State of Hawaii
Department of Transportation
Airports Division

CONSULTANT
CAD GUIDELINES

October 2023

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I. INTRODUCTION

A. DEPARTMENT OF TRANSPORTATION - AIRPORTS DIVISION MISSION STATEMENT

The mission of the Department of Transportation - Airports Division is to develop and maintain graphic and related information such that users can manage, operate, maintain, and improve the State Air Transportation System, thus providing safe and efficient air travel to the public.

B. AIRPORTS DIVISION GOALS

The Airports Division's goal includes maintaining up-to-date information on the central master CAD files. These files are to be used as a resource to share within the organization, as well as authorized Consultants in the public sector.

C. AIRPORTS BASEMAP COORDINATE SYSTEM

All State of Hawaii Airports AutoCAD Basemap drawings have been converted into North American Datum of 1983 High-Accuracy Reference Network (NAD83 HARN) Coordinate System. There are 3 (three) coordinates as noted in the basemap drawings that have been surveyed with NAD83 HARN Coordinate System.

D. OVERALL INTENT AND BENEFITS OF GUIDELINES

1. The purpose of this Consultant CAD Guidelines is to provide consistent graphical information to and from the Department of Transportation - Airports Division (DOTA). This will facilitate the timely access and delivery of information to internal and external users, provide a means to update graphic information quickly, and to serve as a consistent guide for producing and delivering CAD drawings to the (DOTA).

2. This guideline shall apply to all individuals and State Government units who perform drafting and graphics services for the DOTA Engineering Branch (AIR-E).

3. The purpose of the workflow policies is to assist the DOTA Engineering Drafting and Graphics Section (AIR-EG) staff to maintain an up-to-date central database of the State of Hawaii Airports and to be able to monitor the timely return of as-built conditions from construction or maintenance improvements at each site.

II. CAD STANDARDS

A. CAD FILE TRANSFER PROCEDURES AND POLICIES

All documentation drawings and construction project drawings must be submitted to the DOTA Project Manager (DOTA PM) in full compliance with their most current version of AutoCAD (file extension = .dwg). Throughout this document, the use of the name CAD always implies AIR-EG's current version, unless otherwise noted.

CAD BASEMAP FILE TRANSFER POLICIES

1. Copies of CAD basemap files shall not be released outside the Airports Division without the written approval of the DOTA PM.

2. Only the Prime Designer shall request CAD basemap files and shall be responsible for distributing the CAD basemap files to their sub-consultants.

CONSULTANTS CAD DRAWINGS / FILES REQUESTS PROCEDURES

1. Consultants shall request from the DOTA PM a copy of a specific area of the airport in a CAD format to execute their approved contract work. The DOTA PM will send the Consultants the Request for Airports Plans, Confidentiality and Non-Disclosure Agreement, and Recipient's Indemnification Clause Forms. A diagram of the Airport may be attached to show the extent of the area needed.

2. Consultants shall fill out, sign, and submit the Request for Airports Plans, Confidentiality and Non-Disclosure Agreement, Recipient's Indemnification Clause Forms and Airport diagram (if any) to the DOTA PM.

3. The DOTA PM will review, verify the information filled in by the requestor and sign the Request for Airports Plans. The DOTA PM will submit the signed Request, including the Confidentiality and Non-Disclosure Agreement, and the Recipient's Indemnification Clause Forms (as attached) to AIR-EG.

4. Upon receipt of the approved request, AIR-EG will send the requested CAD files/drawings to the requestor. If required, AIR-EG will request a blank CD.

5. Consultants shall use the copy of CAD files per project contract requirements for the design intent.

CAD FILES SUBMITTED TO DOTA

1. The Designer of Record (DOR) shall submit CAD (and Revit files if applicable) of all the design phase submittals including the Post Construction Phase submittal with the "CAD Quality Assurance Checklist" to the DOTA PM. At the end of the project, the DOR shall submit the official "Record Drawings" to the DOTA PM.

2. The DOR may, through the DOTA PM, request a meeting with AIR-EG to fully understand the requirements of these Consultant CAD Guidelines to avoid having to redo their plans at the DOR's expense.

B. PAPER SPACE AND MODEL SPACE

PAPER SPACE

Paper space is one of two main spaces in which AutoCAD objects reside. Paper space is used to create a finished layout for plotting, sometimes having more than one view with more than one scale on a sheet. Sheet Border shall be placed on paper space and inserted at actual size.

MODEL SPACE

Model Space is used to do drafting/design work and to create two or three-dimensional models. Everything in Model Space is drawn at full scale. Listed below are some items in Model Space:

1. External Reference Files
2. Drawing entities.

C. EXTERNAL REFERENCE FILE (XREFs)

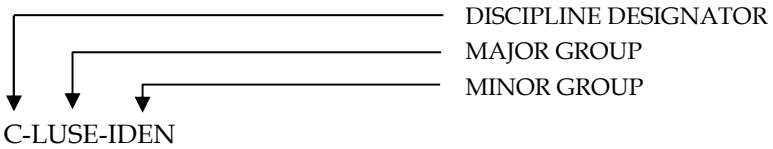
- All external references (xrefs) shall be "overlayed" at 0,0,0 in model space on layer "0".
- Provide all external references (AutoCAD and images), font styles, and plot style (ctb files) when submitting CAD drawings to the DOTA PM.
- When attaching an xref, in the "path type" box, select "Relative Path". Selecting "Relative Path" will allow you to copy or move an intact directory without having to repath each xref.
- When attaching an xref, name it the exact same name as the drawing file.
- Do not rename the xref once it has been distributed to others for referencing or editing.

D. LAYERING SYSTEM

This section contains a combination of layers from A/E/C CAD Standard, U.S. Department of Transportation Federal Aviation Administration Standard Engineering Drawing Preparation & Support, and Custom Layers based on AIA CAD Layer Guidelines: U.S. National CAD Standard Version 5.0

Layer names consist of a *Discipline Designator* followed by four-character *Major Group* and followed by a four-character *Minor Group*.

A	Architectural	K	Food Service
C	Civil	L	Landscape
D	Interior Design	M	Mechanical
E	Electrical	P	Plumbing
F	Fire Protection	S	Structural
		G	General



These recommended layers shall be used when submitting CAD drawings to the DOTA PM.

The following guidelines shall be used:

1. Do not increase the width of a polyline to get a heavier line, the thickness of a line is controlled by the ctb line weight assignments.

