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LTPP Seasonal Monitoring Program

Site Monitoring Suspension Status Draft Final Report for GPS Section 833802 (83B) Winnipeg, Manitoba

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FHWA Contract No. DTFH61-96-00013 November 1997

LTPP Seasonal Monitoring Program

Site Monitoring Suspension Status
Draft Final Report for
GPS Section 833802 (83B)
Winnipeg, Manitoba

FHWA CONTRACT No. DTFH61-96C-00013

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FHWA LTPP Technical Representative - Aramis Lopez, HNR-40

16. Abstract

This report contains information on suspension of NCRCO's data collection activities for the Long Term Pavement Performance (LTPP) General Pavement Study (GPS) section 833802 conducted on September 15, 1997. The report presents a description of the following activities: SMP data collection activities, including evaluation of instrument and equipment performance prior to suspension of data collection, and monitoring resumption schedule. The resumption of monitoring at this site is scheduled for September, 1998. All instrumentation at the site will be tested at that time.

17. Keyword	18. Distribution Statement
Long Term Pavement Performance, LTPP, Seasonal Monitoring Program, SMP, Time Domain Reflectometry, TDR, Piezometer, Falling Weight Deflectometer	No restrictions. This document is available to the public from the sponsoring agency.

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Table of Contents

LTPP Seasonal Monitoring Program
Site Monitoring Suspension Status
Draft Final Report for
GPS Section 833802 (83B)
Winnipeg, Manitoba

1.0 INTRODUCTION

As dictated by seasonal monitoring procedures, the North Central Regional Coordination Office (NCRCO) has suspended data collection for the Long Term Pavement Performance (LTPP) General Pavement Study (GPS) section 833802 for a period of one year effective September 15, 1997. The test section, which is part of the Seasonal Monitoring Program (SMP) managed by the Federal Highway Administration (FHWA) LTPP Division, is approximately 21 kilometers south of Winnipeg, Manitoba, on the northbound driving lanes of PTH-75. Additional background information on the test section, types of instruments installed, and the in-place pavement structure can be found in the *Site Installation Report for GPS Section 833802 (83B), Winnipeg, Manitoba,* dated January 1996 (1).

This report contains information on data collection activities conducted on September 15, 1997. After the installation of instrumentation in the test section on October 14, 1993, the test section was visited 25 times for SMP data collection by Braun Intertec, until June 20, 1995. The test section was then visited 16 times for onsite SMP data collection by the Manitoba Department of Highways.

Beginning October 15, 1996, the site was visited 12 times for SMP data collection by ERES Consultants. As of September 15, 1997, Manitoba Department of Highways has assumed SMP data collection from the site, until September 1998, after which ERES Consultants will monitor the site for another year. The dates of these visits and the activities performed can be found in the SMP data collection summary table in appendix A. This section is planned to be monitored every other year for the remainder of the LTPP study or until it is removed from the study.

The report presents a description of the following activities: SMP data collection activities, including evaluation of instrument and equipment performance prior to suspension of monitoring, and schedule for resumption of monitoring.

2.0 SMP DATA COLLECTION

2.1 SMP Data Collection and Upload

On ERES Consultants' last site visit of September 16, 1997, the full suite of SMP monitoring measurements in the *LTPP Seasonal Monitoring Program Instrument Installation and Data Collection Guidelines* (2) was performed. These include the following:

- FWD and associated measurements.
- Elevation survey.
- Manual distress survey with transverse profile measurements.

- Manual electrical resistivity measurements (two- and four-point).
- Automated mobile data measurements (Time Domain Reflectometry [TDR] and resistivity).
- Water table measurements.
- Joint opening and joint faulting measurements

A summary of all the SMP data collected to date can be found in the SMP data collection summary table in appendix A. The specific type and amount of data collected can be found on the SMP field activity report (data sheet SMP-D10) in appendix B. Six other SMP data sheets pertaining to the data collection activities are also in appendix B. The locations for FWD and elevation measurements can be found in the site information sheet (SIS) in appendix C.

