MS
SPS-6

Brent Rauhut Engineering Inc.

31 October 1997

Mr Alfred B Crawley
Research & Development Engineer
Mississippi Department of Transportation
P O Box 1850
Jackson, Mississippi 39215-1850

Subject Mississippi SPS-6 (280600) Materials Sampling and Testing Plan, October 1997

Dear Al,

Enclosed is the plan for the materials sampling and testing activities for the Mississippi SPS-6 project, located in the eastbound lanes of US-78 in Marshall County, Mississippi 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-6 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
Co-Principal Investigator, SRCO

MPG dmj

Enclosure As stated

c w/Enc Monte Symons, FHWA/LTPP-PPD
Zane Dunnam, SRCO

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MATERIAL SAMPLING
AND
FIELD TESTING PLAN

MISSISSIPPI SPS-6 PROJECT 280600
US-78, EASTBOUND
MARSHALL COUNTY, MISSISSIPPI

PREPARED BY:

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OCTOBER 1997

MATERIAL SAMPLING AND FIELD TESTING PLAN
MISSISSIPPI SPS-6 PROJECT (280600)
US-78, EASTBOUND
MARSHALL COUNTY, MISSISSIPPI

INTRODUCTION

As part of their participation in the Federal Highway Administration (FHWA) Long Term Pavement Performance (LTPP) studies, the Mississippi Department of Transportation (Mississippi DOT) has elected to construct an SPS-6 project to study the rehabilitation of rigid pavements This project will consist of multiple test sections with similar details and materials along US-78, in the eastbound lane, between the Byhalia and Victoria interchanges It is the intent of this document to provide a plan for the materials sampling and field testing, and a listing of the laboratory materials testing that will occur as a part of this project

This document has been prepared in accordance with the guidelines provided by the Strategic Highway Research Program in Operational Memorandum Nº SHRP-LTPP-OM-019, entitled "Specific Pavement Studies Materials Sampling and Testing Requirements for Experiment SPS-6, Rehabilitation of Jointed Portland Cement Concrete Pavements, January 1991" 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-6 study is to evaluate rehabilitation methods that can be used to restore the condition and extend the service life of jointed portland cement concrete pavements The pavement type and condition, environment, traffic, intended pavement preparation, and use of asphalt concrete overlay are primary considerations in selecting an appropriate rehabilitation method The standard SPS-6 experiment layout includes eight 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 jointed portland cement concrete pavements

This sampling and testing plan was developed by Brent Rauhut Engineering Inc , the Southern Region Coordination Office (SRCO), under contract to the FHWA 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 Mississippi DOT, who may refer them to the SRCO

This document has been prepared in three distinct parts

A General Layout Information

B Materials Sampling and Testing

C Laboratory Materials Testing

The General Layout section provides tables and figures of the layout showing the eight 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-6 project in terms of the location of the test sections along the roadway Table A-1 lists the test sections in order by 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 232+00 to the end of the last section at Station 346+00 This table indicates transition areas between sections and the variation of pavement layer materials within these transitions

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

The referenced project stationing was provided by the Mississippi DOT 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 Nº.	Cross Section	Begin Station	End Station
280608	Existing JPCP	232+00	238+00
	Crack and Seat		
	8″ AC Overlay		
280607	Existing JPCP	242+00	248+00
	Crack and Seat		
	4″ AC Overlay		
280606	Existing JPCP	248+00	254+00
	Max Restoration (CPR)		
	4″ AC Overlay		
280602	Existing JPCP	258+00	269+00
	Min Restoration		
	No Overlay		
280601	Existing JPCP	271+50	277+50
	Routine Maintenance		
	No Overlay		
280605	Existing JPCP	301+50	312+50
	Max Restoration (CPR)		
	No Overlay		
280603	Existing JPCP	329+00	335+00
	Min Restoration		
	4″ AC Overlay		
280604	Existing JPCP	340+00	346+00
	Min Restoration		
	4″ AC Overlay w/Saw Joints		

TABLE A-2. ORDERING OF SECTIONS ALONG CENTERLINE STATIONING

Section ID	Begin Sta.	End Sta.	Treatment/Overlay Thickness			
			Restoration	Crack/ Break & Seat	(1) AC Surface (in)	Retrofitted Edgedrains
280608	232+00	238+00	Min	Yes	8(3)	Yes
Transition	238+00	242+00	Min	Yes	8-4	Yes
280607	242+00	248+00	Min	Yes	4(3)	Yes
Transition	248+00	248+00	Min -Max.	Yes-No	4	Yes
280606	248+00	254+00	Max.	No	4	Yes
Transition	254+00	258+00	Max -Min	No	4-0	Yes-No
280602	258+00	269+00	Min	No	0	No
Transition	269+00	271+50	Min -Routine	No	0	No
280601	271+50	277+50	Routine	No	0	No
Transition	277+50	301+50	Routine-Max	No	0	No-Yes
280605	301+50	312+50	Max.	No	0	Yes
Transition	312+50	329+00	Max -Min	No	0-4	Yes-No
280603	329+00	335+00	Min.	No	4	No
Transition	335+00	340+00	Min.	No	4	No
280604	340+00	346+00	Min	No	4(2)	No

Notes
1 Combined binder and wearing course thickness
2 Saw AC overlay joints above JCP joints and seal
3 Crack and seat JCP before overlay

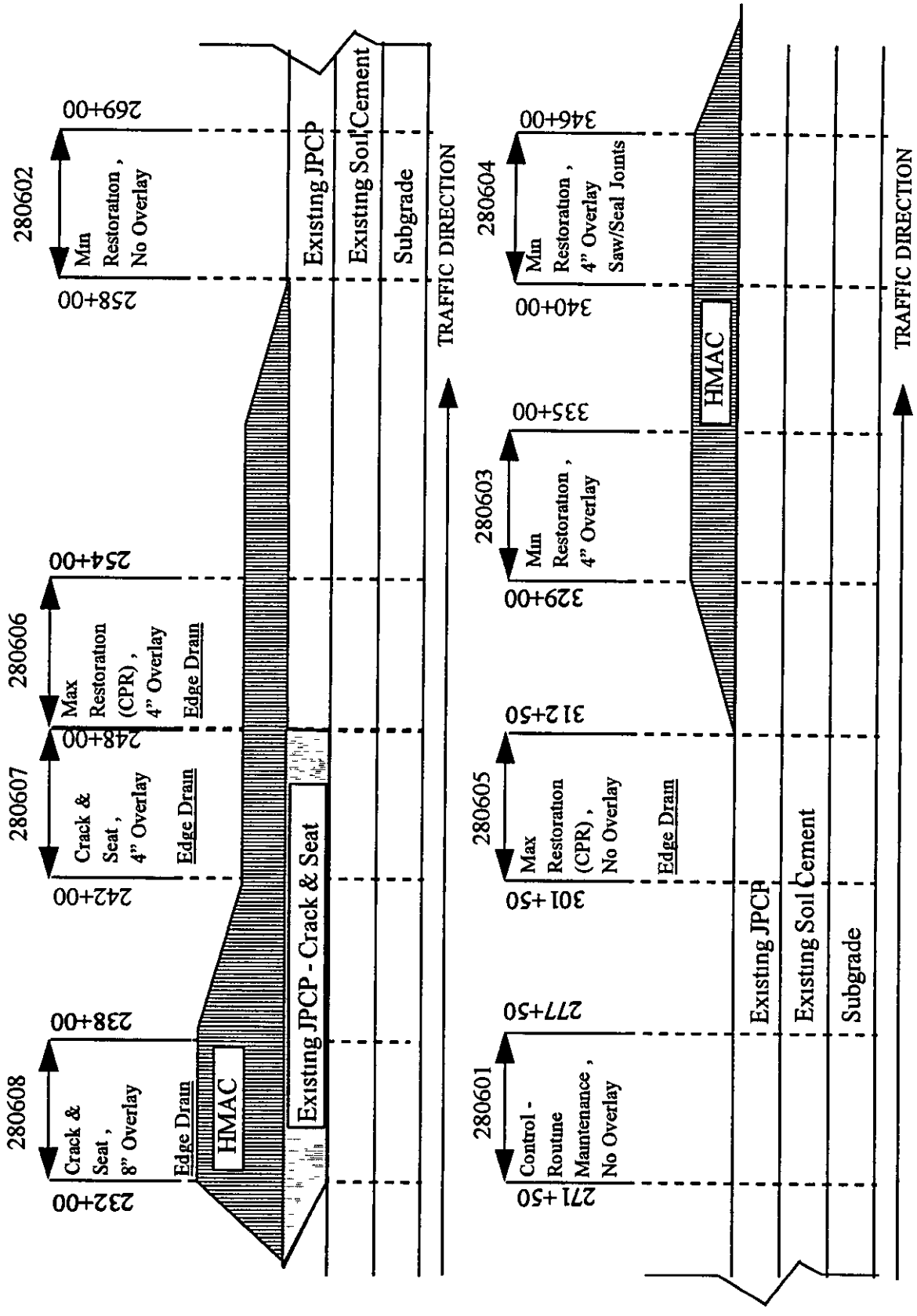


FIGURE A-1. LAYOUT OF TEST SECTIONS MISSISSIPPI SPS-6 PROJECT (280600)

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 scope of the material sampling and testing activities Table B-2 describes special sampling needs for the Materials Reference Library (MRL) and provides contact information to coordinate sample shipping arrangements

Figures B-1 through B-10 show the locations and numbering scheme for the many samples and tests scheduled Figures B-1 and B-2 show the sampling and testing to occur for preconstruction and postconstruction, respectively, while Figures B-3 through B-10 show all sampling scheduled for each test section

Finally, Tables B-3 and B-4 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, Braun Intertec, Minneapolis, Minnesota, should be coordinated through the Southern Region Coordination Office

