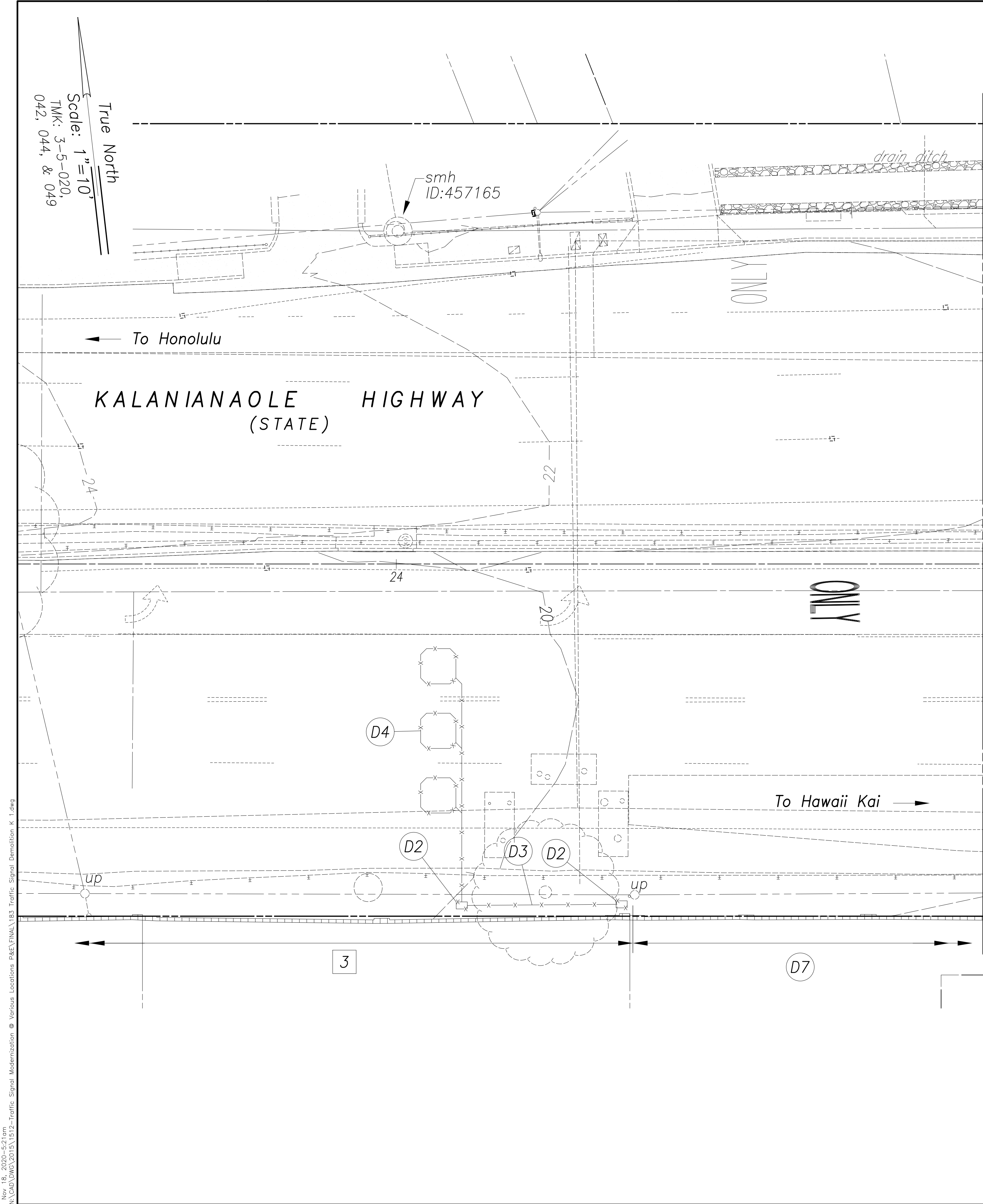




Notes:

- 1
- The traffic signal system shall remain operational at all times during construction. Existing poles, traffic signal lights, and pedestrian signal heads may be removed only after new equipment is operational.
- 2
- Deliver salvaged equipment to C&C of Honolulu, Dept. of Transportation Services, Traffic Signal & Technology baseyard at 999 Makolu Street (ph: 768-5323).
- 3
- Overhead Type 3 interconnect cable to remain.
- 4
- Existing traffic signal standard to remain.
- 5
- Existing pullbox to remain.
- 6
- Existing ductline to remain.

Demolition Callouts:

- D1
- Remove and salvage traffic signal controller and cabinet. Demolish and dispose of concrete base one foot below finish grade.
- D2
- Demolish and dispose of traffic signal pullbox.
- D3
- Remove traffic signal cables. Abandon ductline in place. Fill ducts with lean concrete.
- D4
- Abandon vehicle detectors in place.
- D5
- Remove and salvage existing traffic signal standard. Demolish and dispose of concrete foundation two feet below finish grade. Remove and salvage traffic signal heads and pedestrian signal heads.
- D6
- Remove and salvage pedestrian push button. Demolish and dispose of concrete foundation.
- D7
- Remove overhead Type 2 detector lead-in cable. Overhead Type 3 interconnect cable to remain.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	183	291

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

New 18, 2020-03-20m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\183 Traffic Signal Demolition K 1.dwg

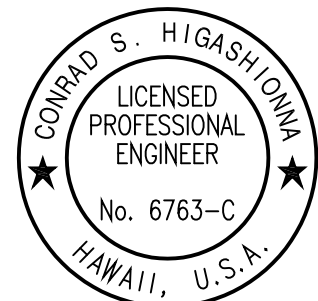
GRAPHIC SCALES

SCALE 1"=10' 10' 5' 0 10' 20'

Approved By:

Chief, Traffic Signals & Technology, DTS

Date



License Expiration Date 04-30-22
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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNAL DEMOLITION
Kalaniana'ole Hwy & Kalaniki St

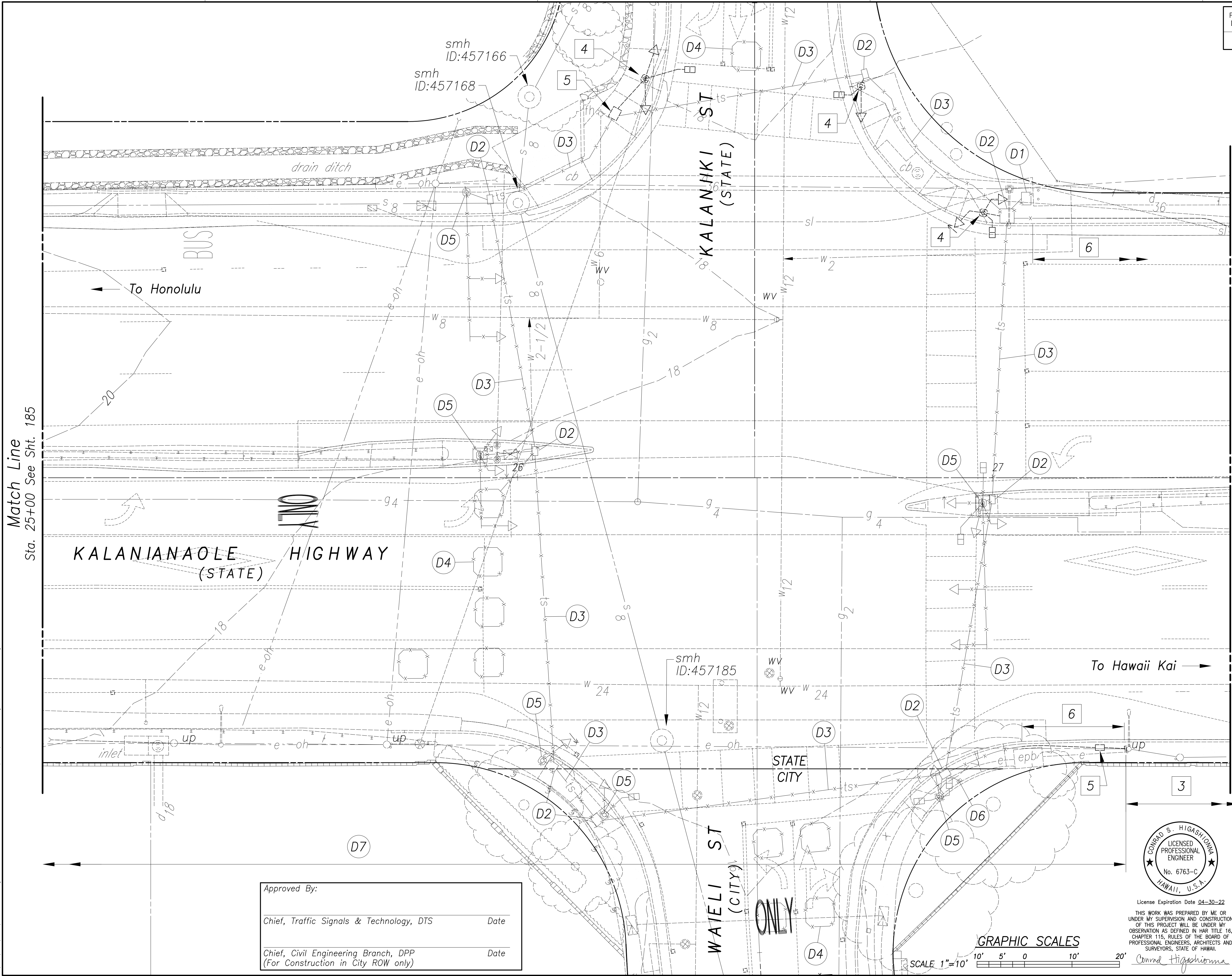
ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R

Scale: Date: Oct. 2020

SHEET No. TS-81 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	184	291

True North
Scale: 1"=10'
TMK: 3-5-020,
042, 044, & 049

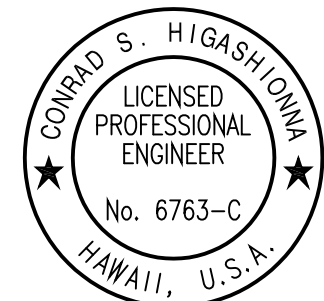


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	DATE
QUANTITIES BY	DESIGNED BY	DATE
CHECKED BY	DESIGNED BY	DATE

New 18, 2020-03-20m
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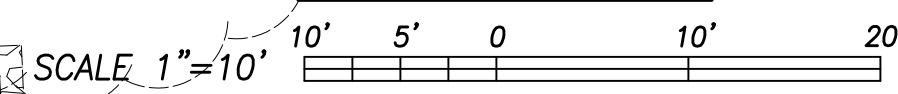
Approved By:

Chief, Traffic Signals & Technology, DTS	Date
Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date



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GRAPHIC SCALES



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

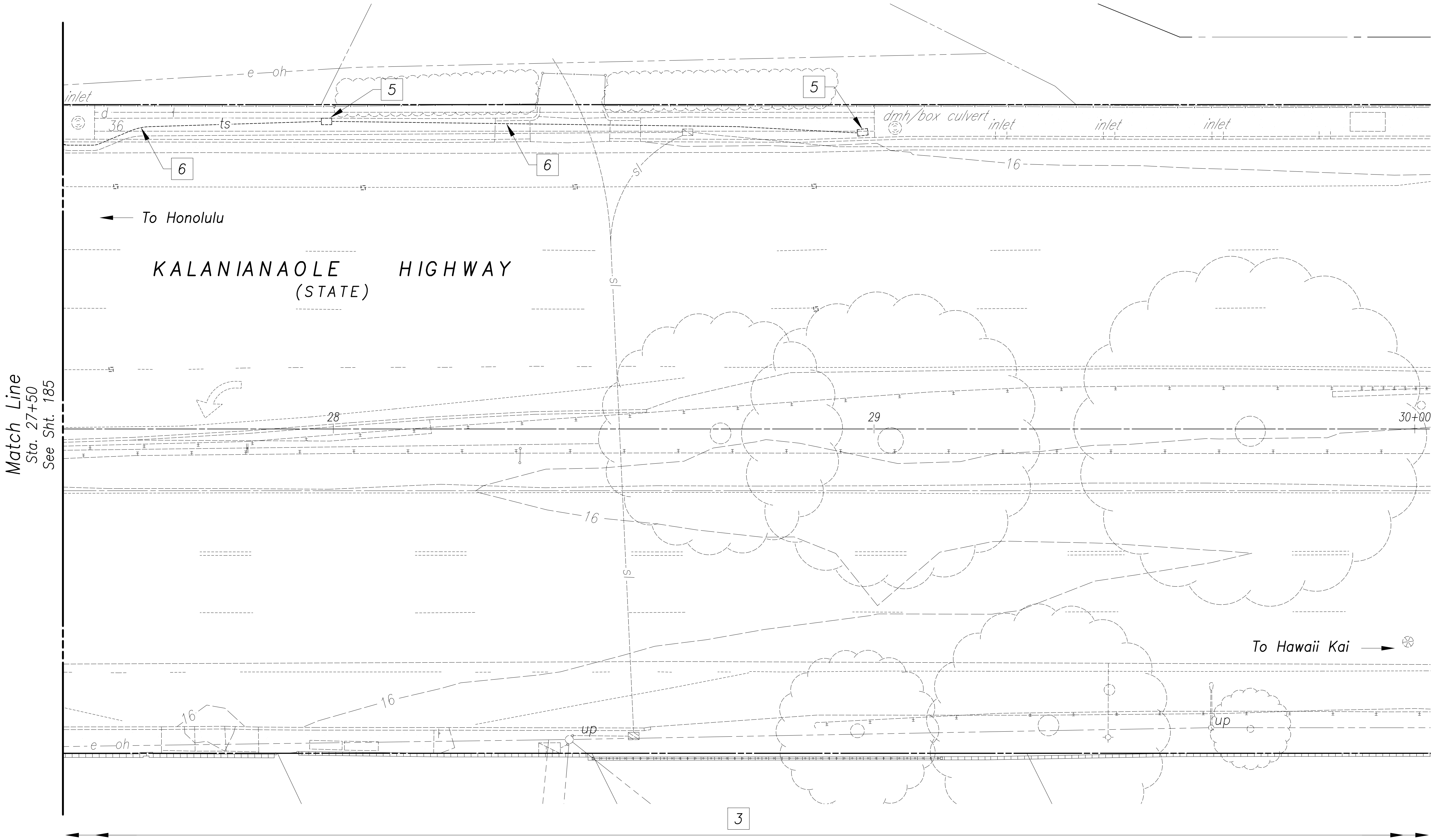
SIGNAL DEMOLITION
Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: Date: Oct. 2020

SHEET No. TS-82 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	185	291

True North
Scale: 1"=10'
TM: 3-5-020,
042, 044, & 049



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

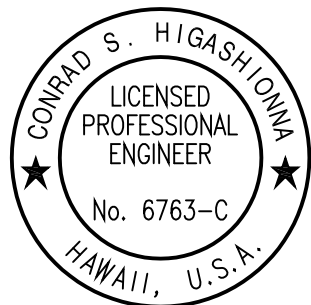
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GRAPHIC SCALES

SCALE 1"=10' 10' 5' 0 10' 20'

Approved By:

Chief, Traffic Signals & Technology, DTS Date



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Conrad Higashimura

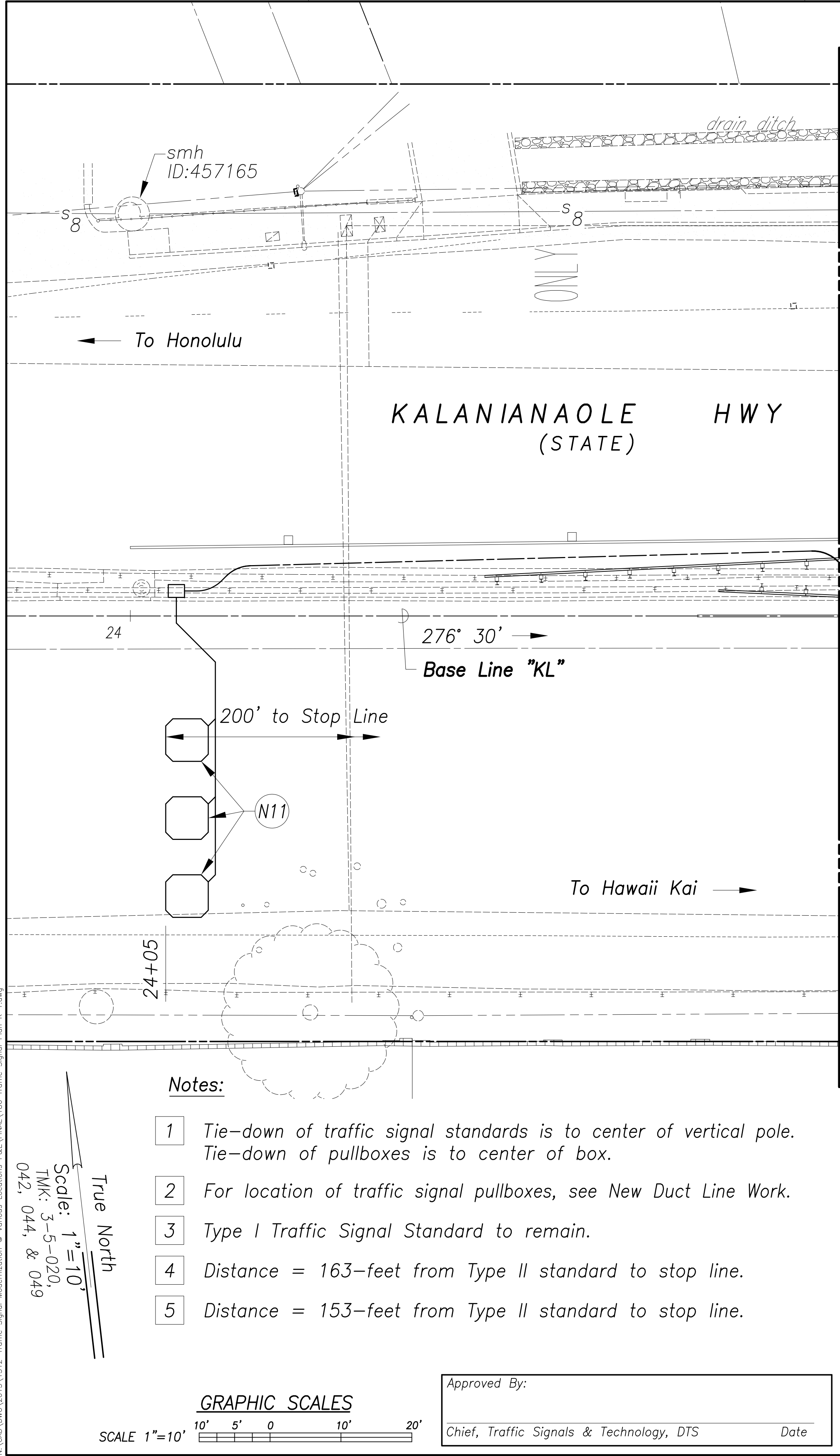
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNAL DEMOLITION
Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R

Scale: Date: Oct. 2020

SHEET No. TS-83 OF 113 SHEETS



New Signal Work Callouts:

- N1 Install Controller Assembly with Software 26+86.91 @ "KL" (69.94' Rt.)
- N2 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+85.82 @ "KL" (62.48' Rt.)
- N3 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+76.29 @ "KL" (79.32 Rt.)
- N4 Install Type II Traffic Signal Standard with 37-foot mast arm and drilled shaft foundation. 26+14.02 @ "KL" (65.97' Rt.)
- N5 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+02.78 @ "KL" (59.01' Rt.)
- N6 Install Type II Traffic Signal Standard with 36-foot mast arm and drilled shaft foundation. 25+61 @ "KL" (6' Lt.)
- N7 Install Type II Traffic Signal Standard with 25-foot mast arm and drilled shaft foundation. 25+71 @ "KL" (6' Lt.)
- N8 Install Type II Traffic Signal Standard with 20-foot mast arm and drilled shaft foundation. 26+71.05 @ "KL" (87.45' Lt.)
- N9 Install Type II Traffic Signal Standard with 36-foot mast arm and drilled shaft foundation. 27+41.88 @ "KL" (6' Rt.)
- N10 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 27+02.51 @ "KL" (5.51' Rt.)
- N11 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 1 Loops centered in lane
- N12 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 2 Loops centered in lane
- N13 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 4 Loops centered in lane
- N14 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 6 Loops centered in lane
- N15 Install pedestrian push button PPB-1, ADA compliant, on Type I traffic signal standard.
- N16 Install pedestrian push button PPB-2, ADA compliant, on Type I traffic signal standard.
- N17 Install pedestrian push button PPB-3, ADA compliant, on Type II traffic signal standard.
- N18 Install pedestrian push button PPB-4, ADA compliant, on existing Type I traffic signal standard.
- N19 Install pedestrian push button PPB-5, ADA compliant, on existing Type I traffic signal standard.
- N20 Install pedestrian push button PPB-6, ADA compliant, on existing Type I traffic signal standard.
- N21 Install pedestrian push button PPB-7, ADA compliant, with pedestal.
- N22 Install temporary Approach-Only Microwave Vehicle Detector on new or existing traffic signal standard or temporary post.

