

DETECTABLE WARNING DETAILS A No Scale 56-63, 67, 73-74, 76 55

DETECTABLE WARNING DETAIL

- 1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
- 2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%-65% of the base diameter at the top, a height of 0.2 inch and a center-to-center spacing of 1.6 to 2.4 inches measured along one side of a square arrangement.
- 3. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between the domes.
- 4. There shall be a minimum of 70 percent contrast in light reflectance between the detectable warning and an adjoining surface, or the detectable warning shall be "safety yellow".
- 5. The material used to provide visual contrast shall be an integral part of the detectable warning surface.
- 6. The detectable warning shall be located so that the edge nearest the curb face or other potential hazard is 6 to 8 inches from curb face.
- 7. Detectable warnings shall be cast—in—place and replaceable. The Contractor shall submit the detectable warning material/product description to the Engineer for review and approval.

CURB RAMP NOTES

- 1. The Contractor shall not exceed a 2% maximum cross slope in the direction of pedestrian traffic, unless indicated otherwise.
- 2. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
- 3. The Contractor shall adjust existing pullboxes, handholes, manholes, etc. to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items, unless indicated otherwise.
- 4. Transitions from ramps to gutters and roadways shall be flush.
- 5. The Contractor shall install pedestrian push buttons to comply with operational and reach requirements of the American with Disability Act Accessibility Guidelines (ADAAG):
 - a. Forward Reach. The maximum height for forward reach shall be 48".
 - b. Side Reach. The maximum height for side reach shall be 48".
 - c. Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf.
- 5. Construction joints are required to join curb ramps with sidewalks.
- 6. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
- 7. Surface of sidewalks and curb ramps shall be firm, stable, and slip—resistent. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
- 8. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e., wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current Americans with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to the Engineer's approval.
- 9. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on 1/4 inch per 10 feet $(\pm 0.2\%)$. Remedial measures will not be accepted.
- 10. The Contractor shall comply with City & County Jointing Policy (Memorandum No. CEB 1-09) dated April 6, 2009 for new sidewalks within City right-of-way.
- 11. The Contractor shall construct curb ramps in accordance with City & County of Honolulu Standard Detail R-25A, unless indicated otherwise.

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	55	284

LICENSED PROFESSIONAL ENGINEER No. 6763-C HAWAII, U.S.
License Expiration Date <u>04-30-22</u>
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.
Convad Higashionna

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP NOTES

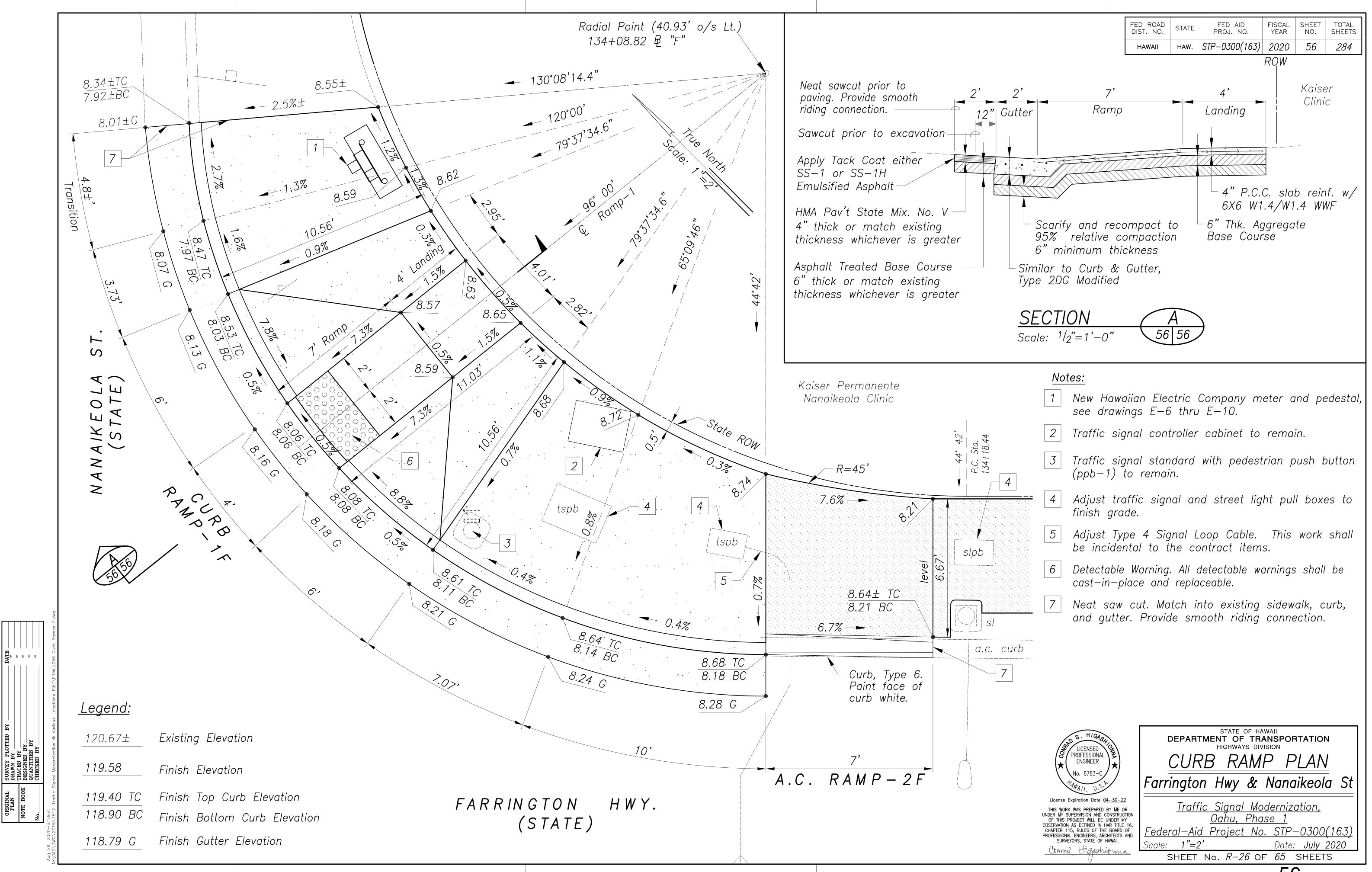
AND DETAILS

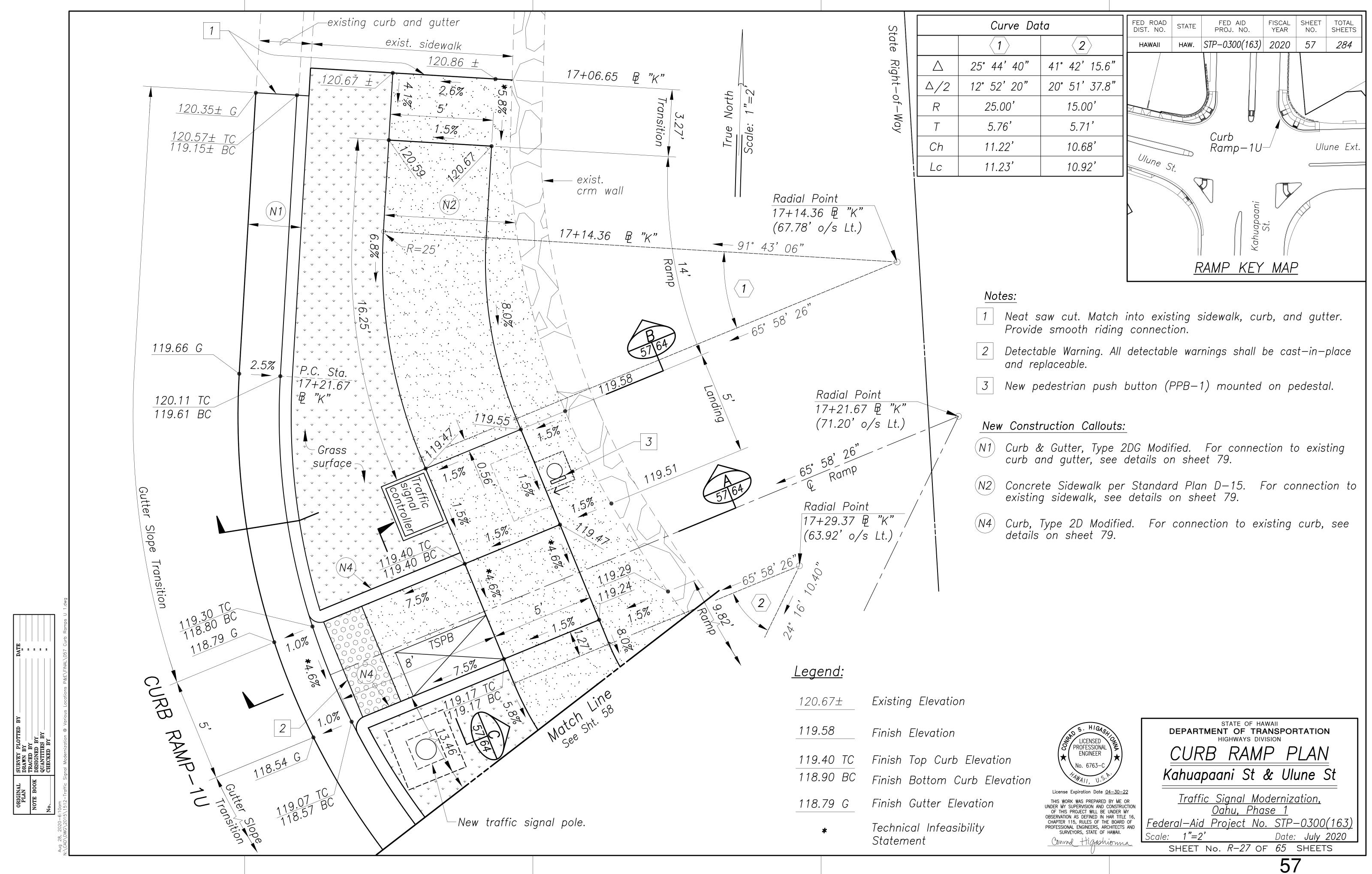
<u>Traffic Signal Modernization,</u>
<u>Oahu, Phase 1</u>
<u>Federal-Aid Project No. STP-0300(163)</u>

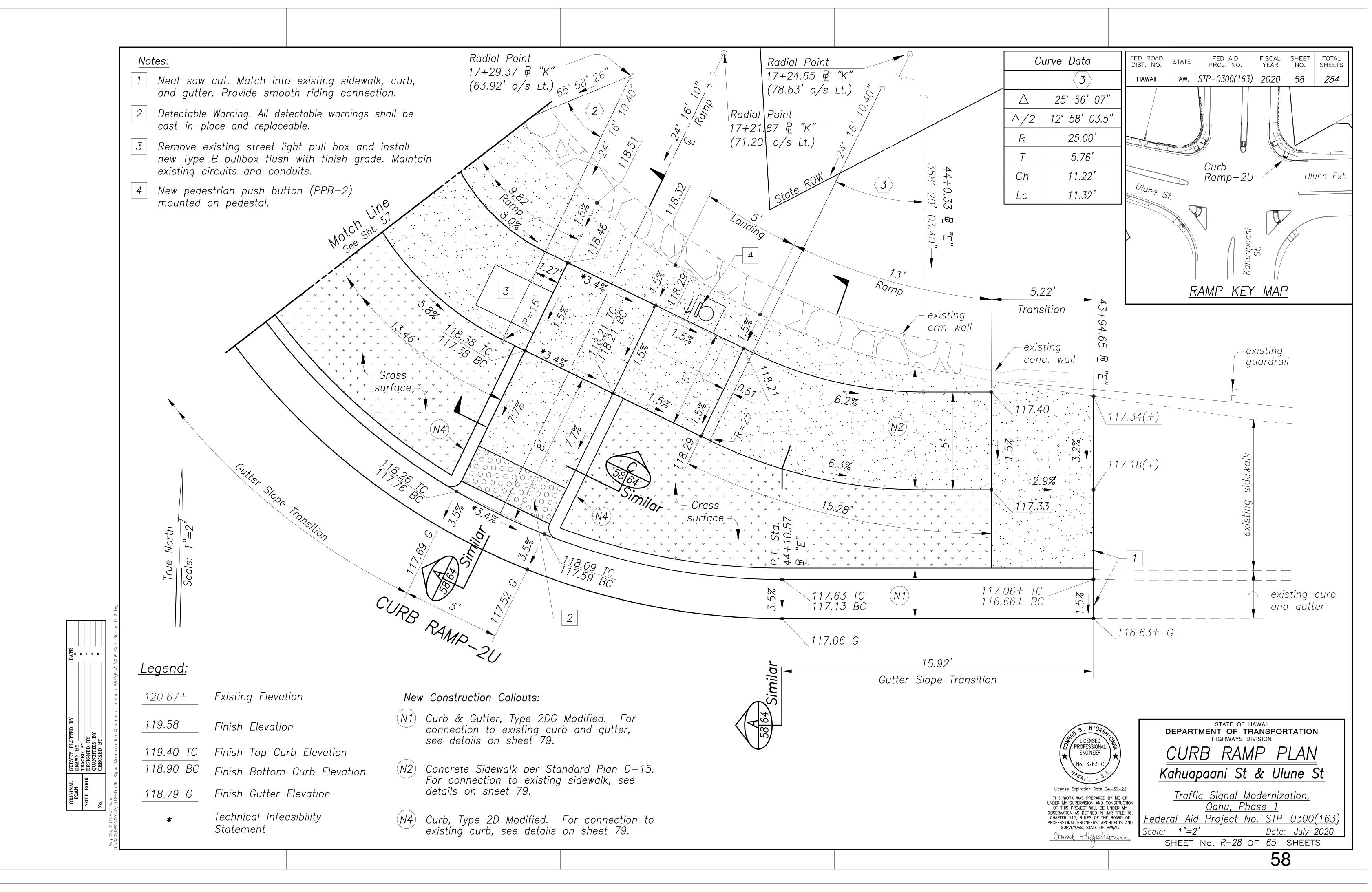
e: Date: July 2020 SHEET No. R-25 OF 65 SHEETS