TABLE B-1. SCOPE OF MATERIAL SAMPLING AND FIELD TESTING

Material and Sample Description	Nº. of Samples	Sample Type Designation
PRE-CONSTRUCTION SAMPLING		
1 PCC (Original Layer)		
Coring - 102 mm (4 in) diameter cores	20	C1-C20
Coring - 152 mm (6 in) diameter cores	3	A1-A3
2 Bound Base (Soil Cement)		
Coring - 102 mm (4 in) diameter cores	3	C5, C11, C19
Coring - 152 mm (6 in) diameter cores	3	A1-A3
3 Subgrade		
Thin-walled Tube Sampling (2 tubes per hole)	6	A1-A3
Bulk Sampling in 152 mm (6 in) diameter holes	3	A1-A3
Bulk Sampling in Test Pits (91 kg/sample)	2	TP1-TP2
In Situ Density & Moisture Content (Nuclear Gauge)	2	TP1-TP2
Moisture Content Samples	5	TP1-TP2, A1-A3
4 Shoulder Auger Probes	3	S1-S3
POST-CONSTRUCTION SAMPLING		
1 Asphaltic Concrete (Overlay)		
Coring - 102 mm (4 in) diameter cores	20	C21-C40
Bulk Samples from Plant (200 lb ea)		
HMAC Base Mix*	3*	BV1-BV3
HMAC Binder Mix	3	BV4-BV6
HMAC Surface Mix	3	BV7-BV9

* **Note:** Where binder mix is substituted for base mix, the sampling for base mix will not be required

TABLE B-2. MATERIAL SAMPLING FOR THE MATERIALS REFERENCE LIBRARY (MRL)

Material and Sample Description[2]	Nº. of Samples	Vol. of Each Sample	Sample Location
Asphalt Cement[1]			
Surface Mix	3	19 l (5 gal)	Plant
Binder Mix	3	19 l (5 gal)	Plant
Base Mix	3	19 l (5 gal)	Plant
Combined Graded Coarse & Fine Aggregate[1]			
Surface Mix	1	209 l (55 gal)	Plant
Binder Mix	1	209 l (55 gal)	Plant
Base Mix	1	209 l (55 gal)	Plant
Finished HMAC Mix (Uncompacted)			
Surface Mix	3	19 l (5 gal)	Paver
Binder Mix	3	19 l (5 gal)	Paver
Base Mix	3	19 l (5 gal)	Paver

Notes:

1 Where identical material types are used for different layers, it is not necessary to duplicate sampling For example, if only one grade of asphalt cement is used for all three layers, then only three 19 l (5 gal) samples are needed

2 Only those materials for the standard SPS-6 experiment sections will be sampled and stored at the MRL

3 Containers for this sampling will be provided by the LTPP **Materials Reference Library (MRL). Shipping of the sample containers and samples to the MRL will be paid for by the 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 Allan Coldani
Materials Reference Library
Nichols Consulting Engineers, Chtd
1885 So Arlington, Suite 111
Reno, Nevada 89509
(702) 329-4955, FAX (702) 329-5098

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

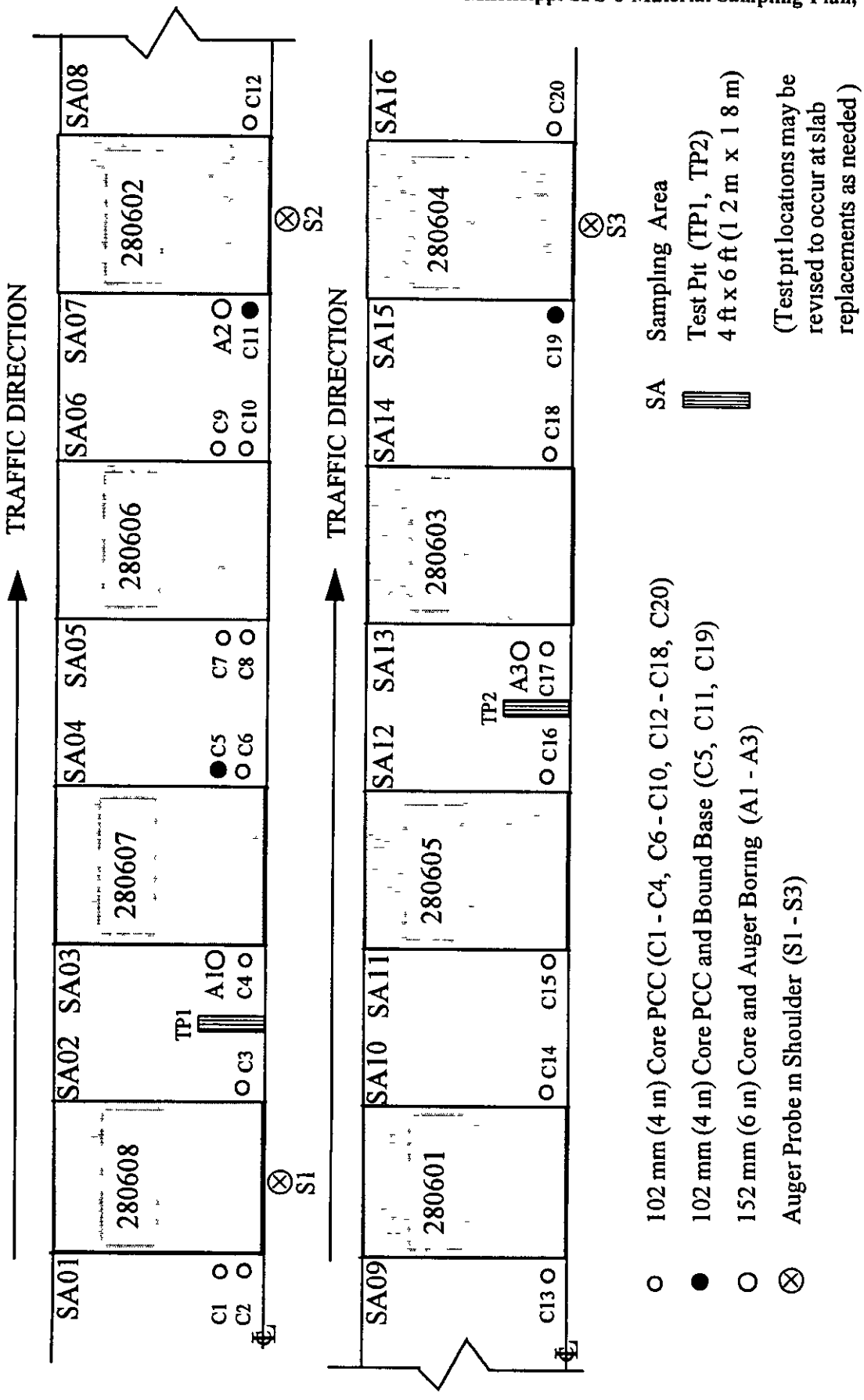
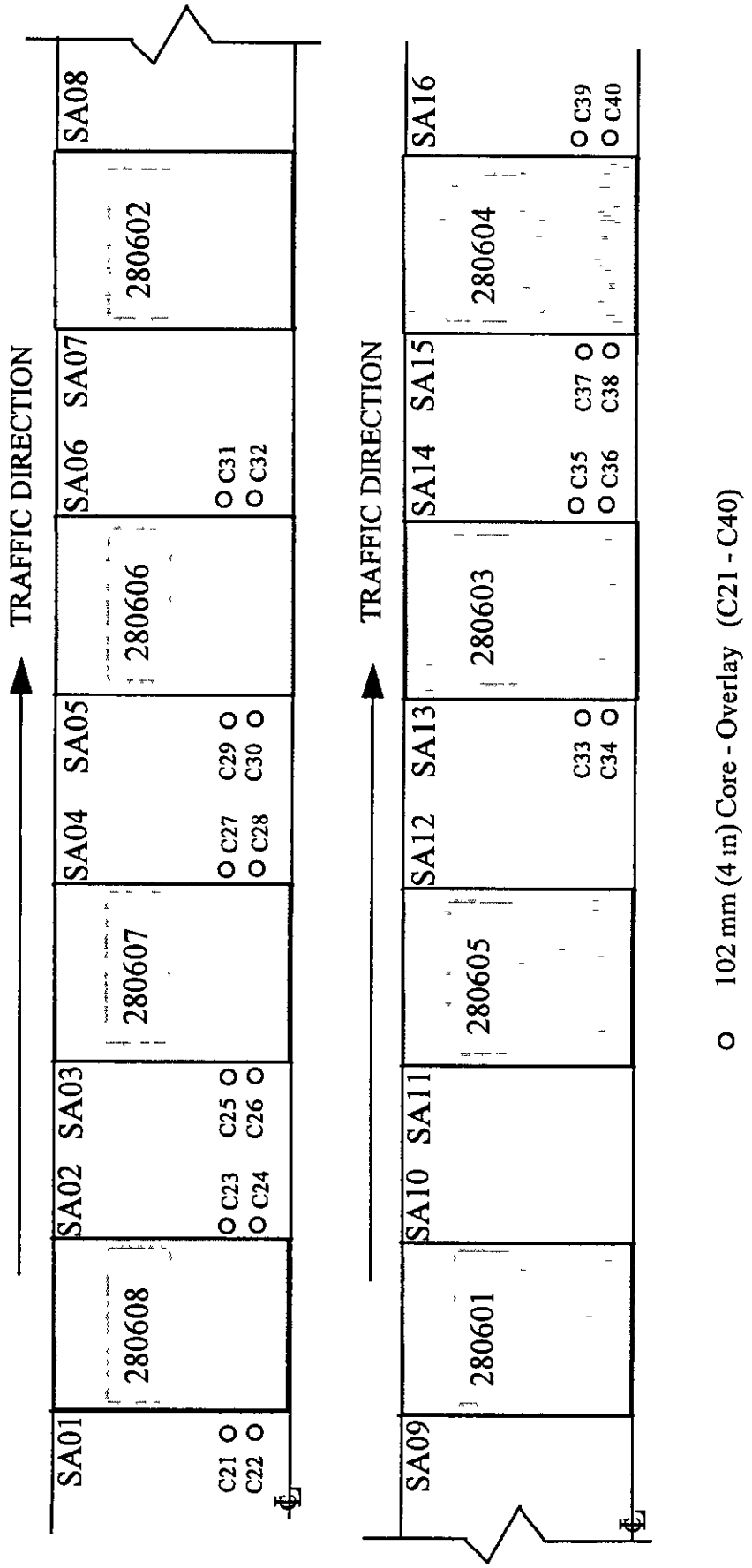