2. Do not increase the width of a polyline to poche walls, use a solid hatch.

3. Layer colors and linetypes, are controlled by what they are assigned to in the layer list. Do not force colors or linetypes in your drawings every entity should be set to "bylayer".

4. Insert blocks with multiple layers on layer "0", create simple blocks using layer "0". See Block section.

LAYERING STANDARDS

A new layer that will be added to the drawings and is not on the layering standard table below may be added and shall comply with the current A/E/C CAD Standard, Main Text and Appendices A, B, C

Layer Name	Layer Description	*Name Source
Landuse		
c-flzo	Flood Zone marks	CSTM
c-luse	Landuse Information, Seismic Zones, Land Courts	CSTM
c-luse-iden	Landuse Information, Seismic Zones, Land Courts Annotation	CSTM
c-luse-ilnd	Improved Land - Demarcation Land defining improved land areas	CSTM
c-luse-plnd	Proposed Land Use	CSTM
c-luse-ulnd	Unimproved Land - Demarcation Land defining unimproved land areas	CSTM
Civil/ Survey		
c-prop	Boundary, Property Lines	FAA
c-prop-airp	Airport Property Lines	A/E/C
c-prop-cede	Ceded Lands	CSTM
c-prop-cons	Control Points, Survey Benchmarks	FAA
c-prop-esmt	Property Easement	FAA
c-prop-esmt-iden	Property Easement Annotation	CSTM
c-prop-exec	Executive Orders	CSTM
c-prop-exec-iden	Executive Orders Annotation	CSTM
c-prop-iden	Property Annotation, Tax Map Key	A/E/C
c-prop-subd	Subdivisions/Parcel/Lots	A/E/C
c-prop-subd-iden	Subdivisions/Parcel/Lots Annotation	CSTM
Geography		
c-topo-shor	Shorelines, Waterways, Channels and Levees	A/E/C
c-topo-shor-iden	Geograph Annotation	CSTM
l-plnt	Vegetation - Brushes, shrubs, tree lines, Renderings, Individual Trees	FAA
l-plnt-ctnr	Containers or planters	CSTM
l-plnt-iden	Vegetation Annotation	A/E/C
Aviation		
c-chan-naid	Navigation Aids - Lights, wind cones, segmented circle	A/E/C
c-obst-airs	Obstructions	A/E/C
g-avia	Primary Surface, Safety Areas, Clear Zones, Approach Slopes, Other Surfaces (Transit/horizon/conical surfaces), Building restriction lines, Obstacle free lines	CSTM
g-avia-iden	Aviation Annotation	CSTM

*** LAYER NAMES ONLY**
FAA = FAA Standard Engineering Drawing Preparation & Support, FAA-STD-002g, August 29, 2008
A/E/C = A/E/C CAD Standard, Main Text and Appendices A, B, C, D ERDC/ITL TR-06-x, August 2015 Release 6.0
CSTM = Custom layer based on FAA & A/E/C standards guide

Layer Name	Layer Description	*Name Source
Runway		
c-runw-edge	Paved Area Edges (AOA pavement edge), Run Tax Edges (Load-bearing area defining lines), Airfield Runway Edges	A/E/C
c-runw-edge-subd	Subdivision of Runway Edge	CSTM
c-runw-iden	Paved Area Edges (AOA pavement edge), Run Tax Edges (Load-bearing area defining lines), Airfield Runway Edges Annotation	A/E/C
c-runw-misc-mrkg	Misc AOA markings - General Aviation Tiedown/Ramp Equipment Prkg,	CSTM
c-runw-mrkg	Run Tax Markings (Runway/Taxiway/Taxilanes/Heliports), Shoulder Markings (Shoulder/Demarcation/Ramp/Roads), Run Tax Demarcation Lines	CSTM
Road		
c-prkg-curb	Parking islands, curbs, and gutters	A/E/C
c-prkg-iden	Parking Lot Annotation	A/E/C
c-prkg-mrkg	Parking markings - Stall stripes, hatchings	A/E/C
c-road	Road edges – Lines of invert or pavement edge	FAA
c-road-curb	Curbs and gutters	A/E/C
c-road-cntr	Road Baselines (Center of Road Line), Demarcation Line	A/E/C
c-road-gral	Guard rails	A/E/C
c-road-iden	Road Baselines (Center of Road Line), Demarcation Line, Breaklines (Road Cutlines) Annotation	A/E/C
c-road-mrkg	Road Markings - Land stripes, directional arrows	A/E/C
c-road-mrkg-subd	Road Marking Dividing Line	CSTM
c-road-unpv	Unpaved Road Edges	CSTM
c-road-otln	Road Outline	CSTM
c-site-iden	Overall site annotation	CSTM
c-site-strc	Bridges/tunnels - Bridges, tunnels, headwalls, Retaining walls	A/E/C
c-site-walk	Walkway Edges - Paved walkways	A/E/C
l-site-furn	Built -in details, Free-standing details - Landscape, furniture, equipment	FAA
General		
a-anno-note	General Notes	A/E/C
a-anno-dims	Dimensions	A/E/C
a-grid	Grid Lines, Coordinates, Column Grids	CSTM
a-grid-bubb	Grid Bubbles	CSTM
a-symb	Symbols - Building Sections, Wall Sections, Call Out Details	CSTM
Building		
a-area-iden	Room Numbers, Tenant Identifications, Area Calculations	A/E/C
a-area-line	Area Calculation boundary lines	A/E/C
a-eqpm-fixd	Fixed Equipment	A/E/C
a-flor-evtr	Elevator cars and equipment	A/E/C
a-flor-fixt	Plumbing Fixtures	A/E/C
a-flor-hral	Stair and balcony handrails, guard rails	A/E/C
a-flor-levl	Level changes, shafts, ramps, pits, breaks in construction and depressions	A/E/C

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CSTM = Custom layer based on FAA & A/E/C standards guide

