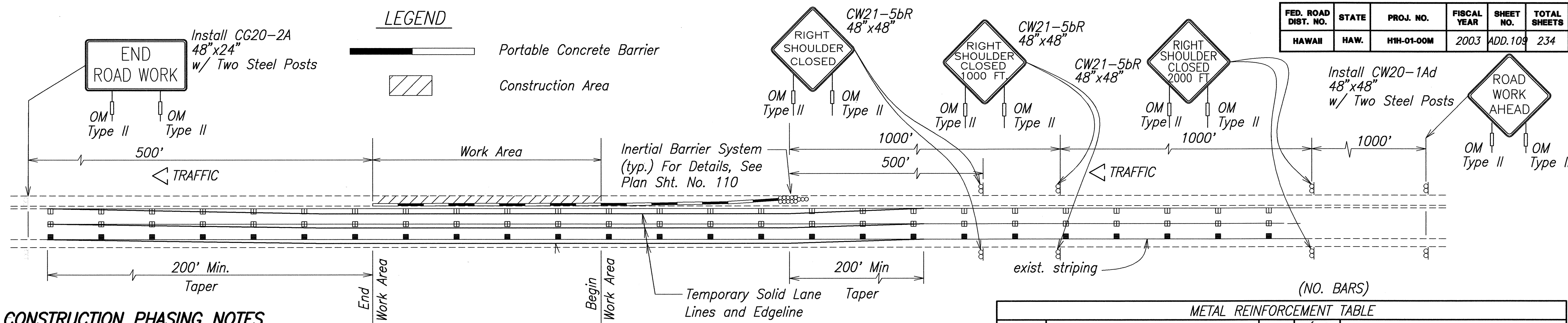


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD. 109	234



CONSTRUCTION PHASING NOTES

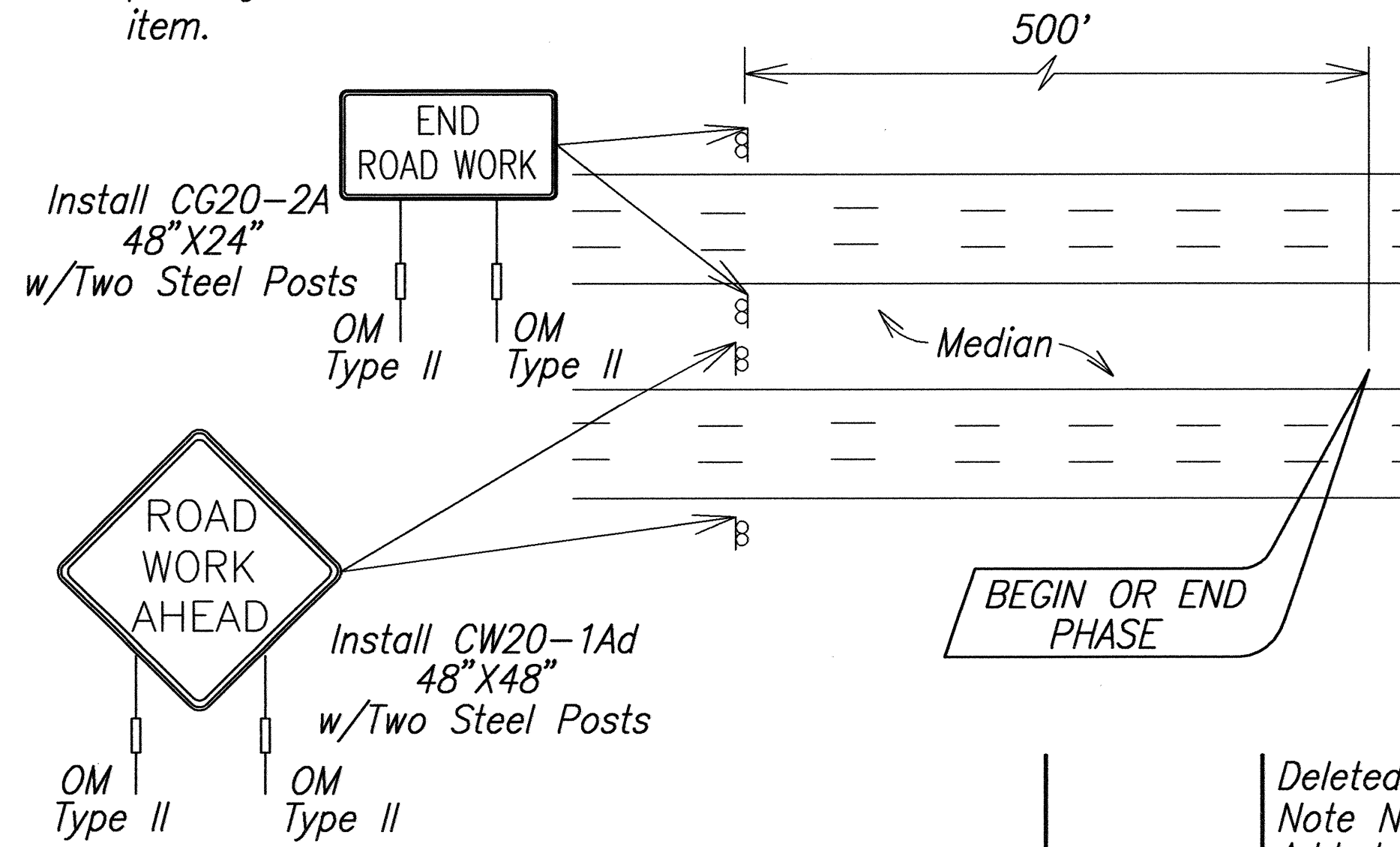
- Any requests for adjustments in sequence of Construction Phasing shall be submitted in writing and approved by the Engineer. The Contractor's attention is directed to Subsection 108.08 - Failure to Complete on Time and Liquidated Damages of the Special Provisions.
- Relocation and/or removal of temporary signs, posts and portable concrete barriers used for Construction Phasing shall be considered incidental to their respective contract items.
- All temporary signs and delineators for the purposes of Construction Phasing shall become the property of the Contractor at the completion of the project.
- Portable concrete barrier panels not in use during construction work shall not be stockpiled or otherwise stored within the highway rights-of-way except at locations approved by the Engineer.
- The Contractor shall periodically wash down signs, delineators and portable concrete barriers called for in the Construction Phasing Plans as deemed necessary by the Engineer. This work shall be considered incidental to the various contract items and no payment will be made therefore.
- The location of pavement markings and signs, delineators and portable concrete guardrail panels used in the Construction Phasing shall be as shown on the plans.
- Work required in the State's Construction Phase Plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with Section 645 - Traffic Control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance Construction Warning Signs as required under Section 645 of the Special Provisions shall be installed on all approaches to construction areas including on-ramps. This work shall be considered incidental to the various contract items.
- The Type II Barricades with steady burn amber lamp used during Construction Phase shall be considered incidental to the various contract items.

TYPICAL FREEWAY SHOULDER CONSTRUCTION PHASE

Not to Scale

NOTES:

- Construction Signs shall be installed on both the leading and trailing of each phase/location.
- Each Construction Sign shall have a minimum of two (2) OM Type II. Installation of each OM Type II shall be considered incidental to the Construction Sign with Posts.
- Where lane shift/reduction is required, all conflicting existing pavement markings within the affected area shall be removed. New temporary solid lane lines and edge lines shall be installed with a shift taper of 200 L.F. min. After work requiring lane shift is completed, reinstall all affected permanent pavement markings to its original locations.
- Removal of existing and temporary pavement markings, the installation of new temporary solid lane lines & edge lines, and the restoration of permanent markings required for each construction phasing shall be considered incidental to Portable Concrete Barrier item.



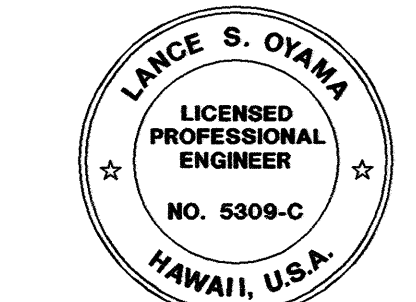
TYPICAL DETAIL FOR CONSTRUCTION SIGNS DURING VARIOUS PHASES

Not to Scale

METAL REINFORCEMENT TABLE				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	Horizontal in Barrier Tied Inside V-1 Bars	#5	(6)	19'-3"
H-2	Centered Above Scuppers Long. & Transversely	#5	(6)	6'-6"
H-3	Tied Above H-1 Bars to Support H-2, Tied to V-1	#4	(2)	1'-6"
S-1	Horizontal in Top of Wing Wall & in Floor Back Wall	#4	(2)	
S-2	Horizontal Around Slots Between V-1's @ Scuppers	#4	(2)	
V-1	Vertical in Barrier (3) Each End & (2) at Each Scupper	#5	(16)	

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTEBOOK	
No.	