As can be seen in the SMP data collection summary table in appendix A, longitudinal profile measurements were recorded. All the data collected to date have been processed and uploaded into the RIMS.

2.2 Instrument and Equipment Problems

All the sensors in the test section (TDR, rain gauge, and Measurement Research Corporation [MRC]) were evaluated by reviewing the data from the onsite and mobile dataloggers using the SMPCheck 2.5c program (3). A review of the data collected during this visit indicated that MRC sensors #10 thru #18 failed permanently on March 16, 1996. All other sensors were functioning as expected. However, extreme environmental conditions resulted in frequent failures of the

CR10 datalogger. During the flood in the spring of 1997, the CR10 was removed from the site from April 24 to May 31, 1997. All TDR traces have the maximum and minimum points on the traces that enable analysis.

3.0 INSTRUMENT DE-INSTALLATION ACTIVITIES

3.1 Suspension Preparation and Repairs to Instrumentation Hole

All instrumentation remains installed at this site. The instrument block is in excellent condition, and the temperature profile holes and snap ring holes in the pavement have been filled with silicone sealant.

3.2 Unique Site Features

This test section is the 7h SMP installation in the LTPP North Central Region, In the course of monitoring this site, a solar panel was installed on top of the cabinets to prolong the life of the battery onsite. However, the solar panel was found to be vulnerable to high winds and icing at this site, resulting in frequent failures of the CR10 datalogger.

4.0 INSTRUMENT REINSTALLATION

All instrumentation remains installed at this site. Resumption of SMP monitoring by ERES Consultants scheduled for September, 1998.

5.0 SUMMARY

This report contains information on data collection activities for the LTPP GPS section 833802, conducted on September 15, 1997. The report presents a description of the SMP data collection activities, including an evaluation of the SMP sensors and equipment. The following problems were noted from the data recorded from August 18, 1997, through September 15; MRC sensors #10 thru #18 no longer function. All other sensors function as exptected. All the TDR traces have the required maximum and minimum points that enable analysis of the TDR data.

Resumption of monitoring at this site by ERES Consultants is scheduled for September, 1998.

LIST OF REFERENCES

1. *LTPP Seasonal Monitoring Program Site Installation Report for GPS Section 833802 (83B) Winnipeg, Manitoba,* Federal Highway Administration, LTPP Division, HNR-40, Turner-Fairbanks Highway Research Center, McLean, Virginia. January 1996.
2. *LTPP Seasonal Monitoring Program: Instrumentation Installation and Data Collection Guideline.* FHWA-RD-94-110, Federal Highway Administration, LTPP Division, HNR-40, Turner-Fairbanks Highway Research Center, McLean, Virginia. April 1994.
3. SMPCheck, computer software version 2.5c, prepared for the Federal Highway Administration, Pavement Performance Division, HNR-30, McLean, Virginia. July 1997.
4. Lopez, Aramis, Jr. *Long Term Pavement Performance Directive for the Seasonal Monitoring Program: Directive Number SM-8, Suspension of SMP Site Monitoring Activities.* Federal Highway Administration, LTPP Division, HNR-40, Turner-Fairbanks Highway Research Center, McLean, Virginia. March 1995.

