NM
SPS-5

FINAL REPORT

SPS-5 PROJECT 3505: ASPHALT REHABILITATION STUDY I-10, EASTBOUND GRANT COUNTY, NEW MEXICO

FHWA/LTPP

SOUTHERN REGION COORDINATION OFFICE

May 1997

BRENT RAUHUT ENGINEERING INC.

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FINAL REPORT

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ASPHALT REHABILITATION STUDY
I-10, EASTBOUND
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FINAL REPORT - SPS-5 PROJECT 3505

ASPHALT REHABILITATION STUDY
I-10, EASTBOUND
GRANT COUNTY, NEW MEXICO

INTRODUCTION

As part of the Strategic Highway Research Program's (SHRP) Long Term pavement Performance (LTPP) Study, sections of highway are being selected to apply very specific treatments to study various facets of construction (both new and rehabilitated). These projects are referred to as Specific Pavement Studies (SPS). This particular project, on I-10 in Grant County, New Mexico, was identified as a potential candidate for inclusion in the evaluations of asphalt concrete rehabilitation (SPS-5).

SPS-5 General Experiment Design

The anticipated products of the SPS-5 experiment are included in table 1. The overall intent of the experiment is to evaluate some of the more common asphalt rehabilitation techniques currently used by State Highway Agencies (SHAs). This general evaluation is intended to include condition of the pavement prior to overlay (both structurally and functionally), the loading conditions the project is exposed to (including both environment and traffic) and finally, the various treatment applications. The standard SPS-5 experiment design consists of nine 500′ test sections (as shown in figure 1). The standard SPS-5 experiment includes four test sections which are subjected to intensive surface preparation (milling) prior to overlay vs. four test sections which will undergo minimal surface preparation, four test sections utilizing recycled mix vs. four with virgin mix and thin overlays (approximately 2″) vs. thick overlays (approximately 5″). The eight test sections represent combinations of the above mentioned features and are placed adjacent to the control section (which receives no rehabilitation) for comparison purposes. Minimal surface preparation will include patching only and/or crack sealing. Intensive surface preparation includes 2″ of milling to be conducted along with patching, if necessary.

As part of the experiment, it was designated that the recycled mixture contain 30% of the Recycled Asphalt Pavement (RAP) and that the RAP material shall be the millings from the intensive surface preparation sections.

For additional information on the general experiment design for SPS-5, please refer to "Specific Pavement Studies: Experimental Design and Participation Requirements" Operational Memorandum No. SHRP-LTPP-OM-005R.

Selection/Nomination of I-10, Eastbound

The New Mexico SPS-5 site location was identified through efforts of the personnel from the New Mexico State Highway and Transportation Department (NMSHTD). The NMSHTD reviewed anticipated rehabilitation programs to determine potential candidates.

Table 1. Key Products of SPS-5

1. Comparisons and development of empirical prediction models for performance of AC pavements with different intensities of surface preparation, with thin and thick AC overlays, and with virgin and recycled AC overlay mixtures.

2. Evaluation and field verification of the AASHTO Guide design procedures for rehabilitation of existing AC pavements with AC overlays, and other analytical overlay design procedures for AC pavements.

3. Determination of appropriate timing to rehabilitate AC pavements in relation to existing condition and type of rehabilitation procedures.

4. Development of procedures to verify and update the pavement management and life-cycle cost concepts in the AASHTO Guide using the performance prediction models developed for rehabilitated AC pavements.

5. Development of a comprehensive database on the performance of rehabilitation AC pavements for use by state and provincial engineers and other researchers.

REHABILITATION PROCEDURES			FACTORS FOR MOISTURE, TEMPERATURE, AND PAVEMENT CONDITION													
			WET								DRY					
			FREEZE				NO FREEZE				FREEZE				NO FREEZE			
SURFACE PREP	OVERLAY MATERIAL	OVERLAY THICKNESS	FAIR		POOR		FAIR		POOR		FAIR		POOR		FAIR		POOR	
Routine Maint. (Control)		0″													X			
MINIMUM	Recycled	2″													X			
	AC	5″													X			
	Virgin	2″													X			
	AC	5″													X			
INTENSE	Recycled	2″													X			
	AC	5″													X			
	Virgin	2″													X			
	AC	5″													X			

Subgrade Soil: Coarse

Traffic: > 80 KESAL/Year

X = Sections on 350500

Figure 1. SPS-5, Rehabilitation of Asphalt Concrete Pavements

As a result, an SPS-5 candidate project was nominated by the State of New Mexico in July 1995. Nomination forms, correspondence and site information is included in appendix A. The project site is located on I-10, approximately 30 miles west of Deming, New Mexico. A rest area, not located on the plans, was discovered at the site prior to the laydown of the pavement. The entrance ramp is located between Station 2+00 and 4+00 of Section 350509. This allows all the rest area traffic to completely bypass Section 350502. Uniform loadings between sections cannot be achieved due to the high percentage of traffic using the rest area. This particular project site was representative of generally coarse-grained soils. Traffic levels for this particular site were estimated at approximately 8,000 KESALs/year in the design lane. The project was officially approved on 28 August 1996.

Specific Experiment Design for I-10

Plans for this project were prepared by Keun-Wook Yi of the NMSHTD Research Division. The layout and typical sections are included in appendix A. the subgrade for this project is a silty sand corresponding to coarse-grained soil. The site was considered in fair condition, even with the high amount of rutting. No supplemental sections were included with this site.

PRECONSTRUCTION MONITORING

A number of preconstruction monitoring measurements were performed on I-10 to establish the condition prior to rehabilitation. Each preconstruction monitoring endeavor will be discussed separately in the following text.

Pavement Surface Distress

Prior to rehabilitation, each test section was marked with paint and signs, etc., to allow for the collection of pavement surface distress data. Each test section was rated manually using the SHRP Distress ID Manual. The predominant distress throughout all test sections was low severity longitudinal cracking outside the wheel-paths, including low severity transverse cracking. This roadway was milled prior to the distress survey, which reduced the quality of rutting information collected. The sections were cold-milled to a depth of 2″ from the surface. The distress survey still detected rutting in several sections. James Fields, Contractor Foreman, was contacted to determine the extent of the milling and rutting. He indicated that there was up to 3″ of rutting in areas, especially at Section 350508. An additional 0.5″ of milling was performed on the last 400 ′ of Section 350508 (Station 1+00 to 5+00).

Structural Capacity

Deflection measurements were performed beginning on 27 May 1996, in conjunction with the distress surveys, and concluded 30 May 1996. Deflection measurements were obtained using the SHRP Falling Weight Deflectometer (FWD) to evaluate the structural capacity of each of these test sections. Deflection measurements were recorded from a series of varying weights in a set pattern at 25′ intervals to measure the subsurface response (deflection) of the structural layers in that highway segment. Results of the deflection testing are included in appendix D. These tests had to be performed on the milled surface of Sections 01, 06, 07, 08 and 09.

Materials Sampling and Testing

Materials sampling and testing was performed on 29 August 1996 by one of the NMSHTD subcontractors, following a Material Sampling and Testing Guide established specifically for this project (see appendix C). The subcontractors furnished a drill rig for completing the augering, shoulder probes, subgrade sampling and coring.

The cores extracted during the preconstruction sampling indicated that up to five distinct layers were present at various points along the SPS-5 sections. This can be explained partially by the plans (I-010-1(11)35) obtained at the NMSHTD District 1 office in Deming, New Mexico. The plans are dated 28 June 1965. The existing pavement had two lifts of 1½" plant mix in place with an additional three lifts of HMAC, with thicknesses of 1", 2" and 2". It appears that a surface treatment was applied upon completion of the construction, but there is no thickness indicated (approximately 25 lbs./SY). If you include 1" for surface treatment, the total thickness of the AC layer should be approximately 9". The materials sampling and testing plan layout indicated an existing thickness of 9.5", which corresponds to the construction plans.

The original condition of the sections were examined while performing distress surveys. It was noticed that there were distinct color differences in the pavement surface between the outside and inside lanes. This can be explained by the plans (IR-010-1(39)34), obtained at the NMSHTD District 1 office in Deming. The plans are dated 26 May 1983. Cold-milling of the top 1½" was performed on the outside (driving) lane (eastbound) and a 5/8" seal coat was applied along both eastbound lanes. A set of the construction plans are included in appendix B.

CONSTRUCTION MONITORING

Following are details of the construction event relating to the asphalt rehabilitation on I-10 in the eastbound lane in Grant County, New Mexico. This SPS-5 rehabilitation project included nine 500' test sections.

At the preconstruction meeting on 22 August 1996, the contractor noted that they wanted to proceed as soon as possible. No significant concerns were expressed regarding the construction of these test sections.

Two inches of cold-milling was performed on sections 01, 06, 07, 08 and 09 on 30 April 1996. The sections were open to traffic from the time of milling to the beginning of paving operations on 4 September 1996.

Paving operations always began with sweeping of the lanes and application of a tack coat at a rate of .02/sq. yd. The mix was laid using a Blaw-Knox 3045 paver with a CMI 3030 loader. Trucks with belly dumps were used throughout the project. The material was compacted using a Caterpillar CB-614 steel-wheel roller, a Dynapac CP27 pneumatic roller and a RayGo Ranger 2-66 steel-wheel finishing roller. The lifts were laid in 2.5" to 3.0" thicknesses,

depending on the design thickness specified in the plans. The initial steel-wheel applied 6 to 8 coverages, the pneumatic applied 8 coverages and the finishing steel-wheel applied 2 coverages.

The plant was located at Milepost 38, approximately 16 miles from the project, off I-10. The plant was a Barber-Greene batch plant, which provided all of the virgin and recycled mix. The RAP contained 30% recycled. Initial compaction results showed high air voids of approximately 8%. The oil was boosted to reduce this problem in time for the RAP overlay of Sections 08 and 09.

Elevations were taken on the milled surface and every subsequent overlay. Thickness information and cross-profiles of each section is provided in appendix E.

Section 01 received 2″ of cold-milling and a 2″ inlay. the section was intended to receive only minor maintenance (crack sealing, patching, etc.) and serve as the control section. The typical section for the entire site along I-10, except for the SHRP sections, was to receive the same treatment. This allowed a misunderstanding of the purpose and design of Section 01 with respect to all other SPS-5 sections. The site will provide valuable information on the comparison of the different rehabilitation methods when compared to the original intended control. Even though comparisons between the different rehabilitation methods and unrehabilitated section will not be made, there are still valuable comparisons that can be made between the relative performance of the different rehabilitation methods.

A friction course approximately 1″ in thickness was applied to all surfaces traversing all lanes. Rod and level shots were obtained for the most part before and after all lifts constructed. Because the OGFC was laid over three months after construction, the postconstruction cores did not contain the OGFC layer.

POSTCONSTRUCTION MONITORING

Following the completion of all rehabilitation applications, postconstruction sampling was initiated. These monitoring activities consisted of similar types of sampling activities that took place prior to construction.

Materials Sampling and Testing

The postconstruction sampling and testing (coring of 4″ cores) was performed the day after construction of each section. Coring was performed 25′ from the approach and leave end of each test section according to the layout diagram in the Material Sampling Plan prepared for this experiment. Sampling was conducted by the state's subcontracted laboratory. Testing is currently under-way and near completion, utilizing SHRP test protocols.

SUMMARY

After review of all pertinent data retrieved from the ensuing construction events, additional monitoring efforts have begun of the test sections located on I-10 in Grant County, New Mexico. It appears that this project will contribute to the research efforts. Special consideration should be given to members of the NMSHTD. In particular, much of the credit is due to individuals such as John Tenison, Keun-Wook Yi and Jim Stokes, for their efforts in expediting the necessary tasks to make this project possible. Credit is also due to James Fields and Danny Marres, of Hamilton Construction, for their efforts in providing BRE personnel with all the requested information.

Currently, monitoring efforts are scheduled and we will continue noting changes in the surface distress, surface profile and structural capacity, and compare those data with other projects of this nature around the country in an attempt to improve on existing asphalt pavement rehabilitation design methods.

APPENDIX A

SITE NOMINATION FORMS, APPROVAL CORRESPONDENCE AND SITE INFORMATION

Brent Rauhut Engineering Inc.

21 July 1995

Mr. Monte Symons
Pavement Performance Division - LTPP (HNR-40)
Federal Highway Administration
Turner-Fairbanks Highway Research Center
6300 Georgetown Pike, Room F-215
McLean, Virginia 22101

Subject: New Mexico SPS Project Nominations

Dear Monte,

On 10 July, I was provided nomination forms for SPS-5, SPS-8 and SPS-9A projects by the New Mexico State Highway and Transportation Department. Copies of the nomination forms are enclosed for your review. The unique aspect of this is that the test sections for all three experiments are within the same construction project. We have reviewed the proposed project and recommend the acceptance of all three experiment nominations.

The construction project involves the rehabilitation of IH-10, west of Deming, New Mexico. As part of the rehabilitation activities, the NMSHTD will alter the plans to include SPS-5, and SPS-9A test sections in the eastbound main lanes. There is a frontage road adjacent to the eastbound lanes, but because this is a rural site, the frontage road provides access for two farms to the Interstate. The frontage road exists as a graded aggregate surface. The NMSHTD proposes to pave test sections in accordance with the SPS-8 criteria. A weigh-in-motion site and provisions for an automated weather station are also included.

For the record, we recognize and commend the initiative and creativity of the NMSHTD staff who have made this project possible. Recognition should also be given to the FHWA New Mexico Division office, who has been working closely with the NMSHTD in these efforts.

Your prompt consideration of these nominations would be greatly appreciated. As the project is scheduled for letting in the near future, we are expediting the preparation of

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sampling and testing plans. If you need additional information or clarification, please contact me.

Sincerely,

Mark P. Gardner, P.E.
Project Engineer, SRCO

MPG:dmj

Enclosures: As stated.

c.w/Att: Gonzalo Rada, PCS/LAW

c.w/o Att: Fred Cooney, NMSHTD
Keun-Wook Yi, NMSHTD
Reuben Thomas, FHWA-NM Div.
Morris Reinhardt, RE/SRCO
Brent Rauhut, SRCO/File:

SHEET A. SPS-5 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE New Mexico

PROJECT LOCATION

ROUTE NUMBER IH-10

ROUTE SIGNING [X] Interstate [] U.S. [] State [] County

Other

PROJECT LOCATION Start Milepost 51 End Milepost 54

Start Station 900+00 End Station 1007+50

PROJECT LOCATION DESCRIPTION 1.0 Mile west of the GRANT/LUNA Co. Line.

COUNTY Grant

HIGHWAY AGENCY DISTRICT NUMBER 1

SHRP ENVIRONMENTAL ZONE

[] WET FREEZE [] WET NO-FREEZE [] DRY FREEZE [X] DRY NO-FREEZE

SIGNIFICANT DATES

LATEST DATE OF APPROVAL NOTIFICATION FROM SHRP

CONTRACT LETTING DATE Aug. 95

ESTIMATED CONSTRUCTION START DATE Oct. 95

PROJECT DESCRIPTION

YEAR OPENED TO TRAFFIC 1971

NUMBER OF LANES (One Direction) 2

[X] Divided [] Undivided

OUTSIDE LANE WIDTH (Feet) 12

OUTSIDE SHOULDER TYPE

[] Turf [] Granular [X] Asphalt Concrete [] Surface Treatment

[] PCC [] Curb and Gutter Other

OUTSIDE SHOULDER WIDTH (Feet) 10

SUBSURFACE EDGE DRAINS [] Placed at initial construction [X] Not Used

[] Retrofitted Retrofit Date

ASSESSMENT OF PRESENT PAVEMENT CONDITION [X] Fair [] Poor

PREDOMINATE DISTRESSES

[] Fatigue Cracking [X] Other Cracking [] Potholes/Patches [] Rutting

Comments Thermal Cracking

SHEET B. SPS-5 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE New Mexico

PAVEMENT STRUCTURE LAYER DESCRIPTIONS

LAYER[1] NO.	LAYER[2] DESCRIPTION CODE	MATERIAL TYPE[3] CLASS CODE	THICKNESS[4] (INCHES)	STRUCTURAL[5] COEFFICIENT
1	SUBGRADE (7)	5 9		
2	0 5	2 3	1 2.0	0.0 8
3	0 3	0 1	9.5	0.3 0
4			.	0.
5			.	0.
6			.	0.
7			.	0.
8			.	0.
9			.	0.

NOTES

1. Layer 1 is the natural occurring subgrade soil. The existing surface will have the largest assigned layer number.

2. Layer description codes:

Overlay 01	Base Layer 05	Porous Friction Course . 09
Seal Coat 02	Subbase Layer 06	Surface Treatment 10
Original Surface . 03	Subgrade 07	Embankment (Fill) 11
Subsurface HMAC .. 04	Interlayer 08	

3. Refer to Tables 1 through 4 for material class codes.
4. If subgrade depth to a rigid layer is known, enter this depth for subgrade, otherwise leave blank for subgrade layer.
5. Enter AASHTO structural layer coefficient used in pavement design or typical coefficient used by agency for this material. For the subgrade, enter either AASHTO soil support value or estimated resilient modulus.

SHEET C. SPS-5 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE New Mexico

TRAFFIC DATA

ANNUAL AVERAGE DAILY TRAFFIC (TWO DIRECTION)	4110
% HEAVY TRUCKS AND COMBINATIONS (OF AADT)	51%
COUNT YEAR OF AADT ESTIMATE	1995
TRAFFIC GROWTH RATE SINCE PROJECT OPENED TO TRAFFIC (%/YR)	3%
18K ESAL RATE IN PROPOSED STUDY LANE (1,000 ESAL/YR)	8,021
YEAR OF ESAL RATE ESTIMATE	1995
ESTIMATED TOTAL 18K ESAL APPLICATIONS IN STUDY LANE[1]	218,000,000

REHABILITATION INFORMATION[2]

PRIMARY CAUSE FOR REHABILITATION Pavement structural enhancement

OVERLAY	Thickness (Inches)	Material Type Class Code
Surface Course	5/8"	OGFC
HMAC ~~Binder~~ Course	4.5"	HMAC

SURFACE PREPARATION PRIOR TO OVERLAY

[] Patching [] Crack Sealing [X] Milling Depth of Mill 3"

Other 3" Cold In Situ Recycling

OTHER CONSTRUCTION ACTIVITIES TO BE PERFORMED DURING REHABILITATION

Repair isolated failure areas.

NOTES

1. Leave blank if estimate is not available.
2. This information concerns the planned rehabilitation work to be performed by the agency on the non-experimental portions of the project.

SHEET D. SPS-5 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE New Mexico

TEST SECTION LAYOUT

NUMBER OF TEST SECTIONS ENTIRELY ON: FILL All CUT _____

SHORTEST TRANSITION BETWEEN CONSECUTIVE TEST SECTIONS (Feet) 200

COMMENTS ON DEVIATIONS FROM DESIRED SITE LOCATION CRITERIA None

OTHER SHRP TEST SECTIONS

DOES PROJECT CONFORM TO GPS-1 OR GPS-2 PROJECT CRITERIA?	[X] YES	[ ] NO
DOES AGENCY APPLIED TREATMENT QUALIFY FOR GPS-6B?	[ ] YES	[X] NO
IS PROJECT SUITABLE FOR SPS-3 TEST SECTIONS?	[ ] YES	[X] NO
IS AGENCY INTERESTED IN USE OF PROJECT AS SPS-3 SITE?	[ ] YES	[X] NO

DISTANCE TO NEAREST GPS TEST SECTION ON SAME ROUTE (Miles) None

TEST SECTION NUMBER OF NEAREST GPS SECTION N/A

SUPPLEMENTAL TEST SECTIONS

IF SUPPLEMENTAL EXPERIMENTAL TEST SECTIONS ARE PROPOSED, COMPLETE THE FOLLOWING

TOTAL NUMBER OF SUPPLEMENTAL TEST SECTIONS _____

FACTORS TO BE INVESTIGATED _____

U.S. Department of Transportation
Federal Highway Administration

NAME	INFO	ACTN	COPY
BR			
~~MRF~~	✓		✓
MR	✓		
File: Copies 13.2.5.2			

13.2.8.2
13.2.9.2

RECEIVED JAN 2 2 1996

Memorandum

6300 Georgetown Pike
McLean, Virginia 22101
HNR-30 0196-96K-002

Subject: ACTION: Specific Pavement Study (SPS) New Mexico Allocation of Incentive Funds

Date: January 5, 1996

From: Director, Office of Engineering Research and Development

Reply to Attn of: HNR-30

To: Mr. Edward A. Wueste
Regional Federal Highway Administrator (HEO-06)
Fort Worth, Texas

We have received and reviewed the SPS-5, 8, and 9A project nominations in New Mexico for the Long-Term Pavement Performance (LTPP) program. These sites are approved for inclusion into the program. These sites are located on I-10 in Grant County.

The inclusion of these sites into the LTPP program allows New Mexico State Highway and Transportation Department (SHTD) to be eligible for incentive funds associated with the SPS experiments. This memorandum authorizes the obligation of $30,000 for the SPS-5 site, $30,000 for the SPS-8 site, and $30,000 for the SPS-9A site for fiscal year 1996 of appropriation code 96K funds subject to the following:

1. New Mexico SHTD's continued agreement to conform to all of the design and participation requirements of the experiment.

2. Funds are to be used for reimbursement of costs associated with the SPS projects that include: (a) the purchase and/or installation of weigh-in-motion and/or automated vehicle classification equipment; (b) conventional sampling and materials testing; and/or (c) traffic control expenditures that are incurred as part of these data collection activities.

The Federal share for the first $90,000 of the above work is 100 percent. Costs in excess of $90,000 may be eligible for reimbursement as part of the regular Federal-aid construction and/or research programs. The appropriation code 96B and the Fiscal Management Information System and regular Federal-aid procedures are to be used to track expenditures. By copy of this memorandum, we are requesting the Program Analysis Division

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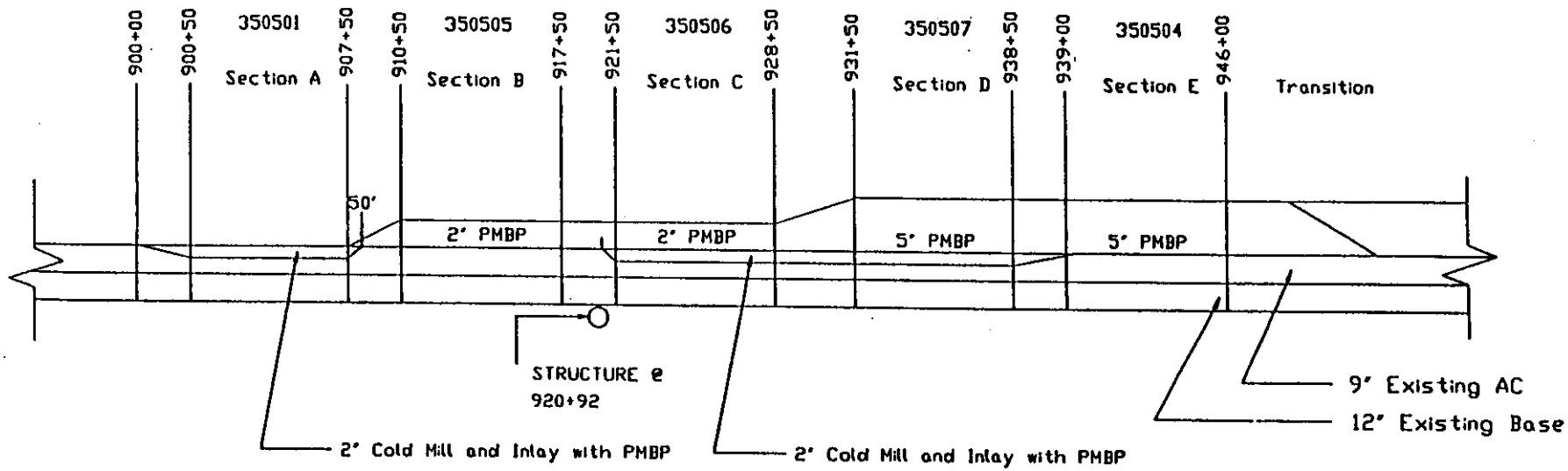
(HFS-30) to increase New Mexico's obligation limit by $90,000. These funds must be obligated by August 1, 1996, or the funds will be withdrawn.

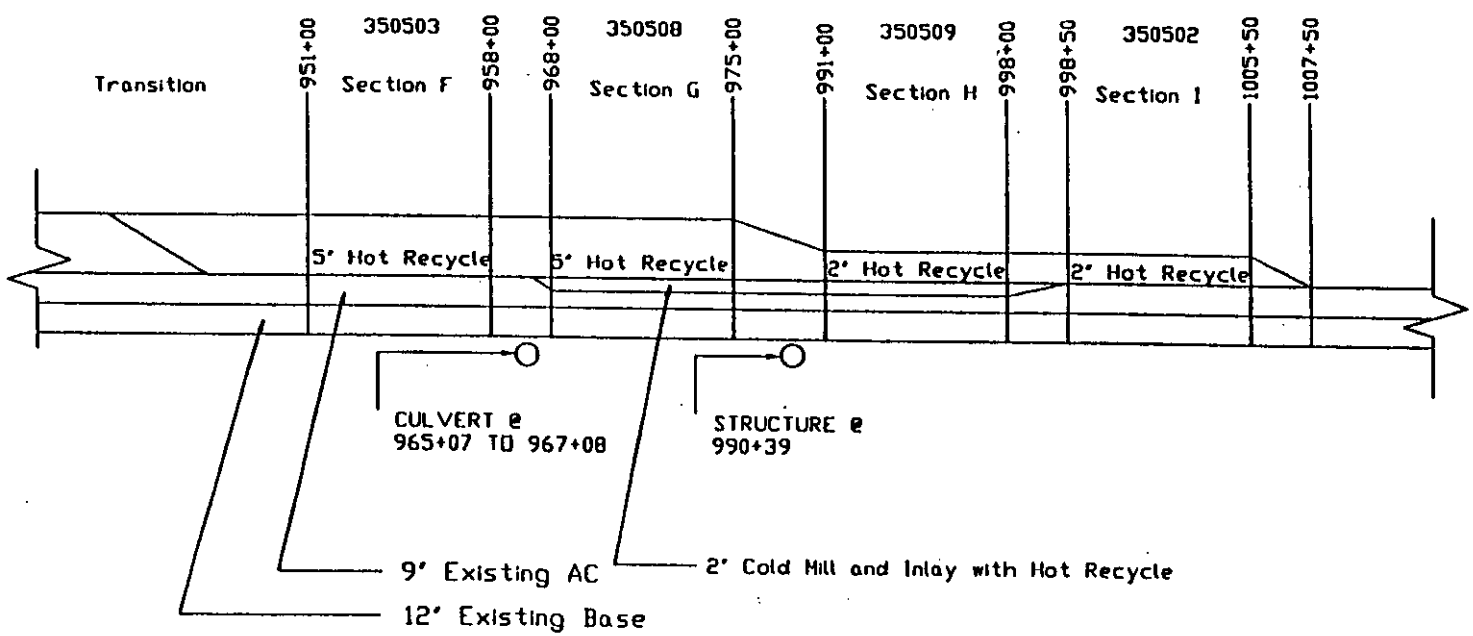
Information from these sites and the other SPS-5, 8, and 9A locations will contribute significantly to achieving the goals of the LTPP program. Participation of the New Mexico SHTD and the cooperation and assistance of the FHWA Region 6 and New Mexico Division staff in the LTPP program is appreciated.
Upon receipt of this memorandum, the New Mexico Division Office is requested to officially notify New Mexico SHTD of the approval of the SPS-5, 8, and 9A sites and availability of the incentive funds.

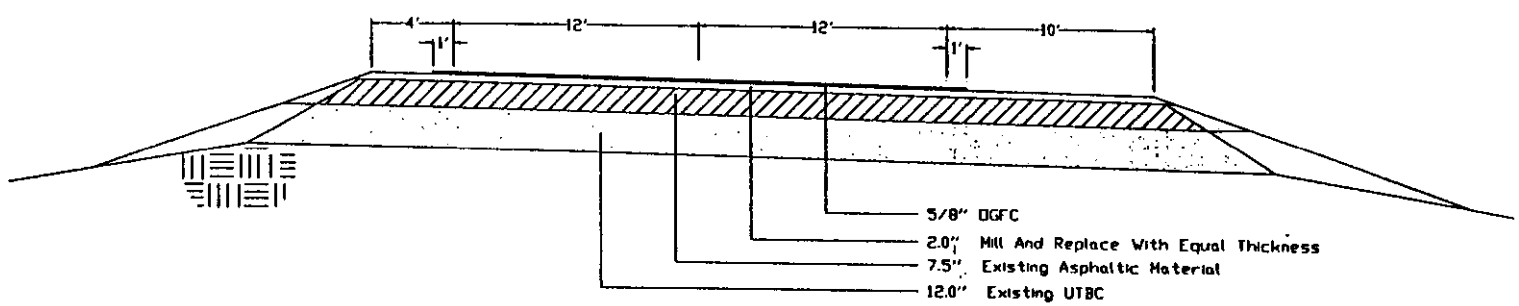
Any questions concerning the incentive funds should be directed to Mr. Monte Symons at (703) 285-2730. Questions related to the project status, testing, and/or coordination should be directed to either Mr. Symons or Mr. Morris Reinhardt, LTPP Southern Regional Engineer. Mr. Reinhardt can be reached at (512) 346-7477.

Charles J. Nemmers, P.E.

cc: Mr. Morris Reinhardt

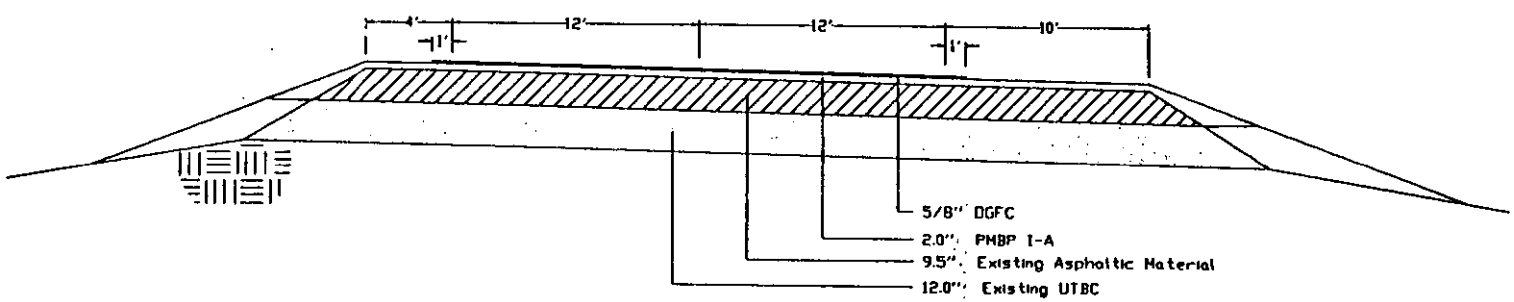

900+00
900+50
350501
Section A
907+50
910+50
350505
Section B
917+50
921+50
350506
Section C
928+50
931+50
350507
Section D
938+50
939+00
350504
Section E
946+00
Transition
50'
2" PMBP
2" PMBP
5" PMBP
5" PMBP
STRUCTURE @
920+92
9" Existing AC
12" Existing Base
2" Cold Mill and Inlay with PMBP
2" Cold Mill and Inlay with PMBP


Transition
951+00
350503
Section F
958+00
968+00
350508
Section G
975+00
991+00
350509
Section H
998+00
998+50
350502
Section I
1005+50
1007+50
5" Hot Recycle
5" Hot Recycle
2" Hot Recycle
2" Hot Recycle
CULVERT @
965+07 TO 967+08
STRUCTURE @
990+39
9" Existing AC
2" Cold Mill and Inlay with Hot Recycle
12" Existing Base



TYPICAL SECTION "A"
S.H.R.P. SECTION 350501
(EBL STA. 900+50 TO STA. 907+50)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT
MISCELLANEOUS
DRAWINGS
DRAWINGNAME



TYPICAL SECTION "B"
S.H.R.P. SECTION 350505
(EBL STA. 910+50 TO STA. 917+50)

F.H.W.A. Region No. 6
NEW MEXICO PROJECT NO.
PROJECTNO.
SHEET NO.
SHEETNO.

NO. | DESCRIPTION | DATE | BY
REVISIONS (OR CHANGE NOTICES) DATE BY

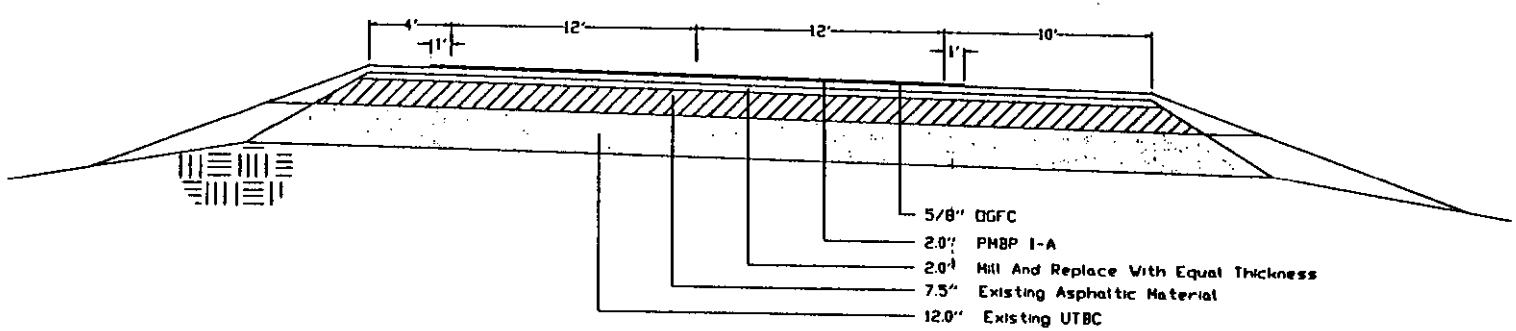
NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

MISCELLANEOUS
DRAWINGS

SPS-5

CHECKED BY: CHECKBY
DRAWN BY:
DESIGNED BY: DESIGNER
FILENAME

N.S.P. PROJECTNO. SHEET NO. SHEETNO.

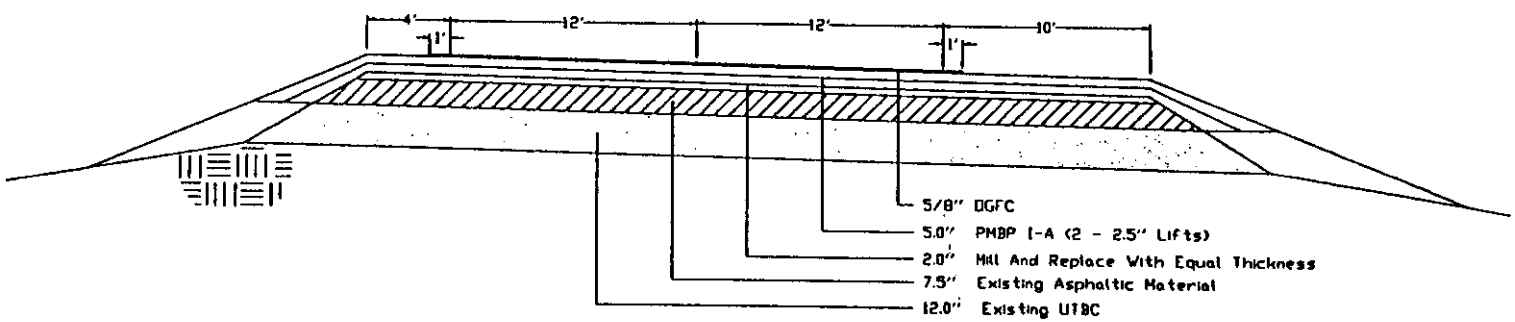


TYPICAL SECTION "C"
S.H.R.P. SECTION 350506
(EBL STA. 921+50 TO STA. 928+50)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

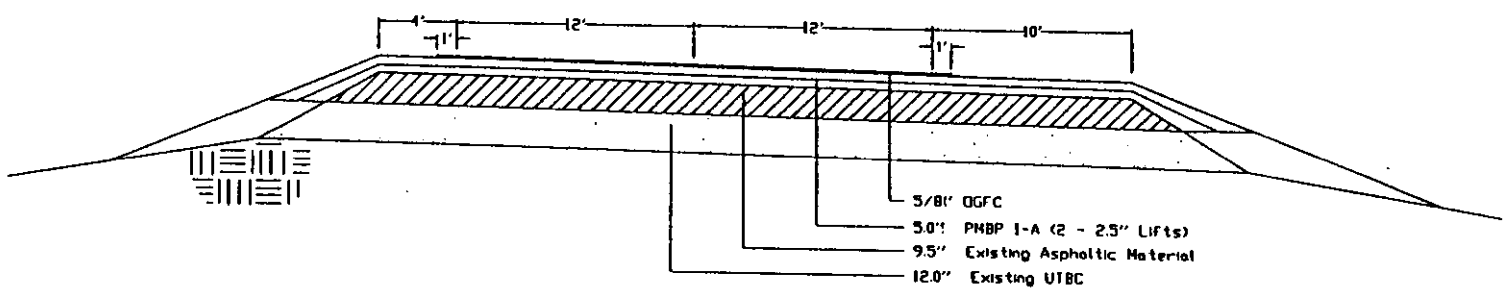
MISCELLANEOUS
DRAWINGS

SPS-5



TYPICAL SECTION "D"
S.H.R.P. SECTION 350507
(EBL STA. 931+50 TO STA. 938+50)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT
MISCELLANEOUS
DRAWINGS
DRAWINGNAME

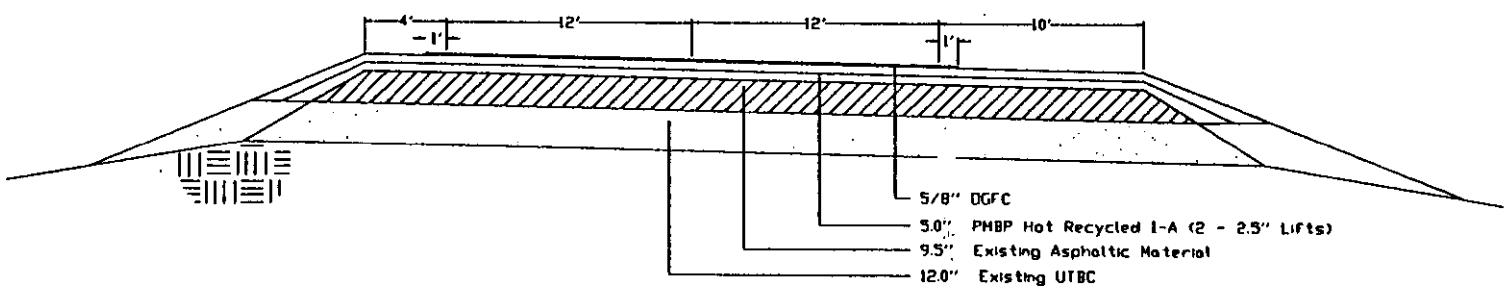


TYPICAL SECTION "E"
S.H.R.P. SECTION 350504
(EBL STA. 939+00 TO STA. 946+00)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

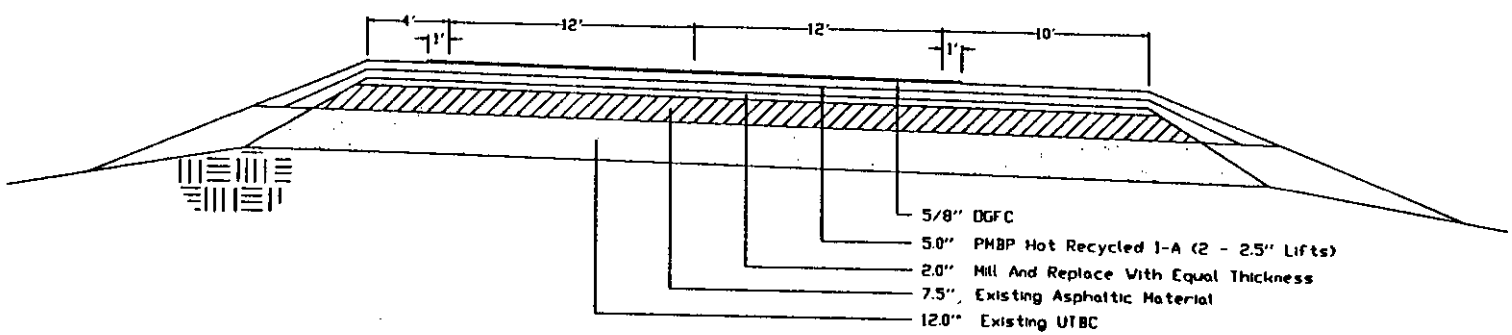
MISCELLANEOUS DRAWINGS

SPS-5



TYPICAL SECTION "F"
S.H.R.P. SECTION 350503
(EBL STA. 951+00 TO STA. 958+00)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT
MISCELLANEOUS
DRAWINGS
SPS-5

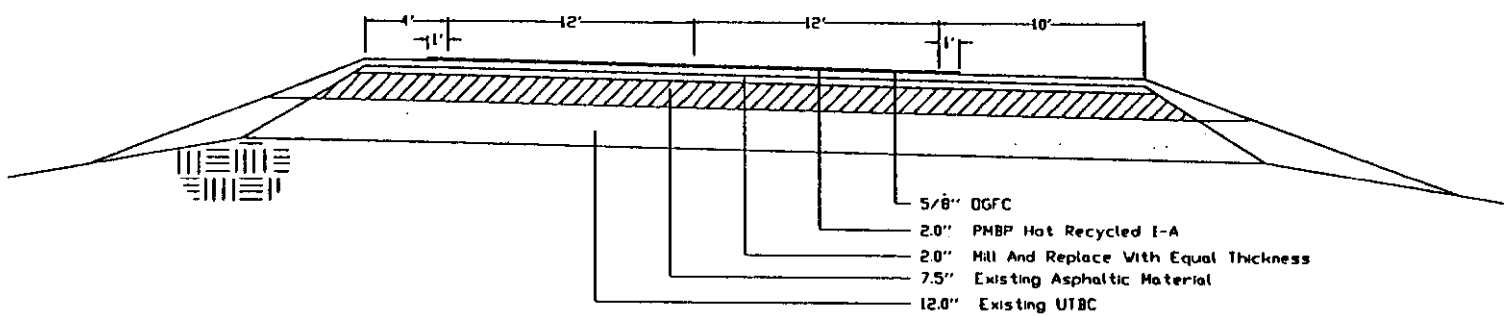


TYPICAL SECTION "G"
S.H.R.P. SECTION 350508
(EBL STA. 968+00 TO STA. 975+00)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

MISCELLANEOUS
DRAWINGS

SPS-5

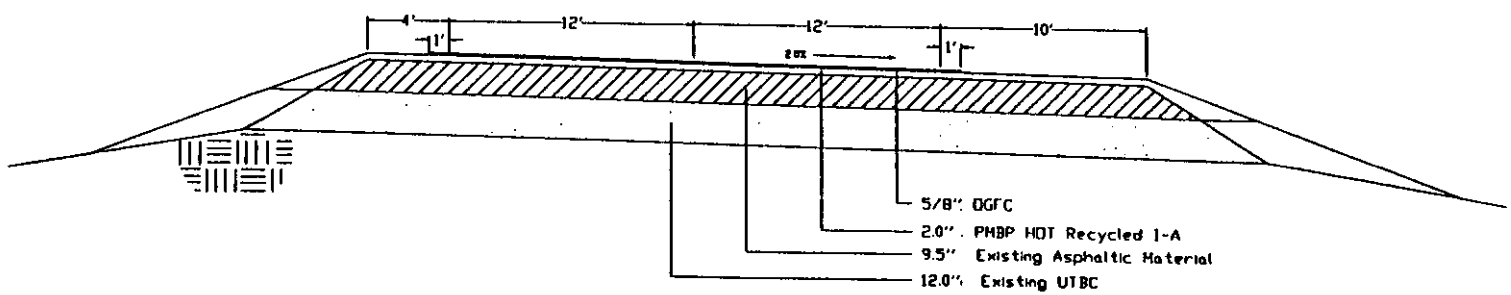


TYPICAL SECTION "H"
S.H.R.P. SECTION 350509
(EBL STA. 991+00 TO STA. 998+00)

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

MISCELLANEOUS
DRAWINGS

SPS-5



TYPICAL SECTION "I"

S.H.R.P. SECTION 350502

(EBL STA. 998+50 TO STA. 1005+50)

F.H.W.A Region No. 6
NEW MEXICO PROJECT NO.
PROJECTNO.
SHEET NO.
SHEETNO.

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES) DATE BY

NEW MEXICO STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT

MISCELLANEOUS DRAWINGS

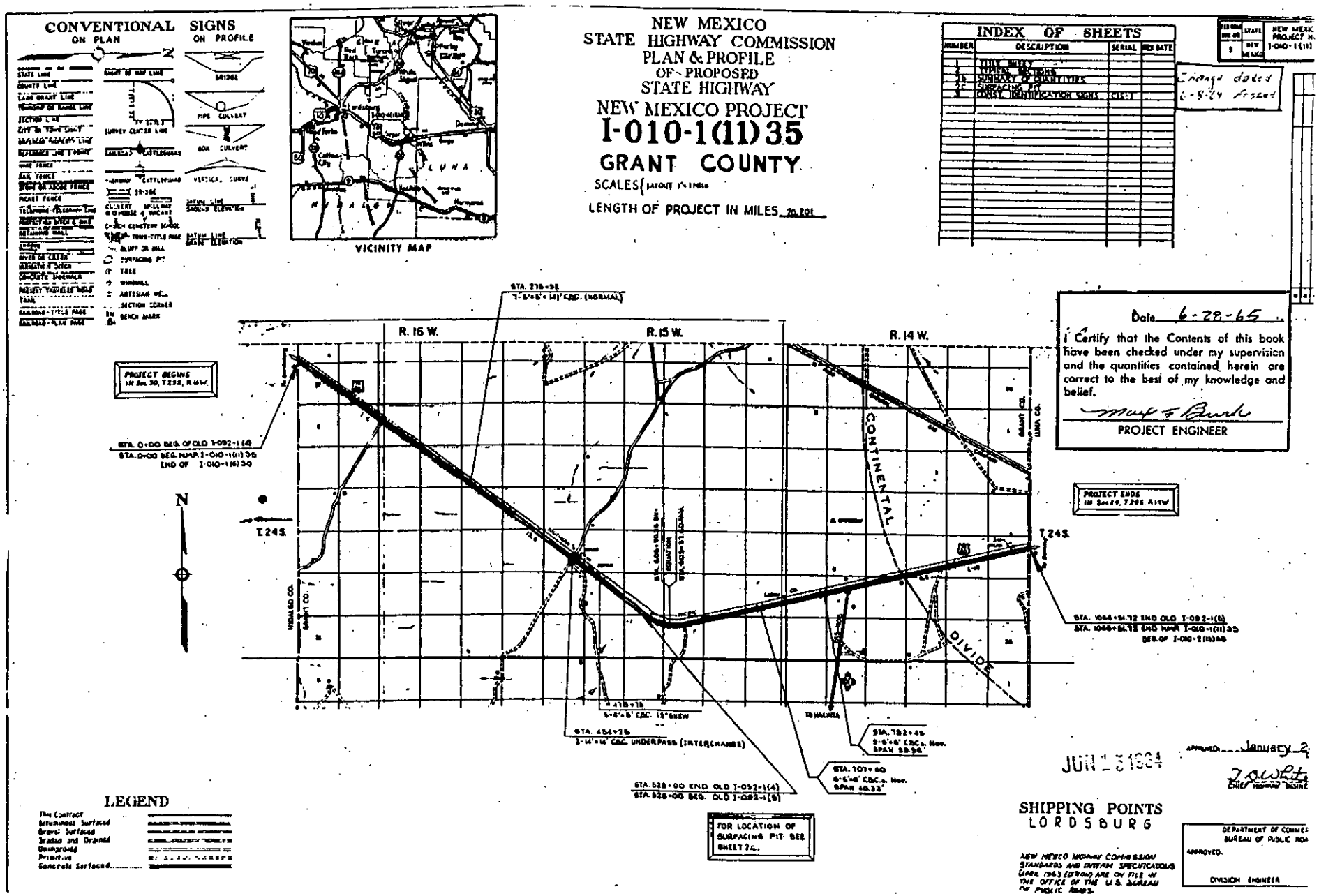
SPS-5

N.M.P. PROJECTNO. SHEET NO. SHEETNO.

CHECKED BY: CHKBY
DRAWN BY:
DESIGNED BY: DESIGNER
FILENAME

APPENDIX B

1983 REHABILITATION CONSTRUCTION PLANS


CONVENTIONAL SIGNS
ON PLAN
ON PROFILE
VICINITY MAP
NEW MEXICO
STATE HIGHWAY COMMISSION
PLAN & PROFILE
OF PROPOSED
STATE HIGHWAY
NEW MEXICO PROJECT
I-010-1(11)35
GRANT COUNTY
SCALES
LENGTH OF PROJECT IN MILES 20.201
INDEX OF SHEETS
NUMBER
DESCRIPTION
SERIAL
REV. DATE
1 TITLE SHEET
2 TYPICAL SECTIONS
3 SUMMARY OF QUANTITIES
4 SURFACING PIT
5 CONST. IDENTIFICATION SIGNS
Change dated 6-8-64 issued
Date 6-28-65
I Certify that the Contents of this book have been checked under my supervision and the quantities contained herein are correct to the best of my knowledge and belief.
PROJECT ENGINEER
R. 16 W.
R. 15 W.
R. 14 W.
T. 24 S.
CONTINENTAL
DIVIDE
PROJECT BEGINS
PROJECT ENDS
STA. 0+00 BEG. OF OLD I-092-1(4)
STA. 0+00 BEG. NMP. I-010-1(11)35
END OF I-010-1(6)30
STA. 1066+51.72 END OLD I-092-1(5)
STA. 1066+51.72 END NMP. I-010-1(11)35
BEG. OF I-010-2(15)30
STA. 236+52
3-6'x6'x14' CBC. (NORMAL)
STA. 454+26
3-14'x14' CBC. UNDERPASS (INTERCHANGE)
STA. 526+00 END OLD I-092-1(4)
STA. 526+00 BEG. OLD I-092-1(5)
STA. 707+60
6-6'x6' CBC.s. Nor.
SPAN 40.33'
STA. 792+49
8-6'x6' CBC.s. Nor.
SPAN 59.96'
TO MALAGA
FOR LOCATION OF SURFACING PIT SEE SHEET 2c.
LEGEND
The Contract
Bituminous Surfaced
Gravel Surfaced
Graded and Drained
Unimproved
Primitive
Concrete Surfaced
JUN 1 5 1964
APPROVED January 2
CHIEF HIGHWAY ENGINEER
SHIPPING POINTS
LORDSBURG
NEW MEXICO HIGHWAY COMMISSION STANDARDS AND INTERIM SPECIFICATIONS (APRIL 1963 EDITION) ARE ON FILE IN THE OFFICE OF THE U.S. BUREAU OF PUBLIC ROADS.
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER

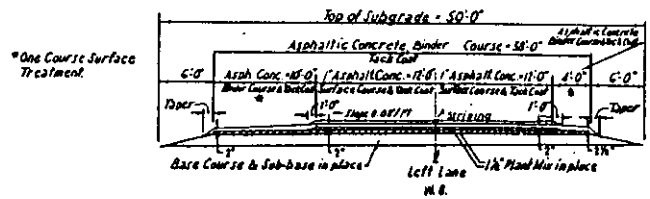
DESIGN SPEED 70 M.P.H.

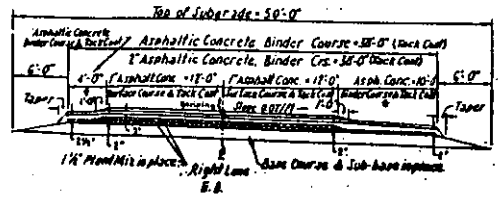
A.D.T. (1958) - 3,560 - Heavy Commercial 20.0%
A.D.T. (1975) - 10,020 - Heavy Commercial 15.0%
D.H.V. (1975) - 1,353 - Heavy Commercial 13.0%
EWL(E) - 117 Million
Traffic Index 10.4

NO.	DESCRIPTION	DATE	BY
1	Typical Section, Details, Notes 6-3-64		

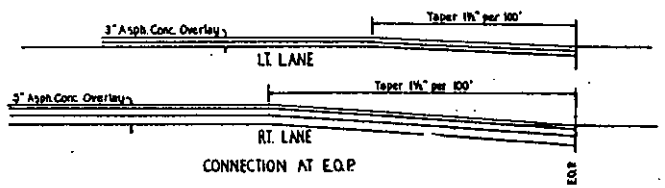
REVISIONS FOR CHANGE NOTICES

DIST.	COUNTY	ROUTE	NM.
9			1-010-1



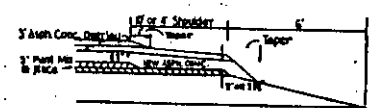


TYPICAL ROADWAY SECTION

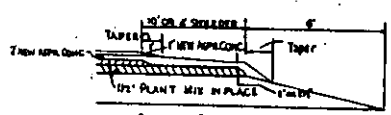


CONNECTION AT E.O.P.

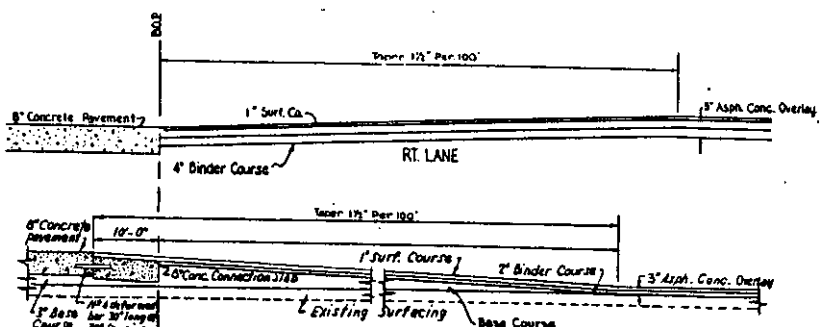
Note:
Removal of Surf in place at Conn. to be considered Incidental and no measurement or payment will be made therefore.



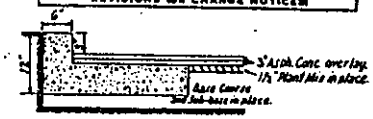
SHOULDER DETAIL - RIGHT LANE



SHOULDER DETAIL - LEFT LANE



CONNECTION BETWEEN CONCRETE PAVEMENT AND ASPHALT CONC. PAVEMENT AT B.O.P.



CONCRETE CURB & GUTTER IN PLACE.
Entrance & Exit Ramps - West Bound Lane

ESTIMATED QUANTITIES

ITEM	ASPHALT MATERIAL Type AS-100	ASPHALT MATERIAL Type RS-150	Asphalt Material MC-Type 250+	ESTIMATED TONS PER CU. YD.
Tack Coat	0.01 to 0.05 Gal/S.Y.			
~~Prime Coat~~			~~0.25 Gal/S.Y.~~	
Asphalt Concrete Binder Course, Type I	5.25% Grading "B"			2.025
Asphalt Concrete Surf. Course, Type I	5.5% Grading "C"			2.025
One Course Surface Treatment		0.50 Gal/S.Y.		
Untreated Base Co.				2.000

SURFACING NOTES

After the Plant Mix Surfacing in place has been cleaned satisfactorily the Co. a Tack Coat of Asphaltic Material, Type AS-100, shall be applied immediately to the placing of the Asphalt Concrete. If necessary, a Tack Coat shall be ap between each succeeding lift of Asphalt Concrete as shown on Typical Sections.

Amounts of Asphaltic Materials shown are for estimating purposes only. C amounts will be determined by the Materials and Testing Laboratory.

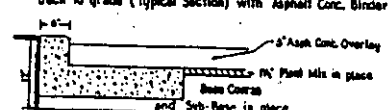
No additional Roadside improvements are contemplated at this time.

At the direction of the Project Engineer, each application of the tack co be rolled with Pneumatic Tired Roller to secure uniform distribution

~~Asphalt Concrete quantities for Binder Course have been increa by 25%.~~ 6-3-64

NOTE: 2000 TONS OF BASE COURSE HAVE BEEN ADDED TO THE PLANS FOR AND LATERAL SUPPORT AS DIRECTED BY THE PROJECT ENGINEER.