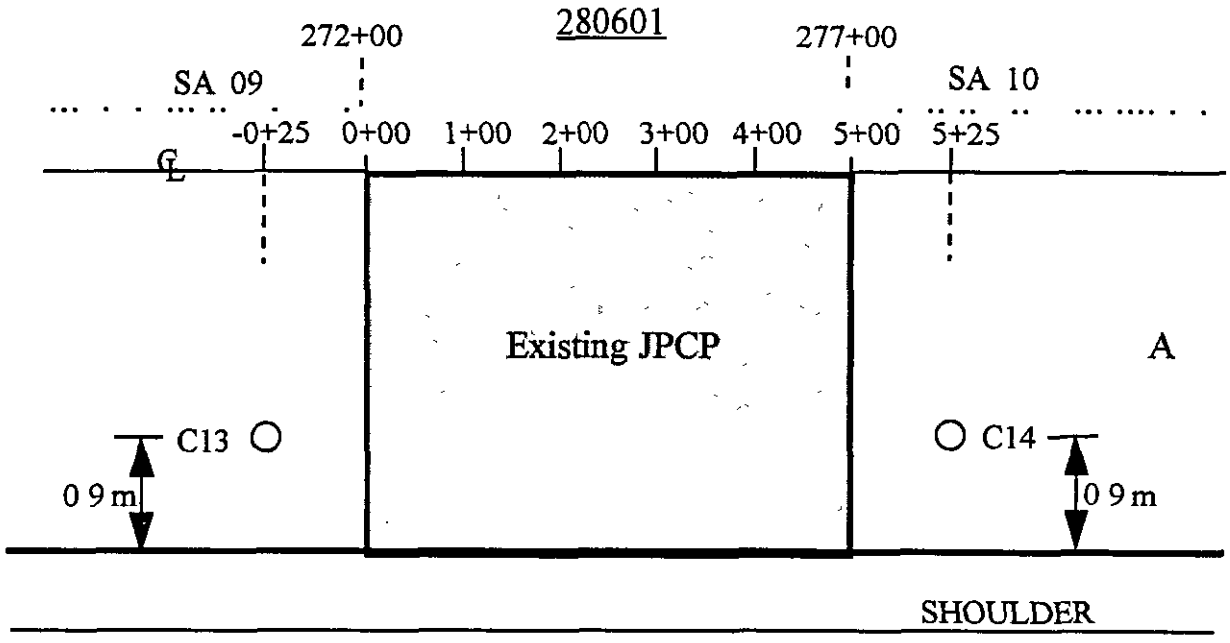
FIGURE B-1. PRECONSTRUCTION SAMPLING MISSISSIPPI SPS-6 PROJECT (280600)

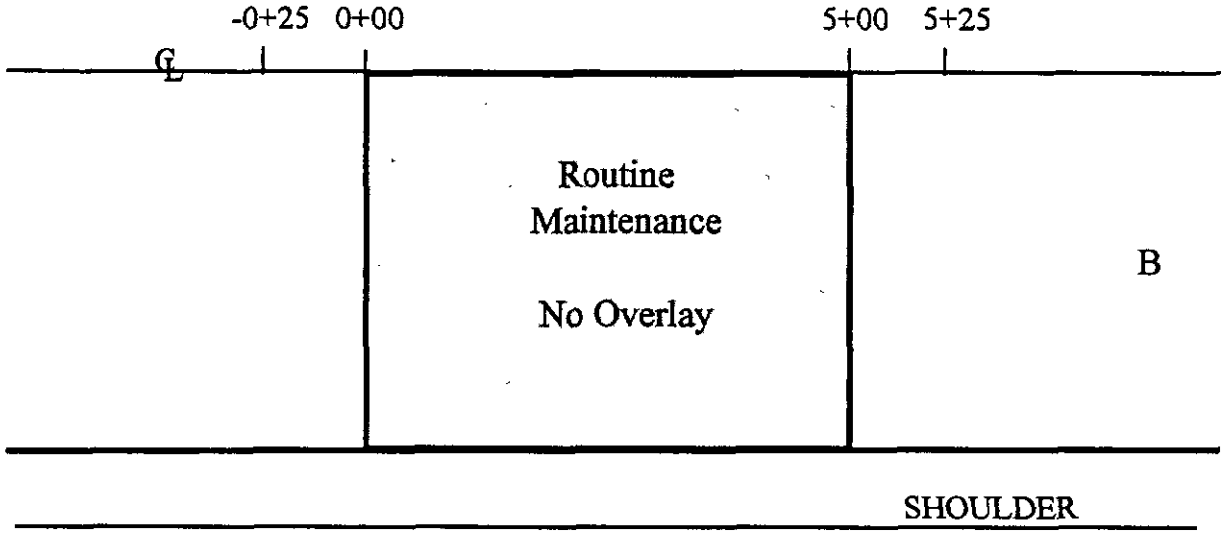


O 102 mm (4 in) Core - Overlay (C21 - C40)

SA Sampling Area

FIGURE B-2. POSTCONSTRUCTION SAMPLING MISSISSIPPI SPS-6 PROJECT (280600)



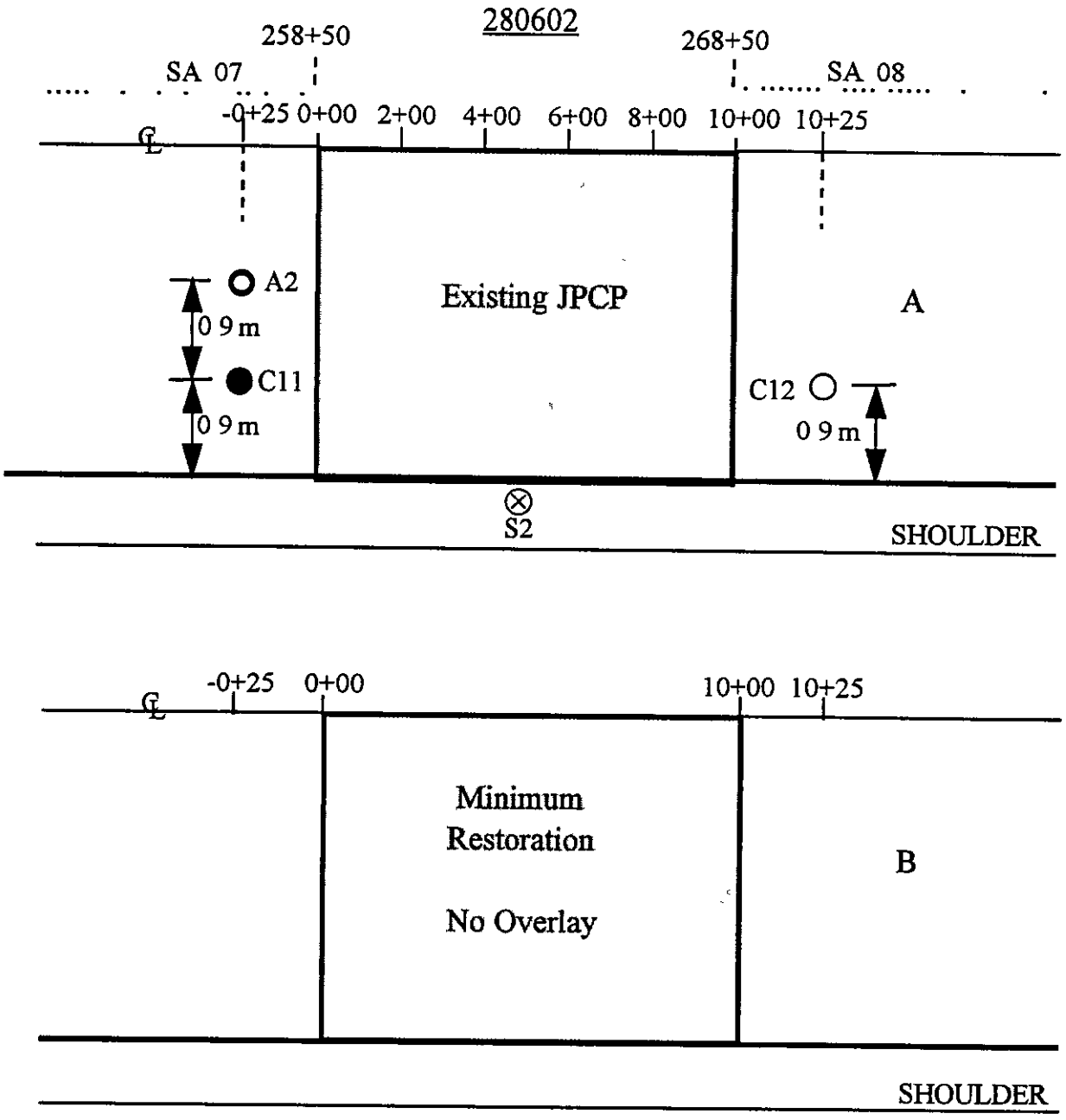


○ 102 mm (4") OD Core (C13-C14)

