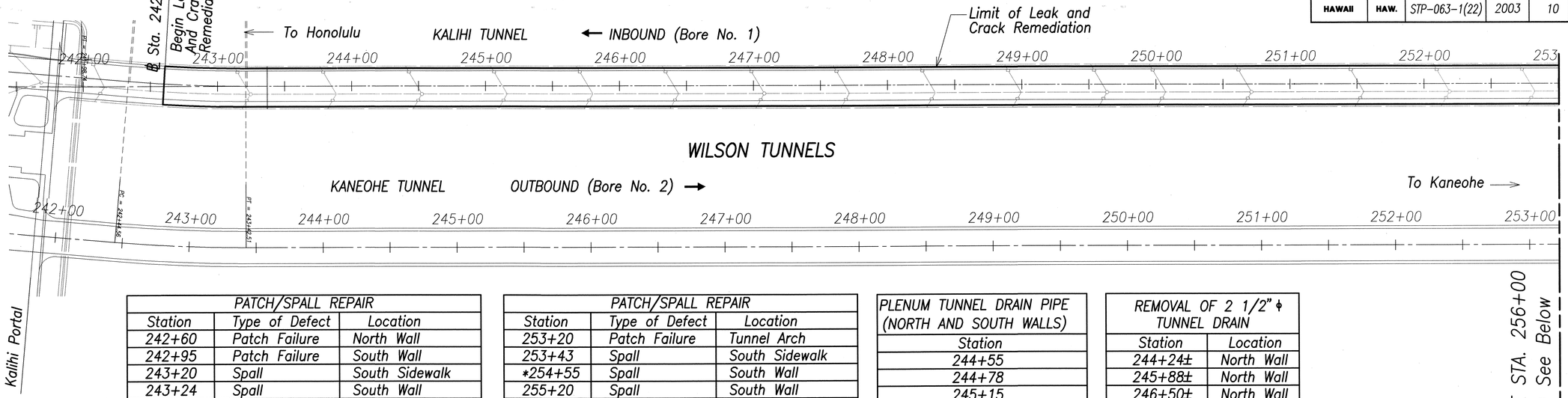
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	10	69



PATCH/SPALL REPAIR		
Station	Type of Defect	Location
242+60	Patch Failure	North Wall
242+95	Patch Failure	South Wall
243+20	Spall	South Sidewalk
243+24	Spall	South Wall
243+27	Spall	South Wall
243+37	Patch Failure	North Wall
245+27	Spall	Plenum Underside
245+60	Spall	South Sidewalk
248+12	Spall	South Sidewalk
248+48	Spall	Plenum Underside
248+50	Spall	South Sidewalk
250+08	Hollow Area	South Wall
250+66	Spall	North Wall
250+75	Patch Failure	North Wall
250+97	Spall	South Sidewalk
251+68	Spall	South Wall
252+30	Patch Failure	North Wall
252+30	Patch Failure	South Wall

PATCH/SPALL REPAIR		
Station	Type of Defect	Location
253+20	Patch Failure	Tunnel Arch
253+43	Spall	South Sidewalk
*254+55	Spall	South Wall
255+20	Spall	South Wall
256+45	Spall	South Wall
257+11	Spall	South Wall
257+42	Spall	South Wall

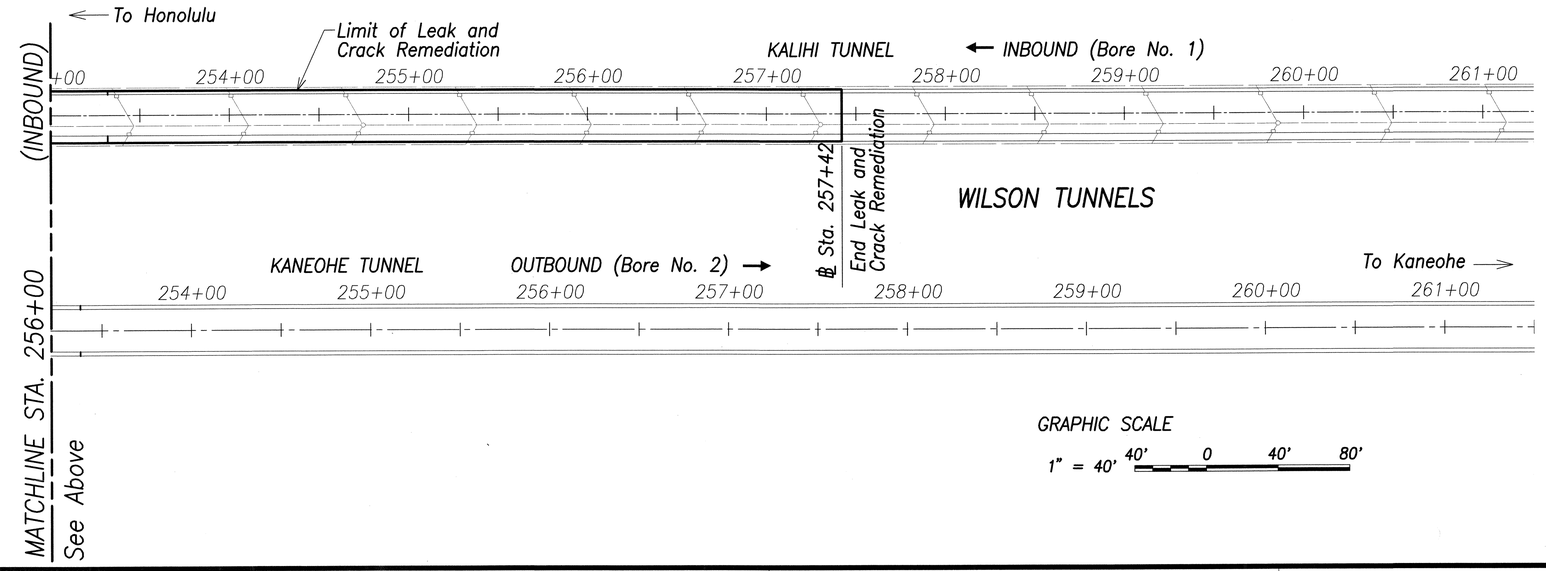
POLYURETHANE GROUT LEAK SEALING	
Sta.	Location
244+56	Plenum Underside
245+25	Plenum Underside
247+61	Plenum Underside
249+32	In Plenum
249+66	Plenum Underside

