

### APPENDIX 3 - EXAMPLE FIELD BOOK RECORDS

General Requirements .....	3-3
Identification Page and Index Page.....	3-9
Inspector Information and Party Information.....	3-9
Project Diary Record .....	3-11
Final Cross-Sections Roadway Final Closure Notes .....	3-11
Final Cross-Sections Borrow Pit How to Wrap Section Closure Shots (StaM) .....	3-12
Slope Stake Book.....	3-12
Blue Tops.....	3-13
Pavement Grades .....	3-14
Mobilization and Field Laboratory Records .....	3-15
Estimate Quantities Excavation.....	3-15
Grading Diary .....	3-16
Large Tree Removal ( Rarely Used).....	3-17
General Clearing & Grubbing .....	3-17
Driveway Culvert Pipe Record.....	3-18
Pre-Watering Computations .....	3-19
Calibration of Water Equipment .....	3-19
Water, Applied Record, Meter .....	3-20
Water, Applied Record, Truck .....	3-20
Clear Tract Record and Remove Building Record.....	3-20
Select Placement Record and Undercut Excavation .....	3-21
Record of Right-of-Way Markers .....	3-22
Covercrop Seeding Record .....	3-23
Erosion Control Record .....	3-24
Hay Bale Erosion Checks Record .....	3-24
Shipping Record and Summary Asphaltic Oil or Cement .....	3-25
Distribution of Asphaltic Oil or Cement.....	3-26
Daily Scale Check, Digital or Platform Scale .....	3-26
Trimming Tolerance Checks and Record of Density Samples.....	3-27
Record of Pavement Patching and Equipment Rental Record.....	3-28
Cement Car Shipment Record and Record of Cure Compound.....	3-29
Cure Inspector Entry.....	3-29
Ready Mix Truck Checks and Shipping Record .....	3-30
Record for Culvert Pipe .....	3-31
Culvert Summary.....	3-32
Summary of Culverts -- Group 4.....	3-33
Weekly Accumulative Totals .....	3-34
Estimate Quantities Record	
Culvert Pipe Summary.....	3-35
Staking Information .....	3-35
Excavation Record	
Bridge Summary.....	3-36
Concrete Protection Barrier Rail, Cold Weather Concrete Temperature Data, and Sheet Piling Record, .....	3-37
Concrete Placement Record, Form and Reinforcing Steel Inspection Record and Structural Steel Record .....	3-38
Seed Received and Seeding Diary Records .....	3-39



Seeding Measurement Record .....	3-40
Fertilizer Records .....	3-40
Mulch Received Record .....	3-41
Mulch Placed Record .....	3-42
Nuclear Densities QA/QC .....	3-43
Asphalt Plant Book Records Daily Plant Records .....	3-44
Excavation Record for Estimating Purposes Only (Not for Final Payment Measurements)...	3-45
Summary of Pavement Items .....	3-45
Sign Day Records .....	3-46
Sign Day.....	3-46
Barricade Records.....	3-47
Type III Barricades .....	3-47
Group Signs .....	3-48



## **APPENDIX 3 - FIELD BOOK RECORDS**

### **General - Field Book Requirements**

**The most important entries in the field books and diaries are records of conversations with the contractor especially when agreements are made. Most agreements made in the field should be documented in a diary or field book and both the inspector and the contractor should sign the entry.**

**It is fairly easy to remeasure or estimate material quantities and those entries although important are reproducible. This is not the case with agreements.**

**Verbal agreements are frequently misinterpreted or forgotten with significant adverse consequences so get them in writing.**

The examples of field book records included in this division are intended as examples that fulfill the minimum record requirements. It is not mandatory that these exact methods be used. when they are not used, the Project Manager shall ascertain that the minimum requirements for contract records are being satisfied. If you have a simpler or better method for any of these records you are encouraged to submit examples of your method to the Construction Office for possible inclusion in this manual.

Book number, project number, project location, contractor when applicable, book name, field district, property of notation, addresses and telephone numbers are required inside the front covers of all books. All books will be indexed and have the pages numbered. Project Managers Diaries shall be the first books in the numbering sequence. Inspectors Diaries can be any number/numbers after Project Manager Diaries.

Field books for each contract should be numbered in sequence as the final documents for all groups included in a contract are submitted to the Construction office in one transmittal. The binding edge of the field book should not be marked because identification for storage in the archives will be listed there by the Construction office. Utility diary records should not be numbered or submitted with the final documents. they should be sent directly to the Utilities Officer when the utility rehabilitation is complete.

Erasures shall not be made in source documents. This includes field books. If a corrected entry is made, a line should be drawn through the original entry without obliterating it and the correct information written above, below or to the side of the original entry. Erasures destroy the legal validity of the records. Records with erasures are not admissible as evidence in a court of law.

The examples in this section have been grouped together under subheadings of groups of work that generally require the example records. Similar records may be required for other than the groups of work used in this index.

### **General Information**

**Project Records and Reports (Except Measurement and Payment Records -- Included in Section 109)**



- A. General - The project construction records are the basis for all claims for reimbursement under the contract and they verify that the work conforms to the requirements specified. Accordingly, they should be authentic, complete, understandable and open only to the interpretation intended by the recorder. The project manager shall outline to his assistants the manner in which the various records should be kept and should make certain that they are being properly and adequately maintained. It is the responsibility of the project manager to see that the project records are accurate and complete.

## MEASUREMENT OF PAY QUANTITIES AND RETENTION OF RECORDS

### **Measurement of Pay Quantities**

Measurements in the units prescribed in the Specifications shall be entered directly in the proper field book. Each entry must include the date, type of work covered, location, proper measurements, and extensions. Names or initials of each inspector making measurements must be included. Each entry shall close with the signature of the individual who makes the entry. The location should be accurately identified by means of station numbers, right or left side, pier number, etc.

Computation of areas, volumes, or lengths should be checked by a different inspector using the figures entered in the field book. All checks are to be initialed by the inspector making this verification.

Specifications provide that some items, such as reinforcing steel and structural steel, are to be paid on the basis of design mass. Other items to be paid on a mass basis must be supported by scale tickets. Scale tickets are to be authenticated by an inspector or scalemaster at the point of measurement and again at the point of delivery at the job site by the project inspector. For small quantities 200 Mg or less/day of granular material delivered to the job site, minimum acceptable authentication may be initialing by the inspector of the scale ticket at the point of delivery.

Quantities for each contract item and all extra work must stand on their own merits in every case. Payment for legitimate work by means of increasing quantities on another item to equal the money is not permitted.

### **Retention of Records**

Project records retention is according to the current NDR Records "DOR1". The required retention periods are minimums and may be increased at the direction of the District Engineer. The Controller Office will notify field offices of the date of final reimbursement.

At the time project files are disposed of by the Project Manager, some project data may be determined to be of value in future years and selected for future retention, preferably in the District Engineer's files. Examples include correspondence on drainage problems, notice of pending litigation, or adjacent property owner concerns about the right-of-way.



After completing a project, prepare the final estimate, complete the as-built plans, assemble all field books relating to that project (including diaries, cross-section notes, bridge and culvert inspection books, paving, grading, right-of-way, etc.) and then ship the documents with a copy of the final estimate to the Construction Division.

Payrolls and scale tickets are to be stored in each District and are not to be forwarded to the Construction Division.

### PROJECT DIARY

The project manager's diary is one of the important records of any project. It shall be kept daily and show the following information: Date, day of the week, year, progress of the work and any data not covered in other records which might have a bearing should any details come into dispute. It shall be signed (not initialed) by the party making the entry. The diary shall also contain the following:

1. Weather conditions during the day, noting rain, exceptional wind, maximum and minimum temperatures, etc. If possible, show amount of rainfall.
2. Major developments of any important matters pertaining to the contract.
3. Any understanding with the contractor or his representative.
4. Record of important conversations or verbal discussions with the contractor relative to the work. These statements shall be specific, an entry as: "Told the contractor that \*\*\*" is not satisfactory, whereas, "I told Jones that \*\*\*" is satisfactory; or "The contractor seems to feel that his progress is satisfactory" should be written, "Jones said that he is not worried, that he will make up for lost time in June and July with more men on the job". A general conclusion as to the effect of a conversation in not helpful; whereas a statement of the conversation is important.
5. Important verbal instructions should also be confirmed by letter.
- \* 6. Dates on which major equipment or sizeable work forces are moved onto or away from the job.
- \* 7. List general location where equipment is working each day, and a record of major equipment not working or idle for repairs.
8. List the controlling operation each day.
9. Detail information regarding equipment and cost of exploratory work made by the contractor on any state designated pit. The Construction Division will then have supporting information on costs submitted by the contractor in case he is obliged because of inadequate or unsuitable material to move to a new location.
10. Agreements with property owners shall also be entered in the diary.



11. Official visitors and inspections.
12. Work or materials rejected and reasons.
13. Time of shutting down of work or resuming of work and explanations.
14. Account of any time spent by contractor's men or equipment on disputable items or work.
15. Length or cause of any delay.
16. Record of telegrams and telephone calls.
17. Unusual conditions, if any, such as high water, bridge failures, slides, etc.
18. Running total of working days.
19. Progress of surveying and staking.
20. All Internal Time Allowance information. A separate Project Manager diary shall be kept for each time allowance in the contract.

[\*May be recorded in inspector diaries by inspectors.]

The diary information shall be recorded in a bound field notebook. Other contract records may be contained in the diary. Separate field notebooks are required for diary information pertinent to each contract time allowance. Subcontractor diary records shall be included with the diary record of the prime contractor. The diary shall be available to department and Federal Highway Administration personnel on their visits to the project. The diary must be submitted with the project records and final computations.

#### FIELD NOTEBOOKS

1. General - All measurements, placement records and other information, except certain test results, taken in the field shall be entered directly in a bound field notebook and initialed and dated. It will not be permissible to enter any records or loose sheets, etc., and later copy them in a bound notebook. All records shall be legible. No erasures shall be made in the records. Erasures destroy the value of the notes in case of legal disputes. Any corrections in the notes shall be made by drawing a line through the original entry in such a manner that it will remain legible.

Inspector I.D. page is required.

The inside of the front cover of each notebook shall be labeled to indicate the project number, book number and the character of the notes, or records therein. Do not write on the outside of the notebook cover with ink as they will be permanently labeled on reaching the Lincoln Office. The project manager's diary record must be lowest book



numbers in a set of books. Do not use numbers preceded by letters, i.e. 1-A, as this confuses the book of books' numbering. The project manager's name and address, and the return address of the department shall be shown on the inside of the cover. Each leaf in the notebook shall be numbered; the first two to four pages to be reserved for indexing.

Separate notebooks and field records shall be kept for each project or group of projects under one contractor and for each contract awarded on the same project. Each contract may then be submitted individually as soon as work is completed.

Colored pencils shall be reserved for use in the District and Construction Offices and should not be used for any computations or checking of notebooks in the District offices.

2. Survey Staking Notebooks - The date and names of each member of the survey party performing the work shall be recorded at the beginning of each day's work and each page of notes should be dated when the work is performed. The job performed by each person may be recorded graphically:

7-13-96

Notes - J. P. Doe

Transit - R. A. Johnson

Rod - M. A. Smith

Chain - T. R. Brown

3. Inspection Notebooks - Field notebooks pertaining to construction inspection should include the name of engineering personnel inspecting work items or operations, particularly those for which inspection is not documented by printed work report forms or test reports which would be signed and dated by the person inspecting the work. Typical examples of work items or operations which may not be documented by reports are placement of reinforcing steel and forms for structures, backfilling structures, bridge painting, rolling of armor coat, seeding and slope protection work.

The construction and finish of such work items or operations shall be done in accordance with specified requirements and should be attested to by the engineer inspecting and approving the construction, include the date of such inspection. In order that the same methods are used statewide, use the following method of documentation: For each section or pour, a notation shall be made in the notebook attesting to the acceptance of that portion of work to the effect that "forms and reinforcing steel have been inspected and are in accordance with the specified requirements". A brief description of the section or pour covered, date, and inspector's signature must be included.

An inspector's diary record shall be included in the field inspection notebooks for contractor's operations. Example - concrete paving



operation with five inspectors, only two diary records will be required, one for roadway operations and one for plant operations.

4. As Built Plans - As builts shall be a full size set of plans. They are prepared and submitted as a part of the final records for each project. They are used as a reference in checking the final quantities and also as a reference for future construction. They should be complete and accurate. The preparation of as built plans is covered in Subsection 109.11, Paragraph VIII. of this manual.

## Metric Survey Guidelines

### Alignment:

Station = 100M with +25 +50 +75 between stations.

For curves, use soft conversion (to convert foot distance to meters, divide by 3.2808333 or multiply by 0.30480061).

### Levels:

Accuracy:      1st order = .003M V Kilometers  
                     2nd order = .007M V Kilometers  
                     3rd order = .010M V Kilometers (most work)

### Three Wire Levels:

Rod readings to thousandths (3.102).