A Preconstruction Sampling (C13 - C14)

B Postconstruction Sampling (No Smapling)

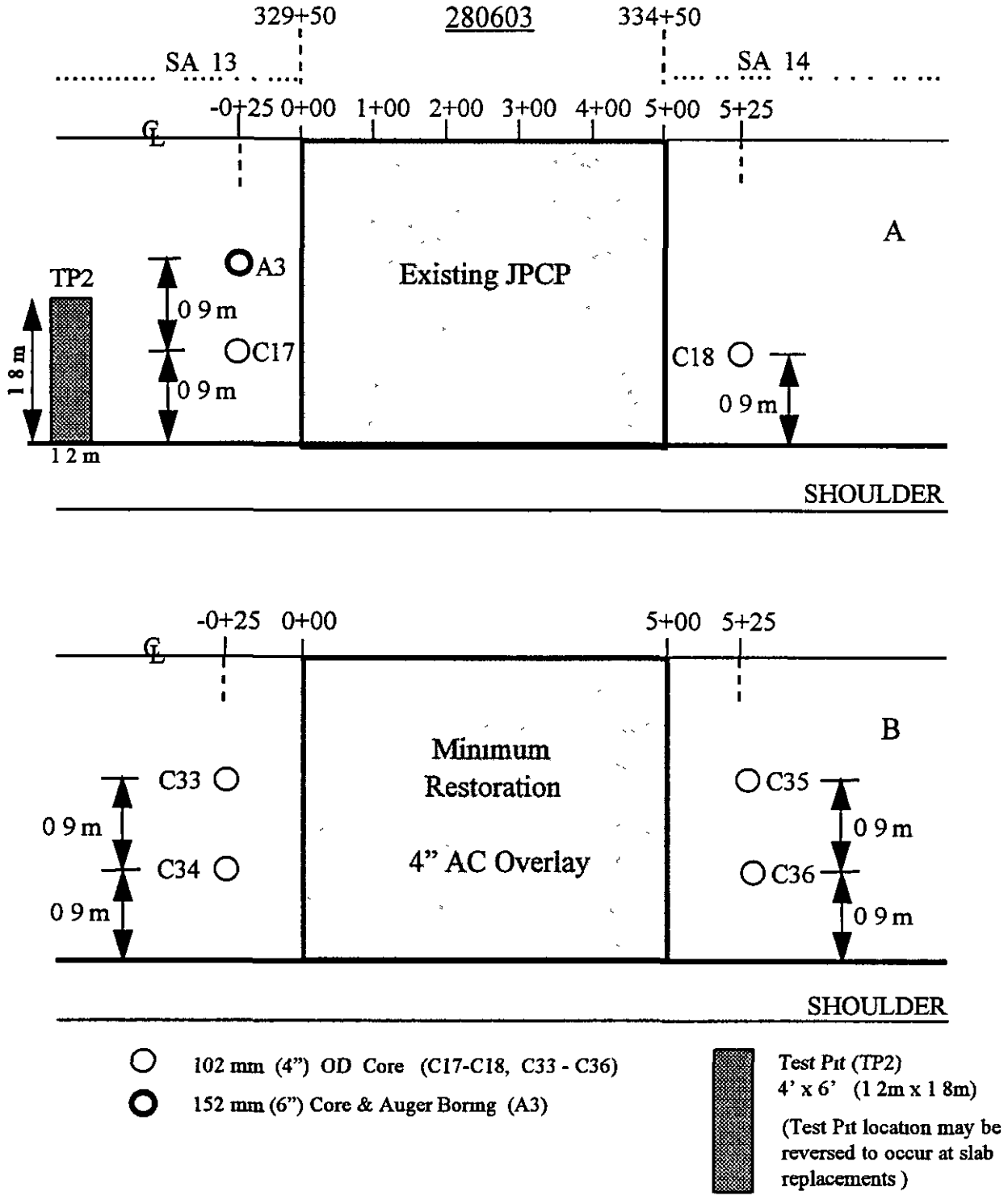
FIGURE B-3. SAMPLING REQUIRMENTS FOR TEST SECTION 280601



A Preconstruction Sampling (C11-C12, A2, S2)

B Postconstruction Sampling (No Sampling)

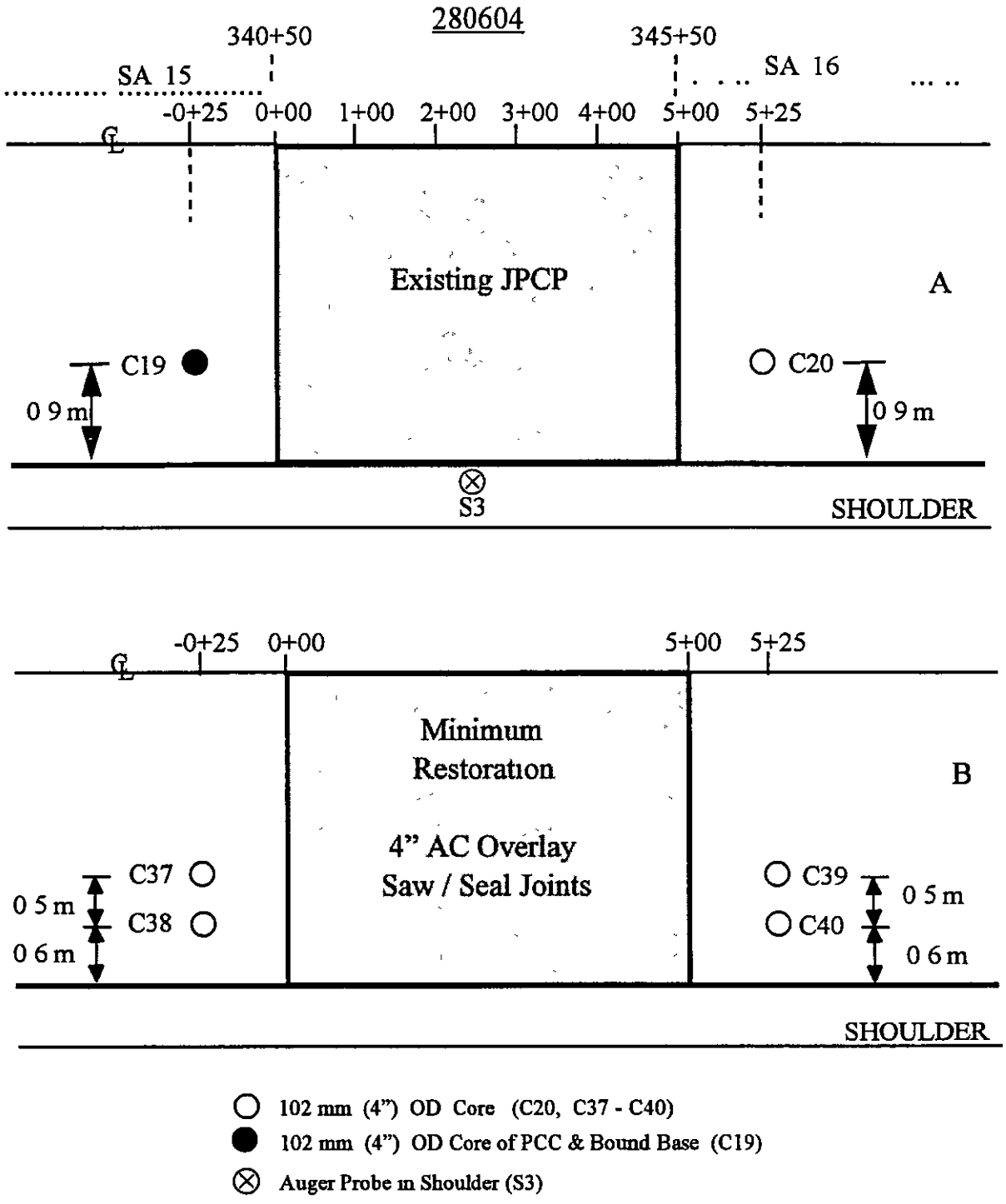
FIGURE B-4. SAMPLING REQUIREMENTS FOR TEST SECTION 280602



A Preconstruction Sampling (C17 - C18, A3, TP2)

B Postconstruction Sampling (C33 - C36)

