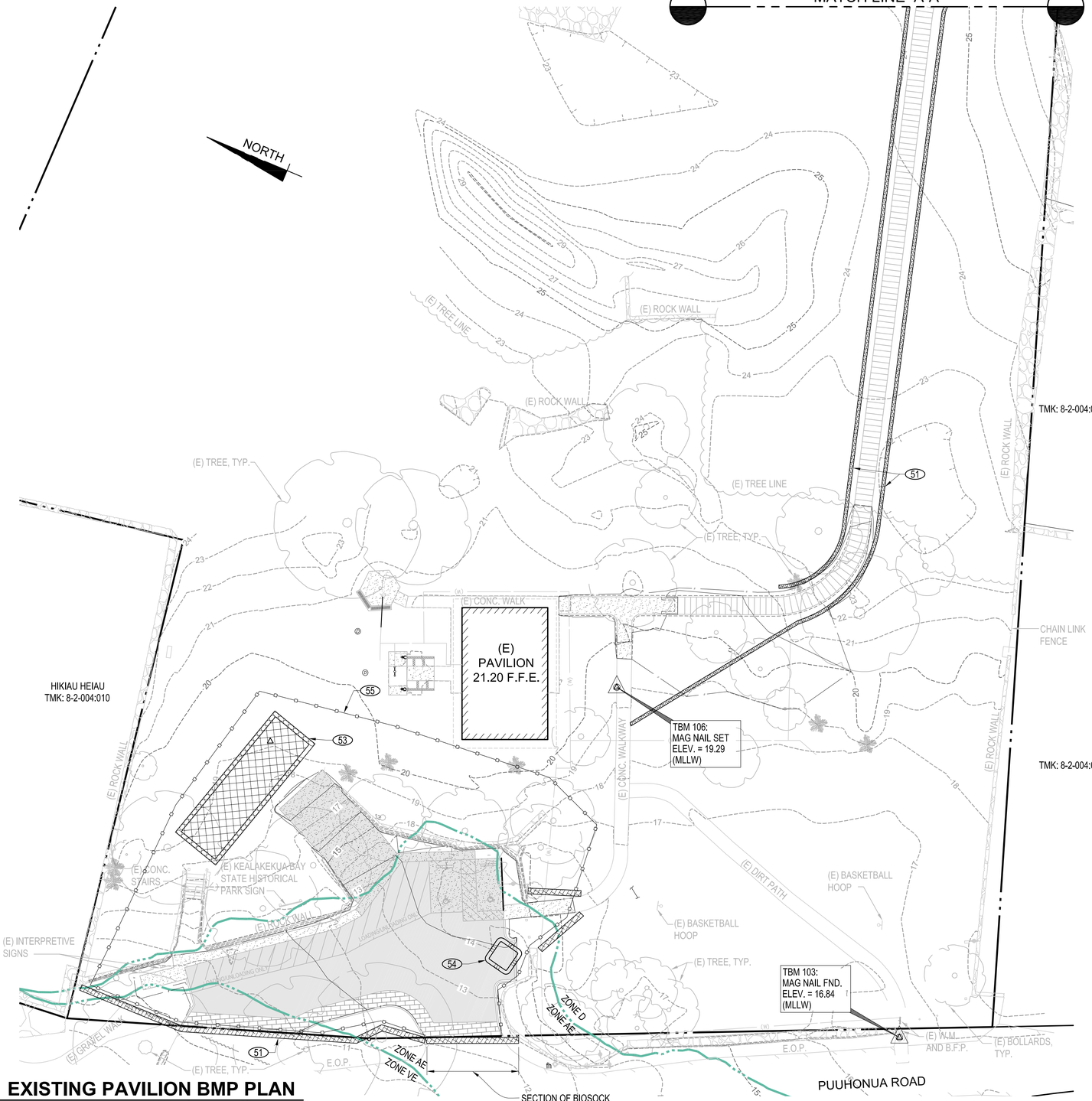
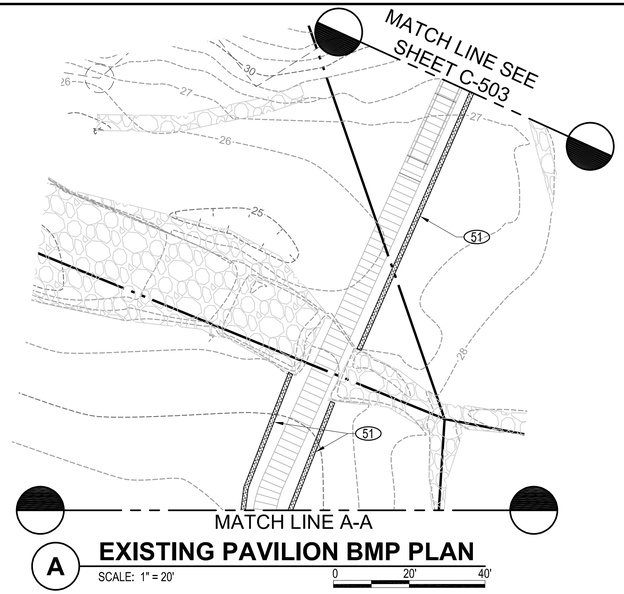


A **EXISTING PAVILION BMP PLAN**
SCALE: 1" = 20'
0 20' 40'



A **EXISTING PAVILION BMP PLAN**
SCALE: 1" = 20'
0 20' 40'

BMP CONSTRUCTION NOTES
(ORDER OF PRECEDENCE FOR INSTALLATION)

51 CONSTRUCT SILT FENCE OR BIOSOCK PER DETAIL — 3/C-501, 3/C-502

53 CONSTRUCT GRAVEL BAG FILTERS OR BIOSOCK AROUND STOCK PILE/ DEBRIS / VEHICLE/ EQUIPMENT STORAGE AREA — 2/C-502

54 CONSTRUCT 10'L X 10'W X 2'D CONCRETE BASIN WITH IMPERMEABLE LINER — 1/C-501

55 CONSTRUCT DUST FENCE PER DETAIL — 1/C-502

LEGEND

- NEW CONCRETE
- NEW CONCRETE PAVEMENT
- CONSTRUCTION ENTRANCE AND VEHICLE/EQUIPMENT WASH AREA
- NEW PAVEDRAIN PERMEABLE PAVER
- GB — GRADE BREAK
- SWALE LINE
- 100 — EXISTING CONTOURS
- 100 — NEW FINISH GRADE CONTOURS
- LIMITS OF GRADING
- BIOSOCK/SILT FENCE
- DUST FENCE
- RUNOFF FLOW DIRECTION
- SEDIMENT/CONCRETE WASHOUT BASIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG — LICENSED PROFESSIONAL ENGINEER — Exp. 04/30/28 — No. 9361-C — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EXISTING PAVILION BMP PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	OH	SUBMITTED:	
DRAWN:	OH	DATE:	
CHECKED:	YWF	SCALE:	AS NOTED
APPROVED:	YWF	DRAWING NO.	C-504
CHIEF ENGINEER:	Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer		

JOB NO.: F14C728D SHEET NO. 32 OF 143 SHEETS

05/05/2026 11:31 am
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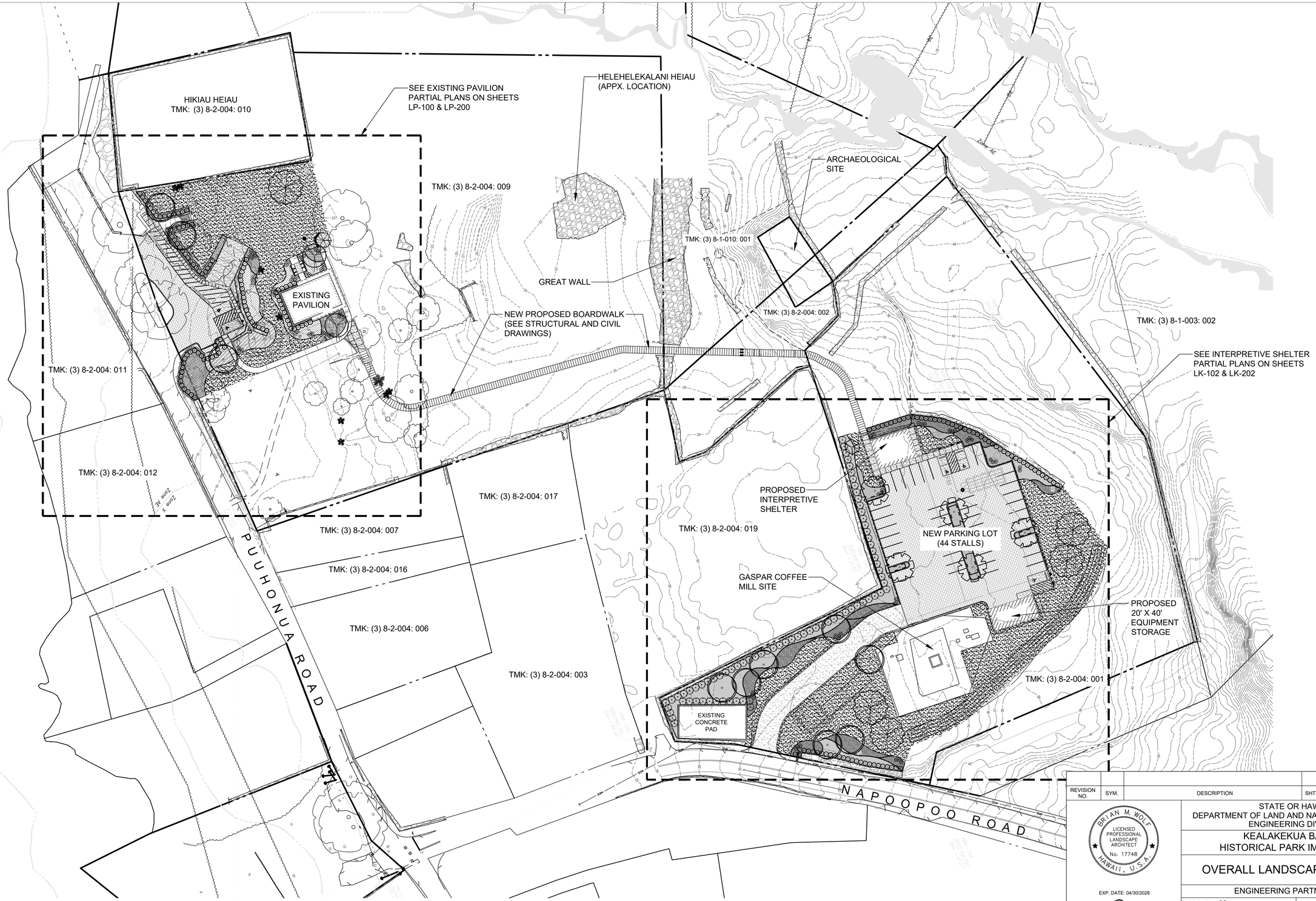
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 OVERALL LANDSCAPE SITE PLAN
SCALE: 1" = 40'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS STIPULATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES.

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

OVERALL LANDSCAPE SITE PLAN

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED

APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

CHIEF ENGINEER

DRAWING NO. L-000

JOB NO.: F14C728D SHEET NO. 33 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 3:32 pm
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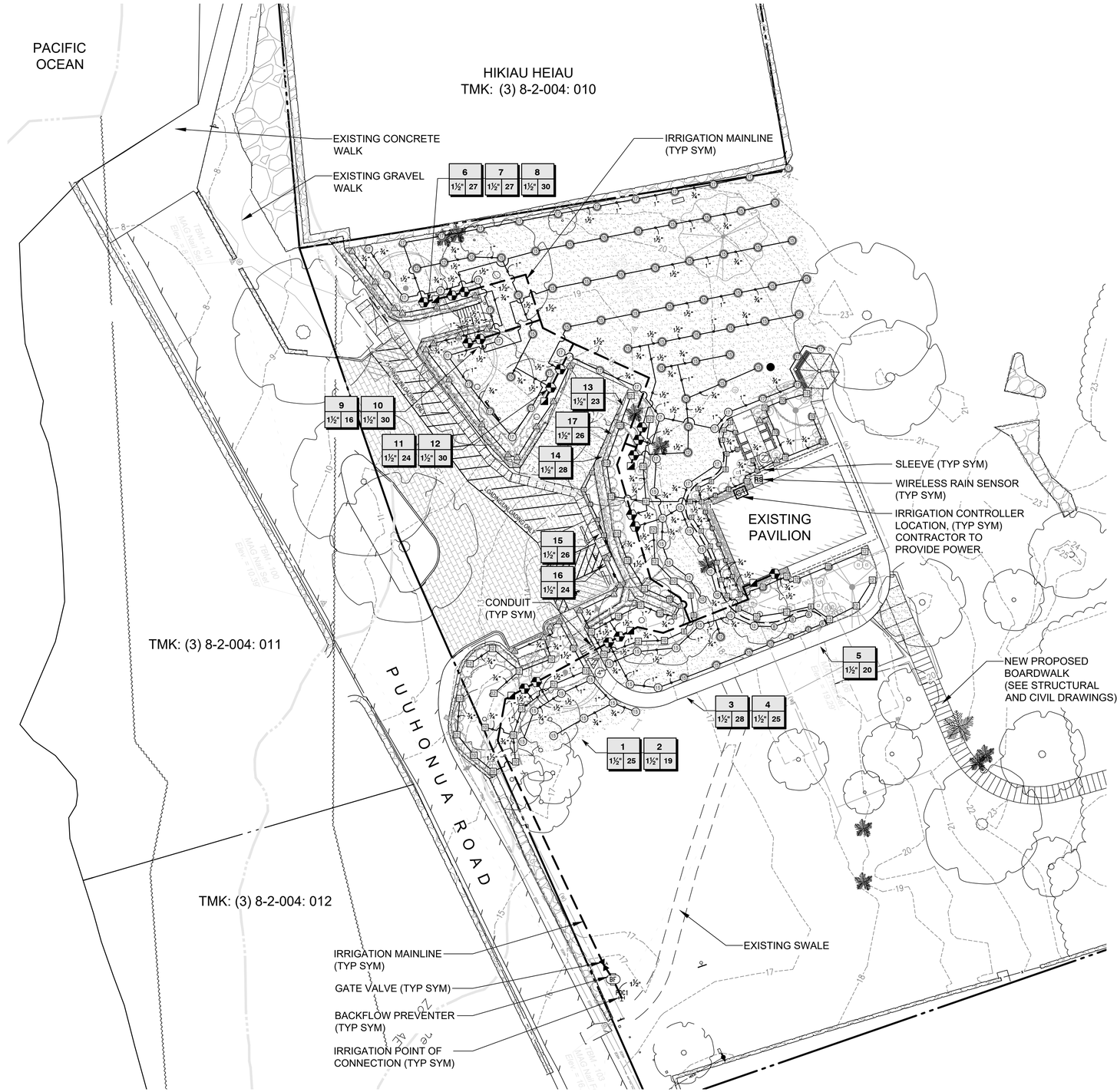

1 EXISTING PAVILION PARTIAL IRRIGATION PLAN
SCALE: 1" = 20'-0"

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESB-PRS-D 1-1/2" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.
	Rain Bird 44-LRC 1" 1" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"
BF	Febco 825YA 1-1/2" Reduced Pressure Backflow Preventer
C1	Rain Bird ESPLXME2-LXMM-LXMMPED w/ (1) ESPLXMSM12 (3) 24 Station, Traditionally-Wired, Commercial Controller.(1) ESPLXME2 12-Station, Indoor/Outdoor, Plastic Wall-Mount Enclosure w/ (1) ESPLXMSM12 - 12-Station Expansion Module. Install in LXMM-LXMMPED Powder Coated, Metal Wall-Mounted Cabinet w/ Pedestal
RS	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.
POC1	Point of Connection 1 1/2"
	Irrigation Lateral Line: PVC Schedule 40 3/4"
	Irrigation Lateral Line: PVC Schedule 40 1"
	Irrigation Lateral Line: PVC Schedule 40 1 1/2"
	Irrigation Mainline: PVC Schedule 40 1 1/2"
	Pipe Sleeve: PVC Schedule 40
	CONTROL WIRE CONDUIT: PVC SCHEDULE 80 UL APPROVED TYPICAL CONDUIT FOR IRRIGATION CONTROL WIRE. CONDUIT SIZE SHALL ALLOW FOR IRRIGATION CONTROL WIDE TO EASILY SLIDE THROUGH CONDUIT MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.

VALVE CALLOUT
— VALVE NUMBER
#" / #• — VALVE FLOW / VALVE SIZE

CONDUIT & SLEEVE CALLOUT
▽ — CONDUIT SIZE
(6") — SLEEVE SIZE

NOTES:
1. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES AND SPRINKLER HEADS WITHIN PLANTING AREAS, UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES ARE SHOWN. AVOID ANY CONFLICT BETWEEN UNDERGROUND UTILITIES, STRUCTURES AND PLANTING.
2. REFER TO SHEET LP-101 & LK-103 FOR IRRIGATION SCHEDULES.
3. REFER TO SHEET L-104, L-105 & L-106 FOR ADDITIONAL IRRIGATION NOTES AND DETAILS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF — LICENSED PROFESSIONAL LANDSCAPE ARCHITECT — No. 17748 — HAWAII, U.S.A.
EXP. DATE: 04/30/2028

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS STIPULATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES.