PLENUM TUNNEL DRAIN PIPE (NORTH AND SOUTH WALLS)
Station
244+55
244+78
245+15
248+86
250+20
250+65
252+21
253+32

HDPE PANNING AND DRAINAGE TROUGH
Station
242+69 to 250+65
251+94 to 253+32

REMOVAL OF 2 1/2" ϕ TUNNEL DRAIN	
Station	Location
244+24±	North Wall
245+88±	North Wall
246+50±	North Wall
249+84±	North Wall
250+66±	North Wall
243+34±	South Wall
243+98±	South Wall
245+90±	South Wall
249+36±	South Wall
250+32±	South Wall
250+79±	South Wall
250+80±	South Wall

TRUE NORTH
SCALE: 1" = 40'



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

Notes:

1. Contractor shall flush and clean all drain inlets and drain pipes that exist within the tunnel. Drain inlets and drain manholes require removal of tack welds to access drain inlet. Contractor shall tack weld grate upon completion of maintenance work.
2. See Sht. C-16 & C-17 for leak and crack remediation details.
3. Location of patch/spall repair and leak sealing are approximate, Contractor to verify exact location.
4. *Contractor shall verify that steel pipe is abandoned prior to concrete repair. Remove or fill pipe with grout, as directed by the Engineer.
5. See Sht. C-16 for tunnel drain demolition details.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-O
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/20/03	ADDED EXIST. DRAINAGE SYSTEM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI INBOUND TUNNEL AIR PLENUM AND DRAINAGE PLAN

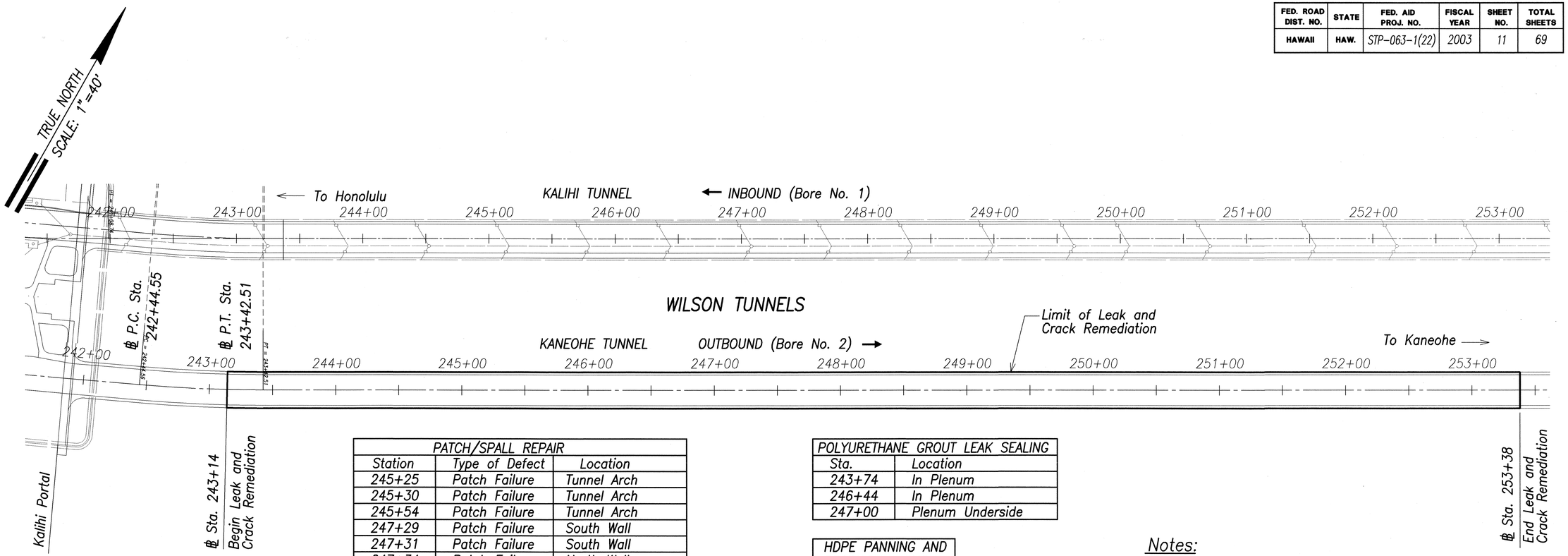
LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1"=40' Date: April 24, 2003

