STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

ADDENDUM NO. 1
FOR
APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII
AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
AIP PROJECT NO. 3-15-0006-064-2025

April 2, 2026

This Addendum shall make the following amendment(s) to the Solicitation:

A. NOTICE TO BIDDERS

1. Prospective bidders are **hereby notified** that receiving of bids, scheduled for **April 6, 2026, at 2:00 p.m., Hawaii Standard Time (HST)**, is **HEREBY POSTPONED** until **April 21, 2026, at 2:00 p.m., HST**.
   The attached **NOTICE TO BIDDER DATED r04/02/26** shall be incorporated and made a part of the **NOTICE TO BIDDERS**.

B. TABLE OF CONTENTS

1. Delete **TABLE OF CONTENTS**, in its entirety and replace it with attached **TABLE OF CONTENTS**, dated r04/02/26.

C. PROPOSAL SCHEDULE

1. Delete **PROPOSAL SCHEDULE** pages P-8 to P-14 and replace it with attached **PROPOSAL SCHEDULE** pages P-8 to P-14, dated r04/02/26.

D. SPECIFICATIONS

1. **PART 0.E – REQUIRED FEDERAL AIRPORT IMPROVEMENT PROGRAMS (AIP) CONTRACT PROVISIONS**

   a. Delete **Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity** in its entirety.

   b. Delete **Equal Employment Clause** in its entirety.

   c. Delete **Standard Federal Equal Employment Opportunity Construction Contract Specifications** dated r04/02/26 in its entirety.

   d. Delete paragraph **Type I, II, III Equipment/Building, and IV Buy American Waivers Issued (as of 2/17/2026)** in its entirety, and replace it with the attached **Type I, II, III Equipment/Building, and IV Buy American Waivers Issued (as of 2/17/2026)** in its entirety, date r04/02/26.

   e. Delete **General Civil Rights Provisions** in its entirety and replace it with the attached **General Civil Rights Provisions** dated r04/02/26 in its entirety.

   f. Delete **Civil Rights – Title VI Assurances** in its entirety and replace it with the attached **Civil Rights – Title VI Assurances** dated r04/02/26 in its entirety.

   g. Delete **Davis-Bacon Requirements** in its entirety and replace it with the attached **Davis-Bacon Requirements** dated r04/02/26 in its entirety.

   h. Delete **Distracted Driving** in its entirety and replace it with the attached **Distracted Driving** dated r04/02/26 in its entirety.

   i. Add and make a part of the specifications the attached **Federal Fair Labor Standards Act** dated r04/02/26.

   j. Add and make a part of the specifications the attached **Occupational Safety and Health Act of 1970** dated r04/02/26

   k. Add and make a part of the specifications the attached **Prohibition of Covered Unmanned Aircraft Systems (UAS)** dated r04/02/26.

2. **PART 0.H – FEDERAL FORMS TO BE SUBMITTED PRIOR TO AWARD**

   a. Delete **Certification Regarding Lobbying** in its entirety and replace it with the attached **Certification Regarding Lobbying** dated r04/02/26 in its entirety.

   b. Delete **Trade Restriction Certification** in its entirety and replace it with the attached **Trade Restriction Certification** dated r04/02/26 in its entirety.

   c. Delete **Certification of Offeror/Bidder Regarding Tax Delinquency and Felony Convictions** in its entirety and replace it with the attached **Certification of Offeror/Bidder Regarding Tax Delinquency and Felony Convictions** dated r04/02/26 in its entirety.

   d. Delete **Certification of Offeror/Bidder Regarding Debarment** in its entirety and replace it with the attached **Certification of Offeror/Bidder Regarding Debarment** dated r04/02/26 in its entirety.

   e. Delete **Certification Regarding Domestic Preference for Procurements** in its entirety and replace it with the attached **Certification Regarding Domestic Preference for Procurements** dated r04/02/26 in its entirety

   f. Delete **Bidder's Statement on Previous Contracts Subjects to EEO Clauses** in its entirety.

   g. Delete **Prohibition of Segregated Facilities** in its entirety.

3. **PART II – TECHNICAL PROVISIONS**

   a. Delete **Section 01533 Barricades,** in its entirety and replace it with attached **Section 01533 Barricades,** dated r04/02/26.

   b. Delete **Section 02752 Portland Cement Concrete Pavement (Airfield),** in its entirety and replace it with attached **Section 02752 Portland Cement Concrete Pavement (Airfield),** dated r04/02/26.

E. <u>PLANS</u>

1. Delete **PLANS SHEET NO. E101, ELECTRICAL DEMOLITION PLAN 1** and replace it with attached **PLANS SHEET NO. ADD. 1 E101, ELECTRICAL DEMOLITION PLAN 1**.

2. Delete **PLANS SHEET NO. E104, ELECTRICAL DEMOLITION PLAN 4** and replace it with attached **PLANS SHEET NO. ADD. 1 E104, ELECTRICAL DEMOLITION PLAN 4**.

3. Delete **PLANS SHEET NO. E105, ELECTRICAL DEMOLITION PLAN 5** and replace it with attached **PLANS SHEET NO. ADD. 1 E105, ELECTRICAL DEMOLITION PLAN 5**.

4. Delete **PLANS SHEET NO. E107, ELECTRICAL DEMOLITION PLAN 7** and replace it with attached **PLANS SHEET NO. ADD. 1 E107, ELECTRICAL DEMOLITION PLAN 7**.

5. Delete **PLANS SHEET NO. E201, ELECTRICAL PLAN 1** and replace it with attached **PLANS SHEET NO. ADD. 1 E201, ELECTRICAL PLAN 1**.

6. Delete **PLANS SHEET NO. E206, ELECTRICAL PLAN 6** and replace it with attached **PLANS SHEET NO. ADD. 1 E206, ELECTRICAL PLAN 6**.

7. Delete **PLANS SHEET NO. E207, ELECTRICAL PLAN 7** and replace it with attached **PLANS SHEET NO. ADD. 1 E207, ELECTRICAL PLAN 7**.

8. Delete **PLANS SHEET NO. E309, LIGHT FIXTURE SCHEDULE** and replace it with attached **PLANS SHEET NO. ADD. 1 E309, LIGHT FIXTURE SCHEDULE**.

The following is provided for information.

F. PRE-BID MEETING MINUTES

1. The attached **PRE-BID MEETING MINUTES and ATTENDANCE SHEET** are provided for information.

G. RESPONSES TO REQUESTS FOR INFORMATION (RFI'S/QUESTIONS)

1. The attached **RESPONSES TO REQUESTS FOR INFORMATION** are provided for information.

H. SUBSTITUTION REQUESTS

1. The attached **SUBSTITUTION REQUESTS** are provided for information.

Please acknowledge receipt of this **ADDENDUM NO. 1** by recording the date of its receipt in the space provided on **PAGE P-4** of the Proposal.

CURT T. OTAGURO
Deputy Director of Transportation for Airports

NOTICE TO BIDDERS
Hawaii Revised Statutes (HRS),
Chapter 103D

The receiving of bids for **APRON LIGHT REPLACEMENT AT KAHULUI AIRPORT, KAHULUI, MAUI, HAWAII, AND LANAI AIRPORT, LANAI CITY, LANAI, HAWAII, STATE PROJECT NO. AS1037-12R, AIP PROJECT NO. 3-15-0006-064-2025** will begin as of the HIePRO Release Date. Bidders shall register and submit complete bids through HIePRO only. Refer to the following HIePRO link for important information on Vendor Registration: https://hiepro.ehawaii.gov/welcome.html.

The solicitation plans, specifications, proposal, and additional documents designated or incorporated by reference shall be available in HIePRO.

HIePRO OFFER DUE DATE AND TIME scheduled for April 6, 2026, at 2:00 p.m., Hawaii Standard Time (HST) is **HEREBY POSTPONED** until **April 21, 2026, at 2:00 p.m., HST**. **Bidders shall submit and upload the complete proposal to HIePRO prior to the offer due date and time. Proposal received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents as part of their proposal. The record of each bidder and their respective proposal shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTON**.

CURT T. OTAGURO
Deputy Director of Transportation for Airports

TABLE OF CONTENTS

DIVISION 14 – CONVEYING SYSTEMS (NOT USED)

DIVISION 15 – MECHANICAL (NOT USED)

DIVISION 16 – ELECTRICAL

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
PROPOSAL SCHEDULE

KAHULUI AIRPORT

Item No.	Description	Quantity (a)	Unit	Unit Price (c)	Total (a x c)
01010.1	Temporary Traffic Control & Signs	Allowance	Allowance	Allowance	$ 50,000.00
01010.2	Unforeseen Conditions	Allowance	Allowance	Allowance	$ 500,000.00
01001.3	Safety Risk Management Activities	Allowance	Allowance	Allowance	$ 50,000.00
01524.1	Construction Waste Management	L.S.	L.S.	L.S.	$
01561.1	Construction Site Pollution Controls	L.S.	L.S.	L.S.	$
01562.1	Management of Contaminated Media, Soil Disposal, and Soil Reuse	L.S.	L.S.	L.S.	$
01565.1	Security Measures	Allowance	Allowance	Allowance	$ 15,000.00
01700.1	Mobilization (Not to exceed 6% of sum of all items, excluding this item, all allowances and force account items)	L.S.	L.S.	L.S.	$
02232.1	Aggregate Base Course	3,255	S.Y.	$	$
02232.2	Aggregate Subbase	400	S.Y.	$	$
02450	Portland Cement Concrete Sidewalks	3,600	S.F.	$	$
02513	Asphalt Pavement	3,695	S.Y.	$	$
2528	Concrete Curbs and Gutters (Landside)	235	L.F.	$	$
02578	Painted Pavement Markings	4,000	L.F.	$	$
02620.1A	Pavement Markings – Full Application (OGG Airfield-Main Terminal)	1,300	L.F.	$	$
02620.1B	Pavement Markings – Full Application (OGG Airfield-Cargo)	5	L.F.	$	$
02721.1A	Subbase Course (OGG Airfield-Main Terminal)	4,355	S.Y.	$	$
02752.2A	Portland Cement Concrete 15-inch Unreinforced (OGG Airfield-Main Terminal)	3,424	S.Y.	$	$
02752.4A	Portland Cement Concrete 15-inch Reinforced (OGG Airfield-Main Terminal)	931	S.Y.	$	$

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
PROPOSAL SCHEDULE

Item No.	Description	Quantity (a)	Unit	Unit Price (c)	Total (a x c)
02760.1A	Joint Sealing Filler (OGG Airfield-Main Terminal)	L.S.	L.S.	L.S.	$_____
03300.1	AL1 (OGG Airfield-Main Terminal) Light Pole Foundation	18	E.A.	$_____	$_____
03300.2	AL1(OGG Airfield-Commuter Terminal) Light Pole Foundation	4	E.A.	$_____	$_____
03300.3	PL1 Light Pole Foundation	30	E.A.	$_____	$_____
03300.4	PL2 (Pole w/ 2 arms) Light Pole Foundation	10	E.A.	$_____	$_____
03300.5	RL1 Light Pole Foundation	11	E.A.	$_____	$_____
03300.6	RL2 (Pole w/ 2 arms) Light Pole Foundation	31	E.A.	$_____	$_____
03300.7	OPL1-B Light Pole Foundation	70	E.A.	$_____	$_____
03300.8	OPL2-B Light Pole Foundation	37	E.A.	$_____	$_____
03300.8	OPL2-C Light Pole Foundation	12	E.A.	$_____	$_____
03300.12A	Concrete Bollard (OGG Airfield-Main Terminal)	144	E.A.	$_____	$_____
03300.12B	Concrete Bollard (OGG Airfield-Commuter Terminal)	32	E.A.	$_____	$_____
03300.12C	Concrete Bollard (OGG Airfield-Landside)	64	E.A.	$_____	$_____
16050.1A	Basic Materials and Method (OGG Airfield-Main Terminal)	L.S.	L.S.	L.S.	$_____
16050.1B	Basic Materials and Method (OGG Airfield-Cargo)	L.S.	L.S.	L.S.	$_____
16050.1C	Basic Materials and Method (OGG Airfield-Commuter Terminal Apron)	L.S.	L.S.	L.S.	$_____
16050.1D	Basic Materials and Method (OGG Airfield-Landside)	L.S.	L.S.	L.S.	$_____
16301.1A	Underground Electrical Work (OGG Airfield-Main Terminal)	L.S.	L.S.	L.S.	$_____

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
PROPOSAL SCHEDULE

Item No.	Description	Quantity (a)	Unit	Unit Price (c)	Total (a x c)
16301.1B	Underground Electrical Work (OGG Airfield-Cargo)	L.S.	L.S.	L.S.	$_____
16301.1C	Underground Electrical Work (OGG Airfield-Commuter Terminal Apron)	L.S.	L.S.	L.S.	$_____
16301.1D	Underground Electrical Work (OGG Airfield-Landside)	L.S.	L.S.	L.S.	$_____
16500.1A	Lighting (OGG Airfield-Main Terminal)	L.S.	L.S.	L.S.	$_____
16500.1B	Lighting (OGG Airfield-Cargo)	L.S.	L.S.	L.S.	$_____
16500.1C	Lighting (OGG Airfield-Commuter Terminal Apron)	L.S.	L.S.	L.S.	$_____
16500.1D	Lighting (OGG Airfield-Landside)	L.S.	L.S.	L.S.	$_____
16500.2A	Airport Obstruction Light (OGG Airfield-Main Terminal)	18	E.A.	$_____	$_____
16500.2A	Airport Obstruction Light (OGG Airfield-Commuter Terminal)	4	E.A.	$_____	$_____
	KAHULUI SUBTOTAL				$_____

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
PROPOSAL SCHEDULE

LANAI AIRPORT

Item No.	Description	Quantity (a)	Unit	Unit Price (c)	Total (a x c)
01010.1	Temporary Traffic Control & Signs	Allowance	Allowance	Allowance	$ 20,000.00
01010.2	Unforeseen Conditions	Allowance	Allowance	Allowance	$ 100,000.00
01010.3	Safety Risk Management Activities	Allowance	Allowance	Allowance	$ 10,000.00
01524.1	Construction Waste Management	L.S.	L.S.	L.S.	$
01561.1	Construction Site Pollution Controls	L.S.	L.S.	L.S.	$
01562.1	Management of Contaminated Media, Soil Disposal, and Soil Reuse	L.S.	L.S.	L.S.	$
01565.1	Security Measures	Allowance	Allowance	Allowance	$ 150,000.00
01700.1	Mobilization (Not to exceed 6% of sum of all items, excluding this item, all allowances and force account items)	L.S.	L.S.	L.S.	$
02232.1	Aggregate Base Course	L.S.	L.S.	L.S.	$
02232.2	Aggregate Subbase	L.S.	L.S.	L.S.	$
02450	Portland Cement Concrete Sidewalks	L.S.	L.S.	L.S.	$
02513	Asphalt Pavement	L.S.	L.S.	L.S.	$
02578	Painted Pavement Markings	L.S.	L.S.	L.S.	$
02620.1D	Pavement Markings – Full Application (LNY)	L.S.	L.S.	L.S.	$
02721.1D	Subbase Course (LNY)	L.S.	L.S.	L.S.	$
02752.1D	Portland Cement Concrete 10-inch Unreinforced (LNY)	L.S.	L.S.	L.S.	$
02752.3D	Portland Cement Concrete 10-inch Reinforced (LNY)	L.S.	L.S.	L.S.	$
02760.1D	Joint Sealing Filler (LNY)	L.S.	L.S.	L.S.	$
03300.10	Lanai Apron Light Pole Foundation	7	E.A.	$	$
03300.11	Lanai Parking Lot Light Pole Foundation	46	E.A.	$	$
03300.12E	Concrete Bollard (LNY)	56	E.A.	$	$

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII AND
LANAI AIRPORT
LANAI CITY, LANAI, HAWAII
STATE PROJECT NO. AS1037-12R
PROPOSAL SCHEDULE

Item No.	Description	Quantity (a)	Unit	Unit Price (c)	Total (a x c)
16050.1E	Basic Materials and Method (LNY)	L.S.	L.S.	L.S.	$_____
16301.1E	Underground Electrical Work (LNY)	L.S.	L.S.	L.S.	$_____
16500.1E	Lighting (LNY)	L.S.	L.S.	L.S.	$_____
16500.2C	Airport Obstruction Light (LNY)	7	E.A.	$_____	$_____
	LANAI SUBTOTAL				$_____

PROPOSAL SCHEDULE SUMMARY

KAHULUI SUBTOTAL	$_____
LANAI SUBTOTAL	$_____
TOTAL AMOUNT FOR COMPARISON OF BIDS	$_____

PROPOSAL SCHEDULE NOTE

1. Bids shall include all Federal, State, County and other applicable taxes and fees.

2. The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to determine the lowest responsible bidder.

3. Bidders shall complete all unit prices and amounts. Failure to do so shall be grounds for rejection of bid.

4. If a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.

5. **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered.Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.** Original (wet ink, hard copy) proposal documents are not required to be submitted. **Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO.**

   FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

   If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified.

6. The bidder's attention is directed to Section 2.11 – BID SECURITY of the "General Provisions", as amended by the Special Provisions.

7. Bidders shall be paid for actual work performed as directed by the Engineer for allowance items. Bidder will not be paid overhead and profit for unused allowance funds.

8. If the lowest TOTAL AMOUNT FOR COMPARISON OF BIDS is less than, or approximately equal to the funds available for this project, an award will be made to the lowest responsible bidder.

9. If the TOTAL AMOUNT FOR COMPARISON OF BIDS exceeds the funds

available for the project, the State reserves the right to negotiate with the lowest, responsive, responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, to further reduce the scope of work and award a contract thereafter.

10. The State reserves the right to reject any or all Bids and to waive any defects in said Bids in the best interest of the State.

11. Submission of a Bid is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of the plans and specifications.

12. Proposal sheets P-1 through P-23 shall be submitted at the time of bid. Failure to submit all pages shall result in rejection of bid.

TYPE I, II, III EQUIPMENT / BUILDING, AND IV BUY AMERICAN WAIVERS ISSUED (AS OF 2/17/2026)