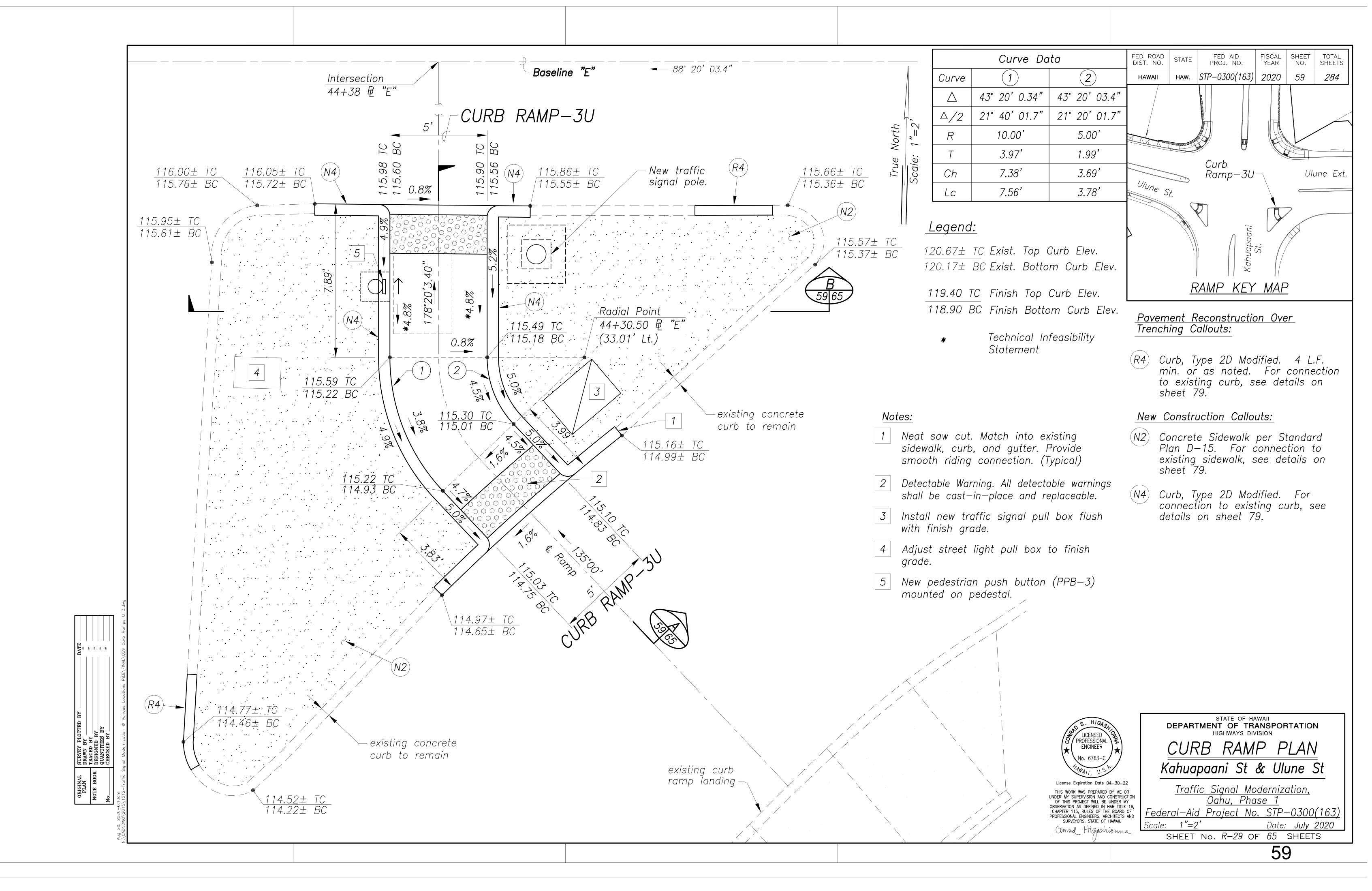
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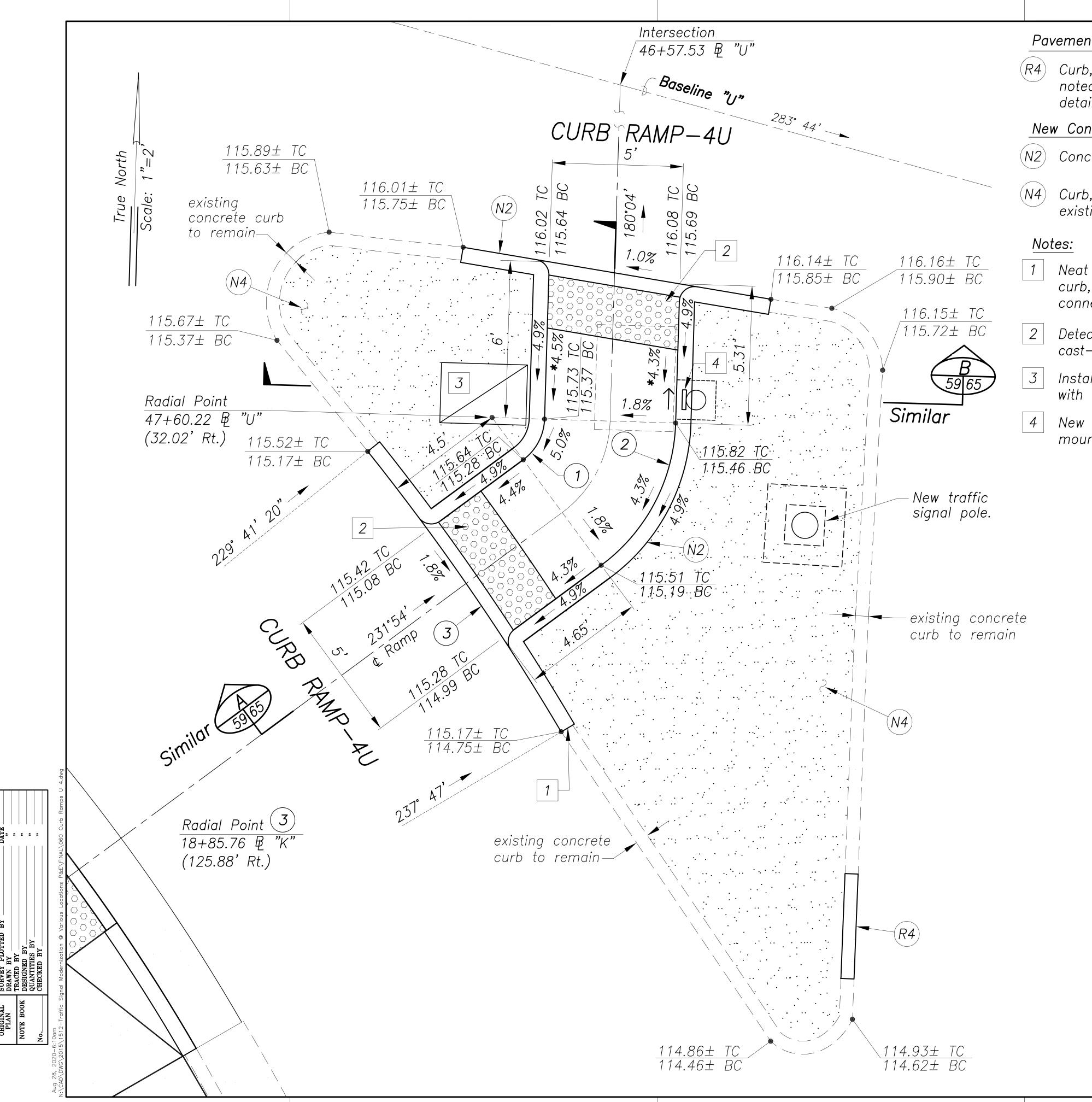
The UNDE O O OBST CHIEF, Civil Engineering Branch, DPP Date PROF (For Construction in CITY ROW Only)











Pavement Reconstruction Over Trenching Callouts:

Curb, Type 2D Modified. 4 L.F. min. or as noted. For connection to existing curb, see details on sheet 79.

New Construction Callouts:

- (N2) Concrete Sidewalk per Standard Plan D-15.
- Curb, Type 2D Modified. For connection to existing curb, see details on sheet 79.
- 1 Neat saw cut. Match into existing sidewalk, curb, and gutter. Provide smooth riding connection. (Typical)
- 2 Detectable Warning. All detectable warnings shall be cast-in-place and replaceable.
- 3 Install new traffic signal pull box flush with finish grade.
- 4 New pedestrian push button (PPB-4) mounted on pedestal.

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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	t.				
		Kahuapaani	St.		
	<u>F</u>	RAMP KEY	MAF) -	

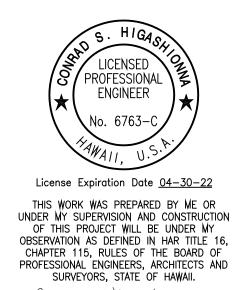
Curve Data					
Curve	1	2	3		
\triangle	51° 50' 00"	51° 50' 00"	8° 05' 40"		
Δ/2	25° 55' 00"	25° 55' 00"	4° 02' 50"		
R	2.00'	7.00'	92.00'		
Т	0.97'	3.40'	6.51		
Ch	1.75	6.12'	12.99'		
Lc	1.81'	6.33'	13.00'		

<u>Legend:</u>

 $120.67\pm$ TC Existing Top Curb Elevation 120.67± BC Existing Bottom Curb Elevation

Finish Top Curb Elevation 118.90 BC Finish Bottom Curb Elevation

> Technical Infeasibility Statement



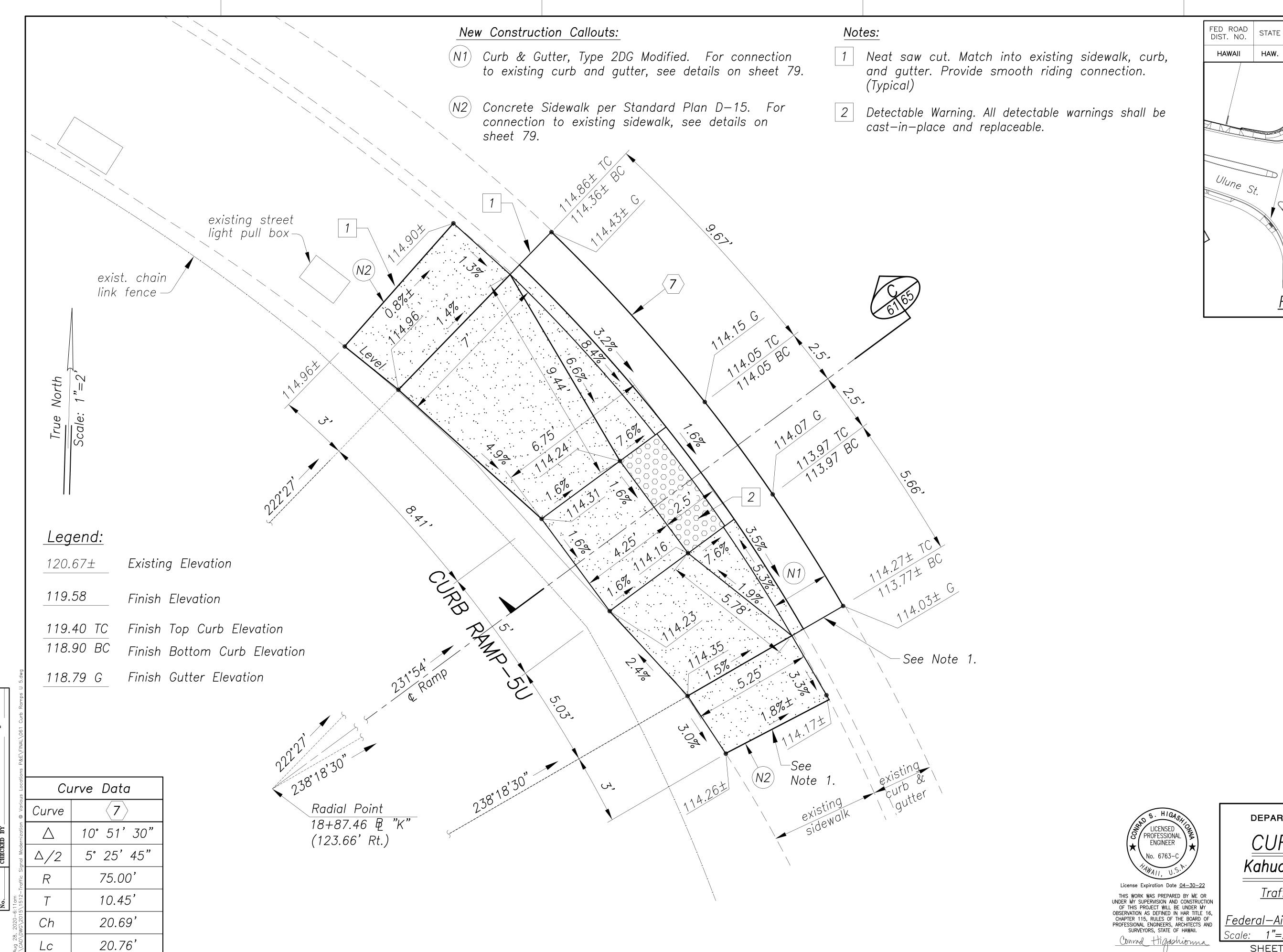
STATE OF HAWAII

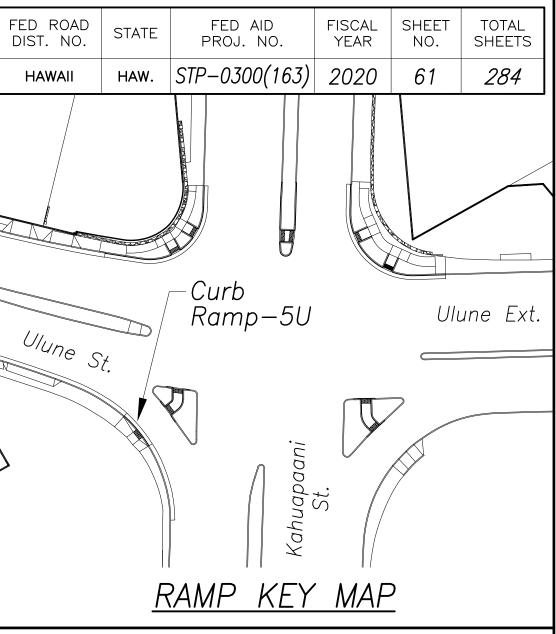
DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION CURB RAMP PLAN Kahuapaani St & Ulune St

<u>Traffic Signal Modernization,</u> <u>Oahu, Phase 1</u> <u> Federal—Aid Project No. STP—0300(163)</u>