6-18-03	Deleted Construction Phasing Note No.8 Added Note No.3 & 4 Revised Typical Freeway Shoulder Construction Phase
DATE	REVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 Signature: *Lance S. Oyama*
 APRIL 30, 2004 EXPIRATION DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

CONSTRUCTION PHASING PLANS
 INTERSTATE ROUTE H-1 REHABILITATION
 OLA LANE TO KALIHI STREET
 PROJECT NO. H1H-01-00M

Scale: Not To Scale Date: October 31, 2002

SHEET No. C-40 OF C-59 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD. 110	234

NOTES:

1. Inertial Barrier System shall be installed at the approach end of the portable concrete barrier system. All barrel weights, sizes, and configuration/placement shall be in accordance with the manufacturers requirements.
2. Damage to existing pavement and pavement markings during the construction phase by the contractor shall be repaired immediately at no cost to the State.
3. Number and placement of the Type II Barricades shall be in accordance with Typical Application 5 (Shoulder Closure on Freeway) and Section 6F.55 of the latest edition of the MUTCD.
4. For end treatment, layout, crash cushions and where needed see Project Plans or Special Provisions.
5. Barriers must be pinned together and cannot exceed the Table of Maximum Tapers.
6. The concrete barrier "Standard Installation" design allows for 3'-3" of outward lateral movement if the barrier is struck. Barrier installations that require less than the 3'-3" of outward lateral movement should have stabilization pins.
7. ASTM A-36 steel shall be used for the connection pin, connection loops and stabilization pins. A one piece pin with a 3" rounded top may be used in place of the detailed connection pin if the one piece pin meets ASTM A-36 requirements.
8. A 4" white PVC sleeve may be used to form the lifting hole and if used the sleeve is to be left in place.
9. Concrete shall be Class A and reinforcing shall be Grade 60.
10. Identification and date of design will be as follows:
PROPERTY
OF HDOT
OCT 2001
Text letters and numbers shall be shown as on Standard Plan Sht. No. B-01. "PROPERTY OF HDOT" may be changed depending upon ownership. All Portable Concrete Barriers made for HDOT will be subject to rejection if "PROPERTY OF HDOT" is not imprinted. The Contractor shall bear the cost of the rejected Portable Concrete Barrier.
11. Minimum tangent length for portable Concrete Barrier System shall be 100' (5 units). This minimum does not include the required system length of the Inertial Barrier System.
12. Install steady burn amber lamps on portable concrete barriers @ 20.0' o.c. Installing, maintaining and removing each steady burn amber lamp including changing of batteries and bulbs shall be considered incidental to applicable portable barrier items.

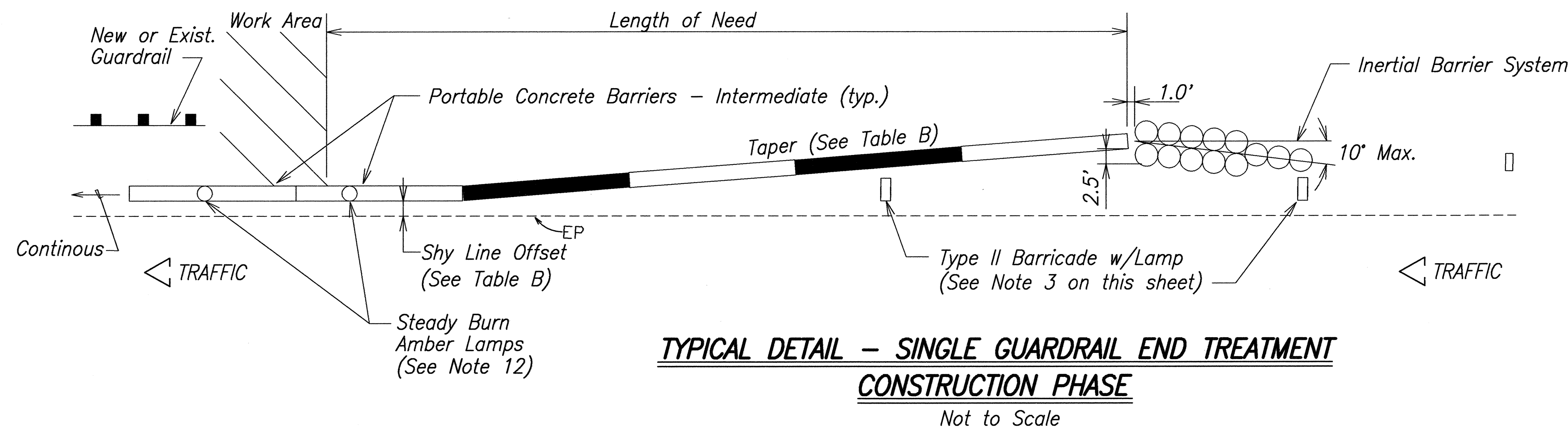
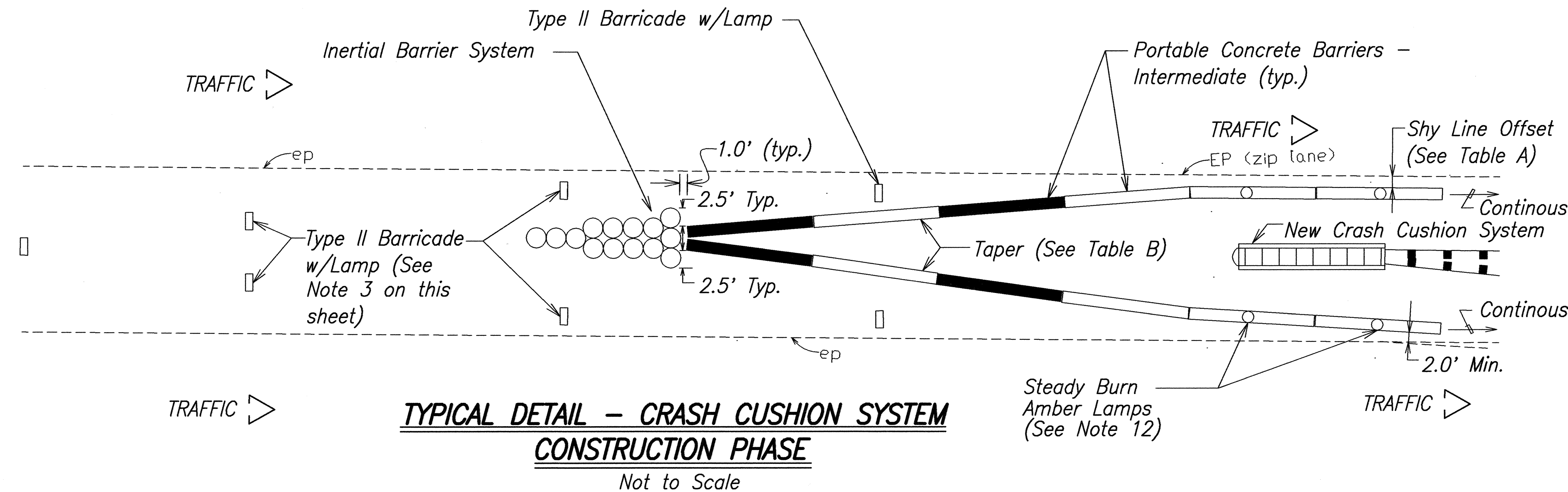
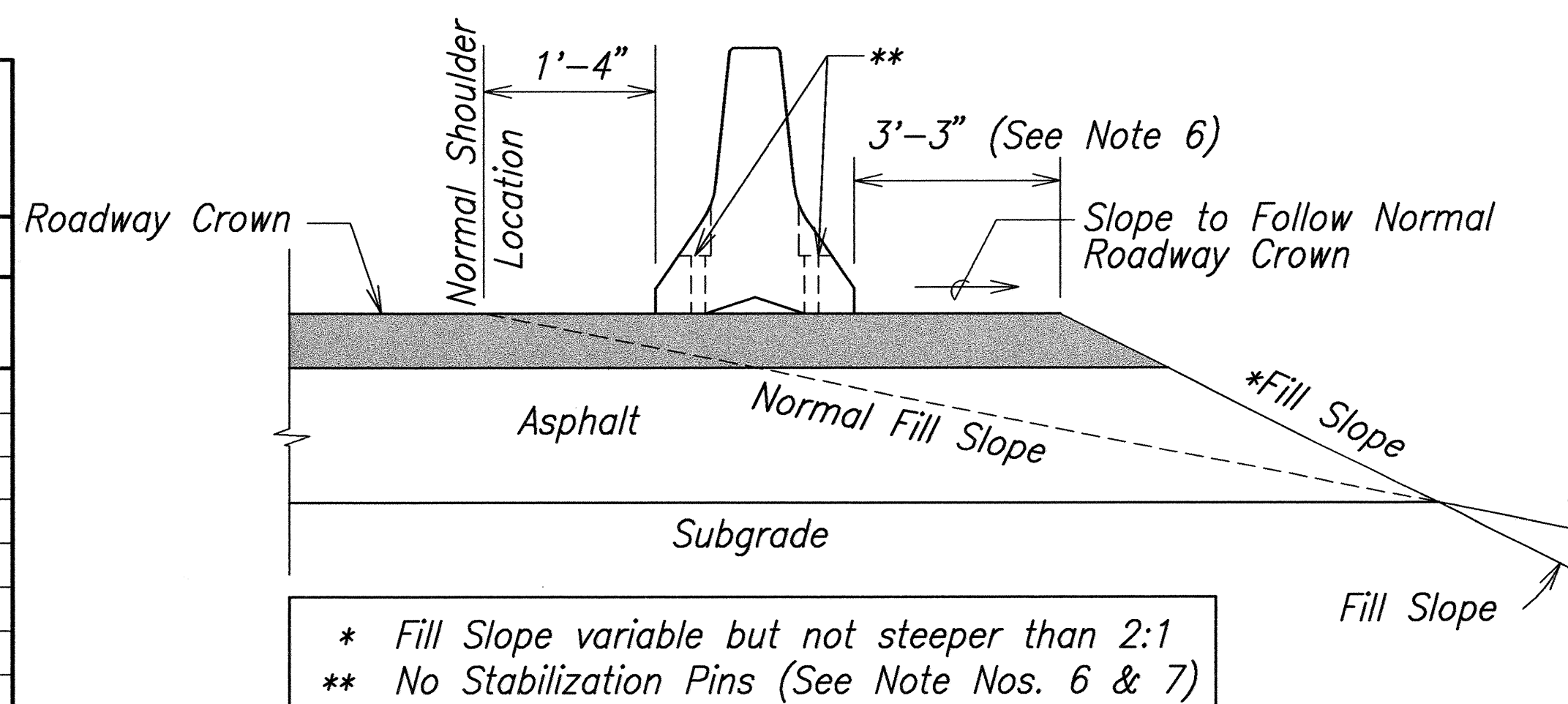
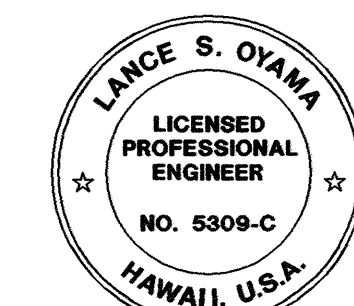


