

### SURCHARGE TREATMENT OF THE FOUNDATION

A. SCOPE OF THE SURCHARGE: THE SURCHARGE FILL SHALL COVER THE FOLLOWING ROAD SECTIONS LISTED BELOW AND BE CONSTRUCTED TO THE ELEVATIONS SHOWN.

ABUTMENT	FROM	ELEVATION (FT.)	TO	ELEVATION (FT.)
1	113+40	320.00	114+00	320.00 (AT 113+50 +/-)
2	116+04	315.00 (AT 116+52 +/-)	118+90	312.00

THE SURCHARGE MUST RUN CONTINUOUSLY WITH THE ELEVATION CHANGING LINEARLY FROM ONE END TO THE OTHER END FOR EACH SECTION LISTED ABOVE.

B. CROSS SECTIONS OF THE SURCHARGE FILL: THE CROSS SECTIONS OF THE SURCHARGE FILL SHALL HAVE THE SAME CROSS SECTIONS AS THE FINAL EMBANKMENT BENEATH THE DESIRED ELEVATION SPECIFIED ABOVE. EXCEPTIONS ARE:

1. DURING SURCHARGE TREATMENT, NO STONE FILL OR GEOTEXTILE SHOULD BE PLACED ON THE ROADWAY SIDE SLOPES. SEE TYPICAL SURCHARGE TREATMENT SECTION AT ROADWAY.
2. PLACEMENT OF STONE FILL AND GEOTEXTILE AT ABUTMENTS SHALL PROGRESS TO BOTTOM OF FOOTING ELEVATION DURING SURCHARGE APPLICATION, THAT IS, FROM 287' TO 305' FOR ABUTMENT 1 AND FROM 287' TO 300' FOR ABUTMENT 2. GEOTEXTILE SHALL BE PLACED SUCH THAT A MINIMUM REQUIRED OVERLAP LENGTH CAN BE MAINTAINED. SEE TYPICAL SURCHARGE TREATMENT SECTION AT THE ABUTMENTS.

C. APPLICATION OF THE SURCHARGE LOAD: THE APPLICATION OF THE SURCHARGE LOAD SHOULD BE COMBINED WITH AND BE PART OF THE CONSTRUCTION OF THE PERMANENT EMBANKMENT STRUCTURE. THE SURCHARGE FILL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 203.11.

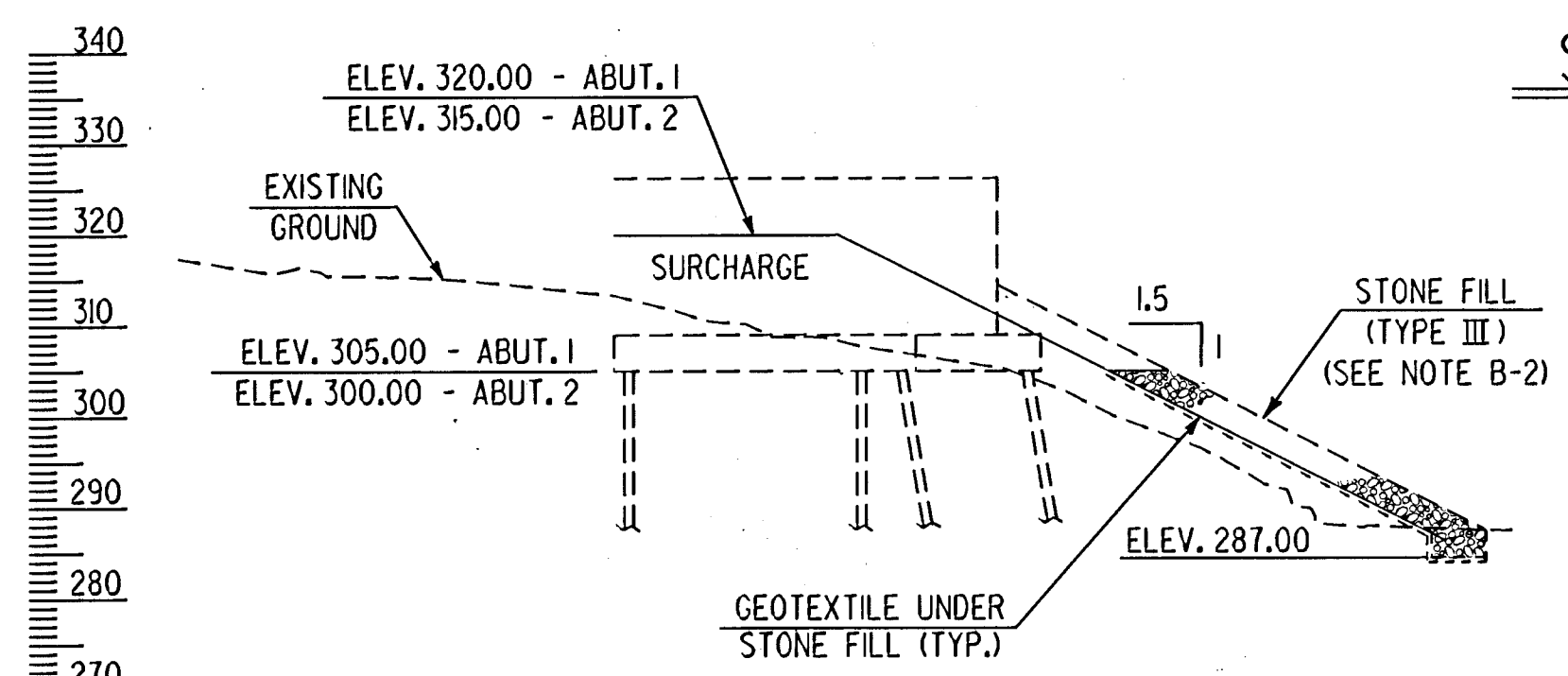
D. DURATION OF THE SURCHARGE: SURCHARGE LOADING AT BOTH ABUTMENTS SHALL BE MAINTAINED FOR ONE MONTH. HOWEVER, THIS SURCHARGE TIME COULD BE SHORTENED BY THE ENGINEER IF THE IN SITU GEOTECHNICAL INSTRUMENTATION INDICATES THAT EITHER THE SETTLEMENT HAS REACHED THE MAGNITUDE OUTLINED IN NOTE E BELOW OR IF THE INSTRUMENTATION READING TAKEN DOES NOT CHANGE FOR 3 CONSECUTIVE DAYS.