The Plant Mix surface course in place to be removed and disposed off to a c at locations designated by the Project Engineer. (Approx. 2000 Sq. Yds.) After the existing Plant Mix surfacing is removed, these sections are to back to grade (Typical Section) with Asphalt Conc. Binder Co. (Grading



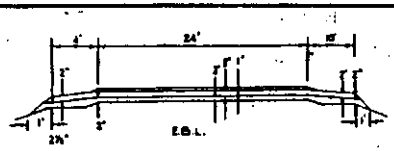
CONCRETE CURB & GUTTER IN PLACE
Entrance & Exit Ramps - East Bound Lane

Length of Project

Station	to	Station	Lin. Feet	Miles
I-092-1(4) AS Built				
0+00		528+00	52800.00	10.000
I-092-1(5) AS Built				
528+00		605+50.36 BK.	7750.36	
605+37.60 AH.		707+99.835	10202.235	
707+80.165		792+15.02	8434.855	
792+74.98		1066+81.72	27376.74	
TOTAL ROAD WAY			53764.19	10.182

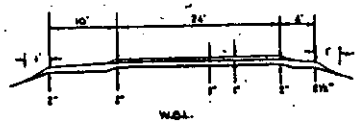
Major Structures

Station	to	Station	Lin. Feet	Miles
707+99.835		707+80.165	40.33	
792+15.02		792+74.98	59.96	
TOTAL			100.29	0.019
GRAND TOTAL			106664.48	20.201



Binder A = -(.1250×1)+(24×.3333)+2(.4564+.2750)
+ 5(.4564+.3333) + .5(.3750+.3333)
= 13.6844 ᵐ²

Surface A = 26×0.0833 = 2.0625ᵐ²



Binder A = -.1250×10(.2917+.4667)+2×(24×.4667)
+2(.2917+.2064)+ .5(.4667+.2064)
= 7.2856ᵐ²

Surface A = 26×0.0833 = 2.0625ᵐ²

SURFACING SCHEDULE

Description	Length of Surfacing in Feet	Asphalt Conc. Type I		Tack Coat		One Course Surf. Treat		
		Binder Course Tons	Surf. Course Tons	Width	Sq. Yds.	Width	Sq. Yds.	Tons
East Bound Lane	106,664.48	110,632.93	16,659.71	* 104	1,232,567.32	14'	165,922.52	2074.03
West Bound Lane	106,664.48	58,843.59	16,659.71	? 86'	682,206.18	14'	165,922.52	2074.03
Sub-Total		169,476.52	33,319.42		2,014,773.50			
+25 % Corr. Work		42,419.13	—		—			
Sub-Total		212,095.65	33,319.42		2,014,773.50			
3" Refilling Asph. Conc.	1,466.80	329.85	—	+ 24'	3,908.34			
Grand Total		212,425.50	33,319.42		2,018,682.84		331,845.04	4,148.06
Use		212,430	33,330		2,018,682.84		331,900	4,150

Computations

Refilling (1466)(12)(.25)(2.025)/27 = 329.85 tons

One Crs. 165922.52(25)/2000 = 2074.03 tons.

6			
5			
4			
3			
2	Summary of Quantities	6-1-64	DGS
1	Add to General note #1	5-5-64	AA
No.	Description	Date	By

Revisions and Change Notices

N.M.

9

* Width includes 40' bottom, 36' top first lift, 26' bottom of driving lane

? Width includes 40' bottom, 26' bottom of driving lane

+ Width includes 2-12' widths

Tons Per Foot

Surface Course (both lanes) $\frac{(2.0625)(1)(2.025)}{27} = 0.156150$

Binder Course (E.B.L.) $\frac{(13.6844)(1)(2.025)}{27} = 1.039000$

Binder Course (W.B.L.) $\frac{(7.2856)(1)(2.025)}{27} = 0.551670$

Removal and Disposal of Asphalt Pavement

Station to Station		Lin. Ft.	Sq. Yds.
3" Refill W.B. Lane			
900+50	904+90	440	586.67
887+85	888+41	56	74.67
769+58	770+00	42	56.00
751+85	752+55	70	46.67
461+37	462+63	126	168.00
434+80	437+15	235	313.33
421+45	423+60	215	191.11
418+58	421+45	287	382.66
257+10	257+55	45	60.00
167+70	171+00	330	440.00
141+15	142+70	155	206.67
130+70	132+50	180	240.00
	Total	2181	2765.78

GENERAL NOTES

1. Construction shall be confined to either the eastbound or westbound roadways until such time that traffic can be routed over finished two-lane roadway construction. Temporary crossovers needed for routing traffic are incidental to construction, and no direct payment will be made for this work.
2. Two construction identification signs to be built, one at the BOR and E.O.R
3. Easy Riding Connections to Present Ramps to be built by Contractor.

SPECIAL PROVISIONS

For Overtime Compensation. Contract Work Hours Standards Act.

Relating to the Source and Purchase of Materials, Equipment and Supplies (3-21-62).

For Construction Identification Signs and Temporary Access Signs (3-21-62)

For Removal and Disposal of Asphalt Pavement-Item 100 (2-20-64)

Modifying Section 48 Asphalt Concrete (For Type I Overlays) (6-2-64)

For Determining Acceptance of Asphalt Concrete Aggregate (5-27-63)

Modifying Section 5 Control of the work (3-24-64)

For Nondiscrimination of Employees (1-17-64)

For Centerline and Shoulder Striping for White Lines-Only-Item 102 (4-7-64)

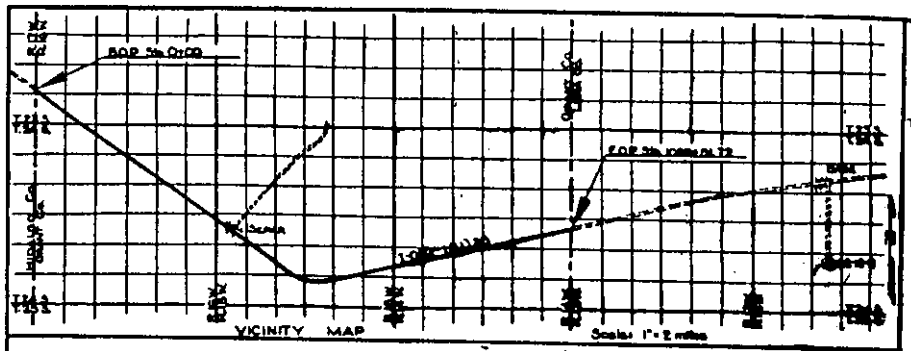
SUMMARY OF QUANTITIES

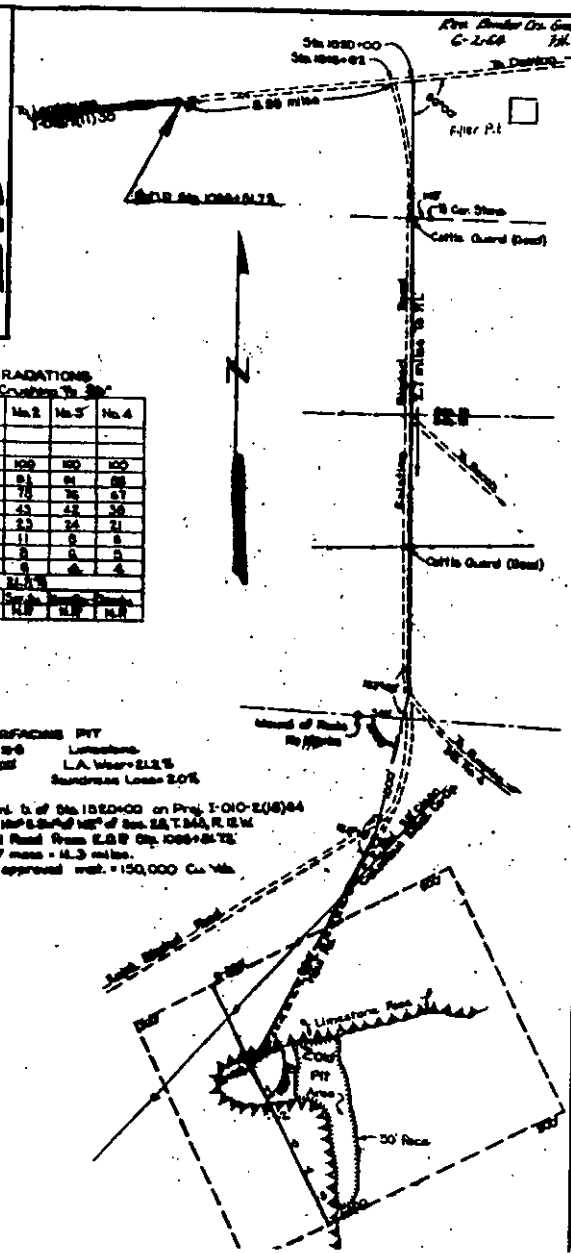
Item No.			Total Roadway Estimate	Total Roadway Final	Unit	Roadway Items
38			2000	0	Ton	Base Course
46			2410	414	BBL.	Asphalt Tack Coat - Type 85-100
48			33330	34185	Ton	Asphalt Concrete Surface Course-Type I
48a			~~212430~~	167460	Ton	Asphalt Concrete Binder Course-Type I
48d			~~72720~~	56814	BBL.	Asphalt Material - Type 85-100
50a			2380	3044	BBL.	Asphalt Material - Type 120-160
50b			4160	4342	Ton	Cover Material-One Course Surface Treatment
50c			331900	324841	Sq. Yd.	Rolling-One Course Surface Treatment
100			3000	2766	Sq. Yd.	Removal and Disposal of Asphalt Pavement
102			80000	79672	Lin. Ft.	Pavement Markings

For information of contractor only

Removal and Disposal of Asphalt Pavement

Station to Station		Lin. Ft.	Sq. Yds.
3" Refill W.B. Lane			
131+15	132+40	125	
141+50	142+71	121	
168+60	170+60	200	
218+00	218+30	30	
243+00	243+40	40	
257+10	257+30	20	
355+20	355+40	20	
422+08	423+60	160	
434+80	437+15	235	
461+45	462+45	100	
751+75	752+15	40	
887+40	889+10	170	
890+40	890+60	20	
890+70	890+90	20	
904+00	904+40	40	
904+80	905+00	20	
905+15	906+20	105	
TOTAL		1466	1955
USE TOTAL			2000





Filler Pit
500 ft. Right of Sta. 1528 on
Proj. I-010-2(18)64
South of Gage Interchange
On Property owned by
Bowling Incorporated

GRADATIONS
After Crushing Thru 3/8"

Sieve Size	No. 1	No. 2	No. 3	No. 4
2"				
1"				
3/4"	100	100	100	100
1/2"	83	91	91	88
3/8"	79	78	76	67
No. 4	44	43	42	30
No. 10	25	23	24	21
No. 40	13	11	8	8
No. 80	8	8	5	5
No. 200	7	6	4	4
Value	24.3%			
L.L.	Sample	Sample	Sample	Sample
P.I.	N.P.	N.P.	N.P.	N.P.

SURFACING PIT
No. 62-13-5 Limestone
Scale: 1" = [illegible] L.A. Wear = 21.2%
Soundness Loss = 2.0%

Location: 3.2 mi. S. of Sta. 1520+00 on Proj. I-010-2(18)64
In the [illegible] of Sec. 28, T. 34 N., R. 12 W.
Length of Haul Road from E.O.P. Sta. 1088+81.72
to center of mass = 11.3 miles.
Est. Quant. of approved mat. = 150,000 Cu. Yds.

Surf Pit No. 62-13-5
Km [illegible] 2-27-64
Des. 4-26-64: Added Base Course & Primer.

Est Stripping	Pit No. None		C.Y.
	Pit No.		C.Y.
Est Waste	Pit No. None		C.Y.
	Pit No.		C.Y.

R.R.	MHB	N.M.
8		I-010-
		I(11)3

Hidalgo/Grant C

— NOTES —

Approx. 25% Filler will be required in the Concrete Surfacing. Material similar in grading t Aggregate will be acceptable and may be obtai sources when tested and approved by the Cam This Filler shall be placed in a separate stoc Introduced into the plant by a separate Contro

It will be permissible to add a max. of [illegible] the Base Course Surfacing to meet gradation Spec. This Filler may be obtained from any source ap approved by the Materials & Testing Engr. and is in controlled amounts and processed through. being placed on the roadway.

The material pit data indicated hereon is for information The Contractor shall determine the accuracy of the the requirements necessary to produce specifica Exclusive rights to Pit No. 62-13-5 are contractor under the contract & the state may assign por to other projects for the production of aggregates. The Contractor shall confine his operations to the minimu by the Engineer necessary to produce the aggregate requir

REQUIREMENTS FOR TREATED & UNTREAT

Additives Reqd: Mixing Asphalt Mat'l. % Concentrate Grade
Sealing Asphalt Mat'l. % Concentrate Grade
% Asph. Required
Base Cour. Asphalt Conc. Surf. Dwelling [illegible] 2.5% 85-100 Pen.
Surf. Cour. Asphalt Conc. Surf. Dwelling [illegible] 5.0% 85-100 Pen.
For Prime Coat, Est using [illegible] Gals. [illegible]
For Tack Coat, Est using 0.01 to 0.05 Gals. 85-100
For Curing Seal, Est using Gals.
Cement Treat. Base, Surf. Class Est using % Tum.
Surface Treatment One Course (Shoulders)
1st Course 0.30 Gals. 150-150 Sq. Yd. 2.5 lbs. aggr.
2nd Course Gals. Sq. Yd. lbs. agg

SPECIFICATIONS FOR SURFACING AGGREGATES

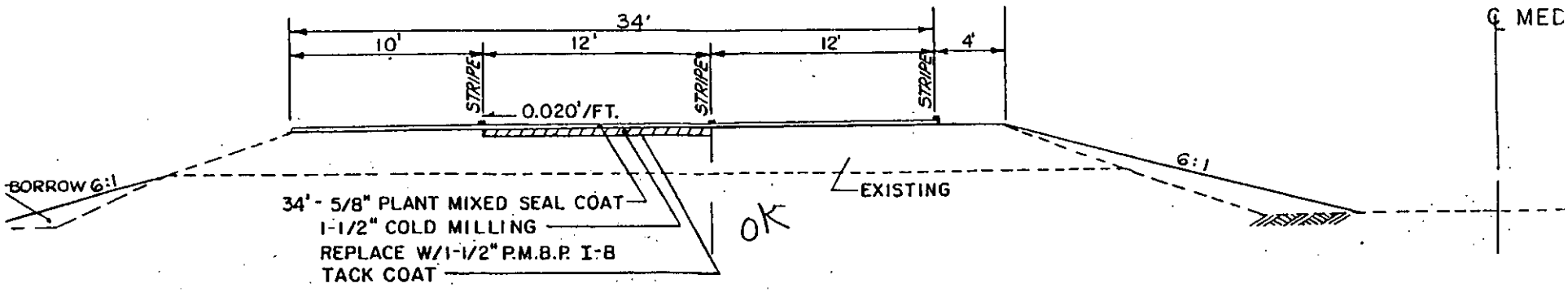
Sieve Size	Base Cour. Untreated		Asphalt Concrete Aggregate Base Course, Surface Cou. Turn. T. Grading 'A'	Turn. T. Grading
2"				
1"				
3/4"	100		100	
1/2"	80-100		90-100	
3/8"				
No. 4			45-65	100
No. 8			35-55	90-100
No. 10	30-50		30-45	90-75
No. 16	20-35		20-35	55-90
No. 40			10-25	35-55
No. 80			10-15	15-35
No. 200			5-12	10-15
No. 100	3-12		4-8	4-10
L.L.	Varies		Varies	Varies
P.I.	N.P.		N.P.	N.P.
Value	50 or less		40 or less	40 or less
Sand Equiv. %	15 or less		15 or less	15 or less
Fract. Faces %	50 or more		50 or more	50 or more
% Shale %				

Unit wgt. of untreated surf. 4,000
Water requirements for untreated Surf.
Unit wgt. of Asphalt Concrete Surf. 4050

DEVELOPMENT RECOMMENDATIONS FOR THE PRO
SURFACING MATERIALS BASED ON:
1-Samples & Logs from the indicated test holes.
2-Stripping overburden to depths recommended.
3-Working a vertical face, exposing the approved product one lift after stripping as recommended.
4-If waste is necessary to produce specification surf mat, before crushing, unless otherwise authorized by the E

Concrete aggregates may be obtained from approved commerc any other source when tested & approved by the Central La Mixing water for Portland Cement Concrete, cement treated base

LITTLEFIELD 11-21-63



TYPICAL ROADWAY SECTION E.B.L.

SURFACING NOTES: AMOUNTS AND TYPES OF ASPHALT MATERIALS SHOWN ARE FOR ESTIMATING PURPOSES ONLY, CORRECT AMOUNTS WILL BE FURNISHED BY THE LABORATORY.

WESTBOUND LANES: IN PREPARATION FOR THE OVERLAY ON WESTBOUND LANES THE CONTRACTOR WILL COLD MILL 1-1/2" FOR A 34' WIDTH.

FOLLOWING THE 1-1/2" COLD MILLING, 2" -6' EACH SIDE OF CENTERLINE WILL BE MILLED, THIS MATERIAL IS TO BE STOCKPILED AND RECYCLED. 2" OF PLANT MIX BITUMINOUS PAVEMENT TO BE PLACED 6' EACH SIDE OF CENTERLINE FOLLOWED BY 1-1/2" PLANT MIX BITUMINOUS PAVEMENT FOR A 34' WIDTH. REINFORCING FABRIC WILL BE PLACED FOR A 24' WIDTH BEFORE OVERLAY OPERATION BEGINS

OVERLAY: 3" PLANT MIX BITUMINOUS PAVEMENT WILL BE PLACED FULL WIDTH IN TWO EQUAL LIFTS. THE FIRST LIFT TO BE RECYCLED MATERIAL. 5/8" PLANT MIXED SEAL COAT WILL BE PLACED FOR 29' WIDTH.

EASTBOUND LANES: THE CONTRACTOR WILL MILL 1-1/2" FOR A 12' WIDTH-DRIVING LANE ONLY. 1-1/2" PLANT MIX BITUMINOUS PAVEMENT TO BE PLACED IN 12' MILLED AREA.

5/8" PLANT MIXED SEAL COAT WILL BE PLACED FOR 34' WIDTH.

AC-10 VISCOSITY GRADE ASPHALT CEMENT MAY BE SUBSTITUTED FOR 85-100 PENETRATION GRADE ASPHALT IN THE PLANT MIX BITUMINOUS PAVEMENT AND PLANT MIXED SEAL COAT, AT NO ADDITIONAL COST.

THE CONTRACTOR SHALL PLAN HIS DAILY SURFACING OPERATIONS ON A SCHEDULE WHICH WILL RESULT IN NOT MORE THAN ONE (1) DAYS OPERATION OF EXPOSED LONGITUDINAL JOINTS. THE LONGITUDINAL JOINTS SHALL NOT BE LEFT EXPOSED LONGER THAN 24 HOURS. ALL LONGITUDINAL JOINTS SHALL BE TAPERED ON A 6:1 SLOPE.

THE LOCATION OF THE SHOULDER STRIPE AS SHOWN ON THE TYPICAL SECTION, IS GIVEN FOR INFORMATIONAL PURPOSES ONLY AND THE ACTUAL OFFSET FROM CENTERLINE SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL TRANSVERSE JOINTS WHICH ARE TO BE EXPOSED TO TRAFFIC AT THE END OF EACH DAYS OVERLAY OPERATION SHALL BE TAPERED NOT LESS THAN 3' FEET. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THIS TAPER TO A VERTICAL PLANE PRIOR TO THE NEXT PLACEMENT OF SURFACING AT THIS POINT.

THE AREA COLD MILLED-2" WILL BE BACKFILLED WITH 2" PLANT MIX BITUMINOUS PAVEMENT I-B THE SAME DAY THE MILLING OPERATION TAKES PLACE.

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CONTRACTING SCHEDULE

STATION	TO STATION	LENGTH	DESCRIPTION	SUBGRADE PREPARATION AVG. SQ. YDS.	BASE COURSE WIDTH	BASE COURSE DEPTH	BASE COURSE SQ. YDS.	BASE COURSE CU. YDS.	BASE COURSE TONS	PLANT MIX B WIDTH	PLANT MIX B DEPTH
			EAST BOUND LANE								
0+29.3	821+50.0	82120.70	B.O.P. TO HACHITA INTERCHANGE							12'	1-1/2'
821+50.0	828+50.0	700.00	HACHITA INTER. GRADE ADJUSTMENT	3888.89						44'	9"
828+50.0	1006+51.72	23801.72	HACHITA TO E.O.P.							12'	1-1/2'
			WEST BOUND LANE								
-139.3	0+30	169.30	SURFACING CONNECTION							VAR.	2"
0+30.0	7+30	700.00	MUIR GRADE ADJUSTMENT	3888.89						44'	9"
7+30.0	820+50	81320.00	MUIR INTER. TO HACHITA INTER.							12'	2"
7+30.0	820+50	81320.00	"							34'	1-1/2'
7+30.0	820+50	81320.00	"								
7+30.0	820+50	81320.00	MUIR INTER. TO HACHITA INTER.							28'	1-1/2
7+30.0	820+50	81320.00	SHOULDER, TAPERS OUTSIDE							10'	2"
7+30.0	820+50	81320.00	SHOULDER, TAPERS INSIDE							4.5'	9"
820+60.0	829+50	900.00	HACHITA GRADE ADJUSTMENT	5000.00						44'	9"
829+50.0	1006+51.72	23701.72	HACHITA TO E.O.P.							12'	2"
829+50.0	1006+51.72	23701.72								34'	1-1/2'
829+50.0	1006+51.72	23701.72									
829+50.0	1006+51.72	23701.72	HACHITA TO E.O.P.							28'	1-1/2
829+50.0	1006+51.72	23701.72	SHOULDER, TAPERS OUTSIDE							10'	2"
829+50.0	1006+51.72	23701.72	SHOULDER, TAPERS INSIDE							4.5'	9"
			MUIR INTERCHANGE								
12+15.33	6+15.33	600.00	TAPER								
0+00	20+55.77	2055.77	RAMP A & B								
14+58.41	16+88.41	230.00	TAPER								
0+40.0	0+95.0	55.00	CROSS ROAD TO BRIDGE								
7+08.33	7+38.33	170.00	TAPER								
0+00	10+54.18	1054.18	RAMP C								
0+00	10+31.74	1031.74	RAMP D								

IR-010-1(39)34

Region No.	STATE		NO.
6	NEW MEXICO	IR-010-1 (39) 34	2-10

INOUS PAVEMENT TYPE I-B			PLANT MIXED SEAL COAT					TACK COAT		REINF. FABRIC	RECYCLED EXISTING SURFACING MATERIAL	REMOVED, SALVAGED, CRUSHED OR PROCESSED STOCKPILED 403009	COLD MILL			
Q. YDS.	CU. YDS.	TONS	WIDTH	DEPTH	SQ. YDS.	CU. YDS.	TONS	SQ. YDS.	TONS	SQ. YDS.	TONS	TONS	DEP.	SQ. YDS.	DEP.	S
9494.27	4562.26	9124.52	34'	5/8"	310235.76	6387.73	9697.91	10949427	22.80				1-1/2"	10949.27		
3422.22	855.56	1711.11	34'	5/8"	2644.44	45.93	82.67	14052.20	8.95							
1735.63	1322.32	2644.64	34'	5/8"	89917.61	1561.57	2810.83	3173563	6.61				1-1/2"	3173.63		
559.27	27.01	54.02	29'	5/8"	545.22	9.47	17.05	559.27	0.17				1-1/2"	184.80	2"	
3422.22	855.56	1711.11	29'	5/8"	2255.56	39.17	70.51	14052.20	8.95							
211.11	14.6	29.73														
3926.67	5024.91	12049.82	29'	5/8"	262031.11	4550.61	8191.09			218853.33	21835.93	12049.82			2"	10
7208.89	10917.96	21835.93						30720.89	63.96				1-1/2"	30720.89		
2995.56	1054.48	21082.95														
2284.46	4267.80	7682.05														
0660.00	5082.50	10165.00														
4400.00	1100.00	2200.00	29'	5/8"	2900.00	50.36	90.65	18067.00	11.50							
1602.29	1756.03	3512.07	29'	5/8"	76372.21	1326.33	2387.39			63204.59	6364.35	3512.07			2"	3
3539.83	3182.18	6364.35						89539.83	18.64				1-1/2"	89539.83		
3738.68	3072.45	6144.89														
1068.70	1243.90	2487.80														
850.86	1481.36	2962.72														
			8'	5/8"	533.33	9.26	16.67									
			16'	5/8"	3654.70	63.47	114.28									

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APPENDIX C

MATERIALS SAMPLING AND TESTING PLAN

Brent Rauhut Engineering Inc.

20 September 1995

Mr. Keun-Wook Yi
Bituminous Engineer
Materials Lab Bureau
New Mexico State Highway
& Transportation Department
P.O. Box 1149
Santa Fe, New Mexico 87504

Subject: New Mexico SPS-5 Project (350500) Revised Materials Sampling and Testing Plan

Dear Mr. Yi:

Enclosed is the plan for materials sampling and testing activities for the New Mexico SPS-5 project, located in the eastbound lanes of IH-10 near Lordsburg, New Mexico. This plan has been prepared to identify details of the materials sampling, field testing, and laboratory materials testing to occur as part of the SPS-5 project construction.

If you have any questions or comments regarding the information provided in this plan, please do not hesitate to contact me. A copy of this document is also being provided to Mr. Monte Symons of the FHWA, for review and approval.

Sincerely,

Mark P. Gardner, P.E.
Project Engineer, SRCO

MPG:dmj

Enclosure: As stated.

c.w/Enc: Monte Symons, FHWA/LTPP-DC
Jim Stokes, NM-SHTD
Gonzalo Rada, PCS/LAW

c.w/o Enc: Morris Reinhardt, RE-SRCO

8240 Mopac, Suite 220 • Austin, Texas

(512) 346-0870 • FAX (512) 346-8750

MATERIAL SAMPLING
AND
TESTING PLAN

NEW MEXICO SPS-5 PROJECT 350500
GRANT COUNTY, NEW MEXICO
IH-10, EASTBOUND

PREPARED BY:

BRENT RAUHUT ENGINEERING INC.
FHWA/LTPP SOUTHERN REGION COORDINATION OFFICE
8240 MOPAC, SUITE 220
AUSTIN, TEXAS 78759

SEPTEMBER 1995

MATERIAL SAMPLING AND TESTING PLAN
NEW MEXICO SPS-5 PROJECT (350500), IH-10 EBL
GRANT COUNTY, NEW MEXICO

INTRODUCTION

As part of their participation in the FHWA/LTPP studies, the State of New Mexico has elected to construct an SPS-5 project to study the rehabilitation of flexible pavements. This project will consist of multiple test sections with similar details and materials along IH-10, in the eastbound lane, in Grant County, New Mexico. It is the intent of this document to provide a complete plan for the material sampling, testing, and laboratory material testing that will occur as a part of this project.

This document has been prepared in accordance with guidelines provided by the Strategic Highway Research Program in Operational Memorandum Nº. SHRP-LTPP-OM-014, entitled "Specific Pavement Studies Material Sampling and Testing Requirements for Experiment SPS-5, Rehabilitation of Asphalt Concrete Pavements, October 1990". Recognizing the apparent variability in the construction of roadway projects, the goal of this effort is to develop a sampling and testing plan for the project materials that will be consistent with other projects in this experiment, and therefore make the information obtained suitable for analysis.

The objective of the SPS-5 study is to evaluate rehabilitation methods that can be used to restore the condition and extend the service life of flexible (asphalt concrete) pavements. The pavement type and condition, environment, traffic, intended pavement preparation, and type of asphalt concrete overlay are primary considerations in selecting an appropriate rehabilitation method. The standard SPS-5 experiment layout includes nine test sections. The in-service tests proposed in this experiment will help quantify the influence of these parameters on pavement performance and life expectancy, and improve current design procedures. Consequently, the experiment will help highway agencies select methods and strategies for rehabilitation of existing flexible pavements.

This sampling and testing plan has been developed by Brent Rauhut Engineering, Inc. the Southern Region Coordination Office under contract to the Federal Highway Administration. If, during the construction activities, any questions arise regarding the sampling and/or testing to be conducted, one should first coordinate these questions with the New Mexico State Highway and Transportation Department, who may refer them to the Southern Region Coordination Office.

This document has been prepared in three distinct parts, each covering a particular area of this rather formidable exercise. The three sections are:

A. General Layout Information

B. Materials Sampling and Testing

C. Laboratory Material Testing

The General Layout section provides tables and figures of the layout showing the nine test sections along the roadway and the layer structure of each test section.

The Material Sampling and Testing section defines in detail all of the material samples to be obtained, testing to be performed in the field, and provides an itemized list showing where each sample is to be shipped for laboratory testing.

Finally, the Laboratory Material Testing section outlines the laboratory material test program to be conducted and provides tracking charts showing the testing to be performed on each sample of each material in each laboratory.

SECTION A

GENERAL LAYOUT INFORMATION

SECTION A

GENERAL LAYOUT INFORMATION

This section of the plan provides a description of the SPS-5 project in terms of the location of the test sections along the roadway. Table A-1 lists the test sections in order of increasing station, providing an indication of the cross-section of each test section. Table A-2 tracks the test sections from the beginning of the first section at Station 900+00 to the end of the last section at Station 1007+50. This table indicates transition areas between sections and the variation of pavement layer materials within these transitions.

Finally, Figure A-1 depicts the layout of the test sections along the roadway and shows the variation of material type and layer thickness.

The referenced project stationing was provided by the New Mexico SHTD in the form of preliminary project plans. If there are significant changes in alignment or stationing, this plan should be reviewed closely to determine if revisions are warranted.

TABLE A-1. TEST SECTION LAYOUT

Section (Cell ID)	Cross Section	Begin Station	End Station
350501	Control Section Routine Maintenance	900+50	907+50
350505	Minimum Surface Prep. 2″ Virgin AC Overlay	910+50	917+50
350506	Intensive Surface Prep. 2″ Virgin AC Overlay	921+50	928+50
350507	Intensive Surface Prep. 5″ Virgin AC Overlay	931+50	938+50
350504	Minimum Surface Prep. 5″ Virgin AC Overlay	939+00	946+00
350503	Minimum Surface Prep. 5″ Recycled AC Overlay	951+00	958+00
350508	Intensive Surface Prep. 5″ Recycled AC Overlay	968+00	975+00
350509	Intensive Surface Prep. 2″ Recycled AC Overlay	991+00	998+00
350502	Minimum Surface Prep. 2″ Recycled AC Overlay	998+00	1005+50

TABLE A-2. ORDERING OF SECTIONS ALONG CENTER LINE STATIONING

Begin Sta.	End Sta.	Section ID	Thickness (In.)		
			AC Overlay*	Material Type	Milled Depth
900+00	900+50	Transition	From Project Construction to Control Section		
900+50	907+50	350501	0	N/A	0
907+50	910+50	Transition	0-2	Virgin	0
910+50	917+50	350505	2	Virgin	0
917+50	921+50	Transition	2	Virgin	0-2
921+50	928+50	350506	2	Virgin	2
928+50	931+50	Transition	2-5	Virgin	2
931+50	938+50	350507	5	Virgin	2
938+50	939+00	Transition	5	Virgin	2-0
939+00	946+00	350504	5	Virgin	0
946+00	951+00	Transition	5	Virgin-Recycled	0
951+00	958+00	350503	5	Recycled	0
958+00	968+00	Transition	5	Recycled	0-2
968+00	975+00	350508	5	Recycled	2
975+00	991+00	Transition	5-2	Recycled	2
991+00	998+00	350509	2	Recycled	2
998+00	998+50	Transition	2	Recycled	2-0
998+50	1005+50	350502	2	Recycled	0
1005+50	1007+50	Transition	To Project Construction		

* Combined Binder and Wearing Course Thickness

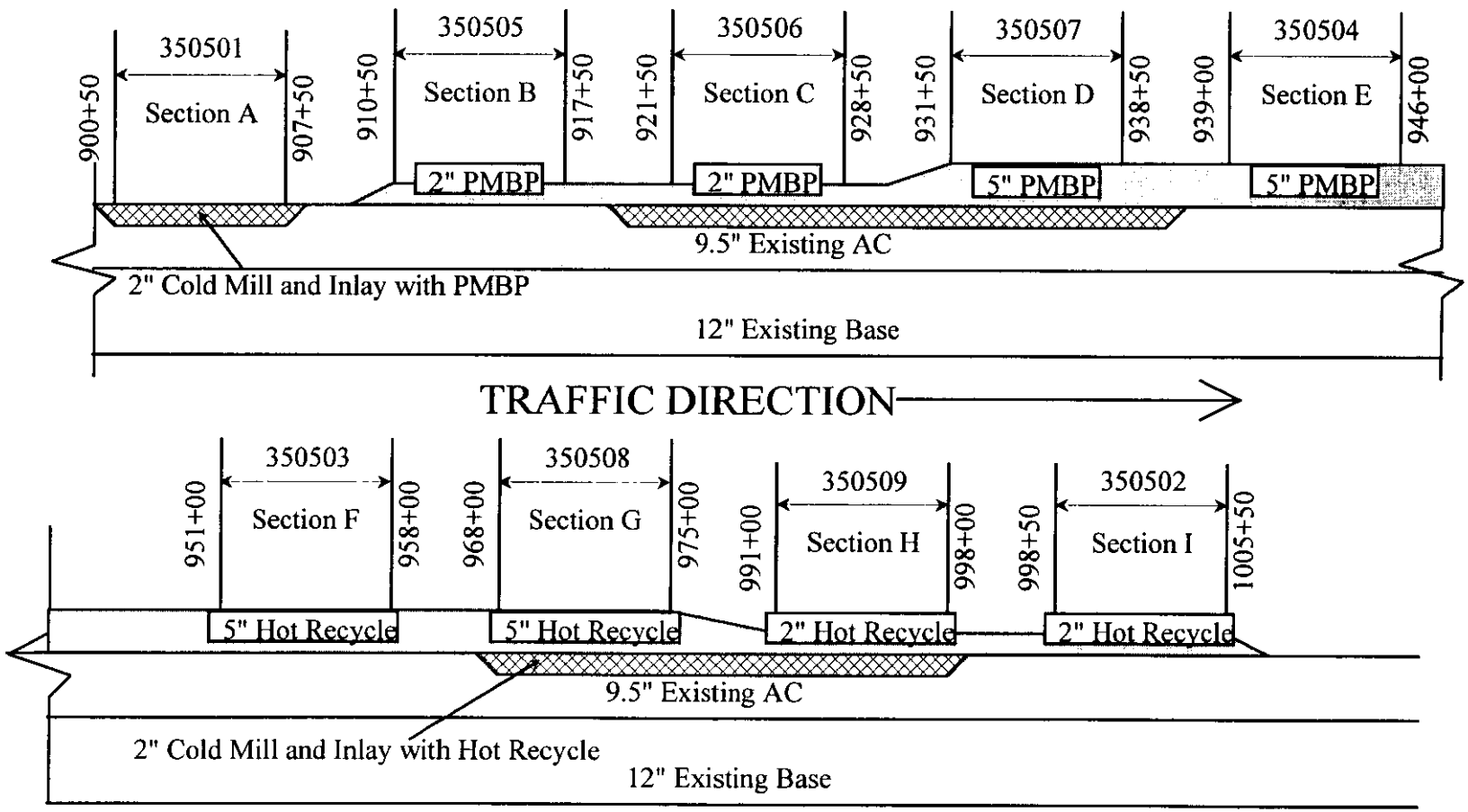


FIGURE A-1. LAYOUT OF TEST SECTIONS
NEW MEXICO SPS-5 (350500)

SECTION B

MATERIAL SAMPLING AND TESTING

SECTION B

MATERIAL SAMPLING AND TESTING

This section of the plan provides for the material sampling and testing activities that occur in the field. Table B-1 provides the project layer numbering schema, while Table B-2 provides the scope of the material sampling and testing activities. It is very important that the project layer numbering be consistent, to ensure that the resulting data is not misunderstood. Table B-3 describes special sampling needs for the Materials Reference Library and provides contact information to coordinate sample shipping arrangements.

Figures B-1 through B-12 show the locations and numbering scheme for the many samples and tests scheduled. Figures B-2 and B-3 show the sampling and testing to occur for each stage of the paving, while Figures B-4 through B-12 show all sampling and testing scheduled for each test section.

Finally, Tables B-4 and B-5 list samples to be shipped to the state laboratory (or their designee), and those samples to be shipped to the FHWA/LTPP testing contractor, respectively. Shipment of samples to the FHWA/LTPP testing contractor, LAW Engineering in Atlanta, Georgia, should be coordinated through the Southern Region Coordination Office.

TABLE B-1. PROJECT LAYER NUMBERING

Layer Nº.	LTPP Description	New Mexico Description
1	Subgrade	Silty Clay
2	Dense Graded Aggregate Base (DGAB)	Untreated Base Course (UTBC)
3	Hot Mix Asphalt Concrete Binder (Existing)	Plant Mix Bituminous Pavement (Hot Mix Asphalt Concrete)
4	Hot Mix Asphalt Concrete Surface (Existing)	Plant Mix Bituminous Pavement (Hot Mix Asphalt Concrete)
5	Hot Mix Asphalt Concrete Overlay Virgin Binder	Plant Mix Bituminous Pavement Type I-A
6	Hot Mix Asphalt Concrete Overlay Virgin Surface	Plant Mix Bituminous Pavement Type I-A
7	Hot Mix Asphalt Concrete Overlay Recycled Binder	Plant Mix Bituminous Pavement Hot Recycled Type I-A
8	Hot Mix Asphalt Concrete Overlay Recycled Surface	Plant Mix Bituminous Pavement Hot Recycled Type I-A

TABLE B-2. SCOPE OF MATERIALS SAMPLING AND FIELD TESTING

MATERIAL & SAMPLING DESCRIPTION	Nº. OF MATERIAL SAMPLES	SAMPLE TYPE DESIGNATION
PRE-CONSTRUCTION SAMPLING		
1. Asphalt Concrete (Original Layer)		
Coring - 4" diam. cores	26	C1-C26
Coring - 6" diam. cores	3	A1-A3
Coring - 12" diam. cores	6	BA1-BA6
2. Unbound Base/Subbase Layers (Per Layer)		
Augering 6" diam. holes	3	A1-A3
Bulk Sampling in 12" diam. holes	6	BA1-BA6
Bulk Sampling in Test Pits	1	TP1
In Situ Density & Moisture Content (Nuclear Gauge)	1	TP1
Moisture Content Samples	7	TP1, BA1-BA6
3. Subgrade		
Thin-walled Tube Sampling *(Two tube samples per hole. If undisturbed tube sampling is not possible, splitspoon sampling will be conducted.)	6*	A1-A3
Bulk Sampling in 12" diam. holes	6	BA1-BA6
Bulk Sampling in Test Pits	1	TP1
In Situ Density & Moisture Content (Nuclear Gauge)	1	TP1
Moisture Content Samples	7	BA1-BA6, TP1
4. Shoulder Auger Probes	3	S1-S3
DURING CONSTRUCTION SAMPLING		
1. Virgin Asphalt Concrete - 100 lb/mix (Uncompacted Mix)	3	BV1-BV3
2. Recycled Asphalt Concrete - 100 lb/mix (Uncompacted Mix)	3	BR1-BR3
POST-CONSTRUCTION SAMPLING		
1. Asphaltic Concrete (Overlay)		
Coring - 4" diam. cores	40	C27-C66

TABLE B-3. MATERIAL SAMPLING FOR THE MATERIALS REFERENCE LIBRARY (MRL)

Material And Sample Description	Nº. Of Samples	Sample Location
Asphalt Cement (5 Gallon Containers Each Type Used)	3	From Plant
Aggregate (55 Gallon Drum Each Blend)	1	From Plant
Finished Asphaltic Concrete Mix (5 Gallon Containers Each Mix)	3	From Paver

Note: Containers for this sampling will be provided by the LTPP Materials Reference Library (MRL). Scheduling information including (1) date containers needed, (2) state agency contact name, and (3) shipping address and telephone number should be provided to the MRL Contractor as soon as it is feasible to do so. The contact name, address and telephone number for the MRL Contractor are as follows:

Mr. Rod Soule
Nichols Consulting Engineers, Chtd.
1885 So. Arlington Ave., Suite 111
Reno, Nevada 89509
(702) 329-4955

These samples should be labeled according to applicable guidelines provided elsewhere and shipped to the MRL Contractor upon completion of sampling activities.

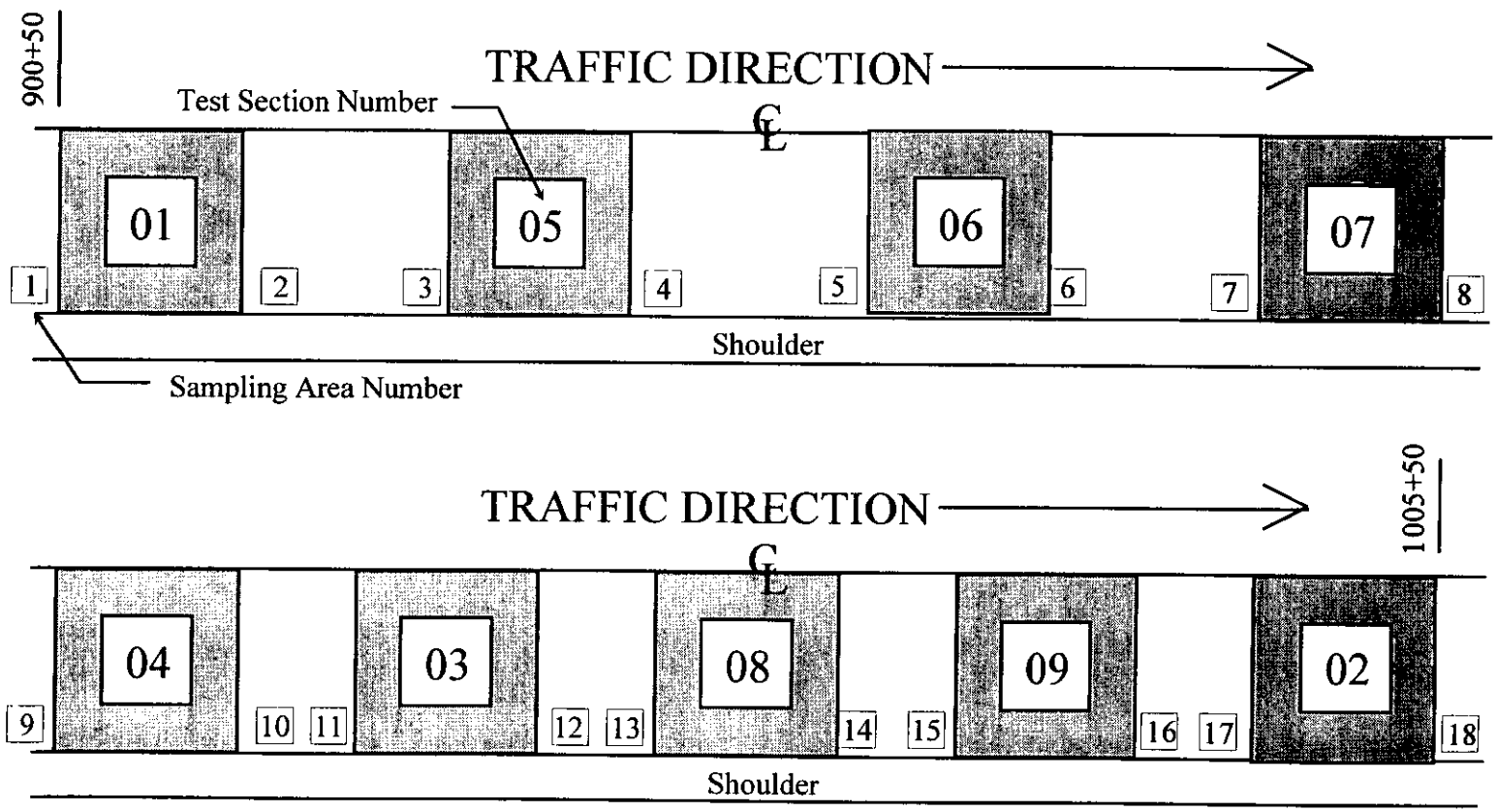
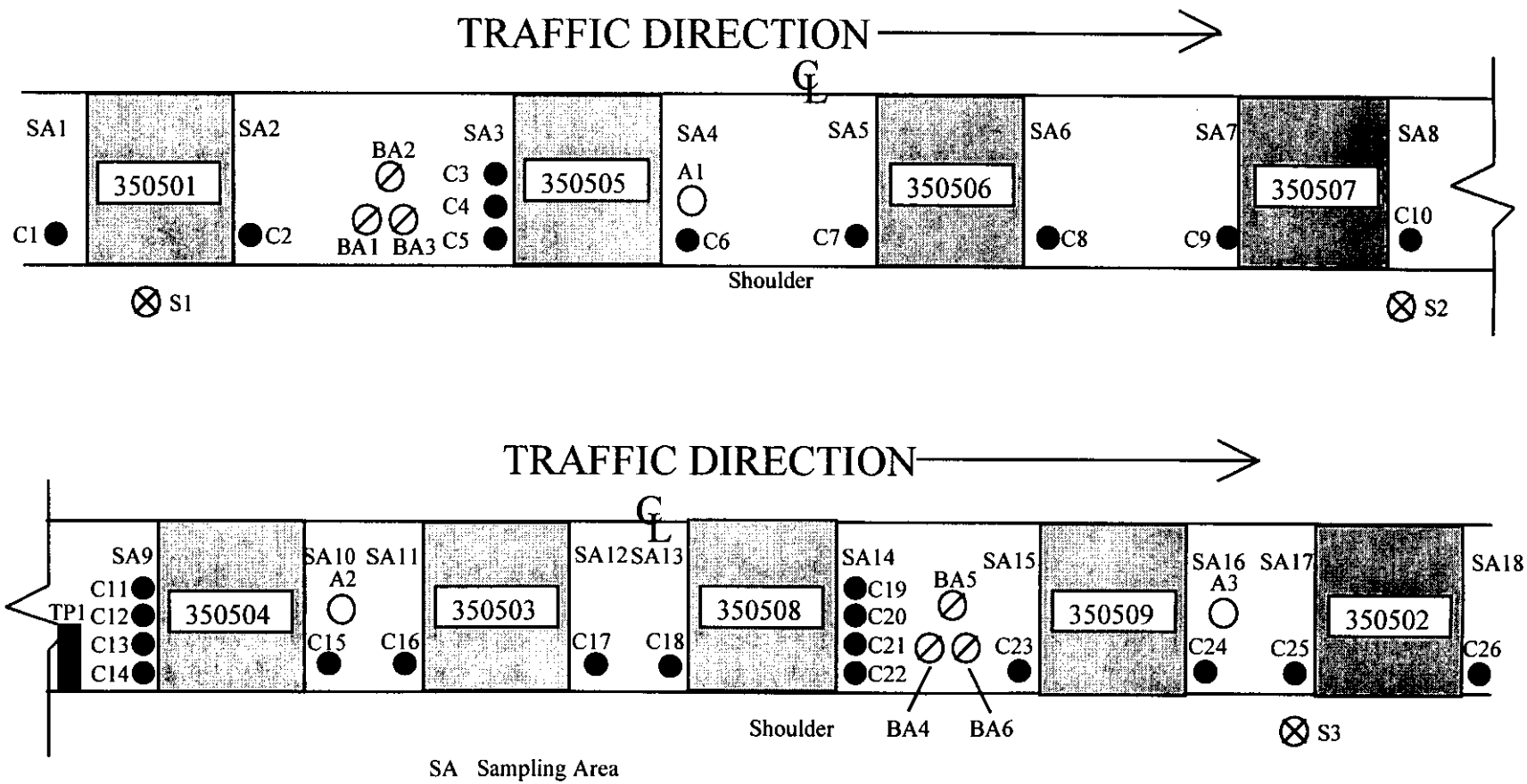


FIGURE B-1. SITE LAYOUT WITH SAMPLING AREAS NEW MEXICO SPS-5 (350500)



SA Sampling Area

- ● 4" Core Existing Pavement
- ○ 6" Core Existing Pavement, Auger Base, thin-wall tube or split spoon subgrade sample to 4'
- ⊘ 12" Core, Auger base and subgrade
- ⊗ Auger Probe
- ▮ Test Pit - 4' x 6' removal of pavement, nuclear density and moisture content of base and subgrade, bulk sampling base and subgrade.