TABLE A SHT LINE OFFSETS*		TABLE B MAXIMUM TAPERS FOR CONCRETE BARRIER		
DESIGN SPEED (mph)	SHY LINE OFFSETS	DESIGN SPEED (mph)	TAPER	
			INSIDE SHY LINE	BEYOND SHY LINE
65	9.0'	65	28:1	19:1
60	8.5'	60	26:1	18:1
55	7.0'	55	24:1	16:1
50	6.5'	50	21:1	14:1
45	6.0'	45	18:1	12:1
40	5.0'	40	17:1	11:1
35	4.5'	35	15:1	9:1
30	3.5'	30	13:1	8:1
≤ 25	2.0'	≤ 30		

*Note: Minimum Shy line offset for tangent sections shall be 2'-0".



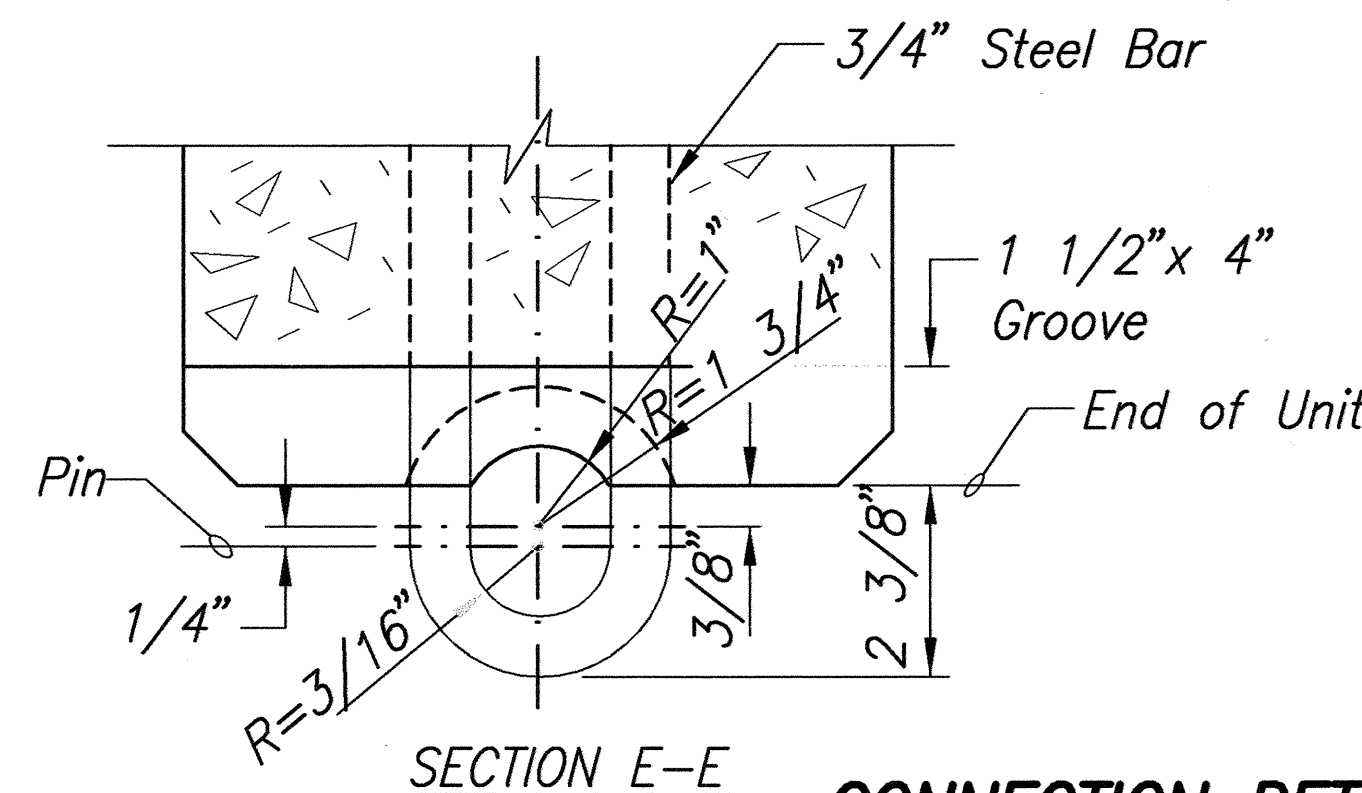
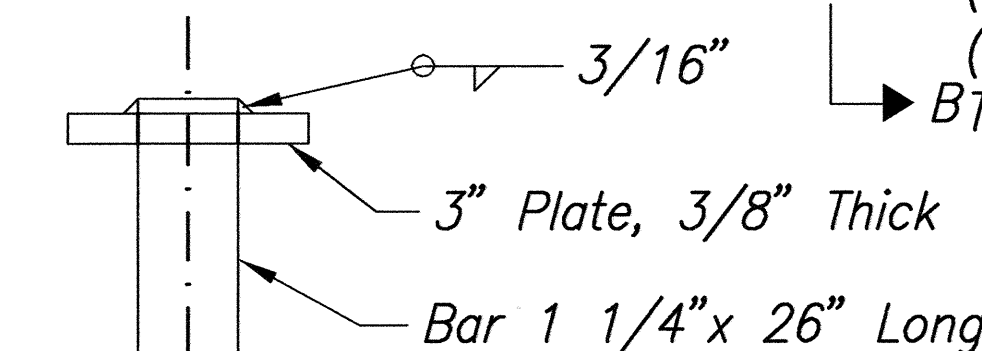
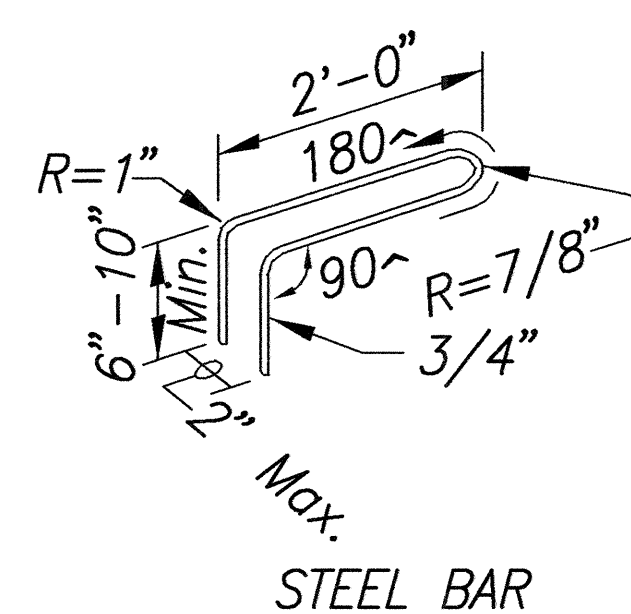
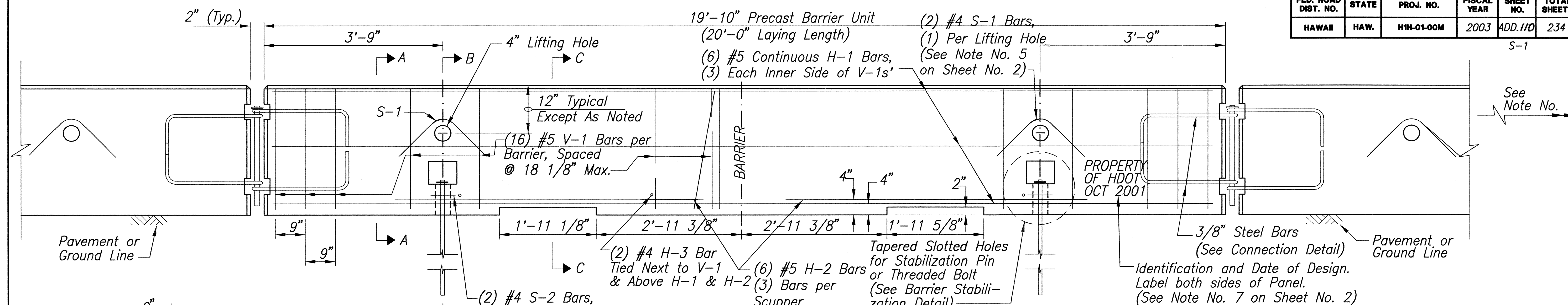
SURVEY PLOTTED BY	DATE
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TRACED BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	No.