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EXISTING PAVILION PARTIAL IRRIGATION PLAN

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. LP-100
CHIEF ENGINEER:	

JOB NO.: F14C728D
SHEET NO. 34 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

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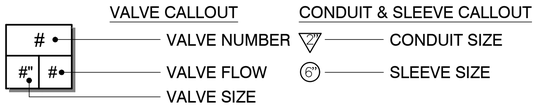
EXISTING PAVILION IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
8	Hunter PROS-04-PRS30-CV 08H	2	180	30	0.47	6'
10	Hunter PROS-04-PRS30-CV 10H	1	180	30	0.88	8'
12	Hunter PROS-04-PRS30-CV 12F	6	360	30	2.7	10'
15	Hunter PROS-04-PRS30-CV 15F	40	360	30	3.75	12'
15	Hunter PROS-04-PRS30-CV 15H	4	180	30	1.86	12'
17	Hunter PROS-04-PRS30-CV 17H	20	180	30	2.37	14'
17	Hunter PROS-04-PRS30-CV 17Q	1	90	30	1.15	14'
8	Hunter PROS-04-PRS30-CV 08A	4	Adj	30	≤ 1.76	6'
10	Hunter PROS-04-PRS30-CV 10A	2	Adj	30	≤ 2.02	8'
12	Hunter PROS-04-PRS30-CV 12A	5	Adj	30	≤ 2.52	10'
15	Hunter PROS-04-PRS30-CV 15A	20	Adj	30	≤ 3.71	12'
17	Hunter PROS-04-PRS30-CV 17A	15	Adj	30	≤ 4.61	14'
4	Hunter PROS-12-PRS30-CV 04Q	3	90	30	0.2	4'
6	Hunter PROS-12-PRS30-CV 06H	9	180	30	0.5	6'
	Hunter PROS-12-PRS30-CV LCS-515	11	LCS	30	0.65	5'x15'
	Hunter PROS-12-PRS30-CV RCS-515	9	RCS	30	0.65	5'x15'
	Hunter PROS-12-PRS30-CV SS-530	7	SST	30	1.3	5'x30'
8	Hunter PROS-12-PRS30-CV 08H	1	180	30	0.47	8'
10	Hunter PROS-12-PRS30-CV 10H	6	180	30	0.88	10'
10	Hunter PROS-12-PRS30-CV 10Q	1	90	30	0.42	10'
12	Hunter PROS-12-PRS30-CV 12H	5	180	30	1.3	12'
12	Hunter PROS-12-PRS30-CV 12Q	2	90	30	0.67	12'
15	Hunter PROS-12-PRS30-CV 15H	1	180	30	1.86	15'
15	Hunter PROS-12-PRS30-CV 15Q	3	90	30	0.97	15'
4	Hunter PROS-12-PRS30-CV 04A	3	Adj	30	≤ 0.9	4'
6	Hunter PROS-12-PRS30-CV 06A	17	Adj	30	≤ 1.37	6'
8	Hunter PROS-12-PRS30-CV 08A	6	Adj	30	≤ 1.76	8'
10	Hunter PROS-12-PRS30-CV 10A	11	Adj	30	≤ 2.02	10'
12	Hunter PROS-12-PRS30-CV 12A	18	Adj	30	≤ 2.52	12'
15	Hunter PROS-12-PRS30-CV 15A	8	Adj	30	≤ 3.71	15'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESB-PRS-D 1-1/2" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.	17
	Rain Bird 44-LRC 1" 1" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.	6
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"	1
BF	Febco 825YA 1-1/2" Reduced Pressure Backflow Preventer	1
C1	Rain Bird ESPLXME2-LXMM-LXMMPED w/ (1) ESPLXMSM12 (3) 24 Station, Traditionally-Wired, Commercial Controller.(1) ESPLXME2 12-Station, Indoor/Outdoor, Plastic Wall-Mount Enclosure w/ (1) ESPLXMSM12 - 12-Station Expansion Module. Install in LXMM-LXMMPED Powder Coated, Metal Wall-Mounted Cabinet w/ Pedestal	1
RS	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.	1
POC1	Point of Connection 1 1/2"	1
	Irrigation Lateral Line: PVC Schedule 40 3/4"	1,488 lf
	Irrigation Lateral Line: PVC Schedule 40 1"	400.8 lf
	Irrigation Lateral Line: PVC Schedule 40 1 1/2"	657.3 lf
	Irrigation Mainline: PVC Schedule 40 1 1/2"	477.5 lf
	Pipe Sleeve: PVC Schedule 40	9.1 lf
	CONTROL WIRE CONDUIT: PVC SCHEDULE 80 UL APPROVED TYPICAL CONDUIT FOR IRRIGATION CONTROL WIRE. CONDUIT SIZE SHALL ALLOW FOR IRRIGATION CONTROL WIDE TO EASILY SLIDE THROUGH CONDUIT MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS STIPULATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES.

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

EXISTING PAVILION IRRIGATION SCHEDULE

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. LP-101
CHIEF ENGINEER:	

JOB NO.: F14C728D

SHEET NO. 35 OF 143 SHEETS

05/05/2026 3:54 pm
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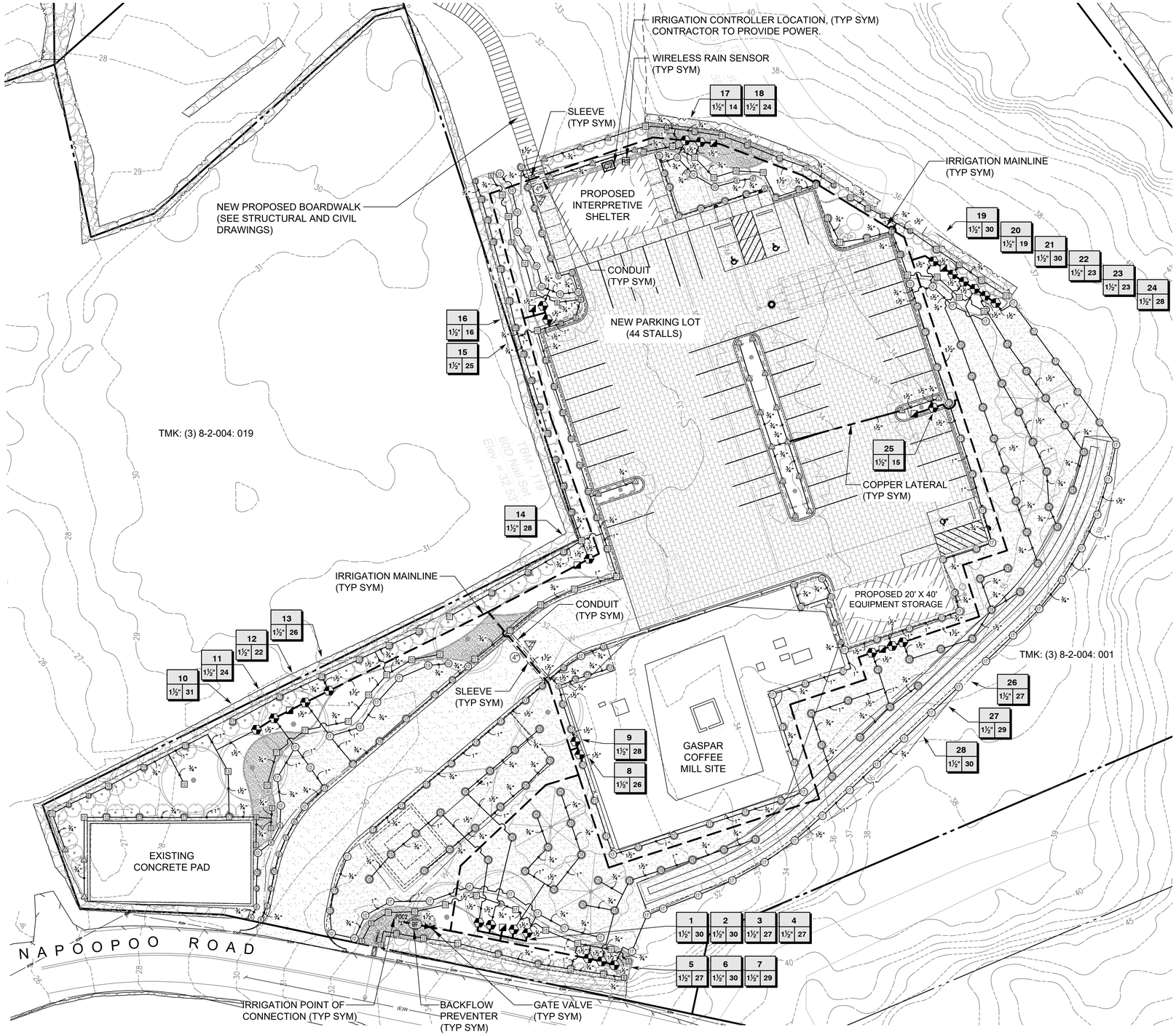
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 INTERPRETIVE SHELTER PARTIAL IRRIGATION PLAN
SCALE: 1" = 20'-0"

NORTH 0 5 10 20 40 FEET

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESB-PRS-D 1-1/2" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.
	Rain Bird 44-LRC 1" 1" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"
BF	Febco 825YA 1-1/2" Reduced Pressure Backflow Preventer
C2	Rain Bird ESPLXME2-LXMM-LXMMPED w/ (1) ESPLXMSM12 (3) 36 Station, Traditionally-Wired, Commercial Controller.(1) ESPLXME2 12-Station, Indoor/Outdoor, Plastic Wall-Mount Enclosure w/ (1) ESPLXMSM12 - 12-Station Expansion Module. Install in LXMM-LXMMPED Powder Coated, Metal Wall-Mounted Cabinet w/ Pedestal
RS	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.
POC2	Point of Connection 1 1/2"
	Irrigation Lateral Line: PVC Schedule 40 3/4"
	Irrigation Lateral Line: PVC Schedule 40 1"
	Irrigation Lateral Line: PVC Schedule 40 1 1/2"
	Irrigation Lateral Line: Type K Copper Pipe 1 1/2"
	Irrigation Mainline: PVC Schedule 40 1 1/2"
	Pipe Sleeve: PVC Schedule 40
	CONTROL WIRE CONDUIT: PVC SCHEDULE 80 UL APPROVED TYPICAL CONDUIT FOR IRRIGATION CONTROL WIRE. CONDUIT SIZE SHALL ALLOW FOR IRRIGATION CONTROL WIDE TO EASILY SLIDE THROUGH CONDUIT MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.

VALVE CALLOUT
- # — VALVE NUMBER
- #" # — VALVE FLOW / VALVE SIZE

CONDUIT & SLEEVE CALLOUT
- ▽ — CONDUIT SIZE
- 6" — SLEEVE SIZE

NOTES:
1. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES AND SPRINKLER HEADS WITHIN PLANTING AREAS, UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES ARE SHOWN. AVOID ANY CONFLICT BETWEEN UNDERGROUND UTILITIES, STRUCTURES AND PLANTING.
2. REFER TO SHEET LP-101 & LK-103 FOR IRRIGATION SCHEDULES.
3. REFER TO SHEET L-104, L-105 & L-106 FOR ADDITIONAL IRRIGATION NOTES AND DETAILS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF — LICENSED PROFESSIONAL LANDSCAPE ARCHITECT — No. 17748 — HAWAII, U.S.A.

EXP. DATE: 04/30/2028

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS STIPULATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER PARTIAL
IRRIGATION PLAN

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. LK-102
CHIEF ENGINEER:	

JOB NO.: F14C728D SHEET NO. 36 OF 143 SHEETS

05/05/2026 3:54 pm
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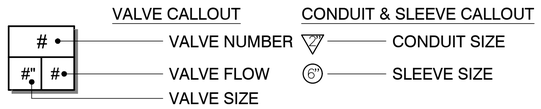
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

INTERPRETIVE SHELTER IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Hunter PROS-04-PRS30-CV LCS-515	1	LCS	30	0.65	4'x12'
	Hunter PROS-04-PRS30-CV RCS-515	1	RCS	30	0.65	4'x12'
	Hunter PROS-04-PRS30-CV SS-530	1	SST	30	1.3	4'x24'
8	Hunter PROS-04-PRS30-CV 08H	2	180	30	0.47	6'
10	Hunter PROS-04-PRS30-CV 10H	12	180	30	0.88	8'
10	Hunter PROS-04-PRS30-CV 10Q	1	90	30	0.42	8'
12	Hunter PROS-04-PRS30-CV 12H	7	180	30	1.3	10'
12	Hunter PROS-04-PRS30-CV 12Q	5	90	30	0.67	10'
15	Hunter PROS-04-PRS30-CV 15F	66	360	30	3.75	12'
15	Hunter PROS-04-PRS30-CV 15H	2	180	30	1.86	12'
17	Hunter PROS-04-PRS30-CV 17H	39	180	30	2.37	14'
17	Hunter PROS-04-PRS30-CV 17Q	3	90	30	1.15	14'
8	Hunter PROS-04-PRS30-CV 08A	14	Adj	30	≤ 1.76	6'
10	Hunter PROS-04-PRS30-CV 10A	13	Adj	30	≤ 2.02	8'
12	Hunter PROS-04-PRS30-CV 12A	14	Adj	30	≤ 2.52	10'
15	Hunter PROS-04-PRS30-CV 15A	1	Adj	30	≤ 3.71	12'
17	Hunter PROS-04-PRS30-CV 17A	43	Adj	30	≤ 4.61	14'
	Hunter PROS-12-PRS30-CV LCS-515	6	LCS	30	0.65	5'x15'
	Hunter PROS-12-PRS30-CV RCS-515	6	RCS	30	0.65	5'x15'
	Hunter PROS-12-PRS30-CV SS-530	13	SST	30	1.3	5'x30'
8	Hunter PROS-12-PRS30-CV 08H	8	180	30	0.47	8'
10	Hunter PROS-12-PRS30-CV 10H	26	180	30	0.88	10'
10	Hunter PROS-12-PRS30-CV 10Q	1	90	30	0.42	10'
12	Hunter PROS-12-PRS30-CV 12H	16	180	30	1.3	12'
15	Hunter PROS-12-PRS30-CV 15H	2	180	30	1.86	15'
17	Hunter PROS-12-PRS30-CV 17H	12	180	30	2.37	17'
17	Hunter PROS-12-PRS30-CV 17Q	1	90	30	1.15	17'
8	Hunter PROS-12-PRS30-CV 08A	17	Adj	30	≤ 1.76	8'
10	Hunter PROS-12-PRS30-CV 10A	11	Adj	30	≤ 2.02	10'
12	Hunter PROS-12-PRS30-CV 12A	16	Adj	30	≤ 2.52	12'
15	Hunter PROS-12-PRS30-CV 15A	7	Adj	30	≤ 3.71	15'
17	Hunter PROS-12-PRS30-CV 17A	11	Adj	30	≤ 4.61	17'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESB-PRS-D 1-1/2" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.	28
	Rain Bird 44-LRC 1" 1" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.	8
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"	1
BF	Febco 825YA 1-1/2" Reduced Pressure Backflow Preventer	1
C2	Rain Bird ESPLXME2-LXMM-LXMMPED w/ (1) ESPLXMSM12 (3) 36 Station, Traditionally-Wired, Commercial Controller.(1) ESPLXME2 12-Station, Indoor/Outdoor, Plastic Wall-Mount Enclosure w/ (1) ESPLXMSM12 - 12-Station Expansion Module. Install in LXMM-LXMMPED Powder Coated, Metal Wall-Mounted Cabinet w/ Pedestal	1
RS	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.	1
POC2	Point of Connection 1 1/2"	1
	Irrigation Lateral Line: PVC Schedule 40 3/4"	2,493 lf
	Irrigation Lateral Line: PVC Schedule 40 1"	596.0 lf
	Irrigation Lateral Line: PVC Schedule 40 1 1/2"	1,081 lf
	Irrigation Lateral Line: Type K Copper Pipe 1 1/2"	40.2 lf
	Irrigation Mainline: PVC Schedule 40 1 1/2"	1,167 lf
	Pipe Sleeve: PVC Schedule 40	30.9 lf
	CONTROL WIRE CONDUIT: PVC SCHEDULE 80 UL APPROVED TYPICAL CONDUIT FOR IRRIGATION CONTROL WIRE. CONDUIT SIZE SHALL ALLOW FOR IRRIGATION CONTROL WIDE TO EASILY SLIDE THROUGH CONDUIT MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS STIPULATED IN CHAPTER 16-115 OF THE HAWAII ADMINISTRATIVE RULES.

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER IRRIGATION SCHEDULE

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. LK-103
CHIEF ENGINEER	

JOB NO.: F14C728D

SHEET NO. 37 OF 143 SHEETS

05/05/2026 3:54 pm
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KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

IRRIGATION GENERAL NOTES

1. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES AND SPRINKLER HEADS WITHIN PLANTING AREAS, UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES ARE SHOWN. AVOID ANY CONFLICT BETWEEN UNDERGROUND UTILITIES, STRUCTURES AND PLANTINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES. BURY PRESSURE MAINLINES 18" DEEP MINIMUM FOR CONVENTIONAL WIRING; 24" DEEP MINIMUM FOR DECODER-BASED WIRING, AND LATERAL LINES 12" DEEP MINIMUM.

2. CONTRACTOR SHALL INSTALL ALL IRRIGATION EQUIPMENT (IE. IRRIGATION LINES, CONTROL WIRES, VALVES, HEADS, ETC.) PER SPECIFICATIONS. EXISTING GATE VALVES, POINT OF CONNECTION, ETC. ARE DERIVED FROM THE BEST AVAILABLE INFORMATION AND ON-SITE INSPECTION. THE CONTRACTOR SHALL VERIFY THOSE POINTS OF CONNECTION NOTED AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

3. THE IRRIGATION SYSTEM WAS DESIGNED TO PERFORM WITH A STATIC PRESSURE OF 60 PSI AND MINIMUM WATER FLOW OF 35 GPM AT THE POINT OF CONNECTION (P.O.C.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THESE REQUIREMENTS THROUGH ONSITE TESTING AND SHALL REPORT THE FINDINGS TO THE (PROJECT OWNER OR REPRESENTATIVES, PROJECT ENGINEER, AND/OR LANDSCAPE ARCHITECT) AT LEAST TEN (10) DAYS PRIOR TO START OF CONSTRUCTION.

4. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND OBSERVE ALL LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL CONFIRM ALL SITES DIMENSIONS AND CONDITIONS, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

3. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SLEEVES, CONDUITS, MAINLINES AND LATERALS UNDER PAVEMENT AND THROUGH WALLS. CONTRACTOR SHALL ENSURE THAT THESE ITEMS ARE LAID PRIOR TO PLACEMENT OF PAVEMENT OR WALL STRUCTURES.

4. LOCATE AND INSTALL ALL SPRINKLER HEADS 6" FROM SIDEWALKS, CURBS, DRIVEWAYS, BUILDING AND WALL UNLESS OTHERWISE NOTED. FLEX TUBING SHALL BE INSTALLED ON ALL SPRINKLER HEAD ALONG SIDEWALKS, DRIVEWAYS, AND PARKING SPACES. ADJUST ALL SPRINKLER HEADS AND FLOW CONTROL FOR MAXIMUM COVERAGE AND MINIMUM OVERTHROW AND MISTING. OPERATE ONLY ONE VALVE AT A TIME PER CONTROLLER, UNLESS OTHERWISE NOTED.

5. WITHIN 30 DAYS AFTER AWARD OF THE CONTRACT, SUBMIT FOR THE ENGINEER'S ACCEPTANCE SIX (6) COPIES OF DETAILED SCALED DRAWINGS AND WIRING DIAGRAMS FOR PERMANENT AND TEMPORARY IRRIGATION SYSTEMS. NOT PROPOSED DEVIATIONS FROM THE CONTRACT. INCLUDE SAMPLES OF MATERIALS, IF REQUIRED BY CONTRACT.

6. PERFORM HYDROSTATIC TEST BY APPLYING CONTINUOUS STATIC PRESSURE OF 60 PSI FOR ONE (1) HOUR. NOTIFY THE ENGINEER AT LEAST THREE (3) DAYS IN ADVANCE OF TEST. REPAIR LEAKS THAT DEVELOP AND REPEAT TEST. DO NOT BACKFILL UNTIL THERE IS NO FURTHER SIGN OF LEAKAGE.

7. PERFORM OPERABILITY TEST BY OPENING REMOTE CONTROL VALVE AND TEST CIRCUITS FOR LEAKS AROUND BARBED AND THREADED PVC FITTINGS. REPAIR LEAKS AND REPEAT TESTS. NOTIFY THE ENGINEER AT LEAST THREE (3) DAYS IN ADVANCE OF TEST. DO NOT BACKFILL UNTIL THERE IS NO FURTHER SIGN OF LEAKAGE.

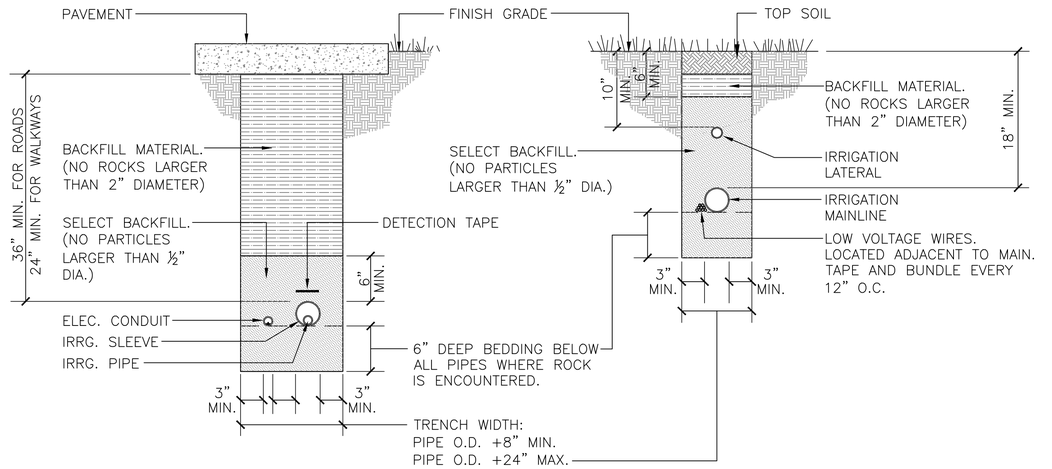
8. PERFORM COVERAGE TEST. BEFORE PLANTING PERIOD, RUN AUTOMATIC CONTROLLER THROUGH ALL IT'S CYCLES. CHECK WATERING FOR COVERAGES AND UNIFORMITY IN COMPANY OF THE ENGINEER. RUN SYSTEM UNTIL THERE ARE PUDDLES OR THERE IS SHEET FLOW TO DETERMINE INITIAL IRRIGATION TIME AND NUMBER OF CYCLES PER WEEK NEEDED TO WATER REQUIREMENTS OF PLANTS.

9. LOCATE VALVE BOXES SO THAT THE OUTER EDGES ARE NO CLOSER THAN FIVE FEET TO ROADWAY PAVEMENT. GROUP VALVE BOXES AS FEASIBLE.

10. IF PLANS DO NOT SPECIFY DEPTH OF EXCAVATION, PROVIDE MINIMUM COVER TO FINISH GRADE AS FOLLOWS:

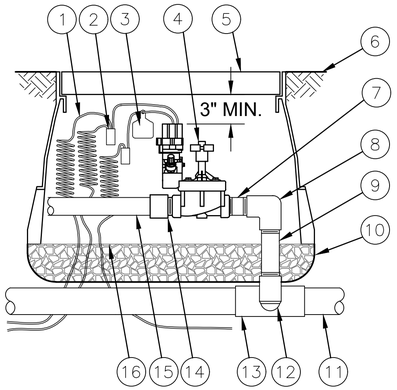
    a. 4 INCHES FOR DRIP IRRIGATION MAIN.
    b. 18 INCHES FOR IRRIGATION MAIN WITH CONVENTIONAL WIRING; 24" FOR IRRIGATION MAINLINE W/DECODER-BASED WIRING.
    c. 10 INCHES FOR IRRIGATION LATERAL
    d. 24 INCHES FOR SLEEVE OR CONDUIT UNDER LANDSCAPE PAVEMENT.
    e. 36 INCHES FOR SLEEVE OR CONDUIT UNDER ROADWAY PAVEMENT.
    f. FOR CONTROLLER WIRES AND CONDUITS IN UNPAVED AREAS, DEPTH EQUAL TO THAT OF PRESSURE IRRIGATION PIPE.

11. AFTER INSTALLATION OF IRRIGATION, LANDSCAPE CONTRACTOR TO PROVIDE MARK-UP INFORMATION OF ANY CHANGES MADE IN THE FIELD TO THE FINAL DESIGN PLANS. PROVIDE THREE (3) REPRODUCIBLE COPIES DOCUMENTING THESE 'AS-BUILT' CONDITIONS TO THE ENGINEER UPON COMPLETION OF IRRIGATION INSTALLATION WORK OR THIRTY (30) DAYS BEFORE FINAL INSPECTION, WHICHEVER IS SOONER.
    *(CAN INCLUDE DOCUMENTATION OF TEST RESULTS, STATIC & WORKING PRESSURE, GPM, ETC.)



1 IRRIGATION TRENCHING DETAIL

NOT TO SCALE



1. 30-INCH LINEAR LENGTH OF WIRE, COILED.
2. WATERPROOF CONNECTION
3. ID TAG
4. REMOTE CONTROL VALVE
5. VALVE BOX
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. FILTER FABRIC, FASTEN TO VALVE BOX
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

2 REMOTE CONTROL VALVE DETAIL

NOT TO SCALE

03568.01-28

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

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STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

IRRIGATION NOTES AND DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. L-104

JOB NO.: F14C728D SHEET NO. 38 OF 143 SHEETS

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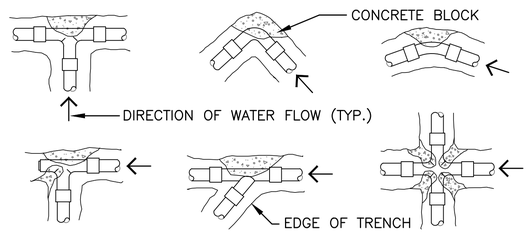
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

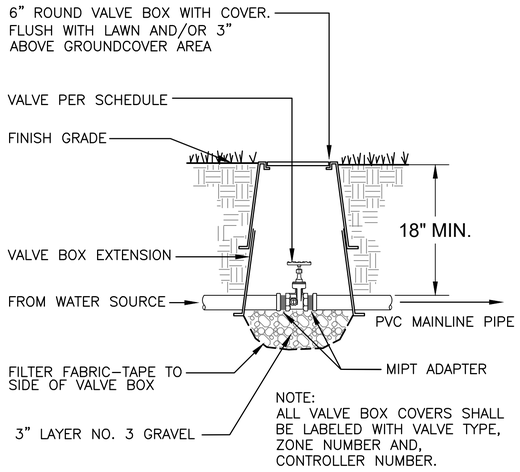
THRUST BLOCK BEARING AREA (SQ. FT.)				
PIPE SIZE	1 1/4" – 2 1/2"	3"	4"	6"
TEES/ELLS	1.00	1.00	1.25	3.2
90 BENDS	1.00	1.25	2.00	4.5
45 BENDS	1.00	1.00	1.00	2.4

NOTES:
1. INSTALL THRUST BLOCK AT ALL MACHINE BENDS, TEES OR ELLS AS SHOWN BELOW. THRUST BLOCKS SHALL BE MINIMUM OF (1) CU. FT. REDI–MIX CONCRETE OR 2500 PSI 28 DAY CONCRETE.
2. SET ALL THRUST BLOCKS AGAINST UNDISTURBED SOIL.



1 THRUST BLOCK

NOT TO SCALE 03568.01–30



3 GATE VALVE

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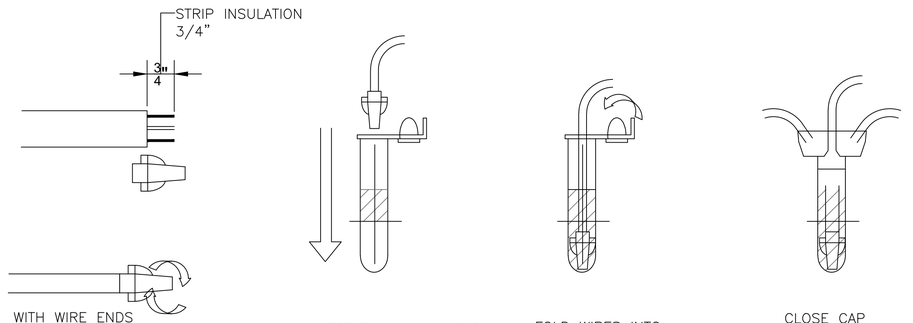
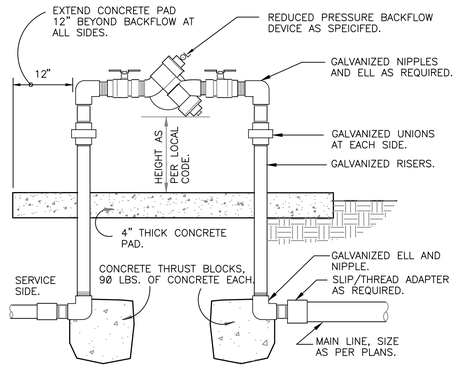


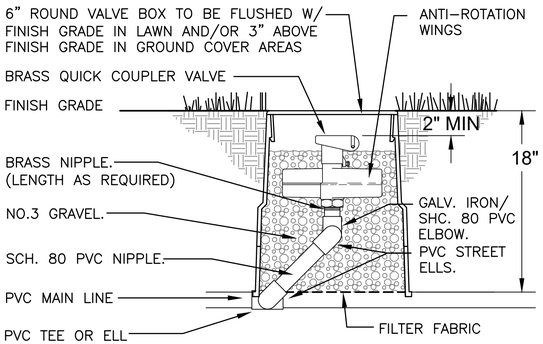
5 DBR6 & DBR Y-6 WIRE SPLICE DETAIL

NOT TO SCALE 03568.01–16



2 REDUCED PRESSURE BACKFLOW

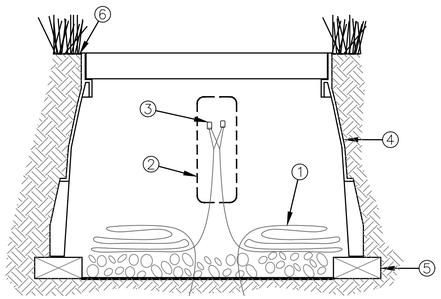
NOT TO SCALE 03568.01–32



NOTE:
1. KBI OR LASCO SWING JOINTS UPON APPROVAL BY LANDSCAPE ARCHITECT
2. ALL VALVE BOX COVER SHALL BE LABELED WITH VALVE TYPE, ZONE NUMBER AND, CONTROLLER NUMBER.
3. CONTRACTOR SHALL PROVIDE ONE (1) QUICK COUPLER KEY, ONE (1) HOSE ELL & ONE (1) COVER KEY FOR EACH QUICK COUPLER VALVE.

4 QUICK COUPLING VALVE

NOT TO SCALE 03568.01–18



① PE–CABLE (36–INCH LOOP)
② PREFORMED SUPER SERVISEAL WATERPROOF WIRE SPLICE KIT
③ 3M UAL CONNECTIORS (SPLICE ALL WIRE PAIRS)
④ SPLICE BOX WITH COVER
⑤ BRICK (1 OF 2, 2 MIN. TO STABILIZE VALVE BOX)
⑥ FINISH GRADE

6 PE-WIRE SPLICE

NOT TO SCALE 03568.01–15

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF — LICENSED PROFESSIONAL LANDSCAPE ARCHITECT — No. 17748 — HAWAII, U.S.A.

EXP. DATE: 04/30/2028

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STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

IRRIGATION DETAILS - 1

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

CHIEF ENGINEER

DRAWING NO. L-105

JOB NO.: F14C728D SHEET NO. 39 OF 143 SHEETS

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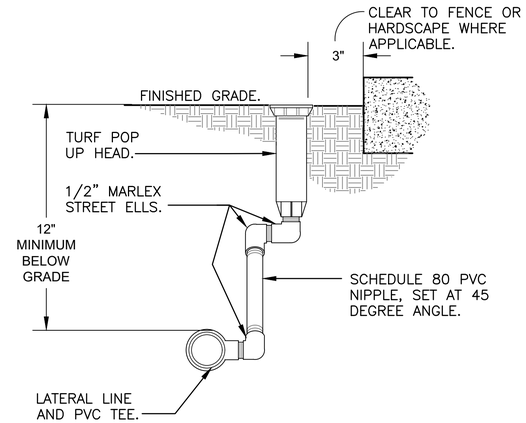
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 TURF SRAY MARLEX ASSEMBLY

NOT TO SCALE

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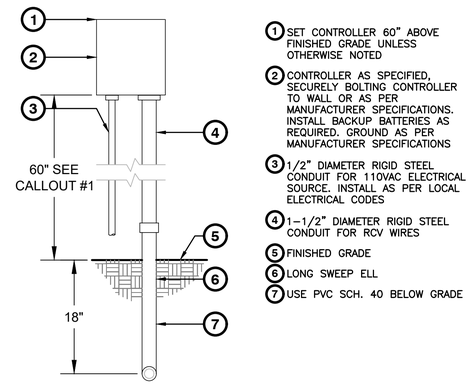
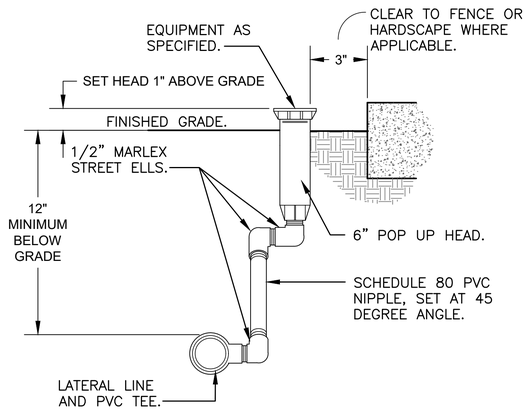


1. SET CONTROLLER 60" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED
2. CONTROLLER AS SPECIFIED, SECURELY BOLTING CONTROLLER TO WALL OR AS PER MANUFACTURER SPECIFICATIONS. INSTALL BACKUP BATTERIES AS REQUIRED. GROUND AS PER MANUFACTURER SPECIFICATIONS
3. 1/2" DIAMETER RIGID STEEL CONDUIT FOR 110VAC ELECTRICAL SOURCE. INSTALL AS PER LOCAL ELECTRICAL CODES
4. 1-1/2" DIAMETER RIGID STEEL CONDUIT FOR RCV WIRES
5. FINISHED GRADE
6. LONG SWEEP ELL
7. USE PVC SCH. 40 BELOW GRADE

3 WALL MOUNT CONTROLLER

NOT TO SCALE

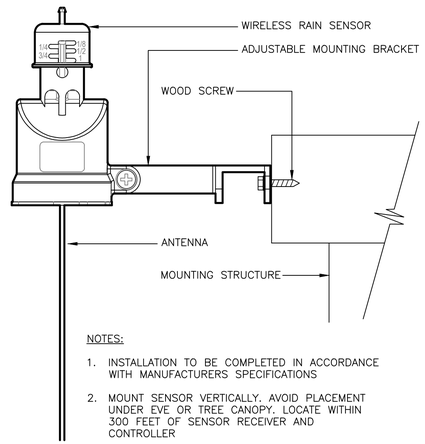
FX-IR-FX-CONT-06



2 SHRUB SPRAY 6" POPUP W/ MARLEX

NOT TO SCALE

P-0A-KAP-10



NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS
2. MOUNT SENSOR VERTICALLY. AVOID PLACEMENT UNDER EVE OR TREE CANOPY. LOCATE WITHIN 300 FEET OF SENSOR RECEIVER AND CONTROLLER

4 WIRELESS RAIN SENSOR DETAIL

DETAIL-FILE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
BRIAN M. WOLF
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

IRRIGATION DETAILS - 2

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED

APPROVED:

Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

CHIEF ENGINEER

DRAWING NO. L-106

JOB NO.: F14C728D

SHEET NO. 40 OF 143 SHEETS

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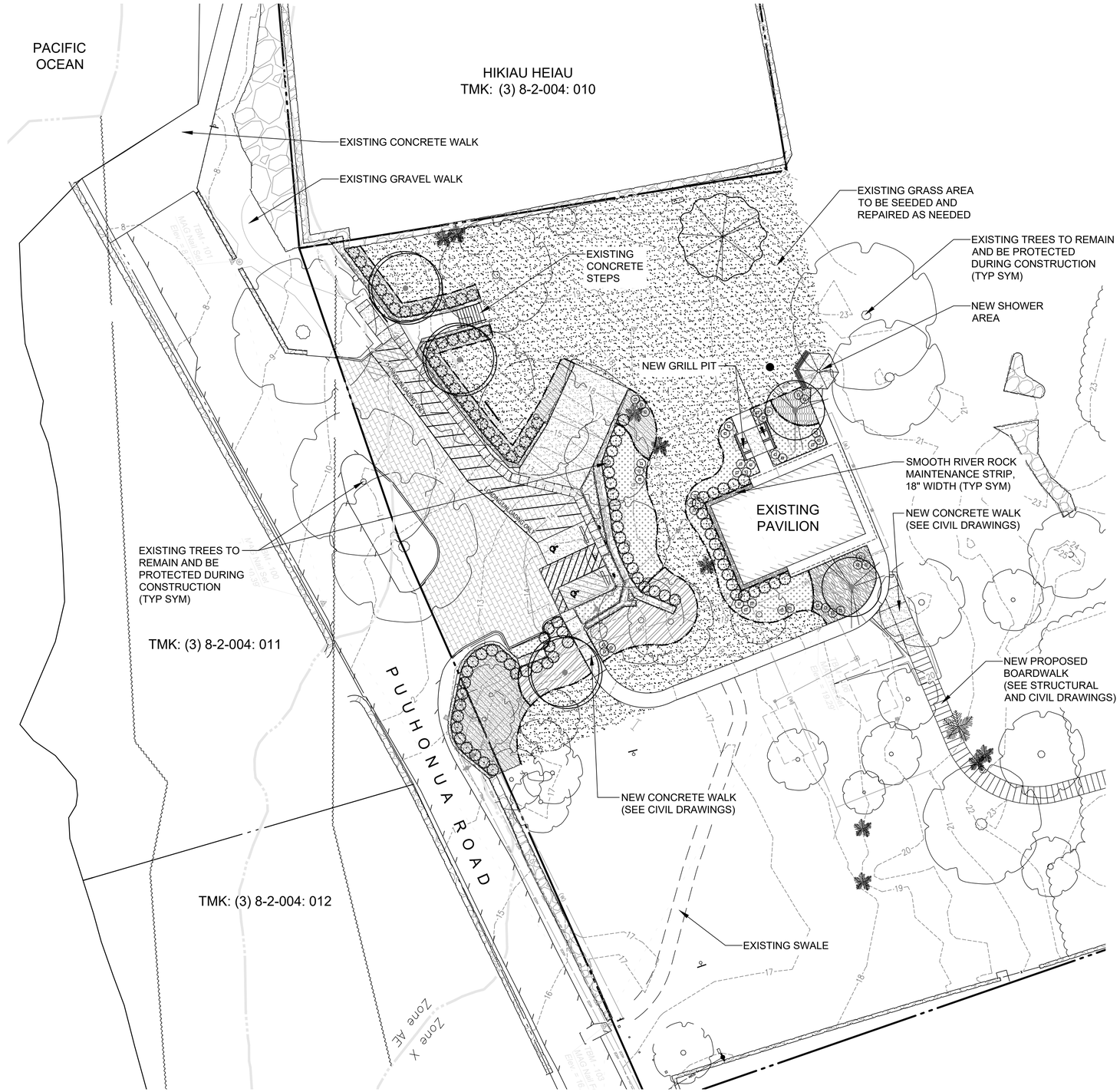
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 EXISTING PAVILION PARTIAL PLANTING PLAN
SCALE: 1" = 20'-0"

NORTH 0 5 10 20 40 FEET

PLANTING LEGEND

SYMBOL	BOTANICAL / COMMON NAME
TREES	
	Aleurites moluccana / Kukui
	Calophyllum inophyllum / True Kamani
	Cordia subcordata / True Kou
SHRUBS	
	Cordyline fruticosa / Ti Plant
	Dodonaea viscosa / Aalii
	Hibiscus waimeae / Native White Hibiscus

SYMBOL	BOTANICAL / COMMON NAME
GROUND COVERS	
	Cyperus javanicus / Ahu`awa
	Nephrolepis exaltata hawaiiensis / Kupukupu Fern
	Sida fallax `Papa` / `Ilima Papa
	Vitex rotundifolia / Pohinahina
SOD/SEED	
	Zoysia japonica `El Toro` / `El Toro` Zoysia Grass
GRASS	
	Heteropogon contortus / Pili Grass

REFERENCE NOTES LEGEND

SYMBOL	DESCRIPTION
	Trex Header 1" x 6"
	Smooth River Rock

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ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EXISTING PAVILION PARTIAL PLANTNG PLAN

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
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CHECKED: BW	SCALE: AS NOTED
APPROVED:	DRAWING NO. LP-200
CHIEF ENGINEER	

Dina Lau
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State of Hawaii
Civil Engineer

JOB NO.: F14C728D SHEET NO. 41 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 3:55 pm
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EXISTING PAVILION PLANTING SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY	REMARKS
TREES					
	Aleurites moluccana / Kukui	45 gal.	3" CAL. MIN.	3	Well branched, Full canopy
	Calophyllum inophyllum / True Kamani	65 gal.		1	
	Cordia subcordata / True Kou	45 gal	3"Cal	2	Well branched
SHRUBS					
	Cordyline fruticosa / Ti Plant	1 gal		40	Various colored Ti Plant varieties to be selected by Owner & Landscape Architect.
	Dodonaea viscosa / Aalii	3 gal	EQ. SPACING	67	Full & Bushy
	Hibiscus waimeae / Native White Hibiscus	3 gal.	as shown	37	Full & Bushy

SYMBOL	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY	REMARKS
GROUND COVERS						
	Cyperus javanicus / Ahu`awa	1 gal		12" o.c.	148	Triangular spacing
	Nephrolepis exaltata hawaiiensis / Kupukupu Fern	6" pots		18" o.c.	874	Triangular Spacing
	Sida fallax `Papa` / `Ilima Papa	6" pots		12" o.c.	1,038	full & bushy
	Vitex rotundifolia / Pohinahina	6" pots		24" o.c.	555	Triangular Spacing
SOD/SEED						
	Zoysia japonica `El Toro` / `El Toro` Zoysia Grass	Hydroseed			11,690 sf	
GRASS						
	Heteropogon contortus / Pili Grass	6" pots		36" o.c.	49	Triangular Spacing

EXISTING PAVILION REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
	Trex Header 1" x 6"	540 LF
	Smooth River Rock	100 SF
	4" Layer Topsoil	213 CY
	2" Layer Soil Amendment	17,290 SF
	Filter Fabric	100 SF

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HAWAII, U.S.A.

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STATE OR HAWAII
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ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EXISTING PAVILION PLANTING SCHEDULES

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
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State of Hawaii
Civil Engineer

CHIEF ENGINEER

DRAWING NO. LP-201

JOB NO.: F14C728D SHEET NO. 42 OF 143 SHEETS

05/05/2026 3:55 pm
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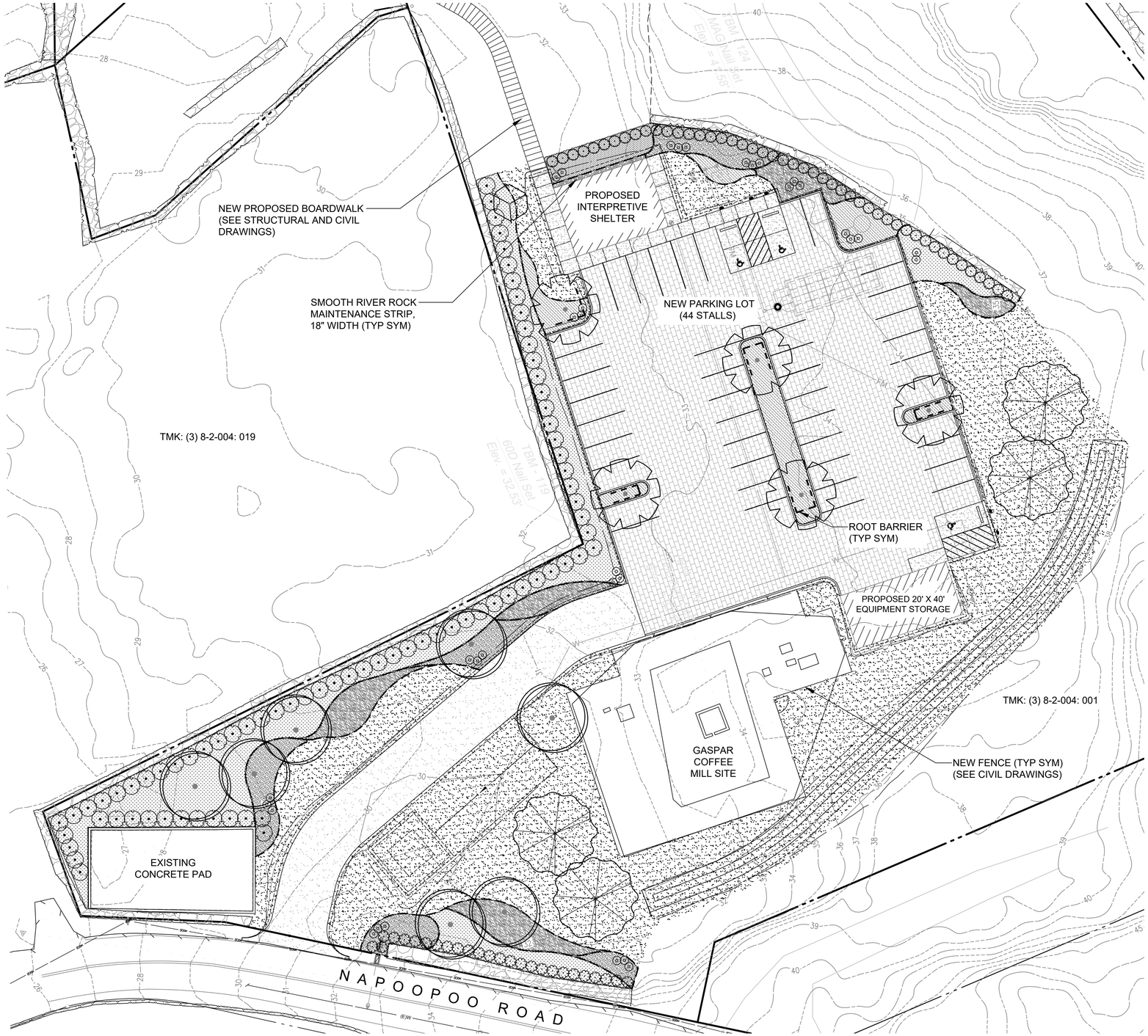
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 INTERPRETIVE SHELTER PARTIAL PLANTING PLAN
SCALE: 1" = 20'-0"

NORTH 0 5 10 20 40 FEET

PLANTING LEGEND

SYMBOL	BOTANICAL / COMMON NAME
TREES	
	Aleurites moluccana / Kukui
	Calophyllum inophyllum / True Kamani
	Fagraea berteriana / Pua Kenikeni
	Thespesia populnea / Milo Tree
SHRUBS	
	Cordyline fruticosa / Ti Plant
	Dodonaea viscosa / Aalii
	Hibiscus tiliaceus `Dwarf` / Dwarf Hau
	Hibiscus waimeae / Native White Hibiscus

SYMBOL	BOTANICAL / COMMON NAME
SHRUB AREAS	
	Osteomeles anthyllidifolia / `Ulei
GROUND COVERS	
	Dianella sandwicensis / Uki Uki
	Vitex rotundifolia / Pohinahina
	Wikstroemia uva-ursi / Akia
SOD/SEED	
	Zoysia japonica `El Toro` / `El Toro` Zoysia Grass
GRASS	
	Heteropogon contortus / Pili Grass

REFERENCE NOTES LEGEND

SYMBOL	DESCRIPTION
	Trex Header 1" x 6"
	Smooth River Rock
	Root Barrier

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN M. WOLF
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 17748
HAWAII, U.S.A.

EXP. DATE: 04/30/2028

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STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER PARTIAL
PLANTNG PLAN

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. LK-202

JOB NO.: F14C728D SHEET NO. 43 OF 143 SHEETS

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KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

INTERPREVTIVE SHELTER PLANTING SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY	REMARKS
TREES					
	Aleurites moluccana / Kukui	45 gal.	2" Cal. Min.	7	Well branched, Full canopy
	Calophyllum inophyllum / True Kamani	65 gal.	2" Cal. Min.	4	
	Fagraea berteriana / Pua Kenikeni	15 gal.	2" Cal. Min.	1	Well branched
	Thespesia populnea / Milo Tree	25 gal.	2" Cal. Min.	5	
SHRUBS					
	Cordyline fruticosa / Ti Plant	1 gal		34	Various colored Ti Plant varieties to be selected by Owner & Landscape Architect.
	Dodonaea viscosa / Aalii	3 gal	EQ. SPACING	47	Full & Bushy
	Hibiscus tiliaceus `Dwarf` / Dwarf Hau	5 gal	EQ. SPACING	77	Full & Bushy
	Hibiscus waimeae / Native White Hibiscus	3 gal.	as shown	26	Full & Bushy

SYMBOL	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY	REMARKS
SHRUB AREAS						
	Osteomeles anthyllidifolia / `Ulei	1 gal		18" o.c.	732	Triangular Spacing
GROUND COVERS						
	Dianella sandwicensis / Uki Uki	6" pots		12" o.c.	421	Triangular spacing
	Vitex rotundifolia / Pohinahina	6" pots		24" o.c.	1,530	Triangular Spacing
	Wikstroemia uva-ursi / Akia	6" pots		12" o.c.	1,616	Triangular spacing
SOD/SEED						
	Zoysia japonica `El Toro` / `El Toro` Zoysia Grass	Hydroseed			19,375 sf	
GRASS						
	Heteropogon contortus / Pili Grass	6" pots		36" o.c.	183	Triangular Spacing

INTERPRETIVE SHELTER REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
	Trex Header 1" x 6"	940 LF
	Smooth River Rock	60 SF
	Root Barrier	130 LF
	4" Layer Topsoil	375 CY
	2" Layer Soil Amendment	30,370 SF
	Filter Fabric	60 SF

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
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HAWAII, U.S.A.

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STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER PLANTING SCHEDULES

ENGINEERING PARTNERS, INC

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DRAWING NO. LK-203

JOB NO.: F14C728D

SHEET NO. 44 OF 143 SHEETS

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KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

PLANTING NOTES

1. LANDSCAPE CONTRACTOR SHALL FIELD VERIFY ALL PLANT QUANTITIES AND DIMENSIONS PRIOR TO INSTALLATION. QUANTITIES SHOWN ON PLANT LIST AND MATERIAL SCHEDULES ARE FOR REFERENCE ONLY, VERIFY ACTUAL QUANTITIES AS SHOWN ON PLAN. IF THERE IS A DISCREPANCY, THE PLANTING PLAN SHALL TAKE PRECEDENCE.

2. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES.

3. PRIOR TO TREE AND SHRUB HOLE EXCAVATION, ALL PLANTING LOCATIONS SHALL BE STAKED OUT BY CONTRACTOR FOR APPROVAL BY LANDSCAPE ARCHITECT. DO NOT PLANT UNTIL GROUND HAS BEEN PREPARED AND FREE OF STONES GREATER THAN 1/2", DIA., SITE IS NEAT, ORDERLY, AND THE LANDSCAPE ARCHITECT ACCEPTS SITE FOR PLANTING.

4. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANT LOCATIONS OR INSUFFICIENT PLANT QUANTITIES DUE TO DIFFERENCE IN PLANS AND ACTUAL FIELD CONDITIONS.

5. NOTIFY LANDSCAPE ARCHITECT 30 DAYS PRIOR TO PLANTING OPERATIONS FOR APPROVAL OF ALL PLANT MATERIAL AT PLACE OF GROWTH. ALL PLANT MATERIAL NOT APPROVED BY THE LANDSCAPE ARCHITECT WILL BE SUBJECT TO REJECTION. THE LANDSCAPE ARCHITECT WILL INSPECT PLANTS AT THE PLACE OF GROWTH AND AFTER THE DELIVERY TO THE PROJECT. EACH TREE SHALL BE TAGGED BY THE LANDSCAPE ARCHITECT. TREES DELIVERED TO THE PROJECT WITHOUT LANDSCAPE ARCHITECT'S TAG WILL BE REJECTED.

6. PLANTS SHALL MEET SIZE INDICATED BY MINIMUM HEIGHT AND SPREAD. PLANTS SHALL BE STRAIGHT AND UNIFORMLY SHAPED, UNLESS UNIQUE OR SPECIAL CHARACTERISTICS ARE SPECIFIED, AND SHALL BE UNDAMAGED, SOUND, HEALTHY, VIGOROUS AND FREE OF DISEASE AND INSECT INFESTATION. PLANTS NOT CONFORMING TO THESE REQUIREMENTS ON DELIVERY TO THE PROJECT AND AT THE END OF THE PLANT ESTABLISHMENT PERIOD WILL BE REJECTED.

7. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COMPLETE REMOVAL AND DAMAGES RESULTING FROM PLANTING ANY PLANT SPECIES LISTED ON THE HAWAII DEPARTMENT OF AGRICULTURE 'NOXIOUS WEED RULES' AS DEFINED IN THE STATUTE, HAWAII ADMINISTRATIVE RULES 4:68:1 OR THE 'FEDERAL NOXIOUS WEED LIST' AS DEFINED IN TITLE 7 OF THE CODE OF FEDERAL REGULATIONS (CFR), PARTS 360 AND 361.