Layer Name	Layer Description	*Name Source
Building		
a-furn	Built-in Details	CSTM
a-furn-free	Free Standing Details - Landscape, Furniture, Equipment	FAA
a-flor-numb	Room/space identification number and symbol	A/E/C
a-flor-otln	Floor outline/perimeter/building footprint	A/E/C
a-flor-ovhd	Overhead items (skylights, overhangs, etc.), Roof Lines - Roof Edge Above	A/E/C
a-flor-spcl	Architectural specialties (e.g. toilet room accessories, display cases)	A/E/C
a-flor-strs	Stair risers/treads, escalators, ladders	
a-flor-tptn	Toilet Partitions	A/E/C
a-flor-wdwk	Architectural woodwork (field built cabinets and counters), Built-in Details - Landscape, Furniture, Equipment	A/E/C
a-roof	Roof Line	FAA
a-roof-beam	Roof beam	CSTM
a-roof-expj	Expansion Joints	A/E/C
a-roof-rfdr	Roof drains and slopes	A/E/C
a-roof-wall	Parapet walls and wall caps	A/E/C
a-wall	Building Walls - Non-Structural or Undefined Structural Walls	CSTM
a-wall-full-extr	Exterior Full Height Wall	A/E/C
a-wall-full-intr	Interior Full Height Wall	A/E/C
a-wall-prht	Partial height walls (do not appear on Reflected Ceiling Plan)	A/E/C
a-wall-spcl	Wall-hung/Attached Specialties (e.g., fixtures, grab bars (incl. handicap), Telephone Booths	A/E/C
a-wall-subd	Subdivisions of rooms/ spaces	CSTM
a-wwdr	Doors and Windows	CSTM
c-bldg-iden	Building Annotation	A/E/C
c-bldg-otln	Building Outline	A/E/C
c-dema	Bldg demarcation lines	CSTM
c-hang	Hangar	CSTM
c-hang-subd	Subdivision of Hangar	CSTM
c-site-brdg	Loading bridges/ Jetway	A/E/C
Secure		
c-site-fenc	Security Fences (Fences, Perimeter Gates)	A/E/C
c-site-aoap	AOA Perimeter - Closed Line Defining AOA	CSTM
Utility		
c-domw-abnd-pipe	Abandoned piping	CSTM
c-domw-devc	Connectors, faucets, reducers, regulators, vents, intake points, taps, backflow preventers, valves, cut and cap	A/E/C
c-domw-fttg	Caps, cleanouts, crosses, and tees	A/E/C
c-domw-hydr	Hydrants	A/E/C

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Layer Name	Layer Description	*Name Source
Utility		
c-domw-iden	Identifier tags, symbol modifier, and text	CSTM
c-domw-main-pipe	Main domestic water piping	CSTM
c-domw-abnd-pipe	Abandoned piping	CSTM
c-domw-devc	Connectors, faucets, reducers, regulators, vents, intake points, taps, backflow preventers, valves, cut and cap	A/E/C
c-domw-fttg	Caps, cleanouts, crosses, and tees	A/E/C
c-domw-hydr	Hydrants	A/E/C
c-domw-iden	Identifier tags, symbol modifier, and text	CSTM
c-domw-main-pipe	Main domestic water piping	CSTM
c-domw-metr	Meters	A/E/C
c-fuel-abnd-pipe	Abandoned piping	A/E/C
c-fuel-devc	Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves	A/E/C
c-fuel-fttg	Caps, crosses, and tees	A/E/C
c-fuel-iden	Identifier tags, symbol modifier, and text	CSTM
c-fuel-main-pipe	Main fuel piping	CSTM
c-fuel-pits-vlve	Valve pits	A/E/C
c-npot-devc	Connectors, faucets, reducers, regulators, vents, intake points, taps, backflow preventers, and valves	CSTM
c-npot-fttg	Caps and cleanouts	CSTM
c-npot-iden	Identifier tags, symbol modifier, and text	CSTM
c-npot-mhol	Manholes	CSTM
c-npot-pipe	Non-potable water piping	CSTM
c-sswr-abnd-pipe	Abandoned piping	CSTM
c-sswr-fttg	Caps and cleanouts	A/E/C
c-sswr-iden	Identifier tags, symbol modifier, and text	CSTM
c-sswr-mhol	Manholes	A/E/C
c-sswr-main-pipe	Sewer piping	CSTM
c-strm-abnd	Abandoned piping	CSTM
c-strm-devc	Downspouts, flumes, oil/water separators, and flap gates	A/E/C
c-strm-fttg	Caps and cleanouts	A/E/C
c-strm-iden	Identifier tags, symbol modifier, and text	A/E/C
c-strm-inlt	Inlets (curb, surface, and catch basins)	A/E/C
c-strm-main	Storm sewer piping	A/E/C
c-strm-mhol	Manholes	A/E/C
v-comm-abnd	Abandoned duct lines	CSTM
v-comm-duct	Communications/telephone duct lines	CSTM
v-comm-iden	Identifier tags, symbol modifier and text	CSTM
v-comm-jbox	Communication junction boxes, pull boxes, manholes, hand holes, pedestals, splices	A/E/C

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Layer Name	Layer Description	*Name Source
Structural		
s-conc	Concrete Walls, Columns, Structural Elements	CSTM
s-conc-iden	Concrete Walls, Columns, Structural Elements Annotation	CSTM
s-conc-patt	Concrete Walls, Columns, Structural Elements Patterns	CSTM
Mechanical		
m-xxxx		CSTM
Plumbing		
p-xxx		CSTM
Fire Protection		
f-xxxx		CSTM
Electrical		
e-afld-jbox	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	A/E/C
e-afld-lite-runw	Runway lights	CSTM
e-comm	Other communications distribution equipment	A/E/C
e-catv-eqpm	Cable TV system equipment	A/E/C
e-powr-iden	Identifier tags, symbol modifier, and text	A/E/C
e-powr-jbox	Junction boxes, pull boxes, manholes, hand holes, pedestals, splice	A/E/C
e-powr-panl	Panel boards, switchboards, MCC, unit substations, backing boards, patch panel racks	A/E/C
e-powr-pole	Power pole	A/E/C
e-powr-taxi	Taxiway lights	CSTM
e-prim-ovhd	Overhead electrical utility lines	A/E/C
e-prim-undr	Underground electrical utility lines	A/E/C
e-tvan-eqpm	Television antenna system equipment	A/E/C
e-1lin	One Line Diagram	FAA
Interior		
i-xxxx		CSTM
Miscellaneous		
Misc	Miscellaneous Layers	CSTM
Noplot	Noplot	A/E/C
Defpoints	Defpoints	A/E/C

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CSTM = Custom layer based on FAA & A/E/C standards guide

E. GRAPHIC SYMBOLS, FONT STYLES & LINETYPES

1. SYMBOLS

Refer to the current A/E/C CAD Standard and A/E/C Graphics Standard Documents.

https://cadbimcenter.erdc.dren.mil/default.aspx?p=a&t=1&i=7

2. FONT STYLE

To simplify coordination and maintain clear and consistent drawings, use ARIAL for all notations and dimensions.

