50 = | 393.6 m | " | 2.9 mps* |
| Q100 = | 393.7 m | " | 3.0 mps* |

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: * Yes
FREQUENCY: Q50
RELIEF ELEVATION: 393.6 m
DISCHARGE OVER ROAD @Q100: 1.0 cms

### UPSTREAM STRUCTURE

TOWN: N/A DISTANCE:
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

### DOWNSTREAM STRUCTURE

TOWN: N/A - Confluence of Roaring Brook DISTANCE:
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

### LOAD FACTOR LOAD RATING (METRIC TONS)

| LOADING LEVELS | TRUCK | | | | | | |
|---|---|---|---|---|---|---|---|
| | M | MS | 3S2 | 6 AXLE | 3A. STR. | 4A. STR. | SA. SEMI |
| INVENTORY A=2.17 | 28 | 57 | | | 47 | 49 | 83 |
| POSTED A=1.55 | 40 | 72 | 83 | | | | |
| OPERATING A=1.30 | | 86 | 99 | 89 | 56 | 59 | |

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

### TRAFFIC DATA

| YEAR | ADT | DHV | % D | % T | ADTT |
|---|---|---|---|---|---|
| 1999 | 220 | 30 | 0 | 28 | 27 |
| 2019 | 300 | 40 | 0 | 33 | 33 |

20 year ESAL for flexible pavement 1999 to 2019 : 518,000
40 year ESAL for flexible pavement 1999 to 2039 : 1,326,000
Design Speed : 40 km/h

### PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Concrete Slab Bridge

CLEAR SPAN(NORMAL TO STREAM): 7.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.3 m
WATERWAY OF FULL OPENING: 12.8 sq. m

WATER SURFACE ELEVATIONS AT:

| | | | |
|---|---|---|---|
| Q2.33 = | 393.0 m | VELOCITY= | 2.5 mps |
| Q10 = | 393.2 m | " | 3.2 mps |
| Q25 = | 393.3 m | " | 3.5 mps |
| Q50 = | 393.3 m | " | 3.6 mps |
| Q100 = | 393.4 m | " | 3.8 mps |

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 393.9 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 393.5 m
VERTICAL CLEARANCE: @ Q25 = 0.5 m

SCOUR: No contraction scour at Q100 or Q500

REQUIRED CHANNEL PROTECTION: Type IV

### PERMIT INFORMATION

| | | |
|---|---|---|
| AVERAGE DAILY FLOW: | 0.1 cms | DEPTH OR ELEVATION: |
| ORDINARY LOW WATER: | <0.1 cms | 0.2 m |
| ORDINARY HIGH WATER: | 2.5 cms | 1.0 m |

### TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single Span Bridge
CLEAR SPAN (NORMAL TO STREAM): 4.3 m (minimum)
VERTICAL CLEARANCE ABOVE STREAMBED: 2.1 m (minimum)
WATERWAY AREA OF FULL OPENING: 8.0 sq. m (minimum)

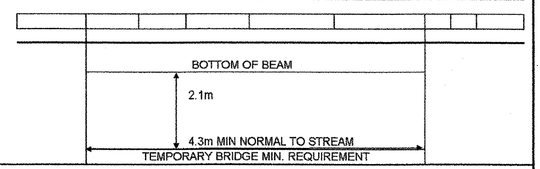
### ADDITIONAL INFORMATION

### DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 7.415 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 260 kPa
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH
5. STRUCTURAL STEEL AASHTO M270/M270M GRADE N/A
6. REINFORCING STEEL GRADE 420
7. HIGH PERFORMANCE CONCRETE
   CLASS B f ' c : 25 Mpa
8. SOIL UNIT WEIGHT 22 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 230 kPa

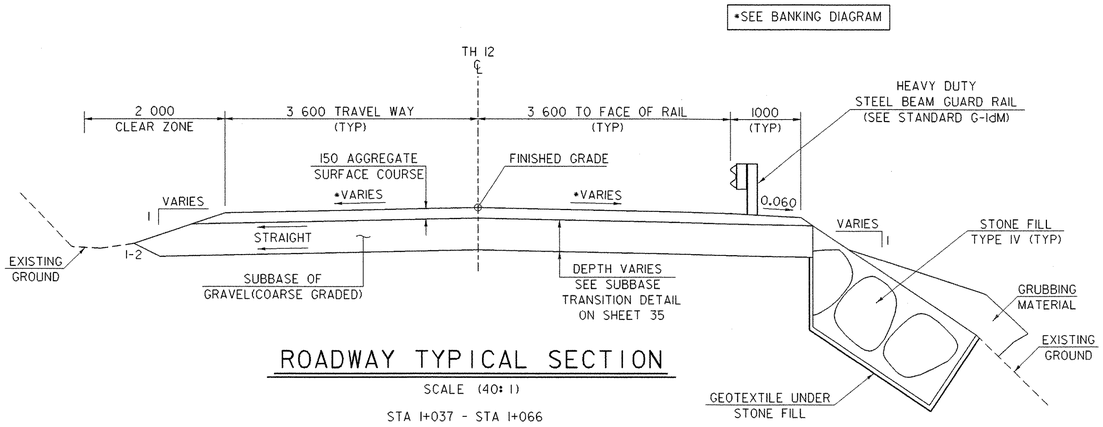
### TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? NO
   OR ON TEMPORARY BRIDGE? YES
   ONE OR TWO-WAY TRAVEL? ONE-WAY
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE?




PROJECT NAME: **STAMFORD**
PROJECT NUMBER: **TH3 9411**

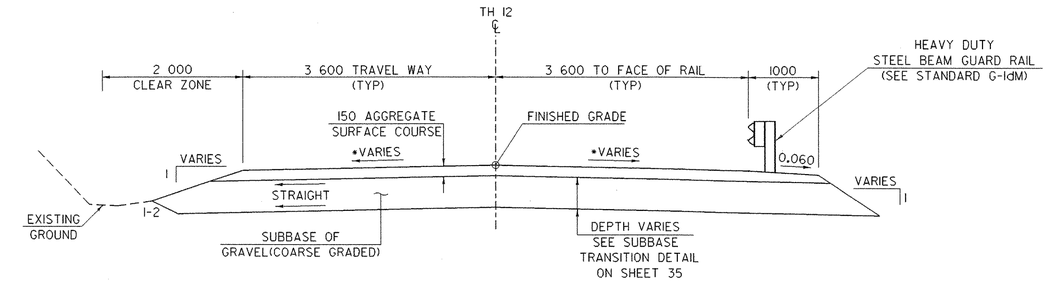
FILE NAME: **TransFANS/94j072/sj072pi.xls** PLOT DATE: **10/16/2003**
PROJECT MANAGER: **G.S. ROGERS** DRAWN BY: **J. GILMORE**
DESIGNED BY: **K. UPMAL** CHECKED BY: **C. MEUNIER**
**PRELIMINARY INFORMATION SHEET** SHEET **2** OF **38**




## ROADWAY TYPICAL SECTION

SCALE (40: 1)

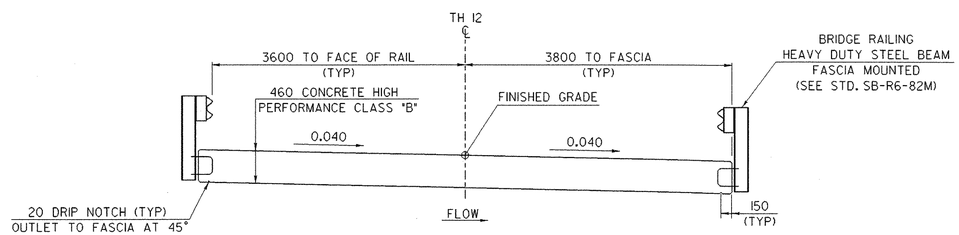
STA 1+037 - STA 1+066




## ROADWAY TYPICAL SECTION

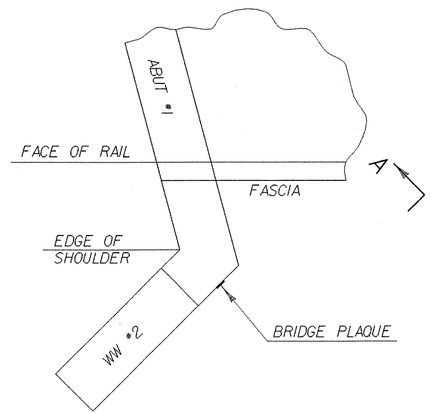
SCALE (40: 1)

STA 1+005 - STA 1+037
STA 1+066 - STA 1+090

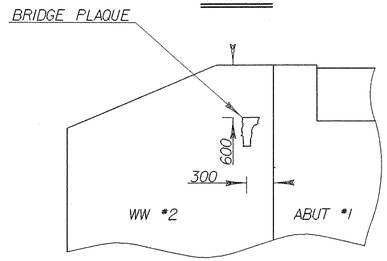



## BRIDGE TYPICAL SECTION

SCALE (40: 1)



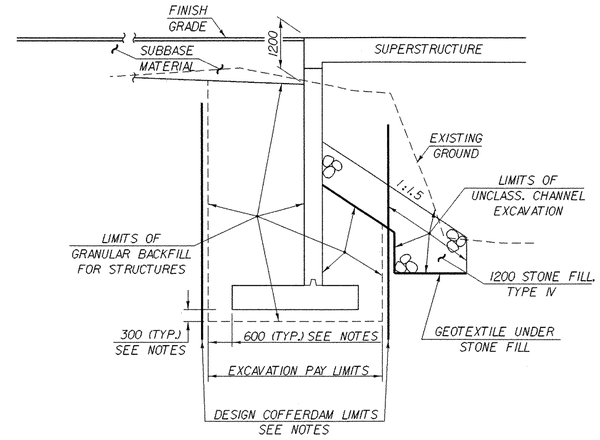

## PLAN




## VIEW "A - A"

## LOCATE BRIDGE PLAQUE

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

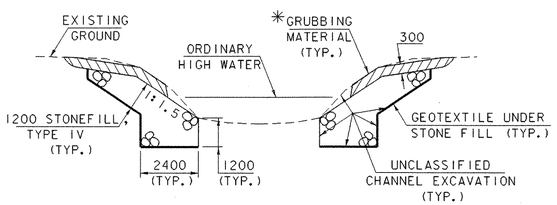



## TYPICAL ABUTMENT SECTION

**(NOT TO SCALE)**

**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.




## TYPICAL CHANNEL SECTION

**(NOT TO SCALE)**

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE. ON SLOPES GREATER THAN 3:1 WHERE MATTING WILL BE USED GRUBBING MATERIAL MUST BE TAMPED SO MATTING IS FLAT TO GROUND.

| MATERIAL ITEM | TOLERANCE |
|---|---|
| AGGREGATE SURFACE COURSE | ± 10 mm |
| SUBBASE | ± 10 mm |

SHEET NAME: TYPICAL SECTIONS

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94j072/sj072typ.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072typ.i
SHEET 3 OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| ROADWAY | CHANNEL | SUPER-STRUCTURE | ABUT. #1 | ABUT. #2 | EROSION CONTROL | FULL CE ITEMS | BRIDGE QUANTITY |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 320 | | | | | | | |
| | 100 | | | | | | 100 |
| 20 | | | | | 10 | | |
| 10 | | | | | | | |
| 10 | | | 160 | 210 | | | 370 |
| | | | 240 | 340 | | | 580 |
| | | | 50 | 50 | | | 100 |
| | | | 1 | | | | 1 |
| | | | | 1 | | | 1 |
| 380 | | | | | 10 | | |
| 100 | | | | | | | |
| 2 | | 27 | 61 | 81 | | | 169 |
| 70 | | | 4360 | 5450 | | | 9810 |
| | | 2420 | 60 | 60 | | | 2540 |
| | | 25 | 9 | 12 | | | 46 |
| | | 14 | | | | | 14 |
| | | 19 | | | | | 19 |
| | | 1 | | | | | 1 |
| | | 1 | | | | | 1 |
| 10.40 | | | | | | | |
| 10.40 | | | | | | | |
| 10.40 | | | | | | | |
| 1 | | | | | | | |
| | | | | | 10 | | |
| 50 | | | | | | | |
| 20 | | | | | 10 | | |
| | 200 | | | | | | 200 |
| 1 | | | | | | | |
| 140 | | | | | | | |
| 38 | | | | | | | |
| 2 | | | | | | | |
| 2 | | | | | | | |
| 50 | | | | | | | |
| | | | | | | 1 | |
| | | | | | | 1 | |
| | | | | | | 1 | |
| 1 | | | | | | | |
| 1 | | | | | | | |
| | 210 | | | | | | 210 |
| | | | | | 140 | | |
| | | | | | 70 | | |
| | | | | | 5 | | |
| | | | | | 5 | | |

## TOTALS

| BRIDGE QUANTITY | ROUND | GRAND TOTAL | FINAL |
|---|---|---|---|
| | | 1 | |
| | | 320 | |
| 100 | | 100 | |
| | | 30 | |
| | | 10 | |
| 370 | | 380 | |
| 580 | | 580 | |
| 100 | | 100 | |
| 1 | | 1 | |
| 1 | | 1 | |
| | | 390 | |
| | | 100 | |
| 169 | | 171 | |
| 9810 | | 9880 | |
| 2540 | | 2540 | |
| 46 | | 46 | |
| 14 | | 14 | |
| 19 | | 19 | |
| 1 | | 1 | |
| 1 | | 1 | |
| | | 10.40 | |
| | | 10.40 | |
| | | 10.40 | |
| | | 1 | |
| | | 10 | |
| | | 50 | |
| | | 30 | |
| 200 | | 200 | |
| | | 1 | |
| | | 140 | |
| | | 38 | |
| | | 2 | |
| | | 2 | |
| | | 50 | |
| | | 1 | |
| | | 1 | |
| | | 1 | |
| | | 1 | |
| | | 1 | |
| 210 | | 210 | |
| | | 140 | |
| | | 70 | |
| | | 5 | |
| | | 5 | |

## DESCRIPTIONS

| UNIT | ITEMS | ITEM NUMBER |
|---|---|---|
| LS | CLEARING AND GRUBBING (INCLUDING INDIVIDUAL TREES AND STUMPS) | 201.10 |
| CM | COMMON EXCAVATION | 203.15 |
| CM | UNCLASSIFIED CHANNEL EXCAVATION | 203.27 |
| CM | TRENCH EXCAVATION OF EARTH | 204.20 |
| CM | STRUCTURE EXCAVATION | 204.25 |
| CM | GRANULAR BACKFILL FOR STRUCTURES | 204.30 |
| CM | COFFERDAM EXCAVATION, EARTH | 208.30 |
| CM | COFFERDAM EXCAVATION, ROCK | 208.35 |
| LS | COFFERDAM (ABUTMENT #1 STA. 1+042.500) | 208.40 |
| LS | COFFERDAM (ABUTMENT #2 STA. 1+050.500) | 208.40 |
| CM | SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) | 301.25 |
| CM | AGGREGATE SURFACE COURSE | 401.10 |
| CM | CONCRETE, HIGH PERFORMANCE CLASS B | 501.34 |
| KG | REINFORCING STEEL | 507.15 |
| KG | EPOXY COATED REINFORCING STEEL | 507.17 |
| L | WATER REPELLENT | 514.10 |
| M | REMOVAL OF EXISTING RAILING | 525.10 |
| M | BRIDGE RAILING - HD STEEL BEAM/FASCIA MOUNTED | 525.41 |
| LS | ONE-WAY TEMPORARY BRIDGE | 528.10 |
| EACH | PARTIAL REMOVAL OF STRUCTURE | 529.20 |
| | **BEGIN PIPE OPTIONS** | |
| M | 450 mm CSP 1.63 mm (68 mm X 12 mm) | 601.0015 |
| M | 450 mm CAAP 1.52 mm (68 mm X 12 mm) | 601.0215 |
| M | 450 mm CPEP | 601.0915 |
| | **END PIPE OPTIONS** | |
| EACH | CAST IRON GRATE WITH FRAME, TYPE E | 604.48 |
| HR | ALL PURPOSE EXCAVATOR RENTAL, TYPE I | 608.25 |
| CM | DUST CONTROL WITH WATER | 609.10 |
| CM | STONE FILL, TYPE I | 613.10 |
| CM | STONE FILL, TYPE IV | 613.13 |
| EACH | YIELDING MARKER POSTS | 619.17 |
| M | SNOW FENCE (MOD-PDF) | 620.70 |
| M | HEAVY DUTY STEEL BEAM GUARD RAIL | 621.21 |
| EACH | MANUFACTURED TERMINAL SECTION | 621.505 |
| EACH | ANCHOR FOR STEEL BEAM RAIL | 621.60 |
| HR | FLAGGERS | 630.15 |
| LS | FIELD OFFICE-ENGINEERS | 631.10 |
| LS | TESTING EQUIPMENT - CONCRETE | 631.16 |
| LU | FIELD OFFICE - TELEPHONE (NABI) | 631.25 |
| LS | MOBILIZATION | 635.10 |
| LS | TRAFFIC CONTROL | 641.10 |
| SM | GEOTEXTILE UNDER STONE FILL | 649.31 |
| SM | GEOTEXTILE FOR SILT FENCE | 649.51 |
| SM | GEOTEXTILE FOR FILTER CURTAIN | 649.61 |
| KG | SEED | 651.15 |
| KG | SEED-WINTER RYE | 651.17 |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|
| | | **TEMPORARY EROSION CONTROL ITEMS** (Included Under Erosion Control Items) |
| 10 | CM | 204.20 TRENCH EXCAVATION OF EARTH |
| 10 | CM | 301.25 SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) |
| 10 | HR | 608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I |
| 10 | CM | 613.10, STONE FILL, TYPE I |
| 140 | SM | 649.51 GEOTEXTILE FOR SILT FENCE |
| 70 | SM | 649.61 GEOTEXTILE FOR FILTER CURTAIN |
| 5 | KG | 651.17 SEED- WINTER RYE |
| 10 | SM | 654.10 EROSION MATTING |
| | | **NOTE:** |
| | | **THERE IS APPROXIMATELY 900 CM OF WASTE MATERIAL.** |
| | | **(NABI) = NOT A BID ITEM** |

PROJECT NAME: **STAMFORD**
PROJECT NUMBER: **TH3-9411**

FILE NAME: **/str1/94J072/sj072qnt.xls**
PROJECT LEADER: **G.S. Rogers**
DESIGNED BY: **C. Meunier**
**QUANTITY SHEET #1**

PLOT DATE: **9/19/2003**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. Meunier**
SHEET **4** OF **38**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| ROADWAY | CHANNEL | SUPER-STRUCTURE | ABUT. #1 | ABUT. #2 | EROSION CONTROL | FULL CE ITEMS | BRIDGE QUANTITY |
|---|---|---|---|---|---|---|---|
| | | | | | 10 | | |
| | | | | | 1 | | |
| | | | | | 1 | | |
| | | | | | 10 | | |
| | 140 | | | | | | 140 |
| | | | | | 1 | | |
| | | | | | 50 | | |
| | | | | | 1 | | |
| | | | | | 10 | | |

## TOTALS

| ROUND | GRAND TOTAL | FINAL |
|---|---|---|
| | 10 | |
| | 1 | |
| | 1 | |
| | 10 | |
| | 140 | |
| | 1 | |
| | 50 | |
| | 1 | |
| | 10 | |

## DESCRIPTIONS

| UNIT | ITEMS | ITEM NUMBER |
|---|---|---|
| KG | FERTILIZER | 651.18 |
| T | AGRICULTURAL LIMESTONE | 651.20 |
| T | HAY MULCH | 651.25 |
| CM | TOPSOIL | 651.35 |
| SM | GRUBBING MATERIAL | 651.40 |
| LS | EROSION & SEDIMENT CONTROL PLAN | 652.10 |
| HR | MONITORING EROSION & SEDIMENT CONTROL PLAN | 652.20 |
| LU | FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN (N.A.B.I) | 652.30 |
| SM | EROSION MATTING | 654.10 |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|

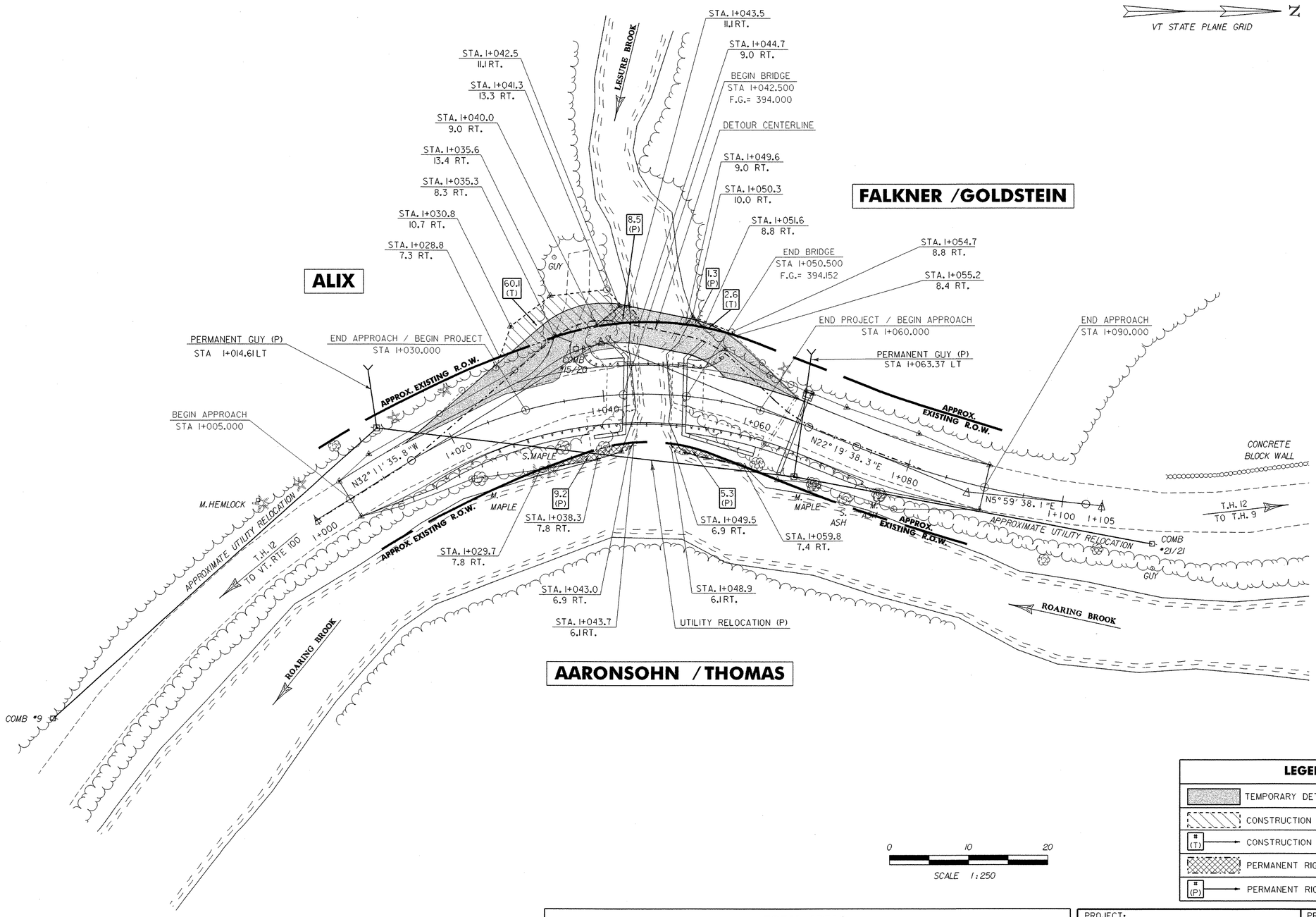
PROJECT NAME: **STAMFORD**
PROJECT NUMBER: **TH3-9411**

FILE NAME: **/str1/94J072/sj072qnt.xls**
PROJECT LEADER: **G.S. Rogers**
DESIGNED BY: **C. Meunier**
**QUANTITY SHEET #2**

PLOT DATE: **9/19/2003**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. Meunier**
SHEET **5** OF **38**

**NOTE: THIS SHEET FOR RIGHT-OF-WAY INFORMATION ONLY**

VAOT Metric




**LEGEND**

- TEMPORARY DETOUR
- CONSTRUCTION EASEMENT (TEMPORARY)
- B (T) — CONSTRUCTION EASEMENT AREA
- PERMANENT RIGHTS
- B (P) — PERMANENT RIGHT AREA

**TOTAL AREAS**

| PROPERTY OWNER | TEMPORARY EASEMENT | PERMANENT RIGHTS |
|---|---|---|
| ALIX | 60.1 Square Meters (0.015 Acres) | 8.5 Square Meters (0.002 Acres) |
| FALKNER/ GOLDSTEIN | 2.6 Square Meters (0.001 Acres) | 1.3 Square Meters (0.001 Acres) |
| AARONSOHN/THOMAS | 0 | 9.2 + 5.3 = 14.5 Square Meters (0.004 Acres) |

**DATUM**

VERTICAL _____

HORIZONTAL _____

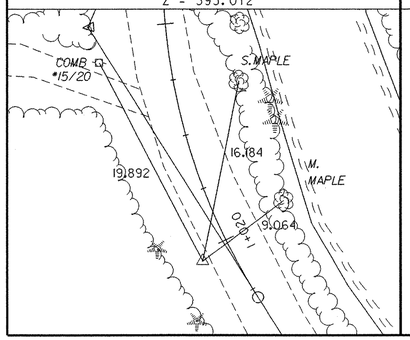
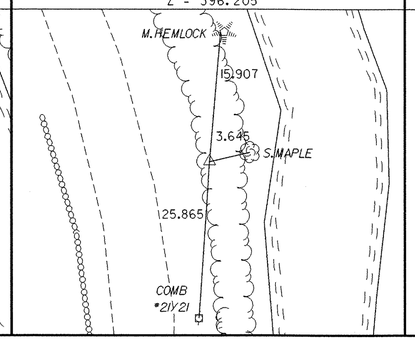
| PROJECT: | PROJECT NO.: |
|---|---|
| STAMFORD | TH3 9411 |

DESIGN FILE NAME: /str1/94j072/sj072row.dgn
IPARM FILE NAME: sj072row.i
SURVEYED BY: L. ORVIS
SQUAD LEADER: G.S. ROGERS
RIGHT OF WAY

PLOT DATE: 16-OCT-2003
SURVEY DATE: 2-95
DRAWN BY: K. UPMAL
SHEET: 6 OF 38

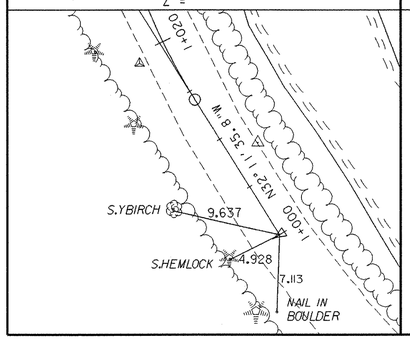
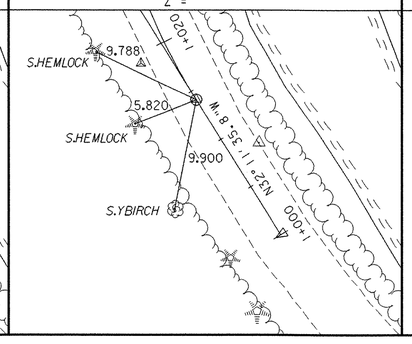
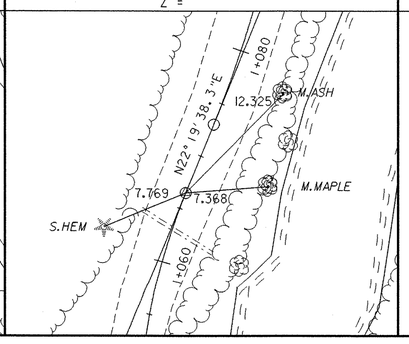
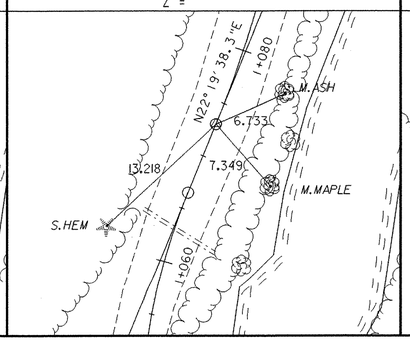
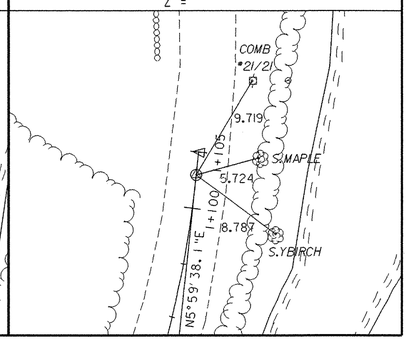
## GPS CONTROL POINTS

## TRAVERSE TIES

| HCTRL #4 | HCTRL #5 | HCTRL #6 | | |
|---|---|---|---|---|
| N = 29251.5610 | N = 29367.9570 | N = 29244.5560 | N = | N = |
| E = 452469.3040 | E = 452486.4110 | E = 452479.8200 | E = | E = |
| Z = 393.012 | Z = 396.205 | Z = | Z = | Z = |
|  |  | NOT TIED | | |



## ALIGNMENT TIES

| 1+000 (P.O.B.) | 1+014.132 (P.C.) | 1+066.468 (P.T.) | 1+073.032 (P.C.) | 1+102.965 (P.T.) |
|---|---|---|---|---|
| N = 29236.4100 | N = 29248.3700 | N = 29298.5600 | N = 29304.6400 | N = 29333.5600 |
| E = 452481.7400 | E = 452474.2100 | E = 452469.8800 | E = 452472.3700 | E = 452479.6700 |
| Z = | Z = | Z = | Z = | Z = |
|  |  |  |  |  |



* ALIGNMENT STAKED AUGUST 18,2000 BY L. ORVIS & J. HULETT

NOTE: TIE DISTANCES ARE IN METERS

**DATUM**

| | |
|---|---|
| VERTICAL | NAVD 88 |
| HORIZONTAL | NAD 83/92 |

| | | |
|---|---|---|
| SHEET NAME: TIE SHEET | | |
| PROJECT NAME: STAMFORD | | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | | BRIDGE NO.: 14 |
| | | OVER: LESURE BROOK |
| FILE NAME: /str1/94J072/sj072tie.dgn | | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | | DRAWN BY: K.UPMAL |
| DESIGNED BY: K. UPMAL | | IPARM NAME: sj072tie.i |
| BRIDGE SHEET NUMBER: | | SHEET 7 OF 38 |

CONSTRUCT WOODS DRIVE
STATION 1+031.680 LEFT (ASKEW 33°-40'-58" LT)

621.505 MANUFACTURED TERMINAL SECTION
STATION 1+014.819 - 1+031.211 RIGHT
STATION 1+059.749 - 1+075.500 RIGHT

621.21 HEAVY DUTY STEEL BEAM GUARD RAIL
STATION 1+037.103 - 1+042.030 LEFT
STATION 1+050.970 - 1+054.116 LEFT
STATION 1+031.211 - 1+041.402 RIGHT
STATION 1+051.600 - 1+059.749 RIGHT

525.41 BRIDGE RAILING, HEAVY DUTY STEEL BEAM / FASCIA MOUNTED
STATION 1+042.030 - 1+050.970 LEFT
STATION 1+041.402 - 1+051.600 RIGHT

621.60 ANCHOR FOR STEEL BEAM RAIL
STATION 1+038.512 LEFT
STATION 1+052.702 LEFT

REMOVE 310 CGMP
STATION 1+063.107 LEFT TO RIGHT

NEW 450 X 10.400 PIPE OPTION
STATION 1+065.000 LEFT TO RIGHT

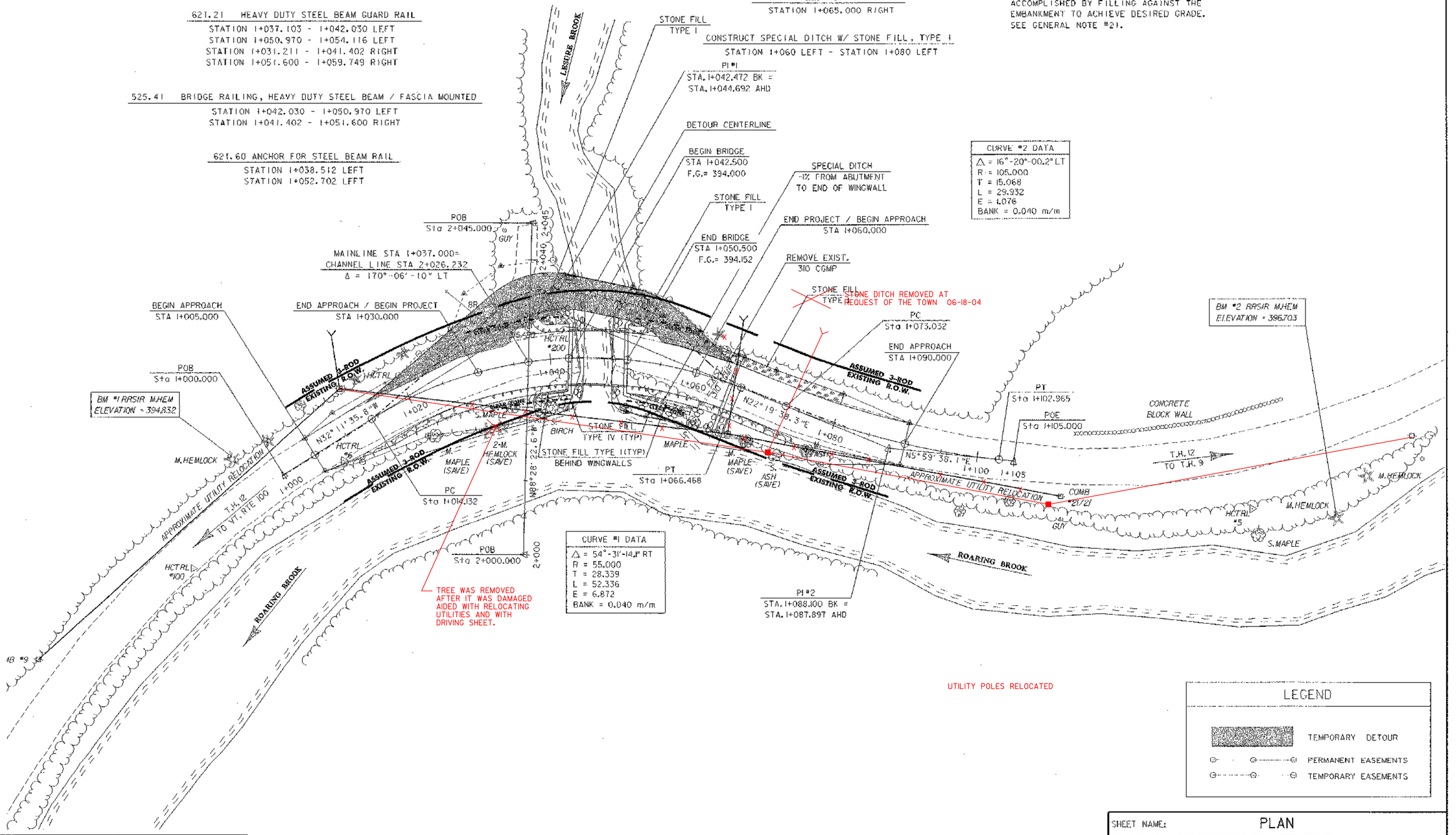
619.17 YIELDING MARKER POST
STATION 1+065.000 RIGHT

## NOTES:

1. SEE DRAINAGE AND UTILITY SHEET FOR DRAINAGE DETAILS.
2. CONSTRUCTION OF TEMPORARY DETOUR AT STATIONS 1+050 LT - 1+065 LT SHALL NOT INCLUDE CUTTING OF STEEP EMBANKMENT NORTHWEST OF PROJECT. CONSTRUCTION OF DETOUR IN THIS AREA SHALL BE ACCOMPLISHED BY FILLING AGAINST THE EMBANKMENT TO ACHIEVE DESIRED GRADE. SEE GENERAL NOTE #21.