SHEET No. C-9 OF 30 SHEETS

ADD. 10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	11	69



REMOVAL OF 2 1/2" ϕ TUNNEL DRAIN	
Station	Location
247+04±	North Wall
243+72±	South Wall
244+58±	South Wall
245+16±	South Wall
247+62±	South Wall
248+20±	South Wall
248+80±	South Wall
249+44±	South Wall
250+98±	South Wall

PATCH/SPALL REPAIR		
Station	Type of Defect	Location
245+25	Patch Failure	Tunnel Arch
245+30	Patch Failure	Tunnel Arch
245+54	Patch Failure	Tunnel Arch
247+29	Patch Failure	South Wall
247+31	Patch Failure	South Wall
247+34	Patch Failure	North Wall
247+64	Patch Failure	North Wall
247+64	Patch Failure	South Wall
248+33	Patch Failure	Tunnel Arch
249+43	Spall	Plenum Underside
250+32	Patch Failure	Tunnel Arch
250+45	Patch Failure	Tunnel Arch
250+47	Patch Failure	North Wall
250+52	Patch Failure	Tunnel Arch
250+93	Patch Failure	South Wall
252+11	Patch Failure	South Wall
252+43	Patch Failure	South Wall
252+77	Patch Failure	Tunnel Arch

POLYURETHANE GROUT LEAK SEALING	
Sta.	Location
243+74	In Plenum
246+44	In Plenum
247+00	Plenum Underside

HDPE PANNING AND DRAINAGE TROUGH
Station
243+14 to 250+89
251+48 to 251+58
252+47 to 253+38

PLENUM TUNNEL DRAIN PIPE (NORTH AND SOUTH WALLS)
Station
243+38
244+78
245+60
246+31
246+95
250+89
251+58
253+38

Notes:

1. Contractor shall flush and clean all drain inlets and drain pipes that exist within the tunnel. Catch basin and drain manholes require removal of tack welds to access drainage structures. Contractor shall tack weld grate upon completion of maintenance work.
2. Catch basins are located 30' o.c. (left and right) through entire tunnel.
3. See Sht. C-16 & C-17 for leak and crack remediation details.
4. Location of patch/spall repair and leak sealing are approximate. Contractor to verify exact location.
5. See Sht. C-16 for tunnel drain demolition details.

GRAPHIC SCALE

1" = 40' 40' 20' 0 40' 80'