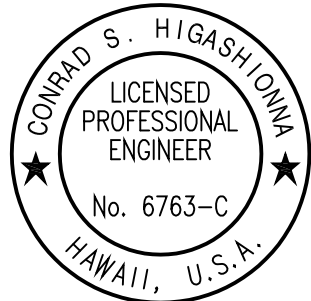
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	186	291

DRILLED SHAFT FOUNDATIONS
for Type II Traffic Signal Standards

	SOIL TYPE	GRADE	MAST ARM LENGTH (feet)	DRILLED SHAFT DIAMETER (inches)	DRILLED SHAFT LENGTH (feet)
C	Stiff Clays	Level	37	30	11
E	Stiff Clays	Level	36	30	11
F	Stiff Clays	Level	25	30	7
H	Stiff Clays	Level	20	24	6
K	Stiff Clays	Level	36	30	11

Drilled shaft foundations shall be constructed per 2008 Standard Plans TE-33A.1 & TE-33A.2.

Log of Boring 2	Approximate Ground Surface Elevation (feet MSL): 19.5 Water Level: Not encountered
DESCRIPTION	
5	5-inch ASPHALT CONCRETE 6-inch CONCRETE Brown CLAY with some and gravel, stiff to very stiff, moist (fill)
10	Gray to reddish gray vesicular BASALT, severely to moderately fractured, moderately to highly weathered, medium hard to hard (pahoehoe basalt)
15	grades with seams of weathered clinker
20	
25	Boring terminated at 26.67 feet



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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

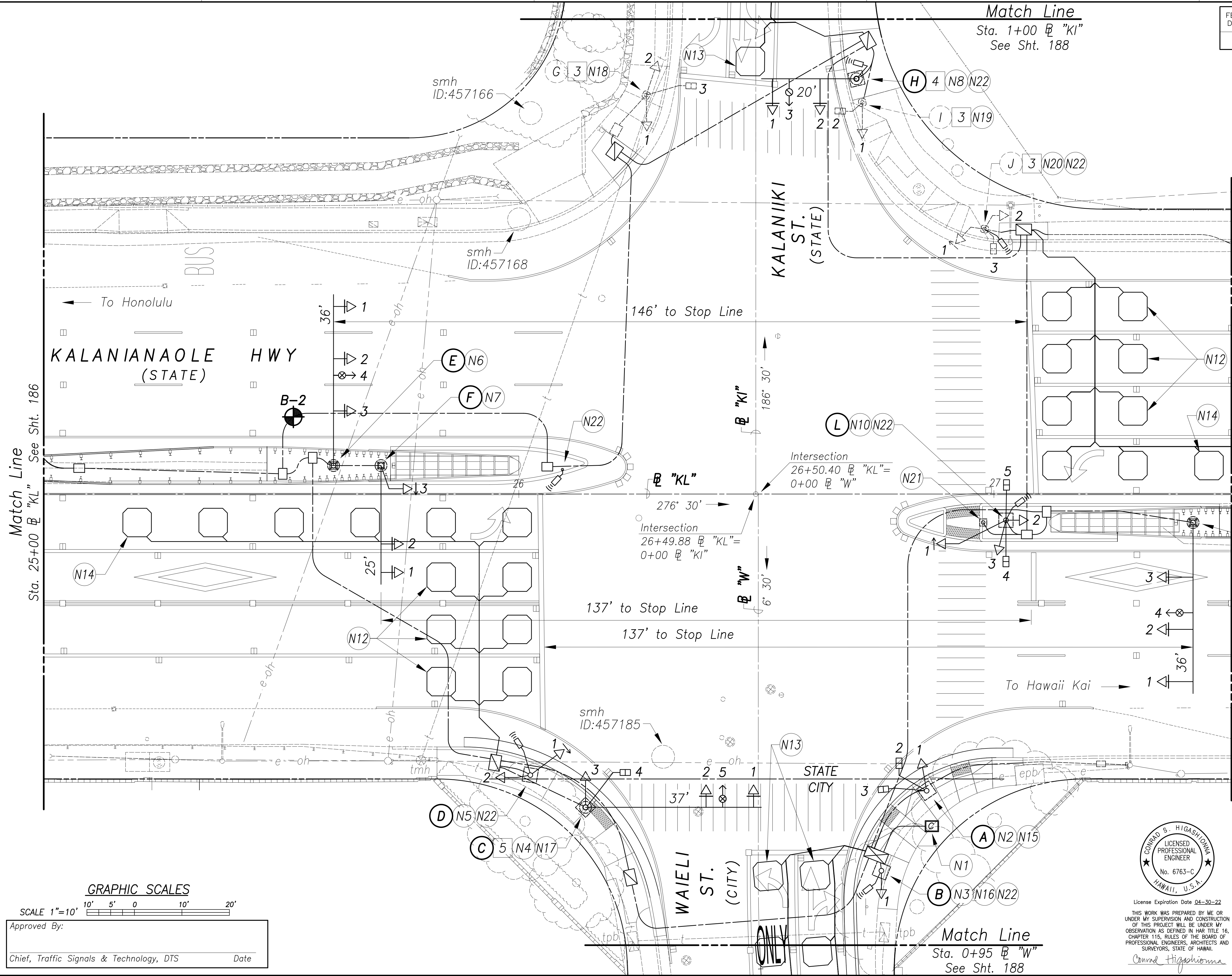
NEW SIGNAL WORK
Kalanianaʻole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=10' Date: Oct. 2020

SHEET No. TS-84 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	187	291

True North
Scale: 1"=10'
TMK: 3-5-020, 042, 044, & 049

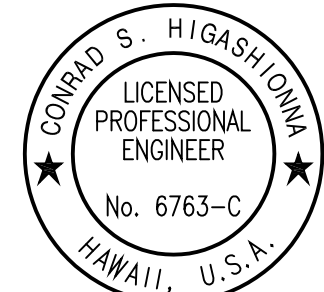


SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

New 18, 2020-03-22m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\187 Traffic Signal Plan K. 2.dwg

GRAPHIC SCALES
SCALE 1"=10' 10' 5' 0' 10' 20'

Approved By: _____ Date _____
Chief, Traffic Signals & Technology, DTS



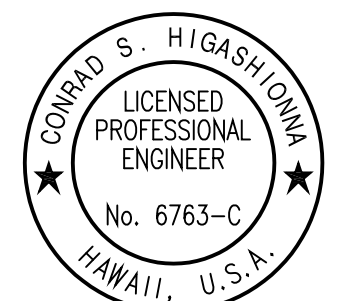
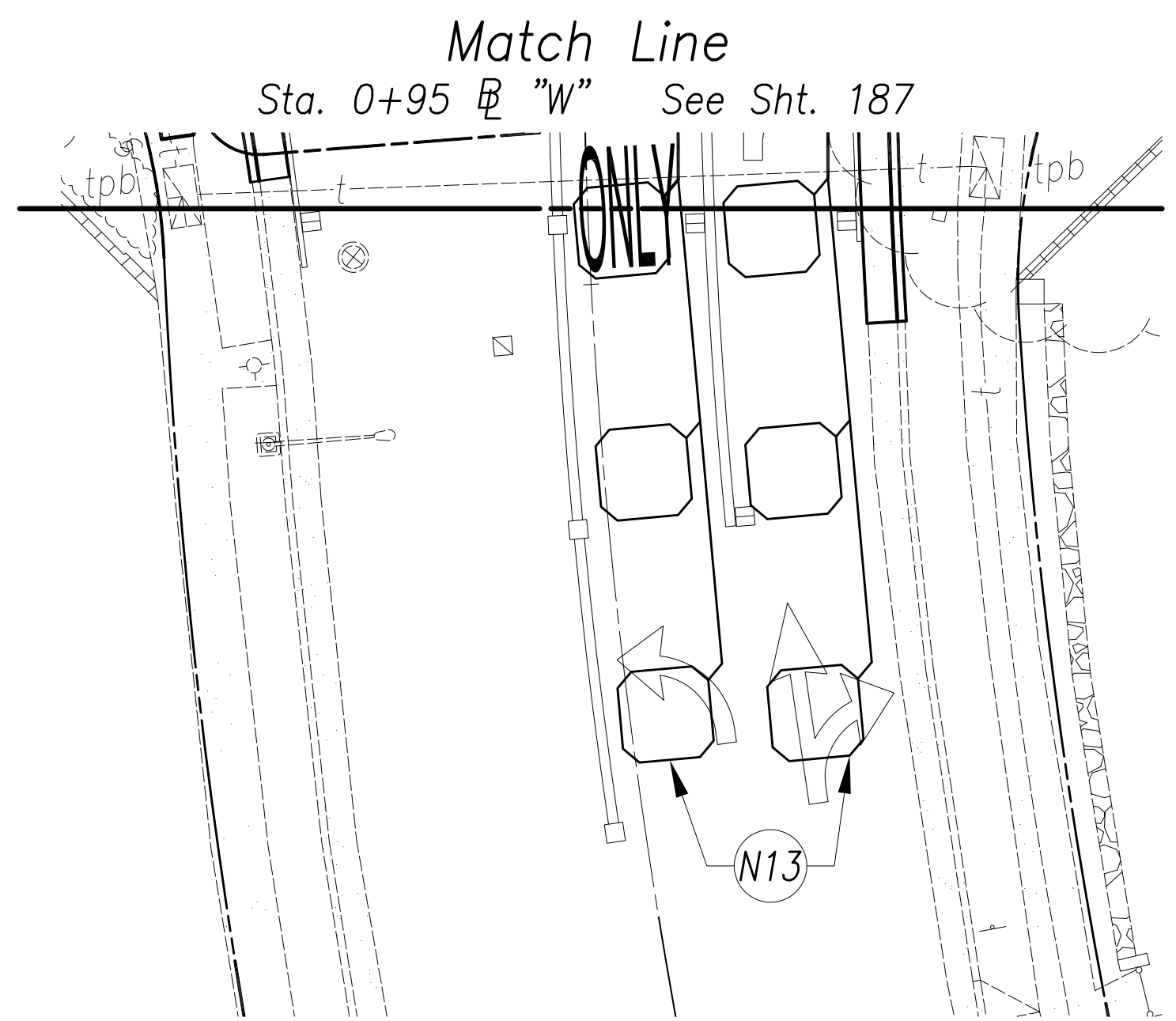
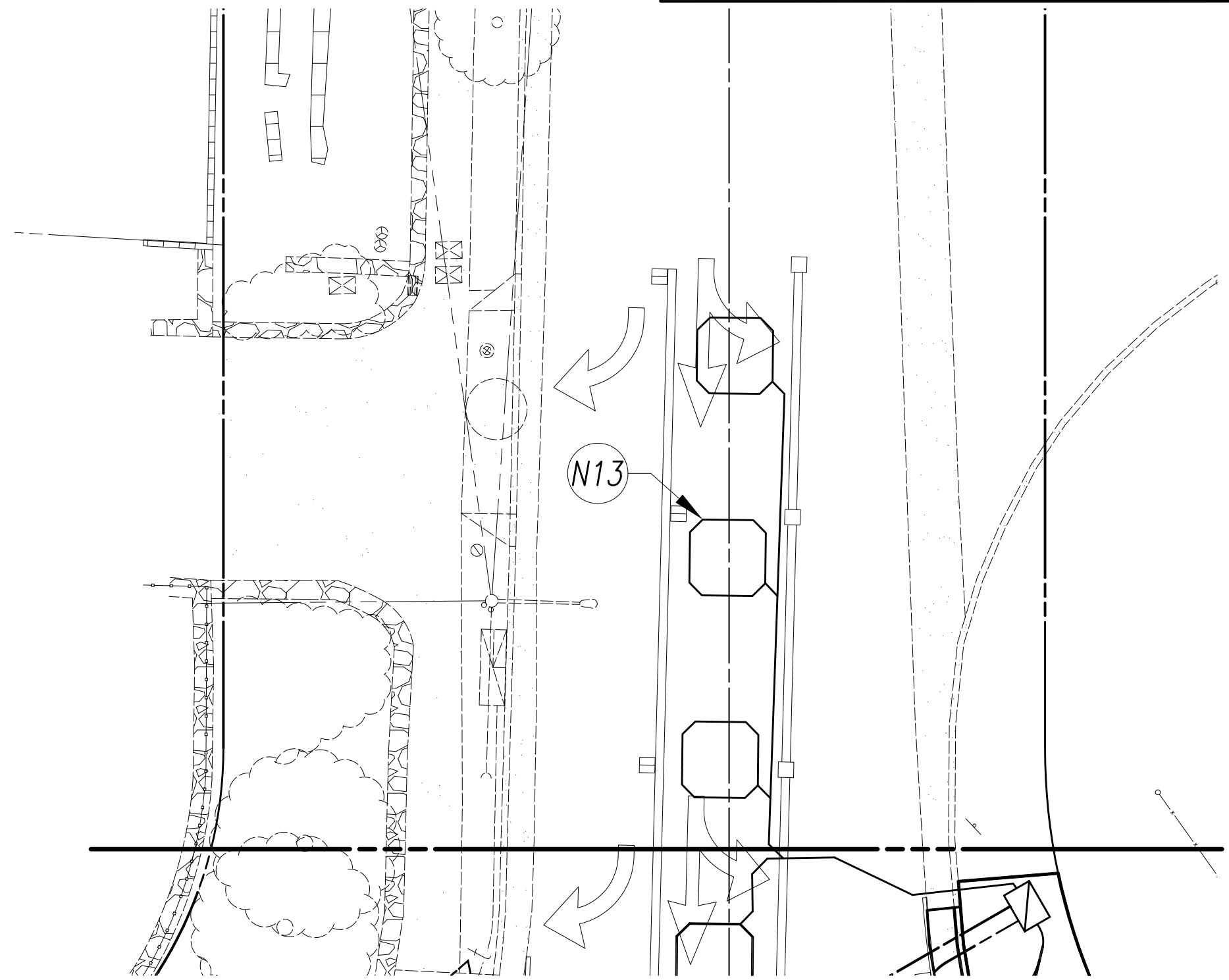
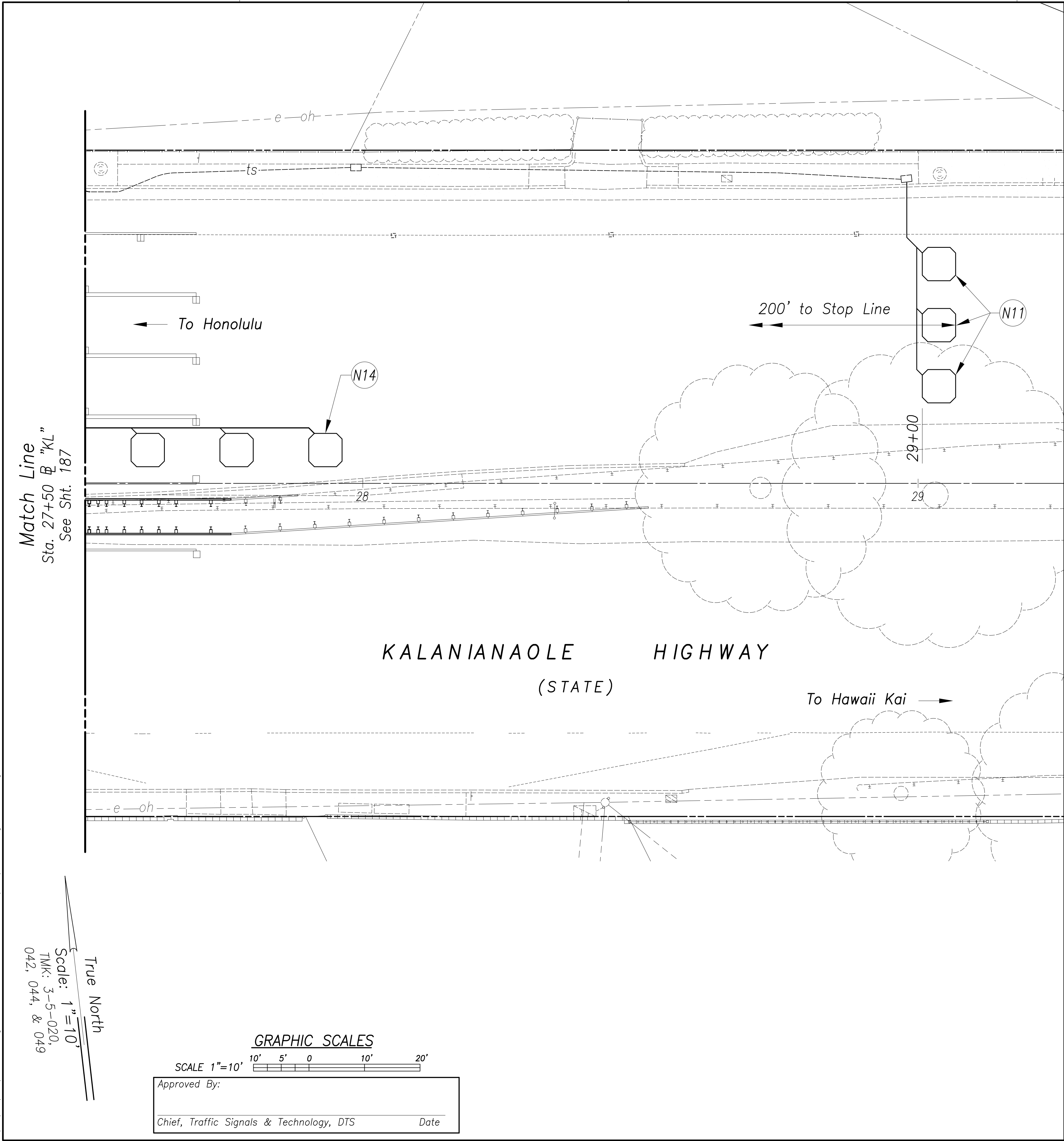
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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW SIGNAL WORK
Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=10' Date: Oct. 2020
SHEET No. TS-85 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	188	291



License Expiration Date 04-30-22
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Conrad Higashimura