FAA
Office of Airports

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

NOTICE: L-823 Connectors do not have independent utility needed to consider it as a component that warrants a Buy American waiver. For purposes of Buy American Preferences, the FAA considers these products as sub-components of the larger airfield lighting equipment being installed.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850C Runway Edge Light, Inpavement Model 44A6009/XXXX	1/31/2026	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862 Runway Edge Light, High Intensity (HIRL) Model 44A2071/XXXX	1/31/2026	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862E Runway Threshold/End Light, High Intensity (HITHL) Model 44A2071/41XX	1/31/2026	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Flange Ring Class 1A AF5402XX	1/31/2026	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-854 Radio Controls Model RCE/XX1X	12/6/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850E Runway Threshold Light, Inpavement Model 44A6248/XXX0	12/6/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852E(L) Taxiway Intersection Light, Medium Intensity Inpavement Model RSLE21XP3NXNXXX2	11/29/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852E(L) Taxiway Intersection Light, Medium Intensity Inpavement Model RSNL21XP3NXNXXX2	11/29/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862(L) Runway Edge Light, High Intensity (HIRL) Model EREX2XX3XSXXXX2	11/29/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862E(L) Runway Threshold/End Light, High Intensity (HITHL) Model EREX2XXXXSXXXX2	11/29/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Cover Plates AKXXXXXX	11/29/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-894 Base Plate Class 1A APXXXXXX	11/29/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850A Infrared Runway Centerline Light, Inpavement Model 44A6659/XXXX	10/19/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852T(L) Taxiway Edge Light, Omnidirectional, Inpavement Model ITEL/CX1X	10/19/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-827 Monitors, Regulator Model ACE3-XXXXDXX10001	9/27/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-847 Switch, Circuit Selector Model 44D4520/XXXXX	9/27/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	EHP-L LED Elevated Heliport Perimeter Light	9/20/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	ILCMS Individual Lamp Control & Monitoring System, Controller Model LINCCXXXXXXXXXX	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	ILCMS Individual Lamp Control & Monitoring System, Remote Model AGCXXXX	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	ILCMS Individual Lamp Control & Monitoring System, Remote Model LINCPXXXXXXXXXX	9/20/2025	Approved
Type III Equipment/Building	BETA Technologies	Charge Cube System	9/20/2025	Approved
Type III Equipment/Building	BETA Technologies	Mini Cube	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-829 Regulators, Monitored Constant Current Model FSPP66XX-XXXX	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-880 Precision Approach Path Indicator (PAPI) Model PAPA/4XXX	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-880 Precision Approach Path Indicator (PAPI) Model PAPB/4XXX	9/20/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881 Abbreviated Precision Approach Path Indicator (PAPI) Model PAPA/2XXX	9/20/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881 Abbreviated Precision Approach Path Indicator (PAPI) Model PAPB/2XXX	9/20/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) D-Lux Size 1 Lighted Guidance Sign	9/20/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) D-Lux Size 2 Lighted Guidance Sign	9/20/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) D-Lux Size 3 Lighted Guidance Sign	9/20/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) D-Lux Size 5 Lighted Guidance Sign	9/20/2025	Approved
Type III Equipment/Building	DBT Transportation Services LLC	F1 Standalone AWOS System (AWOS IV-Z)	9/6/2025	Approved
Type III Equipment/Building	Trex Aviation Systems Corp	Trex FOD Finder XFV2 (Fixed)	9/6/2025	Approved
Type III Equipment/Building	Trex Aviation Systems Corp	Trex FOD Finder XMV2 (Mobile)	9/6/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-828 Constant Current Regulator, No Monitoring	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 4, 1 module, LED lighting (D1L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 5, 1 module, LED lighting (DL1L)	8/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Standard Signs	L-858, Size 3, 1 module, LED lighting (L1L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 3, 2 module, LED lighting (L2L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 3, 3 module, LED lighting (L3L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 3, 4 module, LED lighting (L4L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 2, 1 module, LED lighting (M1L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 2, 2 module, LED lighting (M2L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 2, 3 module, LED lighting (M3L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 2, 4 module, LED lighting (M4L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 1, 1 module, LED lighting (S1L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 1, 2 module, LED lighting (S2L)	8/30/2025	Approved
Type III Equipment/Building	Standard Signs	L-858, Size 1, 3 module, LED lighting (S3L)	8/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Standard Signs	L-858, Size 1, 4 module, LED lighting (S4L)	8/30/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-847 Circuit Selector Switch 6.6A	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-847 Circuit Selector Switch 20A	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) I-Lux Size 2 Lighted Guidance Sign	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) I-Lux Size 3 Lighted Guidance Sign	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) I-Lux Size 4 Lighted Guidance Sign	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) I-Lux Size 5 Lighted Guidance Sign	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-859 ODALS 6.6A	8/23/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-859 ODALS Voltage	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-EX-12 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-EX-66A Wind Cone	8/23/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-EX-120 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-EX-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-IN-12 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-IN-66A Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-IN-120 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-IN-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L806-S1-UN-NON Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-EX-12 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-EX-66A Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-EX-120 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-EX-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-IN-12 Wind Cone	8/23/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-IN-66A Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-IN-120 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-IN-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S1-UN-NON Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L893 Runway Closure Marker, LED Diesel	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-EX-12 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-EX-66A Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-EX-120 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-EX-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-IN-12 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-IN-66A Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-IN-120 Wind Cone	8/23/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-IN-230 Wind Cone	8/23/2025	Approved
Type III Equipment/Building	Hali-Brite Inc.	L807-S2-UN-NON Wind Cone	8/23/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Barricade Light, 8Ah, Charge Port/Switch Model AV-60-863-R-B1-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Barricade Light, 17Ah, Charge Port/Switch Model AV-60-863-R-B2-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Barricade Light, 8Ah, Charge Port/Switch Model AV-70-863-R-B1-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Barricade Light, 17Ah, Charge Port/Switch Model AV-70-863-R-B2-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Barricade Light, 17Ah, Charge Port/Switch, Wireless Model AV-70-863-R-B2-07	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Taxiway Light, 8Ah, Charge Port/Switch Model AV-70-863-B-B1-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Taxiway Light, 17Ah, Charge Port/Switch Model AV-70-863-B-B2-03	8/2/2025	Approved
Type III Equipment/Building	SPX Aids to Navigation LLC	Portable Taxiway Light, 17Ah, Charge Port/Switch, Wireless Model AV-70-863-B-B2-07	8/2/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Blue Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Brick Red Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Bright Green Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Red Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Yellow Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type II Blue Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type II Bright Green Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type II Red Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type II Yellow Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952F Type III Drab Green Runway Marking Paint	8/2/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-890 Airport Lighting Control & Monitoring System	8/2/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Airport Lighting Company	L-849 Runway End Identifier Light 6.6A	8/2/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-849(L) Runway End Identifier Light 6.6A LED Current	8/2/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-849(L) Runway End Identifier Light 6.6A LED Voltage	8/2/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-861T(L) Medium Intensity Taxiway Light LED	8/2/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-858 (L) I-Lux Size 1 Lighted Guidance Sign	8/2/2025	Approved
Type III Equipment/Building	Advanced Drainage Systems, Inc.	4 inch. N-12 HWY.STIB.PERF.SOCK.20 foot	7/26/2025	Approved
Type I	Surangel and Sons Construction	Asphalt Surface or Leveling Course, Emusified Prime and Tack Coat, Subbase Course, Crushed Aggregate Base Course	7/26/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862(L) Runway Edge Light, High Intensity Model ARE11XXXX1X1XXX001	7/13/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862E(L) Runway Threshold/End Light, High Intensity Model ARN21XXXX0X1XXX001	7/13/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862E(L) Runway Threshold/End Light, High Intensity Model ART21XXXX0X1XXX001	7/13/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862S(L) Stopbar, Elevated Model ASB21XNRN0X1XCX001	7/13/2025	Approved
Type III Equipment/Building	Minit Charger LLC	eGSE Charger Altus II with Euro Cables and J1772 Charging Option	6/28/2025	Approved
Type III Equipment/Building	Musco Lighting	Light-Structure System™ Apron Flood Lighting	6/28/2025	Approved
Type III Equipment/Building	Rosenbauer Minnesota, LLC	ARFF Vehicle Model A146	6/15/2025	Approved
Type III Equipment/Building	Davies Imperial Coatings, Inc.	4636 Yellow IL Spec Runway Marking Paint	6/15/2025	Approved
Type III Equipment/Building	Millerbernd Manufacturing Company	L-867 Light Base Can Non-Load Bearing	6/15/2025	Approved
Type III Equipment/Building	Millerbernd Manufacturing Company	L-868 Light Base Can Non-Load Bearing	6/15/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L801A(L) LED Beacons, Medium Intensity Item# L801AL116	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L801A(L) LED Beacons, Medium Intensity Item# L801AL216	6/7/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Hali-Brite, Inc.	L801H(L) LED Heliport Beacons, Medium Intensity Item# L801HL116	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L801H(L) LED Heliport Beacons, Medium Intensity Item# L801HL216	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L802A(L) LED Beacons, High Intensity Item# L802AL116	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L802A(L) LED Beacons, High Intensity Item# L802AL216	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L802(M) Military Beacons, High Intensity Item# L802M116	6/7/2025	Approved
Type III Equipment/Building	Hali-Brite, Inc.	L802(M) Military Beacons, High Intensity Item# L802M216	6/7/2025	Approved
Type III Equipment/Building	Monroe Integro	11680 Transformer 30/45W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11681 Transformer 30/45W 20/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11682 Transformer 65W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11683 Transformer 100W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11684 Transformer 100W 20/6.6A 60Hz	5/5/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Monroe Integro	11685 Transformer 200W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11686 Transformer 200W 20/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11717 Transformer 10/15W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11729 Transformer 20/25W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11730 Transformer 150W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11736 Transformer 300W 6.6/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11760 Transformer 300W 20/6.6A 60Hz	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11174-01 Style 3&10 Connector Kit #8 AWG, Primary Connector Kit with L-823	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11174-02 Style 3&10 Connector Kit #6 AWG, Primary Connector Kit with L-823	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11174-04 Style 3&10 Connector Kit #6 AWG Sm, Primary Connector Kit with L-823	5/5/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Monroe Integro	11174-05 Style 3&10 Connector Kit #8 AWG Lg, Primary Connector Kit with L-823	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11805-01 Complete Kit, 8AWG, Medium, Black	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11805-02 Complete Kit, 6AWG, Large, Black	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11805-04 Complete Kit, 6AWG, Medium, Black	5/5/2025	Approved
Type III Equipment/Building	Monroe Integro	11805-05 Complete Kit, 8AWG, Large, Black	5/5/2025	Approved
Type III Equipment/Building	Advanced Drainage Systems, Inc.	6 inch. N-12 HWY.STIB.PERF.SOCK.20 foot	4/21/2025	Approved
Type III Equipment/Building	Rural Electric Inc.	L-821 Airport Lighting Control Panel	4/21/2025	Approved
Type III Equipment/Building	Rural Electric Inc.	L-854 Radio Controls	4/21/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	CFB Regulators, Monitored Constant Current Model CFB/02X0	4/21/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-829 Regulators, Monitored Constant Current Model FSPP20XX-XXXX.	4/21/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	PAR-56 Steady Burning Approach Light, Elevated Model 44D1661/XXXX	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L810 Incandescent Obstruction Light Dual Head	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L810 Incandescent Obstruction Light Single Head	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Edge Clear Light Quartz 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Edge Clear Light Quartz 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Clear Light T10 Incandescent 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Clear Light T10 Incandescent 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Edge ClearYellow Light Quartz 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway Edge ClearYellow Light Quartz 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway ClearYellow Light T10 Incandescent 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861 Elevated Runway ClearYellow Light T10 Incandescent 45W	4/21/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Flight Light Inc.	L861E Elevated Runway Threshold/End Light Quartz 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861E Elevated Runway Threshold/End Light Quartz 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861E Elevated Runway Threshold/End Light T10 Incandescent 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861E Elevated Runway Threshold/End Light T10 Incandescent 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861T Elevated Taxiway Blue Light Quartz 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861T Elevated Taxiway Blue Light Quartz 45W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861T Elevated Taxiway Blue Light T10 -Incandescent 30W	4/21/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L861T Elevated Taxiway Blue Light T10 -Incandescent 45W	4/21/2025	Approved
Type III Equipment/Building	Franklin Paint Company	Black Waterborne Traffic Paint	4/5/2025	Approved
Type III Equipment/Building	Franklin Paint Company	Green Waterborne Traffic Paint	4/5/2025	Approved
Type III Equipment/Building	Franklin Paint Company	Red Waterborne Traffic Paint	4/5/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Franklin Paint Company	White Waterborne Traffic Paint	4/5/2025	Approved
Type III Equipment/Building	Franklin Paint Company	Yellow Waterborne Traffic Paint	4/5/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-828 Regulators, Constant Current Model CHF20XX/X300	4/5/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-829 Regulators, Monitored Constant Current Model CHF20XX/X3XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-867 Class 1B Extension AES2XXX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-867 Base Can Class 1B ACS21XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-867 Spacer Class 1A AT2XXX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-867 Spacer Rings Class 1B ATS2XXX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-867B Extension Class 1A AE20XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Class 1B Extension AXS2XXX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Adaptor Plate Class 1A AA122820	4/5/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Base Class 1B ACS24XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Base Can Class 1A AC24XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Conversion Ring Class 1A AA54XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Extension Class 1A AX203XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Flange Ring Class 1B AFS54XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Spacer Rings Class 1B ARS54XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868 Spacer Rings Class 1A AR5421XX	4/5/2025	Approved
Type III Equipment/Building	Jaquith Industries Inc.	L-868A Base Class 1A AC08XXXXX	4/5/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L810 LED Obstruction Light Dual Head, Night Vision Compatible	4/5/2025	Approved
Type III Equipment/Building	Flight Light Inc.	L810 LED Obstruction Light Single Head, Night Vision Compatible	4/5/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-828 Regulators, Constant Current Model CRFXXXXXX0XXX0	3/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-828 Regulators, Constant Current Model CRTXXXXXXX0XXX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-829 Regulators, Monitored Constant Current Model CRFXXXXXXXXXXX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-829 Regulators, Monitored Constant Current Model CRTXXXXXXXXXXX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR1X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR1X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR2X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR2X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR3X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR3X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR41-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR41-7XX3XX1	3/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR51-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS1X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS1X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS2X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS2X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS3X-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS3X-7XX3XX1	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS41-7XX3XX0	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc	A-A-2886B Solvent Based Paint – Black	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	A-A-2886B Solvent Based Paint – Blue	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	A-A-2886B Solvent Based Paint – Green	3/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Ennis-Flint, Inc.	A-A-2886B Solvent Based Paint – Red	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	A-A-2886B Solvent Based Paint – White	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	A-A-2886B Solvent Based Paint – Yellow	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	AirMark Preformed Thermoplastic Pavement Markings - Black	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	AirMark Preformed Thermoplastic Pavement Markings - Red	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	AirMark Preformed Thermoplastic Pavement Markings - White	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	AirMark Preformed Thermoplastic Pavement Markings - Yellow	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type I / II Waterborne Paint – Blue	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type I / II Waterborne Paint – Green	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type III Waterborne Paint – Green	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type I / II Waterborne Paint – Red	3/30/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type I / II Waterborne Paint – White	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type III Waterborne Paint – White	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type I / II Waterborne Paint – Yellow	3/30/2025	Approved
Type III Equipment/Building	Ennis-Flint, Inc.	TT-P-1952F Type III Waterborne Paint – Yellow	3/30/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L804 (L) Runway Guardlight	3/30/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L829 Constant Current Regulator, Monitoring - Model FR829	3/30/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS41-7XX3XX1	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS51-7XX3XX0	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SS51-7XX3XX1	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-880(L) LED Precision Approach Path Indicator (PAPI) Model RPA4XXXXXX0XXX01	3/25/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-880(L) LED Precision Approach Path Indicator (PAPI) Model RPB4XXXXXX0XXX01	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-880(L) LED Precision Approach Path Indicator (PAPI) Model RPR4XXXXXX0XXX01	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/A1XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/A2XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/C1XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/C2XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/E1XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-849(L) Runway End Identifier Light Model REIL/E2XXX012	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-858(L) Signs, Runway and Taxiway Model SR51-7XX3XX0	3/25/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881(L) LED Abbreviated Precision Approach Path Indicator (PAPI) Model RPR2XXXXXX0XXX01	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881(L) LED Abbreviated Precision Approach Path Indicator (PAPI) Model RPA2XXXXXX0XXX01	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881(L) LED Precision Approach Path Indicator (PAPI) Model RPB2XXXXXX0XXX01	3/25/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-828 4KW 6.6A Constant Current Regulator	3/25/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-861 (L) Medium Intensity Light LED	3/25/2025	Approved
Type III Equipment/Building	Airport Lighting Company	L-861E (L) Medium Intensity Threshold Light LED	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-804(L) Runway Guard Light, Elevated Model ERGL/6112X	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-804(L) Runway Guard Light, Elevated Model ERGL/5112X	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-804(L) Runway Guard Light, Elevated Model ERGL/1111X	3/25/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas LLC	L-804(L) Runway Guard Light, Elevated Model ERGL/3111X	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-829 Regulators, Monitored Constant Current Model FLPP20XX-XXXX	3/25/2025	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-829 Regulators, Monitored Constant Current Model FLPP66XX-XXXX	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type III, Hotline Waterborne - Black Paint TM2140	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type III, Hotline Waterborne - White Paint TM2152	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Yellow Paint TM2153	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Black Paint TM2221	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Red Paint TM2222	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Blue Paint TM2224	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Green Paint TM2226	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - White Paint TM2248	3/25/2025	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type I/II Hotline Waterborne - Yellow Paint TM2259	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type III, Hotline Waterborne - White Paint TM2452	3/25/2025	Approved
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Type III, Hotline Waterborne - Yellow Paint TM2453	3/25/2025	Approved
Type III Equipment/Building	Minit Charger, LLC	Industrial Battery Charger Momentus 1 Port	1/12/2025	Approved
Type III Equipment/Building	Minit Charger, LLC	e GSE Charger Altus II with BIW Cables	8/3/2024	Approved
Type III Equipment/Building	TWR Lighting	Double-L-810 Red Obstruction Light with IR OL2VLED 2-IR	7/6/2024	Approved
Type III Equipment/Building	Mesotech International, Inc.	Automated Weather Observing System (AWOS) I	7/1/2024	Approved
Type III Equipment/Building	Mesotech International Inc	Automated Weather Observing System (AWOS) II	7/1/2024	Approved
Type III Equipment/Building	Mesotech International Inc	Automated Weather Observing System (AWOS) IIIP	7/1/2024	Approved
Type III Equipment/Building	Mesotech International Inc	Automated Weather Observing System (AWOS) IVZ	7/1/2024	Approved
Type III Equipment/Building	Mesotech International Inc	Automated Weather Observing System (AWOS) IIIPT	7/1/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-804E-AP1-066 Elevated Runway Guard Light	6/22/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-858 SIGN LED	6/22/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-858 SIGN FIBERGLASS LED	6/22/2024	Approved
Type III Equipment/Building	Prysmian Cables and Systems (US) , Inc.	L-824 Underground Electrical Cable 1/8 XLPE 5KV FAA Type C 389171	5/18/2024	Approved
Type III Equipment/Building	Prysmian Cables and Systems (US), Inc.	L-824 Underground Electrical Cable 1/6 XLPE 5KV FAA Type C Yellow	5/18/2024	Approved
Type III Equipment/Building	Prysmian Cables and Systems (US) , Inc.	L-824 Underground Electrical Cable ¼ XLP 5KV FAA Type C 389181	5/18/2024	Approved
Type III Equipment/Building	Prysmian Cables and Systems (US), Inc.	L-824 Underground Electrical Cable 1/8 EPR/PVC 5KV FAA Type B 38827	5/18/2024	Approved
Type III Equipment/Building	Prysmian Cables and Systems (US), Inc.	L-824 Underground Electrical Cable 1/6(7X) EPR/CPE 5KV FAA Type B	5/18/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LCC	L-861T(L) Taxiway Edge Light, Medium Intensity (MIRL) Elevated model ETES/XXXX	5/18/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LCC	L-861E(L) Runway Threshold Light Medium Intensity (MITHL) Elevated model EMIS2XX0XS00X00	5/18/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LCC	L-861(L) Runway Edge Light Medium Intensity (MIRL) Elevated model EMIS2XX0XS00X00	5/18/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LCC	L-861SE(L) Runway Threshold Light, Medium Intensity (MITHL) Elevated model EMIS2XX0XSF0X00	5/18/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-828S Constant Current Regulator	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-828M Constant Current Regulator	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-829S Monitored Constant Current Regulator	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-829M Monitored Constant Current Regulator	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-829L Monitored Constant Current Regulator	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-847 Circuit Selector Switch	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850A LED Inpavement Runway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850A3 Quartz Inpavement Runway Lights	5/11/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850B LED Inpavement Runway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850B3 Quartz Inpavement Runway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850C LED Inpavement Runway	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850C Quartz Inpavement Runway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850D LED Inpavemetn Runway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852E3 Quartz Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852D 12-inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Projects	L-852C 12-inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852C 8-inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852B 12-inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852B 8-inch LED Inpavement Taxiway Lights	5/11/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852A 12 -inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852A 8-inch LED Inpavement Taxiway Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852J LED 8-Inch Taxiway Centerline Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852G LED Inset Runway Guard Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse-Hinds Airport Lighting Products	L-852G IRGL/STOP BAR LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852J LED 12-Inch Taxiway Centerline Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852K LED 8-Inch Taxiway Centerline Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852K 12 Inch LED Taxiway Centerline Lights	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852S STOP BAR LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852T TOL QUARTZ	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-890 Airport Lighting Control and Monitoring System	5/11/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-861 MIRL Omnidirectional LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-861 MIRL Bidirectional LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-861E MIRL THR LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hiinds Airport Lighting Products	L-861SE MIRL THR/RW END LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-861T AP1 MITL LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-861T MITL LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-852T TOL LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-862 HIRL EDGE LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-862 HIRL EDGE QUARTZ	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-862E HIRL THR LED	5/11/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-862E HIRL THR QUARTZ	5/11/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-862S PRO APF Elevated Stop Bar LED	5/11/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-881B(L) Abbreviated LED Precision Approach Path Indicator (PAPI)	5/11/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LCC	Heliport Perimeter Light, Inset IUL/3X2X	5/11/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-491 TT-P-1952F Type III Bicycle Green	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-281 TT-P-1952F Type III Yellow Marking Paint	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-287 TT-P-1952F Type III Red Marking Paint	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-493 TT-P-1952F Type III Green	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-283 TT-P-1952F Type III Black Marking Paint	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-287-D TT-P-1952F Type III Dark Red Marking Paint	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-280 TT-P-1952F Type III White Marking Paint	4/20/2024	Approved
Type III Equipment/Building	Crown USA Incorporated	F-HB-285 TT-P-1952F Type III Blue Marking Paint	4/20/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3PT plus Thunderstorm Sensor	3/16/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850A-AP1-XX-F1 PRO APF RCL LED	2/25/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850A3 PRO III RCL QUARTZ	2/25/2024	Approved
Type III Equipment/Building	Eaton Crouse Hinds Airport Lighting Products	L-850B TDZ LED	2/25/2024	Approved
Type III Equipment/Building	Ampure Charging Systems, Incorportated	ASSY Top 50Hz GSE 600-380	1/15/2024	Approved
Type III Equipment/Building	Ampure Charging Systems, Incorporated	DVS400 480V-600V ADK-CEC	1/15/2024	Approved
Type III Equipment/Building	ABB E-Mobility Incorportated.	Terra DC Fast Charger T184 HC CC	1/15/2024	Approved
Type III Equipment/Building	ABB E-Mobility Incorporated	Terra DC Fast Charger T184 BAA CTEP/NTEP	1/15/2024	Approved
Type III Equipment/Building	ABB E-Mobility Incorporated	Terra DC Fast Charger T124 Dual CCS1 BABA	1/15/2024	Approved
Type III Equipment/Building	ABB E-Mobility Incorporated	Terra DC Fast Charger T184 Single ADA	1/15/2024	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-895 Elevated Light Stake Mounting	1/15/2024	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ABB E-Mobility Incorporated	Terra Direct Current Fast Charger T184 BAA ADA	1/15/2024	Approved
Type III Equipment/Building	Potters Industries	Reflective Media TTB 1325D Type IVA (Flex-O-Lite) Glass Beads	9/26/2023	Approved
Type III Equipment/Building	ADB Safegate Americas LLC	L-862(L) Runway Edge Light High Intensity (HIRL) EREX2XXXXXXXX02	8/26/2023	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-862E(L) Runway Threshold Light, High Intensity (HITHL) EREX2XXXXXFXX02	8/26/2023	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852G(L) Inpavement Runway Guard Light, model RSRG11XX1NYXX2X1	7/22/2023	Approved
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3PT	7/22/2023	Approved
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3P	7/22/2023	Approved
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3	7/22/2023	Approved
Type III Equipment/Building	DBT Transporation Services LLC	AWOS 2	7/22/2023	Approved
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 1	7/22/2023	Approved
Type III Equipment/Building	DBT Transportation Services LLC	AWOS AV	7/22/2023	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-830, Isolation Transformers, 60Hz Model 1STXXX66601001	7/8/2023	Approved
Type III Equipment/Building	Hillcrest Industries, Inc.	Reflective Media TTB 1325D Type 1A – Glass Beads	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorporated	F-AB-297 TT-P-1952F Type II Black Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorporated	F-AL-397 TT-P-1952F Type II Blue Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorportated	F-AR-399 TT-P-1952F Type II Red Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorportated	F-AR-D-399 TT-P-1952F Type II Dark Red Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorportated	F-AW-292 TT-P-1952F Type II White Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorporated	F-LFY-295 TT-P-1952F Type II L.F. Yellow Marking Paint	7/8/2023	Approved
Type III Equipment/Building	Crown USA Incorporated	F-AG-355 TT-P-1952F Type II Bicycle Green Marking Paint	7/8/2023	Approved
Type III Equipment/Building	NoFoam Systems	NoFoam Tester Model P w kits	7/1/2023	Approved
Type III Equipment/Building	NoFoam Systems	NoFoam Tester (Model C) w kits	7/1/2023	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	E-One, Inc.	Ecologic Test Cart	7/1/2023	Approved
Type III Equipment/Building	SPX Aids for Aviation	L-863 Portable Runway and Taxiway Lighting AV-70-863-B-SW-CP	3/25/2023	Approved
Type III Equipment/Building	SPX Aids to Aviation	L-863 Portable Runway and Taxiway Lighting AC-70-863-B-RF-SW-CP	3/25/2023	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852T LED (L) Omni-directional In-pavement Taxiway Edge Light RSTEX1XP3NXNXXX2	3/25/2023	Approved
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System AWOS II	3/6/2023	Approved
Type III Equipment/Building	Cherokee Nation 3S	Automated Weather Observation System AWOS-C	3/6/2023	Approved
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System III P/T	2/25/2023	Approved
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System III	2/25/2023	Approved
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System III-P	2/25/2023	Approved
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System AWOS I	2/25/2023	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	DBT Transportation LLC	AWOS 3000 - Automated Weather Observation System Altimeter/Visibility (AV)	2/25/2023	Approved
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TTB 13215D Type IA (Flex-O-Lite) Glass Beads	8/27/2022	Approved
Type III Equipment/Building	GBA Components, LLC	Inpavement Light EB-83A Coated Bolts	8/7/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850D(L) RSRT212XXXFXXXX1 Inpavement Runway Threshold Light	7/30/2022	Approved
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TT-B 1325D Type III (Flex-O-Lite) Glass Beads, 1.9 Index of Refraction	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852K(LED) Inpavement Taxiway Centerline Light Model RSTK21XXXCXXX2X1	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852A (LED) Model RSTA21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852C (LED) Model RSTC21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852J (LED) Model RSTJ21XXXCXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852S (LED) Model RSSB21XXXNRNX2X1 Inpavement Stop Bar Light	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852B (LED) Model RSTB21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852D (LED) Model RSTD21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022	Approved
Type III Equipment/Building	FLash Technology	L-880 (LED) Precision Approach Path Indicator	7/17/2022	Approved
Type III Equipment/Building	Flash Technology	Flash Technology L-881 (LED) Precision Approach Path Indicator	7/17/2022	Approved
Type III Equipment/Building	ADB Safegate	L-850A(L) RSRC11XXXNXXXXX1 Inpavement Runway Centerline Light	6/18/2022	Approved
Type III Equipment/Building	ADB Safegate	L-850C (L) RSRE11XXXCXXXXX1 Inpavement Runway Edge Light	6/18/2022	Approved
Type III Equipment/Building	ADB Safegate	L-850B(L) RSRZ11XX1XWNXXX1 Inpavement Touchdown Zone Light	6/18/2022	Approved
Type III Equipment/Building	ADB Safegate	L-850D(L) RSRN212XXXRXXXX1 Inpavement Runway End Light	6/18/2022	Approved
Type III Equipment/Building	ADB Safegate	L-850T(L) RSRS21XX1NRNRXX1 Runway Status Light	6/18/2022	Approved
Type III Equipment/Building	Airport Lighting Company	L-881 LED Abbreviated Precision Approach Path Indicator	2/26/2022	Approved

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Applicant	Project	Effective Date	Status
Type III Equipment/Building	Airport Lighting Company	L-880 LED Precision Approach Path Indicator	2/26/2022	Approved
Type III Equipment/Building	Airport Lighting Company	L-821 Airport Lighting Control Panel	2/26/2022	Approved
Type III Equipment/Building	Webasto Charging Systems Incorportated	Posicharge DVS 300 Electric Vehicle Charger	11/27/2021	Approved
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge L-862(L) ERES2YW33S00002	11/27/2021	Approved
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2WY33S00002	11/27/2021	Approved
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2GR13SF0002	11/27/2021	Approved
Type III Equipment/Building	Multi-Electric Manufacturing	LED E Runway Elevated Threshold End Light	9/18/2021	Approved
Type III Equipment/Building	Multi-Electric Manufacturing	LED Runway Elevated Edge - L-862 (L)	9/18/2021	Approved
Type III Equipment/Building	Airport Lighting Company	L-890 Lighting Control & Monitoring System	7/17/2021	Approved

The following components or subcomponents are steel or manufactured goods that have an FAA specification number and have been determined to be 1) 100% United States product and 2) produced in the United States.

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 2/17/2026)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
100% US and US Final Assembly	Integro	L-823 Plug and Receptacle, Cable Connectors	6/10/2009
100% US and US Final Assembly	MCB Industries	EB-83 bolts	1/31/2011
100% US and US Final Assembly	MCB Industries	2-part washers (used with 3/8" x 16 by various length bolts)	10/14/2015
100% US and US Final Assembly	MCB Industries	18-8 fasteners (various length bolts)	12/27/2016

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin, creed, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI Solicitation Notice

As a condition of a grant award, the Sponsor shall demonstrate that it complies with the provisions of Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq) and implementing regulations (49 CFR part 21) including amendments thereto, the Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47123), the Age Discrimination Act of 1975 (42 U.S.C. 6101 et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et seq.), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101, et seq.), U.S. Department of Transportation and Federal Aviation Administration (FAA) Assurances, and other relevant civil rights statutes, regulations, or authorities, including any amendments or updates thereto.

This may include, as applicable, providing a current Title VI Program Plan to the FAA for approval, in the format and according to the timeline required by the FAA, and other information about the communities that will be benefited and impacted by the project. A completed FAA Title VI Pre-Grant Award Checklist is required for every grant application, unless excused by the FAA. The Sponsor shall affirmatively ensure that when carrying out any project supported by this grant that it complies with all federal nondiscrimination and civil rights laws based on race, color, national origin, sex, creed, age, disability, genetic information, in consideration for federal financial assistance. The Department's and FAA's Office of Civil Rights may provide resources and technical assistance to recipients to ensure full and sustainable compliance with Federal civil rights requirements. Failure to comply with civil rights requirements will be considered a violation of the agreement or contract and be subject to any enforcement action as authorized by law.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq*., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR Part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964) including amendments thereto;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq*.), as amended (prohibits discrimination on the basis of disability); and 49 CFR Part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq*.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR Parts 37 and 38;

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

Title VI Clauses for Compliance with Nondiscrimination Requirements

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, creed, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21 including amendments thereto.