Difference between top hair and middle hair to bottom hair can be 4 mm (.004).

### Cross Sections:

Dirt Shots: Read to nearest hundredth of a meter (3.11)

Hard Surface Shots: Read to nearest thousandth of a meter (3.105).

### Topography:

Station plus (+) to nearest tenth of a meter (20.1)

Distance Rt./Lt. to nearest tenth of a meter (20.1)

Critical items measure to nearest hundredth of a meter (20.02)

### Scale for Topog

1 mm = 1 m	is	1 to 1000
2 mm = 1 m	is	1 to 500



## Identification Page and Index Page

<b>Group 1 Grading Book #7</b> <b>FIELD or TRANSIT BOOK</b>		<b>Index</b>	
		<i>Index</i>	<b>Pg. No.</b>
Property of	<i>Nebr. Dept. of Roads</i> <i>Box 94759</i> <i>Lincoln, NE 68509</i>	<i>Index</i>	1
Address	<i>James E. Erin</i> <i>Box 77</i> <i>Smith Square, NE 68881</i>	<i>Index</i>	2
Telephone	<i>(308) 741-3999 Office</i> <i>(308) 741-4112 Home</i>	<i>Index</i>	3
		<i>Construction Balance Information</i>	4
		<i>Estimate Quantities Excavation</i>	5
			6
			7
			8
			9
		<i>Type III Barricades Required</i>	10
		<i>Type IV Barricade Record</i>	11
		<i>Group 1</i>	12
			13
			14
			15
			16
			17
		<i>Clearing and Grubbing Reward</i>	18
		<i>Clearing and Grubbing Reward</i>	19
			20
			21
			22
Project RS-601-1(102) Smith Square - North Contractor - O.K. Contractors District 4		This type of index can be kept current if entries are indexed as they are added to the book.	
This book is manufactured of a High Grade 50% Rog Paper having a Water Resisting Surface, and is sewed with Nylon Waterproof Thread.			

## Inspector Information and Party Information

<u>Inspector Information</u>			
<i>Date</i>	<i>Printed</i> <i>Inspector's Name</i>	<i>Job</i> <i>Title</i>	<i>Inspector's Signatures Used</i>
4-4-96	Stanley D. Donnelson	EA II	S.D.D., S.D.D. & Stanley D. Donnelson
4-1-96	Ivan C. Smith	Constructor's Supt.	I. C. Smith
4-7-96	Donald D. Dugger	EA I	D.D.D., D.D.D., & Donald D. Dugger
5-9-96	Joseph L. Lunar	PM II	J.L.L. & J. L. Lunar
This information should be shown in each field book, for inspectors making entries in the book.			
<u>Contractor</u>			
			4-1-96
			T. E. Simm
This information should be entered on the first page of Survey Records for a day.		This information should be entered on Subsequent pages of Survey Records for a day.	







## Project Diary Record

3-29-96 Friday

Mr. John Goodhammer (Keywitt Const.) requested that wet unsuitable material be replaced with granular fill at Sta. 101+25.020 to Sta. 101+35.010. Estimated volume is 2000 m<sup>3</sup>.

I. M. Good, P.M., gave the contractor permission to remove 2000 m<sup>3</sup> of unsuitable material.

x \_\_\_\_\_

I. M. Good, P.M.

x \_\_\_\_\_

John Goodhammer, Keywitt Const.

## Project Diary Record

*Date: Thursday, 4-21-96*

*Weather: Cloudy & Cool*

*C.C.O.: Finishing Sta. 16+ to 43+*

*Hours Worked C.C.O.: 0 Hrs. 7-6+10 1/2 Other*

*Working Day No Total W.D. to Date 18*

*Official Visitors: Mr. R. T. Dooley DCE and*

*Mr. F. D. Good, DE Foreman*

*Subcontractor, Water-Well, Inc.*

*Working on prewatering from Sta. 330+ to 360+ with women, one pickup, pipe and pump. Moving pipe most of morning 9 hrs. work for men.*

*The contractor worked on clearing and grubbing with three men, one D-7 dozer and one pickup from Sta. 268+ to 300+, worked on rough grading with nine men, four DW-31 scrapers, two patrols, one self-propelled sheepsfoot roller and one pickup, two men worked on repairing water trucks & tractor and drill for covercrop, one mechanic and one greaser also working. Rough grading from Sta. 83+ to 110+ today. No water hauled as soil moisture good from yesterday rain. No working day charged as too wet from rain (1 1/2") yesterday to finish 750,000 m<sup>2</sup> plus open. Blue tops set today from Sta. 43+ to 80+.*

*DE & DCE looked at trees to be saved left Station 412+ to 417+ and concurred that trees as marked and counted are okay.*

*J. P. Jones*

*H.P.M.*

A project diary is required for each Time Allowance included in the contracts for a project. Diary entries may be made prior to the date the contractor begins work on the Project in order to document informal discussions with the contractor's representatives, landowners or other interested parties. Diary entries shall begin on the day the contractor begins work on the project or the Notice to Proceed beginning date whichever is first. Diary entries, for such minor preliminary work as the stockpiling of aggregates or the moving of equipment onto the project site, are not required. Diary entries should be made for all other work done on the project, including the setting of signs and placing of barricades regardless of whether or not the work is a pay item.



## Final Cross-Sections Roadway Final Closure Notes

HI's checked & OG & Red T.T.B. 5-7-96										4-26-96						
Checked Red R.L.L. 5-9-96										R.L.L.						
1009+91	Correct Prelim. Lt. to Elev. 1243.340 m @ 24.384 m SS Book #2 Pg. 19	3 <sup>8</sup> 78 OG C	4 <sup>5</sup> 66 OG	5 <sup>1</sup> 57	4 <sup>55</sup> 28 5	4 <sup>60</sup> 20 5	4 <sup>32</sup> 0 5	4 <sup>55</sup> 20 5	5 <sup>00</sup> 43 5	5 <sup>7</sup> 50	4 <sup>7</sup> 56 OG C	5 <sup>2</sup> 82 OG				
BM #12	+59.10 1244.520 Corr. To 1242.7180 Transit 04.070 1212.7120															
	76.1															
	75.8															
1009+56	3 <sup>1</sup> 106 OG 78.1 72.4	4 <sup>32</sup> 96 5 77.5 78.0	4 <sup>55</sup> 84 S C	4 <sup>98</sup> 65 S	5 <sup>12</sup> 49 S	4 <sup>87</sup> 35 S	4 <sup>62</sup> 20 S	4 <sup>37</sup> 0 S	4 <sup>62</sup> 20 S	4 <sup>99</sup> 40 S C	4 <sup>56</sup> 60 S	4 <sup>45</sup> 81 S	5 <sup>1</sup> 95 OG	5 <sup>4</sup> 102 OG 75.6 76.2		
1009+42	3 <sup>8</sup> 117 1.25° Curve Rt.	3 <sup>1</sup> 105 OG	3 <sup>2</sup> 97	3 <sup>7</sup> 82	5 <sup>3</sup> 74	6 <sup>2</sup> 66	5 <sup>60</sup> 58	5 <sup>11</sup> 40	5 <sup>41</sup> 27	4 <sup>73</sup> 20	4 <sup>96</sup> 0	5 <sup>98</sup> 20	6 <sup>21</sup> 40	6 <sup>2</sup> 56	6 <sup>0</sup> 63	5 <sup>0</sup> 66 67 OG OG C
	1243.9530 Transit															

## Final Cross-Sections Borrow Pit How to Wrap Section Closure Shots (StaM)

Borrow Pit #1										HI's checked & Red TID 4-25-96 Checked Red R.L.L. 4-25-96																
3-3-96 Ptly. Cldy.-Wind-Cold R. S. Smith (Transit) 1 T. T. Dome (Rod) 8 J. S. Lane (Chain)      138+00      Lt.      8 <sup>8</sup> 6 <sup>0</sup> 4 <sup>8</sup> 3 <sup>5</sup> R. L. Lane (Notes)      400      382      367      353																										
138+00	0 <sup>4</sup>	0 <sup>7</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>5</sup>	1 <sup>5</sup>	3 <sup>2</sup>	5 <sup>1</sup>	4 <sup>6</sup>	4 <sup>4</sup>	4 <sup>4</sup>	4 <sup>2</sup>	3 <sup>2</sup>	3 <sup>1</sup>	3 <sup>1</sup>											
	* 139	137	174	191	200	202	202	220	237	253	273	290	300	317	335											
	OG	OG																								
138+00	0 <sup>7</sup>	1 <sup>6</sup>	2 <sup>6</sup>	4 <sup>1</sup>	5 <sup>5</sup>	6 <sup>6</sup>	6 <sup>5</sup>	7 <sup>2</sup>	7 <sup>8</sup>	7 <sup>8</sup>	7 <sup>0</sup>	8 <sup>0</sup>	8 <sup>1</sup>	8 <sup>0</sup>	8 <sup>0</sup>	8 <sup>1</sup>	8 <sup>2</sup>	8 <sup>4</sup>	8 <sup>5</sup>	8 <sup>7</sup>	8 <sup>7</sup> Rt.					
	129	100	86	70	53	37	27	17	0	8	25	42	57	72	90	107	126	145	160	180	200					
									L											OG	OG					
137+00				Rt.	8 <sup>2</sup>	8 <sup>7</sup>	8 <sup>5</sup>	8 <sup>0</sup>	6 <sup>1</sup>	6 <sup>1</sup>	6 <sup>0</sup>	6 <sup>0</sup>	6 <sup>1</sup>	5 <sup>9</sup>	5 <sup>8</sup>	5 <sup>4</sup>	4 <sup>9</sup>	4 <sup>7</sup>	4 <sup>7</sup>	4 <sup>5</sup>	4 <sup>0</sup>					
				200	183	163	144	126	109	89	71	55	35	17	0	28	46	64	80	100						
				OG	OG																					
137+00 Lt.	4 <sup>0</sup>	4 <sup>2</sup>	4 <sup>0</sup>	1 <sup>6</sup>	0 <sup>3</sup>	+0 <sup>7</sup>	0 <sup>9</sup>	0 <sup>6</sup>	6 <sup>1</sup>	6 <sup>1</sup>	6 <sup>0</sup>	6 <sup>0</sup>	6 <sup>1</sup>	5 <sup>9</sup>	5 <sup>4</sup>	4 <sup>9</sup>	4 <sup>7</sup>	4 <sup>7</sup>	4 <sup>5</sup>	4 <sup>0</sup>						
	400	393	373	350	332	316	380	283	267	252	236	219	208	203	200	180	160	137	112							
	OG	OG																								
TP Stake on Base Line 137+00										+7.19					1256.172					-7.110					1249.038	
										1256.148																
										Transit																

\* Arrows are helpful.

\* Arrows are helpful.



## Slope Stake Book

PROJECT NO. T-130(17)		*RDS* PLAN DATA				Page 1
Station	Lt. Cut Stake	Lt. Fill Stake	CL	Rt. Full Stake	Rt. Cut Stake	
931+60 CLE=53.8 -0.9    -0.9 @ 27.0 @ 27.0	C 1.0 @ 53.1 TO ELEV. 50.8 BS = 3.0 TBS = 50.0 10.0 FBD		F    1.4		C 3.0 @ 00.7 TO ELEV. 50.8 BS = 3.0 TBS = 50.0 10.0 FBD	
931+60 CLE=52.1 -0.9    -0.9 @ 27.1 @ 27.1	C 3.3 @ 60.0 TO ELEV. 50.2 BS = 3.0 TBS = 50.0 10.0 FBD		F    1.0		C 2.5 @ 57.0 TO ELEV. 50.2 BS = 3.0 TBS = 50.0 10.0 FBD	
931+0 CLE=52.1 -0.8    -0.8 @ 27.0 @ 27.0 -3.3    -3.3 @ 41.8 S 41.8		F    1.0 @    45.7 FS =    4.0 TO HP	F    3.7	F    0.2 @    42.7 FS =    0.0 TO HP		

PROJECT NO. T-130(17)				4-13-96 *RDS* STAKING DATA J. Jones		Page 2	
Station	Lt. Hub	Lt. Cut Stake	Lt. Fill Stake	C.L.	Rt. Fill Stake	Rt. Cut Stake	Rt. Hub
931+60 60.0 60.9 53.8 50.8 7.1 10.1	7.1 4.8 @ 2.3 C to H	10.1 9.2 0.9 C 52.7 3:1 10' FB	8.7 8.0 0.6 8 30.6 6:1	8.4 7.1 F 1.3	8.5 8.0 0.5 C 30.0 6:1	10.1 6.6 3.5 C 60.5 3:1 10' FB	7.1 5.3 1.8 C 66.3 H
TP Hub 65' Rt. Sta. 931+00 TBS = 50			+7.47	1860.85	-6.36 1853.38	TBS = 50	
931+60 59.7 59.7 53.2 50.8 6.5 9.5	6.5 5.2 C 1.3 C H @ 70	9.5 6.1 3.4 C 60.2 3:1 10' FB TBS = 50	8.0 7.4 0.6 C 30.6 6:1	8.4 7.1 F 1.9	8.2 7.4 0.8 C 31.2 6:1	9.5 7.0 2.5 C 57.5 3:1 10' FB TBS = 50	6.5 6.4 1.8 C 6.3 H
930+0 59.74 52.1 7.6	13.8 7.6 C 6.2 C H @ 70		8.4 13.0 11.7 1.3 47.0 4:1	11.4 7.6 F 3.8 1859.74 Transit	8.4 12.1 11.7 0.4 44.2 6:1		12.6 7.6 5.0 F 65 H