FIGURE B-2. PRECONSTRUCTION SAMPLING AND TESTING LOCATIONS NEW MEXICO SPS-5 (350500)

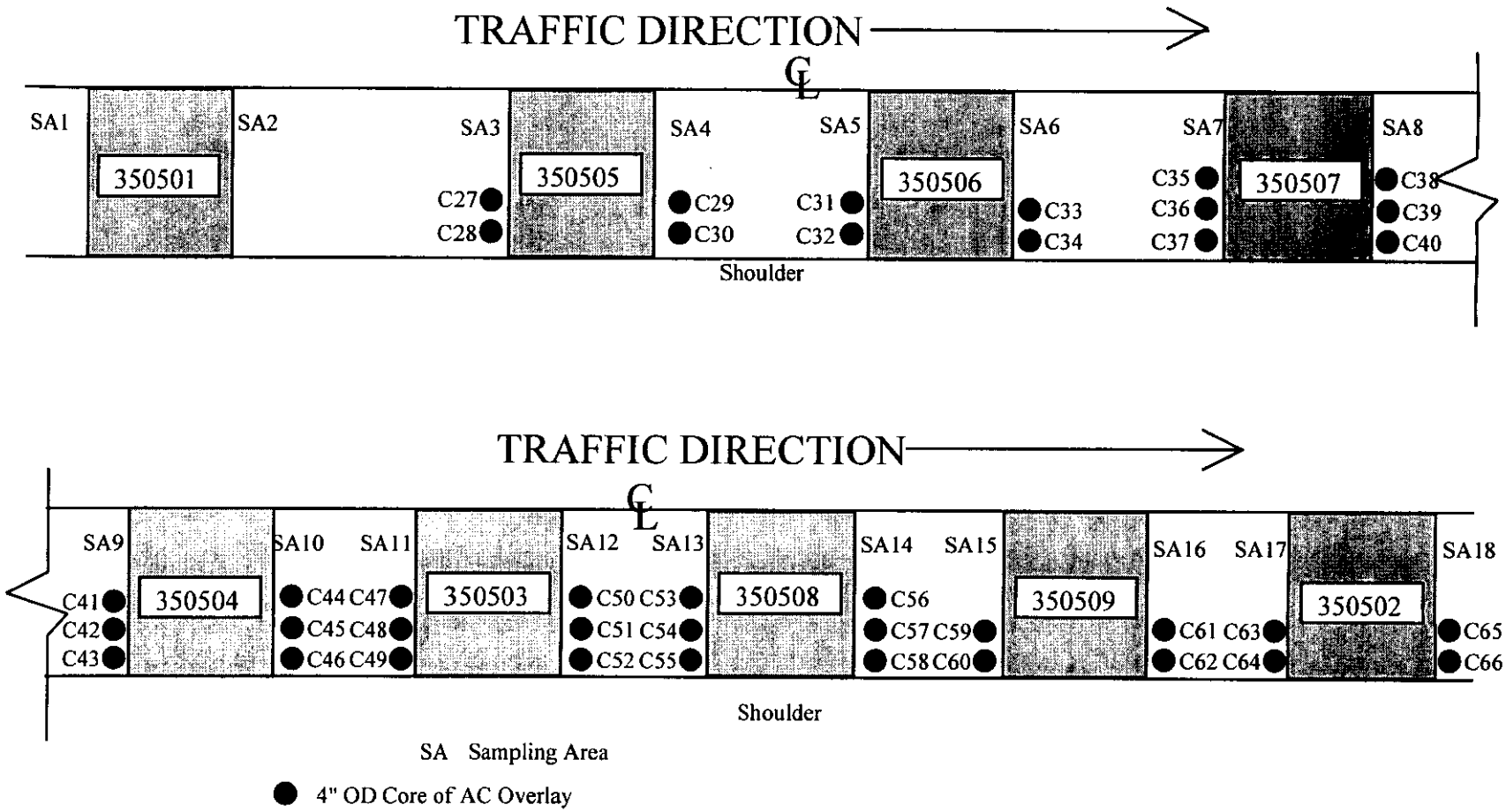
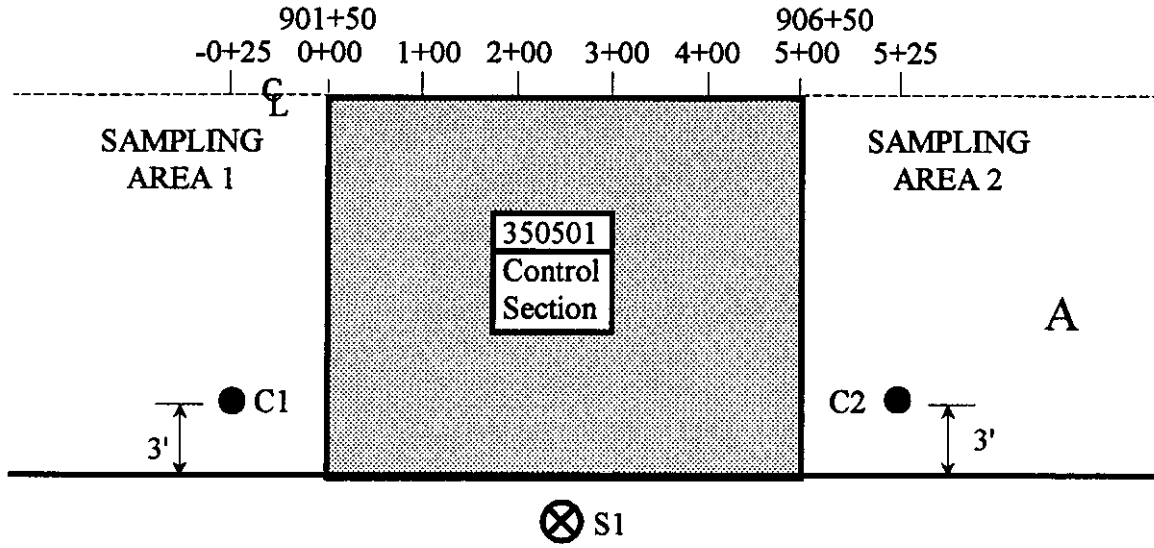
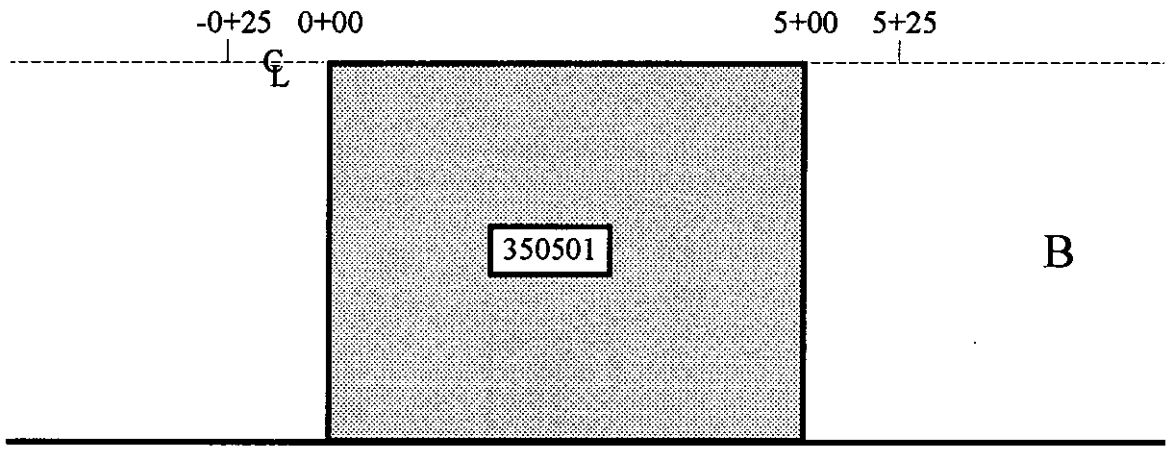


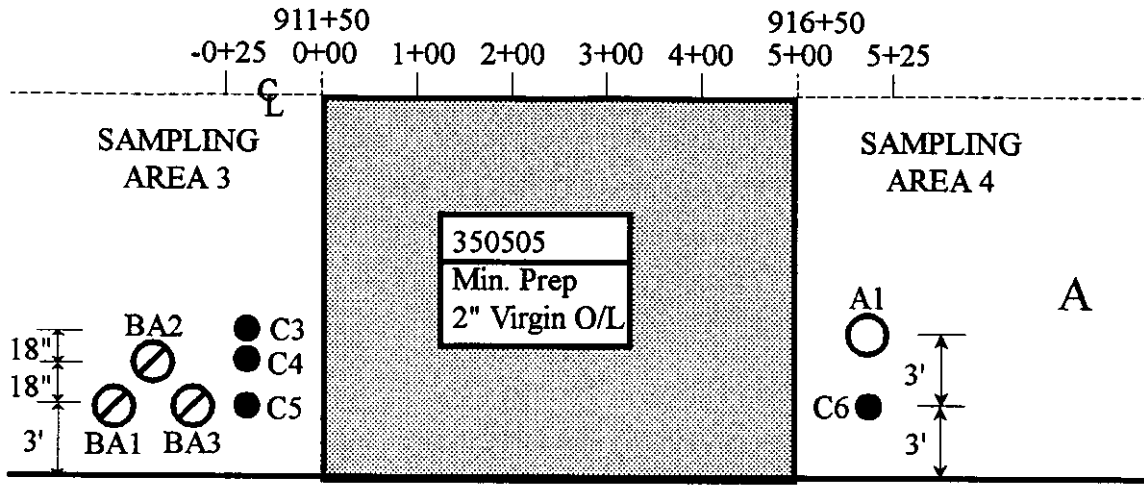
FIGURE B-3. POSTCONSTRUCTION SAMPLING AND TESTING LOCATIONS NEW MEXICO SPS-5 (350500)

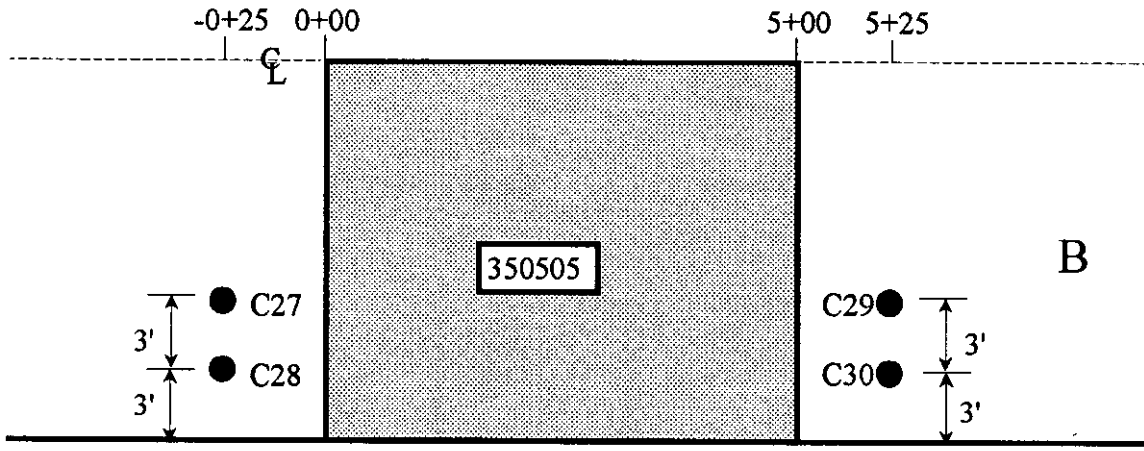




A Preconstruction Sampling (C1, C2, S1)
B Postconstruction Sampling (None)

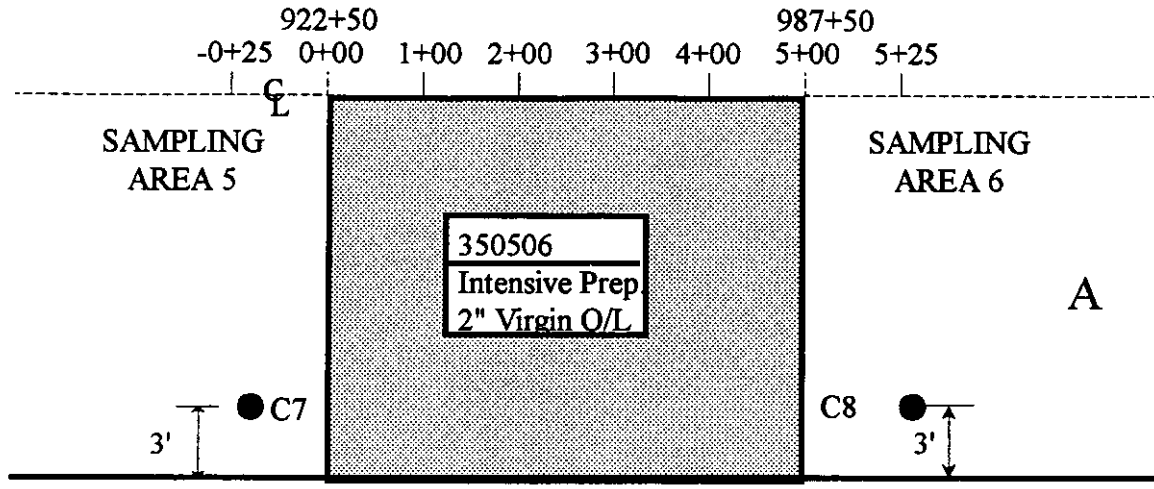
FIGURE B-4. SAMPLING AND TESTING PLAN FOR TEST SECTION 350501 NEW MEXICO SPS-5 (350500)

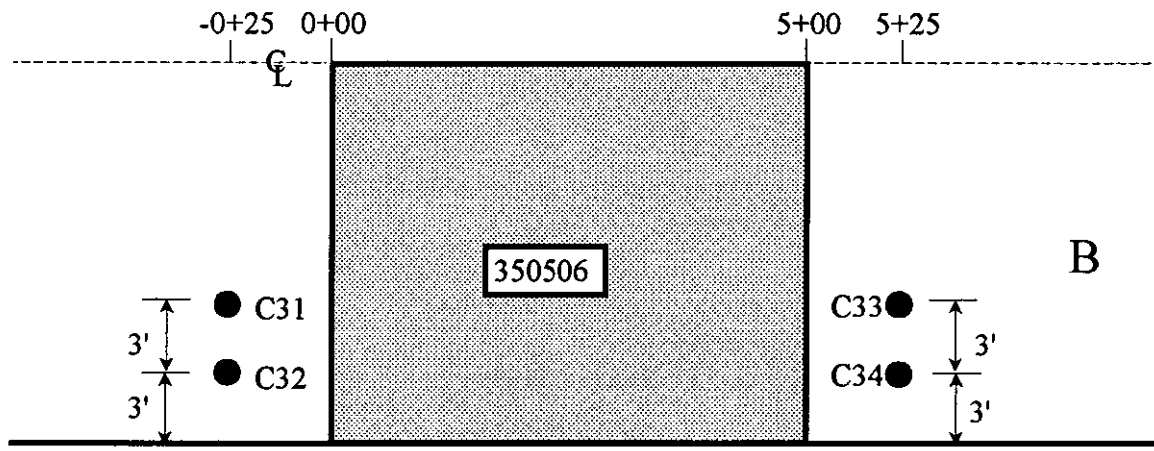




A Preconstruction Sampling (C3-C6, BA1-BA3, A1)
B Postconstruction Sampling (C27-C30)

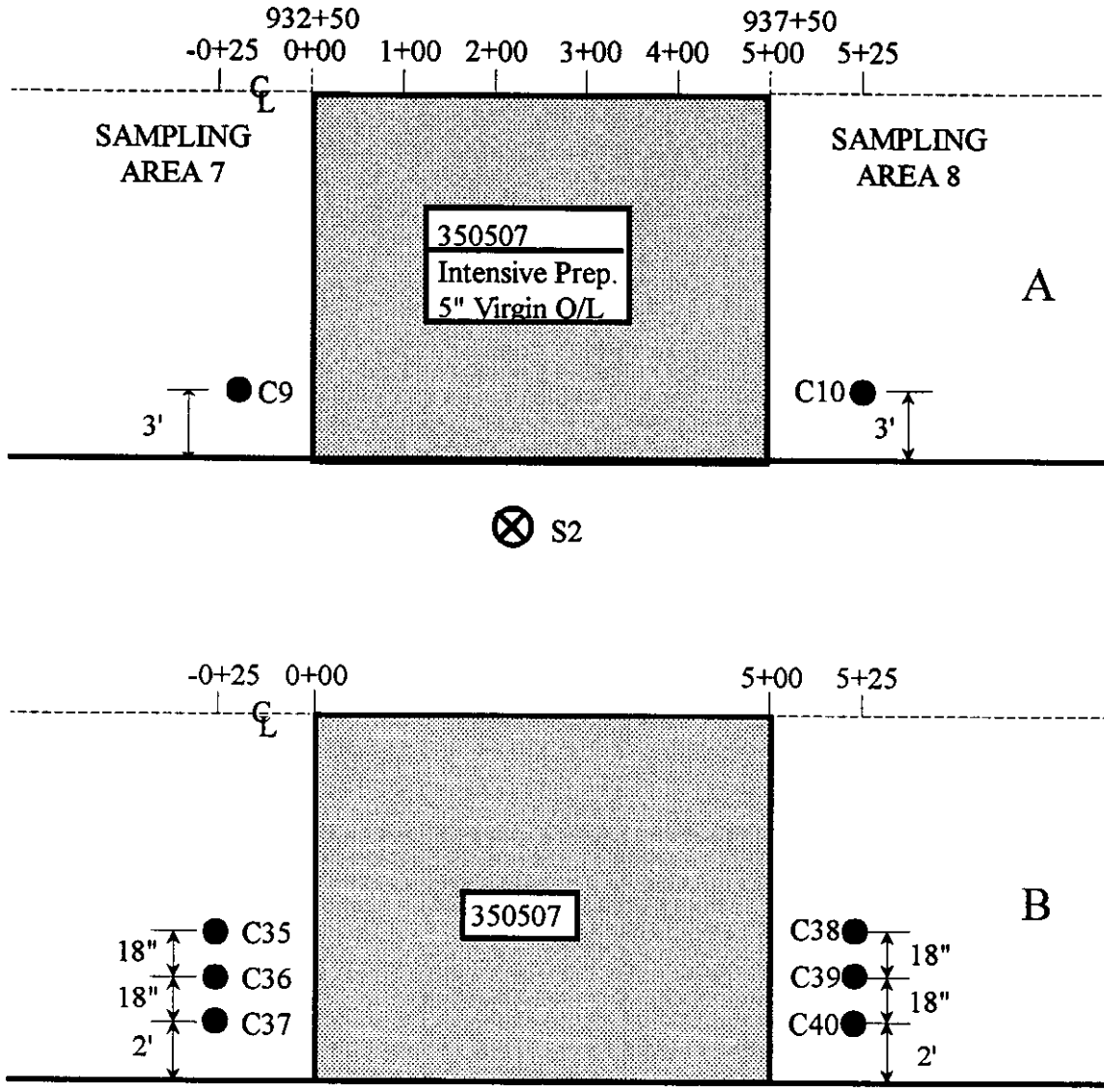
FIGURE B-5. SAMPLING AND TESTING PLAN FOR TEST SECTION 350505 NEW MEXICO SPS-5 (350500)





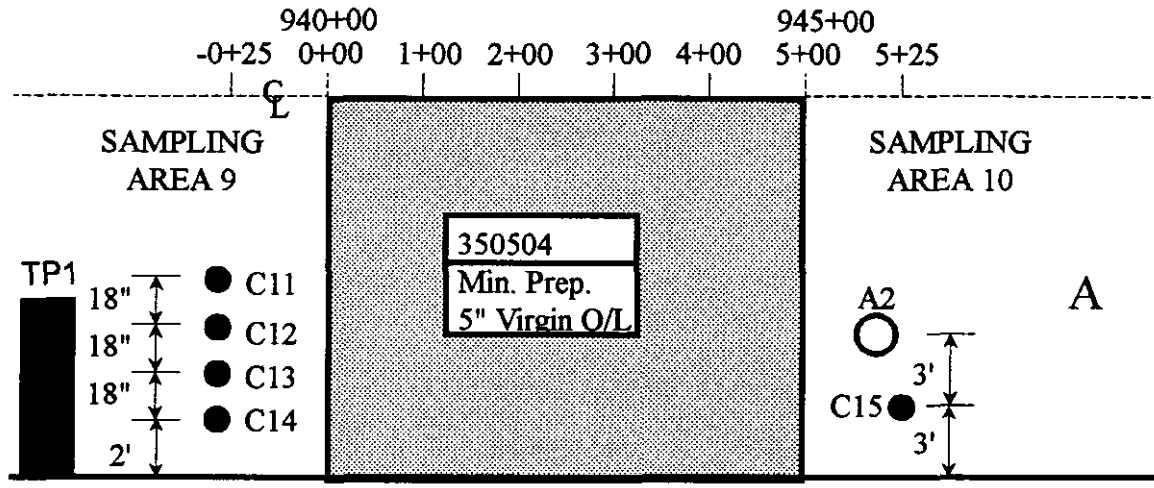
A Preconstruction Sampling (C7-C8)
B Postconstruction Sampling (C31-C34)

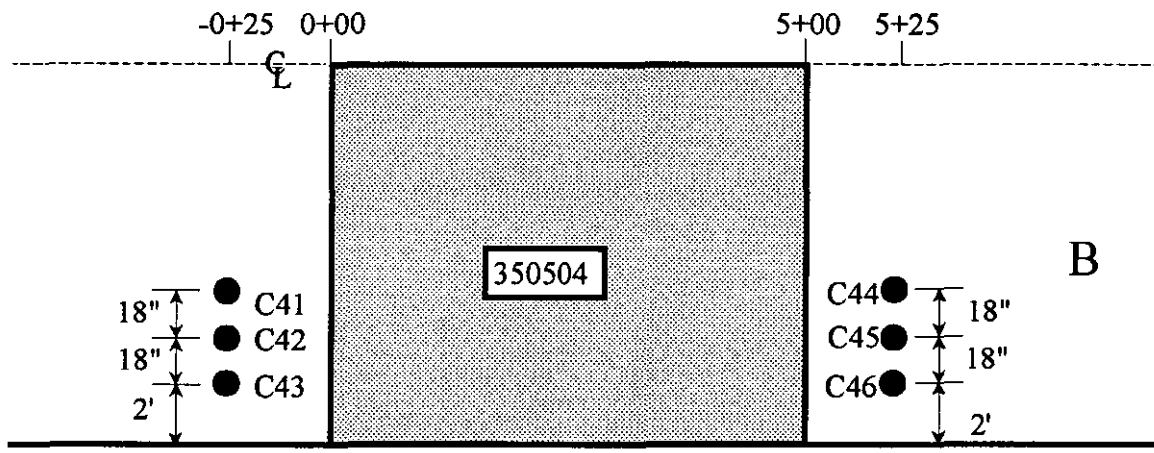
FIGURE B-6. SAMPLING AND TESTING PLAN FOR TEST SECTION 350506 NEW MEXICO SPS-5 (350500)



A Preconstruction Sampling (C9-C10,S2)
B Postconstruction Sampling (C35-C40)

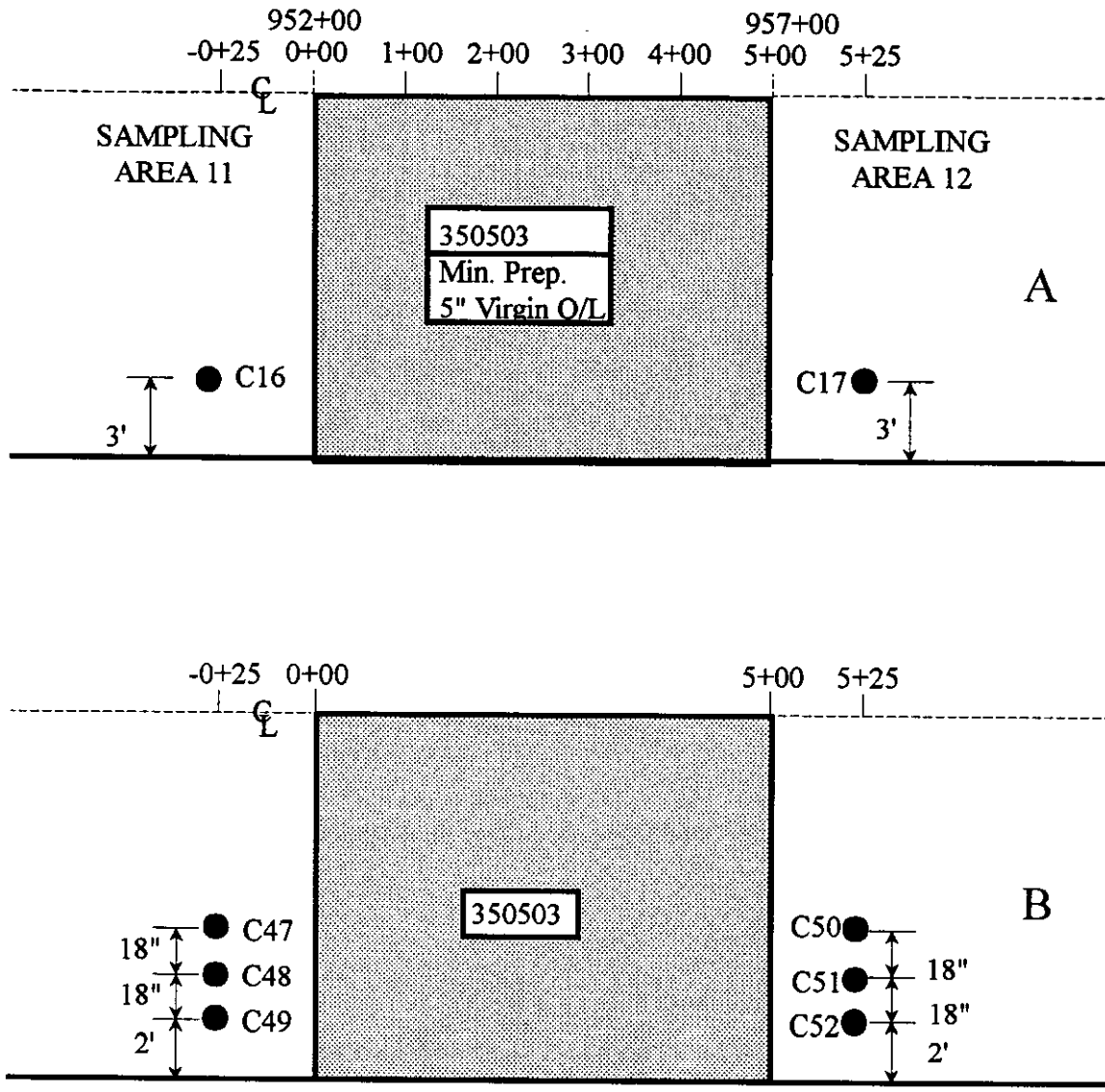
FIGURE B-7. SAMPLING AND TESTING PLAN FOR TEST SECTION 350507 NEW MEXICO SPS-5 (350500)





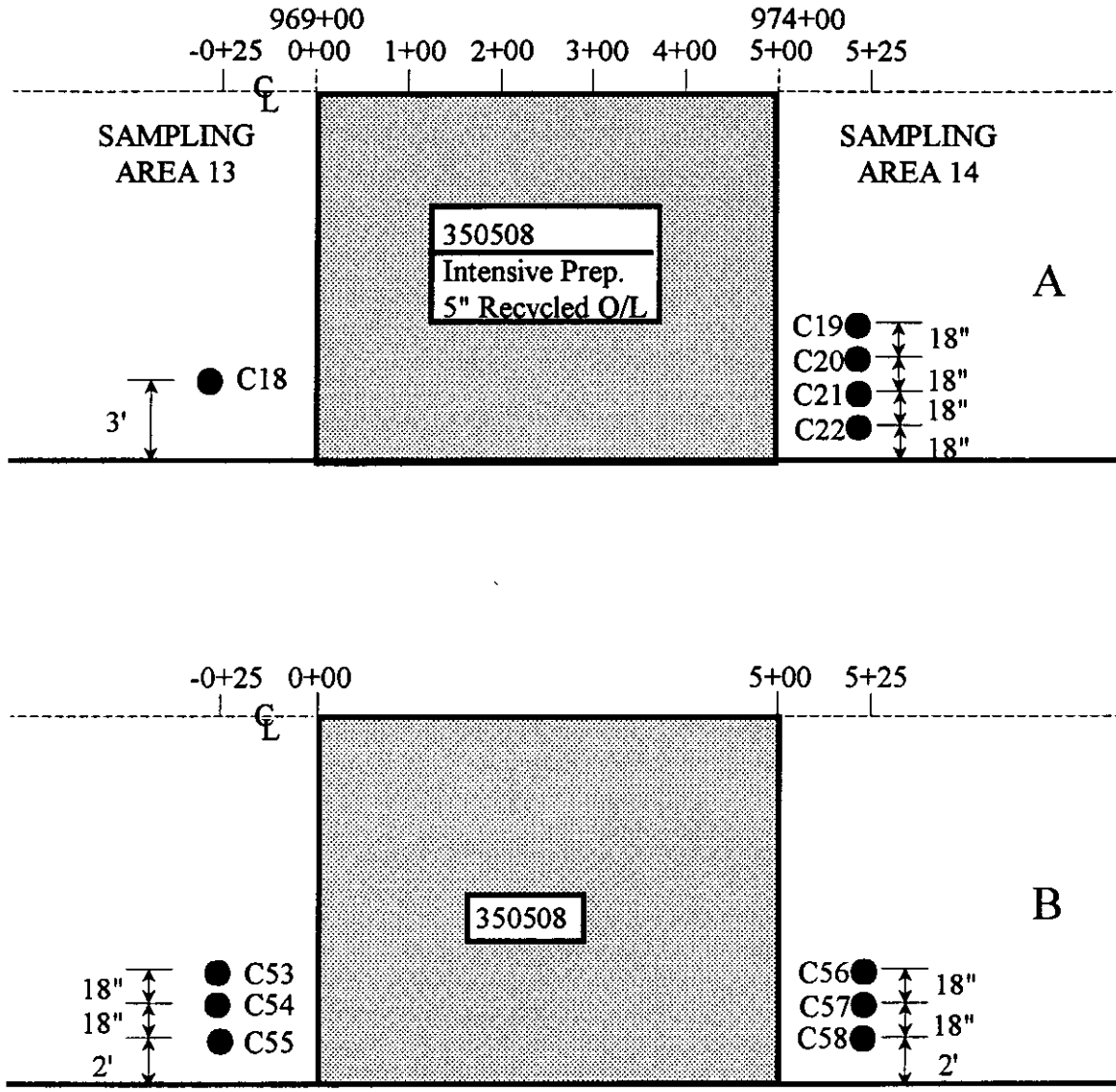
A Preconstruction Sampling (C11-C15,A2,TP1)
B Postconstruction Sampling (C41-C46)

FIGURE B-8. SAMPLING AND TESTING PLAN FOR TEST SECTION 350504 NEW MEXICO SPS-5 (350500)



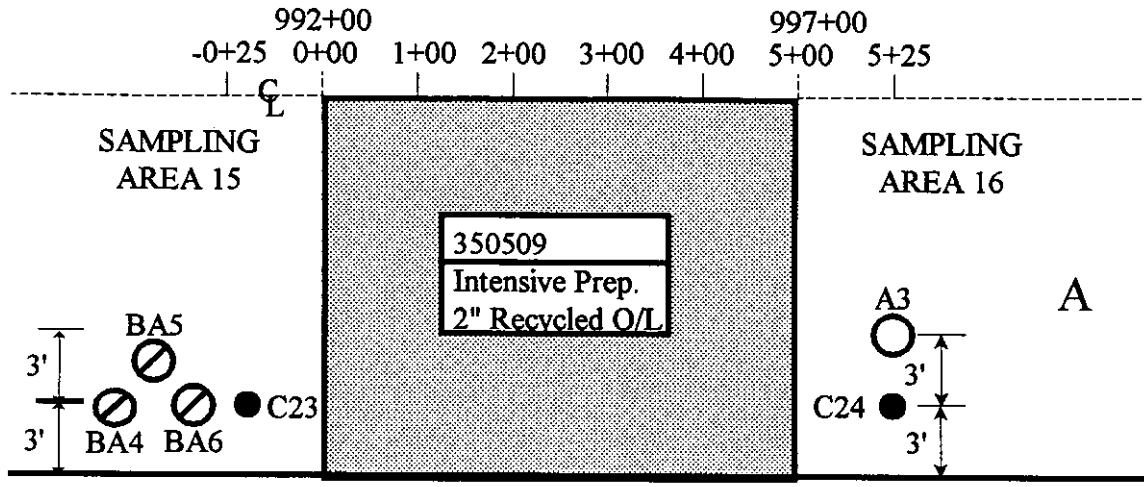
A Preconstruction Sampling (C16-C17)
B Postconstruction Sampling (C47-C52)

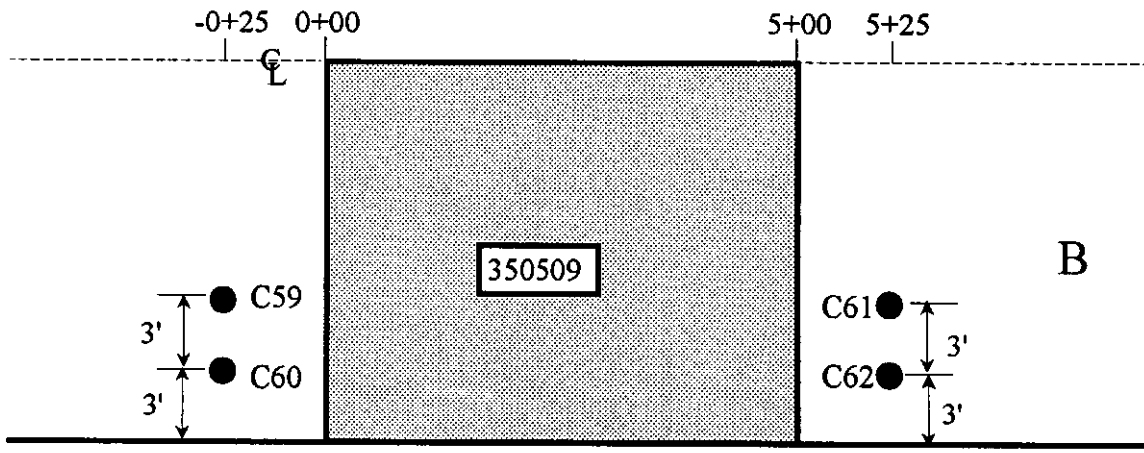
FIGURE B-9. SAMPLING AND TESTING PLAN FOR TEST SECTION 350503 NEW MEXICO SPS-5 (350500)



A Preconstruction Sampling (C18-C22)
B Postconstruction Sampling (C53-C58)

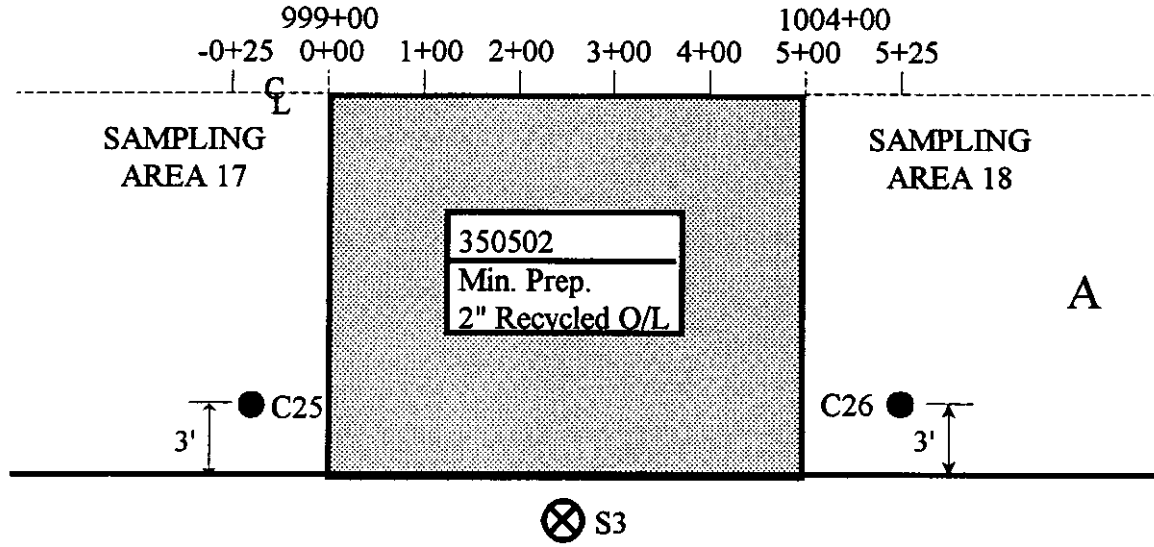
FIGURE B-10. SAMPLING AND TESTING PLAN FOR TEST SECTION 350508 NEW MEXICO SPS-5 (350500)

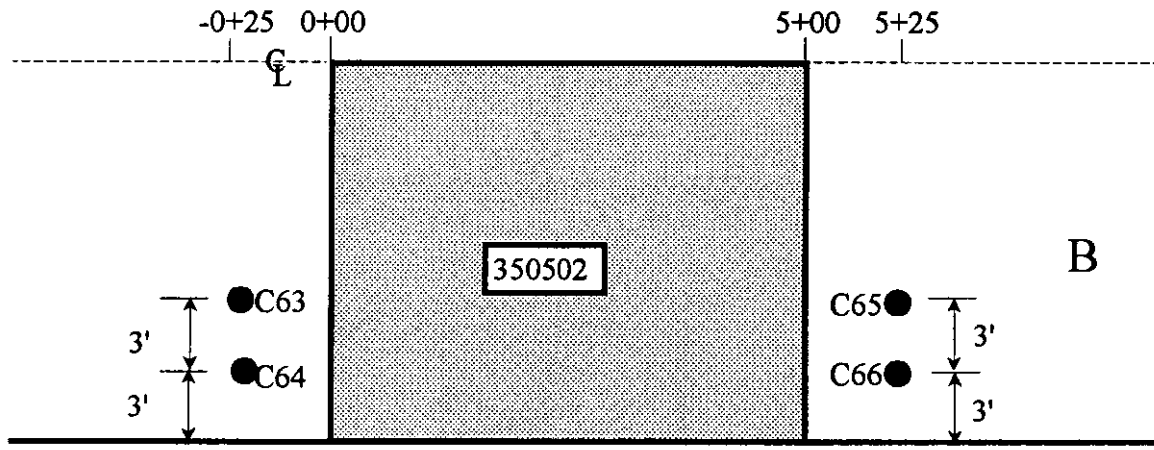




A Preconstruction Sampling (C23-C24, BA4-BA6, A3)
B Postconstruction Sampling (C59-C62)

FIGURE B-11. SAMPLING AND TESTING PLAN FOR TEST SECTION 350509 NEW MEXICO SPS-5 (350500)





A Preconstruction Sampling (C25-C26,S3)
B Postconstruction Sampling (C63-C66)

FIGURE B-12. SAMPLING AND TESTING PLAN FOR TEST SECTION 350502 NEW MEXICO SPS-5 (350500)

TABLE B-4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
Asphalt Concrete			
BA1	~~BA01~~ CA61	1	305 mm (12 in.) Core
BA2	~~BA02~~ CA62	1	305 mm (12 in.) Core
BA3	~~BA03~~ CA63	1	305 mm (12 in.) Core
BA4	~~BA04~~ CA64	1	305 mm (12 in.) Core
BA5	~~BA05~~ CA65	1	305 mm (12 in.) Core
BA6	~~BA06~~ CA66	1	305 mm (12 in.) Core
TP1	~~BA07~~ KA01	1	305 mm × 305 mm (12 in. × 12 in.) Block
A1	~~A1~~ CA51	2	152 mm (6 in.) Core
A2	~~A2~~ CA52	2	152 mm (6 in.) Core
A3	~~A3~~ CA53	2	152 mm (6 in.) Core
~~BV1~~ B1	BV1	3	Bulk Sample Uncompacted Mix
~~BV2~~ B2	BV2	3	Bulk Sample Uncompacted Mix
~~BV3~~ B3	BV3	3	Bulk Sample Uncompacted Mix
~~BR1~~ B4	BR1	3	Bulk Sample Uncompacted Mix
~~BR2~~ B5	BR2	3	Bulk Sample Uncompacted Mix
~~BR3~~ B6	BR3	3	Bulk Sample Uncompacted Mix
Dense-Graded Aggregate Base (UTBC)			
All Samples Shipped to FHWA Laboratory			
Subgrade			
BA1	MS01	1	Moisture Content Jar Sample
BA2	MS02	1	Moisture Content Jar Sample
BA3	MS03	1	Moisture Content Jar Sample
BA1	BS01	1	45 kg (100 lb) Bulk Sample
BA2	BS02	1	45 kg (100 lb) Bulk Sample
BA3	BS03	1	45 kg (100 lb) Bulk Sample

TABLE B-4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
A1	TS01	3	Thin-wall Tube
A2	TS03	3	Thin-wall Tube
A3	TS05	3	Thin-wall Tube

TABLE B-5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
Asphalt Concrete			
C1	CA01	1	102 mm (4 in.) Core
C2	CA02	2	102 mm (4 in.) Core
C3	CA03	1	102 mm (4 in.) Core
C4	CA04	1	102 mm (4 in.) Core
C5	CA05	1	102 mm (4 in.) Core
C6	CA06	2	102 mm (4 in.) Core
C7	CA07	1	102 mm (4 in.) Core
C8	CA08	2	102 mm (4 in.) Core
C9	CA09	1	102 mm (4 in.) Core
C10	CA10	1	102 mm (4 in.) Core
C11	CA11	1	102 mm (4 in.) Core
C12	CA12	1	102 mm (4 in.) Core
C13	CA13	1	102 mm (4 in.) Core
C14	CA14	1	102 mm (4 in.) Core
C15	CA15	2	102 mm (4 in.) Core
C16	CA16	1	102 mm (4 in.) Core
C17	CA17	2	102 mm (4 in.) Core
C18	CA18	2	102 mm (4 in.) Core
C19	CA19	2	102 mm (4 in.) Core
C20	CA20	2	102 mm (4 in.) Core
C21	CA21	2	102 mm (4 in.) Core
C22	CA22	2	102 mm (4 in.) Core
C23	CA23	1	102 mm (4 in.) Core
C24	CA24	2	102 mm (4 in.) Core
C25	CA25	1	102 mm (4 in.) Core

TABLE B-5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
C26	CA26	2	102 mm (4 in.) Core
C27	CA27	1	102 mm (4 in.) Core
C28	CA28	1	102 mm (4 in.) Core
C29	CA29	2	102 mm (4 in.) Core
C30	CA30	2	102 mm (4 in.) Core
C31	CA31	1	102 mm (4 in.) Core
C32	CA32	1	102 mm (4 in.) Core
C33	CA33	2	102 mm (4 in.) Core
C34	CA34	2	102 mm (4 in.) Core
C35	CA35	1	102 mm (4 in.) Core
C36	CA36	1	102 mm (4 in.) Core
C37	CA37	1	102 mm (4 in.) Core
C38	CA38	2	102 mm (4 in.) Core
C39	CA39	2	102 mm (4 in.) Core
C40	CA40	2	102 mm (4 in.) Core
C41	CA41	1	102 mm (4 in.) Core
C42	CA42	1	102 mm (4 in.) Core
C43	CA43	1	102 mm (4 in.) Core
C44	CA44	2	102 mm (4 in.) Core
C45	CA45	2	102 mm (4 in.) Core
C46	CA46	2	102 mm (4 in.) Core
C47	CA47	1	102 mm (4 in.) Core
C48	CA48	1	102 mm (4 in.) Core
C49	CA49	1	102 mm (4 in.) Core
C50	CA50	2	102 mm (4 in.) Core

TABLE B-5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
C51	CA51	2	102 mm (4 in.) Core
C52	CA52	2	102 mm (4 in.) Core
C53	CA53	1	102 mm (4 in.) Core
C54	CA54	1	102 mm (4 in.) Core
C55	CA55	1	102 mm (4 in.) Core
C56	CA56	2	102 mm (4 in.) Core
C57	CA57	2	102 mm (4 in.) Core
C58	CA58	2	102 mm (4 in.) Core
C59	CA59	1	102 mm (4 in.) Core
C60	CA60	1	102 mm (4 in.) Core
C61	CA61	2	102 mm (4 in.) Core
C62	CA62	2	102 mm (4 in.) Core
C63	CA63	1	102 mm (4 in.) Core
C64	CA64	1	102 mm (4 in.) Core
C65	CA65	2	102 mm (4 in.) Core
C66	CA66	2	102 mm (4 in.) Core
Dense-Graded Aggregate Base (UTBC)			
BA1	BG01	1	136 kg (300 lb) Bulk Sample
BA2	BG02	1	136 kg (300 lb) Bulk Sample
BA3	BG03	1	136 kg (300 lb) Bulk Sample
BA4	BG04	2	136 kg (300 lb) Bulk Sample
BA5	BG05	2	136 kg (300 lb) Bulk Sample
BA6	BG06	2	136 kg (300 lb) Bulk Sample
TP1	BG07	1	136 kg (300 lb) Bulk Sample

TABLE B-5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
BA1	MG01	1	Moisture Content Jar Sample
BA2	MG02	1	Moisture Content Jar Sample
BA3	MG03	1	Moisture Content Jar Sample
BA4	MG04	1	Moisture Content Jar Sample
BA5	MG05	1	Moisture Content Jar Sample
BA6	MG06	1	Moisture Content Jar Sample
TP1	MG07	1	Moisture Content Jar Sample
Subgrade			
BA1	BS01	1	136 kg (300 lb) Bulk Sample
BA2	BS02	1	136 kg (300 lb) Bulk Sample
BA3	BS03	1	136 kg (300 lb) Bulk Sample
BA4	BS04	1	136 kg (300 lb) Bulk Sample
BA5	BS05	1	136 kg (300 lb) Bulk Sample
BA6	BS06	1	136 kg (300 lb) Bulk Sample
TP1	BS07	1	136 kg (300 lb) Bulk Sample
A1	TS02	3	Thin-wall Tube Sample
A2	TS04	3	Thin-wall Tube Sample
A3	TS06	3	Thin-wall Tube Sample

SECTION C

LABORATORY MATERIAL TESTING

SECTION C

LABORATORY MATERIAL TESTING

It is the intent of this section of the sampling and testing plan to provide an outline for the laboratory testing that is planned for the New Mexico SPS-5 project. The previous section ended with lists of samples to be shipped to each of two laboratories; the state designated laboratory and the FHWA/LTPP contracted laboratory. In this section, the tests to be performed on each sample are listed.

The reference project layer numbering scheme was provided in Table B-1. It is important that the two laboratories reference the same layer by number to ensure meaningful results.

Tables C-1 and C-2 provide listings of the preconstruction and postconstruction laboratory tests to be performed for each material type and pavement layer, and the associated laboratory testing protocol. It is imperative that the protocols listed be strictly followed during testing.

Tables C-3 through C-7 provide tracking tables for the testing to be conducted for each material type. These tables itemize the testing to occur on each sample and provide an indication of whether the sample is to be disposed of.

TABLE C-1. SPS-5 LABORATORY TESTING PLANS - PRECONSTRUCTION

MATERIAL TYPE AND PROPERTIES	LTPP DESIGNATION	LTPP PROTOCOL	Nº. OF TESTS PER LAYER	SAMPLING LOCATION	TEST CONDUCTED BY:	
					STATE	FHWA
A. ASPHALTIC CONCRETE:						
Core Examination/Thickness	AC01	P01	26	C1-C26		X
Bulk Specific Gravity	AC02	P02	12	C3-C6, C11-14, C19-C22		X
Maximum Specific Gravity	AC03	P03	3	BA1-BA3, TP1, BA4-BA6	X	
Asphalt Content (Extraction)	AC04	P04	3	BA1-BA3, TP1, BA4-BA6	X	
Creep Compliance	AC06	P06	3	C2, C16, C24		X
Resilient Modulus	AC07	P07	9	C3-C5, C12-C14, C20-C22		X
Tensile Strength	AC07	P07	12	C3-C6, C11-C14, C19-C22		X
Field Moisture Damage	AC08	P08	3	A1, A2, A3	X	
B. EXTRACTED AGGREGATE:						
Type and Classification:						
Coarse Aggregate	AG03	P13	3	BA1-BA3, TP1, BA4-BA6	X	
Fine Aggregate	AG03	P13	3	BA1-BA3, TP1, BA4-BA6	X	
Gradation of Aggregate	AG04	P14	3	BA1-BA3, TP1, BA4-BA6	X	
NAA Test for Fine Aggregate Particle Shape	AG05	P14A	3	BA1-BA3, TP1, BA4-BA6	X	
C. ASPHALT CEMENT:						
Abson Recovery	AE01	P21	3	BA1-BA3, TP1, BA4-BA6	X	
Penetration at 77F & 115F	AE02	P22	3	BA1-BA3, TP1, BA4-BA6	X	
Specific Gravity (60F)	AE03	P23	3	BA1-BA3, TP1, BA4-BA6	X	
Viscosity at 77F	AE04	P24	3	BA1-BA3, TP1, BA4-BA6	X	
Viscosity at 140F & 275F	AE05	P25	3	BA1-BA3, TP1, BA4-BA6	X	
D. UNBOUND GRANULAR BASE						
Particle Size Analysis	UG01	P41	3	BA1-BA3, TP1, BA4-BA6		X
Sieve Analysis (Washed)	UG02	P41	3	BA1-BA3, TP1, BA4-BA6		X
Atterberg Limits	UG04	P43	3	BA1-BA3, TP1, BA4-BA6		X
Moisture-Density Relations	UG05	P44	3	BA1-BA3, TP1, BA4-BA6		X
Resilient Modulus	UG07	P46	3	BA1-BA3, TP1, BA4-BA6		X
Classification	UG08	P47	3	BA1-BA3, TP1, BA4-BA6		X
Permeability	UG09	P48	3	BA1-BA3, TP1, BA4-BA6		X
Natural Moisture Content	UG10	P49	3	BA1-BA3, TP1, BA4-BA6		X
E. SUBGRADE						
Sieve Analysis	SS01	P51	3	BA1-BA3, TP1, BA4-BA6		X
Hydrometer to 0.001 mm.	SS02	P42	3	BA1-BA3, TP1, BA4-BA6		X
Atterberg Limits	SS03	P43	3	BA1-BA3, TP1, BA4-BA6		X
Classification	SS04	P52	3	BA1-BA3, TP1, BA4-BA6		X
Moisture-Density Relations	SS05	P55	3	BA1-BA3, TP1, BA4-BA6		X
Resilient Modulus	SS07	P46	3	A1, A2, A3		X
Unit Weight	SS08	P56	3	A1, A2, A3	X	
Natural Moisture Content	SS09	P49	3	BA1-BA3	X	
Depth to Rigid Layer			3	S1, S2, S3	X	

TABLE C-2. SPS-5 LABORATORY TESTING PLANS - POSTCONSTRUCTION

MATERIAL TYPE AND PROPERTIES	LTPP DESIGNATION	LTPP PROTOCOL	Nº. OF TESTS PER LAYER	SAMPLING LOCATION	TEST CONDUCTED BY:	
					STATE	FHWA
A. ASPHALTIC CONCRETE:						
Core Examination/Thickness	AC01	P01	40	C27-C66		X
Bulk Specific Gravity	AC02	P02	40	C27-C66		X
Maximum Specific Gravity	AC03	P03	6	BV1-BV3, BR1-BR3	X	
Asphalt Content (Extraction)	AC04	P04	6	BV1-BV3, BR1-BR3	X	
Moisture Susceptibility	AC05	P05	6	BV1-BV3, BR1-BR3	X	
Creep Compliance	AC06	P06	4	C29, C34, C59, C65		X
Resilient Modulus	AC07	P07	12	C35-C37, C41-C43, C47-C49, C53-C55		X
Tensile Strength	AC07	P07	16	C35-C38, C41-C44, C47-C50, C53-C56		X
B. EXTRACTED AGGREGATE:						
Bulk Specific Gravity:						
Coarse Aggregate	AG01	P11	6	BV1-BV3, BR1-BR3	X	
Fine Aggregate	AG02	P12	6	BV1-BV3, BR1-BR3	X	
Type and Classification:						
Coarse Aggregate	AG03	P13	6	BV1-BV3, BR1-BR3	X	
Fine Aggregate	AG03	P13	6	BV1-BV3, BR1-BR3	X	
Gradation of Aggregate	AG04	P14	6	BV1-BV3, BR1-BR3	X	
NAA Test for Fine Aggregate Particle Shape	AG05	P14A	6	BV1-BV3, BR1-BR3	X	
C. ASPHALT CEMENT:						
Abson Recovery	AE01	P21	6	BV1-BV3, BR1-BR3	X	
Penetration at 77F & 115F	AE02	P22	6	BV1-BV3, BR1-BR3	X	
Specific Gravity (60F)	AE03	P23	6	BV1-BV3, BR1-BR3	X	
Viscosity at 77F	AE04	P24	6	BV1-BV3, BR1-BR3	X	
Viscosity at 140F & 275F	AE05	P25	6	BV1-BV3, BR1-BR3	X	

TABLE C-3. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence							
			Required Laboratory Tests Per Layer					Extra Sample	Sample Storage[1]	Sample Disposed?[2]
			First	Second	Third	Fourth	Fifth			
Asphalt Concrete Mix										
BA1	BA01	1	AC03/P03	AC04/P04				Yes	(a)	No
BA2	BA02	1	AC03/P03	AC04/P04				Yes	(a)	No
BA3	BA03	1	AC03/P03	AC04/P04				Yes	(a)	No
BA4	BA04	1	AC03/P03	AC04/P04				Yes	(a)	No
BA5	BA05	1	AC03/P03	AC04/P04				Yes	(a)	No
BA6	BA06	1	AC03/P03	AC04/P04				Yes	(a)	No
TP1	BA07	1	AC03/P03	AC04/P04				Yes	(a)	No
A1	A1	2	AC08/P08					Yes	(a)	No
A2	A2	2	AC08/P08					Yes	(a)	No
A3	A3	2	AC08/P08					Yes	(a)	No
BV1	BV1	3	See Figure C-1					No	(a)	Yes
BV2	BV2	3	See Figure C-1					No	(a)	Yes
BV3	BV3	3	See Figure C-1					No	(a)	Yes
BR1	BR1	3	See Figure C-1					No	(a)	Yes
BR2	BR2	3	See Figure C-1					No	(a)	Yes
BR3	BR3	3	See Figure C-1					No	(a)	Yes
Extracted Aggregate										
BA1-3	BA01-03	1	AG03/P13	AG04/P14				No	(a)	Yes
BA4-6	BA04-06	1	AG03/P13	AG04/P14				No	(a)	Yes
TP1	BA07	1	AG03/P13	AG04/P14				No	(a)	Yes
Extracted Asphalt										
BA1-3	BA01-03	1	AE01/P21	AE02/P22	AE03/P23	AE04/P24	AE05/P25	No	(a)	Yes
BA4-6	BA04-06	1						No	(a)	Yes
TP1	BA07	1						No	(a)	Yes

TABLE C-3. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

[1] Sample Storage

a. Environmentally protected and controlled storeroom at 5-21°C (40-70°F).

b. Environmentally protected and controlled storeroom at 5-38°C (40-100°F).

c. Thin-walled tube samples of the subgrade that should be stored in a fully supported condition and at temperatures between 5°C (40°F) and 21°C (70°F) in an environmentally protected storeroom. They shall be stored on their ends and shall alwyas be stored in a vertical position with respect to the longitudinal axis of the tube in the same orientation as that retrieved from the field.

[2] Sample Disposal? - Indicates whether or not a sample can be disposed of after testing. Generally all samples, or portions of samples, that are not tested are saved until further notice.

Note: All of the core specimens noted herein shall be stored for possible future use. In the future, these specimens may be used to evaluate test procedures for the SUPERPAVE program.