3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as

it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or

b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under regulations implementing the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within

30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program: *Provided* that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types

described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at *https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification* or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;

(2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training,

Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

5. Compliance with Copeland Act Requirements.

   The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

   The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

   A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

   All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

   Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC § 1001.

DISTRACTED DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding $15,000 that involve driving a motor vehicle in performance of work activities associated with the project.

FEDERAL FAIR LABOR STANDARDS ACT

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR Part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

PROHIBITION OF COVERED UNMANNED AIRCRAFT SYSTEMS (UAS)

The Bidder or Offeror certifies that they are aware of and comply with relevant Federal statutes and regulations, including those from the Federal Aviation Administration (FAA), for operating unmanned aircraft systems (UAS) in accordance, and in compliance with all related requirements in the FAA Reauthorization Act of 2024 (Public Law 118-63), section 936 (49 U.S.C. § 44801 note).

The Contractor warrants that all UAS operations will be conducted in full compliance with all applicable Federal Aviation Administration (FAA) regulations, including but not limited to 14 CFR Part 107, and any other applicable local, state, or Federal laws and regulations.

Sponsors and subgrant recipients cannot use AIP grant funds to enter into, extend, or renew a contract related to covered unmanned aircraft systems (UAS). This includes both procurement and operational contracts, as well as contracts with entities that operate such systems.

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

_____

Bidder (Company Name)

_____ _____

Signature Date

_____

Name and Title of Signing Official

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);

2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and

3. has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

1. who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or

2. whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or

3. who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly

rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

_____

Bidder (Company Name)

_____ _____

Signature Date

_____

Name and Title of Signing Official

CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

The applicant represents that it is ( ) is not ( ) a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

The applicant represents that it is ( ) is not ( ) a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

_____

Bidder (Company Name)

_____ _____

Signature Date

_____

Name and Title of Signing Official

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it enteredthe covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

_____

Bidder (Company Name)

_____ _____

Signature Date

_____

Name and Title of Signing Official

CERTIFICATION REGARDING DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

_____

Bidder (Company Name)

_____ _____

Signature Date

_____

Name and Title of Signing Official

SECTION 01533 - BARRICADES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. The General Provisions of the Contract, including General and Special Provisions, apply to the work specified in this Section.

1.02 BARRICADES

A. The contractor shall take precautions to protect people and property from injury and damage. He shall erect barricades to delineate his work areas and provide the appropriate signage, hazard lights, and temporary paint striping as directed by the Engineer, to aid public and airport pedestrian and vehicular traffic around his work areas. Barricades shall be water filled highway traffic barricades, FAA approved low profile aircraft barricades, delineators, caution tape, reinforced plywood barricades or other barriers as approved by the Engineer to effectively provide proper protection.

B. The contractor shall be responsible for his own security and protection of his property, including mobilization yard barricades.

C. Barricades, in general, shall be neat and in good condition, as required for protection. In areas frequented by the general public, the barricades shall be visually presentable and plywood partitions shall be painted. Where interior dust is a problem, the Contractor shall erect floor to ceiling dustproof partitions.

D. The Contractor shall coordinate and sequence this work with the Engineer to permit the continuing operation of the existing Airport facility. Barricades shall be removed upon the completion and acceptance of work and the premises left clean and operational.

E. FAA approved low profile aircraft barricades shall be used for apron areas. Highway traffic barricades shall be used for all other roadway locations.

1.03 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTALS.

B. In addition to the security plan as specified in Section 01565 – SECURITY MEASURES, submit drawings showing locations for temporary dust and noise control protection, including details of barrier construction, to be submitted within 14 calendar days after execution of Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

A. Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 02752 – PORTLAND CEMENT CONCRETE PAVEMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section. This Section shall be in accordance with FAA Specification Item P-501: Portland Cement Concrete Pavement, as included as an attachment to this Section.

1.02 DESCRIPTION

This Section shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01100 – Contractors Quality Control Program; FAA Specification Item C-100.

1.04 REFERENCES

A. Federal Aviation Administration (FAA)

1. FAA Specification Item P-501: Portland Cement Concrete Pavement.

1.05 SUBMITTALS

A. Submittals shall be in accordance with Section 01300 – Submittals.

B. Concrete mix shall be in submitted in accordance with the requirements of FAA Specification Item P-501, paragraph 501-3.4.

C. Construction methods shall be in submitted in accordance with the requirements of FAA Specification Item P-501.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Aggregates: in accordance with FAA Specification Item P-501, paragraph 501-2.1.

B. Cement: in accordance with FAA Specification Item P-501, paragraph 501-2.2.

C. Cementitious materials: in accordance with FAA Specification Item P-501, paragraph 501-2.3.

D. Joint seal: in accordance with FAA Specification Item P-501, paragraph 501-2.4.

E. Isolation joint filler: in accordance with FAA Specification Item P-501, paragraph 501-2.5.

F. Steel reinforcement: in accordance with FAA Specification Item P-501, paragraph 501-2.6.

G. Dowel and tie bars: in accordance with FAA Specification Item P-501, paragraph 501-2.7.

H. Water: in accordance with FAA Specification Item P-501, paragraph 501-2.8.

I. Material for curing concrete: in accordance with FAA Specification Item P-501, paragraph 501-2.9.

J. Admixtures: in accordance with FAA Specification Item P-501, paragraph 501-2.10.

K. Epoxy-resin: in accordance with FAA Specification Item P-501, paragraph 501-2.11.

L. Bond Breaker: in accordance with FAA Specification Item P-501, paragraph 501-2.12.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Construction Methods shall be in accordance with FAA Specification Item P-501: Portland Cement Concrete Pavement.

B. The Contractor Quality Control shall be in accordance with FAA Specification Item P-501.
C. Material Acceptance shall be in accordance with FAA Specification Item P-501.

PART 4 - MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

Method of measurement and payment shall be in accordance with FAA Specification Item P-501, paragraph 501-7.1.

4.02 BASIS OF PAYMENT

Basis for payment shall be in accordance with FAA Specification Item P-501, paragraph 501-8.1.

PART 5 - ATTACHMENTS

5.01 FAA Specification Item P-501: Portland Cement Concrete Pavement.

Item P-501 Portland Cement Concrete Pavement

DESCRIPTION

501-1.1 This work shall consist of pavement composed of cement concrete with reinforcement and without reinforcement constructed on a prepared underlying surface in accordance with these specifications and shall conform to the lines, grades, thickness, and typical cross-sections shown on the plans. The terms cement concrete, hydraulic cement concrete, and concrete are interchangeable in this specification.

MATERIALS

501-2.1 Aggregates.

a. Reactivity. Fine and Coarse aggregates to be used in PCC on this project shall be tested and evaluated by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and ASTM C1567. Tests must be representative of aggregate sources which will be providing material for production. ASTM C1260 and ASTM C1567 tests may be run concurrently.

(1) Coarse aggregate and fine aggregate shall be tested separately in accordance with ASTM C1260, however, the length of test shall be extended to 28 days (30 days from casting). Tests must have been completed within 6 months of the date of the concrete mix submittal.

(2) The combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

(3) If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) Concrete Research Division (CRD) C662 in lieu of ASTM C1567. If lithium nitrate admixture is used, it shall be nominal 30% ±0.5% weight lithium nitrate in water. If the expansion does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

b. Fine aggregate. Grading of the fine aggregate, as delivered to the mixer, shall conform to the requirements of ASTM C33 and the parameters identified in the fine aggregate material requirements below. Fine aggregate material requirements and deleterious limits are shown in the table below.

Fine Aggregate Material Requirements		
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Sand Equivalent	45 minimum	ASTM D2419
Fineness Modulus (FM)	$2.50 \leq FM \leq 3.40$	ASTM C136
Limits for Deleterious Substances in Fine Aggregate for Concrete		
Clay lumps and friable particles	1.0% maximum	ASTM C142
Coal and lignite	0.5% using a medium with a density of Sp. Gr. of 2.0	ASTM C123
Total Deleterious Material	1.0% maximum	

c. Coarse aggregate. The maximum size coarse aggregate shall be 1 inch.

Aggregates delivered to the mixer shall be clean, hard, uncoated aggregates consisting of crushed stone, crushed or uncrushed gravel, air-cooled iron blast furnace slag, crushed recycled concrete pavement, or a combination. The aggregates shall have no known history of detrimental pavement staining. Steel blast furnace slag shall not be permitted. Coarse aggregate material requirements and deleterious limits are shown in the table below; washing may be required to meet aggregate requirements.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles at 5:1 for any size group coarser than 3/8 (9.5 mm) sieve [1]	ASTM D4791
Bulk density of slag [2]	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29
D-cracking (Freeze-Thaw)[3]	Durability factor ≥ 95	ASTM C666

[1] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[2] Only required if slag is specified.

[3] Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

The amount of deleterious material in the coarse aggregate shall not exceed the following limits:

Limits for Deleterious Substances in Coarse Aggregate

Deleterious material	ASTM	Percentage by Mass
Clay Lumps and friable particles	ASTM C142	1.0
Material finer than No. 200 sieve (75 µm)	ASTM C117	1.0[1]
Lightweight particles	ASTM C123 using a medium with a density of Sp. Gr. of 2.0	0.5
Chert[2] (less than 2.40 Sp Gr.)	ASTM C123 using a medium with a density of Sp. Gr. of 2.40)	[0.1][3]

[1] The limit for material finer than 75-µm is allowed to be increased to 1.5% for crushed aggregates consisting of dust of fracture that is essentially free from clay or shale. Test results supporting acceptance of increasing limit to 1.5% with statement indicating material is dust of fracture must be submitted with Concrete mix. Acceptable techniques to characterizing these fines include methylene blue adsorption or X-ray diffraction analysis.

[2] Chert and aggregates with less than 2.4 specific gravity.

[3] The limit for chert may be increased to 1.0 percent by mass in areas not subject to severe freeze and thaw.

d. Combined aggregate gradation. This specification is targeted for a combined aggregate gradation developed following the guidance presented in United States Air Force Engineering Technical Letter (ETL) 97-5: Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements. Base the aggregate grading upon a combination of all the aggregates (coarse and fine) to be used for the mixture proportioning. Three aggregate sizes may be required to achieve an optimized combined gradation that will produce a workable concrete mixture for its intended use. Use aggregate gradations that produce concrete mixtures with well-graded or optimized aggregate combinations. The Contractor shall submit complete mixture information necessary to calculate the volumetric components of the mixture. The combined aggregate grading shall meet the following requirements:

(1) The materials selected and the proportions used shall be such that when the Coarseness Factor (CF) and the Workability Factor (WF) are plotted on a diagram as described in paragraph 501-2.1d(4) below, the point thus determined shall fall within the parallelogram described therein.

(2) The CF shall be determined from the following equation:

CF = (cumulative percent retained on the 3/8 in. (9.5 mm) sieve)(100) / (cumulative percent retained on the No. 8 (2.36 mm) sieve)

(3) The WF is defined as the percent passing the No. 8 (2.36 mm) sieve based on the combined gradation. However, WF shall be adjusted, upwards only, by 2.5 percentage points for each 94 pounds (42 kg) of cementitious material per cubic meter yard greater than 564 pounds per cubic yard (335 kg per cubic meter).

(4) A diagram shall be plotted using a rectangular scale with WF on the Y-axis with units from 20 (bottom) to 45 (top), and with CF on the X-axis with units from 80 (left side) to 30 (right side). On this diagram a parallelogram shall be plotted with corners at the following coordinates (CF-75, WF-28), (CF-75, WF-40), (CF-45, WF-32.5), and (CF-45, WF-44.5). If the point

determined by the intersection of the computed CF and WF does not fall within the above parallelogram, the grading of each size of aggregate used and the proportions selected shall be changed as necessary. The point determined by the plotting of the CF and WF may be adjusted during production ±3 WF and ±5 CF. Adjustments to gradation may not take the point outside of the parallelogram.

e. Contractors combined aggregate gradation. The Contractor shall submit their combined aggregate gradation using the following format:

Contractor's Combined Aggregate Gradation

Sieve Size	Contractor's Concrete mix Gradation (Percent passing by weight)
2 inch (50 mm)	*
1-1/2 inch (37.5 mm)	*
1 inch (25.0 mm)	*
3/4 inch (19.0 mm)	*
1/2 inch (12.5 mm)	*
3/8 inch (9.5 mm)	*
No. 4 (4.75 mm)	*
No. 8 (2.36 mm)	*
No. 16 (1.18 mm)	*
No. 30 (600 µm)	*
No. 50 (300 µm)	*
No. 100 (150 µm)	*

501-2.2 Cement. Cement shall conform to the requirements of ASTM C150 Type 1.

501-2.3 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total alkali content less than 3% per ASTM C311. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the Resident Project Representative (RPR).

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

c. Raw or calcined natural pozzolan. Natural pozzolan shall be raw or calcined and conform to ASTM C618, Class N, including the optional requirements for uniformity and effectiveness in controlling Alkali-Silica reaction and shall have a loss on ignition not exceeding

6%. Class N pozzolan for use in mitigating Alkali-Silica Reactivity shall have a total available alkali content less than 3%.

501-2.4 Joint seal. The joint seal for the joints in the concrete pavement shall meet the requirements of Item P-605 and shall be of the type specified in the plans.

501-2.5 Isolation joint filler. Premolded joint filler for isolation joints shall conform to the requirements of ASTM D1751 or ASTM D1752 and shall be where shown on the plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint, unless otherwise specified by the RPR. When the use of more than one piece is required for a joint, the abutting ends shall be fastened securely and held accurately to shape by stapling or other positive fastening means satisfactory to the RPR.

501-2.6 Steel reinforcement. Reinforcing shall consist of deformed bars conforming to the requirements of ASTM A615 Grade 60 or epoxy-coated bars ASTM A775 Grade 60 unless otherwise shown.

501-2.7 Dowel and tie bars. Dowel bars shall be plain steel bars conforming to ASTM A615 and shall be free from burring or other deformation restricting slippage in the concrete.

a. Dowel Bars. Before delivery to the construction site each dowel bar shall be epoxy coated per ASTM A1078, Type 1, with a coating thickness after curing greater than 10 mils. Patched ends are not required for Type 1 coated dowels. The dowels shall be coated with a bond-breaker recommended by the manufacturer. Dowel sleeves or inserts are not permitted. Grout retention rings shall be fully circular metal or plastic devices capable of supporting the dowel until the grout hardens.

b. Tie Bars. Tie bars shall be deformed steel bars and conform to the requirements of ASTM A615. Tie bars designated as Grade 60 in ASTM A615 or ASTM A706 shall be used for construction requiring bent bars.

501-2.8 Water. Water used in mixing or curing shall be potable. If water is taken from other sources considered non-potable, it shall meet the requirements of ASTM C1602.

501-2.9 Material for curing concrete. Curing materials shall conform to one of the following specifications:

a. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C309, Type 2, Class A, or Class B.

b. White polyethylene film for curing concrete shall conform to the requirements of ASTM C171.

c. White burlap-polyethylene sheeting for curing concrete shall conform to the requirements of ASTM C171.

d. Waterproof paper for curing concrete shall conform to the requirements of ASTM C171.

501-2.10 Admixtures. Admixtures shall conform to the following specifications:

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entraining agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D.

c. Other admixtures. The use of set retarding and set-accelerating admixtures shall be approved by the RPR prior to developing the concrete mix. Retarding admixtures shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating admixtures shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

d. Lithium Nitrate. The lithium admixture shall be a nominal 30% aqueous solution of Lithium Nitrate, with a density of 10 pounds/gallon (1.2 kg/L), and shall have the approximate chemical form as shown below:

Lithium Admixture

Constituent	Limit (Percent by Mass)
LiNO3 (Lithium Nitrate)	30 ±0.5
SO4 (Sulfate Ion)	0.1 (max)
Cl (Chloride Ion)	0.2 (max)
Na (Sodium Ion)	0.1 (max)
K (Potassium Ion)	0.1 (max)

The lithium nitrate admixture dispensing and mixing operations shall be verified and certified by the lithium manufacturer's representative.

501-2.11 Epoxy-resin. All epoxy-resin materials shall be two-component materials conforming to the requirements of ASTM C881, Class as appropriate for each application temperature to be encountered, except that in addition, the materials shall meet the following requirements:

a. Material for use for embedding dowels and anchor bolts shall be Type IV, Grade 3.

b. Material for use as patching materials for complete filling of spalls and other voids and for use in preparing epoxy resin mortar shall be Type III, Grade as approved.

c. Material for use for injecting cracks shall be Type IV, Grade 1.

d. Material for bonding freshly mixed Portland cement concrete or mortar or freshly mixed epoxy resin concrete or mortar to hardened concrete shall be Type V, Grade as approved.

501-2.12 Bond Breaker. Liquid membrane forming compound shall be in accordance with paragraph 501-2.9a.

CONCRETE MIX

501-3.1. General. No concrete shall be placed until an acceptable concrete mix has been submitted to the RPR for review and the RPR has taken appropriate action. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

501-3.2 Concrete Mix Laboratory. The laboratory used to develop the concrete mix shall be accredited in accordance with ASTM C1077. The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the

concrete mix must be included in the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

501-3.3 Concrete Mix Proportions. Develop the mix using the procedures contained in Portland Cement Association (PCA) publication, "Design and Control of Concrete Mixtures." Concrete shall be proportioned to achieve a 28-day flexural strength that meets or exceeds the acceptance criteria contained in paragraph 501-6.6 for a flexural strength of 750 psi per ASTM C78.

The minimum cementitious material shall be adequate to ensure a workable, durable mix. The minimum cementitious material (cement plus fly ash, or slag cement) shall be 564 pounds per cubic yard. The ratio of water to cementitious material, including free surface moisture on the aggregates but not including moisture absorbed by the aggregates shall be between 0.38 – 0.45 by weight.

Flexural strength test specimens shall be prepared in accordance with ASTM C192 and tested in accordance with ASTM C78. At the start of the project, the Contractor shall determine an allowable slump as determined by ASTM C143 not to exceed 2 inches (50 mm) for slip-form placement. For fixed-form placement, the slump shall not exceed 3 inches (75 mm). For hand placement, the slump shall not exceed 4 inches (100 mm).

The results of the concrete mix shall include a statement giving the maximum nominal coarse aggregate size and the weights and volumes of each ingredient proportioned on a one cubic yard (meter) basis. Aggregate quantities shall be based on the mass in a saturated surface dry condition.

If a change in source(s) is made, or admixtures added or deleted from the mix, a new concrete mix must be submitted to the RPR for approval.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

501-3.4 Concrete Mix submittal. The concrete mix shall be submitted to the RPR at least 30 days prior to the start of operations. The submitted concrete mix shall not be more than 180 days old and must use the materials to be used for production for the project. Production shall not begin until the concrete mix is approved in writing by the RPR.

Each of the submitted concrete mixes (i.e, slip form, side form machine finish and side form hand finish) shall be stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items and quantities as a minimum:

- Certified material test reports for aggregate in accordance with paragraph 501-2.1. Certified reports must include all tests required; reporting each test, test method, test result, and requirement specified (criteria).
- Combined aggregate gradations and analysis; and including plots of the fine aggregate fineness modulus.
- Reactivity Test Results.
- Coarse aggregate quality test results, including deleterious materials.
- Fine aggregate quality test results, including deleterious materials.
- Mill certificates for cement and supplemental cementitious materials.

- Certified test results for all admixtures, including Lithium Nitrate if applicable.
- Specified flexural strength, slump, and air content.
- Recommended proportions/volumes for proposed mixture and trial water-cementitious materials ratio, including actual slump and air content.
- Flexural and compressive strength summaries and plots, including all individual beam and cylinder breaks.
- Correlation ratios for acceptance testing and Contractor QC testing, when applicable.
- Historical record of test results documenting production standard deviation, when applicable.

501-3.5 Cementitious materials.

a. Fly ash. When fly ash is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If fly ash is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement may be used. The slag cement, or slag cement plus fly ash if both are used, may constitute between 25 to 55% of the total cementitious material by weight.

c. Raw or calcined natural pozzolan. Natural pozzolan may be used in the concrete mix. When pozzolan is used as a partial replacement for cement, the replacement rate shall be determined from laboratory trial mixes, and shall be between 20 and 30% by weight of the total cementitious material. If pozzolan is used in conjunction with slag cement the maximum replacement rate shall not exceed 10% by weight of total cementitious material.

501-3.6 Admixtures.

a. Air-entraining admixtures. Non-air-entrained concrete may be used. The air content of freshly mixed air-entrained concrete shall be based upon trial mixes with the materials to be used in the work adjusted to produce concrete of the required plasticity and workability.

b. Water-reducing admixtures. Water-reducing admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

c. Other admixtures. Set controlling, and other approved admixtures shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements. Tests shall be conducted with the materials to be used in the work, in accordance with ASTM C494.

d. Lithium nitrate. Lithium nitrate shall be added to the mix in the manner recommended by the manufacturer and in the amount necessary to comply with the specification requirements in accordance with paragraph 501-2.10d.

501-4.1 Control Strip. The control strip(s) shall be to the next planned joint after the initial 250 feet (75 m) of each type of pavement construction (slip-form pilot lane, slip-form fill-in lane, or fixed form). The Contractor shall demonstrate, in the presence of the RPR, that the materials, concrete mix, equipment, construction processes, and quality control processes meet the requirements of the specifications. The concrete mixture shall be extruded from the paver meeting the edge slump tolerance and with little or no finishing. Pilot, fill-in, and fixed-form control strips will be accepted separately. Minor adjustments to the mix design may be required to place an acceptable control strip. The production mix will be the adjusted mix design used to place the acceptable control strip. Upon acceptance of the control strip by the RPR, the Contractor must use the same equipment, materials, and construction methods for the remainder of concrete paving. Any adjustments to processes or materials must be approved in advance by the RPR. Acceptable control strips will meet edge slump tolerance and surface acceptable with little or no finishing, air content within action limits, strength equal or greater than requirements of P501-3.3. The control strip will be considered one lot for payment (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 501-8.1 using a lot pay factor equal to 100.

501-4.2 Equipment. The Contractor is responsible for the proper operation and maintenance of all equipment necessary for handling materials and performing all parts of the work to meet this specification.

a. Plant and equipment. The plant and mixing equipment shall conform to the requirements of ASTM C94 and/or ASTM C685. Each truck mixer shall have attached in a prominent place a manufacturer's nameplate showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades. The truck mixers shall be examined daily for changes in condition due to accumulation of hard concrete or mortar or wear of blades. The pickup and throwover blades shall be replaced when they have worn down 3/4 inch (19 mm) or more. The Contractor shall have a copy of the manufacturer's design on hand showing dimensions and arrangement of blades in reference to original height and depth.

Equipment for transferring and spreading concrete from the transporting equipment to the paving lane in front of the finishing equipment shall be provided. The equipment shall be specially manufactured, self-propelled transfer equipment which will accept the concrete outside the paving lane and will spread it evenly across the paving lane in front of the paver and strike off the surface evenly to a depth which permits the paver to operate efficiently.

b. Finishing equipment.

(1) Slip-form. The standard method of constructing concrete pavements shall be with an approved slip-form paving equipment designed and operated to spread, consolidate, screed, and finish the freshly placed concrete in one complete pass of the machine so that the end result is a dense and homogeneous pavement which is achieved with a minimum of hand finishing. The paver-finisher shall be a heavy duty, self-propelled machine designed specifically for paving and finishing high quality concrete pavements.

(2) Fixed-form. On projects requiring less than 10,000 cubic yards (7650 cubic meters) of concrete pavement or irregular areas at locations inaccessible to slip-form paving equipment, concrete pavement may be placed with equipment specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by

the RPR. Hand screeding and float finishing may only be used on small irregular areas as allowed by the RPR.

c. Vibrators. Vibrator shall be the internal type. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation or voids. The number, spacing, and frequency shall be as necessary to provide a dense and homogeneous pavement and meet the recommendations of American Concrete Institute (ACI) 309R, Guide for Consolidation of Concrete. Adequate power to operate all vibrators shall be available on the paver. The vibrators shall be automatically controlled so that they shall be stopped as forward motion ceases. The Contractor shall provide an electronic or mechanical means to monitor vibrator status. The checks on vibrator status shall occur a minimum of two times per day or when requested by the RPR.

Hand held vibrators may only be used in irregular areas and shall meet the recommendations of ACI 309R, Guide for Consolidation of Concrete.

d. Concrete saws. The Contractor shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions. The Contractor shall provide at least one standby saw in good working order and a supply of saw blades at the site of the work at all times during sawing operations.

e. Fixed forms. Straight side fixed forms shall be made of steel and shall be furnished in sections not less than 10 feet (3 m) in length. Forms shall be provided with adequate devices for secure settings so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms with battered top surfaces and bent, twisted or broken forms shall not be used. Built-up forms shall not be used, except as approved by the RPR. The top face of the form shall not vary from a true plane more than 1/8 inch (3 mm) in 10 feet (3 m), and the upstanding leg shall not vary more than 1/4 inch (6 mm). The forms shall contain provisions for locking the ends of abutting sections together tightly for secure setting. Wood forms may be used under special conditions, when approved by the RPR. The forms shall extend the full depth of the pavement section.