## Blue Tops

4-13-96 J. L. From				
PROJECT NO. T-130(17)		RD BLUE-TOPS		Page 3
STATION RDWY.	LEFT SHLD.	LEFT EDGE	RIGHT EDGE	RIGHT SHLD.
435+0.0 A CL = 4254.880 <u>58.780</u> 3.900 <u>3.890</u> C 0.040	-0.65 @ 22.0 4.550 <u>4.500</u> C 0.050	-0.24 @ 12.0 4.140 <u>4.100</u> C 0.040	-0.24 @ 12.0 4.140 <u>4.150</u> F 0.010	-0.65 @ 22.0 4.550 <u>4.660</u> F 0.110
435+0.0 A CL = 4254.130 <u>58.780</u> 4.650 4.610 C 0.040	-0.65 @ 22.0 5.300 <u>5.170</u> C 0.130	-0.24 @ 12.0 4.890 <u>4.780</u> C 0.110	-0.24 @ 12.0 4.890 <u>4.900</u> F 0.010	-0.65 @ 22.0 5.300 <u>5.350</u> F 0.050
931+95.00 A CL = 4254.09	-0.56 @ 22.0	-0.25 @ 12.0	-0.25 @ 12.0	-0.65 @ 22.0
			Correct -6.14	(4249.710) 4249.720 Transit
BM #17	+9.07	4258.78		



## Pavement Grades

F(130)17		RDS PAVEMENT GRADES			PAGE 2
STATION		LEFT EDGE	CENTERLINE HI	RIGHT EDGE	
931+75.000		59.680	59.680	69.680	4-13-96
		4254.310	4254.550	4254.310	Mild
		5.370 GR	5.130 GR	5.370 GR	J. R. Smith
		5.320	5.100	5.380	T. S. Bliss
		C0.050	C09.030	F0.010	J. B. From
931+50.000		59.680	59.680	59.680	
		4254.080	4254.320	4254.080	
		5.600 GR	5.360 GR	5.600 GR	
		5.620	5.400	5.600	
		F0.020	F0.040	C0.000	
931+25.000		59.680	59.680	59.680	
		4253.850	4254.090	4253.850	
		5.830 GR	5.590 GR	5.830 GR	
		5.810	5.600	5.800	
		C-0.002	F 0.01	C-0.03	
TP RT. STA. 931+000		+6.110 4259.68		-2.040 4258.57	
		Transit			
931+0.000		55.610	55.610	55.610	
		4253.610	4253.350	4253.610	
		2.000 GR	1.760 GR	2.000 GR	
		2.210	1.800	2.040	
		F0.210	F0.04	F0.040	
		4255.61 Transit			
F(130)17		RDS PAVEMENT GRADES			PAGE 3
STATION		LEFT EDGE	CENTERLINE HI	RIGHT EDGE	
932+75.000		59.680	59.680	59.680	
		4255.100	4255.340	4255.100	
		4.580 GR	4.340 GR	4.580	*Grade Rod should be) identified. (GR)
		4.550	4.400	4.610	
		C0.030	F0.060	F0.030	
932+50.000		59.680	59.680	59.680	
		4254.920	4255.100	4254.720	
		4.760 GR	4.520 GR	4.760 GR	
		4.560	4.500	4.500	
		C0.200	C0.020	C0.260	
932+25.000		59.680	59.680	59.680	
		4254.720	4254.960	4254.720	
		4.960 GR	4.720 GR	4.960 GR	
		4.920	4.700	4.500	
		C0.040	C0.020	C0.460	
932+0.000		59.680	59.680	59.680	
		4254.520	4254.760	4254.520	
		5.160 GR	4.920 GR	5.160 GR	
		5.100	4.900	5.090	
		C0.060	C0.020	C0.070	







### Mobilization and Field Laboratory Records

<u>Group 1 - Mobilization</u>	<u>Group 10 - Field Lab</u>
<p>Item No. 3 - Mobilization 1 Lump Sum</p> <p>Contract Price = \$ 8,500.00</p> <p>5% Group = \$13,6550.00</p> <p>5% Group = 50% pay = \$ 4,250.00</p> <p>10% Group = 100% pay = \$ 8,500.00</p> <p>3-10-96</p> <p>Contractor begin moving equipment to the project. T. T. Smith</p> <p>3-23-96 6% of group work T. T. Smith complete.</p> <p>3-30-96 over 10% of group complete pay all at this item. T. T. Smith</p> <p>Final Quantity 1 Lump Sum</p> <p>Comps T. T. Smith 3-28-96</p>	<p>Item No. 2 - Field Laboratory</p> <p>Type "C", 1 each @ \$300.00</p> <p>3-11-96</p> <p>Set up on job and inspected at Station 17+50 T. T. Smith</p> <p>3-23-96 Estimate 100% T. T. S.</p> <p>3-31-96 moved to Sta. 84+60 T.T.S.</p> <p>4-18-96 moved to Sta. 270+10 T.T.S.</p> <p>5-10-96 finished with lab and contractor advised. Removed D.O.R. equipment T.T.S.</p> <p>Final Quantity 1 Each</p> <p>Comps T.T.S. 3-30-96</p>

### Estimate Quantities Excavation

Plan Balances Sta. to Sta.	Plan Quantity Excavation (m <sup>3</sup> )	Estimate #1		Estimate #2		Estimate #3		Estimate #4		
		%	m <sup>3</sup>	%	m <sup>3</sup>	%	m <sup>3</sup>	%	m <sup>3</sup>	
5+73 25+10	21,000	40	8400	90	18900	95	19950	100	21,000	#1 3-15-96 #2 4-1-96 #3 4-5-96 finish grade to Sta. 120
25+10 72+160	71,045	10	7105	90	63941	95	67493	100	71,045	
72+60 98+05	14,310			90	12879	95	13594	100	14,310	
48+05 117+40	14,989			90	13490	95	14240	100	14,989	
117+40 147+00	37,005			80	29604	95	33305	100	37,005	
147+00 170+00	24,063			15	3609	90	21657	100	24,063	
170+00 211+00	48,702					90	43832	100	48,702	
211+00 224+76	9,574					90	8617	100	9,574	
224+76 260+01	21,001					80	40801	100	21,001	
260+01 272+00	25,321					90	22784	100	25,321	
	317,010		15505		142433			100	317,010	



## Grading Diary

### Typical Grade Inspector's Diary Entry

*Date: 3-10-96 Thursday*

*Weather: Clear, Windy and Cool*

*Hours Worked: 6:30 to 6 = 11 hours*

*Official Visitors: Debra Blum, DCE & friend  
Quality Assurance*

*Subcontractor, Tree Removal, Inc. working on clearing and grubbing today. Removing trees from Station 5+ to 25+ with 1 D-7 Dozer, 1 truck, 1 pickup and 3 men. Mr. Nollet supt. for sub plans to sell the saw logs, chip the limbs and bury the stumps, that aren't ground, on private property. I gave the project manager a copy of the agreement for burying the stumps on Howard Plum's property.*

*Subcontractor, Great Plains irrigation began prewatering today from Station 41+ to 62+ working with 2 men, 1 pickup, 1 pump and assorted pipe. Contractor's supt. Nick Winkle was on the job today. He plans to be here once or twice a week while the subcontractors only are working. We discussed prewatering of farm ground and need for ripping to assure runoff is kept to a minimum. Nick advised that a dozer with*

*a ripper would arrive on the project tomorrow and the necessary ripping will be performed. I talked with John Adams, landowner, right of Sta. 70+60 to 140+ about moving fence. He plans to begin moving it next week.*

*D. D. S.  
Grade Inspector*

*3-10-96 I discussed with the project manager this evening the need for contractor's supt. on job while the subs are working. He said that Nick Winkle plans to be on job every day settling up equipment, etc. and when he isn't, will be reachable by phone #473-6632.*

*D. D. S.  
Grade Inspector*



### Large Tree Removal ( Rarely Used)

Sta. to Sta.		Side	Large Trees	Meas. by	Date	Trees Removed (Date & Init.)		Clearing/Grubbing Complete		Remarks	
						Date	Init.	Date	Init.		
3	6	Lt	26	KPB	6-3-96	6-21-96	GDP	6-22-96	GDP	Hauled stumps off project.	
6	10	Lt	17	KPB	6-3-96	6-24-96	CTV	6-28-96	CTV		
10	12	Lt	22	KPB	6-3-96	6-24-96	CTV	6-28-96	CTV		
12	14	Lt	29	KPB	6-3-96	6-24-96	CTV	6-28-96	CTV		
3	5	Rt	23	KPB	6-4-96	6-21-96	GDP	6-22-96	GDP	Burning by permit.	
5	6	Rt	20	KPB	6-4-96	6-21-96	GDP	6-22-96	GDP		
6	10	Rt	41	KPB	6-4-96	6-18-96	GDP	6-20-96	GDP		
10	12	Rt	32	KPB	6-4-96	6-18-96	CTV	6-20-96	GDP		
12	14	Rt	8	KPB	6-4-96	6-17-96	CTV	6-20-96	GDP		
26	30	Lt	14	KPB	6-6-96	6-20-96	GDP	7-3-96	CTV		
26	30	Rt	21	KPB	6-6-96	6-21-96	GDP	7-8-96	CTV		
30	40	Lt	31	KPB	6-6-96	6-25-96	GDP	7-10-96	CTV		
30	40	Rt	41	KPB	6-6-96	6-27-96	GDP	7-10-96	CTV		
			325								
Final Pay Quantity = 325 Each CTV 7-11-96											

### General Clearing & Grubbing

Sta. to Sta.		Side	Date Complete	Inspect. Init.	% Complet e	Total to Date	Remarks
1+00	8+00	Lt	5-3-96	AJB	5	5	Clearing trees entire project.
1+00	8+00	Lt	5-10-96	AJB	20	25	
8+10	15+00	Lt&Rt	5-10-96				
15+00	20+00	Lt&Rt	5-17-96	CLD	30	55	Burning trees by permit. Hauling stumps and trash off of project. Last trees cut and burned.
20+00	27+00	Rt	5-17-96				
20+00	27+00	Lt	5-22-96	CLD	10		
27+00	40+00	Lt	5-23-96	CLD	20		Finished last of clearing brush on left. Clearing and grubbing complete.
27+00	40+00	Rt	5-24-96	AJB	15	100	
40+00	50+00	Lt&Rt	5-24-96	AJB			
Final Pay Quantity = 1 lump sum    AJB 5-24-96							



### Driveway Culvert Pipe Record

<u>Driveway Culvert Pipe Record</u>					
Plan Data			Construction Data		
Station	Side	New Pipe (mm x m)	Installed Pipe (mm x m)	Date & Init.	Remarks
10+60	Lt.	150 x 11	None		Moved drive. No pipe required. 3-30-96 DDS
41+30	Rt.	300 x 12	300 x 12		HT#372207-12 DDS 4-7-96
41+30	Lt.	300 x 12	300 x 12		HT#312207-12 DDS 4-7-96
87+70	Rt.	300 x 9.75	300 x 9.75		HT#488806-9.75 DDS 4-7-96
122+80	Rt.	300 x 9.75	300 x 11		HT#372207-9
					HT#488306-6 DDS 4-7-96
145+10	Lt.	400 x 12	450 x 17		HT#266309-12
					HT#407737-16 DDS 4-25-96
174+30	Rt.	300 x 11	300 x 17		HT#7114117-56 DDS 4-7-96
					#372207 = 12+12+9 = 110 m
					#488806 = 7.78 +2 = 11.75 m
					#266309 = 12 = 12 m
					#7114117 = 17
					17 m
					#1077377 = 5
					5 m