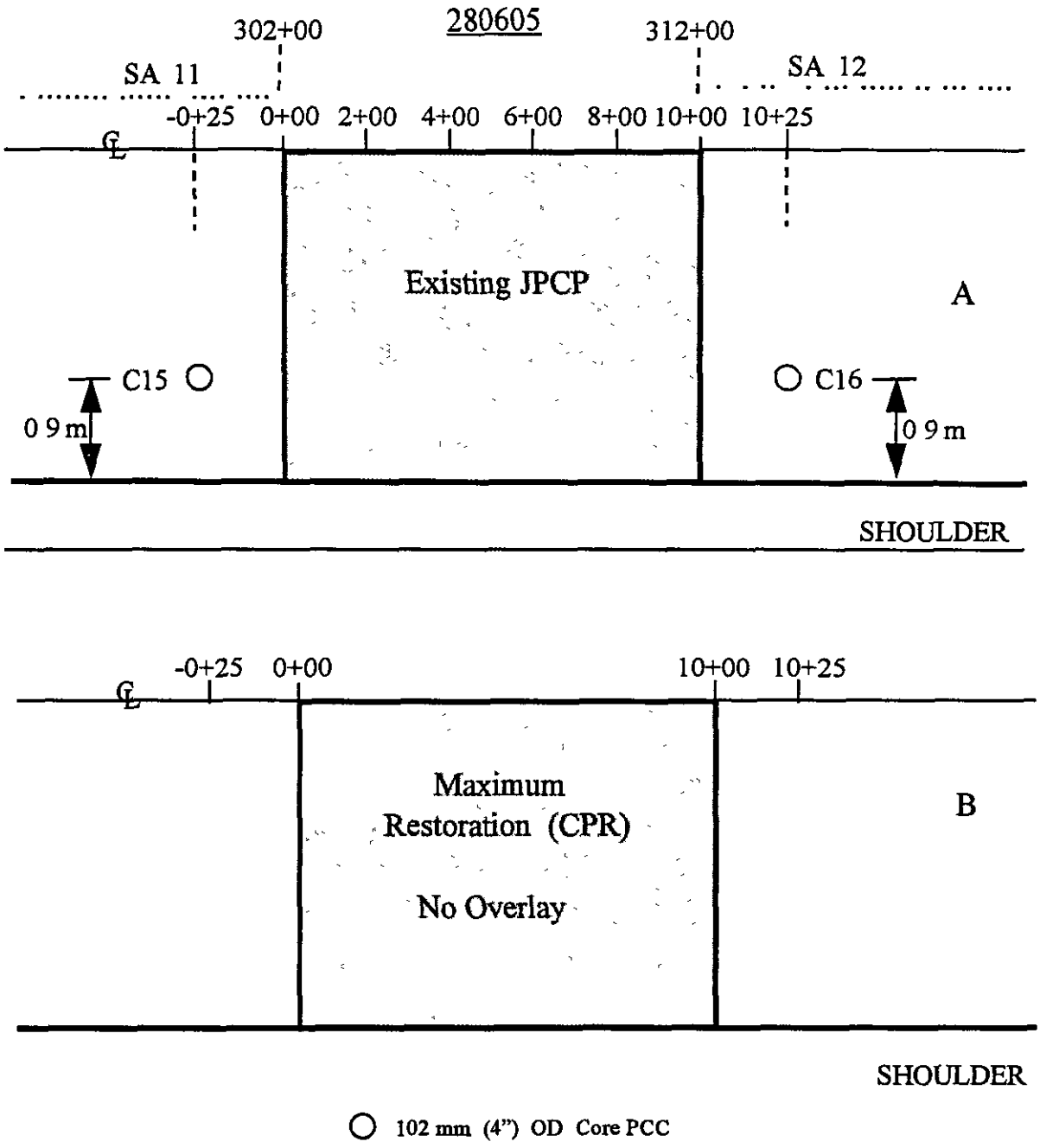
FIGURE B-5. SAMPLING REQUIREMENTS FOR TEST SECTION 280603



A Preconstruction Sampling (C19 - C20)

B Postconstruction Sampling (C37 - C40)

FIGURE B-6. SAMPLING REQUIREMENTS FOR TEST SECTION 280604



A Preconstruction Sampling (C11-C12)

B Postconstruction Sampling (No Sampling)

FIGURE B-7. SAMPLING REQUIREMENTS FOR TEST SECTION 280605

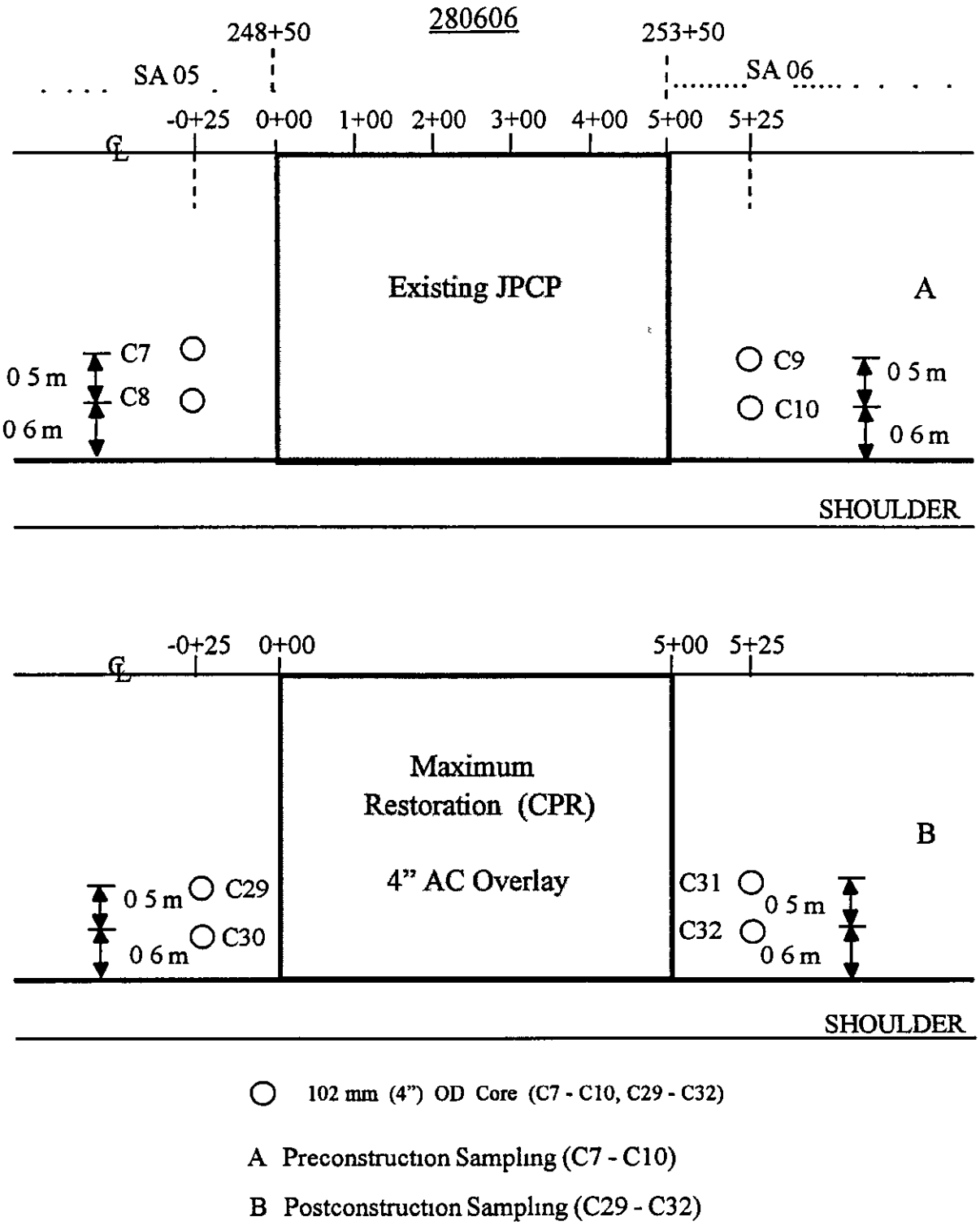
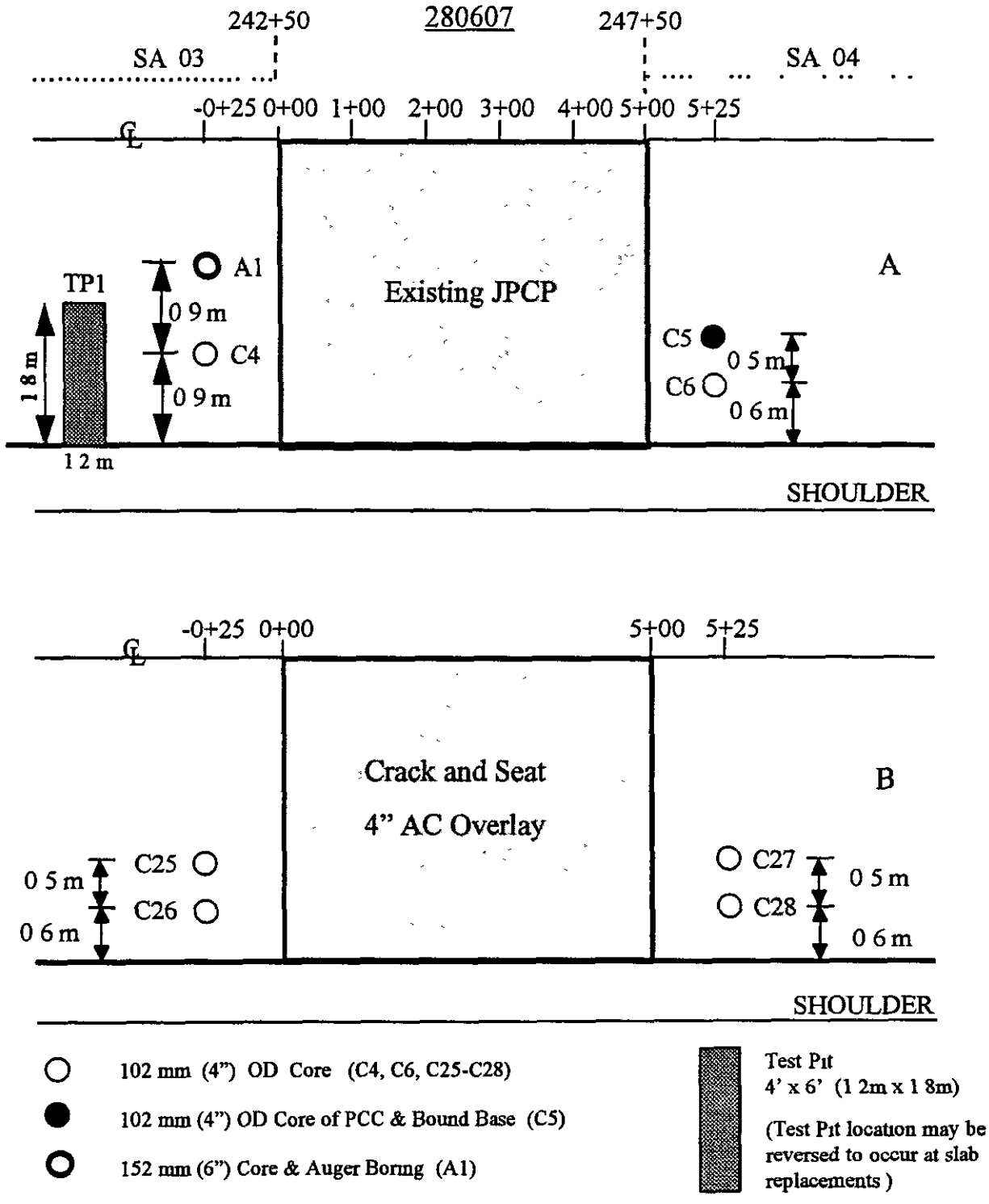