TABLE C-4. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location	Sample №.	Lab Test №.	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C1	CA01	1	AC01/P01				No	(a)	Yes
C2	CA02	2	AC01/P01	AC06/P06			No	(a)	Yes
C3	CA03	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C4	CA04	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C5	CA05	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C6	CA06	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C7	CA07	1	AC01/P01				No	(a)	Yes
C8	CA08	2	AC01/P01				No	(a)	Yes
C9	CA09	1	AC01/P01				No	(a)	Yes
C10	CA10	2	AC01/P01				No	(a)	Yes
C11	CA11	1	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C12	CA12	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C13	CA13	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C14	CA14	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C15	CA15	2	AC01/P01				No	(a)	Yes
C16	CA16	1	AC01/P01	AC06/P06			No	(a)	Yes
C17	CA17	2	AC01/P01				No	(a)	Yes
C18	CA18	1	AC01/P01				No	(a)	Yes
C19	CA19	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C20	CA20	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C21	CA21	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C22	CA22	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C23	CA23	1	AC01/P01				No	(a)	Yes
C24	CA24	2	AC01/P01	AC06/P06			No	(a)	Yes
C25	CA25	1	AC01/P01				No	(a)	Yes
C26	CA26	2	AC01/P01				No	(a)	Yes
C27	CA27	1	AC01/P01	AC02/P02			No	(a)	Yes

TABLE C-4. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C28	CA28	1	AC01/P01	AC02/P02			No	(a)	Yes
C29	CA29	2	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C30	CA30	2	AC01/P01	AC02/P02			No	(a)	Yes
C31	CA31	1	AC01/P01	AC02/P02			No	(a)	Yes
C32	CA32	1	AC01/P01	AC02/P02			No	(a)	Yes
C33	CA33	2	AC01/P01	AC02/P02			No	(a)	Yes
C34	CA34	2	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C35	CA35	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C36	CA36	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C37	CA37	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C38	CA38	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C39	CA39	2	AC01/P01	AC02/P02			No	(a)	Yes
C40	CA40	2	AC01/P01	AC02/P02			No	(a)	Yes
C41	CA41	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C42	CA42	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C43	CA43	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C44	CA44	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C45	CA45	2	AC01/P01	AC02/P02			No	(a)	Yes
C46	CA46	2	AC01/P01	AC02/P02			No	(a)	Yes
C47	CA47	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C48	CA48	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C49	CA49	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C50	CA50	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C51	CA51	2	AC01/P01	AC02/P02			No	(a)	Yes
C52	CA52	2	AC01/P01	AC02/P02			No	(a)	Yes
C53	CA53	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes

TABLE C-4. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C54	CA54	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C55	CA55	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C56	CA56	2	AC01/P01	AC02/P02	AC07/P07 (ITS)		No	(a)	Yes
C57	CA57	2	AC01/P01	AC02/P02			No	(a)	Yes
C58	CA58	2	AC01/P01	AC02/P02			No	(a)	Yes
C59	CA59	1	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C60	CA60	1	AC01/P01	AC02/P02			No	(a)	Yes
C61	CA61	2	AC01/P01	AC02/P02			No	(a)	Yes
C62	CA62	2	AC01/P01	AC02/P02			No	(a)	Yes
C63	CA63	1	AC01/P01	AC02/P02			No	(a)	Yes
C64	CA64	1	AC01/P01	AC02/P02			No	(a)	Yes
C65	CA65	2	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C66	CA66	2	AC01/P01	AC02/P02			No	(a)	Yes

TABLE C-5. TRACKING TABLE OF UNBOUND (BASE) TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence									
			Required Laboratory Tests Per Layer							Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth	Fifth	Sixth	Seventh			
BA1	BG01	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA2	BG02	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA3	BG03	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA4	BG04	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA5	BG05	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA6	BG06	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
TP1	BG07	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG09/P48	UG07/P46	No	(b)	Yes
BA1	MG01	2	UG10/P49							No	(b)	Yes
BA2	MG02	2	UG10/P49							No	(b)	Yes
BA3	MG03	2	UG10/P49							No	(b)	Yes
BA4	MG04	2	UG10/P49							No	(b)	Yes
BA5	MG05	2	UG10/P49							No	(b)	Yes
BA6	MG06	2	UG10/P49							No	(b)	Yes
TP1	MG07	2	UG10/P49							No	(b)	Yes

TABLE C-6. TRACKING TABLE OF SUBGRADE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed ?
			First	Second	Third	Fourth			
A1	TS01	3	SS08/P56				No	(c)	Yes
A2	TS03	3	SS08/P56				No	(c)	Yes
A3	TS05	3	SS08/P56				No	(c)	Yes
BA1	MS01	2	SS09/P49				No	(b)	Yes
BA2	MS02	2	SS09/P49				No	(b)	Yes
BA3	MS03	2	SS09/P49				No	(b)	Yes

TABLE C-7. TRACKING TABLE OF SUBGRADE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location	Sample Nº.	Lab Test Nº.	Steps Involved in Laboratory Handling and Testing Sequence								
			Required Laboratory Tests Per Layer						Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth	Fifth	Sixth			
BA1	BS01	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
BA2	BS02	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
BA3	BS03	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
BA4	BS04	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
BA5	BS05	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
BA6	BS06	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
TP1	BS07	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
A1	TS02	3	SS04/P52	SS07/P46					No	(c)	Yes
A2	TS04	3	SS04/P52	SS07/P46					No	(c)	Yes
A3	TS06	3	SS04/P52	SS07/P46					No	(c)	Yes
BA1	MS01	1	SS09/P49						No	(b)	Yes
BA2	MS02	1	SS09/P49						No	(b)	Yes
BA3	MS03	1	SS09/P49						No	(b)	Yes
BA4	MS04	1	SS09/P49						No	(b)	Yes
BA5	MS05	1	SS09/P49						No	(b)	Yes
BA6	MS06	1	SS09/P49						No	(b)	Yes
TP1	MS07	1	SS09/P49						No	(b)	Yes

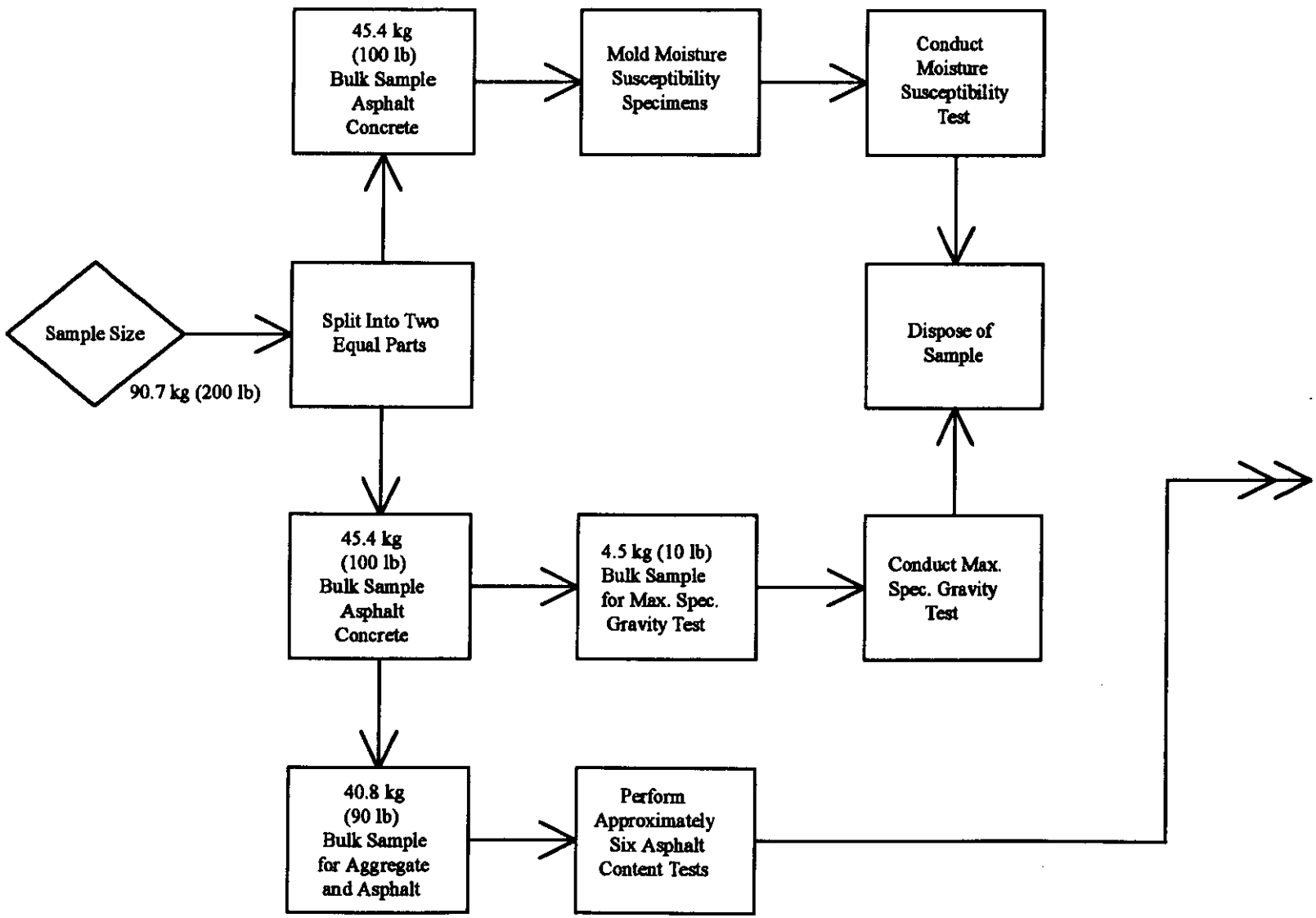


FIGURE C.1. FLOWCHART FOR ASPHALT CONCRETE BULK SAMPLES

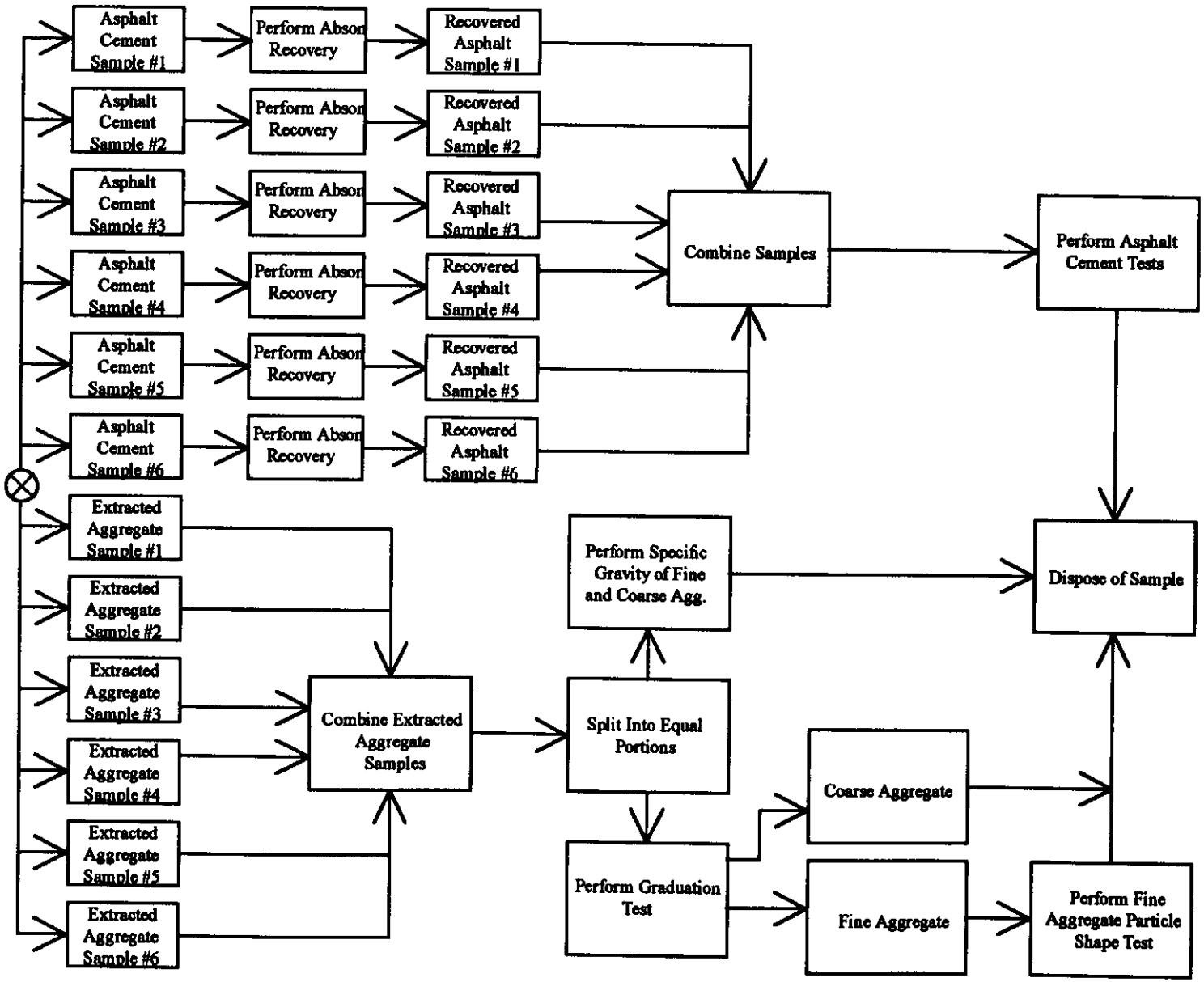
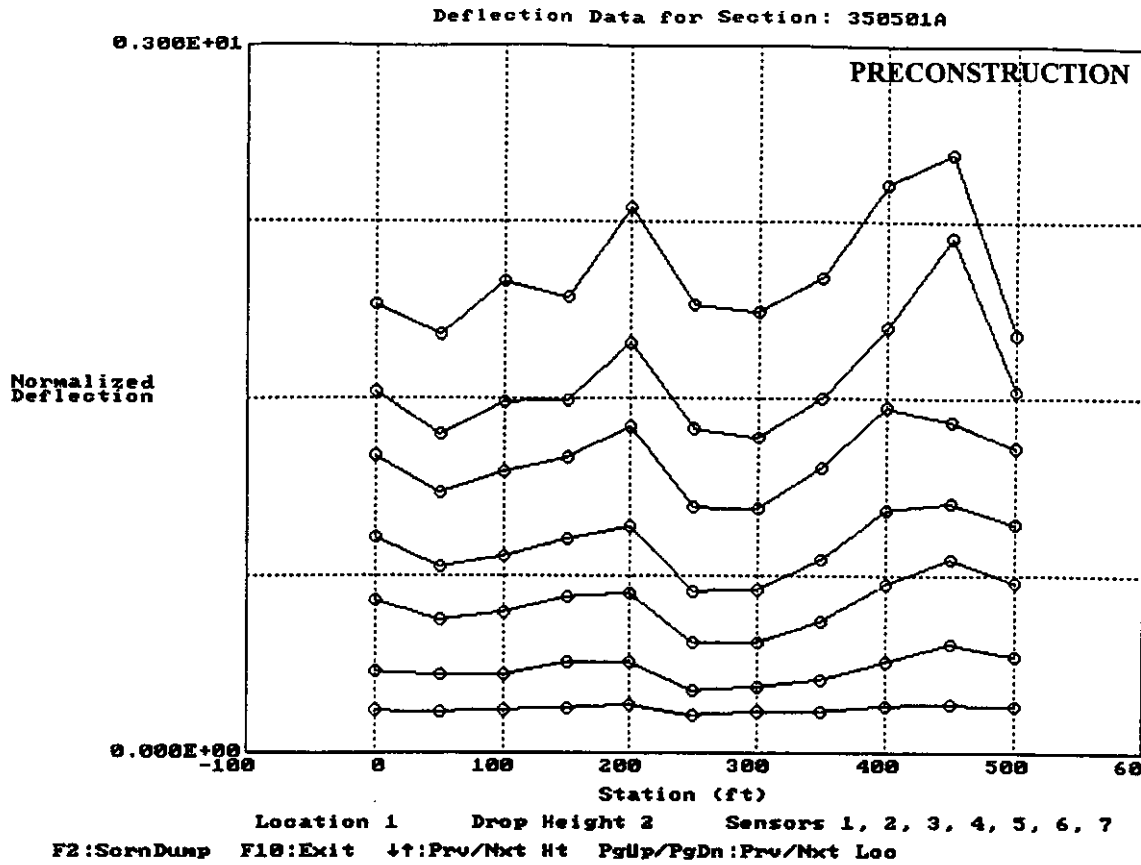


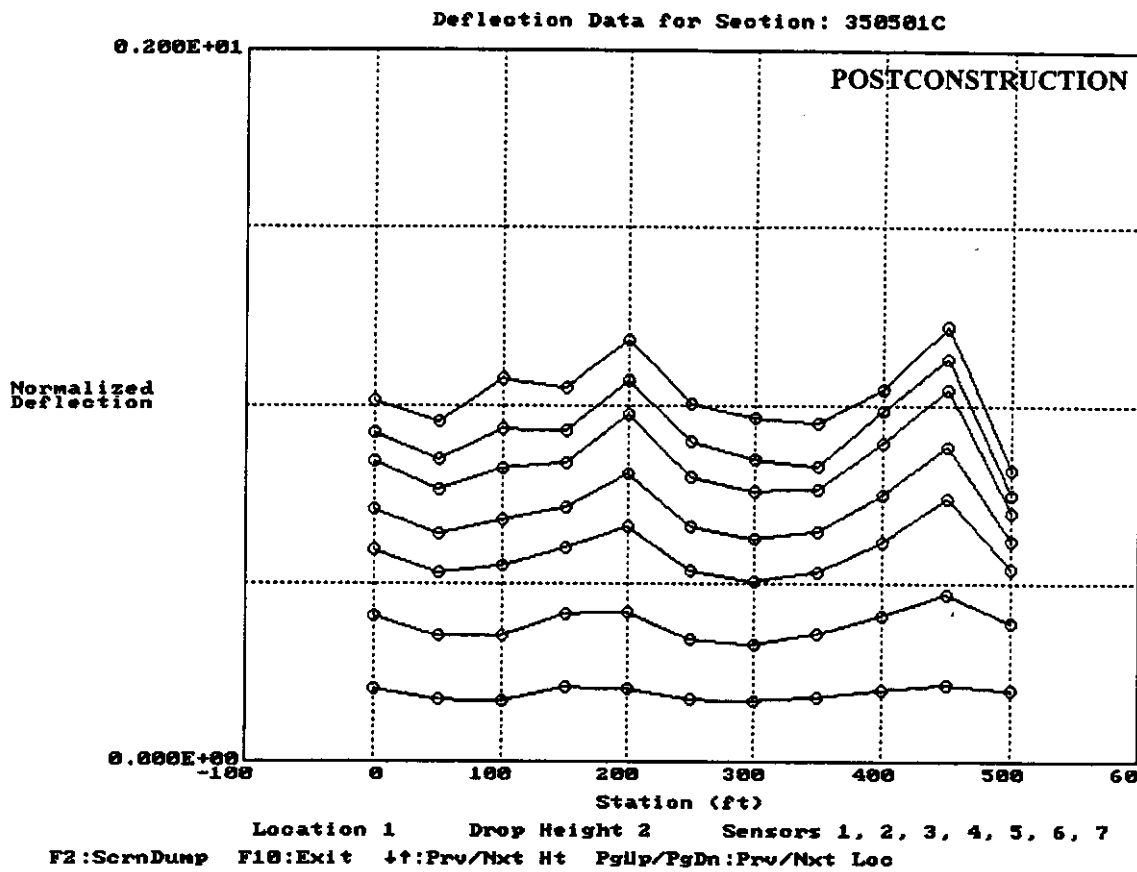
FIGURE C.1. FLOWCHART FOR ASPHALT CONCRETE BULK SAMPLES (Continued)

APPENDIX D

DEFLECTION PLOTS -

PRECONSTRUCTION AND POSTCONSTRUCTION


Deflection Data for Section: 350501A
PRECONSTRUCTION
0.300E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350501C
POSTCONSTRUCTION
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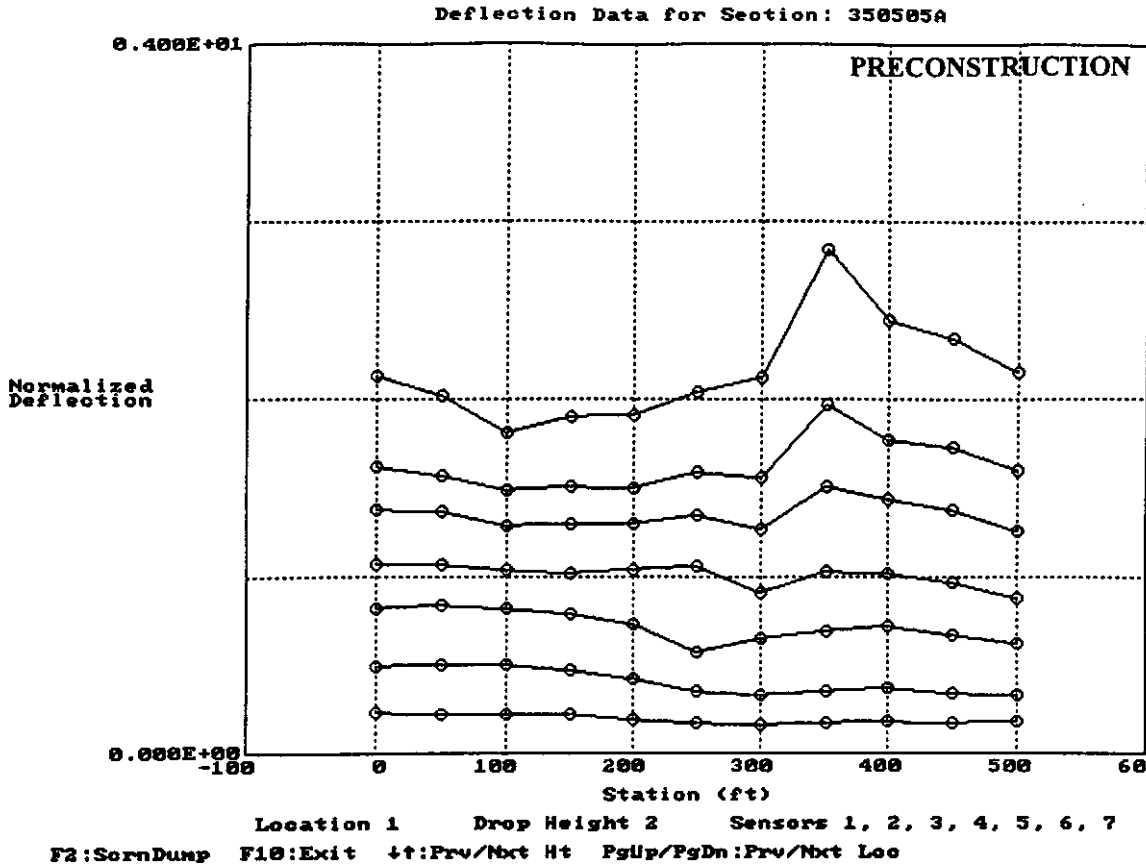
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350505A
PRECONSTRUCTION
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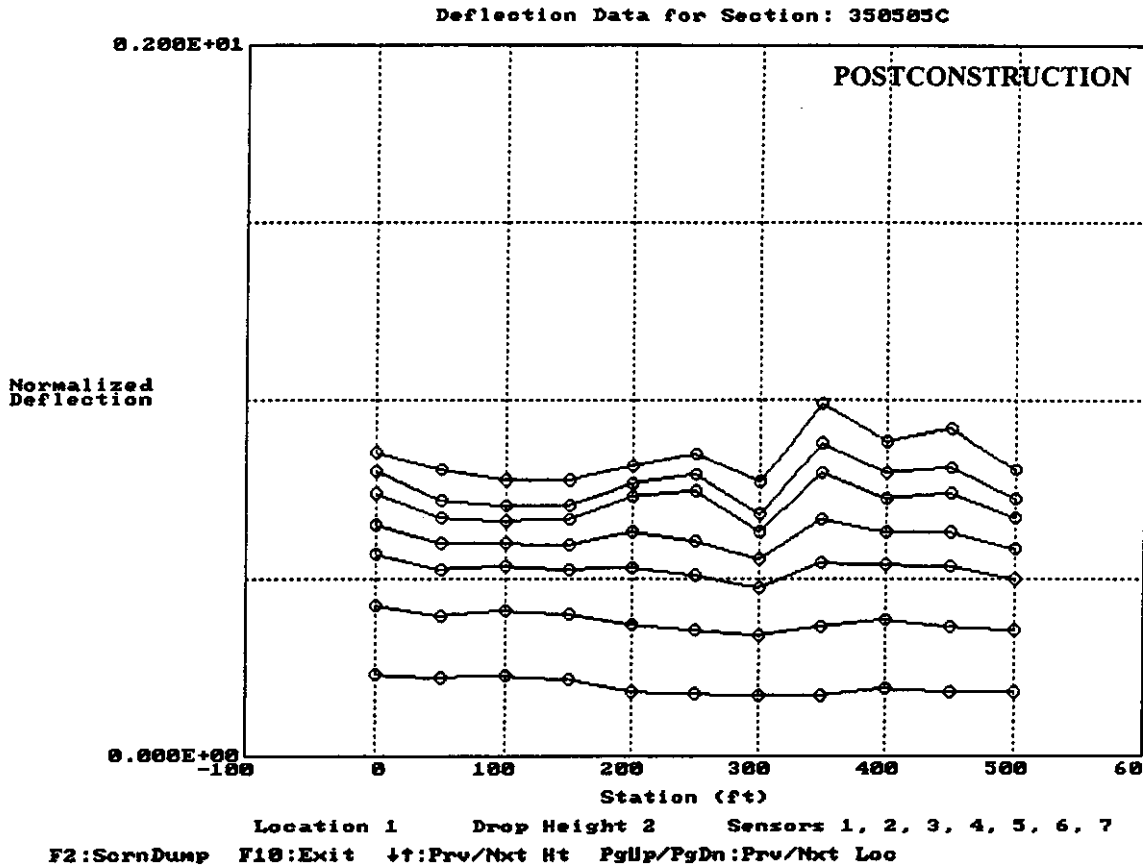
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350505C
POSTCONSTRUCTION
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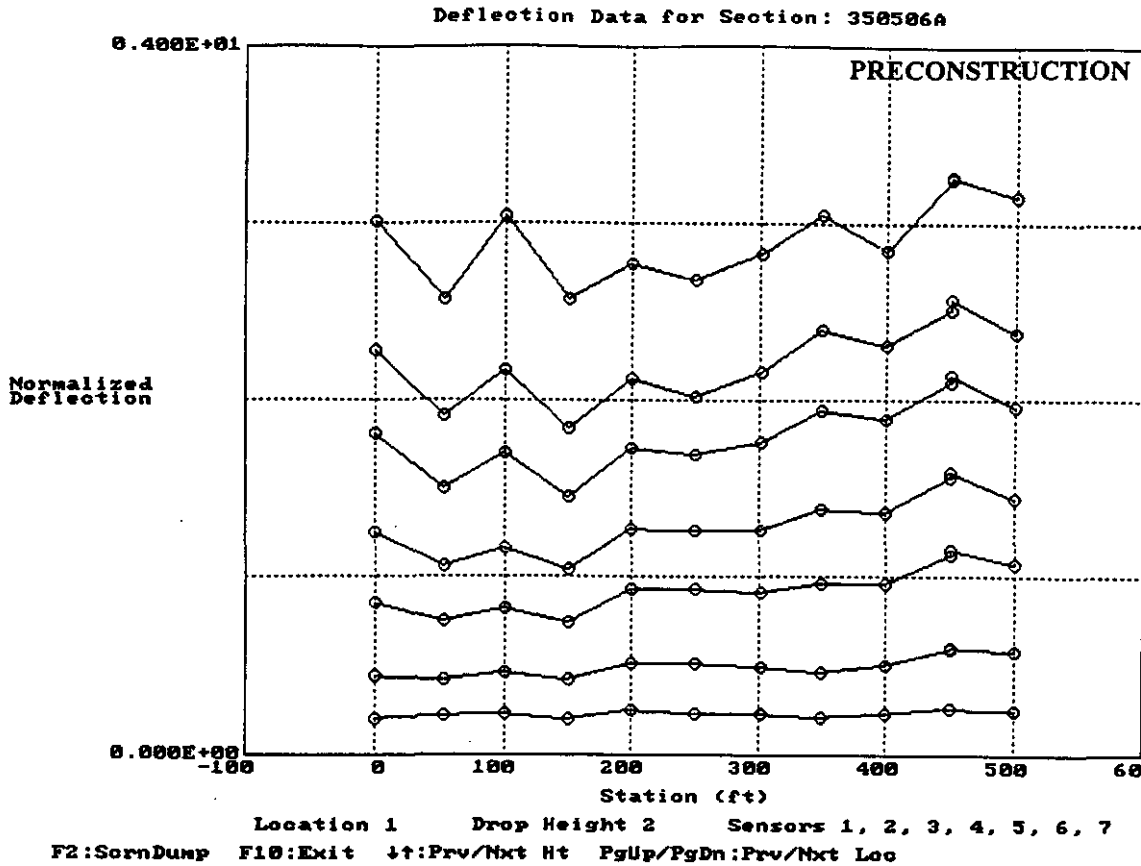
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc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PRECONSTRUCTION
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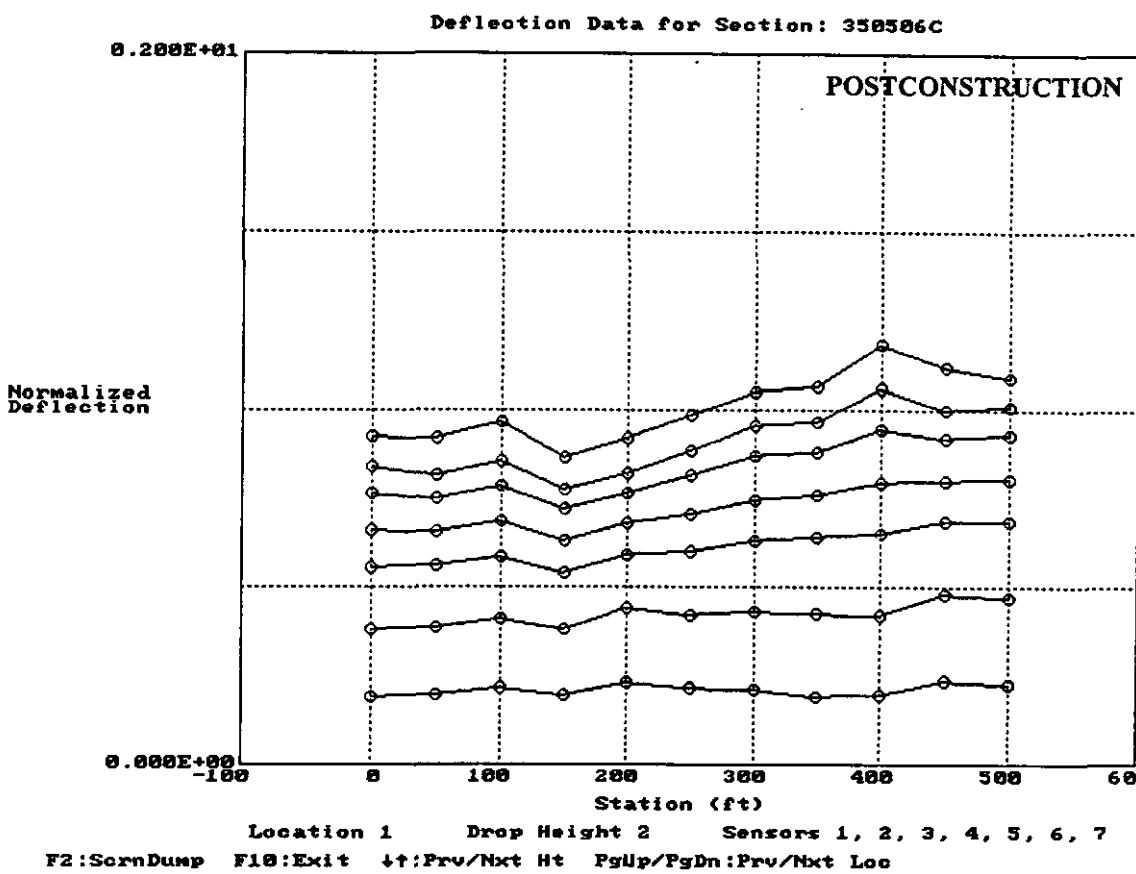
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350506C
POSTCONSTRUCTION
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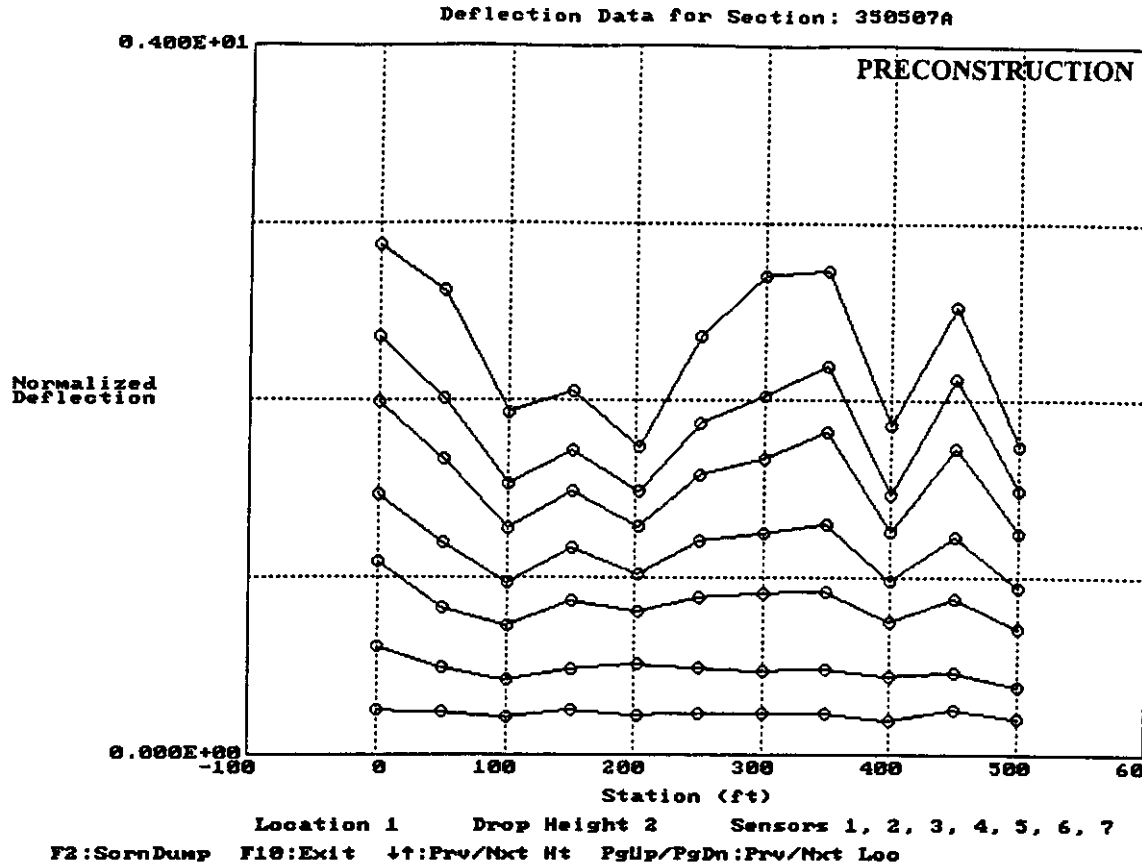
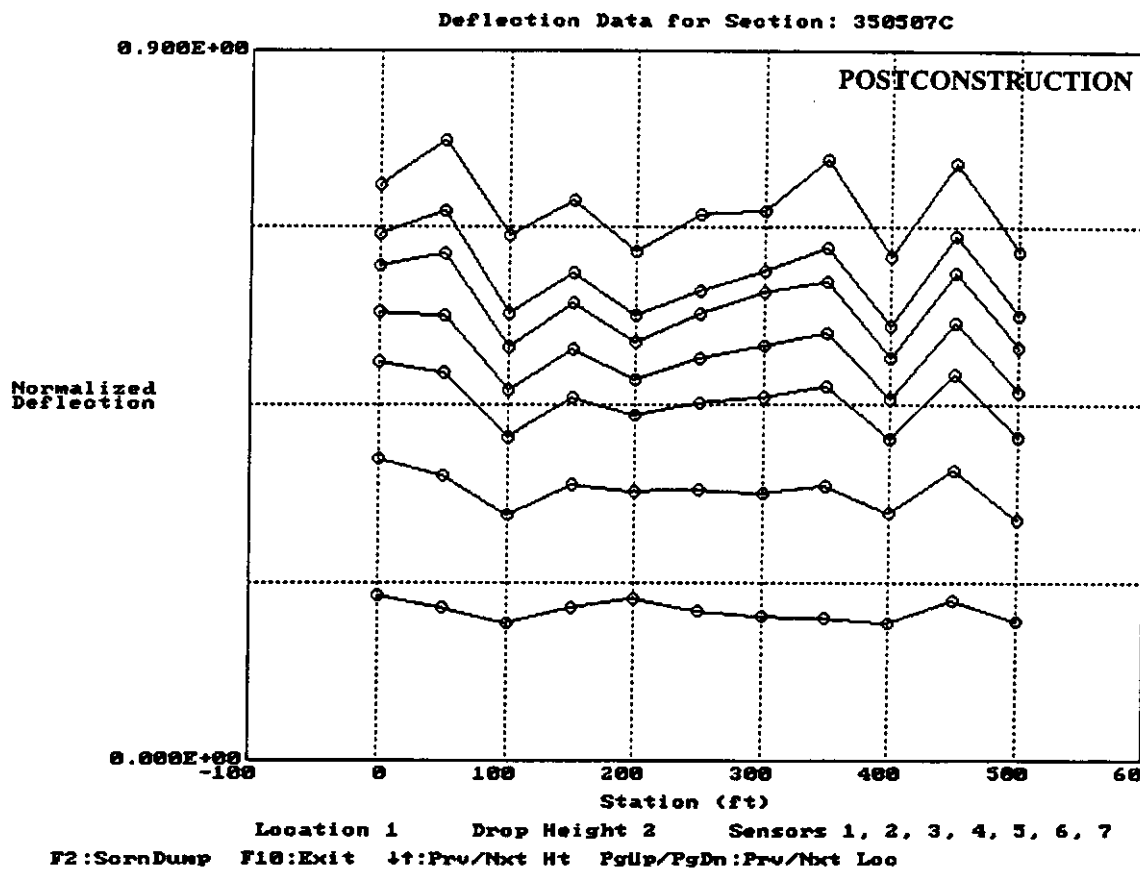
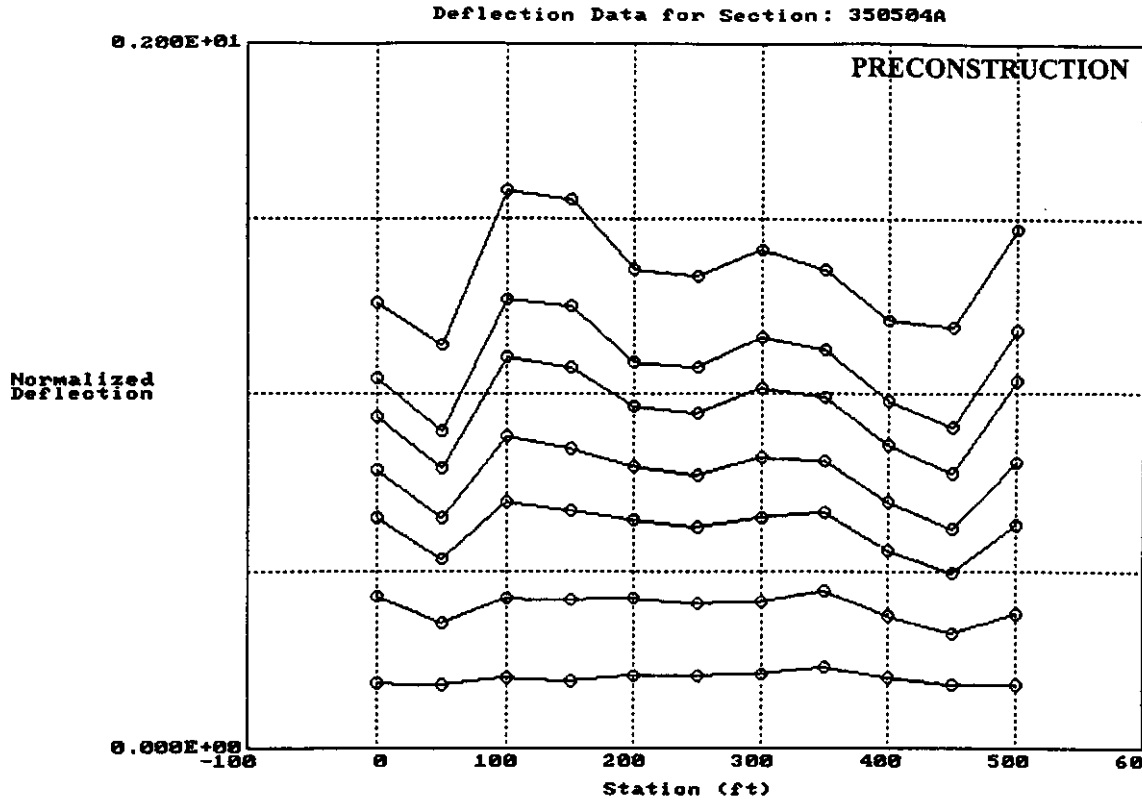
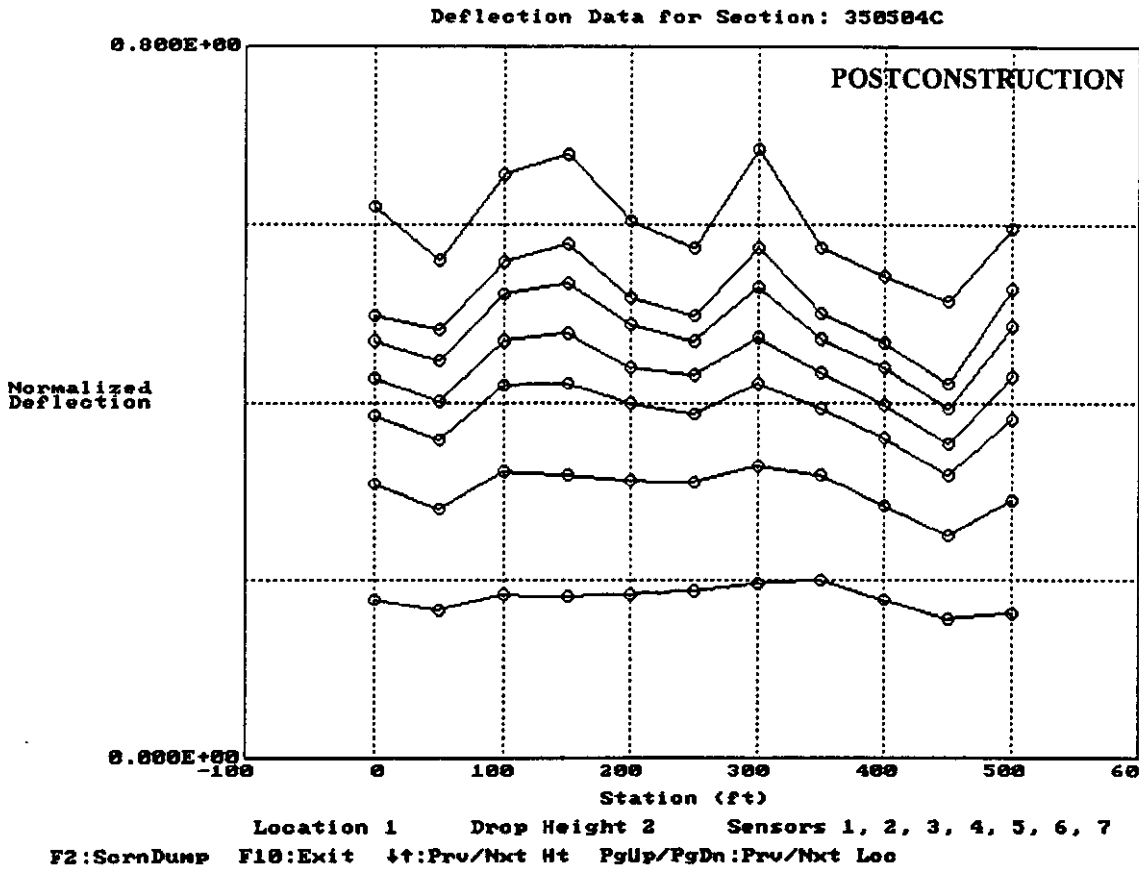
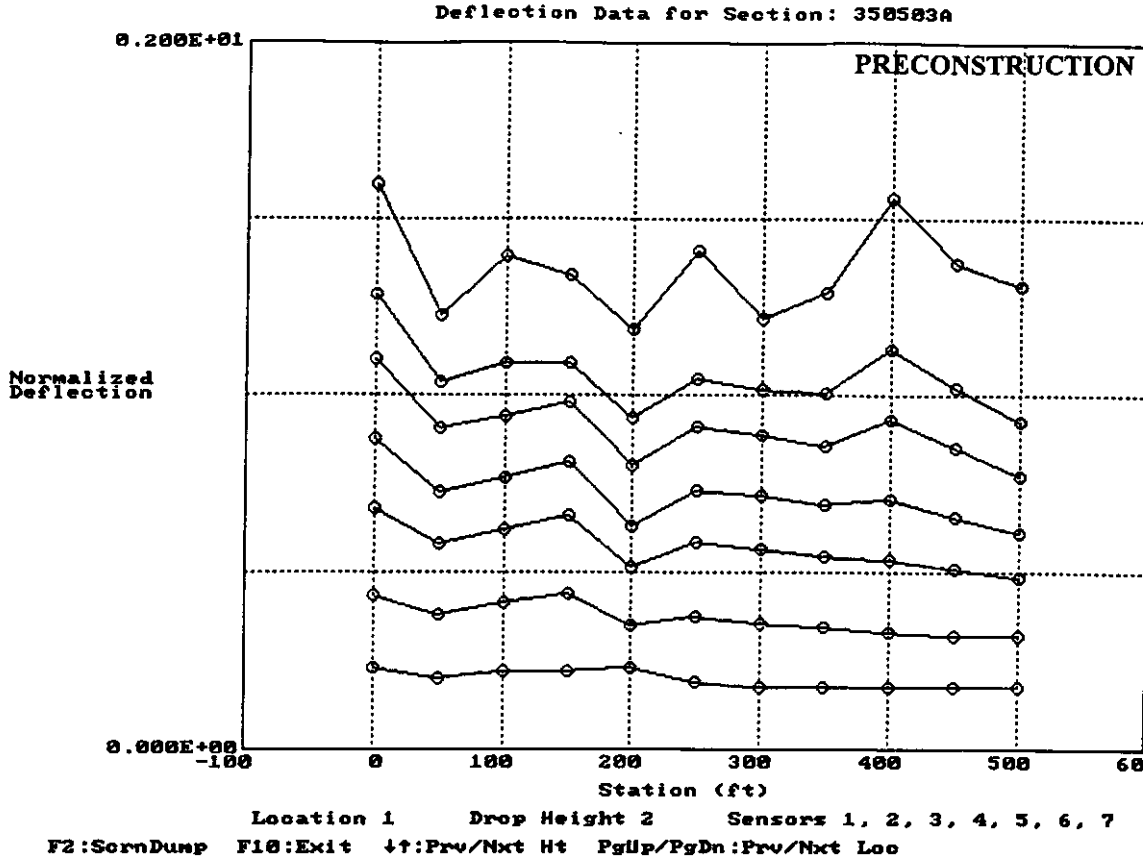
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc

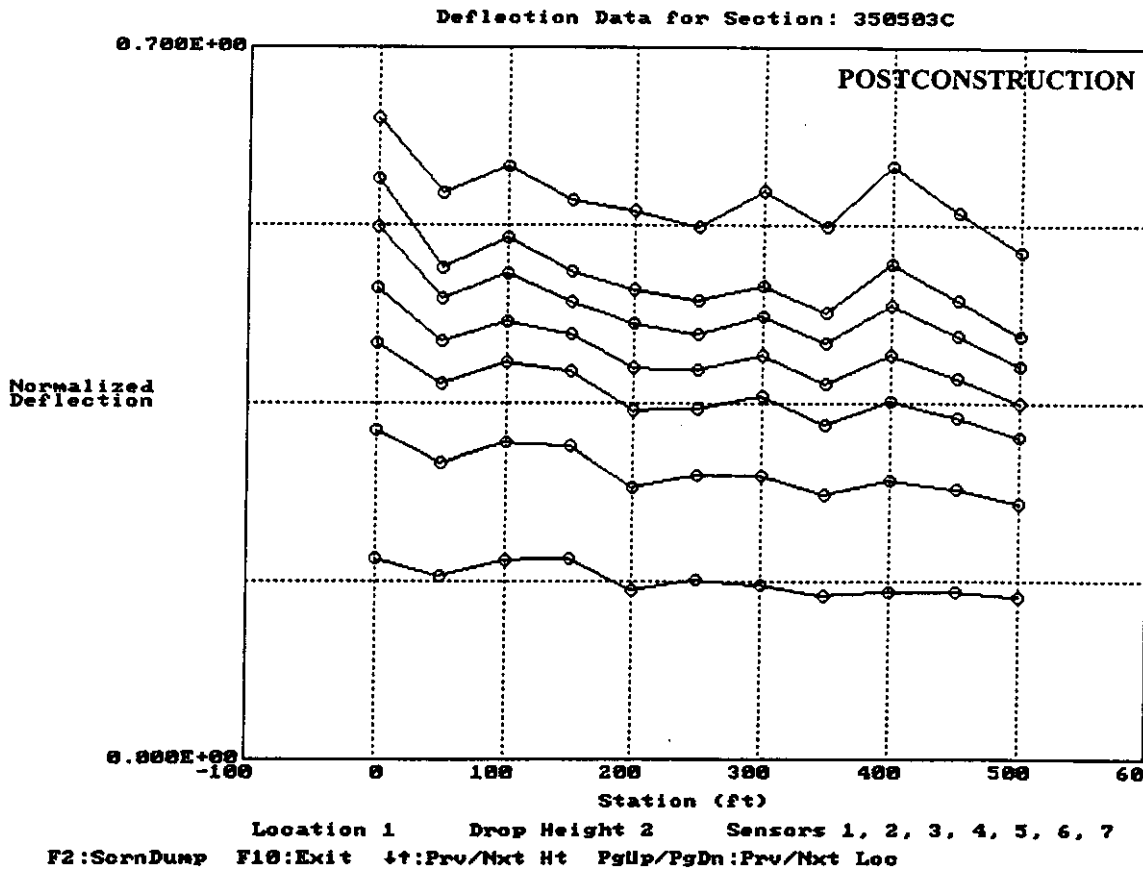

Deflection Data for Section: 350507A
PRECONSTRUCTION
0.400E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:SornDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc

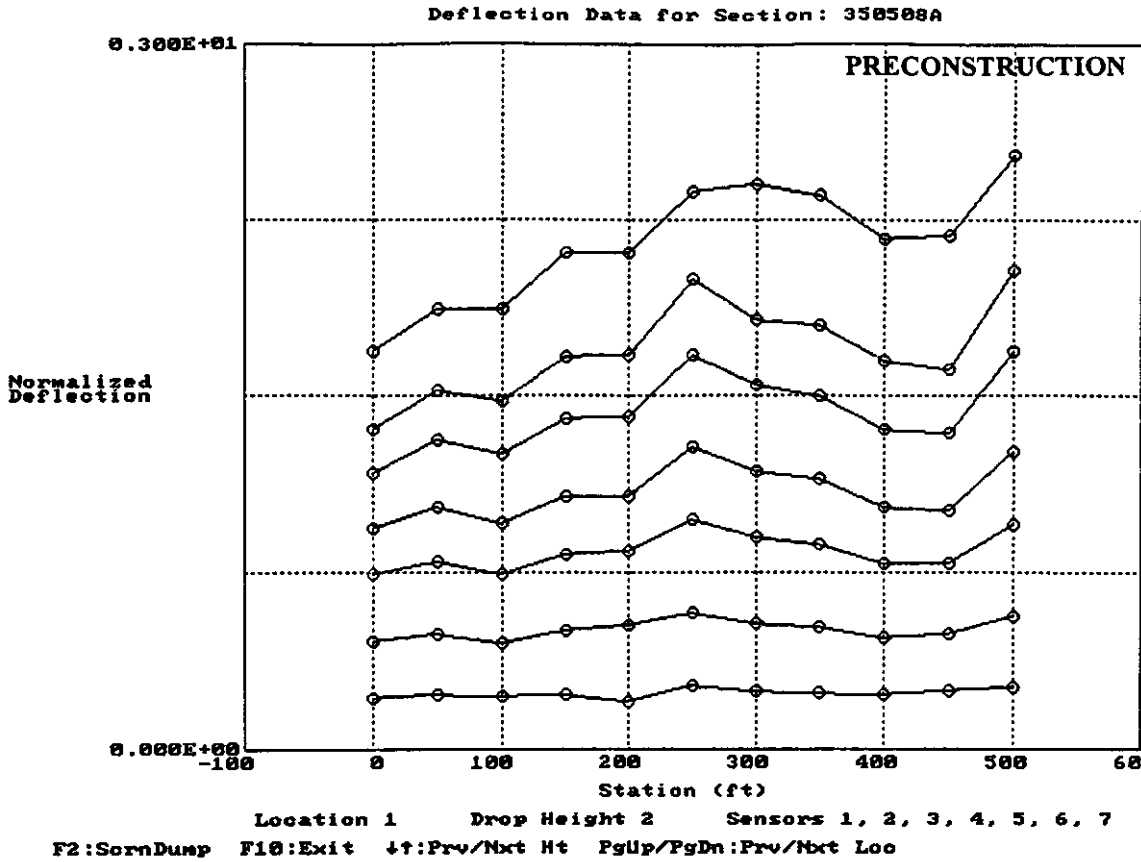

Deflection Data for Section: 350507C
POSTCONSTRUCTION
0.900E+00
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:SornDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc

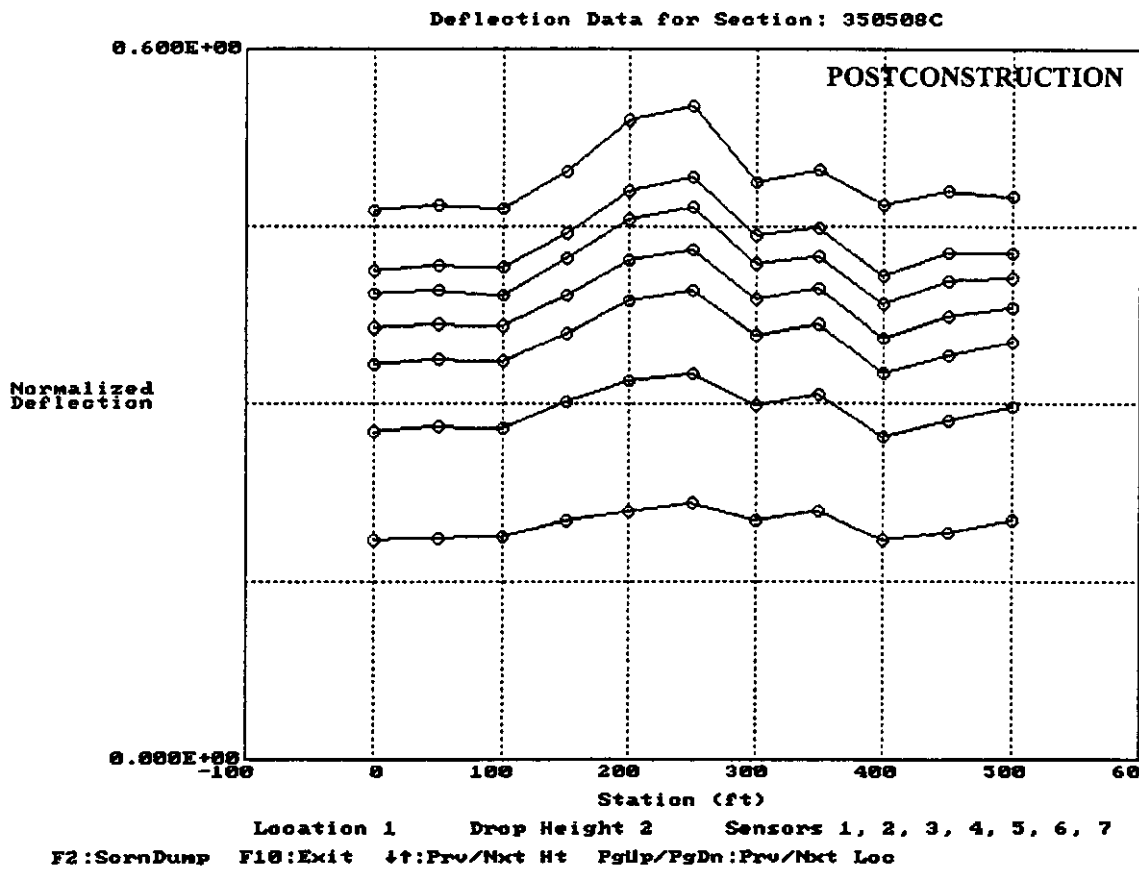

Deflection Data for Section: 350504A
PRECONSTRUCTION
0.200E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc

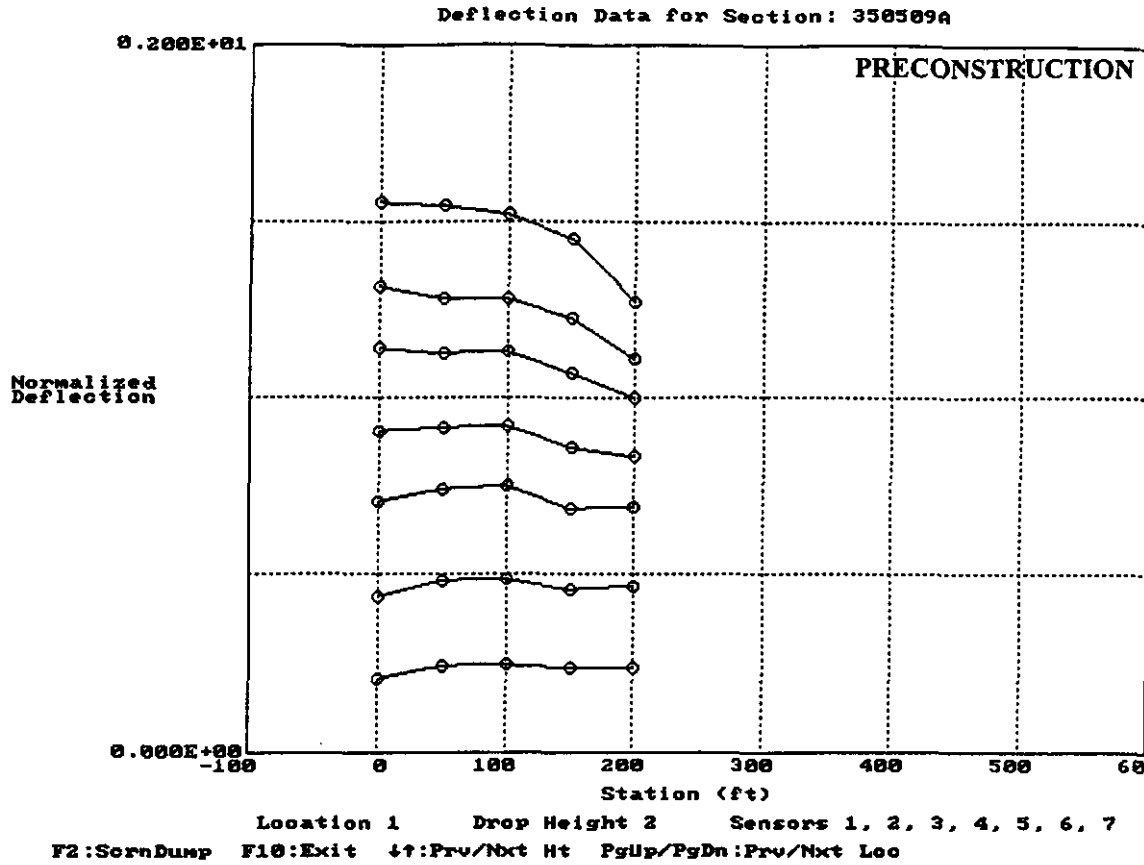

Deflection Data for Section: 350504C
POSTCONSTRUCTION
0.800E+00
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350503A
PRECONSTRUCTION
0.200E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350503C
POSTCONSTRUCTION
0.700E+00
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350508A
PRECONSTRUCTION
0.300E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350508C
POSTCONSTRUCTION
0.600E+00
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350509A
PRECONSTRUCTION
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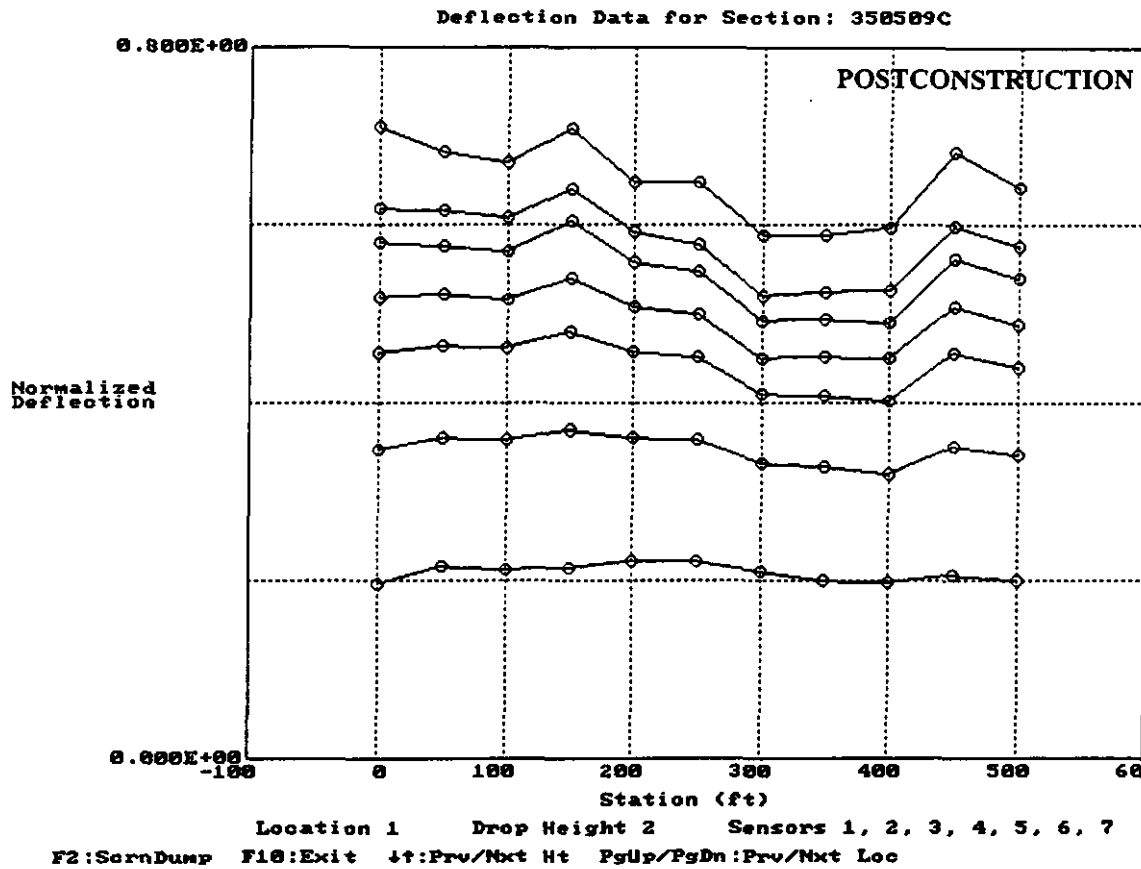
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350509C
POSTCONSTRUCTION
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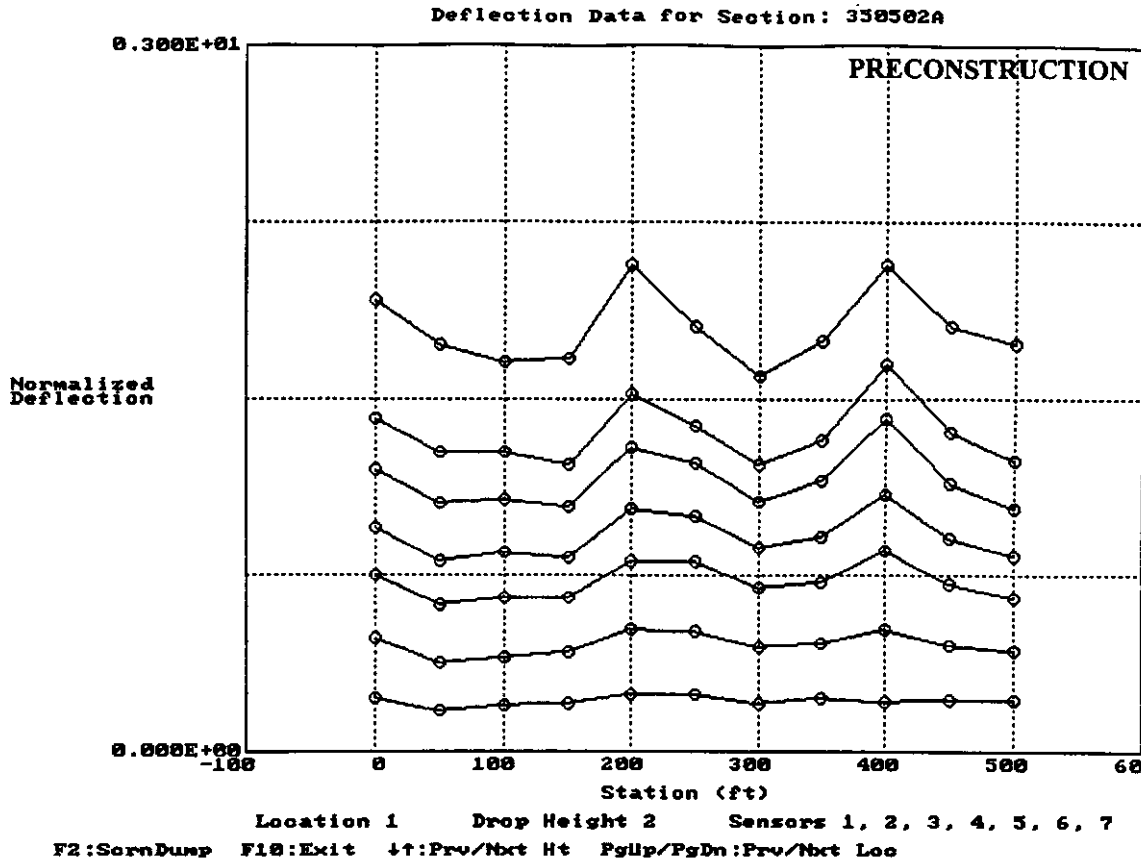
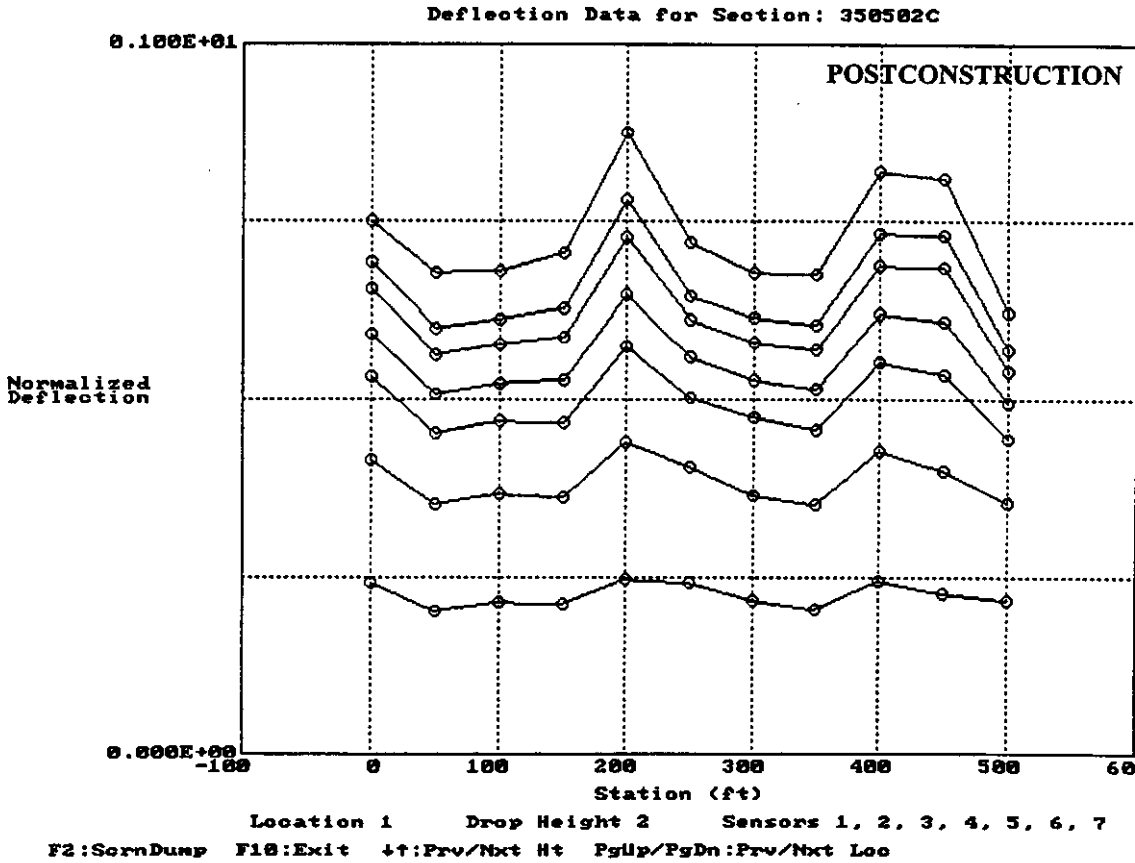
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350502A
PRECONSTRUCTION
0.300E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc


Deflection Data for Section: 350502C
POSTCONSTRUCTION
0.100E+01
0.000E+00
Normalized Deflection
-100
0
100
200
300
400
500
600
Station (ft)
Location 1 Drop Height 2 Sensors 1, 2, 3, 4, 5, 6, 7
F2:ScrnDump F10:Exit ↓↑:Prv/Nxt Ht PgUp/PgDn:Prv/Nxt Loc

PRECONSTRUCTION

Summary of Data for section 350501A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	2.1749	1.6743	1.2896	0.8859	0.6158	0.3338	0.1709
	2	2.0353	1.5742	1.2390	0.8761	0.6250	0.3523	0.1837
	3	1.9333	1.5083	1.2052	0.8702	0.6332	0.3692	0.1946
	4	1.8807	1.4779	1.1924	0.8744	0.6472	0.3860	0.2067

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.2958	0.2683	0.1437	0.1215	0.1021	0.0544	0.0129
	2	0.2621	0.2485	0.1422	0.1259	0.1083	0.0582	0.0142
	3	0.2488	0.2389	0.1434	0.1297	0.1117	0.0612	0.0172
	4	0.2533	0.2432	0.1532	0.1379	0.1182	0.0661	0.0203

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	13.60%	16.02%	11.14%	13.71%	16.58%	16.31%	7.58%
	2	12.88%	15.79%	11.48%	14.38%	17.32%	16.51%	7.73%
	3	12.87%	15.84%	11.90%	14.90%	17.64%	16.57%	8.86%
	4	13.47%	16.46%	12.85%	15.77%	18.26%	17.13%	9.81%

POSTCONSTRUCTION

Summary of Data for section 350501C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	1.0144	0.9117	0.8239	0.6898	0.5663	0.3737	0.1823
	2	1.0259	0.9239	0.8374	0.7035	0.5819	0.3874	0.1907
	3	1.0326	0.9314	0.8446	0.7115	0.5904	0.3963	0.1971
	4	1.0257	0.9254	0.8401	0.7095	0.5916	0.4006	0.2021

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.1140	0.1109	0.1015	0.0821	0.0662	0.0420	0.0169
	2	0.1108	0.1089	0.1006	0.0830	0.0687	0.0429	0.0177
	3	0.1089	0.1079	0.1000	0.0837	0.0692	0.0450	0.0184
	4	0.1085	0.1080	0.1005	0.0853	0.0711	0.0457	0.0193

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	11.24%	12.17%	12.32%	11.91%	11.69%	11.23%	9.29%
	2	10.80%	11.78%	12.01%	11.79%	11.81%	11.06%	9.29%
	3	10.54%	11.59%	11.84%	11.76%	11.72%	11.35%	9.31%
	4	10.58%	11.67%	11.96%	12.02%	12.02%	11.40%	9.53%

PRECONSTRUCTION

Summary of Data for section 350505A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	2.2810	1.7006	1.3949	1.0263	0.7150	0.3887	0.1776
	2	2.1560	1.6285	1.3502	1.0099	0.7191	0.4058	0.1915
	3	2.1011	1.5928	1.3296	1.0072	0.7298	0.4248	0.2042
	4	1.9570	1.4955	1.2551	0.9608	0.7055	0.4197	0.2070

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.3730	0.1914	0.0981	0.0558	0.0854	0.0677	0.0257
	2	0.2931	0.1447	0.0765	0.0638	0.0916	0.0719	0.0274
	3	0.2296	0.1085	0.0677	0.0775	0.0983	0.0785	0.0316
	4	0.1832	0.0872	0.0665	0.0832	0.0965	0.0765	0.0313

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	16.35%	11.26%	7.03%	5.44%	11.95%	17.41%	14.47%
	2	13.60%	8.89%	5.67%	6.32%	12.74%	17.71%	14.33%
	3	10.93%	6.81%	5.09%	7.69%	13.47%	18.48%	15.48%
	4	9.36%	5.83%	5.30%	8.65%	13.68%	18.23%	15.13%

POSTCONSTRUCTION

Summary of Data for section 350505C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.8265	0.7475	0.6920	0.5999	0.5143	0.3688	0.1870
	2	0.8399	0.7608	0.7065	0.6129	0.5269	0.3785	0.1941
	3	0.8547	0.7738	0.7186	0.6239	0.5372	0.3867	0.1998
	4	0.8614	0.7785	0.7223	0.6278	0.5421	0.3914	0.2043

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0663	0.0596	0.0478	0.0329	0.0250	0.0262	0.0252
	2	0.0686	0.0602	0.0493	0.0322	0.0245	0.0261	0.0235
	3	0.0682	0.0604	0.0497	0.0325	0.0249	0.0273	0.0233
	4	0.0668	0.0584	0.0482	0.0304	0.0233	0.0266	0.0232

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	8.03%	7.97%	6.90%	5.49%	4.86%	7.09%	13.49%
	2	8.17%	7.91%	6.98%	5.25%	4.65%	6.89%	12.13%
	3	7.97%	7.80%	6.91%	5.21%	4.63%	7.06%	11.67%
	4	7.76%	7.50%	6.67%	4.85%	4.31%	6.81%	11.36%

PRECONSTRUCTION

Summary of Data for section 350506A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	3.0619	2.3131	1.8510	1.3017	0.9087	0.4749	0.2152
	2	2.9193	2.2227	1.8051	1.3026	0.9323	0.4994	0.2334
	3	2.8155	2.1674	1.7755	1.3039	0.9519	0.5270	0.2508
	4	2.7032	2.0995	1.7316	1.2892	0.9555	0.5418	0.2617

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.2249	0.2229	0.2081	0.1662	0.1232	0.0637	0.0217
	2	0.2455	0.2284	0.2125	0.1741	0.1320	0.0641	0.0214
	3	0.2402	0.2392	0.2214	0.1812	0.1390	0.0693	0.0245
	4	0.2251	0.2295	0.2134	0.1771	0.1376	0.0706	0.0239

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	7.35%	9.64%	11.24%	12.77%	13.56%	13.42%	10.08%
	2	8.41%	10.27%	11.77%	13.37%	14.15%	12.83%	9.18%
	3	8.53%	11.03%	12.47%	13.90%	14.60%	13.16%	9.78%
	4	8.33%	10.93%	12.32%	13.74%	14.40%	13.03%	9.13%

POSTCONSTRUCTION

Summary of Data for section 350506C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.9914	0.8875	0.8118	0.7014	0.5926	0.4075	0.2012
	2	1.0084	0.9070	0.8316	0.7188	0.6104	0.4227	0.2086
	3	1.0274	0.9237	0.8474	0.7341	0.6259	0.4340	0.2165
	4	1.0474	0.9412	0.8639	0.7490	0.6399	0.4467	0.2255

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0963	0.0906	0.0763	0.0613	0.0469	0.0301	0.0159
	2	0.0995	0.0941	0.0797	0.0633	0.0501	0.0333	0.0167
	3	0.1025	0.0965	0.0825	0.0667	0.0523	0.0344	0.0172
	4	0.1055	0.0991	0.0849	0.0689	0.0552	0.0362	0.0179

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	9.71%	10.21%	9.39%	8.74%	7.91%	7.39%	7.92%
	2	9.87%	10.37%	9.58%	8.81%	8.20%	7.89%	7.99%
	3	9.98%	10.44%	9.74%	9.08%	8.35%	7.94%	7.93%
	4	10.07%	10.53%	9.83%	9.19%	8.63%	8.11%	7.94%

PRECONSTRUCTION

Summary of Data for section 350507A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	2.3990	1.9057	1.5841	1.1583	0.8374	0.4526	0.2121
	2	2.2850	1.8419	1.5487	1.1571	0.8547	0.4751	0.2278
	3	2.2240	1.8032	1.5294	1.1622	0.8734	0.4996	0.2446
	4	2.1247	1.7259	1.4720	1.1321	0.8646	0.5067	0.2509

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.4852	0.3521	0.2723	0.1752	0.1097	0.0587	0.0158
	2	0.4290	0.3202	0.2522	0.1646	0.1072	0.0582	0.0207
	3	0.3964	0.3022	0.2421	0.1632	0.1088	0.0608	0.0223
	4	0.3526	0.2708	0.2187	0.1518	0.1042	0.0583	0.0219

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	20.23%	18.48%	17.19%	15.13%	13.10%	12.97%	7.44%
	2	18.77%	17.38%	16.28%	14.22%	12.55%	12.25%	9.09%
	3	17.82%	16.76%	15.83%	14.04%	12.45%	12.17%	9.13%
	4	16.60%	15.69%	14.86%	13.41%	12.05%	11.50%	8.74%

POSTCONSTRUCTION

Summary of Data for section 350507C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.6819	0.5935	0.5534	0.4962	0.4353	0.3287	0.1814
	2	0.7014	0.6130	0.5732	0.5134	0.4536	0.3411	0.1889
	3	0.7234	0.6330	0.5918	0.5305	0.4688	0.3541	0.1957
	4	0.7465	0.6540	0.6121	0.5488	0.4864	0.3679	0.2057

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0467	0.0467	0.0448	0.0368	0.0337	0.0241	0.0148
	2	0.0517	0.0502	0.0471	0.0405	0.0343	0.0246	0.0127
	3	0.0526	0.0515	0.0487	0.0411	0.0358	0.0250	0.0135
	4	0.0570	0.0549	0.0516	0.0439	0.0383	0.0270	0.0132

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	6.86%	7.87%	8.09%	7.43%	7.73%	7.32%	8.16%
	2	7.37%	8.19%	8.21%	7.88%	7.57%	7.20%	6.70%
	3	7.27%	8.14%	8.22%	7.74%	7.63%	7.07%	6.91%
	4	7.64%	8.40%	8.43%	8.00%	7.87%	7.33%	6.42%

PRECONSTRUCTION

Summary of Data for section 350504A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	1.3547	1.0869	0.9480	0.7574	0.6050	0.3847	0.1883
	2	1.3514	1.0883	0.9537	0.7704	0.6200	0.4009	0.1973
	3	1.3757	1.1097	0.9745	0.7933	0.6433	0.4219	0.2116
	4	1.3094	1.0597	0.9333	0.7650	0.6256	0.4162	0.2128

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.1535	0.1324	0.1128	0.0818	0.0646	0.0361	0.0167
	2	0.1453	0.1256	0.1086	0.0813	0.0630	0.0372	0.0166
	3	0.1430	0.1220	0.1072	0.0818	0.0635	0.0380	0.0185
	4	0.1291	0.1134	0.0997	0.0779	0.0617	0.0369	0.0176

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	11.33%	12.19%	11.90%	10.80%	10.68%	9.38%	8.88%
	2	10.75%	11.54%	11.39%	10.55%	10.16%	9.28%	8.41%
	3	10.39%	10.99%	11.00%	10.31%	9.87%	9.00%	8.76%
	4	9.86%	10.70%	10.68%	10.18%	9.87%	8.87%	8.27%

POSTCONSTRUCTION

Summary of Data for section 350504C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.5874	0.4997	0.4655	0.4208	0.3744	0.2935	0.1724
	2	0.6000	0.5112	0.4775	0.4312	0.3864	0.3018	0.1796
	3	0.6173	0.5256	0.4913	0.4439	0.3975	0.3114	0.1857
	4	0.6374	0.5426	0.5075	0.4588	0.4122	0.3239	0.1946

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0570	0.0473	0.0433	0.0370	0.0318	0.0239	0.0143
	2	0.0555	0.0471	0.0417	0.0367	0.0318	0.0233	0.0135
	3	0.0565	0.0478	0.0425	0.0375	0.0323	0.0236	0.0138
	4	0.0578	0.0477	0.0428	0.0374	0.0323	0.0238	0.0137

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	9.71%	9.46%	9.30%	8.80%	8.50%	8.13%	8.30%
	2	9.25%	9.22%	8.73%	8.50%	8.22%	7.73%	7.49%
	3	9.16%	9.09%	8.66%	8.44%	8.13%	7.59%	7.42%
	4	9.06%	8.79%	8.43%	8.16%	7.83%	7.36%	7.04%

PRECONSTRUCTION

Summary of Data for section 350503A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	1.3832	1.0596	0.9014	0.7115	0.5593	0.3590	0.1890
	2	1.3554	1.0523	0.9018	0.7191	0.5704	0.3702	0.1968
	3	1.3744	1.0685	0.9194	0.7393	0.5917	0.3895	0.2086
	4	1.3346	1.0391	0.8996	0.7284	0.5860	0.3896	0.2130

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.1504	0.1091	0.0956	0.0800	0.0625	0.0444	0.0240
	2	0.1337	0.0997	0.0902	0.0765	0.0623	0.0427	0.0232
	3	0.1257	0.0973	0.0914	0.0794	0.0663	0.0455	0.0229
	4	0.1176	0.0906	0.0876	0.0769	0.0646	0.0447	0.0202

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	10.87%	10.30%	10.61%	11.24%	11.17%	12.36%	12.70%
	2	9.87%	9.48%	10.01%	10.64%	10.93%	11.53%	11.76%
	3	9.14%	9.11%	9.94%	10.73%	11.20%	11.69%	11.00%
	4	8.81%	8.72%	9.74%	10.56%	11.02%	11.48%	9.47%

POSTCONSTRUCTION

Summary of Data for section 350503C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.5495	0.4730	0.4383	0.3956	0.3506	0.2805	0.1714
	2	0.5528	0.4745	0.4405	0.3981	0.3570	0.2833	0.1760
	3	0.5607	0.4832	0.4484	0.4055	0.3633	0.2891	0.1791
	4	0.5779	0.4971	0.4609	0.4170	0.3743	0.2983	0.1858

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0339	0.0409	0.0332	0.0284	0.0284	0.0221	0.0162
	2	0.0360	0.0409	0.0368	0.0318	0.0279	0.0227	0.0151
	3	0.0368	0.0427	0.0373	0.0327	0.0290	0.0238	0.0160
	4	0.0379	0.0435	0.0378	0.0333	0.0300	0.0246	0.0165

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	6.16%	8.64%	7.58%	7.17%	8.10%	7.87%	9.43%
	2	6.51%	8.61%	8.35%	8.00%	7.81%	8.00%	8.60%
	3	6.57%	8.83%	8.31%	8.07%	7.99%	8.24%	8.91%
	4	6.56%	8.75%	8.20%	7.99%	8.00%	8.25%	8.89%

PRECONSTRUCTION

Summary of Data for section 350508A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	2.2109	1.7116	1.4222	1.0715	0.8118	0.4848	0.2223
	2	2.1501	1.6920	1.4231	1.0898	0.8372	0.5078	0.2369
	3	2.1488	1.6939	1.4344	1.1110	0.8622	0.5322	0.2538
	4	2.1162	1.6778	1.4277	1.1156	0.8737	0.5465	0.2682

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.2739	0.2109	0.1616	0.1104	0.0757	0.0379	0.0138
	2	0.2588	0.2088	0.1639	0.1149	0.0792	0.0404	0.0180
	3	0.2520	0.2076	0.1672	0.1195	0.0839	0.0438	0.0216
	4	0.2614	0.2160	0.1762	0.1270	0.0902	0.0500	0.0207

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	12.39%	12.32%	11.36%	10.30%	9.33%	7.81%	6.21%
	2	12.04%	12.34%	11.52%	10.55%	9.46%	7.96%	7.60%
	3	11.73%	12.26%	11.66%	10.75%	9.74%	8.22%	8.51%
	4	12.35%	12.88%	12.34%	11.38%	10.33%	9.15%	7.72%

POSTCONSTRUCTION

Summary of Data for section 350508C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.4919	0.4398	0.4177	0.3854	0.3520	0.2955	0.1964
	2	0.4904	0.4378	0.4150	0.3851	0.3542	0.2947	0.1971
	3	0.4925	0.4411	0.4179	0.3877	0.3574	0.2972	0.1984
	4	0.5012	0.4491	0.4255	0.3948	0.3638	0.3036	0.2029

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0311	0.0281	0.0251	0.0245	0.0239	0.0180	0.0118
	2	0.0302	0.0275	0.0263	0.0240	0.0225	0.0183	0.0110
	3	0.0297	0.0269	0.0254	0.0237	0.0219	0.0183	0.0109
	4	0.0316	0.0288	0.0272	0.0251	0.0232	0.0195	0.0122

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	6.32%	6.40%	6.02%	6.36%	6.78%	6.08%	6.03%
	2	6.16%	6.29%	6.33%	6.24%	6.37%	6.20%	5.59%
	3	6.04%	6.10%	6.09%	6.10%	6.12%	6.17%	5.49%
	4	6.31%	6.41%	6.40%	6.36%	6.38%	6.44%	6.00%

PRECONSTRUCTION

Summary of Data for section 350509A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	1.4629	1.2389	1.0859	0.8793	0.7029	0.4530	0.2235
	2	1.4679	1.2422	1.0931	0.8881	0.7133	0.4647	0.2324
	3	1.4926	1.2633	1.1131	0.9077	0.7334	0.4816	0.2425
	4	1.4383	1.2144	1.0719	0.8765	0.7107	0.4724	0.2419

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.1211	0.0825	0.0627	0.0417	0.0320	0.0234	0.0155
	2	0.1189	0.0801	0.0592	0.0372	0.0291	0.0204	0.0153
	3	0.1191	0.0822	0.0621	0.0392	0.0287	0.0196	0.0135
	4	0.1208	0.0839	0.0641	0.0407	0.0289	0.0175	0.0134

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	8.28%	6.66%	5.77%	4.74%	4.56%	5.17%	6.92%
	2	8.10%	6.45%	5.41%	4.19%	4.09%	4.38%	6.57%
	3	7.98%	6.50%	5.58%	4.32%	3.91%	4.06%	5.59%
	4	8.40%	6.91%	5.98%	4.65%	4.07%	3.71%	5.52%

POSTCONSTRUCTION

Summary of Data for section 350509C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.6427	0.5711	0.5389	0.4869	0.4349	0.3410	0.2053
	2	0.6510	0.5810	0.5468	0.4958	0.4445	0.3488	0.2088
	3	0.6566	0.5875	0.5530	0.5014	0.4503	0.3540	0.2133
	4	0.6682	0.5969	0.5620	0.5101	0.4590	0.3619	0.2193

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0436	0.0419	0.0387	0.0299	0.0267	0.0183	0.0105
	2	0.0448	0.0416	0.0391	0.0316	0.0259	0.0161	0.0098
	3	0.0437	0.0404	0.0371	0.0312	0.0253	0.0152	0.0103
	4	0.0428	0.0397	0.0365	0.0302	0.0249	0.0155	0.0095

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	6.78%	7.33%	7.17%	6.14%	6.15%	5.38%	5.12%
	2	6.89%	7.16%	7.15%	6.38%	5.82%	4.60%	4.68%
	3	6.66%	6.87%	6.70%	6.23%	5.63%	4.30%	4.81%
	4	6.41%	6.64%	6.49%	5.91%	5.41%	4.29%	4.32%

PRECONSTRUCTION

Summary of Data for section 350502A
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	1.8365	1.3662	1.1571	0.9085	0.7081	0.4414	0.2012
	2	1.8004	1.3537	1.1559	0.9178	0.7228	0.4557	0.2143
	3	1.8101	1.3676	1.1725	0.9380	0.7450	0.4753	0.2294
	4	1.7860	1.3549	1.1669	0.9395	0.7523	0.4857	0.2378

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.1637	0.1351	0.1205	0.0936	0.0751	0.0506	0.0213
	2	0.1577	0.1347	0.1217	0.0943	0.0770	0.0482	0.0189
	3	0.1569	0.1366	0.1249	0.0970	0.0816	0.0487	0.0205
	4	0.1583	0.1396	0.1278	0.1007	0.0838	0.0518	0.0211

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	8.91%	9.89%	10.41%	10.30%	10.60%	11.47%	10.60%
	2	8.76%	9.95%	10.52%	10.27%	10.66%	10.57%	8.81%
	3	8.67%	9.99%	10.65%	10.35%	10.95%	10.26%	8.96%
	4	8.86%	10.30%	10.95%	10.71%	11.14%	10.67%	8.89%

POSTCONSTRUCTION

Summary of Data for section 350502C
Analyzed by: Peter Jordahl on 02-18-1997

UNCORRECTED Overall Deflection Statistics

Mean Values (mils/kip)

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.7210	0.6447	0.6037	0.5462	0.4871	0.3745	0.2212
	2	0.7287	0.6557	0.6167	0.5569	0.4970	0.3861	0.2251
	3	0.7402	0.6659	0.6262	0.5663	0.5061	0.3941	0.2294
	4	0.7574	0.6811	0.6402	0.5795	0.5195	0.4053	0.2381

Standard Deviations

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	0.0824	0.0683	0.0624	0.0531	0.0453	0.0338	0.0165
	2	0.0772	0.0674	0.0622	0.0522	0.0448	0.0326	0.0169
	3	0.0784	0.0679	0.0619	0.0526	0.0454	0.0328	0.0175
	4	0.0803	0.0695	0.0635	0.0540	0.0467	0.0337	0.0183

Coefficient of Variation

Test Loc.	Drop Ht	Sensor 1	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7
1	1	11.43%	10.59%	10.33%	9.72%	9.30%	9.03%	7.45%
	2	10.59%	10.28%	10.08%	9.37%	9.02%	8.44%	7.49%
	3	10.58%	10.20%	9.88%	9.29%	8.97%	8.31%	7.64%
	4	10.60%	10.20%	9.92%	9.31%	8.99%	8.32%	7.67%

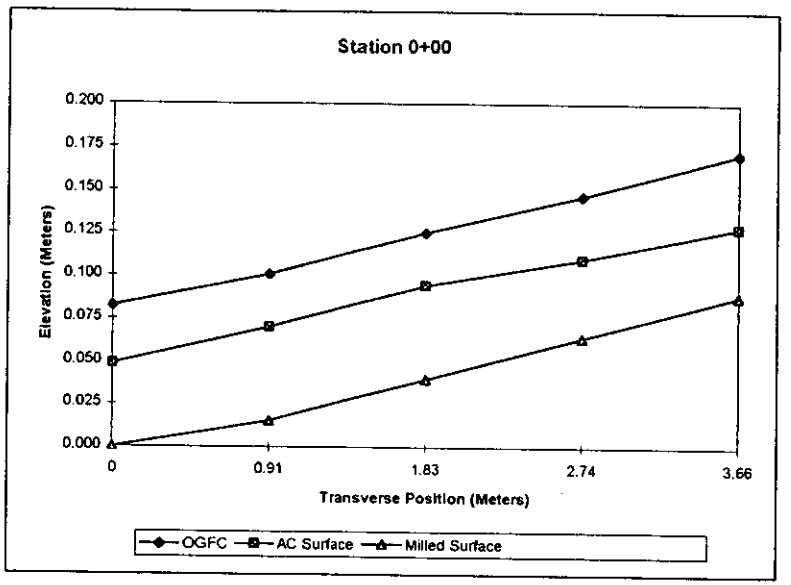
APPENDIX E

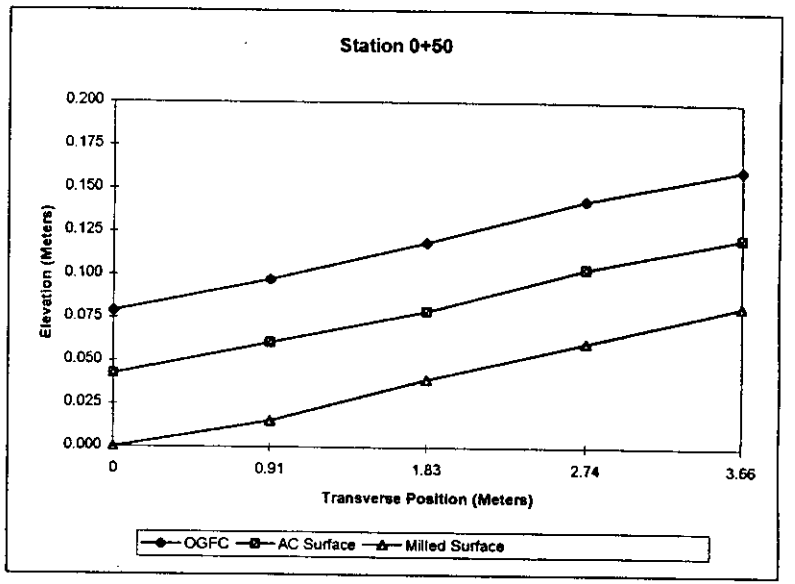
ROD AND LEVEL PROFILE DATA

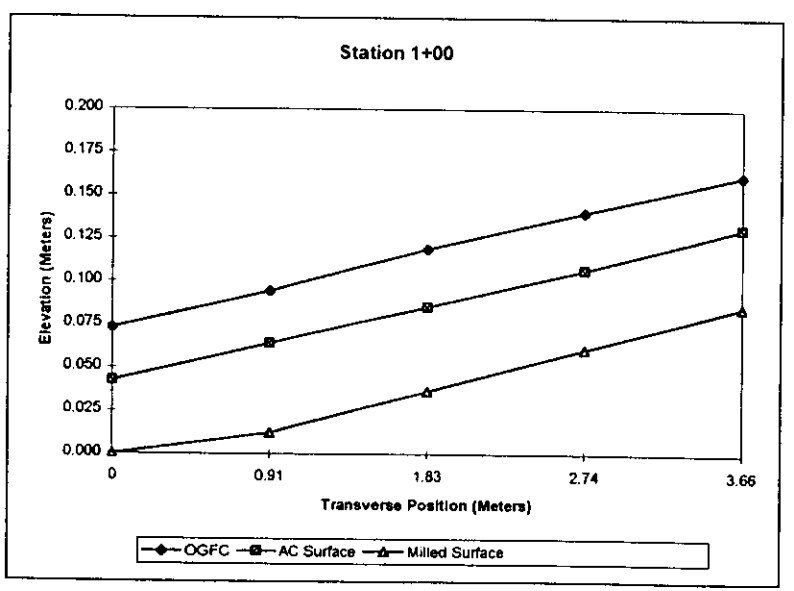
New Mexico, SPS-5 (350501)

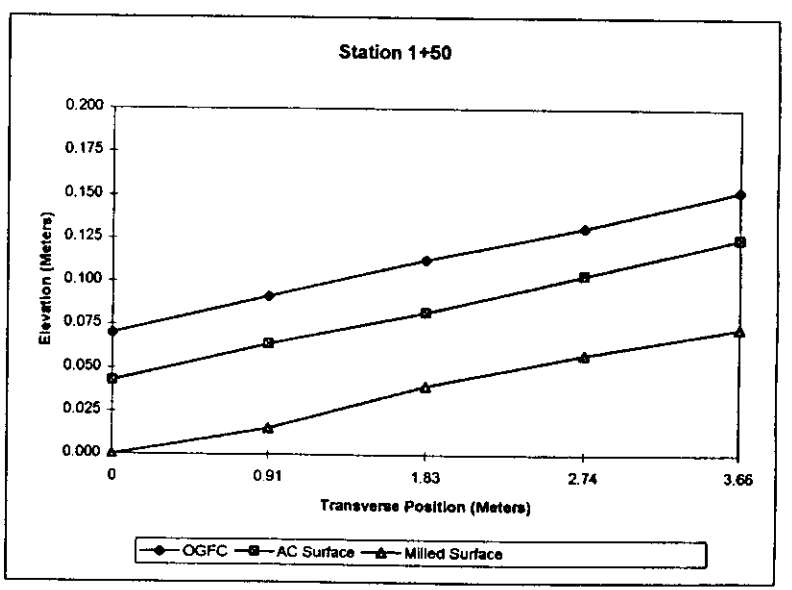
Transverse Offset 3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches
0+00 OGFC	0.094	0.034	1.320	0.049	1.920	0.113	0.030	1.200	0.055	2.160	0.137	0.030	1.200	0.055	2.160	0.158	0.037	1.440	0.046	1.800	0.183	0.043	1.680	0.040	1.560
AC Surface	0.061					0.082					0.106					0.122					0.140				
Milled Surface	0.012					0.027					0.052					0.076					0.100				
0+50 OGFC	0.143	0.037	1.440	0.043	1.680	0.161	0.037	1.440	0.046	1.800	0.183	0.040	1.560	0.040	1.560	0.207	0.040	1.560	0.043	1.680	0.225	0.040	1.560	0.040	1.560
AC Surface	0.106					0.125					0.143					0.167					0.186				
led Surface	0.064					0.079					0.103					0.125					0.146				
1+00 OGFC	0.173	0.030	1.200	0.043	1.680	0.195	0.030	1.200	0.052	2.040	0.219	0.034	1.320	0.049	1.920	0.241	0.034	1.320	0.046	1.800	0.262	0.030	1.200	0.046	1.800
AC Surface	0.143					0.164					0.188					0.207					0.231				
Milled Surface	0.100					0.113					0.137					0.161					0.186				
1+50 OGFC	0.192	0.027	1.080	0.043	1.680	0.213	0.027	1.080	0.049	1.920	0.234	0.030	1.200	0.043	1.680	0.253	0.027	1.080	0.046	1.800	0.274	0.027	1.080	0.052	2.040
AC Surface	0.164					0.186					0.204					0.225					0.247				
Milled Surface	0.122					0.137					0.161					0.180					0.195				
2+00 OGFC	0.198	0.018	0.720	0.061	2.400	0.219	0.021	0.840	0.061	2.400	0.241	0.027	1.080	0.049	1.920	0.262	0.027	1.080	0.049	1.920	0.280	0.027	1.080	0.046	1.800
AC Surface	0.180					0.198					0.213					0.234					0.253				
led Surface	0.119					0.137					0.164					0.188					0.207				
2+50 OGFC	0.219	0.024	0.960	0.049	1.920	0.244	0.027	1.080	0.049	1.920	0.265	0.027	1.080	0.043	1.680	0.286	0.027	1.080	0.046	1.800	0.306	0.021	0.840	0.046	1.800
AC Surface	0.195					0.216					0.237					0.259					0.283				
Milled Surface	0.146					0.167					0.195					0.213					0.237				
3+00 OGFC	0.256	0.018	0.720	0.061	2.400	0.277	0.021	0.840	0.055	2.160	0.301	0.024	0.960	0.052	2.040	0.320	0.021	0.840	0.049	1.920	0.338	0.021	0.840	0.043	1.680
AC Surface	0.237					0.256					0.277					0.298					0.317				
Milled Surface	0.177					0.201					0.225					0.250					0.274				
3+50 OGFC	0.292	0.018	0.720	0.058	2.280	0.317	0.024	0.960	0.055	2.160	0.338	0.024	0.960	0.046	1.800	0.358	0.018	0.720	0.052	2.040	0.375	0.018	0.720	0.043	1.680
AC Surface	0.274					0.292					0.314					0.338					0.356				
Milled Surface	0.216					0.237					0.268					0.286					0.314				
4+00 OGFC	0.326	0.012	0.480	0.052	2.040	0.347	0.012	0.480	0.055	2.160	0.369	0.015	0.600	0.049	1.920	0.387	0.015	0.600	0.049	1.920	0.406	0.015	0.600	0.046	1.800
AC Surface	0.314					0.335					0.353					0.372					0.390				
Milled Surface	0.262					0.280					0.305					0.323					0.344				
4+50 OGFC	0.362	0.012	0.480	0.049	1.920	0.384	0.015	0.600	0.049	1.920	0.405	0.018	0.720	0.043	1.680	0.426	0.021	0.840	0.040	1.560	0.445	0.015	0.600	0.043	1.680
AC Surface	0.350					0.369					0.387					0.405					0.430				
led Surface	0.301					0.320					0.344					0.366					0.387				
5+00 OGFC	0.396	0.009	0.360	0.052	2.040	0.420	0.018	0.720	0.040	1.560	0.439	0.018	0.720	0.034	1.320	0.457	0.015	0.600	0.040	1.560	0.481	0.018	0.720	0.043	1.680
AC Surface	0.387					0.402					0.420					0.442					0.463				
led Surface	0.335					0.362					0.387					0.402					0.420				
AVG		0.022	0.862	0.051	1.996		0.024	0.949	0.051	2.018		0.026	1.036	0.045	1.789		0.028	1.015	0.046	1.800		0.025	0.993	0.044	1.735
MAX		0.037	1.440	0.061	2.400		0.037	1.440	0.061	2.400		0.040	1.560	0.055	2.160		0.040	1.560	0.052	2.040		0.043	1.680	0.052	2.040
MIN		0.009	0.360	0.043	1.680		0.012	0.480	0.040	1.560		0.015	0.600	0.034	1.320		0.015	0.600	0.040	1.560		0.015	0.600	0.040	1.560
STD		0.009	0.346	0.007	0.257		0.007	0.273	0.005	0.216		0.007	0.272	0.006	0.226		0.008	0.313	0.004	0.145		0.009	0.351	0.003	0.129

New Mexico, SPS-5 (350501)

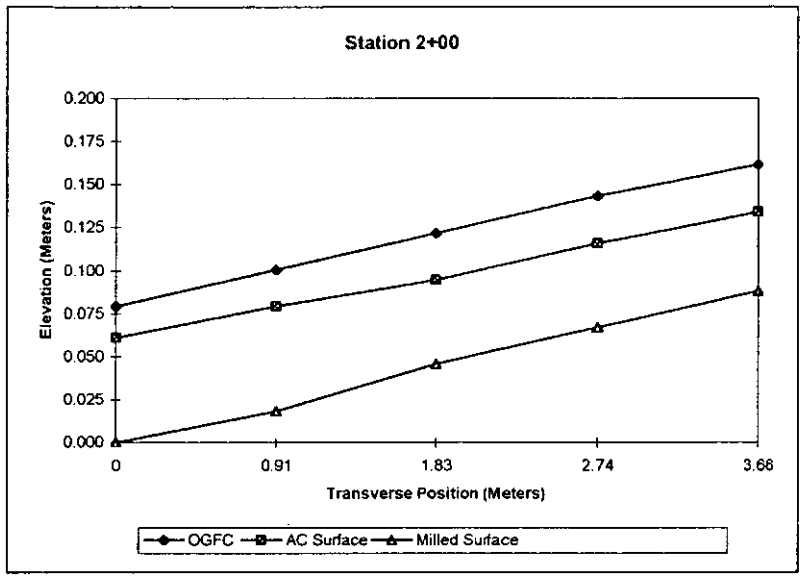


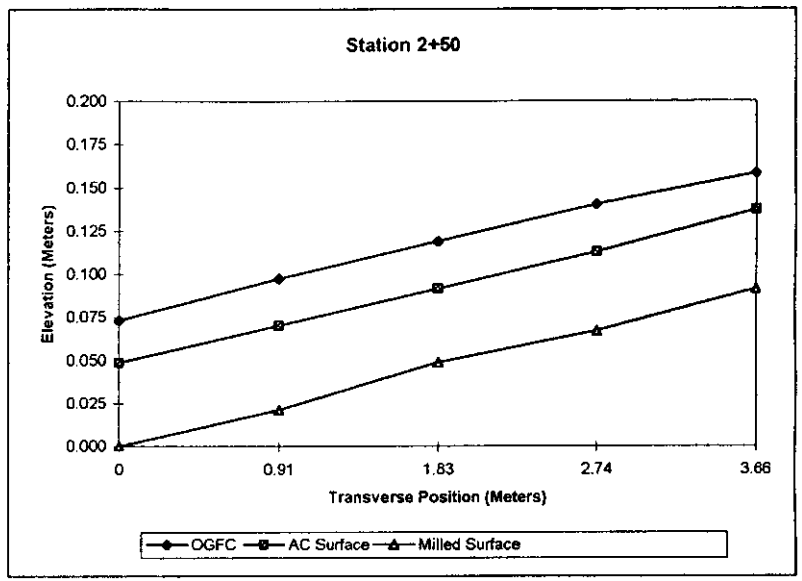


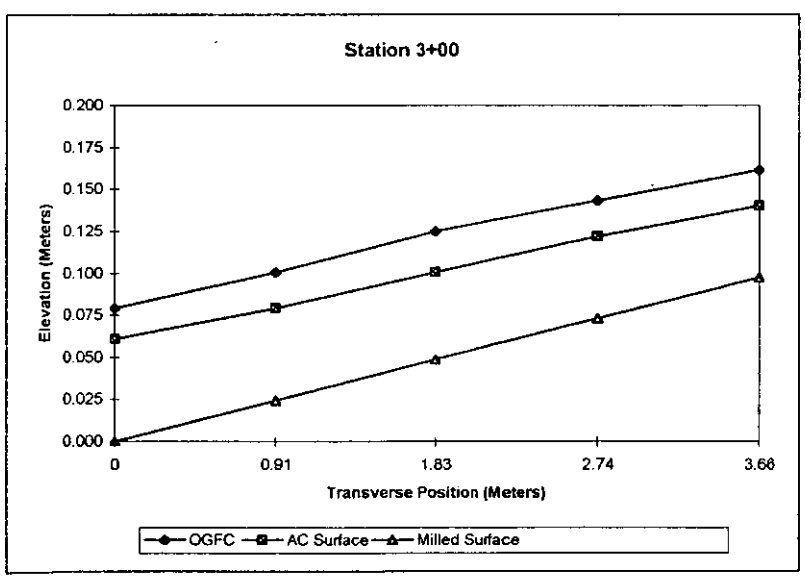


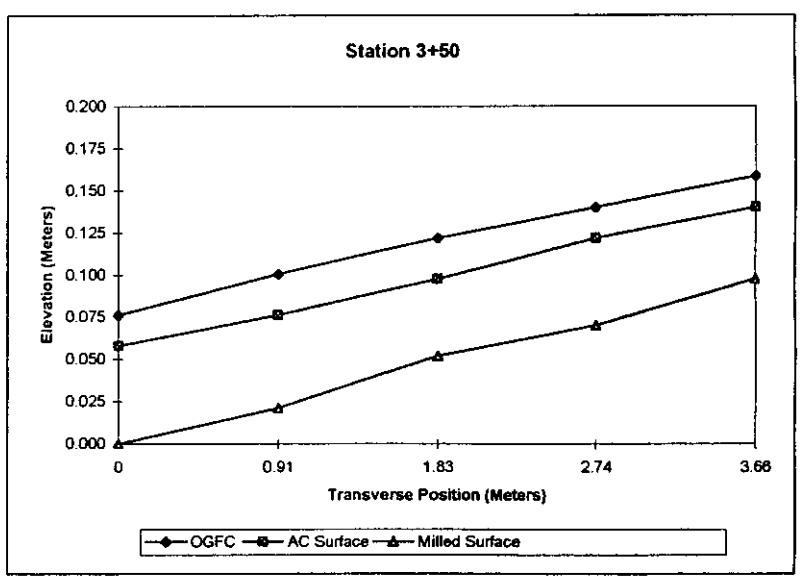


New Mexico, SPS-5 (350501)

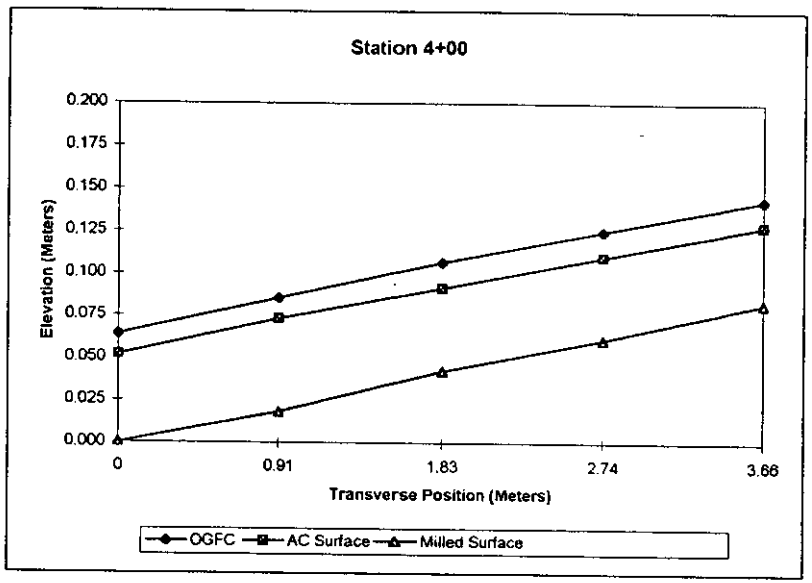


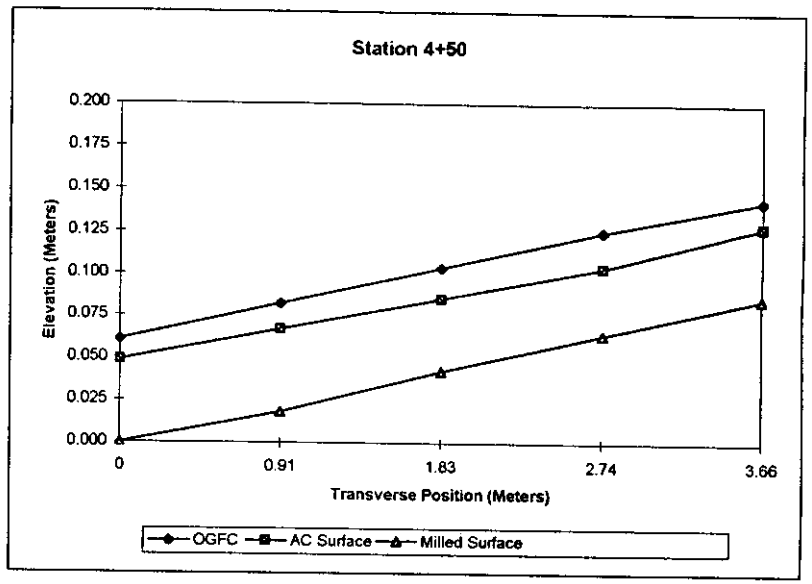


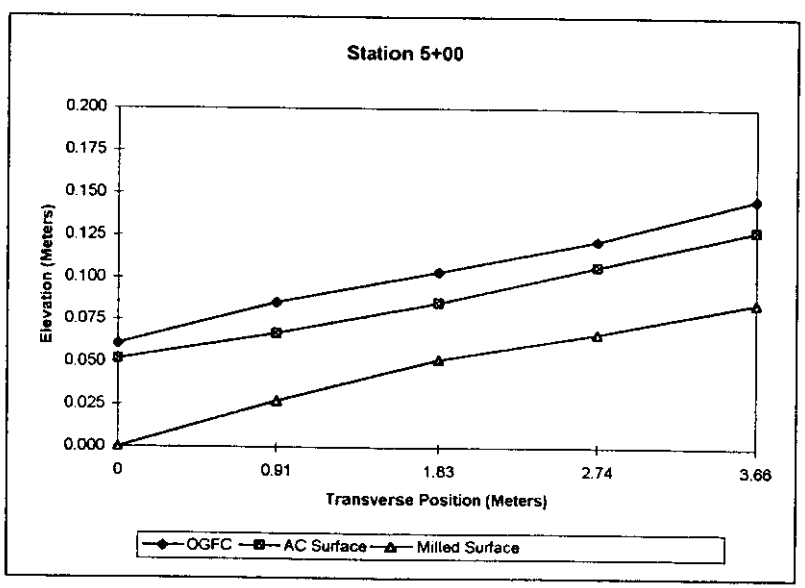




New Mexico, SPS-5 (350501)



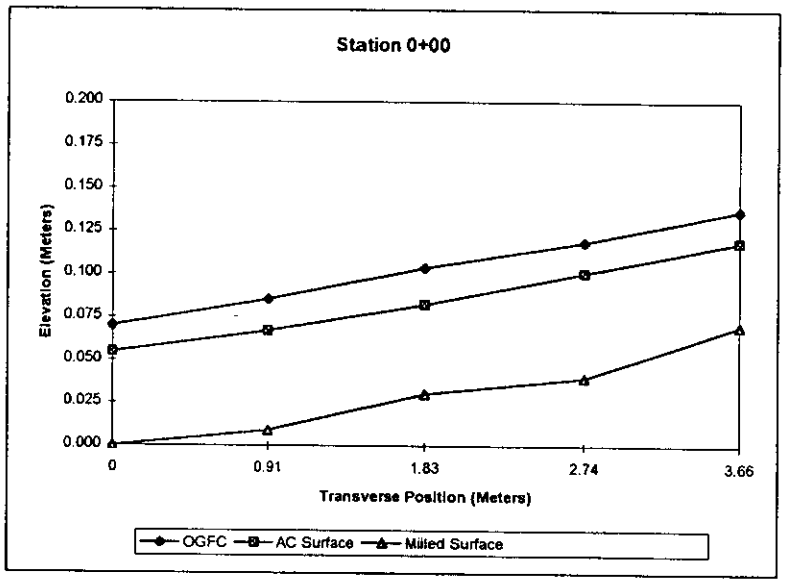


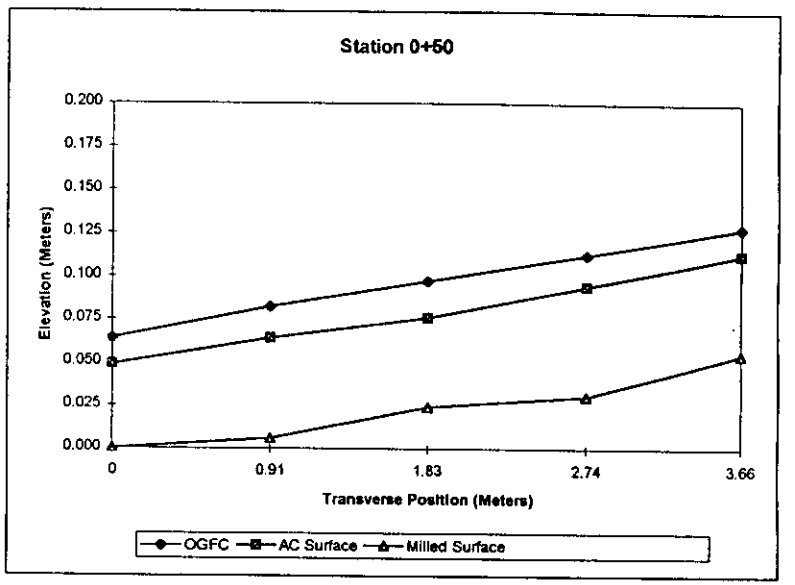


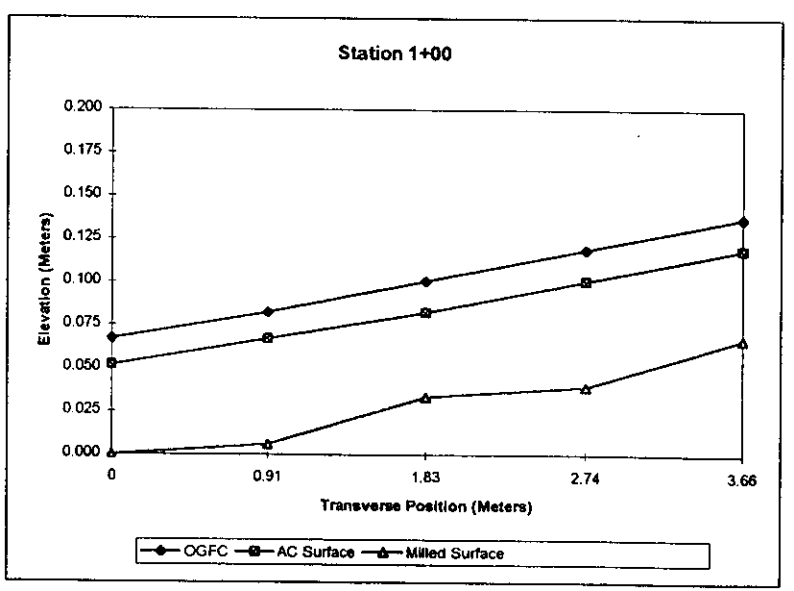
New Mexico, SPS-5 (350505)