## Pre-Watering Computations

<u>Pre-Watering Computations</u>										
Sta. to Sta.	$m^3$ Excavation	Soil Curve Number	Optimum Moisture %	Actual Moisture %	Moisture Add. %	* Mass (kg) of Soil per $m^3$	*ML Water Required	Date	Comps by	
10+ 31+	27,000	576-112	13.1	5.0	8.1	2746 kg	720.0	3-7-96	DDS	
48+ 73+	69,000	576-118	17.4	9.9	7.5	2611 kg	1621.5	3-12-96	DDS	
130+ 152+	58,000	576-117	15.5	9.8	5.7	2645 kg	1049.8	3-17-96	DDS	
234+ 265+	71,000	576-117	15.5	10.1	5.4	2561 kg	1178.6	3-23-96	DDS	
* See Pg. #34 for computations										
Actual moisture is the average of tests reported on DR Form 86										
Sta. 10+ to Sta. 31+ Max. Density = 1.81 kg/l Estimated in place density = 90% of Max. In Place Density = 1.63 kg/l Mass of Cubic Meter of Water = 1000 kg Mass of Cubic Meter in place soil $1.63 \times 1000 = 1630.0 \text{ kg}$ <span style="float: right;">1810.0</span> Water required per $m^3 = 180 \text{ L}$ <span style="float: right;">- 1630.0</span> Completed in place mass of soil 1810.0 <span style="float: right;">180.0</span> Dry it to get dry mass of soil and mass of water Mass in place - mass dry = In place water mass % Moisture in place = $\frac{\text{mass of water}}{\text{dry mass}}$ Mass density species a certain moisture content per soil type % Moisture at Max. Density -% Moisture in-place % Moisture deficit (Note if negative number "in place" is too wet and it must be dried). (% Moisture deficit) 1000 = liters of water to add per cubic meter. Mass = (in place density) (1000) Water in liters = Mass in kilograms (1000 kg = 1000 Liters water)										

## Calibration of Water Equipment

<u>Calibration of Water Equipment</u>		
Truck #3 filled from meter #73268	Meter Full	= 1002000
Truck Full = 6276.1 kg	Meter Empty	= 996979
Truck Empty = 1250.1 kg		5021
See Scale Ticket #1 = 5026.1 kg		
	Meter Full	= 1007070
Truck Full = 6321.1 kg	Meter Empty	= 1002000
Truck Empty = 1250.0 kg		5070
See Scale Ticket #2 = 5071.1 kg		
	Mass =	10097.2 kg
	Meter =	10091.0 L
Av. Capacity of Truck #3 = 5026.1+5071.1, 2		
	10097.2 , 10091.0 =	1.0006144 Factor
Say 5,050 L ZOK 3-8-96	No factor required	ZOK 3-8-96
	Calibration	3-7-96 DDS
	Check Comps	3-8-96 ZOK
To convert gallons to liters, multiply the number of gallons times 3.79 to get liters.		



### Water, Applied Record, Meter

<u>Water Applied Record</u>						<u>Pre-Watering Meter #73268</u>					
Date	Sta.	Sta.	Beg. Meter Reading	Ending Meter Reading	Meter M. Gal. Applied	Calib. Factor	Pay M. Gallon	Total to Date	Insp.	Time	Remarks
3-8-96	10	31	07316	14450	7.074	1.000	7.074	7.074	DDS	4:30 p.m.	Est. #1 Area Comp. Loaded truck
3-9-96	10	31	14450	5447	40.020	1.000	40.020	47.094	DDS	2:00 p.m.	
3-10-96	10	31	54470	110760	56.290	1.000	56.290	103.384	DDS	4:00 p.m.	
3-11-96	10	31	110760	207530	96.770	1.000	96.770	200.154	DDS	4:30 p.m.	
3-14-96	10	31	207530	500250	292.720	1.000	292.720	492.874	DDS	2:00 p.m.	
3-15-96	10	31	500250	600010	99.760	1.000	99.760	592.634	DDS	3:00 p.m.	
3-16-96	10	31	600010	728110	128.100	1.000	128.100	720.734	DDS	5:30 p.m.	
3-17-96	5+	45+	728110	83730	83.730	1.000	83.730	83.130	DDS	5:30 p.m.	
3-19-96	130	152	83730	205600	121.870	1.000	121.876	121.870	DDS	4:00 p.m.	
3-21-96	130	152 + +	205400	408310	202.710	1.000	202.710	324.580	DDS	4:00 p.m.	
To convert to metric, multiply number of gallons by 3.79 to get number of liters											

### Water, Applied Record, Truck

<u>Water, Applied Record Trucks</u>										
Date	Sta.-Sta.		Load Tally	Truck	Total Loads	Cap. M. L. @ Load	Pay M. Liter	Accum. Total	Inspect.	Remarks
3-1-96	10	31	11	3	2	5.050	10.10	10.10	AAW	Cut Section Estimate #1
3-1-96	10	31	11	5	2	1.020	4.02	14.12	AAW	
3-28-96	5	17	1111 1	3	6	5.050	30.30	44.42	AAW	
3-28-96	5	35	1111 1111	5	10	1.020	10.20	54.62	AAW	Estimate #2
3-29-96	5	35	111	3	3	5.050	15.15	69.77	AAW	
3-29-96	5	35	1111	5	4	1.020	4.08	73.85	AAW	
To convert gallons to liters, multiply number of gallons times 3.79 to get number of liters										

### Clear Tract Record and Remove Building Record

<u>Clear Tract #4 @ Sta. 71+37</u>	<u>Remove Building @ Sta. 71+40</u>
Plan Data: Sta. 71+37 Clear Tract #4	Plan Data: Sta. 71+40 Remove Building
3-17-96 This tract was cleared today. Complete. DDS 3-17-96	3-15-96 This building was removed today. Complete. DDS 3-15-96



## Select Placement Record and Undercut Excavation

<u>Select Placement</u>	<u>Undercut Excavation</u>
<p><i>Plan Note: Sta. 31+20 to Sta. 42+80</i>  <i>All material excavated from these stations shall be placed 1.2 m below finished subgrade or more than 30 m right or left of centerline.</i></p>	<p>3-11-96            00 Section at Sta. 10+14 to Sta. 10+40            (Drawing)            Area Width: 45 m            Area Depth: 1.5 m            Area Length: 26 m</p>
<p>3-27-96  <i>This material was all placed at depths greater than 1.2 m below finished subgrade.</i>            DDS 3-27-96</p>	<p><math>26 \times 1.5 \times 48 = 2702.7 \text{ m}^3</math>            Call 69 <math>\text{m}^3</math>            Comps DDS 3-11-96            It was necessary to undercut this area as it is an 00 Section and unstable under contractor's hauling equipment.            DDS 3-11-96</p>



### Record of Right-of-Way Markers

<u>Record of Right-of-Way</u>					<u>Markers</u>				
<i>LEFT</i>					<i>RIGHT</i>				
<i>Station</i>	<i>Distance</i>	<i>M A R K E R S</i>	<i>Staked by &amp; Date</i>	<i>Inspected by &amp; Date</i>	<i>Station</i>	<i>Distance (meters)</i>	<i>M A R K E R S</i>	<i>Staked by &amp; Date</i>	<i>Inspected by &amp; Date</i>
5+73.2	60	1	2-3-96 JBK	DDS 3-1-96	5+76.2	40	1	2-3-96 JBK	DDS 3-2-96
5+74.8	33	1	VOL & RCE	DDS 3-1-96	5+77.9	60	1	VOL & DCE	DDS 3-2-96
			<i>Pt. cldy &amp; mild</i>						
7+00	60	1	2-3-96 JBK	DDS 3-1-96	9+00	60	1	2-3-96 JBK	DDS 3-2-96
17+00	60-70	2	2-3-96 JBK	DDS 3-1-96	15+00	80	1	2-3-96 JBK	DDS 3-2-96
20+80	74-32	1	2-3-96 JBK	DDS 3-1-96	25+00	80	1	2-3-96 JBK	DDS 3-2-96
26+00	80	1	2-3-96 JBK	DDS 3-1-96	30+00	70	1	2-3-96 JBK	DDS 3-2-96
34+00	80-60	2	2-3-96 JBK	DDS 3-2-96	33+00	70	1	2-3-96 JBK	DDS 3-2-96
42+00	60	1	2-3-96 JBK	DDS 3-2-96	39+60	70	1	2-3-96 JBK	DDS 3-2-96
51+17	60	1	2-3-96 JBK	DDS 3-2-96	47+00	60	1	2-3-96 JBK	DDS 3-2-96
51+89	60	1	2-3-96 JBK	DDS 3-2-96	51+05	60	1	2-3-96 JBK	DDS 3-2-96
59+00	60	1	2-3-96 JBK	DDS 3-2-96	51+85	60	1	2-3-96 JBK	DDS 3-2-96
64+00	65	1	2-3-96 JBK	DDS 3-2-96	60+00	60	1	2-4-96 JBK	DDS 3-4-96
								<i>Fair &amp; mild</i>	DDS 3-4-96
69+00	70	1	2-3-96 JBK	DDS 3-1-96	65+00	90	1	2-4-96 JBK	DDS 3-4-96
76+00	70	1	2-3-96 JBK	DDS 3-1-96	67+00	90	1	2-4-96 JBK	DDS 3-4-96
85+00	70	1	2-3-96 JBK	DDS 3-1-96	70+00	81.0	1	2-4-96 JBK	DDS 3-4-96
89+30	70	1	2-3-96 JBK	DDS 3-1-96	77+00	60	2	2-4-96 JBK	DDS 3-4-96
98+00	70	1	2-3-96 JBK	DDS 3-1-96	86+00	60-80	1	2-4-96 JBK	DDS 3-4-96
102+30	70	1	2-3-96 JBK	DDS 3-1-96	96+00	80	1	2-4-96 JBK	DDS 3-4-96
103+20	70	1	2-3-96 JBK	DDS 3-1-96	102+30	80	1	2-4-96 JBK	DDS 3-4-96
108+00	70	1	2-3-96 JBK	DDS 3-1-96	103+20	80	1	2-4-96 JBK	DDS 3-4-96
<i>Total Pay</i>		22	2-3-96		<i>Total Pay</i>		21	<i>Comps 2-4-96 JBK Comps 3-2-96 DDS</i>	



**COVERCROP SEEDING RECORD**  
(NOT FOR PAYMENT -- USE TO DOCUMENT QUANTITY APPLIED)

<u>Covercrop Seeding Record</u>							
<i>Sta. to Sta.</i>	<i>Side of Centerline</i>	<i>Approx. Hectare</i>	<i>Kilogram of Seed Required</i>	<i>Kilogram of Seed Used</i>	<i>Date</i>	<i>Inspect.</i>	<i>Remarks</i>
5+73 to 30+	Rt. & Lt.	7.5	528	500	4-11-96	AWL	Oats bin ran 64+10% = 70.4 kg @ Ha using drill
30+ to 98+	Rt.	8.1	570	600	4-12-96	DDS	Flat tire on tractor 4-13, 14 & 15, 1996
30+ to 98+	Lt.	8.1	570	550	4-16-96	DDS	
98+ to 120+	Rt. & Lt.	8.0	563	570	4-16-96	DDS	
120+ to 170+	Rt.	9.2	648	650	4-22-96	DDS	
120+ to 170+	Lt.	9.2	648	700	4-23-96	DDS	
170+ to 225+	Rt. & Lt.	20.1	1415	1400	4-25-96	DDS	
250+ to 272+	Rt. & Lt.	16.0	1126	1200	4-26-96	DDS	
225+ to 250+	Rt.	8.4	591	600	4-28-96	DDS	
225+ to 250+	Lt.	8.4	591	600	4-29-96	DDS	
		103.0	7251.2	7370			
<i>To convert pounds to kilograms, multiply number of pounds x 0.4536 to get kilograms. To convert acres to hectares, multiply number of acres x 0.4047 to get hectares.</i>							
A notebook record similar to this is required for Slope Protection Seeding work and the same notification requirements to Roadside Development Section is required.							



## Erosion Control Record

<u>Erosion Control Record</u>	
<p>Plan Data: Sta. 79+16 to Sta. 81+16 Lt.          Build 767 m<sup>2</sup> Erosion Control          Construction Data: Sta. 79+20 to Sta. 81+00 Lt.          Built 720 m<sup>2</sup> Erosion Control          Soil Prep: by hand 4-16-96 DDS          Fertilizer: 25 kg Special Blend 4-16-96 DDS          Seed: 8 kg Blend 4-16-96 DDS          (Drawing)          4 x 180 = 720 m<sup>2</sup>          Measurements &amp; Comps    DDS    4-17-96</p>	<div style="text-align: right; margin-bottom: 10px;">79+200</div> <div style="text-align: center;"> </div> <div style="text-align: right; margin-top: 10px;">81+000</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">             Roadside Development Section must be notified the first and last day work is performed or suspended. Include Project No., contractor performing work, type of equipment used, seed used, etc., in the notification. 0.1 ha or larger areas shall be deducted from the seeding area if Erosion Control is in the seeding area.         </div>

## Hay Bale Erosion Checks Record

Hay Bale Erosion Checks						
Station	* Rt. or Lt.	Plans Quantity (Bales)	As-Built Quantity (Bales)	Date	Inspect.	Remarks
8+70	Rt.	14	16	3-19-96	JDD	
9+00	Rt.	14	14	3-19-96	JDD	
9+30	Rt.	14	14	3-19-96	JDD	
9+40	Rt.	14	14	3-20-96	JDD	
9+50	Rt.	<u>16</u>	<u>18</u>	3-20-96	JDD	
		72	76			
59+71	Lt.	10	10	4-1-96	JDD	
59+91	Lt.	10	10	4-1-96	JDD	
60+11	Lt.	10	10	4-1-96	JDD	
60+31	Lt.	10	10	4-1-96	JDD	
60+46	Lt.	12	14	4-2-96	JDD	
60+61	Lt.	<u>---</u>	<u>14</u>	4-2-96	JDD	Additional check approved ZOK 4-1-96
		52	68			
64+10	Rt.	10	10	4-3-96	JDD	Estimate quantity = 76+68+40 = 184
64+30	Rt.	10	10	4-3-96	JDD	
64+50	Rt.	10	10	4-3-96	JDD	
64+70	Rt.	10	10	4-3-96	JDD	
64+90	Rt.	10	10	4-6-96	JDD	
65+15	Rt.	10	10	4-6-96	JDD	
Page Totals = 184		204 Bales		Comp. JDD 4-6-96 Comp. 30% 6-1-96		



\* Show the distance Rt. or Lt. when deducting areas from seeding area.