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Signature: *Lance S. Oyama*
DATE: APRIL 30, 2004
EXPIRATION DATE

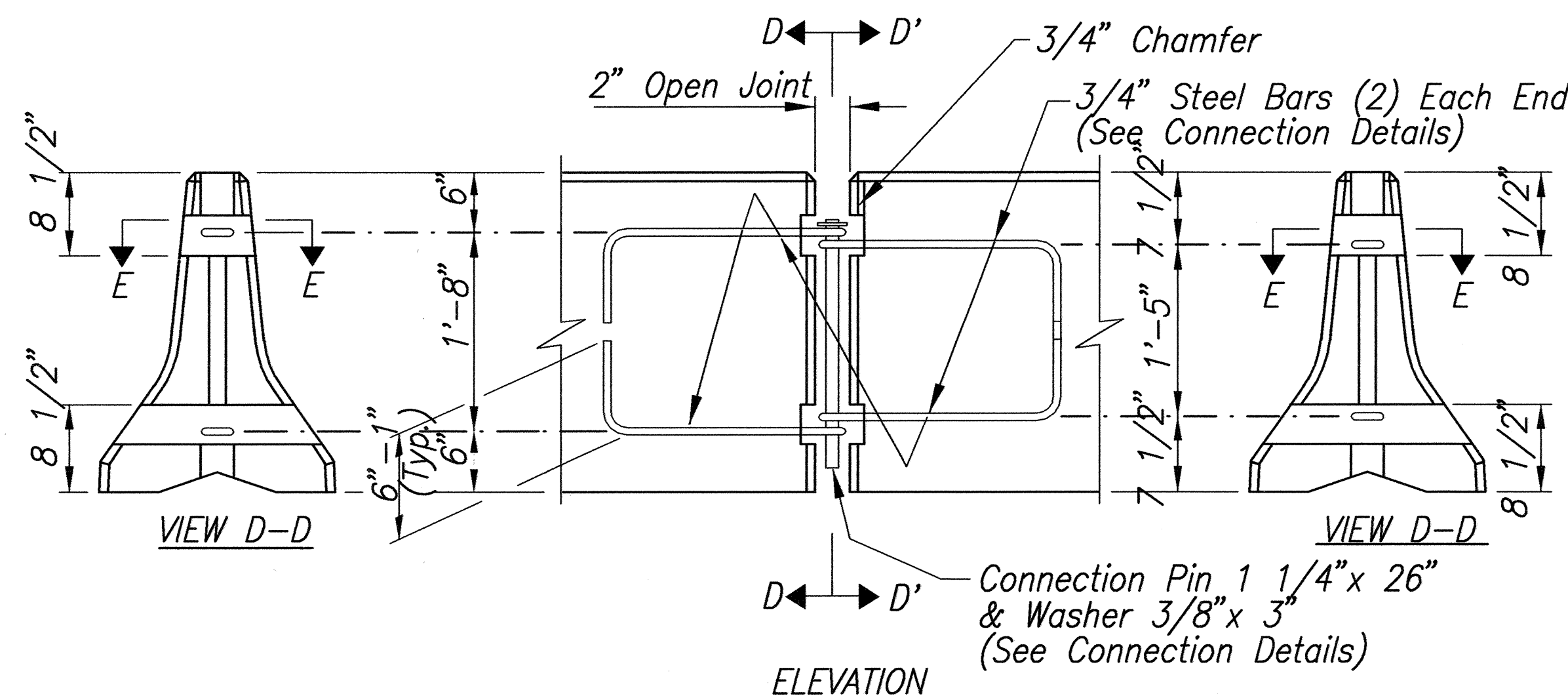
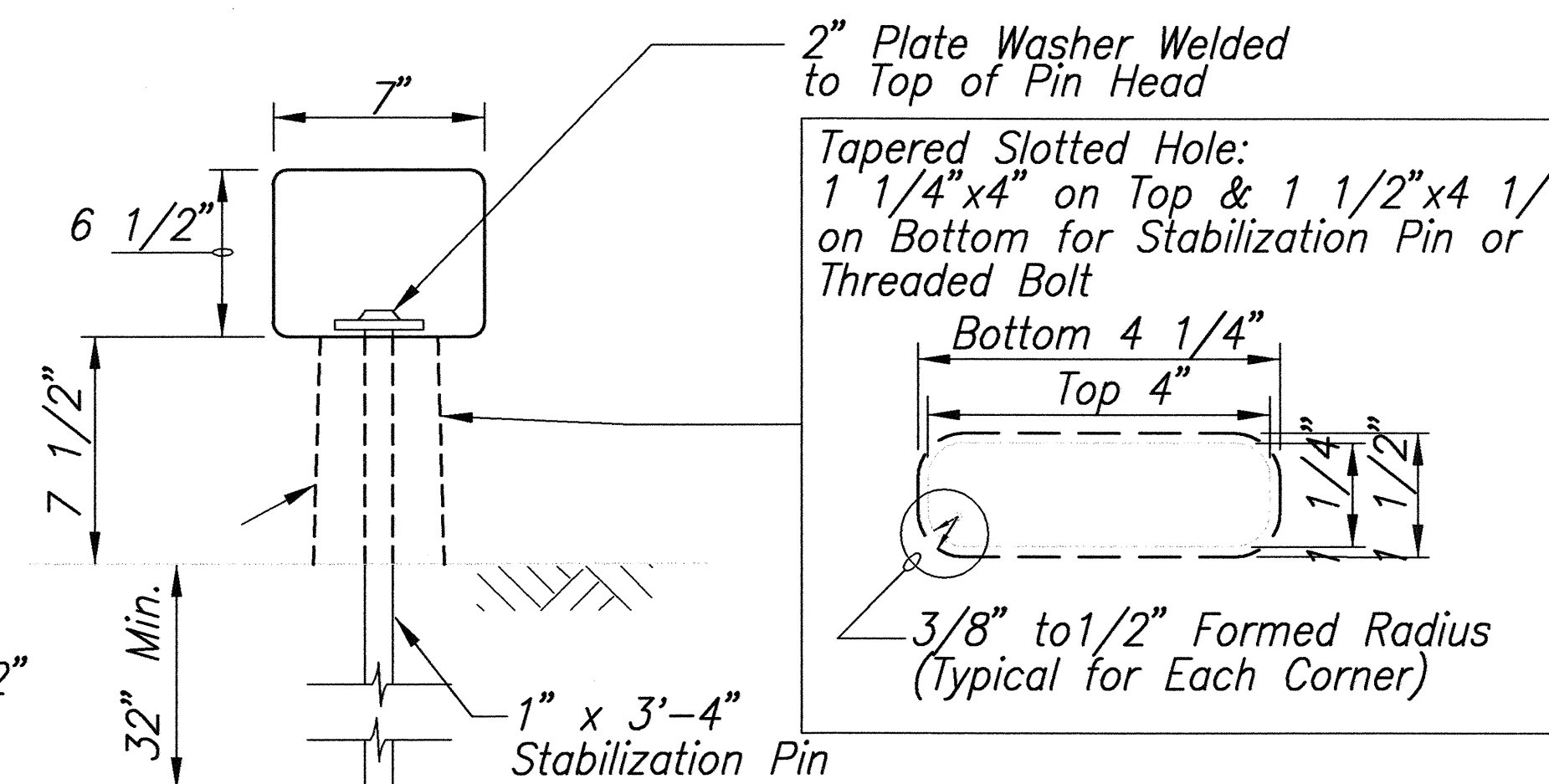
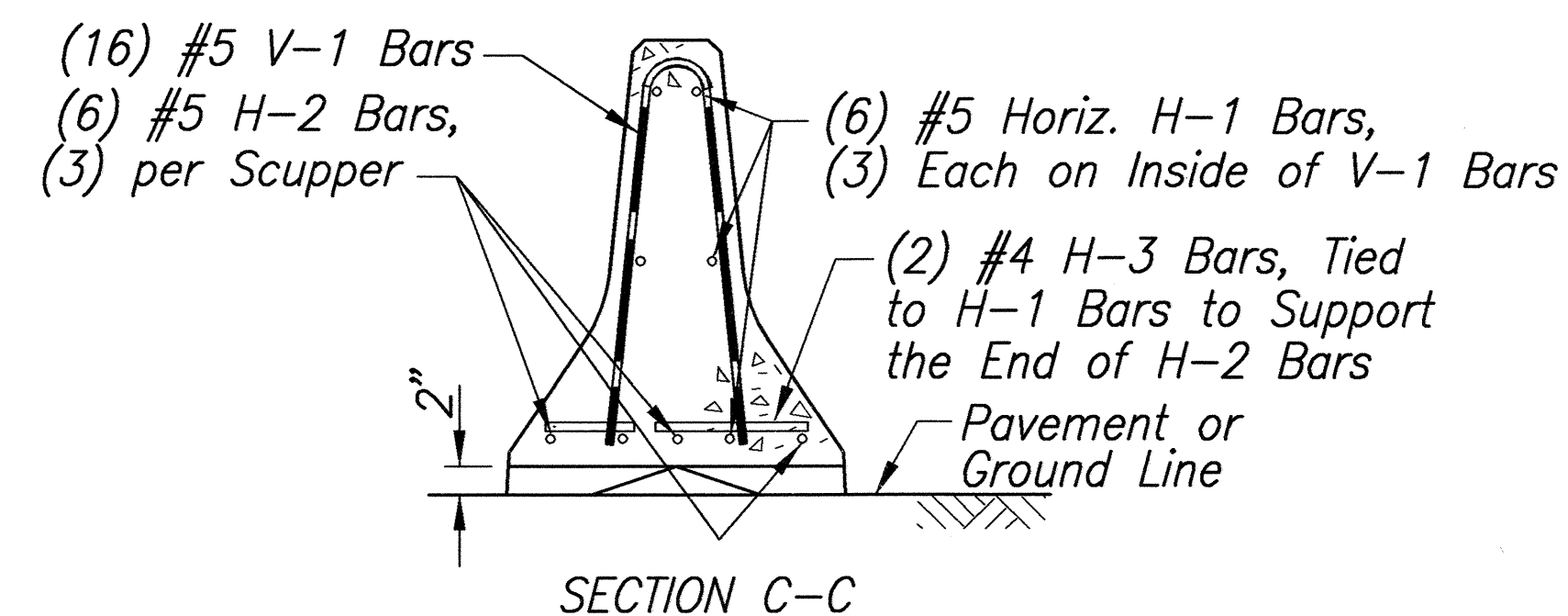
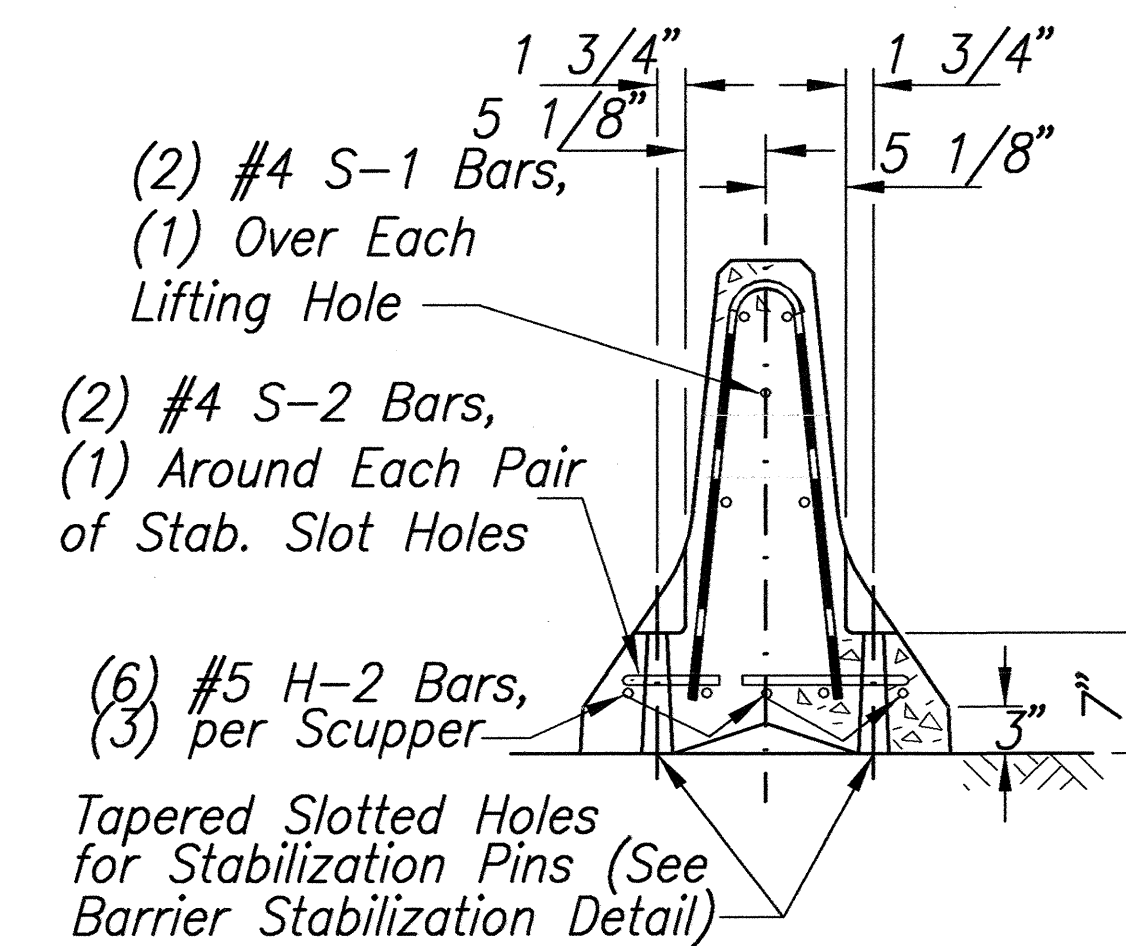
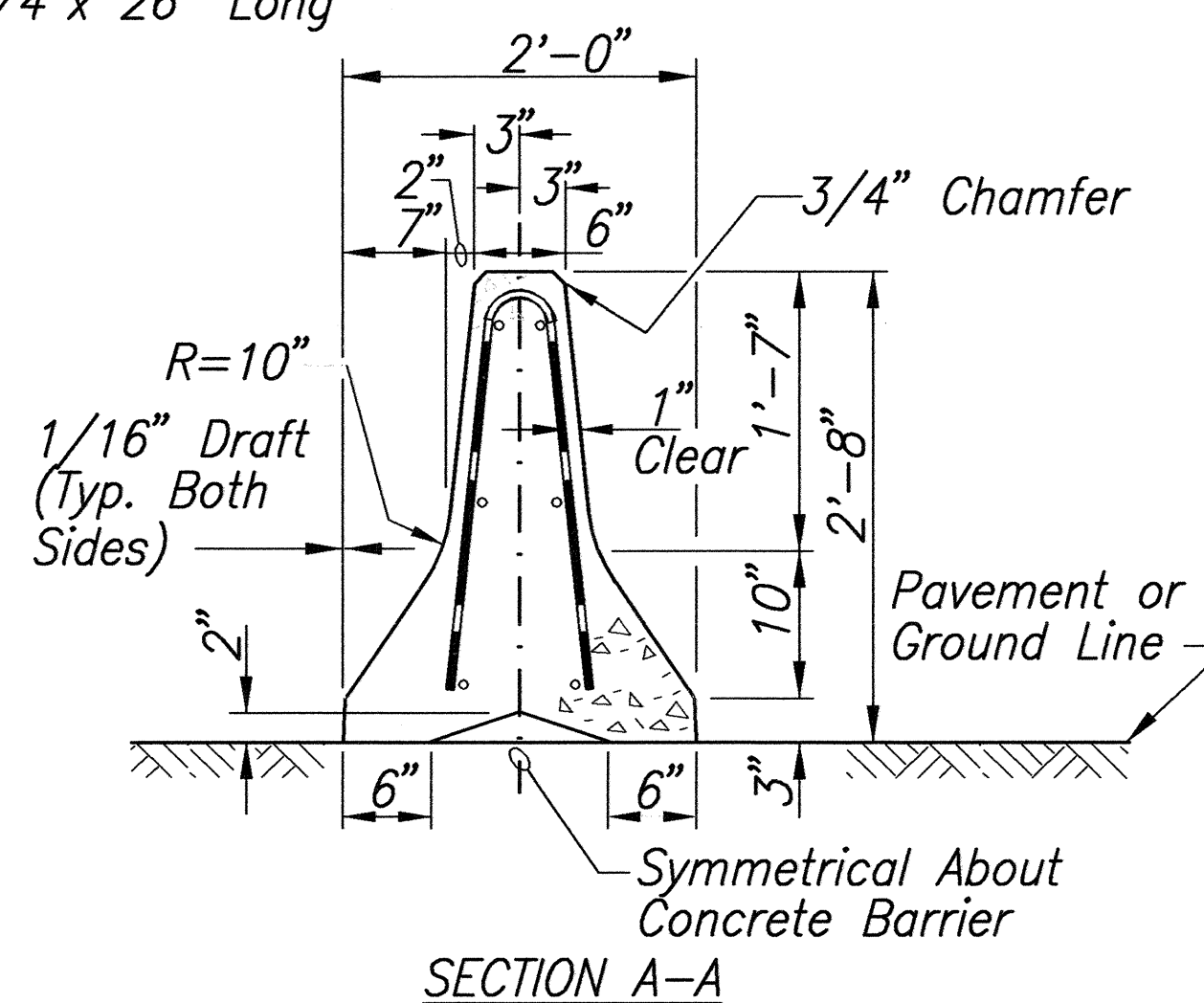
6-18-03	Revised Inertial Barrier System Max. Angle Text
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
CONSTRUCTION PHASING PLANS	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: Not To Scale	Date: October 31, 2002
SHEET No. C-41 OF C-59 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD. 110	234

