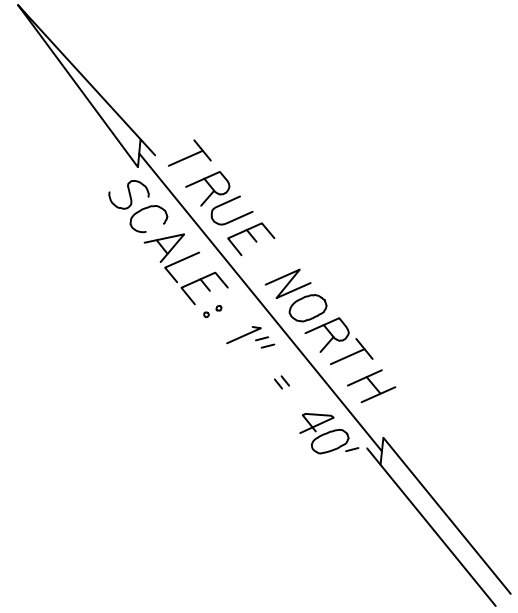
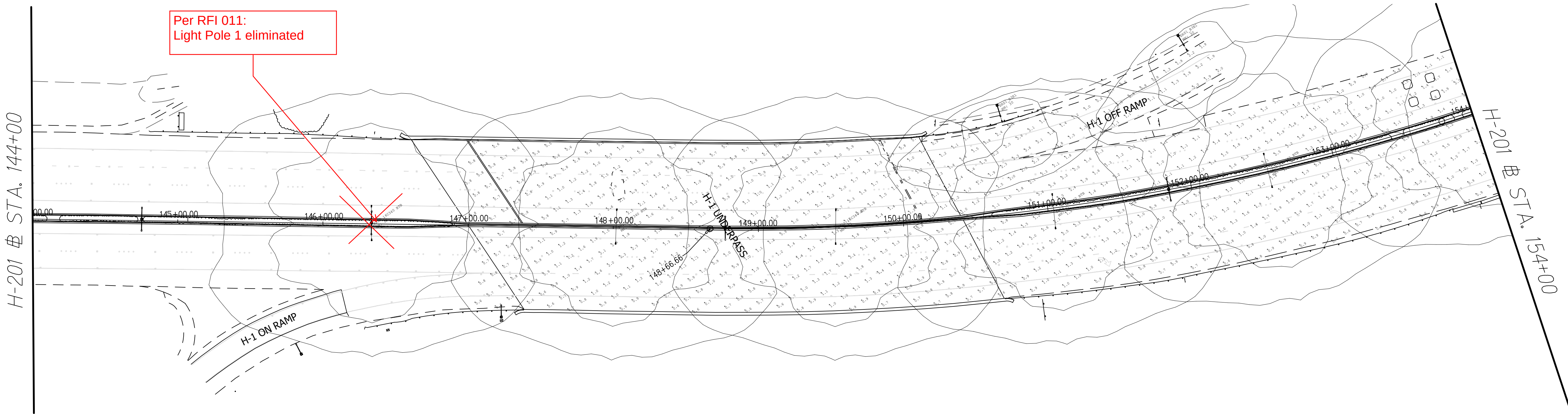


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	91	111



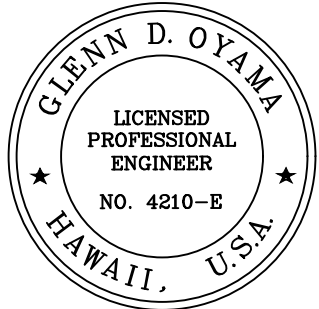
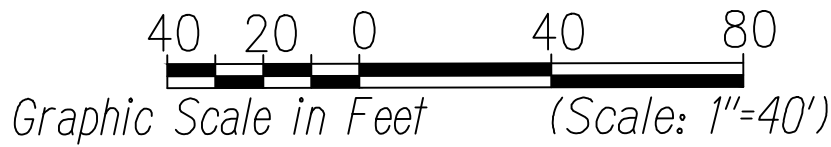
TO PEARL CITY



TO HONOLULU

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

H-201 LIGHTING CALCULATIONS-1
Scale 1"=40'-0"