Metric

N
VT STATE PLANE GRID




| CURVE #2 DATA |
|---|
| Δ = 16°-20'-00.2" LT |
| R = 105.000 |
| T = 15.068 |
| L = 29.932 |
| E = 1.076 |
| BANK = 0.040 m/m |

| CURVE #1 DATA |
|---|
| Δ = 54°-31'-14" RT |
| R = 55.000 |
| T = 28.339 |
| L = 52.336 |
| E = 6.872 |
| BANK = 0.040 m/m |

## EXISTING BRIDGE DATA

SUPERSTRUCTURE: CONCRETE DECK ON STEEL BEAMS
SUBSTRUCTURE: CONCRETE ABUTMENTS
OVERALL LENGTH: 5.79 M
BRIDGE WIDTH: 4.88 M (FASCIA TO FASCIA)
YEAR BUILT: 1934

## LEGEND

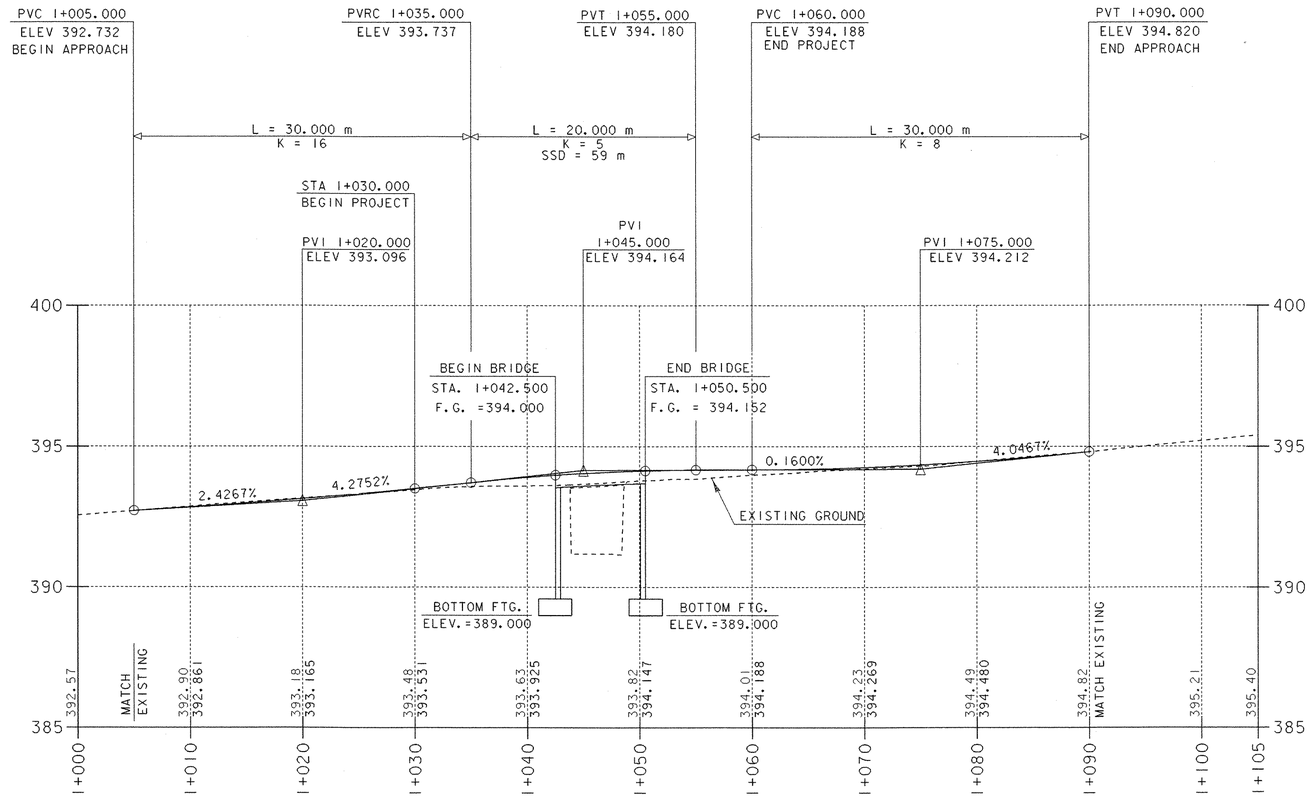
TEMPORARY DETOUR
PERMANENT EASEMENTS
TEMPORARY EASEMENTS

0 10 20 30
SCALE (1:250) IN METERS

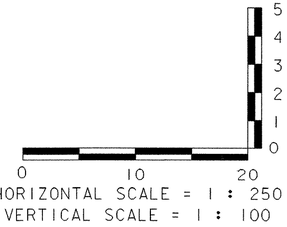
SHEET NAME: PLAN

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94j072/sj072bdr.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: K.UPMAL
IPARM NAME: sj072pl1
SHEET 8 OF 38




## MAINLINE PROFILE




HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE OLD GROUND ALONG THE CENTERLINE. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

| | |
|---|---|
| SHEET NAME: MAINLINE PROFILE | |
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /str1/94j072/sj072xs.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: K.UPMAL |
| DESIGNED BY: K.UPMAL | IPARM NAME: sj072mpr.i |
| BRIDGE SHEET NUMBER: | SHEET 9 OF 38 |

VT STATE PLANE GRID

Metric

## TRAFFIC CONTROL SEQUENCE

PHASE 1

TRAFFIC WILL BE MAINTAINED ON THE TEMPORARY BRIDGE WHILE CONSTRUCTING THE NEW BRIDGE AND APPROACHES. BARRICADES AND TRAFFIC DRUMS WILL BE NECESSARY TO MAINTAIN TRAFFIC DURING THIS PHASE.

PHASE 2

MAINTAIN TRAFFIC ON THE NEW ALIGNMENT. REMOVE THE TEMPORARY STRUCTURE AND ABUTMENTS. COMPLETE CONSTRUCTION OF ABUTMENTS 1 AND 2 FOR NEW BRIDGE.

## TRAFFIC CONTROL NOTES

1. DUE TO THE CLOSE PROXIMITY BETWEEN THE EDGE OF THE DETOUR AND THE ABUTMENT FOOTING AT ABUTMENT #2, TEMPORARY STEEL SHEETING WILL BE REQUIRED TO PROTECT THE WORK ZONE. THIS SHEETING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER WITH ITS PAYMENT INCIDENTAL TO THE COFFERDAM FOR ABUTMENT #2.
2. IF A METHOD OTHER THAN COFFERDAMS IS UTILIZED FOR CONSTRUCTION OF THE ABUTMENTS, THE TEMPORARY SHEETING FOR TRAFFIC CONTROL AND ALL ASSOCIATED COSTS WILL BE INCIDENTAL TO THE COFFERDAM NOTES (SEE NOTE 24, SHEET 21).
3. STANDARD CONSTRUCTION TRAFFIC DRUMS SHALL BE INSTALLED TO GUIDE TRAFFIC AROUND THE WORK ZONE. THIS WORK WILL BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL."

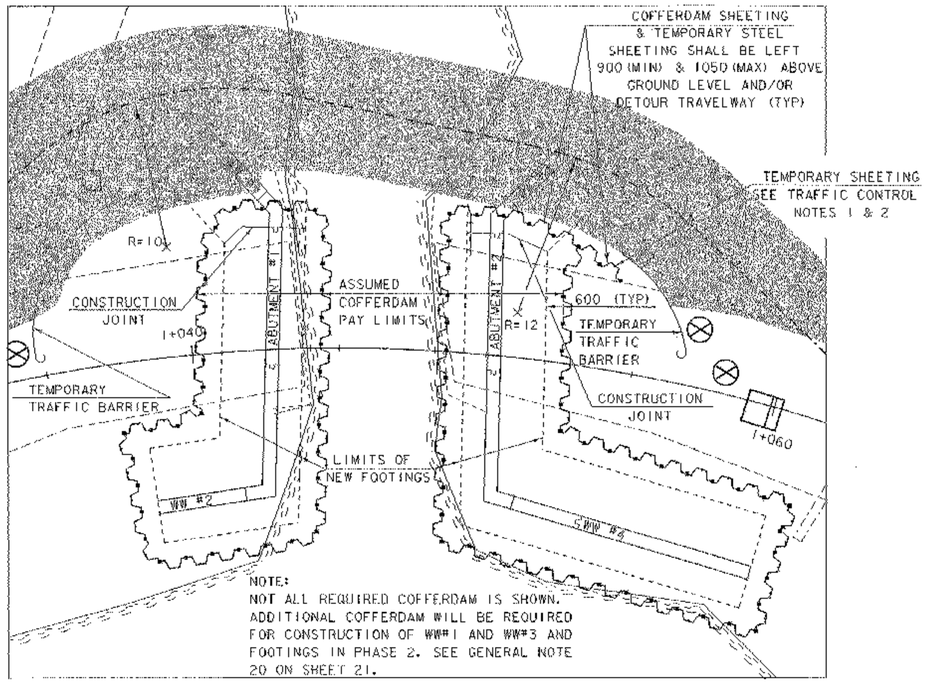
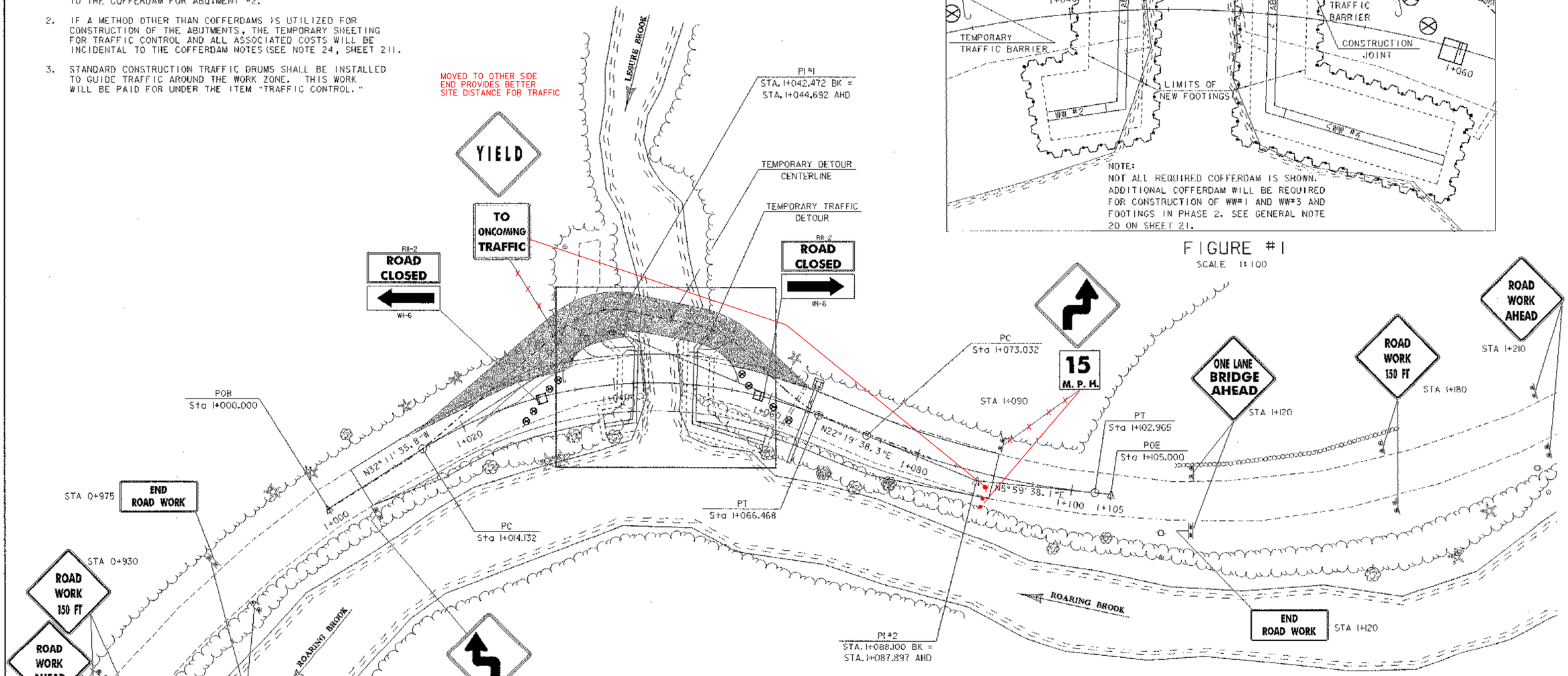



FIGURE #1

SCALE 1:100




0 10 20 30

SCALE (1:250)

| LEGEND | |
|---|---|
| | TEMPORARY DETOUR |
| ⊗ | TRAFFIC DRUMS (REFLECTORIZED) |
| ▢ | TYPE III BARRICADES (MOD) |

SHEET NAME: TRAFFIC CONTROL PLAN SHEET

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94j072/sj072trf.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072tr2.i
SHEET 10 OF 38

## SOIL CLASSIFICATION

| AASHTO | |
|---|---|
| A1 | Gravel and Sand |
| A3 | Fine Sand |
| A2 | Silty or Clayey Gravel and Sand |
| A4 | Silty Soil - Low Compressibility |
| A5 | Silty Soil - Highly Compressible |
| A6 | Clayey Soil - Low Compressibility |
| A7 | Clayey Soil - Highly Compressible |

## ROCK QUALITY DESIGNATION

| R.Q.D. (%) | ROCK DESCRIPTION |
|---|---|
| <25 | Very Poor |
| 25 to 50 | Poor |
| 51 to 75 | Fair |
| 76 to 90 | Good |
| >90 | Excellent |

## SHEAR STRENGTH

| UNDRAINED SHEAR STRENGTH IN kPa | CONSISTENCY |
|---|---|
| <12 | Very Soft |
| 12-24 | Soft |
| 24-48 | Med. Stiff |
| 48-96 | Stiff |
| 96-192 | Very Stiff |
| >192 | Hard |

## CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

| DENSITY (GRANULAR SOILS) | | CONSISTENCY (COHESIVE SOILS) | |
|---|---|---|---|
| N | DESCRIPTIVE TERM | N | DESCRIPTIVE TERM |
| <5 | Very Loose | <2 | Very Soft |
| 5-10 | Loose | 2-4 | Soft |
| 11-24 | Med. Dense | 5-8 | Med. Stiff |
| 25-50 | Dense | 9-15 | Stiff |
| >50 | Very Dense | 16-30 | Very Stiff |
| | | 31-60 | Hard |
| | | >60 | Very Hard |

## COMMONLY USED SYMBOLS

| | |
|---|---|
| ▼ | Water Elevation |
| ⊕ | Standard Penetration Boring |
| ⊕ | Auger Boring |
| ⊙ | Rod Sounding |
| S | Sample |
| N | Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm |
| VS | Field Vane Shear Test |
| US | Undisturbed Soil Sample |
| B | Blast |
| DC | Diamond Core |
| MD | Mud Drill |
| WA | Wash Ahead |
| HSA | Hollow Stem Auger |
| AX | Core Size 30.1mm |
| BX | Core Size 42.0 mm |
| NX | Core Size 54.7 mm |
| M | Double Tube Core Barrel Used |
| LL | Liquid Limit |
| PL | Plastic Limit |
| PI | Plasticity Index |
| NP | Non Plastic |
| w | Moisture Content (Dry Wgt. Basis) |
| D | Dry |
| M | Moist |
| MTW | Moist To Wet |
| W | Wet |
| Sat | Saturated |
| Bo | Boulder |
| Gr | Gravel |
| Sa | Sand |
| Si | Silt |
| Cl | Clay |
| HP | Hardpan |
| Le | Ledge |
| NLTD | No Ledge To Depth |
| CNPF | Can Not Penetrate Further |
| TLOB | To Ledge Or Boulder |
| NR | No Recovery |
| Rec. | Recovery |
| %Rec. | Percent Recovery |
| RQD | Rock Quality Designation |
| CBR | California Bearing Ratio |
| < | Less Than |
| > | Greater Than |
| R | Refusal (N > 100) |

COLOR

| | | | |
|---|---|---|---|
| blk | Black | pnk | Pink |
| bl | Blue | pu | Purple |
| brn | Brown | rd | Red |
| dk | Dark | tn | Tan |
| gry | Gray | wh | White |
| gn | Green | yel | Yellow |
| lt | Light | mltc | Multicolored |
| or | Orange | | |

## DEFINITIONS (AASHTO)

**BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.

**BOULDER** - A rock fragment with an average dimension > 304.8 mm.

**COBBLE** - Rock fragments with an average dimension between 76.2 and 304.8 mm.

**GRAVEL** - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

**SAND** - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

**SILT** - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

**CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

**VARVED** - Alternate layers of silt and clay.

**HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.

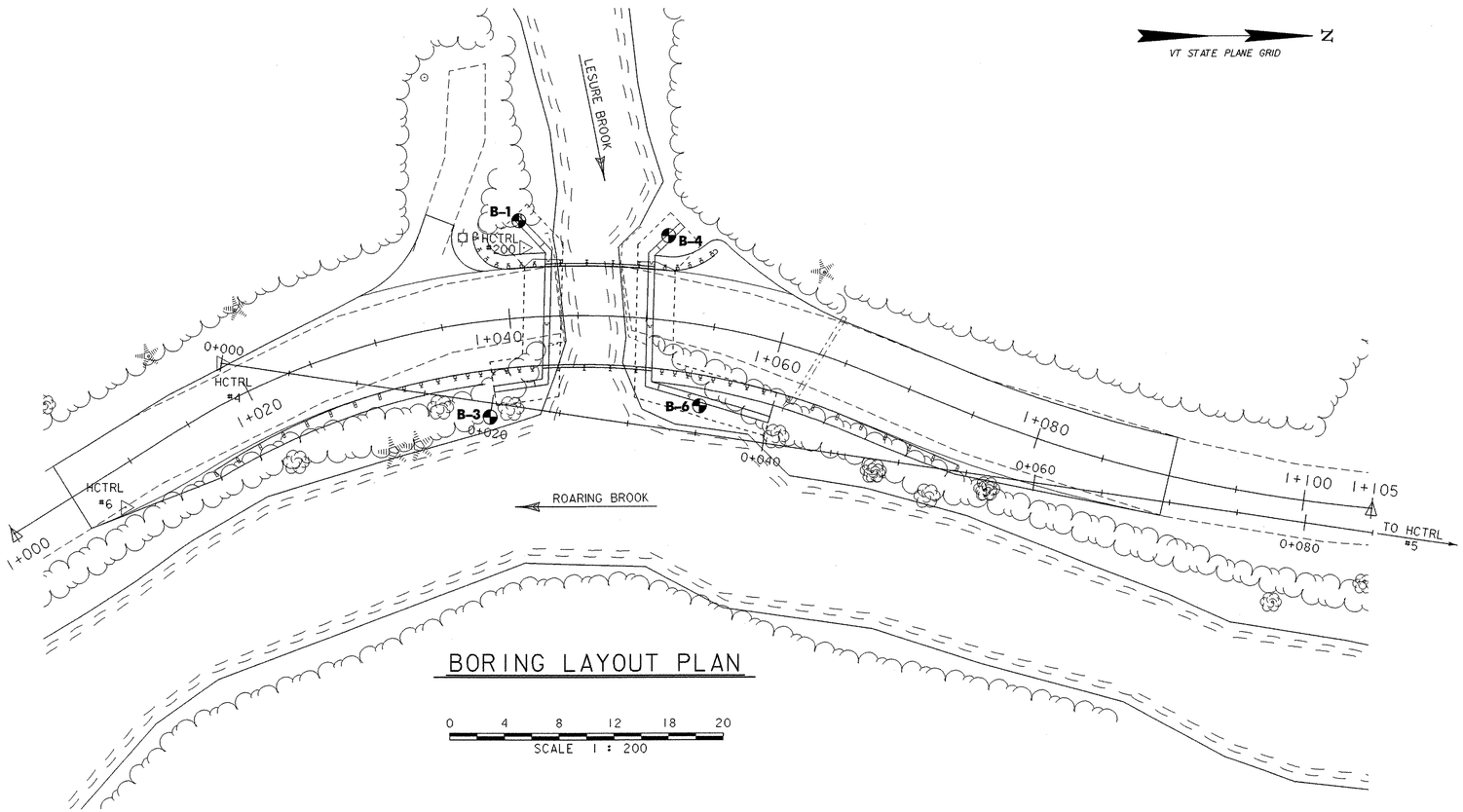
**MUCK** - Soft organic soil (containing > 10% organic material.

**MOISTURE CONTENT** - Weight of water divided by dry weight of soil.

**FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

**STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.

**DIP** - Inclination of bed with a horizontal plane.




## BORING LAYOUT PLAN

0 4 8 12 18 20

SCALE 1 : 200

## BORING CHART

| HOLE NO. | STATION | OFFSET (m) | GROUND ELEV. |
|---|---|---|---|
| B-1 | 0+020.0 | 13.5 LT | 393.79 |
| B-3 | 0+020.0 | 1.0 RT | 392.11 |
| B-4 | 0+031.0 | 14.0 LT | 393.73 |
| B-6 | 0+035.0 | 2.0 LT | 392.37 |

NOTE:
THE BORINGS SHOWN ON THIS SHEET ARE LAID OUT OFF A LINE BETWEEN HORIZONTAL CONTROL POINTS #4 AND #5. THE STATIONING SHOWN IS THE DISTANCE ALONG THE LINE FROM POINT #4 TOWARDS POINT #5. THE OFFSET SHOWN IS THE DISTANCE MEASURED (AT RIGHT ANGLES) LEFT OR RIGHT OF THIS LINE.

## GENERAL NOTES

1. The subsurface explorations shown herein were made between 6-20-95 and 6-28-95 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

SHEET NAME: BORING LAYOUT SHEET

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /strl/94j072/sj072bor.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: K.UPMAL
IPARM NAME: sj072bor.i
SHEET 11 OF 38

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 6/20/95
DATE COMPLETED: 6/20/95

PROJECT NAME: STAMFORD
SITE NAME: TH 12
STATION: 0+20.00
GROUND EL.: 393.789

PROJECT NUMBER: TH3-9411
SITE NO.: B 14
OFFSET: -13.50
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: RABTOY
LOGGER:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER 0.3 M | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| | | Boulders 0.0-3.0 | | | | | | | |
| | | A-4, GrSaSi, Moist, brn, Rec. = 0.09 | 46 | 11 | 29 | 30.9 | 40.1 | | |
| 5 | | A-4, SiGrSa, Moist, brn, Rec. = 0.36 | 65 | 11.7 | 28 | 44.6 | 27.4 | | |
| | | A-4, GrSaSi, Moist, brn, Rec. = 0.18 | 35 | 10.7 | 28.8 | 30.2 | 41 | | |
| | | A-4, GrSaSi, Moist, brn, Rec. = 0.26 | 62 | 11.7 | 22.7 | 34.1 | 43.2 | | |
| | | A-2-4, SaSiGr, Moist, brn, Rec. = 0.18 | 91 | 9.3 | 43.8 | 27.2 | 29 | | |
| 10 | | A-4, GrSaSi, Moist, gry brn, Rec. = 0.10 | 56 | 11.1 | 25.7 | 29.2 | 45.1 | | |
| | | A-4, SaGrSi, Moist, gry brn, Rec. = 0.36 | 47 | 10.8 | 32.3 | 32.2 | 35.5 | | |
| | | A-4, GrSaSi, Moist, gry brn, Rec. = 0.36 | 38 | 10.5 | 27.6 | 35.9 | 36.5 | | |
| | | A-2-4, GrSiSa, Moist, gry brn, Rec. = 0.46 | 44 | 11.6 | 22.6 | 43.3 | 34.1 | | |
| 15 | | A-1-b, SiSaGr, Moist, gry, Rec. = 0.09 | R | 5.8 | 55 | 23.1 | 21.9 | | |
| | | BXDC 13.9-15.0, Pulled casing changed shoe. Boulders, Unable to sample. | 79 | 11.3 | 18.3 | 63.1 | 18.6 | | |
| | | A-2-4, Sa, Moist, gry, Rec. = 0.36 | R | | | | | | |
| 20 | | GrSi, Moist, gry, Rec. = 0.36 | 68 | 10.2 | 31.9 | 40.3 | 22.8 | | |
| | | A-2-4, SiGrSa, Moist, gry, Rec. = 0.30 | 73 | | | | | | |
| | | No recovery | | | | | | | |
| 25 | | | | | | | | | |
| 30 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-3
SHEET 1 OF 1
DATE STARTED: 6/23/95
DATE COMPLETED: 6/26/95

PROJECT NAME: STAMFORD
SITE NAME: TH 12
STATION: 0+20.00
GROUND EL.: 392.112

PROJECT NUMBER: TH3-9411
SITE NO.: B 14
OFFSET: 1.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: RABTOY
LOGGER:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER 0.3 M | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| | | Boulders, 0.0-3.0 | | | | | | | |
| | | No recovery | 92 | | | | | | |
| 5 | | A-2-4, SiGrSa, Moist, brn, Rec. = 0.28 | 41 | 12 | 33.1 | 34.4 | 32.5 | | |
| | | A-2-4, SiSaGr, Moist, brn, Rec. = 0.20 | 86 | 11.5 | 38.6 | 30.8 | 30.6 | | |
| | | No recovery. Many boulders 6.5-7.5. | 54 | | | | | | |
| 10 | | No recovery. | 89 | | | | | | |
| 15 | | | | | | | | | |
| 20 | | | | | | | | | |
| 25 | | | | | | | | | |
| 30 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-4
SHEET 1 OF 1
DATE STARTED: 6/20/95
DATE COMPLETED: 6/26/95

PROJECT NAME: STAMFORD
SITE NAME: TH 12
STATION: 0+31.00
GROUND EL.: 393.732

PROJECT NUMBER: TH3-9411
SITE NO.: B 14
OFFSET: -14.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: WARREN
LOGGER: ROGERS

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER 0.3 M | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| | | A-2-4, SiGr, Moist, gry, Rec. = 0.06 | 74 | 7.4 | 50.3 | 18 | 31.7 | | |
| | | No recovery | 76 | | | | | | |
| 5 | | No recovery | R | | | | | | |
| | | No recovery | 75 | | | | | | |
| | | A-4, SaGrSi, Moist, gry, Rec. = 0.09 | 87 | 10.4 | 33.1 | 27.2 | 39.7 | | |
| | | A-4, GrSaSi, Moist, gry, Rec. = 0.07 | 65 | 19.1 | 23.8 | 32.8 | 43.4 | | |
| 10 | | No sample, Boulders, BXDC 9.11-9.42. | 34 | 14.7 | 15.1 | 40.9 | 44 | | |
| | | A-4, SaSi, Moist, gry, Rec. = 0.36 | R | 12.3 | 14.7 | 33 | 52.3 | | |
| | | A-4, SaSi, Moist, gry, Rec. = 0.06 | 72 | 11.3 | 29.1 | 34.2 | 36.7 | | |
| 15 | | A-4, GrSaSi, Moist, dk gry, Rec. = 0.40 | 59 | 9.2 | 45.7 | 26.5 | 22.8 | | |
| | | A-2-4, SaSiGr, Moist, dk gry brn, Rec. = 0.09. | R | | | | | | |
| | | No recovery | R | | | | | | |
| | | No recovery. BXDC 18.44-19.30, Boulders. | 52 | 9.2 | 22.1 | 47.8 | 30.1 | | |
| 20 | | GrSiSa, BXDC 20.1-21.0, Boulders. | 8 | 18.4 | 4.9 | 89 | 6.1 | | |
| | | A-1-b, Sa, Wet, brn. | | | | | | | |
| 25 | | | | | | | | | |
| 30 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-6
SHEET 1 OF 1
DATE STARTED: 6/27/95
DATE COMPLETED: 6/28/95

PROJECT NAME: STAMFORD
SITE NAME: TH 12
STATION: 0+35.00
GROUND EL.: 392.366

PROJECT NUMBER: TH3-9411
SITE NO.: B 14
OFFSET: -2.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: RABTOY
LOGGER:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER 0.3 M | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| | | Boulders, 0.0-1.5. | | | | | | | |
| | | A-4, SaSi, Moist, brn, Rec. = 0.24 | 41 | 9.9 | 18.5 | 40.4 | 40.9 | | |
| | | A-2-4, GrSiSa, Moist, brn, Rec. = 0.08 | 51 | 9.9 | 30.5 | 34.9 | 34.6 | | |
| 5 | | A-4, GrSaSi, Moist, brn, Rec. = 0.31. | 79 | 11.9 | 26.2 | 35.5 | 38.3 | | |
| | | A-4, GrSiSa, Moist, brn, Rec. = 0.28. | 79 | 11.8 | 25.4 | 37.4 | 37.2 | | |
| | | A-4, GrSaSi, Moist, brn, Rec. = 0.15. | 41 | 10.6 | 24.9 | 36.6 | 38.5 | | |
| 10 | | No recovery | 66 | | | | | | |
| 15 | | | | | | | | | |
| 20 | | | | | | | | | |
| 25 | | | | | | | | | |
| 30 | | | | | | | | | |

SHEET NAME: BORING LOGS

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

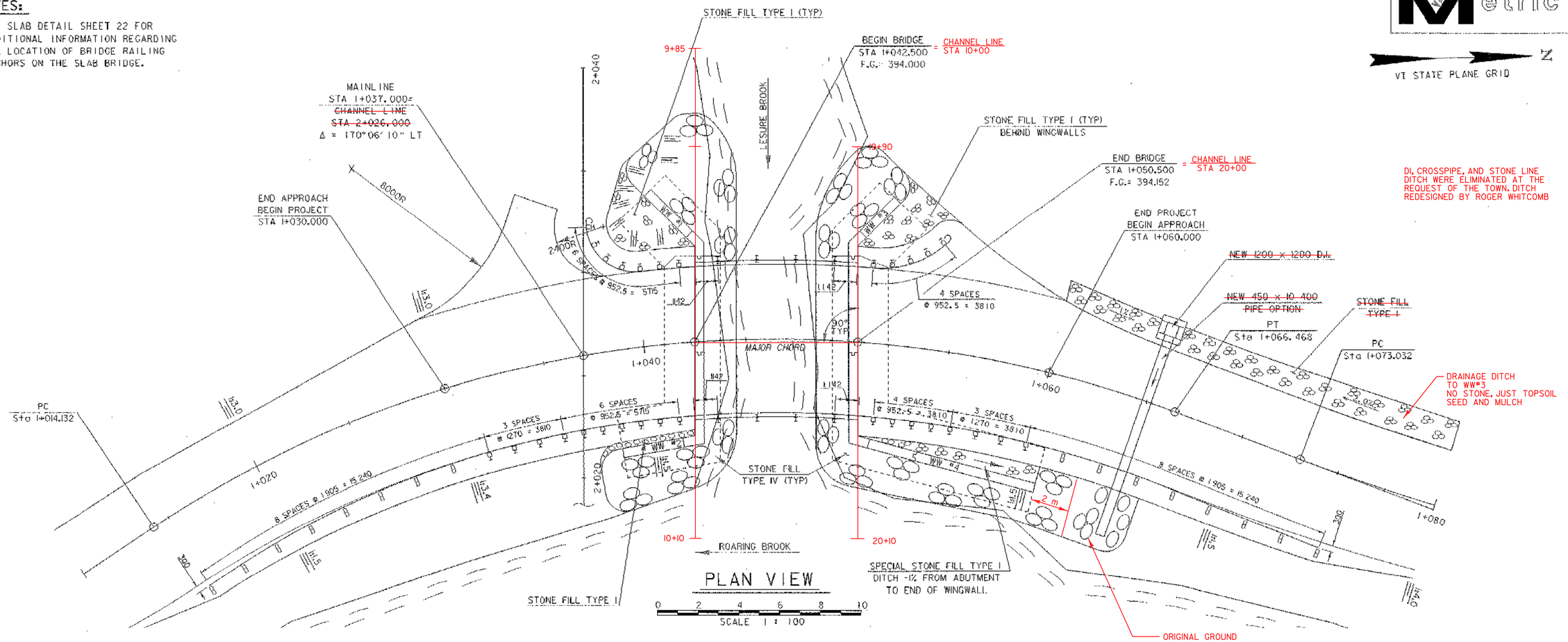
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94j072/sj072bor.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

PLOT DATE: 16-OCT-2003
DRAWN BY: K.UPMAL
IPARM NAME: sj072log.i
SHEET 12 OF 38

**NOTES:**

SEE SLAB DETAIL SHEET 22 FOR ADDITIONAL INFORMATION REGARDING THE LOCATION OF BRIDGE RAILING ANCHORS ON THE SLAB BRIDGE.




| | | | |
|---|---|---|---|
| SHEET NAME: PLAN AND ELEVATION | | | |
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: /str1/94J072/sJ072pe.dgn | | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: C.S. ROGERS | | DRAWN BY: | K.UPMAL |
| DESIGNED BY: | K. UPMAL | IPARM NAME: | sJ072pe.I |
| BRIDGE SHEET NUMBER: | | SHEET | 13 OF 38 |

## DESCRIPTION OF PROJECT

This project involves reconstruction of a bridge over Lesure Brook near its confluence with Roaring Brook, on a class III town highway, in the town of Stamford. Lesure Brook is characterized as a steep, flashy, sinuous watercourse with a streambed of cobbles to large boulders and a drainage area of 4.9 square kilometers. A new single span concrete slab bridge will be constructed on the existing alignment. Traffic will be maintained on a temporary bridge to be located upstream of the existing bridge. The construction limits do not approach any buildings or other structures outside of the project limits. Overhead utility lines will be relocated as indicated on the project plans. Features of concern with respect to erosion control include a steep embankment immediately adjacent to the project, two streams and a roadside ditch involving a pipe replacement. Vegetation in the immediate vicinity of the bridge consists of a mixture of trees and shrubs including Maple, Ash, Yellow Birch, and Fir. The soils within the project area consist of dense mixtures of gravel, sand and silt classified with a high potential for erosion. No 'Threatened & Endangered Species' have been identified within the project limits and there will be no adverse effect to Historic or Archaelogical features on to wetlands, floodplains or agricultural soils.
Total disturbed construction area (excluding waste, borrow & staging): 0.11 ha. (0.3 acre)
Name of receiving waters: Roaring Brook

## GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are intended as a guide for preventing erosion and controlling sediment. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimizes the sedimentation of receiving waters. The measures consist of stabilization and structural practices, stormwater controls and other pollution prevention controls.