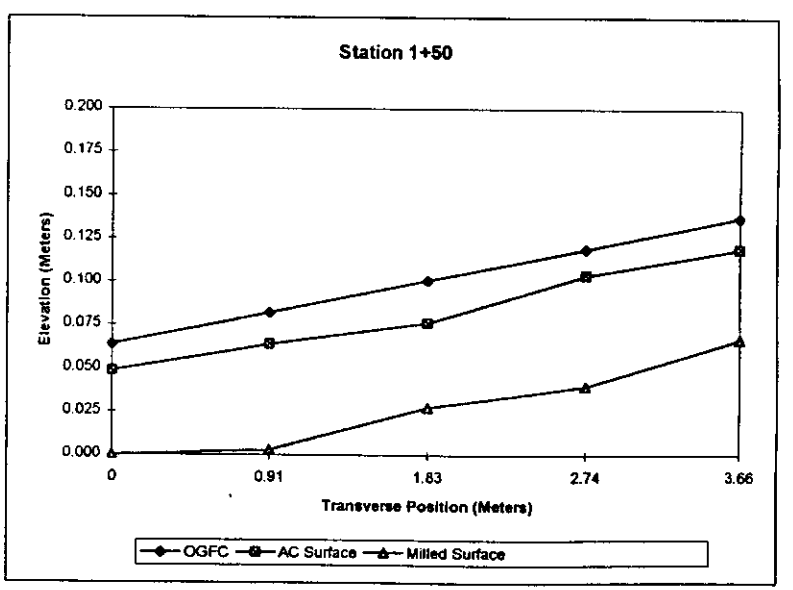
Transverse Offset 3	ELEVATION 0	OGFC THICKNESS		AC Surface THICKNESS		ELEVATION 0.91	OGFC THICKNESS		AC Surface THICKNESS		ELEVATION 1.83	OGFC THICKNESS		AC Surface THICKNESS		ELEVATION 2.74	OGFC THICKNESS		AC Surface THICKNESS		ELEVATION 3.66	OGFC THICKNESS		AC Surface THICKNESS	
LAYERS	Meters	Meters	Inches	Meters	Inches	Meters	Meters	Inches	Meters	Inches	Meters	Meters	Inches	Meters	Inches	Meters	Meters	Inches	Meters	Inches	Meters	Meters	Inches	Meters	Inches
0+00 OGFC	0.379	0.015	0.600	0.055	2.160	0.394	0.018	0.720	0.058	2.280	0.412	0.021	0.840	0.052	2.040	0.428	0.018	0.720	0.061	2.400	0.446	0.018	0.720	0.049	1.920
AC Surface	0.364					0.376					0.391					0.409					0.428				
Milled Surface	0.309					0.318					0.339					0.348					0.378				
0+50 OGFC	0.385	0.015	0.600	0.049	1.920	0.403	0.018	0.720	0.058	2.280	0.418	0.021	0.840	0.052	2.040	0.434	0.018	0.720	0.064	2.520	0.449	0.015	0.600	0.058	2.280
AC Surface	0.370					0.385					0.397					0.415					0.434				
led Surface	0.321					0.327					0.345					0.351					0.378				
1+00 OGFC	0.376	0.015	0.600	0.052	2.040	0.391	0.015	0.600	0.061	2.400	0.409	0.018	0.720	0.049	1.920	0.428	0.018	0.720	0.061	2.400	0.446	0.018	0.720	0.052	2.040
AC Surface	0.361					0.376					0.391					0.409					0.428				
Milled Surface	0.309					0.315					0.342					0.348					0.376				
1+50 OGFC	0.348	0.015	0.600	0.049	1.920	0.367	0.018	0.720	0.061	2.400	0.385	0.024	0.960	0.049	1.920	0.403	0.015	0.600	0.064	2.520	0.422	0.018	0.720	0.052	2.040
AC Surface	0.333					0.348					0.361					0.389					0.403				
Milled Surface	0.284					0.287					0.312					0.324					0.351				
2+00 OGFC	0.321	0.018	0.720	0.058	2.280	0.336	0.021	0.840	0.061	2.400	0.354	0.024	0.960	0.058	2.280	0.370	0.021	0.840	0.073	2.880	0.385	0.018	0.720	0.070	2.760
AC Surface	0.303					0.315					0.330					0.348					0.367				
led Surface	0.245					0.254					0.272					0.275					0.297				
2+50 OGFC	0.294	0.018	0.720	0.061	2.400	0.309	0.024	0.960	0.064	2.520	0.324	0.024	0.960	0.058	2.280	0.339	0.021	0.840	0.070	2.760	0.354	0.015	0.600	0.076	3.000
AC Surface	0.275					0.284					0.300					0.318					0.339				
Milled Surface	0.214					0.220					0.242					0.248					0.263				
3+00 OGFC	0.275	0.018	0.720	0.061	2.400	0.290	0.024	0.960	0.058	2.280	0.309	0.024	0.960	0.061	2.400	0.321	0.018	0.720	0.076	3.000	0.339	0.018	0.720	0.064	2.520
AC Surface	0.257					0.266					0.284					0.303					0.321				
Milled Surface	0.196					0.208					0.223					0.226					0.257				
3+50 OGFC	0.269	0.018	0.720	0.064	2.520	0.284	0.021	0.840	0.070	2.760	0.300	0.024	0.960	0.064	2.520	0.315	0.024	0.960	0.076	3.000	0.330	0.021	0.840	0.064	2.520
AC Surface	0.251					0.263					0.275					0.290					0.309				
Milled Surface	0.187					0.193					0.211					0.214					0.245				
4+00 OGFC	0.236	0.018	0.720	0.070	2.760	0.254	0.021	0.840	0.076	3.000	0.269	0.024	0.960	0.070	2.760	0.287	0.024	0.960	0.076	3.000	0.309	0.027	1.080	0.067	2.640
AC Surface	0.217					0.233					0.245					0.263					0.291				
Milled Surface	0.147					0.156					0.175					0.187					0.214				
4+50 OGFC	0.187	0.021	0.840	0.064	2.520	0.205	0.021	0.840	0.073	2.880	0.226	0.027	1.080	0.067	2.640	0.242	0.021	0.840	0.079	3.120	0.260	0.021	0.840	0.064	2.520
AC Surface	0.166					0.184					0.199					0.220					0.239				
led Surface	0.101					0.111					0.132					0.141					0.175				
5+00 OGFC	0.153	0.021	0.840	0.076	3.000	0.172	0.027	1.080	0.076	3.000	0.190	0.030	1.200	0.070	2.760	0.202	0.024	0.960	0.079	3.120	0.217	0.018	0.720	0.073	2.880
AC Surface	0.132					0.144					0.159					0.178					0.199				
led Surface	0.056					0.068					0.089					0.098					0.126				
AVG	0.018	0.698	0.060	2.356		0.021	0.829	0.065	2.564		0.024	0.949	0.059	2.324		0.021	0.807	0.071	2.793		0.019	0.753	0.063	2.465
MAX	0.021	0.840	0.076	3.000		0.027	1.080	0.076	3.000		0.030	1.200	0.070	2.760		0.024	0.960	0.079	3.120		0.027	1.080	0.076	3.000
MIN	0.015	0.600	0.049	1.920		0.015	0.600	0.058	2.280		0.018	0.720	0.049	1.920		0.015	0.600	0.061	2.400		0.015	0.600	0.049	1.920
STD	0.002	0.066	0.008	0.325		0.003	0.130	0.007	0.277		0.003	0.120	0.008	0.304		0.003	0.115	0.007	0.271		0.003	0.126	0.009	0.341

New Mexico, SPS-5 (350505)

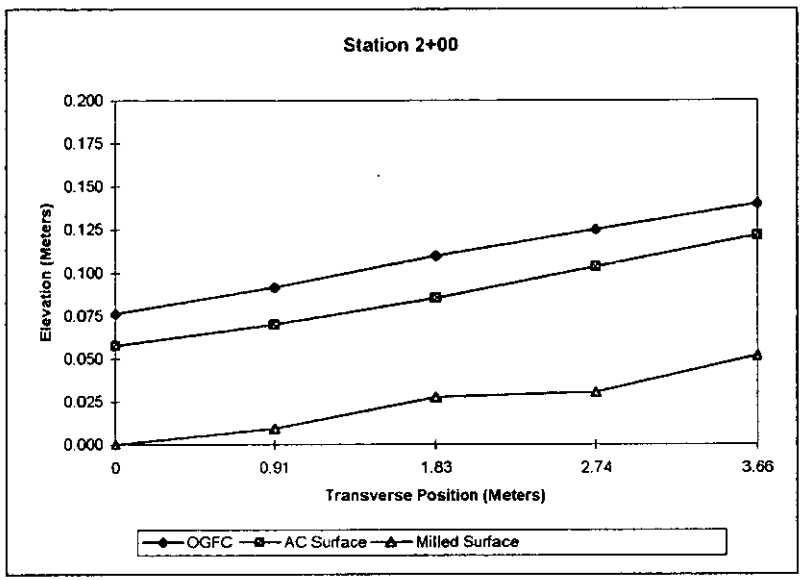


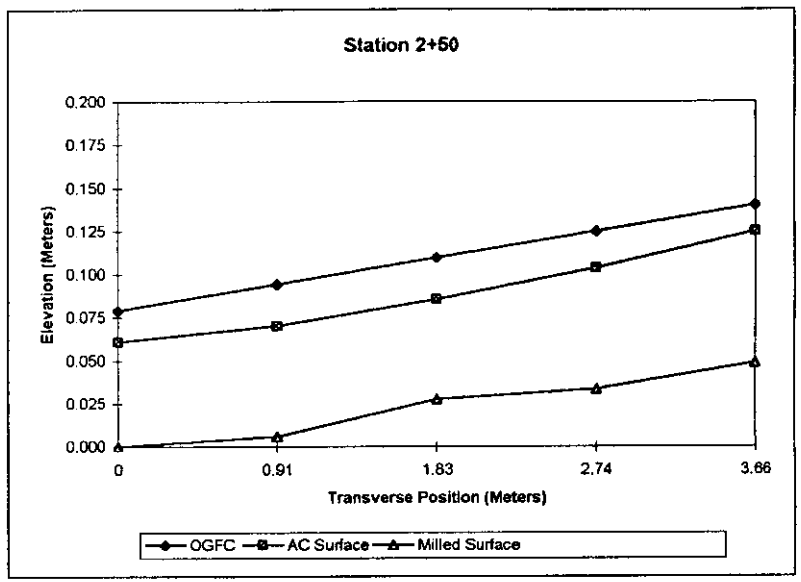


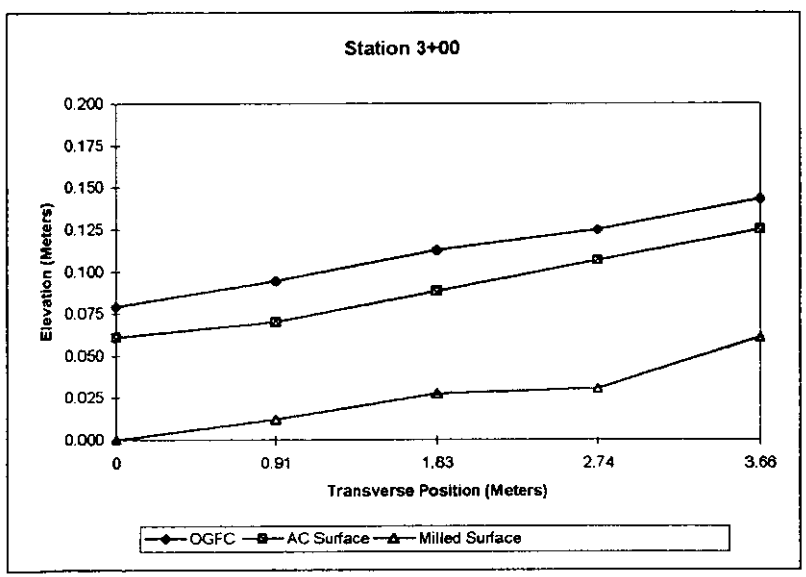


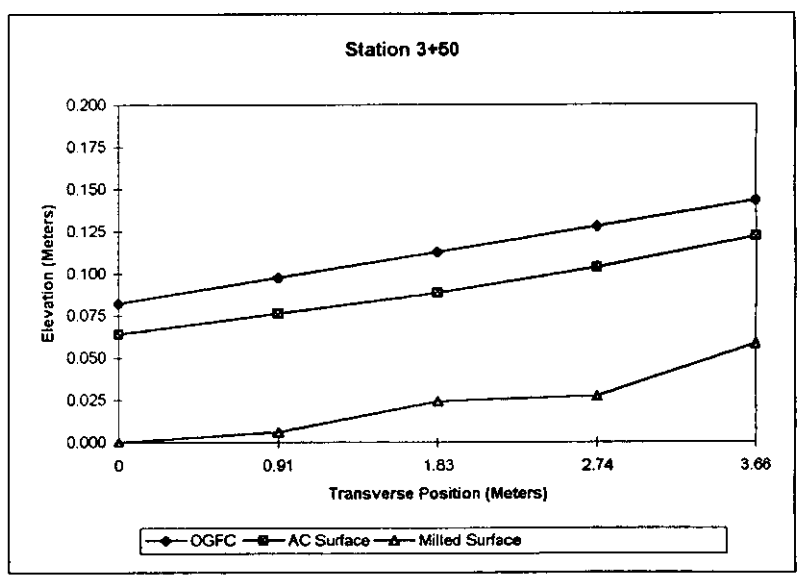


New Mexico, SPS-5 (350505)

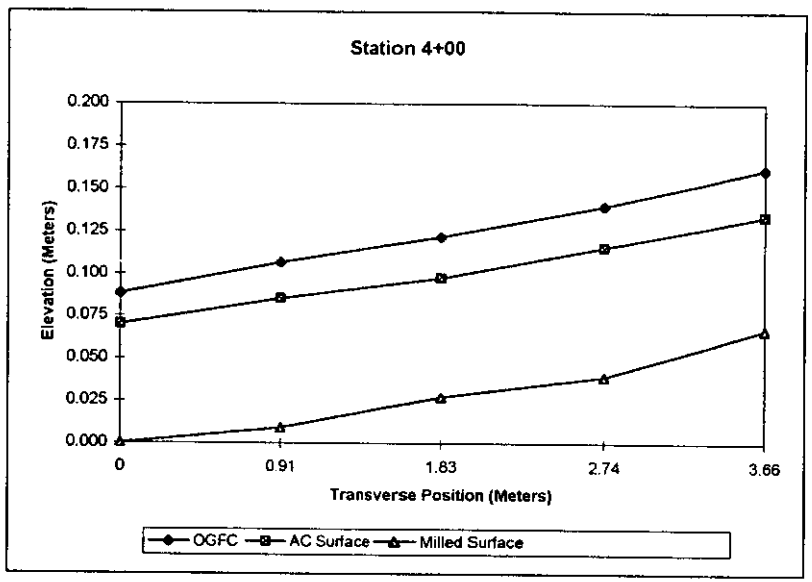


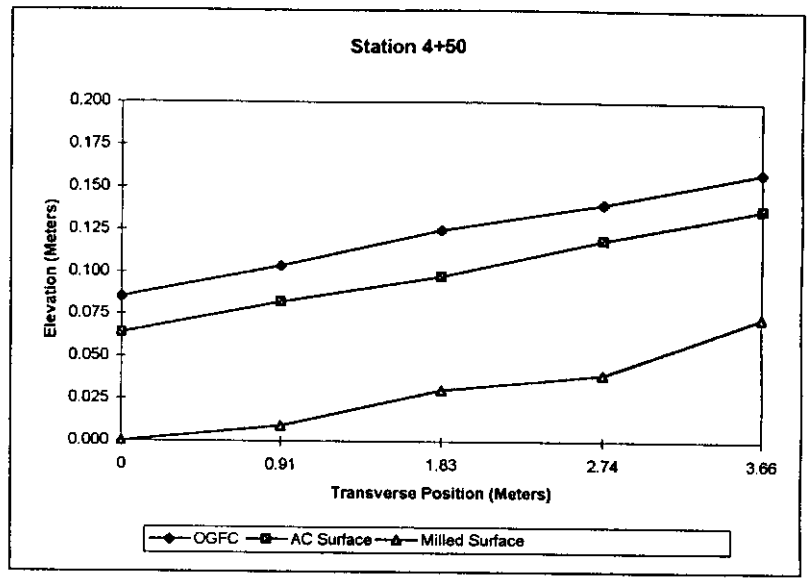


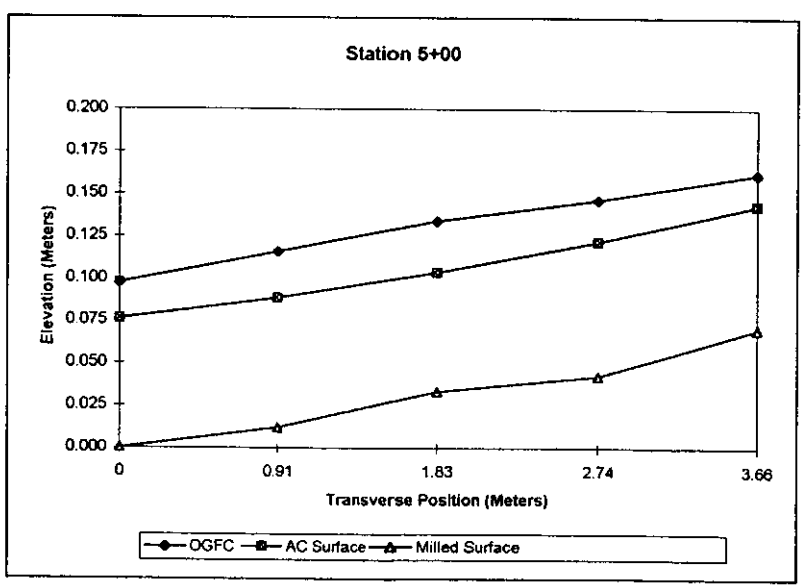




New Mexico, SPS-5 (350505)



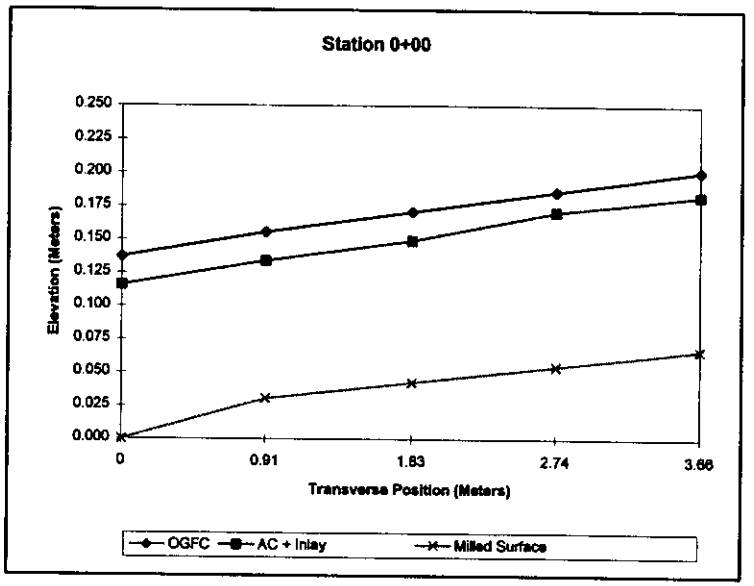


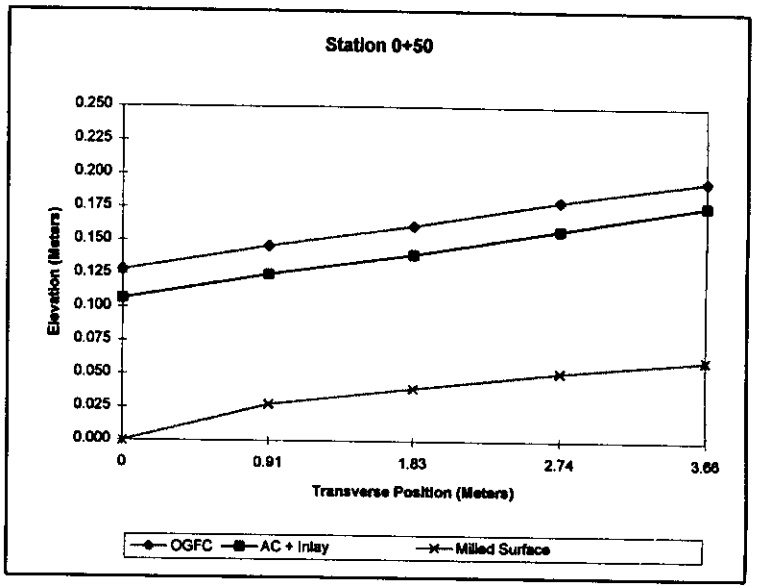


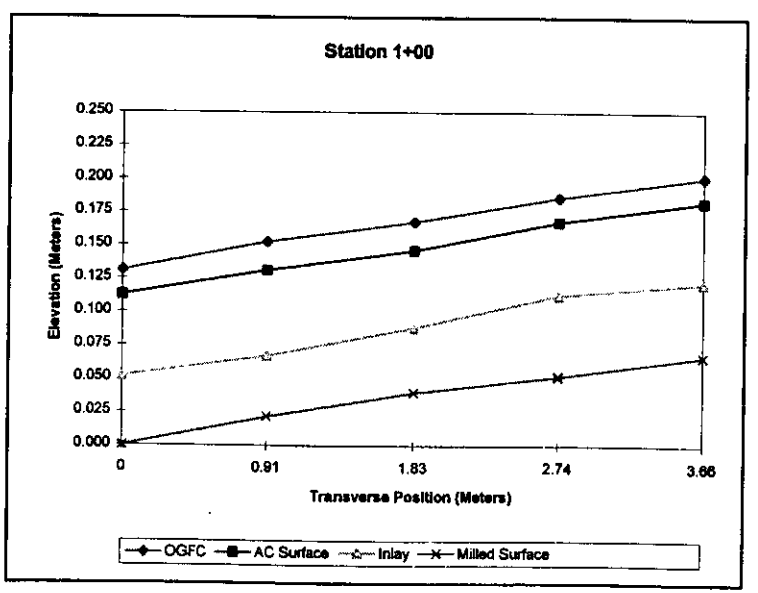
New Mexico, SPS-5 (350506)

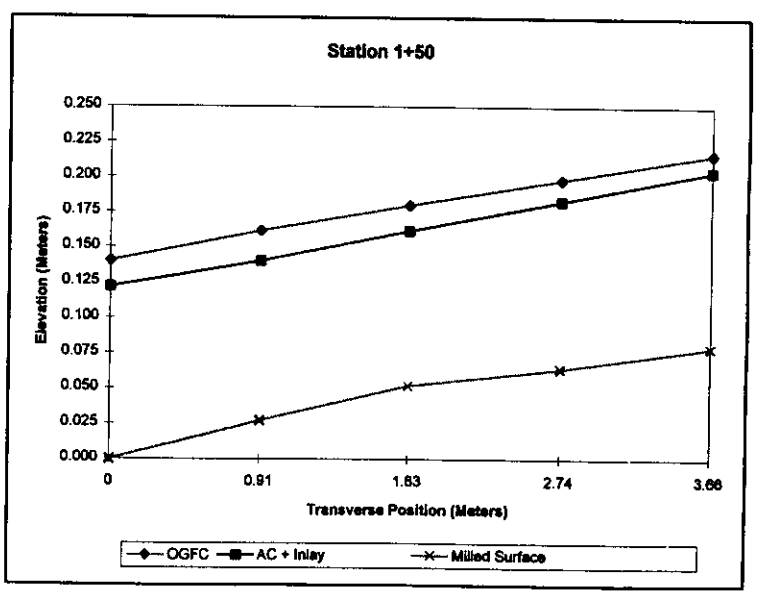
Transverse Offset 4 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches
0+00 OGFC	0.521	0.021	0.840	0.116	4.560	0.539	0.021	0.840	0.104	4.080	0.555	0.021	0.840	0.107	4.200	0.570	0.015	0.600	0.116	4.560	0.585	0.018	0.720	0.116	4.560
AC + Inlay	0.500					0.518					0.533					0.555					0.567				
Milled Surface	0.384					0.414					0.427					0.439					0.451				
0+50 OGFC	0.494	0.021	0.840	0.107	4.200	0.512	0.021	0.840	0.098	3.840	0.527	0.021	0.840	0.101	3.960	0.545	0.021	0.840	0.107	4.200	0.561	0.018	0.720	0.116	4.560
AC + Inlay	0.472					0.491					0.508					0.524					0.542				
Milled Surface	0.366					0.393					0.405					0.417					0.427				
1+00 OGFC	0.457	0.018	0.720	0.113	4.440	0.478	0.021	0.840	0.110	4.320	0.494	0.021	0.840	0.107	4.200	0.512	0.018	0.720	0.116	4.560	0.527	0.018	0.720	0.116	4.560
AC + Inlay	0.439					0.457					0.472					0.494					0.509				
led Surface	0.326					0.347					0.366					0.378					0.393				
1+50 OGFC	0.424	0.018	0.720	0.122	4.800	0.445	0.021	0.840	0.113	4.440	0.463	0.018	0.720	0.110	4.320	0.481	0.015	0.600	0.119	4.680	0.500	0.012	0.480	0.125	4.920
AC + Inlay	0.405					0.424					0.445					0.466					0.488				
Milled Surface	0.283					0.311					0.335					0.347					0.363				
2+00 OGFC	0.396	0.018	0.720	0.113	4.440	0.414	0.018	0.720	0.101	3.960	0.433	0.018	0.720	0.104	4.080	0.451	0.015	0.600	0.116	4.560	0.466	0.009	0.360	0.125	4.920
AC + Inlay	0.378					0.396					0.414					0.436					0.457				
Milled Surface	0.265					0.296					0.311					0.320					0.332				
2+50 OGFC	0.372	0.018	0.720	0.104	4.080	0.390	0.018	0.720	0.098	3.840	0.408	0.021	0.840	0.098	3.840	0.424	0.009	0.360	0.113	4.440	0.445	0.012	0.480	0.116	4.560
AC + Inlay	0.353					0.372					0.387					0.414					0.433				
Milled Surface	0.250					0.274					0.289					0.302					0.317				
3+00 OGFC	0.338	0.015	0.600	0.104	4.080	0.356	0.015	0.600	0.094	3.720	0.378	0.018	0.720	0.098	3.840	0.396	0.012	0.480	0.107	4.200	0.411	0.009	0.360	0.113	4.440
AC + Inlay	0.323					0.341					0.360					0.384					0.402				
Milled Surface	0.219					0.247					0.262					0.277					0.289				
3+50 OGFC	0.299	0.012	0.480	0.113	4.440	0.317	0.012	0.480	0.107	4.200	0.338	0.015	0.600	0.107	4.200	0.356	0.012	0.480	0.113	4.440	0.375	0.009	0.360	0.131	5.160
AC + Inlay	0.286					0.305					0.323					0.344					0.366				
Milled Surface	0.174					0.198					0.216					0.232					0.235				
4+00 OGFC	0.277	0.018	0.720	0.107	4.200	0.292	0.015	0.600	0.101	3.960	0.314	0.021	0.840	0.101	3.960	0.329	0.012	0.480	0.113	4.440	0.347	0.012	0.480	0.119	4.680
AC + Inlay	0.259					0.277					0.292					0.317					0.335				
Milled Surface	0.152					0.177					0.192					0.204					0.216				
4+50 OGFC	0.244	0.015	0.600	0.107	4.200	0.265	0.021	0.840	0.098	3.840	0.280	0.015	0.600	0.104	4.080	0.299	0.012	0.480	0.110	4.320	0.317	0.009	0.360	0.116	4.560
AC + Inlay	0.228					0.244					0.265					0.286					0.308				
Milled Surface	0.122					0.146					0.161					0.177					0.192				
5+00 OGFC	0.207	0.018	0.720	0.098	3.840	0.228	0.018	0.720	0.094	3.720	0.250	0.018	0.720	0.101	3.960	0.271	0.018	0.720	0.107	4.200	0.285	0.012	0.480	0.116	4.560
AC + Inlay	0.189					0.210					0.232					0.253					0.274				
Milled Surface	0.091					0.116					0.131					0.146					0.158				
AVG	0.018	0.699	0.109	4.298		0.019	0.731	0.101	3.993		0.019	0.753	0.103	4.058		0.015	0.578	0.112	4.418		0.013	0.502	0.118	4.680	
MAX	0.021	0.840	0.122	4.800		0.021	0.840	0.113	4.440		0.021	0.840	0.110	4.320		0.021	0.840	0.119	4.680		0.018	0.720	0.131	5.160	
MIN	0.012	0.480	0.098	3.840		0.012	0.480	0.094	3.720		0.015	0.600	0.098	3.840		0.009	0.360	0.107	4.200		0.009	0.360	0.113	4.440	
STD	0.003	0.100	0.006	0.255		0.003	0.120	0.006	0.229		0.002	0.090	0.004	0.152		0.003	0.134	0.004	0.160		0.004	0.143	0.005	0.211	

New Mexico, SPS-5 (350506)

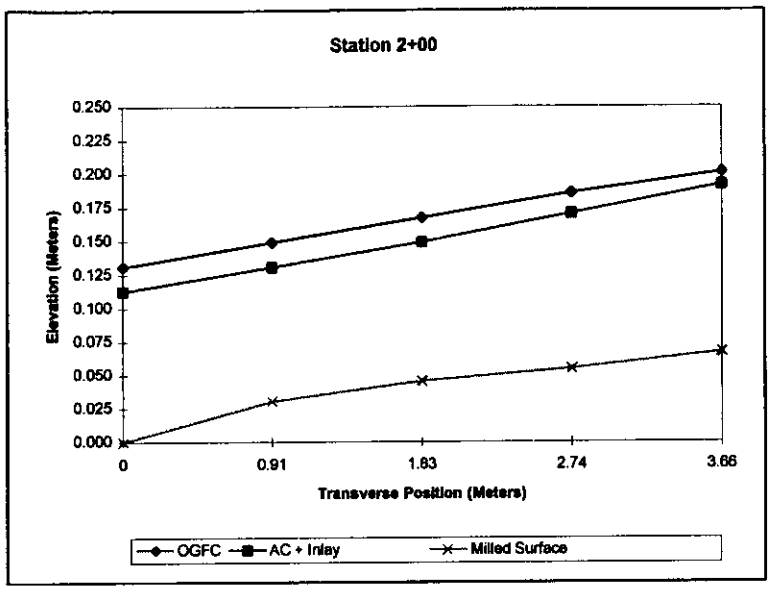


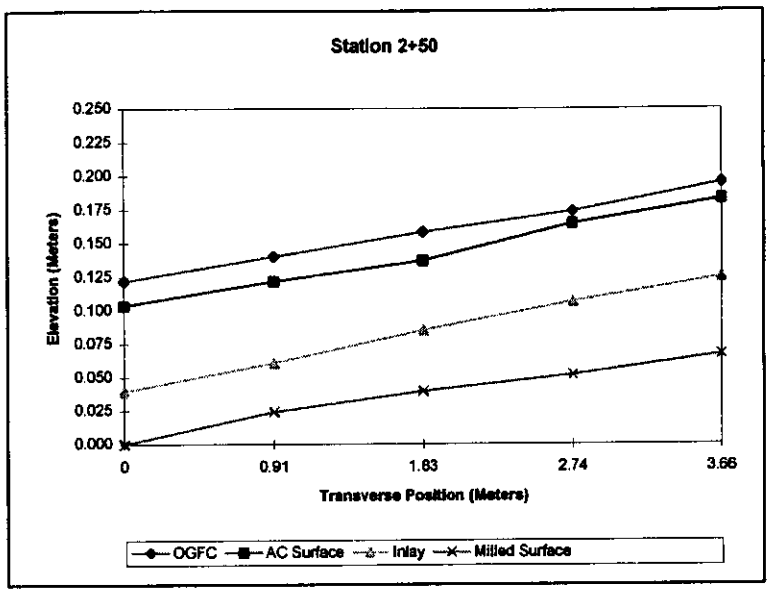


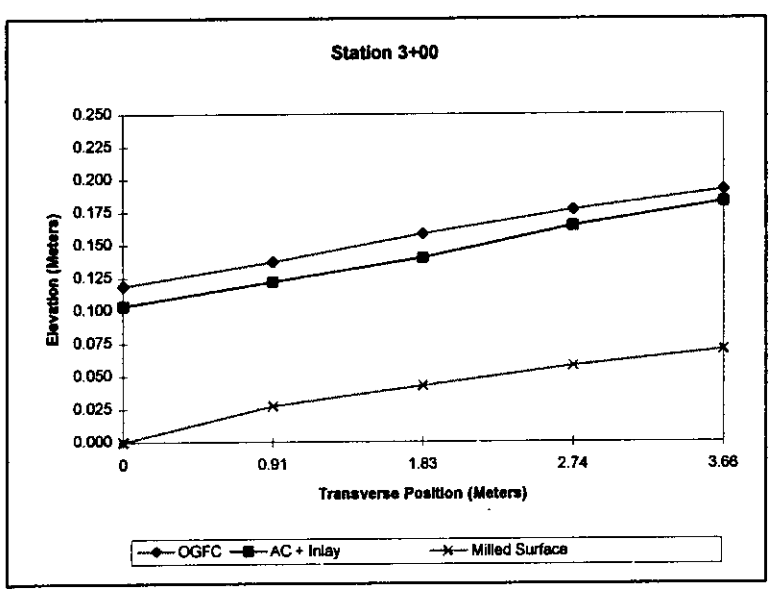


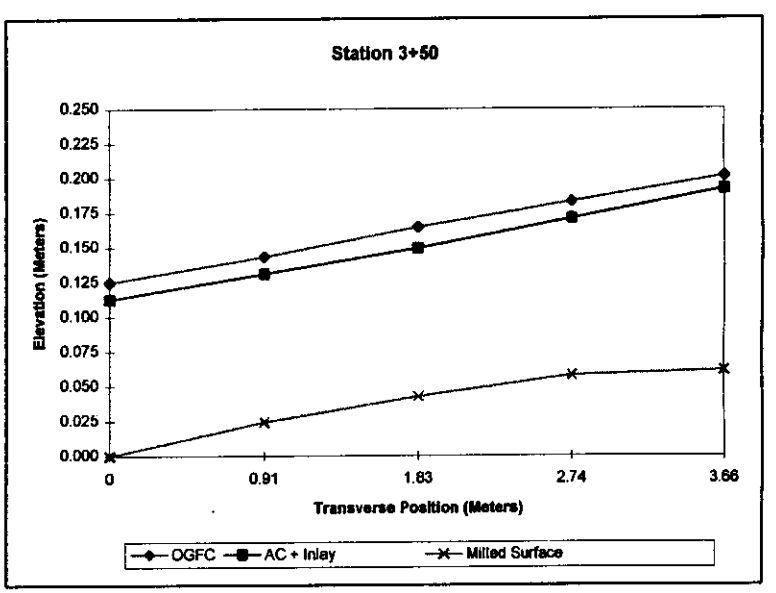


New Mexico, SPS-5 (350506)

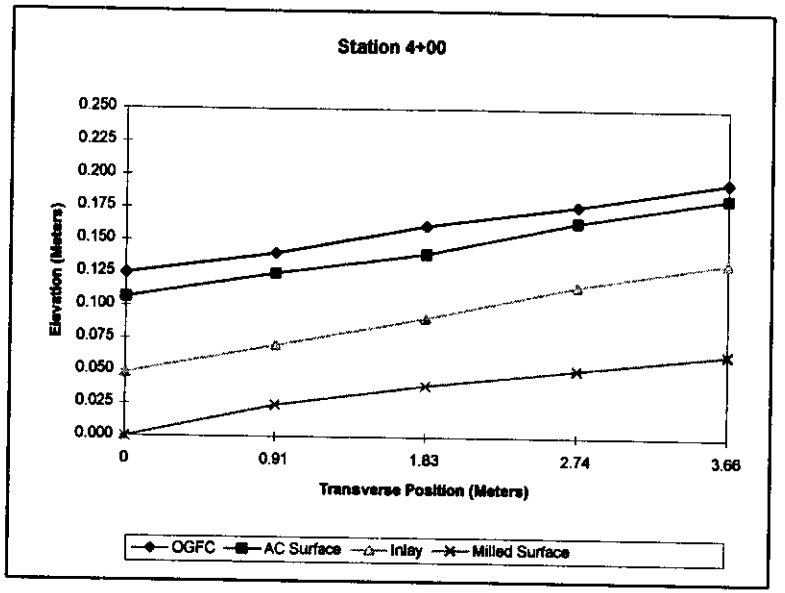


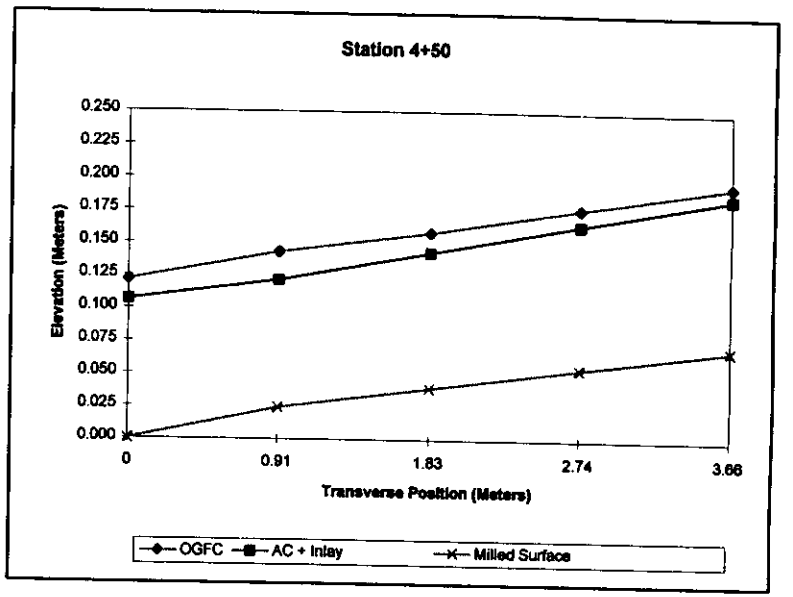


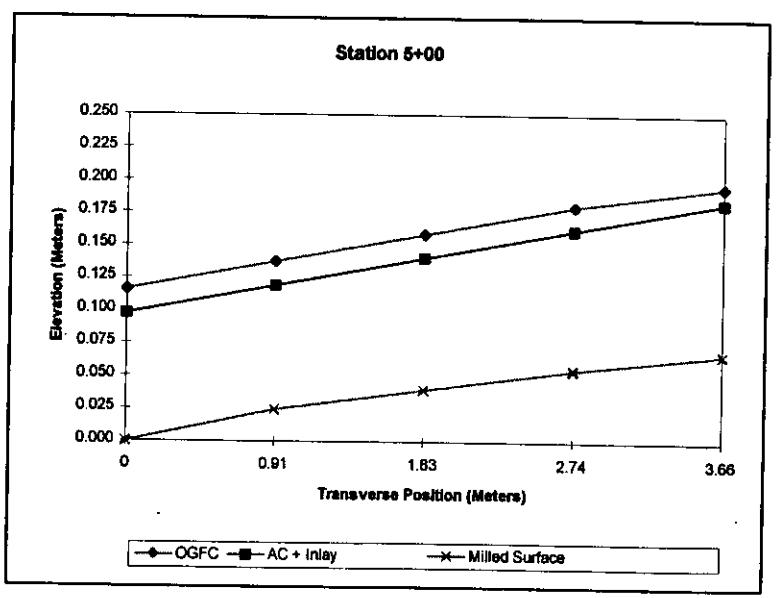




New Mexico, SPS-5 (350506)



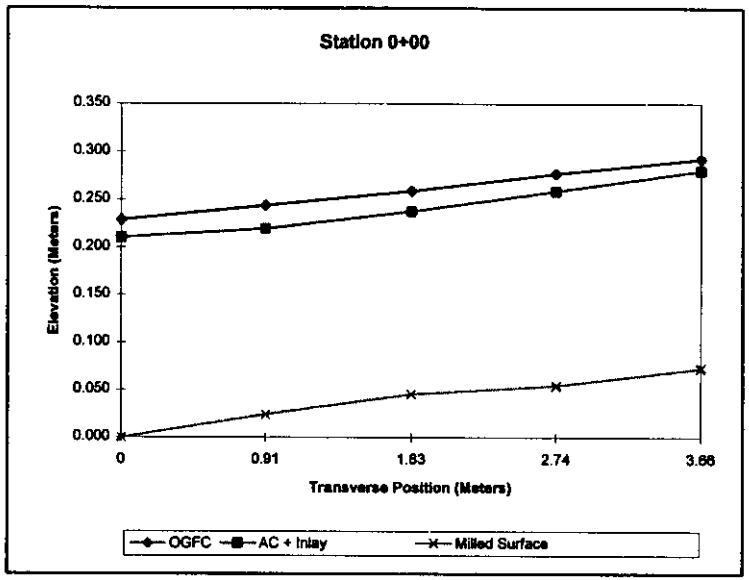


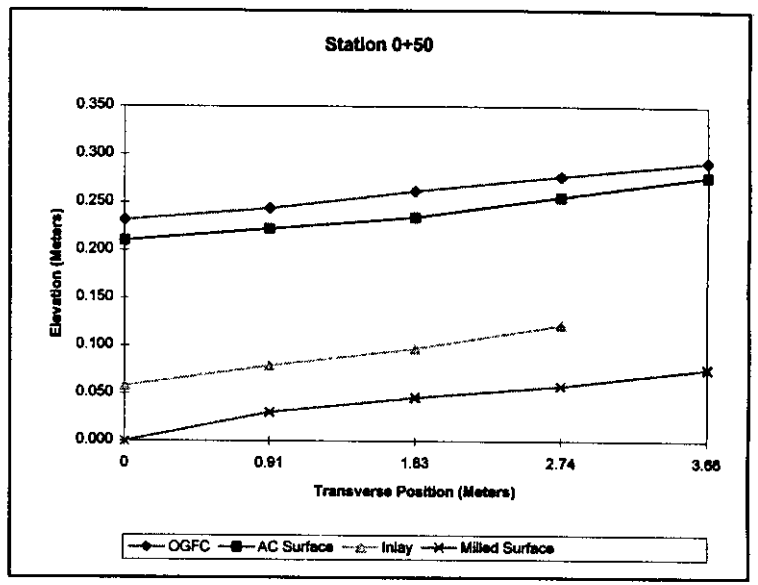


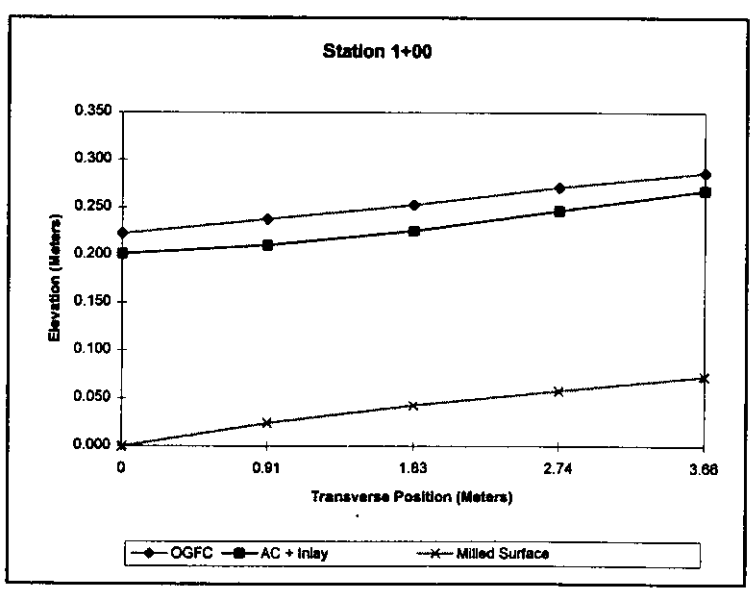
New Mexico, SPS-5 (350507)

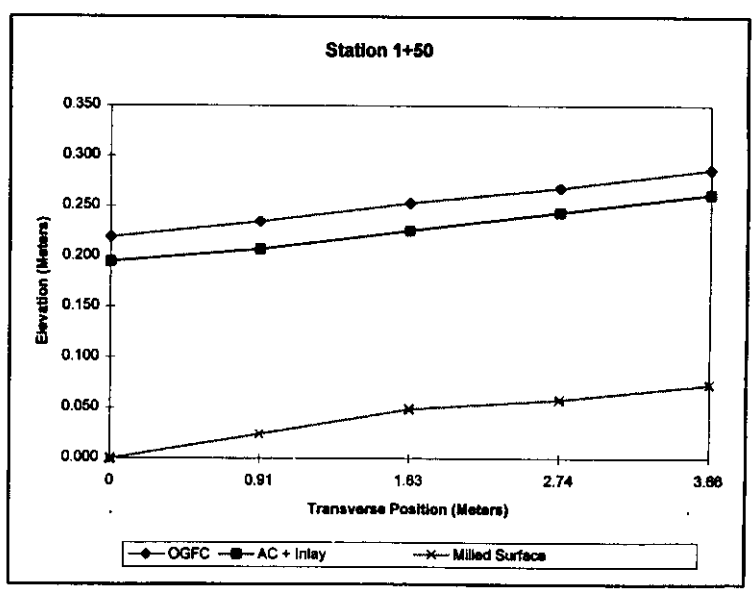
Transverse Offset 4 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches
0+00 OGFC	0.805	0.018	0.720	0.210	8.280	0.820	0.024	0.960	0.195	7.680	0.835	0.021	0.840	0.192	7.560	0.853	0.018	0.720	0.204	8.040	0.869	0.012	0.480	0.207	8.160
AC + Inlay	0.786					0.795					0.814					0.835					0.856				
Milled Surface	0.576					0.600					0.622					0.631					0.649				
0+50 OGFC	0.774	0.021	0.840	0.210	8.280	0.786	0.021	0.840	0.192	7.560	0.805	0.027	1.080	0.189	7.440	0.820	0.021	0.840	0.198	7.800	0.835	0.015	0.600	0.201	7.920
AC + Inlay	0.753					0.765					0.777					0.799					0.820				
Milled Surface	0.542					0.573					0.588					0.600					0.619				
1+00 OGFC	0.750	0.021	0.840	0.201	7.920	0.765	0.027	1.080	0.186	7.320	0.780	0.027	1.080	0.183	7.200	0.799	0.024	0.960	0.189	7.440	0.814	0.018	0.720	0.195	7.680
AC + Inlay	0.728					0.738					0.753					0.774					0.795				
led Surface	0.527					0.552					0.570					0.585					0.600				
1+50 OGFC	0.738	0.024	0.960	0.195	7.680	0.753	0.027	1.080	0.183	7.200	0.771	0.027	1.080	0.177	6.960	0.786	0.024	0.960	0.186	7.320	0.805	0.024	0.960	0.189	7.440
AC + Inlay	0.713					0.725					0.744					0.762					0.780				
Milled Surface	0.518					0.542					0.567					0.576					0.591				
2+00 OGFC	0.707	0.024	0.960	0.198	7.800	0.722	0.024	0.960	0.189	7.440	0.741	0.027	1.080	0.180	7.080	0.756	0.021	0.840	0.189	7.440	0.777	0.021	0.840	0.192	7.560
AC + Inlay	0.683					0.698					0.713					0.735					0.756				
Milled Surface	0.485					0.509					0.533					0.546					0.564				
2+50 OGFC	0.689	0.030	1.200	0.192	7.560	0.704	0.034	1.320	0.183	7.200	0.719	0.030	1.200	0.180	7.080	0.738	0.027	1.080	0.192	7.560	0.753	0.021	0.840	0.192	7.560
AC + Inlay	0.658					0.671					0.689					0.710					0.731				
Milled Surface	0.466					0.488					0.509					0.518					0.539				
3+00 OGFC	0.661	0.034	1.320	0.201	7.920	0.680	0.037	1.440	0.195	7.680	0.695	0.037	1.440	0.186	7.320	0.713	0.034	1.320	0.192	7.560	0.728	0.027	1.080	0.195	7.680
AC + Inlay	0.628					0.643					0.658					0.680					0.701				
Milled Surface	0.427					0.448					0.472					0.488					0.506				
3+50 OGFC	0.643	0.037	1.440	0.195	7.680	0.656	0.040	1.560	0.186	7.320	0.674	0.040	1.560	0.174	6.840	0.692	0.037	1.440	0.183	7.200	0.707	0.030	1.200	0.189	7.440
AC + Inlay	0.607					0.619					0.634					0.655					0.677				
Milled Surface	0.411					0.433					0.460					0.472					0.488				
4+00 OGFC	0.594	0.034	1.320	0.195	7.680	0.613	0.040	1.560	0.189	7.440	0.634	0.043	1.680	0.180	7.080	0.649	0.037	1.440	0.186	7.320	0.667	0.034	1.320	0.192	7.560
AC + Inlay	0.581					0.573					0.591					0.613					0.634				
Milled Surface	0.366					0.384					0.411					0.427					0.442				
4+50 OGFC	0.564	0.043	1.680	0.183	7.200	0.579	0.046	1.800	0.177	6.960	0.597	0.046	1.800	0.168	6.600	0.616	0.043	1.680	0.180	7.080	0.631	0.034	1.320	0.189	7.440
AC + Inlay	0.521					0.533					0.552					0.573					0.597				
Milled Surface	0.338					0.357					0.384					0.393					0.406				
5+00 OGFC	0.524	0.046	1.800	0.180	7.080	0.542	0.049	1.920	0.174	6.840	0.558	0.049	1.920	0.168	6.600	0.576	0.046	1.800	0.174	6.840	0.591	0.043	1.680	0.171	6.720
AC + Inlay	0.478					0.494					0.509					0.530					0.549				
Milled Surface	0.299					0.320					0.341					0.367					0.378				
AVG	0.030	1.189	0.196	7.735		0.034	1.320	0.186	7.331		0.034	1.342	0.180	7.069		0.030	1.189	0.188	7.418		0.025	1.004	0.192	7.560
MAX	0.046	1.800	0.210	8.280		0.049	1.920	0.195	7.680		0.049	1.920	0.192	7.560		0.046	1.800	0.204	8.040		0.043	1.680	0.207	8.160
MIN	0.018	0.720	0.180	7.080		0.021	0.840	0.174	6.840		0.021	0.840	0.168	6.600		0.018	0.720	0.174	6.840		0.012	0.480	0.171	6.720
STD	0.009	0.341	0.009	0.380		0.009	0.347	0.007	0.258		0.009	0.339	0.008	0.296		0.009	0.349	0.008	0.315		0.009	0.340	0.008	0.339

New Mexico, SPS-5 (350507)

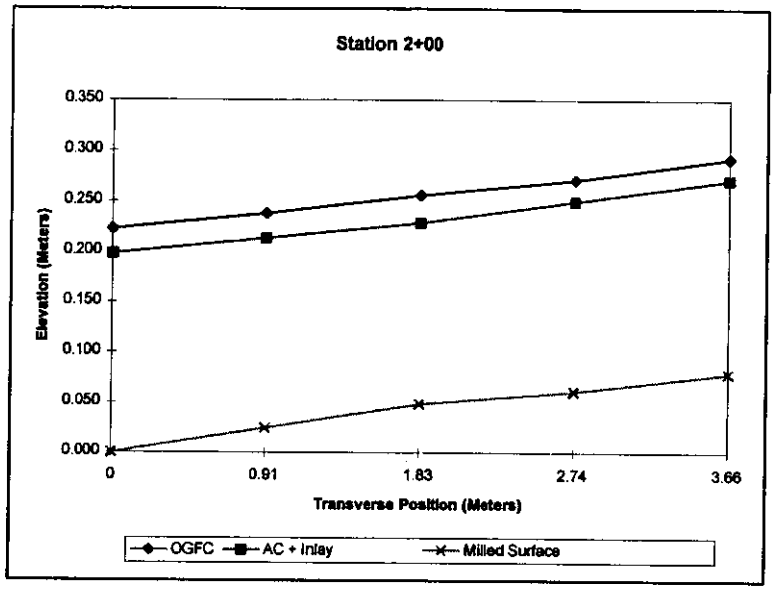


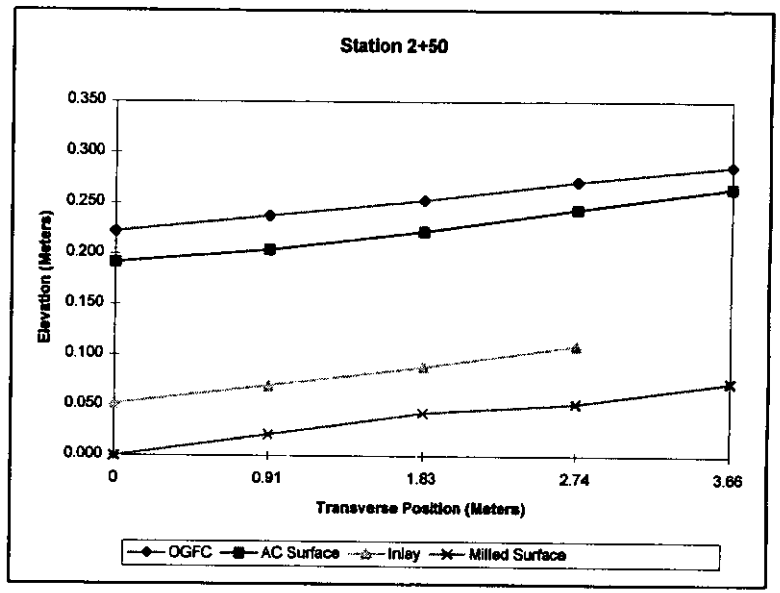


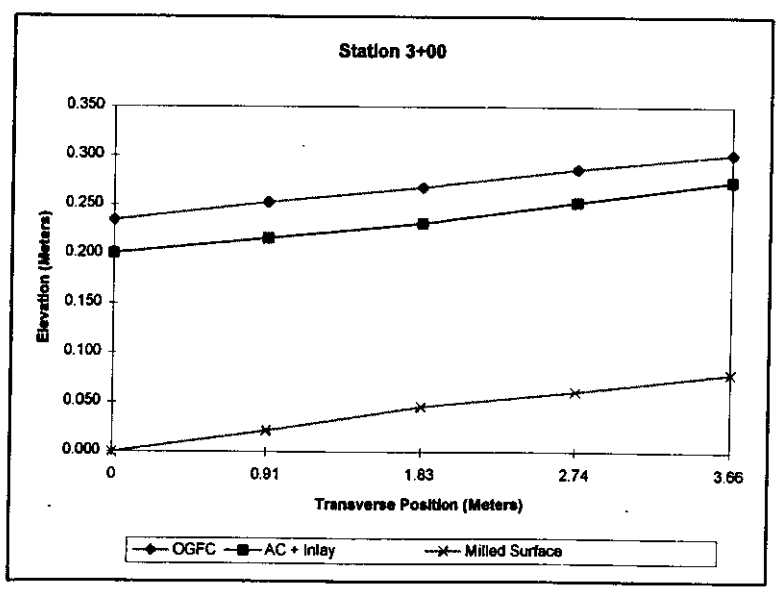


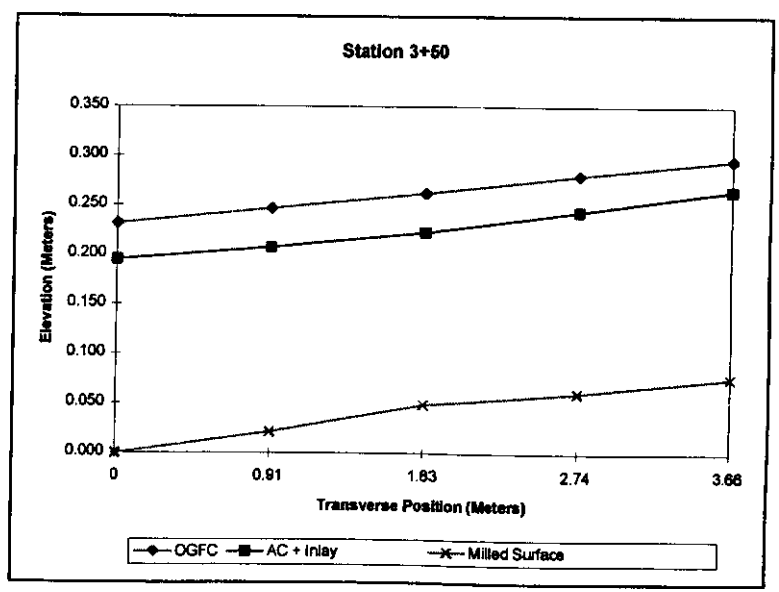


New Mexico, SPS-5 (350507)

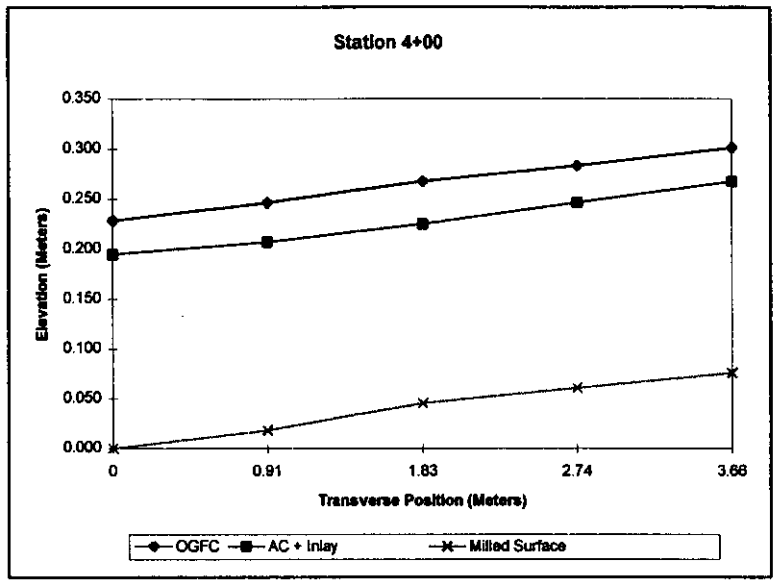


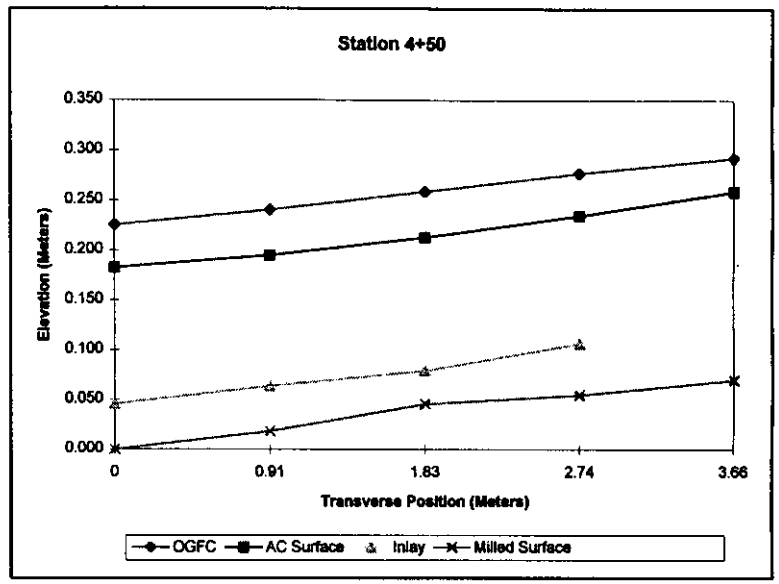


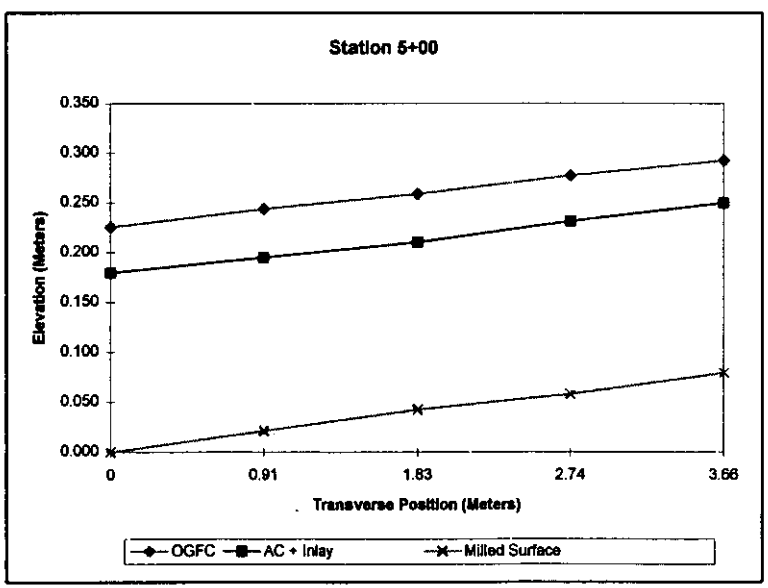




New Mexico, SPS-5 (350507)