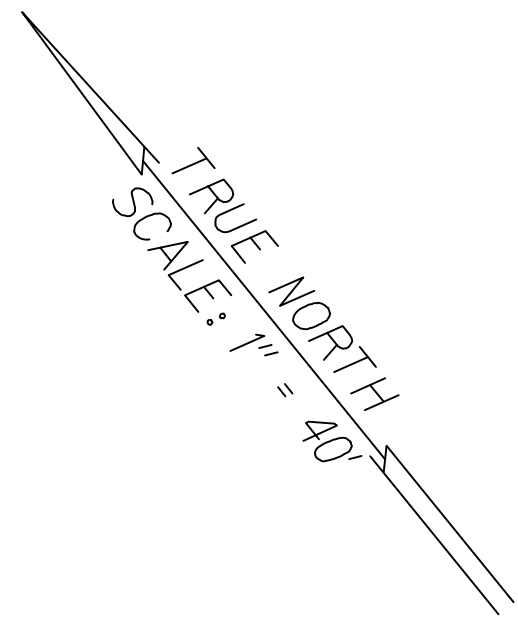


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE: 6/30/2022
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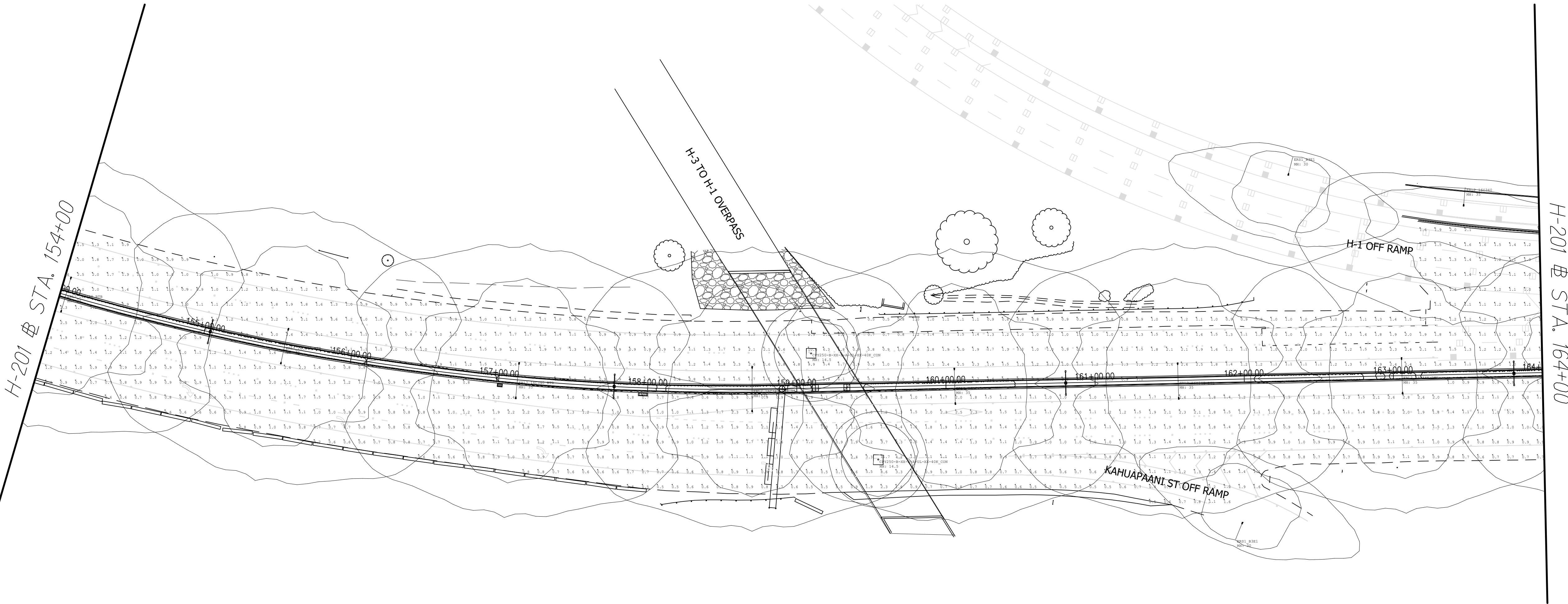
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING CALCULATIONS
STA. 144+00 TO 154+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)
Scale: 1" = 40'-0" Date: July 2020
SHEET No. E-9 OF 29 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	92	111