Coordinate the installation, use, and removal of erosion and sediment control measures with contruction activities to assure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds.

Install all erosion and sediment control measures as sequenced on the 'Erosion & Sediment Control Plan' sheet or as directed by the Engineer. Do not modify the type, size or location of any control or measure without approval of the Engineer. Any changes shall be noted on the plans and discussed in the weekly report. Inspect all control measures daily and after each rainfall event. Repair measures daily once damage is discovered.

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas as soon as is practicable, but no more than 48 hours after construction activity has temporarily or permanently ceased. Except for perimeter control measures which shall be installed prior to the start of any, grubbing or grading activity, install temporary controls in incremental stages as construction proceeds.

Control only sediment-laden runoff generated by the project site. Separate and route clean offsite runoff through the project site using diversion berms diversion channels, culverts and temporary pipes.

Provide stabilized construction entrances to prevent tracking of sediment off the project site.

Do not allow any construction equipment to operate or access on the downslope side of perimeter control measures.

Do not allow any crossing of a flowing stream or disturbance of the existing stream bank by construction equipment, except as authorized by the Engineer.

In general, preserve existing vegetation, trees, and shrubs when possible.

## SPECIFIC GUIDELINES

### Sequence of Construction

**Phase I (Establish Perimeter Controls):**

Prior to any construction or staging, construct stabilized construction entrances to staging areas and to the project site to prevent tracking of sediment offsite. Coarse stone over filter fabric should be utilized where an established, stable, entrance does not exist. The stone used for construction entrances shall be monitored for sediment accumulation and replaced as necessary. Stabilized entrances shall also be established and maintained at off site waste or borrow areas. The minimum size of a constructed entrance shall be 3700 x 15 000.

After clearing, but prior to grubbing, and excavation, construct perimeter controls to ensure that disturbed sediment does not leave the site. Outlet sediment traps/basins (where water has been adequately treated) to nearby undisturbed streams or swales.

Use diversion swales or temporary pipes to divert clean offsite runoff through the project site where appropriate. Do not line with plastic those portions of the diversion channels that run along natural streambeds.

During grubbing operations, stone check dam barriers shall be installed at any evident concentrated flow discharge points.

**Phase II (Intermediate Controls/Stabilization):**

Apply intermediate controls (inlet protection and check dams) before rough grading and culvert installation operations. Obtain the Engineer's approval before installing any controls not specied in the 'Erosion Control Plan' (this provision does not apply to emergency situations where the Engineer may not be immediately available). The Engineer may direct the installation of certain controls in order to forestall or mitigate potential or existing erosion problems or to respond to storm events or damage by construction operations.

After perimeter controls are in place and prior to grading, construct temporary onsite sediment traps where necessary. Grade disturbed areas to drain toward sediment traps where possible.

Clean erosion control measures (sediment traps, silt fence etc.) when ½ full of sediment.

Install inlet protection prior to diverting water through inlets.

Provide double silt fence around stockpiled excavated roadway material. Apply temporary mulch or temporary turf establishment to stockpiles remaining in place longer than 14 days or when directed by the Engineer.

Upon completion of temporary detour fill slopes, seed and mulch slopes to establish vegetation. Maintain silt fence at toe of slopes for added protection from sediments being transported to the Lesure and Roaring Brooks.

**Phase III (Final Controls/Stabilization):**

After completion of bridge and/or roadway construction, do the following as directed by the Engineer.

Finish grading, riprap and apply permanent turf establishment to channels if required.

Where necessary, replace damaged matting and reapply permanent turf establishment to disturbed areas where vegetation has not established.

Remove silt fence only after all upslope areas are stabilized and vegetation is well established.

Remove all perimeter silt fence and sediment traps only after toe-of-fill ditches have stabilized and vegetation is well established.

Remove all other perimeter controls when directed by the Engineer. Backfill, regrade and apply permanent turf establishment.

See 'Erosion Control Details' sheet for seed mixtures for turf establishment.

## ADDITIONAL NOTES

An alternate temporary erosion control plan may be submitted by the contractor for approval by the Resident Engineer.

Special consideration must be given to the first pump-down of a cofferdam as it will contain the greatest volume of water with a high sediment load. The contractor may provide additional sediment traps within the right-of-way, if necessary, to control the rate of draw-down. Additional sediment traps must be approved by the Resident Engineer.

After completion of the substructure, the sediment in the trap shall be removed and used within the project limits or hauled to an approved waste area and the ground restored to its original slopes or graded as shown on the construction drawings.

The contractor will use other temporary or permanent erosion control measures as necessitated by the sequence of construction and as directed by the Resident Engineer. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2001.

Use the Erosion Control Plans in conjunction with Standard Sheets T1M & T2M.

See General Note #21 on sheet 21 and sheet 8 (Plan Sheet) for notes concerning the steep slopes at the edge of the temporary detour.

Metric

| | | | |
|---|---|---|---|
| SHEET NAME: | EROSION CONTROL NARRATIVE | | |
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /str1/94j072/sj072ec.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | G.S. ROGERS | DRAWN BY: | STR1 |
| DESIGNED BY: | C. MEUNIER | IPARM NAME: | sj072ec3.1 |
| BRIDGE SHEET NUMBER: | | SHEET | 14 OF 38 |

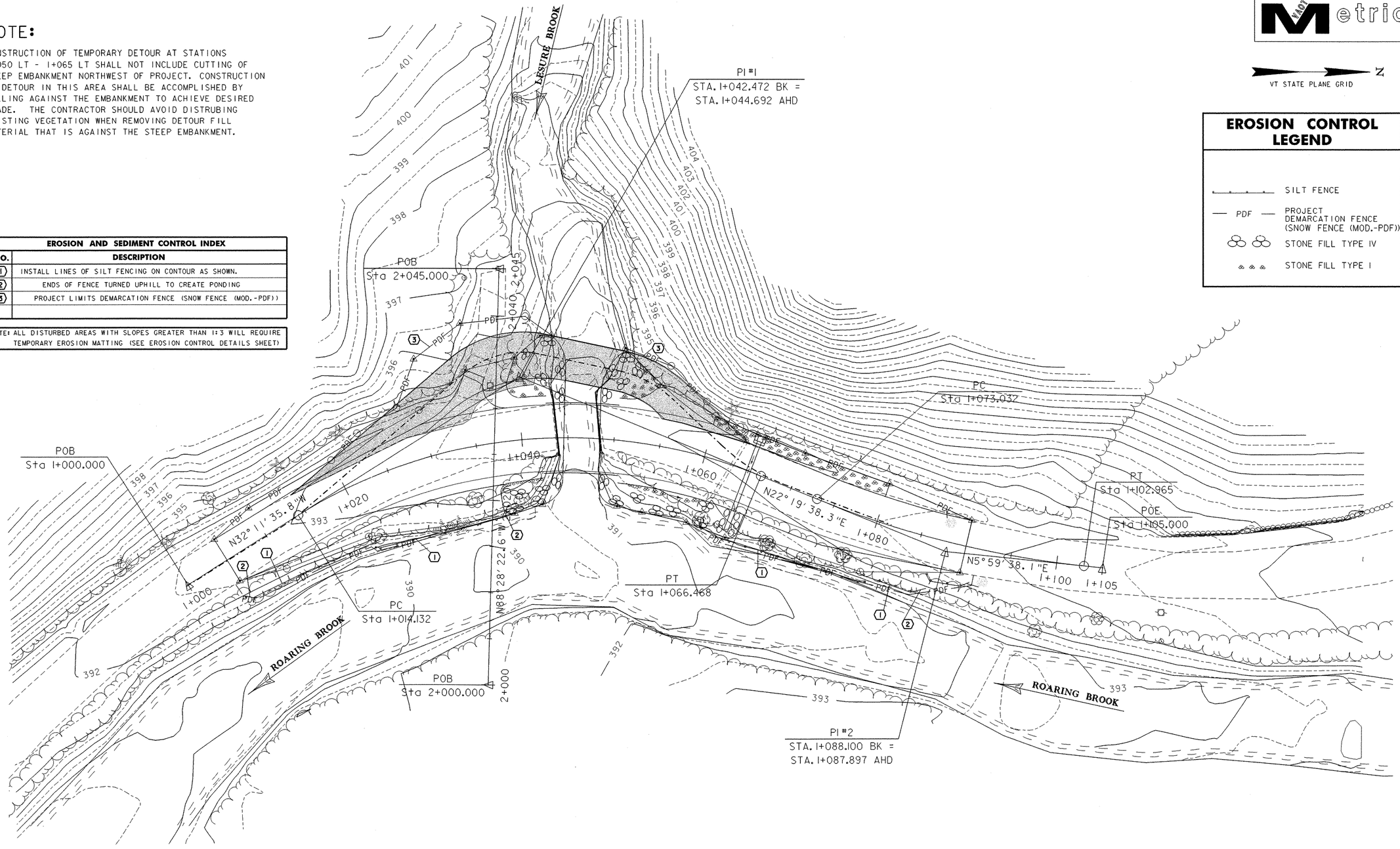
Metric

## NOTE:

CONSTRUCTION OF TEMPORARY DETOUR AT STATIONS 1+050 LT - 1+065 LT SHALL NOT INCLUDE CUTTING OF STEEP EMBANKMENT NORTHWEST OF PROJECT. CONSTRUCTION OF DETOUR IN THIS AREA SHALL BE ACCOMPLISHED BY FILLING AGAINST THE EMBANKMENT TO ACHIEVE DESIRED GRADE. THE CONTRACTOR SHOULD AVOID DISTRUBING EXISTING VEGETATION WHEN REMOVING DETOUR FILL MATERIAL THAT IS AGAINST THE STEEP EMBANKMENT.

| EROSION AND SEDIMENT CONTROL INDEX | |
|---|---|
| NO. | DESCRIPTION |
| (1) | INSTALL LINES OF SILT FENCING ON CONTOUR AS SHOWN. |
| (2) | ENDS OF FENCE TURNED UPHILL TO CREATE PONDING |
| (3) | PROJECT LIMITS DEMARCATION FENCE (SNOW FENCE (MOD.-PDF)) |
| | |

NOTE: ALL DISTURBED AREAS WITH SLOPES GREATER THAN 1:3 WILL REQUIRE TEMPORARY EROSION MATTING (SEE EROSION CONTROL DETAILS SHEET)




VT STATE PLANE GRID N

## EROSION CONTROL LEGEND

- SILT FENCE
- PDF — PROJECT DEMARCATION FENCE (SNOW FENCE (MOD.-PDF))
- STONE FILL TYPE IV
- STONE FILL TYPE I

0 10 20 30

SCALE (1:200) IN METERS

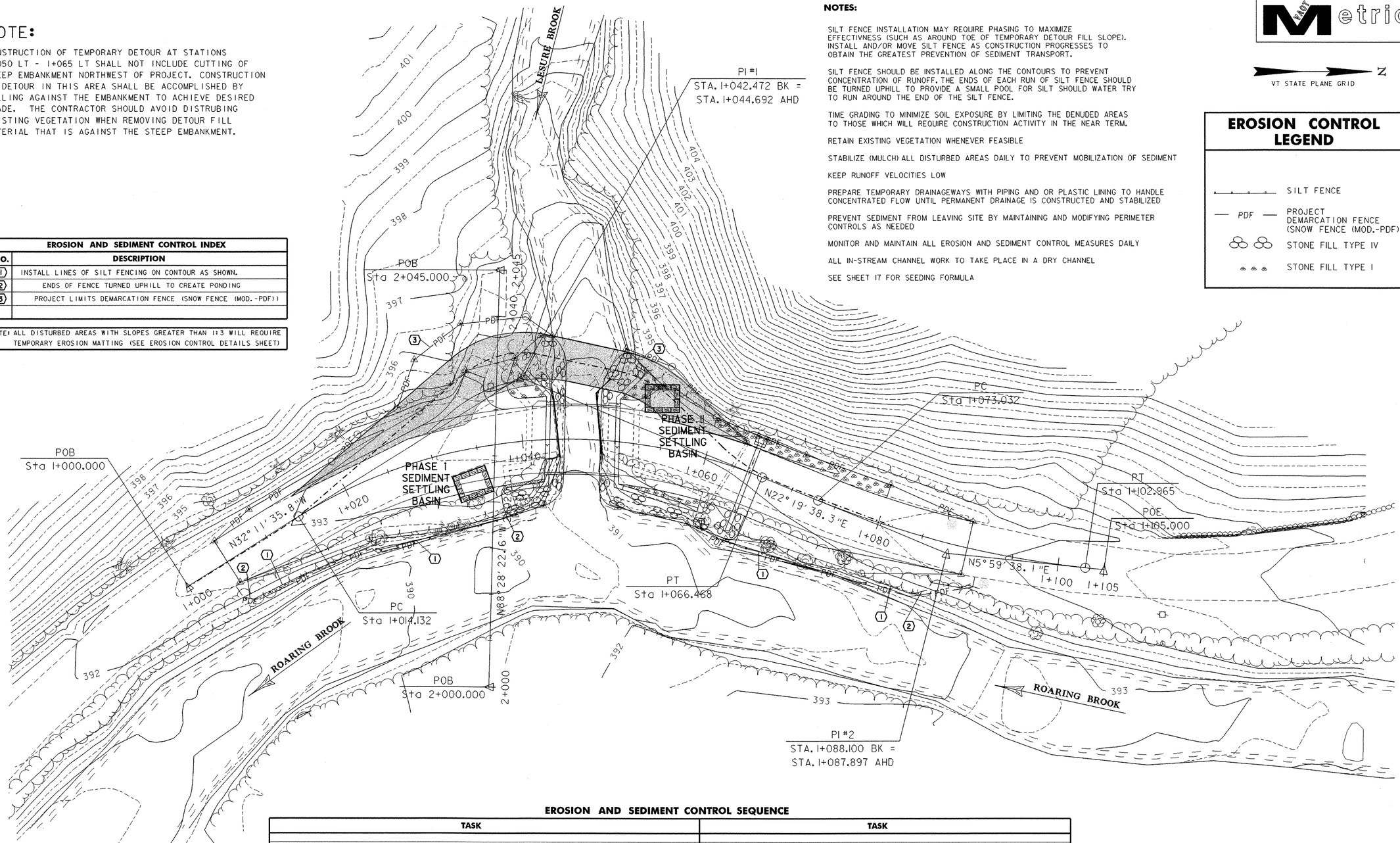
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|---|---|
| SHEET NAME: | EXISTING CONDITIONS, RESOURCES, AND PERIMETER EROSION CONTROLS |
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 OVER: LESURE BROOK |
| FILE NAME: /str1/94J072/sj072ec.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: K.UPMAL |
| DESIGNED BY: K. UPMAL | IPARM NAME: sj072ec1.i |
| BRIDGE SHEET NUMBER: | SHEET 15 OF 38 |

## NOTE:

CONSTRUCTION OF TEMPORARY DETOUR AT STATIONS 1+050 LT - 1+065 LT SHALL NOT INCLUDE CUTTING OF STEEP EMBANKMENT NORTHWEST OF PROJECT. CONSTRUCTION OF DETOUR IN THIS AREA SHALL BE ACCOMPLISHED BY FILLING AGAINST THE EMBANKMENT TO ACHIEVE DESIRED GRADE. THE CONTRACTOR SHOULD AVOID DISTRUBING EXISTING VEGETATION WHEN REMOVING DETOUR FILL MATERIAL THAT IS AGAINST THE STEEP EMBANKMENT.

| EROSION AND SEDIMENT CONTROL INDEX | |
|---|---|
| NO. | DESCRIPTION |
| (1) | INSTALL LINES OF SILT FENCING ON CONTOUR AS SHOWN. |
| (2) | ENDS OF FENCE TURNED UPHILL TO CREATE PONDING |
| (3) | PROJECT LIMITS DEMARCATION FENCE (SNOW FENCE (MOD.-PDF)) |
| | |

NOTE: ALL DISTURBED AREAS WITH SLOPES GREATER THAN 1:3 WILL REQUIRE TEMPORARY EROSION MATTING (SEE EROSION CONTROL DETAILS SHEET)




**NOTES:**

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVNESS (SUCH AS AROUND TOE OF TEMPORARY DETOUR FILL SLOPE). INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT.

SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

TIME GRADING TO MINIMIZE SOIL EXPOSURE BY LIMITING THE DENUDED AREAS TO THOSE WHICH WILL REQUIRE CONSTRUCTION ACTIVITY IN THE NEAR TERM.

RETAIN EXISTING VEGETATION WHENEVER FEASIBLE

STABILIZE (MULCH) ALL DISTURBED AREAS DAILY TO PREVENT MOBILIZATION OF SEDIMENT

KEEP RUNOFF VELOCITIES LOW

PREPARE TEMPORARY DRAINAGEWAYS WITH PIPING AND OR PLASTIC LINING TO HANDLE CONCENTRATED FLOW UNTIL PERMANENT DRAINAGE IS CONSTRUCTED AND STABILIZED

PREVENT SEDIMENT FROM LEAVING SITE BY MAINTAINING AND MODIFYING PERIMETER CONTROLS AS NEEDED

MONITOR AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY

ALL IN-STREAM CHANNEL WORK TO TAKE PLACE IN A DRY CHANNEL

SEE SHEET 17 FOR SEEDING FORMULA

VT STATE PLANE GRID

## EROSION CONTROL LEGEND

- SILT FENCE
- PDF — PROJECT DEMARCATION FENCE (SNOW FENCE (MOD.-PDF))
- STONE FILL TYPE IV
- STONE FILL TYPE I

0 10 20 30

SCALE (1:200) IN METERS

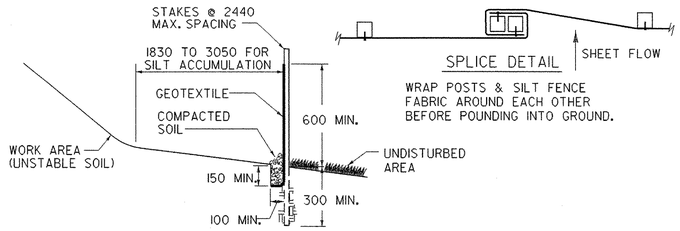
### EROSION AND SEDIMENT CONTROL SEQUENCE

| TASK | TASK |
|---|---|
| | |
| 1.) SET UP FIELD OFFICE AND CONTRACTOR STORAGE/WORKSITE LOCATION PROTECTED BY APPROPRIATE CONTROLS | 21.) PLACE GEOTEXTILE FABRIC, STONE AND GRUBBING MATERIAL AS SHOWN |
| 2.) INSTALL INITIAL EROSION CONTROL INCLUDING PERIMETER SILT FENCE AS WELL AS PROJECT DELINEATION FENCE | 22.) CLEAN OUT & PREPARE SEDIMENT TRAP/ DEWATERING AREA |
| 3.) CLEAR VEGETATION, AND BEGIN CONSTRUCTION OF TEMPORARY DETOUR APPROACHES | 23.) REPEAT STEPS 10-16 FOR WINGWALLS NO.1 & 3 |
| 4.) STABILIZE TEMPORARY DETOUR SLOPES WITH CLEAN STONE OR EROSION MATTING PLUS SEED AND MULCH | 24.) REMOVE SEDIMENT TRAP - PROPERLY DISPOSING OF MATERIAL |
| 5.) RE-ESTABLISH SILT FENCE AT TOE-OF-SLOPES | 25.) RESTORE STREAMBANK |
| 6.) BUILD TEMPORARY BRIDGE | 26.) PLACE GEOTEXTILE FABRIC, STONE AND GRUBBING MATERIAL AS SHOWN |
| 7.) DIVERT TRAFFIC | |
| 8.) REMOVE EXISTING BRIDGE SUPERSTRUCTURE | |
| 9.) CONSTRUCT SEDIMENTATION TRAP/ DEWATERING AREA | |
| 10.) INSTALL COFFERDAMS | 27.) COMPLETE APPURTENANCES (GUARDRAIL, ETC.)/ ACCESS DRIVE, ROADWAY WORK |
| 11.) UTILIZE SEDIMENTATION TRAPS/ DEWATERING AREA/ CLEAN OUT WHEN ½ FULL OF SEDIMENT, REPAIR AS NEEDED | 28.) GRADE, SEED AND MULCH ALL REMAINING DISTURBED AREAS |
| 12.) COMPLETE EXCAVATION/STRUCTURE REMOVAL | 29.) RETAIN INITIAL EROSION CONTROL MEASURES UNTIL ESTABLISHMENT OF VEGETATION |
| 13.) FORM / PLACE FOOTINGS | 30.) REMOVE INITIAL EROSION CONTROL MEASURES, BACKFILL, SEED & MULCH DISTURBED AREAS |
| 14.) FORM / PLACE ABUTMENTS AND WINGWALLS | |
| 15.) BACKFILL INCLUDING STONE FILL TO BE UNDER SUPERSTRUCTURE AS COFFERDAM LIMITS PERMIT | MODIFICATIONS TO THIS CONTROL SEQUENCE MAY BE MADE BY, OR WITH APPROVAL OF, THE RESIDENT ENGINEER |
| 16.) PULL COFFERDAM SHEETING | |
| 16a.) COMPLETE PLACEMENT OF STONEFILL BETWEEN ABUTMENTS | |
| 17.) COMPLETE SUPERSTRUCTURE | |
| 18.) DIVERT TRAFFIC TO NEW BRIDGE/REMOVE DETOUR | |
| 19.) STABILIZE DETOUR AREA/EROSION MATTING SEED & MULCH OR RIPRAP CONSULT RESIDENT ENGINEER | |
| 20.) RESTORE STREAMBANK | |

SHEET NAME: EROSION & SEDIMENT CONTROL PLAN

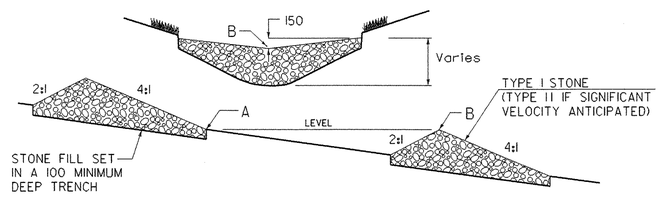
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PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94J072/sJ072ec.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: K.UPMAL
IPARM NAME: sJ072ec.I
SHEET 16 OF 38




## DETAIL "A"
## SILT FENCE

NOTES :
1. DO NOT USE SILT FENCE IN STREAMS, DRAINAGE DITCHES, OR AREAS OF CONCENTRATED FLOW.
2. BACK WITH STAKED-IN-PLACE HAY BALES OR WIRE FENCE IF ADDITIONAL SUPPORT IS NEEDED.
3. MUST BE REMOVED WHEN SOIL IS STABILIZED.




## DETAIL "B"
## TEMPORARY STONE CHECK DAM

NOTES :
1. CHECK DAMS TO BE USED DURING ESTABLISHMENT OF GRASS LINED DRAINAGE DITCHES
2. LOCATE DOWNSTREAM STRUCTURE SUCH THAT POINT "B" IS APPROXIMATELY LEVEL WITH THE LOWEST GROUND ELEVATION "A" OF THE UPSTREAM STRUCTURE.

## SEEDING FORMULA
## RURAL AREAS

| % MASS | kg/ha | NAME | PUR % | GERM % |
|---|---|---|---|---|
| 37.5 | 26.0 | CREEPING RED FESCUE | 98 | 85 |
| 37.5 | 26.0 | TALL FESCUE | 95 | 90 |
| 5.0 | 4.0 | RED TOP | 95 | 90 |
| 15.0 | 10.0 | BIRDSFOOT TREFOIL | 98 | 85 |
| 5.0 | 4.0 | ANNUAL RYE GRASS | 95 | 85 |
| 100.0 | 70.0 | | | |

**GENERAL NOTES**

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

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

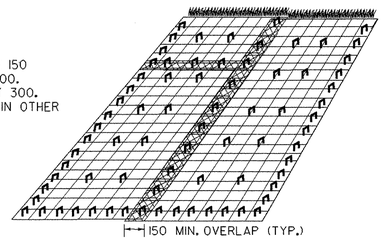
FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

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

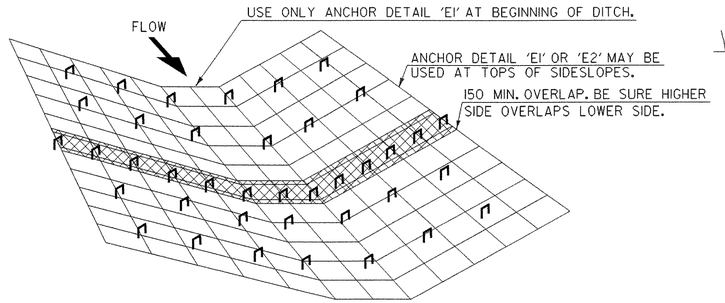
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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

NOTES:
1. ALL FABRIC OVERLAPS SHALL BE 150 MINIMUM WITH STAPLES EVERY 500.
2. STAPLE EDGES OF FABRIC EVERY 300.
3. USE 1000 MAX. STAPLE SPACING IN OTHER AREAS.
4. SEE "EROSION MATTING FOR DITCHES" DETAIL FOR ANCHORING AT TOPS OF SLOPES.

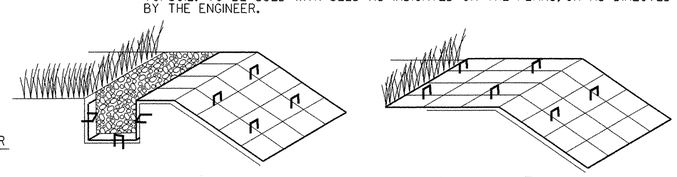



## DETAIL "C"
## EROSION MATTING FOR SLOPES STEEPER THAN 1:3




## DETAIL "D"
## EROSION MATTING FOR DITCHES

1. TO BE USED WHERE SLOPE OF DITCHLINE RANGES FROM 1% - 2.5%. SLOPES EXCEEDING 2.5% SHALL BE LINED WITH STONE FILL, TYPE I.
2. OVERLAPS SHALL BE 150 MINIMUM IN THE DIRECTION OF FLOW AND STAPLED EVERY 500 MIN. THROUGH BOTH FABRICS.
3. USE 1000 MAX STAPLE SPACING IN OTHER AREAS.



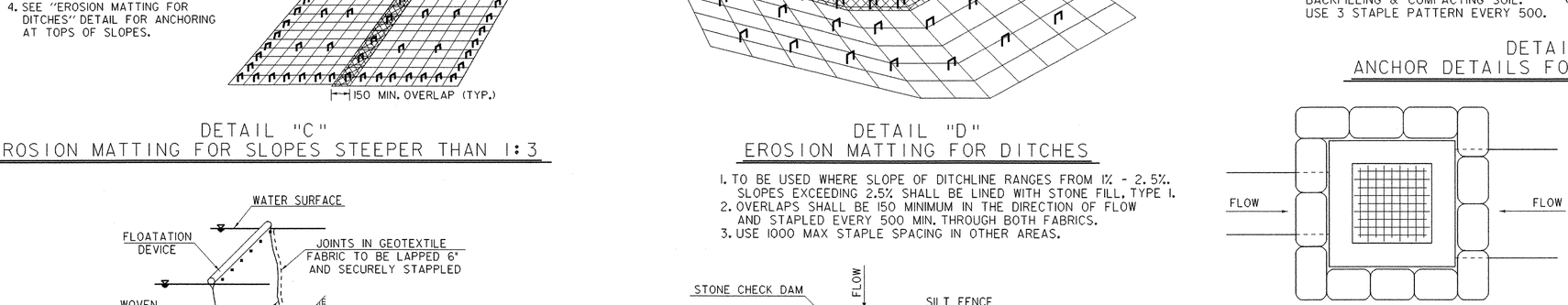
ANCHOR DETAIL 'E1'

INSERT & STAPLE FABRIC INTO 150 x 150 TRENCH PRIOR TO BACKFILLING & COMPACTING SOIL. USE 3 STAPLE PATTERN EVERY 500.

ANCHOR DETAIL 'E2'

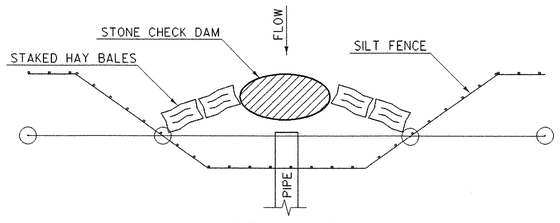
IF THE TOP OF SLOPE IS RELATIVELY FLAT EXTEND MATERIAL APPROXIMATELY 600 AND STAPLE EVERY 500 MINIMUM.