- The standard notation text height shall be 1/8″ on paper space.
- The standard notation text on model space will be varied according to the scale of the drawings (see table below).

ARCHITECTURE

Drawing Scale	Drawing Scale Factor	1/64" Plotted Text Height	1/32" Plotted Text Height	1/16" Plotted Text Height	3/32" Plotted Text Height	1/8" Plotted Text Height	3/16" Plotted Text Height	1/4" Plotted Text Height	3/8" Plotted Text Height	1/2" Plotted Text Height	3/4" Plotted Text Height	1" Plotted Text Height
1/16" = 1' - 0"	192	3	6	12	18	24	36	48	72	96	144	192
1/8" = 1' - 0"	96	1 1/2	3	6	9	12	18	24	36	48	72	96
3/16" = 1' - 0"	64	1	2	4	6	8	12	16	24	32	48	64
1/4" = 1' - 0"	48	3/4	1 1/2	3	4 1/2	6	9	12	18	24	36	48
1/2" = 1' - 0"	24	3/8	3/4	1 1/2	2 1/4	3	4 1/2	6	9	12	18	24
3/4" = 1' - 0"	16	1/4	1/2	1	1 1/2	2	3	4	6	8	12	16
1" = 1' - 0"	12	3/16	3/8	3/4	1 1/8	1 1/2	2 1/4	3	4 1/2	6	9	12
1-1/2" = 1' - 0"	8	1/8	1/4	1/2	3/4	1	1 1/2	2	3	4	6	8
3" = 1' - 0"	4	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/2	2	3	4

ENGINEERING

Drawing Scale	Drawing Scale Factor	1/64" Plotted Text Height	1/32" Plotted Text Height	1/16" Plotted Text Height	3/32" Plotted Text Height	1/8" Plotted Text Height	3/16" Plotted Text Height	1/4" Plotted Text Height	3/8" Plotted Text Height	1/2" Plotted Text Height	3/4" Plotted Text Height	1" Plotted Text Height
1" = 2'	24	3/8	3/4	1 1/2	2 1/4	3	4 1/2	6	9	12	18	24
1" = 4'	48	3/4	1 1/2	3	4 1/2	6	9	12	18	24	36	48
1" = 8'	96	1 1/2	3	6	9	12	18	24	36	48	72	96
1" = 10'	120	1 7/8	3 3/4	7 1/2	11 1/4	15	22 1/2	30	45	60	90	120
1" = 16'	192	3	6	12	18	24	36	48	72	96	144	192
1" = 20'	240	3 3/4	7 1/2	15	22 1/2	30	45	60	90	120	180	240
1" = 30'	360	5 5/8	11 1/4	22 1/2	33 3/4	45	67 1/2	90	135	180	270	360
1" = 40'	480	7 1/2	15	30	45	60	90	120	180	240	360	480
1" = 50'	600	9 3/8	18 3/4	37 1/2	56 1/4	75	112 1/2	150	225	300	450	600
1" = 100'	1200	18 3/4	37 1/2	75	112 1/2	150	225	300	450	600	900	1200

- All text shall be UPPER CASE
- All text for notation shall be ARIAL
- All text heights for the titles shall be 3/16″
- Custom text styles can be given a specific text height
- If custom fonts are used, include the font style with the electronic drawing files.

3. LINETYPES
   Use standard AutoCAD and A/E/C CAD Standard linetypes. If custom linetypes are necessary, send all shape files used to create the linetype with the electronic drawing files.

F. DRAWING SETUP

The DOR shall request the latest electronic files (dwg and rfa formats) from AIR-EG which will contain the Title Sheet and Standard Border as shown in Appendix A.

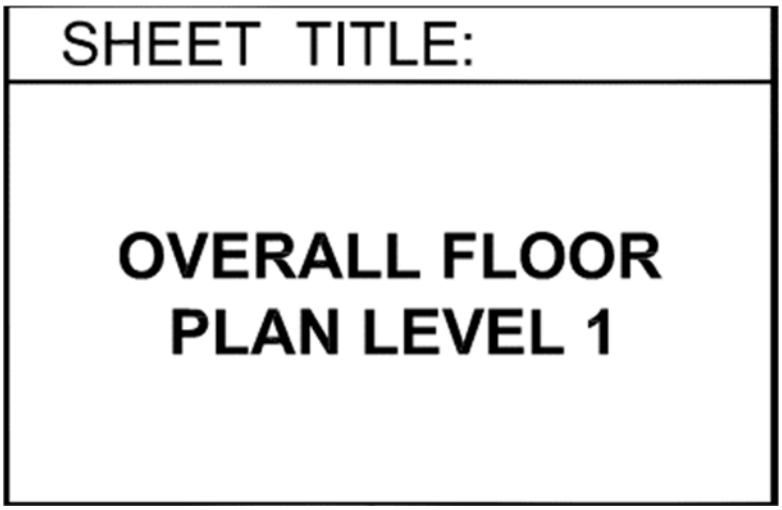
1. All AutoCAD drawings shall be drafted in Model Space at Full Scale in Imperial Systems (Architecture or Engineering) Drawing Units depending on project type.

2. Sheet Borders will be inserted in paper space with the lower left corner @ 0,0 on Layer "0".

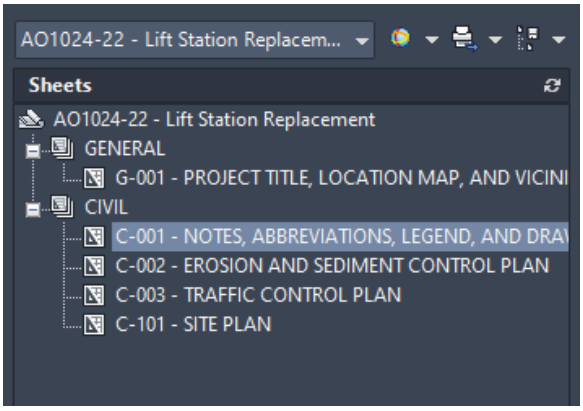
   a. Border size in the paper space should be setup with the drawing units below:
      1). Standard Border size in Architectural unit 1′-10″ x 2′-10″ (or 22″x 34″). See Appendix A.
      2). Alternate Border size in Architectural unit 2′-6″ x 3′-6″ (or 30″ x 42″)
      3). Standard Border size in Decimal units 22.00 x 34.00

   b. Company logo shall not be placed in the Title Sheet or any border.