SHEET No. R-30 OF 65 SHEETS





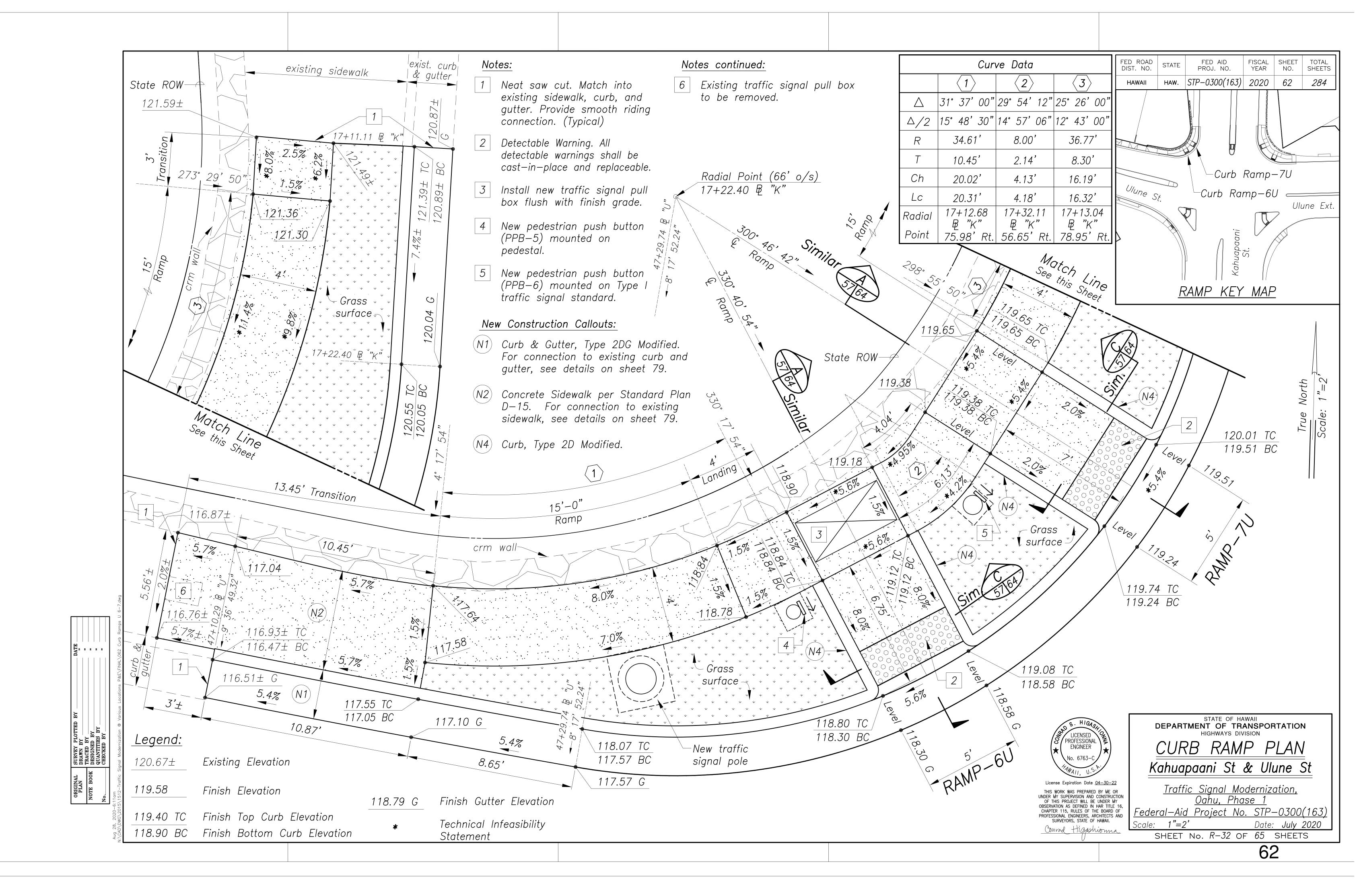
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

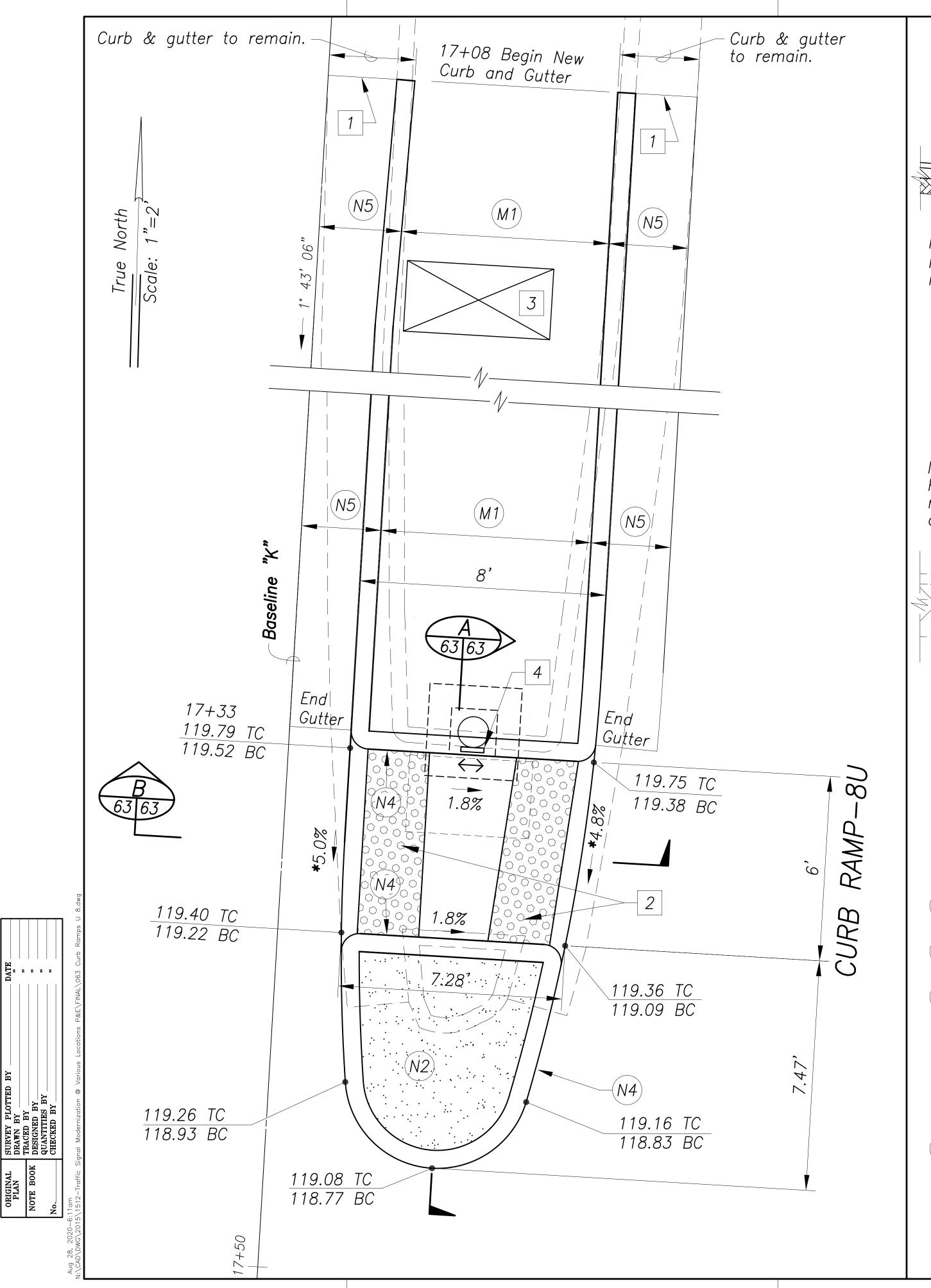
CURB RAMP PLAN

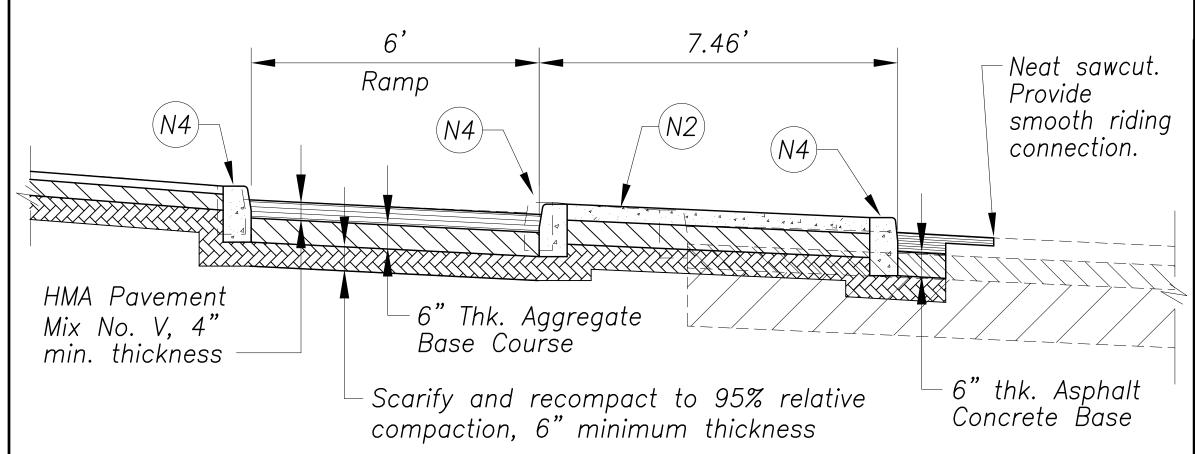
Kahuapaani St & Ulune St

<u>Traffic Signal Modernization,</u>
<u>Oahu, Phase 1</u>
<u>Federal—Aid Project No. STP—0300(163)</u>

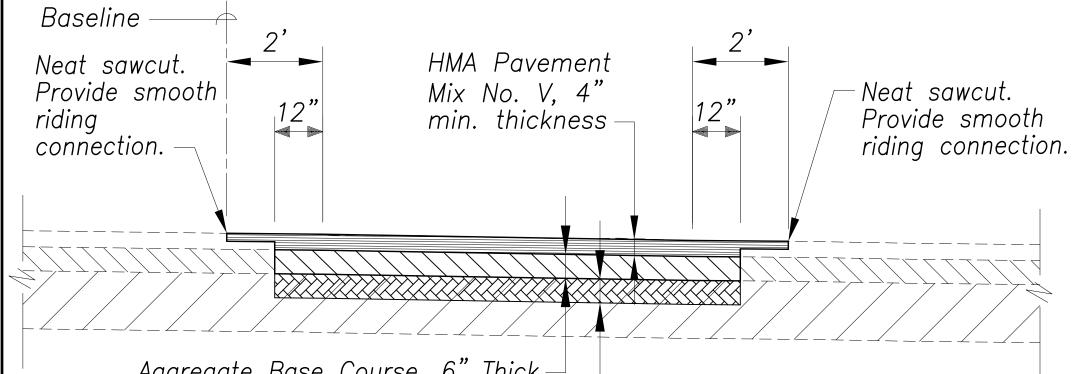
SHEET No. R-31 Of 65 SHEETS







SECTION A
Scale: 1/2"=1'-0" 63 63



Aggregate Base Course, 6" Thick—Scarify and recompact to 95% relative compaction 6" minimum thickness—

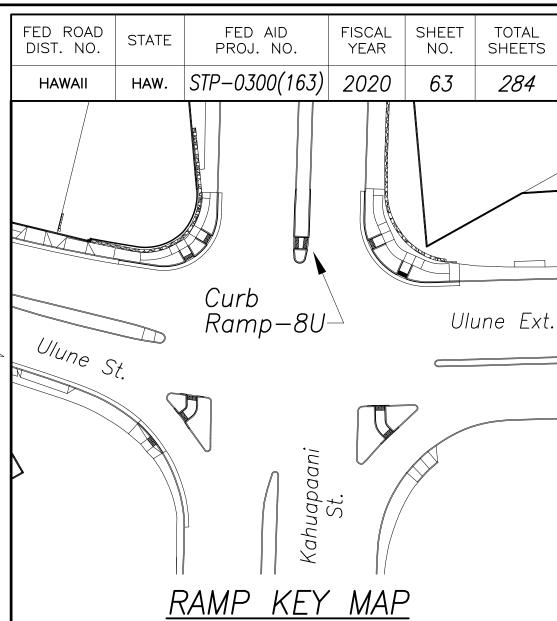
SECTION B
Scale: 1/2"=1'-0" 63 63

New Construction Callouts:

- (N2) Concrete Sidewalk per Standard Plan D-15.
- (N4) Curb, Type 2D Modified.
- (N5) Curb & Gutter, Type 2DG Modified. For connection to existing curb and gutter, see details on sheet 79 and Section A

Median Reconstruction Over Trenching Callouts:

(M1) Limits of asphalt pavement restoration over trenching in medians and/or islands. See detail A . 35.63 30



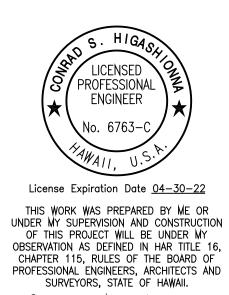
Legend:

119.40 TC Finish Top Curb Elevation 118.90 BC Finish Bottom Curb Elevation

* Technical Infeasibility
Statement

Notes:

- 1 Neat saw cut. Match into existing sidewalk, curb, and gutter. Provide smooth riding connection. (Typical)
- 2 Detectable Warning. All detectable warnings shall be cast—in—place and replaceable.
- Install new traffic signal pull box flush with finish grade.
- 4 New pedestrian push button (PPB-7) mounted on Type I traffic signal standard.



Conrad Higashionna

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP PLAN

Kahuapaani St & Ulune St

Traffic Signal Modernization,

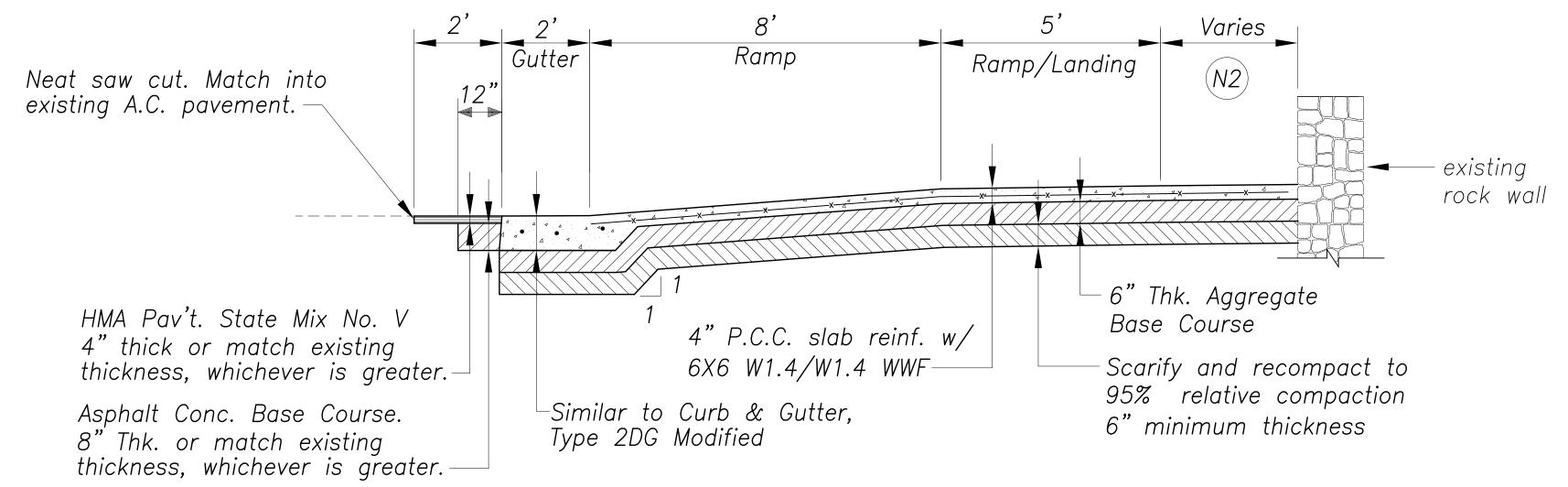
Oahu, Phase 1

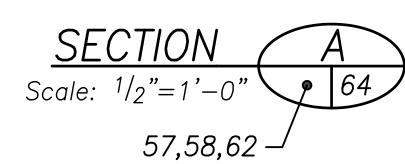
Federal—Aid Project No. STP—0300(163)