### Shipping Record and Summary Asphaltic Oil or Cement

<u>Shipping Record &amp; Summary</u>						<u>Asphaltic Oil Emulsion for Tack or Prime</u>					
<i>Date Received</i>	<i>Load Ident. Number</i>	<i>Refin. kg</i>	<i>Dist. kg</i>	<i>Factor</i>	<i>Insp.</i>	<i>(Proj. Ident.)</i>		<i>(Proj. Ident.)</i>		<i>Other Use</i>	
						<i>Refin. kg</i>	<i>Dist. kg</i>	<i>Refin. kg</i>	<i>Dist. kg</i>	<i>Refin. kg</i>	<i>Dist. kg</i>
3-29-96	151676	5409	---	1.000	HHH	5409					
3-29-96	151707	5503	5493	1.00182	HHH	5002	4993	501	500		
3-29-96	157703	5527	5530	0.99946	HHH	3005	3007	2422	2423	100	100
3-29-96	157710	5631	5580	1.00914	HHH	570	565	5061	5015		
3-29-96	157691	5312	5413	0.98134	HHH	4907	5000	405	413		
3-30-96	158041	5376			HHH						
		(1)				(2)		(3)		(4)	
The sum of column (2), (3), and (4) should equal column (1).											
Totals		32758				18893		8389		100	

Comps HHH 6-3-96



### Distribution of Asphaltic Oil or Cement

<u>Distribution Record of Asphaltic Oil Emulsion for Tack or Prime</u>											
Load Ident. No. TDR11337				Date Received 3-30-96							
Type of Oil SSH-1				Sp. Gravity .9813							
Refinery Gallons 6.703 (x 3.79) = Liters				Water Added Liters (6700 x 3.79 = 25,362 Liters)							
Sta. to Sta.	Net Dist. Sta.	Load No.	Side & Width	°C Temp.	Start Liter	Stop Liter	Net Liter	Liter 15.5°C	Liter per StaM	Liter per Sq. m.	Remarks
30+00-75+00	45.00	1	Rt. 4	63	700	430	270	264	5.87	0.0147	4-1-96 MLP
75+00-220+00	145.00	1	Rt. 4	66	430	40	390	381	2.63	0.00672	4-1-96 MLP
0+00 - 220+00	220.00	2	Lt. 4	54	1210	300	910	894	4.06	0.01034	4-2-96 MLP

### Daily Scale Record

#### Daily Scale Check Digital or Platform Scale

<u>Daily Scale Record</u>		<u>Scale Check</u>		
7-5-96	Friday		<u>Plant</u>	<u>Commercial</u>
6:50 A.	Balanced Scales	Loaded Mass	88050	88020
7:00 A.	First Load #714	Unloaded Mass	37000	37010
8:00 A.	Begin Taring Trucks		51050	51010
9:00 A.	Cleaned Scales Platform & Balance	Tolerance = 0.5% of 88050 = 440 kg diff.		
9:15 A.	Completed Taring Trucks	= 40 kg		
3:00 P.	Cleaned Scales & Balance Begin	Load #747 is check load.		
	Taring Trucks			
3:00 P.	Trucks All Tared			
4:30 P.	Cleaned Platform & Balance	J. C. Smith		
5:35 P.	Last Load #787	Inspector		
7-6-96	Saturday - No Work			
7-7-96	Sunday - No Work			
7-8-96	Monday	<u>Scale Check</u>		
7:00 A.	Balanced Scales & First Load #758	Plus 500 kg		
8:00 A.	Begin Taring Trucks	Loaded Mass	87400	87910
9:00 A.	End Taring Trucks (Plant down)	Unloaded Mass	35980	36480
9:30 A.	Balanced & Cleaned Scales			
4:00 P.	Balanced & Cleaned Scales	Truck #7 Used Load #796		
5:35 P.	Last Load. Only one tare today due	J. C. Smith		
	to Plant only operating 4+ hours. #815	Inspector		



## Trimming Tolerance Checks and Record of Density Samples

### Subgrade/Foundation Course

<u>Trimming Tolerance Checks</u>			<u>Template (mm)</u>														
Date	Sta.	Insp.	4200 840	3600 660	3000 600	2400 480	1800 360	1200 240	700 160	CL 0	600 160	1200 240	1800 360	2400 480	3000 600	3600 720	4000 840
4-1-96	750	EEL	780	660	510	420	390	240	160	030	160	270	450	510	600	720	840
4-1-96	760	EEL	810	660	540	450	360	240	160	00	160	240	360	540	630	690	810
4-1-96	765	EEL	840	720	600	450	360	210	909	030	090	240	360	570	630	690	810
4-5-96	770	EEL	840	780	600	480	360	240	090	060	060	210	390	570	600	690	810
4-5-96	780	EEL	810	720	600	480	390	210	090	00	060	240	360	480	600	720	840
4-5-96	784	JES	840	750	600	480	390	270	160	030	090	270	360	480	600	750	840
4-5-96	790	JES	840	720	600	480	360	240	160	00	060	180	330	480	600	780	870
4-5-96	800	JES	540	420	300	180	030	000	060	180	240	060	060	180	300	360	480
4-7-96	800	EEL	840	720	600	480	390	240	160	00	120	270	390	510	570	690	810

<u>Record of Density Samples and Thickness of Asphaltic Concrete Cores</u>															
Sta.	Dist. & Side	First Lift				Second Lift				Third Lift				Totals	
		Date	Th mm	% Dens.	Ins.	Date	Th mm	% Dens.	Ins.	Date	Th mm	% Dens.	Ins.	Th. Act. mm	Thick Req'd. mm
67+20	2 m Rt	4-1-96	60	100	JDS	4-21-96	37	97	JDS	5-2-96	35	97	JDS	137	125
89+35	3 m Rt	4-1-96	50	98	JDS	4-21-96	38	98	JDS	5-3-96	38	98	JDS	132	125
52+70	2 m Rt	4-2-96	55	98	JDS	4-21-96	38	98	JDS	5-2-96	40	99	JDS	137	125
50+10	2 m Lt	4-2-96	65	97	JDS	4-21-96	37	98	JDS	5-10-96	45	96	JDS	142	125
10+00	5 m Lt	4-7-96	70	98	JDS	4-30-96	25	96	JDS	5-17-96	25	93	JDS	100	112
25+00	2.5 m Lt	4-7-96	70	93	JDS	4-16-96	25	92	JDS	5-10-96	38	93	JDS	137	125



## Record of Pavement Patching and Equipment Rental Record

<u>Record of Pavement Patching</u>									
<i>Date Patched</i>	<i>Station</i>	<i>Station</i>	<i>Lane (Rt. Or Lt.)</i>	<i>Size Ave. Width Ave. Length)</i>	<i>Type "A" (m<sup>2</sup>)</i>	<i>Type "B" (m<sup>2</sup>)</i>	<i>Type "C" (m<sup>2</sup>)</i>	<i>Insp.</i>	<i>Remarks</i>
4-4-96	7+40	7+95	Rt.	10 m x 55 m	24	80	550	SDD	
4-5-96	10+15	10+27	Rt.	8 m x 10 m				SDD	
4-5-96	20+63		Rt.	8 m x 3 m				SDD	
4-5-96	62+20	62+31	Rt.	6 m x 11 m			66	SDD	
4-12-96	23+10	23+29	Rt.	8 m x 18 m			144	SDD	
				<i>Totals</i>		24	146	694	
				<i>Call</i>		24	146	695	

<u>Equipment Rental - Motor Graders</u>								
				<i>Equipment No. 3-712 Conforms to Specification Requirements</i>			<i>DDD 4-4-96</i>	
				<i>Equipment No. 3-610 Conforms to Specification Requirements</i>			<i>DDD 4-5-96</i>	
				<i>Equipment No. 3-606 Conforms to Specification Requirements</i>			<i>DDD 4-5-96</i>	
<i>Date</i>	<i>Equip. No.</i>	<i>Location Worked StaM to StaM</i>	<i>No Pay</i>	<i>Pay</i>	<i>Accum. Total</i>	<i>Insp.</i>	<i>Contractor Rep.</i>	<i>Remarks</i>
4-1-96	3-112	4+23-60+00	1/2	7.00	7.00	DDD	JCSmith	ripped wet spots
4-5-96	3-712	4+23-60+00	2.00	5.50		DDD	JCSmith	flat tire 1/2 hr.
4-5-96	3-606	4+23-60+00	2.00	2.50		DDD	JCSmith	
4-5-96	3-610	81+00-97+00	0	2.50	17.50	DDD	JCSmith	drying
4-6-96	3-610	81+00-97+00	0	2.00		DDD	JCSmith	replacing



### Cement Car Shipment Record and Record of Cure Compound

<u>Cement Car Shipment Record</u>							
<i>Shipment Ident. Number</i>	<i>Date Received</i>	<i>Date Empty</i>	<i>Kilograms of Cement</i>	<i>Accum. Total Cement</i>	<i>Insp.</i>	<i>Sample No.</i>	<i>Remarks</i>
MP 2146	5-3-96	5-4-96	151,520	151,520	FRS	C-1	
MP 2008	5-3-96	5-4-96	149,300	300,820	FRS	C-2	
MP 2248	5-3-96	5-5-96	151,680	452,500	FRS	C-3	
MP 3218	5-3-96	5-5-96	153,180	605,680	FRS	C-4	
MP 4157	5-4-96	5-6-96	143,320	749,000	FRS	C-5	
MP 2161	5-4-96	5-6-96	154,620	903,620	FRS	C-6	
MP 4188	5-5-96	5-6-96	148,000	1,051,620	FRS	C-7	
MP 2193	5-5-96	5-9-96	150,460	1,202,080	FRS	C-8	
MP 2003	5-5-96	5-9-96	156,700	1,358,780	FRS	C-9	
MP 2236	5-5-96	5-9-96	154,400	1,513,180	FRS	C-10	everything empty for C.C.

### Cure Inspector Entry

<u>Record of Cure Compound</u>									
<i>Date</i>	<i>Liters Received</i>	<i>Lot No.</i>		<i>Insp.</i>	<i>Application Checks</i>				
					<i>Date</i>	<i>Square Meters Concrete</i>	<i>Liters Used</i>	<i>App. Rate</i>	<i>Insp.</i>
4-29-96	550		White Pigmented	KEE	5-4-96	1867	100	84.8	KEE
5-2-96	1100	N012	White Pigmented	KEE	5-6-96	5600	261	254.5	KEE
To convert gallons to liters, multiply number of gallons by 3.79 to get liters.					Required Application Rate _____				



## Ready Mix Truck Checks and Shipping Record

*Random Check*

<u>Ready Mix Truck</u>									
<i>Date</i>	<i>Time</i>	<i>Truck No.</i>	<i>Load No.</i>	<i>Zero Setting Rev. Counter</i>	<i>Mixing Rev. Per Min.</i>	<i>Rev. Change to Agitate</i>	<i>Agitate Rev. Per Min.</i>	<i>Time Unloaded</i>	<i>Insp.</i>
4-20-96	9:00 A	3	17432	OK	16	53	6	9:45 A	MRD
4-20-96	11:15 A	8	17449	OK	17	51	6	12:10 A	MRD
4-20-96	3:40 P	5	17471	OK	16	57	5	4:28 P	MRD
4-21-96	7:00 A	4	17497	OK	16	57	6	7:16 A	MRD added water



### Box or Pipe Culvert

Besides the Final Record of Quantities shown below, the inspector should maintain a summary record of all pay items, completed to date, for the Project Manager's use in preparing weekending reports.