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

CRAIG W. L. LUKE LICENSED PROFESSIONAL ENGINEER No. 6935-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

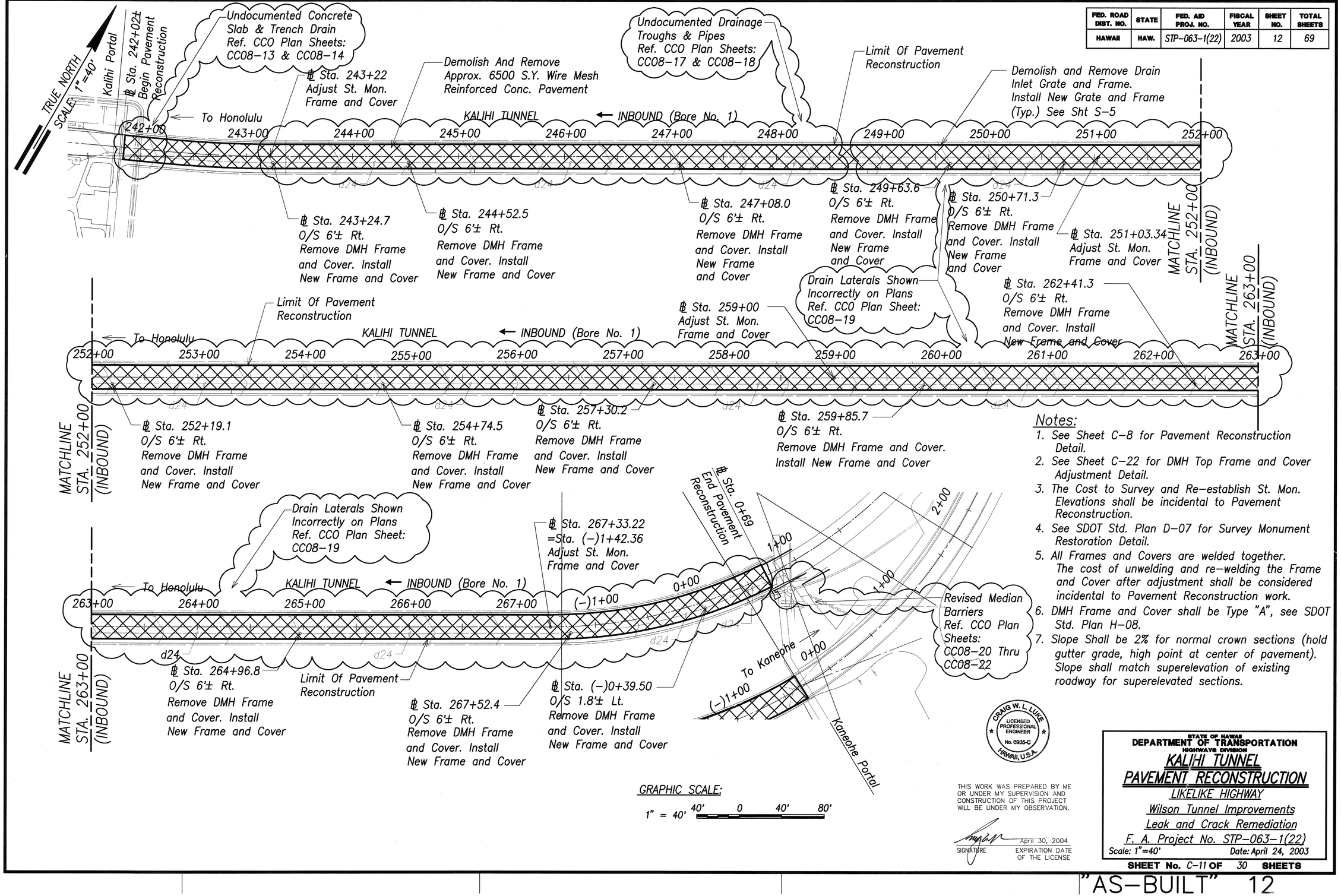
KANEOHE OUTBOUND TUNNEL AIR PLENUM AND DRAINAGE PLAN

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1"=40' Date: April 24, 2003

SHEET No. C-10 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	12	69



Notes:

1. See Sheet C-8 for Pavement Reconstruction Detail.
2. See Sheet C-22 for DMH Top Frame and Cover Adjustment Detail.
3. The Cost to Survey and Re-establish St. Mon. Elevations shall be incidental to Pavement Reconstruction.
4. See SDOT Std. Plan D-07 for Survey Monument Restoration Detail.
5. All Frames and Covers are welded together. The cost of unwelding and re-welding the Frame and Cover after adjustment shall be considered incidental to Pavement Reconstruction work.
6. DMH Frame and Cover shall be Type "A", see SDOT Std. Plan H-08.
7. Slope Shall be 2% for normal crown sections (hold gutter grade, high point at center of pavement). Slope shall match superelevation of existing roadway for superelevated sections.

GRAPHIC SCALE:

1" = 40' 40' 0 40' 80'

ORIGINAL PLAN

SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
NOTE BOOK ____ QUANTITIES BY ____
No. ____ CHECKED BY ____

CRAIG W. L. LUKE LICENSED PROFESSIONAL ENGINEER No. 6935-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI TUNNEL PAVEMENT RECONSTRUCTION