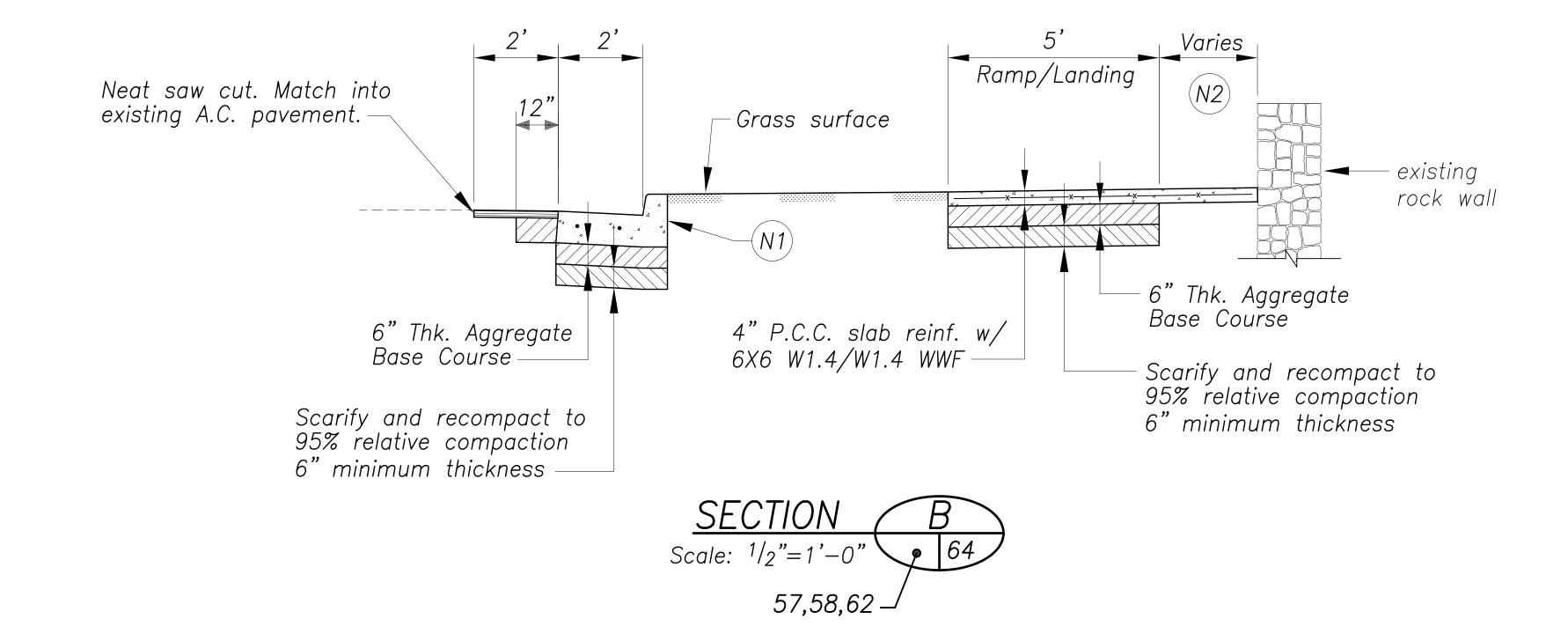
Scale: 1"=2' Date: July 2020

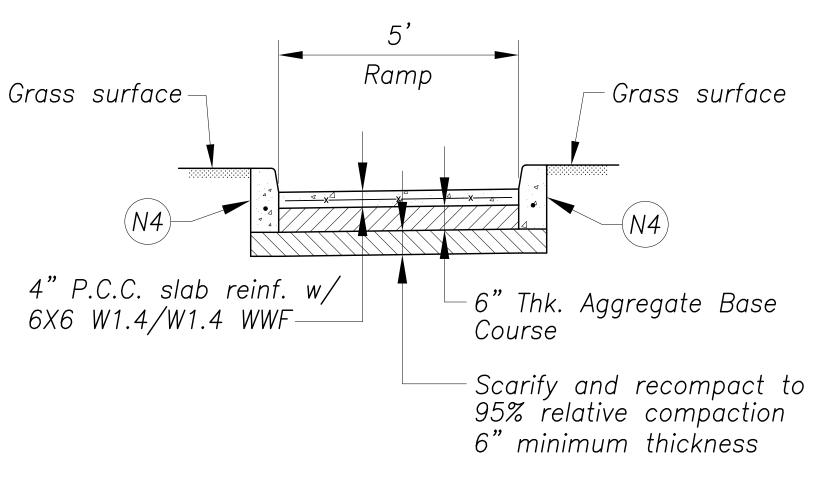
SHEET No. R-33 OF 65 SHEETS 63

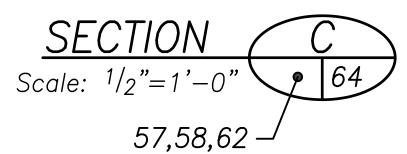
FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	64	284





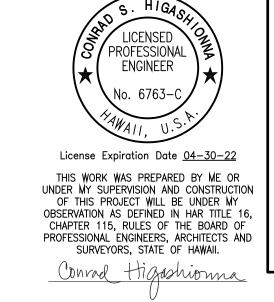


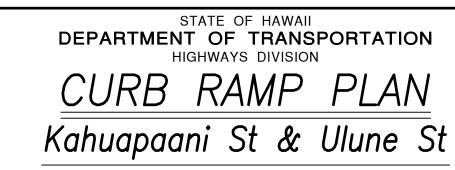




New Construction Callouts:

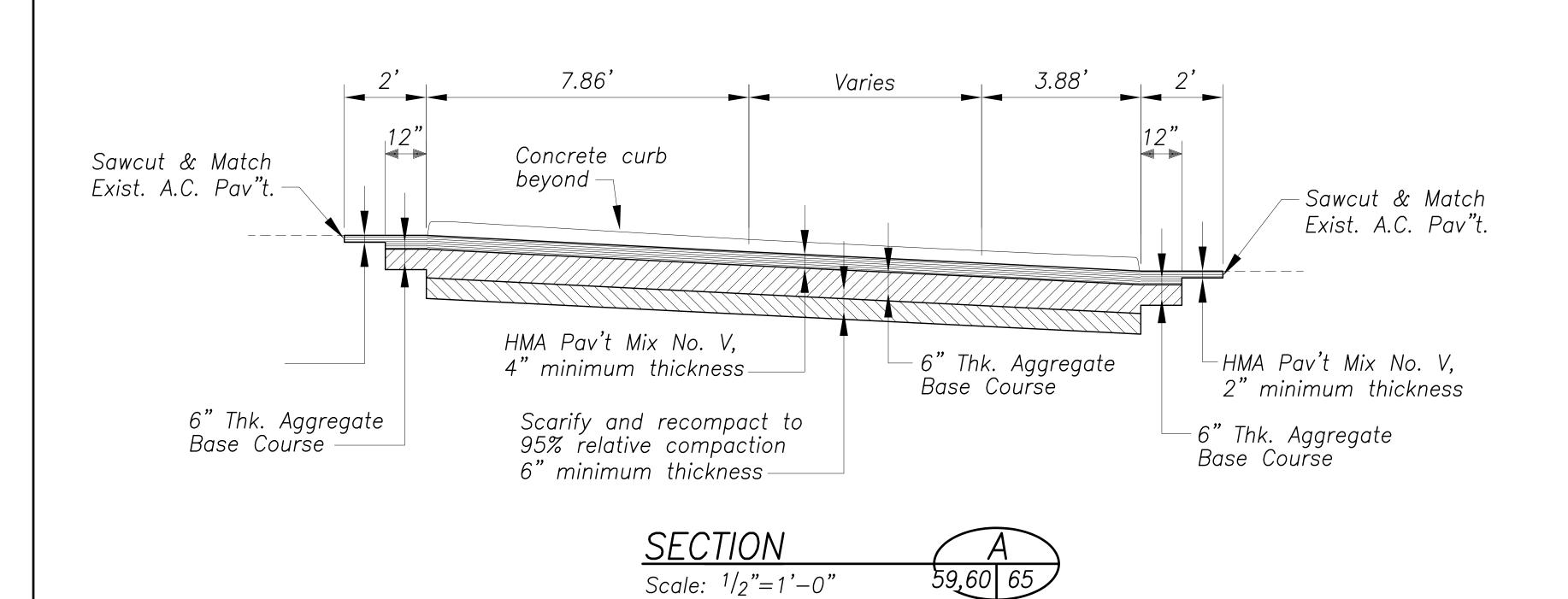
- (N1) Curb & Gutter, Type 2DG Modified. For connection to existing curb and gutter, see details on sheet 75.
- (N2) Concrete Sidewalk per Standard Plan D-15. For connection to existing sidewalk, see details on sheet 75.
- N4) Curb, Type 2D Modified. For connection to existing curb and gutter, see details on sheet 75.

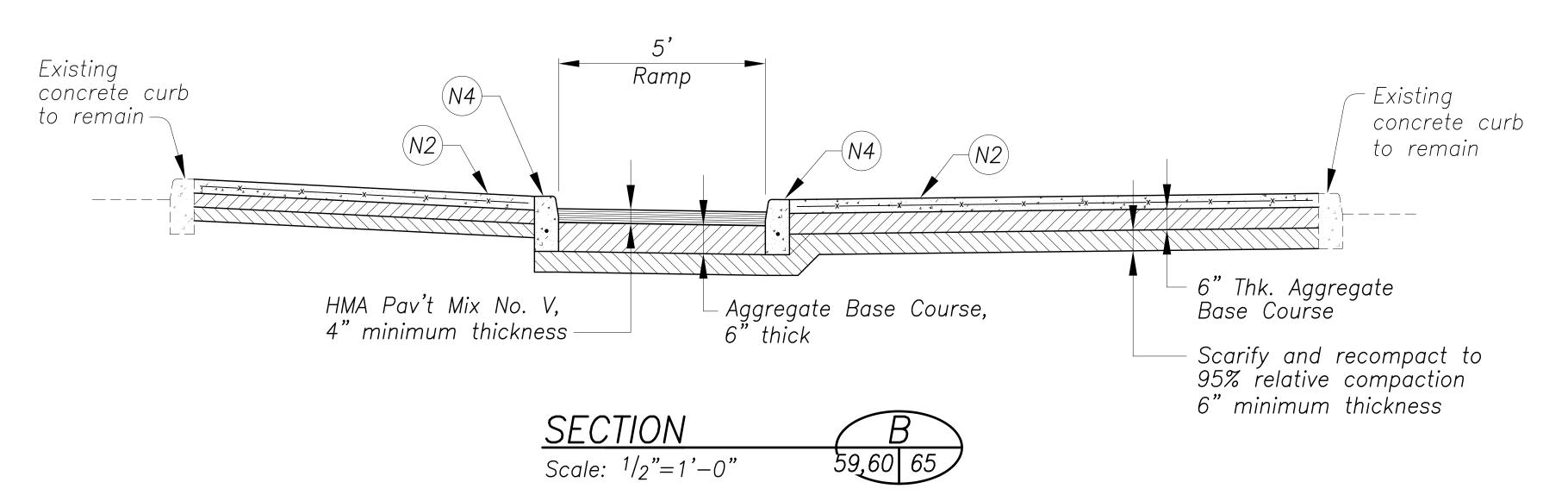


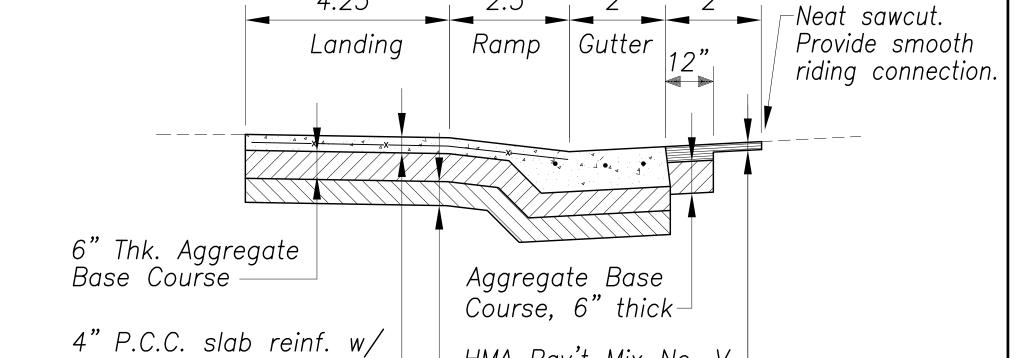


<u>Traffic Signal Modernization,</u>
<u>Oahu, Phase 1</u>
<u>Federal—Aid Project No. STP—0300(163)</u>
Scale: Date: **July 2020**

SHEET No. R-34 OF 65 SHEETS







HMA Pav't Mix No. V,

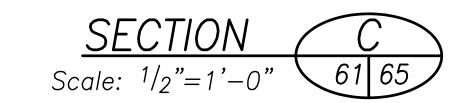
2" min. thickness-

FED ROAD DIST. NO.

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FED AID PROJ. NO.

HAW. STP-0300(163) 2020 65 284

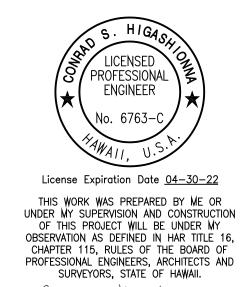


6X6 W1.4/W1.4 WWF —

New Construction Callouts:

Concrete Sidewalk per Standard Plan D-15.

Curb, Type 2D Modified. For connection to existing curb, see details on sheet 79.