## Culvert Summary

Construction Inspection:		Pay Quantities
6-10-96 Excavated for box complete, rock at grade elevation.	DEB	202 m <sup>3</sup> exca.
6-11-96 Excavated rock and backfilled. Rock = 6 m x 6.5 m x 0.6 m = 23.4 m <sup>3</sup> exca.		
Backfill = 30 m x 20 m x 2 m = 1200 m <sup>3</sup>	DEB	1200 m <sup>3</sup> add. exca.
6-12-96 Begin forming footing. Mois. Density Test #17 represents backfill.	DEB	
6-14-96 Steel & forms inspected, footing.	DEB	1945 kg re-steel
6-15-96 Poured footing 38 m <sup>3</sup> poured. Cylinders 4A & B	DEB	3571 m <sup>3</sup> Concrete
6-16-96 Checked burlap cure for dampness. Stripped forms on footing.	DEB	
6-20-96 Begin setting barrel forms.	DEB	
6-21-96 Forming barrel placing steel	DEB	
6-22-96 Forming barrel placing steel	DEB	
6-23-96 Forming barrel placing steel	DEB	
6-24-96 Barrel ready to pour. Steel & forms okay.	DEB	4135 kg re-steel
6-25-96 Poured barrel. 75 m <sup>3</sup> batched.	DEB	7125 m <sup>3</sup> Concrete
1 m <sup>3</sup> wasted - burlap cure.		
6-26-96 Checked burlap.	DEB	
6-30-96 Stripping outside forms.	DEB	
7-5-96 Stripping forms.	DEB	
7-6-96 Completed stripping forms & grouted tie rod holes.	DEB	
7-15-96 Backfilling box.	DEB	m <sup>3</sup>
7-16-96 Backfilling, excavation necessary for backfill = 20 m x 90 m x 3.76 m =		6768.0 m <sup>3</sup> add. exca.
7-20-96 Complete	DEB	



**Summary of Culverts -- Group 4**  
**Weekly Accumulative Totals**  
(See Pg. XXX-XXX for locations)

Rem. Inlets	Rem. Of Exist. Head- Walls	Exc. For Pipe	Exc. For Box Culverts	Conc. For Head- Walls	Conc. For Box Culv.	Conc. For Inlets	Conc. For Collars	Reinf. For Head- Walls	Reinf. For Box Culv.	Reinf. For Inlets	Reinf. For Collars
(ea)	(ea)	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(kg)	(kg)	(kg)
			181		31.36				2158.65		
			565.75		115.341				13445.4		
			1029.25		160.182				17402.4		
			1412.0		270.548				28694.4		
			1660.75		384.813				41978		
	2	176	1660.75		432.582		1.31		49006.7		99
	6	517	1660.75		432.582		1.31		49006.7		99
	6	594	1660.75		432.582		1.31		49006.7		99
	9	1328	1660.75		432.582		1.31		49006.7		99
	9	2184	1660.75		432.582	.348	2.146		49006.7	38	150
	9	2184	1660.75		432.582	.348	2.146		49006.7	38	150
	9	2184	1660.75		432.582	.348	2.146		49006.7	38	150
	9	2875	1660.75		432.582	3.408	2.146		49006.7	230	150
	9	3362	1660.75		432.582	5.76	2.146		49006.7	363	150
	11	4168			426.814	5.76	2.15		48975.9	363	150
	11	4244	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	4251	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	4345	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	4408	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	4846	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	4893	1660.75		426.814	5.76	2.15		48975.9	363	150
	11	5211	1660.75		436.814	5.76	2.15		48975.9	363	150

600 mm Culv. Pipe (m)	900 mm Culv. Pipe (m)	600 mm F.E.S. (ea)	900 mm F.E.S. (ea)	450 mm Conc. Pipe (m)	600 mm Conc. Pipe (m)	750 mm Conc. Pipe (m)	900 mm Conc. Pipe (m)	1050 mm Conc. Pipe (m)	1200 mm Conc. Pipe (m)	1350 mm Conc. Pipe (m)	500 mm Conc. Pipe (m)
				16							
				16							
				16		32	66			112	
				32	132	32	328			144	
				32	132	32	484			144	
				40	469	163	609			144	
				40	469	163	609	112	142	144	
				40	469	281	609	112	142	144	
				40	469	521	609	112	142	144	
				80	559	528	609	112	142	144	106
				80	559	528	609	112	142	144	106
				88	559	660	609	112	142	144	106
				88	607	704	609	112	142	144	106
				88	617	704	609	112	142	144	106
82	60	2	2	88	617	704	609	112	142	144	106
82	60	2	2	88	663	704	609	112	142	144	106
82	60	2	2	98	713	704	609	112	142	144	106
144	60	4	2	98	759	704	609	112	142	144	106
144	60	4	2	98	759	760	609	112	142	144	106







### Summary of Group 4 Continued

1800 mm Culv. Pipe (m)	600 mm Class V Pipe (m)	750 mm Class V Pipe (m)	900 mm Class V Pipe (m)	1050 mm Class V Pipe (m)	1200 mm Class V Pipe (m)	600 mm Conc. FES (ea)	750 mm Conc. FES (ea)	900 mm Conc. FES (ea)	1050 mm Conc. FES (ea)	1200 mm Conc. FES (ea)	1350 mm Conc. FES (ea)
			84 174 174			1 1	2 2	3 5			1 1
	94 222 249 249 249 249 249 106 106 106 106	60 60 128 128 286 286 284 284 284 284	174 174 174 174 174 174 174 174 174 174 174 174	60 60 60 60 60 60 60 60 60 60 60 60	52.5 6 68 68 68 68 68 68 68 68 68 68	11 11 11 11 12 12 12 14 14 14 14 14	3 3 5 9 9 9 9 11 13 13 13 13	6 6 6 6 6 6 6 6 6 6 6 6	2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2	1 1 1 1 1 1 1 1 1 1 1 1

1500 mm Conc. FES (ea)	1800 mm Conc. FES (ea)	JACK 600 mm Class V Pipe (m)	JACK 450 mm Class V Pipe (m)	JACK 400 mm Class V Pipe (m)	JACK 1050 mm Class V Pipe (m)	JACK 1200 mm Class V Pipe (m)	Rock Rip Rap Type "B" (kg)	Gravel for Unsuitable Material (m <sup>3</sup> )	Add Exc. for Backfill & Embank. Box (m <sup>3</sup> )	Week Ending
								21 33 95 126 151 151 151 151	21 56 118 148 173 173 196 74	10-9-96 10-16-96 10-23-96 10-30-96 11-6-96 11-13-96 11-20-96 Add exc. for pipe
		94		84 174 174		52.5	39.13 39.13 39.13			11-27-96 12-4-96 12-11-96 12-18-96 12-25-96
		222	60	174	60	68	313.03	151	84	11-27-96
		222	68	174	60	68	313.03	151	84	12-4-96
		222	68	174	60	68	313.03	151	84	12-11-96
		222	286	174	60	68	459.40	151	84	12-18-96
		222	286	174	60	68	750.31	151	84	12-25-96
1		222	286	174	60	68	750.31	151	84	1-1-97
1	1	222	286	174	60	68	750.31	151	84	1-8-97
1	1	222	284	174	60	68	1044.03	151	89	1-22-97
1	1	222	284	174	60	68	1044.03	151	89	5-14-97
1	1	222	284	174	60	68	1044.03	151	93	5-21-97



## Estimate Quantities Record

### Culvert Pipe Summary

Item No. 46      600 mm Culvert Pipe						Heat Numbers					
						Lengths Include 'Y' Distances (m)					
Station (meter)	Pipe Leng. (m)	Add. Allow Elb.	Total Leng. (m)	Date Const.	Ins.	262096	161834	260916	160935	260915A	162159
381+00	90	0	90	9-1-96	DMS	69	28				
414+91 Rt	48	0	48	9-9-96	DMS	53					
426+91	90	0	90	8-26-96	DMS	72	23				
586+45	92	0	92	8-19-96	DMS	72		28			
590+72	130	0	130	8-25-96	DMS	110	6	20			
602+00	110	0	110	8-25-96	DMS	96	19				
99+00	128	0	128	7-26-96	DMS			120		12.5	
106+90	88	0	88	9-9-96	DMS				80	13	
4616+30	54	0	54	9-10-96	DMS			23	40		
396+40 Rt	44	5.0 m	49	10-13-96	DMS	20					28
160+00	70	0	70	7-26-96	DMS				60	18	
	944	5	949			492	76	191	180	43.5	28
						<u>392</u> #2	<u>-42</u> #2	<u>-143</u> #1	Report	Report	Report
198 week ending 7-31-96			DMS			100 bal	34 bal	48 bal			
198 week ending 8-9-96			DMS			Report	Report	Report			
198 week ending 8-14-96			DMS								
290 week ending 8-21-96			DMS								
290 Estimate #2 8-23-96			DMS								
710 week ending 9-4-96			DMS								
900 week ending 9-11-96			DMS								
900 week ending 9-18-96			DMS								
900 Estimate #3 9-23-96			DMS								
						Total					
						1990.5 m					
						A record similar to this for each pay item in a group may be recorded in a field book separate from other inspection records. The inspector keeps these pay quantities up to date and then the project manager needs only the one book for week ending quantity calculations.					

### Staking Information

<u>Bridge at Station 310+41</u>	
3 - 40 m spans	
3-10-96 Ptly. Cldy. - Cold	
- WAL	
- DDS	
- JAM	
- TSE	
Abut #2 - 311+08	
Bent #2 - 310+61	
Bent #1 - 310+21	
Abut #1 - 309+81	
°	= 1/2" rebars with center punch mark.
•	= tacked hubs
LO	= Line Only
Δ	= 60 penny spike







## Excavation Record

### Bridge Summary

<u>Excavation for Abutment #1 (Lump Sum)</u>					
<i>Date</i>	<i>Bridge Station</i>	<i>Location in Bridge</i>	<i>Accumulative % Complete</i>	<i>Inspector</i>	
3-3-96	310+41	Abut #1	10	IMM	
3-9-96	310+41	Abut #1	30	IMM	
3-16-96	310+41	Abut #1	50	IMM	
3-16-96	310+41	Abut #1	70	IMM	
3-20-96	310+41	Abut #1	95		
3-22-96	310+41	Abut #1	100		
3-3-96	310+41	Bent #1	5		
3-27-96	310+41	Bent #1	15		
3-28-96	310+41	Bent #1	45		
3-31-96	310+41	Bent #1	65		
4-2-96	310+41	Bent #1	90		
4-4-96	310+41	Bent #1	100		



**Concrete Protection Barrier Rail,  
Cold Weather Concrete Temperature Data  
and Sheet Piling Record**

<u>Concrete Protection Barriers</u>							
<i>Sta. to Sta.</i>	<i>Side</i>	<i>m</i>	<i>Date Installed</i>	<i>Insp.</i>	<i>Date Removed</i>	<i>Insp.</i>	<i>Remarks</i>
703+17 700+62	Rt	255	4-7-96	WOL			
703+17 704+62	Lt	145	4-12-96	WOL			

<u>Cold Weather Concrete Temperature (°C) Data</u>													
Pour Date	Sta.	Sect. Poured	°C Min. Air Time of Pour	°C Water Temp at Plant	Concrete Temperature						Insp.	Remarks	
					°C in Forms	1st 12 Hrs.	1st 24 Hrs.	2nd Day	3rd Day	4th Day			5th Day
12-19-96	310+	Foot. Abut#1	2	54	12							WEB	Installed forms air
1-13-96	310+	Abut#2	1	60								WEB	air temp.
1-15-96	310+	Abut#1	1	60	14							WEB	24-hour forms loosened air

<u>Sheet Piling Record</u>								
<i>Station 310+41</i>								
<i>Date Driven</i>	<i>Location</i>	<i>Length of Sheet (m)</i>	<i>Width of Sheets (mm)</i>	<i>Number Driven</i>	<i>Square Meters</i>	<i>Accum. m<sup>2</sup></i>	<i>Insp.</i>	<i>Remarks</i>
1-3-96	Abut #1	8.5	450	30	114.75	114.75	WEB	Concrete sheets
1-3-96	Rt. Wing Abut #1	7.5	450	18	60.75	175.50	WEB	Estimate #1
1-4-96	Lt. Wing Abut #1	7.5	450	14	47.25	222.75	WEB	



**Concrete Placement Record, Form and Reinforcing  
Steel Inspection Record and Structural Steel Record**

*Bridge/Culvert Records*

<u>Concrete Placement Record</u>						<u>Type 47-B</u>
<i>Date</i>	<i>Section Poured</i>	<i>m<sup>3</sup> Req'd.</i>	<i>m<sup>3</sup> Placed</i>	<i>Cylinder Nos.</i>	<i>Total Pay m<sup>3</sup></i>	
12-19-96	Footing Abut #1	12.109	12 1/2	1A & B	12.109	Station 310+41 WEB
1-13-96	Footing Abut #2	12.109	12 1/2	2A & B	24.218	Station 310+41 WEB
1-15-96	Abut #1	39.100	40	3A & B	63.318	Station 310+41 WEB

<u>Forms &amp; Reinforcing Steel Inspection</u>						<u>Record Bridges</u>		
<i>Station</i>	<i>Section</i>	<i>Forms</i>	<i>Re-Steel</i>	<i>kg Req'd.</i>	<i>Accum. Total kg</i>	<i>Insp.</i>	<i>Date</i>	<i>Remarks</i>
310+	Abut #1	OK	OK	1010	1010	WEB	12-18-96	23 A-402 bars & checked A-501 bars
310+	Abut #2	OK	OK	1010	2020	WEB	1-10-96	All bars checked.
310+	Abut #1	OK	OK	17107	19126	WEB	1-15-96	Tying very good.
								All bars checked.
								Tying very good.