Appendix A - SMP Data Collection Summary Table

83SB - 833802, PTH-75 NB LANES, 15 MILES SOUTH OF WINNEPEG, MB

		ONSITE Data			MOBILE Data		Manual Data								FWD Data				Distress		Profile		Comments
Date dd/mmm/yy		Pvmt. Temp.	Air Temp.	Rain	TDR	Frost Volts	Backup TDR	Backup TDR	Frost 2-Pt.	Frost 4-Pt.	Water Table	Pvmt. Elev.	Joint Open.	Joint Fault	Man. Temp.	OWP	ML	PE	M	P	P	D	
9-Jun-93																			X	X			
23-Aug-93																					X		
14-Oct-93	93A														X	1	1	0					TESTS.
15-Oct-93	93B	B	B	B	B	B					B	B		B	X	2	2	2					NO RESISTIVITY SWITCH BOX, INSTALLED SNAP RINGS.
15-Nov-93	93C	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					ADDED RELAY TO ONSITE, TWO ONSITE FILES
17-Nov-93																					X		
14-Dec-93	93D	B	B	B	B	B					B	B	B	B	X	2	2	2					BAD RESISTIVITY SWITCH BOX FOR TODAY AND 18JAN94.
18-Jan-94	94A	B	B	B	B	B										0	0	0					PLUGGED HOLES.
15-Feb-94	94B	B	B	B	B	B			B	B	B	B	B		X	2	2	2	X				
18-Feb-94																					X		PROFILE DATA NOT RECEIVED BY RCO.
15-Mar-94	94C	B	B	B	B	B			B	B	B	B	B		X	2	2	2					BAD FAULTMETER.
29-Mar-94	94D	B	B	B	B	B					B	B	B	B	X	2	2	2					BAD RESISTIVITY SWITCH BOX.
12-Apr-94	94E	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
2-May-94	94F	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
16-May-94	94G	B	B	B	B	B			B	B	B		B	B	X	1	1	1					FWD D1 READINGS BAD.
20-Jun-94	94H	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
17-Jul-94																					X		PROFILE DATA NOT RECEIVED BY RCO.
26-Jul-94	94I	B	B	B	B	B			B	B	B		B	B	X	1	1	1					
22-Aug-94	94J	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2	X				REMOVED DEBRIS PLUGGING THE TIPPING BUCKET.
20-Sep-94	94K	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
18-Oct-94	94L	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
10-Nov-94																					X		PROFILE DATA NOT RECEIVED BY RCO.
15-Nov-94	94M	B	B	B	B	B			B	B	B		B	B	X	2	2	2					MANUAL TDR READINGS ON PROBES #5 THRU #10.
13-Dec-94	94N	B	B	B	B	B					B		B	B	X	2	2	2					TDRS CONTAIN MANY "-9999", CABLE FOR FROST READINGS BAD.
21-Jan-95																					X		
26-Jan-95	95A	B	B	B	B	B			B	B	B					0	0	0					WEATHER REDUCED TESTING.
14-Feb-95	95B	B	B	B	B	B			B	B	B	B				0	0	0					WEATHER REDUCED TESTING.
15-Mar-95	95C	B	B	B	B	B			B	B	B		B	B	X	2	2	2					
28-Mar-95	95D	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2	X				
12-Apr-95	95E	B	B	B	B	B			B	B	B		B	B	X	2	2	2					
26-Apr-95	95F	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
28-Apr-95																					S		
16-May-95	95G	B	B	B	B	B			B	B	B	B	B	B	X	2	2	2					
20-Jun-95	95H	B	B	B	B	B			B	B	B	B	B	B	X	2	3	2	X				
26-Jun-95																					S		

Notes
Notes

B Denotes data collected and processed by Braun Intertec Corp
P Denotes data collected and processed by ERES Consultants, Inc
X Denotes data collected by Braun Intertec Corp.
X Denotes data collected by ERES Consultants, Inc.
B Denotes data collected by Braun Intertec Corp. and processed by ERES Consultants, Inc.
M Denotes data collected by MB-DOT and processed by ERES Consultants, Inc.
S Denotes data collected and processed by SME