501-4.3 Form setting. Forms shall be set to line and grade as shown on the plans, sufficiently in advance of the concrete placement, to ensure continuous paving operation. Forms shall be set to withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment. Forms shall be cleaned and oiled prior to the concrete placement.

501-4.4 Base surface preparation prior to placement. Any damage to the prepared base, subbase, and subgrade shall be corrected full depth by the Contractor prior to concrete placement. The underlying surface shall be entirely free of frost when concrete is placed. The prepared grade shall be moistened with water, without saturating, immediately ahead of concrete placement to prevent rapid loss of moisture from concrete. Bond breaker shall be applied in accordance with 501-2.12.

501-4.5 Handling, measuring, and batching material. Aggregate stockpiles shall be constructed and managed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched. Store and maintain all aggregates at a uniform moisture content prior to

use. A continuous supply of materials shall be provided to the work to ensure continuous placement.

501-4.6 Mixing concrete. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials are placed into the drum until the drum is emptied into the truck. All concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C94 or ASTM C685.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators, or non-agitating trucks. The elapsed time from the addition of cementitious material to the mix until the concrete is discharged from the truck should not exceed 30 minutes when the concrete is hauled in non-agitating trucks, nor 90 minutes when the concrete is hauled in truck mixers or truck agitators. In no case shall the temperature of the concrete when placed exceed 90°F (32°C). Retempering concrete by adding water or by other means will not be permitted. With transit mixers additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements provided the addition of water is performed within 45 minutes after the initial mixing operations and provided the water/cementitious ratio specified is not exceeded.

501-4.7 Weather Limitations on mixing and placing. No concrete shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

a. Cold weather. Unless authorized in writing by the RPR, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40°F (4°C) and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35°F (2°C).

The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50°F (10°C) at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150°F (66°C). The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.

Curing during cold weather shall be in accordance with paragraph 501-4.13d.

b. Hot weather. During periods of hot weather when the maximum daily air temperature exceeds 85°F (30°C), the following precautions shall be taken.

The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90°F (32°C). The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.

The concrete placement shall be protected from exceeding an evaporation rate of 0.2 psf (0.98 kg/m^2 per hour) per hour. When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall

immediately take such additional measures as necessary to protect the concrete surface. If the Contractor's measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.

Curing during hot weather shall be in accordance with paragraph 501-4.13e.

c. Temperature management program. Prior to the start of paving operation for each day of paving, the Contractor shall provide the RPR with a Temperature Management Program for the concrete to be placed to assure that uncontrolled cracking is avoided. (Federal Highway Administration HIPERPAV 3 is one example of a temperature management program.) As a minimum, the program shall address the following items:

(1) Anticipated tensile strains in the fresh concrete as related to heating and cooling of the concrete material.

(2) Anticipated weather conditions such as ambient temperatures, wind velocity, and relative humidity; and anticipated evaporation rate using Figure 19-9, PCA, Design and Control of Concrete Mixtures.

(3) Anticipated timing of initial sawing of joint.

(4) Anticipated number and type of saws to be used.

d. **Rain.** The Contractor shall have available materials for the protection of the concrete during inclement weather. Such protective materials shall consist of rolled polyethylene sheeting at least 4 mils (0.1 mm) thick of sufficient length and width to cover the plastic concrete slab and any edges. The sheeting may be mounted on either the paver or a separate movable bridge from which it can be unrolled without dragging over the plastic concrete surface. When rain appears imminent, all paving operations shall stop and all available personnel shall begin covering the surface of the unhardened concrete with the protective covering.

501-4.8 Concrete Placement. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet (1 m). The finished concrete product must be dense and homogeneous, without segregation and conforming to the standards in this specification. Backhoes and grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used. All concrete shall be consolidated without voids or segregation, including under and around all load-transfer devices, joint assembly units, and other features embedded in the pavement. Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches a flexural strength of 550 psi (3.8 MPa, based on the average of four field cured specimens per 2,000 cubic yards (1,530 cubic meters) of concrete placed. The Contractor must determine that the above minimum strengths are adequate to protection the pavement from overloads due to the construction equipment proposed for the project.

The Contractor shall have available materials for the protection of the concrete during cold, hot and/or inclement weather in accordance with paragraph 501-4.7.

a. Slip-form construction. The concrete shall be distributed uniformly into final position by a self-propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well-defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms. The plastic concrete shall be effectively consolidated by internal vibration with

transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 inches (23 cm) for slipform and at the end of the dowels for the fill-in lanes. The spacing of internal units shall be uniform and shall not exceed 18 inches (0.5 m).

The term internal vibration means vibrating units located within the specified thickness of pavement section.

The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without, segregation, voids, or vibrator trails and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit and for a distance of at least one foot (30 cm). The frequency of vibration or amplitude should be adjusted proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible and all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.

Not more than 15% of the total free edge of each 500-foot (150 m) segment of pavement, or fraction thereof, shall have an edge slump exceeding 1/4 inch (6 mm), and none of the free edge of the pavement shall have an edge slump exceeding 3/8 inch (9 mm). (The total free edge of 500 feet (150 m) of pavement will be considered the cumulative total linear measurement of pavement edge originally constructed as nonadjacent to any existing pavement; that is, 500 feet (150 m) of paving lane originally constructed as a separate lane will have 1,000 feet (300 m) of free edge, 500 feet (150 m) of fill-in lane will have no free edge, etc.). The area affected by the downward movement of the concrete along the pavement edge shall be limited to not more than 18 inches (0.5 m) from the edge.

When excessive edge slump cannot be corrected before the concrete has hardened, the area with excessive edge slump will be removed the full width of the slip form lane and replaced at the expense of the Contractor as directed by the RPR.

b. Fixed-form construction. Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars / dowel bars where these are specified.

Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.

Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.

Side forms shall be thoroughly cleaned and coated with a release agent each time they are used and before concrete is placed against them.

Concrete shall be spread, screed, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross-section with a minimum of handwork.

The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery. The equipment must be specifically designed for placement and finishing using stationary side forms. Methods and equipment shall be reviewed and accepted by the RPR.

Concrete for the full paving width shall be effectively consolidated by internal vibrators. The rate of vibration of each vibrating unit shall be sufficient to consolidate the pavement without segregation, voids, or leaving vibrator trails.

Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.

c. Consolidation. Concrete shall be consolidated with the specified type of lane-spanning, gang-mounted, mechanical, immersion type vibrating equipment mounted in front of the paver, supplemented, in rare instances as specified, by hand-operated vibrators. The vibrators shall be inserted into the concrete to a depth that will provide the best full-depth consolidation but not closer to the underlying material than 2 inches (50 mm). Vibrators shall not be used to transport or spread the concrete. For each paving train, at least one additional vibrator spud, or sufficient parts for rapid replacement and repair of vibrators shall be maintained at the paving site at all times. Any evidence of inadequate consolidation (honeycomb along the edges, large air pockets, or any other evidence) or over-consolidation (vibrator trails, segregation, or any other evidence) shall require the immediate stopping of the paving operation and adjustment of the equipment or procedures as approved by the RPR.

If a lack of consolidation of the hardened concrete is suspected by the RPR, referee testing may be required. Referee testing of hardened concrete will be performed by the RPR by cutting cores from the finished pavement after a minimum of 24 hours curing. The RPR shall visually examine the cores for evidence of lack of consolidation. Density determinations will be made by the RPR based on the water content of the core as taken. ASTM C642 shall be used for the determination of core density in the saturated-surface dry condition. When required, referee cores will be taken at the minimum rate of one for each 500 cubic yards (382 m^2) of pavement, or fraction. The Contractor shall be responsible for all referee testing cost if they fail to meet the required density.

The average density of the cores shall be at least 97% of the original concrete mix density, with no cores having a density of less than 96% of the original concrete mix density. Failure to meet the referee tests will be considered evidence that the minimum requirements for vibration are inadequate for the job conditions. Additional vibrating units or other means of increasing the effect of vibration shall be employed so that the density of the hardened concrete conforms to the above requirements.

501-4.9 Strike-off of concrete and placement of reinforcement. Following the placing of the concrete, it shall be struck off to conform to the cross-section shown on the plans and to an elevation that when the concrete is properly consolidated and finished, the surface of the

pavement shall be at the elevation shown on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screed. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.

Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.

501-4.10 Joints. Joints shall be constructed as shown on the plans and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on the plans. Joints shall not vary more than 1/2-inch (12 mm) from their designated position and shall be true to line with not more than 1/4-inch (6 mm) variation in 10 feet (3 m). The surface across the joints shall be tested with a 12-foot (3 m) straightedge as the joints are finished and any irregularities in excess of 1/4 inch (6 mm) shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on the plans.

a. Construction. Longitudinal construction joints shall be slip-formed or formed against side forms as shown in the plans.

Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.

b. Contraction. Contraction joints shall be installed at the locations and spacing as shown on the plans. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch (3 mm) wide and to the depth shown on the plans.

c. Isolation (expansion). Isolation joints shall be installed as shown on the plans. The premolded filler of the thickness as shown on the plans, shall extend for the full depth and width of the slab at the joint. The filler shall be fastened uniformly along the hardened joint face with no buckling or debris between the filler and the concrete interface, including a temporary filler for

the sealant reservoir at the top of the slab. The edges of the joint shall be finished and tooled while the concrete is still plastic

d. Dowels and Tie Bars for Joints

(1) Tie bars. Tie bars shall consist of deformed bars installed in joints as shown on the plans. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on the plans. They shall be held in position parallel to the pavement surface and in the middle of the slab depth and within the tolerances in paragraph 501-4.10(f.). When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. Tie bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars, two-piece hook bolts can be installed.

(2) Dowel bars. Dowel bars shall be placed across joints in the proper horizontal and vertical alignment as shown on the plans. The dowels shall be coated with a bond-breaker or other lubricant recommended by the manufacturer and approved by the RPR. Dowels bars at longitudinal construction joints shall be bonded in drilled holes.

(3) Placing dowels and tie bars. Horizontal spacing of dowels shall be within a tolerance of ±3/4 inch (19 mm). The vertical location on the face of the slab shall be within a tolerance of ±1/2 inch (12 mm). The method used to install dowels shall ensure that the horizontal and vertical alignment will not be greater than 1/4 inch per feet (6 mm per 0.3 m), except for those across the crown or other grade change joints. Dowels across crowns and other joints at grade changes shall be measured to a level surface. Horizontal alignment shall be checked perpendicular to the joint edge. The portion of each dowel intended to move within the concrete or expansion cap shall be wiped clean and coated with a thin, even film of lubricating oil or light grease before the concrete is placed. Dowels shall be installed as specified in the following subparagraphs.

(a) Contraction joints. Dowels and tie bars in longitudinal and transverse contraction joints within the paving lane shall be held securely in place by means of rigid metal frames or basket assemblies of an approved type. The basket assemblies shall be held securely in the proper location by means of suitable pins or anchors. Do not cut or crimp the dowel basket tie wires.

At the Contractor's option, dowels and tie bars in contraction joints may be installed by insertion into the plastic concrete using approved equipment and procedures per the paver manufacturer's design. Approval of installation methods will be based on the results of the control strip showing that the dowels and tie bars are installed within specified tolerances as verified by cores or non-destructive rebar location devices approved by the RPR.

(b) Construction joints. Install dowels and tie bars by the cast-in- place or the drill-and-dowel method. Installation by removing and replacing in preformed holes will not be permitted. Dowels and tie bars shall be prepared and placed across joints where indicated, correctly aligned, and securely held in the proper horizontal and vertical position during placing and finishing operations, by means of devices fastened to the forms.

(c) Joints in hardened concrete. Install dowels in hardened concrete by bonding the dowels into holes drilled into the concrete. The concrete shall have cured for seven (7) days or reached a minimum flexural strength of 550 psi (3.1 MPa)before drilling begins. Holes 1/8 inch (3 mm) greater in diameter than the dowels shall be drilled into the hardened concrete using rotary-core drills. Rotary-percussion drills may be used, provided that excessive

spalling does not occur. Spalling beyond the limits of the grout retention ring will require modification of the equipment and operation. Depth of dowel hole shall be within a tolerance of ±1/2 inch (12 mm) of the dimension shown on the drawings. On completion of the drilling operation, the dowel hole shall be blown out with oil-free, compressed air. Dowels shall be bonded in the drilled holes using epoxy resin. Epoxy resin shall be injected at the back of the hole before installing the dowel and extruded to the collar during insertion of the dowel so as to completely fill the void around the dowel. Application by buttering the dowel will not be permitted. The dowels shall be held in alignment at the collar of the hole by means of a suitable metal or plastic grout retention ring fitted around the dowel.

e. Sawing of joints. Sawing shall commence, without regard to day or night, as soon as the concrete has hardened sufficiently to permit cutting without chipping, spalling, or tearing and before uncontrolled shrinkage cracking of the pavement occurs and shall continue without interruption until all joints have been sawn. All slurry and debris produced in the sawing of joints shall be removed by vacuuming and washing. Curing compound or system shall be reapplied in the initial saw-cut and maintained for the remaining cure period.

Joints shall be cut in locations as shown on the plans. The initial joint cut shall be a minimum 1/8 inch (3 mm) wide and to the depth shown on the plans. Prior to placement of joint sealant or seals, the top of the joint shall be widened by sawing as shown on the plans.

501-4.11 Finishing. Finishing operations shall be a continuing part of placing operations starting immediately behind the strike-off of the paver. Initial finishing shall be provided by the transverse screed or extrusion plate. The sequence of operations shall be transverse finishing, longitudinal machine floating if used, straightedge finishing, edging of joints, and then texturing. Finishing shall be by the machine method. The hand method shall be used only on isolated areas of odd slab widths or shapes and in the event of a breakdown of the mechanical finishing equipment. Supplemental hand finishing for machine finished pavement shall be kept to an absolute minimum. Any machine finishing operation which requires appreciable hand finishing, other than a moderate amount of straightedge finishing, shall be immediately stopped and proper adjustments made or the equipment replaced. Equipment, mixture, and/or procedures which produce more than 1/4 inch (6 mm) of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease. Compensation shall be made for surging behind the screeds or extrusion plate and settlement during hardening and care shall be taken to ensure that paving and finishing machines are properly adjusted so that the finished surface of the concrete (not just the cutting edges of the screeds) will be at the required line and grade. Finishing equipment and tools shall be maintained clean and in an approved condition. At no time shall water be added to the surface of the slab with the finishing equipment or tools, or in any other way. Fog (mist) sprays or other surface applied finishing aids specified to prevent plastic shrinkage cracking, approved by the RPR, may be used in accordance with the manufacturers requirements.

a. Machine finishing with slipform pavers. The slipform paver shall be operated so that only a very minimum of additional finishing work is required to produce pavement surfaces and edges meeting the specified tolerances. Any equipment or procedure that fails to meet these specified requirements shall immediately be replaced or modified as necessary. A self-propelled non-rotating pipe float may be used while the concrete is still plastic, to remove minor irregularities and score marks. Only one pass of the pipe float shall be allowed. Equipment, mixture, and/or procedures which produce more than 1/4 inch (6 mm) of mortar-rich surface shall be immediately modified as necessary to eliminate this condition or operations shall cease.

Remove excessive slurry from the surface with a cutting straightedge and wipe off the edge. Any slurry which does run down the vertical edges shall be immediately removed by hand, using stiff brushes or scrapers. No slurry, concrete or concrete mortar shall be used to build up along the edges of the pavement to compensate for excessive edge slump, either while the concrete is plastic or after it hardens.

b. Machine finishing with fixed forms. The machine shall be designed to straddle the forms and shall be operated to screed and consolidate the concrete. Machines that cause displacement of the forms shall be replaced. The machine shall make only one pass over each area of pavement. If the equipment and procedures do not produce a surface of uniform texture, true to grade, in one pass, the operation shall be immediately stopped and the equipment, mixture, and procedures adjusted as necessary.

c. Other types of finishing equipment. Clary screeds, other rotating tube floats, or bridge deck finishers are not allowed on mainline paving, but may be allowed on irregular or odd-shaped slabs, and near buildings or trench drains, subject to the RPR's approval.

Bridge deck finishers shall have a minimum operating weight of 7500 pounds (3400 kg) and shall have a transversely operating carriage containing a knock-down auger and a minimum of two immersion vibrators. Vibrating screeds or pans shall be used only for isolated slabs where hand finishing is permitted as specified, and only where specifically approved.

d. Hand finishing. Hand finishing methods will not be permitted, except under the following conditions: (1) in the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade and (2) in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical.

e. Straightedge testing and surface correction. After the pavement has been struck off and while the concrete is still plastic, it shall be tested for trueness with a 12-foot (3.7-m) finishing straightedge swung from handles capable of spanning at least one-half the width of the slab. The straightedge shall be held in contact with the surface in successive positions parallel to the centerline and the whole area gone over from one side of the slab to the other, as necessary. Advancing shall be in successive stages of not more than one-half the length of the straightedge. Any excess water and laitance in excess of 1/8 inch (3 mm) thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the smoothness requirements. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross-section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.

501-4.12 Surface texture. The surface of the pavement shall be finished as designated below for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. The texture shall be uniform in appearance and approximately 1/16 inch (2 mm) in depth. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the RPR.

a. Brush or broom finish. Shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface.

b. Burlap drag finish. Burlap, at least 15 ounces per square yard (555 grams per square meter), will typically produce acceptable texture. To obtain a textured surface, the transverse threads of the burlap shall be removed approximately one foot (30 cm) from the trailing edge. A heavy buildup of grout on the burlap threads produces the desired wide sweeping longitudinal striations on the pavement surface.

c. Artificial turf finish. Shall be applied by dragging the surface of the pavement in the direction of concrete placement with an approved full-width drag made with artificial turf. The leading transverse edge of the artificial turf drag will be securely fastened to a lightweight pole on a traveling bridge. At least 2 feet (60 cm) of the artificial turf shall be in contact with the concrete surface during dragging operations. Approval of the artificial turf will be done only after it has been demonstrated by the Contractor to provide a satisfactory texture. One type that has provided satisfactory texture consists of 7,200 approximately 0.85-inch-long polyethylene turf blades per square foot.

501-4.13 Curing. Immediately after finishing operations are completed and bleed water is gone from the surface, all exposed surfaces of the newly placed concrete shall be cured for a 7-day cure period in accordance with one of the methods below. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or lack of water to adequately take care of both curing and other requirements, shall be cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than 1/2 hour during the curing period.

When a two-saw-cut method is used to construct the contraction joint, the curing compound shall be applied to the saw-cut immediately after the initial cut has been made. The sealant reservoir shall not be sawed until after the curing period has been completed. When the one cut method is used to construct the contraction joint, the joint shall be cured with wet rope, wet rags, or wet blankets. The rags, ropes, or blankets shall be kept moist for the duration of the curing period.

a. Impervious membrane method. Curing with liquid membrane compounds should not occur until bleed and surface moisture has evaporated. All exposed surfaces of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place. The curing compound shall not be applied during rainfall. Curing compound shall be applied by mechanical sprayers under pressure at the rate of one gallon (4 liters) to not more than 150 square feet (14 sq m). The spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application, the compound shall be stirred continuously by mechanical means. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. When hand spraying is approved by the RPR, a double application rate shall be used to ensure coverage. Should the film become damaged from any cause, including sawing operations, within the required curing period, the damaged portions shall be repaired immediately with additional compound or other approved means. Upon removal of side forms, the sides of the exposed slabs shall be protected immediately to provide a curing treatment equal to that provided for the surface.

b. White burlap-polyethylene sheets. The surface of the pavement shall be entirely covered with the sheeting. The sheeting used shall be such length (or width) that it will extend at least twice the thickness of the pavement beyond the edges of the slab. The sheeting shall be placed so that the entire surface and both edges of the slab are completely covered. The sheeting shall be placed and weighted to remain in contact with the surface covered, and the covering shall be maintained fully saturated and in position for seven (7) days after the concrete has been placed.

c. Water method. The entire area shall be covered with burlap or other water absorbing material. The material shall be of sufficient thickness to retain water for adequate curing without excessive runoff. The material shall be kept wet at all times and maintained for seven (7) days. When the forms are stripped, the vertical walls shall also be kept moist. It shall be the responsibility of the Contractor to prevent ponding of the curing water on the subbase.

d. Concrete protection for cold weather. Maintain the concrete at a temperature of at least 50°F (10°C) for a period of 72 hours after placing and at a temperature above freezing for the remainder of the 7-day curing period. The Contractor shall be responsible for the quality and strength of the concrete placed during cold weather; and any concrete damaged shall be removed and replaced at the Contractor's expense.

e. Concrete protection for hot weather. Concrete should be continuous moisture cured for the entire curing period and shall commence as soon as the surfaces are finished and continue for at least 24 hours. However, if moisture curing is not practical beyond 24 hours, the concrete surface shall be protected from drying with application of a liquid membrane-forming curing compound while the surfaces are still damp. Other curing methods may be approved by the RPR.

501-4.14 Removing forms. Unless otherwise specified, forms shall not be removed from freshly placed concrete until it has hardened sufficiently to permit removal without chipping, spalling, or tearing. After the forms have been removed, the sides of the slab shall be cured in accordance with paragraph 501-4.13.

If honeycombed areas are evident when the forms are removed, materials, placement, and consolidation methods must be reviewed and appropriate adjustments made to assure adequate consolidation at the edges of future concrete placements. Honeycombed areas that extend into the slab less than approximately 1 inch (25 mm), shall be repaired with an approved grout, as directed by the RPR. Honeycombed areas that extend into the slab greater than a depth of 1 inch (25 mm) shall be considered as defective work and shall be removed and replaced in accordance with paragraph 501-4.19.

501-4.15 Saw-cut grooving. If shown on the plans, grooved surfaces shall be provided in accordance with the requirements of Item P-621.

501-4.16 Sealing joints. The joints in the pavement shall be sealed in accordance with Item P-605.

501-4.17 Protection of pavement. The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by the Contractor's employees and agents until accepted by the RPR. This shall include watchmen to direct traffic and the erection and maintenance of warning signs, lights, pavement bridges, crossovers, and protection of unsealed joints from intrusion of foreign material, etc. Any damage to the pavement occurring prior to final acceptance shall be repaired or the pavement replaced at the Contractor's expense.

Aggregates, rubble, or other similar construction materials shall not be placed on airfield pavements. Traffic shall be excluded from the new pavement by erecting and maintaining barricades and signs until the concrete is at least seven (7) days old, or for a longer period if directed by the RPR.

In paving intermediate lanes between newly paved pilot lanes, operation of the hauling and paving equipment will be permitted on the new pavement after the pavement has been cured for seven (7) days, the joints are protected, the concrete has attained a minimum field cured flexural strength of [450 psi (3100 kPa)], and the slab edge is protected.

All new and existing pavement carrying construction traffic or equipment shall be kept clean and spillage of concrete and other materials shall be cleaned up immediately.

Damaged pavements shall be removed and replaced at the Contractor's expense. Slabs shall be removed to the full depth, width, and length of the slab.

501-4.18 Opening to construction traffic. The pavement shall not be opened to traffic until test specimens molded and cured in accordance with ASTM C31 have attained a flexural strength of 550 pounds per square inch when tested in accordance with ASTM C78. If such tests are not conducted, the pavement shall not be opened to traffic until 14 days after the concrete was placed. Prior to opening the pavement to construction traffic, all joints shall either be sealed or protected from damage to the joint edge and intrusion of foreign materials into the joint. As a minimum, backer rod or tape may be used to protect the joints from foreign matter intrusion.

501-4.19 Repair, removal, or replacement of slabs. New pavement slabs that are broken or contain cracks or are otherwise defective or unacceptable as defined by acceptance criteria in paragraph 501-6.6 shall be removed and replaced or repaired, as directed by the RPR, at the Contractor's expense. Spalls along joints shall be repaired as specified. Removal of partial slabs is not permitted. Removal and replacement shall be full depth, shall be full width of the slab, and the limit of removal shall be normal to the paving lane and to each original transverse joint. The RPR will determine whether cracks extend full depth of the pavement and may require cores to be drilled on the crack to determine depth of cracking. Such cores shall be have a diameter of 2 inches (50 mm) to 4 inches (100 mm), shall be drilled by the Contractor and shall be filled by the Contractor with a well consolidated concrete mixture bonded to the walls of the hole with a bonding agent, using approved procedures. Drilling of cores and refilling holes shall be at no expense to the Owner. Repair of cracks as described in this section shall not be allowed if in the opinion of the RPR the overall condition of the pavement indicates that such repair is unlikely to achieve an acceptable and durable finished pavement. No repair of cracks shall be allowed in any panel that demonstrates segregated aggregate with an absence of coarse aggregate in the upper 1/8 inch (3 mm) of the pavement surface.

a. Shrinkage cracks. Shrinkage cracks which do not exceed one-third of the pavement depth shall be cleaned and either high molecular weight methacrylate (HMWM) applied; or epoxy resin (Type IV, Grade 1) pressure injected using procedures recommended by the manufacturer and approved by the RPR. Sandblasting of the surface may be required following the application of HMWM to restore skid resistance. Care shall be taken to ensure that the crack is not widened during epoxy resin injection. All epoxy resin injection shall take place in the presence of the RPR. Shrinkage cracks which exceed one-third the pavement depth shall be treated as full depth cracks in accordance with paragraphs 501-4.19b and 501-19c.

b. Slabs with cracks through interior areas. Interior area is defined as that area more than 6 inches (150 mm) from either adjacent original transverse joint. The full slab shall be removed and replaced at no cost to the Owner, when there are any full depth cracks, or cracks greater than one-third the pavement depth, that extend into the interior area.

c. Cracks close to and parallel to joints. All full-depth cracks within 6 inches (150 mm) either side of the joint and essentially parallel to the original joints, shall be treated as follows.