## DETAIL "E"
## ANCHOR DETAILS FOR EROSION MATTING

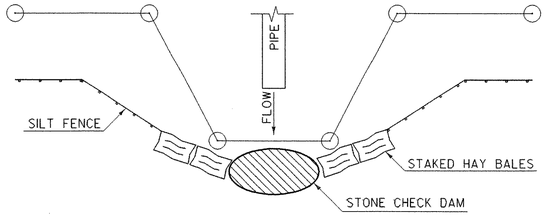



## DETAIL "F"
## FILTER CURTAIN

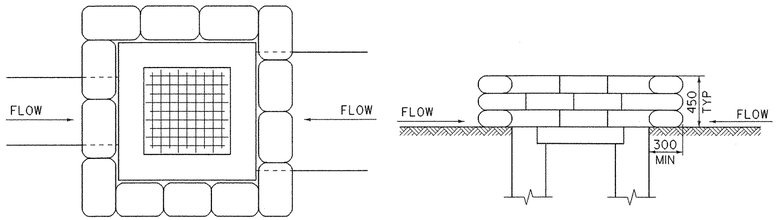
1. NOT TO BE USED ACROSS THE FLOW OF WATER
2. HEIGHT SHOULD BE SUFFICIENT TO ALLOW FOR VARIATIONS IN THE BOTTOM AND RISING WATER
3. ANCHOR FIRMLY IN PLACE AS NEEDED
4. INSTALL PRIOR TO EARTH DISTURBING ACTIVITIES AND/ OR INSTALLATION OF COFFERDAM WHERE APPLICABLE
5. LEAVE IN PLACE UNTIL UP-SLOPE AREAS ARE STABLE AND COFFERDAM IS REMOVED
6. USE CARE DURING REMOVAL TO PREVENT THE RELEASE OF CAPTURED SEDIMENT AS MUCH AS POSSIBLE



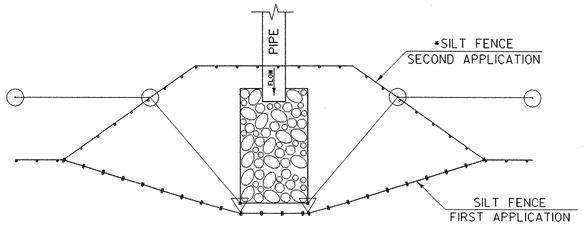

## DETAIL "G"
## EXISTING PIPE INLET CONTROL




## DETAIL "H"
## EXISTING PIPE OUTLET CONTROL




## DETAIL "I"
## PROPOSED PIPE INLET CONTROL
GRAVEL BAGS




## DETAIL "J"
## PROPOSED PIPE OUTLET CONTROL

NOTE: REFER TO LATEST REVISIONS OF VERMONT STATE STANDARDS "T-1M" AND "T-2M" AND THE "VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" FOR ADDITIONAL EROSION CONTROL MEASURES.

HAY BALES AND SILT FENCE ARE NOT TO BE USED ACROSS AREAS OF CONCENTRATED FLOW.

NOTE: DETAILS NOT TO SCALE

SHEET NAME: **EROSION CONTROL DETAILS**

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

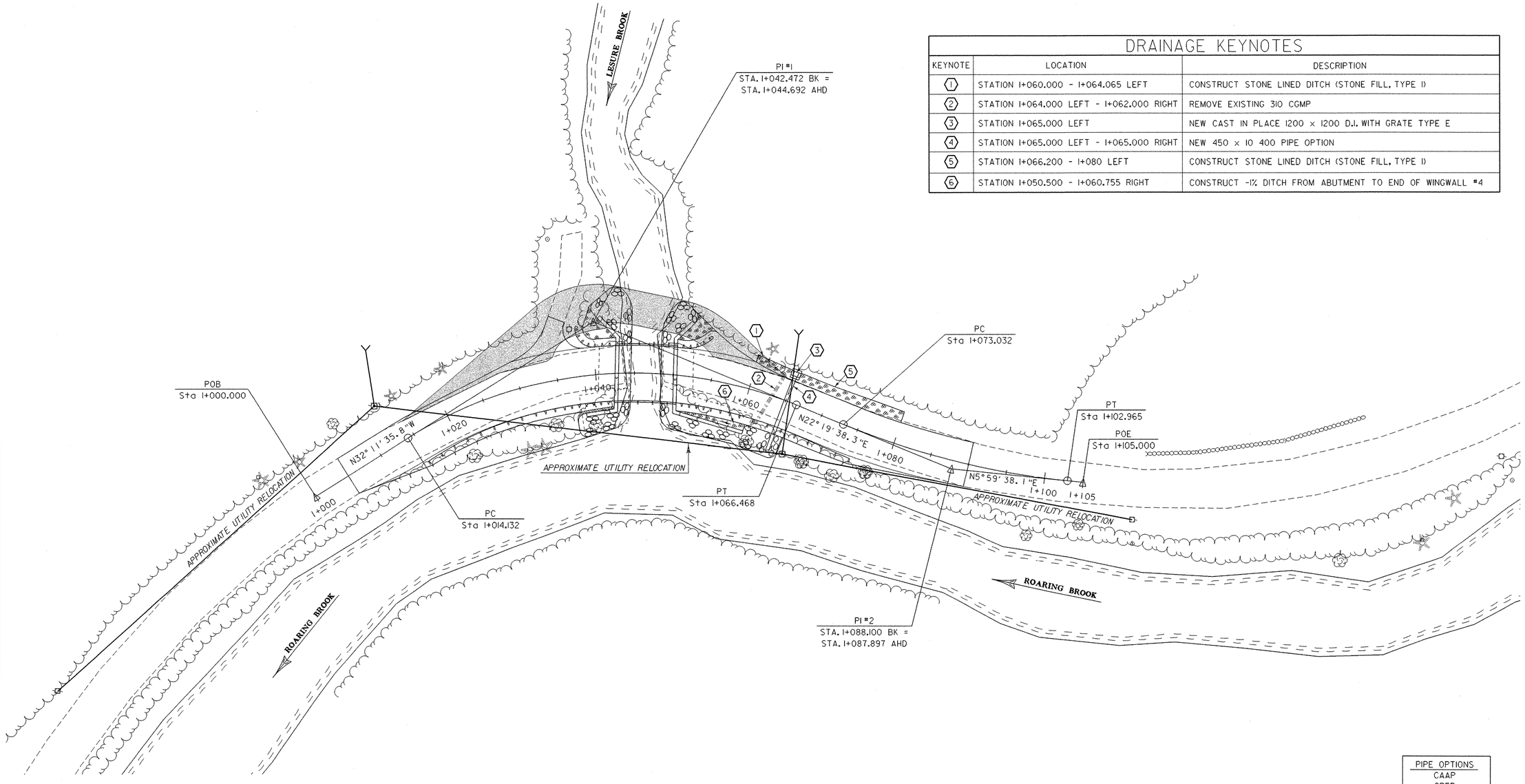
FILE NAME: /str1/94J072/sJ072ec.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: C. MEUNIER
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: STRI
IPARM NAME: sJ072ec2.1
SHEET 17 OF 38

VAST Metric

N

VT STATE PLANE GRID

| DRAINAGE KEYNOTES | | |
|---|---|---|
| KEYNOTE | LOCATION | DESCRIPTION |
| 1 | STATION 1+060.000 - 1+064.065 LEFT | CONSTRUCT STONE LINED DITCH (STONE FILL, TYPE I) |
| 2 | STATION 1+064.000 LEFT - 1+062.000 RIGHT | REMOVE EXISTING 310 CGMP |
| 3 | STATION 1+065.000 LEFT | NEW CAST IN PLACE 1200 x 1200 D.I. WITH GRATE TYPE E |
| 4 | STATION 1+065.000 LEFT - 1+065.000 RIGHT | NEW 450 x 10 400 PIPE OPTION |
| 5 | STATION 1+066.200 - 1+080 LEFT | CONSTRUCT STONE LINED DITCH (STONE FILL, TYPE I) |
| 6 | STATION 1+050.500 - 1+060.755 RIGHT | CONSTRUCT -1% DITCH FROM ABUTMENT TO END OF WINGWALL #4 |




| PIPE OPTIONS |
|---|
| CAAP |
| CPEP |
| CSP |

0 10 20 30

SCALE (1:250) IN METERS

| | |
|---|---|
| SHEET NAME: DRAINAGE AND UTILITIES | |
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /str1/94j072/sj072du.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: J. GILMORE |
| DESIGNED BY: K. UPMAL | IPARM NAME: sj072du.i |
| BRIDGE SHEET NUMBER: | SHEET 18 OF 38 |

STATE OF VERMONT
AGENCY OF TRANSPORTATION

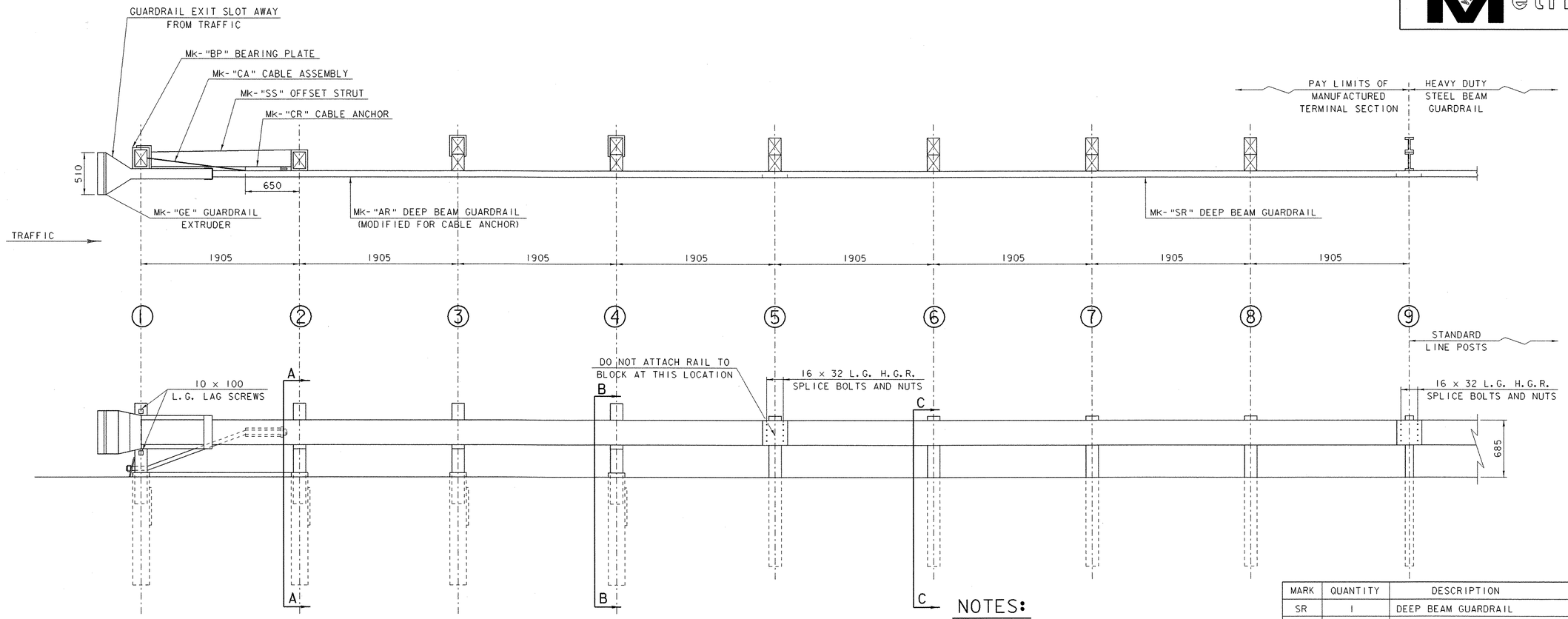
# DRAINAGE DETAIL SHEET

Metric

| STATION km + m | STATION km + m | POS. | ASKEW no. deg. | INLET/OUTLET TYPE INLET | INLET/OUTLET TYPE OUTLET | DITCH IN | DITCH OUT | PIPE ARCH SPAN mm | PIPE ARCH RISE mm | PIPE ARCH L m | PIPE D mm | PIPE L m | ALLOWABLE OPTIONS PCCSP mm | CAAP mm | RCP CL | CSP mm | CPEP SL mm | PCCSP PI mm | PIPE ELBOW no. deg. | ES ea | CB ea | PRCCDT | DEPTH DI mm | CONC HP CLASS B $m^3$ | REINF STEEL kg | DI GRATE type | CHAN ELEV ea | CRM $m^2$ | TRENCH EXCAVATION EARTH $m^3$ | TRENCH EXCAVATION ROCK $m^3$ | COMM EXC $m^3$ | STRUCT EXC $m^3$ | GRAN BKFILL STRUCT $m^3$ | GRAN BORR $m^3$ | EROS MATT $m^2$ | STONE FILL $m^3$ | STONE FILL type | MARKER POSTS LT ea | MARKER POSTS RT ea | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1+065 | 1+065 | LT/RT | | RCDI | | | | | | | 450 | 10.400 | | .060 | | .064 | SL | | | | | 1050 | 1.39 | 70 | E | | | 10 | | | 7 | 7 | | | | | | 1 | | | 1200 x 1200 DI AT INLET; OUTLET TO STONE FILL, TYPE IV |
| 1+064 | 1+062 | LT/RT | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | REMOVE EXISTING 310 PIPE |
| **SUB-TOTAL** | | | | | | | | | | | | 10.400 | | 10.400 | | 10.400 | 10.400 | | | | | | 1.39 | 70 | | | | 12 | | | 7 | 7 | | | | | | | | |
| **ROUNDING** | | | | | | | | | | | | 0 | | 0 | | 0 | 0 | | | | | | .61 | 0 | | | | 8 | | | 3 | 3 | | | | | | | | |
| **TOTAL** | | | | | | | | | | | | **10.400** | | **10.400** | | **10.400** | **10.400** | | | | | | **2** | **70** | **1** | | | **20** | | | **10** | **10** | | | | | | **1** | | |
| | | | | | | | | | | | | **m** | | **m** | | **m** | **m** | | | | | | **cu. m** | **kg** | **EA** | | | **cu. m** | | | **cu. m** | **cu. m** | | | | | | **EA** | | |

| | |
|---|---|
| PROJECT NAME: | **STAMFORD** |
| PROJECT NUMBER: | **TH3 9411** |
| FILE NAME: | **g:/structures/str1/gsr/projects/** |
| PROJECT LEADER: | **Gary S. Rogers** |
| DESIGNED BY: | **K. Upmal** |
| **DRAINAGE DETAIL SHEET #1** | |
| PLOT DATE: | **6/26/2003** |
| DRAWN BY: | **J. Gilmore** |
| CHECKED BY: | **C. Meunier** |
| SHEET **19** OF **38** | |

VADOT Metric

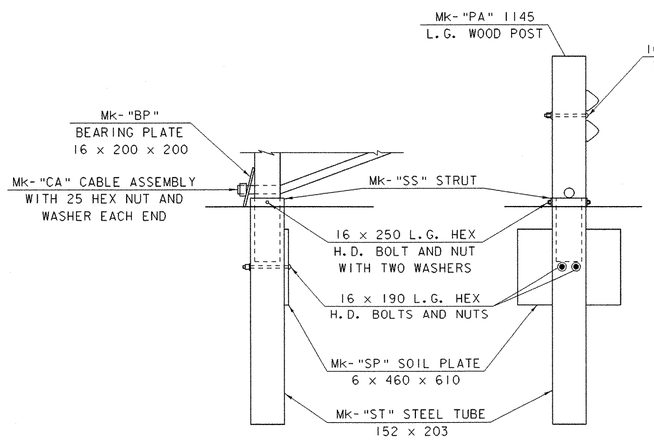



NOTE: PLAN AND ELEVATION SHOWN FOR EXIT END (ENTRANCE END OPPOSITE HAND).

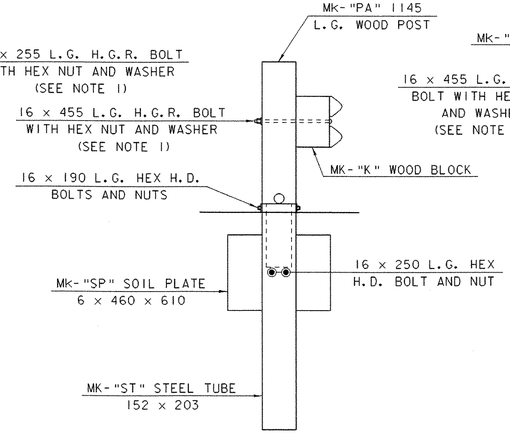
## NOTES:

1. THE 16 DIA FLAT WASHER IS USED WITH THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
2. THE BREAKAWAY POSTS AT LOCATIONS #5, 6, 7 AND 8 MAY BE AS SHOWN, OR FOUNDATION TUBES MAY BE USED AS SHOWN AT POST LOCATIONS #1, 2, 3, AND 4.
3. REFLECTORIZATION OF THE TERMINAL SHALL BE PROVIDED. ALL COSTS SHALL BE INCLUDED IN ITEM 621.505, "MANUFACTURED TERMINAL SECTION."

| MARK | QUANTITY | DESCRIPTION |
|---|---|---|
| SR | 1 | DEEP BEAM GUARDRAIL |
| AR | 1 | DEEP BEAM GUARDRAIL |
| PS | 1 | 50 x 140 PIPE SLEEVE |
| SP | 4 | 6 x 460 x 610 SOIL PLATE |
| K | 6 | 150 x 300 x 355 L.G. WOOD BLOCK |
| PG | 4 | 150 x 300 x 1830 WOOD POST |
| PA | 4 | 1550 x 300 x 1145 WOOD POST |
| ST | 4 | 1370 L.G. STEEL TUBE |
| BP | 1 | 16 x 200 x 200 BEARING PLATE |
| CR | 1 | CABLE ANCHOR BRACKET |
| CA | 1 | 19 x 1980 CABLE ASSEMBLY |
| SS | 1 | 1905 STRUT |
| GE | 1 | GUARDRAIL EXTRUDER |
| HARDWARE | | |
| | 4 | 16 x 250 HEX H.D. BOLT |
| | 35 | 16 HEX NUT |
| | 11 | 16 DIA. WASHER |
| | 6 | 16 x 455 H.G.R. POST BOLT |
| | 1 | 16 x 255 H.G.R. POST BOLT |
| | 16 | 16 x 32 H.G.R. SPLICE BOLT |
| | 8 | 16 x 190 HEX H.D. BOLT |
| | 2 | 10 x 100 LAG SCREW |
| | 2 | 25 HEX NUT |
| | 2 | 25 WASHER |

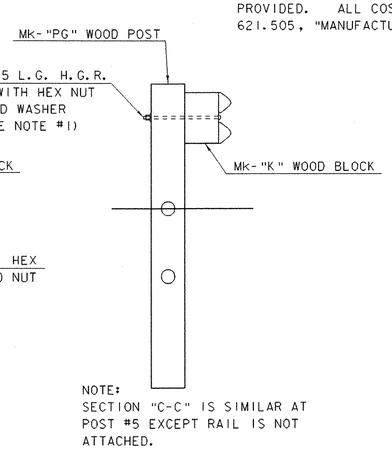



PARTIAL VIEW AT POST #1




SECTION "A-A"
(POST #2)

SECTION "B-B"
(POST #3 AND #4)




NOTE:
SECTION "C-C" IS SIMILAR AT POST #5 EXCEPT RAIL IS NOT ATTACHED.

SECTION "C-C"
(POST #6, #7 AND #8)

SHEET NAME: **MANUFACTURED END TERMINAL**

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /str1/94j072/sj072sup.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: C. MEUNIER
BRIDGE SHEET NUMBER:
PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072met.i
SHEET 20 OF 38

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# GENERAL NOTES

Metric

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION, AND ITS LATEST REVISIONS.

2. BRIDGE IS DESIGNED FOR MS 22.5 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.

3. IN-STREAM CONSTRUCTION SHALL BE RESTRICTED TO JUNE 1 TO OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS WRITTEN PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO DO WORK OUTSIDE OF THAT TIME FRAME.

4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE OR CONCRETE WASH WATER, INTO THE LESURE AND ROARING BROOKS.

5. THE CONTRACTOR SHALL NOT REMOVE ANY MORE TREES OR BRUSH THAN IS ABSOLUTELY NECESSARY FOR SATISFACTORY CONSTRUCTION OF THE PROJECT. THE NECESSITY FOR REMOVAL SHALL BE DETERMINED BY THE RESIDENT ENGINEER.

6. THE COST OF ON-PROJECT SIGNS AND BARRICADES REQUIRED SHALL BE PAID AS THE ITEM 641.10 "TRAFFIC CONTROL."

7. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES C UNLESS OTHERWISE NOTED.

8. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE DECK IS POURED.

9. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.

10. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT, ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

11. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm BY 25 mm.

12. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

13. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).

    REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING + - 5 mm
    CLEARANCE + - 5 mm

14. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 50 mm ALONG THE BACK FACES OF WALLS AGAINST EARTH, 80 mm ALONG THE TOP SURFACE OF THE DECK, 50 mm ALONG THE BOTTOM SURFACE OF THE DECK AND 80 mm ELSEWHERE, UNLESS OTHERWISE NOTED.

15. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP BEADS.

16. ALL CONCRETE SHALL BE "CONCRETE, HIGH PERFORMANCE CLASS B," UNLESS OTHERWISE NOTED.

17. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS TO BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

18. THE EXISTING SUPERSTRUCTURE INCLUDING THE BEAMS, AND DECK SHALL BE REMOVED DOWN TO THE EXISTING BRIDGE SEAT ELEVATION. THIS WORK SHALL BE PAID FOR UNDER THE ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

19. a) THE EXISTING CONCRETE ABUTMENTS THAT FALL WITHIN INDICATED LIMITS OF THE COFFERDAM SHALL BE REMOVED UNDER THE ITEM "COFFERDAM EXCAVATION, ROCK".

    b) ANY PORTION OF THE EXISTING CONCRETE ABUTMENTS THAT FALL OUTSIDE THE INDICATED LIMITS OF THE COFFERDAM SHALL BE REMOVED TO 300 mm BELOW THE FINISH GRADE OF THE CHANNEL AND PAID FOR UNDER THE ITEM "UNCLASSIFIED CHANNEL EXCAVATION".

20. DUE TO THE CLOSE PROXIMITY OF THE TEMPORARY BRIDGE AND THE NEED TO MAINTAIN TRAFFIC ON THE TEMPORARY BRIDGE, THE COFFERDAM AT EACH ABUTMENT WILL REQUIRE PHASING. THIS WILL MEAN INSTALLATION OF A COFFERDAM FOR THE MAJORITY OF ABUTMENTS AND THEN SUBSEQUENT INSTALLATION OF COFFERDAMS FOR CONSTRUCTION OF REMAINING PORTIONS OF WINGWALLS 1 AND 3. THIS WORK WILL BE PAID AS ONE LUMP SUM FOR EACH ABUTMENT AS PER QUANTITY SHEET WITH NO EXTRA PAYMENT DUE FOR PHASING OF COFFERDAMS.

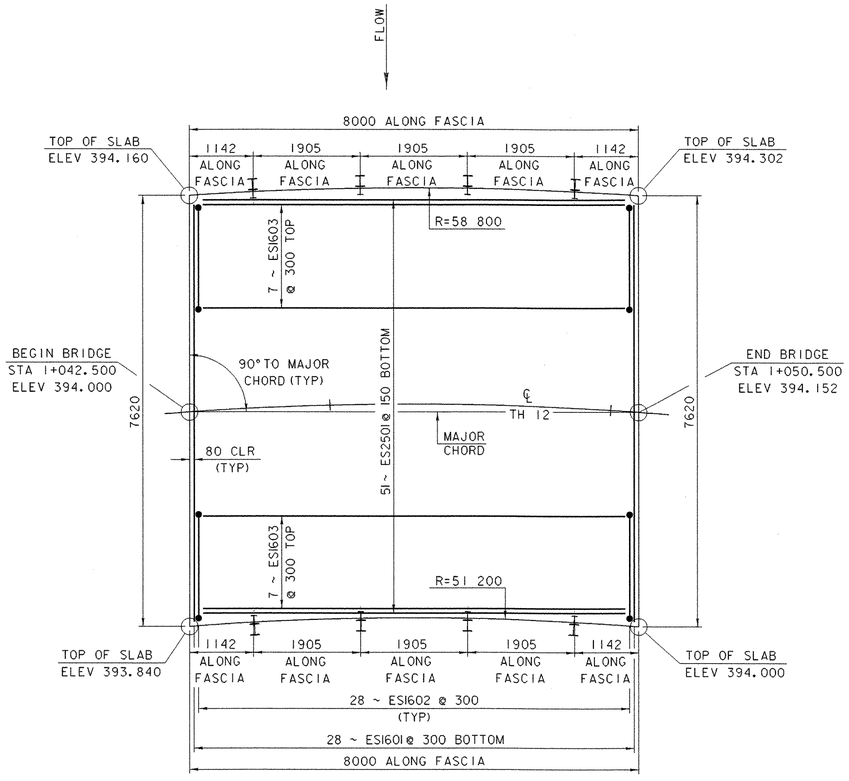
21. DURING CONSTRUCTION AND REMOVAL OF TEMPORARY DETOUR NORTHERN APPROACH, CUTTING OF VEGETATION ALONG STEEP EMBANKMENT SHALL BE MINIMIZED. THE DETOUR AS SHOWN ON THE SECTIONS AND LAYOUT WILL NOT REQUIRE ANY CUTTING OF THIS EMBANKMENT. IF THE CONTRACTOR CHOOSES TO MODIFY THIS DETOUR IN ANY MANNER WHICH WILL REQUIRE CUTTING INTO THE EMBANKMENT, THEN THE CONTRACTOR WILL BE REQUIRED TO PLACE A PERMANENT RETAINING WALL STRUCTURE (SUCH AS SHEET PILINGS, 3'x3' CONCRETE BLOCK WALL, ETC.) AT NO COST TO THE STATE. THIS RETAINING WALL STRUCTURE MUST BE DESIGNED BY A PROFESSIONAL ENGINEER AND APPROVED BY THE STRUCTURES ENGINEER PRIOR TO PLACEMENT OF THE WALL.

22. SEE SHEET 14 "EROSION CONTROL NARRATIVE" FOR NOTES REGARDING EROSION CONTROL.

23. THE EXISTING POST AND STEEL BEAM GUARD RAIL ON THE BRIDGE WILL BE REMOVED UNDER THE ITEM 525.10, "REMOVAL OF EXISTING RAILING" AND WILL REMAIN THE PROPERTY OF THE TOWN OF STAMFORD AND STORED ON SITE FOR REMOVAL BY THE TOWN. CONTACT ROAD COMMISSIONER JOHN TATRO AT (802) 694-1322 TO COORDINATE REMOVAL OF THE RAILING FROM PROJECT SITE.

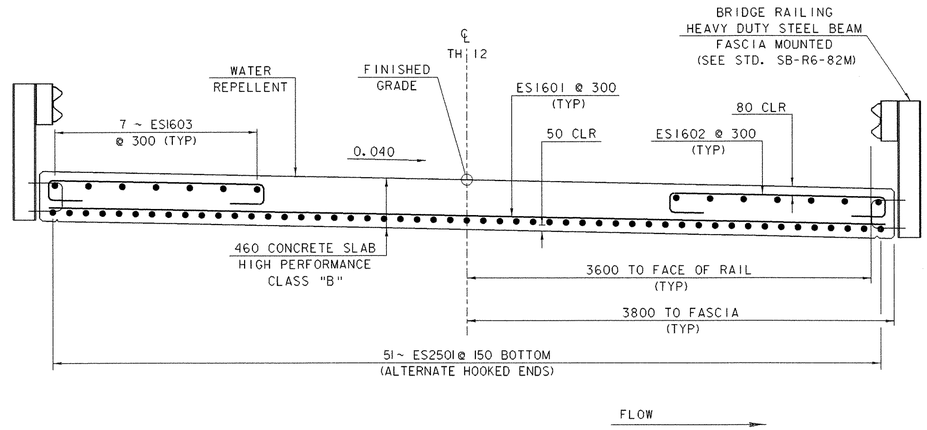
24. IN LIEU OF THE COFFERDAMS, THE CONTRACTOR MAY PROPOSE AN ALTERNATE WATER DIVERSION PLAN TO BE APPROVED BY THE RESIDENT ENGINEER AND FRED NICHOLSON, THE STREAM ALTERATION ENGINEER. ALL WORK ASSOCIATED WITH THIS ALTERNATE WATER DIVERSION PLAN, INCLUDING ANY TEMPORARY SHEETING FOR TRAFFIC CONTROL, WILL BE PAID UNDER THE ITEMS COFFERDAM (ABUTMENT #1 STA. 1+042.500), COFFERDAM (ABUTMENT #2 STA 1+050.500), COFFERDAM EXCAVATION, EARTH AND COFFERDAM EXCAVATION, ROCK.

| | | | |
|---|---|---|---|
| PROJECT NAME: | **STAMFORD** | | |
| PROJECT NUMBER: | **TH3 9411** | | |
| FILE NAME: | **TransFANS/94j072/sj072gen.xl** | PLOT DATE: | **9/19/2003** |
| PROJECT LEADER: | **G. S. ROGERS** | DRAWN BY: | **J.GILMORE** |
| DESIGNED BY: | **C. MEUNIER** | CHECKED BY: | **C. MEUNIER** |
| **GENERAL NOTES SHEET** | | SHEET **21** | OF **38** |



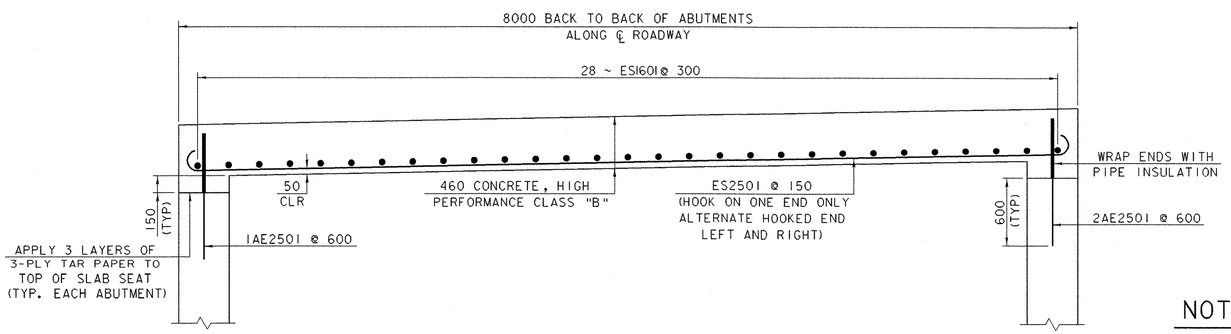

## BRIDGE DECK PLAN

SCALE: 1:50



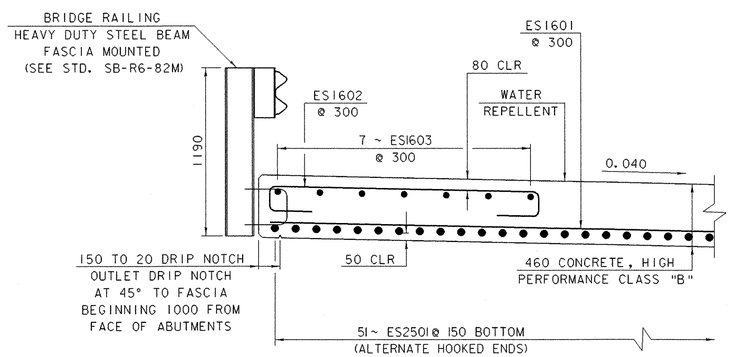

## BRIDGE SECTION

SCALE: 1:25




## ELEVATION ALONG ℄ ROADWAY

SCALE: 1:25




## BRIDGE RAIL DETAIL

SCALE: 1:20

## NOTES:

1. THE SLAB SHALL BE CAMBERED A TOTAL OF 40mm AT MIDSPAN. THIS CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.
2. THE CONCRETE DECK SHALL BE BROOM FINISHED NORMAL TO CENTERLINE.
3. THE COST OF THE TAR PAPER AND PIPE INSULATION AND THEIR APPLICATIONS SHALL BE INCIDENTAL TO THE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B."
4. THE "E" AND "AE" PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