<u>Structural Steel for Substructure</u>						
<i>Station</i>	<i>Location</i>	<i>Date Installed</i>	<i>kg Req'd.</i>	<i>Accum. Total</i>	<i>Insp.</i>	<i>Remarks</i>
310+	Abut #1	4-1-96	640	640	WEB	2 coats red lead.
310+	Abut #2	5-20-96	640	1984	WEB	2 coats red lead.
612+	Abut #1	5-19-96	704	1344	WEB	2 coats red lead.
612+	Pier #1	6-2-96	704	2688	WEB	2 coats red lead.
612+	Pier #2		704			
612+	Abut #2		704			



## Seed Received and Seeding Diary Records

<p><b>Seed Received</b>  3-17-96     7 1/2 bags Type "B" mixture at 2 bags/ha for 3.65 ha. 178 bags at 2 bags/ha where Type A Mixture for the 89 ha. stored in barn at Edward Hayes. tagged by DOR inspector D. Gray. There are 3.65 ha of Type "B" seeding and 89 ha Type "A".</p> <p style="text-align: right;">AWL</p>	<p><b>Seeding Diary</b>  Date: 3-21-96 Monday  Weather: Ptly. Cldy. &amp; Mild  Hours: 7-5:30 = 9 hours  Equipment on job includes 2 straight trucks, 1 trailer, 1 mulch blower, 2 tractors, 1 disc, 1 drill, 3 m wide and 2 pickups. One man began soil preparation today with tractor and disc. Working from Sta. 12 to 60 on the Rt. Supt. John James on job. He plans to use native hay for mulch, the fertilizer will be bulk and from co-op. Will have a load of fertilizer here tomorrow. They will try to work 6 to 9 hr. days a week.  Mulch began arriving on the job today, 2 loads. Two passes with disc is giving good soil condition.  I marked with lathe 2.0 ha of Type "B".  Fertilizer arrived today, so begin spreading from 12+ to 40+ Rt. They broke the drive chain.</p> <p style="text-align: right;">AWL Seeding Inspector</p>
<p><b>Seeding Diary</b>  Date: 3-22-96, Tuesday  Weather: Fair, wind, &amp; mild  Hours: 7-5:30 = 9 hours  Fertilizer spreader fixed and completed spreading fertilizer to Station 63 on Rt. Began seeding Type "A" seed from Station 12+ to 63+ on Rt. This is 32 ha. Started out with 5-2 ha areas until drill well adjusted and then used a total of 16 bags from Sta. 12+ to 63+ on Rt.  Contractor is unable to get fertilizer until 3-25 due to prior commitments by co-op.  Begin mulching today; hay is blowing real well. 1,340 bales used 12+ to 40+ Rt. slightly over. Using straight disc for punching mulch. It arrived on project last evening. Same tractor used on cupped disc used on puncher. Project Manager over job today. No comments on work. Mulch being stored on right of way.</p> <p style="text-align: right;">AWL Seeding Inspector</p>	<p>Contractor's Crew: 1 supt., 1 foreman, 12 men  Date: 3-23-96  Weather: Ptly. cldy., &amp; Windy  Hours: 7-5:30 = 9 hours  Trying to mulch today but too windy from 10:00 to 3:30. Only got 300 bales spread. One man working with tractor and disc on soil prep. to Sta. 80 Rt., then worked from Sta. 5+ to 70+ on left.  Seeded Type "B" from Station 12+ to 63+ on Rt. one acre. Type "B" is 3 m wide. I talked with Mr. James about using flagmen when mulching from road. He thought flashers on equipment were working and light traffic. I asked Mr. Sharp about it, and he said we needed flagmen. I then advised Mr. James. He said he would set the temporary signs and use flagmen when he has equipment on the roadway. The signs were picked up today. See Page #94 for list of signs.</p> <p style="text-align: right;">AWL Seeding Inspector</p>



### Seeding Measurement Record

<b>Seeding Comps. Type "A" *</b>					
<b>Station</b>	<b>Width m</b>	<b>Remarks</b>	<b>Station</b>	<b>Width m</b>	<b>Remarks</b>
6+70	0	3-17-96 Ptly. Cldy.-Warm JJE CFV, EJJ	5+10	0	3-19-96 JJE, CFN, EJJ
7+00	7		+80	10	
7+10	30		6+00	41	
9+00	35		8+00	40	
12+20	35		11+00	40	
14+00	37		14+00	39	
15+20	30		16+00	40	
15+25	0		16+10	31	
			16+10	0	
Drive			Drive		
15+65	0		16+40	0	
15+80	27		16+45	7	
17+00	30		17+00	40	
17+00	73		20+00	40	
20+00	75		21+40	36	
23+00	75		23+00	37	
26+00	75		26+00	39	
27+40	75		27+00	40	
27+50	30		29+00	35	
30+00	30		29+50	35	
30+00	30		30+00	41	

\* Use Marv Lech's seed comp. program to compute and document areas seeded.

### Fertilizer Records

<b>Fertilizer Record Received and Used by kg</b>											
<b>Date</b>	<b>Ship. Ident.</b>	<b>Quant. Rec'd. kg</b>	<b>Remarks</b>	<b>Date</b>	<b>Sta.-Sta.</b>	<b>Side</b>	<b>Ha</b>	<b>kg Fert. Req.d</b>	<b>kg Fert. Used</b>	<b>Insp.</b>	<b>Remarks</b>
3-21-96	TL127741	10,000	Bulk-300 kg/ha spec. blend JAS	3-21-96 3-22-96	12+ 40+ 40+ 63+	Rt. Rt.	21 <u>12.3</u> 33.3	10,000	10,000	AWL	
3-25-96	TL127894	10,000	same as above AWL	3-25-96	5+ 60+	Lt.	33.3	10,000	10,000	AWL	
3-28-96	TL127897	10,000	same as above AWL	3-28-96	60+ 103+	Lt.	33.3	10,000	10,000	AWL	
	TL127898	15,000	above AWL	3-29-96	63+ 129+	Rt.	33.0	15,000	15,000	AWL	
3-30-96	TL127941	10,220	same as above AWL	3-30-96	127+143 103+143	Rt. Lt.	16.2 <u>17.7</u> 33.9				
Totals		55,220					183.8	10,170 55,140	10,220 55,220	AWL	comp. today



## Mulch Received Record

<b>Mulch Received</b>							
<b>Date</b>	<b>Mass Ticket No.</b>	<b>Lb. Quantity Received</b>	<b>Mg Received</b>	<b>Mass Bale</b>	<b>Type of Mulch</b>	<b>Insp.</b>	<b>Remarks</b>
3-20-96	19877	18400	8.346	28.48	Hay	AWL	293 bales
3-20-96	19878	17020	7.720	26.62	Hay	AWL	290 bales
3-21-96	None	488	0.221	27.67	Hay	AWL	
3-22-96	None	450	0.204	25.51	Hay	AWL	8 bales
3-22-96	19903	17800	8.073	27.84	Hay	AWL	290 bales
3-22-96	19904	18320	8.309	<u>28.56</u>	Hay	AWL	291 bales
				27.45			30 kg
<u>x</u> lb. x 0.000454 mg/lb = mg				Avg.		A record similar to this may be used for documentation of the require amount of hay or straw in Slope Protection Work.	



## Mulch Placed Record

Mulch Placed Record							
Date	Sta.-Sta.	Side	Hectare	Mulch Req'd Mg	Mulch Used Mg	Insp.	Remarks
3-22-96	12+17-40+	Rt.	21	42	42.143	`AWL	1340 bales @ 31.5 kg = 42.143 Mg
3-23-96	40+ -63+	Rt.	12.3	24.6	9.435		
3-24-96	40+ -63+	Rt.	---	---	15.411	AWL	blower broke down @ 11:00 a.m.
			12.3	24.6	24.846		490 bales @ 31.5 = 15.411 Mg blower fixed @ 1:00 p.m.
3-26-96	5+ -60+	Lt.	33.3	66.6	30.507	AWL	970 bales @ 31.5 = 30.507 Mg
3-28-96	5+ -60+	Lt.	---	---	25.537	AWL	812 bales @ 31.5 = 25.537 Mg
3-29-96	5+ -60+	Lt.	---	---	10.064	AWL	320 bales @ 31.5 = 10.064 Mg
			33.3	66.6	66.108		
3-29-96	63+ -127+	Rt.	50.0	100.0	28.714	AWL	913 bales @ 31.5 = 28.714 Mg
3-30-96	63+ -127+	Rt.	---	---	31.450	AWL	1000 bales @ 31.5 = 31.450 Mg.
3-31-96	63+ -127+	Rt.	---	---	35.224	AWL	1120 bales @ 31.5 = 35.224 Mg
4-1-96	63+ -127+	Rt.	---	---	6.290	AWL	200 bales @ 31.5 = 6.290 Mg
			50	100.0	11.678		Complete today
Example #1 Excess Placed							0.30 Mg
Amount Required:			8.20 Mg				
Amounted Placed:			11.25 Mg				
Excess			3.05 Mg				
Amount Paid:			8.20 Mg				
Example #2 Additional Order							
Plan Required Amount:			8.20 Mg				
Engineer Ordered Amount:			11.25 Mg				
Difference			3.05 Mg				
Amount Paid: (8.20) (1.05)			= 8.61				
11.25 - 8.61			= 2.64				
			8.20 + 2.64 = 10.84 Mg				
Example #3 Order Cut by Engineer							
Plan Amount:			8.20 Mg				
Engineer Ordered Amount:			5.15 Mg				
Difference			3.05 Mg				
Amount Paid:			5.15 + 0.41 = 5.56				
Example #4 Less Than 5% Excess Placed							
Amount Specified:			8.20 Mg				
Amount Placed:			8.50 Mg				
Excess:			0.30 Mg				
Amount Paid:			8.20 Mg				
Example #5 Less Than 5% Short of Specified Amount							
Amount Specified:			8.20 Mg				
Amount Placed:			7.90 Mg				
Deficit:			0.30 Mg				
Amount Paid:			8.20 Mg				
Project Totals		183.8	423.635	432.311	A record similar to this may be used for documentation of the required amount of hay or straw in Slope Protection Work		
105% Example							



## Nuclear Densities QA/QC

<p> Date: May 31, 1996  Operator: A Leinen  Gauge: Troxler Thin Lift Density Gauge  Density #2-4  Station: 251+81  Lane: Eastbound Rt.  Lift: Top  Dist. from outside edge: 1.2 m  Mix Type: 13R  Lift Thickness: 2"  1" Plate Used: Yes  EBM Voidless: Specific Gravity - 2.402  (Rice) Density - 2402 kg/m<sup>3</sup>  Note: S.G. = density/1000 (metric)  Required: 94% of voidless = <math>2402 \times .94 = 2257.88</math>  Spec.  Gauge: N - 2200  Readings E - 2250  S - 2300  W - 2350  = 9100  Ave. of Readings: <math>9100 \div 4 = 2275</math>  Density: 2275  S.G.: <math>2275 \div 1000 = 2.275</math>  Correction Factor: <math>\pm 0.0</math>  Corrected S.G. = 2.275  % Voidless Density (Nuclear) = <math>\frac{2.275}{2.402} = 94.7\%</math>  Correction Core Density = 2.30  From QA/QC Lab  % Voidless Density (Core) = <math>\frac{2.30}{2.402} = 95.8\%</math>  Correlation within 1 1/2%: Yes, use nuclear  density # w/o correction factor  Correction Factor = N.A. </p>	<p> Remarks:  - correlate with a minimum of three core  densities for each mix type  - the four readings were taken as follows:    (See Operator's Manual)  - if the densities were off by more than 1  1/2%, a correction factor would be computed  as shown below:  Core S.G. - Nuclear S.G. = <math>\pm</math> correction factor  - periodically, you may want to run an extra  correlation core to insure accuracy of  gauge. </p> <p style="text-align: right;"> A. Leinen  Inspector's Signature </p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Record of Nuclear Densities for Asphalt

<p> Date: 5-24-96 Operator: R. Vajgrt  Density 1-1  Station 263+66 EB-Lt. Dist. Outside Edge = 8'  Type 13R  Gauge Reading = 2258 Mg/m<sup>3</sup>  Specific Gravity = <math>\frac{2258}{1000} = 2.258</math>  Voidless (Rice) = 2.402  Density = <math>\frac{2.258}{2.402} = 93.8\%</math>  Correlation Core = 2.220  Correlation Density = <math>\frac{2.200}{2.402} = 91.6\%</math>  Notified contractor that density  measured failed. </p>	<p> Date: 5-24-96 Operator: R. Vajgrt  Density 1-2  Station 286+19 EB-Lt. Dist. outside Edge = 7'  Type 13R  Gauge Reading = 2225  Specific Gravity = <math>\frac{2225}{1000} = 2.225</math>  Voidless (Rice) = 2.402  Density = <math>\frac{2.225}{2.402} = 92.6\%</math>  Correlation Core = 2.237  Correlation Density = <math>\frac{2.237}{2.402} = 93.1\%</math>  Notified contractor that density  measurement failed. </p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



# **Asphalt Plant Book Records** **Daily Plant Records**

Date: 6-2-96

Weather: Sunny-Ptly. Cldy.