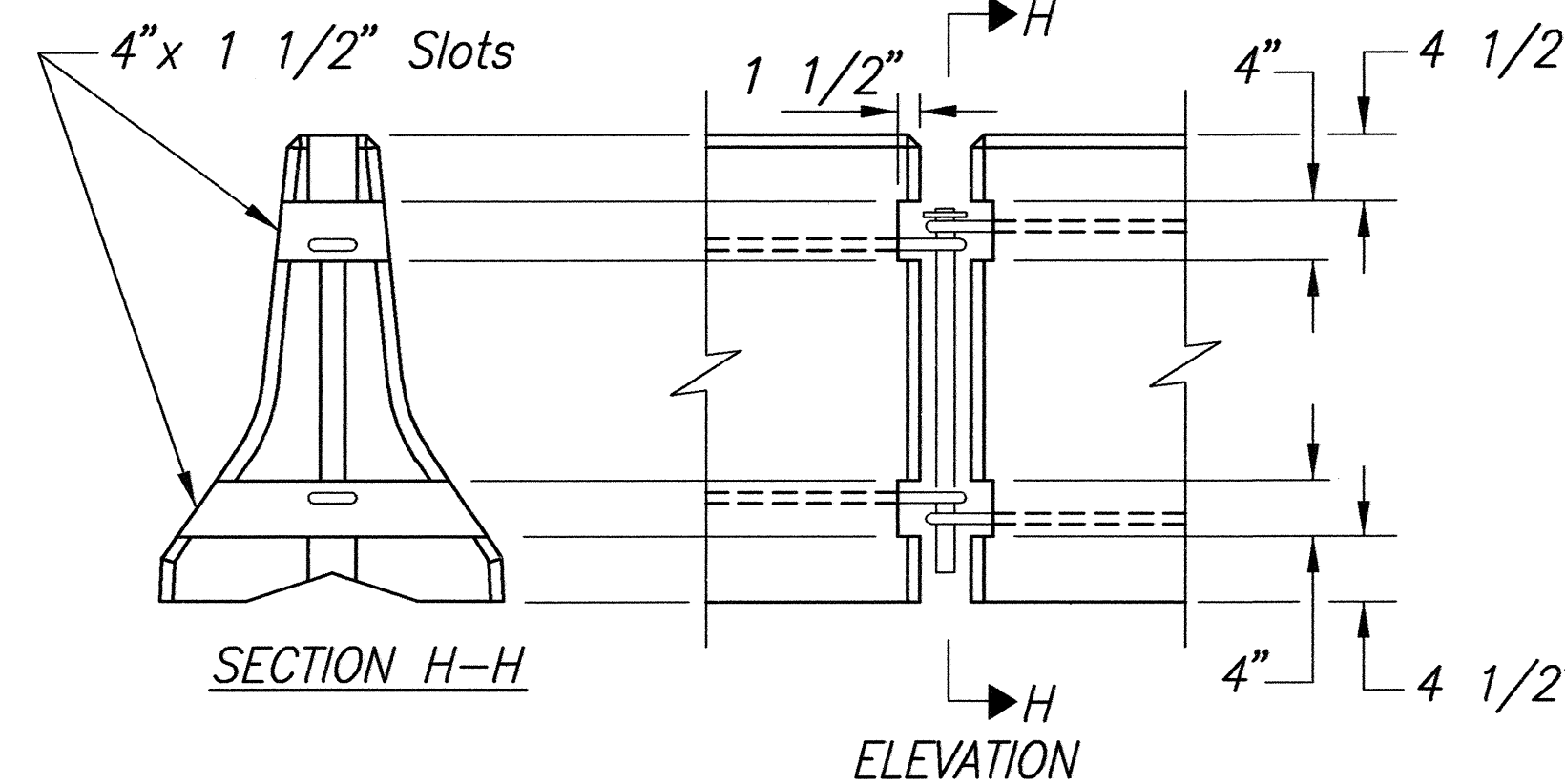


CONNECTION DETAILS

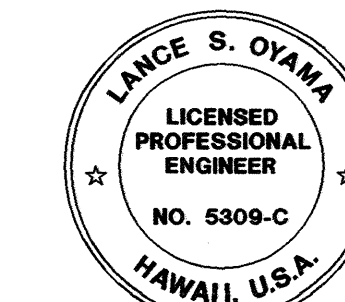
(See Note No. 5 on Sheet No. 2)



ELEVATION
 Connection Pin 1 1/4" x 26" & Washer 3/8" x 3" (See Connection Details)



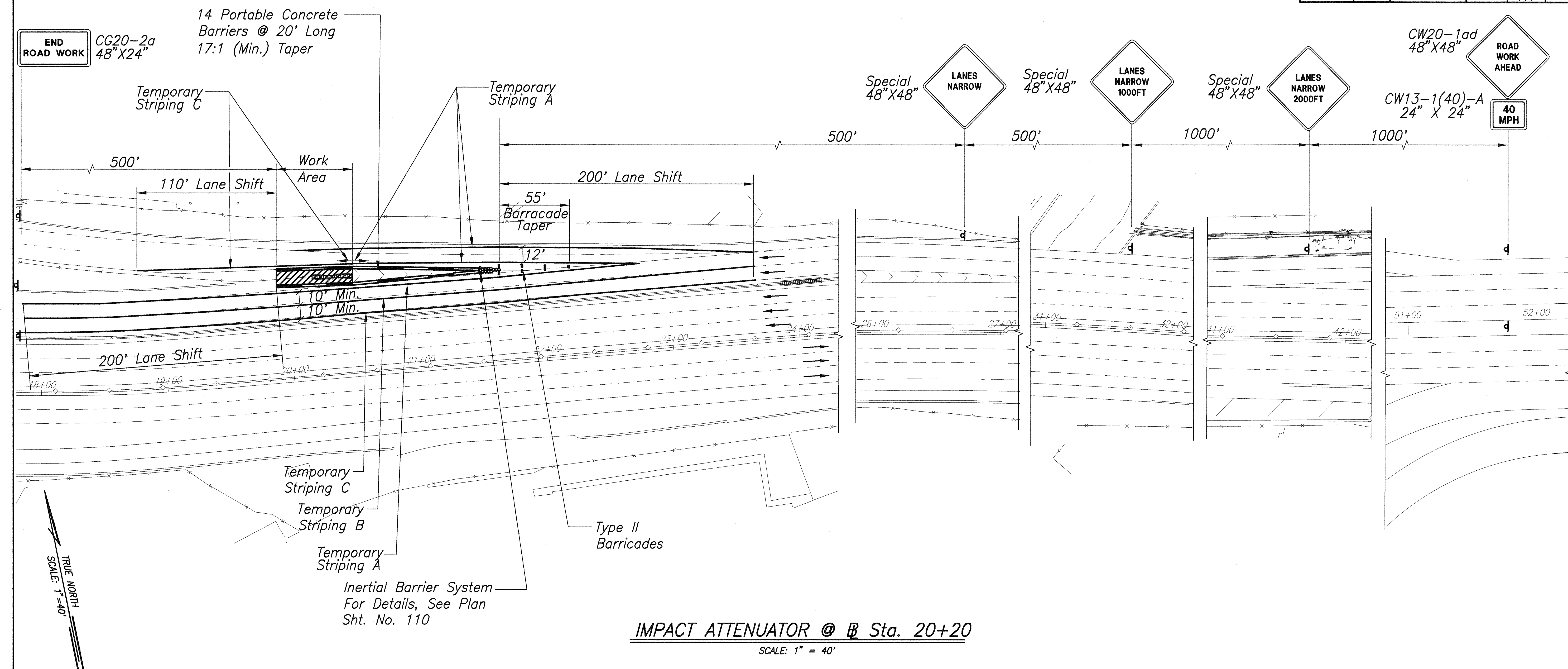
BARRIER REMOVAL SLOT DETAILS



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 Lance S. Oyama
 SIGNATURE
 APRIL 30, 2004
 EXPIRATION DATE