E. THE MAGNITUDE OF THE SETTLEMENT: IT WAS DETERMINED THAT THE MAXIMUM AMOUNT OF SETTLEMENT VARIES FROM 18" AT ABUTMENT 2 TO 12" AT ABUTMENT 1. IT IS ANTICIPATED THAT OVER 80% OF THE EXPECTED FOUNDATION SETTLEMENT UNDER THE FULL EMBANKMENT FILL LOAD SHOULD OCCUR DURING THE SURCHARGING PROCESS.

F. MONITORING/SETTLEMENT INSTRUMENTATION:

1. THE SETTLEMENT OF THE FOUNDATION WILL BE MONITORED DURING THE SURCHARGE TREATMENT USING TYPE I AND VIBRATING WIRE SETTLEMENT PLATFORMS, INSTALLED AT THE DESIGNATED LOCATIONS SHOWN ABOVE. BOTH SETTLEMENT PLATFORMS, TYPE I AND VIBRATING WIRE, SHALL MEET THE GUIDELINES SPECIFIED IN STANDARD SHEETS L-1 AND L-2 RESPECTIVELY AND SECTION 623 OF THE SPECIAL PROVISIONS.
2. FOR DETAILS OF TYPE I SETTLEMENT PLATFORM, SEE STANDARD SHEET L-1.
3. FOR DETAILS OF VIBRATING WIRE SETTLEMENT PLATFORM, SEE STANDARD SHEET L-2.
4. THE FOLLOWING SETTLEMENT PLATFORM READINGS SHALL BE RECORDED AND PROVIDED TO THE ENGINEER: (FILL ELEVATIONS SHALL BE RECORDED WHENEVER READINGS ARE TAKEN)
  - a.) INITIAL READINGS AT ALL SETTLEMENT PLATFORMS BEFORE ANY SURCHARGE LOAD IS APPLIED.
  - b.) SETTLEMENT PLATFORM, TYPE I: SETTLEMENT READINGS SHALL BE TAKEN ONCE A DAY DURING SURCHARGING OPERATIONS.
  - c.) SETTLEMENT PLATFORM, VIBRATING WIRE: SETTLEMENT READINGS SHALL BE TAKEN FOR EVERY 2 TO 3 FEET OF EMBANKMENT PLACED DURING SURCHARGING OPERATION.
  - d.) UPON COMPLETION OF SURCHARGE PLACEMENT OPERATIONS, SETTLEMENT PLATFORM READINGS SHALL BE TAKEN ONCE EVERY OTHER DAY FOR THE DURATION OF THE SURCHARGE TREATMENT (TYPICAL FOR TYPE I AND VIBRATING WIRE SETTLEMENT PLATFORMS).