83SB - 833802, PTH-75 NB LANES, 15 MILES SOUTH OF WINNEPEG, MB

		ONSITE Data			MOBILE Data				Manual Data						FWD Data				Distress		Profile		Comments
Date dd/mmm/yy		Pvmt. Temp.	Air Temp.	Rain	TDR	Frost Volts	Backup TDR	Backup TDR	Frost 2-Pt.	Frost 4-Pt.	Water Table	Pvmt. Elev.	Joint Open.	Joint Fault	Man. Temp.	OWP	ML	PE	M	P	P	D	
5-Jul-95	95I	M	M	M																			
14-Aug-95	95J	M	M	M							M												
6-Sep-95	95K	M	M	M							M												
11-Oct-95	95L	M	M	M							M												
15-Nov-95	95M	M	M	M							M												
12-Nov-95	95N	M	M	M							M												
14-Dec-95	95O	M	M	M							M												
8-Feb-96	96A	M	M	M							M												
13-Mar-96	96B										M												
12-Apr-96	96C	M	M	M							M												
18-Apr-96	96D	M	M	M							M												
30-Apr-96	96E	M	M	M							M												
7-May-96	96F										M												
29-May-96	96G	M	M	M							M												
13-Jun-96	96H	M	M	M							M												
4-Jul-96	96I	M	M	M							M												
8-Aug-96	96J	M	M	M							M												
10-Sep-96	96K	M	M	M							M												
15-Oct-96	96L	P	P	P	P	P			P	P	P	P	P	P	X	2	2	2					
13-Nov-96	96M															0	0	0					No data collected
10-Dec-96	96N				P	P			P	P	P	P				0	0	0					CR10 failed.
13-Jan-97	97A																						Onsite panel inop
17-Jan-97																					X		
17-Feb-97	97B																						Repaired onsite panel. No data collected
24-Mar-97	97C																						Blizzard, computer failure, no data
16-Apr-97	97D	P	P	P	P	P			P	P	P	P	P		X	2	2	2					Solar panel damaged, CR10 inactive. Repaired.
25-Apr-97																					X		
31-May-97	97G				P	P					P	P	P	P	X	1	1	1					Re-installed CR10
20-Jun-97	97H	P	P	P	P	P			P	P	P	P	P	P	X	2	2	2					
17-Jul-97	97I	P	P	P	P	P			P	P	P		P	P	X	2	2	2					
18-Aug-97	97J	P	P	P	P	P			P	P	P	P	P	P	X	3	3	3					
13-Sep-97																					X		
15-Sep-97	97K	P	P	P	P	P			P	P	P	P	P		X	2	2	2	X				

Notes

I Denotes data collected and processed by Braun Intertec Corp
P Denotes data collected and processed by ERES Consultants, Inc
I Denotes data collected by Braun Intertec Corp.
X Denotes data collected by ERES Consultants, Inc.
Denotes data collected by Braun Intertec Corp. and processed by ERES Consultants, Inc.
M Denotes data collected by MB-DOT and processed by ERES Consultants, Inc.

Appendix B - SMP Data Sheets

- SMP-D10: SMP Field Activity Report
- SMP-D03: Contact Resistance Measurements
- SMP-D04: Four-Point Resistivity Measurements
- SMP-D05: Ground Water Table Measurement
- SMP-D09: Elevation Measurements - AC
- SMP-M1: Distress Survey of Instrument Area

LTPP Seasonal Monitoring Program Data Sheet SMP-D10 SMP Field Activity Report	Agency Code [83] LTPP Section ID [3802]

Onsite Datalogger and Instrumentation		
File Name - *.ONS	835897KI	Comments:
Battery Replace	Yes - (No)	Voltages 13.4
Repairs/Calib.		
Other: _____		

Mobile Datalogger		
File Name - *.MOB		Comments:
TDR/Resistance Voltages	Sets (0 2)	
Other: _____		

Manual Data Collection		
Piezometer	(Yes) - No	Comments: 4.24 2.605
Resistance 2 pt.	Sets (0 1)	
Resistivity 4 pt.	Sets (0 1)	
Elevations	Sets (0 1)	
Distress Survey	(Yes) - No	
Long. Dipstick Profile	Yes - (No)	
Photos or Video	(Yes) - No	
Other: _____		

FWD and Associated Data		
FWD Testing	Sets (0 2)	Operator: DSP
JCP - Snap Rings	Sets (0 1)	
JCP - Faulting	Sets (— —)	Faultmeter inop.
Other: _____		

IF REQUIRED, ATTACH SKETCHES TO THIS DATA SHEET

Comments: _____

Prepared by: GFE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97 Daylight Savings Time (Y or N): Y

LTPP Seasonal Monitoring Program Data Sheet SMP-D03 Contact Resistance Measurements	Agency Code [83] LTPP Section ID [3802]