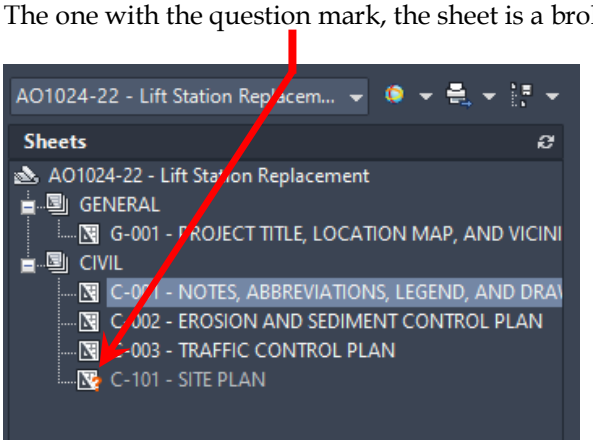
   c. Sheet Title Alignment should be Middle Center alignment.



d. Consultant is required to submit the Sheet Set (dst) format if any drawings use Sheet Set function. The Sheet Set file shall function properly, meaning they should not have question marks.

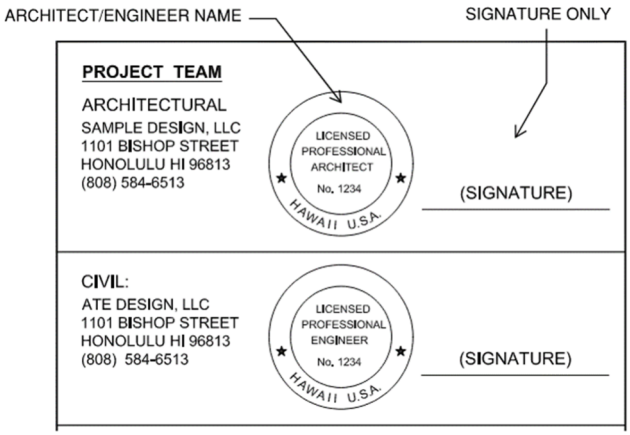


The one with the question mark, the sheet is a broken link (see image below):

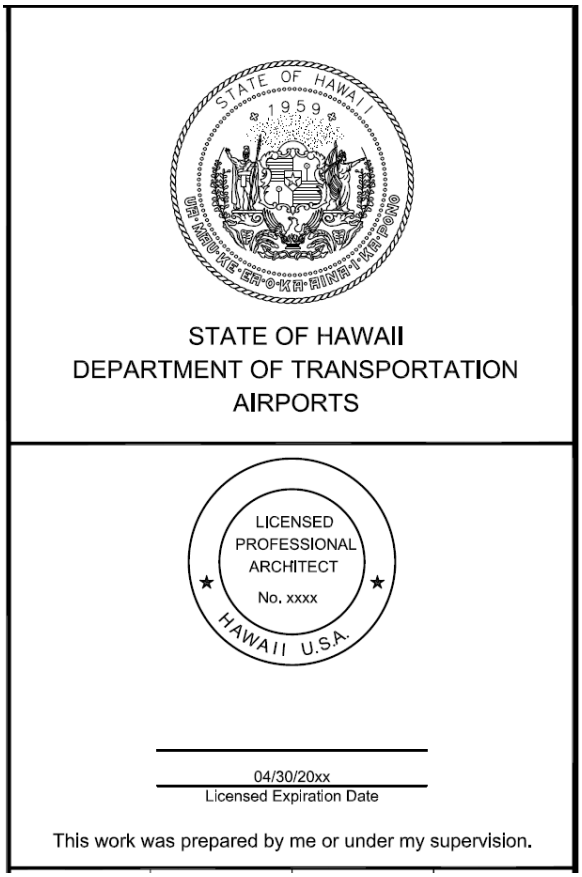


3. Architect/Landscape Architect/Land Surveyor/Engineer Stamps and Signatures are required and can be applied to the drawing electronically.

a. Stamp and Signature (all disciplines) shall be placed in the Project Team area on the Title Sheet.



b. Stamp and Signature with license expiration date and note "This work was prepared by me or under my supervision." shall be placed under the Hawaii State seal for each drawing sheet.



4. Line work (existing, proposed, demolished entities) shall be drawn or inserted, on the appropriate layers, in model space.

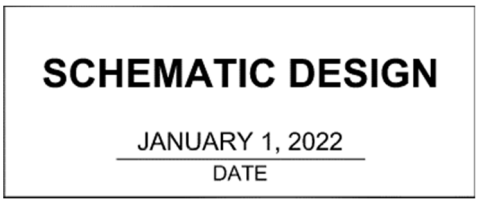
5. Drawing Numbering Systems.
A readily identifiable alpha-numeric system. The alphabetical prefix shall be used to denote the specific discipline covered by that group of drawings. The alphabetical system utilized shall correspond to the following:

G GENERAL
H HAZARDOUS MATERIALS
V SURVEY/MAPPING
A ARCHITECTURAL
C CIVIL
I INTERIOR DESIGN
E ELECTRICAL
F FIRE PROTECTION
K FOOD SERVICE
L LANDSCAPE
M MECHANICAL
P PLUMBING
S STRUCTURAL
AB BAGGAGE HANDLING SYSTEM
TY SECURITY
WF WATER FEATURE

Large complex projects may involve specialty consultants or one consultant doing multiple disciplines. For example, Telecommunication Engineer will also design Audio Visual or Intercom; therefore, the Level 2 Discipline Designators can be used. Assign alphabetical prefixes to related drawings with care so as not to cause confusion with other disciplines.