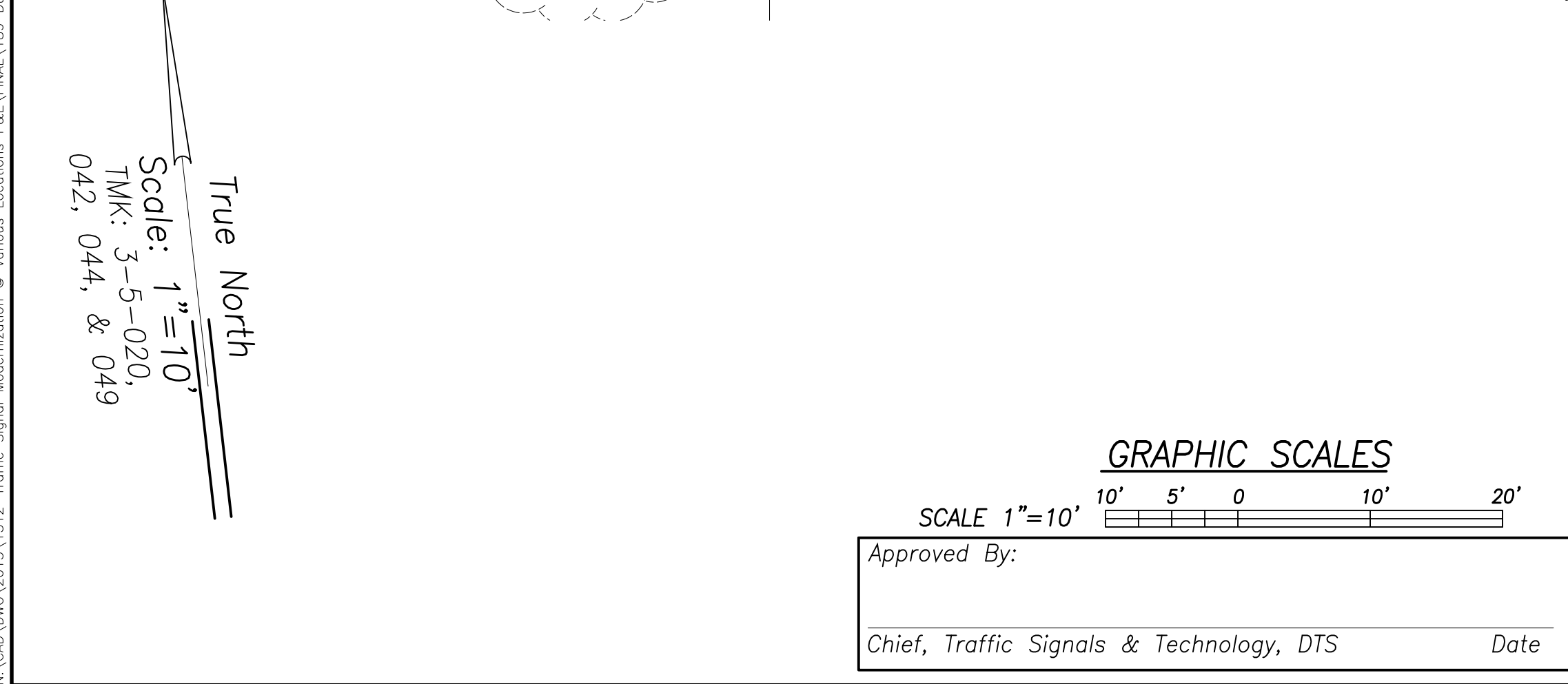
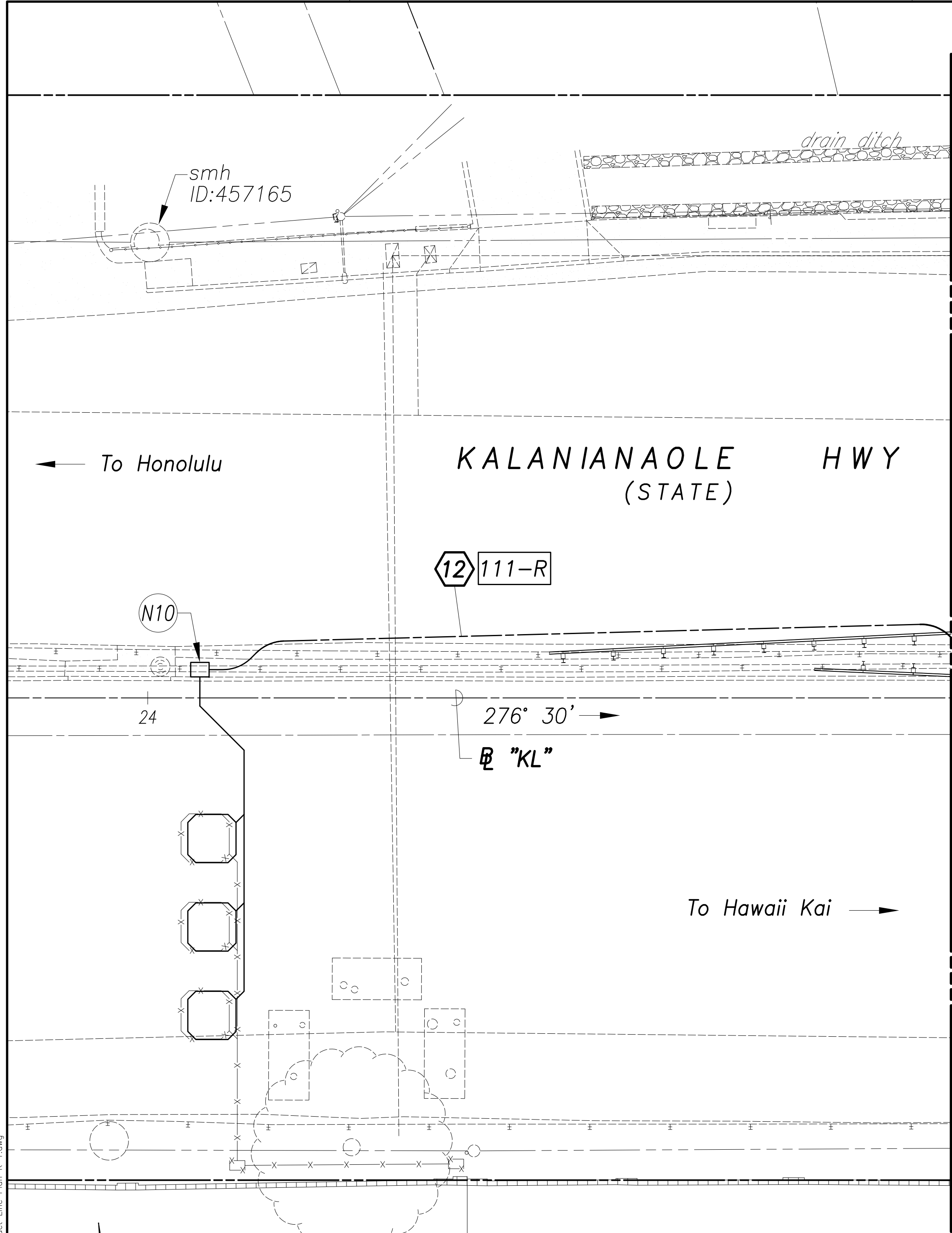
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW SIGNAL WORK
Kalaniana'ole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R

Scale: 1"=10' Date: Oct. 2020

SHEET No. TS-86 OF 113 SHEETS

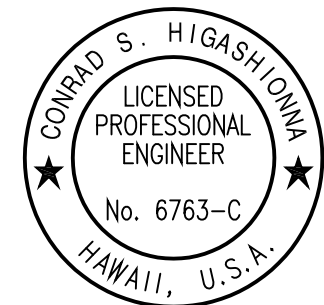


Notes:

- Existing traffic signal power source.
- Existing traffic signal duct line to remain.
- Existing pullbox PB-12 to remain.
- Existing pullbox PB-13 to remain.
- Existing pullbox PB-14 to remain.
- Existing pullbox PB-15 to remain.
- 11 linear feet, Reinforced Concrete Jacket on 8" sewer. See Roadway Plans on sheets 45 and 46; and Duct Line Profiles on sheets 198 and 201.
- See Duct Layout Plans for horizontal alignment tie-down and Duct Profiles for vertical alignment.
- Precast pull boxes shall be set on six (6) inches of level, 95% compacted crushed rock fill, 3/4 inch to one (1) inch size, extending twelve (12) inches beyond the pull box on each side. Granular fill shall be compacted by a minimum of four passes with a plate type vibrator.
- The Contractor shall notify the Engineer of any changes to horizontal or vertical alignment within City & County of Honolulu right-of-way. All changes in horizontal or vertical alignment within City right-of-way require revision approval from the Department of Planning and Permitting prior to construction.

New Duct Line Work Callouts:

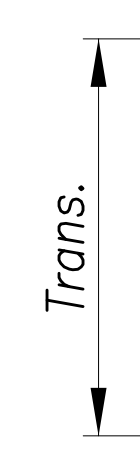
- | | | | | |
|-----|--------------------------------|------------------------------|-----|---|
| N1 | Install Type C Pullbox PB-1. | 26+75.20 @ "KL" (76.05' Rt.) | N12 | Intercept existing ducts and connect to new ducts or pullbox. |
| N2 | Install Type B Pullbox PB-2. | 26+23.46 @ "KL" (80.72' Rt.) | N13 | Intercept power cables; splice existing Type 6 power cables to new Type 6 power cables. |
| N3 | Install Type B Pullbox PB-3. | 25+94.99 @ "KL" (56.58' Rt.) | N14 | Connect new traffic signal duct to existing pullbox. |
| N4 | Install Type A Pullbox PB-4. | 25+56.59 @ "KL" (7.64' Lt.) | N15 | Reinforced Concrete Jacket for traffic signal ducts crossing over existing 36" drain. See Duct Line Profiles on sheets 201 and 203. |
| N4A | Install Type A Pullbox PB-4A. | 25+50.28 @ "KL" (4.26' Lt.) | | |
| N4B | Install Type A Pullbox PB-4B. | 26+05.97 @ "KL" (5.75' Lt.) | | |
| N5 | Install Type B Pullbox PB-5. | 26+20.14 @ "KL" (72.20' Lt.) | | |
| N6 | Install Type B Pullbox PB-6. | 26+73.42 @ "KL" (95.48' Lt.) | | |
| N7 | Install Type B Pullbox PB-7. | 27+06.25 @ "KL" (54.70' Lt.) | | |
| N8 | Install Type A Pullbox PB-8. | 27+06.91 @ "KL" (8.51' Rt.) | | |
| N8A | Install Type A Pullbox PB-8A. | 27+11.07 @ "KL" (3.73' Rt.) | | |
| N9 | Install Type A Pullbox PB-9. | 25+07.44 @ "KL" (5.45' Lt.) | | |
| N10 | Install Type A Pullbox PB-10. | 24+06.47 @ "KL" (3.52' Lt.) | | |
| N11 | New traffic signal controller. | 26+86.91 @ "KL" (69.94' Rt.) | | |



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Conrad Higashimura

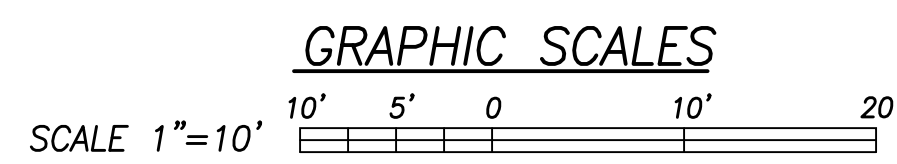
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NEW DUCT LINE WORK
Kalanianaʻole Hwy & Kalaniiki St
ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=10' Date: Oct. 2020
SHEET No. TS-87 OF 113 SHEETS

True North
Scale: 1"=10'
TMK: 3-5-020,
042, 044, & 049



Match Line
Sta. 27+50
See Sht. 191

Approved By:	
Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Chief, Wastewater Branch, DPP	Date
Chief, Traffic Signals & Technology, DTS	Date



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW DUCT LINE WORK

Kalanianaʻole Hwy & Kalaniiki St

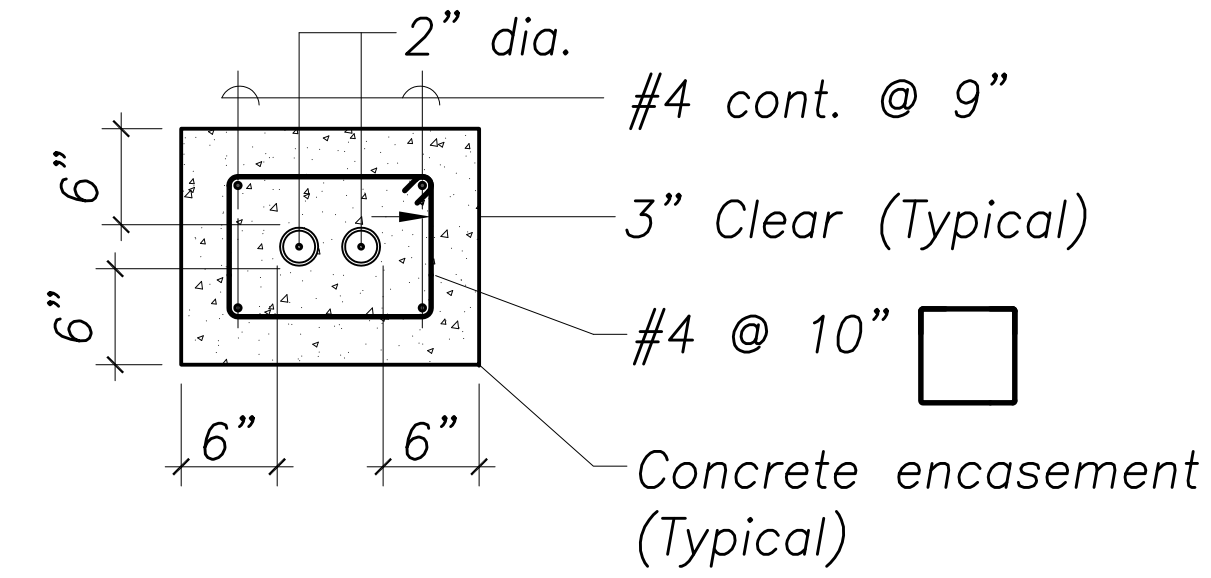
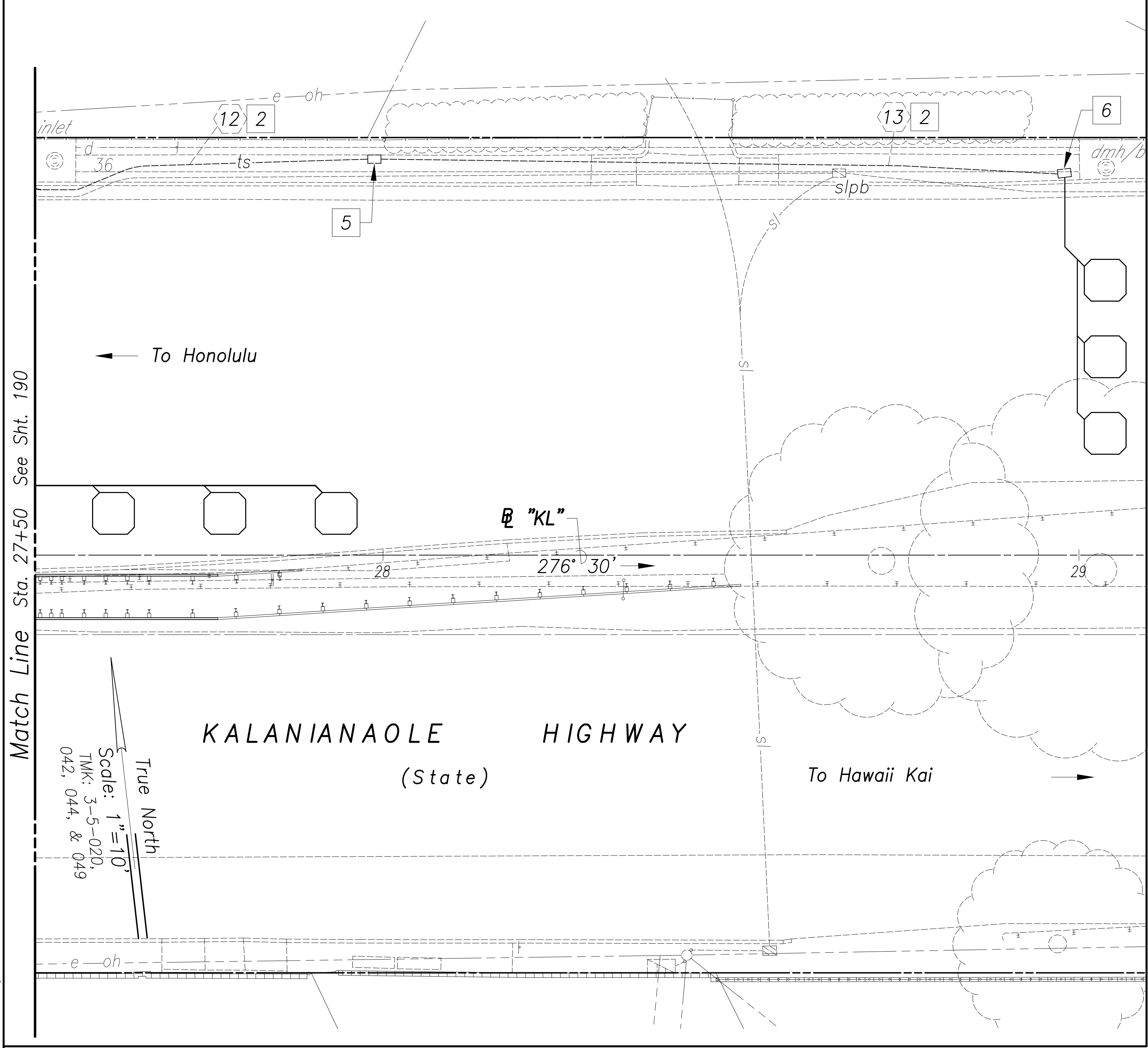
ADDITIVE ALTERNATE #2

Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R

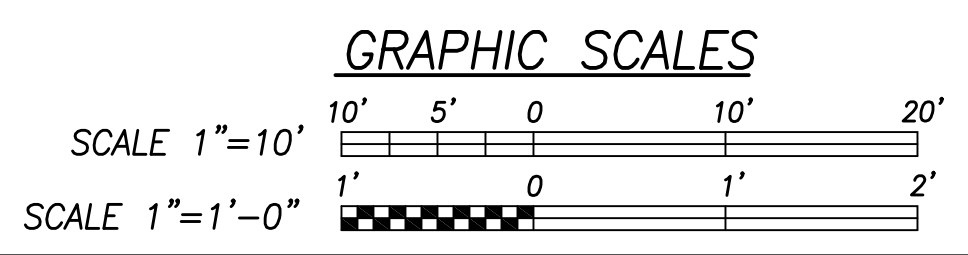
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SHEET NO. TS-88 OF 113 SHEETS

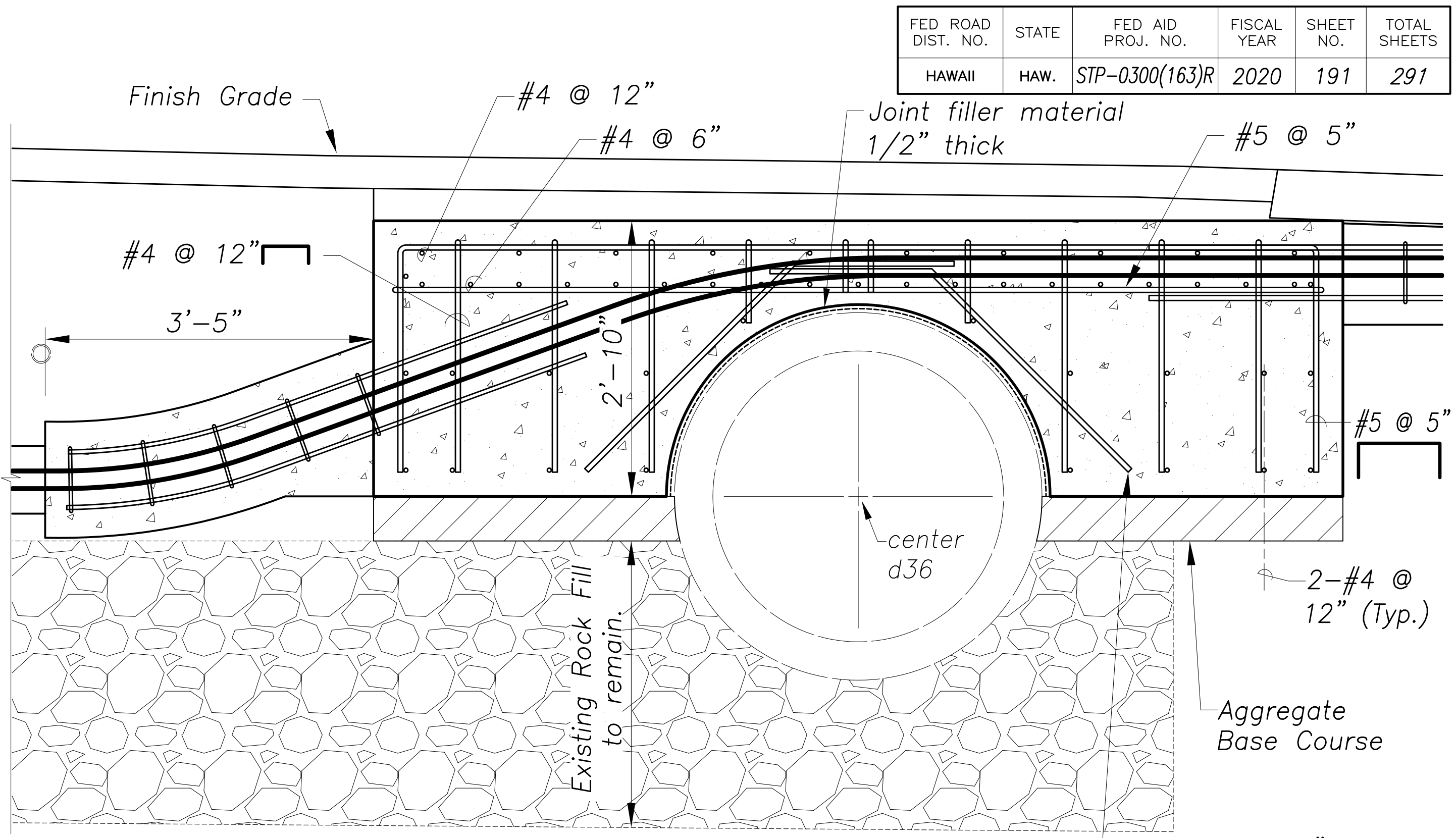
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	191	291