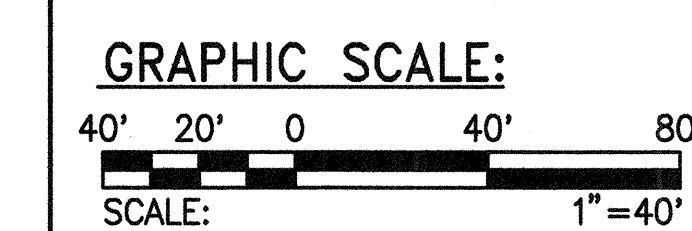
6-18-03	Added New Details
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PORTABLE CONCRETE BARRIER	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: Not To Scale	Date: October 31, 2002
SHEET No. C-41A OF C-59 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	C.O. ADD 111	234



IMPACT ATTENUATOR @ Sta. 20+20
SCALE: 1" = 40'

- Legend**
- Temporary Striping A
Temporary 4" White Edge Stripe with Type C Raised Pavement Markers at 40'-0" o.c.
 - Temporary Striping B
Temporary 4" White Stripe with Type C Raised Pavement Markers (RPM) at 40'-0" o.c.
 - Temporary Striping C
Temporary 4" Yellow Edge Stripe with Type H Raised Pavement Markers (RPM) at 40'-0" o.c.



CONSTRUCTION PHASING PLAN 1

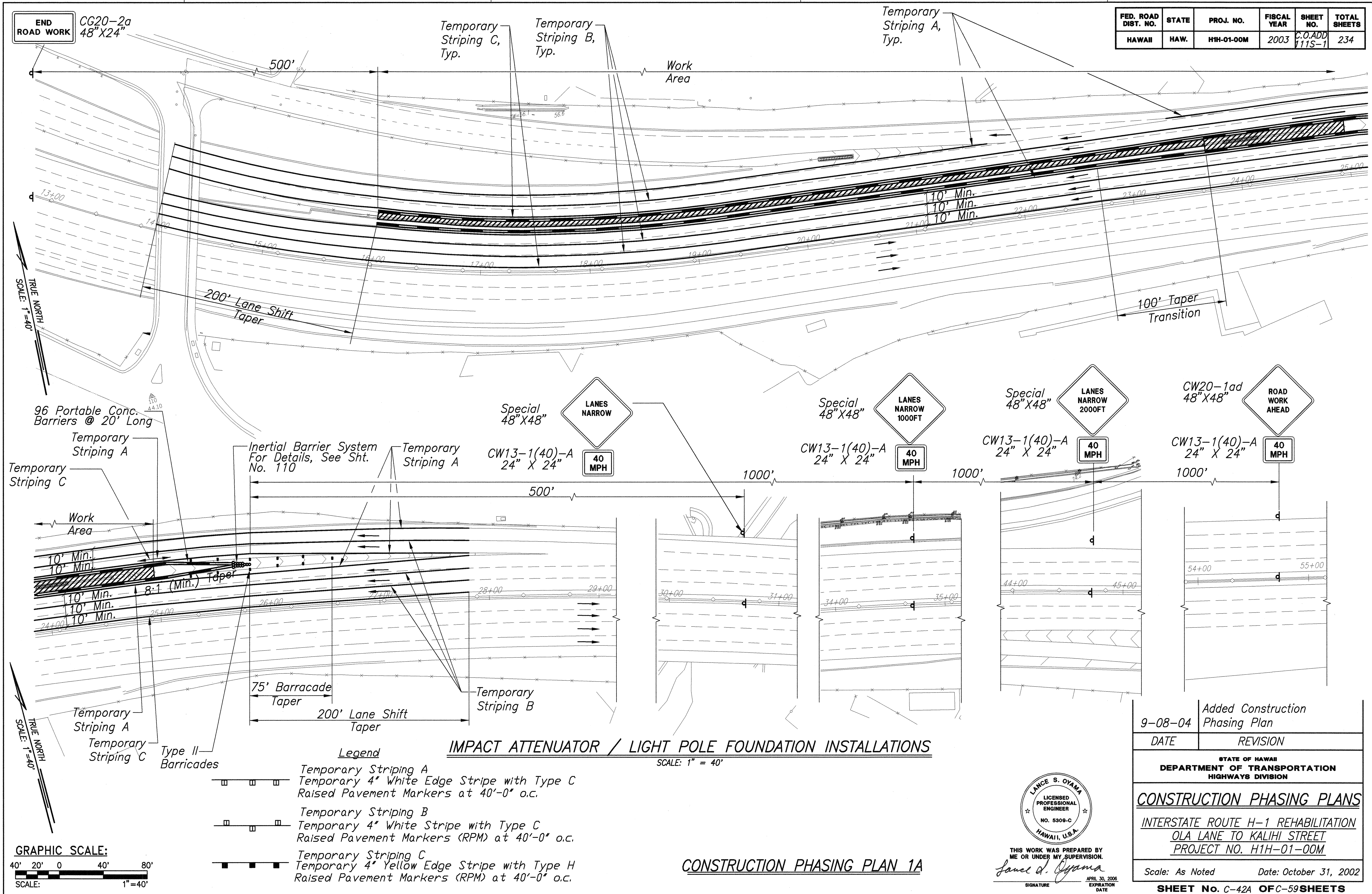
SURVEY PLOTTED BY	DATE
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DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTED	
NO.	

LANCE S. OYAMA
LICENSED PROFESSIONAL ENGINEER
NO. 5309-C
HAWAII, U.S.A.

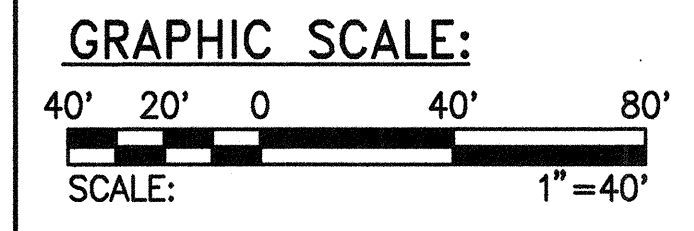
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Lance S. Oyama
SIGNATURE DATE: APRIL 30, 2006 EXPIRATION DATE

9-08-04	Deleted and Revised Construction Phasing Plan
6-18-03	Revised Construction Phasing Plans
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
CONSTRUCTION PHASING PLANS	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: As Noted	Date: October 31, 2002
SHEET NO. C-42 OF C-59 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	C.O. ADD 111S-1	234



SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



- Legend**
- Temporary Striping A
Temporary 4" White Edge Stripe with Type C Raised Pavement Markers at 40'-0" o.c.
 - Temporary Striping B
Temporary 4" White Stripe with Type C Raised Pavement Markers (RPM) at 40'-0" o.c.
 - Temporary Striping C
Temporary 4" Yellow Edge Stripe with Type H Raised Pavement Markers (RPM) at 40'-0" o.c.