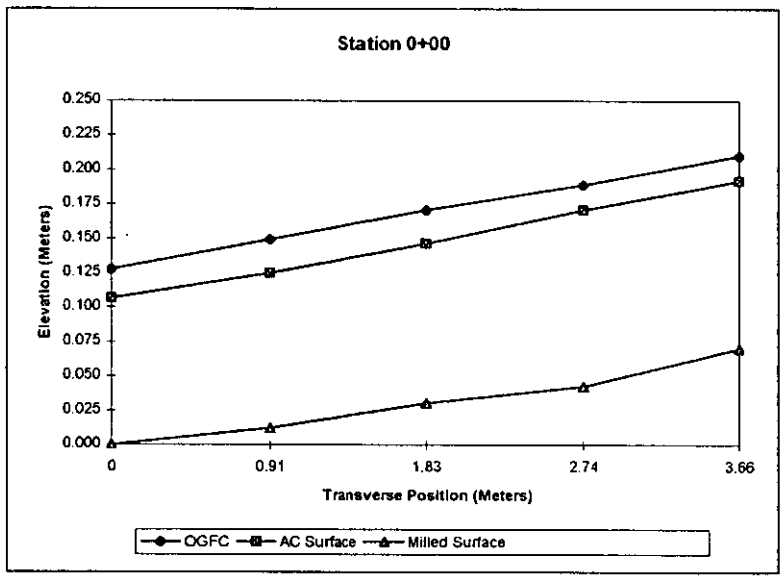


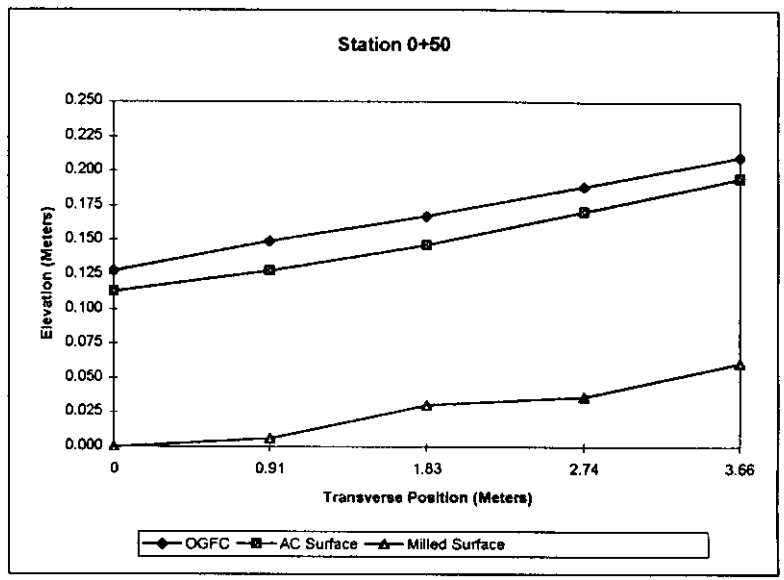


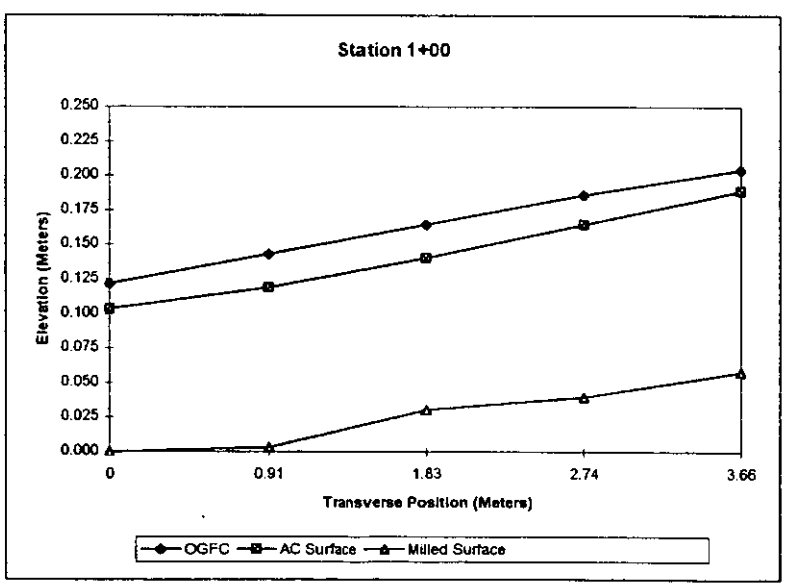
New Mexico, SPS-5 (350504)

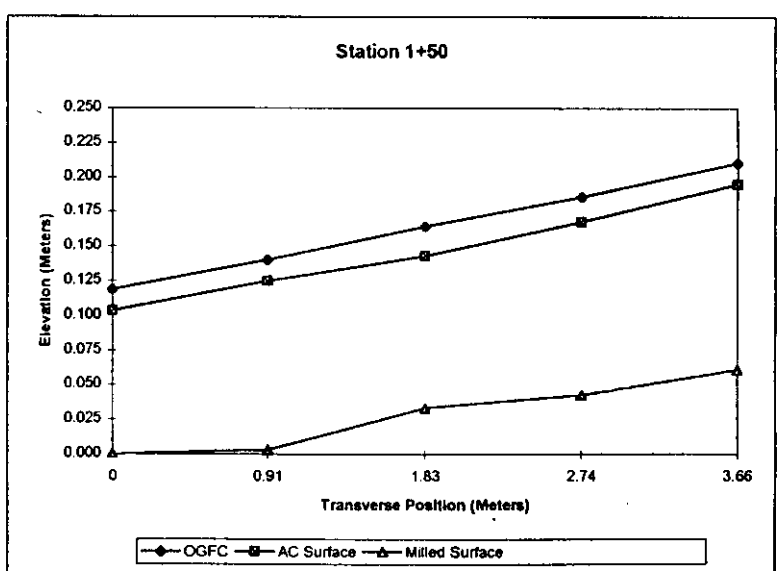
Transverse Offset 3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC Surface THICKNESS Meters	Inches
0+00 OGFC	0.578	0.021	0.840	0.107	4.200	0.600	0.024	0.960	0.113	4.440	0.621	0.024	0.960	0.116	4.560	0.640	0.018	0.720	0.128	5.040	0.661	0.018	0.720	0.122	4.800
AC Surface	0.557					0.576					0.597					0.621					0.643				
Milled Surface	0.451					0.463					0.481					0.493					0.521				
0+50 OGFC	0.539	0.015	0.600	0.113	4.440	0.560	0.021	0.840	0.122	4.800	0.579	0.021	0.840	0.116	4.560	0.600	0.018	0.720	0.134	5.280	0.621	0.015	0.600	0.134	5.280
AC Surface	0.524					0.539					0.557					0.582					0.606				
led Surface	0.411					0.417					0.441					0.448					0.472				
1+00 OGFC	0.505	0.018	0.720	0.104	4.080	0.527	0.024	0.960	0.116	4.560	0.548	0.024	0.960	0.110	4.320	0.569	0.021	0.840	0.125	4.920	0.588	0.015	0.600	0.131	5.160
AC Surface	0.487					0.502					0.524					0.548					0.573				
Milled Surface	0.384					0.387					0.414					0.423					0.441				
1+50 OGFC	0.475	0.015	0.600	0.104	4.080	0.498	0.015	0.600	0.122	4.800	0.521	0.021	0.840	0.110	4.320	0.542	0.018	0.720	0.125	4.920	0.566	0.015	0.600	0.134	5.280
AC Surface	0.460					0.481					0.499					0.524					0.551				
Milled Surface	0.356					0.359					0.390					0.399					0.417				
2+00 OGFC	0.451	0.012	0.480	0.091	3.600	0.469	0.012	0.480	0.122	4.800	0.493	0.018	0.720	0.107	4.200	0.515	0.012	0.480	0.128	5.040	0.536	0.006	0.240	0.128	5.040
AC Surface	0.438					0.457					0.475					0.502					0.530				
led Surface	0.347					0.335					0.369					0.374					0.402				
2+50 OGFC	0.411	0.015	0.600	0.094	3.720	0.435	0.021	0.840	0.122	4.800	0.444	0.006	0.240	0.110	4.320	0.478	0.012	0.480	0.131	5.160	0.499	0.006	0.240	0.134	5.280
AC Surface	0.396					0.414					0.438					0.466					0.493				
Milled Surface	0.301					0.292					0.329					0.335					0.359				
3+00 OGFC	0.384	0.015	0.600	0.094	3.720	0.408	0.018	0.720	0.110	4.320	0.429	0.018	0.720	0.104	4.080	0.451	0.012	0.480	0.125	4.920	0.475	0.009	0.360	0.128	5.040
AC Surface	0.369					0.390					0.411					0.439					0.466				
Milled Surface	0.274					0.280					0.307					0.313					0.339				
3+50 OGFC	0.368	0.027	1.080	0.098	3.840	0.377	0.018	0.720	0.119	4.680	0.396	0.018	0.720	0.113	4.440	0.414	0.012	0.480	0.128	5.040	0.435	0.009	0.360	0.125	4.920
AC Surface	0.341					0.359					0.377					0.402					0.426				
Milled Surface	0.243					0.240					0.265					0.274					0.301				
4+00 OGFC	0.335	0.012	0.480	0.098	3.840	0.359	0.018	0.720	0.113	4.440	0.380	0.015	0.600	0.113	4.440	0.399	0.015	0.600	0.122	4.800	0.420	0.012	0.480	0.119	4.680
AC Surface	0.323					0.341					0.365					0.384					0.408				
Milled Surface	0.225					0.228					0.252					0.262					0.289				
4+50 OGFC	0.320	0.009	0.360	0.110	4.320	0.335	0.009	0.360	0.116	4.560	0.362	0.021	0.840	0.113	4.440	0.380	0.015	0.600	0.125	4.920	0.399	0.009	0.360	0.119	4.680
AC Surface	0.310					0.326					0.341					0.365					0.390				
led Surface	0.201					0.210					0.228					0.240					0.271				
5+00 OGFC	0.310	0.009	0.360	0.110	4.320	0.332	0.015	0.600	0.113	4.440	0.353	0.018	0.720	0.113	4.440	0.374	0.012	0.480	0.128	5.040	0.396	0.006	0.240	0.137	5.400
AC Surface	0.301					0.316					0.335					0.362					0.390				
led Surface	0.192					0.204					0.222					0.234					0.252				
AVG		0.016	0.611	0.102	4.015		0.018	0.709	0.117	4.604		0.019	0.742	0.111	4.375		0.015	0.600	0.127	5.007		0.011	0.436	0.128	5.051
MAX		0.027	1.080	0.113	4.440		0.024	0.960	0.122	4.800		0.024	0.960	0.116	4.560		0.021	0.840	0.134	5.280		0.018	0.720	0.137	5.400
MIN		0.009	0.360	0.091	3.600		0.009	0.360	0.110	4.320		0.006	0.240	0.104	4.080		0.012	0.480	0.122	4.800		0.006	0.240	0.119	4.680
STD		0.005	0.201	0.007	0.273		0.005	0.181	0.004	0.172		0.005	0.190	0.004	0.139		0.003	0.125	0.003	0.126		0.004	0.164	0.006	0.242

New Mexico, SPS-5 (350504)

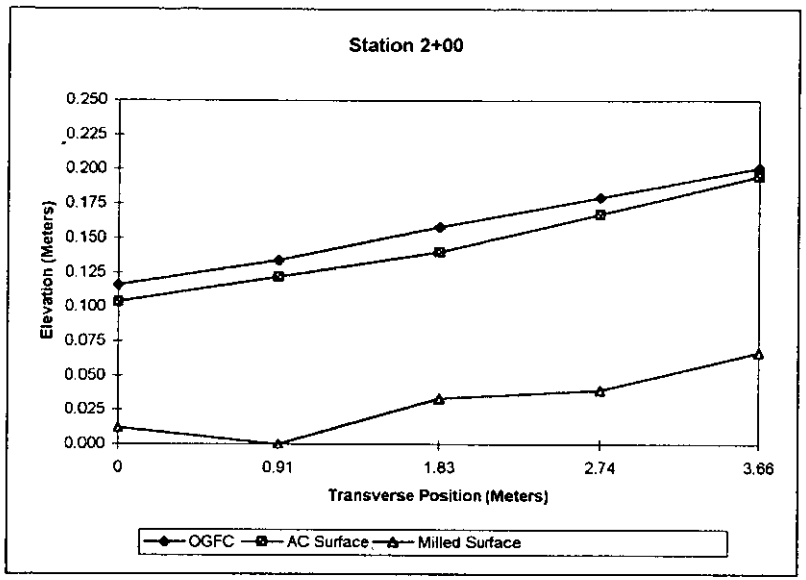


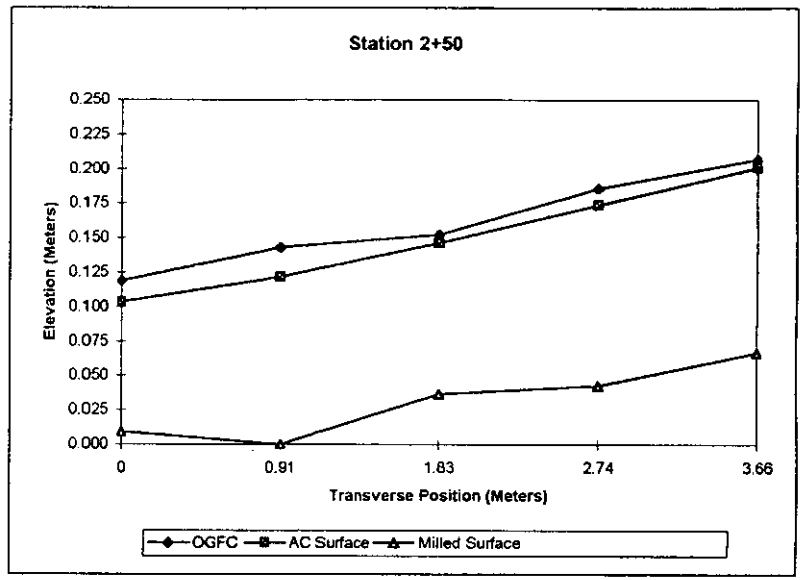


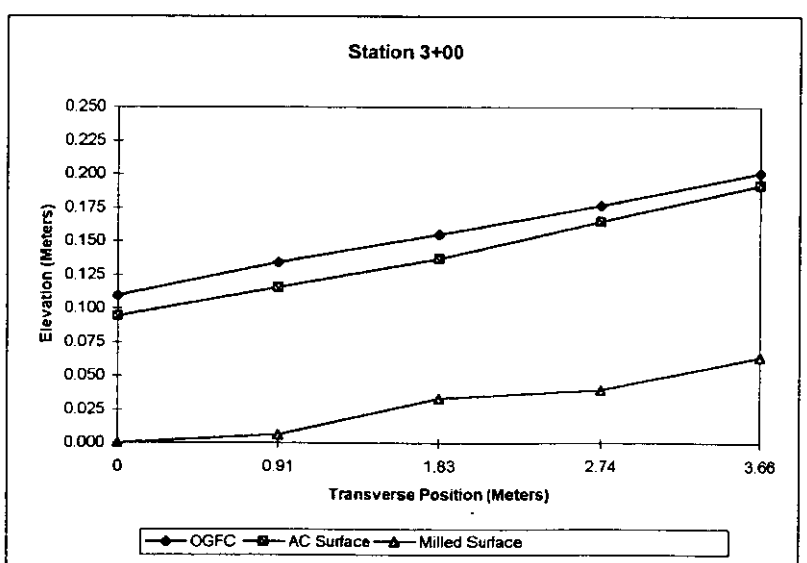


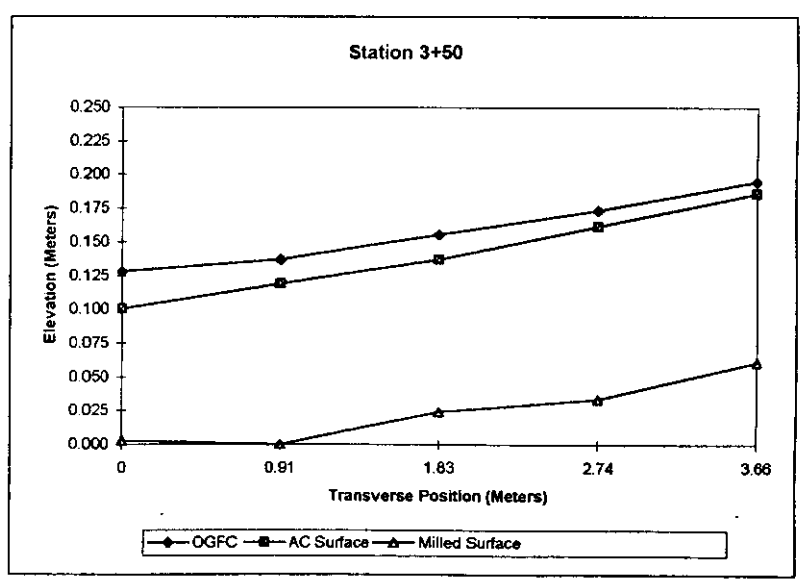


New Mexico, SPS-5 (350504)

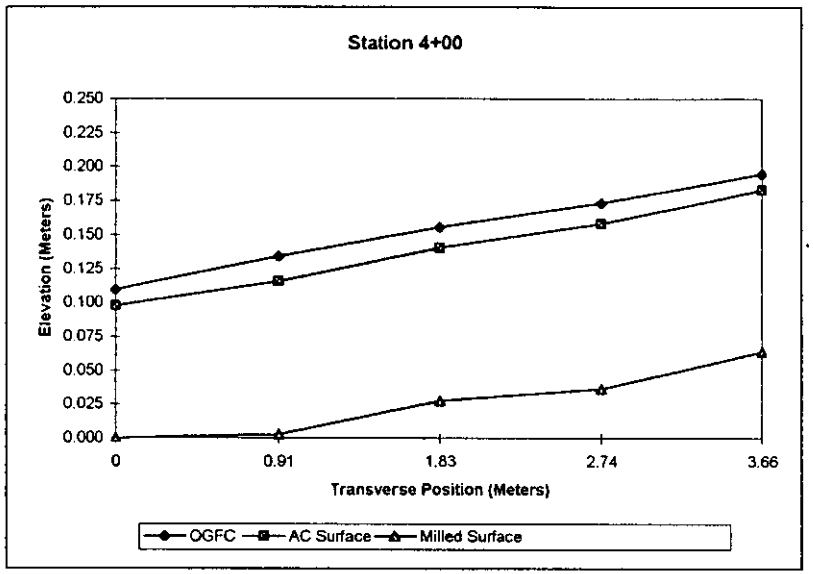


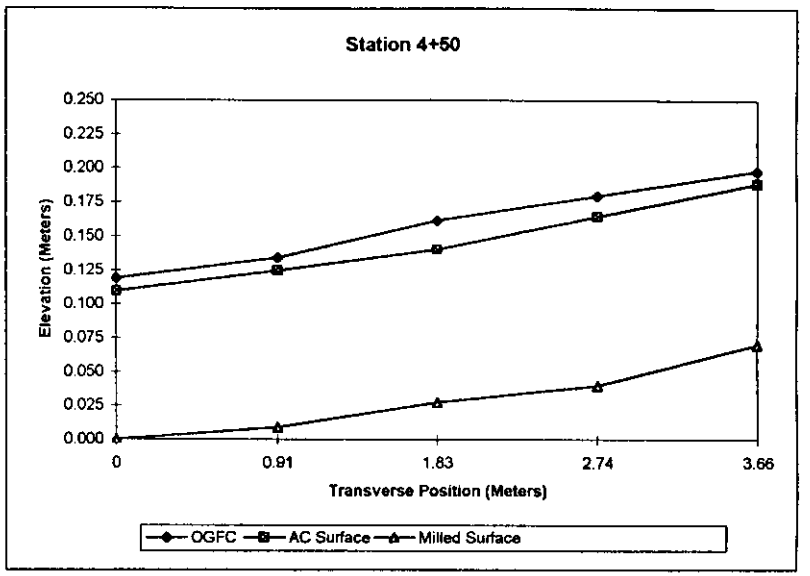


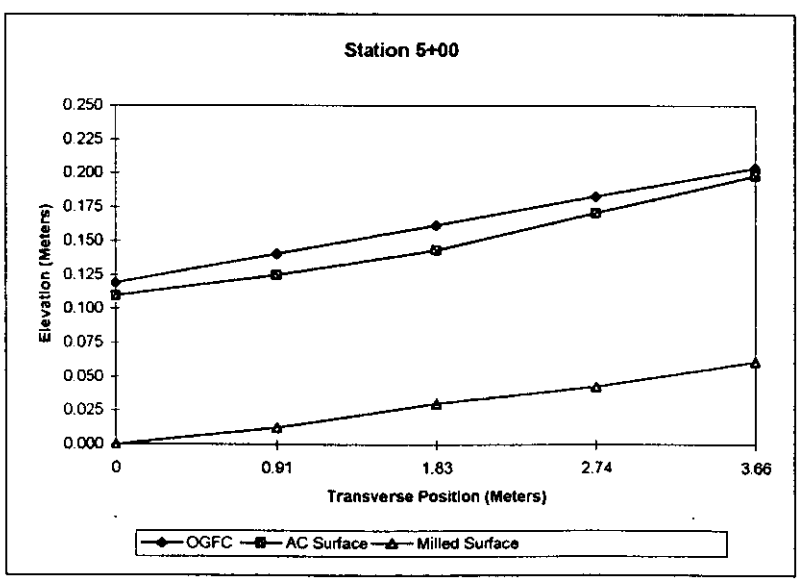




New Mexico, SPS-5 (350504)



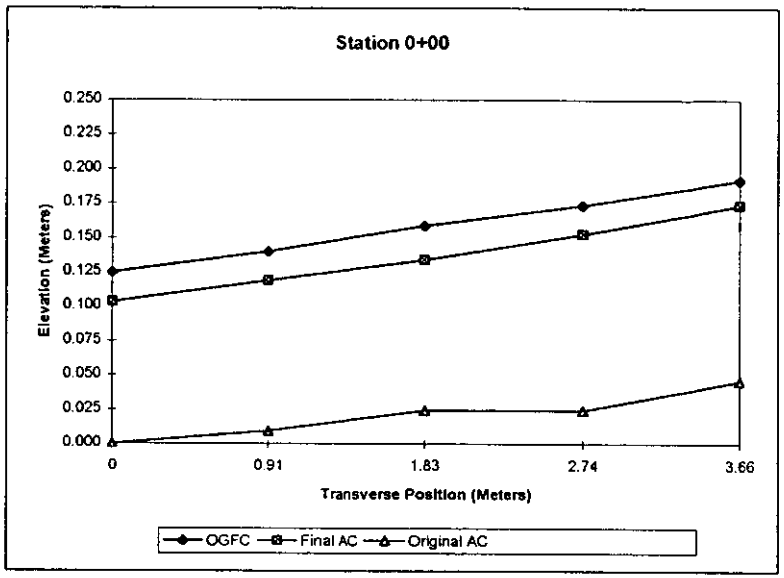


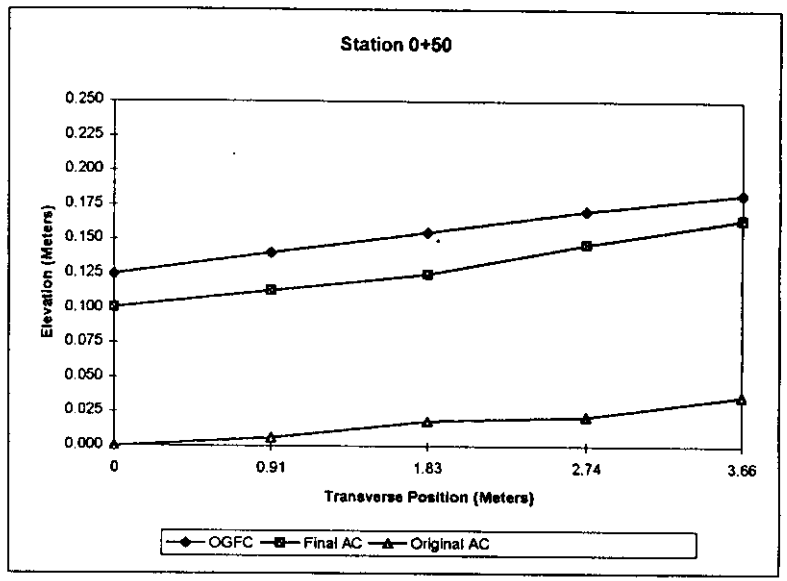


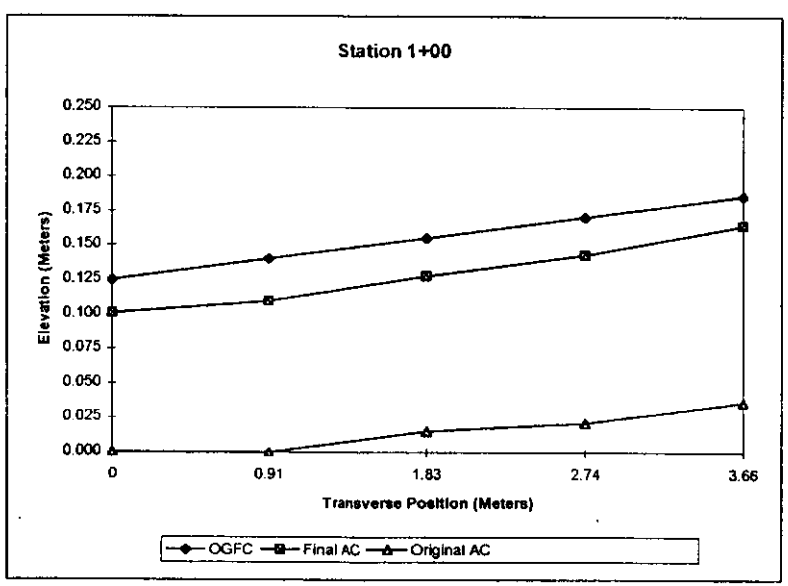
New Mexico, SPS-5 (350503)

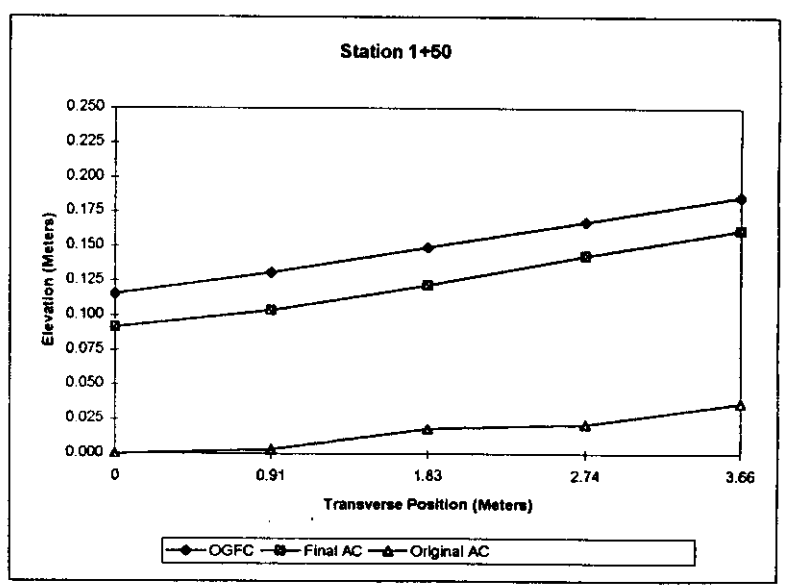
Transverse Offset	3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches
0+00	OGFC	0.505	0.021	0.840	0.104	4.080	0.521	0.021	0.840	0.110	4.320	0.539	0.024	0.960	0.110	4.320	0.554	0.021	0.840	0.128	5.040	0.573	0.018	0.720	0.128	5.040
	Final AC	0.484					0.499					0.515					0.533					0.554				
	Original AC	0.380					0.390					0.405					0.405					0.426				
0+50	OGFC	0.475	0.024	0.960	0.101	3.960	0.490	0.027	1.080	0.107	4.200	0.505	0.030	1.200	0.107	4.200	0.521	0.024	0.960	0.125	4.920	0.533	0.018	0.720	0.128	5.040
	Final AC	0.451					0.463					0.475					0.496					0.515				
	Original AC	0.350					0.356					0.368					0.371					0.387				
1+00	OGFC	0.454	0.024	0.960	0.101	3.960	0.469	0.030	1.200	0.110	4.320	0.484	0.027	1.080	0.113	4.440	0.499	0.027	1.080	0.122	4.800	0.515	0.021	0.840	0.128	5.040
	Final AC	0.429					0.438					0.457					0.472					0.493				
	Original AC	0.329					0.329					0.344					0.350					0.365				
1+50	OGFC	0.435	0.024	0.960	0.091	3.600	0.451	0.027	1.080	0.101	3.960	0.469	0.027	1.080	0.104	4.080	0.487	0.024	0.960	0.122	4.800	0.505	0.024	0.960	0.125	4.920
	Final AC	0.411					0.423					0.441					0.463					0.481				
	Original AC	0.320					0.323					0.338					0.341					0.356				
2+00	OGFC	0.426	0.024	0.960	0.088	3.480	0.448	0.027	1.080	0.104	4.080	0.469	0.030	1.200	0.101	3.960	0.487	0.030	1.200	0.110	4.320	0.505	0.027	1.080	0.116	4.560
	Final AC	0.402					0.420					0.438					0.457					0.478				
	Original AC	0.313					0.316					0.338					0.347					0.362				
2+50	OGFC	0.429	0.037	1.440	0.091	3.600	0.435	0.027	1.080	0.107	4.200	0.457	0.030	1.200	0.098	3.840	0.475	0.024	0.960	0.110	4.320	0.496	0.024	0.960	0.110	4.320
	Final AC	0.383					0.408					0.426					0.451					0.472				
	Original AC	0.301					0.301					0.329					0.341					0.362				
3+00	OGFC	0.398	0.024	0.960	0.088	3.480	0.420	0.024	0.960	0.107	4.200	0.441	0.027	1.080	0.101	3.960	0.451	0.012	0.480	0.113	4.440	0.484	0.018	0.720	0.116	4.560
	Final AC	0.371					0.396					0.414					0.438					0.466				
	Original AC	0.283					0.289					0.313					0.326					0.350				
3+50	OGFC	0.380	0.030	1.200	0.094	3.720	0.398	0.027	1.080	0.101	3.960	0.420	0.034	1.320	0.101	3.960	0.438	0.027	1.080	0.113	4.440	0.460	0.021	0.840	0.122	4.800
	Final AC	0.350					0.368					0.387					0.411					0.438				
	Original AC	0.256					0.268					0.286					0.298					0.316				
4+00	OGFC	0.368	0.030	1.200	0.085	3.360	0.393	0.034	1.320	0.098	3.840	0.414	0.040	1.560	0.091	3.600	0.432	0.030	1.200	0.107	4.200	0.451	0.027	1.080	0.110	4.320
	Final AC	0.339					0.359					0.374					0.402					0.423				
	Original AC	0.252					0.262					0.283					0.295					0.313				
4+50	OGFC	0.344	0.027	1.080	0.091	3.600	0.388	0.037	1.440	0.101	3.960	0.390	0.037	1.440	0.101	3.960	0.408	0.030	1.200	0.116	4.560	0.429	0.030	1.200	0.110	4.320
	Final AC	0.316					0.332					0.353					0.377					0.399				
	Original AC	0.225					0.231					0.252					0.262					0.289				
5+00	OGFC	0.329	0.037	1.440	0.088	3.480	0.347	0.040	1.560	0.104	4.080	0.371	0.046	1.800	0.098	3.840	0.390	0.037	1.440	0.116	4.560	0.408	0.027	1.080	0.119	4.680
	Final AC	0.292					0.307					0.326					0.353					0.380				
	Original AC	0.204					0.204					0.228					0.237					0.262				
	AVG	0.028	1.091	0.093	3.645		0.029	1.156	0.104	4.102		0.032	1.265	0.102	4.015		0.028	1.036	0.116	4.582		0.024	0.927	0.119	4.691
	MAX	0.037	1.440	0.104	4.080		0.040	1.560	0.110	4.320		0.046	1.800	0.113	4.440		0.037	1.440	0.128	5.040		0.030	1.200	0.128	5.040
	MIN	0.021	0.840	0.085	3.360		0.021	0.840	0.098	3.840		0.024	0.960	0.091	3.600		0.012	0.480	0.107	4.200		0.018	0.720	0.110	4.320
	STD	0.005	0.195	0.006	0.225		0.005	0.200	0.004	0.152		0.006	0.237	0.006	0.225		0.006	0.236	0.007	0.260		0.004	0.183	0.007	0.282

New Mexico, SPS-5 (350503)

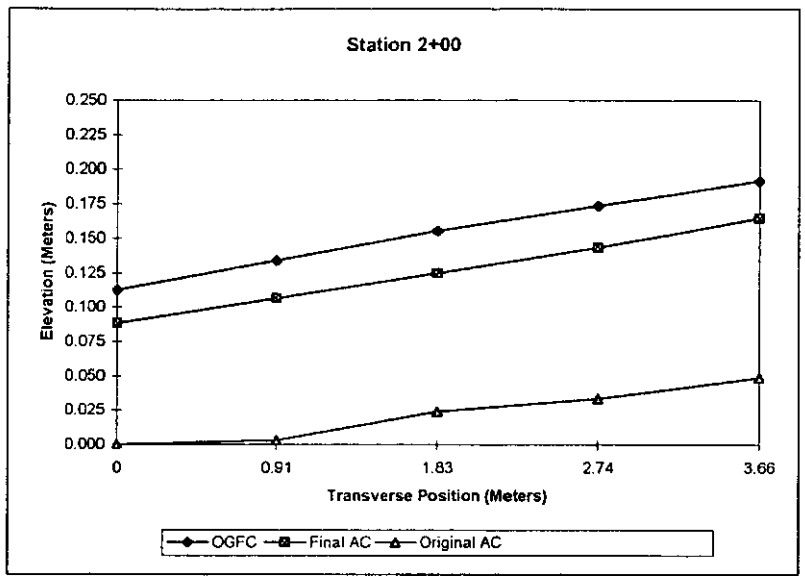


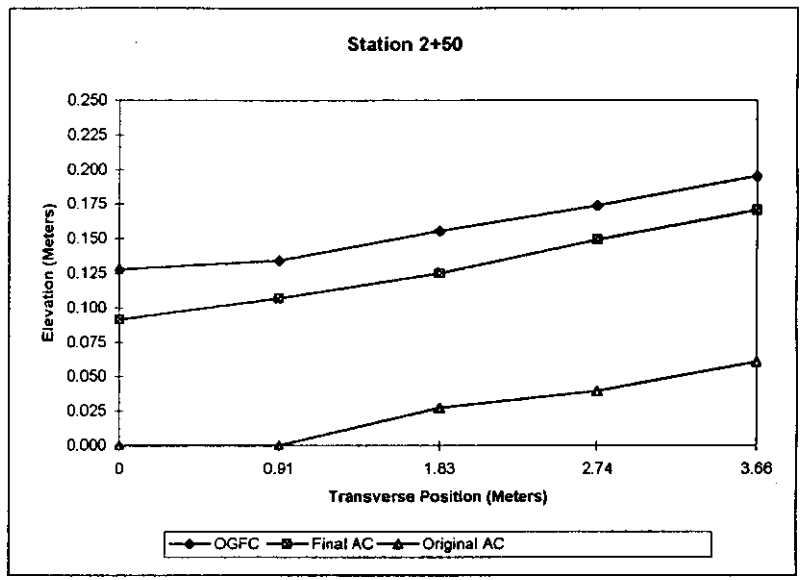


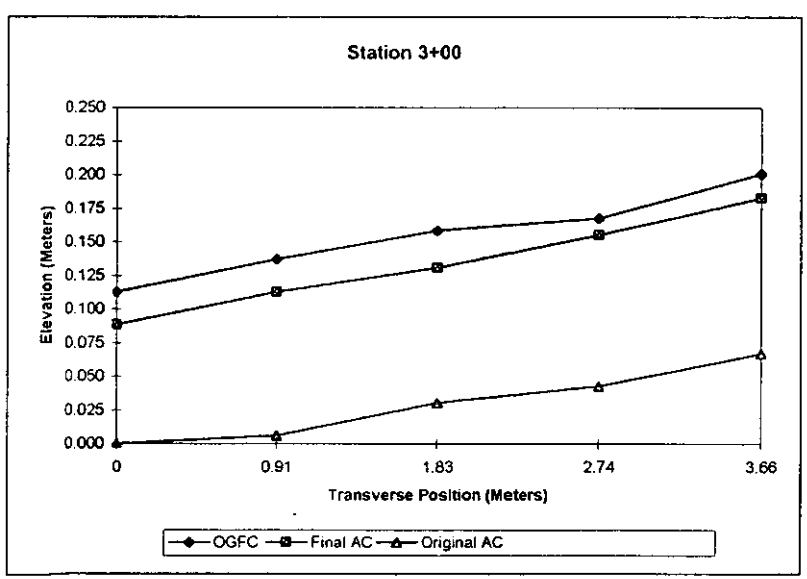


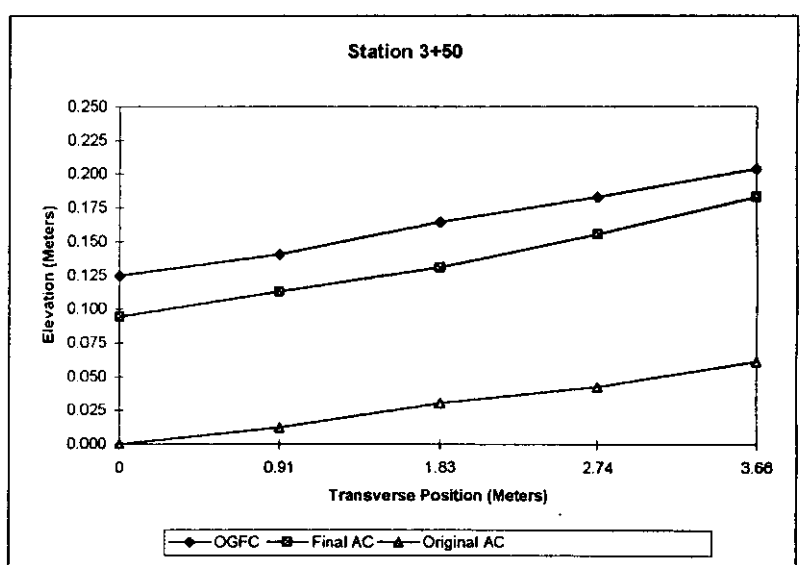


New Mexico, SPS-5 (350503)

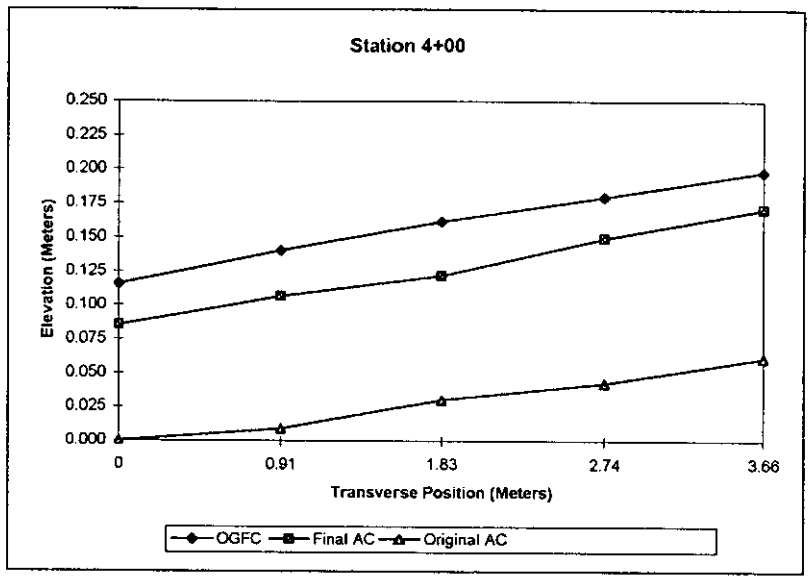


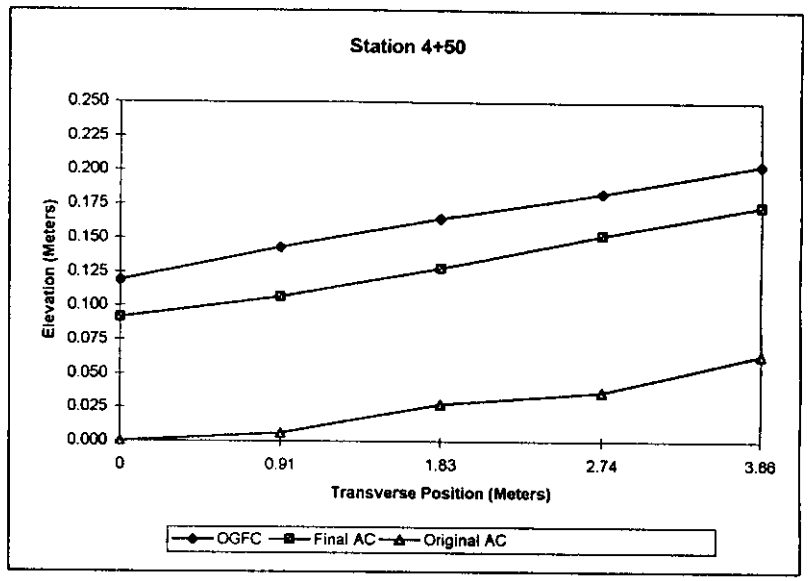


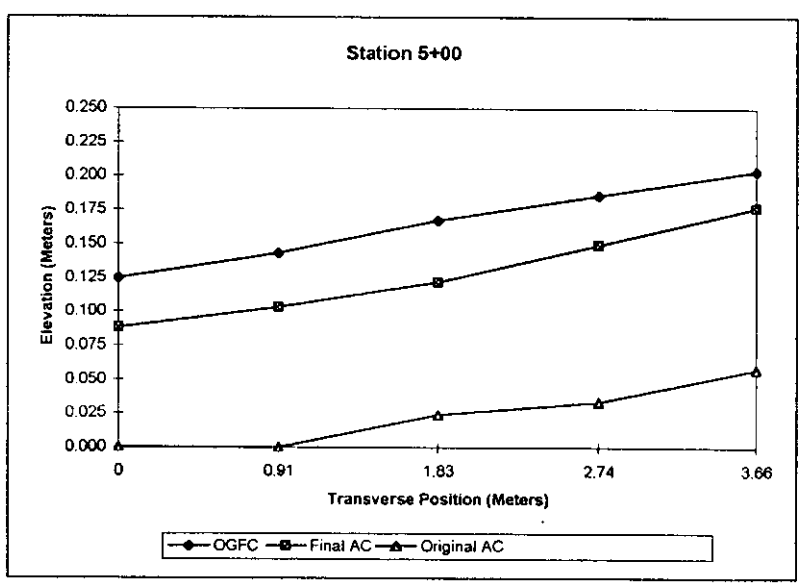




New Mexico, SPS-5 (350503)



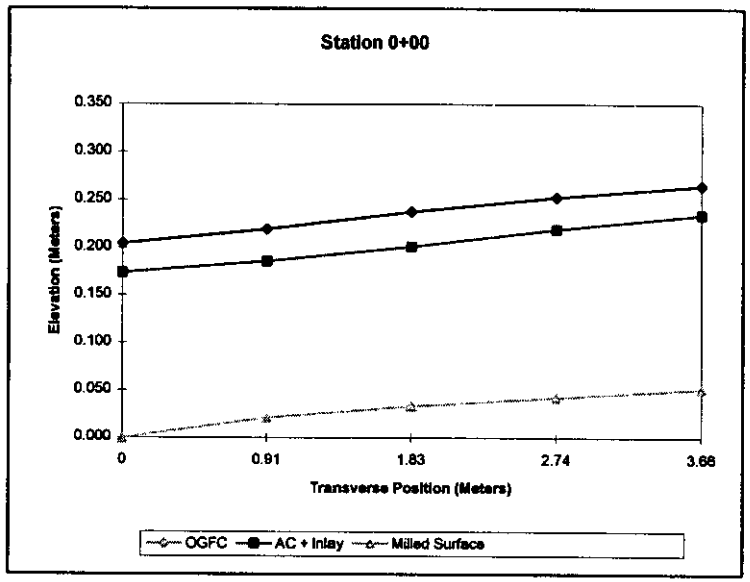


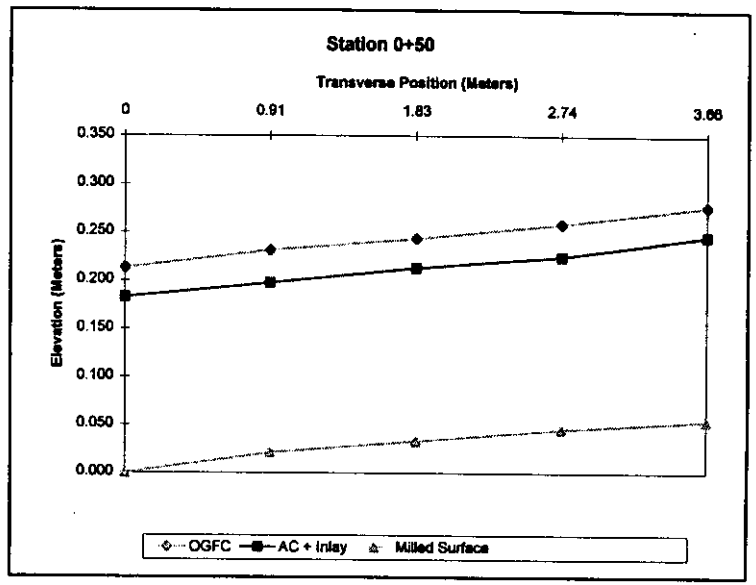


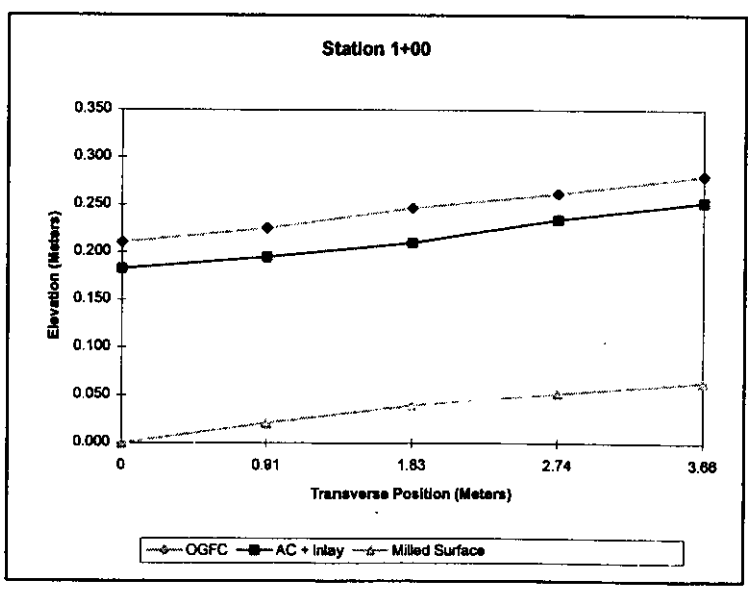
New Mexico, SPS-5 (350508)

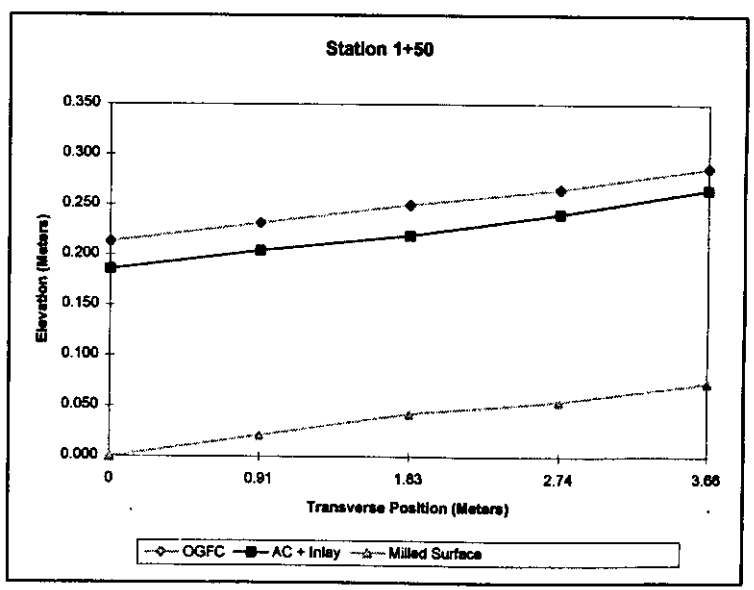
Transverse Offset 3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches
0+00 OGFC	0.516	0.030	1.200	0.174	6.840	0.530	0.034	1.320	0.165	6.480	0.548	0.037	1.440	0.168	6.600	0.563	0.034	1.320	0.177	6.960	0.576	0.030	1.200	0.183	7.200
AC + Inlay	0.484					0.496					0.512					0.530					0.545				
Milled Surface	0.311					0.332					0.344					0.353					0.362				
0+50 OGFC	0.509	0.030	1.200	0.183	7.200	0.527	0.034	1.320	0.177	6.960	0.539	0.030	1.200	0.180	7.080	0.554	0.034	1.320	0.180	7.080	0.573	0.030	1.200	0.192	7.560
AC + Inlay	0.478					0.493					0.509					0.521					0.542				
led Surface	0.295					0.317					0.329					0.341					0.350				
1+00 OGFC	0.487	0.027	1.080	0.183	7.200	0.503	0.030	1.200	0.174	6.840	0.524	0.037	1.440	0.171	6.720	0.539	0.027	1.080	0.183	7.200	0.557	0.027	1.080	0.189	7.440
AC + Inlay	0.460					0.472					0.487					0.512					0.530				
Milled Surface	0.277					0.298					0.317					0.329					0.341				
1+50 OGFC	0.478	0.027	1.080	0.186	7.320	0.496	0.027	1.080	0.183	7.200	0.515	0.030	1.200	0.177	6.960	0.530	0.024	0.960	0.186	7.320	0.551	0.021	0.840	0.192	7.560
AC + Inlay	0.451					0.469					0.484					0.506					0.530				
Milled Surface	0.265					0.286					0.307					0.320					0.338				
2+00 OGFC	0.463	0.018	0.720	0.189	7.440	0.481	0.024	0.960	0.177	6.960	0.499	0.027	1.080	0.174	6.840	0.515	0.021	0.840	0.183	7.200	0.533	0.018	0.720	0.192	7.560
AC + Inlay	0.445					0.457					0.472					0.493					0.516				
led Surface	0.256					0.280					0.298					0.311					0.323				
2+50 OGFC	0.439	0.012	0.480	0.195	7.680	0.457	0.024	0.960	0.189	7.440	0.469	0.021	0.840	0.183	7.200	0.487	0.021	0.840	0.189	7.440	0.506	0.018	0.720	0.192	7.560
AC + Inlay	0.426					0.432					0.448					0.466					0.487				
Milled Surface	0.231					0.243					0.255					0.277					0.295				
3+00 OGFC	0.417	0.015	0.600	0.186	7.320	0.432	0.018	0.720	0.186	7.320	0.451	0.021	0.840	0.183	7.200	0.466	0.015	0.600	0.192	7.560	0.481	0.012	0.480	0.198	7.800
AC + Inlay	0.402					0.414					0.429					0.451					0.469				
Milled Surface	0.216					0.228					0.247					0.259					0.271				
3+50 OGFC	0.408	0.009	0.360	0.195	7.680	0.423	0.015	0.600	0.195	7.680	0.439	0.018	0.720	0.189	7.440	0.454	0.015	0.600	0.195	7.680	0.469	0.009	0.360	0.198	7.800
AC + Inlay	0.399					0.408					0.420					0.439					0.460				
Milled Surface	0.204					0.213					0.231					0.243					0.262				
4+00 OGFC	0.393	0.009	0.360	0.192	7.560	0.408	0.015	0.600	0.186	7.320	0.420	0.018	0.720	0.183	7.200	0.432	0.012	0.480	0.192	7.560	0.445	0.006	0.240	0.201	7.920
AC + Inlay	0.384					0.393					0.402					0.420					0.439				
Milled Surface	0.192					0.207					0.219					0.228					0.237				
4+50 OGFC	0.359	0.006	0.240	0.192	7.560	0.375	0.015	0.600	0.177	6.960	0.387	0.012	0.480	0.183	7.200	0.399	0.006	0.240	0.192	7.560	0.414	0.006	0.240	0.201	7.920
AC + Inlay	0.353					0.359					0.375					0.393					0.408				
led Surface	0.161					0.182					0.192					0.201					0.207				
5+00 OGFC	0.347	0.000	0.000	0.210	8.280	0.359	0.006	0.240	0.216	8.520	0.375	0.012	0.480	0.210	8.280	0.387	0.012	0.480	0.207	8.160	0.402	0.006	0.240	0.216	8.520
AC + Inlay	0.347					0.353					0.362					0.375					0.396				
led Surface	0.137					0.137					0.152					0.167					0.179				
AVG		0.017	0.665	0.190	7.462		0.022	0.873	0.184	7.244		0.024	0.949	0.182	7.156		0.020	0.798	0.189	7.429		0.017	0.665	0.196	7.713
MAX		0.030	1.200	0.210	8.280		0.034	1.320	0.216	8.520		0.037	1.440	0.210	8.280		0.034	1.320	0.207	8.160		0.030	1.200	0.216	8.520
MIN		0.000	0.000	0.174	6.840		0.006	0.240	0.165	6.480		0.012	0.480	0.168	6.600		0.006	0.240	0.177	6.960		0.006	0.240	0.183	7.200
STD		0.010	0.401	0.009	0.350		0.008	0.332	0.013	0.510		0.008	0.329	0.011	0.426		0.009	0.337	0.008	0.317		0.009	0.363	0.008	0.328

New Mexico, SPS-5 (350508)