(1) Full depth cracks and original joint not cracked. The full-depth crack shall be treated as the new joint and the original joint filled with an epoxy resin.

i. Full-depth crack. The joint sealant reservoir for the crack shall be formed by sawing to a depth of 3/4 inches (19 mm), ±1/16 inch (2 mm), and to a width of 5/8 inch (16 mm),

±1/8 inch (3 mm). The crack shall be sawed with equipment specially designed to follow random cracks. Any equipment or procedure which causes raveling or spalling along the crack shall be modified or replaced to prevent raveling or spalling. The joint shall be sealed with sealant in accordance with P-605 or as directed by the RPR.

ii. Original joint. If the original joint sealant reservoir has been sawed out, the reservoir and as much of the lower saw cut as possible shall be filled with epoxy resin, Type IV, Grade 2, thoroughly tooled into the void using approved procedures.

If only the original narrow saw cut has been made, it shall be cleaned and pressure injected with epoxy resin, Type IV, Grade 1, using approved procedures.

Where a parallel crack goes part way across paving lane and then intersects and follows the original joint which is cracked only for the remained of the width, it shall be treated as specified above for a parallel crack, and the cracked original joint shall be prepared and sealed as originally designed.

(2) Full depth cracks and original joint cracked. If there is any place in the lane width where a parallel crack and a cracked portion of the original joint overlap, the entire slab containing the crack shall be removed and replaced.

d. Removal and replacement of full slabs. Make a full depth cut perpendicular to the slab surface along all edges of the slab with a concrete saw cutting any dowels or tie-bars. Remove damaged slab protecting adjacent pavement from damage. Damage to adjacent slabs may result in removal of additional slabs as directed by the RPR at the Contractor's expense.

The underlying material shall be repaired, re-compacted and shaped to grade.

Dowels of the size and spacing specified for other joints in similar pavement on the project shall be installed along all four (4) edges of the new slab in accordance with paragraph 501-4.10d.

Placement of concrete shall be as specified for original construction. The joints around the new slab shall be prepared and sealed as specified for original construction.

e. Spalls along joints.

(1) Spalls less than one inch wide and less than the depth of the joint sealant reservoir, shall be filled with joint sealant material.

(2) Spalls larger than one inch and/or deeper than the joint reservoir, but less than ½ the slab depth, and less than 25% of the length of the adjacent joint shall be repaired as follows:

i. Make a vertical saw cut at least one inch (25 mm) outside the spalled area and to a depth of at least 2 inches (50 mm). Saw cuts shall be straight lines forming rectangular areas surrounding the spalled area.

ii. Remove unsound concrete and at least 1/2 inch (12 mm) of visually sound concrete between the saw cut and the joint or crack with a light chipping hammer.

iii. Clean cavity with high-pressure water jets supplemented with compressed air as needed to remove all loose material.

iv. Apply a prime coat of epoxy resin, Type III, Grade I, to the dry, cleaned surface of all sides and bottom of the cavity, except any joint face.

v. Fill the cavity with low slump concrete or mortar or with epoxy resin concrete or mortar.

vi. An insert or other bond-breaking medium shall be used to prevent bond at all joint faces.

vii. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints.

(3) Spalls deeper than 1/2 of the slab depth or spalls longer than 25% of the adjacent joint require replacement of the entire slab.

f. Diamond grinding of Concrete surfaces. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding of the hardened concrete should not be performed until the concrete is at least 14 days old and has achieved full minimum strength. Equipment that causes ravels, aggregate fractures, spalls or disturbance to the joints will not be permitted. The depth of diamond grinding shall not exceed 1/2 inch (13 mm) and all areas in which diamond grinding has been performed will be subject to the final pavement thickness tolerances specified.

Diamond grinding shall be performed with a machine specifically designed for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with sufficient number of flush cut blades that create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The Contractor shall determine the number and type of blades based on the hardness of the aggregate. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. All grinding shall be at the expense of the Contractor.

CONTRACTOR QUALITY CONTROL (CQC)

501-5.1 Quality control program. The Contractor shall develop a Quality Control Program in accordance with Item C-100. No partial payment will be made for materials that are subject to specific quality control requirements without an approved quality control program.

501-5.2 Contractor Quality Control (CQC). The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

501-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to this specification and as set forth in the CQCP. The testing program shall include, but not necessarily be limited to, tests for aggregate gradation, aggregate moisture content, slump, and air content. A QC Testing Plan shall be developed and approved by the RPR as part of the CQCP.

The RPR may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of concrete mixture which is rendered unfit for use due to contamination, segregation, or improper slump. Such rejection may be based on only visual

inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price**.**

a. Fine aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C70 or ASTM C566.

(3) Deleterious substances. Fine aggregate as delivered to the mixer shall be tested for deleterious substances in fine aggregate for concrete as specified in paragraph 501-2.1b, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

b. Coarse Aggregate.

(1) Gradation. A sieve analysis shall be made at least twice daily for each size of aggregate. Tests shall be made in accordance with ASTM C136 from randomly sampled material taken from the discharge gate of storage bins or from the conveyor belt.

(2) Moisture content. If an electric moisture meter is used, at least two direct measurements of moisture content shall be made per week to check the calibration. If direct measurements are made in lieu of using an electric meter, two tests shall be made per day. Tests shall be made in accordance with ASTM C566.

(3) Deleterious substances. Coarse aggregate as delivered to the mixer shall be tested for deleterious substances in coarse aggregate for concrete as specified in paragraph 501-2.1c, prior to production of the control strip, and a minimum of every 30-days during production or more frequently as necessary to control deleterious substances.

c. Slump. One test shall be made for each sublot. Slump tests shall be performed in accordance with ASTM C143 from material randomly sampled from material discharged from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

d. Air content. One test shall be made for each sublot. Air content tests shall be performed in accordance with ASTM C231 for gravel and stone coarse aggregate and ASTM C173 for slag or other porous coarse aggregate, from material randomly sampled from trucks at the paving site. Material samples shall be taken in accordance with ASTM C172.

e. Unit weight and Yield. One test shall be made for each sublot. Unit weight and yield tests shall be in accordance with ASTM C138. The samples shall be taken in accordance with ASTM C172 and at the same time as the air content tests.

f. Temperatures. Temperatures shall be checked at least four times per lot at the job site in accordance with ASTM C1064.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using either the FAA profile program, ProFAA, or FHWA profile program ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 501-4.19f or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 501-6.6.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade will be evaluated prior to and after placement of the concrete surface.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans

by more than 1/2 inch (12 mm) vertically and 0.1 feet (30 mm) laterally. The documentation will be provided by the Contractor to the RPR within 48 hours by the end of the following working day.

Areas with humps or depression that that exceed grade or smoothness and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. If these areas cannot be corrected with grinding then the slabs that are retaining water must be removed and replaced in accordance with paragraph 501-4.19d. Grinding shall be in accordance with paragraph 501-4.19f. All corrections will be at the Contractors expense.

501-5.4 Control charts. The Contractor shall maintain linear control charts for fine and coarse aggregate gradation, slump, and air content. The Contractor shall also maintain a control chart plotting the coarseness factor/workability factor from the combined gradations in accordance with paragraph 501-2.1d.

Control charts shall be posted in a location satisfactory to the RPR and shall be kept up to date at all times. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and suspension Limits, or Specification limits, applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a potential problem and the Contractor is not taking satisfactory corrective action, the RPR may halt production or acceptance of the material.

a. Fine and coarse aggregate gradation. The Contractor shall record the running average of the last five gradation tests for each control sieve on linear control charts. Superimposed on the control charts shall be the action and suspension limits. Gradation tests shall be performed by the Contractor per ASTM C136. The Contractor shall take at least two samples per lot to check the final gradation. Sampling shall be per ASTM D75 from the flowing aggregate stream or conveyor belt.

b. Slump and air content. The Contractor shall maintain linear control charts both for individual measurements and range (that is, difference between highest and lowest measurements) for slump and air content in accordance with the following Action and Suspension Limits.

c. Combined gradation. The Contractor shall maintain a control chart plotting the coarseness factor and workability factor on a chart in accordance with paragraph 501-2.1d.

Control Chart Limits[1]

Control Parameter	Individual Measurements	
	Action Limit	Suspension Limit
Gradation[2]	*[3]	*[3]
Coarseness Factor (CF)	±3.5	±5
Workability Factor (WF)	±2	±3
Slump	+0.5 to -1 inch (+13 to -25 mm)	+1 to -1.5 inch (+25 to -38 mm)
Air Content	±1.5%	±2.0%

[1] Control charts shall developed and maintained for each control parameter indicated.

[2] Control charts shall be developed and maintained for each sieve size.

[3] Action and suspension limits shall be determined by the Contractor.

501-5.5 Corrective action at Suspension Limit. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of control. The CQCP shall detail what action will be taken to bring the process into control and shall contain sets of rules to gauge when a process is out of control. As a minimum, a process shall be deemed out of control and corrective action taken if any one of the following conditions exists.

a. Fine and coarse aggregate gradation. When two consecutive averages of five tests are outside of the suspension limits, immediate steps, including a halt to production, shall be taken to correct the grading.

b. Coarseness and Workability factor. When the CF or WF reaches the applicable suspension limits, the Contractor, immediate steps, including a halt to production, shall be taken to correct the CF and WF.

c. Fine and coarse aggregate moisture content. Whenever the moisture content of the fine or coarse aggregate changes by more than 0.5%, the scale settings for the aggregate batcher and water batcher shall be adjusted.

d. Slump. The Contractor shall halt production and make appropriate adjustments whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

d. Air content. The Contractor shall halt production and adjust the amount of air-entraining admixture whenever:

(1) one point falls outside the Suspension Limit line for individual measurements

OR

(2) two points in a row fall outside the Action Limit line for individual measurements.

MATERIAL ACCEPTANCE

501-6.1 Quality Assurance (QA) Acceptance sampling and testing. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section, with the exception of coring for thickness determination, will be performed by the RPR. The Contractor shall provide adequate facilities for the initial curing of beams. The Contractor shall bear the cost of providing initial curing facilities and coring and filling operations, per paragraph 501-6.5b(1).

The samples will be transported while in the molds. The curing, except for the initial cure period, will be accomplished using the immersion in saturated lime water method. During the 24 hours after molding, the temperature immediately adjacent to the specimens must be maintained in the range of 60° to 80°F (16° to 27°C), and loss of moisture from the specimens must be prevented. The specimens may be stored in tightly constructed wooden boxes, damp sand pits, temporary buildings at construction sites, under wet burlap in favorable weather, or in heavyweight closed plastic bags, or using other suitable methods, provided the temperature and moisture loss requirements are met.

501-6.2 Quality Assurance (QA) testing laboratory. Quality assurance testing organizations performing these acceptance tests will be accredited in accordance with ASTM C1077. The quality assurance laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods will be submitted to the RPR prior to start of construction.

501-6.3 Lot size. Concrete will be accepted for strength and thickness on a lot basis. A lot will consist of a day's production not to exceed 2,000 cubic yards (1530 cubic meters). Each lot will be divided into approximately equal sublots with individual sublots between 400 to 600 cubic yards. Where three sublots are produced, they will constitute a lot. Where one or two sublots are produced, they will be incorporated into the previous or next lot. Where more than one plant is simultaneously producing concrete for the job, the lot sizes will apply separately for each plant.

501-6.4 Partial lots. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot or for overages or minor placements to be considered as partial lots, the following procedure will be used to adjust the lot size and the number of tests for the lot.

Where three sublots have been produced, they will constitute a lot. Where one or two sublots have been produced, they will be incorporated into the next lot or the previous lot and the total number of sublots will be used in the acceptance criteria calculation, that is, n=5 or n=6.

501-6.5 Acceptance Sampling and Testing.

a. Strength.

(1) Sampling. One sample will be taken for each sublot from the concrete delivered to the job site. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. The concrete will be sampled in accordance with ASTM C172.

(2) Test Specimens. The RPR will be responsible for the casting, initial curing, transportation, and curing of specimens in accordance with ASTM C31. Two (2) specimens will be made from each sample and slump, air content, unit weight, and temperature tests will be conducted for each set of strength specimens. Within 24 to 48 hours, the samples will be

transported from the field to the laboratory while in the molds. Samples will be cured in saturated lime water.

The strength of each specimen will be determined in accordance with ASTM C78. The strength for each sublot will be computed by averaging the results of the two test specimens representing that sublot.

(3) Acceptance. Acceptance of pavement for strength will be determined by the RPR in accordance with paragraph 501-6.6b(1). All individual strength tests within a lot will be checked for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and the remaining test values will be used to determine acceptance in accordance with paragraph 501-6.5b.

b. Pavement thickness.

(1) Sampling. One core will be taken by the Contractor for each sublot in the presence of the RPR. Sampling locations will be determined by the RPR in accordance with random sampling procedures contained in ASTM D3665. Areas, such as thickened edges, with planned variable thickness, will be excluded from sample locations.

Cores shall be a minimum 4 inch (100 mm) in diameter neatly cut with a core drill. The Contractor will furnish all tools, labor, and materials for cutting samples and filling the cored hole. Core holes will be filled by the Contractor with a non-shrink grout approved by the RPR within one day after sampling.

(2) Testing. The thickness of the cores will be determined by the RPR by the average caliper measurement in accordance with ASTM C174. Each core shall be photographed and the photograph included with the test report.

(3) Acceptance. Acceptance of pavement for thickness will be determined by the RPR in accordance with paragraph 501-6.6.

501-6.6 Acceptance criteria.

a. General. Acceptance will be based on the following characteristics of the completed pavement discussed in paragraph 501-6.5b:

(1) Strength

(2) Thickness

(3) Grade

(4) Profilograph smoothness not used.

(5) Adjustments for repairs

Acceptance for strength, thickness, and grade, will be based on the criteria contained in accordance with paragraph 501-6.6b(1), 501-6.6b(2), and 501-6.6b(3), respectively.

b. Acceptance criteria.

(1) Strength. The strength for each sublot shall be computed by averaging the results of that sublot. When sublot strength equals or exceeds the strength as specified in paragraph 501-3.3, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(2) Thickness. If sublot thickness is not be less than ½ inch (12 mm) from plan thickness, the lot will be acceptable. Acceptance and payment for the lot will be determined in accordance with paragraph 501-8.1.

(3) Grade. The final finished surface of the pavement of the completed project will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically **[** or 0.1 feet (30 mm) laterally **]**. The documentation, stamped and signed by a licensed surveyor shall be in accordance with paragraph 501-5.3h. Payment for sublots that do not meet grade for over 25% of the sublot shall reduced by 5% and not be more than 95%.

(4) Profilograph roughness for QA Acceptance. Not used.

(5) Adjustments for repair. Sublots with spall repairs, crack repairs, or partial panel replacement, will be limited to no more than 95% payment.

(6) Adjustment for grinding. For sublots with grinding over 25% of a sublot, payment will be reduced 5%.

METHOD OF MEASUREMENT

501-7.1 Concrete pavement shall be measured by the number of cubic yards of as specified in-place, completed and accepted.

BASIS OF PAYMENT

501-8.1 Payment. Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

Item No.	Item	Unit
02752.1D	Portland Cement Concrete 10-inch Unreinforced (LNY)	Lump Sum
02752.2A	Portland Cement Concrete 15-inch Unreinforced (OGG Airfield-Main Terminal)	Lump Sum
02752.2B	Portland Cement Concrete 15-inch Unreinforced (OGG Airfield-Cargo)	Lump Sum
02752.2C	Portland Cement Concrete 15-inch Unreinforced (OGG Airfield-Commuter Terminal Apron)	Lump Sum
02752.3D	Portland Cement Concrete 10-inch Reinforced (LNY)	Lump Sum
02752.4A	Portland Cement Concrete 15-inch Reinforced (OGG Airfield-Main Terminal)	Lump Sum
02752.4B	Portland Cement Concrete 15-inch Reinforced (OGG Airfield-Cargo)	Lump Sum

02752.4C	Portland Cement Concrete 15-inch Reinforced (OGG Airfield-Commuter Terminal Apron)	Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A996	Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
ASTM A1035	Standard Specification for Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A1078	Standard Specification for Epoxy-Coated Steel Dowels for Concrete Pavement
ASTM C29	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate

ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C123	Standard Test Method for Lightweight Particles in Aggregate
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C227	Standard Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C295	Standard Guide for Petrographic Examination of Aggregates for Concrete

ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregates by Drying
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C881	Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Standard Practice for Sampling Aggregates

ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber and Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Concrete Institute (ACI)

ACI 305R	Guide to Hot Weather Concreting
ACI 306R	Guide to Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

Advisory Circulars (AC)

AC 150/5320-6	Airport Pavement Design and Evaluation

Federal Highway Administration (FHWA)

HIPERPAV 3, version 3.2

Portland Concrete Association (PCA)

PCA	Design and Control of Concrete Mixtures, 16th Edition

U.S. Army Corps of Engineers (USACE) Concrete Research Division (CRD)

CRD C662	Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

United States Air Force Engineering Technical Letter (ETL)

ETL 97-5	Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements

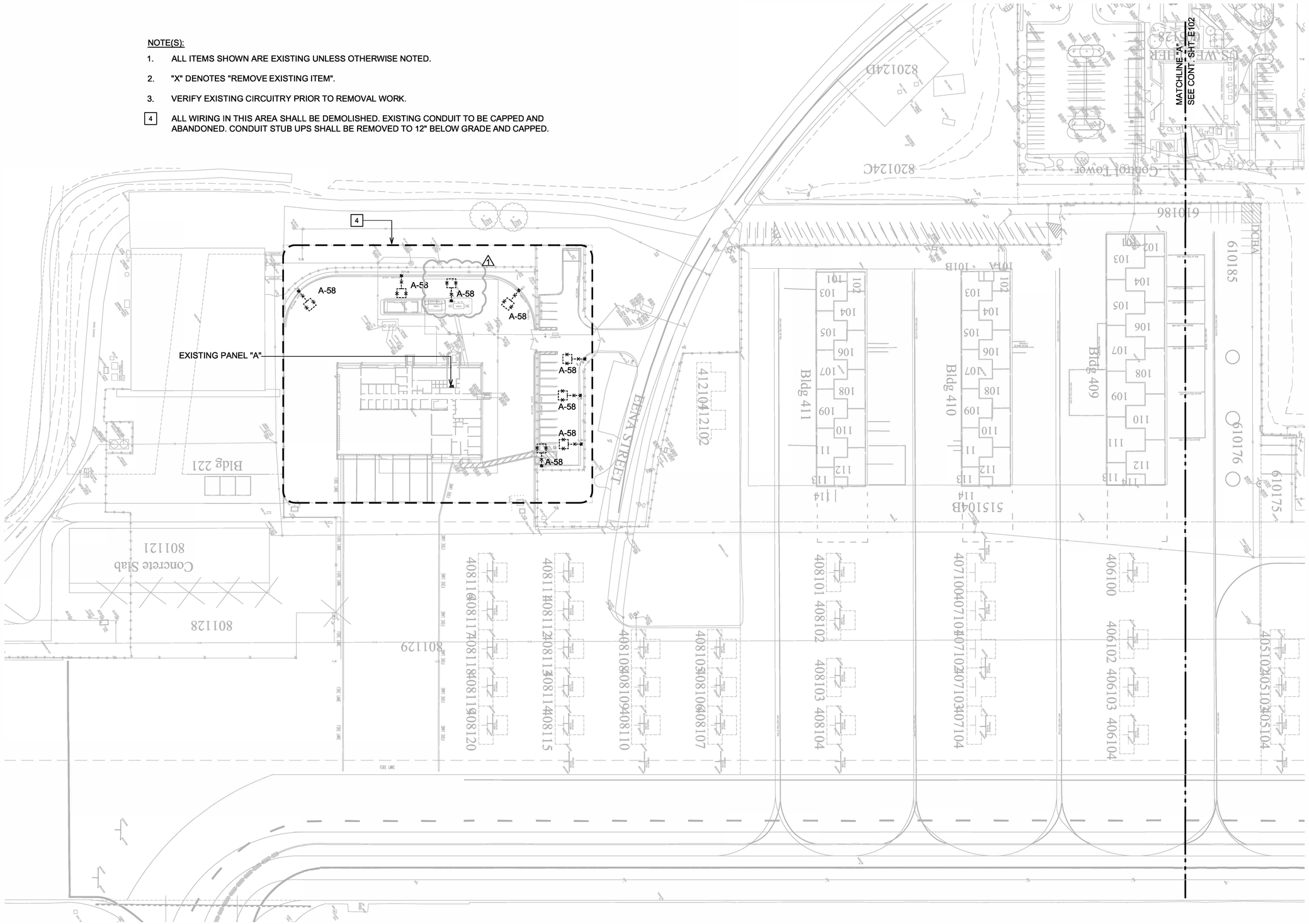
END ITEM P-501

END OF SECTION

NOTE(S):

1. ALL ITEMS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
2. "X" DENOTES "REMOVE EXISTING ITEM".
3. VERIFY EXISTING CIRCUITRY PRIOR TO REMOVAL WORK.

[4] ALL WIRING IN THIS AREA SHALL BE DEMOLISHED. EXISTING CONDUIT TO BE CAPPED AND ABANDONED. CONDUIT STUB UPS SHALL BE REMOVED TO 12" BELOW GRADE AND CAPPED.



ELECTRICAL DEMOLITION PLAN 1
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.
2026.03.18
04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

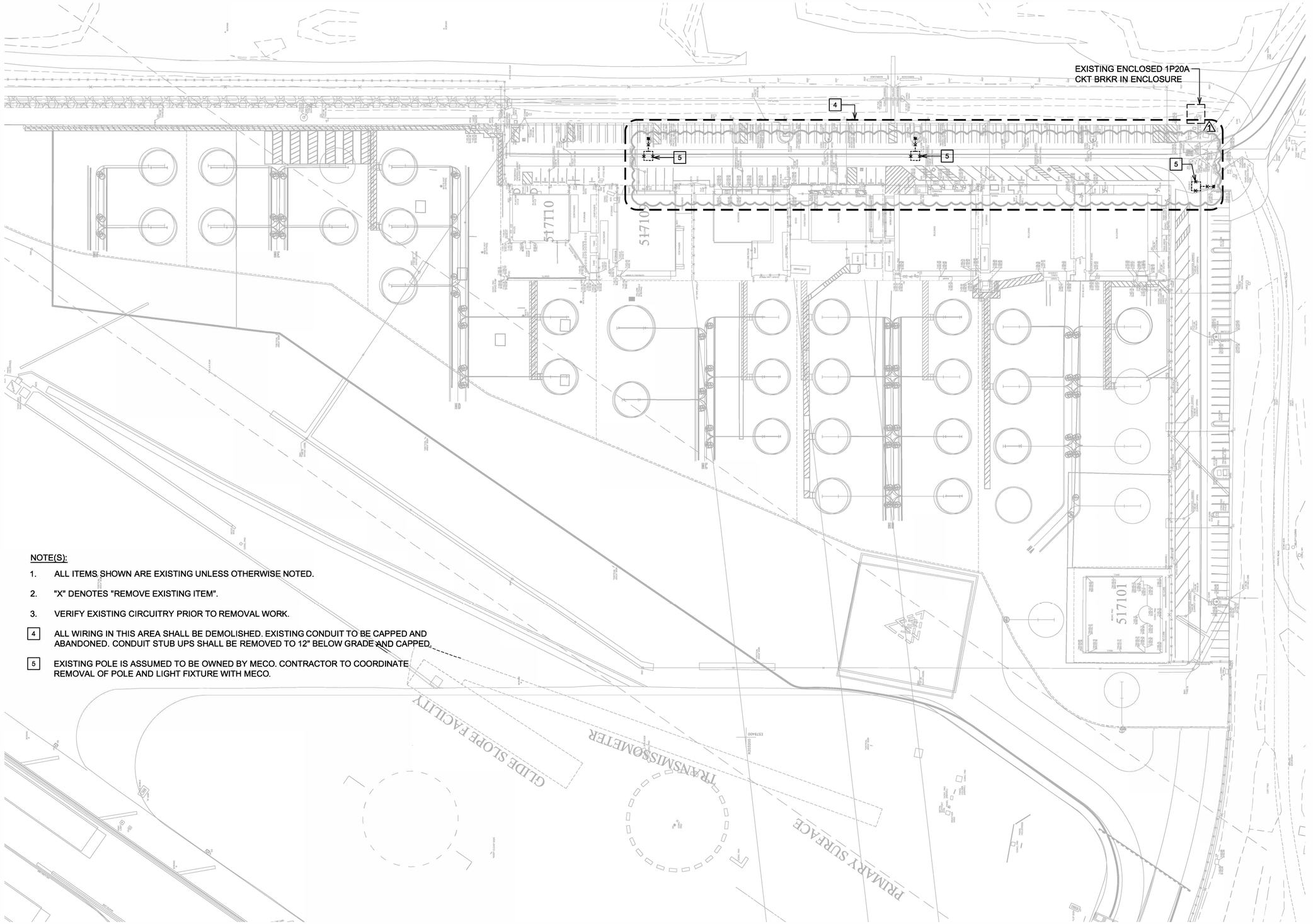
AS1037-12R

SHEET TITLE:

ELECTRICAL DEMOLITION PLAN 1

DATE :	DWG. NO.
AUGUST 2025	E101
SHEET :	
35 OF 75 SHEETS	

Z:\ACAD\PROJECTS\23032\A035_AS-1037-12R_E101_23032A_ELEC_DEMO_PLAN 1.DWG



NOTE(S):

1. ALL ITEMS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
2. "X" DENOTES "REMOVE EXISTING ITEM".
3. VERIFY EXISTING CIRCUITRY PRIOR TO REMOVAL WORK.