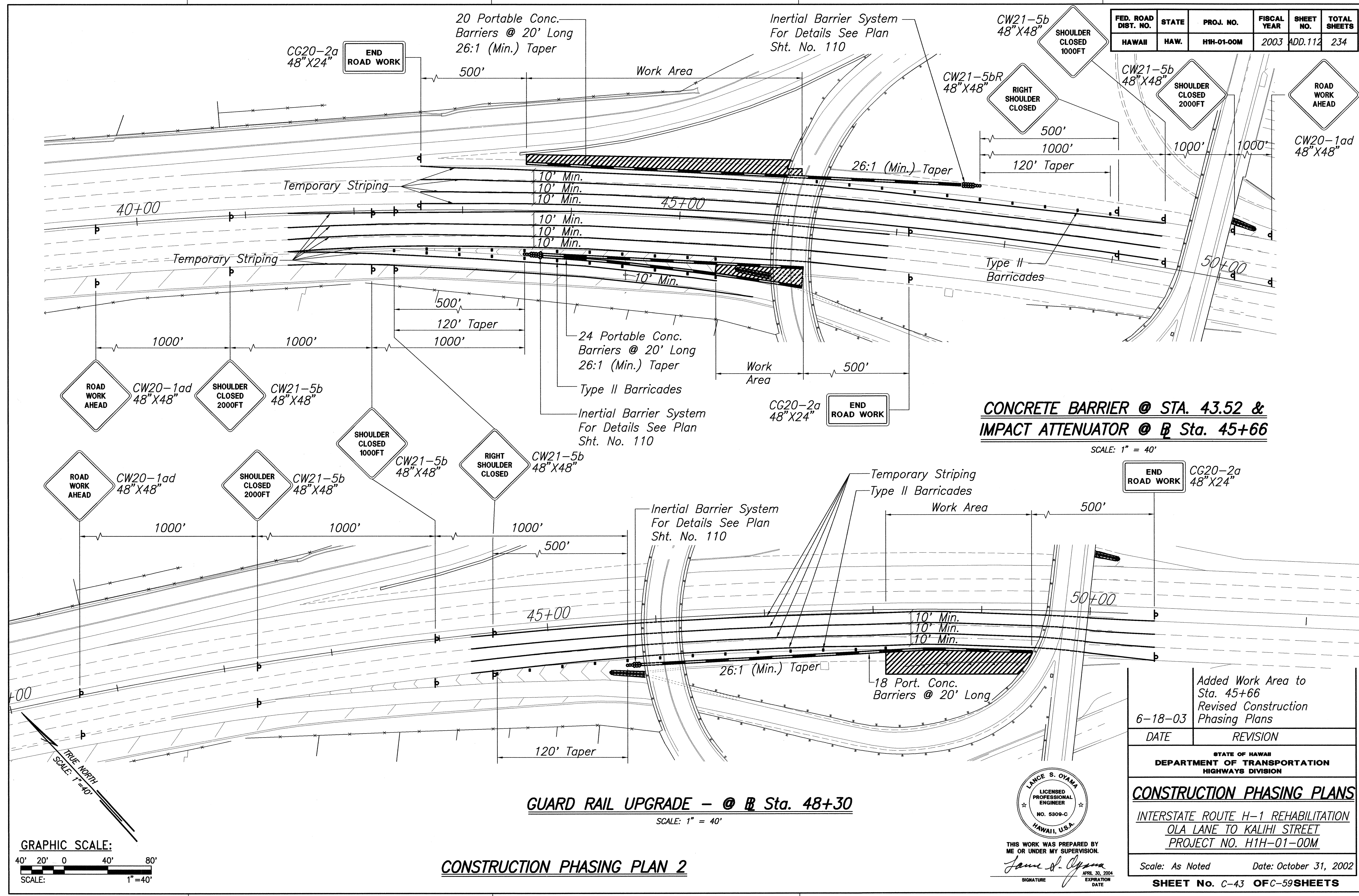
CONSTRUCTION PHASING PLAN 1A

LANCE S. OYAMA
LICENSED PROFESSIONAL ENGINEER
NO. 5309-C
HAWAII, U.S.A.

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Lance S. Oyama
SIGNATURE DATE: APRIL 30, 2006 EXPIRATION DATE

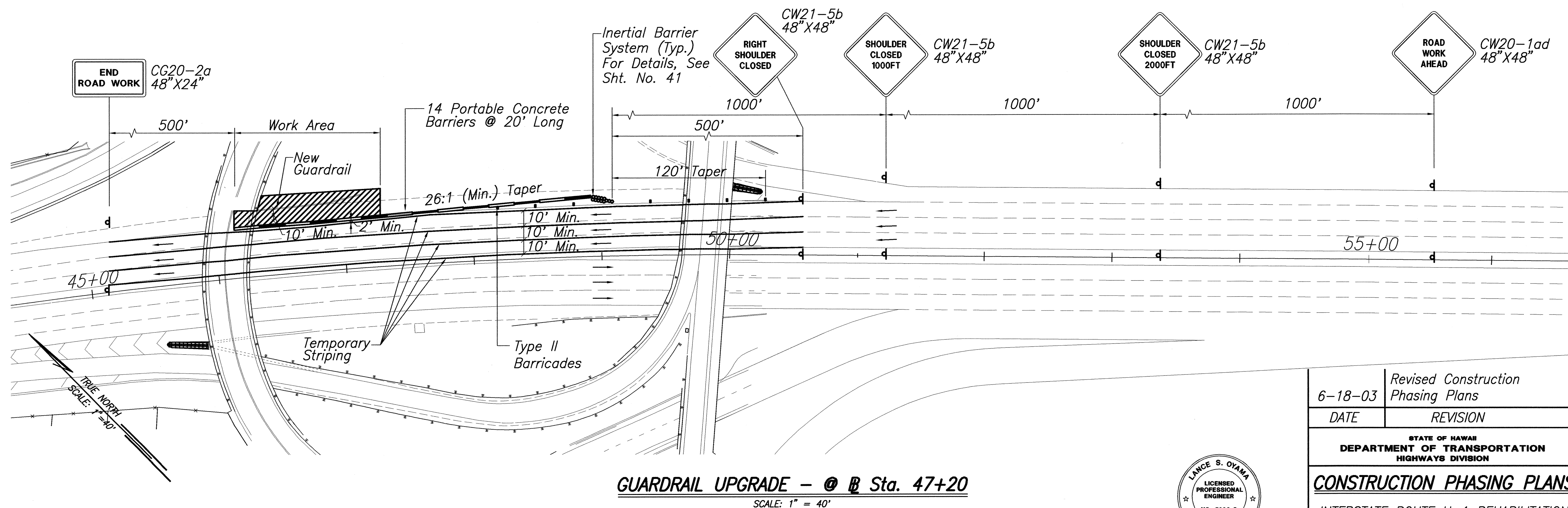
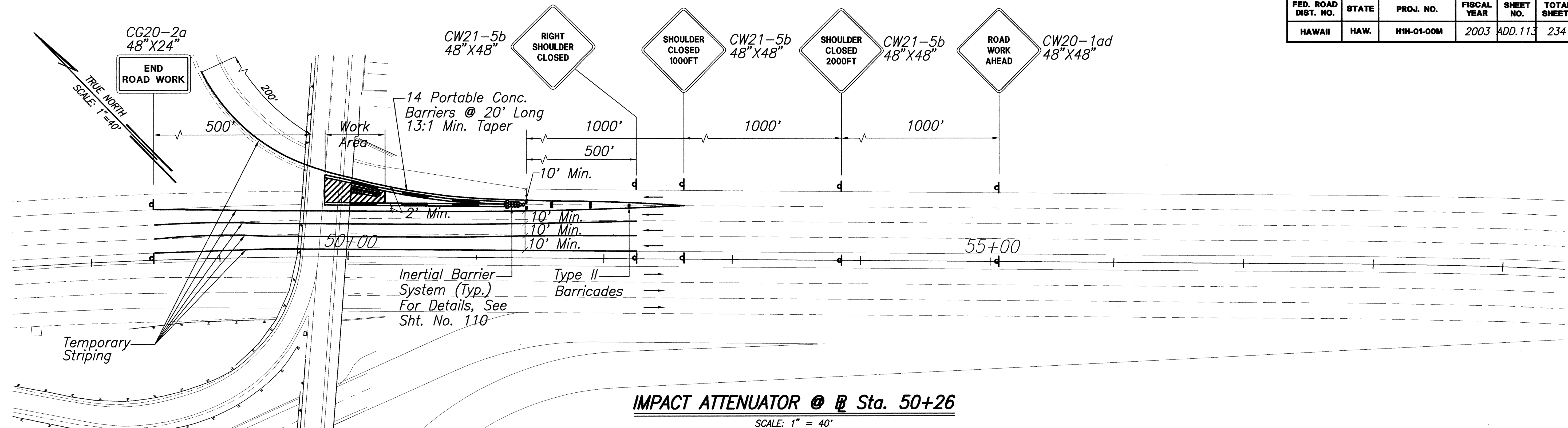
9-08-04	Added Construction Phasing Plan
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
CONSTRUCTION PHASING PLANS	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: As Noted	Date: October 31, 2002
SHEET NO. C-42A OF C-59 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD.112	234



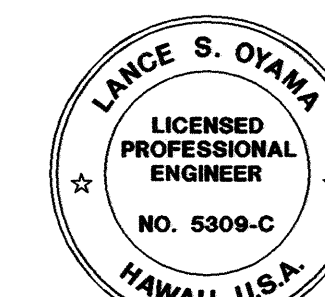
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
ORIGINAL PLAN	
NO. _____	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD. 113	234



GRAPHIC SCALE:
40' 20' 0 40' 80'
SCALE: 1" = 40'

CONSTRUCTION PHASING PLAN 3



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6-18-03	Revised Construction Phasing Plans
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
CONSTRUCTION PHASING PLANS	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: As Noted	Date: October 31, 2002

SHEET No. C-44 OF C-59 SHEETS

ADD. 113