Designator		Description of Suggested Names	Content
Level 1	Level 2		
T-		**Telecommunications**	
	TA-	Audio Visual	CCTV and Music Systems
	TI	Intercom	Intercom System

6. For each submittal, Consultant is required to comply with the current Honolulu International Airport Design Submittal Requirements by adding the project phase (Conceptual Design, Schematic Design, Design Development, Construction Documents, and Record Drawings) and the date according to project schedule in the border (see sample below):



DESIGN DEVELOPMENT
JANUARY 1, 2022
DATE

CONSTRUCTION DOCUMENTS
JANUARY 1, 2022
DATE

RECORD DRAWINGS
JANUARY 1, 2022
DATE

7. Project Number shall match with the State Project Number that was issued by the DOTA PM

PROJECT NO.:
AO1022-17

8. The Revisions Schedule shall be setup from bottom to top as shown in the sample below.

NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

9. Purge all drawings, including external reference, all unused blocks, layers & line types.

10. All entity colors & line types shall be set "by layer" and not forced.

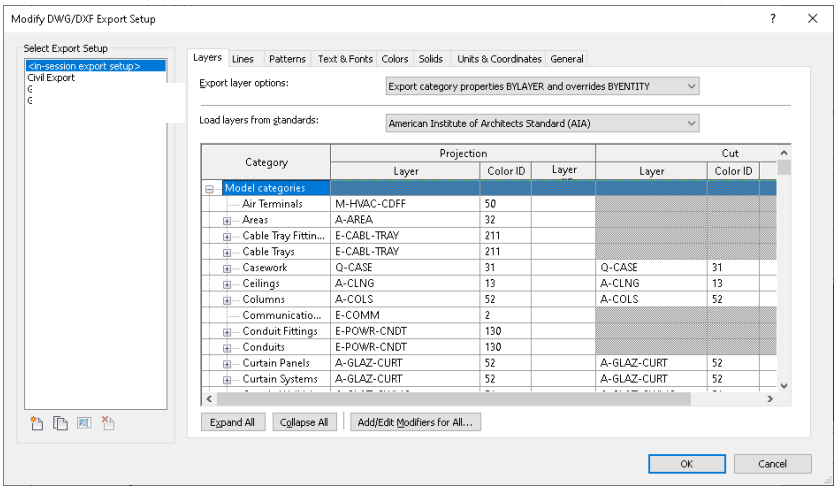
11. Standard fonts for notations on paper space shall be Arial with the height of 1/8". Standard fonts for notations on model space shall be Arial and match with the drawing scale. Lettering shall be Capital letters.

12. Do not set text heights in the "Style" command for the AutoCAD standard font styles.

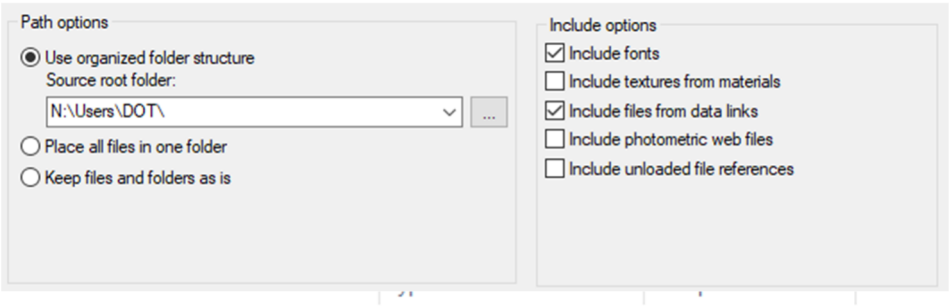
13. Do not draw on layer "0". This layer is reserved for attaching xrefs and inserting blocks.

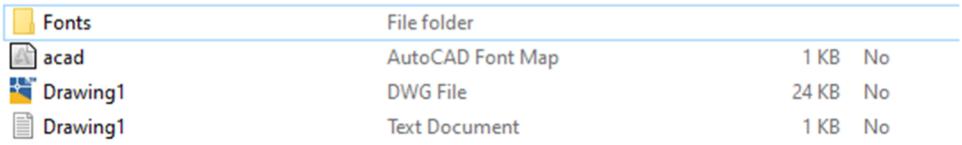
14. All documentation drawings and construction project drawings must be submitted to the DOTA PM in full compliance with their most current version of AutoCAD (file extension - *.dwg), unless otherwise noted.

15. Consultants who are working with Revit as a drafting tool will be required to submit the electronic files in AutoCAD (dwg) format. When exporting to AutoCAD, use the American Institute of Architects Standard (AIA) for the layering standard (see image below):

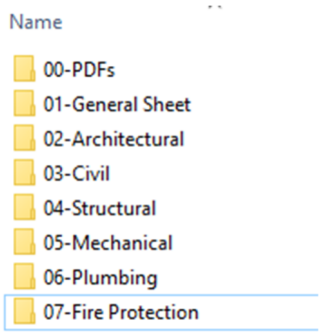


16. Consultant is required to do eTransmit and the folder structure should be setup as shown below:





17. File structure should be organized as below:



a. 00-PDFs folder will contain all PDF files (individual sheet pdf and combined pdf).

b. The rest of the folder will be for AutoCAD files which should be organized by each discipline.

c. Dwg and PDF files in the CD or DVD submittal should be in original format and the files should not be zipped or compressed.

d. If the files will be uploaded to ShareFile, prior to uploading to ShareFile, the project folders should be setup as shown above, then compress or zip the file.

G. RECORD DRAWINGS

It is the intent of the DOTA to 1) maintain consistency in the production of Construction Drawings and Record Drawings submittals for all projects, 2) have a quality product that will withstand the test of long-term storage for the production of high contrast and easily read copies of these documents, 3) accurately depict the as-constructed condition, and 4) serve as a resource for daily maintenance and planned work.

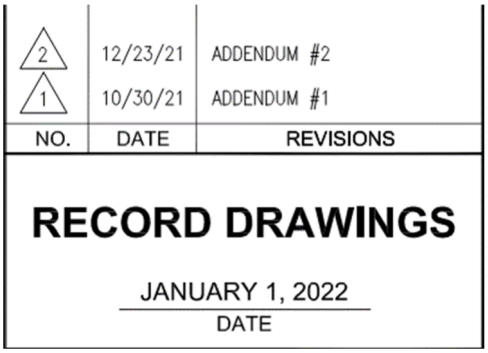
Compliance to the following general guideline to produce "RECORD DRAWINGS" is an attempt to satisfy the objectives of the DOTA.

1. After construction is completed, the Designer of Record (DOR) shall prepare their Record Drawings in accordance with the DOTA Consultant CAD Guideline and submit the Record Drawings to DOTA PM. If necessary, the DOTA PM will send pertinent CAD drawing files back to the DOR for corrections and/or to conform to the DOTA Consultant CAD Guideline. The DOR shall be required to submit the corrected CAD drawing files back to the DOTA PM.