LIKELIKE HIGHWAY

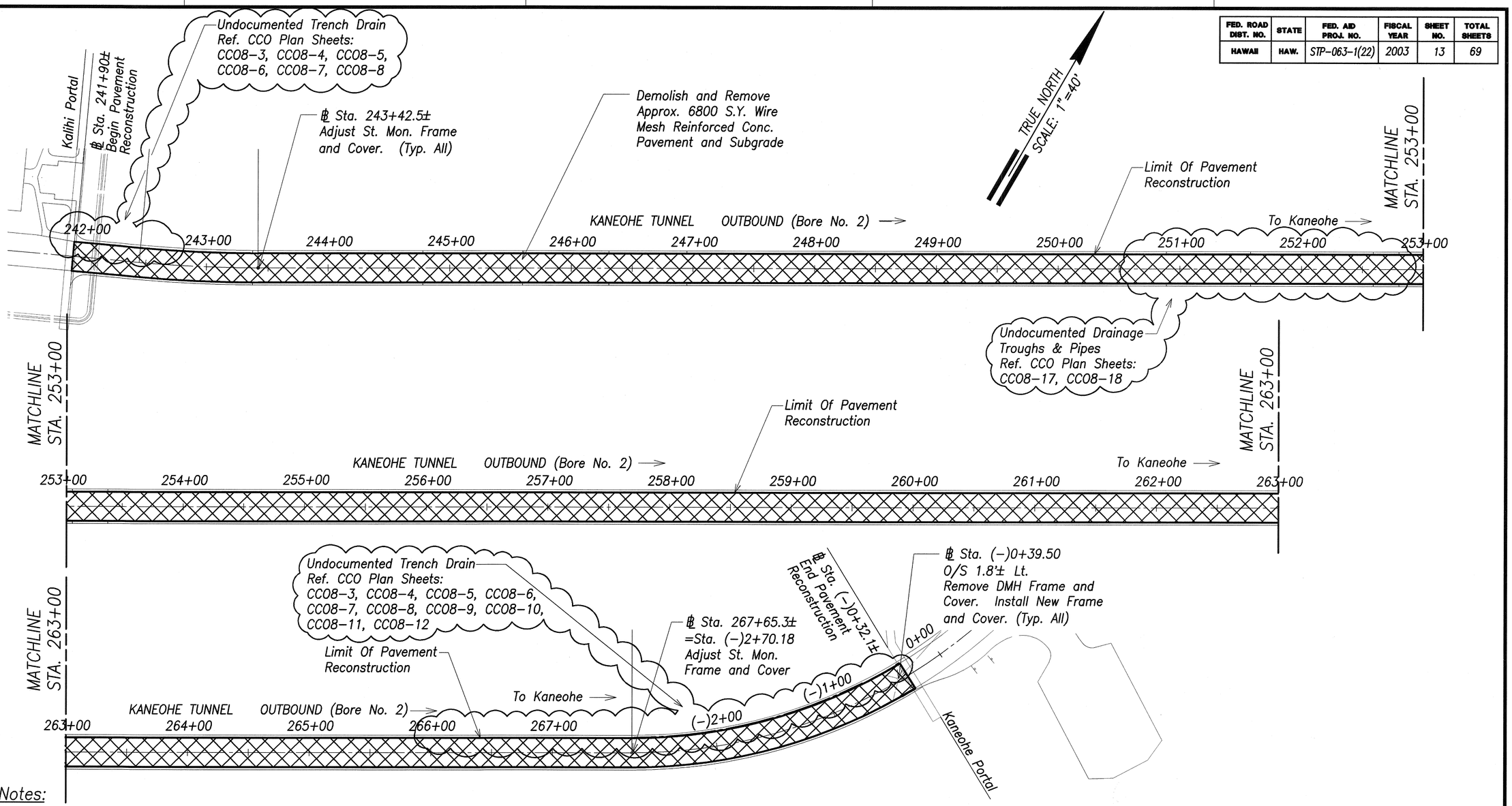
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1"=40' Date: April 24, 2003

SHEET No. C-11 OF 30 SHEETS

"AS-BUILT" 12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	13	69



Notes:

1. See sheet C-8 for pavement reconstruction detail.
2. Contractor shall verify and record the locations of st. mon. prior to pavement reconstruction.
3. See SDOT Std. Plan D-07 for survey monument restoration detail. The cost to survey and re-establish st. mon. elevations shall be incidental to pavement reconstruction work.
4. All frames and covers are welded together. The cost of unwelding and re-welding the frame and cover after adjustment shall be considered incidental to pavement reconstruction work.
5. DMH frame and cover shall be Type "A", see SDOT Std. Plan H-08.
6. Slope shall be 2% for normal crown sections (hold gutter grade, high point at center of pavement). Slopes shall match superelevation of existing roadway for superelevated sections.
7. Demolish and remove catch basin grate and frame. Install new grate and frame (Typ.) see Sht. S-5.
8. See Sht. C-22 for DMH top Frame and Cover Adjustment Detail.
9. Contractor shall submit Concrete Pavement Jointing Pattern shop drawing at least 12 weeks prior to concrete pavement work and shall not proceed until written approval from the Engineer is granted.