Convad Higashionna

STATE OF HAWAII

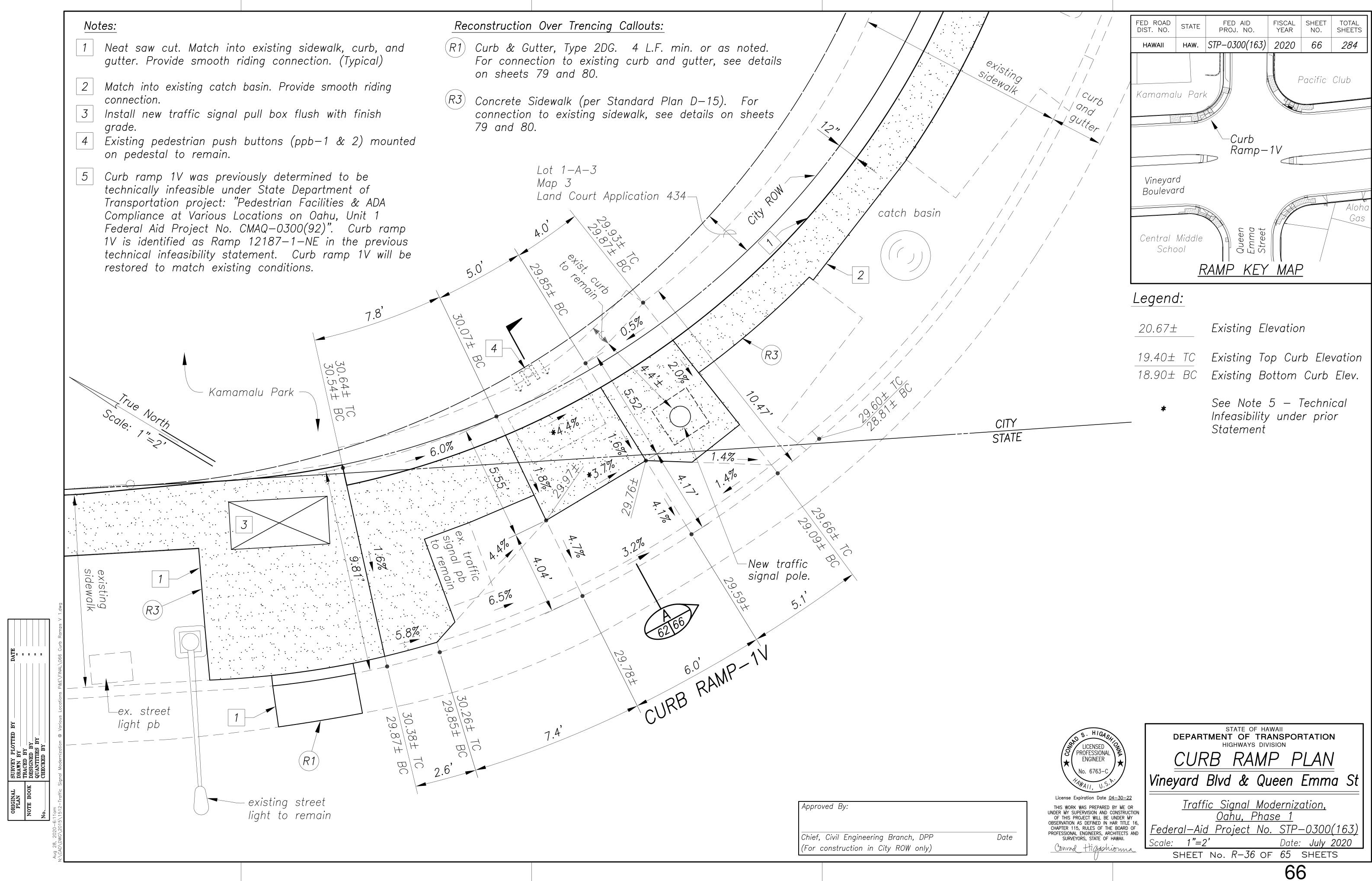
DEPARTMENT OF TRANSPORTATION

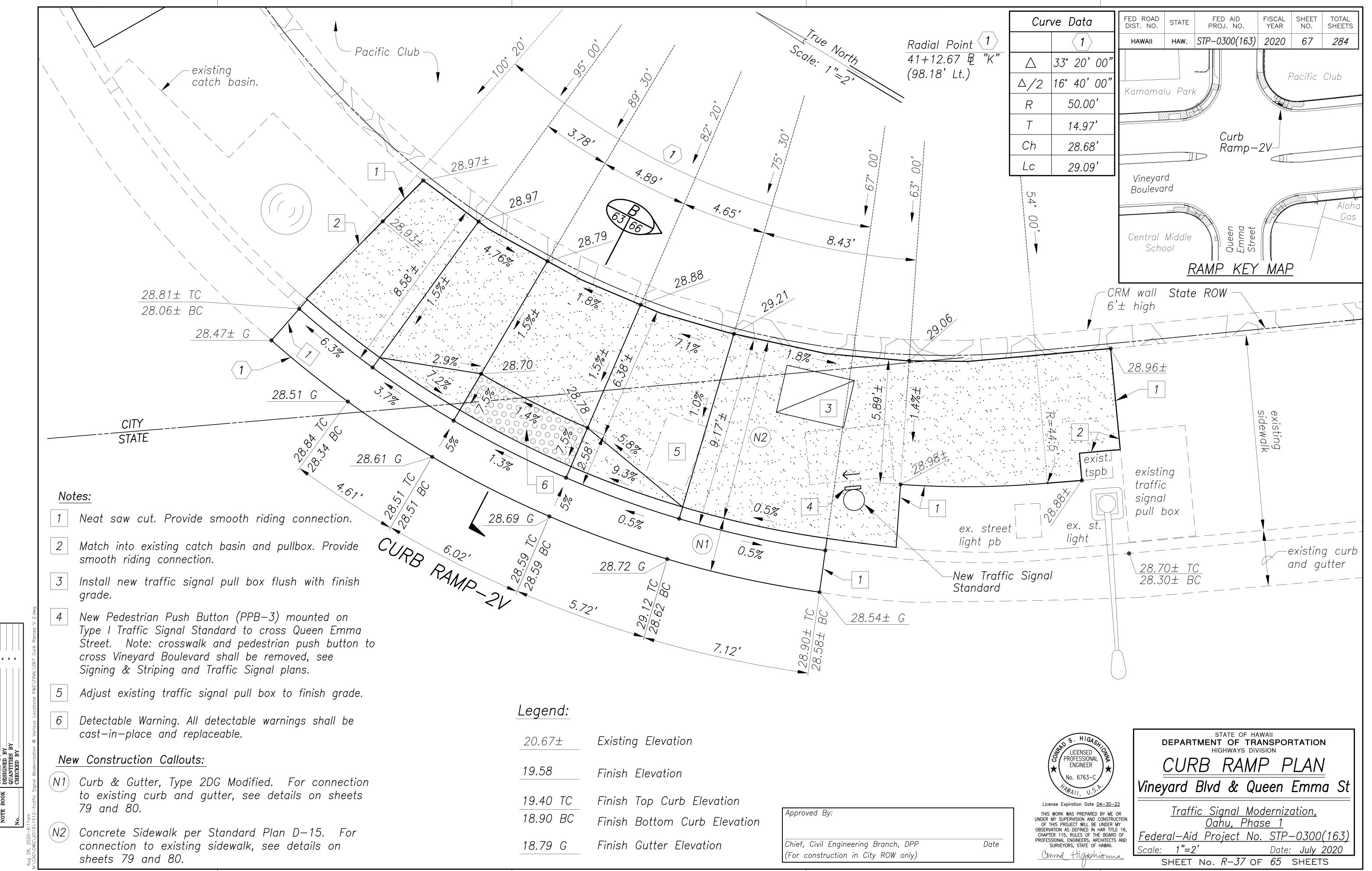
HIGHWAYS DIVISION

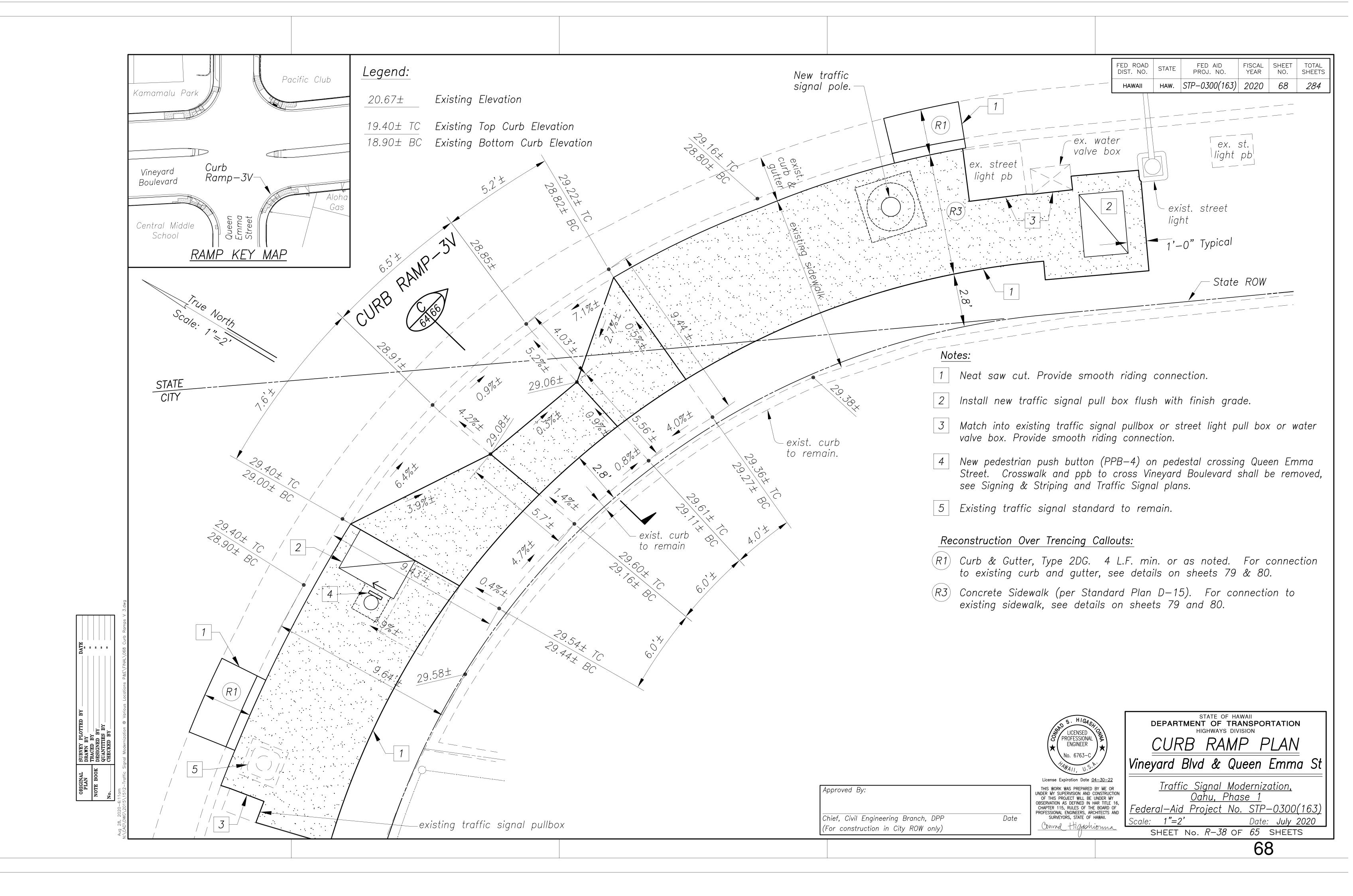
CURB RAMP PLAN Kahuapaani St & Ulune St

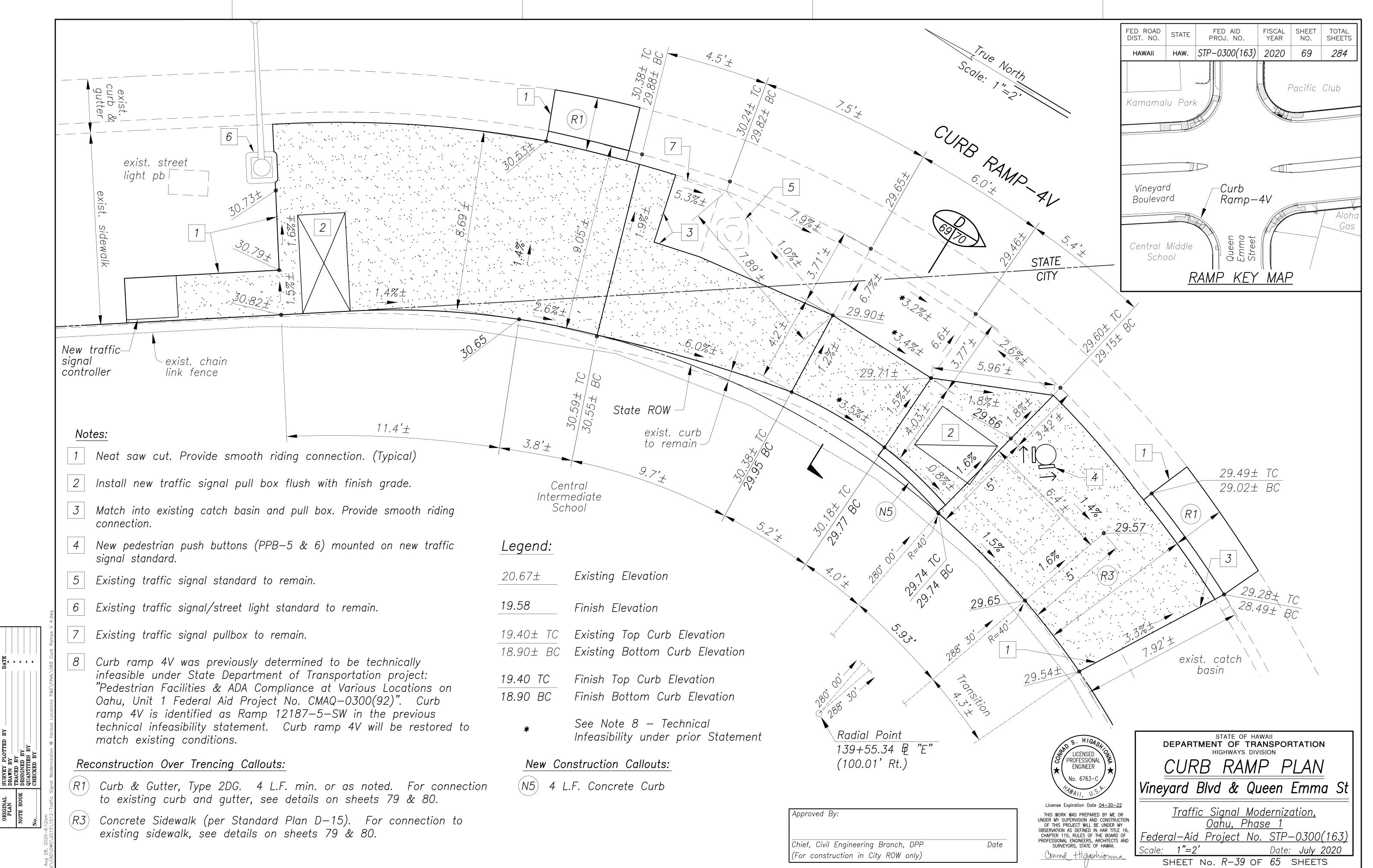
<u>Traffic Signal Modernization,</u> <u>Oahu, Phase 1</u> Federal-Aid Project No. STP-0300(163)