2. Use the final updated Contract Drawing set plus applicable shop drawings for the final RECORD DRAWINGS submittal.

3. The job site “AS-BUILT” drawings will be submitted to the DOTA PM for acceptance. Upon acceptance, the DOTA PM will forward the job site "AS-BUILT" drawings to the DOR. The DOR shall be responsible for transcribing the "AS-BUILT" information onto the record drawing sheets.

4. All revision information (Delta Number, Date and Description) for the sheet that is being revised shall be shown in the revision area on the border.



NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

RECORD DRAWINGS

JANUARY 1, 2022
DATE

5. The Revision Cloud shall be turned off, and the delta symbol shall be on in the drawings.

6. The DOR shall state on the "RECORD DRAWINGS" the following statement on the Tile Sheet:

   "CHANGES MADE DURING CONSTRUCTION THAT WERE PROVIDED TO THE DESIGNER HAVE BEEN INCORPORATED ON THESE PLANS"

   The statement should be followed with the signature and date of the DOR (Appendix A).

   The drawing index shall be revised with the addition or deletion of Sheets noted in its appropriate place to reflect the actual composition of the set of drawings. The drawing index shall conclude with the following note; "A COMPLETE SET CONTAINS ____SHEETS"; with the total number of sheets comprising the set be placed in the blank.

7. A "RECORD DRAWINGS" note shall be placed in the block (see Appendix A). The date of acceptance of the "RECORD DRAWINGS" document by the DOTA PM shall be used as the date of the "RECORD DRAWINGS" and included with the "RECORD DRAWINGS" notation on each sheet.

8. Stamps and signatures of the project team shall be placed on the Title Sheet for Record Drawings. If stamps and signatures cannot be obtained for Record Drawings, a scanned copy of the Title Sheet from the Bid Document with stamps and signatures of the project team can be used for the Record Drawings submittal.

9. The final "RECORD DRAWINGS" submittal shall include the entire set delivered in an AutoCAD format on an electronic medium. Also, include reference files, custom font files, pen tables and Sheet Set file. The Consultant shall confirm with the DOTA PM which AutoCAD version is required. File naming convention for each sheet will be based on Discipline and Sheet Number. All AutoCAD files will be recorded on a recordable compact disc (CD-R) up to 700 MB or Digital Versatile Disc (DVD) up to 4.4GB.

   Use the final signed "RECORD DRAWINGS" sheets to create an electronic version in Adobe Acrobat PDF (Portable Document Format) in separate files for each sheet and a combined PDF file. PDF file name for each sheet shall start with the three-digit sequence number and follow by the drawing number and title. The combined PDF file shall be in the order to match with the drawing index and shall be named with the project number and project name. Each sheet shall be setup with a minimum of 300 DPI minimum and recorded on a recordable compact disc (CD-R) up to 700 MB or Digital Versatile Disc (DVD) up to 4.4GB. All drawings shall be in landscape orientation.

   Individual PDF naming:

   - 001_G-001-Title Sheet .pdf
   - 002_G-002-General Notes and Index.pdf
   - 003_G-003-Site Plans.pdf
   - 004_A-101-Floor plan.pdf
   - 005_A-102-Elevations.pdf
   - 006_A-103-Sections.pdf

   Combined PDF naming:

   - AO1033-22 HNL Lobby Renovation.pdf

10. The "RECORD DRAWINGS" submittal shall include:
    a. AutoCAD (dwg and dst), PDF files and Revit (rvt)
    b. Revit submittal are for those who do their drawings in Revit.

CAD QUALITY ASSURANCE CHECKLIST

Project Number: _____
Project Name : _____

CAD drawings submitted with each design phase submittal must be accompanied by submission of the following checklist. The Prime Designer and all sub-consultants must submit a checklist. When a checklist has been signed and submitted, the Consultants (architect, engineer, etc.) are assuring that all materials adhere to the standards and guidelines set forth in the Consultant CAD Guidelines. (Note: Consultants will not be compensated for their drawings that need to be revised to comply with these Consultant CAD Guidelines)

Checklist

- ☐ Title Sheet Format
- ☐ Border Format for Plan/Detail Sheets
- ☐ Policy on Paper Space and Model Space
- ☐ Policy on External Reference (XREFs)
- ☐ Policy on Layering System
- ☐ Policy on Symbols, Font Style, and Line Types
  - ☐ Symbols
  - ☐ Font Style
  - ☐ Line Types
- ☐ Policy on Drawing Setup
  - ☐ Border Sizes
  - ☐ Stamps and Signatures
  - ☐ Drawing Numbering Systems

Submittal

- ☐ CD or DVD
- ☐ ShareFile
- ☐ No zipped or compressed files
- ☐ Sheet Set file (.dst) included
- ☐ File Structure
- ☐ Individual and Combined PDF Naming

Consultant Name *(please print)*: _____

Authorized Consultant Signature _____ Date: _____

Phone Number: _____ Email: _____

APPENDIX A - SAMPLE OF TITLE SHEET AND STANDARD BORDER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

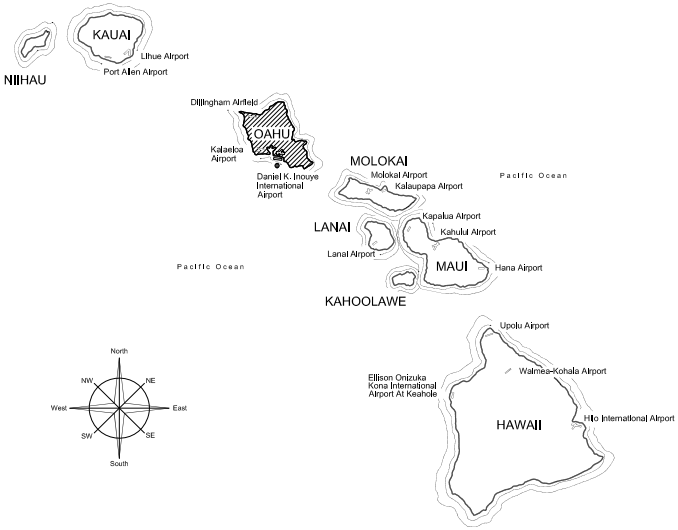
PLANS FOR

?