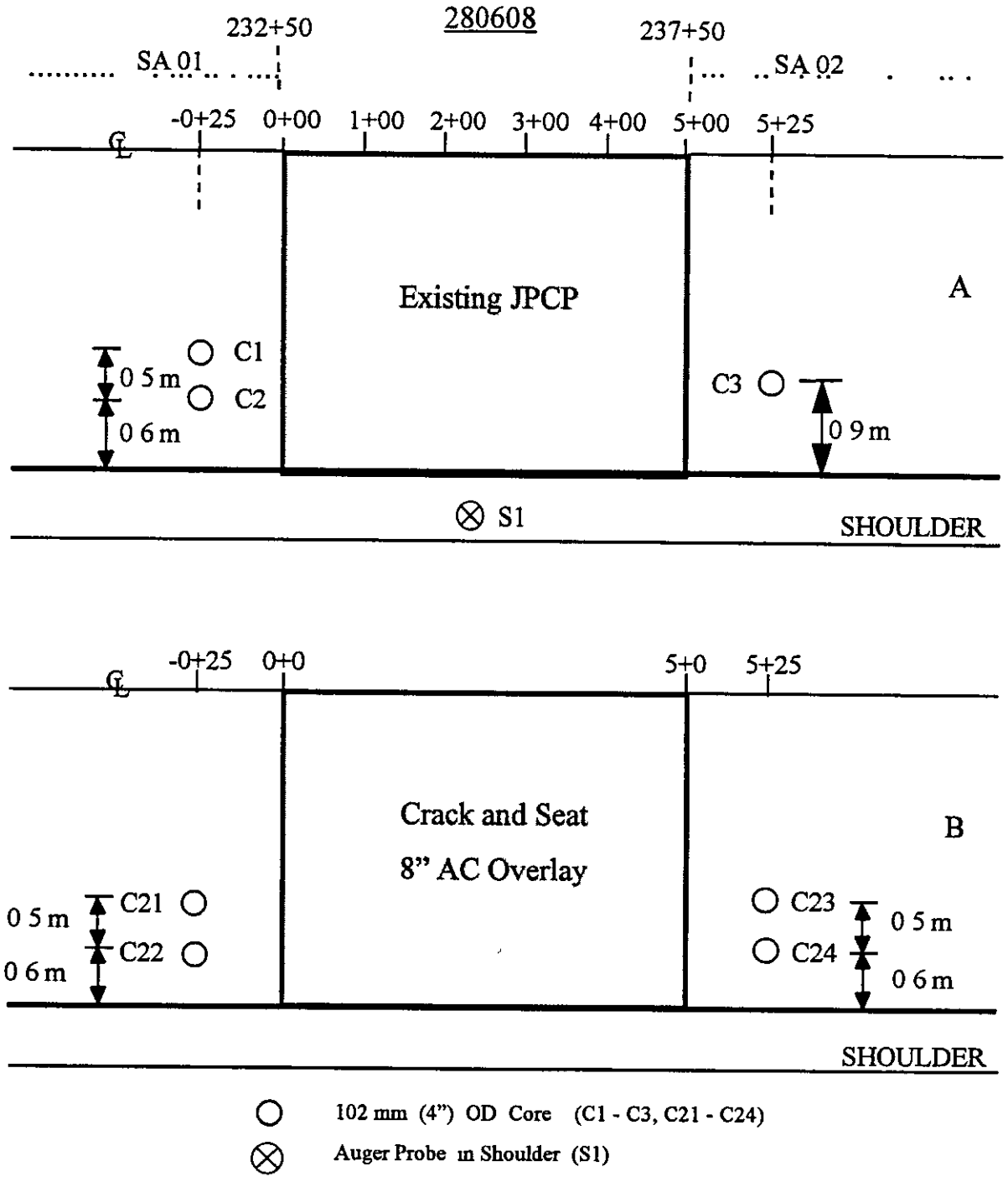
FIGURE B-8. SAMPLING REQUIREMENTS FOR TEST SECTION 280606



A Preconstruction Sampling (C4 - C6, A1, TP1)

B Postconstruction Sampling (C25 - C28)

FIGURE B-9. SAMPLING REQUIREMENTS FOR TEST SECTION 280607



A Preconstruction Sampling (C1 - C3, S1)

B Postconstruction Sampling (C21 - C24)

FIGURE B-10. SAMPLING REQUIREMENTS FOR TEST SECTION 260808

TABLE B-3. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location	Sample №.	Lab Test № (1)	Type of Sample
Portland Cement Concrete			
C1	CP01	1	102 mm (4 in) Core
C2	CP02	1	102 mm (4 in) Core
C3	CP03	2	102 mm (4 in) Core
C4	CP04	1	102 mm (4 in) Core
C5	CP05	2	102 mm (4 in) Core
C6	CP06	2	102 mm (4 in) Core
C7	CP07	1	102 mm (4 in) Core
C8	CP08	1	102 mm (4 in) Core
C9	CP09	2	102 mm (4 in) Core
C10	CP10	2	102 mm (4 in) Core
C11	CP11	1	102 mm (4 in) Core
C12	CP12	2	102 mm (4 in) Core
C13	CP13	1	102 mm (4 in) Core
C14	CP14	2	102 mm (4 in) Core
C15	CP15	1	102 mm (4 in) Core
C16	CP16	2	102 mm (4 in) Core
C17	CP17	1	102 mm (4 in) Core
C18	CP18	2	102 mm (4 in) Core
C19	CP19	1	102 mm (4 in) Core
C20	CP20	2	102 mm (4 in) Core
Bound Base (Soil Cement)			
C5	CT01	2	102 mm (4 in) Core
C11	CT02	1	102 mm (4 in) Core
C19	CT03	1	102 mm (4 in) Core

TABLE B-3. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location	Sample Nº.	Lab Test Nº [1]	Type of Sample
Asphalt Concrete Overlay			
C25	CA25	1	102 mm (4 in) Core
C26	CA26	1	102 mm (4 in) Core
C27	CA27	2	102 mm (4 in) Core
C28	CA28	2	102 mm (4 in) Core
C33	CA33	1	102 mm (4 in) Core
C34	CA34	1	102 mm (4 in) Core
C35	CA35	2	102 mm (4 in) Core
C36	CA36	2	102 mm (4 in) Core
B1	BV01	4	90 kg (200 lb -Base) Bulk Sample
B2	BV02	4	90 kg (200 lb -Base) Bulk Sample
B3	BV03	4	90 kg (200 lb -Base) Bulk Sample
B4	BV04	4	90 kg (200 lb -Binder) Bulk Sample
B5	BV05	4	90 kg (200 lb -Binder) Bulk Sample
B6	BV06	4	90 kg (200 lb -Binder) Bulk Sample
B7	BV07	4	90 kg (200 lb -Surface) Bulk Sample
B8	BV08	4	90 kg (200 lb -Surface) Bulk Sample
B9	BV09	4	90 kg (200 lb -Surface) Bulk Sample
Subgrade			
A1	BS01	1	23 kg (50 lb) Bulk Sample
A2	BS02	1	23 kg (50 lb) Bulk Sample
A3	BS03	1	23 kg (50 lb) Bulk Sample
TP1	BS55	1	23 kg (50 lb) Bulk Sample
TP2	BS56	1	23 kg (50 lb) Bulk Sample
A1	TS02	1	Thin-Wall Tube
A2	TS04	1	Thin-Wall Tube
A3	TS06	1	Thin-Wall Tube

[1] **Lab Test Number**

1 Sample from Approach End of Section
2 Sample from Leave End of Section
3 Sample from Within Section
4 From Plant

TABLE B-4. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location	Sample №.	Lab Test №.	Type of Sample
Portland Cement Concrete			
A1	CP51	1	152 mm (6 in) Core
A2	CP52	1	152 mm (6 in) Core
A3	CP53	1	152 mm (6 in) Core
Asphalt Concrete			
C21	CA21	1	102 mm (4 in) Core
C22	CA22	1	102 mm (4 in) Core
C23	CA23	2	102 mm (4 in) Core
C24	CA24	2	102 mm (4 in) Core
C29	CA29	1	102 mm (4 in) Core
C30	CA30	1	102 mm (4 in) Core
C31	CA31	2	102 mm (4 in) Core
C32	CA32	2	102 mm (4 in) Core
C37	CA37	1	102 mm (4 in) Core
C38	CA38	1	102 mm (4 in) Core
C39	CA39	2	102 mm (4 in.) Core
C40	CA40	2	102 mm (4 in) Core
Subgrade			
A1	BS01	1	45 4 kg (100 lb) Bulk Sample
A2	BS02	1	45 4 kg (100 lb) Bulk Sample
A3	BS03	1	45 4 kg (100 lb) Bulk Sample
TP1	BS55	1	45 4 kg (100 lb) Bulk Sample
TP2	BS56	1	45 4 kg (100 lb) Bulk Sample
A1	TS01	1	Thin wall Tube Sample
A2	TS03	1	Thin wall Tube Sample

TABLE B-4. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location	Sample Nº.	Lab Test Nº.	Type of Sample
A3	TS05	1	Thin wall Tube Sample
A1	MS01	1	Moisture Content Jar Sample
A2	MS02	1	Moisture Content Jar Sample
A3	MS03	1	Moisture Content Jar Sample
TP1	MS55	1	Moisture Content Jar Sample
TP2	MS56	1	Moisture Content Jar 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 Mississippi SPS-6 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