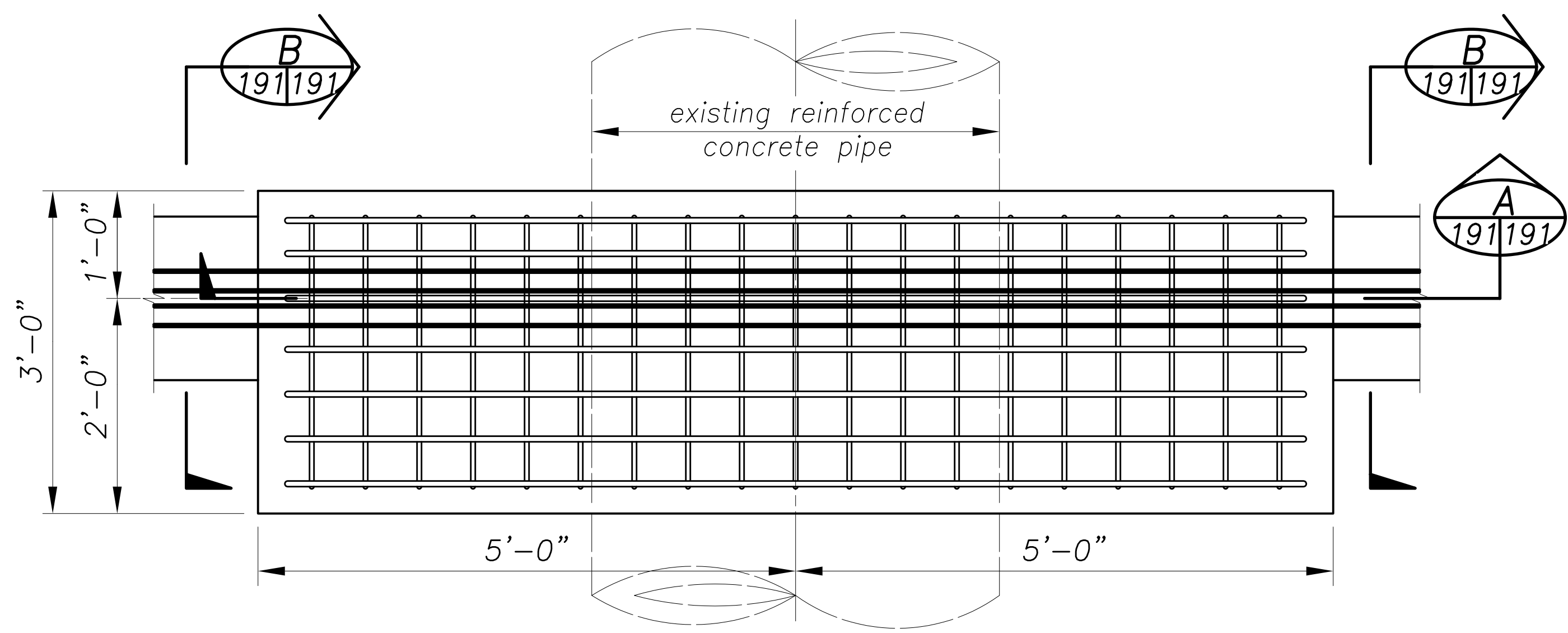
SECTION B
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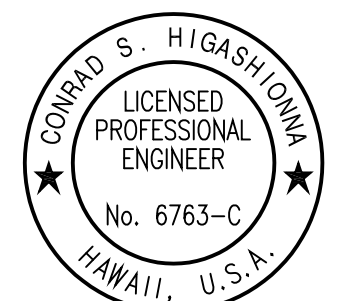
Approved By: _____
Chief, Traffic Signals & Technology, DTS Date _____



SECTION A
Scale: 1"=1'-0"



PLAN - REINFORCED CONCRETE JACKET OVER DRAIN LINE
Scale: 1" = 1'-0"



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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW DUCT LINE WORK
Kalanianaʻole Hwy & Kalaniki St

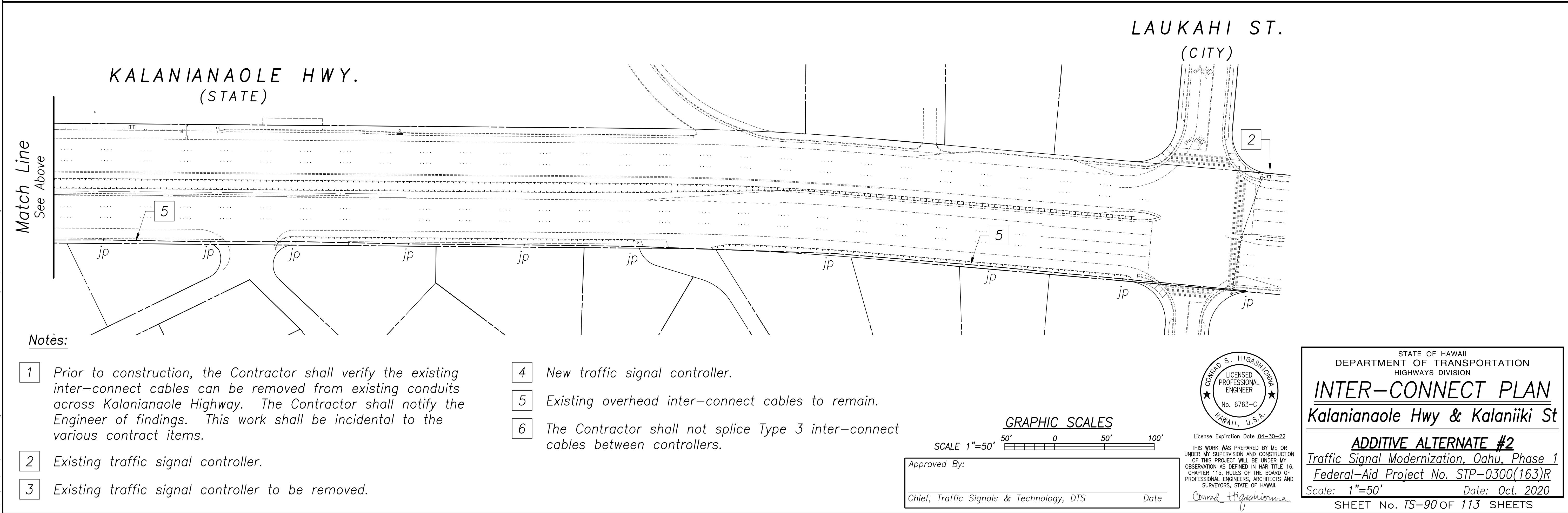
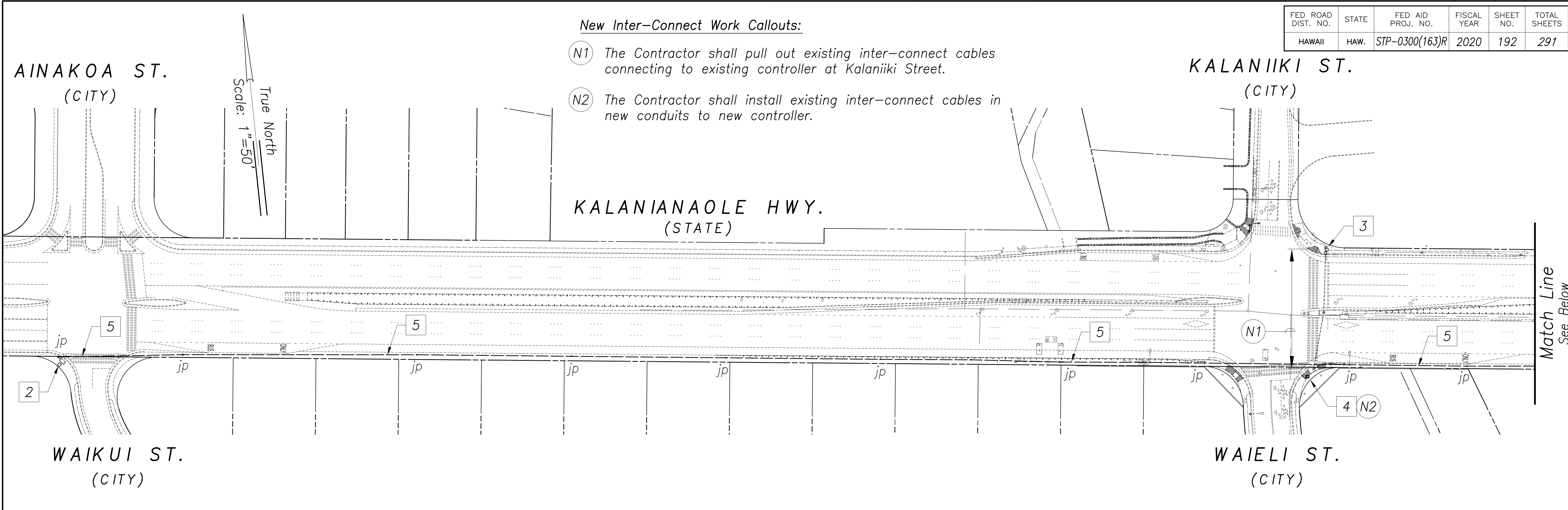
ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=10' Date: Oct. 2020

SHEET No. TS-89 OF 113 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
NO.	_____

New 18, 2020-03-22am
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\191 Duct Line Plan K 3.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	192	291



DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

New 18, 2020-10-22am
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GRAPHIC SCALES

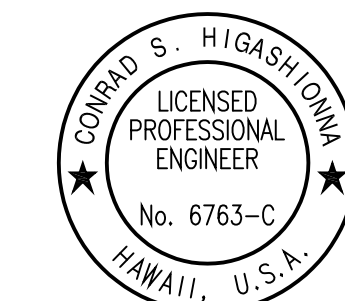
SCALE 1"=50'

50' 0 50' 100'

Approved By: _____

Chief, Traffic Signals & Technology, DTS

Date _____



License Expiration Date 04-30-22

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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTER-CONNECT PLAN

Kalaniana'ole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2

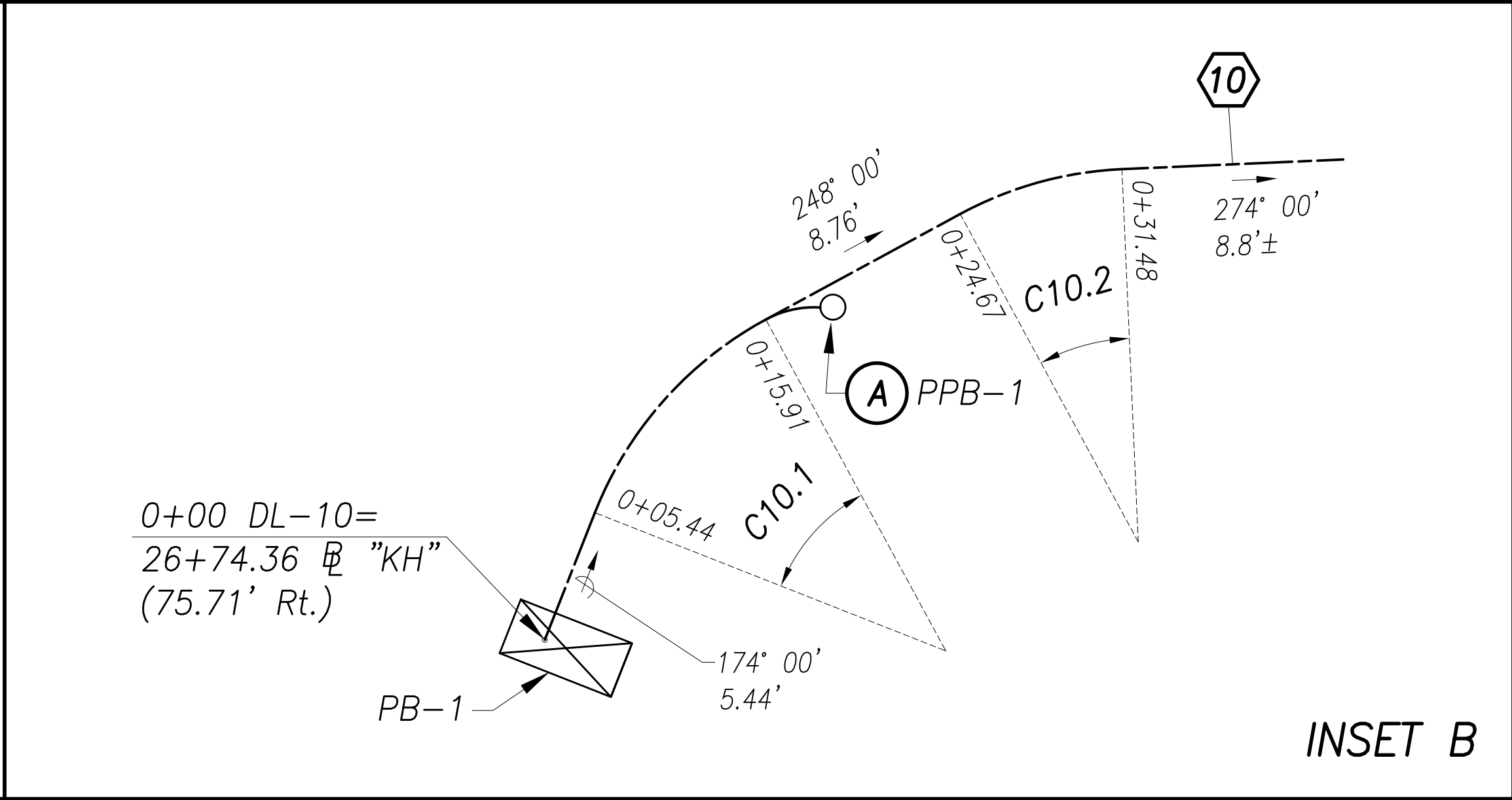
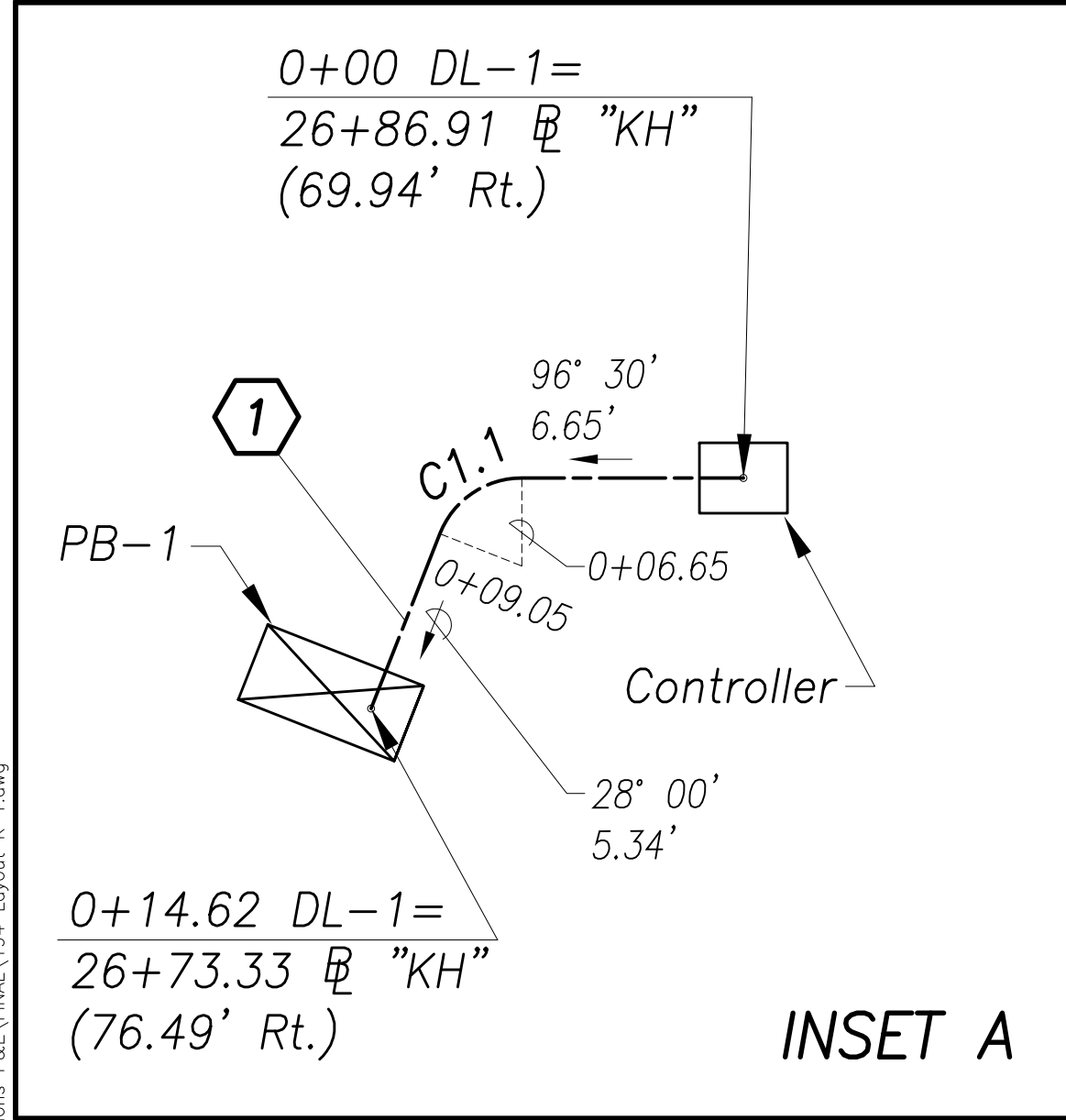
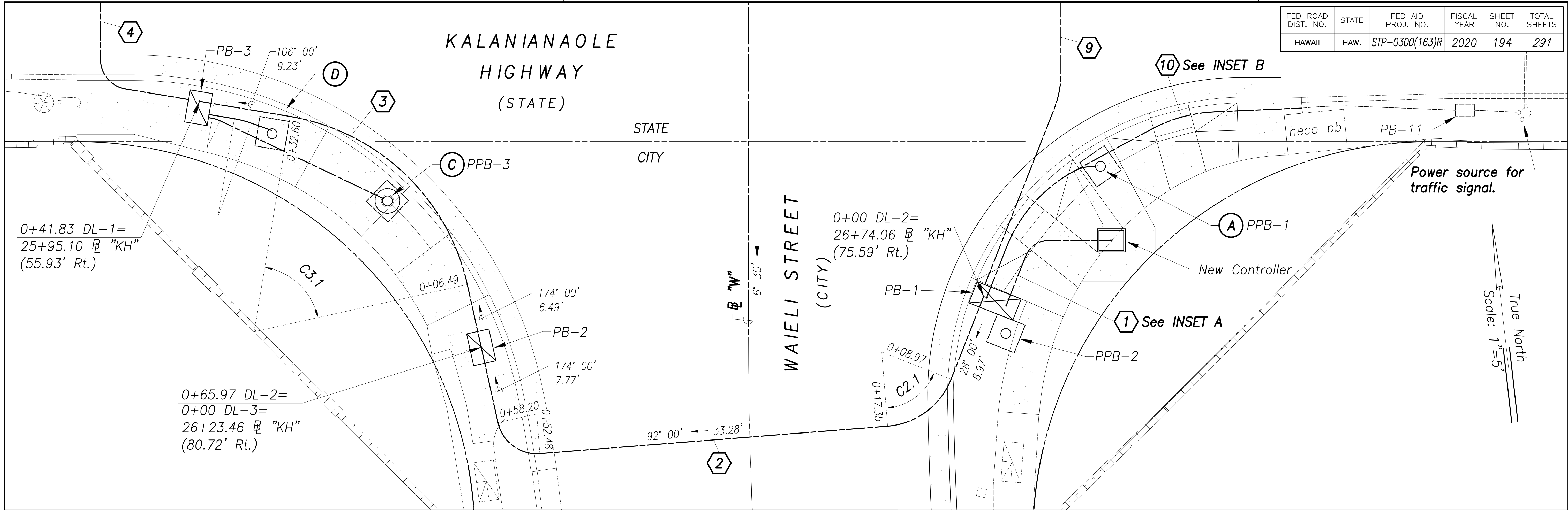
Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

Scale: 1"=50' Date: Oct. 2020

SHEET No. TS-90 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	194	291



Duct Line Curve Data						
	C1.1	C2.1	C2.2	C3.1	C10.1	C10.2
Δ	68° 30' 00"	64° 00' 00"	82° 00' 00"	68° 00' 00"	40° 00' 00"	26° 00' 00"
$\Delta/2$	34° 15' 00"	32° 00' 00"	41° 00' 00"	34° 00' 00"	20° 00' 00"	13° 00' 00"
R	2.50'	7.50'	4.00'	22.00'	15.00'	15.00'
T	1.70'	4.69'	3.48'	14.84'	5.46'	3.46'
Ch	2.81'	7.95'	5.25'	24.60'	10.26'	6.75'
Lc	2.99'	8.38'	5.72'	26.11'	10.47'	6.81'

GRAPHIC SCALES

SCALE 1"=5'

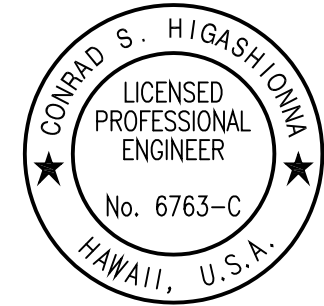
Approved By:

Chief, Civil Engineering Branch, DPP
(For Construction in City ROW only)

Chief, Traffic Signals & Technology, DTS

Date

Date



License Expiration Date: 04-30-22

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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LAYOUT PLAN

Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2

Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

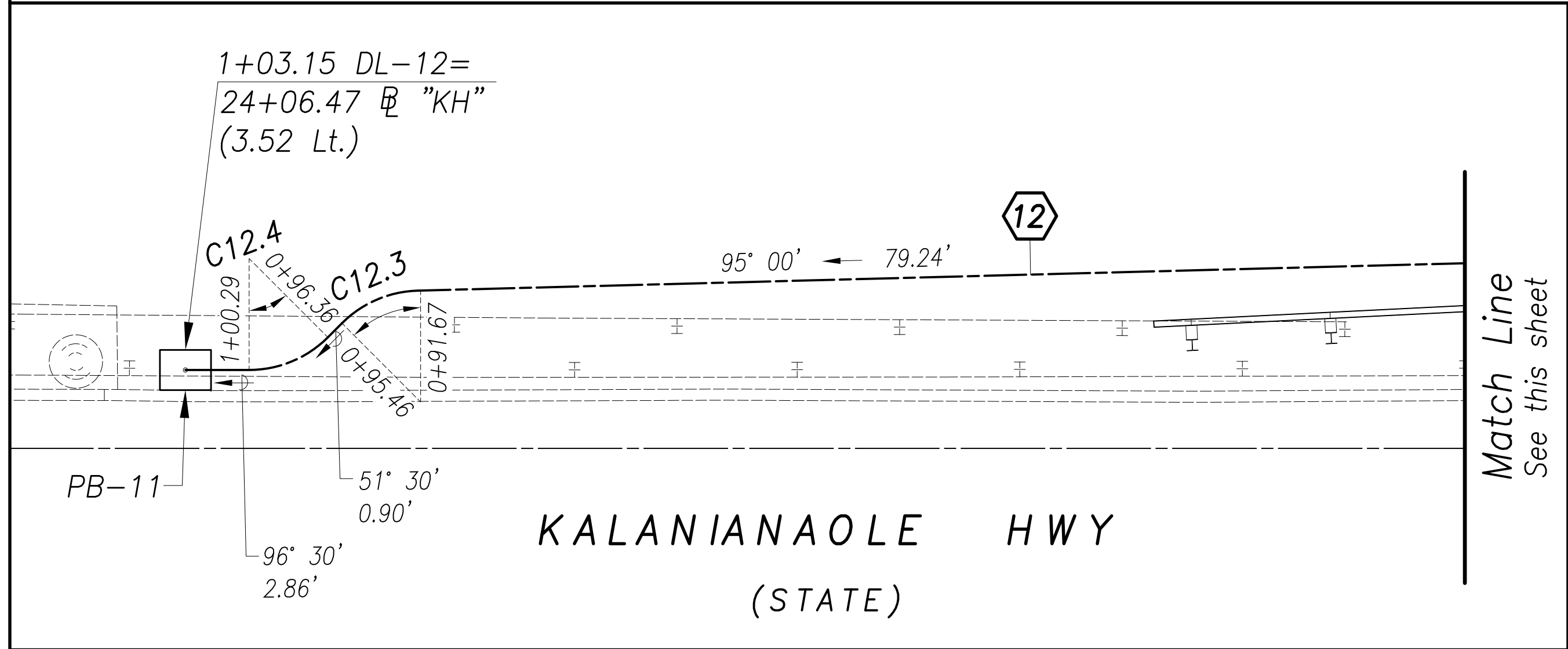
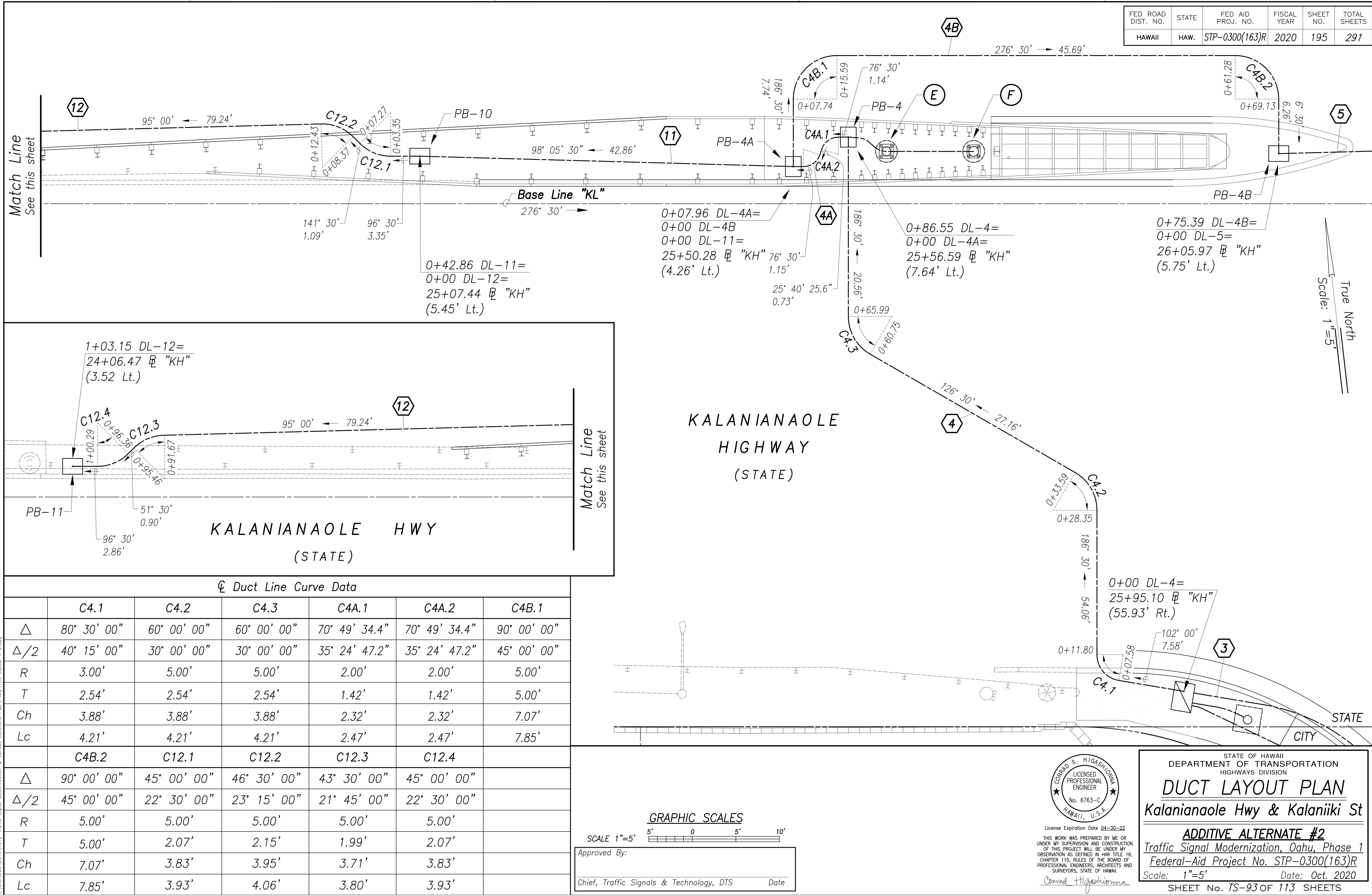
Scale: 1"=5' Date: Oct. 2020

SHEET No. TS-92 OF 113 SHEETS

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

New 18, 2020-03-20m
N:\CADD\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\194 Layout K 1.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	195	291



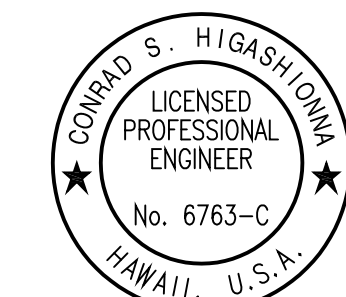
Duct Line Curve Data						
	C4.1	C4.2	C4.3	C4A.1	C4A.2	C4B.1
Δ	80° 30' 00"	60° 00' 00"	60° 00' 00"	70° 49' 34.4"	70° 49' 34.4"	90° 00' 00"
Δ/2	40° 15' 00"	30° 00' 00"	30° 00' 00"	35° 24' 47.2"	35° 24' 47.2"	45° 00' 00"
R	3.00'	5.00'	5.00'	2.00'	2.00'	5.00'
T	2.54'	2.54'	2.54'	1.42'	1.42'	5.00'
Ch	3.88'	3.88'	3.88'	2.32'	2.32'	7.07'
Lc	4.21'	4.21'	4.21'	2.47'	2.47'	7.85'
	C4B.2	C12.1	C12.2	C12.3	C12.4	
Δ	90° 00' 00"	45° 00' 00"	46° 30' 00"	43° 30' 00"	45° 00' 00"	
Δ/2	45° 00' 00"	22° 30' 00"	23° 15' 00"	21° 45' 00"	22° 30' 00"	
R	5.00'	5.00'	5.00'	5.00'	5.00'	
T	5.00'	2.07'	2.15'	1.99'	2.07'	
Ch	7.07'	3.83'	3.95'	3.71'	3.83'	
Lc	7.85'	3.93'	4.06'	3.80'	3.93'	

GRAPHIC SCALES

SCALE 1"=5'

Approved By: _____

Chief, Traffic Signals & Technology, DTS Date _____



License Expiration Date 04-30-22

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Conrad Higashi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LAYOUT PLAN

Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2

Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

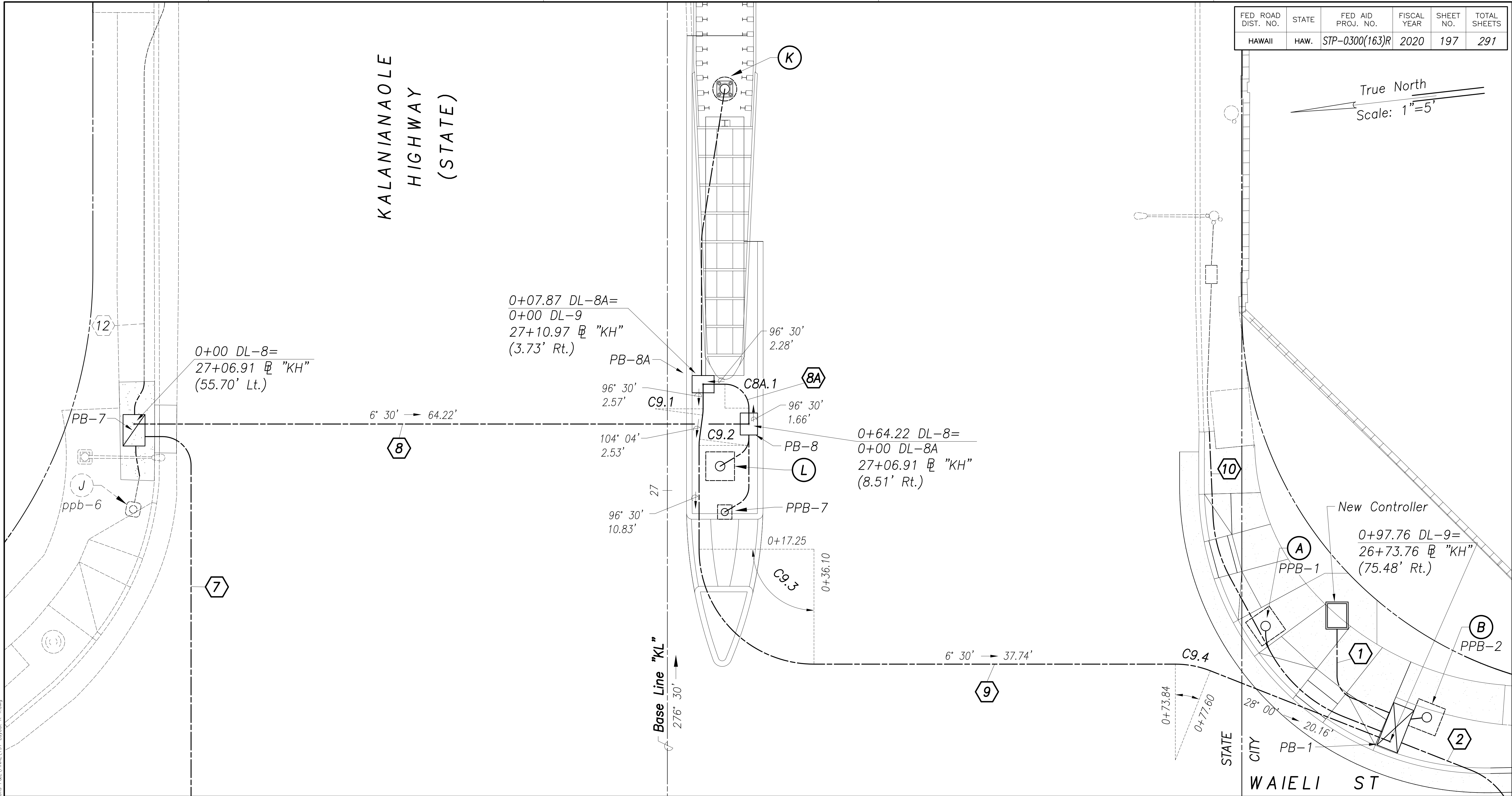
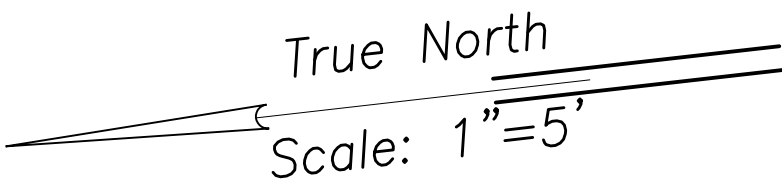
Scale: 1"=5' Date: Oct. 2020

SHEET No. TS-93 OF 113 SHEETS

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

New 18, 2020-03-23m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\195 Layout K 2.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	197	291

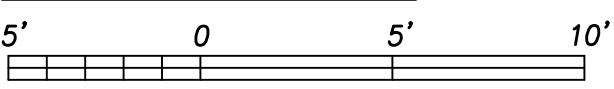


☉ Duct Line Curve Data

	C8A.1	C9.1	C9.2	C9.3	C9.4
Δ	90° 00' 00"	7° 06' 48"	7° 06' 48"	90° 00' 00"	21° 30' 00"
Δ/2	45° 00' 00"	3° 33' 24"	3° 33' 24"	45° 00' 00"	10° 45' 00"
R	2.50'	5.00'	5.00'	12.00'	10.00'
T	2.50'	0.33'	0.33'	12.00'	1.90'
Ch	3.54'	0.66'	0.66'	16.97'	3.73'
Lc	3.93'	0.66'	0.66'	18.85'	3.75'

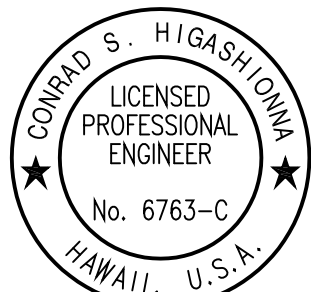
GRAPHIC SCALES

SCALE 1"=5'



Approved By:

Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Chief, Traffic Signals & Technology, DTS	Date



License Expiration Date 04-30-22
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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LAYOUT PLAN
Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R

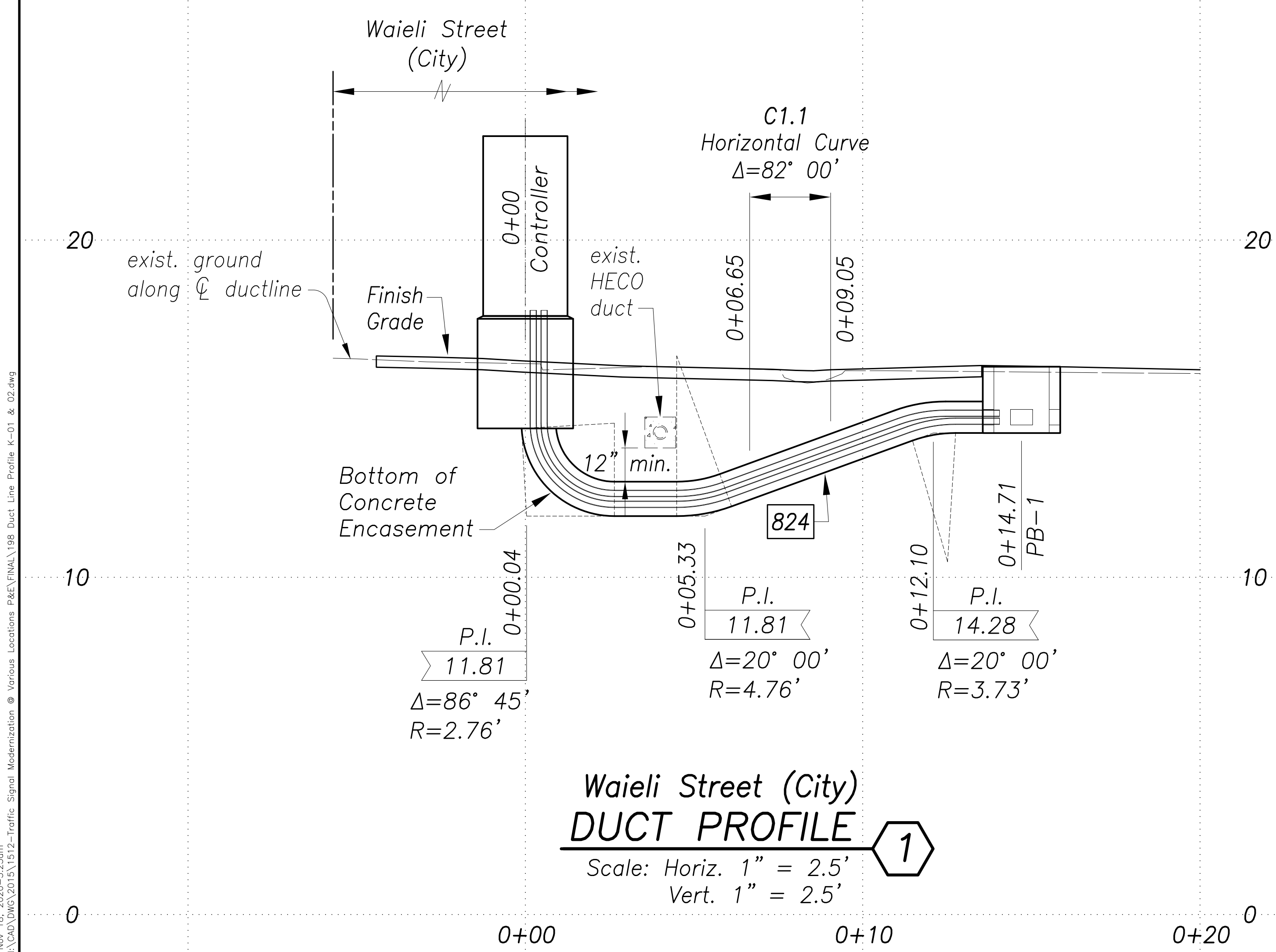
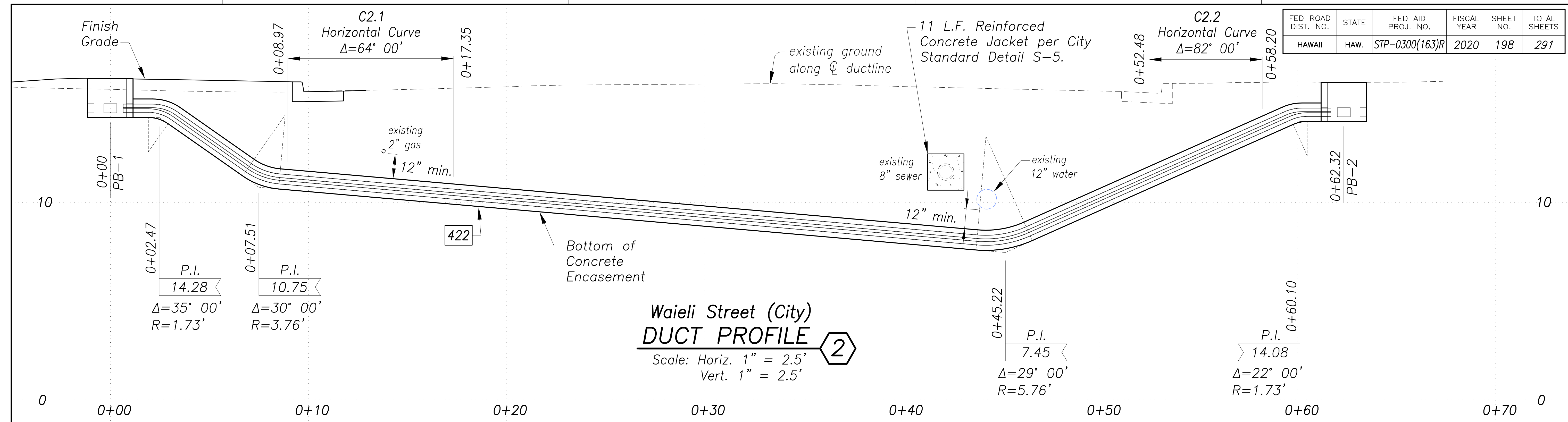
Scale: 1"=5' Date: Oct. 2020

SHEET No. TS-95 OF 113 SHEETS

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

New 18, 2020-03-20m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\197 Layout K 4.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	198	291



GRAPHIC SCALES

SCALE 1"=2.5'

Approved By:

Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Manager & Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W and BWS easements only)	Date
Chief, Wastewater Branch, DPP	Date
Chief, Traffic Signals & Technology, DTS	Date

CONRAD S. HIGASHIOWA
LICENSED PROFESSIONAL ENGINEER
No. 6763-C
HAWAII, U.S.A.