[4] ALL WIRING IN THIS AREA SHALL BE DEMOLISHED. EXISTING CONDUIT TO BE CAPPED AND ABANDONED. CONDUIT STUB UPS SHALL BE REMOVED TO 12" BELOW GRADE AND CAPPED.

[5] EXISTING POLE IS ASSUMED TO BE OWNED BY MECO. CONTRACTOR TO COORDINATE REMOVAL OF POLE AND LIGHT FIXTURE WITH MECO.

NORTH

ELECTRICAL DEMOLITION PLAN 4
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELIAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.

2026.03.19

04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

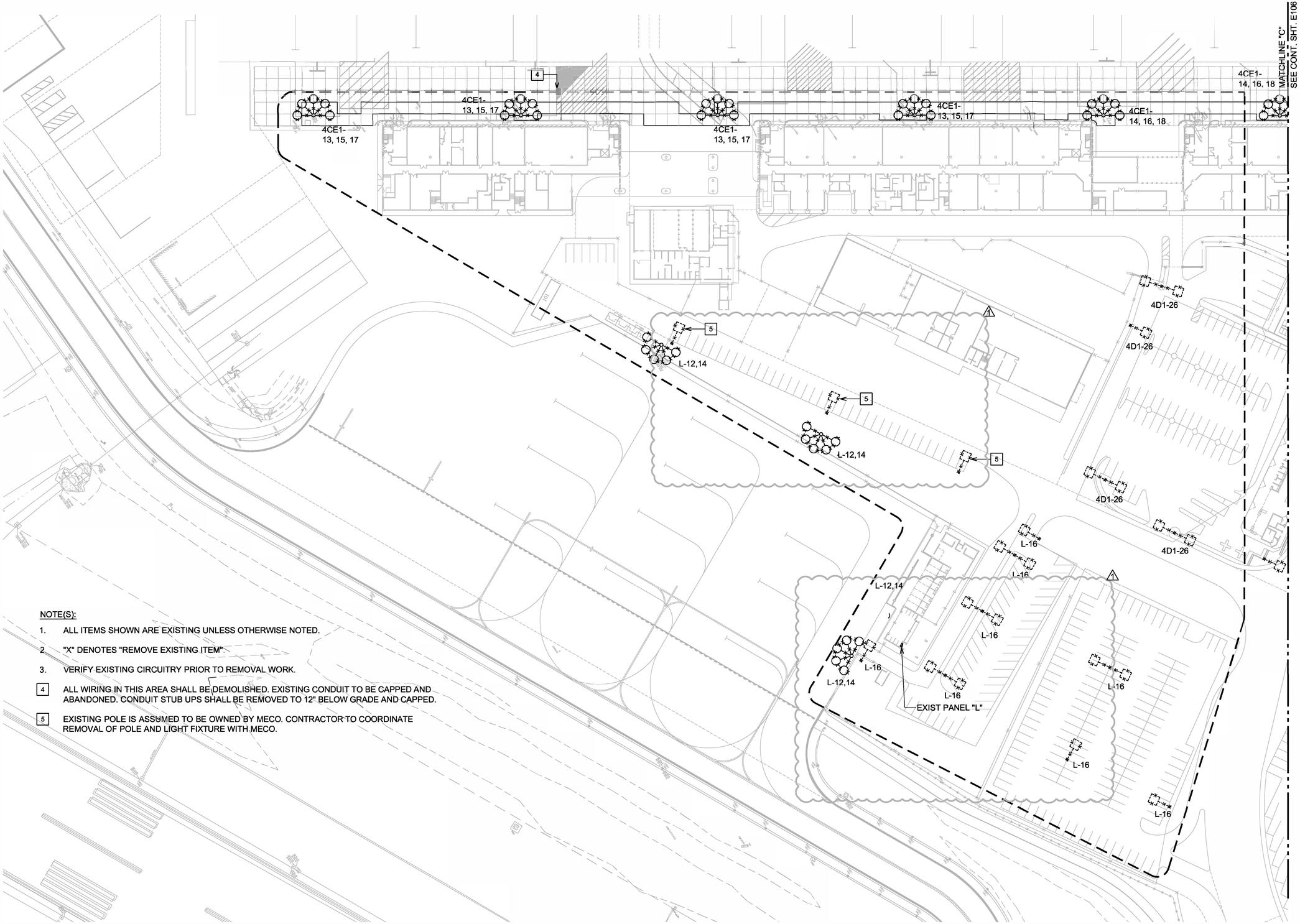
AS1037-12R

SHEET TITLE:

ELECTRICAL DEMOLITION PLAN 4

DATE :	DWG. NO.
AUGUST 2025	E104
SHEET :	
38 OF 75 SHEETS	

Z:\ACAD\PROJECTS\23\032A\038_AS-1037-12R_E104_223032A_ELEC_DEMO_PLAN 4.DWG



NOTE(S):

1. ALL ITEMS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
2. "X" DENOTES "REMOVE EXISTING ITEM".
3. VERIFY EXISTING CIRCUITRY PRIOR TO REMOVAL WORK.

[4] ALL WIRING IN THIS AREA SHALL BE DEMOLISHED. EXISTING CONDUIT TO BE CAPPED AND ABANDONED. CONDUIT STUB UPS SHALL BE REMOVED TO 12" BELOW GRADE AND CAPPED.

[5] EXISTING POLE IS ASSUMED TO BE OWNED BY MECO. CONTRACTOR TO COORDINATE REMOVAL OF POLE AND LIGHT FIXTURE WITH MECO.

NORTH

ELECTRICAL DEMOLITION PLAN 5
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELIAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.

2026.03.19

04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

SHEET TITLE:

ELECTRICAL DEMOLITION PLAN 5

DATE :	DWG. NO.
AUGUST 2025	E105
SHEET :	
39 OF 75 SHEETS	

Z:\ACAD\PROJECTS\23203\2\A039_AS-1037-12R_E105_223032A_ELEC_DEMO_PLAN 5.DWG

MATCHLINE "D"
SEE CONT. SHT. E106

MATCHLINE "H"
SEE CONT. SHT. E110

EXISTING PANEL "2A1"

EXISTING PANEL "CH"

2A-6,8

2A-2,4

CH-6

CH-8

CH-10

CH-12

2A1-36

PANEL-2

PANEL-4

B-1

B-3

B-5

PA-14

"25 MPH" SIGN

"WARNING - AIRPORT PROP. NO DUMPING" SIGN

ECVMH w/ 10'x10' CONC. COLLAR TOP=31.4

GENERATOR BUILDING

SWALE

214°58'48" 1650.81'

94+00 93+00 92+00 91+00 90+00 89+00 88+00 87+00 86+00 85+00 84+00 83+00 82+00 81+

NOTE(S):

1. ALL ITEMS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
2. "X" DENOTES "REMOVE EXISTING ITEM".
3. VERIFY EXISTING CIRCUITRY PRIOR TO REMOVAL WORK.

[4] ALL WIRING IN THIS AREA SHALL BE DEMOLISHED. EXISTING CONDUIT TO BE CAPPED AND ABANDONED. CONDUIT STUB UPS SHALL BE REMOVED TO 12" BELOW GRADE AND CAPPED.

[5] CONTRACTOR TO REMOVE THE LIGHT FIXTURES ONLY. EXISTING POLES TO BE REUSED.

MATCHLINE "G"
SEE CONT. SHT. E109

NORTH

ELECTRICAL DEMOLITION PLAN 7
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.

2026.03.19

04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

SHEET TITLE:

ELECTRICAL DEMOLITION PLAN 7

DATE :
AUGUST 2025

SHEET :
41 OF 75 SHEETS

DWG. NO.
E107

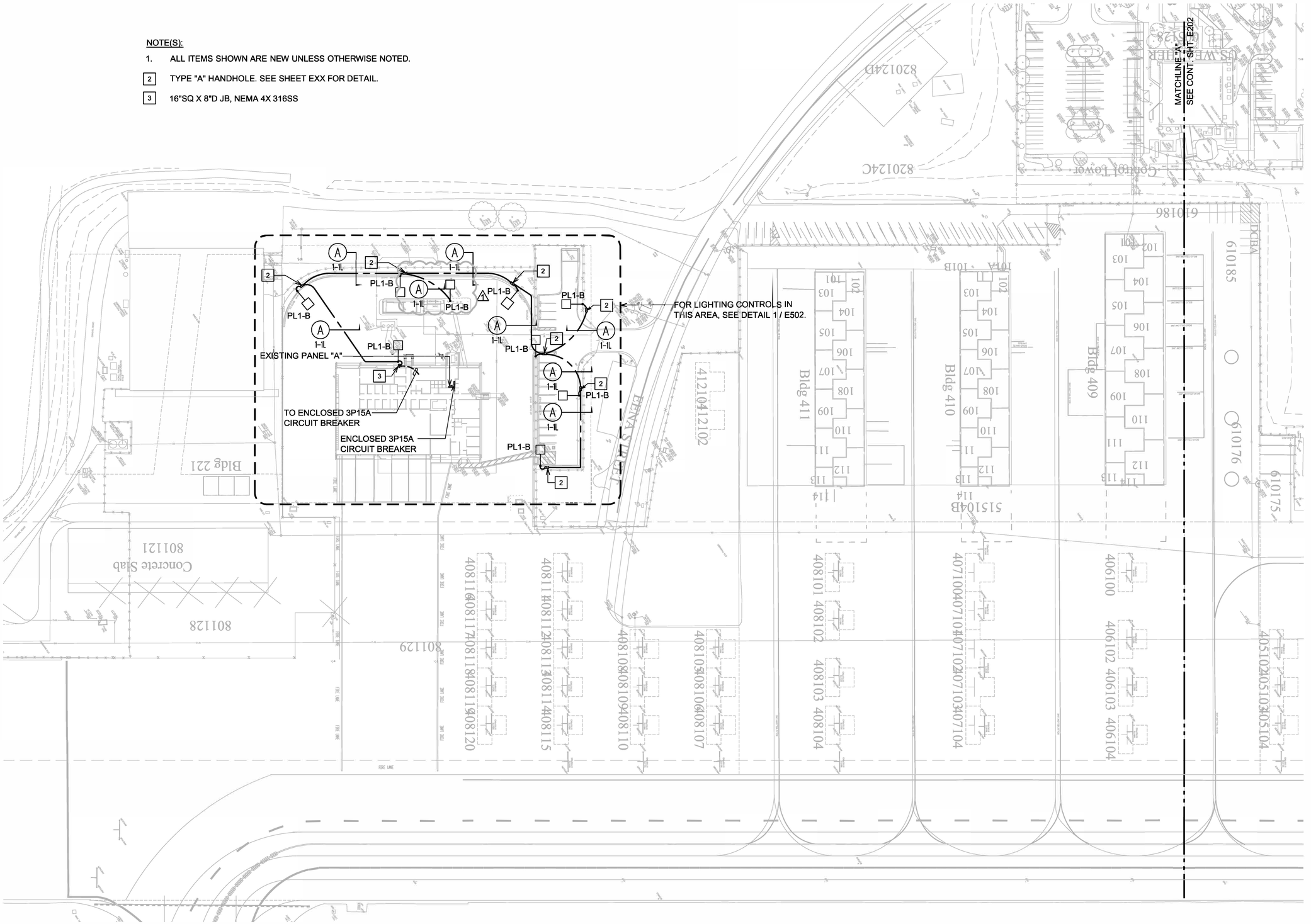
Z:\ACAD\PROJECTS\223032\A041_AS-1037-12R_E107_223032A_ELEC_DEMO_PLAN 7.DWG

NOTE(S):

1. ALL ITEMS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

[2] TYPE "A" HANDHOLE. SEE SHEET EXX FOR DETAIL.

[3] 16"SQ X 8"D JB, NEMA 4X 316SS



ELECTRICAL PLAN 1
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.
2026.03.19
04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

SHEET TITLE:

ELECTRICAL PLAN 1

DATE :
AUGUST 2025
SHEET :
46 OF 75 SHEETS

DWG. NO.
E201

Z:\ACAD\PROJECTS\23033A\046_AS-1037-12R_E201_223032A_ELEC_PLAN 1.DWG

MATCHLINE "C"
SEE CONT. SHT. E205

MATCHLINE "D"
SEE CONT. SHT. E207

AL1-C (6) W/ NEW 100' POLE
4CE1-14,16,18
KAA-2,4,6
EXISTING PANEL "4D1"
4D1-26 NL
EXISTING PANEL "4CE1"
4CE1-14,16,18, 13, 15, 17
EXISTING PANEL "KAA"
TO ENCLOSED CIRCUIT BREAKER NEAR PANEL "4BC1"
EXISTING PANEL "PANEL"
, TYP OF 7

FOR LIGHTING CONTROLS IN THIS AREA, SEE DETAIL 4 / E502.

FOR LIGHTING CONTROLS IN THIS AREA, SEE DETAIL 1 / E501.

FOR LIGHTING CONTROLS IN THIS AREA, SEE DETAIL 2 / E503.

FOR LIGHTING CONTROLS IN THIS AREA, SEE DETAIL 1 / E503.

FOR LIGHTING CONTROLS IN THIS AREA, SEE DETAIL 4 / E502.

RL1-B PANEL-2,4,6
RL2-C PANEL-2,4,6
RL2-C PANEL-6 NL
OPL3-A PANEL-2,4,6
OPL3-B PANEL-2,4,6
OPL2-A PA-1 NL
OPL2-A PA-2 NL
OPL2-A PA-3 NL
OPL2-A PA-4 NL
OPL2-A PA-5 NL
OPL2-A PA-6 NL
OPL2-A PA-8 NL
OPL2-A PA-10 NL
OPL2-A PA-12 NL
OPL2-B
OPL2-C
OPL1-A
RL2-C

MATCHLINE "E"
SEE CONT. SHT. E208

NOTE(S):

1. ALL ITEMS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

2 INSTALL NEW LIGHT FIXTURE ON EXISTING POLE AND CONNECT TO EXISTING WIRING. PROVIDE MOUNTING ACCESSORIES/ HARDWARE AS REQUIRED TO MOUNT NEW FIXTURE TO EXISTING POLE.

3 TYPE "A" PULLBOX. SEE SHEET E303 FOR DETAILS

4 2' X 4' PULLBOX.

5 16"SQ X 8"D JB, NEMA 4X 316SS.

6 INSTALL NEW OBSTRUCTION LIGHTS ON APRON LIGHT POLE.

7 CONTRACTOR TO INSTALL BOLLARDS AROUND APRON LIGHT POLE. SEE

⚠2 BOLLARD LAYOUT DETAIL ON SHEET C102.

NORTH

ELECTRICAL PLAN 6
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.
2026.03.19
04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
⚠1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

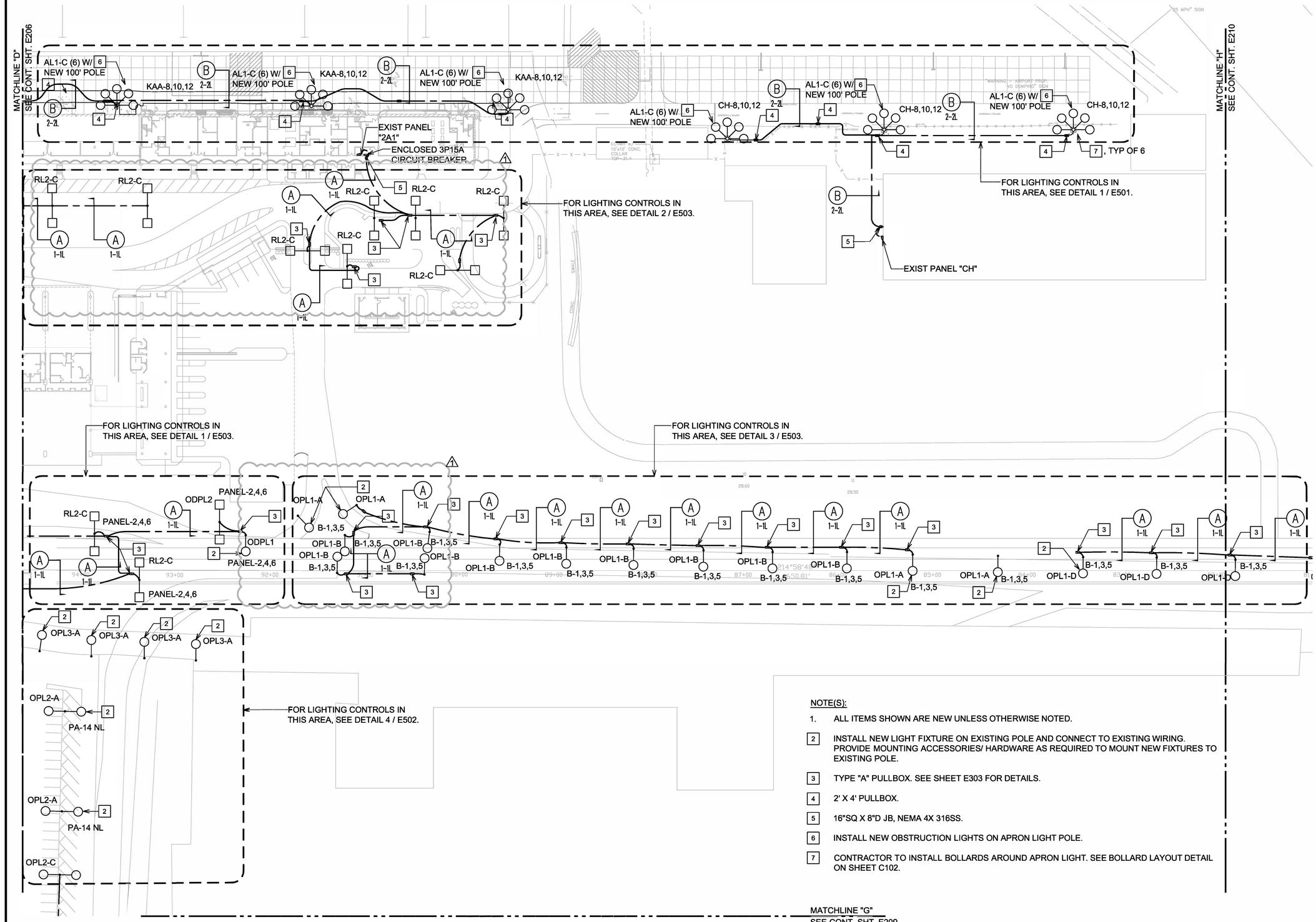
SHEET TITLE:

ELECTRICAL PLAN 6

DATE :
AUGUST 2025
SHEET :
51 OF 75 SHEETS

DWG. NO.
E206

Z:\ACADPROJECTS\223032A\051_AS-1037-12R_E206_223032A_ELEC_PLAN 6.DWG



NOTE(S):

1. ALL ITEMS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

[2] INSTALL NEW LIGHT FIXTURE ON EXISTING POLE AND CONNECT TO EXISTING WIRING. PROVIDE MOUNTING ACCESSORIES/ HARDWARE AS REQUIRED TO MOUNT NEW FIXTURES TO EXISTING POLE.

[3] TYPE "A" PULLBOX. SEE SHEET E303 FOR DETAILS.

[4] 2' X 4' PULLBOX.

[5] 16"SQ X 8"D JB, NEMA 4X 316SS.

[6] INSTALL NEW OBSTRUCTION LIGHTS ON APRON LIGHT POLE.

[7] CONTRACTOR TO INSTALL BOLLARDS AROUND APRON LIGHT. SEE BOLLARD LAYOUT DETAIL ON SHEET C102.

MATCHLINE "G"
SEE CONT. SHT. E209

NORTH

ELECTRICAL PLAN 7
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE: 1"=50'
GRAPHIC SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U. S. A.

2026.03.19

04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

SHEET TITLE:

ELECTRICAL PLAN 7

DATE :
AUGUST 2025
SHEET :
52 OF 75 SHEETS

DWG. NO.
E207

Z:\ACAD\PROJECTS\23\032A\052_AS-1037-12R_E207_23032A_ELEC_PLAN 7.DWG

LIGHT FIXTURE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	LIGHT ENGINE	VOLTAGE	POWER	MANUFACTURER OR APPROVED EQUAL	REMARKS	LOCATIONS
~~(AL1-A) APRON LIGHTING (AREA LIGHTS ONLY)~~	~~POLE MOUNT~~	~~LED APRON LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, GREY TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, BUY AMERICA ACT (BAA) COMPLIANT~~	~~INTEGRATED LED, 3000K,76575 DELIVERED LUMENS, 80/65CRI~~	~~120V/277V~~ OMIT	~~671W~~	~~NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-**KM**-GRY-MGF-**HAL-BAA**~~	~~DUSK TO DAWN OPERATION VIA TIME CLOCK AND PHOTOCELL~~	~~APRON~~
(AL1-B) APRON LIGHTING (COMPLETE AREA LIGHT & POLE & 6 LIGHT BRACKET)	POLE MOUNT	LED APRON LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, GREY TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, **60'** POLE WITH 6 AREA LIGHT BRACKET, 316 STAINLESS STEEL ANCHOR BOLTS, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K,76575 DELIVERED LUMENS, 80/65CRI	120V/277V	(6) 671W	NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-**KM**-GRY-MGF-**HAL-BAA** VALMONT INDUSTRIES 60' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-**BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK AND PHOTOCELL	COMMUTER TERMINAL
(AL1-C) APRON LIGHTING (COMPLETE AREA LIGHT & POLE & 6 LIGHT BRACKET)	POLE MOUNT	LED APRON LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, GREY TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, **100'** POLE WITH 6 AREA LIGHT BRACKET, 316 STAINLESS STEEL ANCHOR BOLTS, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K,76575 DELIVERED LUMENS, 80/65CRI	120V/277V	(6) 671W	NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-**KM**-GRY-MGF-**HAL-BAA** VALMONT INDUSTRIES 100' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-**BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK AND PHOTOCELL	MAIN TERMINAL APRON
(PL1-A) PARKING LOT & AREA LIGHTING (EXISTING SHOEBOX) (AREA LIGHT ONLY)	POLE MOUNT	SINGLE HEAD LED PARKING AND AREA LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, BRONZE TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, PHOTOCELL + RECEPTACLE, RETROFIT MOUNT BRACKET, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K, 23370 DELIVERED LUMENS, 80/65CRI	120V/277V	200W	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-BRZ-PCR-MGF-**RQMB-HAL-BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK	PARKING & AREA LIGHT
(PL1-B) PARKING LOT & AREA LIGHTING (COMPLETE LIGHT, & POLE)	POLE MOUNT	SINGLE HEAD LED PARKING AND AREA LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, BRONZE TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, PHOTOCELL + RECEPTACLE, RETROFIT MOUNT BRACKET, 20 FT ROUND STRAIGHT ALUMINUM POLE, DURANODIC DARK BRONZE ANODIZED, 316 STAINLESS STEEL ANCHOR BOLTS, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K, 23370 DELIVERED LUMENS, 80/65CRI	120V/277V	200W	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-**HAL-BAA** 2000-50506S4-D1-313-316SSAB-**BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK	PARKING & AREA LIGHT
(PL2-D) PARKING LOT & AREA LIGHTING (COMPLETE LIGHT & POLE)	POLE MOUNT	DOUBLE HEAD LED PARKING AND AREA LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, BRONZE TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, PHOTOCELL + RECEPTACLE, RETROFIT MOUNT BRACKET, 20 FT ROUND STRAIGHT ALUMINUM POLE, DURANODIC DARK BRONZE ANODIZED, 316 STAINLESS STEEL ANCHOR BOLTS, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K, 23370 DELIVERED LUMENS, 80/65CRI	120V/277V	(2) 200W	NLS LIGHTING (2) NV-1-T3-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-**HAL-BAA** VALMONT INDUSTRIES 2000-50506S4-D1-313-316SSAB-**BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK	PARKING & AREA LIGHT
(RL1-A-III) ROADWAY LIGHTING (EXISTING SHOEBOX) (AREA LIGHT ONLY)	POLE MOUNT	SINGLE HEAD LED PARKING AND AREA LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, BRONZE TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, PHOTOCELL + RECEPTACLE, RETROFIT MOUNT BRACKET, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K, 23370 DELIVERED LUMENS, 80/65CRI	120V/277V	200W	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-BRZ-PCR-MGF-**RQMB-HAL-BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK	MAIN TERMINAL ROAD
(RL1-A-IV) ROADWAY LIGHTING (EXISTING SHOEBOX) (AREA LIGHT ONLY)	POLE MOUNT	SINGLE HEAD LED PARKING AND AREA LIGHTING. LOW COPPER DIE-CAST ALUMINUM HOUSING, SILICONE OPTICS, IP66 RATED, FULL CUTOFF, LIGHT SHALL BE PARALLEL TO THE GROUND NO TILT. SWIVEL MOUNT, BRONZE TEXTURED MARINE GRADE FINISH, HAL LENS YELLOW POLYCARBONATE LENS - LESS THAN 2% BLUE LIGHT CONTENT, DARK SKY ASSOCIATION CERTIFICATION COMPLIANT, SHALL BE NO LESS THAN 65 CRI, PHOTOCELL + RECEPTACLE, RETROFIT MOUNT BRACKET, BUY AMERICA ACT (BAA) COMPLIANT	INTEGRATED LED, 3000K, 23370 DELIVERED LUMENS, 80/65CRI	120V/277V	200W	NLS LIGHTING NV-1-T4-64L-1-30K8/65-UNV-BRZ-PCR-MGF-**RQMB-HAL-BAA**	DUSK TO DAWN OPERATION VIA TIME CLOCK	MAIN TERMINAL ROAD

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

BILLY J. ORNELLAS
LICENSED PROFESSIONAL ENGINEER
No. 11658-E
HAWAII, U.S.A.