8. ALL TREE WORK MUST ADHERE TO AMERICAN NATIONAL STANDARD INSTITUTE (OR ANSI) - A300 TREE CARE STANDARDS AND ANSI-Z133 SAFETY STANDARDS FOR TREE WORK. WORK SHALL BE CONTRACTED TO ARBORISTS THAT HAS BEEN CERTIFIED IN GOOD STANDINGS AS AN ISA CERTIFIED ARBORIST FOR AT LEAST 5 YEARS TO ASSURE THAT TREE WORK IS PERFORMED PROPERLY AND TREES ARE NOT DAMAGED BY PRACTICES SUCH AS TOPPING, FLUSH CUTS, OVER-THINNING, OR CLIMBING WITH SPIKES. CONTRACTOR SHALL SUBMIT A COPY OF THE ISA ARBORIST CERTIFICATION OF GOOD STANDING OF 5 YEARS TO THE LANDSCAPE ARCHITECT A MINIMUM OF 7 DAYS PRIOR TO TREE PRUNING.

9. FOR THE DURATION OF CONSTRUCTION WITHIN THE DRIP LINE OF TREES TO REMAIN THERE MUST BE: NO CHANGES, ALTERATIONS OR DISTURBANCE TO THE GRADE BY ADDING FILL, EXCAVATING OR SCRAPING EXCEPT AS NOTED ON PLANS; NO STORAGE OF CONSTRUCTION MATERIAL OR EQUIPMENT; NO STOCKPILING OF ANY CONSTRUCTION MATERIAL OR ANY EXCAVATED MATERIAL NO DISPOSAL OF ANY LIQUIDS (E.G. CONCRETE SLEUTH, GAS, OIL, PAINT); NO VEHICULAR TRAFFIC, EQUIPMENT OR EXCESSIVE PEDESTRIAN TRAFFIC NO ATTACHMENT OF ANY WIRES, ROPES, LIGHTS, OR ANY OTHER SUCH ATTACHMENT OTHER THAN THOSE OF PROTECTIVE NATURE TO ANY TREE TO BE PRESERVED; AND NO CLEANING OF EQUIPMENT OR MATERIAL UNDER THE CANOPY OF ANY TREE OR GROUP OF TREES TO REMAIN.

10. PROTECTIVE FENCE SHALL BE ERECTED AROUND TREES IDENTIFIED ON PLAN OR TREES WITH TRUNK DIAMETER GREATER THAN 24 INCHES AS MEASURED AT HEIGHT OF 4 1/2 FEET. PROTECTIVE FENCE SHALL BE 4 FEET HIGH ORANGE PLASTIC MESH OR APPROVED EQUIVALENT SUPPORTED ON STEEL T-POST A MINIMUM OF 6 FEET LONG. PROTECTIVE FENCE SHALL SURROUND TREE AT MINIMUM OF 20 FEET FROM OUTSIDE EDGE OF TREE TRUNK WITH STEEL T-POST AT A MINIMUM OF 5 FEET ON CENTER.

11. IF TREES OTHER THAN THOSE SPECIFICALLY DESIGNATED FOR REMOVAL ARE DAMAGED BEYOND SURVIVAL CONDITIONS AS DETERMINED BY THE LANDSCAPE ARCHITECT, THE CONTRACTOR SHALL REMOVE SUCH TREES AND REPLACE THE TREE WITH A SAME SPECIES AND SIZE AND MAINTAIN FOR THE DURATION OF CONSTRUCTION OR 12 MONTHS WHICHEVER IS GREATER AT NO COST TO THE OWNER.

12. PROVIDE AN EVEN LAYER OF PLANTING SOIL OVER ALL PLANTING AREAS. REFER TO THE SPECIFICATIONS FOR TOPSOIL MIXTURE DEPTH. REPRESENTATIVE SAMPLES OF SOIL FROM PROJECT SITE SHALL BE SUBMITTED TO A LABORATORY ACCEPTABLE TO THE LANDSCAPE ARCHITECT FOR ANALYSIS OF REQUIRED SOIL AMENDMENTS. TEST RESULTS AND FERTILIZATION SCHEDULE SHALL BE PRESENTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND ACCEPTANCE BEFORE PLACING PLANTING SOIL. UNIFORMLY DISTRIBUTE FERTILIZER AND AMENDMENTS OVER PLANTING AREAS AS RECOMMENDED BY THE SOIL ANALYSIS REPORT. ROTOTILL TOP LAYER OF SOIL TO EVENLY INCORPORATE FERTILIZER AND AMENDMENTS.

13. GUY WIRES, FLAGGING, STAKES, WINDBREAKERS, ETC. SHALL BE MAINTAINED AND REPLACED IF NECESSARY BY THE CONTRACTOR UNTIL THE TREE OR SHRUB IS ABLE TO STAND BY ITSELF. THE CONTRACTOR SHALL REMOVE AND DISPOSE AT THE END OF PLANT ESTABLISHMENT PERIOD.

14. AFTER INSTALLATION OF PLANTING & IRRIGATION, LANDSCAPE CONTRACTOR TO PROVIDE MARK-UP INFORMATION OF ANY CHANGES MADE IN THE FIELD TO THE FINAL AS-BUILT PLANS.

15. ANY ALTERATION/ADJUSTMENT TO THESE PLANS AFTER CONSTRUCTION IS COMPLETE SHALL BE CONSIDERED FIELD-POSTED AS-BUILT PLANS. INFORMATION ADDED AS FIELD-POSTED AS-BUILT PLANS ARE NOT DRAFTED AS PART OF THE DESIGNED CONSTRUCTION DOCUMENTS AND MUST BE VERIFIED IN THE FIELD.

SPECIAL NOTE - COQUI FROG

(ELEUTHERODACTYLUS COQUI AND/OR
ELUTHERODACTYLUS PLANROSTRIS:

1. PRIOR TO TRANSPORT TO THE PROJECT, INSPECT, TAKE PRECAUTIONS, AND CERTIFY THAT PLANT MATERIALS, EQUIPMENT AND VEHICLES ARE FREE OF COQUI FROGS AND/OR THIER EGGS.

2. IN THE EVENT OF THE PRESENCE OF COQUI FROGS AND/OR THEIR EGGS, THEY SHALL BE COMPLETELY DESTROYED AND REMOVED AND THE PLANT MATERIAL, EQUIPMENT, OR VEHICLE TREATED AS RECOMMENDED BY THE STATE AND RE-INSPECTED.

3. REPORT PRESENCE OF COQUI FROGS OR EGGS TO THE HAWAII DEPT. OF AGRICULTURE PEST HOTLINE AT (808) 643-PEST (7378), OR THE MAUI INVASIVE SPECIES COMMITEE (MISC) PH. (808) 573-6472 OR EMAIL: MISCPR@HAWAII.EDU

LITTLE FIRE ANT PREVENTION PROGRAM

1. LANDSCAPE CONTRACTOR WILL NOTIFY LANDSCAPE ARCHITECT OF RECORD AND THE OWNER'S REPRESENTATIVE PRIOR TO DELIVERY OF ANY PLANT MATERIALS TO THE PROJECT.

2. LANDSCAPE CONTRACTOR WILL SUBMIT A PLAN TO THE LANDSCAPE ARCHITECT AND THE OWNER'S REPRESENTATIVE FOR APPROVAL TO PREVENT IMPORTATION OF LITTLE FIRE ANT (LFA) ONTO THE PROPERTY, I.E. PROVIDE QUARANTINE OR A HOLDING AREA FOR 6 WEEKS BEFORE PLANT DELIVERY TO PROJECT SITE.

3. LANDSCAPE CONTRACTOR WILL BUY PLANTS OR PLANTING MATERIALS ONLY FROM FIRE ANT-FREE NURSERIES AND SUPPLIERS.

4. LANDSCAPE CONTRACTOR WILL TEST FOR LFA AND IDENTIFY THE SPECIES CORRECTLY. CONSULT WEBSITE: WWW.LITTLEFIREANTS.COM FOR TESTING METHODS AND SPECIES IDENTIFICATION.

5. LANDSCAPE CONTRACTOR WILL BAIT AND ALLOW AT LEAST 2 WEEKS FOR THE BAIT TO BE CARRIED BACK TO THE COLONY FOR ALL PLANTS AND NURSERY MATERIALS AT THE SUPPLYING NURSERIES REGARDLESS OF THE FIRE ANT-FREE CLAIM.

6. LANDSCAPE CONTRACTOR WILL APPLY A BARRIER TREATMENT, FOLLOWING THE BAITING, TO ALL NURSERY MATERIALS AT THE SUPPLYING NURSERIES REGARDLESS OF THE FIRE ANT-FREE CLAIM.

7. LANDSCAPE CONTRACTOR WILL DRENCH ALL SOILS OR LOOSE NURSERY MATERIALS WITH THE PROPER MIXTURE OF SEVIN PER GALLON OF WATER INDICATED BY THE MANUFACTURER AND FOLLOW MANUFACTURER'S SAFETY PRECAUTIONS.

INVASIVE SPECIES MANAGEMENT AND PEST PREVENTION

1. NEW TREES AND PLANT MATERIALS SHOULD BE TESTED FOR LITTLE FIRE ANT (LFA), COCONUT RHINOCEROS BEETLE (CRB), AND OTHER INVASIVE SPECIES DURING A 12 TO 24-HR QUARANTINE PERIOD.
2. PLANS INDICATING NEW PALMS MUST ADHERE TO THE FOLLOWING:
   -CRB HOST MATERIALS SUCH AS COMPOST, WOOD OR TREE CHIPS, OR MULCH SHOULD NOT BE USED.
   -ALL PALM PLANTINGS MUST COMPLY WITH THE PROCEDURES IN THE DEPARTMENT OF AGRICULTURE'S RULES RESTRICTING THE MOVEMENT OF CRB HOST MATERIAL.
   -AN INVASIVE SPECIES MANAGEMENT PLAN MUST BE PROVIDED TO THE INSTALLER/CONTRACTOR AND COMMUNITY ASSOCIATION, HOMEOWNER, OR LOT OWNER RESPONSIBLE FOR MAINTENANCE OF THE AREA WHERE CRB HOST MATERIALS, INCLUDING PALMS, ARE PROPOSED. THE PLAN MUST IMPLEMENT BEST PRACTICES INCLUDING REGULAR ONGOING TREATMENT AND INSPECTION OF THE PALMS OR HOST MATERIALS.
3. PALMS DAMAGED OR KILLED BY CRB MUST BE REPLACED WITH AN APPROPRIATE SPECIES NOT SUSCEPTIBLE TO CRB.

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BRIAN M. WOLF
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HAWAII, U.S.A.

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STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE
HISTORICAL PARK IMPROVEMENTS

PLANTING NOTES

ENGINEERING PARTNERS, INC

DESIGNED: CS	SUBMITTED:
DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. L-204
CHIEF ENGINEER:	

JOB NO.: F14C728D SHEET NO. 45 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

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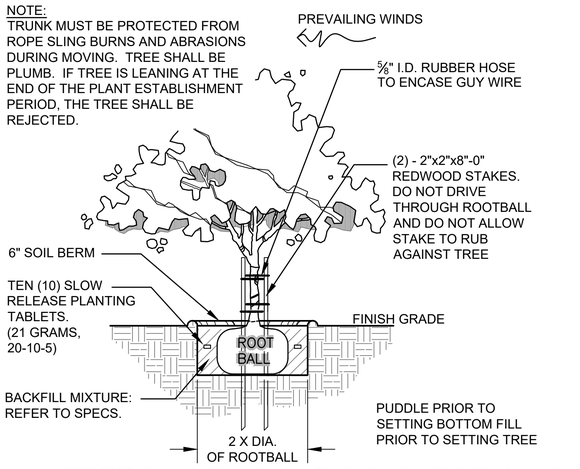
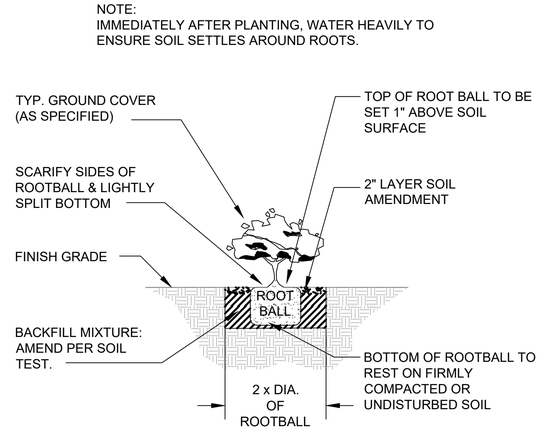


1 TREE PLANTING AND DOUBLE STAKING

NOT TO SCALE

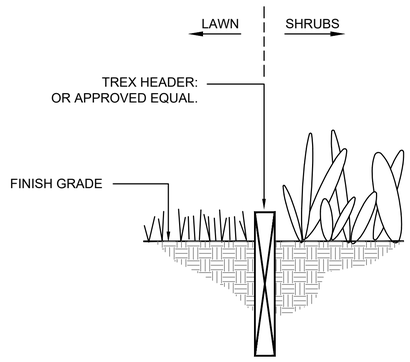
01789.11–02



3 GROUND COVER PLANTING

NOT TO SCALE

01789.11–06

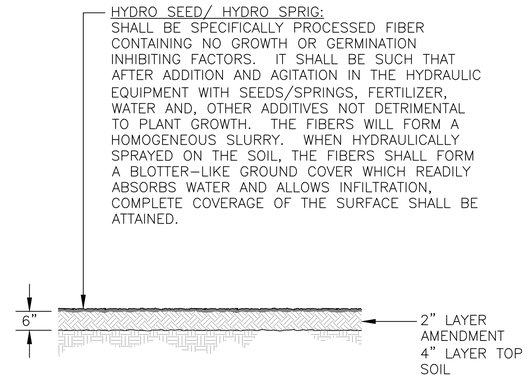


NOTE:
REFER TO MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS.

5 TREX HEADER DETAIL

NOT TO SCALE

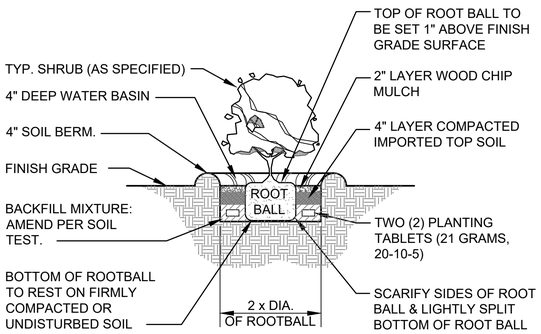
01789.11–11



7 HYDRO-SEED/SPRIG DETAIL

NOT TO SCALE

NOTES:
1. SINGLE STEM SHRUBS SHALL BE PLUMB. IF SHURB IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
2. IMMEDIATELY AFTER PLANTING, WATER HEAVILY TO ENSURE SOIL SETTLES AROUND ROOTS.

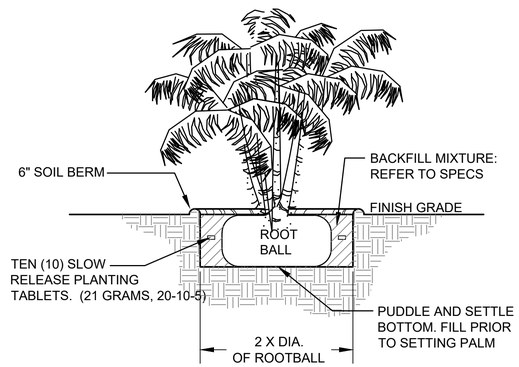


2 SHRUB PLANTING

NOT TO SCALE

01789.11–07

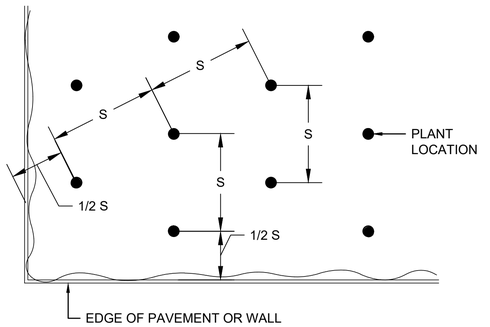
NOTE:
TRUNK MUST BE PROTECTED FROM ROPE SLING BURNS AND ABRASIONS DURING MOVING. TREE SHALL BE PLUMB. IF TREE IS LEANING AT THE END OF THE PLANT ESTABLISHMENT PERIOD, THE TREE SHALL BE REJECTED.