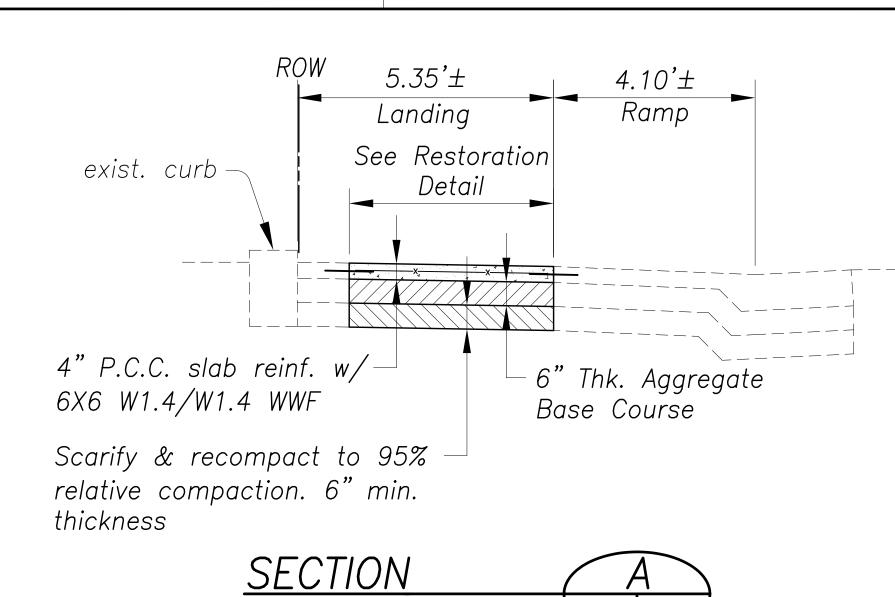
Scale:1/2"=1'-0" Date: **July 2020** SHEET No. R-35 OF 65 SHEETS

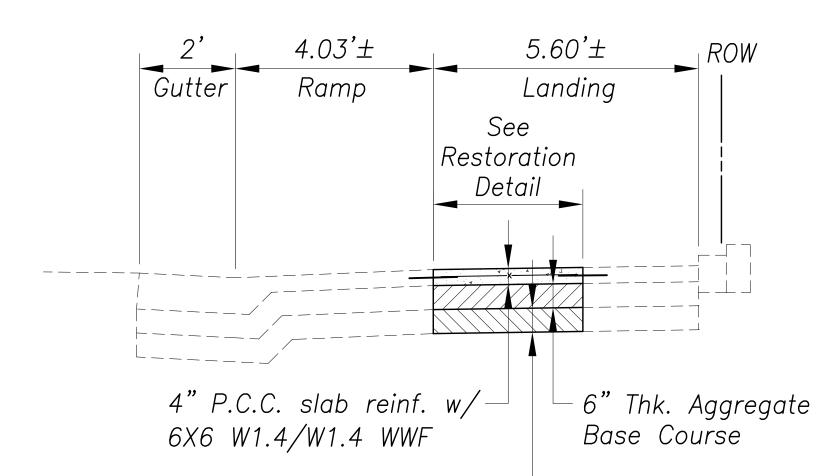






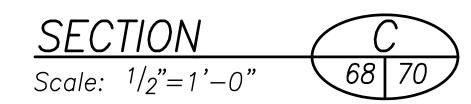


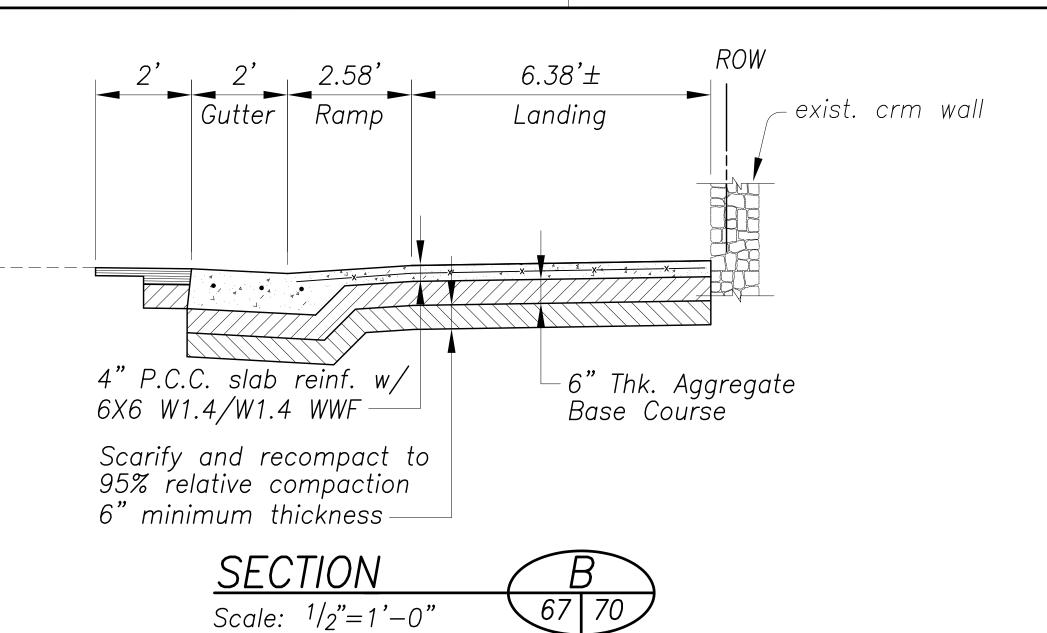


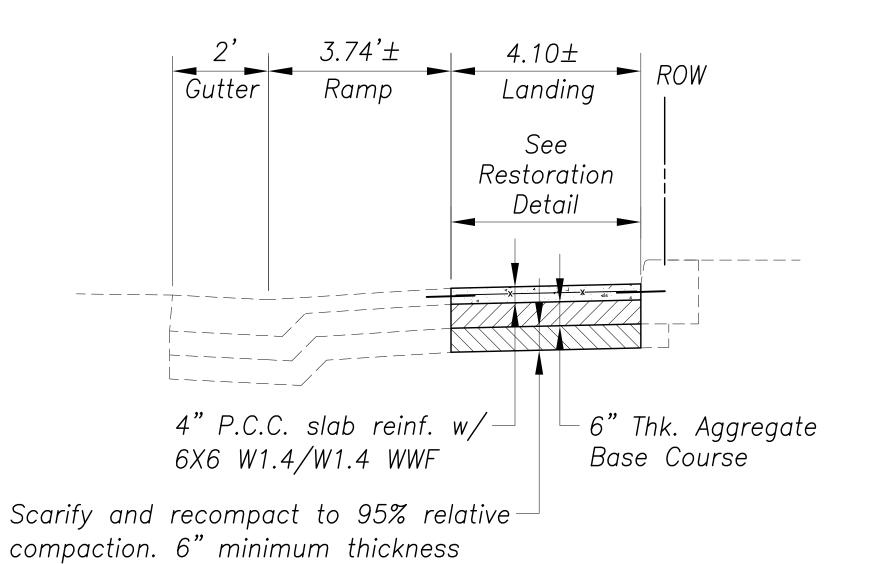


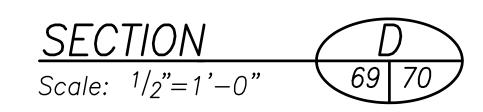
compaction. 6" minimum thickness

Scale: 1/2"=1'-0"

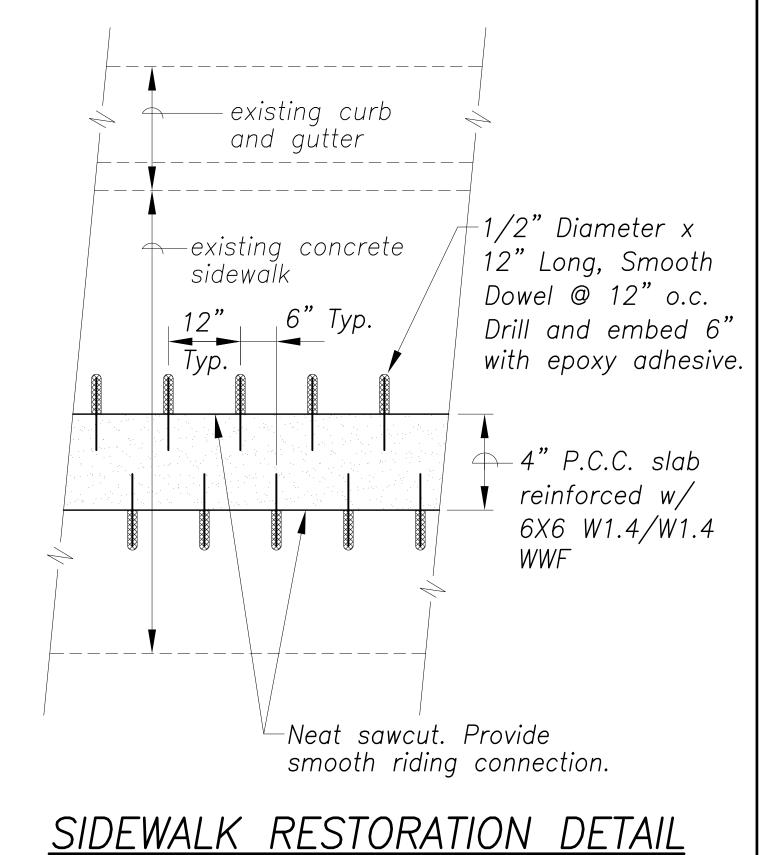








FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	70	284



No Scale

Conrad Higashionna

S. HIGASH LICENSED PROFESSIONAL	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
ENGINEER	CURB RAMP PLAN
No. 6763-C	Vineyard Blvd & Queen Emma St
Expiration Date <u>04-30-22</u> K WAS PREPARED BY ME OR UPERVISION AND CONSTRUCTION PROJECT WILL BE UNDER MY AS DEFINED IN HAR TITLE 16	<u>Traffic Signal Modernization,</u> <u>Oahu, Phase 1</u>

lernization, THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

SURVEYORS, STATE OF HAWAII.

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Oahu, Phase 1

Federal—Aid Project No. STP—0300(163)

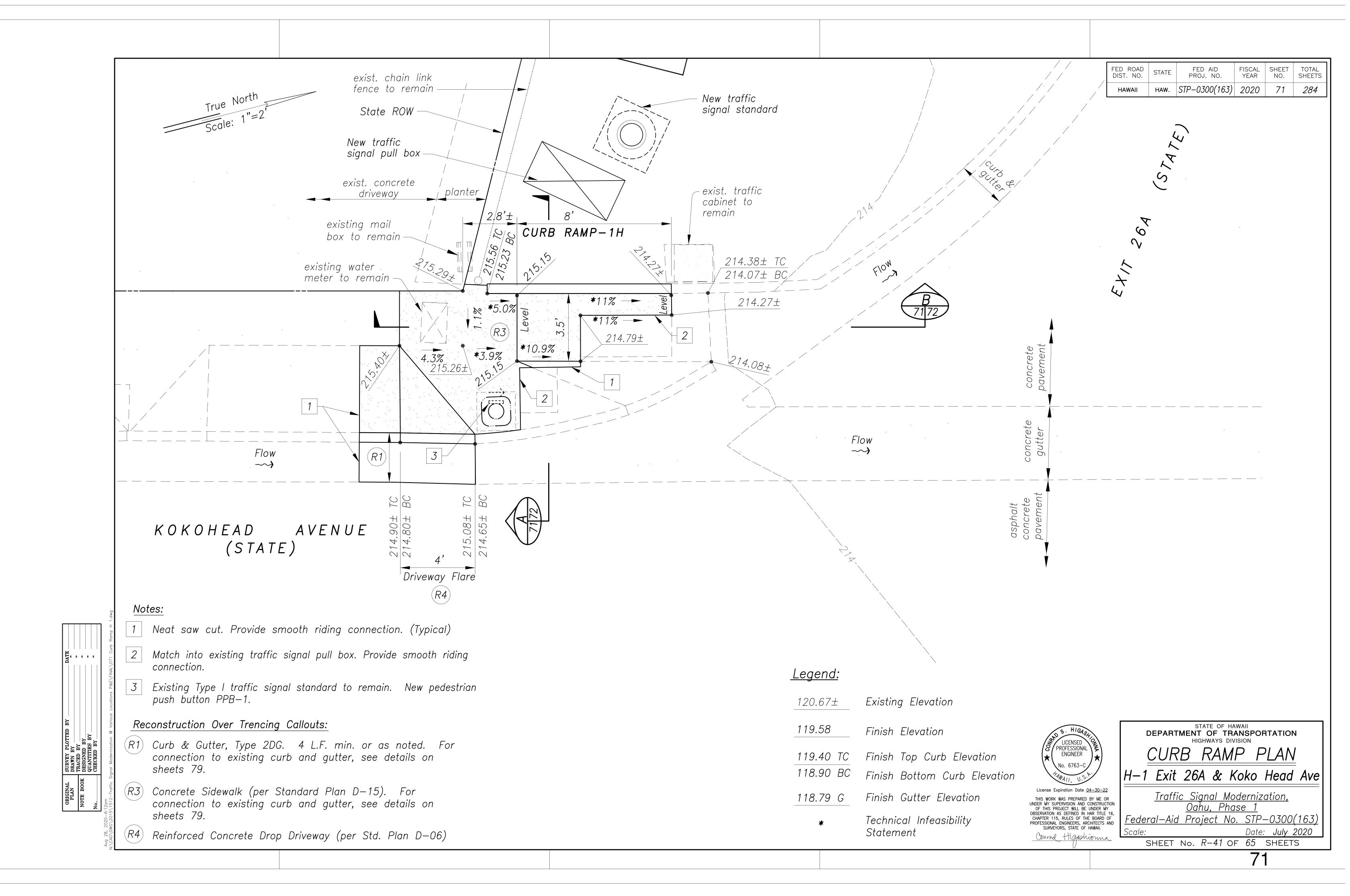
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Date: July 2020 SHEET No. R-40 OF 65 SHEETS

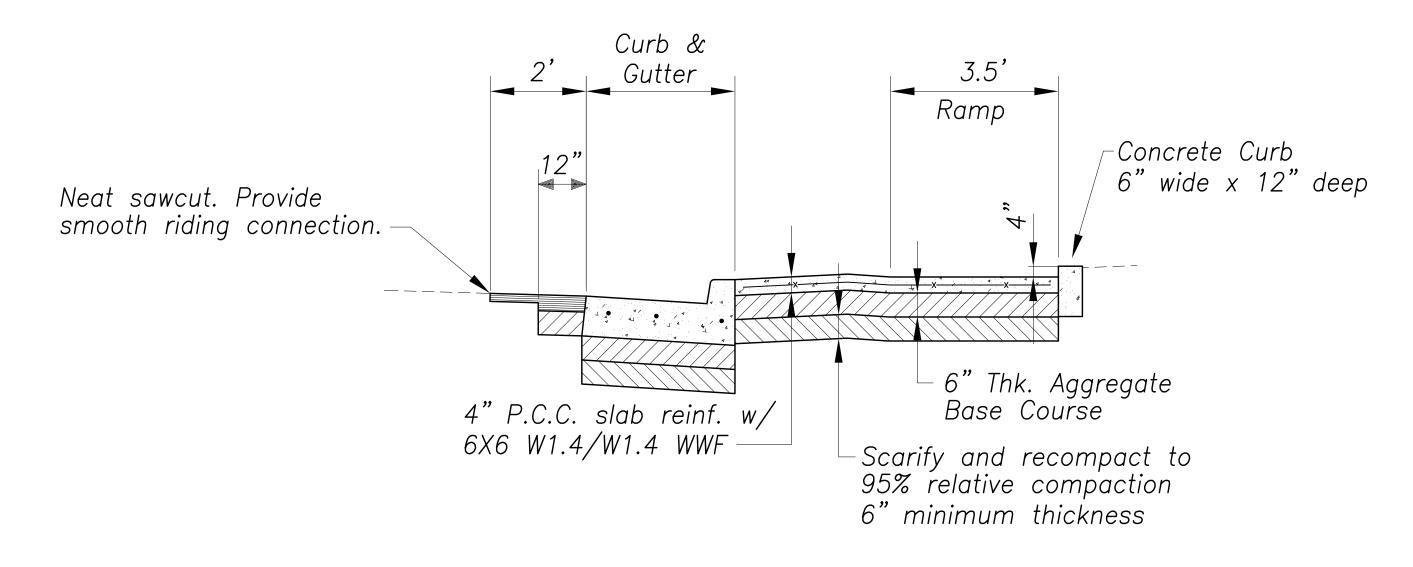
Approved By: Chief, Civil Engineering Branch, DPP Date