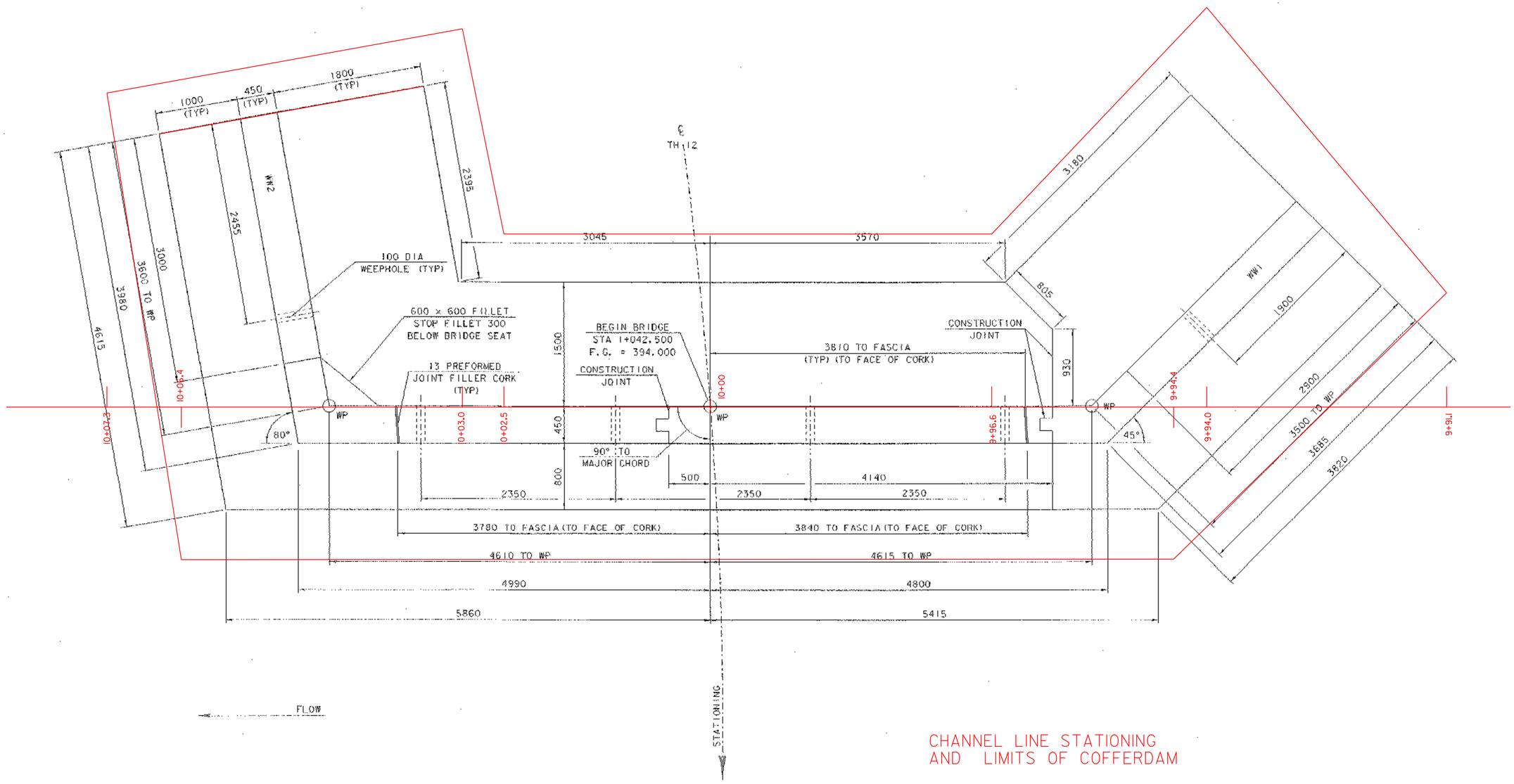
SHEET NAME: **SLAB DETAILS**

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /strl/94j072/sj072sup.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: C. MEUNIER
BRIDGE SHEET NUMBER:

PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072slb.i
SHEET 22 OF 38

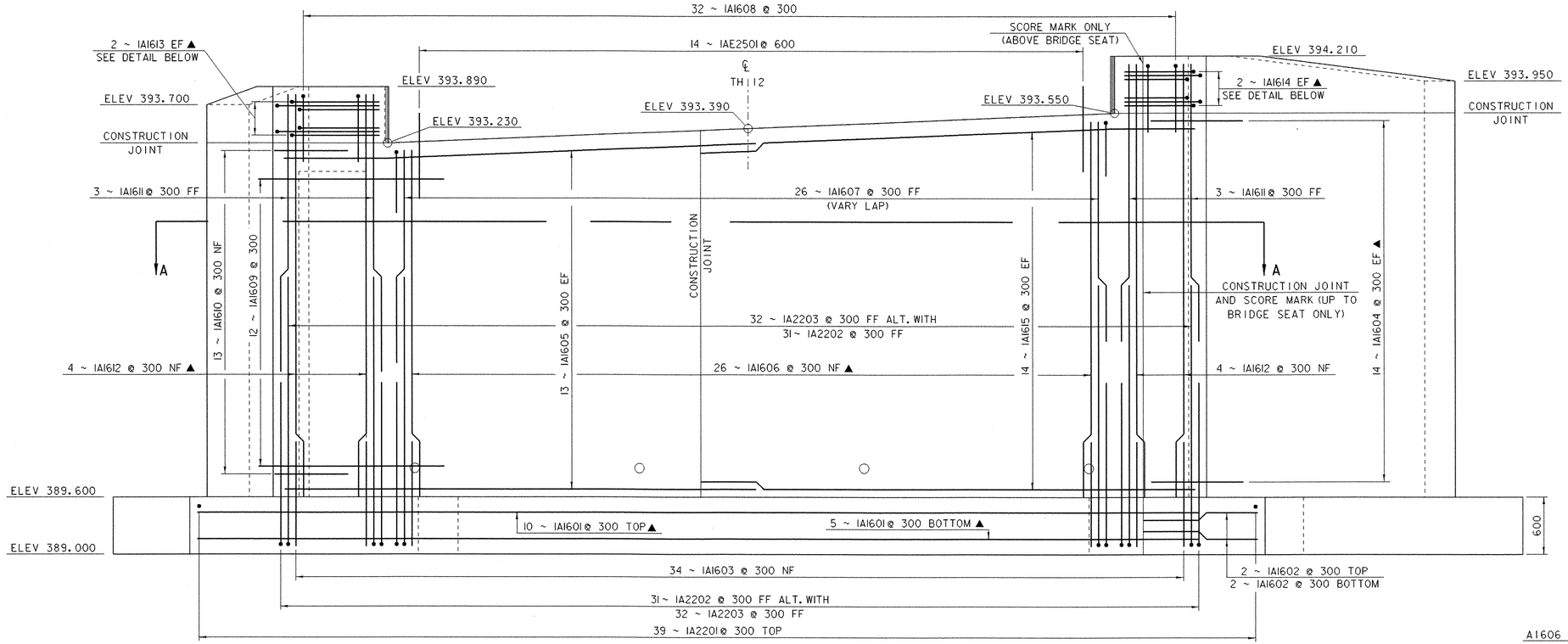



CHANNEL LINE STATIONING
AND LIMITS OF COFFERDAM

# ABUTMENT #1 PLAN

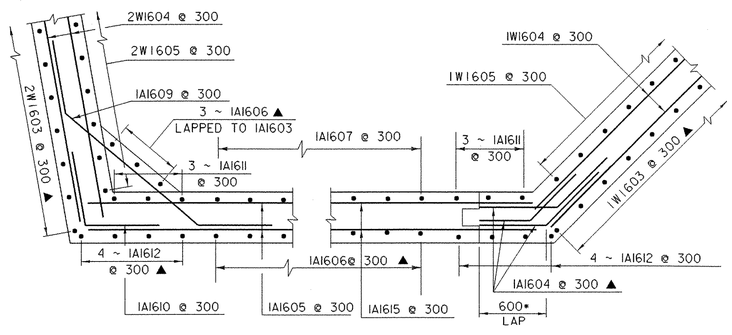
SCALE: 1:25

| | | | |
|---|---|---|---|
| SHEET NAME: | **ABUTMENT #1 PLAN** | | |
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /str1/94J072/sJ072sub1.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | G.S. ROGERS | DRAWN BY: | J. GILMORE |
| DESIGNED BY: | C. MEUNIER | IPARM NAME: | sJ072sb1.i |
| BRIDGE SHEET NUMBER: | | SHEET | 23 OF 38 |




## ABUTMENT #1 ELEVATION

SCALE: 1:25

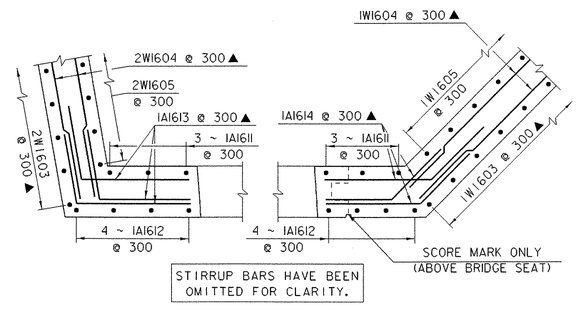



## CORNER DETAILS BELOW BRIDGE SEAT

SCALE: 1:25

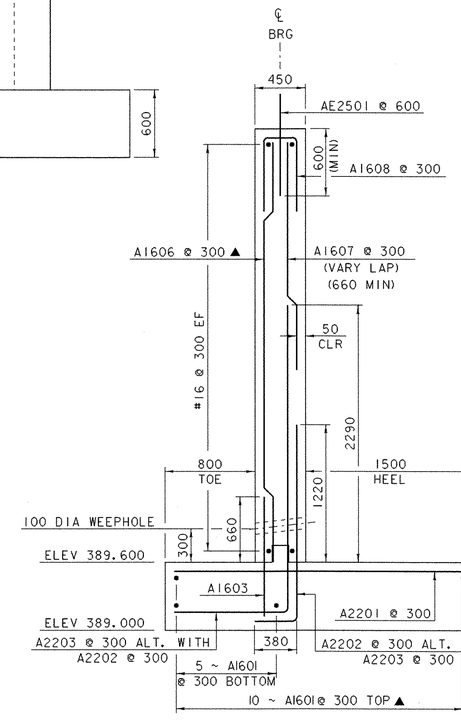
## SECTION A- A

* 600 LAP THIS CONSTRUCTION JOINT ONLY




## CORNER DETAILS ABOVE BRIDGE SEAT

SCALE: 1:25




## ABUTMENT #1 SECTION

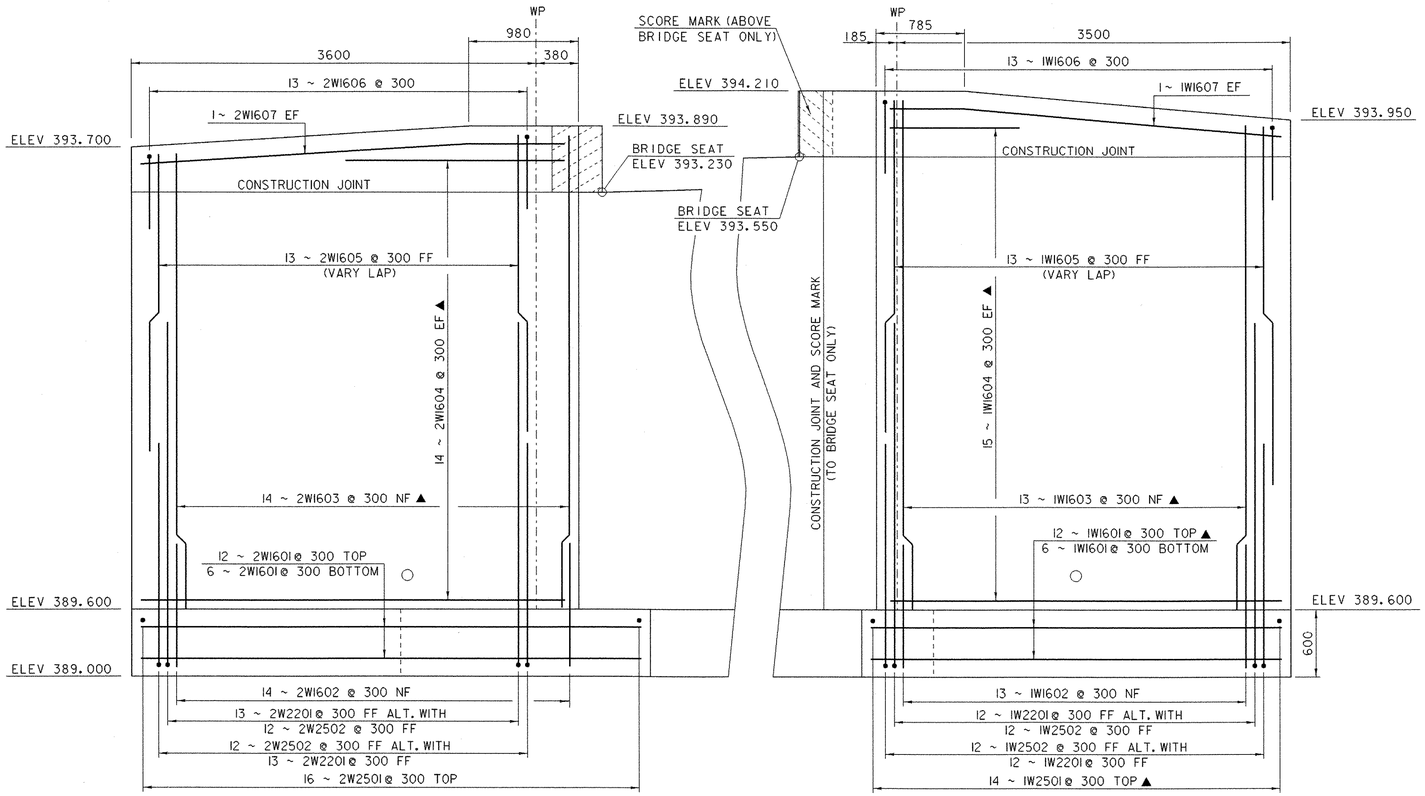
SCALE: 1:25

## NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
7. 3000 MAX. WEEPHOLE SPACING

SHEET NAME: **ABUTMENT #1 ELEVATION**

| | | | |
|---|---|---|---|
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /strl/94j072/sj072sub.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | G.S. ROGERS | DRAWN BY: | J. GILMORE |
| DESIGNED BY: | C. MEUNIER | IPARM NAME: | sj072evl.i |
| BRIDGE SHEET NUMBER: | | SHEET | 24 OF 38 |




## WINGWALL #2 ELEVATION

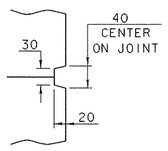
SCALE: 1:25

## WINGWALL #1 ELEVATION

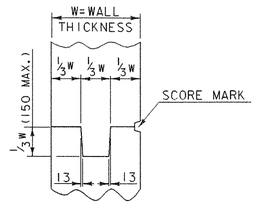
SCALE: 1:25

## WINGWALL TYPICAL SECTION

SCALE: 1:25




## SCORE MARK DETAIL

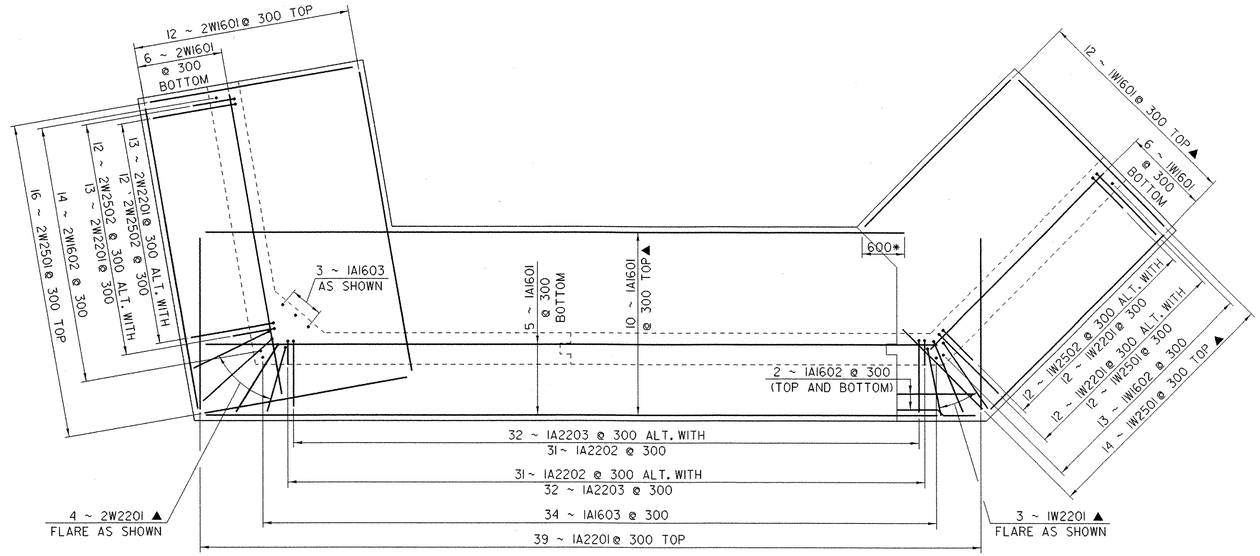



## TYPICAL CONCRETE CONSTRUCTION JOINT

## NOTES

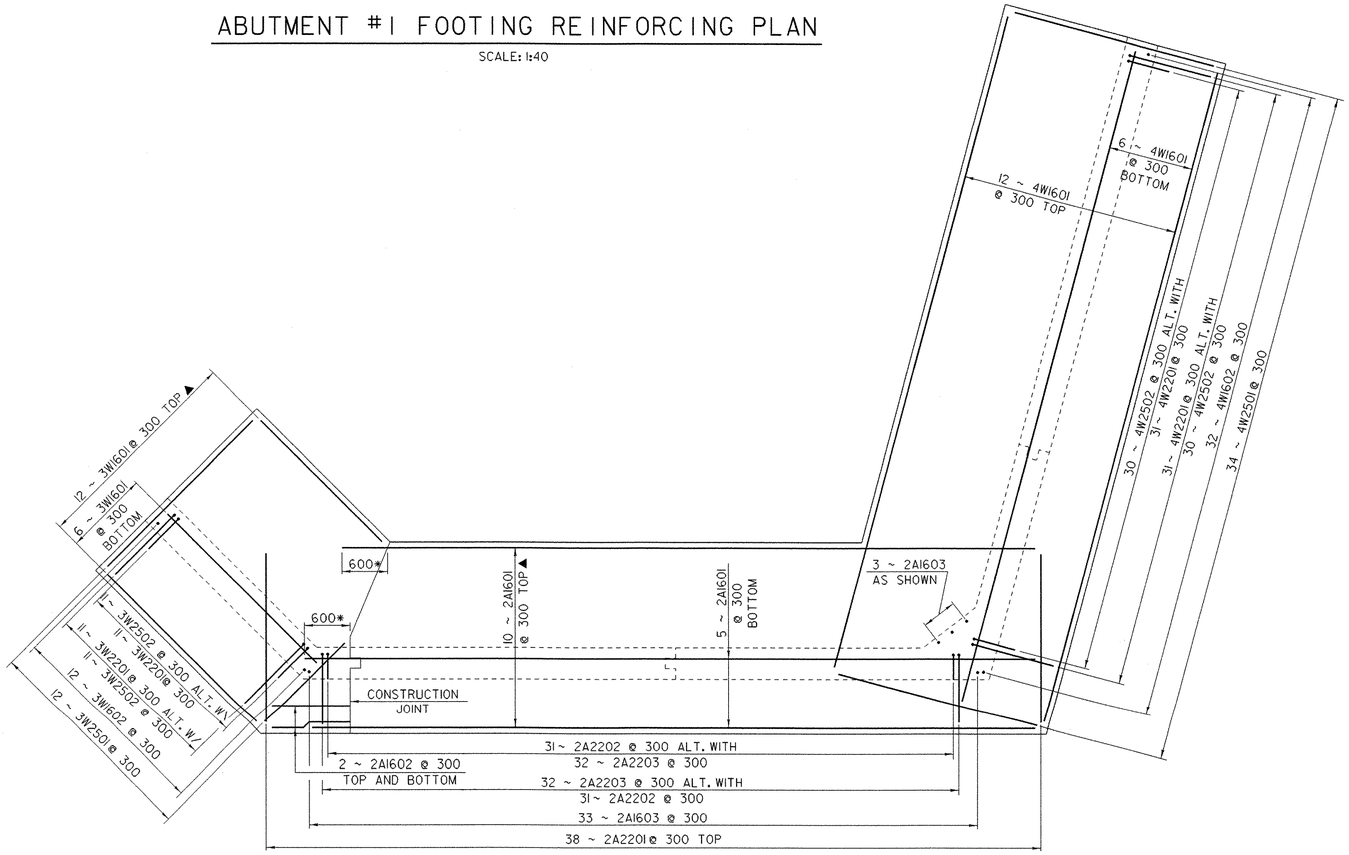
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)

| | | | |
|---|---|---|---|
| SHEET NAME: | **WW 1 & WW 2 ELEVATIONS** | | |
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /str1/94j072/sj072sub.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | G.S. ROGERS | DRAWN BY: | J. GILMORE |
| DESIGNED BY: | C. MEUNIER | IPARM NAME: | sj072ww.1 |
| BRIDGE SHEET NUMBER: | | SHEET | 25 OF 38 |




## ABUTMENT #1 FOOTING REINFORCING PLAN

SCALE: 1:40




## ABUTMENT #2 FOOTING REINFORCING PLAN

SCALE: 1:40

## NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. ALL LAPS NOT DETAILED SHALL BE 660
7. * = 600 LAP AT THIS CONSTRUCTION JOINT ONLY

| | | | |
|---|---|---|---|
| SHEET NAME: | FOOTING REINFORCING | | |
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /str1/94J072/sJ072sub.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | G.S. ROGERS | DRAWN BY: | J. GILMORE |
| DESIGNED BY: | C. MEUNIER | IPARM NAME: | sJ072fgl.i |
| BRIDGE SHEET NUMBER: | | SHEET | 26 OF 38 |

LIMITS OF COFFERDAM

CONSTRUCTION JOINT MOVED 100mm FOR PHASE 1POUR

℄ TH 12

STATIONING

1800 (TYP)

2680

450 (TYP)

1000 (TYP)

WW3

1500

100 DIA WEEPHOLE (TYP)

1465

3570

3150

3810 TO FASCIA (TYP) (TO FACE OF CORK)

END BRIDGE STA 1+050.500 F.G. = 394.152

600 x 600 FILLET STOP FILLET 300 BELOW BRIDGE SEAT

1500

13 PREFORMED JOINT FILLER CORK (TYP)

150

CONSTRUCTION JOINT

19+91.4

19+94.3*

19+94.5*

19+96.7

20+00

20+04.6

20+06.2

20+09

WP

45°

90° TO MAJOR CHORD

75°

2400

3000 TO WP

3185

3320

2350

2350

2350

4140 TO CONSTRUCTION JOINT

500

450

800

3840 TO FASCIA (TO FACE OF CORK)

3780 TO FASCIA (TO FACE OF CORK)

4615 TO WP

4610 TO WP

4800

4955

5415

5775

FLOW

7930

WW4

3000 (MAX.) (TYP)

5400

1500

6000

3090 TO WP

9345

3910

CONSTRUCTION JOINT

600

3600

3000

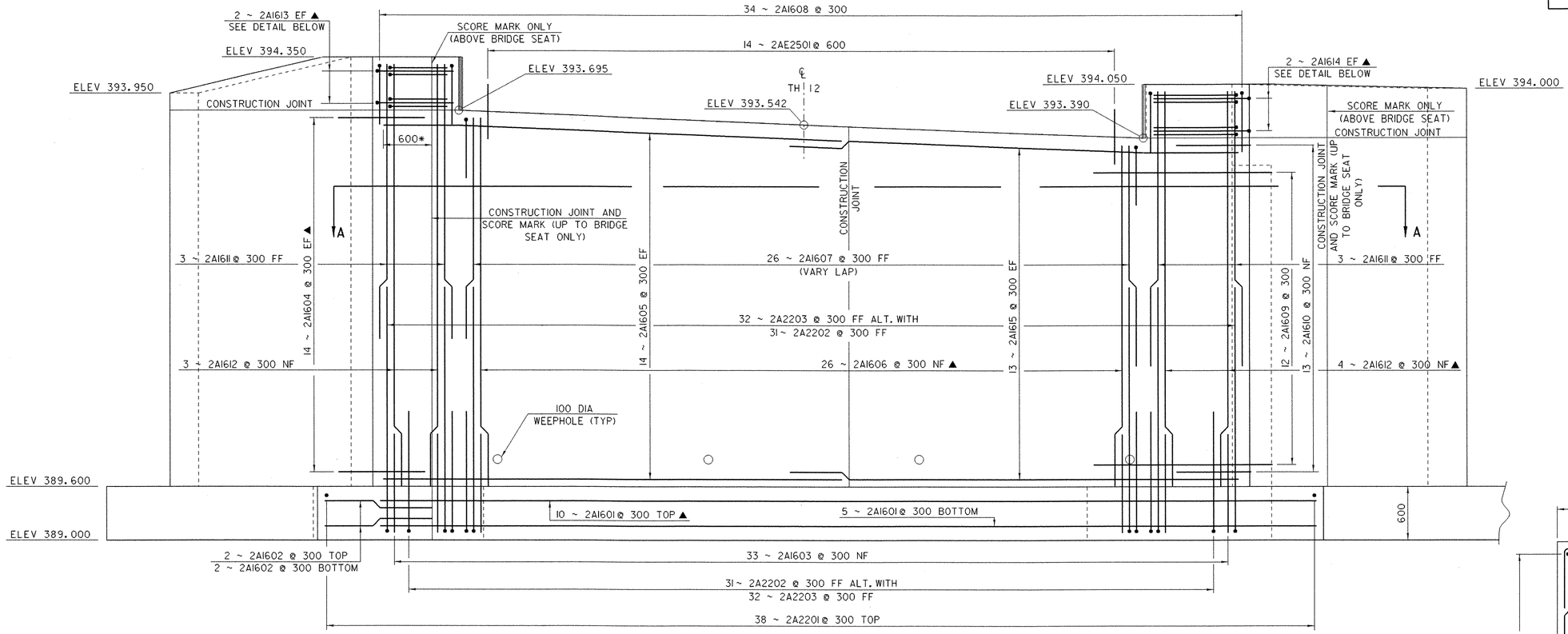
## ABUTMENT #2 PLAN

SCALE: 1:25

CHANNEL LINE STATIONING AND LIMITS OF COFFERDAM

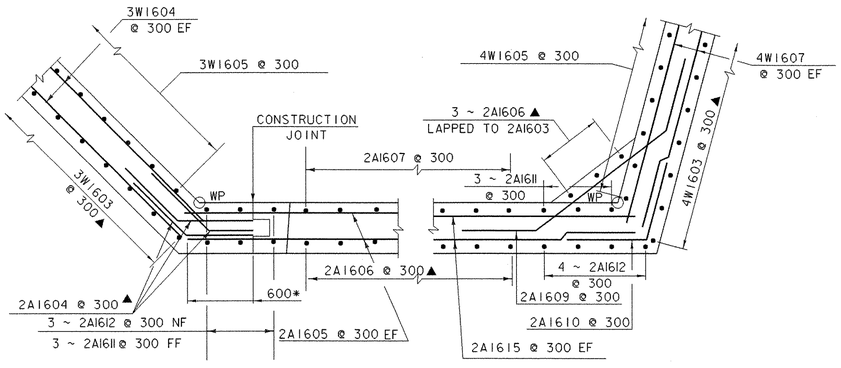
SHEET NAME: ABUTMENT #2 PLAN

| | | | |
|---|---|---|---|
| PROJECT NAME: | STAMFORD | HIGHWAY NO.: | TH 12 |
| PROJECT NUMBER: | TH3 9411 | BRIDGE NO.: | 14 |
| | | OVER: | LESURE BROOK |
| FILE NAME: | /str1/9411072/s1072sub.dgn | PLOT DATE: | 16-OCT-2003 |
| PROJECT MANAGER: | C.S. ROGERS | DRAWN BY: | J. GILMORE |
| DESIGNED BY: | C. MEINER | IFARM NAME: | s1072ab2.I |
| BRIDGE SHEET NUMBER: | | SHEET | 27 OF 38 |




## ABUTMENT #2 ELEVATION

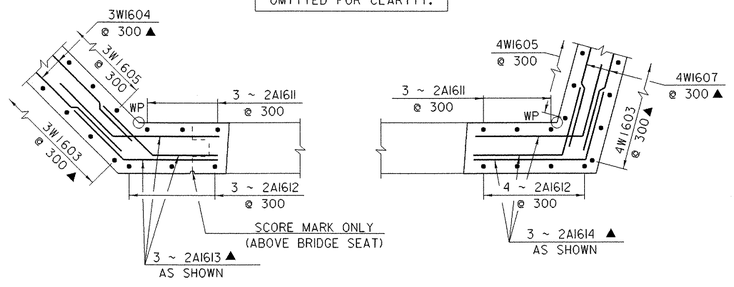
SCALE: 1:25




## CORNER DETAILS BELOW BRIDGE SEAT

SCALE: 1:25

STIRRUP BARS HAVE BEEN OMITTED FOR CLARITY.