Start Time (military): 1105

Test Position	Switch Settings I1 V1	Switch Settings I2 V2	Voltage (ACV) Range Setting	Voltage (ACV) Reading	Current (ACA) Range Setting	Current (ACA) Reading	Comments
1	1	2	m.l	199.2	mic	8.5	
2	2	3		190.0		6.0	
3	3	4		94.1		13.3	
4	4	5		103.4		4.8	
5	5	6		130.6		4.7	
6	6	7		37.7		5.3	
7	7	8		28.2		4.9	
8	8	9		0.2		0.8	
9	9	10		24.5		3.9	
10	10	11		28.8		4.0	
11	11	12		30.3		4.0	
12	12	13		29.6		4.2	
13	13	14		25.6		3.9	
14	14	15		26.1		3.8	
15	15	16		28.1		4.1	
16	16	17		24.7		4.3	
17	17	18		25.9		4.2	
18	18	19		25.4		4.1	
19	19	20		23.6		4.2	
20	20	21		22.9		4.1	
21	21	22		18.5		3.4	
22	22	23		21.1		4.9	
23	23	24		0.1		0.8	
24	24	25		23.5		4.2	
25	25	26		24.9		4.2	
26	26	27		23.0		4.4	
27	27	28		24.5		4.1	
28	28	29		23.8		4.5	
29	29	30		21.7		4.4	
30	30	31		23.4		4.4	
31	31	32		21.2		4.4	
32	32	33		20.7		4.3	
33	33	34		19.1		4.3	
34	34	35		20.8		4.3	
35	35	36		22.4		4.7	
36	36	37		0.1		41.7	R1 =
37	37	38		4.0		36.3	R2 =
38	38	39		36.5		36.4	R3 =
39	39	00		194.2		0.2	R4 =

Note: R = V/I, in ohms; measured resistances should be compared with known values.

Comments: _____

Prepared by: GFE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97

LTPP Seasonal Monitoring Program Data Sheet SMP-D04 Four-Point Resistivity Measurements	Agency Code [83] LTPP Section ID [3802]

Start Time (military): 1115

Test Position	Switch Settings				Voltage (ACV)		Current (ACA)		Comments
	I1	V1	V2	I2	Range Setting	Reading (Volts)	Range Setting	Reading (Amps)	
1	1	2	3	4	auto	11.5	auto	1.5	
2	2	3	4	5		2.8		0.7	
3	3	4	5	6		9.1		1.7	
4	4	5	6	7		3.5		1.4	
5	5	6	7	8		1.9		1.3	
6	6	7	8	9		1.7		1.7	
7	7	8	9	10		1.7		1.4	
8	8	9	10	11		9.1		0.7	
9	9	10	11	12		1.4		1.2	
10	10	11	12	13		1.5		1.1	
11	11	12	13	14		1.4		1.1	
12	12	13	14	15		1.5		1.1	
13	13	14	15	16		1.4		1.1	
14	14	15	16	17		1.3		1.1	
15	15	16	17	18		1.4		1.1	
16	16	17	18	19		1.5		1.1	
17	17	18	19	20		1.4		1.1	
18	18	19	20	21		1.4		1.1	
19	19	20	21	22		1.4		1.1	
20	20	21	22	23		1.3		1.2	
21	21	22	23	24		1.1		1.0	
22	22	23	24	25		1.2		1.1	
23	23	24	25	26		0.1		0.7	
24	24	25	26	27		1.3		1.2	
25	25	26	27	28		1.3		1.1	
26	26	27	28	29		1.5		1.2	
27	27	28	29	30		1.2		1.2	
28	28	29	30	31		1.4		1.2	
29	29	30	31	32		1.3		1.2	
30	30	31	32	33		1.4		1.2	
31	31	32	33	34		1.3		0.9	
32	32	33	34	35		1.2		1.2	
33	33	34	35	36		1.2		1.2	
36	36	36	37	37		0.1		31.4	R1 =
37	37	37	38	38		3.9		27.9	R2 =
38	38	38	39	39		27.5		27.8	R3 =
39	39	39	00	00		150.7		0.2	R4 =

Note: R = V/I, in ohms; measured resistances should be compared with known values.