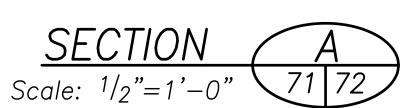
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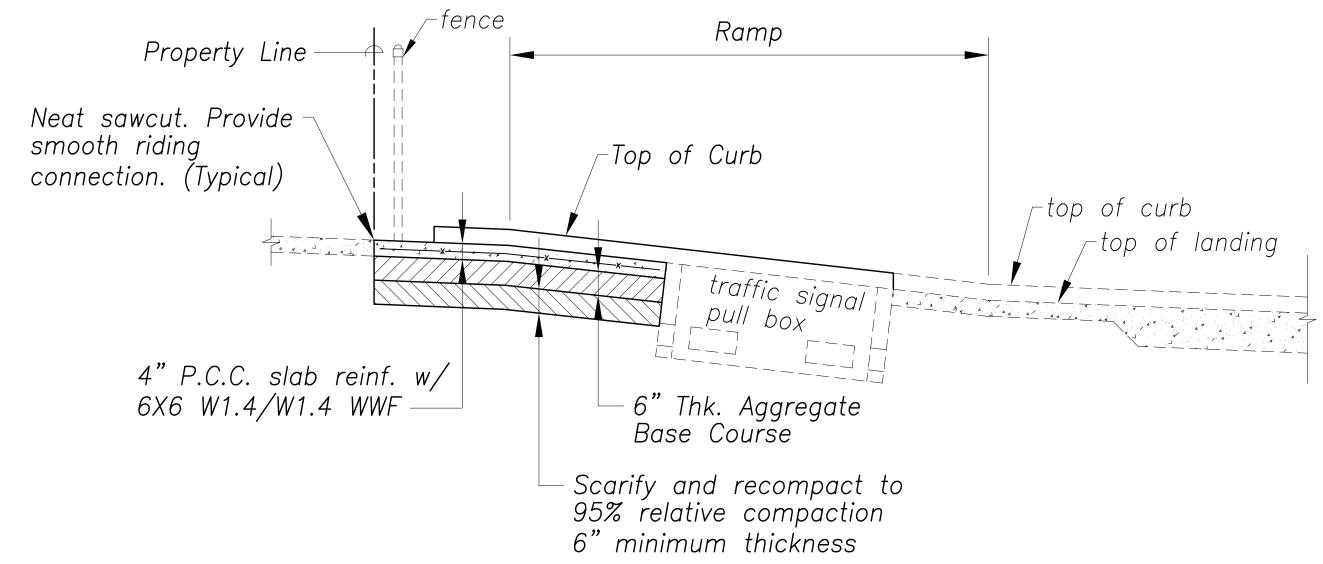
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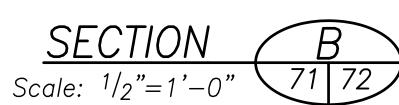