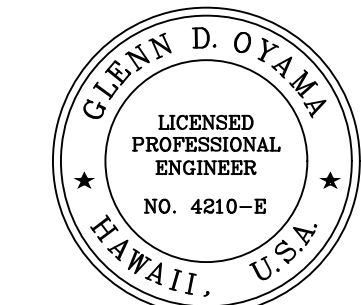
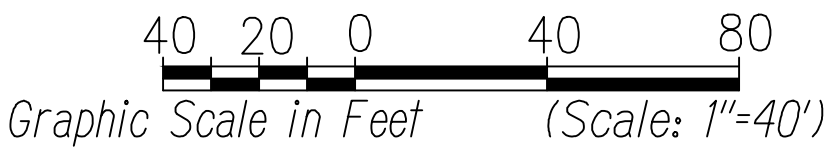
TO PEARL CITY



TO HONOLULU

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

H-201 LIGHTING CALCULATIONS-2
Scale 1"=40'-0"



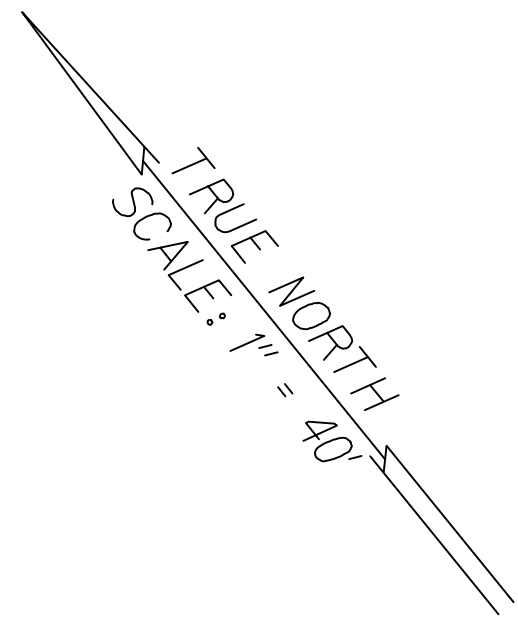
Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE: 6/30/2022
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING CALCULATIONS
STA. 154+00 TO 164+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)