Table C-1 provides a reference project layer numbering scheme It is important that the two laboratories reference the same layer by number to ensure meaningful results

Table C-2 provides a listing of the tests to be performed for each material type and pavement layer, the associated laboratory testing protocol, and identifies which laboratory is to do the testing It is imperative that the protocols listed be strictly followed during testing

Tables C-3 through C-6 provide tracking tables for the state designated laboratory 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 Tables C-7 through C-10 provide similar information for the FHWA/LTPP contracted laboratory

TABLE C-1. PROJECT LAYER NUMBERING

Layer №.	LTPP Description	Mississippi Description
1	Subgrade	Subgrade
2	Bound Base (Soil Cement)	Soil Cement
3	Jointed Plain Concrete Pavement (JPCP)	Jointed Plain Concrete Pavement (JPCP)
4	HMAC Base Course	Black Base
5	HMAC Binder Course	Bituminous Plant Mix Binder Course
6	HMAC Surface	Asphalt Concrete Surface

TABLE C-2. MISSISSIPPI SPS-6 LABORATORY TESTING PLANS - PRECONSTRUCTION

Material Type and Properties	SHRP Test Designation	SHRP Protocol	Nº. of Tests Per Layer	Material Source/ [1] Test Locations	Test Conducted By: State	FHWA
PORTLAND CEMENT CONCRETE						
Compressive Strength	PC01	P61	10	C1,C3,C5,C7,C9,C11,C13, C15,C17,C19	X	
Splitting Tensile Strength	PC02	P62	10	C2,C4,C6,C8,C10,C12,C14, C16,C18,C20	X	
PCC Coefficient of Thermal Expansion	PC03	P63	3	A1,A2,A3		X
Static Modulus of Elasticity	PC04	P64	6	C3,C5,C7,C11,C15,C17	X	
PCC Unit Weight	PC05	P65	10	C1,C3,C5,C7,C9,C11,C13, C15,C17,C19	X	
Core Examination/Thickness	PC06	P66	23	C1-C20, A1,A2,A3	X	X
BOUND BASE (SOIL CEMENT)						
Type and Classification of Material and Treatment	TB01	P31	3	C5,C11,C19 (Note 2)	X	
Compressive Strength	TB02	P32	3	C5,C11,C19 (Note 2)	X	
SUBGRADE						
Sieve Analysis	SS01	P51	3	TP1,A1-A3,TP2		X
Hydrometer to 0 001mm	SS02	P42	3	TP1,A1-A3,TP2		X
Atterberg Limits	SS03	P43	3	TP1,A1-A3,TP2		X
Classification	SS04	P52	3	TP1,A1-A3,TP2,	X	X
Moisture-Density Relations	SS05	P55	3	TP1,A1-A3,TP2		X
Resilient Modulus	SS07	P46	3	A1,A2,A3		X
Unit Weight	SS08	P56	3	TP1,A1-A3,TP2,	X	
Natural Moisture Content	SS09	P49	3	TP1,A1-A3,TP2		X

NOTE 1 Samples within brackets are combined from multiple sampling locations to make one sample

NOTE 2 Soil Cement samples from cores should be separated from PCC surface prior to shipment to FHWA/LTPP lab

TABLE C-2. MISSISSIPPI SPS-6 LABORATORY TESTING PLANS - POSTCONSTRUCTION

Material Type and Properties	SHRP Test Designation	SHRP Protocol	№ of Tests Per Layer	Material Source/ [1] Test Locations	Test Conducted By. State	FHWA
ASPHALTIC CONCRETE						
Core Examination/Thickness	AC01	P01	20	All Cores	X	X
Bulk Specific Gravity	AC02	P02	20	All Cores	X	X
Maximum Specific Gravity	AC03	P03	3	B1-B9	X	
Asphalt Content (Extraction)	AC04	P04	3	B1-B9	X	
Moisture Susceptibility	AC05	P05	3	B1-B9	X	
Resilient Modulus	AC07	P07	3	[C21,C22,C23], [C29,C30,C31], [C37,C38,C39]		X
Tensile Strength	AC07	P07	3	C24,C32,C40		X
EXTRACTED AGGREGATE						
Bulk Specific Gravity						
Coarse Aggregate	AG01	P11	3	From Uncompacted Mix	X	
Fine Aggregate	AG02	P12	3	From Uncompacted Mix	X	
Type and Classification						
Coarse Aggregate	AG03	P13	3	From Uncompacted Mix	X	
Fine Aggregate	AG03		3	From Uncompacted Mix	X	
Gradation of Aggregate	AG04	P14	3	From Uncompacted Mix	X	
NAA Test for Fine Aggregate Particle Shape	AG05	P14A	3	From Uncompacted Mix	X	
ASPHALT CEMENT (FROM MIX)						
Abson Recovery	AE01	P21	3	From Uncompacted Mix	X	
Penetration at 10°C, 25°C, 32°C (50°F, 77°F, 90°F)	AE02	P22	3	From Uncompacted Mix	X	
Specific Gravity at 16°C (60°F)	AE03	P23	3	From Uncompacted Mix	X	
Viscosity at 25°C (77°F)	AE04	P24	3	From Uncompacted Mix	X	
Viscosity at 60°C & 135°C (140°F & 275°F)	AE05	P25	3	From Uncompacted Mix	X	

FOOTNOTE (1) REFERENCE SHEET FOR TABLES C-3 THROUGH C-8

Note: All of the core specimens noted herein shall be stored for possible future use

(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 always 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

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

Sample Location	Sample №.	Lab Test №.	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage (1)	Sample Disposed?
			First	Second	Third	Fourth			
C1	CP01	1	PC06/P66	PC05/P65	PC01/P61		No	(a)	Yes
C2	CP02	1	PC06/P66	PC02/P62			No	(a)	Yes
C3	CP03	2	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C4	CP04	1	PC06/P66	PC02/P62			No	(a)	Yes
C5	CP05	2	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C6	CP06	2	PC06/P66	PC02/P62			No	(a)	Yes
C7	CP07	1	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C8	CP08	1	PC06/P66	PC02/P62			No	(a)	Yes
C9	CP09	2	PC06/P66	PC05/P65	PC01/P61		No	(a)	Yes
C10	CP10	2	PC06/P66	PC02/P62			No	(a)	Yes
C11	CP11	1	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C12	CP12	2	PC06/P66	PC02/P62			No	(a)	Yes
C13	CP13	1	PC06/P66	PC05/P65	PC01/P61		No	(a)	Yes
C14	CP14	2	PC06/P66	PC02/P62			No	(a)	Yes
C15	CP15	1	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C16	CP16	2	PC06/P66	PC02/P62			No	(a)	Yes
C17	CP17	1	PC06/P66	PC05/P65	PC04/P64	PC01/P61	No	(a)	Yes
C18	CP18	2	PC06/P66	PC02/P62			No	(a)	Yes
C19	CP19	1	PC06/P66	PC05/P65	PC01/P61		No	(a)	Yes
C20	CP20	2	PC06/P66	PC02/P62			No	(a)	Yes

TABLE C-4. TRACKING TABLE OF ASPHALT 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?
			First	Second	Third	Fourth			
C25	CA25	1	AC01/P01	AC02/P02			Yes	(a)	No
C26	CA26	2	AC01/P01	AC02/P02			Yes	(a)	No
C27	CA27	2	AC01/P01	AC02/P02			Yes	(a)	No
C28	CA28	1	AC01/P01	AC02/P02			Yes	(a)	No
C33	CA33	1	AC01/P01	AC02/P02			Yes	(a)	No
C34	CA34	2	AC01/P01	AC02/P02			Yes	(a)	No
C35	CA35	2	AC01/P01	AC02/P02			Yes	(a)	No
C36	CA36	2	AC01/P01	AC02/P02			Yes	(a)	No
B1	BV01	3	See Figure C-1				No	(a)	Yes
B2	BV02	3	See Figure C-1				No	(a)	Yes
B3	BV03	3	See Figure C-1				No	(a)	Yes
B4	BV04	3	See Figure C-1				No	(a)	Yes
B5	BV05	3	See Figure C-1				No	(a)	Yes
B6	BV06	3	See Figure C-1				No	(a)	Yes
B7	BV07	3	See Figure C-1				No	(a)	Yes
B8	BV08	3	See Figure C-1				No	(a)	Yes
B9	BV09	3	See Figure C-1				No	(a)	Yes

TABLE C-5. TRACKING TABLE OF BOUND BASE 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 ?
			First	Second	Third	Fourth	Fifth	Sixth			
C5	CT01	2	TB01/P31	TB02/P32					No	(b)	Yes
C11	CT02	1	TB01/P31	TB02/P32					No	(b)	Yes
C19	CT03	1	TB01/P31	TB02/P32					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 (1)	Sample Disposed?
			First	Second	Third	Fourth			
A1	BS01	1	No testing - samples stored				Yes	(b)	No
A2	BS02	1	No testing - samples stored				Yes	(b)	No
A3	BS03	1	No testing - samples stored				Yes	(b)	No
TP1	BS55	1	No testing - samples stored				Yes	(b)	No
TP2	BS56	1	No testing - samples stored				Yes	(b)	No
A1	TS02	1	SS04/P52	SS08/P56			No	(c)	Yes
A2	TS04	1	SS04/P52	SS08/P56			No	(c)	Yes
A3	TS06	1	SS04/P52	SS08/P56			No	(c)	Yes