Comments: _____

Prepared by: GEE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97

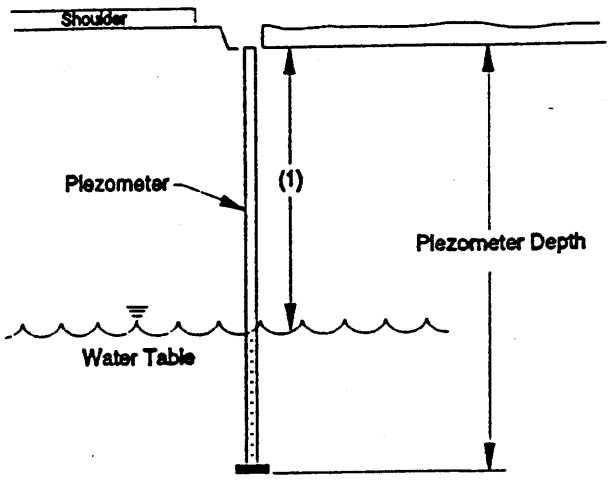
LTPP Seasonal Monitoring Program Data Sheet SMP-D05 Ground Water Table Measurement	Agency Code [83] LTPP Section ID [3802]

Piezometer Depth (m): 4.240

Measurement Number	Time (military)	Depth to Water[1,2] (m)	Comments
1	1030	2.61	
2	____	__.__	

[1] Distance from top of piezometer pipe to top of ground water table; to an accuracy of ±10 mm (0.4 in)

[2] If piezometer pipe is dry or frozen, enter "time" when observation was made, leave "depth to water" field blank, and enter "pipe is dry" or "pipe is frozen" under comments column.



Comments: _____

_____

_____

Prepared by: GFE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97

LTPP Seasonal Monitoring Program Data Sheet SMP-D06 Joint Opening Measurement	Agency Code [83] LTPP Section ID [3802]

Station	Time (military)	Joint Opening (mm) Offset (PE): 0.30 m	Offset (ML): 1.83 m	Offset (ILE): 3.35 m	Joint Width (mm)	
4+41	1127	115.10	115.72	115.39	08.	32
134.4		.10	.72	.39		
		.07	.68	.30		
		.	.	.	.	
		.	.	.	.	
4+60	1135	115.70	114.99	116.45	10.	49
140.2		.72	.99	.47		
		.72	.99	.49		
		.	.	.	.	
		.	.	.	.	
4+77	1147	116.39	115.95	115.73	10.	40
145.4		.39	.95	115.72		
		.39	.96	.73		
		.	.	.	.	
		.	.	.	.	
4+90	1202	116.59	116.58	115.78	09.	34
149.4		116.62	.58	.81		
		.62	.58	.78		
		.	.	.	.	
		.	.	.	.	
5+00	1211	115.53	116.90	115.49	11.	44
152.4		.51	.86	.50		
		.55	.87	.50		
		.	.	.	.	
		.	.	.	.	
5+21	1215	115.65	116.07	116.96	11.	42
158.8		115.67	.09	.95		
		.63	.09	.95		
		.	.	.	.	
		.	.	.	.	

Comments: Many repeat tests for FWD

Prepared by: GFE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97

LTPP Seasonal Monitoring Program Data Sheet SMP-D09 Elevation Measurements - PCC	Agency Code [83] LTPP Section ID [3802]

Type of Instrument: NA 2000

Start Time (military): 1240

BM	Station	BS	HI	IFS	FS	ELEV	CLOSE
Piez.	4+85	1.2041					
Other							

	Station	Offset (PE): 0.30 m	Offset (ML): 1.83 m	Offset (ILE): 3.35 m	Comments
4.4	4+41	0.9416	0.9131	0.8894	BJ
7.2	4+50	0.9510	0.9183	0.8953	MP
0.2	4+60	0.9515	0.9232	0.8995	BJ
0.3	4+60	0.9577	0.9262	0.8993	BJ
2.3	4+67	0.9593	0.9283	0.9025	MP
5.4	4+77	0.9558	0.9270	0.8999	BJ
5.5	4+77	0.9561	0.9268	0.8994	BJ
6.9	4+82	0.9511	0.9209	0.8959	MP
9.4	4+90	0.9439	0.9158	0.8902	BJ
9.5	4+90	0.9441	0.9162	0.8913	BJ
0.9	4+95	0.9463	0.9209	0.8953	MP
2.4	5+00	0.9392	0.9188	0.8942	BJ
2.5	5+00	0.9385	0.9192	0.8934	BJ
5.8	5+11	0.9416	0.9185	0.8971	MP
8.8	5+21	0.9388	0.9166	0.8956	BJ