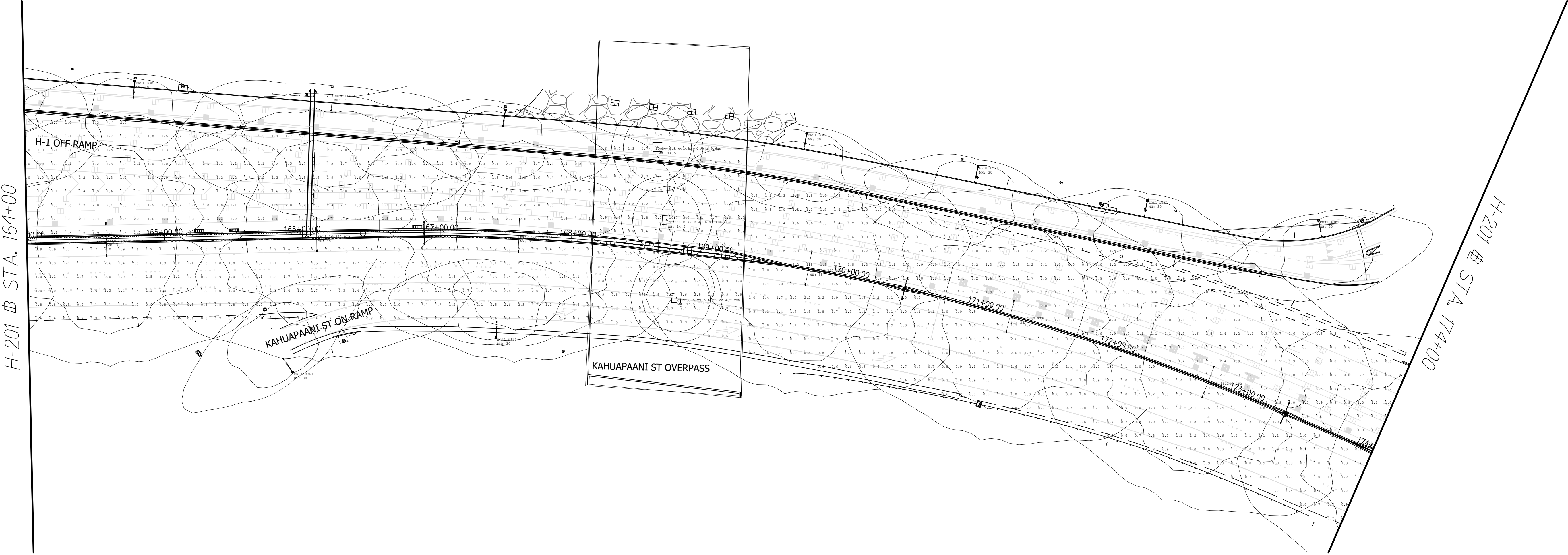
Scale: 1" = 40'-0" Date: July 2020

SHEET No. **E-10** OF 29 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	93	111



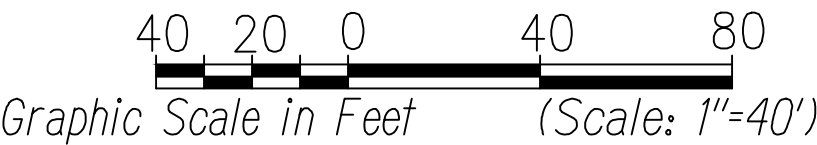
TO PEARL CITY



TO HONOLULU

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

H-201 LIGHTING CALCULATIONS-3
Scale 1"=40'-0"