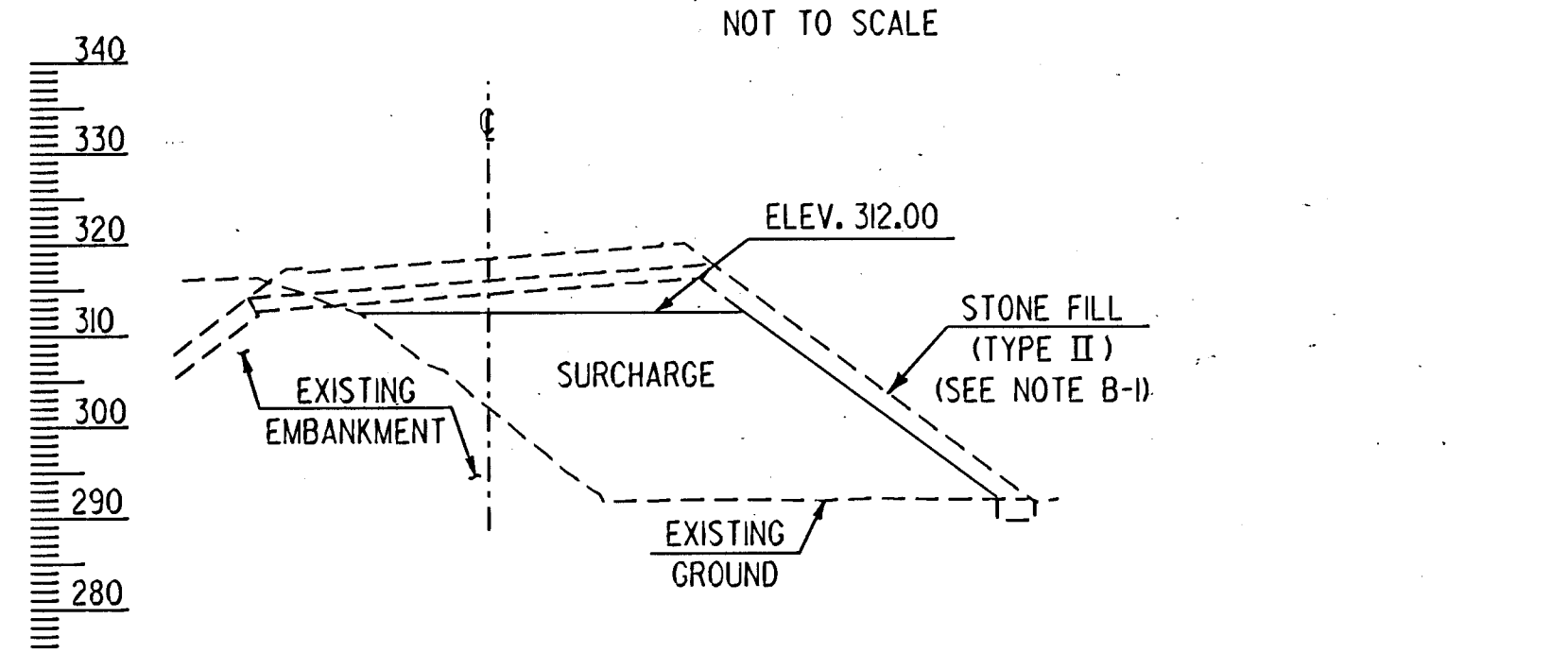
### SETTLEMENT INSTRUMENTATION PLAN



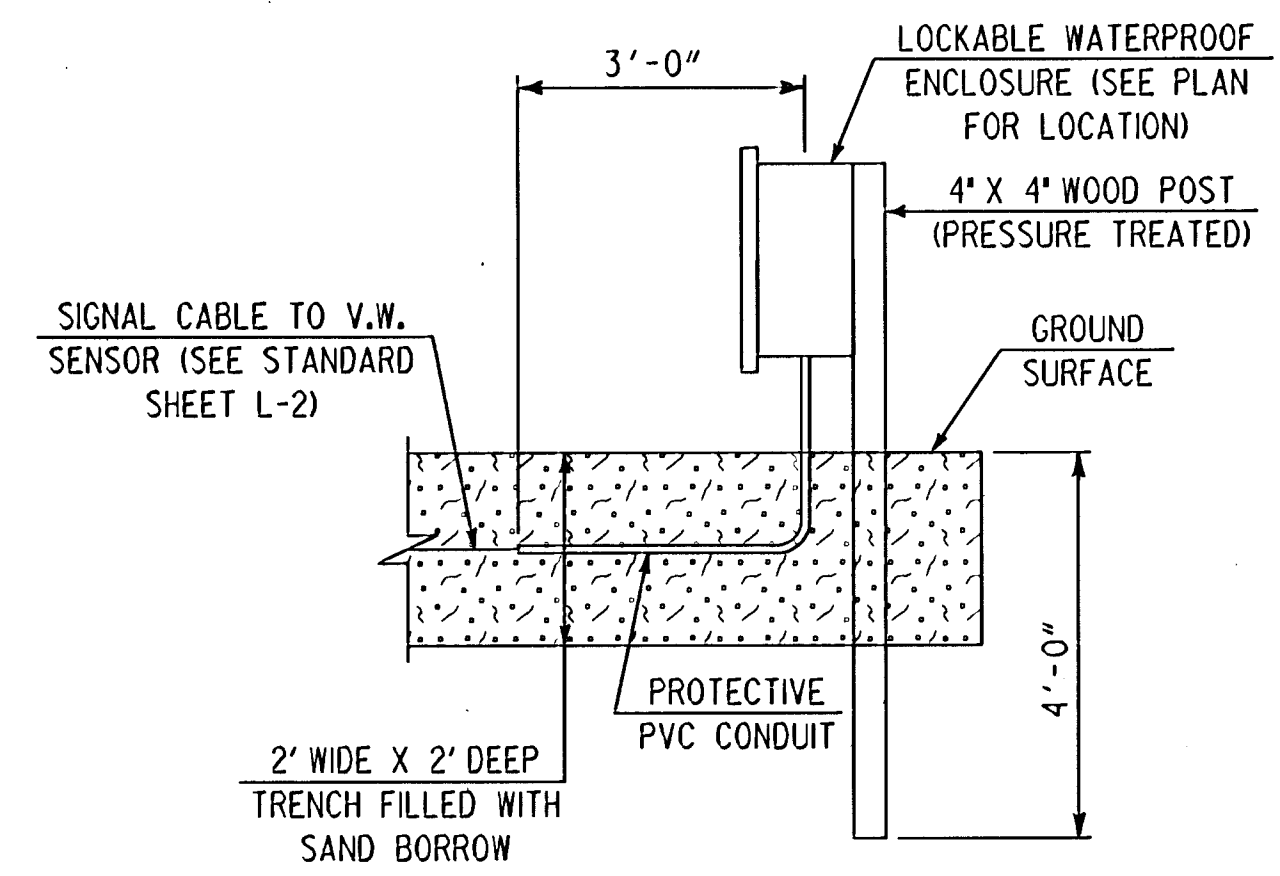
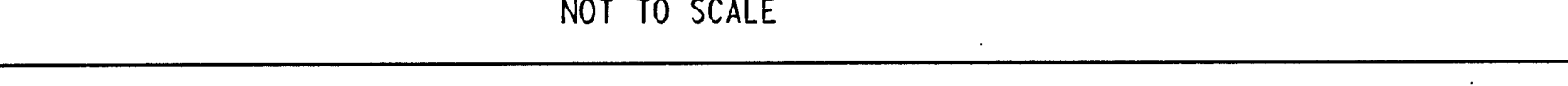
### LEGEND

- SETTLEMENT PLATFORM, TYPE I
- ⊗ SETTLEMENT PLATFORM, VIBRATING WIRE
- \* APPROXIMATE LOCATION OF READOUT BOX

### TYPICAL SURCHARGE TREATMENT SECTION AT ABUTMENTS



### TYPICAL SURCHARGE TREATMENT SECTION AT ROADWAY (STA. 118+90)



### READOUT BOX DETAIL

### SETTLEMENT PLATFORM, TYPE I - LOCATION

STATION	OFFSET
113+57	26' RT.
116+43	CENTERLINE
116+78	10' RT.
116+50	30' RT.
116+90	30' RT.

### SETTLEMENT PLATFORM, VIBRATING WIRE - LOCATION

STATION	OFFSET
113+00	12' RT.
116+58	10' RT.
116+98	10' RT.

### GEOTECHNICAL INSTRUMENTATION

THIS WORK CONSISTS OF THE FURNISHING, INSTALLING, MAINTAINING SETTLEMENT PLATFORMS AND COLLECTING DATA. THIS INSTRUMENTATION WILL FOLLOW THE GUIDELINES SPECIFIED IN SECTION 623 OF THE SPECIAL PROVISIONS.

### STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	SPRINGFIELD	Bridge No.	44
Highway No.	U.S. ROUTE 5	Log Sta.	
		Surv. Sta.	
U.S. ROUTE 5 OVER BLACK RIVER			
SETTLEMENT INSTRUMENTATION PLAN			
Designed By	S. BAKI	Drawn By	W. GAYNOR
Checked By	S. BAKI	Date	10/95
		Bridge Design Supervisor	P. PIERCE Date 5/96
PROJECT	SPRINGFIELD	PROJECT NO.	BRS-RS 0113 (8)
I.G.C. info.	pl\9145622\struct\spsetpla.dgn		
Bridge Sheet No.	BRI04	Sheet	33 of 90