4 PALM PLANTING (MULTI-TRUNK)

NOT TO SCALE

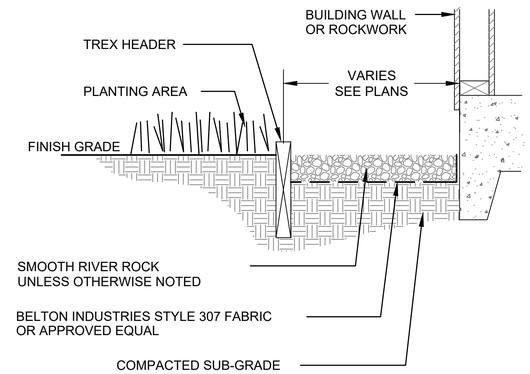
NOTE:
1. S = SPACING, (REFER TO PLANT LIST FOR SPACING)
2. USE SPACING LAYOUT FOR SHRUBS, GROUNDCOVERS, AND ANNUALS



6 TRIANGULAR SPACING

NOT TO SCALE

01789.11–08



8 MAINTENANCE STRIP

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BRIAN M. WOLF — LICENSED PROFESSIONAL LANDSCAPE ARCHITECT — No. 17748 — HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PLANTING DETAILS - 1

ENGINEERING PARTNERS, INC

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DRAWN:	CS	DATE:	APRIL 28, 2026
CHECKED:	BW	SCALE:	AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

CHIEF ENGINEER:

DRAWING NO. L-205

JOB NO.: F14C728D

SHEET NO. 46 OF 143 SHEETS

05/05/2026 3:55 pm
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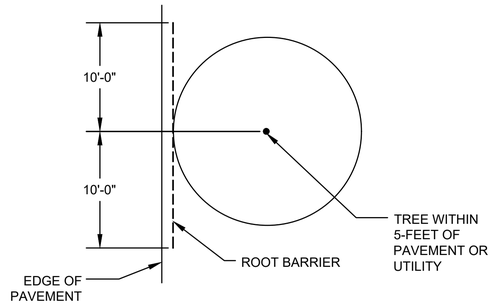
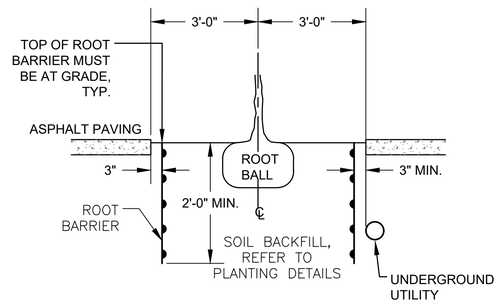
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

NOTES:
1. PLACE TOP EDGE OF PLASTIC ROOT BARRIER AT FINISH GRADE AND SECURE WITH MANUFACTURER PROVIDED PINS.
2. SEAMS SHALL HAVE MINIMUM 3" OVERLAP. REFER TO MANUFACTURER INSTRUCTIONS FOR BONDING THE SEAM.
3. DO NOT ALLOW GAPS IN BARRIER DURING INSTALLATION OR BACKFILLING.
4. FOR BIO-BARRIER TYPE ROOT BARRIERS: NODULES TO FACE TREE. PLASTIC ROOT BARRIER SHOULD NOT BE LEFT EXPOSED TO SURFACE WATER OR SUNLIGHT FOR MORE THAN 12 HOURS SINCE HIGH TEMPERATURES AND SUNLIGHT REDUCE EFFECTIVE LIFE OF PRODUCT. REFER TO PRODUCT LABEL AND MSDS SHEET FOR SAFETY INFORMATION.
5. REFER TO PLANTING FOR TREE LOCATIONS.



PLAN



ELEVATION

1 ROOT BARRIER

NOT TO SCALE

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KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PLANTING DETAILS - 2

ENGINEERING PARTNERS, INC

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DRAWN: CS	DATE: APRIL 28, 2026
CHECKED: BW	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. L-206
CHIEF ENGINEER:	

JOB NO.: F14C728D

SHEET NO. 47 OF 143 SHEETS

05/05/2026 3:55 pm
C:\Users\caosi\SynologyDrive\Kealakekua Historical State Park\SHEETS\PLANTING SHEETS.dwg

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

GENERAL NOTES

1. ALL EXISTING CONDITIONS, LOCATIONS OF WORK TO BE DONE, DIMENSIONS AT THE JOB SITE SHALL BE FIELD VERIFIED. THE **ARCHITECT/ENGINEER** SHALL BE NOTIFIED OF ALL DISCREPANCIES &/OR CONDITIONS THAT WILL AFFECT THE WORK BEFOREPROCEEDING.

2. COMPLY WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS.

3. ALL WORK NEW UNLESS OTHERWISE NOTED.

4. EACH TRADE SHALL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE FACILITIES (EXISTING OR NEW) & SHALL MAKE GOOD ANY LOSS, DAMAGE OR INJURY WITHOUT COST TO THE **OWNER**.

5. REPORT ANY UNFORESEEN CONDITIONS INCLUDING BUT NOT LIMITED TO UNDERGROUND OR OVERHEAD UTILITIES, DAMAGE TO EXISTING UTILITIES, WALLS, SITE ELEMENTS, ETC. TO **ARCHITECT/ENGINEER** BEFORE COMMENCING WITH WORK.

6. KEEP PREMISES FREE OF ACCUMULATION OF TRASH AND DEBRIS. KEEP AREAS ADJACENT TO THE WORK CLEAR AT ALL TIMES. THE **CONTRACTOR** SHALL CLEAN ALL WORK & ADJACENT AREAS & REMOVE DEBRIS DAILY FOR NORMAL OPERATIONS.

7. REPAIR ANY LANDSCAPING, INCLUDING BUT NOT LIMITED TO RE-GRASSING OF EXCAVATED OR DAMAGED AREAS, REPLACEMENT OF SHRUBS, TREES, ETC., & REPAIR/REPLACEMENT OF WALKWAYS DAMAGED UPON ACCESSING THE SITE. REPLANT OR RESTORE ANY DAMAGED PLANTING TO PRIOR EXISTING CONDITION.

8. CONFINE ALL OPERATIONS TO AREAS SPECIFICALLY REQUIRED FOR THE WORK & IN COORDINATION WITH THE **OWNER**. CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE OR DISRUPTION TO OCCUPANTS IN ADJACENT BUILDINGS AT ALL TIMES. SAFETY/NOISE BARRIERS SHALL BE ERECTED AS INDICATED OR DIRECTED BY THE OWNER TO MINIMIZE IMPACT OF NOISE PRODUCED BY CONSTRUCTION. CONTRACTOR STAGING/PARKING AREA SHALL BE CONFINED TO WITHIN THE PROJECT LIMITS & SHALL BE COORDINATED WITH THE **OWNER**.

9. HOLD HARMLESS THE **OWNER** AND ITS AGENTS FROM LIABILITY OF ANY KIND ARISING FROM ANY USE, TRESPASS, OR DAMAGE OCCASIONED BY OPERATIONS ON THE PREMISES OR BY THIRD PERSONS.

10. COORDINATE ALL UTILITY OUTAGES WITH THE **OWNER** SO AS TO SCHEDULE OUTAGES DURING NON-WORK HOURS. PROVIDE 2 WEEK NOTICE PRIOR TO ANY OUTAGE.

11. ALL WORK TO COMPLY WITH THE 2010 ADAAG AS ADOPTED BY THE STATE OF HAWAII.

12. ALL WORK & SCHEDULING OF WORK SHALL BE IN STRICT ACCORDANCE WITH THE DRAWINGS & COORDINATED WITH THE OWNER. WORK SCHEDULED FOR WEEKENDS & NON-WORK HOURS SHALL BE COORDINATED WITH THE **OWNER**.

13. STRUCTURES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION OPERATIONS, INCLUDING THOSE IN UNDERGROUND LOCATIONS, SHALL COMPLY WITH NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, & DEMOLITION OPERATIONS, & THIS CHAPTER. 2018 NFPA 1.

14. **CONTRACTOR** SHALL TAKE PRECAUTIONS TO ASSURE SAFETY OF OCCUPANTS IS MAINTAINED AT ALL TIMES. MOVEMENT OF HEAVY EQUIPMENT SHALL BE COORDINATED WITH THE OWNER & SCHEDULED SO AS TO AVOID PEAK TRAFFIC PERIODS. ACCESS SHALL BE LIMITED TO ONE ENTRANCE/EXIT UNLESS SPECIFICALLY ALLOWED OTHERWISE BY **OWNER**. CONTRACTOR SHALL PROVIDE SAFETY BARRICADES AS NECESSARY TO SEPARATE CONSTRUCTION TRAFFIC FROM OCCUPANTS.

15. DEMOLITION WORK IN A PARTICULAR AREA SHALL ONLY BE ALLOWED WHEN MATERIALS FOR NEW WORK ARE AVAILABLE & NEW WORK CAN BEGIN IMMEDIATELY AFTER DEMOLITION. AT NO TIME SHALL DEMOLITION BEGIN PRIOR TO HAVING MATERIAL FOR NEW WORK ON HAND. SEE DEMOLITION NOTES FOR ADDITIONAL REQUIREMENTS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

GENERAL NOTES

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. A-001
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

ARCHITECTURAL ABBREVIATIONS

&	and
@	at
°	degree
#	pound / number
A	
A/C	Air Conditioning
AB	Anchor Bolt
ABV	Above
AC	Asphaltic Concrete
ACC	Accessible
ACOUST	Acoustical
AD	Area Drain / Access Door
ADD	Addendum
ADH	Adhesive
ADJ	Adjustable
ADJA	Adjacent
AF	Access Floor
AFF	Above Finished Floor
AGGR	Aggregate
AHU	Air Handling Unit
ALUM	Aluminum
ALT	Alter or Alternate
AP	Access Panel
APPROX	Approximate
ARCH	Architectural
ASPH	Asphalt
AT	Acoustic Tile
ATT	Attach / Attached / Attachment
B	
B/S	Both Side
BD	Board
BITUM	Bituminous
BLDG	Building
BLK	Block
BLKG	Blocking
BM	Beam
BOT	Bottom
BR	Bedroom
BRG	Bearing
BRKT	Bracket
BRS	Bras
BSMT	Basement
BTMN	Between
BUR	Built-up Roofing
C	
C	Chord / Compact
CAB	Cabinet
CBB	Cementitious Backer Board
CCJ	Crack Control Joint
CD	Ceiling Diffuser
CEM	Cement
CER	Ceramic
CFC	Contractor Furnished Contractor Installed
CG	Corner Guard
CHAN	Channel
CHWR	Chilled Water Return
CHWS	Chilled Water Supply
CI	Cast Iron
CIP	Cast In Place
CJ	Control Joint
CK	Caulking
CL	Centerline / Clearance / Class / Closet
CLG	Ceiling
CLR	Clear
CLS	Closure
CM	Centimeter
CMU	Concrete Masonry Unit
CNTR	Counter
CO	Cleanout / Cased Opening
COL	Column
COMP	Compacted / Compartment
CONC	Concrete
COND	Condition
CONN	Connection
CONSTR	Construction
CONT	Continuous
CONTR	Contractor
COOR	Coordinate
COP	Cooper
CORR	Corridor / Corrugate
COTG	Clean Out to Grade
CP	Carpet
CR	Corrosion Resistance / Closet Rod / Curtain Rod
CRM	Concrete Rubble Masonry
CT	Ceramic Tile
CTR	Center / Counter
CTSK	Countersunk
CUST	Custodian
CW	Cold Water
CWR	Cold Water Return
CYL	Cylinder

D	
D	Penny (nails) / Deep / Depth / Dryer
DA	Double Acting
DBL	Double
DD	Deck Drain
DEPT	Department
DET	Detail
DF	Drinking Fountain
DIA	Diameter
DIAG	Diagonal
DIM	Dimension
DISP	Dispenser
DN	Down
DO	Door Opening
DOJ	Department of Justice
DR	Door / Drain / Dining Room
DS	Downspout
DSP	Dry Standpipe
DW	Dishwasher
DWG	Drawings
DWR	Drawer
E	
E	East
EA	Each
EAR	Exhaust Air Register
EC	Electrometric Coating / Exposed Construction
EF	Exhaust Fan
EFS	Exterior Finish System
EGCB	Exterior Gypsum Ceiling Board
EGSB	Exterior Gypsum Sheathing Board
EIFS	Exterior Insulation & Finish System
EJ	Expansion Joint
EL	Elevation
ELAS	Elastomeric
ELEC	Electrical
ELEV	Elevator
EMER	Emergency
ENCL	Enclosure
ENG	Engineer / Engineering
EOS	Edge of Slab
EP	Electric Panel
EPDM	Ethylene Propylene Diene Monomer
EQ	Equal
EQPT	Equipment
EW	Each Way
EWC	Electric Water Cooler
EXH	Exhaust
EXIST	Existing
EXP	Expansion
EXPO	Exposed
EXT	Exterior
F	
F	Female
FA	Fire Alarm
FAB	Fabricate
FAM	Fluid Applied Membrane
FAST	Fastener
FB	Flat Bar
FCO	Floor Clean Out
FD	Fire Damaged / Fire Damper / Floor Drain
FDN	Foundation
FE	Fire Extinguisher
FEC	Fire Extinguisher Cabinet
FF&E	Furniture, Fixture & Equipment
FFS	Finish Floor Separation
FGL	Fiberglass
FH	Flat Head / Fire Hose
FHC	Fire Hose Cabinet
FIN	Finish / Finished
FIXT	Fixture
FLASH	Flashing
FLDG	Folding
FLG	Flooring
FLR	Floor
FLUOR	Fluorescent
FND	Foundation / Feminine Napkin Disposal
FNV	Feminine Napkin Vendor
FO	Face of ...
FOC	Face of Concrete
FOF	Face of Finish
FOM	Face of Masonry
FOS	Face of Slab / Face of Studs
FOW	Face of Wall
FR	Frame / Front
FRG	Fiber Reinforced Gypsum
FRMG	Framing

FRP	Fiberglass Reinforced Polyester
FRT	Fire Retardant Treated Wood
FRZ	Freezer
FS	Floor Sink / Full Size
FT	Foot / Feet
FTD	Facial Tissue Dispenser
FTG	Footing
FURR	Furring / Furred
FUT	Future
G	
G	Gas / Girder / Gutter
GA	Gage
GAL	Gallon
GALV	Galvanized
GB	Grab Bar
GC	General Contractor
GEN	Generator
GFI	Ground Fault Interrupter
GFRC	Glass Fiber Reinforced Concrete
GKT	Gasket / Gasketing
GL	Glass
GLU-LAM	Glued Laminated Wood
GND	Ground
GYP	Gypsum
H	
HB	Hose Bibb
HC	Hollow Core
HCP	Handicapped
HD	Head
HDR	Header
HDWD	Hardwood
HDWE	Hardware
HGR	Hanger
HGT	Height
HM	Hollow Metal
HP	Heat Pump
HORIZ	Horizontal
HS	Hand Sink
HTR	Heater
HVAC	Heating, Ventilation and Air Conditioning
HW	Hot Water
HWR	Hot Water Return
I	
ID	Inside Diameter (dimension)
IN	Inch
INCL	Included / Inclusive / Including
INSUL	Insulation
INT	Interior
INV	Invert
IRR	Irrigation
J	
JAL	Jalousie
JAN	Janitor
JB	Junction Box
JST	Joist
JT	Joint
K	
KD	Knock Down
KIT	Kitchen
KO	Knock Out
L	
L	Length / Long
LAB	Laboratory
LAM	Laminate / Laminated
LAV	Lavatory
LB	Pound
LF	Lineal Foot
LIQ	Liquor
LKR	Locker
LOC	Location
LT	Laundry Tray
LTG	Lighting
LVR	Louver
LWC	Light Weight Concrete
M	
M	Male
MATL	Material
MAX	Maximum
MB	Machine Bolt
MBH	Mop Broom Holder
MBS	Metal Building System

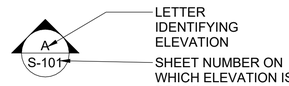
MC	Medicine Cabinet
MECH	Mechanical
MEMB	Membrane
MET	Metal
MEZZ	Mezzanine
MFR	Manufacture / Manufacturer
MH	Manhole
MIN	Minimum
MIR	Mirror
MISC	Miscellaneous
MLDG	Molding / Moulding
MM	Millimeter
MO	Masonry Opening
MOD	Modular
MR	Moisture Resistant
MTD	Mounted
MTG	Mounting
N	
N	North
NIC	Not in Contract
NL	Night Light
NO	Number
NOM	Nominal
NP	Not Permitted
NS	No Scale
NTS	Not To Scale
O	
O	Oven
OC	On Center
OCC	Occupancy
OA	Overall
OAG	Outside Air Grille
OBS	Obscure
OD	Outside Diameter (dimension)
OFIC	Owner Furnished Contractor Installed
OFD	Overflow Drain
OFF	Office
OFOI	Owner Furnished Owner Installed
OPNG	Opening
OPP	Opposite
OPQ	Opaque
OPR	Operable
OVHD	Overhead
P	
PASS	Passage
PC	Piece / Post Contract
PCA	Post Contract Architectural
PD	Planter Drain
PERIM	Perimeter
PH	Penthouse
PIP	Poured In Place
PKG	Parking
PL	Plan / Plate / Property Line
PLAM	Plastic Laminate
PLAS	Plaster
PLBG	Plumbing
PLYWD	Plywood
PMB	Pre-Engineered Metal Building
PNL	Panel
PPT	Pressure Preservative Treated
PR	Pair
PRBP	Pressure Reducing Back Flow Preventer
PRCST	Precast
PREFAB	Prefabricate
PREP	Preparation
PROP	Property
PRV	Pressure Relief Valve
PSF	Pounds Per Square Foot
PT	Paint / Point
PTD	Paper Towel Dispenser
PTDR	Paper Towel Dispenser & Receptacle
PTN	Partition
PTR	Paper Towel Receptacle
PVC	Polyvinyl Chloride
PVMT	Pavement
Q	
QT	Quarry Tile
R	
R	Radius / Riser
RB	Resilient Base
RCP	Reflected Ceiling Plan
RD	Roof Drain
REBAR	Reinforcing Bar
RECEPT	Receptionist