License Expiration Date 04-30-22

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Conrad Higashinoma

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES

Kalanianaʻole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2

Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

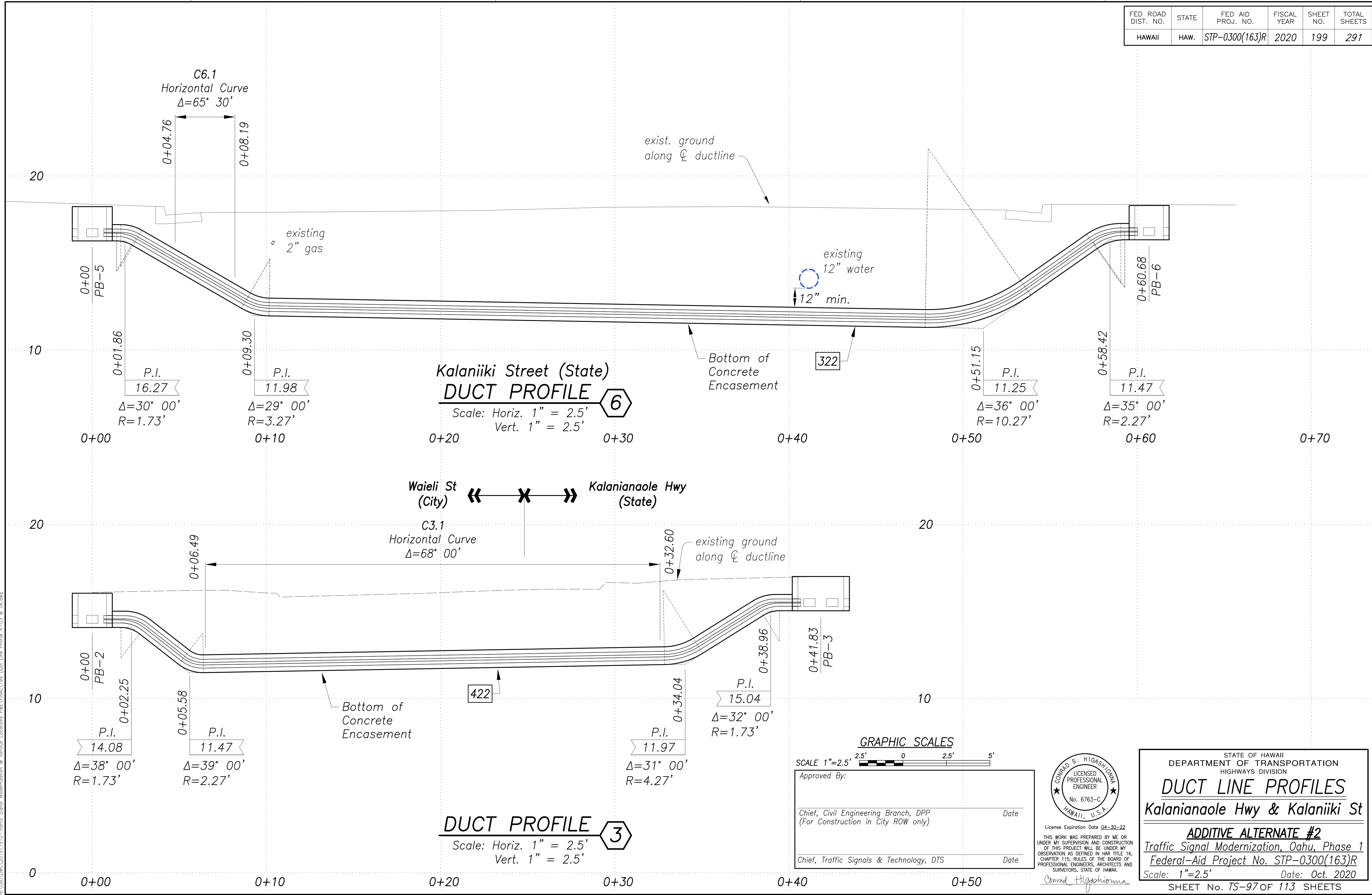
Scale: 1"=2.5' Date: Oct. 2020

SHEET No. TS-96 OF 113 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

New 18, 2020-10-23am
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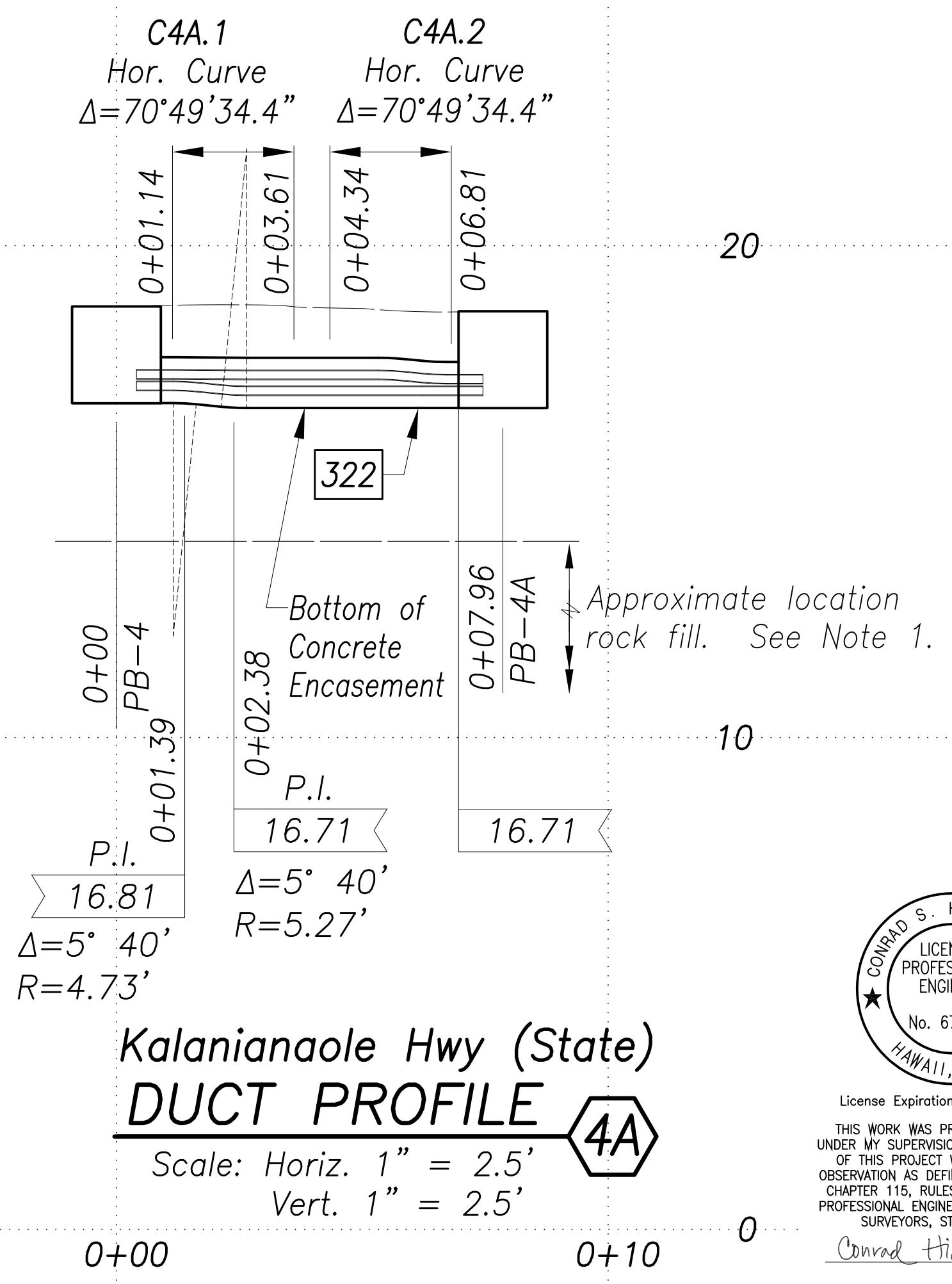
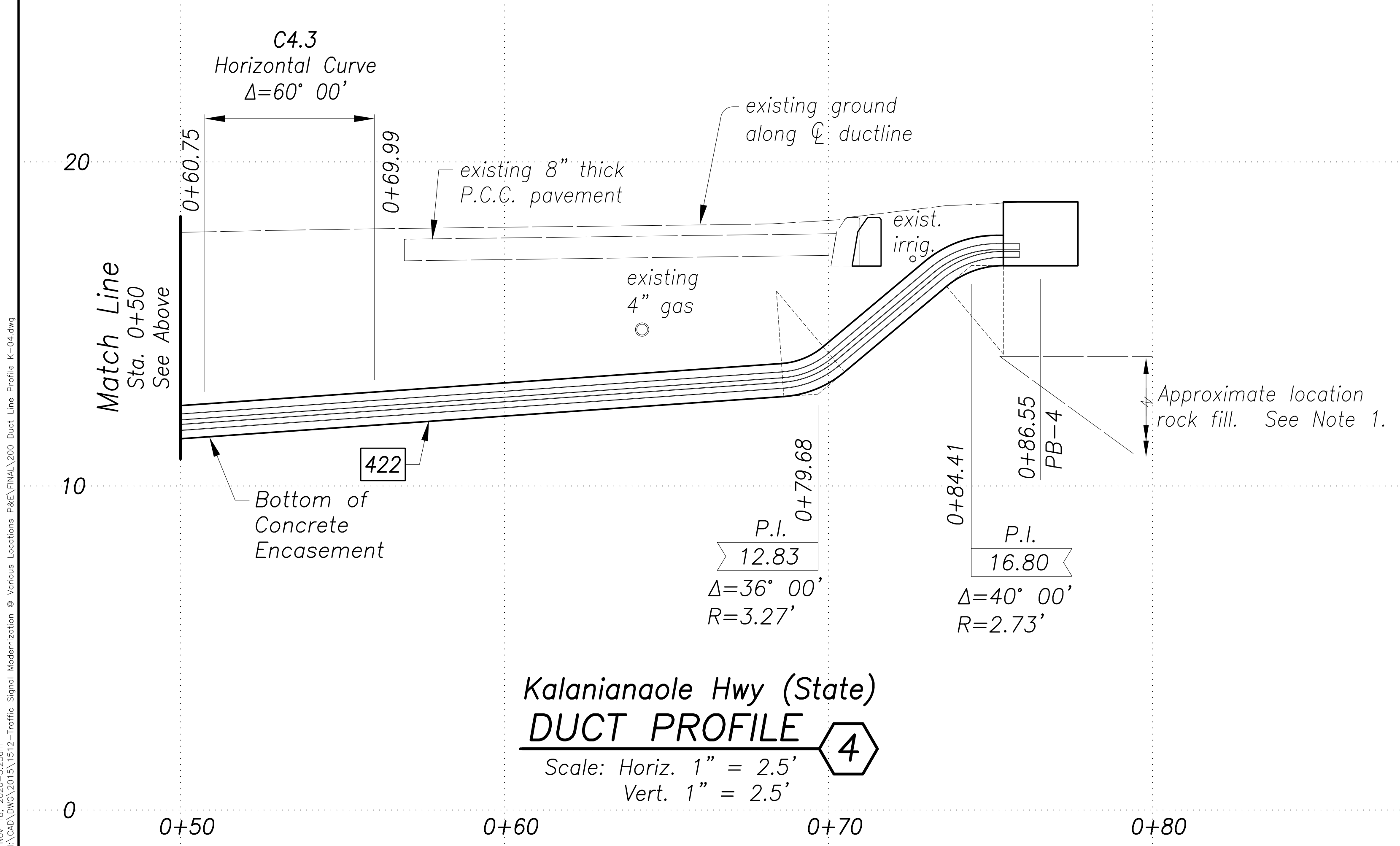
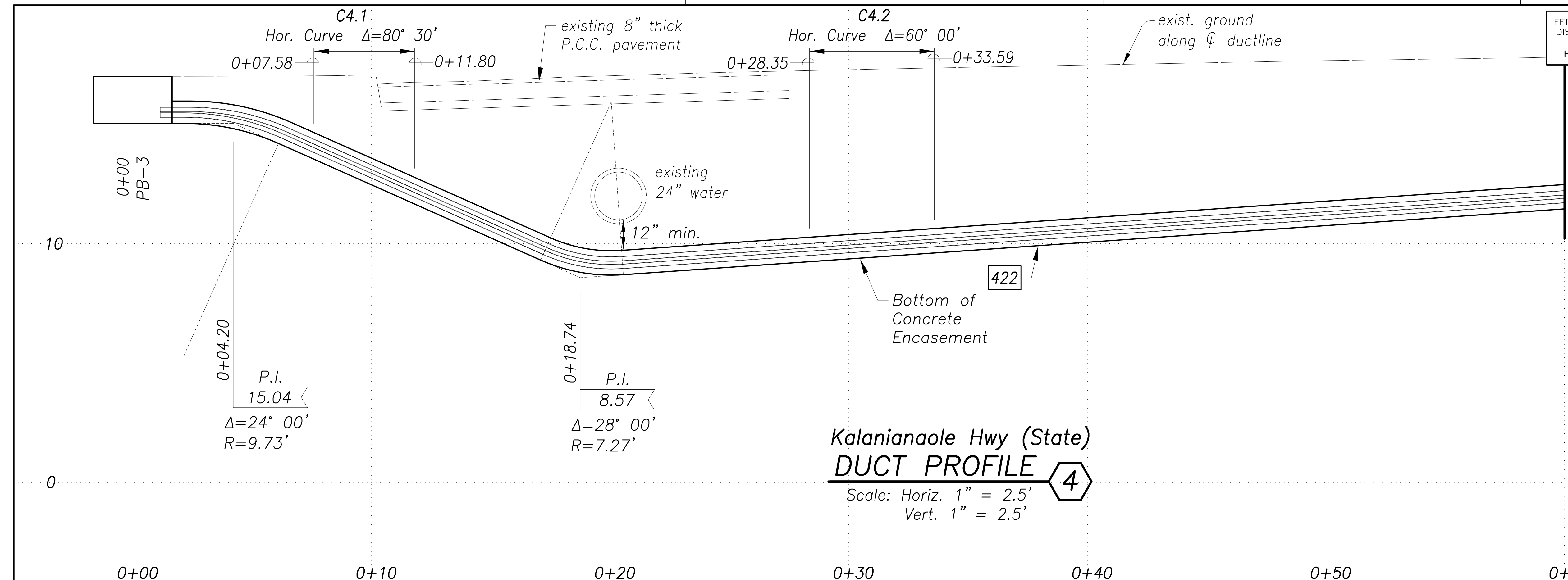
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	199	291



ORIGINAL PLAN	DATE
NOTE BOOK	DRAWN BY
No.	DESIGNED BY
	CHECKED BY

New 18, 2020-12-23am
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\199 Duct Line Profile K-03 & 06.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	200	291



GRAPHIC SCALES

SCALE 1"=2.5'

Approved By: _____ Date: _____

Manager & Chief Engineer, BWS
(for work affecting BWS facilities in
City/State R/W and BWS easements only)

Chief, Traffic Signals & Technology, DTS _____ Date: _____

- Notes:**
- The Contractor shall not disturb or excavate into the existing rock fill.

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

18, 2020-03-23m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\200 Duct Line Profile K-04.dwg

CONRAD S. HIGASHIOWA
LICENSED PROFESSIONAL ENGINEER
No. 6763-C
HAWAII, U.S.A.

License Expiration Date 04-30-22

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Conrad Higashiomma

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES

Kalaniana'ole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2

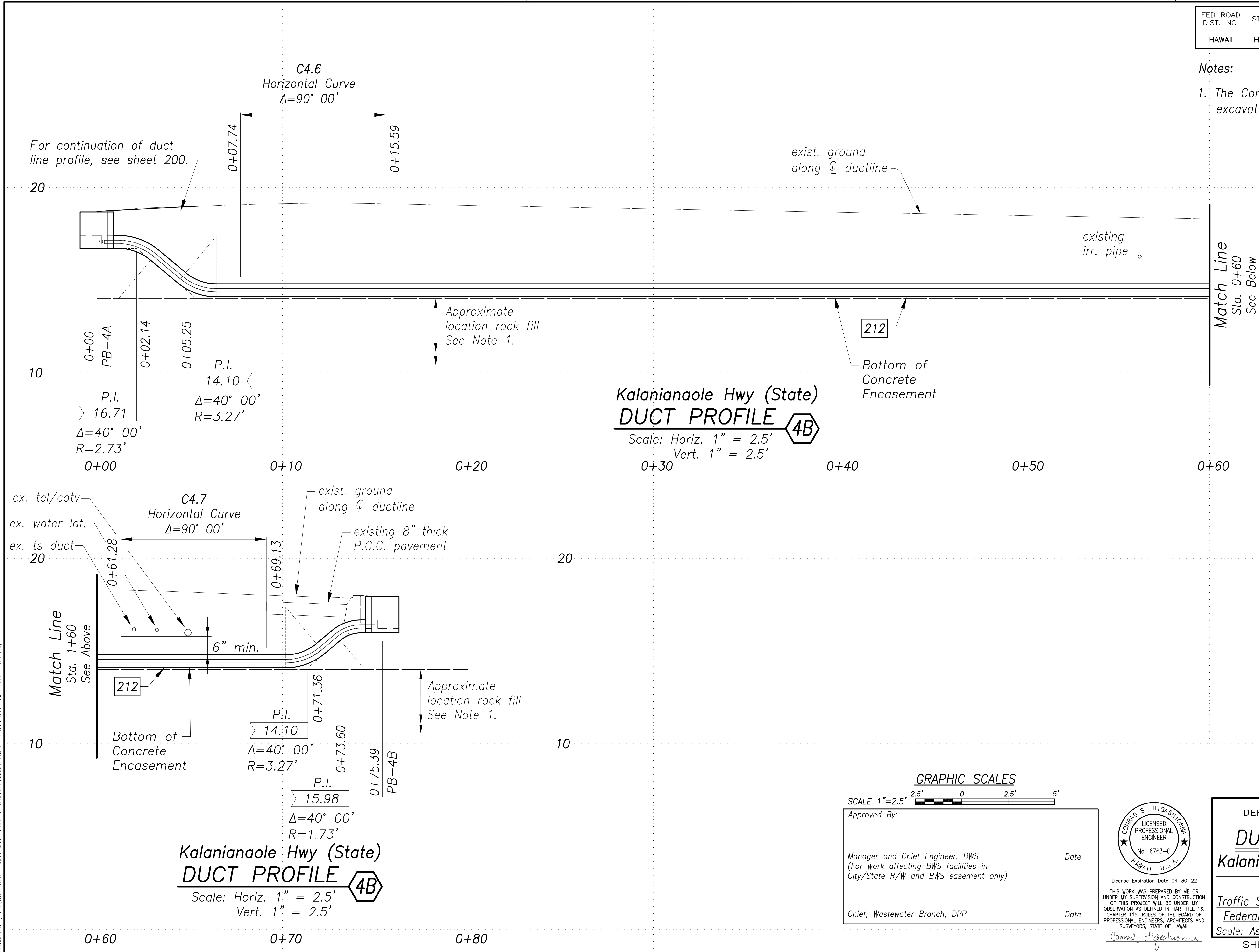
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020

SHEET No. TS-98 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	201	291

Notes:

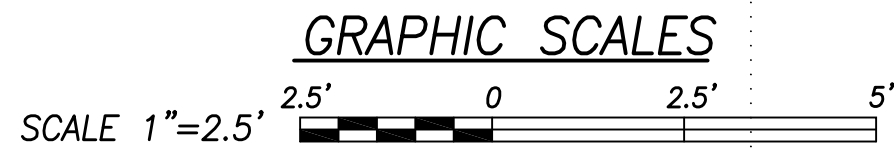
1. The Contractor shall not disturb or excavate into the existing rock fill.