GRAPHIC SCALE

1" = 40' 40' 0 40' 80'

ORIGINAL PLAN

SURVEY PLOTTED BY: DATE
DRAWN BY:
TRACED BY:
DESIGNED BY:
NOTE BOOK QUANTITIES BY:
No. CHECKED BY:

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KANEOHE TUNNEL PAVEMENT RECONSTRUCTION

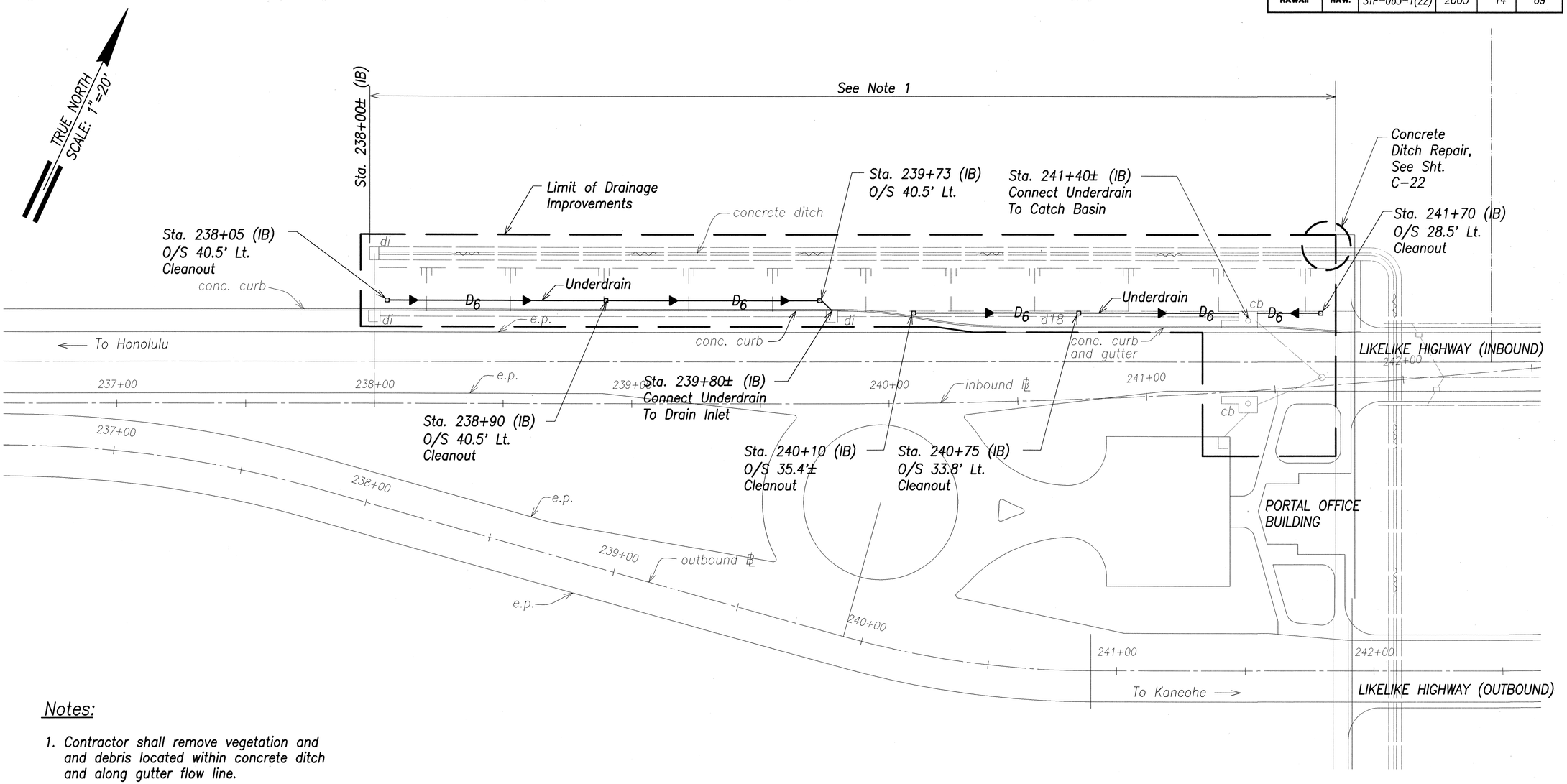
LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1"=40' Date: April 24, 2003

SHEET No. C-12 OF 30 SHEETS

"AS-BUILT" 13

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	14	69



Notes:

1. Contractor shall remove vegetation and and debris located within concrete ditch and along gutter flow line.
2. See sheet C-19 for underdrain details.
3. Contractor shall flush and clean all drain inlets, catch basin, and drain pipes within Limit of Drainage Improvement.

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

KALIHI PORTAL - DRAINAGE PLAN
SCALE: 1"=20'