REF	Reference
REFL	Reflected / Reflector
REFR	Refrigerator
REINF	Reinforced / Reinforcing
REM	Remove / Removable
REQ	Required
RESIL	Resilient
REST	Restroom
RET	Retaining / Return
REV	Revised / Revision
RF	Resilient Flooring / Roof
RFG	Roofing
RGTR	Register
RH	Robe Hook / Round Head
RLG	Railing
RM	Room
RO	Rough Opening
RWC	Recessed Waste Receptacle
RWD	Redwood
RWL	Rain Water Leader
S	
S	South
SA	Single Acting
SC	Scale / Solid Core
SCHED	Schedule
SCP	Scupper
SCR	Screen / Shower Curtain Rod
SD	Smoke Detector / Soap Dispenser / Shower Drain
SECT	Section
SF	Square Feet
SH	Shelf
SHR	Shower
SHT	Sheet
SHTG	Sheathing
SIM	Similar
SL	Slope
SLDG	Sliding
SLNT	Sealant
SM	Square Meter
SMS	Sheet Metal Screw
SMH	Sewer Man Hole
SND	Sanitary Napkin Dispenser
SNR	Sanitary Napkin Receptacle
SP	Solid Plastic
SPC	Spacer
SPEC	Specification
SPKR	Speaker
SPRK	Sprinkler
SQ	Square
SSK	Service Dink
SST	Stainless Steel
ST	Stone
STA	Station
STD	Standard
STL	Steel
STOR	Storage
STR	Straight / Strainer / Starter
STRUCL	Structural
STRUC	Structure
SUSP	Suspended
SVC	Service
SW	Switch
SYM	Symmetrical
T	
T	Tinted / Tread
T&G	Tongue and Groove
T/S	Tub / Shower
TACKBD	Tackboard
TB	Tower Bar
TD	Trench Drain
TEL	Telephone
TEMP	Tempered/ Temporary
TER	Terrazzo
TFMR	Transformer
HK	Thick / Thickness
THR	Threshold
TLT	Toilet
TO	Top of ...
TOC	Top of Curb
TOF	Top of Floor
TOP	Top of Plate / Top of Pavement
TOS	Top of Slab
TOW	Top of Wall
TPB	Telephone Power Board
TPD	Toilet Paper Dispenser
TPH	Toilet Paper Holder
TRAN	Transition
TRANS	Transparent
TS	Towel Shelf
TSCD	Toilet Seat Cover Dispenser
TU	Towel Unit
TV	Television

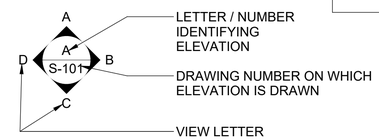
TYP	Typical
U	
UC	Undercut
UL	Underwriters, Laboratories, Inc / Unlimited
UNF	Unfinished
UON	Unless Otherwise Noted
UP	Uuholstered Panels
UR	Urinal
V	
VAL	Valance
VAR	Varies
VB	Vapor Barrier
VCT	Vinyl Composition Tile
VERT	Vertical
VEST	Vestibule
VLV	Valve
VOL	Volume
VP	Veneer Plaster
VTR	Vent Through Roof
W	
W	Washer / West / Wide / Width
W/	With
W/O	Without
WC	Wallcovering / Water Closet
WD	Wood
WDP	Wood Paneling
WDW	Window
WGL	Wire Glass
WH	Water Heater
WO	Where Occurs / Window Opening
WP	Waterproof / Weatherproof
WPM	Waterproof Membrane
WS	Wood Screw
WR	Water Resistant
WRB	Wardrobe
WSCT	Wainscot
WSP	Wet Stand Pipe
WT	Weight / Watertable / Watertight
WWF	Welded Wire Fabric

BUILDING REFERENCE SYMBOLS

EXTERIOR ELEVATION (OR INTERIOR ELEVATION)



INTERIOR ELEVATION



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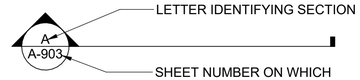

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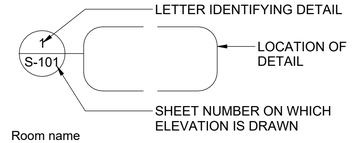
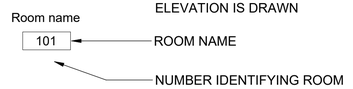
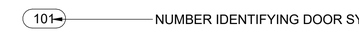


ROOM NAME



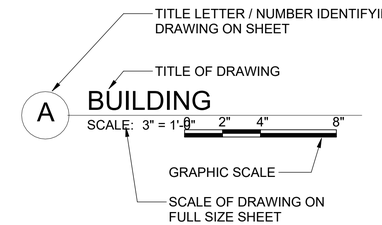
DRAWING REVISION

DOOR SYMBOL



WINDOW SYMBOL

DRAWING TITLE



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

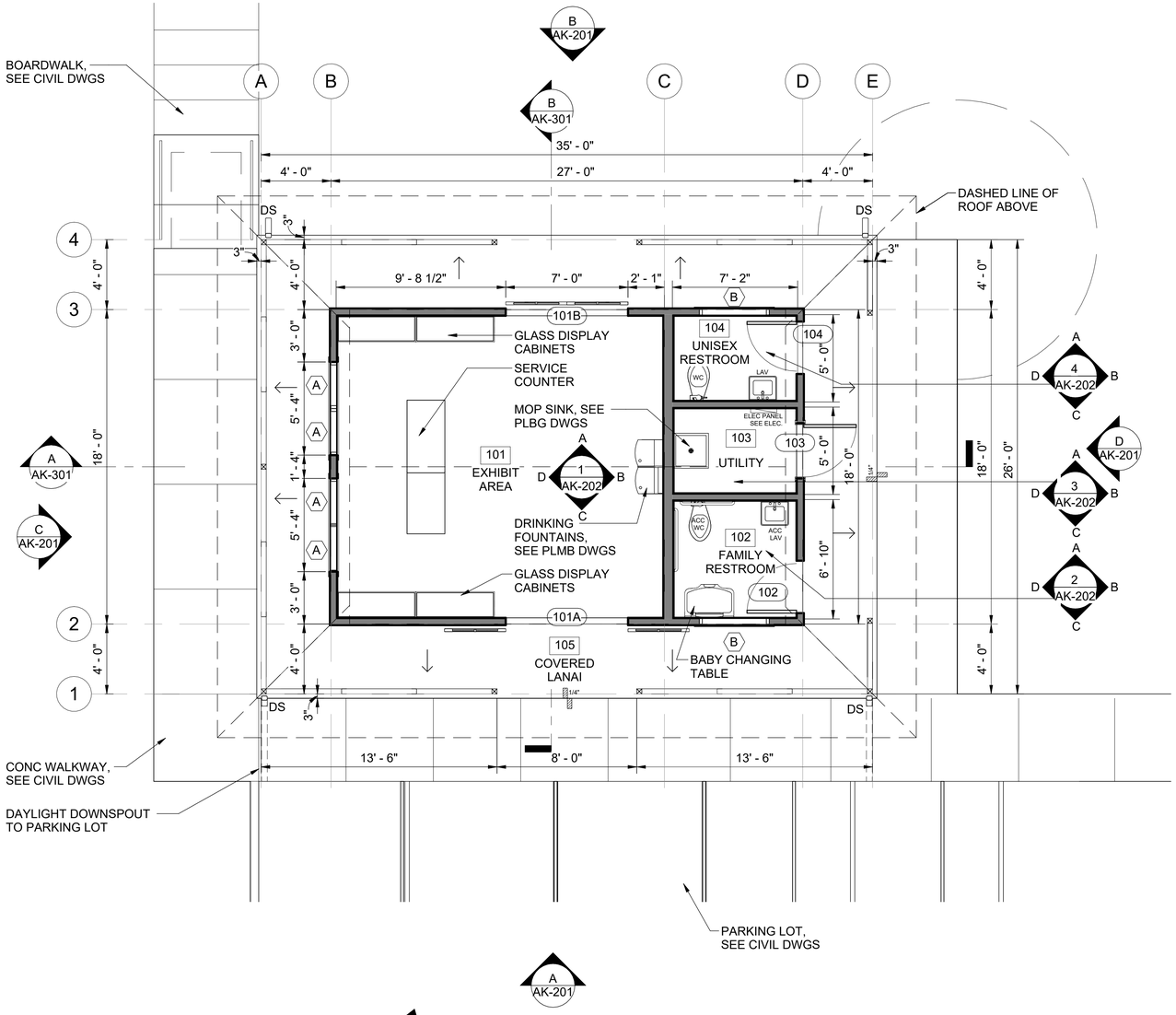
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

BUILDING ABBREVIATIONS & REFERENCE SYMBOLS

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. A-002
CHIEF ENGINEER:	DATE:



A FLOOR PLAN

SCALE: 1/4" = 1'-0" 0 2' 4' 8'

N

LEGEND

- 2x4 WOOD STUD WALL
- CONCRETE WALKWAY
- PARKING LOT, SEE CIVIL DWGS
- COLUMN, SEE STRUCTURAL
- 101 — DOOR TAG, SEE SCHEDULE
- 1i — WINDOW TAG, SEE SCHEDULE

NATURAL LIGHTING AND VENTILATION COMPUTATION

MARK	ROOM NAME	AREA (SF NET)	REQ'D LIGHT 8% (SF)	WINDOW/ DOOR MARK	ACTUAL LIGHT	REQ'D VENT 5% (SF)	WINDOW/ DOOR MARK	ACTUAL VENTILATION
101	EXHIBIT AREA	331 SF	26.48 SF	A A A A	43 SF	16.55 SF	101A 101A A A A A	155 SF
102	FAMILY RESTROOM	50 SF	4.00 SF	B	6 SF	2.50 SF	B	6 SF
103	UTILITY	36 SF	-	-	-	-	-	-
104	UNISEX RESTROOM	36 SF	2.88	B	6 SF	1.80 SF	B	6 SF

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALL A	WALL B	WALL C	WALL D	REMARKS
101	EXHIBIT AREA	F1	B1	W2	W2	W2	W2	SEE INTERIOR ELEV. 1/AK-202
102	FAMILY RESTROOM	F1	B1	W3	W3	W3	W3	SEE INTERIOR ELEV. 2/AK-202
103	UTILITY	F1	B1	W3	W3	W3	W3	SEE INTERIOR ELEV. 3/AK-202
104	UNISEX RESTROOM	F1	B1	W3	W3	W3	W3	SEE INTERIOR ELEV. 4/AK-202
105	COVERED LANAI	F1	B2	W1	W1	W1	W1	SEE INTERIOR ELEV. 5/AK-202

FINISHES LEGEND

FLOOR

F1 EPOXY FLOOR COATIING OVER CONCRETE SLAB

F2 BROOM FINISH SEALED CONCRETE

BASE

B1 4" INTEGRAL EPOXY COVE BASE

B2 6" EXTERIOR TRIM BASE

WALL

W1 5/8" THICK T1-11 PLYWOOD, 1X3 BATTENS @ 16" O.C., PAINT FINISH

W2 1/2" THICK PLYWOOD, PAINT FINISH

W3 FRP WAINSCOTING AND 1/2" THICK GREENBOARD, PAINT FINISH (WALL ABOVE WAINSCOT)

CEILING

C1 EXPOSED STRUCTURAL

C2 5/8" THICK T1-11 PLYWOOD, PAINT FINISH

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI LICENSED PROFESSIONAL ARCHITECT Exp. 04/30/28 HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER FLOOR PLAN

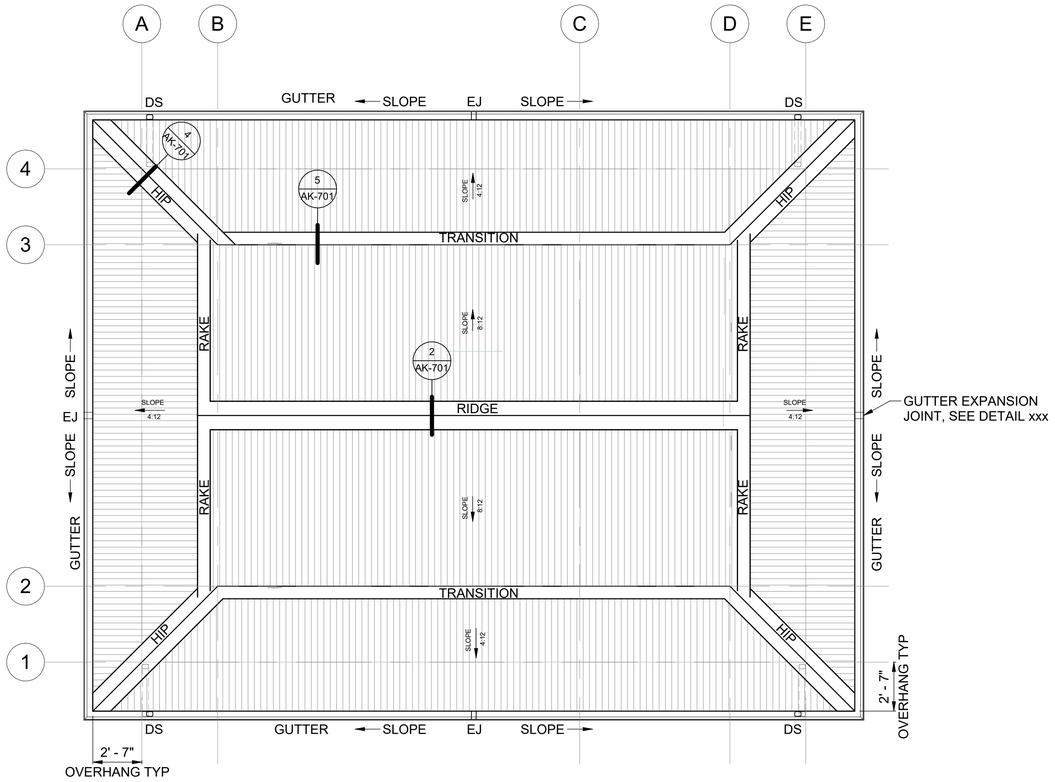
ENGINEERING PARTNERS, INC

DESIGNED: SUBMITTED:
DRAWN: DATE:
CHECKED: SCALE: AS NOTED
APPROVED: DRAWING NO. AK-101
CHIEF ENGINEER: DATE:

JOB NO.: F14C728D SHEET NO. 50 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt

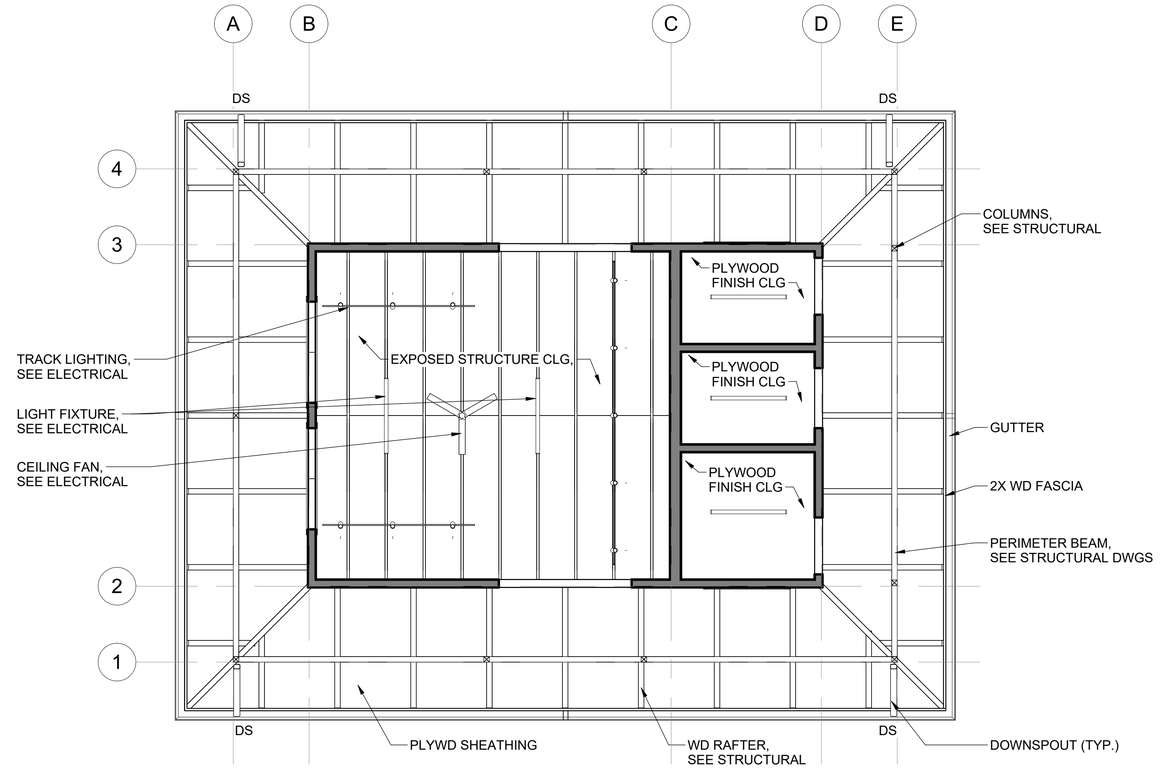


A ROOF PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

N



B REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

N

GUTTER AND DOWNSPOUT CALCULATIONS (REFERENCE ONLY)

HAWAII -- KONA

Rainfall Intensity (10yr) = 8.7 in./hr.
Rainfall Intensity (100yr) = 12 in./hr.
Drainable Area (10yr) = 140 sq. ft.
Drainable Area (100yr) = 100 sq. ft.
Year Setting = 10 yr.

ROOF:
Roof Plan Width = 31.17 ft
Roof Plan Length = 40.13 ft
Gutter length = 50 ft.
Roof Slope = 8/12 (max)
Max Gutter Served by Each DS = 50 ft
Design Area = 1,364 sq. ft.
Minimum Number of DS = 4
Max Roof Area Served by Each DS = 394.22 sq. ft.
Min. Gutter Width = 5 in
Min. Gutter Depth = 5 in
Min. Ds Size = 3 in. dia.