Type 11

Job Mix

Start: 11:00 a.m.

ACC

Mg Produced: 2783.07

Stop: 7:30 p.m.

Mg Waste: 133.52

Temp: 80°

Mg Pavement Pay: 2626.0

Mix Temp. 300°

Mg Patching Pay: 23.55

Mg Prod.: 2783.07

Accum. Mg.: 5731.92

Plant Waste: -133.52

Mg Delivered Total: 2649.55 Mg

Road Waste: 0

Mg Plant Waste: 133.52

Mg Total Waste: 133.52

Asphalt Cement

Start: 82.073 Mg.

Added: 124.75 + 82.073 = 206.823 Mg.

Stop: 1.96 m @ 138° = 12643 gal. x (.9253) = 10434 gal. @ 15° C

8.4104 lb/gal , 2000 lb/ton = 43.878 Ton x .907 Mg/Ton = 39.796 Mg

Used: 39.796 Mg

A Cement Mg/ACC Mg = 0.058548653

AC Non-Pay Mg.: 1.902 (waste=4.78%)

AC Pay Mg.: 37.894

AGG. 5.22%

Mix 5.85

KKF

Load ID

Wt Per Gal

Spec. Gravity

Net Mg

16761

8.3960

1.0086

24.61

17167

8.4320

1.0129

25.27

17169

8.4320

1.0129

25.22

16795

8.3960

1.0086

25.10

16806

8.3960

1.0086

25.55

8.4104

124.75

To convert ton to Mg., multiply number of tons 0.907 to get Mg.

Date: 6-3-96

Weather: Cldy., occ. rain

Type 11

Job Mix

Start: 1:15 p.m. \*

ACC

Mg. Produced: 1282.41

Stop: 5.30 p.m.

Mg. Waste: 28.95

Temp.: 20° C

Mg. Pavement Pay: 1237.46

Mix Temp.

Mg. Patching Pay: 16.00

\* Due to

Mg. Proc.: 1282.41

yesterday's

rain-plant site

saturated/fire in

heated tank @

4:00 p.m.-No

damage

Accum. Mg.-

3082.37

Plant Waste: 28.95

Mg Del. Total: 1253.46

Road Waste: 0

Plant Waste: 28.95

Total Waste: 28.95

Asphalt Cement

Start: 41.168 Mg. (volume may not be stop volume)

Added: 120.04 + 41.168 = 161.208 Mg.

Stop: 1.27 m @ 149° C = 19467 gal. = 81.863 Tons

(81.863 Tons) x .907 Mg/tons=74.249 Mg

% Waste: 2.257%

Used: 74.249

AC Mg/ACC Mg: 0.0586491139

AC Non-Pay Mg.: 1.677 Mg

(Waste = 0.02257 x 74.299)

AC Pay Mg.: 72.572 Mg

BIBA

DOR

AML 6-2-96

AGG. 6.58%

Mix 6.17

KKF

Load ID

Kg/L

Spec. Gravity

Net Mg

17062

2.2275

1.0129

24.33

17064

2.2275

1.0129

23.42

17066

2.2275

1.0129

24.96

17070

2.1955

1.0129

23.12

17074

2.1955

1.0129

24.21

2.2147

120.04

Avg.



**Excavation Record for Estimating Purposes Only  
(Not for Final Payment Measurements)**

*Excavation: \* Truck haul 10 m<sup>3</sup> Per Load  
Entries without \* are 25 m<sup>3</sup> Scraper Loads*

<b>(End Work) Date</b>	<b>Load Count</b>	<b>Daily Total</b>	<b>Accum. m<sup>3</sup></b>	<b>Insp.</b>	<b>Location/Remarks</b>
9-10-96	1040	26000.00	26000.00	DD	63800 to 62240
*9-12-96	377	3770.00	29770.00	SW	657+00-586
*9-17-96	2020	20200	49970	SW	
9-17-96	1600	41600	91570	SW	664+00-603+00
9-24-96	1368	34200	125770	DW	528+00 Rt. - 477+00 Lt.
*9-24-96	1088	10880	136650	DW	664+00 - 570+00
*10-1-96	1654	12546	153190	DW	670+00 Lt. - 653+00
10-1-96	1652	41300	194490	DW	480+00 - 465+00
10-8-96	36	972	195462	SW	530+00
*10-8-96	600	6000	201462.0	DW	553+00 - 587 Rt.
*10-14-96	1453	14530	215992.0	SW	560+00 - 571+00 Rt. Side
10-14-96	1374	37071	253063.0	DD	445+00 - 480+00 Rt.
10-22-96	677	18279	271342.0	SW	470+477+00 1655+00 - 632+00
10-29-96	665	17955	289297.0	SW	
11-5-96	448	12096	301393.0	DD	470+00 - 445+00 Lt.
11-11-96	378	10206.00	311599.0	GW	664+00 - 650+00
2-4-97	Deduct. to be paid as borrow		19967.50	DW	30045.5 farm site - 10068.0 credit
			291632.0	DW	summary from exc. borrow

**Summary of Pavement Items**

	<b>255 mm PCC Pave.</b>		<b>255 to 205 mm PCC Pavement</b>		<b>Subgrade Preparation</b>		<b>Foundation Course</b>		
<b>Date</b>	<b>Daily Total m<sup>2</sup></b>	<b>Accum. Total m<sup>2</sup></b>	<b>Daily Total m<sup>2</sup></b>	<b>Accum. Total m<sup>2</sup></b>	<b>Daily Total m<sup>2</sup></b>	<b>Accum. Total m<sup>2</sup></b>	<b>Daily Total m<sup>2</sup></b>	<b>Accum. Total m<sup>2</sup></b>	<b>Insp.</b>
8-2-96 Wed.	638.48		1890.63						X
8-3-96 Th.	4105.56	10493.04	1214.68	3105.31	Subgrade preparation and foundation course area is same as the area paved				X
8-4-96 Fr.	8487.00	18980.04	2514.67	5619.98					X
8-5-96 Sat.	8061.00	27041.04	2388.44	8008.42					X
8-7-96 Mon.	9888.52	36929.56	2776.48	10,784.90					X
8-8-96 Tu.	7646.07	44575.63	2268.92	13,053.82					X
8-9-96 Wed.	7462.56	52038.19	2061.34	15115.16					X
8-10-96 Th.	10446.00	62484.19	3095.11	18210.27					X
8-11-96 Fr.	6107.13	68591.32	1805.79	20016.06					X



**Sign Day Records**  
**August 1993**

							Weekly Total			
<table><tr><td>Date</td></tr><tr><td>No. of Signs</td></tr></table>	Date	No. of Signs	1	2	3	4	5	6	7	
	Date									
	No. of Signs									
	8	9	10	11	12	13	14			
	15	16	17	18	19	20	21			
22	23	24	25	26	27	28				
					6	6		12		
	29	30	31							
	6	6	6						18	
<table><tr><td>Date</td></tr><tr><td>No. of Signs</td></tr></table>	Date	No. of Signs				1	2	3	4	
	Date									
	No. of Signs									
				6	6	6	6		24	
	5	6	7	8	9	10	11			
6	6	6	6	6	6	6		42		
12	13	14	15	16	17	18				
6	6	6	6	6	6	6		42		
	19	20	21	22	23	24	25			
	6	6	6	6	6	6	6		42	
	25	27	28	29	30					
	6	6	6	6	6				30	

**Sign Day**

<b>Weekly Accum. Total</b>	<b>Locations</b>	<b>Insp.</b>
12	Co. Rd. Closure @ 1859+80	JS
30	Co. Rd. Closure @ 1859+80	JS
54	Co. Rd. Closure @ 1859+80	JS
96	Co. Rd. Closure @ 1859+80	JS
138	Co. Rd. Closure @ 1859+80	JS
180	Co. Rd. Closure @ 1859+80	JS
210	Co. Rd. Closure @ 1859+80	VH
10-5-96	VH	



## Barricade Records

**Item No.**  
**August 1993**

<table><tr><td>Date</td></tr><tr><td>No. of Signs</td></tr></table>	Date	No. of Signs	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr><tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr><tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>4</td><td>4</td></tr><tr><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td>4</td><td>4</td><td></td><td></td><td></td><td></td></tr></table>							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28						4	4	29	30	31					4	4	4					Weekly Total
	Date																																																										
	No. of Signs																																																										
	1	2	3	4	5	6	7																																																				
	8	9	10	11	12	13	14																																																				
	15	16	17	18	19	20	21																																																				
	22	23	24	25	26	27	28																																																				
					4	4																																																					
29	30	31																																																									
4	4	4																																																									
								8																																																			
								12																																																			

## September 1993

<table><tr><td>Date</td></tr><tr><td>No. of Signs</td></tr></table>	Date	No. of Signs				1 4	2 4	3 4	4 4	16
	Date									
	No. of Signs									
	5 4	6 4	7 4	8 4	9 4	10 4	11 4	28		
	12 4	13 4	14 4	15 4	16 4	17 4	18 4	28		
	19 4	20 4	21 4	22 4	23 4	24 4	25 4	28		
25 4	27 4	28 4	29 4	30 4			20			

## Type III Barricades

<b>Weekly Accum. Total</b>	<b>Locations</b>	<b>Insp.</b>
8	Co. Rd. Closure @ 1859+80	JS
20	Co. Rd. Closure @ 1859+80	JS
36	Co. Rd. Closure @ 1859+80	JS
64	Co. Rd. Closure @ 1859+80	JS
92	Co. Rd. Closure @ 1859+80	JS
120	Co. Rd. Closure @ 1859+80	SH
140	Co. Rd. Closure @ 1859+80	VH



<b>Sign Type</b>	<b>Signs in a Group</b>		<b>Number of Barricades</b>
	<b>(1)</b>	<b>(1A)</b>	
Road Closed	= 2	2	
Road Closed 1 Mi. Ahead		2	<i>Totals</i>
	2	4	

Type II Barr. 4

	<b>(2)</b>	<b>(2A)</b>	<b>(2B)</b>
Rt. Lane Closed Ahead	= 1	2	2
Drop Off	= 1	2	2
Shoulder Work	= 1	2	2
Bump			2
<b>Totals</b>	3	6	8

	<b>(3)</b>	<b>(3A)</b>
Left Lane Closed 1/2 Mile	= 1	1
Left Lane Closed 1500'	= 1	
Merge	= 1	1
Shoulder Work	= 2	2
Drop Off	=	4
<b>Totals</b>	5	8

64 Vertical Panels as of 6-22-96

53 Vertical Panels as of 8-6-96

	<b>Sign Group</b>	<b>Purpose</b>
4-17-96	Group 1	Shoulder Work
4-18-96	Group 1A	Shoulder Work
4-19-96	Group 2	Shoulder Work
4-20-96	Group 2 & (Group 2 Waverly Road)	Shoulder Work
4-21-96	Groups 1 & 3	Shoulder Work
4-22-96	Groups 1A & 3A	Shoulder Work
4-23-96	Groups 1 & 3	Shoulder Work
4-24-96	Groups 1 & 3	Shoulder Work
4-25-96	Groups 1 & 3	Shoulder Work
4-26-96	Groups 1 & 3	Shoulder Work
4-27-96	Groups 1 & 3	Shoulder Work
4-28-96	Groups 1 & 3	Shoulder Work
4-29-96	Groups 1, 2A, & 3	Shoulder Work
4-30-96	Groups 1 & 3	Shoulder Work
5-1-96	Groups 1 & 3	Shoulder Work
5-2-96	Groups 1 & 3	Shoulder Work
5-3-96	Groups 1 & 3	Shoulder Work
5-4-96	Groups 1 & 3	Shoulder Work
5-5-96	Groups 1 & 3	Shoulder Work
5-6-96	Groups 1 & 3	Shoulder Work
5-7-96	Groups 1 & 3	Shoulder Work
5-8-96	Groups 1 & 3	Shoulder Work
5-9-96	Group 1	Shoulder Work