2026.03.19

04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SY	CAD	BO	BO

NO.	DATE	REVISIONS
1	04/02/26	ADDENDUM NO. 1

PROJECT TITLE :

APRON LIGHT REPLACEMENT

AT
KAHULUI AIRPORT
KAHULUI, MAUI, HAWAII

PROJECT NO.:

AS1037-12R

SHEET TITLE:

LIGHT FIXTURE SCHEDULE

DATE :
AUGUST 2025
SHEET :
65 OF 75 SHEETS

DWG. NO.
E309

Z:\ACADPROJECTS\23\032A\065_AS-1037-12R_E309_LIGHT FIX SCHEDULE.DWG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

PRE-BID CONFERENCE MINUTES

DATE: February 18, 2026, **TIME:** 9:00 AM HST

LOCATION: Microsoft Teams & Conference Room B

PROJECT: Apron Light Replacement at
Kahului Airport, Lanai Airport
State Project No. AS1037-12R

SUBJECT: Pre-Bid Conference

I. GENERAL DISCUSSION

1. Introductions:
   a. State PM, Wesley Shiroma. The project will be turned over to Tim Laborte in a few weeks.
   b. Design Consultant, Ronald N. S. Ho and Associates. The primary contact is Ross Yamaguchi
   c. Construction Manager, Rider Levett Bucknall (RLB). The primary contacts are Paul Belshoff and Karen Mattock
   d. Daniel Williams and Robbert Hooper, HDOT Office of Civil Rights

2. Purpose: This meeting is to briefly describe the project scope of work and to note several key milestones and general discussion items. If there is a conflict between what is stated in this meeting and the bid documents, the bid documents shall govern.

   The scope is as follows. The scope of work consists of replacing the existing high pressure sodium high mast lights that illuminate the passenger terminal apron, cargo apron, various parking lots, and access and service roads at Kahului Airport and the passenger terminal apron, cargo apron, parking lot, and access road at Lanai Airport. The implementation of full cut-off light fixtures will minimize the impact on seabirds and ensure compliance with the Maui County Habitat Conservation Plan and with HRS Section 201-8.5 Night Sky Protection Strategy.

3. This project is advertised in HIePRO. Bidders are to register and submit bids through HIePRO only. The complete Proposal and proposal forms (pages P-1 through P-20) shall be uploaded into HIePRO prior to the bid opening deadline. These forms can be found in Part 0.B of the project specifications.

Failure to submit all pages shall result in rejection of the bid. Refer to Special Provisions Section 2.8 for further information.

4. All attendees on the conference call shall email their contact information (name, company, phone number, and email) to the State Project Manager (SPM), Mr. Wesley Shiroma, at wesley.r.shiroma@hawaii.gov. This information will be used to generate the pre-bid meeting attendance sheet, which will be included with the meeting minutes. A copy of the meeting minutes will be issued through an addendum in HIePRO.

5. All Requests for Information (RFI) and Substitution Requests must be submitted in HIePRO no later than March 6, 2026, at 2:00 p.m. HST. Any RFIs and Substitution Requests received after the deadline will not be addressed. All responses to RFI questions shall be provided for clarification and information only and issued by formal addendum. Any amendments to the solicitation shall be made by formal addendum and posted in HIePRO. If there is a conflict between the solicitation and information stated in the pre-bid conference, the meeting minutes, and/or the responses to RFI questions, the solicitation shall govern and control, unless as amended by formal addendum.

6. The State reserves the right to reject any or all proposals and to waive any defects in said proposals for the best interest of the public.

7. Design Consultant, Ronald N. S. Ho and Associates, to provide high level description and overview of the scope of work.

8. The State has assigned Construction Management (CM) consultant Rider Levett Bucknall Ltd (RLB) to this project. Bidders are advised that RLB will be authorized to act on behalf of the State as the on-site representative. All project activities shall be coordinated through the RLB.

9. This is a State project utilizing FAA funds. Prospective bidders are reminded to comply with all federal requirements, such as using the correct federal wage rates and labor classifications.

10. Buy American compliance is required by the FAA. All bidders are reminded that they are responsible to ensure that all steel and manufactured goods are produced in the US. If not, the bidder is responsible for submitting the proper waiver forms with the proposal.

11. Additionally, bidders are reminded to comply with federal provisions included in Part 0.E Required Federal Airport Improvement Program (AIP) Contract Provisions of the project specifications.

12. The U.S. Department of Transportation Regulations entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs," Title 49, CFR, Part 26, is applicable to this

project. Bidders are hereby notified that the Department of Transportation shall strictly enforce full compliance with all the requirements of the Disadvantaged Business Enterprise program with respect to this project. Bidders shall read the "CIVIL RIGHTS COMPLIANCE AND DISADVANTAGED BUSINESS ENTERPRISE SPECIAL PROVISIONS" which are included in the specifications.

See the attached for additional links to information and procedures.

13. Key Milestone Dates:

    - Bids must be received by **April 6, 2026, at 2:00 PM Hawaii Standard Time (HST)**. The complete bid Proposal shall be uploaded into HIePRO prior to bid opening date and time. All other required confidential and proprietary documents shall be uploaded separately. Failure to upload the bid Proposal into HIePRO shall be grounds for the rejection of the bid. Bids received after said due date and time shall not be considered.
    - **March 6, 2026, at 2:00 PM HST** is the deadline to submit RFIs and Substitution Requests in HIePRO.

14. To be eligible for award, bidders must possess a valid State of Hawaii General Engineering "A" license or a specialty C-13 Electrical Contractor license prior to the award of contract prior to the award of the contract.

15. The GENERAL PROVISIONS dated 2016 applicable to this project are available on the internet at: http://hidot.hawaii.gov/administration/con/.

16. Project duration is **510** calendar days from the date indicated in the Notice to Proceed from the State.

17. Liquidated damages shall apply for failure to complete project in the time stated above in the amount of $10,000.00 per day as outlined in the bid documents.

18. All changes to the bid documents will be issued through an addendum. Bidders are reminded to acknowledge receipt of any addendum(s) on page P-4 of the Proposal.

19. Portions of the work are within the Airport Operations Area (AOA), and project staging areas are subject to security requirements. Due to heightened security requirements, there are new security procedures in place. The contractor shall ensure that all access gates are secured at all times. Under no circumstances shall tools, equipment or materials be left in areas where the public can gain access to these items. Other security requirements are stated in Specification Section 01565 Security Measures.

20. A security plan shall be submitted within 14 calendar days after award of the contract as specified in Paragraph 1.03 of Specification Section 01565 Security Measures.

21. Subject to approval from the Airport District Manager (ADM), access to the airport will be limited through a determined access route(s)/points. All vehicles entering the Airport Operations Area (AOA) are subject to search.

22. Subject to availability of space and approval by the Airport District Manager, parking may be made available at designated parking spaces for vehicle parking. The General Contractor shall submit the parking request to the Airport Manager through the SPM for review. The SPM will verify the list against the General Contractor's approved subcontractor list and forward it to the Airport Manager for approval. Upon approval by the Airport Manager, two (2) temporary parking passes per subcontractor and (3) passes for the General Contractor will be issued at no charge. At the Airport Manager's discretion, the parking passes are good for either (3) months or six (6) months and must be renewed before the passes expire.

    All passes will be signed out and become the responsibility of the General Contractor. The General Contractor will distribute the parking passes among their subcontractors.

23. Pending the availability of space on airport property, the State will issue a Revokable Permit to the Contractor for the use of the space, assessed at a monthly fee of $25 for each Revokable Permit issued, to be used specifically for a field office and/or storage of materials and equipment. Other costs related to the Revokable Permit (ie; utility costs, property taxes) shall also be the responsibility of the Contractor. Since space on airport property is extremely limited, the State does not guarantee that the space provided for the Contractor will be near the project site. The State will make every effort to provide the Contractor with space on airport property, however, should the State determine that no space is available for such use(s), the responsibility shall then be on the Contractor to find space outside of airport property. Staging areas shall be secured at all times.

24. Working hours shall be as defined in Specification Section 01010 Description of Work and in the construction phasing plans. Be advised that Airport Operations shall determine final working hours. The latest update is that all work shall be performed after hours between 8:00 PM and 5:00 AM. Exact hour will be determined via written notification from Airport Operations prior to starting work.

25. Construction shall start on the Apron of the Kahului Airport first. Apron work require gate closures shall be done so that only one gate at a time is out of service. This may involve completing ground work at each apron/gate then return to each gate once the light poles arrive.

26. Billings must be submitted on a monthly basis throughout the course of the project (federal requirement).

27. Requests for AOA badges, AOA stickers, ramp licenses, etc. shall be submitted within 14 calendar days after award of the contract.

28. A site visit will not follow the Pre-Bid Conference and no project escorted site walks will be accommodated during the advertising and bidding period.

29. The State intends to issue the Notice to Proceed for the Project in accordance with Section 8.1 of the GENERAL PROVISIONS dated 2016.

MEETING ATTENDANCE SHEET
Pre-Bid Meeting

Project Name: Apron Light Replacement
Kahului Airport / Lanai Airport
Project No. AS1037-12R
AIP Project No:
Meeting Location: Airports Division, Conference Room B Date: February 18, 2026

Name: Wesley Shiroma Title:	Company: HDOT Address:400 Rodgers Blvd #700 Honolulu, HI 96819	Phone:808-838-8876 Fax: E-Mail: wesley.r.shiroma@hawaii.gov
Name: Kathleen N. Wade Title:	Company: HDOT Address:	Phone: 808 872-3817 Fax: E-Mail: kathleen.n.wade@hawaii.gov
Name: Marvin A. Moniz Title:	Company: AIR-M Address:	Phone: 808 872-3808 Fax: E-Mail: marvin.a.moniz@hawaii.gov
Name: Alden Miljkovic Title:	Company: Grid Shift Solar Lighting Address: 3230 Production Ave Suite A Oceanside, CA 92508	Phone: 208-891-9332 Fax: E-Mail: alden@gridshiftsolutions.com
Name: Eve Franks Title:	Company: Maryl Group Construction, Inc. (MGCI) Address:	Phone: 808-723-4863 Fax: E-Mail: eve.franks@mgcihi.com
Name: Francis Dunlap Title:	Company: M2K Construction Address: 725 Kapiolani Blvd Suite C-305, Honolulu HI 96813	Phone: 808-230-7723 Fax: E-Mail: francis.dunlap@m2khi.com
Name: Joseph Mullenax Title:	Company: GOODFELLOW BROS LLC Address:	Phone: 808-757-6073 Fax: E-Mail: josephm@goodfellowbros.com
Name: Kolyne Cabanas Title:	Company: GOODFELLOW BROS LLC Address:	Phone: 808-264-7514 Fax: E-Mail: kolynec@goodfellowbros.com
Name: Brandon Strahle Title: Estimator	Company: M2K Construction Address:	Phone: 505-814-9617 Fax: E-Mail: brandon.strahle@m2khi.com

Name: Nathan Vierra Title:	Company: Alpha Inc Address: 427 Ala Makani St. Suite 100 Kahului, HI 96732	Phone: 808-633-7689 Fax: E-Mail: NathanV@alphahawaii.com

MEETING ATTENDANCE SHEET
Pre-Bid Meeting

Project Name: Apron Light Replacement
Kahului Airport / Lanai Airport
Project No. AS1037-12R
AIP Project No:
Meeting Location: Airports Division, Conference Room B Date: February 18, 2026

Name: Dewey Bailey Title: Chief Estimator	Company: Alpha Inc Address: 427 Ala Makani St. Suite 100 Kahului, HI 96732	Phone: 808-318-4135 Fax: E-Mail: DeweyB@alphahawaii.com
Name: Karen Mattock Title: Project Manager	Company: Rider Levett Bucknall Address: 300 Ohukai Road, Building B Kihei, HI 96753	Phone:808-798-8797 Fax: E-Mail: karen.mattock@us.rlb.com
Name: Paul Belshoff Title:	Company: Rider Levett Bucknall Address: 300 Ohukai Road, Building B Kihei, HI 96753	Phone: Fax: E-Mail: paul.belshoff@us.rlb.com
Name: Robert Gardner Title:	Company: Rider Levett Bucknall Address: 300 Ohukai Road, Building B Kihei, HI 96753	Phone: Fax: E-Mail: Robert.Gardner@us.rlb.com
Name: Kailia Purdy Title:	Company: Rider Levett Bucknall Address: 300 Ohukai Road, Building B Kihei, HI 96753	Phone: Fax: E-Mail: Kailia.Purdy@us.rlb.com
Name: Ross Yamaguchi Title:	Company: Ron Ho and Assoc Address: 2153 N. King St., Ste. 201 Honolulu, HI 96819	Phone: Fax: E-Mail: N/A
Name: Shane Yoshida Title:	Company: Ron Ho and Assoc Address: 2153 N. King St., Ste. 201 Honolulu, HI 96819	Phone: Fax: E-Mail: syoshida@rnsha.com
Name: Karen Mattock Title:PM	Company: Rider Levett Bucknall Address: 300 Ohukai Road, Building B Kihei, HI 96753	Phone: Fax: E-Mail: karen.mattock@us.rlb.com
Name: Daniel K. Williams Title:	Company: HDOT Address:	Phone: 808 831-7914 Fax: E-Mail: daniel.k.williams@hawaii.gov

Name: Robert M. Hopper Title:	Company: HDOT Address:	Phone: 808 831-7913 Fax: E-Mail: robert.m.hopper@hawaii.gov

MEETING ATTENDANCE SHEET
Pre-Bid Meeting

Project Name: Apron Light Replacement
Kahului Airport / Lanai Airport
Project No. AS1037-12R
AIP Project No:
Meeting Location: Airports Division, Conference Room B Date: February 18, 2026

Name: Beau Martin Title:	Company: Elcco Electric Address: 138 Lauo Loop, Ste 100 Kahului, HI 96732	Phone: Fax: E-Mail: bmartin@elccooelectric.com
Name: Bill Kerkau Title:	Company: Nikko Builders Address:	Phone: Fax: E-Mail: bill.kerkau@nikkobuilders.com
Name: Lisa Kerkau Title:	Company: Nikko Builders Address:	Phone: Fax: E-Mail: lisa.kerkau@nikkobuilders.com
Name: Rich Mueller Title:	Company: Widefield Technology Inc Address: 14700 N. Frank Lloyd Wright Blvd., Ste 157-360 | Scottsdale, AZ 85260	Phone: Fax: E-Mail: rich@wti.1.net
Name: Amanda Davis Title:	Company: Widefield Technology Inc Address: 14700 N. Frank Lloyd Wright Blvd., Ste 157-360 | Scottsdale, AZ 85260	Phone: Fax: E-Mail: amanda@wti1.net
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:

MEETING ATTENDANCE SHEET
Pre-Bid Meeting

Project Name: Apron Light Replacement
Kahului Airport / Lanai Airport
Project No. AS1037-12R
AIP Project No:
Meeting Location: Airports Division, Conference Room B Date: February 18, 2026

Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:
Name: Title:	Company: Address:	Phone: Fax: E-Mail:

State of Hawaii, Dept. of Transportation – Administration Division (HDOT OCR)
Disadvantaged Business Enterprises (DBE) Program
Pre – Bid Meeting – 02/18/2026
AS1037-12R – Apron Light Replacement Project

Policy of the State of Hawaii, Department of Transportation's (HDOT) DBE Program: Bidders/offerors, subcontractors, consultants, vendors, suppliers, distributors, manufacturers, trucking companies, service providers, etc. shall fully inform themselves with respect to the requirements of the DBE Regulations.

DBE Goal for this project: **NONE SPECIFIED**
Please continue to consider using small business subcontractors, suppliers, manufacturers, trucking companies etc., when qualified

Small Business Directory: https://hands.ehawaii.gov/hands/smallbusiness/search

HDOT SBE Directory: https://hdot.gob2g.com/

BIDDER REGISTRATION

HDOT requests that all bidders/offerors bidding projects submit the Bidder Registration Form to: HDOT-DBE@hawaii.gov . The Bidder Registration Form can be downloaded from HDOT's website at https://hidot.hawaii.gov/administration/files/2025/10/RBidRegistration-09.18.25-rev-DBE-IFR-10.15.25.pdf.

Registered bidders/offerors are posted at: https://hidot.hawaii.gov/administration/ocr/dbe/

Questions for solicitation: B26001611 AS1037-12R Apron Lighting Replacement, OGG & LNY
03/06/2026

1. The estimate seems to be off. Confirming project estimate is $48 million in size.

Answer: The amount shown is just an estimate.

2. The drawing sets for the Projects are restricted for extraction. For me to use my estimating program, I require each drawing to be extracted as a PDF document. Please have the issuing agent remove this restriction so that I may provide a proposal for this project. Thank you.

Answer: Drawings will remain restricted to preserve the integrity of the solicitation.

3. Alpha INC. is in the process of reviewing the plans and specifications for the upcoming OGG & LNY Apron Lighting Replacement project. During our review, we noted a few items requiring clarification prior to finalizing our bid. Could you please provide or confirm the following: 1. • Please provide the GeoLabs geotechnical report dated November 13, 2024 (Referenced in the Foundation notes on Sheet S001). 2. • Please confirm anticipated depth to rock at apron pole locations. 3. • The foundation schedule on Sheets S100/S101 references foundation types L10, L15, L20, and L25; however, the drawings do not appear to identify which poles correspond to each L-type. Please confirm the respective foundation type for each apron light pole. 4. Please confirm whether L20 and L25 require rock socket (L-types referenced in the foundation schedules on sheets S100/S101). 5. • Please confirm whether embedment beyond schedule depth may be required by geotechnical engineer

Answer: 1. See attached geotechnical report. 2. See the appendix of the report for boring info. 3. See info on detail 5/S101 for foundation types per light. 4. Only lengths that note rock socket in the foundation schedule require rock sockets. 5. See attached geotechnical report.

4. Please provide geotechnical report for OFF & LNY.

Answer: See attached report.

5. Please confirm whether a site visit will be permitted for this project (Kahului & Lanai).

Answer: No official site visits are scheduled. Bidders may choose to arrange site visits at their discretion. Coordination must be made with each Airport Manager's Office. Due to TSA requirements and staffing availability for escort, time for a visit may or may not be available.

6. The current civil plans show new landscaping to be installed in various places, but there are no specific landscaping drawings. Please provide clarification of the existing landscaping to be replaced, or an allowance to hold for this work, as it is unquantifiable as this time.

Answer: The existing landscape consists of grass in most areas. The contractor will need to verify this and replace in kind.

7. On E102 Note #4 it says "Contractor to remove the light fixtures only. Existing poles to be reused". But on E202 Note #2 is says "Contractor shall install new light poles adjacent to the existing light poles". Please confirm what the intent is for this work. Are the existing poles meant to remain in place with a new light pole installed next to it with new light pole bases? Or will the new light poles replace the existing light poles, and reuse the existing light pole bases?

Answer: A new light, pole, and base should be installed. The adjacent to the existing base is to help maintain the same lighting levels, reduce the amount of work to re-connect to the existing circuits, and also reduce the downtime of lighting in the area.

8. Please confirm the extent for demo'd light pole bases. Will the demo'd light pole bases need to be fully demo'd out, or can they be demo'd partially with the remainder abandoned in place and patched over? If light pole bases are to be demo'd completely please provide the sizes of the existing bases.

Answer: Pole bases can be demolished 1'-0" below grade and abandoned, however if the new pole base or ductline location conflicts with the existing base, the entire existing pole base should be removed. For pole bases under PCC pavement, the base should be demolished 2'-6" below grade.

9. On E104 Note #5 it says, "Existing pole is assumed to be owned by MECO. Contractor to coordinate removal of pole and light fixture with MECO.". Please confirm whether the State will cover the cost and coordination for MECO to remove and dispose of the existing pole.

Answer: The cost should be included in your bid.

10. Please confirm that on pages C102 & C103, the only areas where new apron demo work will occur are the areas outlined with the thick solid black lines.

Answer: Yes. It is also hatched according to the legend on the sheet.

11. Bid Item 01561.1, Construction Site Pollution Controls for the Kahului project, is identified in the bid schedule as an allowance in the amount of $200,000. However, the project specifications state that this item will be paid on a lump sum basis. Please confirm the correct basis of payment.

Answer: See the revised Proposal Schedule included in Addendum No. 1.

12. Bid Item 0156.1, Construction Site Pollution Controls for the Lanai project, is identified in the bid schedule as an allowance in the amount of $50,000. However, the

project specifications state that this item will be paid on a lump sum basis. Please confirm the correct basis of payment.

Answer: See the revised Proposal Schedule included in Addendum No. 1.

13. Please clarify whether areas of demolished concrete are required to be replaced to match the existing concrete in both color and surface texture.

Answer: Yes. That is the intent.

14. Please confirm whether existing landscaping, including but not limited to bushes, shrubs, and trees disturbed or removed during construction, is required to be restored upon completion of the work.

Answer: Yes, existing landscape needs to be replaced in kind.

15. Please confirm whether the new lighting system is required to be fully installed, energized, and operational prior to removal of the existing lighting fixtures.

Answer: Closures of the gates will be limited to one gate at a time. The work will be phased based on this limitation. Contractor will need to ensure that lighting is available to all gates in use during the night-time hours and should plan their work accordingly.

16. Please confirm whether passenger boarding bridges (jetways) may be temporarily shut down to facilitate work within the Air Operations Area (AOA).

Answer: Work on the aprons for each gate is restricted to one gate at a time. During this time the gate, including the jetway, will be shut down 24/7 while construction work is ongoing.

17. During the site visit, two additional light poles not shown on the plans were observed on Lanai Airport Road, located northwest of the Lanai parking lot. Please confirm whether these two light fixtures are to be included in the scope of this project.

Answer: We are not replacing those 2 lights.

18. Please confirm the Kahului typical asphalt apron restoration section, detail 5 of sheet C101. Kahului's apron asphalt is half the thickness of Lanai's apron asphalt.

Answer: Yes-Kahului's apron restoration pavement section is not designed for aircraft loading based on its location, whereas, Lanai is within aircraft movement areas.

19. What is the amount of retention for this project?

Answer: Under normal circumstances retention is %5 of the First 50% of the contract amount. See Article IX, paragraph 9.10 of the General Provisions for Construction Project 2016.

20. Is there a pre-bid meeting attendees list available?

Answer: It will be provided in Addendum 1.

21. Sheet E102 of the Kahului drawings indicates the removal of 4 light fixtures and to reuse the existing poles. Sheet E202 indicates 4 new light poles installed adjacent to the existing poles. Both sheets reference the same location. Please confirm if only the fixtures are being replaced or if new poles are to be installed.

Answer: A new light, pole, and base should be installed. The adjacent to the existing base is to help maintain the same lighting levels, reduce the amount of work to re-connect to the existing circuits, and also reduce the downtime of lighting in the area.

22. Can GC's list two subcontractors for the same type of scope if the work is clearly delineated. For example, could an electrical subcontractor be listed for OGG electrical work and a second electrical subcontractor be listed for LNY work.

Answer: Yes. Please note that the scope covered by each subcontractor must be entered on the Subcontractor Listing included with the Proposal.

23. Please provide details and location of 15" Portland Cement Concrete referenced in bid items 02752.2D & 02752.4D of the LNY proposal schedule.

Answer: The 15" PCC bid items should be removed for LNY since it only has 10" PCC. Will provide and updated specs and proposal schedule.

24. The bid schedule identifies four locations (Main Terminal, Cargo, Commuter Terminal Apron, and Landside) for Kahului bid items; however, the drawings reference Plans 1–11 without clearly identifying the corresponding locations. Please provide a markup indicating the corresponding areas on the Plans 1-11.

Answer: Apron type lights should be bid under the vicinity of the building (i.e. main terminal, cargo, building, and commuter terminal). All non-apron type lights will be bid under the landside bid item, even for areas within the AOA zone (i.e. on lighting plan locations 01, 02, 03, and 11).