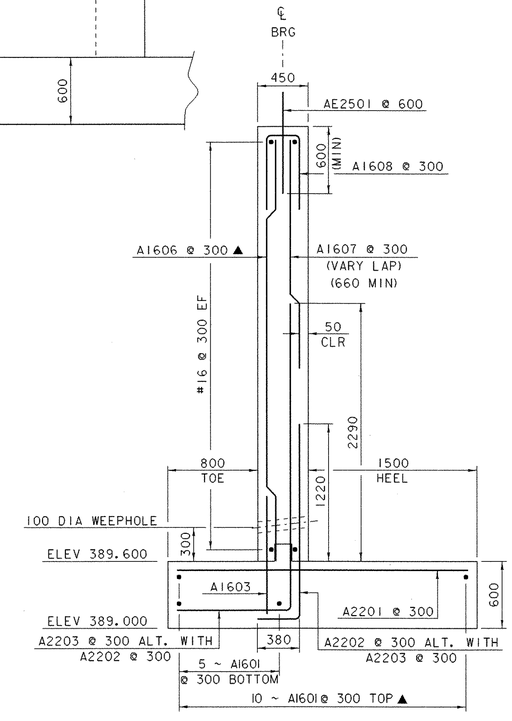



## CORNER DETAILS ABOVE BRIDGE SEAT

SCALE: 1:25

## SECTION A- A

* 600 LAP THIS CONSTRUCTION JOINT ONLY




## ABUTMENT #2 SECTION

SCALE: 1:25

## NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
7. 3000 MAX. WEEPHOLE SPACING

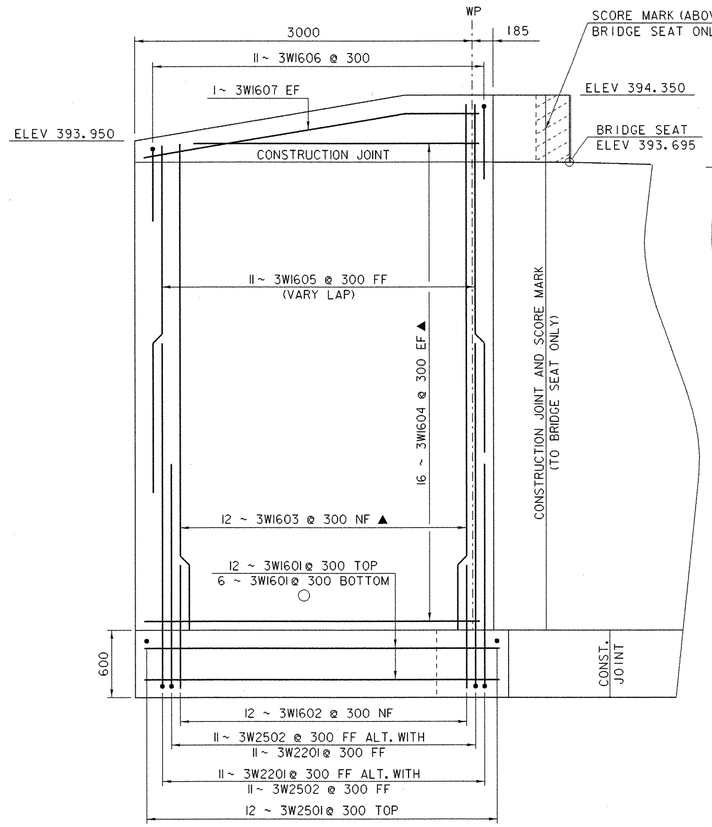
SHEET NAME: **ABUTMENT #2 ELEVATION**

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

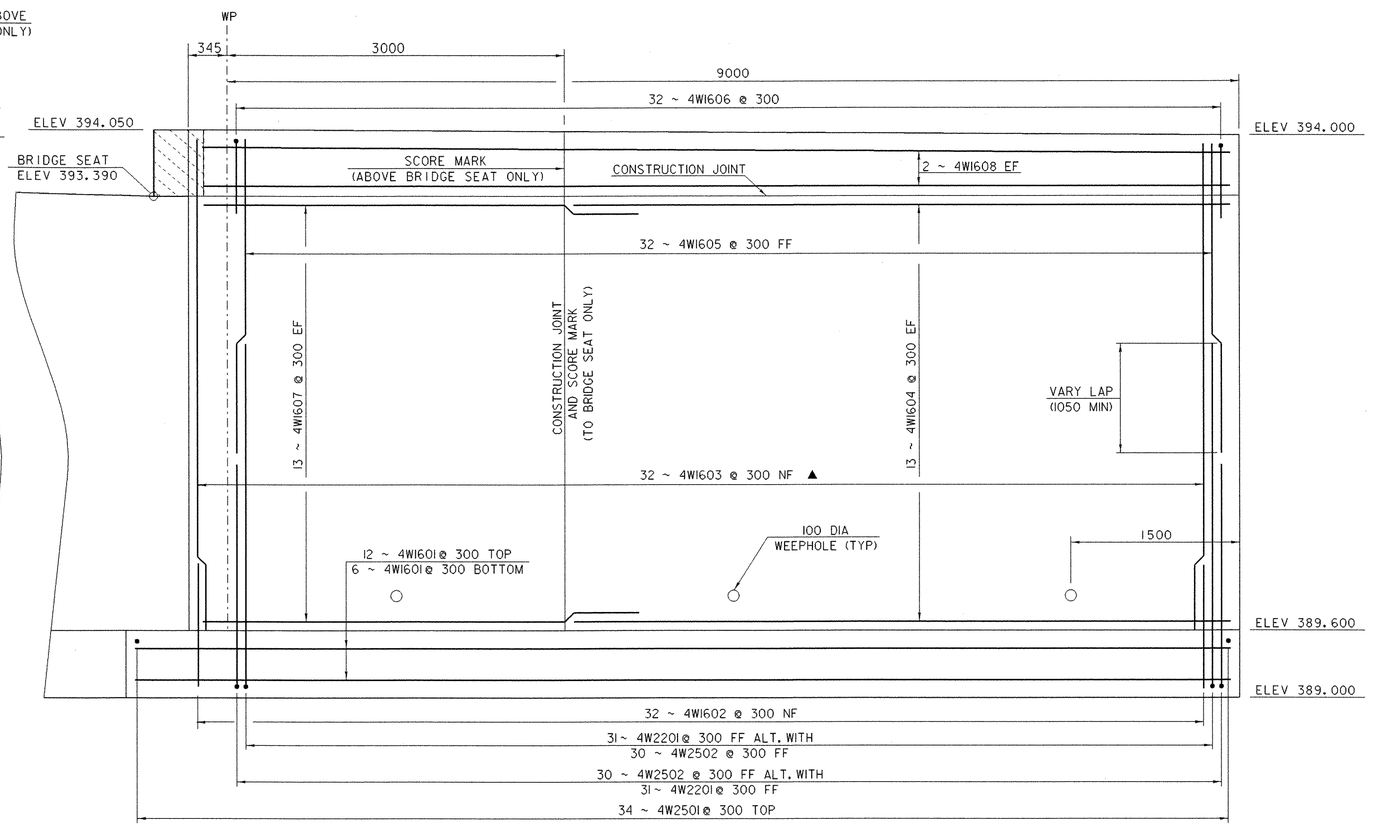
FILE NAME: /strl/94J072/sj072sub.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: C. MEUNIER
BRIDGE SHEET NUMBER:

PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072ev2.i
SHEET 28 OF 38




## WINGWALL #3 ELEVATION

SCALE: 1:25




## WINGWALL #4 ELEVATION

SCALE: 1:25

## NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. SEE SHEET 25 FOR WINGWALL TYPICAL SECTION
7. 3000 MAX. WEEPHOLE SPACING
8. ALL LAPS NOT DETAILED SHALL BE 660

SHEET NAME: **WW #3 & WW #4 ELEVATIONS**

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /strl/94j072/sj072sub.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: C. MEUNIER
BRIDGE SHEET NUMBER:

PLOT DATE: 16-OCT-2003
DRAWN BY: J. GILMORE
IPARM NAME: sj072ww2.i
SHEET 29 OF 38

STATE OF VERMONT
AGENCY OF TRANSPORTATION

# REINFORCING STEEL SCHEDULE

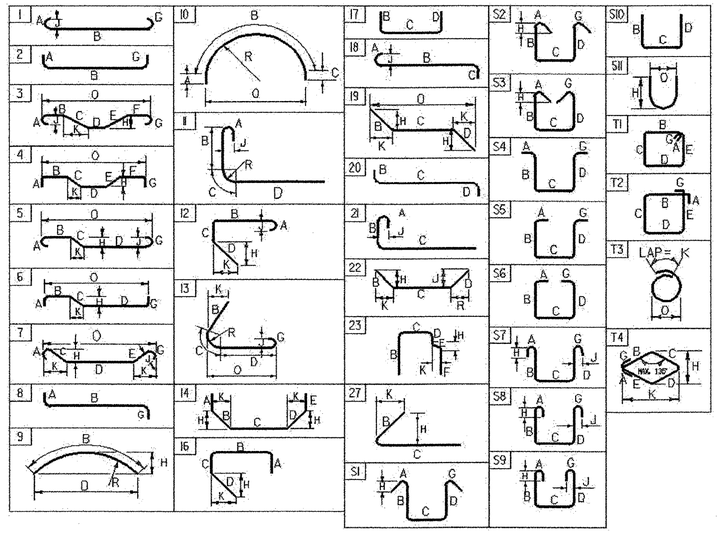
Metric

| | EACH | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SLAB** | | | | | | | | | | | | | | | | | |
| * | 29 | 16 | 7460 | ES1601 | STR | | | | | | | | | | | | |
| | 14 | 16 | 7840 | ES1603 | STR | | | | | | | | | | | | |
| | 56 | 16 | 3000 | ES1602 | S6 | 300 | 300 | 1800 | 300 | | | 300 | | | | | |
| * | 52 | 25 | 8000 | ES2501 | 1 | 240 | 7760 | | | | | --- | | | | | |
| **ABUTMENT #1** | | | | | | | | | | | | | | | | | |
| | 15 | 16 | 10520 | 1A1601 | STR | | | | | | | | | | | | |
| | 4 | 16 | 1190 | 1A1602 | STR | | | | | | | | | | | | |
| | 37 | 16 | 1180 | 1A1603 | STR | | | | | | | | | | | | |
| | 26 | 16 | 4690 | 1A1605 | STR | | | | | | | | | | | | |
| ▲ | 29 | 16 | 3870 | 1A1606 | STR | | | | | | | | | | | | |
| * | 27 | 16 | 2240 | 1A1607 | STR | | | | | | | | | | | | |
| | 6 | 16 | 2900 | 1A1611 | STR | | | | | | | | | | | | |
| ▲ | 8 | 16 | 4530 | 1A1612 | STR | | | | | | | | | | | | |
| | 28 | 16 | 5220 | 1A1615 | STR | | | | | | | | | | | | |
| | 39 | 22 | 2590 | 1A2201 | STR | | | | | | | | | | | | |
| | 14 | 25 | 1000 | 1AE2501 | STR | | | | | | | | | | | | |
| ▲ | 42 | 16 | 1600 | 1A1604 | 19 | | 660 | 940 | --- | | | | | | | | |
| | 32 | 16 | 1640 | 1A1608 | S10 | | 660 | 320 | 660 | | | | | | | | |
| | 12 | 16 | 3180 | 1A1609 | 22 | | 660 | 1860 | 660 | | | | 420 | 420 | 510 | 510 | |
| | 13 | 16 | 1320 | 1A1610 | 19 | | 660 | 660 | --- | | | | 650 | | 115 | | |
| ▲ | 6 | 16 | 1720 | 1A1613 | 19 | | 660 | 1060 | --- | | | | 110 | | 650 | | |
| ▲ | 6 | 16 | 1860 | 1A1614 | 19 | | 660 | 1200 | --- | | | | | | | | |
| | 31 | 22 | 2120 | 1A2202 | 17 | | 380 | 1740 | --- | | | | | | | | |
| | 32 | 22 | 3930 | 1A2203 | 17 | | 1120 | 2810 | --- | | | | | | | | |
| **WINGWALL #1** | | | | | | | | | | | | | | | | | |
| ▲ | 18 | 16 | 3660 | 1W1601 | STR | | | | | | | | | | | | |
| | 13 | 16 | 1180 | 1W1602 | STR | | | | | | | | | | | | |
| ▲ | 13 | 16 | 4530 | 1W1603 | STR | | | | | | | | | | | | |
| ▲ | 30 | 16 | 3520 | 1W1604 | STR | | | | | | | | | | | | |
| | 13 | 16 | 2950 | 1W1605 | STR | | | | | | | | | | | | |
| ▲ | 14 | 25 | 3090 | 1W2501 | STR | | | | | | | | | | | | |
| | 13 | 16 | 1640 | 1W1606 | S10 | | 660 | 320 | 660 | | | | | | | | |
| | 2 | 16 | 3525 | 1W1607 | 19 | | 690 | 2835 | --- | | | | 60 | | 685 | | |
| | 16 | 22 | 4470 | 1W2201 | 17 | | 1320 | 3150 | --- | | | | | | | | |
| * | 13 | 25 | 2430 | 1W2502 | 17 | | 430 | 2000 | --- | | | | | | | | |
| **WINGWALL #2** | | | | | | | | | | | | | | | | | |
| | 18 | 16 | 4450 | 2W1601 | STR | | | | | | | | | | | | |
| | 14 | 16 | 1180 | 2W1602 | STR | | | | | | | | | | | | |
| ▲ | 14 | 16 | 4210 | 2W1603 | STR | | | | | | | | | | | | |
| ▲ | 28 | 16 | 3820 | 2W1604 | STR | | | | | | | | | | | | |
| | 13 | 16 | 2630 | 2W1605 | STR | | | | | | | | | | | | |
| | 16 | 25 | 3090 | 2W2501 | STR | | | | | | | | | | | | |
| | 13 | 16 | 1640 | 2W1606 | S10 | | 660 | 320 | 660 | | | | | | | | |
| | 2 | 16 | 3830 | 2W1607 | 19 | | 900 | 2930 | --- | | | | 60 | | 895 | | |
| * | 18 | 22 | 4470 | 2W2201 | 17 | | 1320 | 3150 | | | | | | | | | |
| * | 13 | 25 | 2430 | 2W2502 | 17 | | 430 | 2000 | | | | | | | | | |
| **ABUTMENT #2** | | | | | | | | | | | | | | | | | |
| ▲ | 15 | 16 | 10430 | 2A1601 | STR | | | | | | | | | | | | |
| | 4 | 16 | 1190 | 2A1602 | STR | | | | | | | | | | | | |
| | 36 | 16 | 1180 | 2A1603 | STR | | | | | | | | | | | | |
| | 28 | 16 | 5220 | 2A1605 | STR | | | | | | | | | | | | |
| ▲ | 29 | 16 | 4015 | 2A1606 | STR | | | | | | | | | | | | |
| | 26 | 16 | 2390 | 2A1607 | STR | | | | | | | | | | | | |
| | 6 | 16 | 3040 | 2A1611 | STR | | | | | | | | | | | | |
| ▲ | 7 | 16 | 4670 | 2A1612 | STR | | | | | | | | | | | | |
| | 26 | 16 | 5040 | 2A1615 | STR | | | | | | | | | | | | |
| * | 39 | 22 | 2590 | 2A2201 | STR | | | | | | | | | | | | |
| | 14 | 25 | 1000 | 2AE2501 | STR | | | | | | | | | | | | |
| ▲ | 42 | 16 | 1600 | 2A1604 | 19 | | 660 | 940 | --- | | | | | | | | --- |
| | 34 | 16 | 1640 | 2A1608 | S10 | | 660 | 320 | 660 | | | | | | | | |
| | 12 | 16 | 3260 | 2A1609 | 22 | | 660 | 1940 | 660 | | | | 400 | 400 | 524 | 524 | |
| | 13 | 16 | 1320 | 2A1610 | 19 | | 660 | 660 | --- | | | | 640 | | 170 | | --- |
| ▲ | 6 | 16 | 1780 | 2A1613 | 19 | | 660 | 1120 | --- | | | | | | | | --- |
| ▲ | 6 | 16 | 1680 | 2A1614 | 19 | | 660 | 1020 | --- | | | | 640 | | 170 | | --- |
| | 31 | 22 | 2120 | 2A2202 | 17 | | 380 | 1740 | | | | | | | | | |
| | 32 | 22 | 3930 | 2A2203 | 17 | | 1120 | 2810 | | | | | | | | | |

| ITEM | EACH | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WINGWALL #3** | | | | | | | | | | | | | | | | | |
| ▲ | 18 | 16 | 3200 | 3W1601 | STR | | | | | | | | | | | | |
| | 12 | 16 | 1180 | 3W1602 | STR | | | | | | | | | | | | |
| * ▲ | 13 | 16 | 4670 | 3W1603 | STR | | | | | | | | | | | | |
| ▲ | 32 | 16 | 3025 | 3W1604 | STR | | | | | | | | | | | | |
| | 11 | 16 | 3090 | 3W1605 | STR | | | | | | | | | | | | |
| | 12 | 25 | 3090 | 3W2501 | STR | | | | | | | | | | | | |
| | 11 | 16 | 1640 | 3W1606 | S10 | | 660 | 320 | 660 | | | | | | | | |
| | 2 | 16 | 3030 | 3W1607 | 19 | | 700 | 2330 | | | | | | 115 | | 690 | |
| | 11 | 22 | 4470 | 3W2201 | 17 | | 1320 | 3150 | --- | | | | | | | | |
| | 11 | 25 | 2430 | 3W2502 | 17 | | 430 | 2000 | --- | | | | | | | | |
| **WINGWALL #4** | | | | | | | | | | | | | | | | | |
| | 18 | 16 | 9750 | 4W1601 | STR | | | | | | | | | | | | |
| | 32 | 16 | 1180 | 4W1602 | STR | | | | | | | | | | | | |
| ▲ | 32 | 16 | 4370 | 4W1603 | STR | | | | | | | | | | | | |
| | 26 | 16 | 5920 | 4W1604 | STR | | | | | | | | | | | | |
| | 32 | 16 | 2790 | 4W1605 | STR | | | | | | | | | | | | |
| | 26 | 16 | 3930 | 4W1607 | STR | | | | | | | | | | | | |
| | 4 | 16 | 9180 | 4W1608 | STR | | | | | | | | | | | | |
| | 34 | 25 | 3090 | 4W2501 | STR | | | | | | | | | | | | |
| | 32 | 16 | 1800 | 4W1606 | S10 | | 740 | 320 | 740 | | | | | | | | |
| * | 32 | 22 | 4470 | 4W2201 | 17 | | 1320 | 3150 | --- | | | | | | | | |
| | 30 | 25 | 2430 | 4W2502 | 17 | | 430 | 2000 | --- | | | | | | | | |

## ~ 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 PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



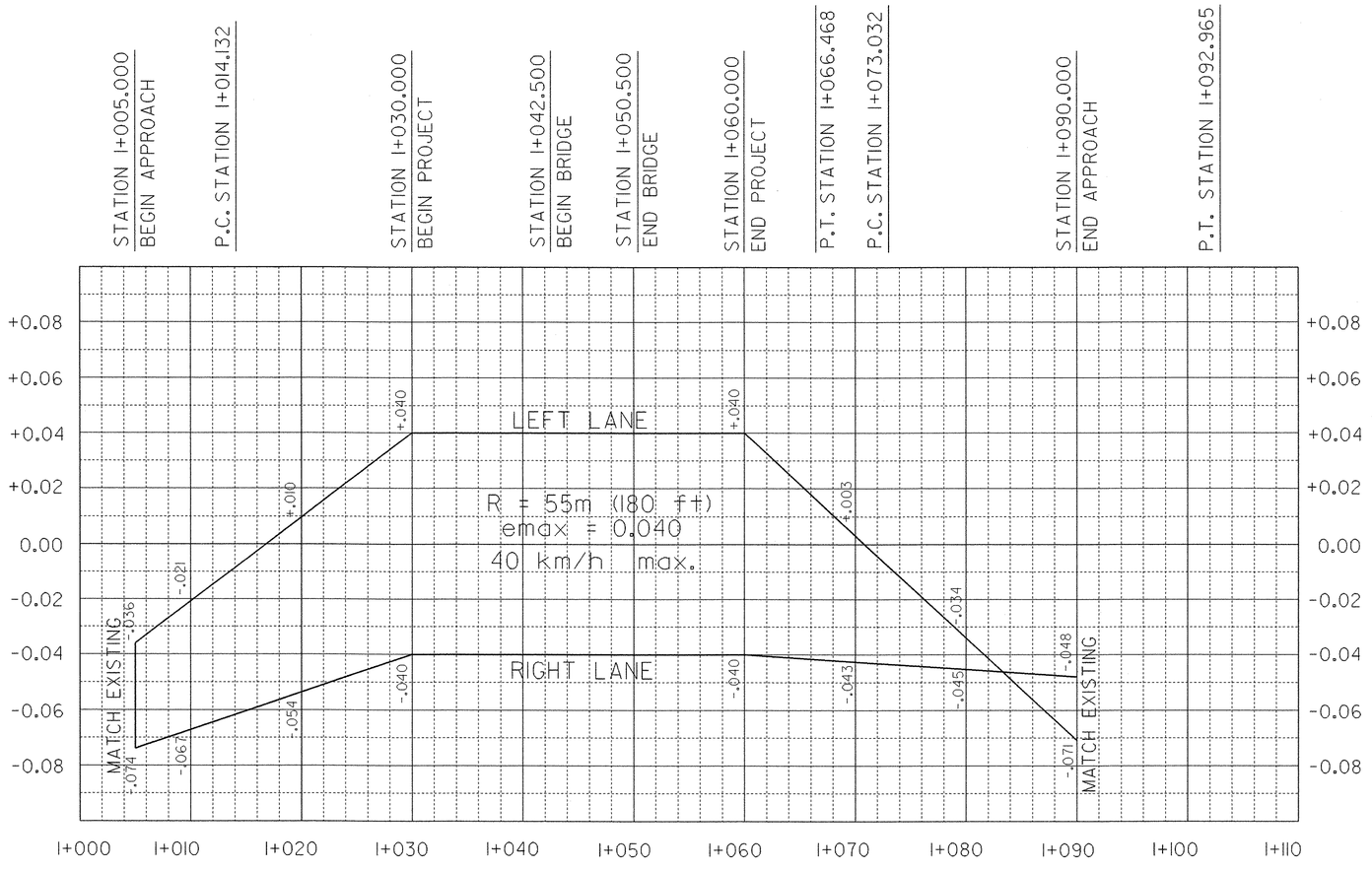

**ASTM STANDARD REINFORCING BARS**

| 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: **STAMFORD**
PROJECT NUMBER: **TH 3 9411**

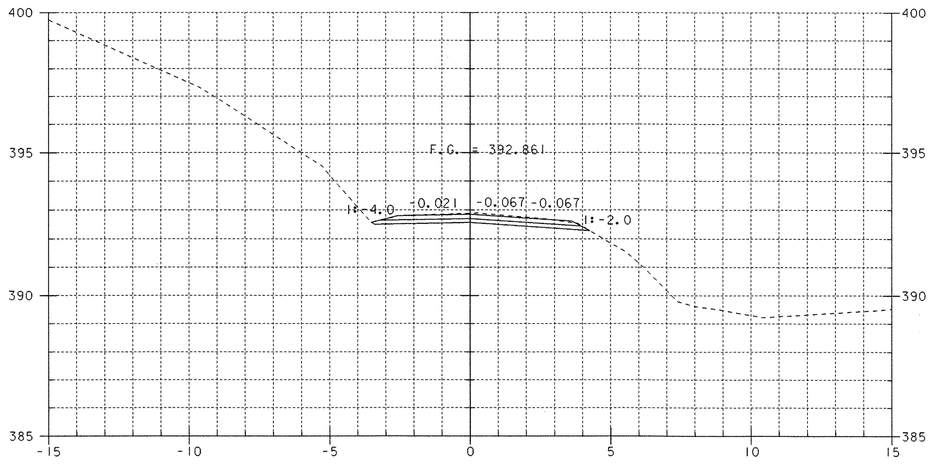
FILE NAME: **TransFANS/94j072/sj072rss.xl**
PROJECT LEADER: **G.S. ROGERS**
DESIGNED BY: **C. MEUNIER**
**REINFORCING STEEL SCHEDULE**

PLOT DATE: **10/16/2003**
DRAWN BY: **J. GILMORE**
CHECKED BY: **D. BONNEAU**
SHEET **30** OF **38**

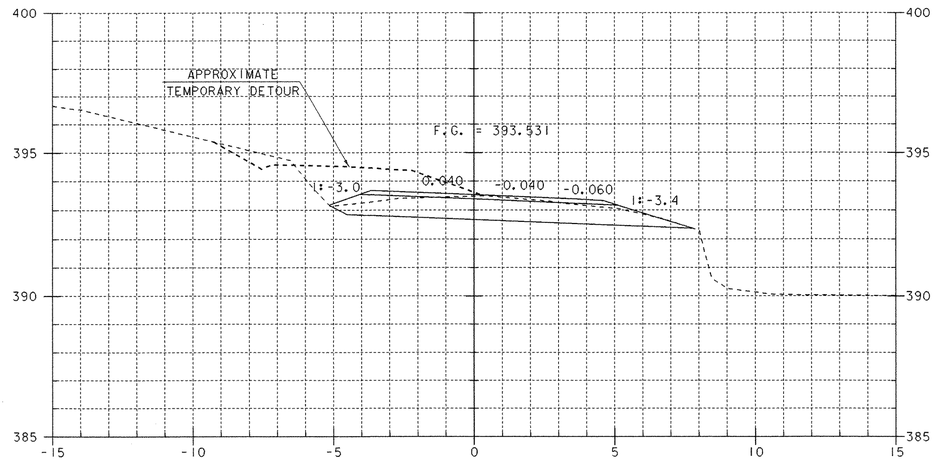



*MAINLINE BANKING DIAGRAM*

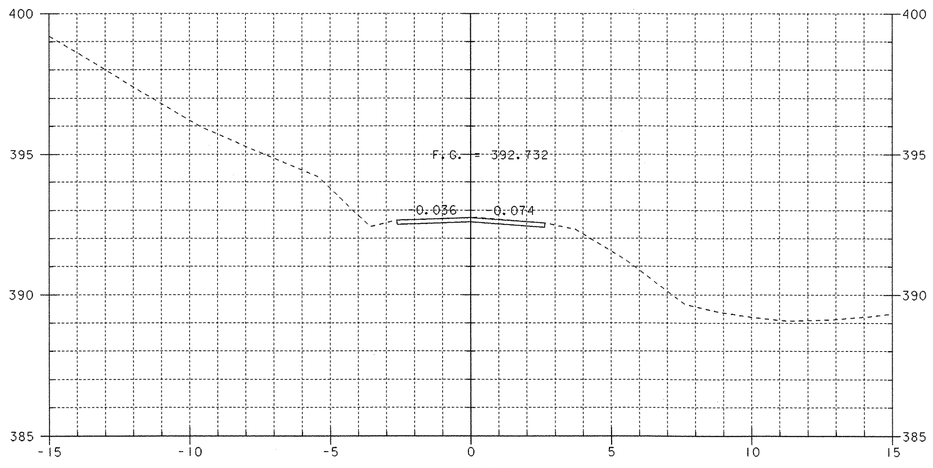
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|---|---|
| SHEET NAME: MAINLINE BANKING DIAGRAM | |
| PROJECT NAME: STAMFORD<br>PROJECT NUMBER: TH3 9411 | HIGHWAY NO.: TH 12<br>BRIDGE NO.: 14<br>OVER: LESURE BROOK |
| FILE NAME: /strl/94j072/sj072xs.dgn<br>PROJECT MANAGER: G.S. ROGERS<br>DESIGNED BY: K. UPMAL<br>BRIDGE SHEET NUMBER: | PLOT DATE: 16-OCT-2003<br>DRAWN BY: K.UPMAL<br>IPARM NAME: sj072bd.i<br>SHEET 31 OF 38 |



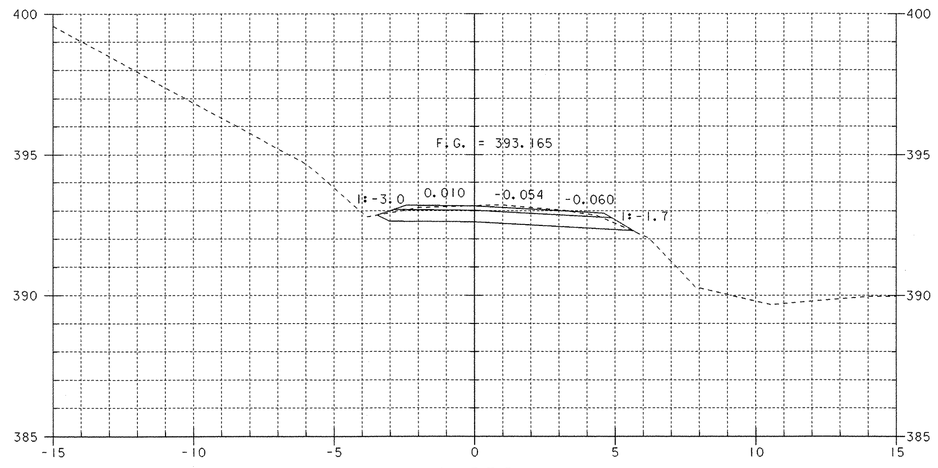

1+010




1+030
END APPROACH / BEGIN PROJECT

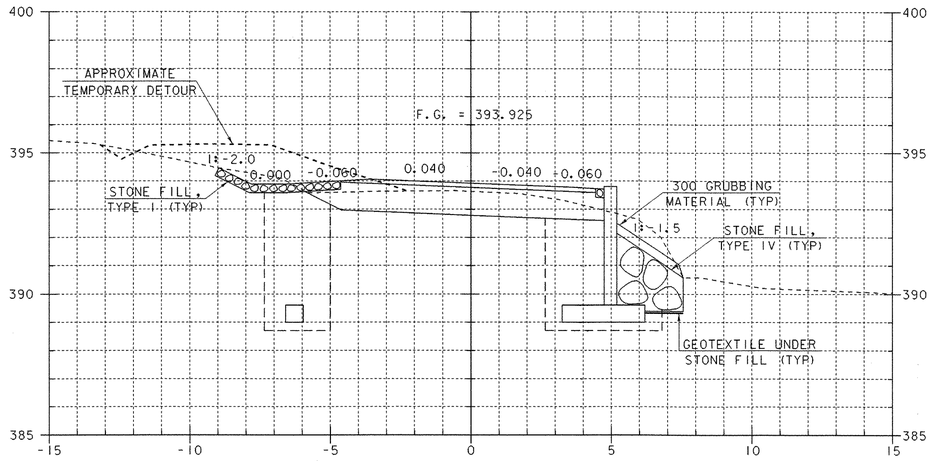



1+005
BEGIN APPROACH

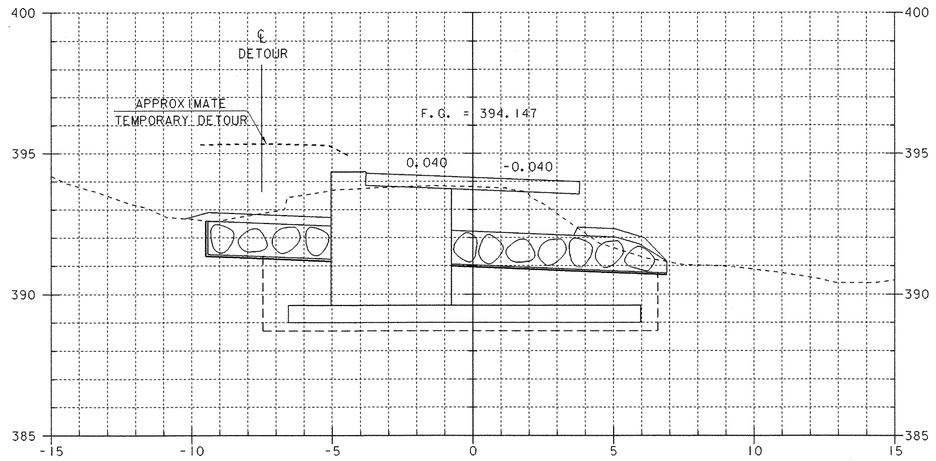



1+020

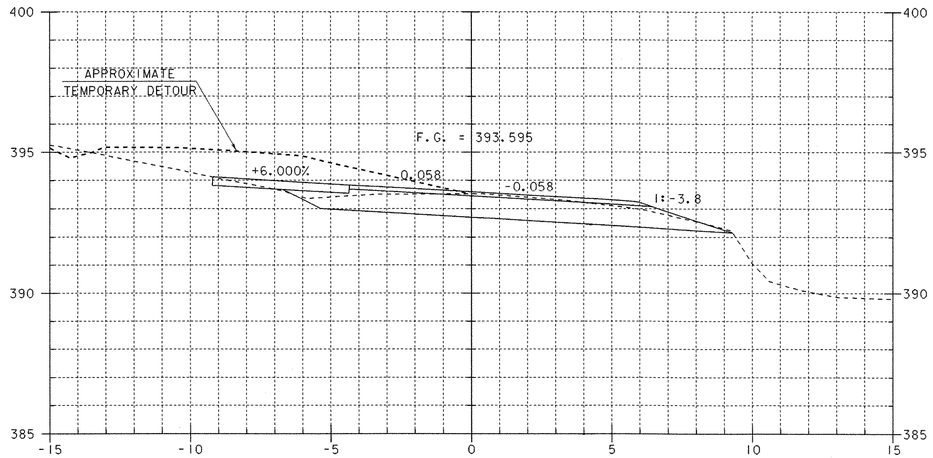
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|---|---|
| SHEET NAME: MAINLINE CROSS SECTIONS | |
| PROJECT NAME: STAMFORD<br>PROJECT NUMBER: TH3 9411 | HIGHWAY NO.: TH 12<br>BRIDGE NO.: 14<br>OVER: LESURE BROOK |
| FILE NAME: /str1/94J072/sJ072xs.dgn<br>PROJECT MANAGER: G.S. ROGERS<br>DESIGNED BY: K. UPMAL<br>BRIDGE SHEET NUMBER: | PLOT DATE: 16-OCT-2003<br>DRAWN BY: K.UPMAL<br>IPARM NAME: sJ072mxl.i<br>SHEET 32 OF 38 |