?

AT

DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII
PROJECT NO. ???



PROJECT TEAM

ARCHITECTURAL
SAMPLE DESIGN, LLC
1101 BISHOP STREET
HONOLULU HI 96813
(808) 584-6513

(SIGNATURE)
JOHN SAMPLE
ARCHITECT

CIVIL:
ATE DESIGN, LLC
1101 BISHOP STREET
HONOLULU HI 96813
(808) 584-6513

(SIGNATURE)
(FULL NAME)
CIVIL ENGINEER

LANDSCAPE:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
LANDSCAPE ARCHITECT

STRUCTURAL:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
STRUCTURAL ENGINEER

MECHANICAL:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
MECHANICAL ENGINEER

PLUMBING:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
PLUMBING ENGINEER

ELECTRICAL:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
ELECTRICAL ENGINEER

PROJECT TEAM:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
(TITLE)

PROJECT TEAM:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
(TITLE)

PROJECT TEAM:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
(TITLE)

PROJECT TEAM:
(COMPANY NAME)
(ADDRESS LINE 1)
(ADDRESS LINE 2)
(PHONE NUMBER)

(SIGNATURE)
(FULL NAME)
(TITLE)

AIRPORT VICINITY MAP

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

DIRECTOR OF TRANSPORTATION DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

No. xxxx

04/30/20xx
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
-	-	-	-

NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

CONSTRUCTION DOCUMENTS
OCTOBER 31, 2023
DATE

PROJECT TITLE :

PROJECT TITLE

AT
DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII

PROJECT NO.:

PROJECT NUMBER

SHEET TITLE:

COVER SHEET, VICINITY MAP, PROJECT TEAM

DATE :
10/31/2023
SHEET :
? OF ?? SHEETS

DWG. NO.
G-001

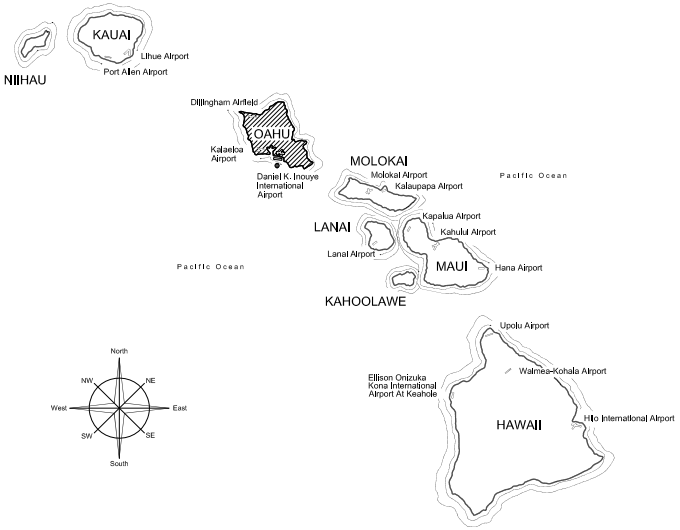
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

PLANS FOR

?
?

AT

DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII
PROJECT NO. ???



PROJECT TEAM

ARCHITECTURAL SAMPLE DESIGN, LLC 1101 BISHOP STREET HONOLULU HI 96813 (808) 584-6513	No. 1234	(SIGNATURE) JOHN SAMPLE ARCHITECT
CIVIL: ATE DESIGN, LLC 1101 BISHOP STREET HONOLULU HI 96813 (808) 584-6513	No. 1234	(SIGNATURE) (FULL NAME) CIVIL ENGINEER
LANDSCAPE: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) LANDSCAPE ARCHITECT
STRUCTURAL: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) STRUCTURAL ENGINEER
MECHANICAL: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) MECHANICAL ENGINEER
PLUMBING: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) PLUMBING ENGINEER
ELECTRICAL: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) ELECTRICAL ENGINEER
PROJECT TEAM: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) (TITLE)
PROJECT TEAM: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) (TITLE)
PROJECT TEAM: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) (TITLE)
PROJECT TEAM: (COMPANY NAME) (ADDRESS LINE 1) (ADDRESS LINE 2) (PHONE NUMBER)	No. 1234	(SIGNATURE) (FULL NAME) (TITLE)

AIRPORT VICINITY MAP

CHANGES MADE DURING CONSTRUCTION THAT WERE PROVIDED TO THE DESIGNER HAVE BEEN INCORPORATED ON THESE PLANS

SUBMITTED BY:
COMPANY NAME DATE

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:
DIRECTOR OF TRANSPORTATION DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

No. xxxx

04/30/20xx
Licensed Expiration Date

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-	-	-	-

NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

RECORD DRAWINGS

OCTOBER 31, 2023
DATE

PROJECT TITLE :

PROJECT TITLE

AT
DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII

PROJECT NO.:

PROJECT NUMBER

SHEET TITLE:

COVER SHEET,
VICINITY MAP,
PROJECT TEAM

DATE :
10/31/2023
SHEET :
? OF ?? SHEETS

DWG. NO.
G-001

DRAWING6.DWG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

LICENSED PROFESSIONAL ARCHITECT
No. xxxx
HAWAII, U.S.A.

04/30/20xx
Licensed Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
-	-	-	-

NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

CONSTRUCTION DOCUMENTS

OCTOBER 31, 2023
DATE

PROJECT TITLE :

PROJECT TITLE

AT
DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII

PROJECT NO.:

PROJECT NUMBER

SHEET TITLE:

FLOOR PLAN - LEVEL 1

DATE :
10/31/2023

SHEET :
? OF ?? SHEETS

DWG. NO.
A-101

DRAWING 27 x 20 x 0

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

LICENSED PROFESSIONAL ARCHITECT
No. xxxx
HAWAII, U.S.A.

04/30/20xx
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
-	-	-	-

NO.	DATE	REVISIONS
2	12/23/21	ADDENDUM #2
1	10/30/21	ADDENDUM #1

RECORD DRAWINGS

OCTOBER 31, 2023
DATE

PROJECT TITLE :

EMERGING STAGING AND STORAGE FACILITY

AT
DANIEL K. INOUYE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII

PROJECT NO.:

PROJECT NUMBER

SHEET TITLE:

FLOOR PLAN - LEVEL 1

DATE :
10/31/2023

SHEET :
? OF ?? SHEETS

DWG. NO.
A-101

DRAWING NO. 2-20-01