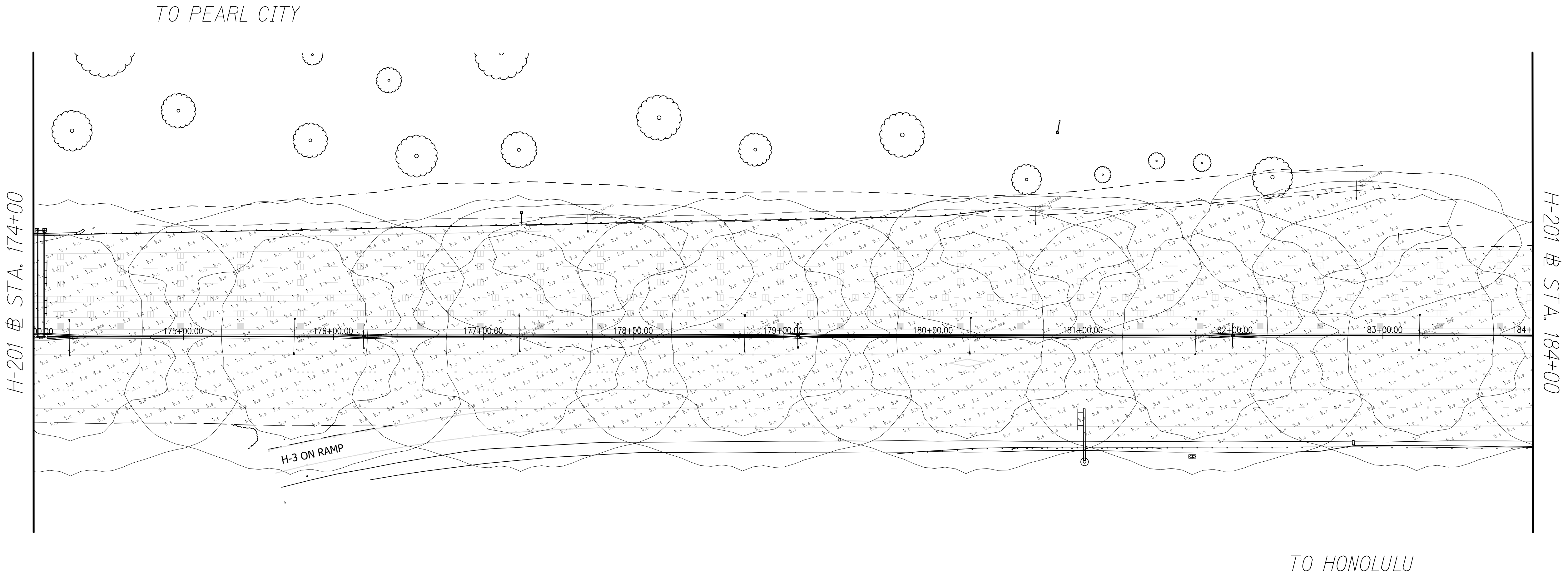


Glenn D. Oyama
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING CALCULATIONS
STA. 164+00 TO 174+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)
Scale: 1" = 40'-0" Date: July 2020
SHEET No. E-11 OF 29 SHEETS

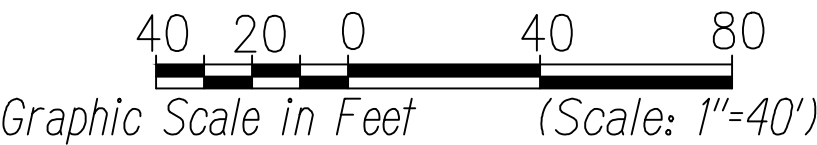
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	94	111

TRUE NORTH
SCALE: 1" = 40'



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

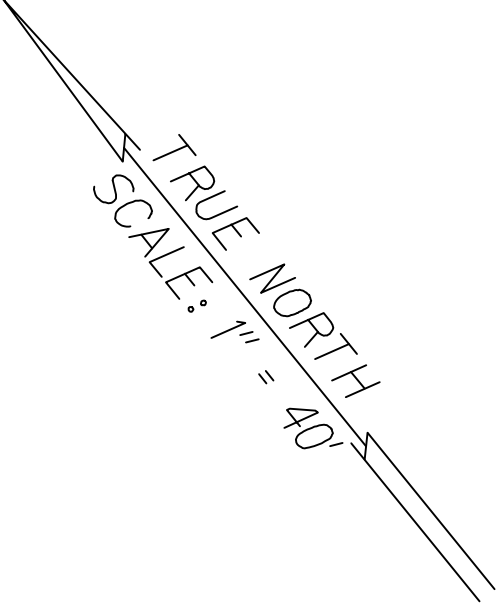
H-201 LIGHTING CALCULATIONS-4
Scale 1"=40'-0"



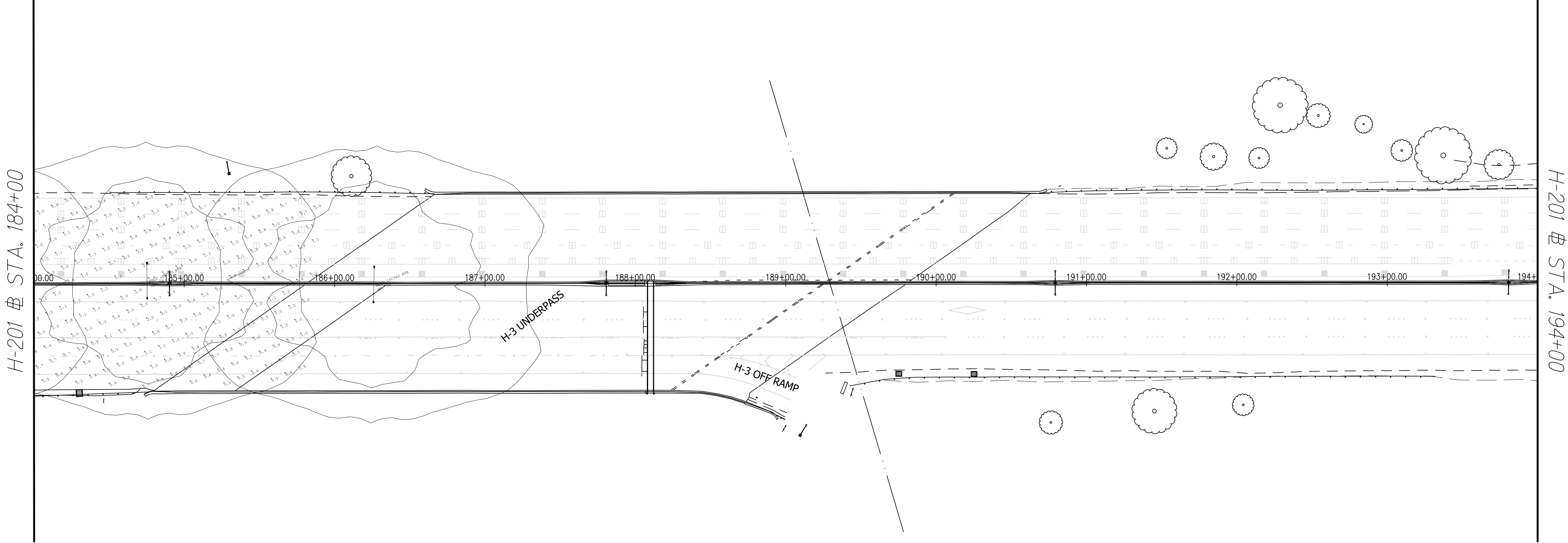
Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE: 11/30/2022
THIS WORK WAS PREPARED BY
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING CALCULATIONS
STA. 174+00 TO 184+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)
Scale: 1" = 40'-0" Date: July 2020
SHEET No. E-12 OF 29 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	95	111