Comments: _____

Prepared by: GFE Employer: ERES/NCR

Date (dd/mmm/yy): 15/SEP/97

8 3 S B 9 7 K

LTPP Seasonal Monitoring Program Data Sheet SMP-M1 (Page Distress Survey of Instrumentation Area	Agency Code [83] Test Section Number [3 8 0 2]

Rate the condition of the instrumentation area (check one):

X Good (little or no distress; repairs are not required in the immediate future)

___ Poor (significant distress, repairs required now or in the immediate future)

List any repairs (type and extent) done since instrumentation installation and/or last survey of instrumentation area: None

Additional Comments: None

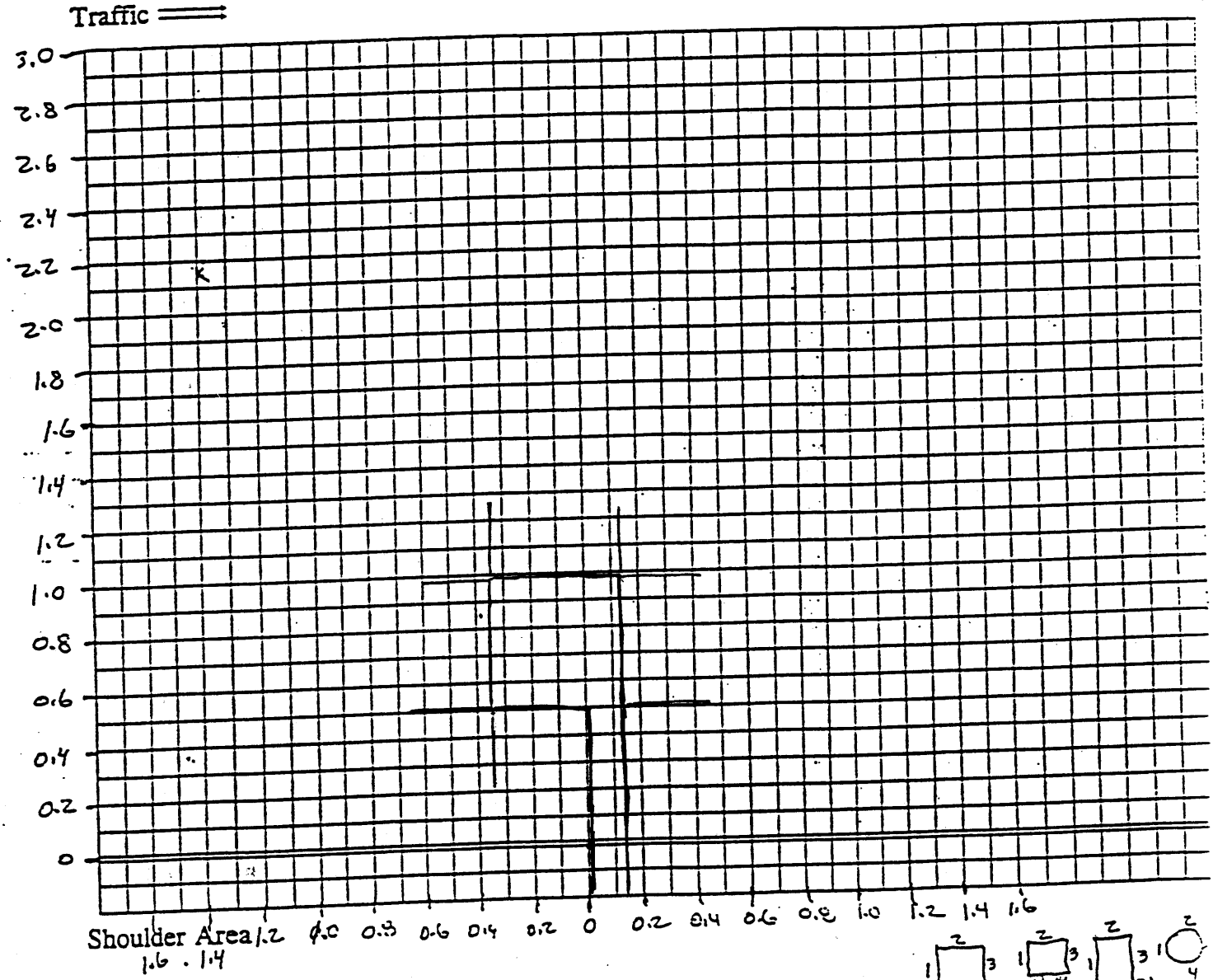
Prepared by: GFE Employer: ERES/NCR

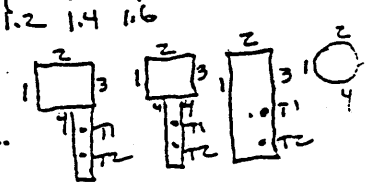
Date: 15 / Sep / 97

8 3 S B 9 7 K

LTPP Seasonal Monitoring Program Data Sheet SMP-M1 (Page Distress Survey of Instrumentation Area	Agency Code [83] SHRP Section ID [3892] Survey Date [15 SEP 97]

Use grid below to sketch distresses within 1.5 m (5 ft) of instrumentation block/hole and trench. Use LTPP Distress Identification Manual to extent possible. (Note: each square in grid equals 0.1 m by 0.1 m area)





Use table below to record settlement of pavement in instrumentation area.

Measurement Device: DIPSTICK / STRAIGHT EDGE

Location	Settlement, mm			