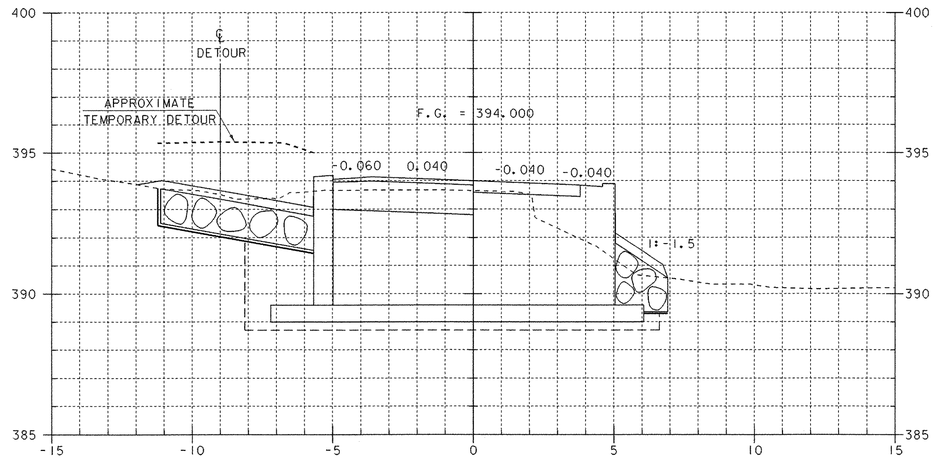

1+040




1+050

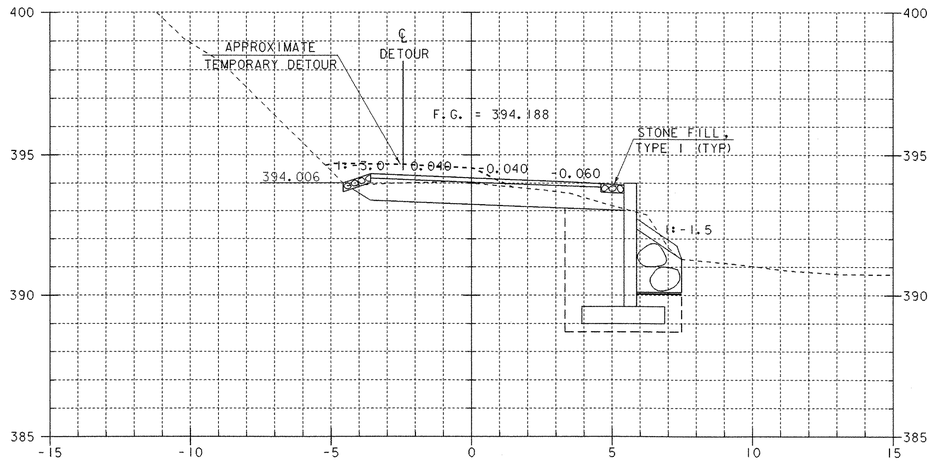



1+031.500
DRIVE LEFT
SKEW = 35°-00′-00" RIGHT



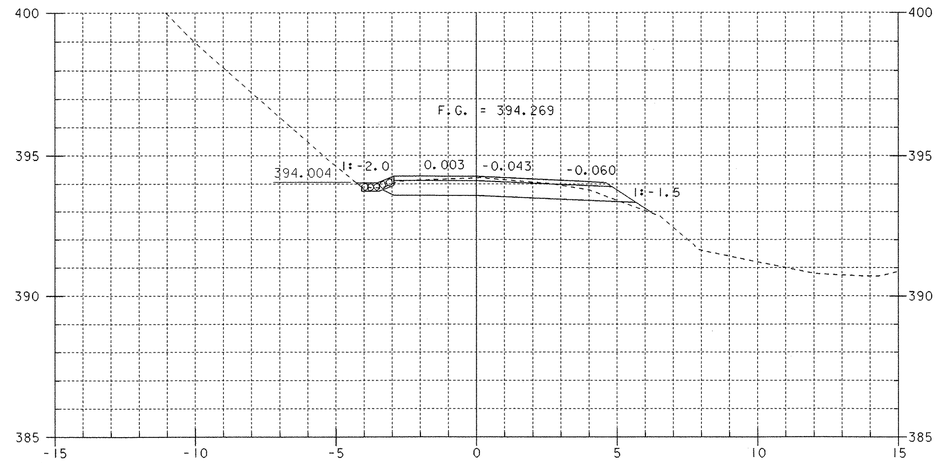

1+042.500
BEGIN BRIDGE

| | |
|---|---|
| SHEET NAME: MAINLINE CROSS SECTIONS | |
| PROJECT NAME: STAMFORD<br>PROJECT NUMBER: TH3 9411 | HIGHWAY NO.: TH 12<br>BRIDGE NO.: 14<br>OVER: LESURE BROOK |
| FILE NAME: /str1/94J072/sJ072xs.dgn<br>PROJECT MANAGER: G.S. ROGERS<br>DESIGNED BY: K. UPMAL<br>BRIDGE SHEET NUMBER: | PLOT DATE: 16-OCT-2003<br>DRAWN BY: K.UPMAL<br>IPARM NAME: sJ072mx2.i<br>SHEET 33 OF 38 |

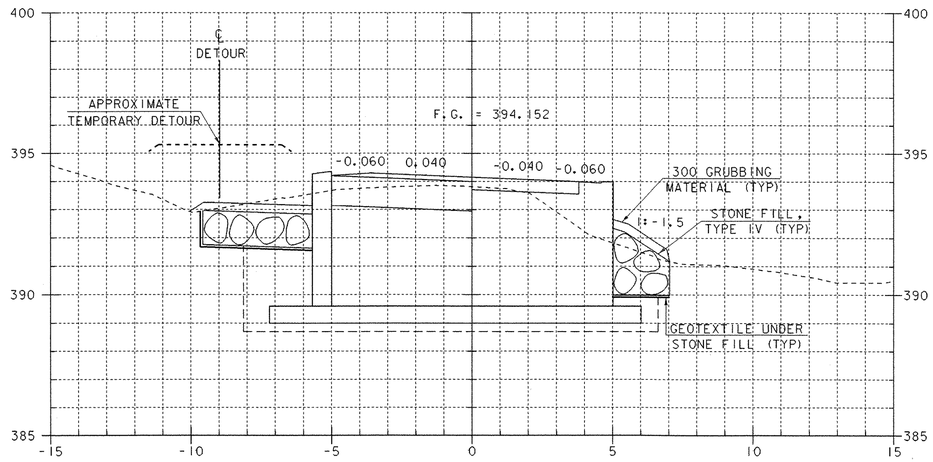



STA 1+060.000 LT
BEGIN STONE LINED DITCH

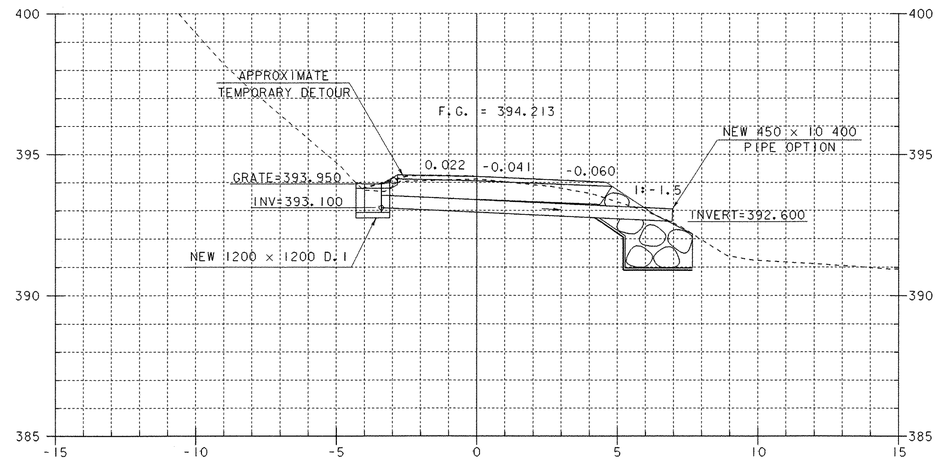
1+060
END PROJECT / BEGIN APPROACH




1+070




1+050.500
END BRIDGE

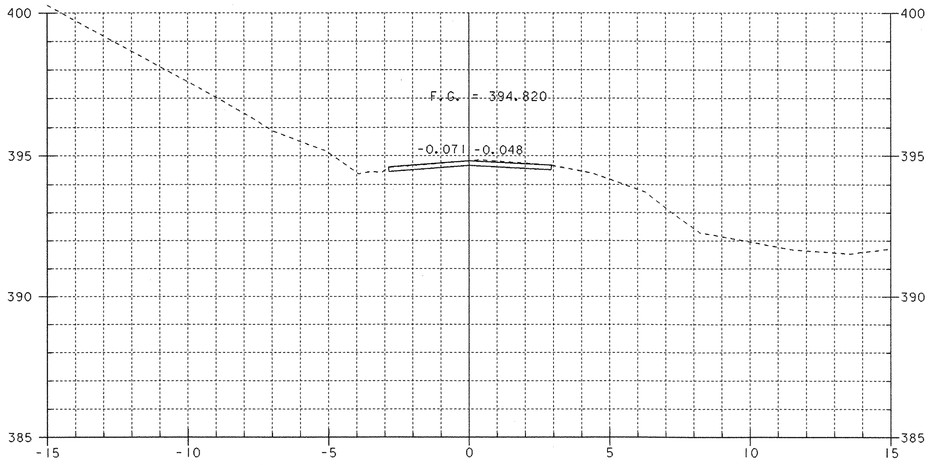



1+065
450 PIPE OPTION PROFILE

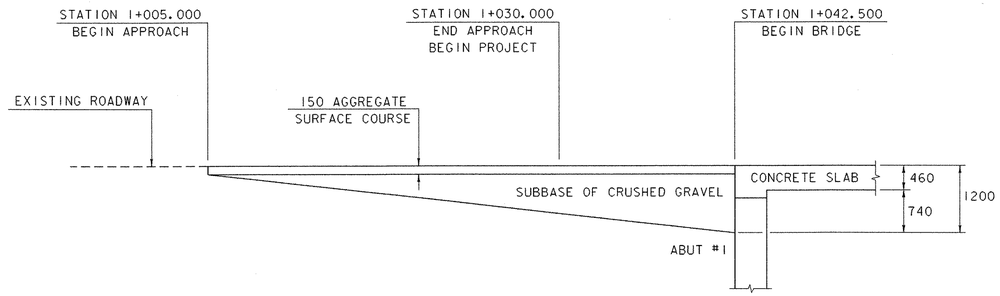
NEW 450x10400 CSP (1.63 mm), CAAP
(1.52 mm) OR CPEP WITH RCDI AND GRATE,
TYPE E AT INLET

SHEET NAME: MAINLINE CROSS SECTIONS

| | |
|---|---|
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /str1/94j072/sj072xs.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: K.UPMAL |
| DESIGNED BY: K. UPMAL | IPARM NAME: sj072mx3.i |
| BRIDGE SHEET NUMBER: | SHEET 34 OF 38 |

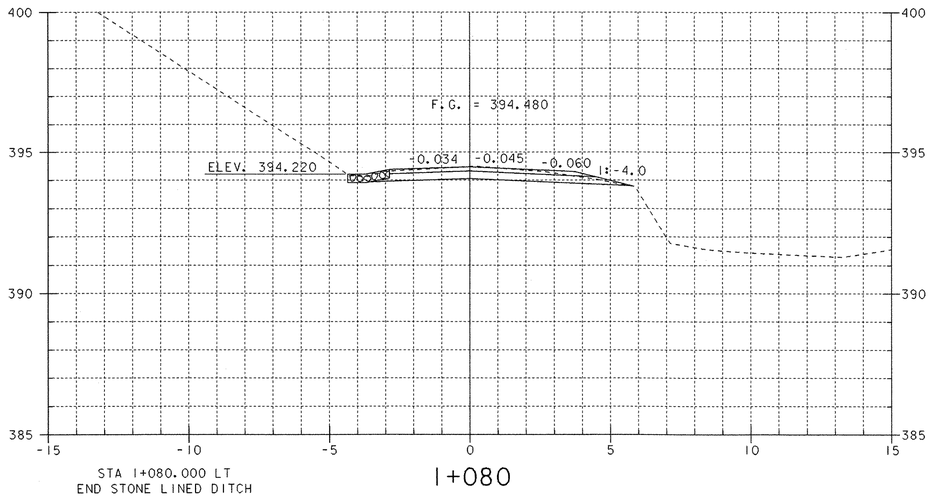



1+090
END APPROACH

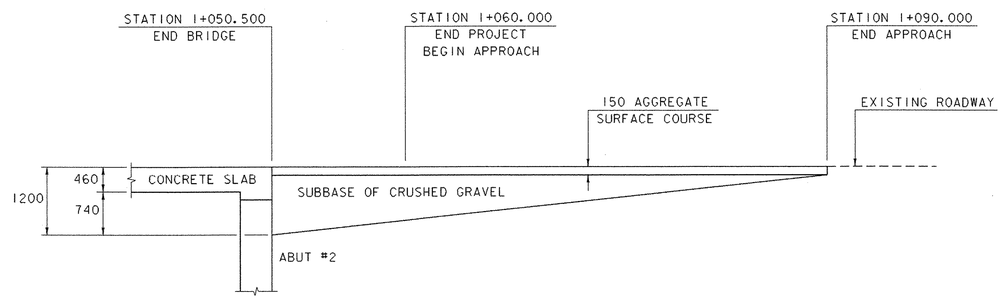



BEGIN MAINLINE
SUBBASE TRANSITION DETAIL

N.T.S.




1+080




END MAINLINE
SUBBASE TRANSITION DETAIL

N.T.S.

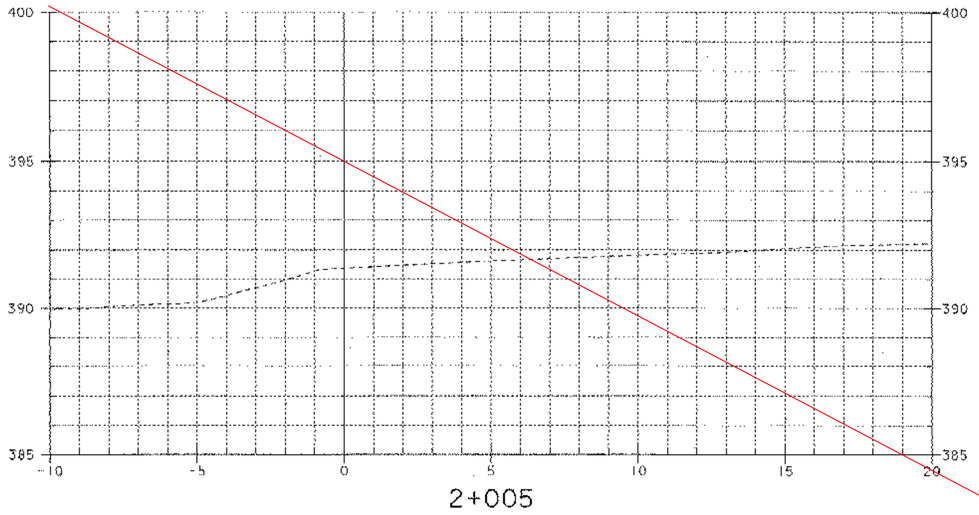
SHEET NAME: MAINLINE CROSS SECTIONS

PROJECT NAME: STAMFORD
PROJECT NUMBER: TH3 9411

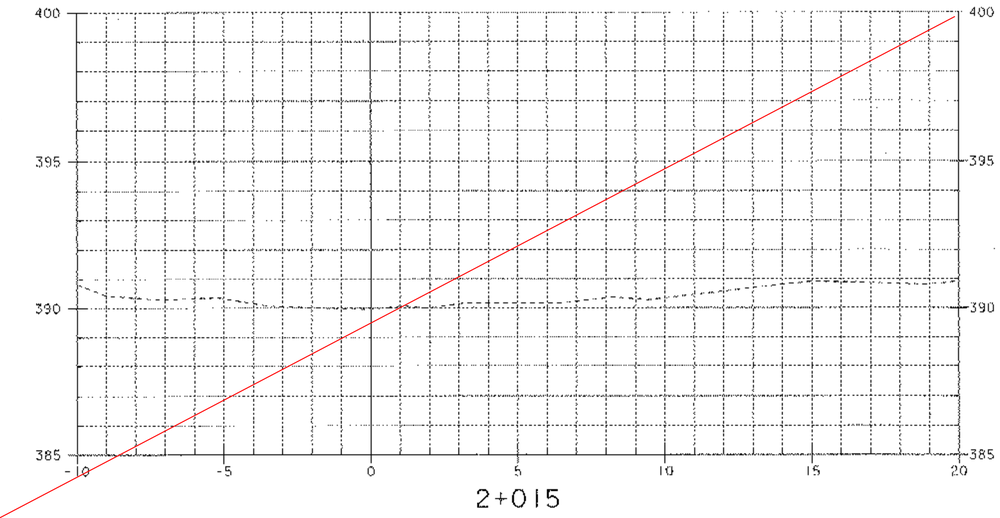
HIGHWAY NO.: TH 12
BRIDGE NO.: 14
OVER: LESURE BROOK

FILE NAME: /strl/94J072/sJ072xs.dgn
PROJECT MANAGER: G.S. ROGERS
DESIGNED BY: K. UPMAL
BRIDGE SHEET NUMBER:

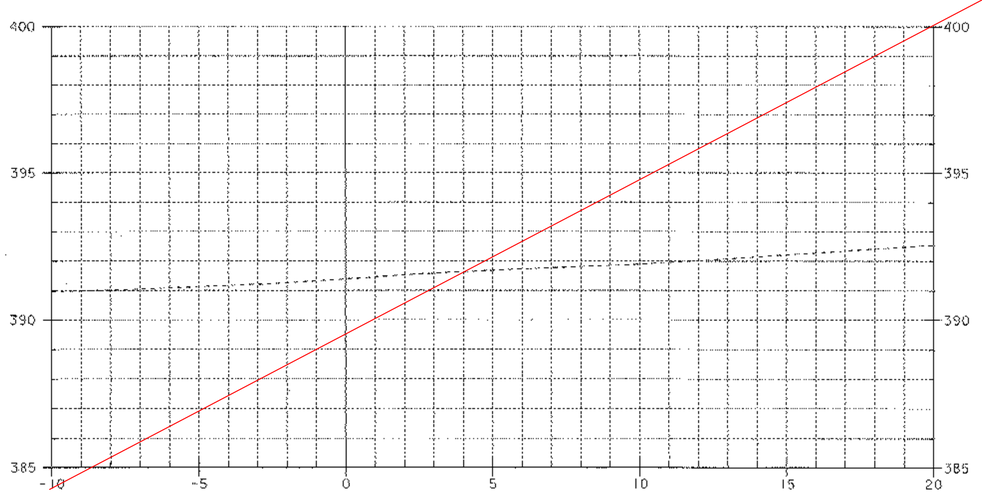
PLOT DATE: 16-OCT-2003
DRAWN BY: K.UPMAL
IPARM NAME: sJ072mx4.1
SHEET 35 OF 38



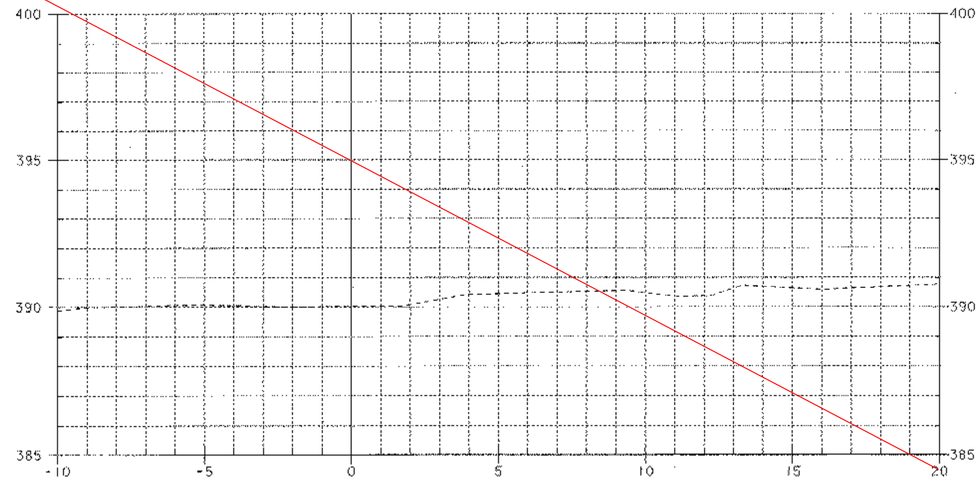

2+005




2+015




2+000

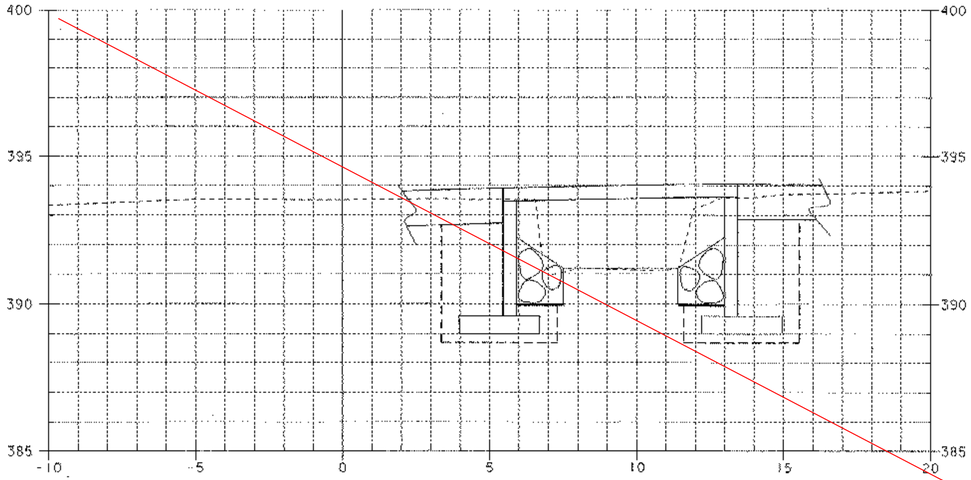



2+010

NEW CHANNEL SECTIONS
DONE JULY 2004

| | |
|---|---|
| SHEET NAME: CHANNEL CROSS SECTIONS | |
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /str1/94j072/sj072xs.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: K.UPMAL |
| DESIGNED BY: K. UPMAL | IPARM NAME: sj072cx1.i |
| BRIDGE SHEET NUMBER: | SHEET 36 OF 38 |

Metric




2+025

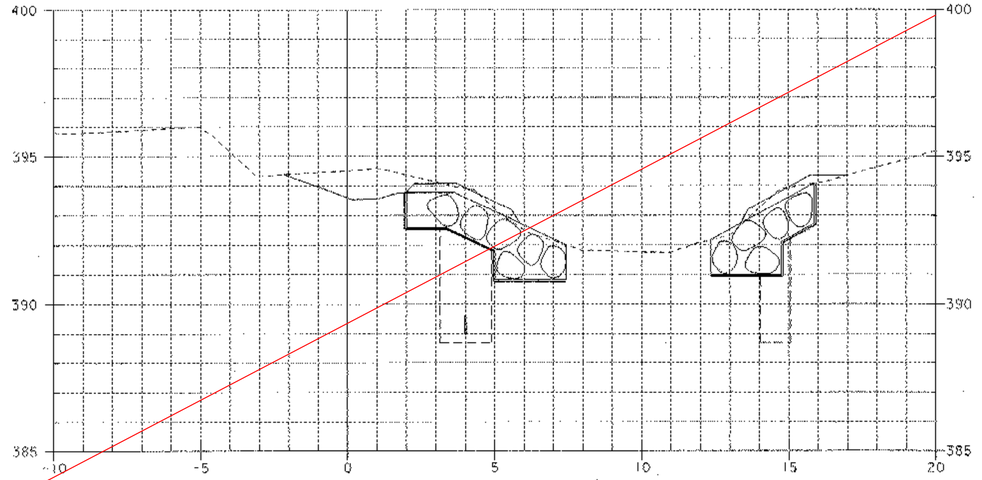
STATION 2+023.000 NEAR AND FAR RIGHT
END GRUBBING MATERIAL

STATION 2+038.000 NEAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE IV
END GRUBBING MATERIAL
END GEOTEXTILE FILTER FABRIC

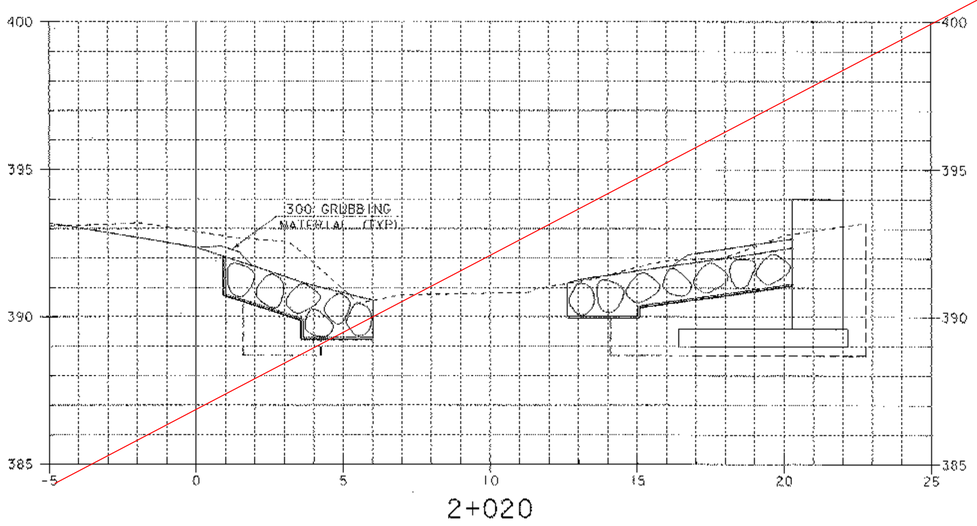
STATION 2+035.870 NEAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

STATION 2+036.500 FAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE IV
END GRUBBING MATERIAL
END GEOTEXTILE FILTER FABRIC

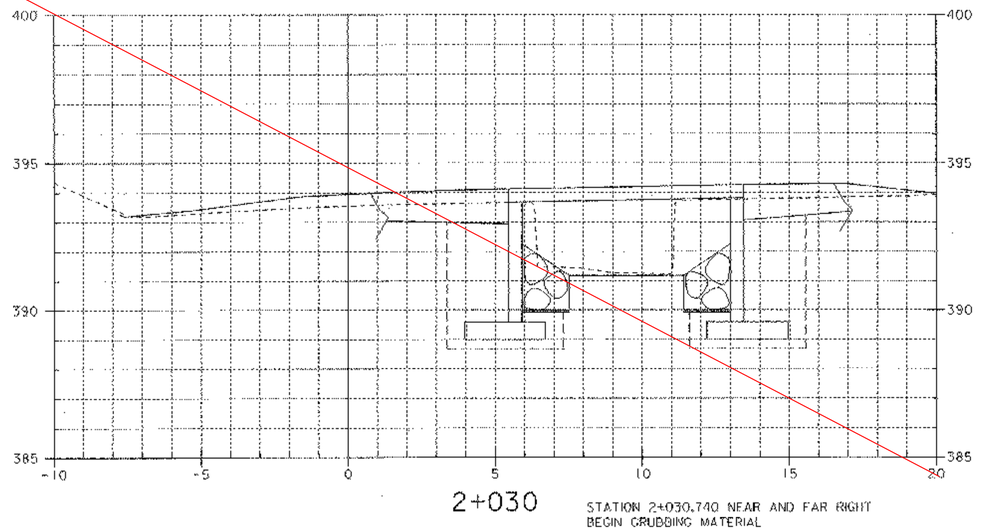
STATION 2+035.520 FAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES




2+035




2+020




2+030

STATION 2+030.740 NEAR AND FAR RIGHT
BEGIN GRUBBING MATERIAL

STATION 2+018.600 NEAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL TYPE IV
BEGIN GRUBBING MATERIAL
BEGIN GEOTEXTILE FILTER FABRIC

STATION 2+019.550 NEAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES

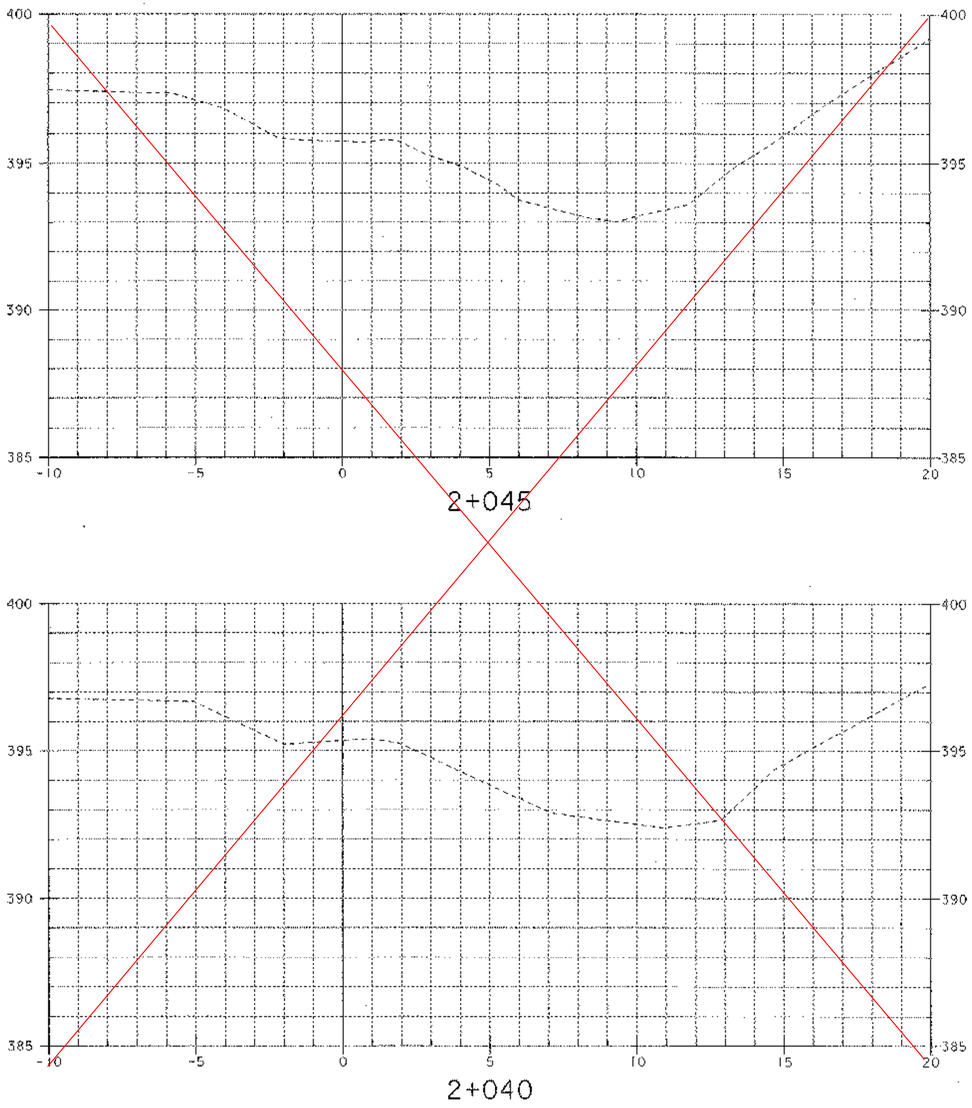
STATION 2+016.600 FAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL TYPE IV
BEGIN GRUBBING MATERIAL
BEGIN GEOTEXTILE FILTER FABRIC

STATION 2+018.610 FAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES

NEW CHANNEL SECTIONS
DONE JULY 2004

SHEET NAME: CHANNEL CROSS SECTIONS

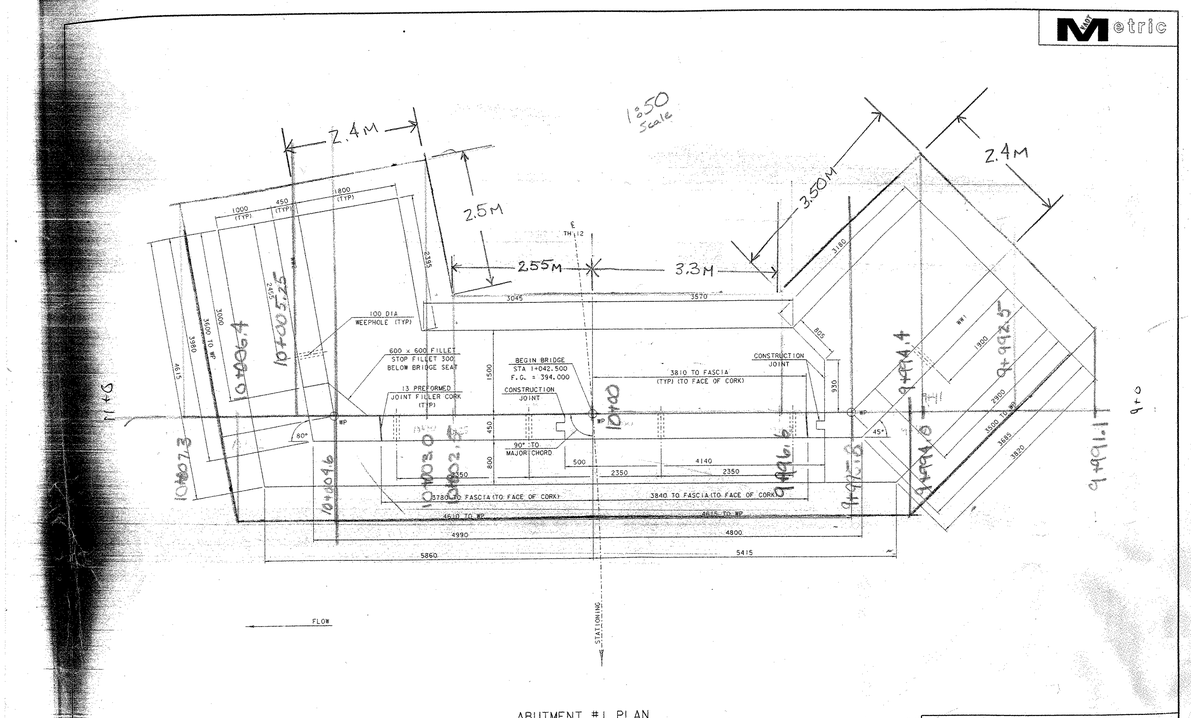
| | |
|---|---|
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /str1/94J072/sJ072xs.dgn | PLOT DATE: 16-OCT-2003 |
| PROJECT MANAGER: G.S. ROGERS | DRAWN BY: K.UPMAL |
| DESIGNED BY: K. UPMAL | IPARM NAME: sJ072cx2.1 |
| BRIDGE SHEET NUMBER: | SHEET 37 OF 38 |




NEW CHANNEL SECTIONS
DONE JULY 2004

| | | | |
|---|---|---|---|
| SHEET NAME: CHANNEL CROSS SECTIONS | | | |
| PROJECT NAME: STAMFORD | | HIGHWAY NO.: TH 12 | |
| PROJECT NUMBER: TH3 9411 | | BRIDGE NO.: 14 | |
| | | OVER: LESURE BROOK | |
| FILE NAME: /str1/94j072/sj072xs.dgn | | PLOT DATE: 16-OCT-2003 | |
| PROJECT MANAGER: G.S. ROGERS | | DRAWN BY: K.UPMAL | |
| DESIGNED BY: K. UPMAL | | IPARM NAME: sj072ox3.I | |
| BRIDGE SHEET NUMBER: | | SHEET 38 OF 38 | |