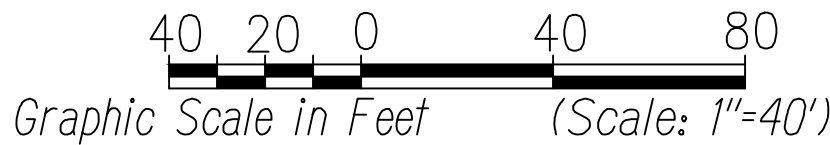
TO PEARL CITY



TO HONOLULU

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

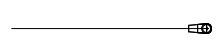
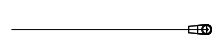
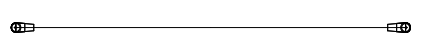
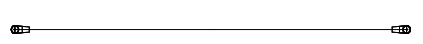
H-201 LIGHTING CALCULATIONS-5
Scale 1"=40'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING CALCULATIONS
STA. 184+00 TO 194+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)
Scale: 1" = 40'-0" Date: July 2020
SHEET No. E-13 OF 29 SHEETS

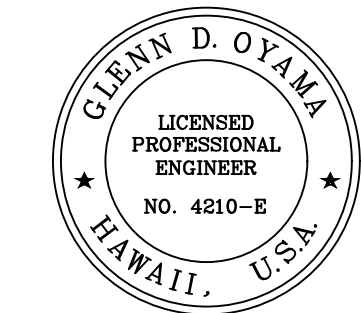
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	96	111

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lum. Watts	LLF	Description
	12	ERS1_B3E1	SINGLE	78	0.850	GE ERS1 78W E1 - 12' Arm
	5	ERL2_16C340	SINGLE	120	0.850	GE ERL2 120W Type III - 12' Arm
	26	ERL2_16C340 BTB	TWIN 180	120	0.850	GE ERL2 120W Type III - Twin 12' Arm
	5	CPY250-B-XX-D-A-UL-XX-40K_CON	SINGLE	60	0.850	CREE CPY 60W
	1	ERL2_16C340 BTB 15	TWIN 180	120	0.850	GE ERL2 120W Type III - Twin 15' Arm

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Eastbound after Kahuapaani St	Illuminance	Fc	1.14	2.9	0.5	2.28	5.80
Eastbound before Kahuapaani St	Illuminance	Fc	1.21	11.7	0.5	2.42	23.40
Under Kahuapaani St East	Illuminance	Fc	1.37	9.6	0.5	2.74	19.20
Under Kahuapaani St West	Illuminance	Fc	1.71	12.3	0.6	2.85	20.50
Westbound after Kahuapaani St	Illuminance	Fc	1.34	3.0	0.5	2.68	6.00
Westbound before Kahuapaani St	Illuminance	Fc	1.37	10.6	0.5	2.74	21.20

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

H-201 LIGHTING SUMMARY



Glenn D. Oyama
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-201 LIGHTING SUMMARY

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa to H-3 Freeway Underpass
FAP NO. NH-H201(006)

Scale: Date: July 2020

SHEET No. E-14 OF 29 SHEETS