25. Please confirm which working hours govern the project overall, as the contract documents appear to conflict: • Special Provisions Paragraph 7.4 states that night work is removed and replaced with normal working hours as shown on the Plans. • Specification Section 01100, Paragraph 1.06 B states that on-site work both within and outside the Air Operations Area (AOA) shall be performed from 8:00 PM to 6:00 AM unless otherwise indicated. • Drawings C-007, C-008, and C-009 limit work on the airfield aprons to 1500–0900. • Drawing C001, General Construction Note #24, states construction work will be permitted only between 8:00 AM and 3:30 PM.

Answer: Follow Section 01100 paragraph 1.06B as a rule of thumb. Airport Operations will have final say on the working hours once construction starts.

26. Please advise the anticipated project start date.

Answer: A notice to Proceed will be negotiated and issued as outlined in the General Provision Article 8, paragraph 8.1 after the construction contract is executed.

27. The electrical subcontractors' scope of work for this project is limited to reconnecting circuits and/or providing new circuits to existing panelboards. Additionally, the contract documents do not include a one-line diagram for the overall electrical distribution system. Based on these conditions, please confirm that the arc flash labeling and calculation requirements to ALL ELECTRICAL EQUIPMENT referenced in Spec Section 16050-1, Paragraph 1.02(B), and 16050-8, Paragraph 3.02(F)(7) are not applicable for this project. Reference from Spec: Spec Section 16050-1, Paragraph 1.02(B): Provide arc flash warning labels on all electrical equipment as required by 2020 NEC Article 110.16 and 2018 NFPA-70E. The contractor shall obtain all information required for the calculations, perform the calculations, and provide the labels on all switchgear and switchboard sections (each section shall have its own calculation and label), panelboard, disconnect switch, manual transfer switch, etc. 16050-8, Paragraph 3.02(F)(7): Provide arc flash warning labels on all electrical equipment as required by 2020 NEC Article 110.16 and 2018 NFPA-70E 130.5. The contractor shall attain all information required for the calculations, perform the calculations, and provide the labels at no additional cost.

Answer: Arc flash shall be limited to all new equipment only.

28. Please provide list of existing pole types (manufacturer, type of pole, etc.) and information for the retrofit arm mounts needed for installation of new fixtures on existing light poles per Spec 16500-2, Paragraph 2.01(B)(4)(c). Reference from Spec: Spec 16500-2, Paragraph 2.01(B)(4)(c): Area Light Fixture: Use retrofit arm mount kit for fixtures installed on existing light pole.

Answer: We do not have the existing model numbers. Contractor should field verify the poles to find the appropriate retrofit kit.

29. Please confirm if there will be a laydown area provided for the project. If yes, please provide location and markup of where the laydown area is.

Answer: Per Section 01010 paragraph 1.04, storage and field office space is pending availability and not guaranteed.

30. Due to rapid escalations and changes in the market for materials can the following be added to the list of items approved and included in the list of the short supply materials: copper wiring, metal conduit, PVC conduit, light fixtures, electrical equipment, and electrical apparatus.

Answer: For the purposes of this solicitation, these items will not be added to the short supply materials listed in the Supplement to Proposal Schedule.

31. Please confirm if the RFI deadline can be extended until after a site visit is conducted?

Answer: No extension will be issued.

32. Please confirm if there are any phasing or sequencing limitations. For example, is there a limit/order to where we start work, or how much work/area we can open up at a time?

Answer: Work shall be phased as outlined in Section 01100. Actual phasing shall be determined by Kahului Airport Operations after the construction contract is executed and coordination starts.

33. Please provide as-builts for the areas of work (including utility as-builts).

Answer: Best efforts were made to include existing conditions in the bid documents. Actual as-built drawings will not be issued as part of the bid document package.

34. Please confirm if a Certification of Bidder's participation in approved apprentice program under Act 17 is required.

Answer: ACT 17 is NOT applicable for this project.

35. Please provide spec/type/size/info on the type of barricades required for the different areas of work (parking lot barricades, airport barricades, roadway barricades, tarmac barricades, etc.).

Answer: Please refer to the revised Section 01533 provided in Addendum No. 1.

36. Please confirm that the site security is excluded from our base bid, and any security needed is to be covered under the allowances listed on the bid forms.

Answer: Follow Section 01565.

37. Please confirm that our base bid assumes that our work will be done in clean soil, and any/all testing/investigation/disposal in relation to contaminated soil is to be handled/covered by the allowance listed on the bid forms.

Answer: Yes, that is correct.

38. Please confirm if the airports have stock piles or if we need to figure for hauling and disposal of spoils from any excavation.

Answer: Contractor is responsible for removal from the airports after compliance with all environmental procedures outlined in the specifications.

39. Please confirm if there are any crane/equipment restrictions for any of the areas of work (tarmac, airport, parking lot areas, etc.). Either restrictions on weight, height/reach, size of equipment, etc.

Answer: The Contractor is required to file the FAA Form 7460-1 “Notice of Proposed Construction or Alteration” to the FAA for proper evaluation and approval.

40. On the current lighting fixture schedule there are Type AL1-A fixtures listed, but we cannot find any on the plans. Type RL2-D fixtures are shown on Sheet E206 upper left side of the drawing, but not on the fixture schedule. Type PL1-A is on the fixture schedule and on sheet E211. Please confirm which bid item we use for this fixture?

Answer: AL1-A is not being used as all apron poles and pole bases will be replaced. RL2-D fixture on E206 is an error and shall be RL2-C. The light on E211 shall be billed under landside lighting per RFI question 24. Changes will be made in an addendum.

41. Please provide clarification on each pole and fixture and which bid items they will need to be allocated to.

Answer: Apron type lights should be bid under the vicinity of the building (i.e. main terminal, cargo, building, and commuter terminal). All non-apron type lights will be bid under the landside bid item, even for areas within the AOA zone (i.e. on lighting plan locations 01, 02, 03, and 11).

42. Please confirm that the only areas in the project that require cut back and patching of existing finishes (AC pavement, concrete walkways, landscaping) are the areas indicated in the Post Construction Best Management Practices Plans 1-4 (C007-C010) for Lanai & Post Construction Best Management Practices Plans 1-10 (C014-C023) for Kahului.

Answer: Yes. That is correct.

43. Please indicate conduit sizing on LNY Electrical Plan.

Answer: All conduit is 2". See sheet E403.

44. How do we add an attachment via HIePRO if submitting a substitution request?

Answer: Hyperlinks can be provided in the space provided on the Q&A tab of the solicitation.

45. Would the State consider directional drilling for conduits under the asphalt/PCC pavement areas as well as crossings in parking lots.

Answer: Directional boring will not be allowed under PCC pavement. Directional boring may be allowed for crossings in parking lots on a case-by-case basis. The contractor's plan will need to be reviewed by the DOTA before approval.

46. PER A. HILTON TO PROVIDE A URL RE SUBSTITUTION REQUEST SUBMISSION SINCE HIEPRO DOESN'T ALLOW FOR ATTACHMENTS: https://elccoelectric-my.sharepoint.com/:f:/p/jtuliau/IgANt8Qao-kxRKvxy2_R8QRLARxFEiXNQlx6goXWIb_trNk?e=jrk8HH

See attached.

47. Please consider our request for substitution for the lighting found in the following link: https://pelsa-my.sharepoint.com/:b:/g/personal/eric_hawaiianlights_com/IQAEFekehVX1Tod-osthynTpAY8boyteyMEprEBeyPzcQOk

See attached.

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPROT, KAHULUI, MAUI, HAWAII
AND
LANAI AIRPORT, LANAI CITY, LANAI HAWAII
STATE PROJECT NO. AS1037-12R
AIP PROJECT NO. 3-15-0006-064-2025

APPROVED SUBSTITUTION REQUEST

The items are approved as equal to the specified items provided all requirements of the contract documents are met.

Approval shall not in any circumstances be construed as an approval for deviations from the contract documents unless the entity seeking such approval has, in writing, specifically called the Engineer's or the approving agency's attention to each such deviation at the time of submission. Said entity and/or Contractor shall be responsible for coordination of the work pertinent to affected materials, equipment, and labor to insure proper execution of the work as per the intent of the contractual documents.

SECTION / ITEM	SPECIFIED BRAND	SUBSTITUTE OFALTERNATE BRAND	VARIANT FEATURES
16500, Part 1.02, Paragraph B, Subsection 2 (PL1-B Pole only)	VALMONT INDUSTRIES 2000-50506S4-D1-313-316SSAB-BAA	NLS RSAP-20-5R-188-9BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2(PL2-D Pole only)	VALMONT INDUSTRIES 2000-50506S4-D1-313-316SSAB-BAA	NLS RSAP-20-5R-188-9BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (RL1-B Pole only)	VALMONT INDUSTRIES 2500-60605S4-D1-313-316SSAB-BAA	NLS RASP-25-6R-250-12BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (RL2-C Pole only)	VALMONT INDUSTRIES 2500-60605S4-D2-313-316SSAB-BAA	NLS RASP-25-6R-250-12BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (ODPL1 Pole Only)	VALMONT INDUSTRIES 2500-60605S4-D1-313-316SSAB-BAA	NLS RASP-25-6R-250-12BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required

16500, Part 1.02, Paragraph B, Subsection 2 (ODPL2 Pole Only)	VALMONT INDUSTRIES 2500-60605S4-D2-313-316SSAB-BAA	NLS RASP-25-6R-250-12BC-SGL-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (B Pole only)	VALMONT INDUSTRIES 1600-45456S4-D1-313-316SSAB-BAA	NLS RSAP-16-R4-9BC-XX-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (B1 Pole only)	VALMONT INDUSTRIES 2000-50505S4-D1-313-316SSAB-BAA	NLS RSAP-20-188-9BC-XX-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 2 (B2 Pole only)	VALMONT INDUSTRIES 1600-45456S4-D1-313-316SSAB-BAA	NLS RSAP-16-4R-188-9BC-XX-BRZ-3430-BAA	(1) Pole shall be Duranodic Dark Bronze anodized finish is required
16500, Part 1.02, Paragraph B, Subsection 5		CTRL ARP INTERC08 NLT 4FCR MVOLT 1VB SC SM DTC	None
16500, Part 1.02, Paragraph B, Subsection 5		CTRL ARP INTERC32 NLT 24FCR MVOLT 1VB HLK SM DTC	None

REJECTED SUBSTITUTION REQUEST

16500, Part 1.02, Paragraph B, Subsection 6 (AL1-A Pole only)	VALMONT INDUSTRIES 60' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA	NLS RTSP-60-XX-XX-CUSTOM-MOUNTIN-STDFIN-AB-XHH(2)-GLV	(1) Pole shall be fully hot dipped galvanized. (2) 6 Area Light bracket detail is missing.
16500, Part 1.02, Paragraph B, Subsection 6 (AL1-C Pole only)	VALMONT INDUSTRIES 100' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA	NLS RTSP-100-XX-XX-CUSTOM-MOUNTIN-STDFIN-AB-XHH(2)-GLV	(1) Pole shall be fully hot dipped galvanized. (2) 6 Area Light bracket detail is missing.

16500, Part 1.02, Paragraph B, Subsection 1 (OPL1-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE2F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE2F-120-DMG-SMA-DE1-PRMA-GN6TX -BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-1A-R4-PRMA-GN6TX-BAA	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-STDFIN NLS RASP-20-5R-250-9BC-SGL-STDFIN-3430-BAA NLS DPB-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-C)	LUMEC LIGHTING (2) RN30-135W80LEDTA-001G3-LE2F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-2-R4-PRMA-GN6TX-BAA	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-STDFIN NLS RSAP-20-5R-250-9BC-D180-STDFIN-3430-BAA NLS DPB-400-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-D)	LUMEC LIGHTING RN30-135W80LEDTA-	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-	(1) Appearance shall be for periodic style to match previous light fixture identity.

	001G3-LE4F-120-DMG-SMA-DE1-PRMA-GN6TX -BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR6-1A-R4-PRMA-GN6TX-BAA	STDFIN NLS RSAP-20-5R-250-9BC-SGL-STDFIN-3430-BAA NLS DPB-400-5R-STDFIN	(2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1 (OPL2-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA	NLS CAL-2-TP1-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL2-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA LUMEC LIGHITNG RTA608-V-24-GN6TX LUMEC LIGHITNG VR6-2-R4-PRMA-GN6TX-BAA	NLS CAL-2-TP1-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-5R-STDFIN NLS RASP-24-6R-250-12BC-SGL-STDFIN-3430-BAA NLS DPB-400-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL2-C)	LUMEC LIGHTING (2) RN30-135W80LEDTA-	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-D180-XR-	(1) Appearance shall be for periodic style to match previous light fixture identity.

	001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA LUMEC LIGHITNG RTA608-V-24-GN6TX LUMEC LIGHITNG VR6-2-R4-PRMA-GN6TX-BAA	STDFIN NLS RASP-24-6R-250-12BC-SGL-STDFIN-3430-BAA NLS DPB-400-5R-STDFIN	(2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1 (OPL3-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL3-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-1A-R4-PRMA-GN6TX-BAA	NLS CAL-2-TP1-S4-T3-80L-53-30K8-UNV-AM-STDFIN-PC-HAL NLS A12-SGL-XR-STDFIN NLS RASP-20-5R-250-9BC-SGL-STDFIN-3430-BAA NLS DPB-400-5R-STDFIN	(1) Appearance shall be for periodic style to match previous light fixture identity. (2) Luminaire size is too large. (3) Luminaire is not available with Mast Arm Mount option. (4) 4 ft Ornamental mast arm to match existing is required. (5) Traditional Fluted pole shaft is required to match existing.
16500, Part 1.02, Paragraph B, Subsection 1 (SOL1-A)	FIRST LIGHT TECHNOLOGIES SCL2-SPM-BK-T3-WW-00-BLB	SOLAS RAY SOPH-040-40-II-SI-XX-FX	(1) 10 Year Warranty is required.

APRON LIGHT REPLACEMENT
AT
KAHULUI AIRPROT, KAHULUI, MAUI, HAWAII
AND
LANAI AIRPORT, LANAI CITY, LANAI HAWAII
STATE PROJECT NO. AS1037-12R
AIP PROJECT NO. 3-15-0006-064-2025

REJECTED SUBSTITUTION REQUEST

16500, Part 1.02, Paragraph B, Subsection 1, 6 (AL1-A)	VALMONT INDUSTRIES 60' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA	CHM #USLED2-S-GY-AMB-AP-X-R-GC-DTO-19013-24238	(1) Luminaire insufficient lumens. (2) Luminaire shall be non-tiltable to sustain non cutoff compliance. (3) Luminaire shall be marine grade finish. (4) Luminaire shall be no less than 65 CRI.
16500, Part 1.02, Paragraph B, Subsection 1, 6 (AL1-B)	NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-KM-GRY-MGF-HAL-BAA VALMONT INDUSTRIES 60' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA	CHM #USLED2-S-GY-AMB-AP-X-R-GC-DTO-19013-24238 CHM MAUI-60-SP-ELEV	(1) Luminaire insufficient lumens. (2) Luminaire shall be non-tiltable to sustain non cutoff compliance. (3) Luminaire shall be marine grade finish. (4) Luminaire shall be BAA Compliant. (5) Luminaire shall be no less than 65 CRI. (6) Pole shall be fully hot dipped galvanized. (7) Pole shall be with 316 Stainless Steel Anchor Bolts is required.
16500, Part 1.02, Paragraph B, Subsection 1, 6 (AL1-C)	NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-KM-GRY-MGF-HAL-BAA	CHM #USLED2-S-GY-AMB-AP-X-R-GC-DTO-19013-24238 CHM MAUI-100-SP-ELEV	(1) Luminaire insufficient lumens. (2) Luminaire shall be non-tiltable to sustain non cutoff

	VALMONT INDUSTRIES 100' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA		compliance. (3) Luminaire shall be marine grade finish. (4) Luminaire shall be BAA Compliant. (5) Luminaire shall be no less than 65 CRI. (6) Pole shall be fully hot dipped galvanized. (7) Pole shall be with 316 Stainless Steel Anchor Bolts is required.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (PL1-A)	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-BRZ-PCR-MGF-RQMB-HAL-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ	(1) Luminaire shall be marine grade finish.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (PL1-B)	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2000-50506S4-D1-313-316SSAB-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ HAPCO RSA20D5-4-A4-SSAB	(1) Luminaire shall be marine grade finish.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (PL2-D)	NLS LIGHTING (2) NV-1-T3-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2000-50506S4-D1-313-316SSAB-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ HAPCO RSA20D5-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Pole shall be Duranodic Dark Bronze anodized finish is required. (3) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (4) Pole shall be BAA Compliant.

16500, Part 1.02, Paragraph B, Subsection 1 (RL1-A-III)	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-BRZ-PCR-MGF-RQMB-HAL-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ	(1) Luminaire shall be marine grade finish.
16500, Part 1.02, Paragraph B, Subsection 1 (RL1-A-IV)	NLS LIGHTING NV-1-T4-64L-1-30K8/65-UNV-BRZ-PCR-MGF-RQMB-HAL-BAA	CREE OSQL-C-30L-19K5-4M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ	(1) Luminaire shall be marine grade finish.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (RL1-B)	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2500-60605S4-D1-313-316SSAB-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ HAPCO RSA25D6-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Pole shall be Duranodic Dark Bronze anodized finish is required. (3) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (4) Pole shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (RL2-C)	NLS LIGHTING (2) NV-1-T4-64L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2500-60605S4-D2-313-316SSAB-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-BZ-R / OSQ-MLX-C-OU-BZ HAPCO RSA25D6-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Pole shall be Duranodic Dark Bronze anodized finish is required. (3) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (4) Pole shall be BAA Compliant.

16500, Part 1.02, Paragraph B, Subsection 1 (SL1)	NLS LIGHTING NV-1-T3-64L-1-30K8/65-UNV-MA-GRY-PCR-MGF-HAL-BAA	CREE OSQL-C-30L-19K5-3M-UL-NM-SV-R / OSQ-ML-C-AA-SV	(1) Luminaire shall be marine grade finish.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (ODPL1)	NLS LIGHTING ORX-2-T4-64L-1-30K8/65-UNV-ASA-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2500-60605S4-D1-313-316SSAB-BAA	USA LTG PAC24-PLED-IV-80LED-575MA-TRA-UNV-1-RAL-8019-T-TPR7 HAPCO RSA25D6-4-A4-SSAB	(1) Luminaire insufficient lumens (2) Luminaire shall be marine grade finish. (3) No Pole substitution submitted.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (ODPL2)	NLS LIGHTING (2) ORX-2-T4-64L-1-30K8/65-UNV-ASA-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 2500-60605S4-D2-313-316SSAB-BAA	USA LTG PAC24-PLED-IV-80LED-575MA-TRA-UNV-2-RAL-8019-T-TPR7 HAPCO RSA25D6-4-A4-SSAB	(1) Luminaire insufficient lumens (2) Luminaire shall be marine grade finish. (3) No Pole substitution submitted.
16500, Part 1.02, Paragraph B, Subsection 1 (OPL1-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE2F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall be BAA Compliant. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE2F-	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall

	120-DMG-SMA-DE1-PRMA-GN6TX -BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-1A-R4-PRMA-GN6TX-BAA	85_ARTF / 12FF / PG-CC	be BAA Compliant. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) 4 ft Ornamental mast arm to match existing is required. (5) 20-foot Traditional pole is required to match Existing. (6) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (7) Pole shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-C)	LUMEC LIGHTING (2) RN30-135W80LEDTA-001G3-LE2F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-2-R4-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG 85_ARTF / 12FF / PG-CC	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall be BAA Compliant. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) 4 ft Ornamental mast arm to match existing is required. (5) 20-foot Traditional pole is required to match Existing. (6) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (7) Pole shall be BAA Compliant.

16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL1-D)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE4F-120-DMG-SMA-DE1-PRMA-GN6TX -BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR6-1A-R4-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG 85_ARTF / 12FF / PG-CC	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall be BAA Compliant. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) 4 ft Ornamental mast arm to match existing is required. (5) 20-foot Traditional pole is required to match Existing. (6) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (7) Pole shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1 (OPL2-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall have flat glass lens. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) Luminaire shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL2-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG 85_ARTF / 12FF / PG-CC	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall have flat glass lens. (3) This fixture is Non-Standard and

	LUMEC LIGHITNG RTA608-V-24-GN6TX LUMEC LIGHITNG VR6-2-R4-PRMA-GN6TX-BAA		custom therefore IES files is required to determine performance equality. (4) Luminaire shall be BAA Compliant. (5) Twin 6 ft Ornamental mast arm to match existing is required. (6) 24-foot Traditional pole is required to match Existing. (7) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (8) Pole shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL2-C)	LUMEC LIGHTING (2) RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-PH8/RCD7-GN6TX-BAA LUMEC LIGHITNG RTA608-V-24-GN6TX LUMEC LIGHITNG VR6-2-R4-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG 85_ARTF / 12FF / PG-CC	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall have flat glass lens. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) Luminaire shall be BAA Compliant. (5) Twin 6 ft Ornamental mast arm to match existing is required. (6) 24-foot Traditional pole is required to match Existing. (7) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (8) Pole shall be

			BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1 (OPL3-A)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall have flat glass lens. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) Luminaire shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (OPL3-B)	LUMEC LIGHTING RN30-135W80LEDTA-001G3-LE3F-120-DMG-SMA-DE1-PRMA-GN6TX-BAA LUMEC LIGHITNG RA40-20-GN6TX LUMEC LIGHITNG VR4-1A-R4-PRMA-GN6TX-BAA	STERNBERG 1914LED-RWSL31-32L19T_-MDL_-SG-HS-HS / FFA6 STERNBERG 85_ARTF / 12FF / PG-CC	(1) Appearance shall match previous light fixture identity - Plane Shade. (2) Luminaire shall have flat glass lens. (3) This fixture is Non-Standard and custom therefore IES files is required to determine performance equality. (4) Luminaire shall be BAA Compliant. (5) 4 ft Ornamental mast arm to match existing is required. (6) 20-foot Traditional pole is required to match Existing. (7) Poles shall be with 316 Stainless Steel Anchor Bolts is required. (8) Pole shall be BAA Compliant.
16500, Part 1.02, Paragraph B, Subsection 1 (SOL1-	FIRST LIGHT TECHNOLOGIES SCL2-SPM-BK-	GREEN FROG GFS-200	(1) 10 Year Warranty is required. (2) Unable to

A)	T3-WW-00-BLB		determine compatibility to mount into existing pole. (3) Luminaire color temperature does not comply to Maui Ordinance requirement.
16500, Part 1.02, Paragraph B, Subsection 1, 6 (A)	NLS LIGHTING NV-3-T4-256L-90-30K8/65-UNV-KM-GRY-MGF-HAL-BAA VALMONT INDUSTRIES 60' APRON POLE-P3-GV-FBC-AB. MC116-074-006-GV-BAA	CHM USLED2-S-GY-AMB-AP-X-R-GC-DTO-19013-24238 CHM MAUI-60-SP-ELEV	(1) Luminaire insufficient lumens. (2) Luminaire shall be non-tiltable to sustain non cutoff compliance. (3) Luminaire shall be marine grade finish. (4) Luminaire shall be BAA Compliant. (5) Luminaire shall be no less than 65 CRI. (6) Pole shall be fully hot dipped galvanized. (7) Pole shall be with 316 Stainless Steel Anchor Bolts is required. (8) Pole shall be BAA compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (B)	NLS LIGHTING NV-1-T4-16L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BAA VALMONT INDUSTRIES 1600-45456S4-D1-313-316SSAB-BAA	CREE OSQM-C-16L-19K5-4M-UL-NM-BZ-R-Q1 / OSQ-MLX-C-OU HAPCO RSA16D5-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Luminaire shall be no less than 65 CRI. (3) Pole shall be Duranodic Dark Bronze anodized finish is required. (4) Pole shall be with 316 Stainless Steel Anchor Bolts is required.

			(5) Pole shall be BAA compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (B1)	NLS LIGHTING NV-1-T4-16L-1-30K8/65-UNV-DPS3-BRZ-MGF-BLRPA5-HAL-BAA VALMONT INDUSTRIES 2000-50505S4-D1-313-316SSAB-BAA	CREE OSQM-C-16L-19K5-4M-UL-NM-BZ-R-Q1 / OSQ-MLX-C-OU HAPCO RSA20D5-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Luminaire shall be no less than 65 CRI. (3) Pole shall be Duranodic Dark Bronze anodized finish is required. (4) Pole shall be with 316 Stainless Steel Anchor Bolts is required. (5) Pole shall be BAA compliant.
16500, Part 1.02, Paragraph B, Subsection 1, 2 (B2)	NLS LIGHTING NV-1-T4-32L-1-30K8/65-UNV-DP7/RPA5-BRZ-PCR-MGF-HAL-BA VALMONT INDUSTRIES 1600-45456S4-D1-313-316SSAB-BAA	CREE OSQM-C-16L-19K5-4M-UL-NM-BZ-R-Q1 / OSQ-MLX-C-OU HAPCO RSA16D5-4-A4-SSAB	(1) Luminaire shall be marine grade finish. (2) Luminaire shall be no less than 65 CRI. (3) Pole shall be Duranodic Dark Bronze anodized finish is required. (4) Pole shall be with 316 Stainless Steel Anchor Bolts is required. (5) Pole shall be BAA compliant.