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

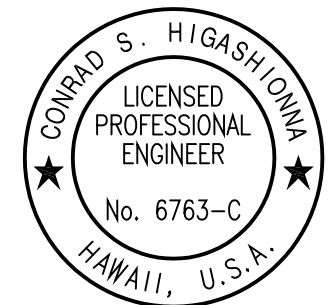
ORIGINAL PLAN	No.
NOTE BOOK	

New 18, 2020-12-30m
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations\PAE\FINAL\201 Duct Line Profile K-04B.dwg



Approved By:

Manager and Chief Engineer, BWS (For work affecting BWS facilities in City/State R/W and BWS easement only)	Date
Chief, Wastewater Branch, DPP	Date



License Expiration Date: 04-30-22
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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES

Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2

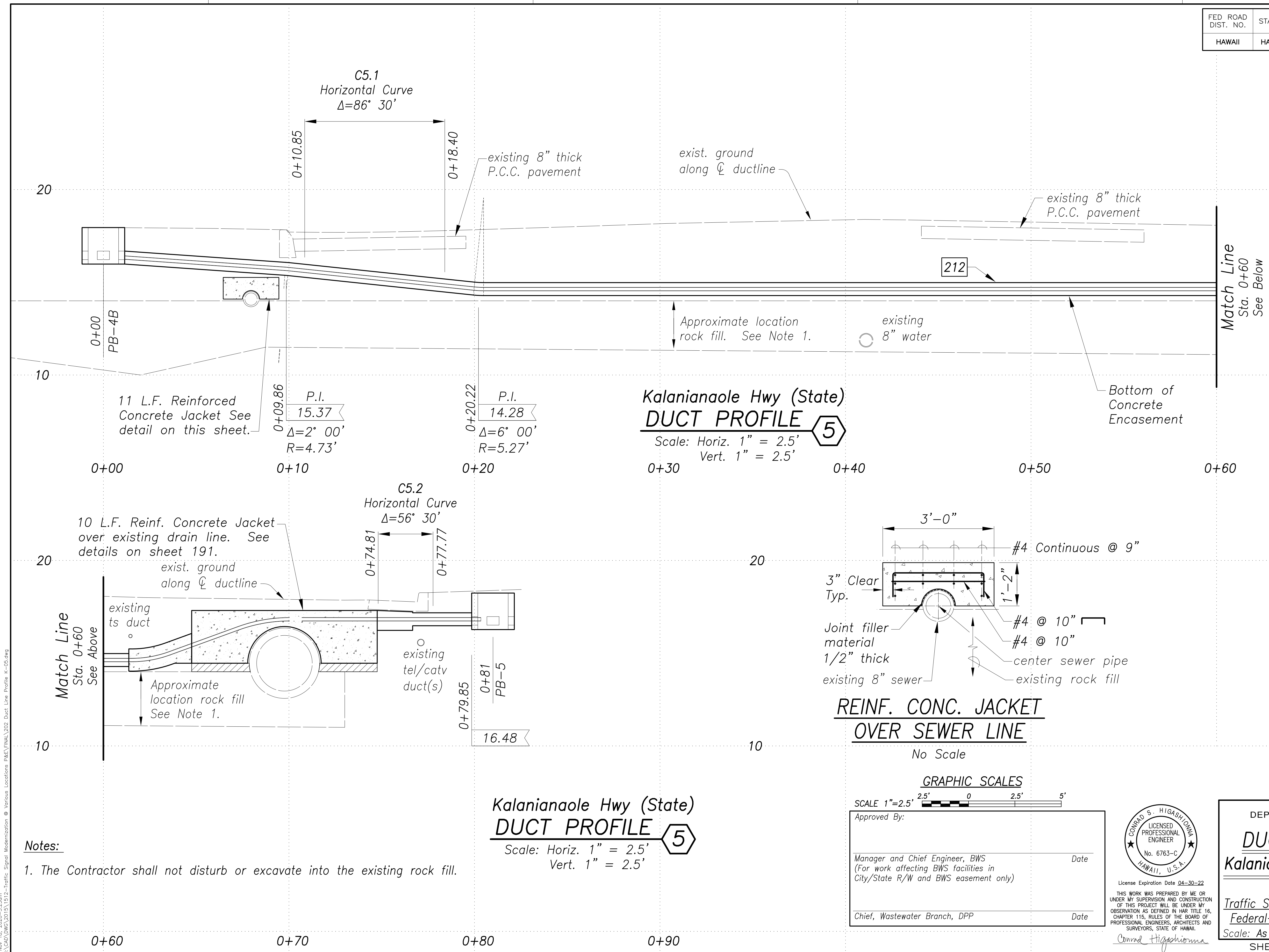
Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

Scale: As Noted Date: Oct. 2020

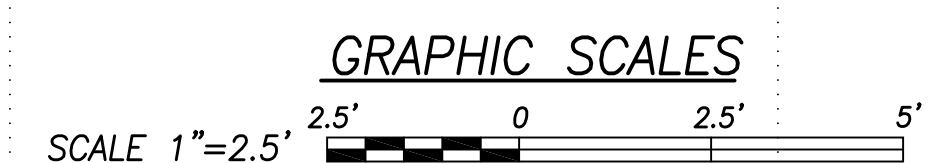
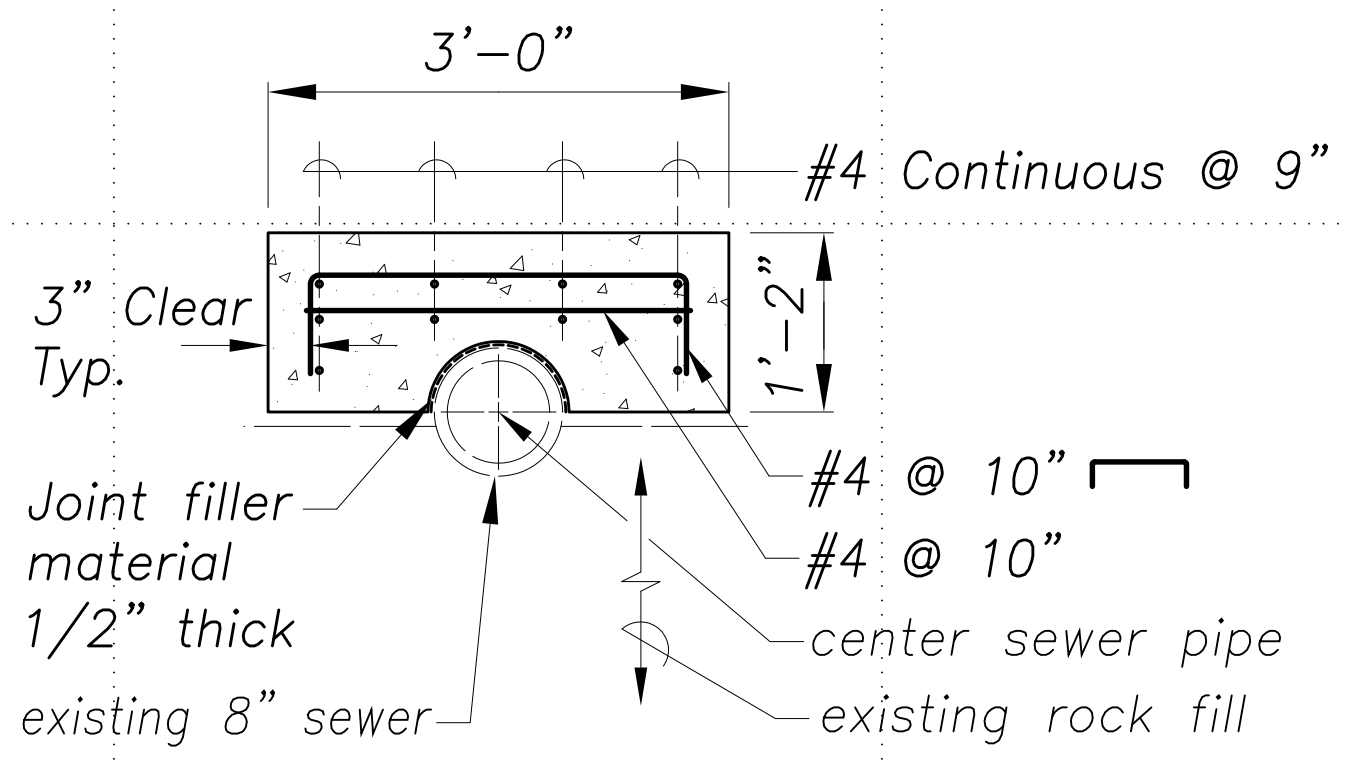
SHEET No. TS-99 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	202	291



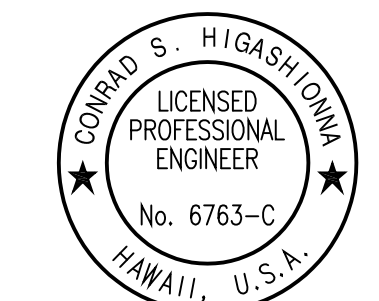
Notes:

1. The Contractor shall not disturb or excavate into the existing rock fill.



Approved By:

Manager and Chief Engineer, BWS (For work affecting BWS facilities in City/State R/W and BWS easement only)	Date
Chief, Wastewater Branch, DPP	Date



License Expiration Date: 04-30-22

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Conrad Higashimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES
Kalanianaʻole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: As Noted Date: Oct. 2020

SHEET No. TS-100 OF 113 SHEETS

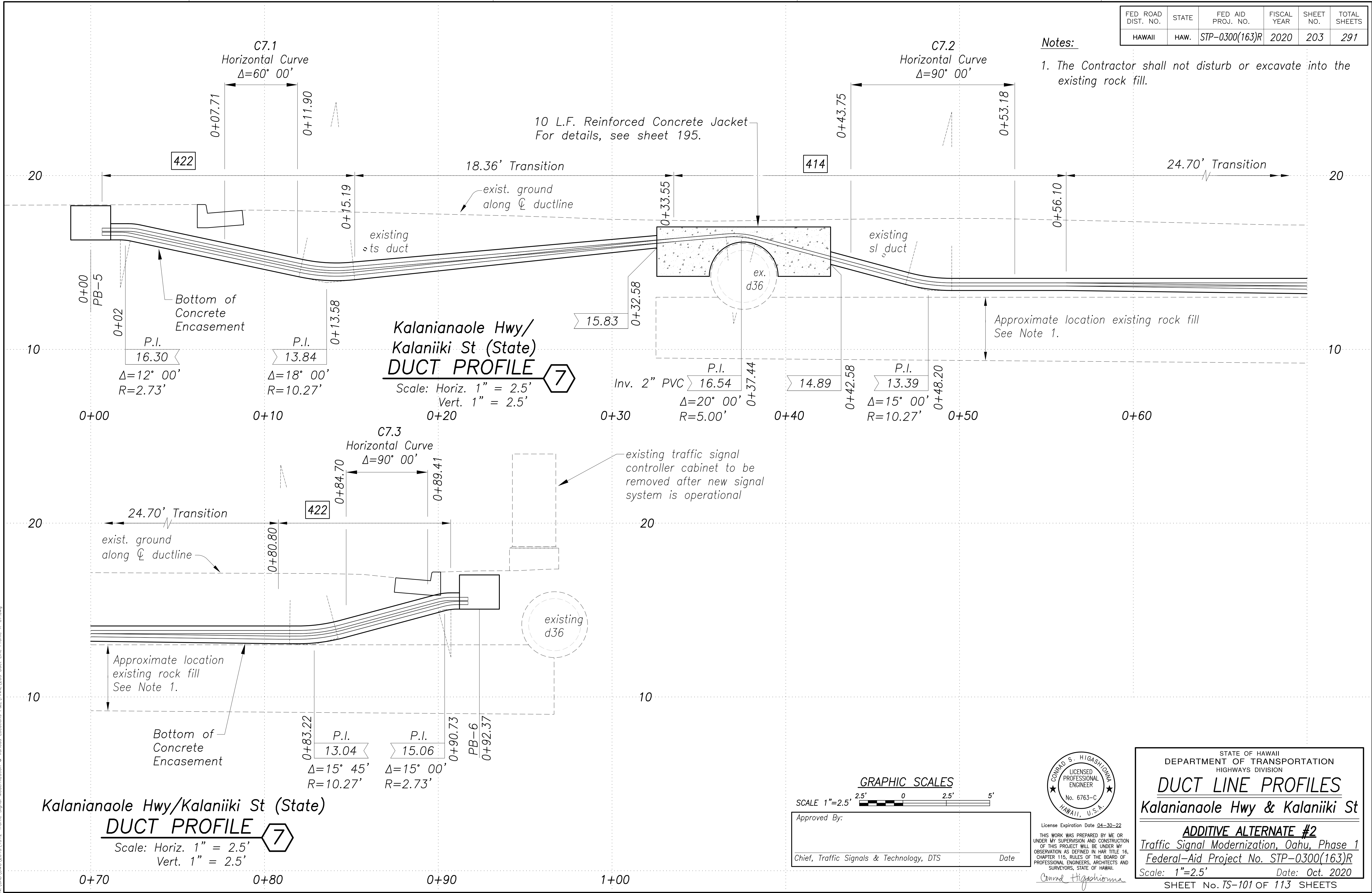
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	No.
NOTE BOOK	

New 18, 2020-10-23am
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations\PAE\FINAL\202 Duct Line Profile K-05.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	203	291

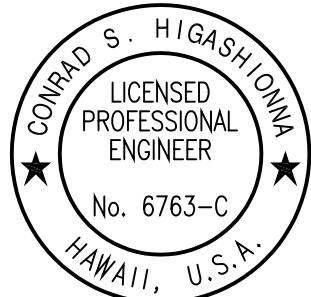
Notes:

- The Contractor shall not disturb or excavate into the existing rock fill.



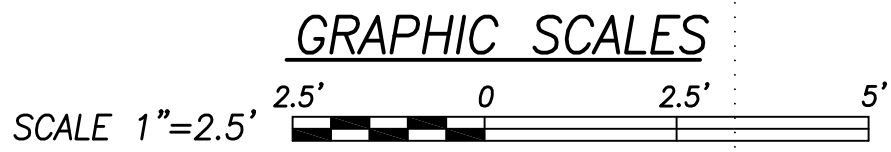
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

New 18, 2020-03-24am
 N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\203 Duct Line Profile K-07.dwg



License Expiration Date: 04-30-22
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Conrad Higashioka

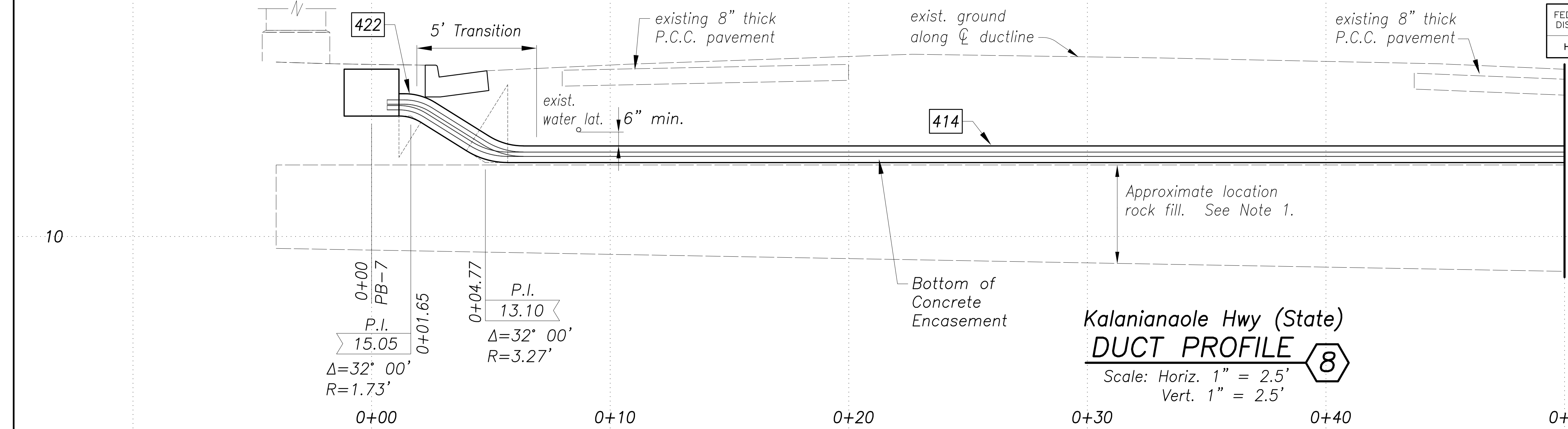


Approved By: _____
 Chief, Traffic Signals & Technology, DTS
 Date: _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DUCT LINE PROFILES
Kalanianaʻole Hwy & Kalaniiki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020
SHEET No. TS-101 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	204	291



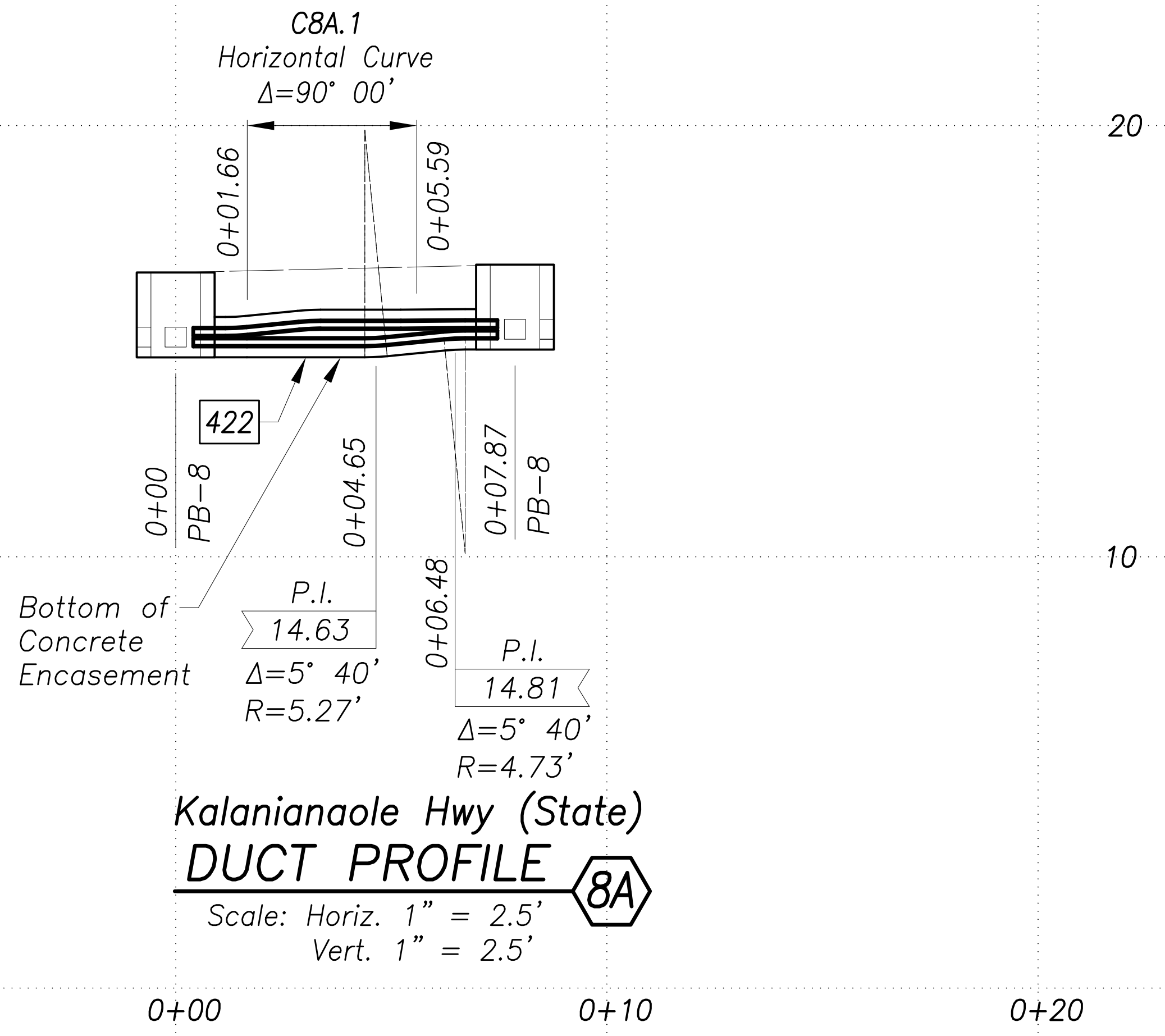
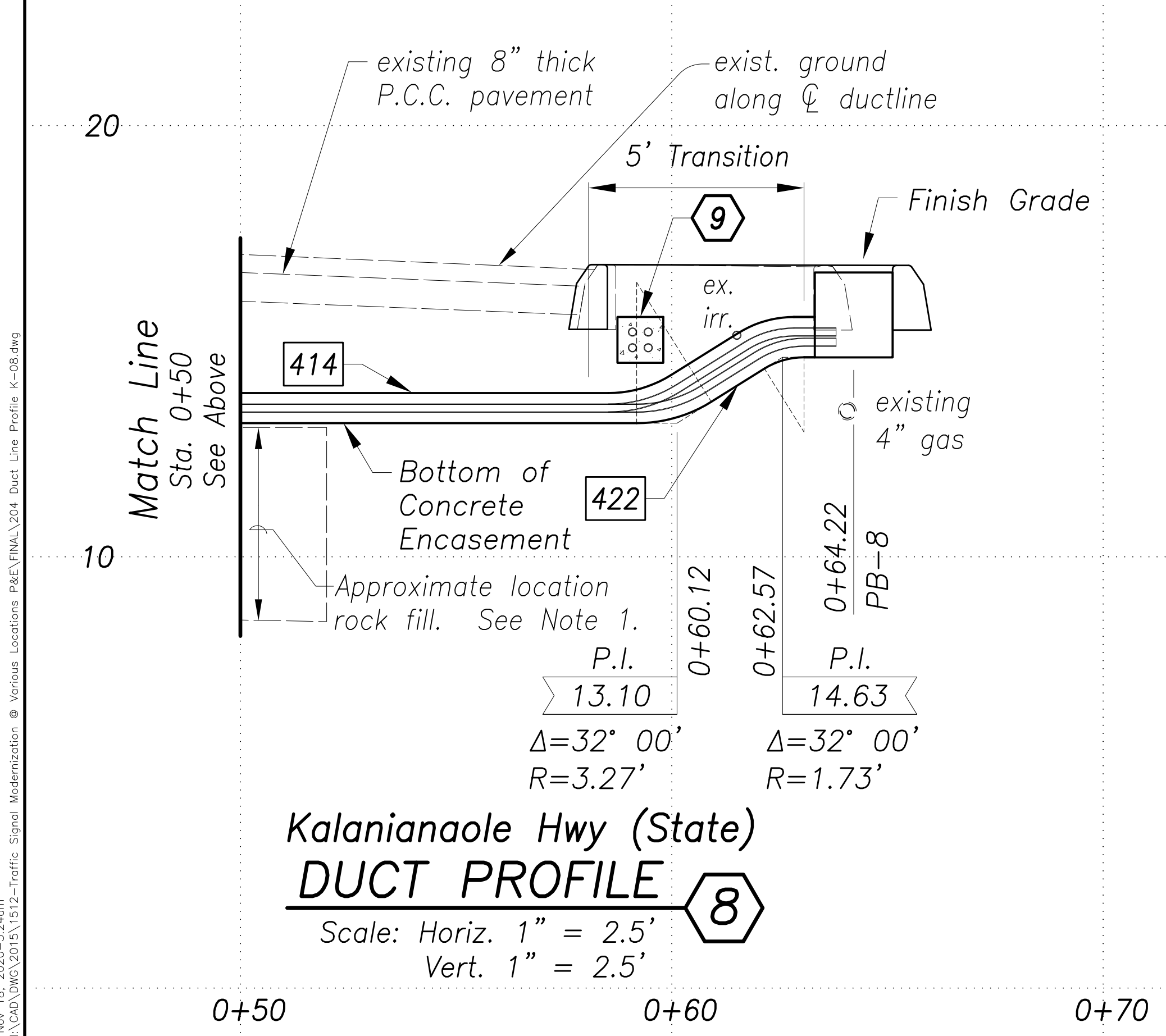
- Notes:**
1. The Contractor shall not disturb or excavate into the existing rock fill.
 2. The Contractor shall relocate existing irrigation lines to facilitate construction. The cost shall be incidental to the various contract items.