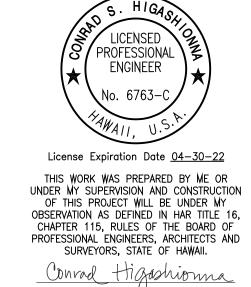


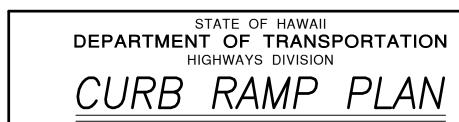








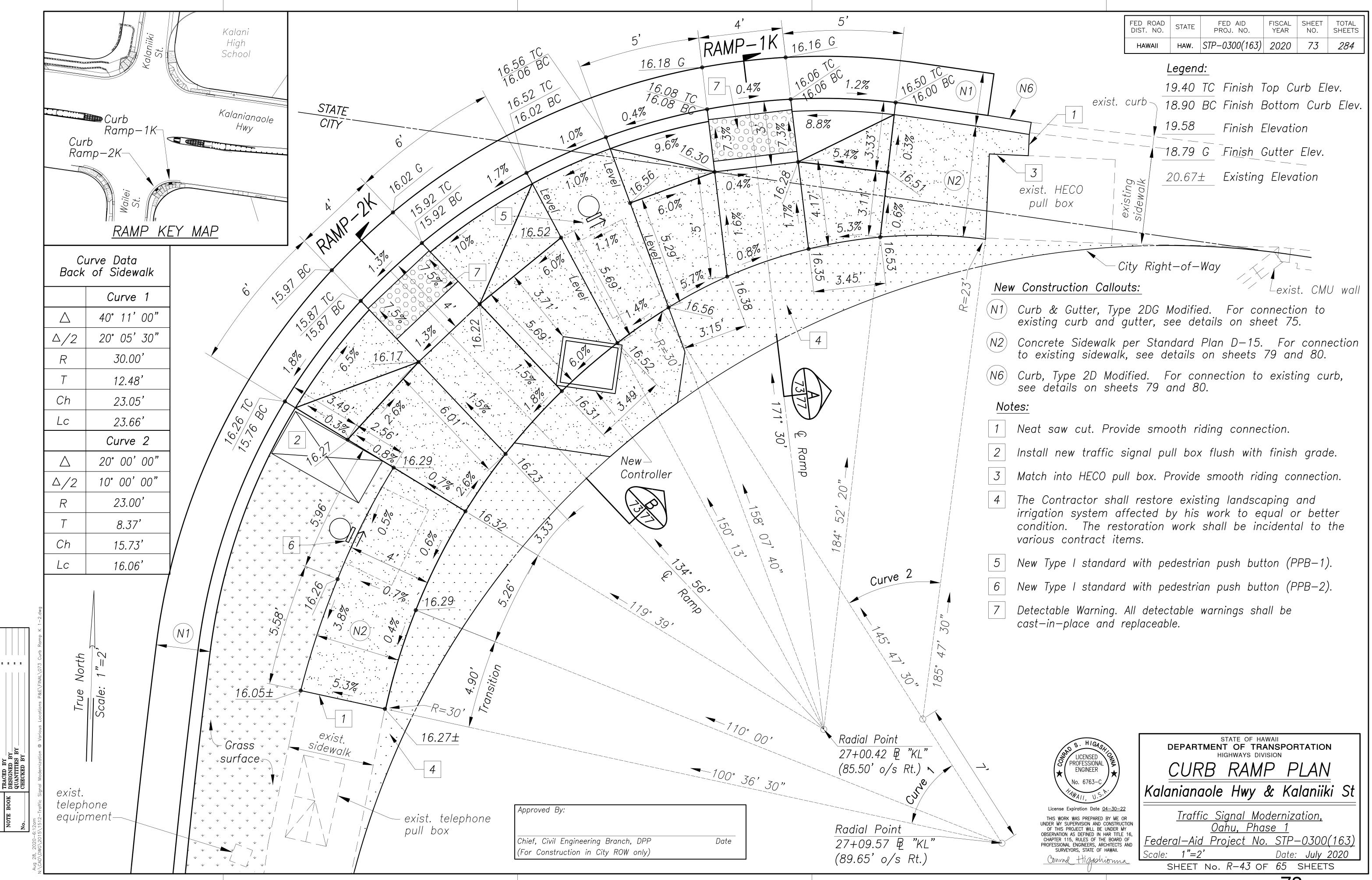


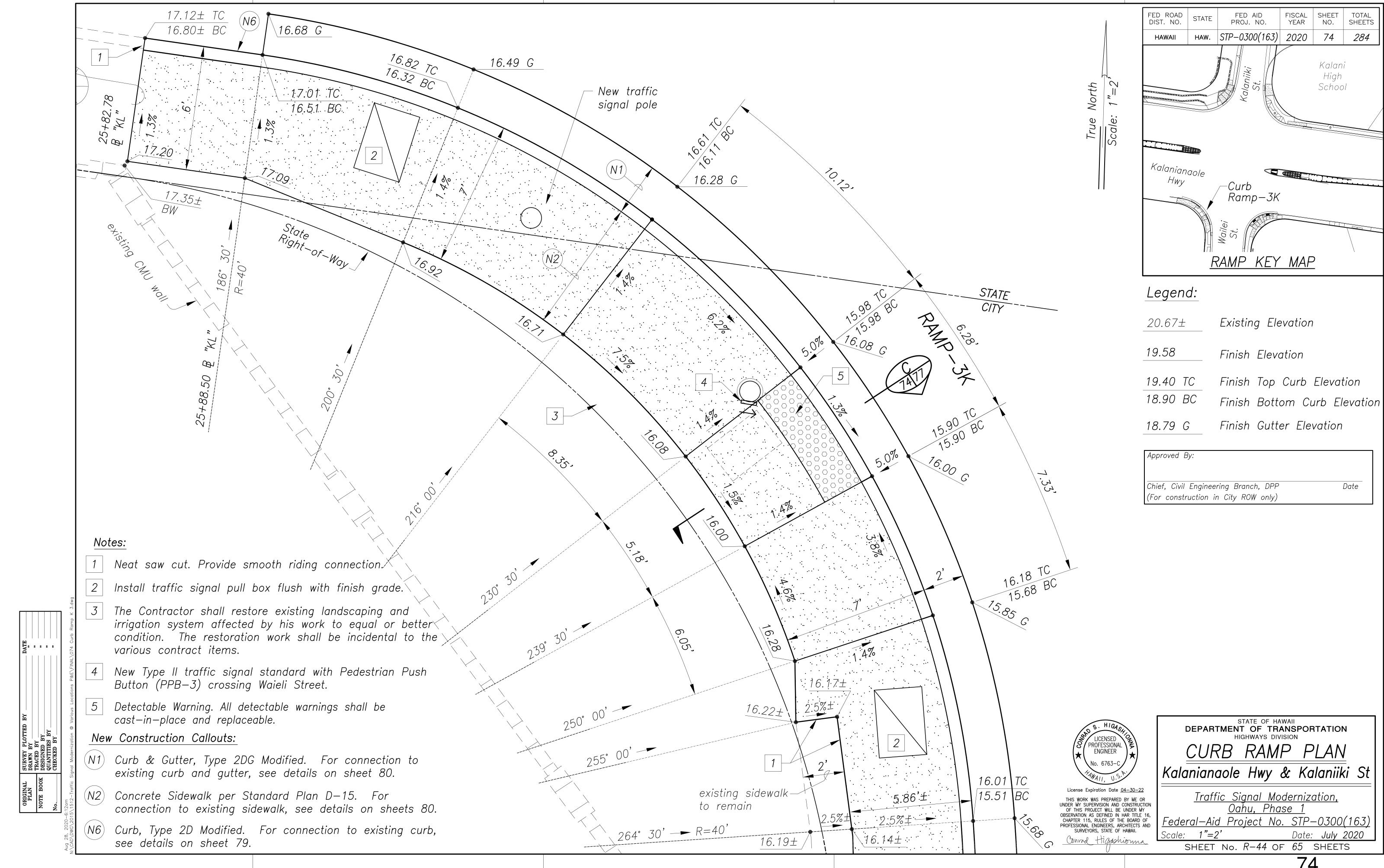


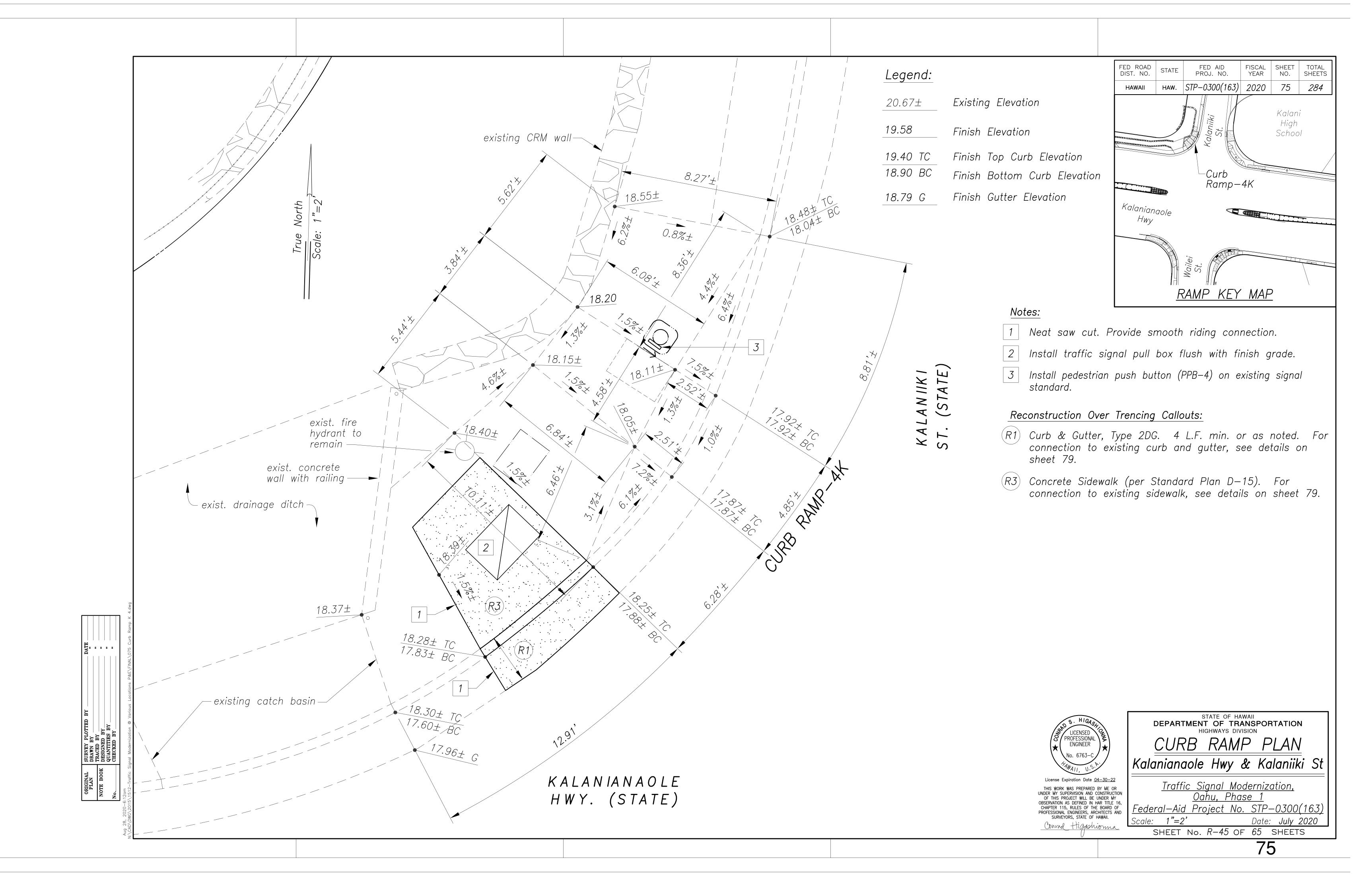
H—1 Exit 26A & Koko Head Ave

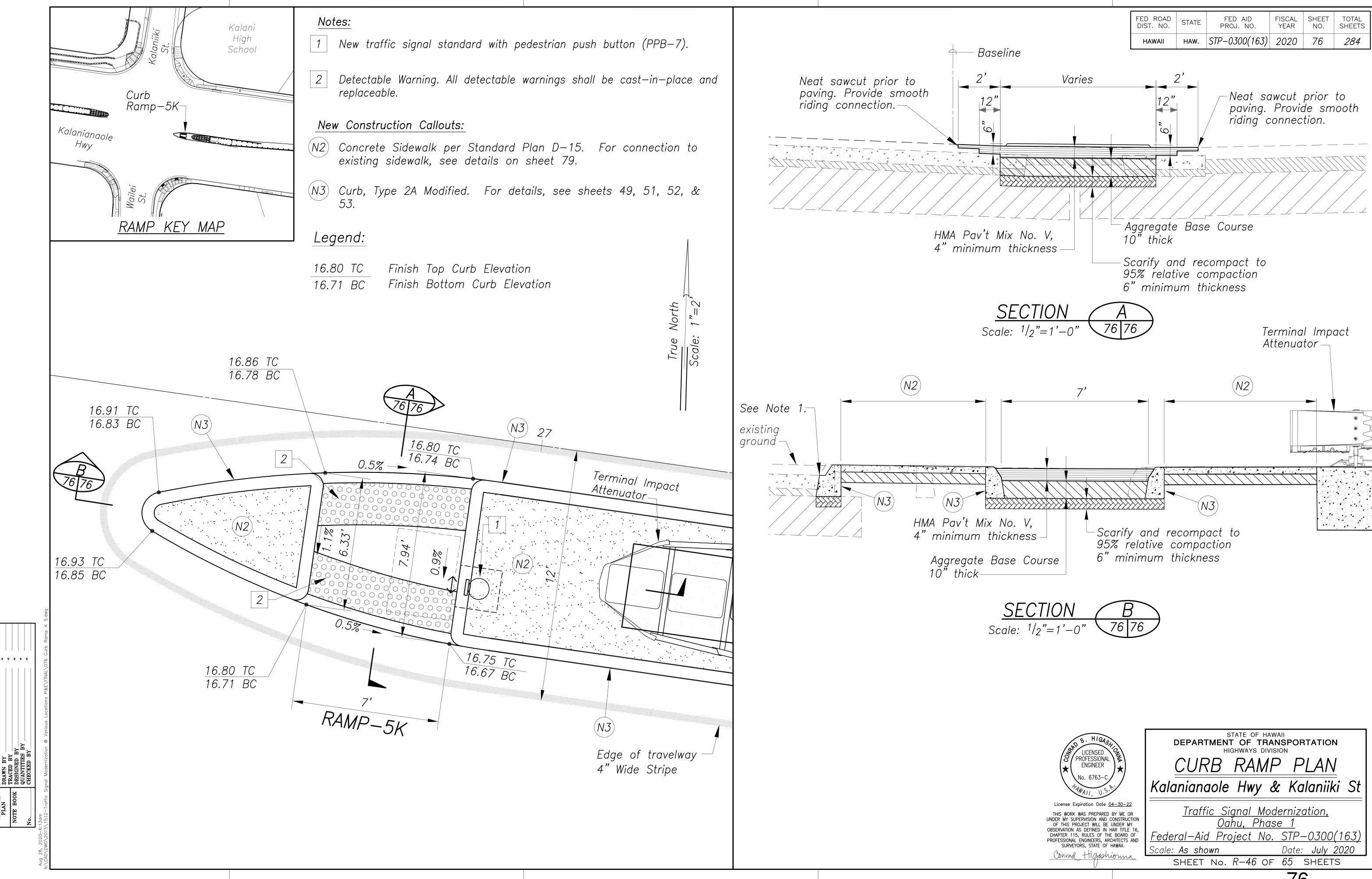
<u>Traffic Signal Modernization,</u>
<u>Oahu, Phase 1</u>
<u>Federal—Aid Project No. STP—0300(163)</u>
Scale: Date: **July 2020**

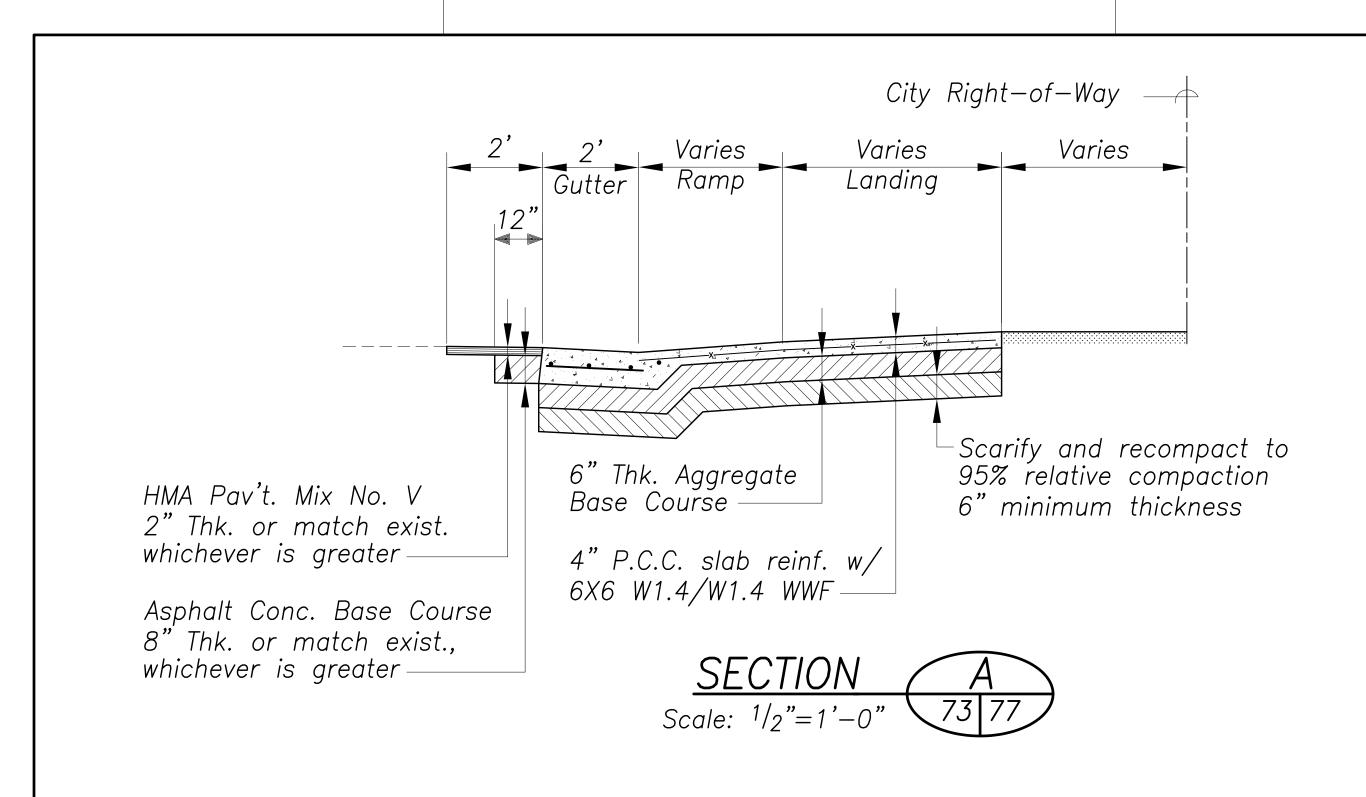
SHEET No. R-42 OF 65 SHEETS

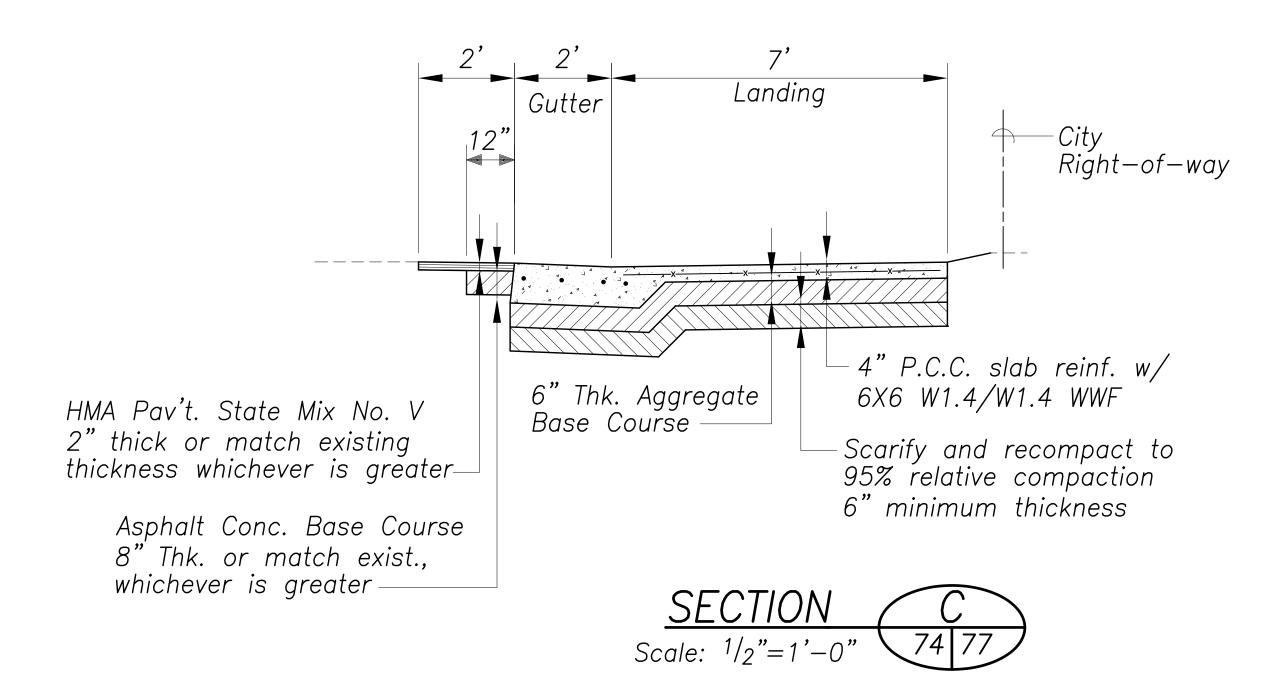


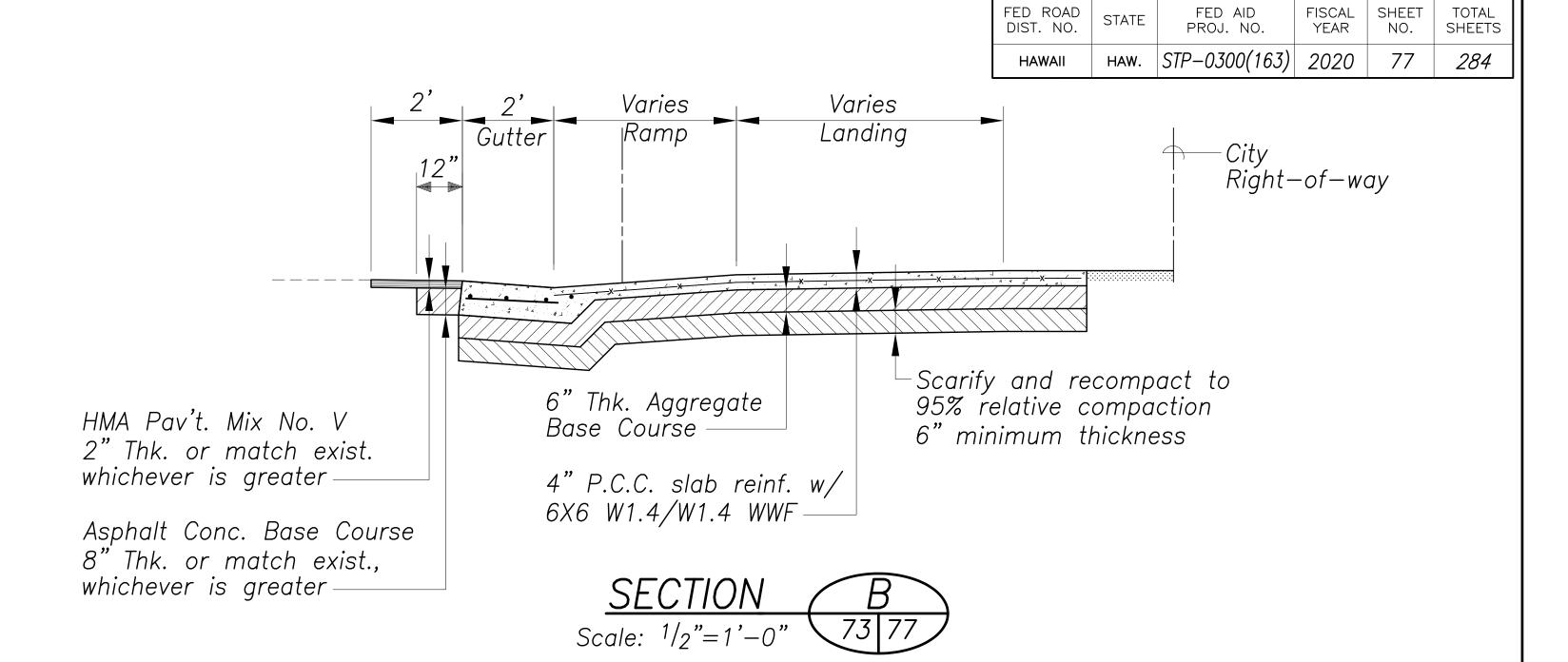












Approved By: Chief, Civil Engineering Branch, DPP Date (For construction in City ROW only)

License Expiration Date <u>04-30-22</u> THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII. Conrad Higashionna

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION CURB RAMP PLAN Kalanianaole Hwy & Kalaniiki St

<u>Traffic Signal Modernization,</u>
<u>Oahu, Phase 1</u> Federal-Aid Project No. STP-0300(163)

Date: July 2020 SHEET No. 47 OF 65 SHEETS