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

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

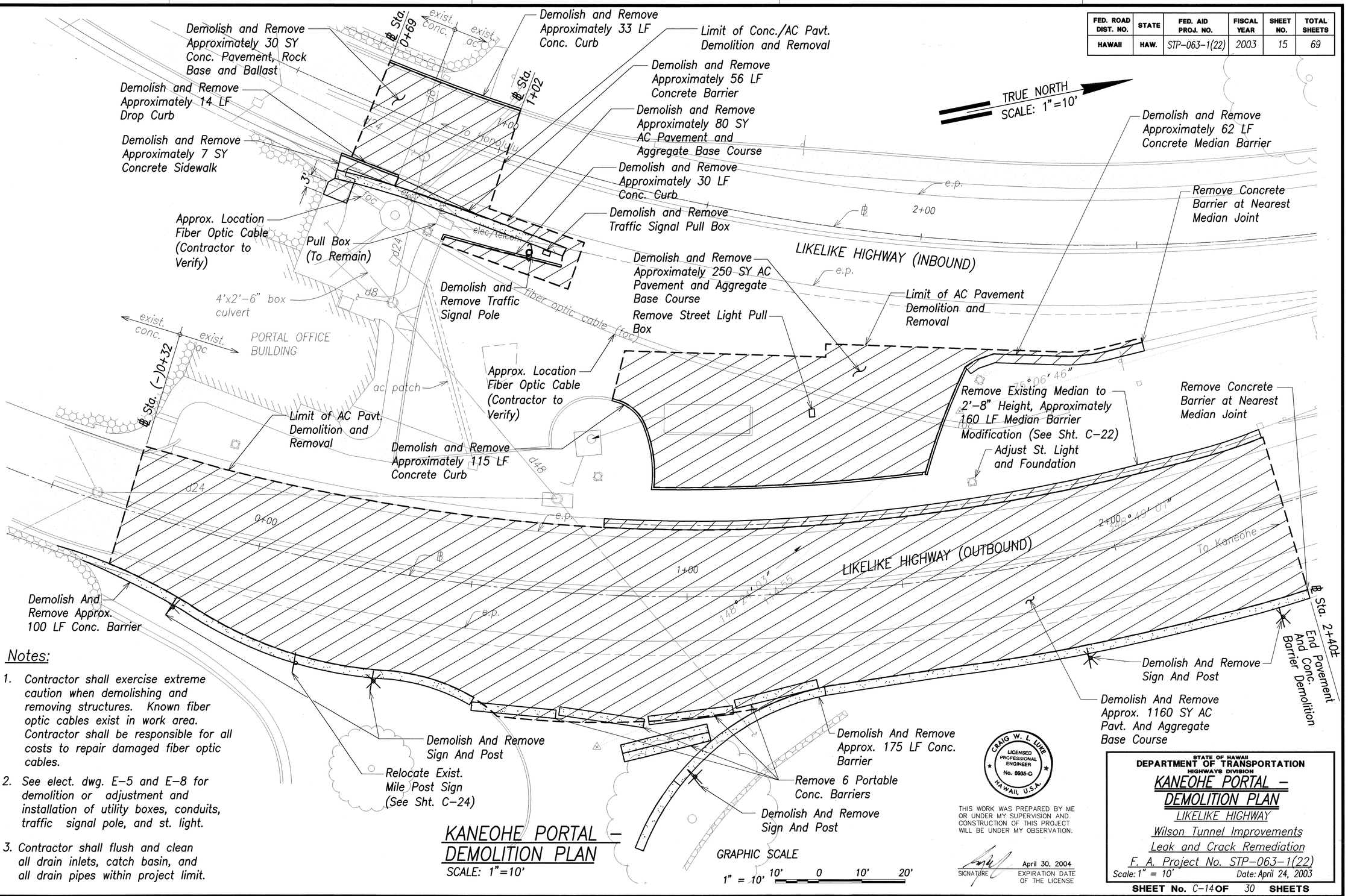
SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KALIHI PORTAL - DRAINAGE PLAN
LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)
Scale: 1" = 20' Date: April 24, 2003

SHEET No. C-13 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	15	69



Notes:

1. Contractor shall exercise extreme caution when demolishing and removing structures. Known fiber optic cables exist in work area. Contractor shall be responsible for all costs to repair damaged fiber optic cables.
2. See elect. dwg. E-5 and E-8 for demolition or adjustment and installation of utility boxes, conduits, traffic signal pole, and st. light.
3. Contractor shall flush and clean all drain inlets, catch basin, and all drain pipes within project limit.

ORIGINAL PLAN | NOTE BOOK | No.

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

KANEOHE PORTAL - DEMOLITION PLAN

SCALE: 1"=10'

GRAPHIC SCALE

1" = 10' 10' 0 10' 20'

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-O
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KANEOHE PORTAL - DEMOLITION PLAN

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1" = 10' Date: April 24, 2003

SHEET No. C-14 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	16	69

Note:
Contractor shall submit Concrete Pavement Jointing Pattern Shop Drawing at least 12 weeks prior to concrete pavement work and shall not proceed until written approval from the Engineer is granted.

Note:
1. Hydromulch Seeding Shall Be Incidental To Various Contract Items.

TRUE NORTH
1"=10'

Conc. Curb (Type 2D) See Sht. S-1

℄ Sta. 0+69 End Concrete Median Barrier/ Slab

℄ Sta. 1+02 Begin Concrete Median Barrier/Slab End Terminal Impact Attenuator

Conc. Type 2D Curb See Sht. S-1

℄ Sta. 1+21 O/S 17.8' Rt. Begin Terminal Impact Attenuator

Construct Terminal Impact Attenuator (Reusable Energy Absorbing Crash Terminal or Approved Equal). See Sht. C-20.

exist. conc.

exist. ac

Reinf. Conc. Pav't. (See Struc. Dwgs.)