Metric




Granular Backfill for Structures

3.4 m * 3.2 m = 10.88 sm

395 395

390 390

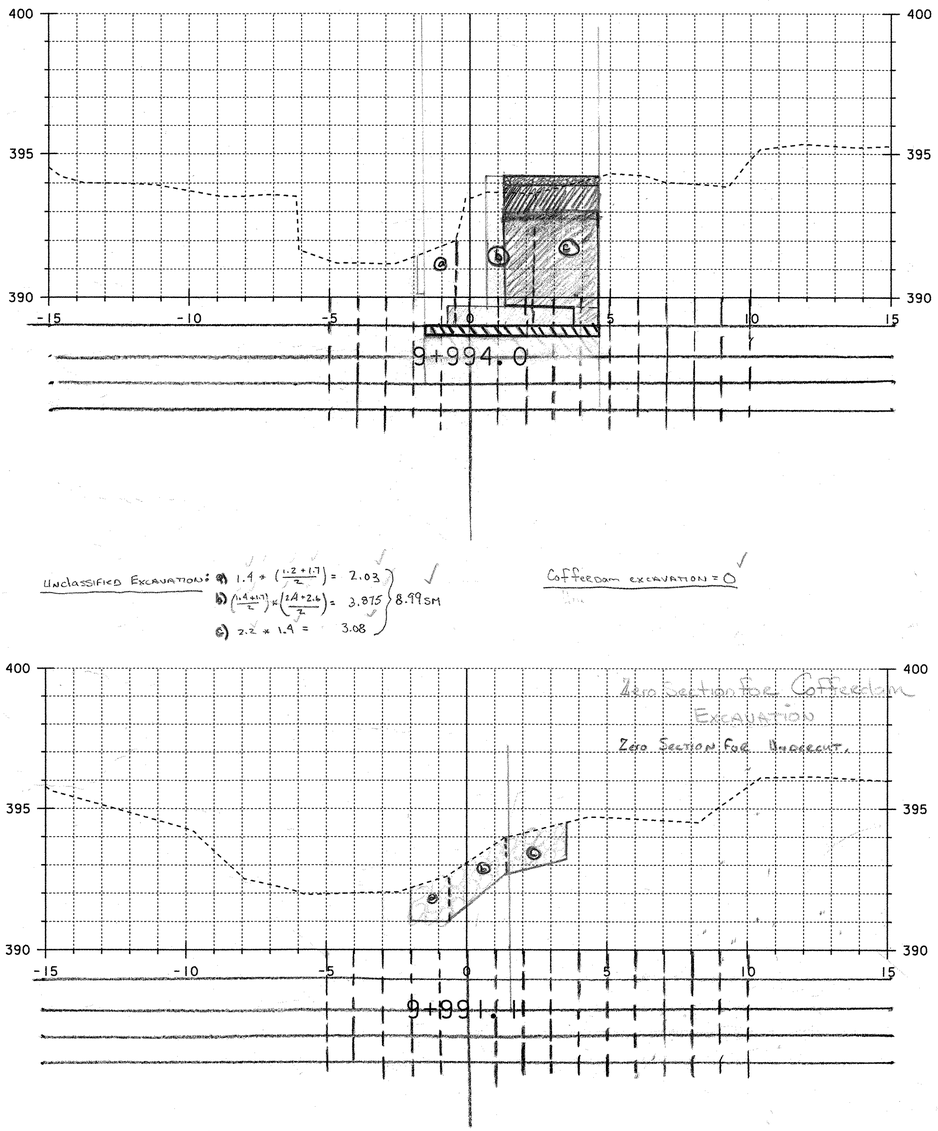
385 385

9 +995.8

GRANULAR BACKFILL FOR STRUCTURES
3.4 M * 4.3 M = 14.62 SM ✓
QJCJ 2/28/05

UNCLASSIFIED EXCAVATION: $\left(\frac{1.3+1.4}{2}\right) * 0.2 = 0.27$ SM

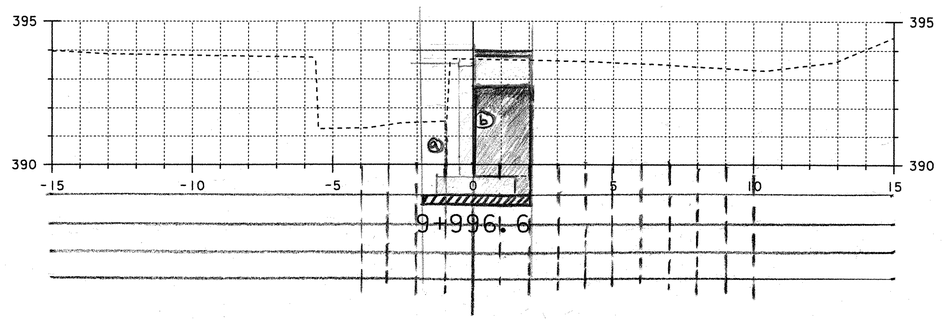
COFFERDAM EXCAVATION:
a) $\left(\frac{2.6+3.0}{2}\right) * 1.1 = 3.08$
b) $\left(\frac{4.4+4.6}{2}\right) * 2.8 = 12.60$
c) $\left(\frac{4.6+5.2}{2}\right) * 2.3 = 11.27$
} 26.95 SM




GRANULAR BACKFILL FOR STRUCTURE
2.1 M * 3.2 M = 6.72 SM ✓
QJCJ 3/28/05

COFFERDAM EXCAVATION:
a) 2.6 * 0.9 = 2.34
b) 4.7 * 3.0 = 14.10
} 16.44 → 16.97 SM

DX 1.2 2.1 1.0 (R)




GRANULAR BACKFILL FOR STRUCTURES
3.4 M * 4.3 M = 14.62 SM ✓
QJCJ 2/28/05

UNCLASSIFIED EXCAVATION = 0 SM ✓

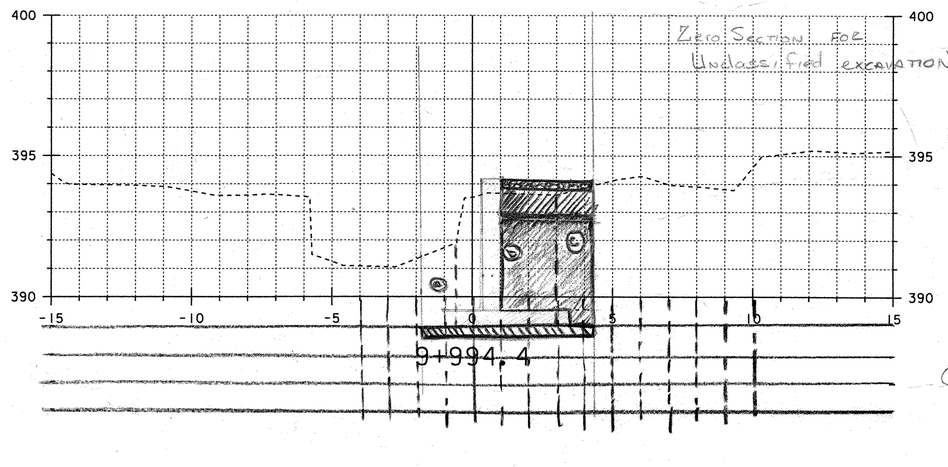
COFFERDAM EXCAVATION:
a) $\left(\frac{2.5+2.9}{2}\right) * 1.2 = 3.24$
b) $\left(\frac{2.9+4.6}{2}\right) * 3.5 = 13.125$
c) $\left(\frac{4.6+5.0}{2}\right) * 1.3 = 6.24$
} 22.605 SM

UNCLASSIFIED EXCAVATION: a) $1.9 * \left(\frac{1.2+1.7}{2}\right) = 2.03$
b) $\left(\frac{1.4+1.7}{2}\right) * \left(\frac{2.4+2.6}{2}\right) = 3.875$
c) $2.2 * 1.9 = 3.08$
} 8.99 SM

COFFERDAM EXCAVATION = 0




9+989 Zero Section for Unclassified Channel excavation



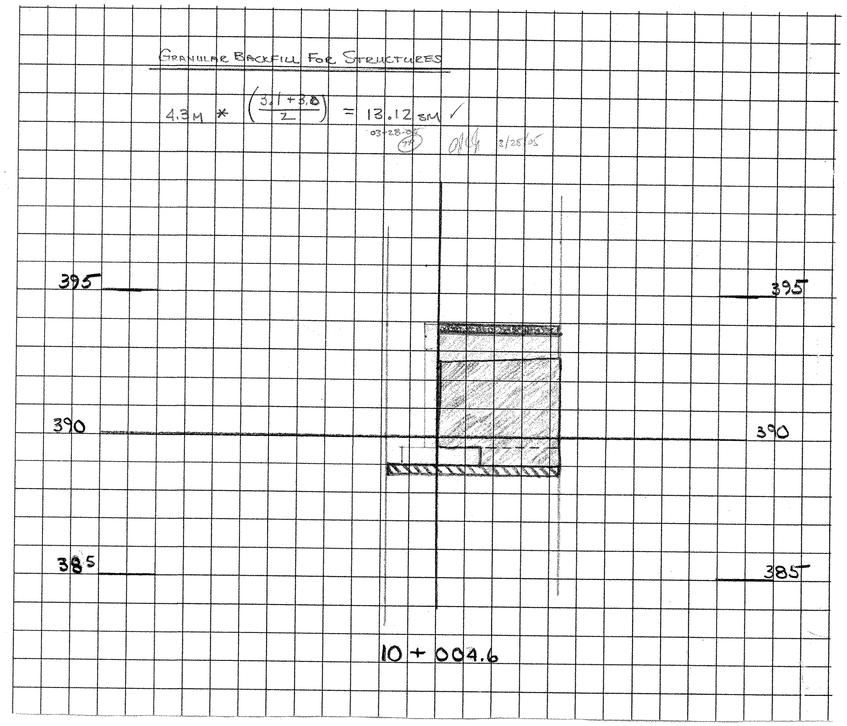

Calculated By TP 11-09-04
Jed ABL 12-9-04

| | |
|---|---|
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /PW/94J072/sj072bdr.dgn | PLOT DATE: 06-JUL-2004 |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY: SQUAD 3 |
| DESIGNED BY: | IPARM NAME: |
| BRIDGE SHEET NUMBER: | SHEET 041 OF |

GRANULAR BACKFILL FOR STRUCTURES

$4.3m * \left(\frac{3.1+3.0}{2}\right) = 13.12 sm$ ✓

03-28-05 dtdy 3/28/05



Granular Backfill For Structures

4.5 m * 3.1m = 13.95 sm ✓

QC 3/25/05

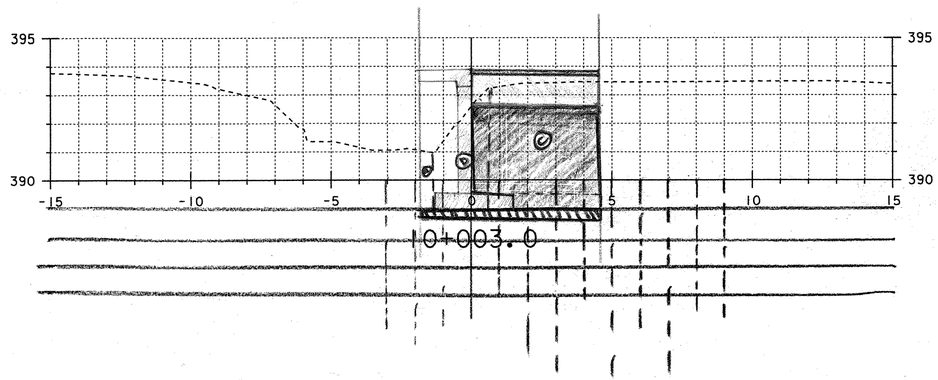
Cofferdam Excavation:

a) 0.5 * ((2.0+1.9)/2) = ~~0.98~~ 0.975 ✓

b) 2.0 * ((1.9+4.3)/2) = ~~8.10~~ 6.20 ✓

c) 3.9 * ((4.3+4.5)/2) = 17.16 ✓

~~25.29~~ 24.335 ✓ 12.35-8.18 sm




Granular Backfill For Structures

2.1m * 3.1m = 6.51sm ✓

QC 3/28/05

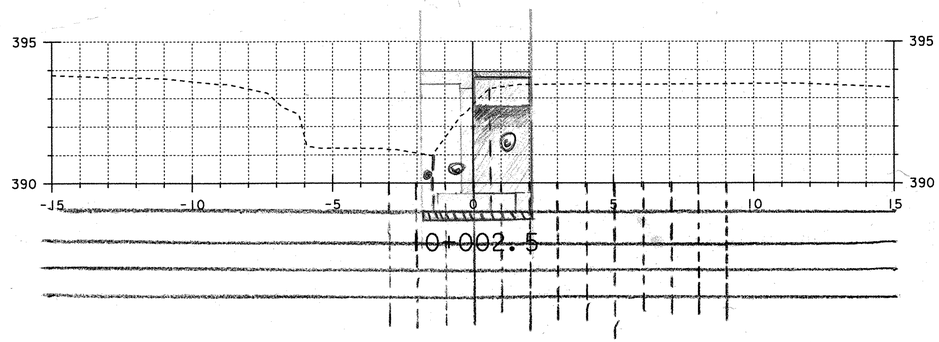
Cofferdam Excavation:

a) 0.4 * 2.0 = 0.8 ✓

b) 2.1 * ((2.0+4.3)/2) = 6.615 ✓

c) 1.5 * ((4.3+4.5)/2) = 6.6 ✓

14.015 ✓




Zero Section For Unclassified Channel Excavation is 10+008.1.

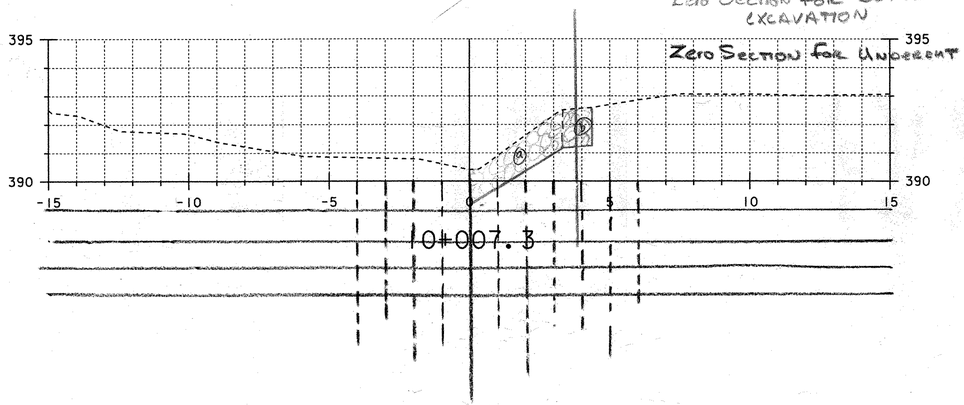
Unclassified Channel Excavation:

a) 1.3 * 3.8 = 4.94 ✓

b) 1.3 * 1.0 = 1.3 ✓

6.24 sm ✓

Zero Section For Cofferdam Excavation




Unclassified Channel Excavation

0 sm ✓

Cofferdam Excavation:

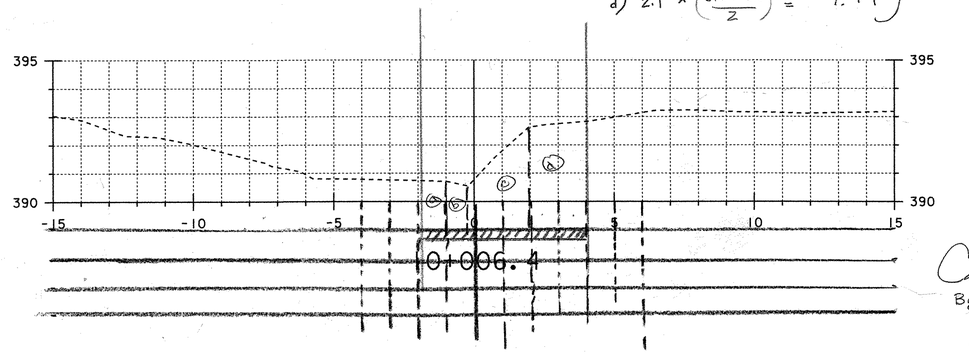
a) 0.9 * 1.7 = 1.53 ✓

b) 0.8 * ((1.7+1.6)/2) = 1.32 ✓

c) 2.2 * ((1.6+3.6)/2) = 5.72 ✓

d) 2.1 * ((3.6+3.8)/2) = 7.77 ✓

16.34 ✓




Calculated By TP 11-09-04

Jed ABC 12-09-04

| | |
|---|---|
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /PW/94J072/sJ072bdr.dgn | PLOT DATE: 06-JUL-2004 |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY: SQUAD 3 |
| DESIGNED BY: | IPARM NAME: |
| BRIDGE SHEET NUMBER: | SHEET 043 OF |

UNCLASSIFIED CHANNEL EXCAVATION

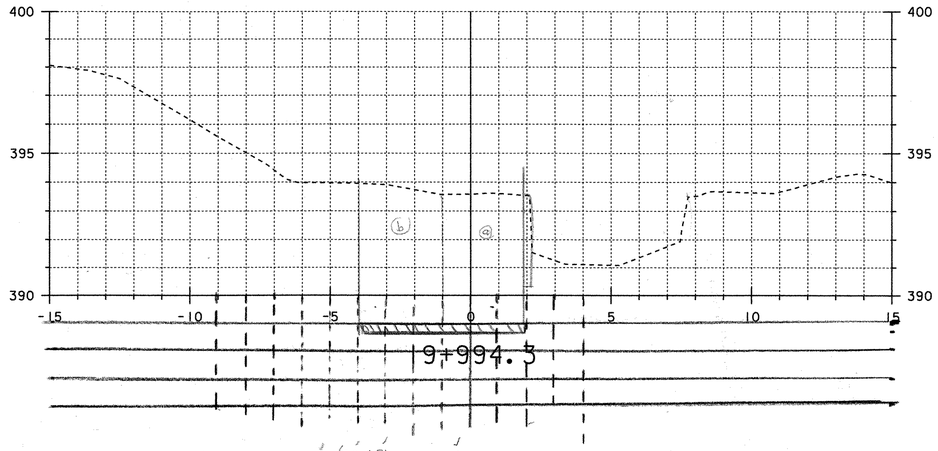
0.3 * 3.2 = 0.96 SM

COFFERDAM EXCAVATION

ⓐ 2.8 * 4.6 = 12.88

ⓑ 3.0 * ((5.0+2.6)/2) = 14.4

27.28 SM



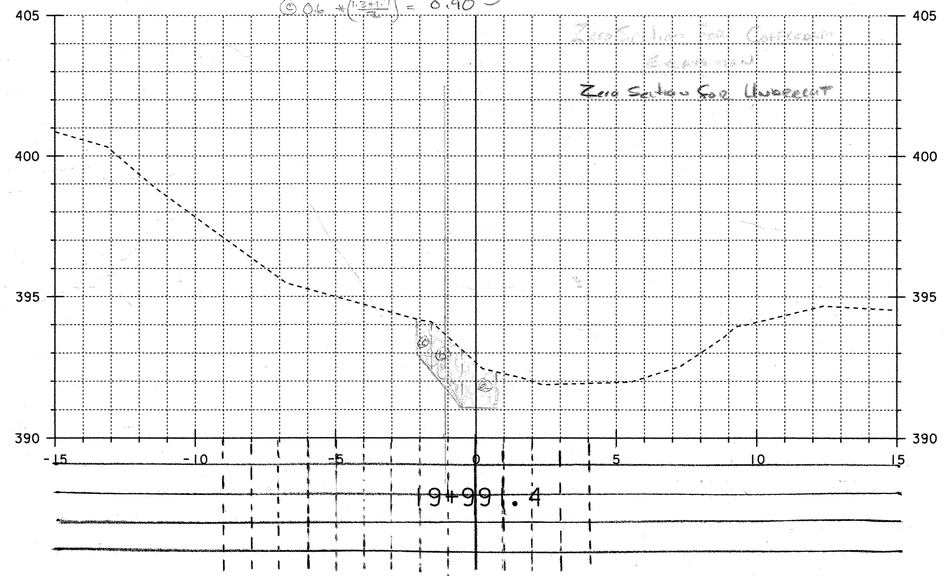

UNCLASSIFIED CHANNEL EXCAVATION

ⓐ 1.2 * ((2.0+1.3)/2) = 1.98

ⓑ ((1.5+1.7)/2) * ((1.3+2.0)/2) = 2.64

ⓒ 0.6 * ((1.3+1.7)/2) = 0.90

5.52 SM




19+990.8 Zero Section for Unclassified excavation

UNCLASSIFIED CHANNEL EXCAVATION

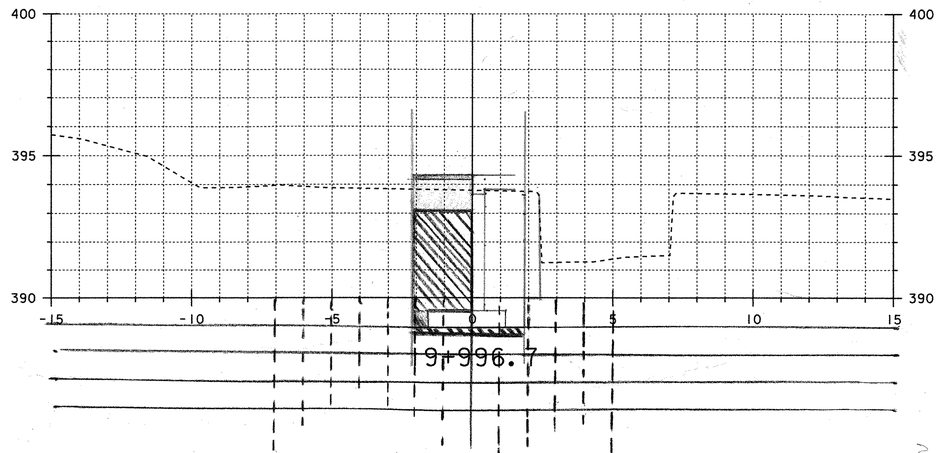
0.6 * 3.8 = 2.28 SM

COFFERDAM EXCAVATION

40 * 4.9 = 19.6 SM

GRANULAR BACKFILL FOR STRUCTURE

2.1 * 3.5 = 7.35 SM 04-05-05 TP




GRANULAR BACKFILL FOR STRUCTURES 10.85

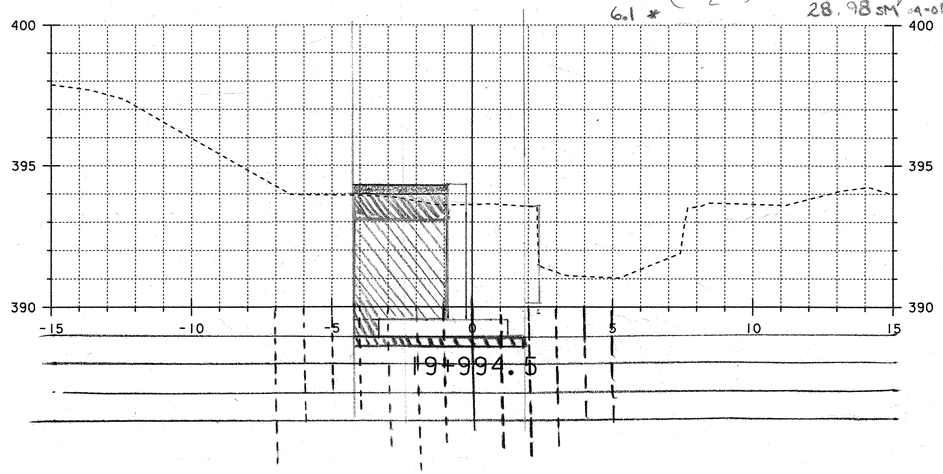
4.5M * 3.1M = 13.95 SM 04-05-05 TP

UNCLASSIFIED CHANNEL EXCAVATION

0.5 * 3.4 = 1.7 SM

COFFERDAM EXCAVATION

6.1 * ((4.6+4.9)/2) = 28.98 SM 04-05-05 TP




11-01-04 TP

| | |
|---|---|
| PROJECT NAME: STAMFORD | HIGHWAY NO.: TH 12 |
| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /PW/94J072/sj072bdr.dgn | PLOT DATE: 06-JUL-20 |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY: SQUAD 3 |
| DESIGNED BY: | IPARM NAME: |
| BRIDGE SHEET NUMBER: | SHEET 044 OF |

Metric
1:50 Scale
TH 12
STATIONING
END BRIDGE
STA. 1+050.500
F.G. = 394.192
CONSTRUCTION JOINT
3810 TO FASCIA (TYP) TO FACE OF CORK)
13 PREFORMED JOINT FILLER CORK (TYP)
90° TO MAJOR CHORD
4140 TO CONSTRUCTION JOINT
3840 TO FASCIA (TO FACE OF CORK)
3780 TO FASCIA (TO FACE OF CORK)
4615 TO WP
4610 TO WP
4800
4955
5415
5775
FLOW
100 DIA WEEPHOLE (TYP)
600 x 600 FILLET
500 x FILLET 300 BELOW BRIDGE SEAT
19+991
19+943
19+914.7
19+896.7
19+882.85
19+914.8
20+009
20+004.2
20+002.7
20+001.6
20+000.1
2140

GRANULAR BACKFILL FOR STRUCTURES

$9.8_M * \left(\frac{3.2 + 3.5}{2}\right) = 32.83_{SM}$ ✓ TP 04-05-05

Unclassified Channel ✓

$0.7 * \left(\frac{1.8+1.3}{2}\right) = 1.085 \approx 1.09_{SM}$

Cofferdam Excavation

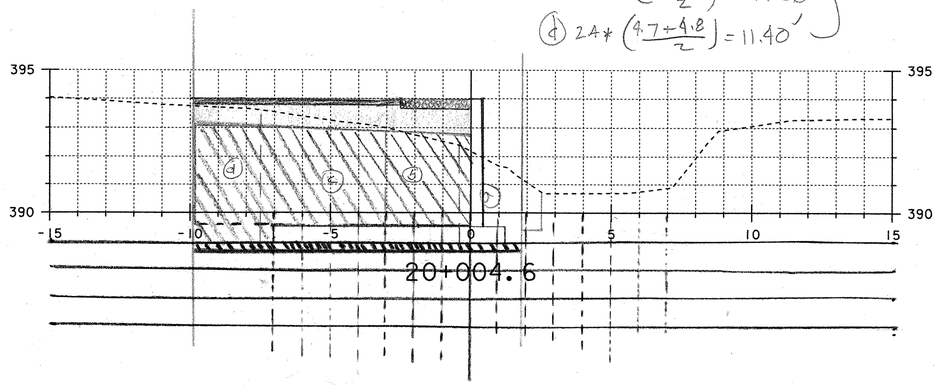
(a) $2.2 * \left(\frac{2.3+3.5}{2}\right) = 6.38$ ✓

(b) $2.1 * \left(\frac{3.5+4.1}{2}\right) = 9.88$ ✓

(c) $1.4 * \left(\frac{4.1+4.7}{2}\right) = 19.36$ ✓

(d) $2.4 * \left(\frac{4.7+4.8}{2}\right) = 11.40$ ✓

$47.02_{SM}$ ✓




UNCLASSIFIED CHANNEL EXCAVATION ENDS @ 20+009.2 WITH SAME AREA AS START 20+009.0.

Unclassified Channel

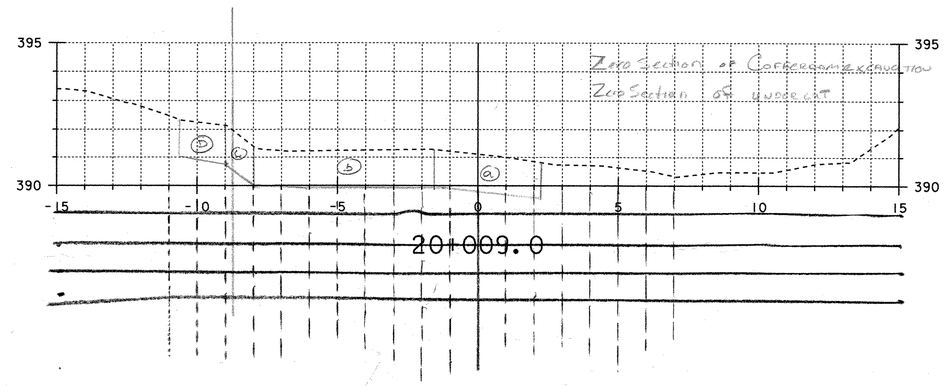
(a) $1.3 * 3.8 = 4.94$

(b) $1.3 * 6.4 = 8.32$

(c) $1.3 * 1.0 = 1.30$

(d) $1.3 * 1.6 = 2.08$

$16.64_{SM}$ ✓




GRANULAR BACKFILL FOR STRUCTURES

$2.1_M * 3.2_M = 6.72_{SM}$ ✓ 04-05-05 TP

Unclassified Channel Excavation

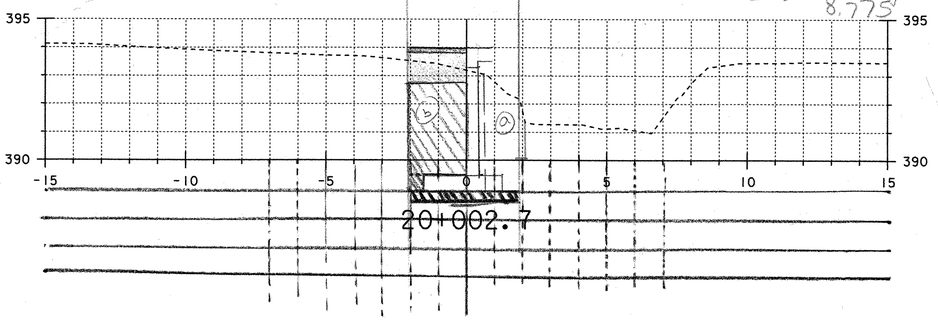
$0.2 * \left(\frac{2.1+1.3}{2}\right) = 0.34_{SM}$

Cofferdam Excavation

(a) $1.2 * \left(\frac{2.1+3.0}{2}\right) = 3.06$ ✓

(b) $2.7 * \left(\frac{3.0+3.5}{2}\right) = 8.78$ ✓ 8.775

11.835 ✓ $11.84_{SM}$




GRANULAR BACKFILL FOR STRUCTURES

$(1.5 * 4.2) + (2.2 * 4.0) = 15.1_{SM}$ ✓ 04-07-05 TP

6.3 8.8

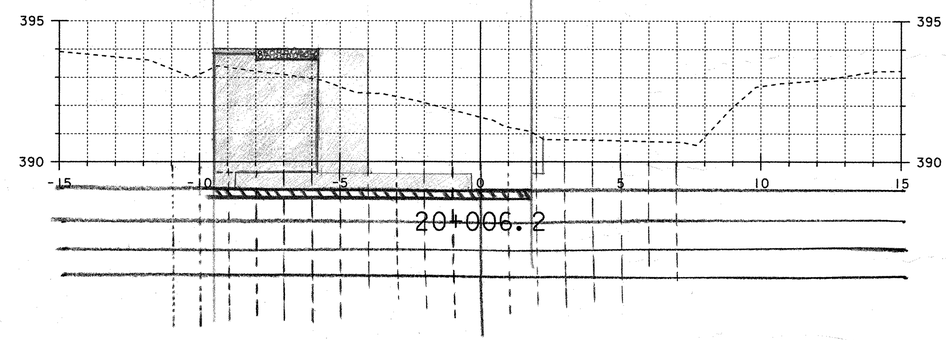
Unclassified Channel Excavation

$0.5 * \left(\frac{1.2+1.5}{2}\right) = 0.675 \approx 0.68_{SM}$

Cofferdam Excavation

$11.3 * \left(\frac{4.3+2.6}{2}\right) = 35.595 \approx 35.6_{SM}$

* END UNCLASSIFIED CHANNEL EXCAVATION @ START 20+006.2 FOR AVERAGE END AREA METHOD.




11-01-04 TP

Void AEC 12-20-04

| | |
|---|---|
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| PROJECT NUMBER: TH3 9411 | BRIDGE NO.: 14 |
| | OVER: LESURE BROOK |
| FILE NAME: /PW/94J072/sJ072bdr.dgn | PLOT DATE: 06-JUL-2004 |
| PROJECT MANAGER: R. WHITCOMB | DRAWN BY: SQUAD 3 |
| DESIGNED BY: | IPARM NAME: |
| BRIDGE SHEET NUMBER: | SHEET 046 OF |