GRAPHIC SCALES

SCALE 1"=2.5'

Approved By: _____

Chief, Traffic Signals & Technology, DTS _____ Date _____



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

New 18, 2020-12-24
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\204 Duct Line Profile K-08.dwg

License Expiration Date: 04-30-22

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Conrad Higashi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES

Kalanianaʻole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2

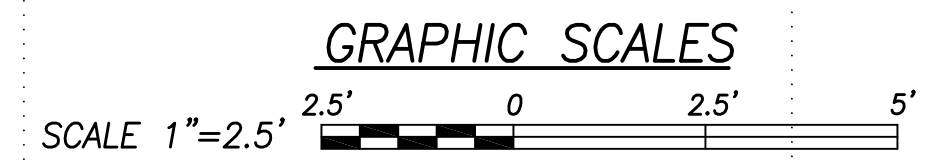
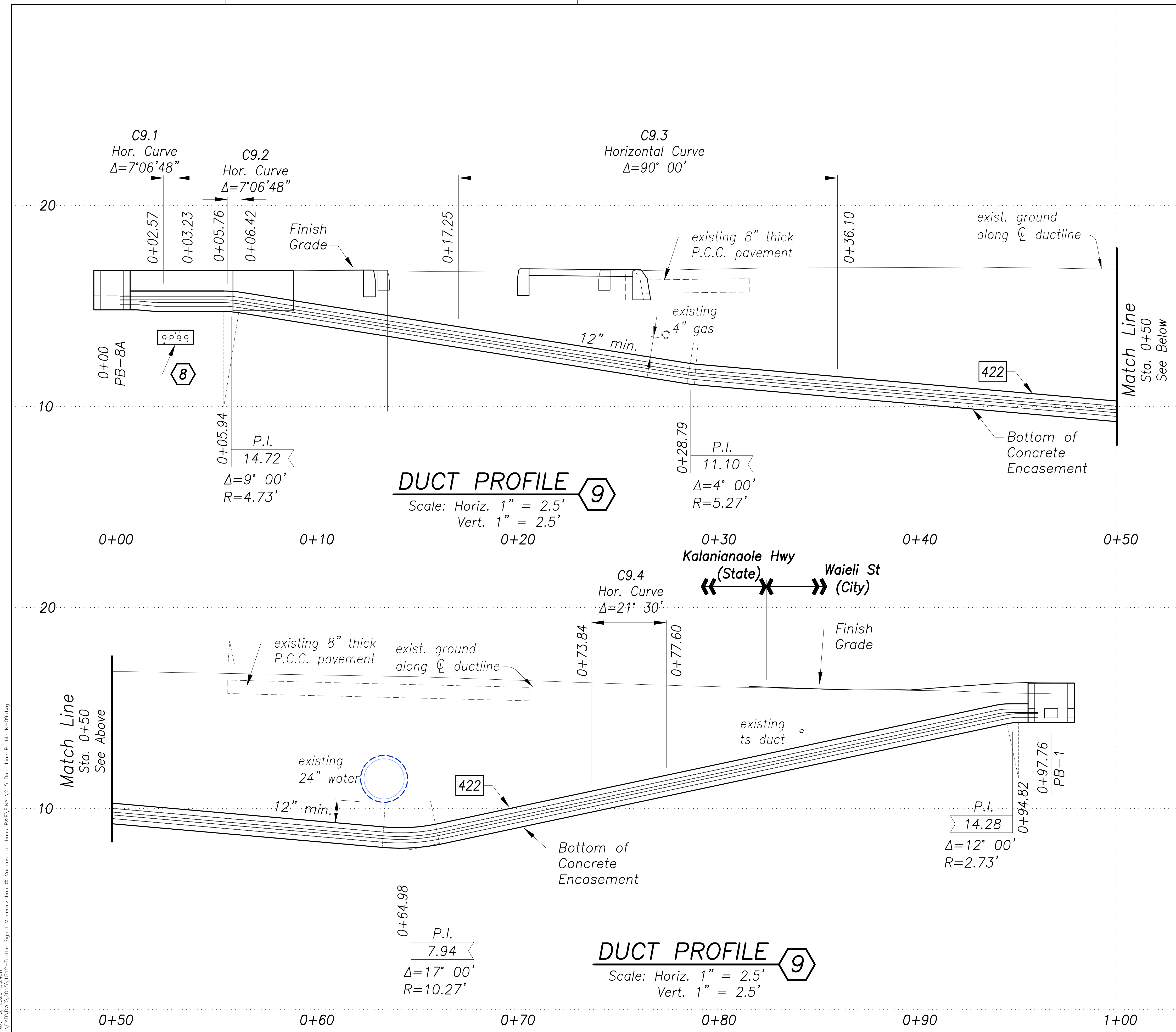
Traffic Signal Modernization, Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)R

Scale: 1"=2.5' Date: Oct. 2020

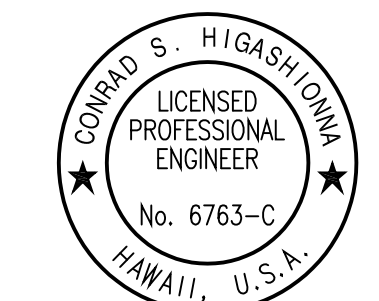
SHEET No. TS-102 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	205	291



Approved By:

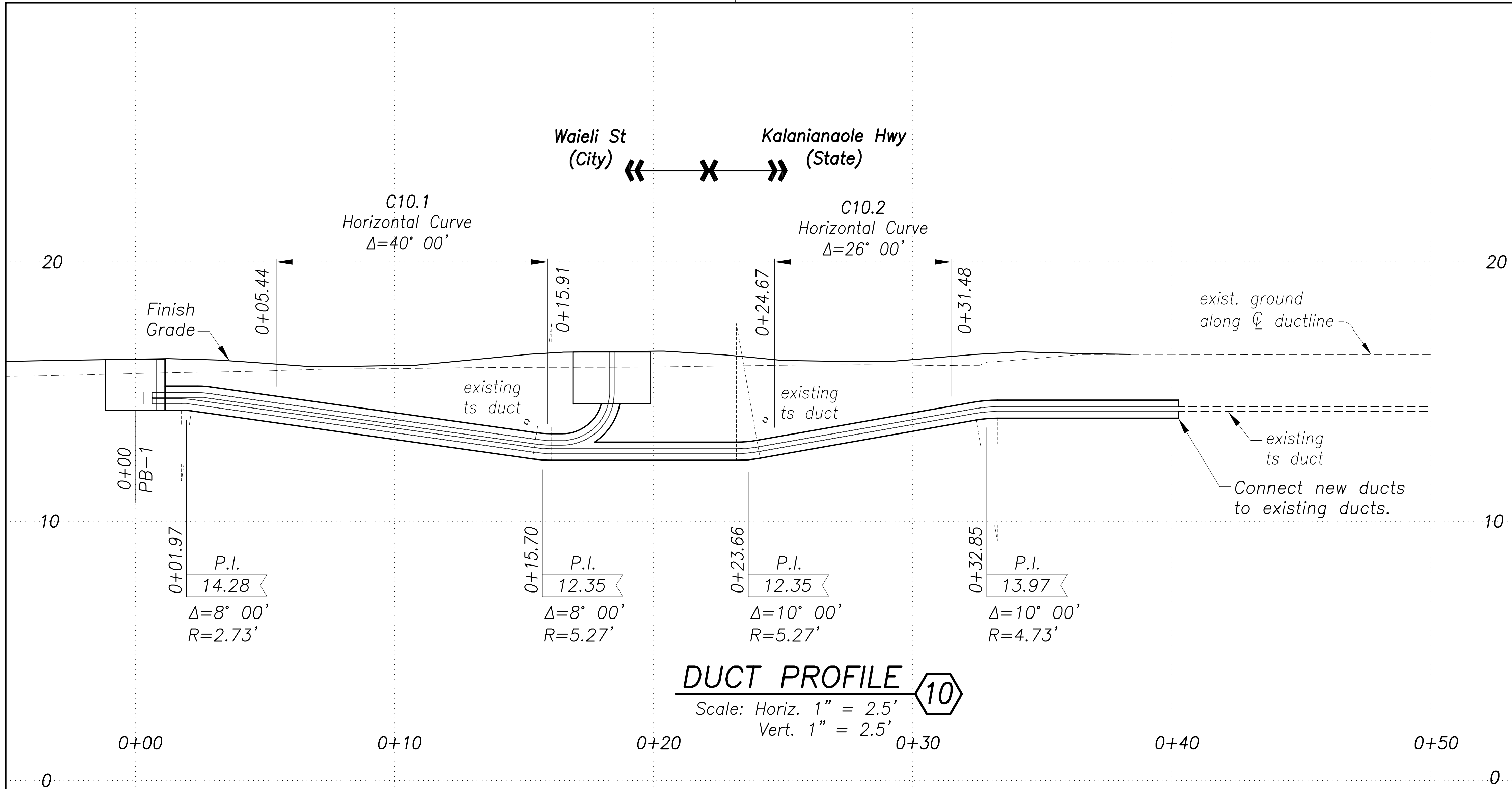
Manager & Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W and BWS easements only)	Date
Chief, Traffic Signals & Technology, DTS	Date



License Expiration Date: 04-30-22
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Conrad Higashioka

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DUCT LINE PROFILES
Kalanianaʻole Hwy & Kalaniki St
ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020
SHEET No. TS-103 OF 113 SHEETS

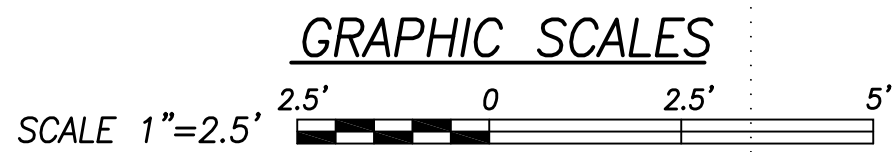
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	206	291



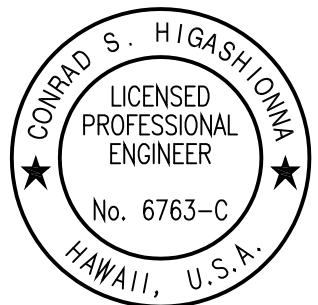
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

ORIGINAL PLAN	No.
NOTE BOOK	

New 18, 2020-12-24
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\206 Duct Line Profile K-10.dwg



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Conrad Higashimura

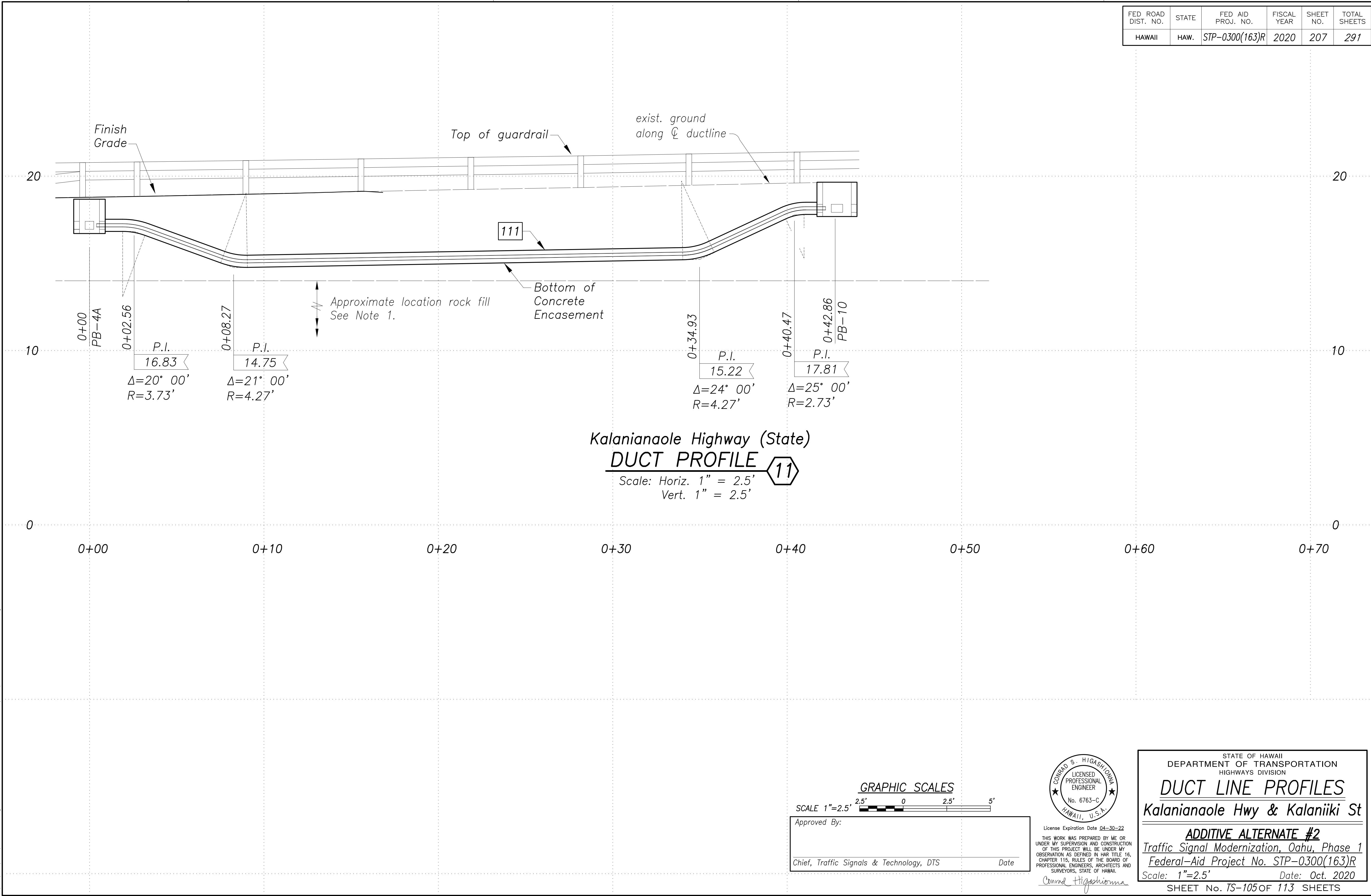
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES
Kalanianaʻole Hwy & Kalaniiki St

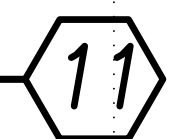
ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020

SHEET No. TS-104 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	207	291

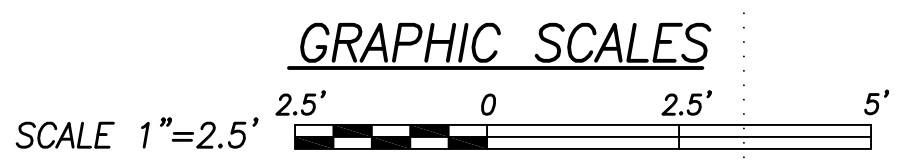


Kalanianaʻole Highway (State)
DUCT PROFILE
Scale: Horiz. 1" = 2.5'
Vert. 1" = 2.5'

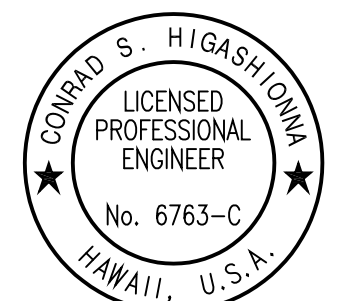


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

New 18, 2020-12-24
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Conrad Higashimura

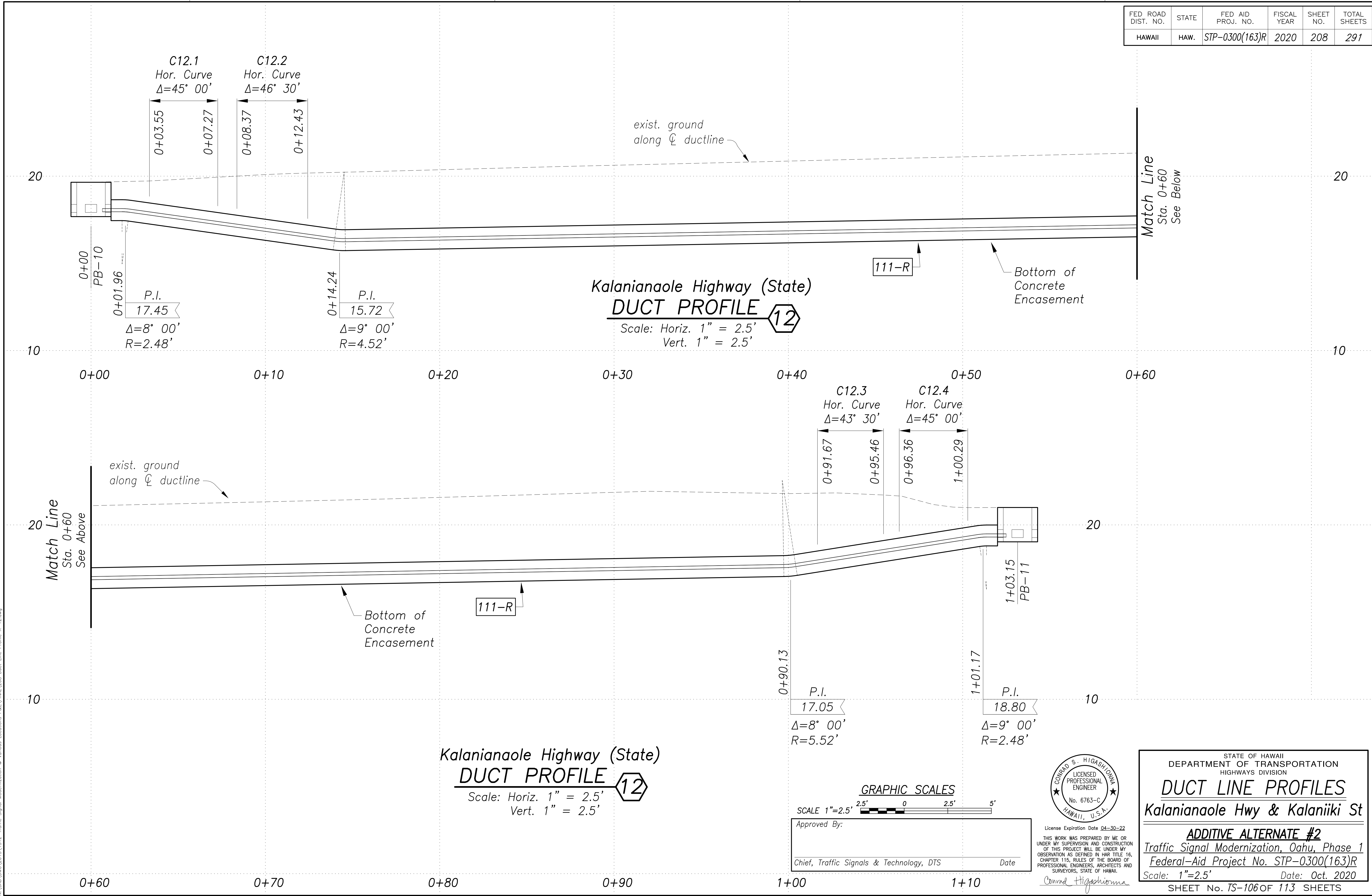
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT LINE PROFILES
Kalanianaʻole Hwy & Kalaniki St

ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020

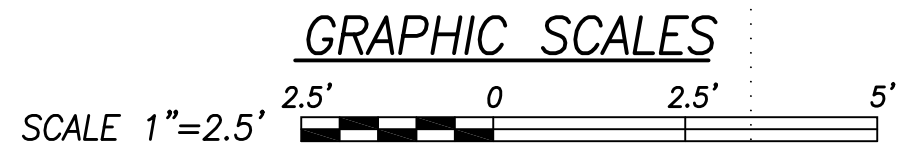
SHEET No. TS-105 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)R	2020	208	291

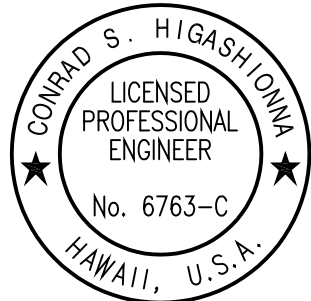


ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	CHECKED BY	

New 18, 2020-12-24
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ADDITIVE ALTERNATE #2
Traffic Signal Modernization, Oahu, Phase 1
Federal-Aid Project No. STP-0300(163)R
Scale: 1"=2.5' Date: Oct. 2020
SHEET No. TS-106 OF 113 SHEETS