1+00

To Honolulu

Concrete Sidewalk (See Sht. C-22)

AC Pavement Mix No. IV

40°45'08", 122.59' (Tie: Sta. "WILSON" to ℄ Sta. 1+00)

℄ Sta. 1+82, O/S 29.1' Rt. End Concrete Median Barrier

BENCHMARK
Sta. "WILSON"
1/2" Pipe
1,431.93 S
12,468.46 W
Elev. = 702.23

e.p.

2+00

℄

LIKELIKE HIGHWAY (INBOUND)

℄ Sta. 2+38.14 O/S 26.74' Rt. Concrete Median Barrier

℄ Sta. 2+51 O/S 23.5' Rt. Conn. to Existing Concrete Median Barrier (See Det. 2/S-3.)

elec

d24

709.0± TC
708.5± BC

Concrete Barrier/Slab (See Sht. S-1)

52'

25'

Conc. Curb Type 2D

Provide Smooth Transition

Concrete Median Barrier (See Det. 3/S-2).

Conc. Curb Conn. (See Sht. C-22)

d8

4' Conc. Drop Curb Block

706.2±

707.1± TC
706.5± BC

PORTAL OFFICE BUILDING

Limit of AC Pavement Restoration

703.5±

704.9±

Limit of AC Pavement Restoration

701.9± TW
699.1± BW

Interface Joint

℄ Sta. (-)0+32.2± Begin Pavement Reconstruction

271°55'10", 140.12' (Tie: ℄ Sta. 1+00 to Sta. "TUNNEL")

d48

704.6± TC
704.1± BC
Match Exist.

AC Pavement Mix No. IV

704

705°37'

115°37'

704.00 TC
703.50 BC
Type 2D Concrete Curb

234°52'21", 46.48' (Tie: Sta. "WILSON" to P.C.C. Sta. 1+97.56)

P.C.C. Sta. 1+97.56

698

696

Concrete Pavement

exist. conc.

exist. ac

d30

E.P.

e.p.

0+00

Concrete Curb Type 2D

1' Opening in Curb

702

700

702.10 TC
701.60 BC

A C-15 C-22

695.4±

P.T. ℄ Sta. 2+40± (Outbound) End Project

Roadside Barrier to Tunnel Conn. (See Det. 3/S-3).

℄

LIKELIKE HIGHWAY (OUTBOUND)

℄ Sta. 0+80 Outbound

Limit of Grading 1+00

Hydromulch Seeding

A C-8

2+00

to Kaneohe

Median Barrier Modification, (See Sht. C-22)

℄ Sta. 2+40±, O/S 21.7± End Concrete Roadside Barrier. Conn. to exist. Barrier (See Det. 2/S-3).

P.C. ℄ Sta. (-)0+38.2± O/S 14.0' Rt. Begin Concrete Roadside Barrier

1B

P.O.C. ℄ Sta. (-)0+12.36 O/S 17.88' Rt.

Reinforced Concrete Pavement

e.p.

E.P.

148°24'03", 114.55' (Tie: Sta. "TUNNEL" to Sta. "WILSON")

349°57'38", 126.24' (Tie: P.C.C ℄ Sta. 1+97.56 to Sta. "TUNNEL")

P.C.C. ℄ Sta. 1+97.56 O/S 20.98' Rt.

3B

Drilled Shaft Location (Typ.)

Construction Joint (Typ.)

C C-8

2B

P.T. ℄ Sta. 1+10.69 O/S 24.95' Rt.

182°16'00", 64.22'

Conc. Roadside Barrier (See Sht. S-3)

CONCRETE ROADSIDE BARRIER ℄ CURVE DATA

	1B	2B	3B
△ =	07°45'23"	37°35'38"	07°23'39"
△/2 =	03°52'41.5"	18°47'49"	03°41'49.5"
R =	200.00'	200.00'	550.00'
T =	13.56'	68.07'	35.54'
C =	27.05'	128.89'	70.93'
Lc =	27.08'	131.23'	70.98'

BENCHMARK
Sta. TUNNEL
Magnail
1,529.49 S
12,408.44 W
Elev. = 703.59

KANEOHE PORTAL - ROADWAY AND GRADING PLAN

Scale: 1"=10'

GRAPHIC SCALE
1" = 10' 10' 0 10' 20'

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 8936-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

April 30, 2004
SIGNATURE EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/20/03	DEL. REF. TO STRUCT. DWG. FOR CONC. PAVT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KANEOHE PORTAL - ROADWAY AND GRADING PLAN

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)
Scale: 1" = 10' Date: April 24, 2003

SHEET No. C-15 OF 30 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

ADD. 16