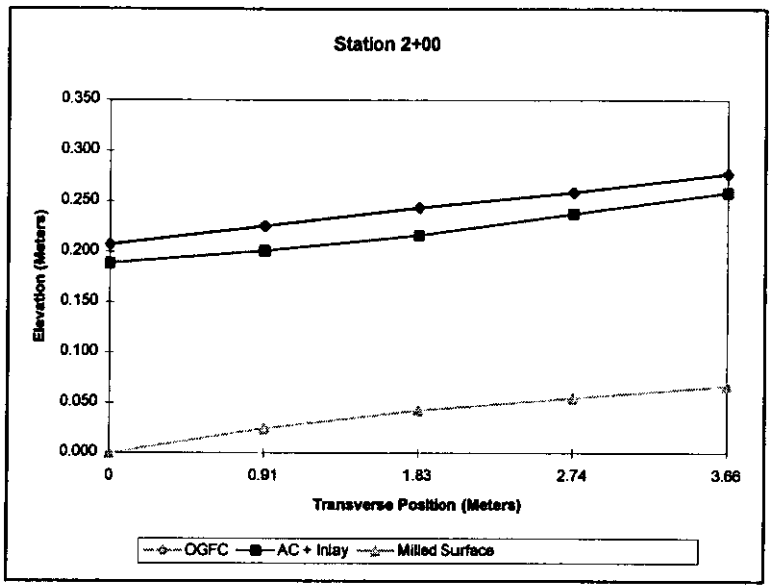


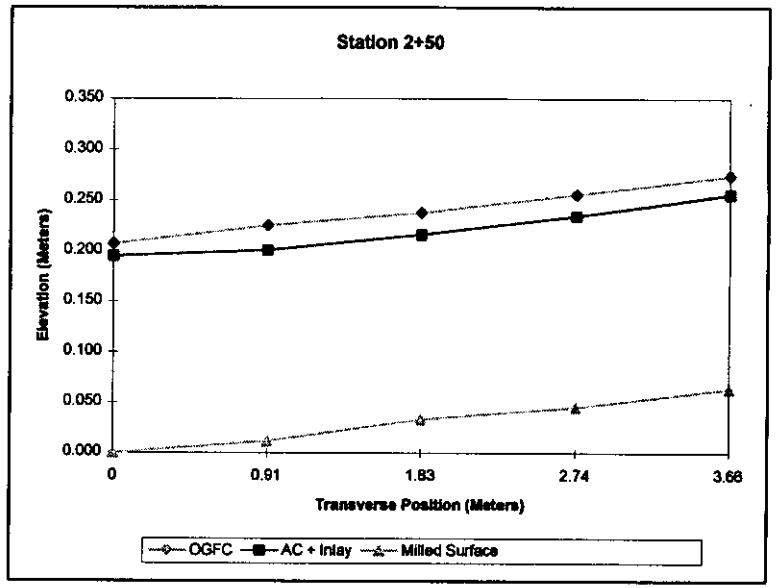


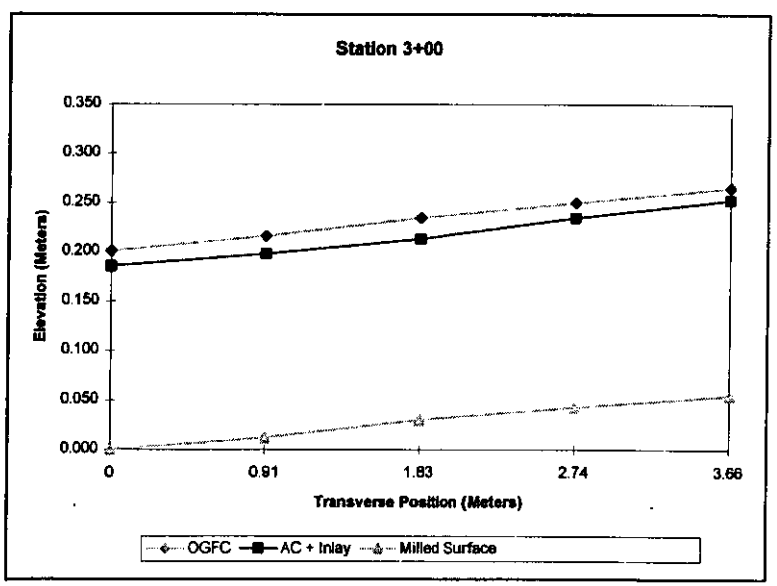


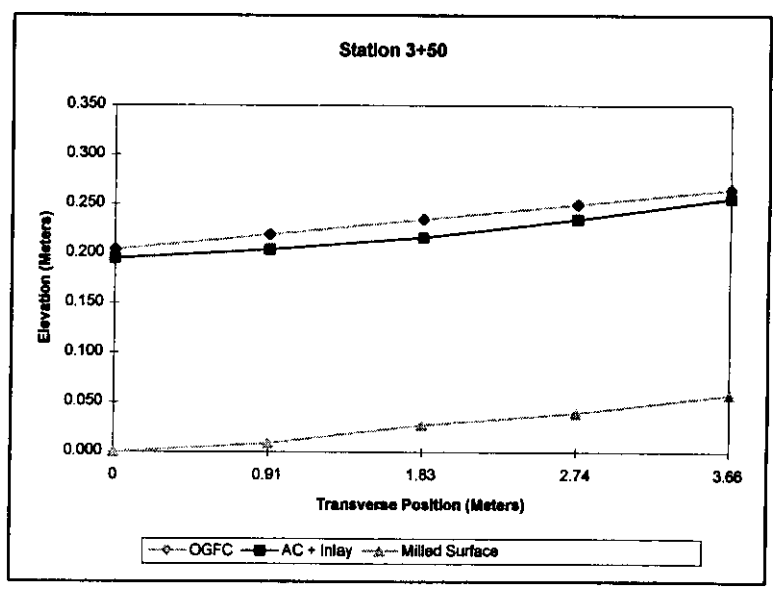


New Mexico, SPS-5 (350508)

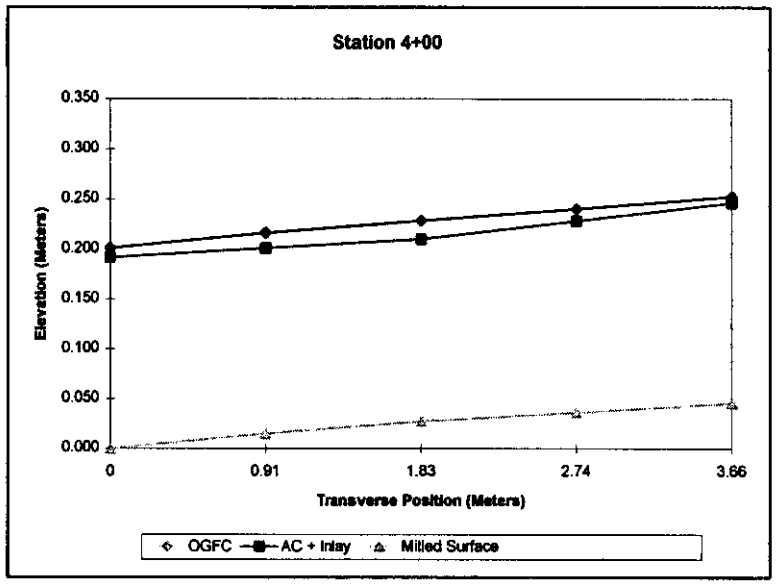


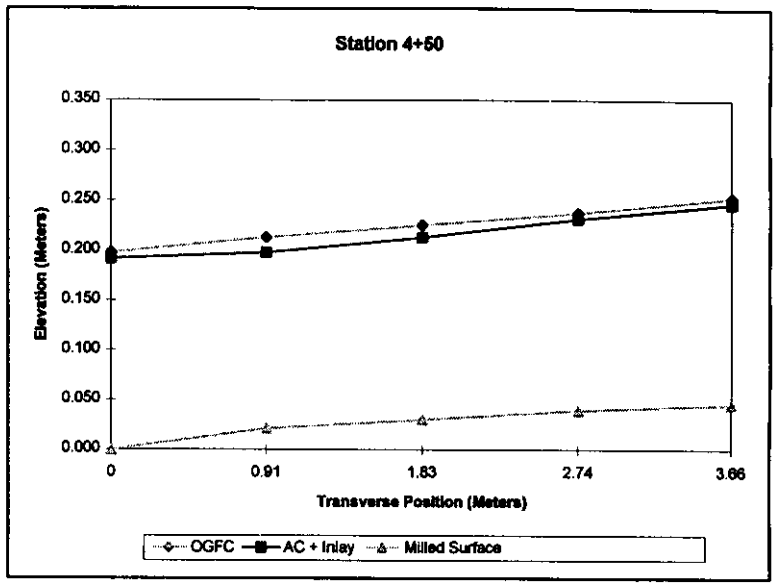


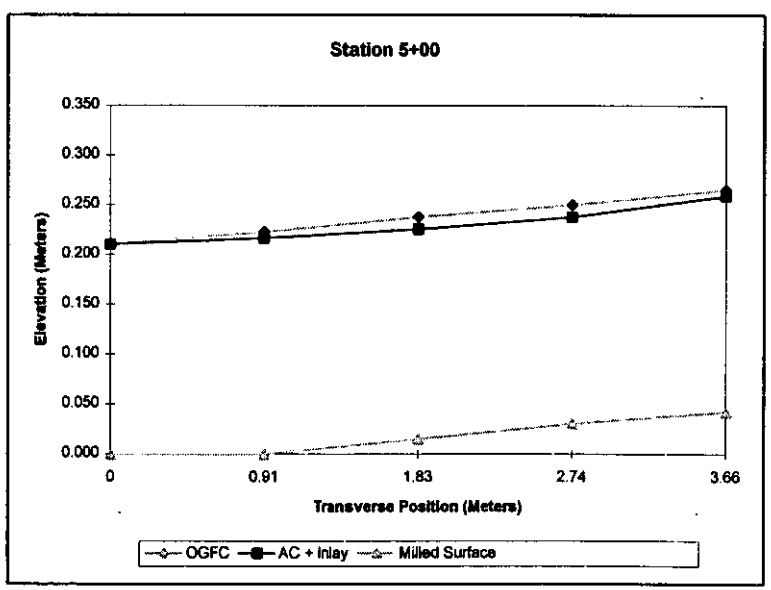




New Mexico, SPS-5 (350508)



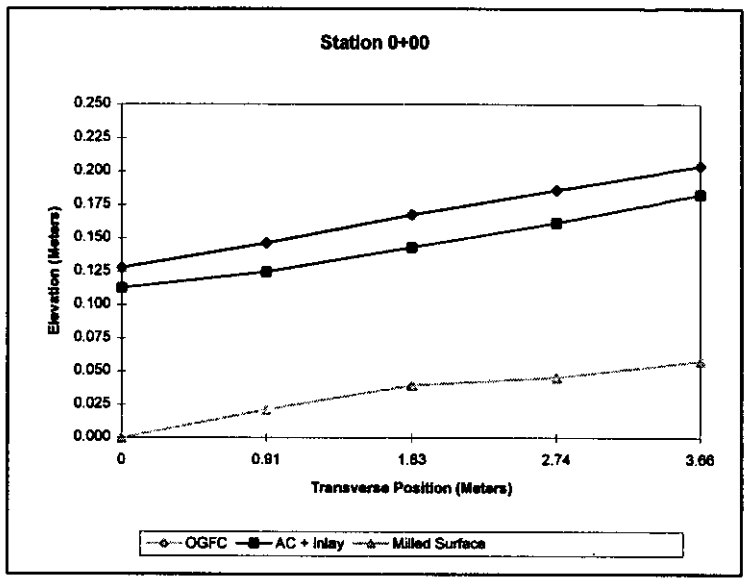


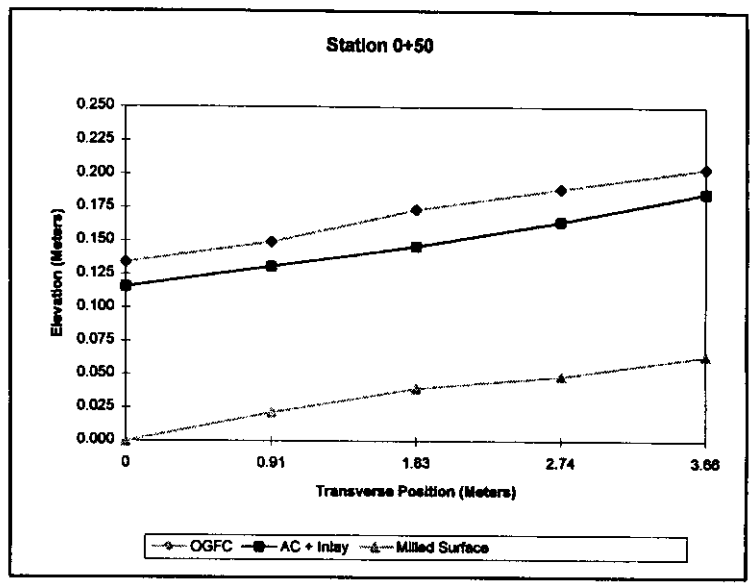


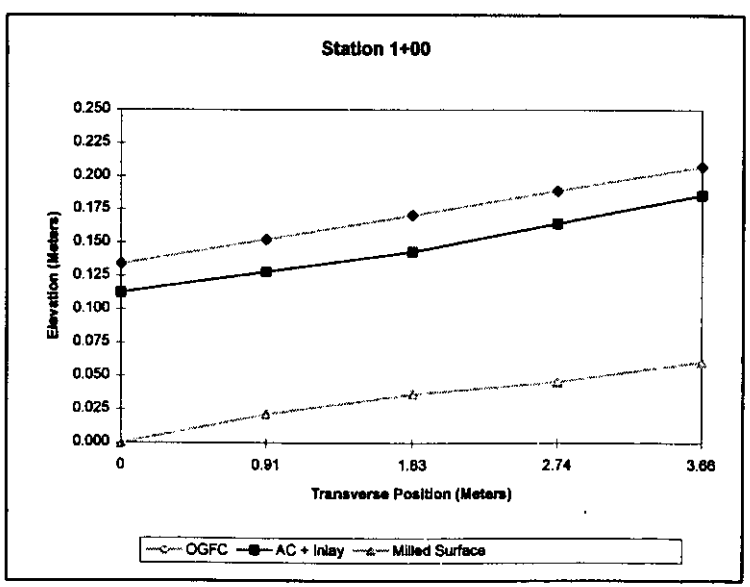
New Mexico, SPS-5 (350509)

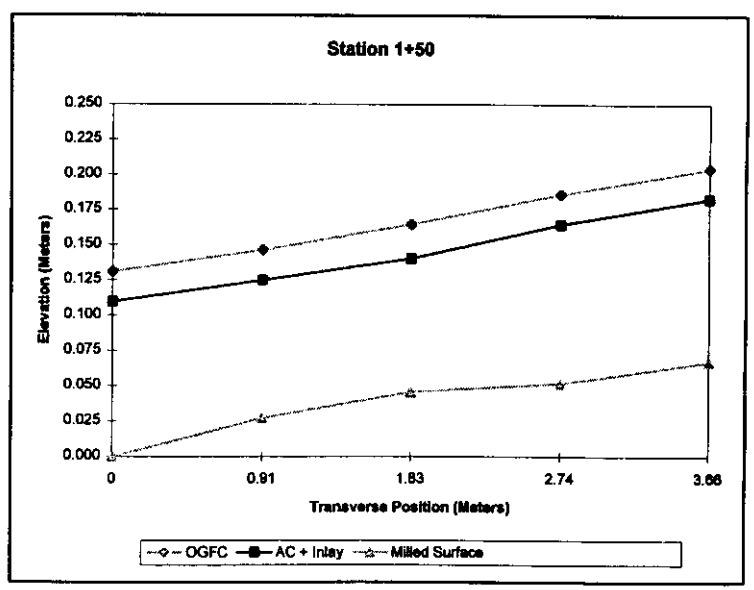
Transverse Offset 3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	AC + Inlay THICKNESS Meters	Inches
0+00 OGFC	0.322	0.016	0.800	0.113	4.440	0.341	0.021	0.840	0.104	4.080	0.362	0.024	0.960	0.104	4.080	0.380	0.024	0.960	0.116	4.560	0.398	0.021	0.840	0.125	4.920
AC + Inlay	0.307					0.319					0.337					0.356					0.377				
Milled Surface	0.194					0.216					0.234					0.240					0.252				
0+50 OGFC	0.319	0.018	0.720	0.116	4.560	0.334	0.018	0.720	0.110	4.320	0.359	0.027	1.080	0.107	4.200	0.374	0.024	0.960	0.116	4.560	0.389	0.018	0.720	0.122	4.800
AC + Inlay	0.301					0.316					0.331					0.350					0.371				
led Surface	0.186					0.206					0.225					0.234					0.249				
1+00 OGFC	0.301	0.021	0.840	0.113	4.440	0.319	0.024	0.960	0.107	4.200	0.337	0.027	1.080	0.107	4.200	0.356	0.024	0.960	0.119	4.680	0.374	0.021	0.840	0.125	4.920
AC + Inlay	0.280					0.295					0.310					0.331					0.353				
Milled Surface	0.167					0.188					0.203					0.213					0.228				
1+50 OGFC	0.283	0.021	0.840	0.110	4.320	0.298	0.021	0.840	0.098	3.840	0.316	0.024	0.960	0.094	3.720	0.337	0.021	0.840	0.113	4.440	0.356	0.021	0.840	0.116	4.560
AC + Inlay	0.261					0.277					0.292					0.316					0.334				
Milled Surface	0.152					0.179					0.197					0.203					0.219				
2+00 OGFC	0.295	0.021	0.840	0.104	4.080	0.316	0.030	1.200	0.091	3.600	0.334	0.034	1.320	0.091	3.600	0.350	0.027	1.080	0.110	4.320	0.366	0.021	0.840	0.113	4.440
AC + Inlay	0.273					0.286					0.301					0.322					0.344				
led Surface	0.170					0.194					0.209					0.213					0.231				
2+50 OGFC	0.322	0.030	1.200	0.104	4.080	0.337	0.034	1.320	0.098	3.840	0.353	0.037	1.440	0.101	3.960	0.368	0.030	1.200	0.110	4.320	0.383	0.030	1.200	0.116	4.560
AC + Inlay	0.292					0.304					0.316					0.337					0.353				
Milled Surface	0.188					0.206					0.216					0.228					0.237				
3+00 OGFC	0.325	0.030	1.200	0.113	4.440	0.341	0.040	1.560	0.110	4.320	0.353	0.040	1.560	0.110	4.320	0.365	0.037	1.440	0.116	4.560	0.374	0.030	1.200	0.122	4.800
AC + Inlay	0.295					0.301					0.313					0.326					0.344				
Milled Surface	0.182					0.191					0.203					0.213					0.222				
3+50 OGFC	0.292	0.034	1.320	0.104	4.080	0.304	0.034	1.320	0.101	3.960	0.322	0.037	1.440	0.104	4.080	0.337	0.034	1.320	0.113	4.440	0.353	0.034	1.320	0.119	4.680
AC + Inlay	0.258					0.270					0.286					0.304					0.319				
Milled Surface	0.155					0.170					0.182					0.191					0.200				
4+00 OGFC	0.255	0.021	0.840	0.091	3.600	0.273	0.030	1.200	0.082	3.240	0.289	0.030	1.200	0.088	3.480	0.307	0.030	1.200	0.101	3.960	0.322	0.027	1.080	0.116	4.560
AC + Inlay	0.234					0.243					0.258					0.277					0.295				
Milled Surface	0.142					0.161					0.170					0.176					0.179				
4+50 OGFC	0.219	0.034	1.320	0.082	3.240	0.237	0.040	1.560	0.067	2.640	0.255	0.030	1.200	0.085	3.360	0.273	0.027	1.080	0.104	4.080	0.295	0.034	1.320	0.116	4.560
AC + Inlay	0.185					0.197					0.225					0.246					0.261				
led Surface	0.103					0.130					0.139					0.142					0.145				
5+00 OGFC	0.188	0.024	0.960	0.094	3.720	0.206	0.027	1.080	0.085	3.360	0.228	0.027	1.080	0.091	3.600	0.246	0.018	0.720	0.110	4.320	0.267	0.015	0.600	0.128	5.040
AC + Inlay	0.164					0.179					0.200					0.226					0.252				
led Surface	0.069					0.094					0.109					0.118					0.124				
	AVG	0.025	0.971	0.104	4.091		0.029	1.145	0.096	3.764		0.031	1.211	0.098	3.873		0.027	1.069	0.111	4.385		0.025	0.982	0.120	4.713
	MAX	0.034	1.320	0.116	4.560		0.040	1.560	0.110	4.320		0.040	1.560	0.110	4.320		0.037	1.440	0.119	4.680		0.034	1.320	0.128	5.040
	MIN	0.015	0.600	0.082	3.240		0.018	0.720	0.067	2.640		0.024	0.960	0.085	3.360		0.018	0.720	0.101	3.960		0.015	0.600	0.113	4.440
	STD	0.006	0.237	0.010	0.399		0.007	0.273	0.013	0.494		0.005	0.195	0.008	0.316		0.005	0.201	0.005	0.207		0.006	0.239	0.005	0.185

New Mexico, SPS-5 (350509)

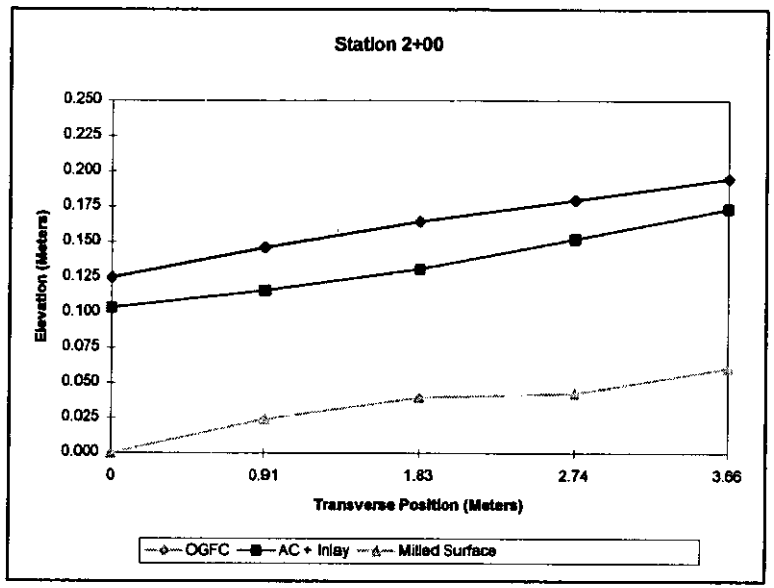


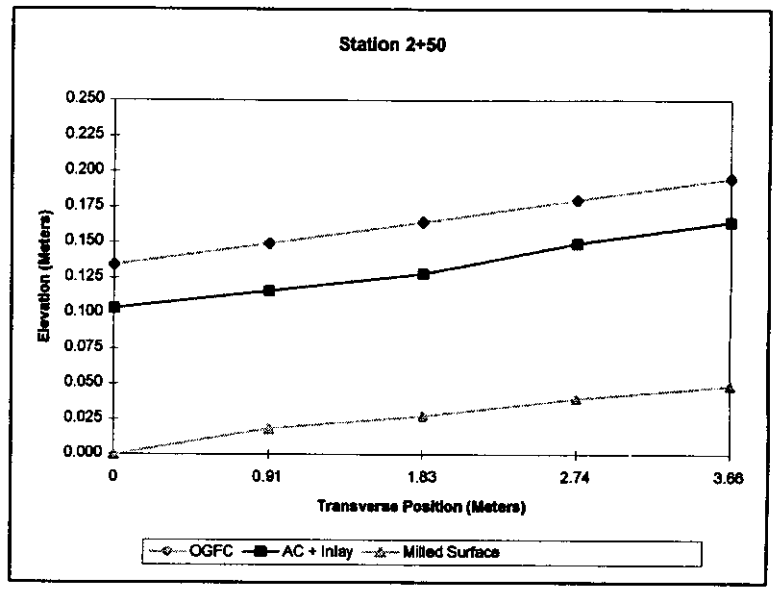


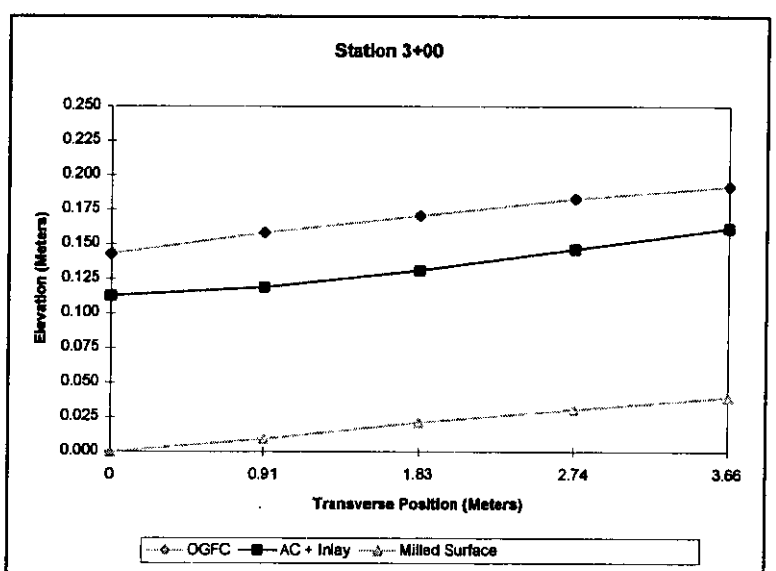


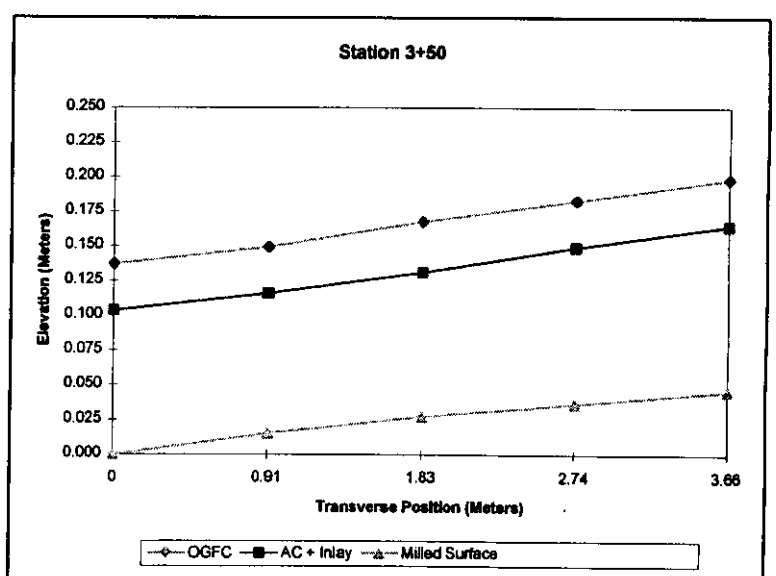


New Mexico, SPS-5 (350509)









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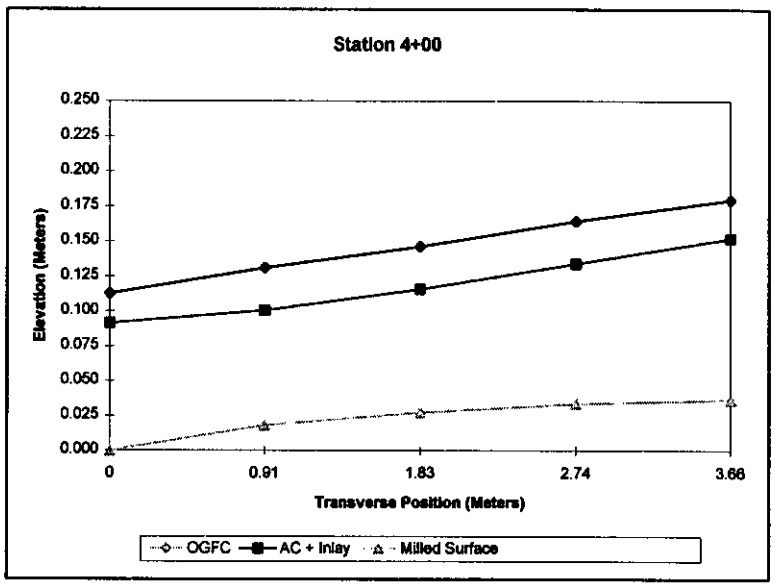
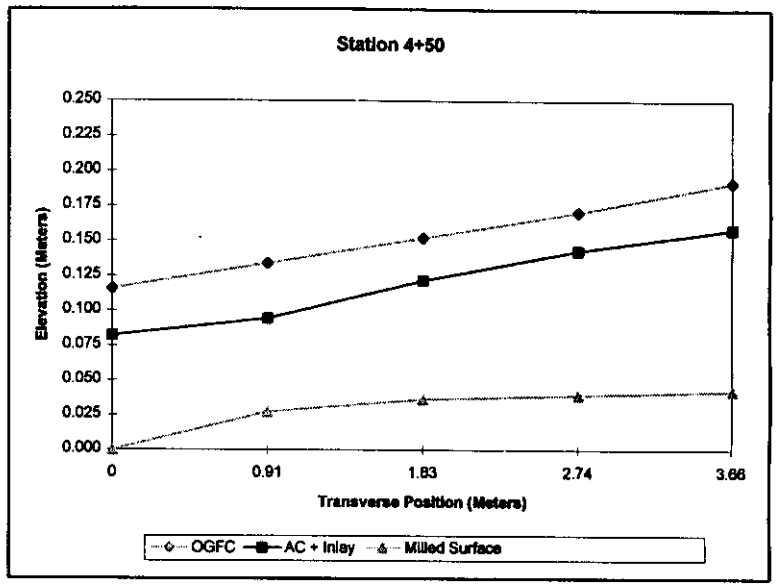
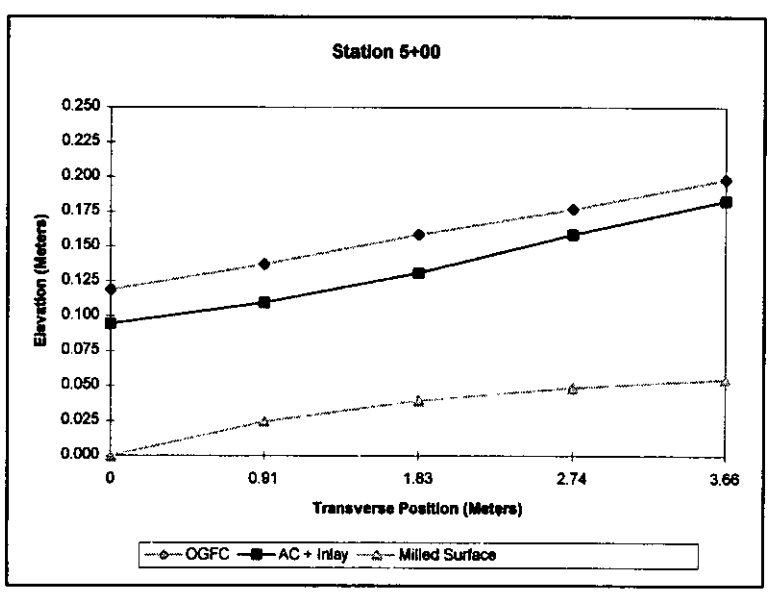


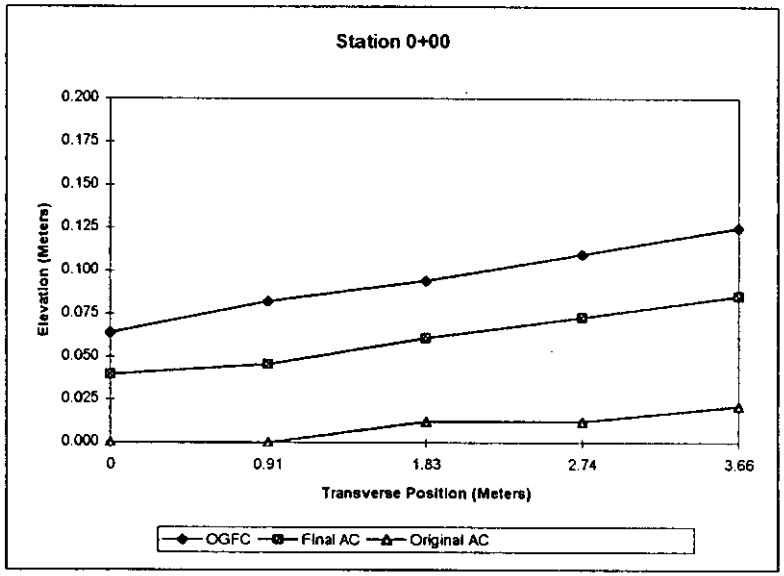


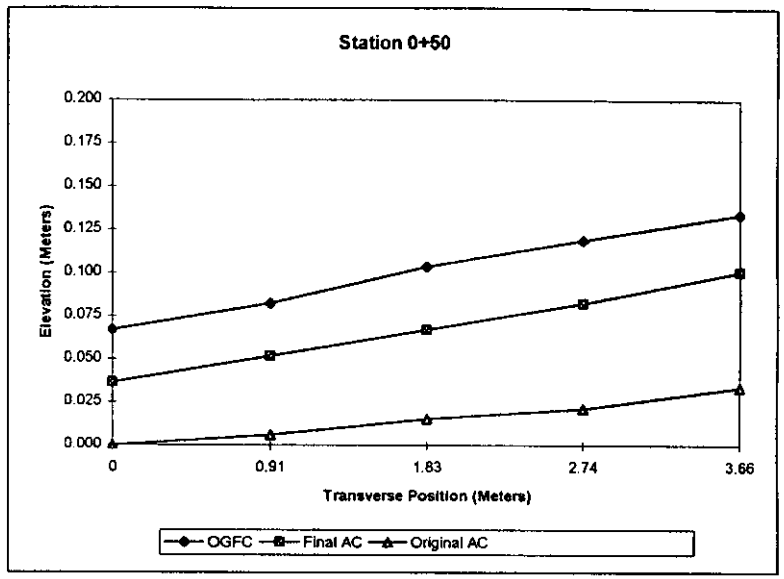


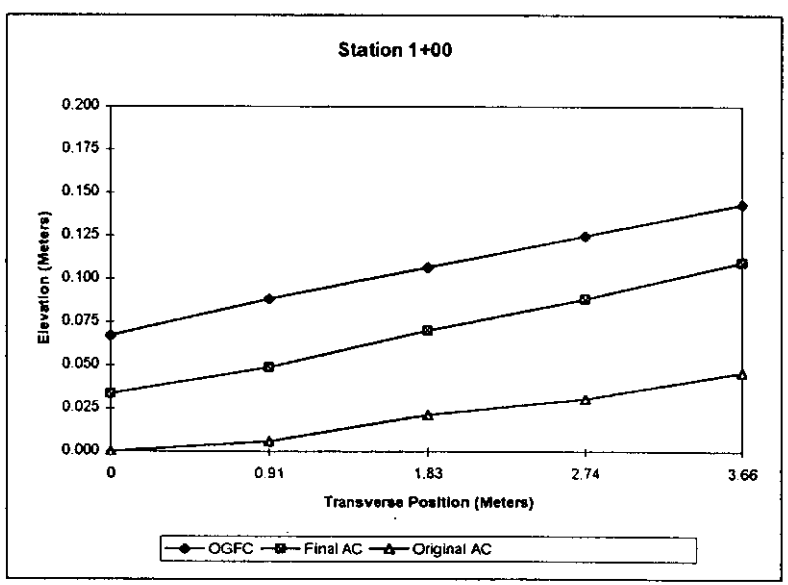
New Mexico, SPS-5 (350502)

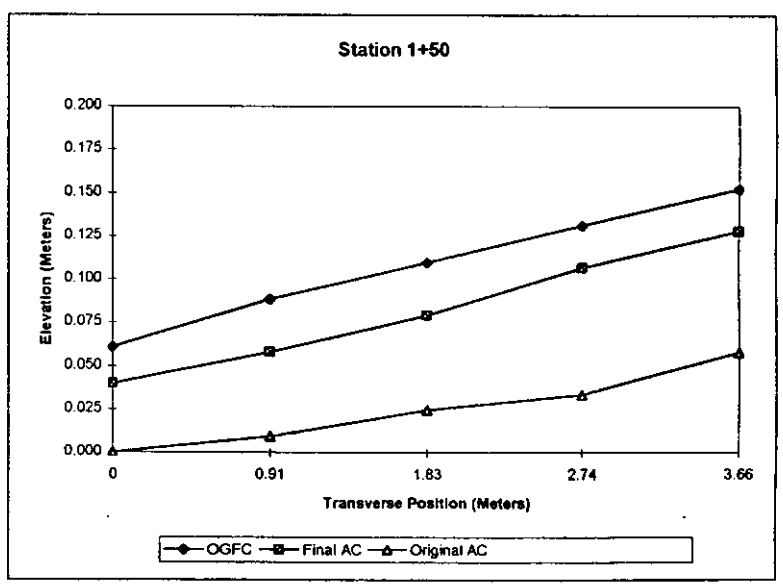
Transverse Offset	3 LAYERS	ELEVATION 0 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 0.91 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 1.83 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 2.74 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches	ELEVATION 3.66 Meters	OGFC THICKNESS Meters	Inches	Final AC THICKNESS Meters	Inches
0+00	OGFC	0.557	0.024	0.960	0.040	1.560	0.575	0.037	1.440	0.046	1.800	0.588	0.034	1.320	0.049	1.920	0.603	0.037	1.440	0.061	2.400	0.618	0.040	1.560	0.064	2.520
	Final AC	0.533					0.539					0.554					0.566					0.578				
	Original AC	0.493					0.493					0.505					0.505					0.514				
0+50	OGFC	0.517	0.030	1.200	0.037	1.440	0.533	0.030	1.200	0.046	1.800	0.554	0.037	1.440	0.052	2.040	0.569	0.037	1.440	0.061	2.400	0.585	0.034	1.320	0.067	2.640
	Final AC	0.487					0.502					0.517					0.533					0.551				
	Original AC	0.450					0.458					0.466					0.472					0.484				
1+00	OGFC	0.472	0.034	1.320	0.034	1.320	0.493	0.040	1.560	0.043	1.680	0.511	0.037	1.440	0.049	1.920	0.530	0.037	1.440	0.058	2.280	0.548	0.034	1.320	0.064	2.520
	Final AC	0.438					0.453					0.475					0.493					0.514				
	Original AC	0.405					0.411					0.426					0.435					0.450				
1+50	OGFC	0.432	0.021	0.840	0.040	1.560	0.460	0.030	1.200	0.049	1.920	0.481	0.030	1.200	0.055	2.160	0.502	0.024	0.960	0.073	2.880	0.524	0.024	0.960	0.070	2.760
	Final AC	0.411					0.429					0.450					0.478					0.499				
	Original AC	0.371					0.380					0.396					0.405					0.429				
2+00	OGFC	0.402	0.018	0.720	0.040	1.560	0.426	0.024	0.960	0.049	1.920	0.447	0.027	1.080	0.049	1.920	0.469	0.018	0.720	0.070	2.760	0.493	0.024	0.960	0.067	2.640
	Final AC	0.383					0.402					0.420					0.450					0.469				
	Original AC	0.344					0.353					0.371					0.380					0.402				
2+50	OGFC	0.362	0.018	0.720	0.037	1.440	0.386	0.021	0.840	0.058	2.280	0.411	0.024	0.960	0.052	2.040	0.432	0.018	0.720	0.079	3.120	0.453	0.018	0.720	0.070	2.760
	Final AC	0.344					0.365					0.386					0.414					0.435				
	Original AC	0.307					0.307					0.335					0.335					0.365				
3+00	OGFC	0.313	0.015	0.600	0.037	1.440	0.338	0.021	0.840	0.055	2.160	0.362	0.024	0.960	0.046	1.800	0.386	0.021	0.840	0.064	2.520	0.408	0.012	0.480	0.073	2.880
	Final AC	0.298					0.316					0.339					0.365					0.396				
	Original AC	0.261					0.261					0.292					0.301					0.322				
3+50	OGFC	0.258	0.009	0.360	0.040	1.560	0.283	0.015	0.600	0.049	1.920	0.304	0.015	0.600	0.052	2.040	0.328	0.015	0.600	0.067	2.640	0.350	0.015	0.600	0.067	2.640
	Final AC	0.249					0.268					0.289					0.313					0.335				
	Original AC	0.210					0.219					0.237					0.248					0.268				
4+00	OGFC	0.219	0.015	0.600	0.046	1.800	0.240	0.018	0.720	0.055	2.160	0.268	0.024	0.960	0.058	2.280	0.286	0.018	0.720	0.070	2.760	0.310	0.018	0.720	0.073	2.880
	Final AC	0.204					0.222					0.243					0.268					0.292				
	Original AC	0.158					0.167					0.185					0.197					0.219				
4+50	OGFC	0.182	0.012	0.480	0.049	1.920	0.204	0.018	0.720	0.055	2.160	0.222	0.018	0.720	0.061	2.400	0.240	0.018	0.720	0.073	2.880	0.258	0.018	0.720	0.073	2.880
	Final AC	0.170					0.185					0.204					0.222					0.240				
	Original AC	0.121					0.130					0.143					0.149					0.167				
5+00	OGFC	0.124	0.012	0.480	0.055	2.160	0.143	0.015	0.600	0.064	2.520	0.164	0.021	0.840	0.058	2.280	0.179	0.018	0.720	0.076	3.000	0.197	0.018	0.720	0.064	2.520
	Final AC	0.112					0.127					0.143					0.161					0.179				
	Original AC	0.057					0.063					0.085					0.085					0.115				
	AVG	0.019	0.753	0.041	1.615		0.025	0.971	0.052	2.029		0.027	1.047	0.053	2.073		0.024	0.938	0.068	2.695		0.023	0.918	0.068	2.695
	MAX	0.034	1.320	0.055	2.160		0.040	1.560	0.064	2.520		0.037	1.440	0.061	2.400		0.037	1.440	0.079	3.120		0.040	1.560	0.073	2.880
	MIN	0.009	0.360	0.034	1.320		0.015	0.600	0.043	1.680		0.015	0.600	0.046	1.800		0.015	0.600	0.058	2.280		0.012	0.480	0.064	2.520
	STD	0.007	0.290	0.006	0.237		0.008	0.317	0.006	0.237		0.007	0.266	0.005	0.178		0.008	0.319	0.007	0.259		0.008	0.329	0.004	0.158

New Mexico, SPS-5 (350502)

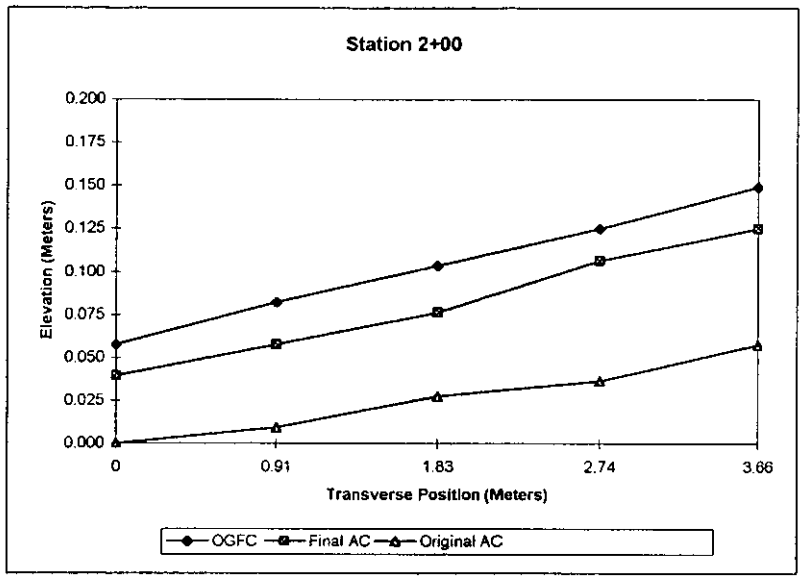


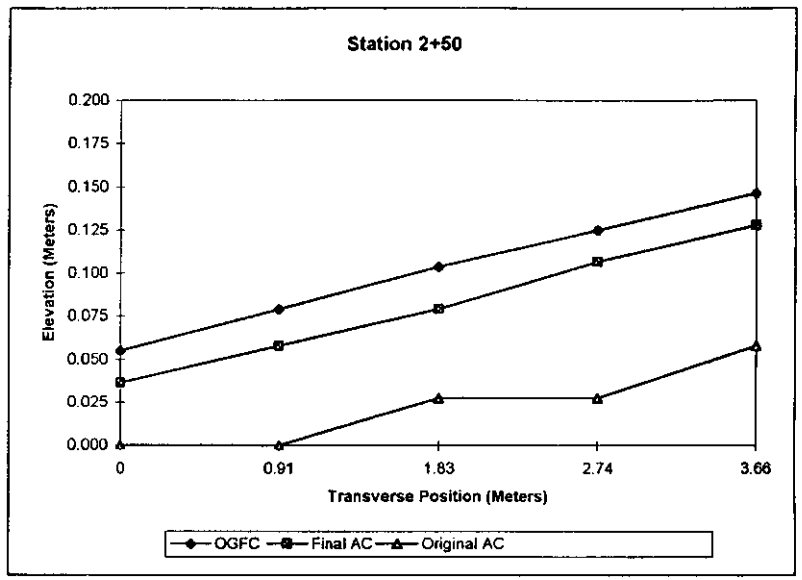


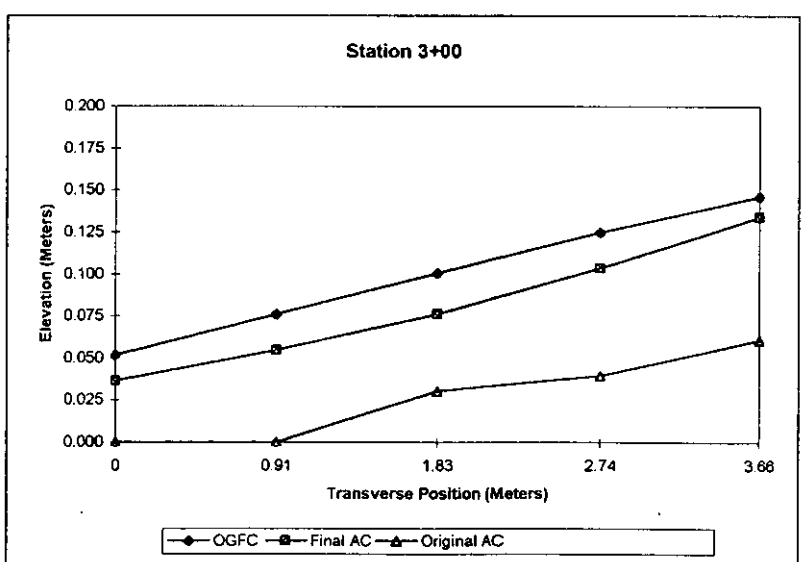


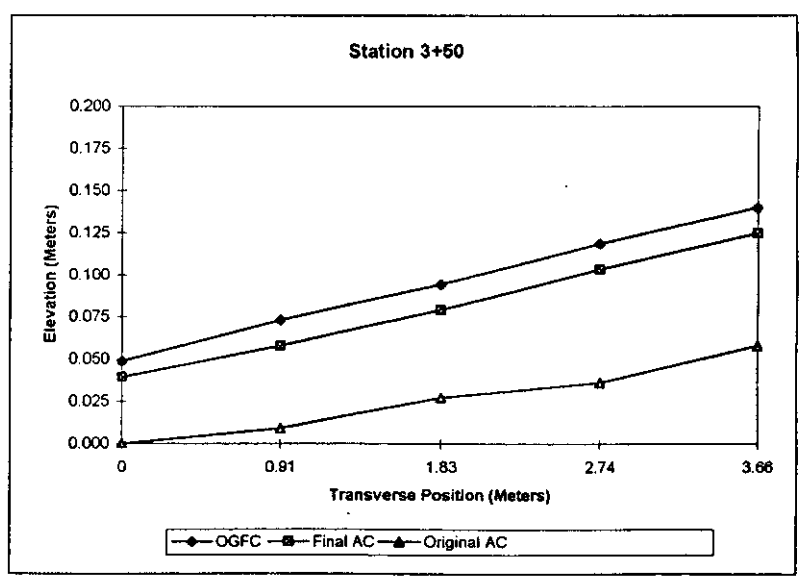


New Mexico, SPS-5 (350502)

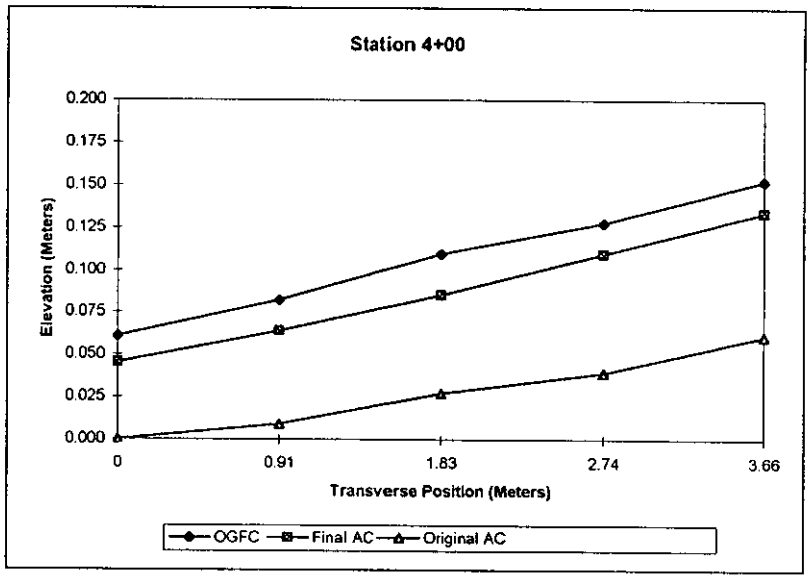


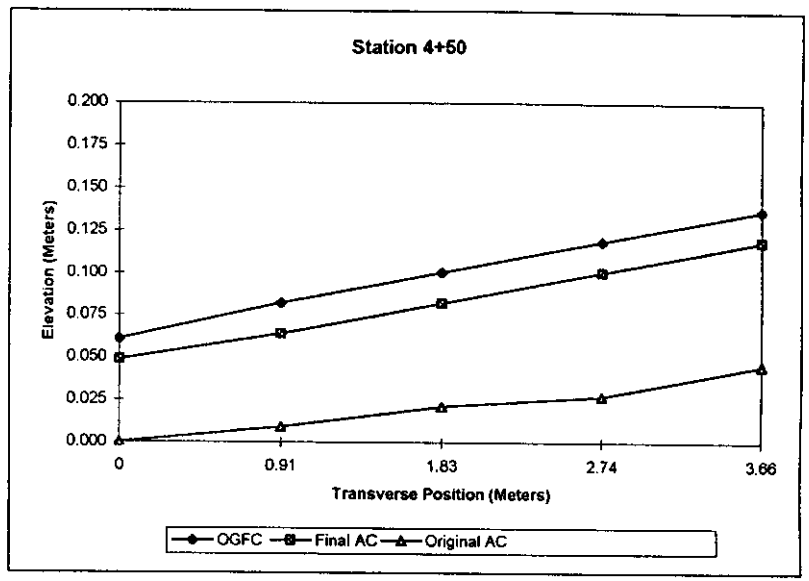


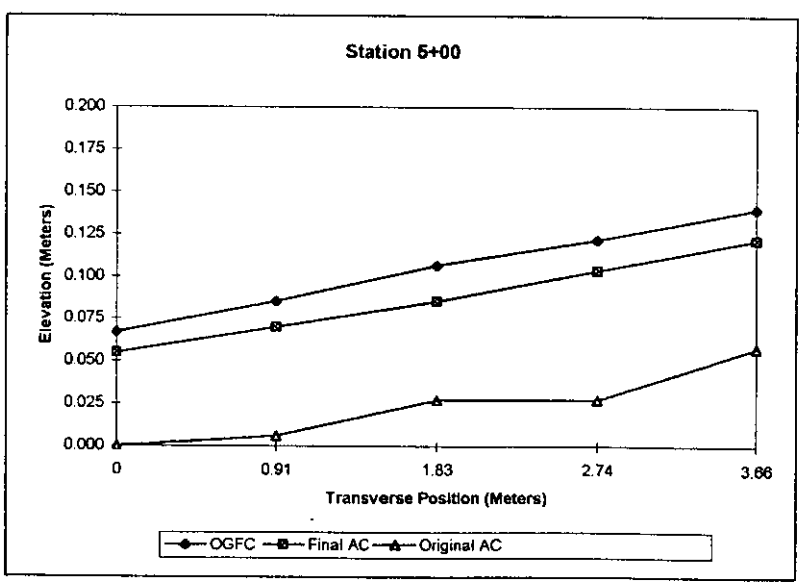




New Mexico, SPS-5 (350502)







APPENDIX F

PHOTOGRAPHS

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1	Milled Surface, Section 350507	F.2
2	Preconstruction Coring of Bulk Samples, 12″ Cores	F.2
3	Preconstruction Coring, 4″ Cores	F.3
4	Drill Rig	F.3
5	Subgrade Shelby Tube Sampling	F.4
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7	Rut Level-up, Section 350501	F.5
8	Paving Equipment	F.5
9	Steel-Wheel Roller	F.6
10	Pneumatic Roller	F.6
11	Steel-Wheel Vibratory Roller	F.7
12	Postconstruction Coring	F.7
13	Project Sign	F.8
14	Typical Section Sign	F.8
15	Typical Section Markings with Blue Reflector	F.9
16	Section 350509 With Rest Area Entrance Ramp, Station 2+00 to 4+00	F.9

Photo 1. Milled Surface, Section 350507

Photo 2. Preconstruction Coring of Bulk Samples, 12″ Cores

Photo 3. Preconstruction Coring, 4″ Cores

Photo 4. Drill Rig

Photo 5. Subgrade Shelby Tube Sampling

Photo 6. Preconstruction Sampling

Photo 7. Rut Level-up, Section 350501

Photo 8. Paving Equipment

Photo 9. Steel-Wheel Roller

Photo 10. Pneumatic Roller

Photo 11. Steel-Wheel Vibratory Roller

Photo 12. Postconstruction Coring

Photo 13. Project Sign

Photo 14. Typical Section Sign

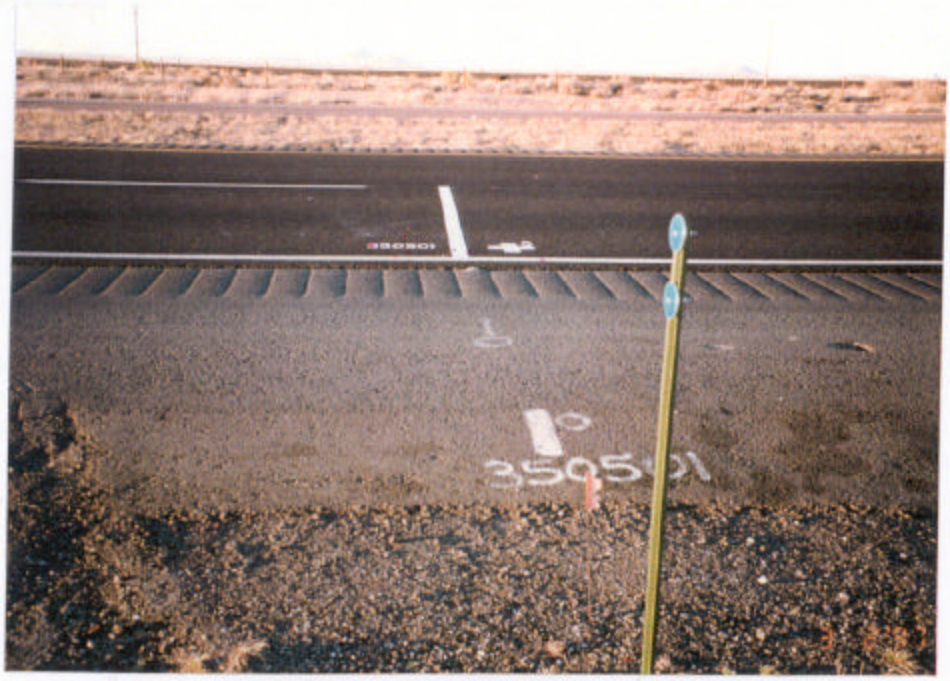

Photo 15. Typical Section Markings with Blue Reflector

Photo 16. Section 350509 With Rest Area Entrance Ramp, Station 2+00 to 4+00