TABLE C-7. TRACKING TABLE OF PORTLAND CEMENT CONCRETE 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 (1)	Sample Disposed?
			First	Second	Third	Fourth			
A1	CP51	1	PC06/P66	PC03/P63			No	(a)	Yes
A2	CP52	1	PC06/P66	PC03/P63			No	(a)	Yes
A3	CP53	1	PC06/P66	PC03/P63			No	(a)	Yes

TABLE C-8. TRACKING TABLE OF ASPHALT CONCRETE 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 (1)	Sample Disposed?
			First	Second	Third	Fourth			
C21	CA21	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C22	CA22	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C23	CA23	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C24	CA24	2	AC01/P01	AC02/P02		AC07/P07 (ITS)	No	(a)	Yes
C29	CA29	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C30	CA30	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C31	CA31	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C32	CA32	2	AC01/P01	AC02/P02		AC07/P07 (ITS)	No	(a)	Yes
C37	CA37	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C38	CA38	1	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C39	CA39	2	AC01/P01	AC02/P02	AC07/P07		No	(a)	Yes
C40	CA40	2	AC01/P01	AC02/P02		AC07/P07 (ITS)	No	(a)	Yes

TABLE C-9. 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 (1)	Sample Disposed ?
			First	Second	Third	Fourth	Fifth	Sixth			
A1	BS01	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
A2	BS02	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
A3	BS03	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
TP1	BS55	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
TP2	BS56	1	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
A1	TS01	1	SS07/P46	SS04/P52					No	(C)	Yes
A2	TS03	1	SS07/P46	SS04/P52					No	(C)	Yes
A3	TS05	1	SS07/P46	SS04/P52					No	(C)	Yes
A1	MS01	1	SS09/P49						No	(b)	Yes
A2	MS02	1	SS09/P49						No	(b)	Yes
A3	MS03	1	SS09/P49						No	(b)	Yes
TP1	MS55	1	SS09/P49						No	(b)	Yes
TP2	MS56	1	SS09/P49						No	(b)	Yes

* Note SS07/P46 testing for bulk subgrade samples only required when tube samples are not available or suitable for testing

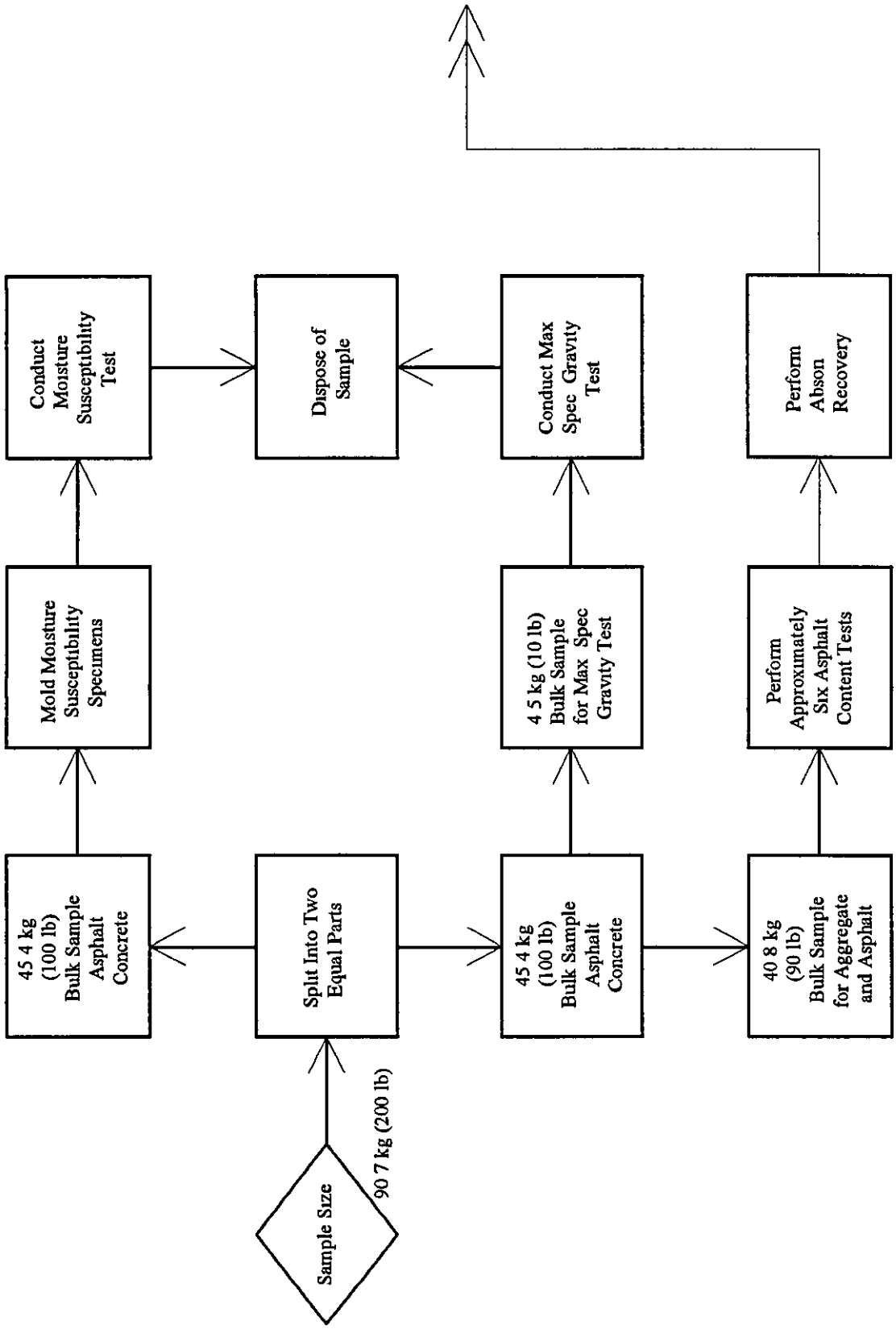


FIGURE C-1. FLOWCHART FOR ASPHALT CONCRETE BULK SAMPLES

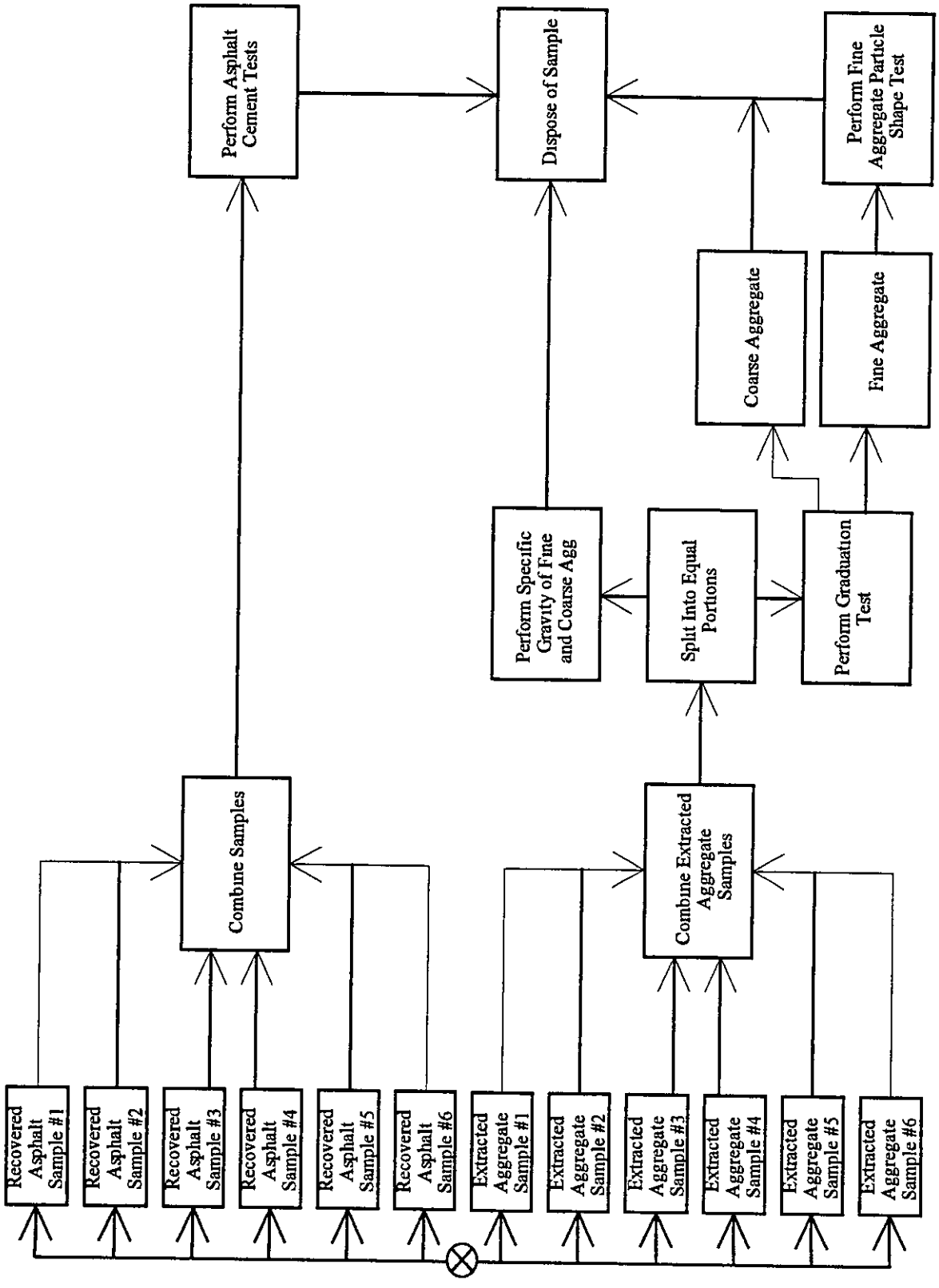


FIGURE C-1. FLOWCHART FOR ASPHALT CONCRETE BULK SAMPLES (Continued)