	Location 1	Location 2	Location 3	Location 4
Instrumentation block/hole	0.0	2.0	0.0	1.0
Trench	-2.6	-1.0	n/a	n/a

Appendix C- Site Information Sheet (SIS)

833802 - 83SB

LOCATION - PTH-75 NB Lanes, 15 Miles South of Winnipeg, MB
CONTACTS - Roger Sutyla (204) 326-4434, Dennis Watson (204) 945-3160
TEMP HOLES - Sta 5+03, Depths are about 1.3", 5.3", and 9.4" (PCC thickness = 9.75")

TEST LOCATIONS:	J1	J2	J3	J4	J5
	450	442	450	441	442
	467	459	466	460	461
	482	474	480	477	478
	495	487	493	490	491
	511	501	BLK	502	503
	--	--	--	520	521

DISTRESS COMMENTS:

Sta J1 - Midpanel tests.

495 JOINT 1' IN FRONT OF D7
511 LP ADJACENT TO INSTRUMENTATION HOLE

Sta J2 and J3 - Corner and Mid-edge tests.
(none)

Sta J4 and J5 - Load transfer tests in the OWP.
(none)

PIEZOMETER - Sta 4+85, 2.0 feet from edge of paved shoulder, Depth = 4.223M,
(Located longitudinally at midpanel of third panel tested.)

ELEVATIONS - No DOT BM

Offsets:	PE	ML	ILE
(M)	0.30	1.83	3.35
(ft)	1.0	6.0	11.0
	(hole)	(hole)	(hole)

Sta: -- BJ/AJ 441 460 477 490 500 521
-- at MP 450 467 482 495 511 --
-- only AJ @ 441 and only BJ @ 521

FAULTMETER

Offsets:	OWP	ML	IWP
(M)	0.76	1.83	2.90
(ft)	2.5	6.0	9.5

Sta: 4+42, 4+60, 4+77, 4+90, 5+01, 5+20

COMMENTS -- Traffic control - Rick Hilderbrand (home) 746-2856.
-- MRC #1 failed spring of 1995.