ROOF ATTIC VENTILATION

ATTIC AREA
= 486.00 sq ft
486.00 sq ft div by 300 sq ft = 1.62 sq ft of NFVA
1.62 sq ft of NFVA x 144 (inch per sq ft)
= 233.28 sq in of NFVA

SOFFIT VENT
Required Intake portion (60%)
60% of 233.28 sq in = 139.97 sq in
= 140 sq in
Area per 2" diameter Midget Louver LD series with approximate NFVA of 1.7 sq in per louver
140 div 1.7 = 82.35
Required = 83 pieces

RIDGE VENT
Required exhaust portion (40%)
40% of 233.28 sq in = 93.31 sq in
NFVA of "COR-A-VENT", RIDGE VENT V-600E 10"
= 20 sq in
93.31 div by 20 = 4.67 ft
Required = 5 lin ft of ridge vent

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER ROOF PLAN & RCP

ENGINEERING PARTNERS, INC

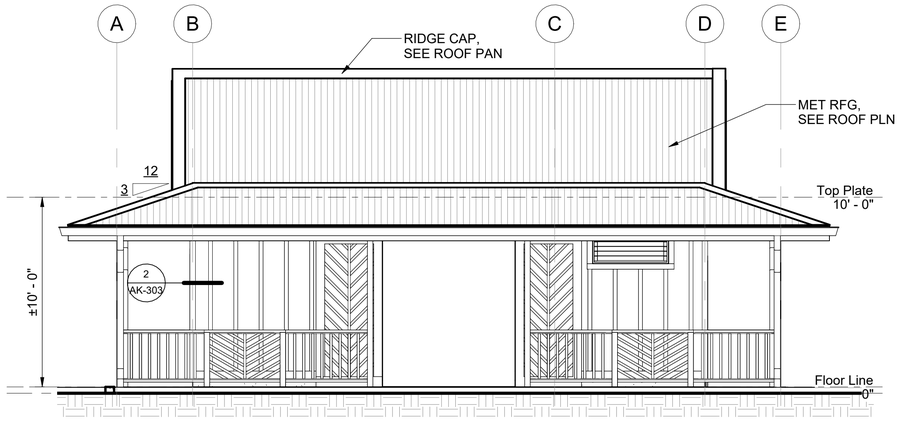
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AK-102
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 51 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

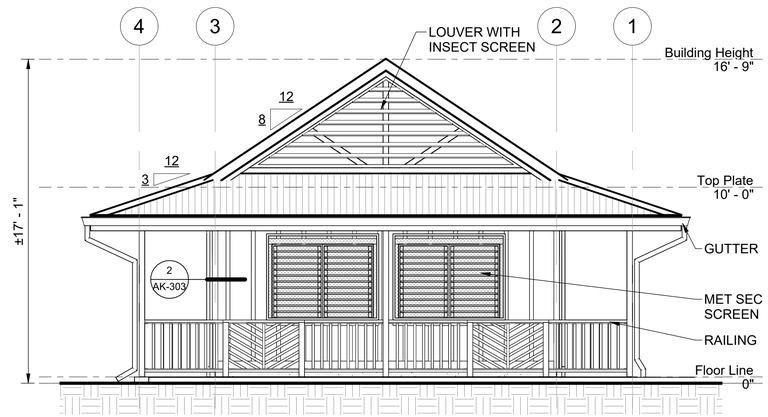
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt



A EXTERIOR ELEVATION - NORTH

SCALE: 1/4" = 1'-0"

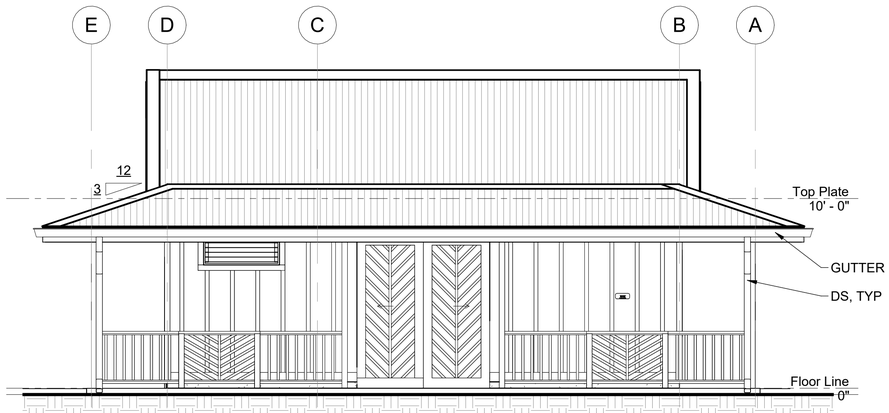
0 2' 4' 8'



C EXTERIOR ELEVATION - EAST

SCALE: 1/4" = 1'-0"

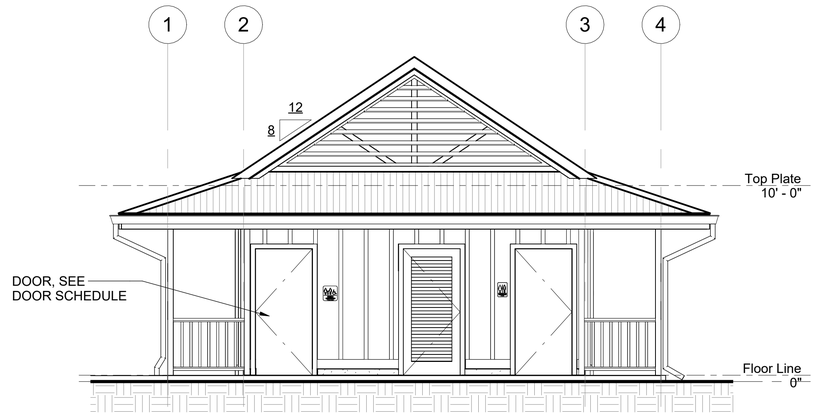
0 2' 4' 8'



B EXTERIOR ELEVATION - SOUTH

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



D EXTERIOR ELEVATION - WEST

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER EXTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

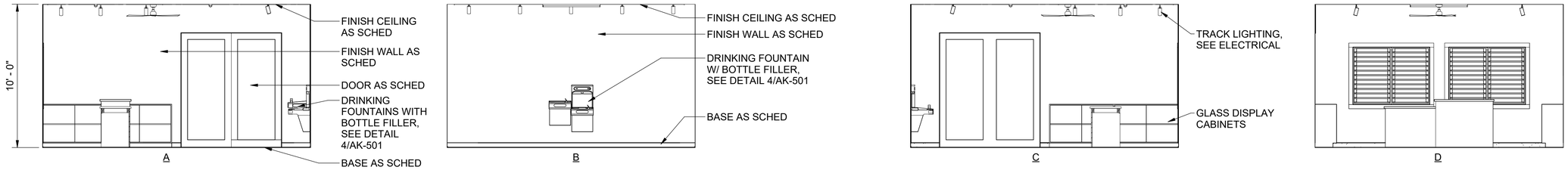
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AK-201
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 52 OF 143 SHEETS

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt

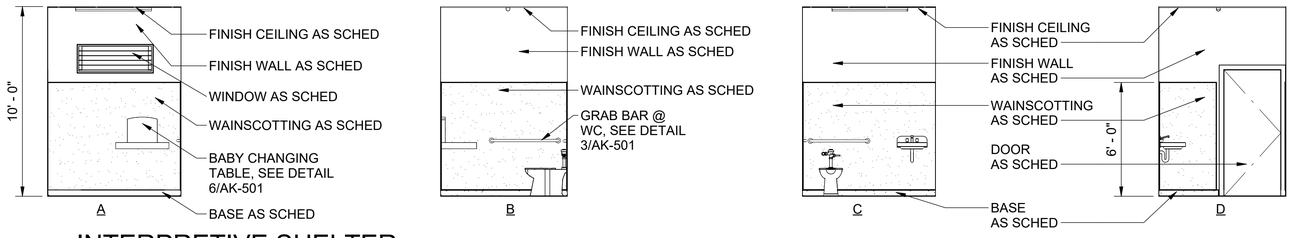
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



1 INTERPRETIVE SHELTER INTERIOR ELEVATIONS-101 EXHIBIT AREA

SCALE: 1/4" = 1'-0"

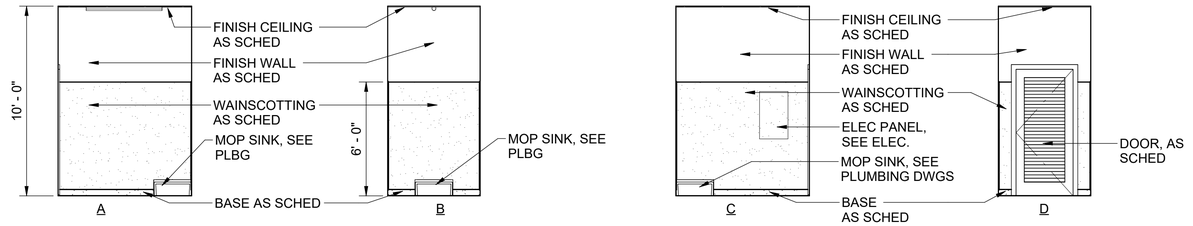
0 2' 4' 8'



2 INTERPRETIVE SHELTER INTERIOR ELEVATIONS-102 FAMILY RESTROOM

SCALE: 1/4" = 1'-0"

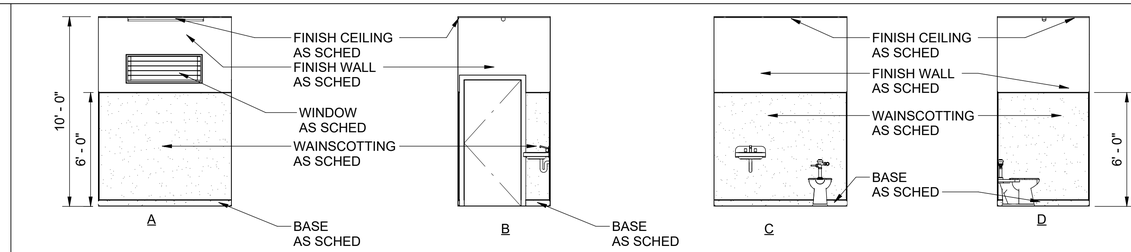
0 2' 4' 8'



3 INTERPRETIVE SHELTER INTERIOR ELEVATIONS-103 UTILITY

SCALE: 1/4" = 1'-0"

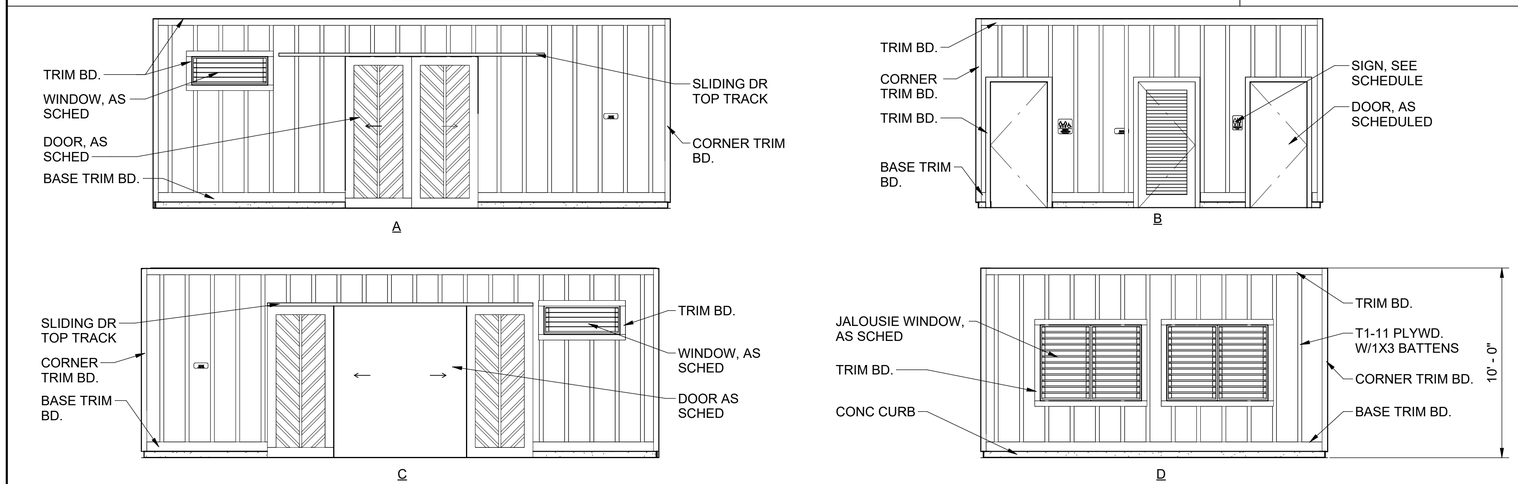
0 2' 4' 8'



4 INTERPRETIVE SHELTER INTERIOR ELEVATIONS-104 UNISEX RESTROOM

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



5 INTERPRETIVE SHELTER INTERIOR ELEVATIONS-105 COVERED LANAI

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER INTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

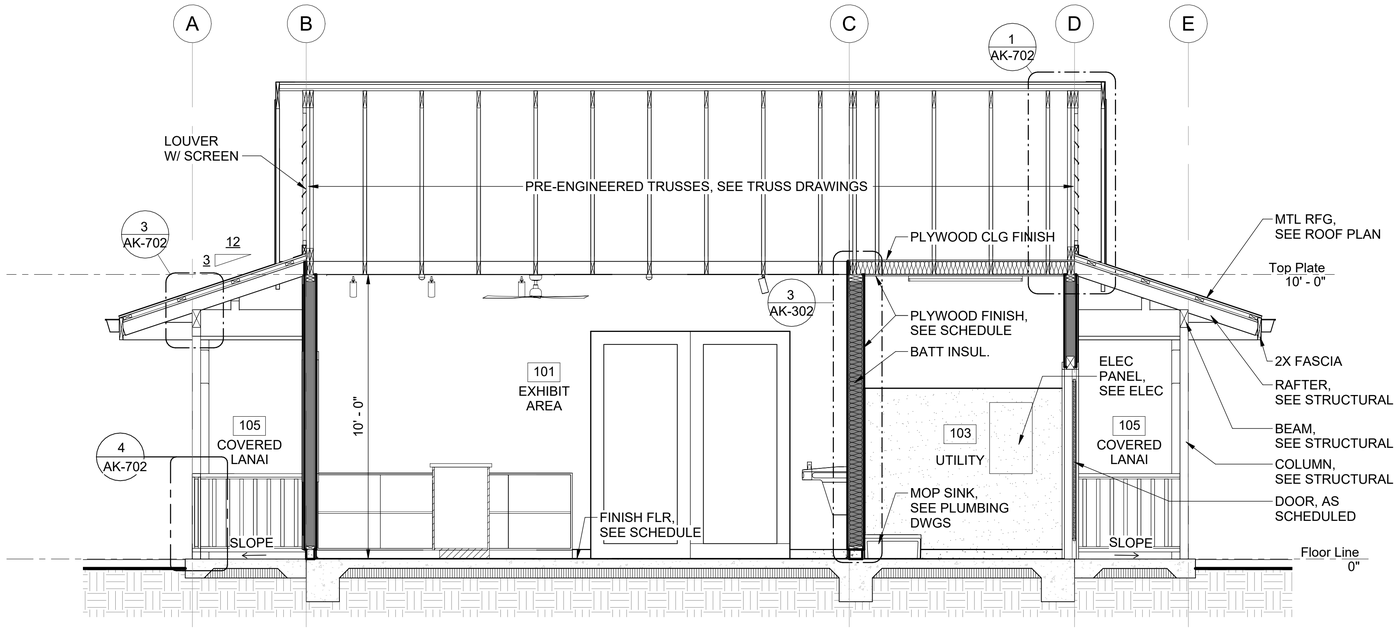
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AK-202
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 53 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

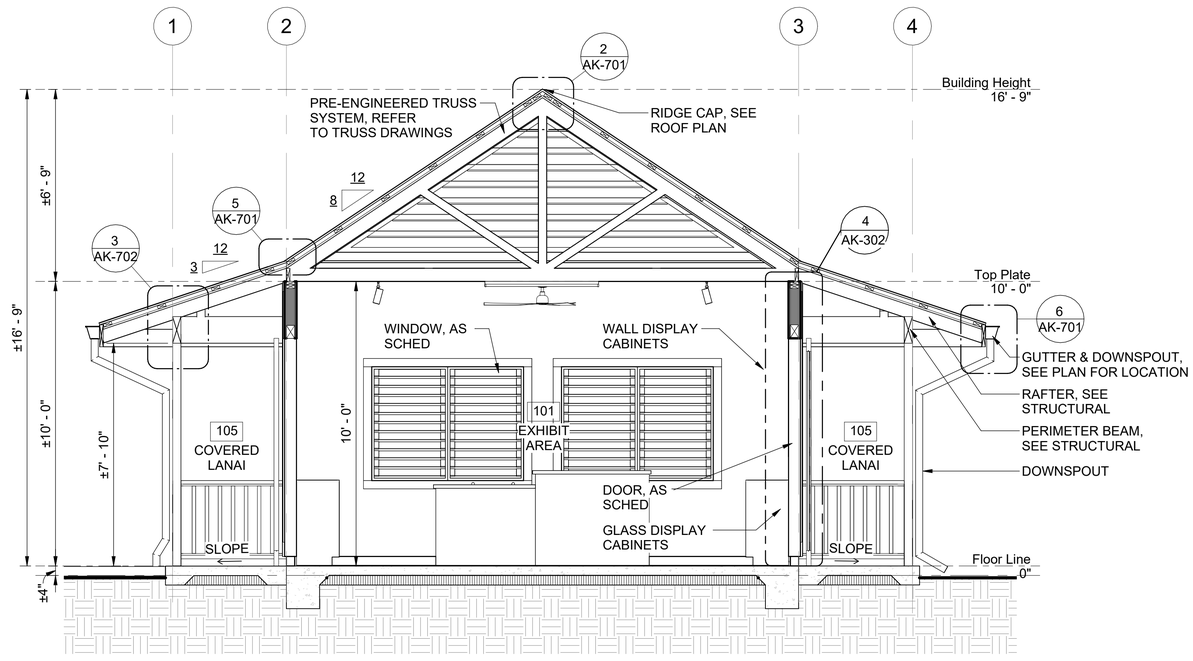
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt



A SECTION THRU EXHIBIT AREA AND UTILITY/STORAGE

SCALE: 3/8" = 1'-0"

0 1' 2' 4'



B SECTION THRU EXHIBIT AREA AND COVERED LANAI

SCALE: 3/8" = 1'-0"

0 1' 2' 4'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER BUILDING SECTIONS

ENGINEERING PARTNERS, INC

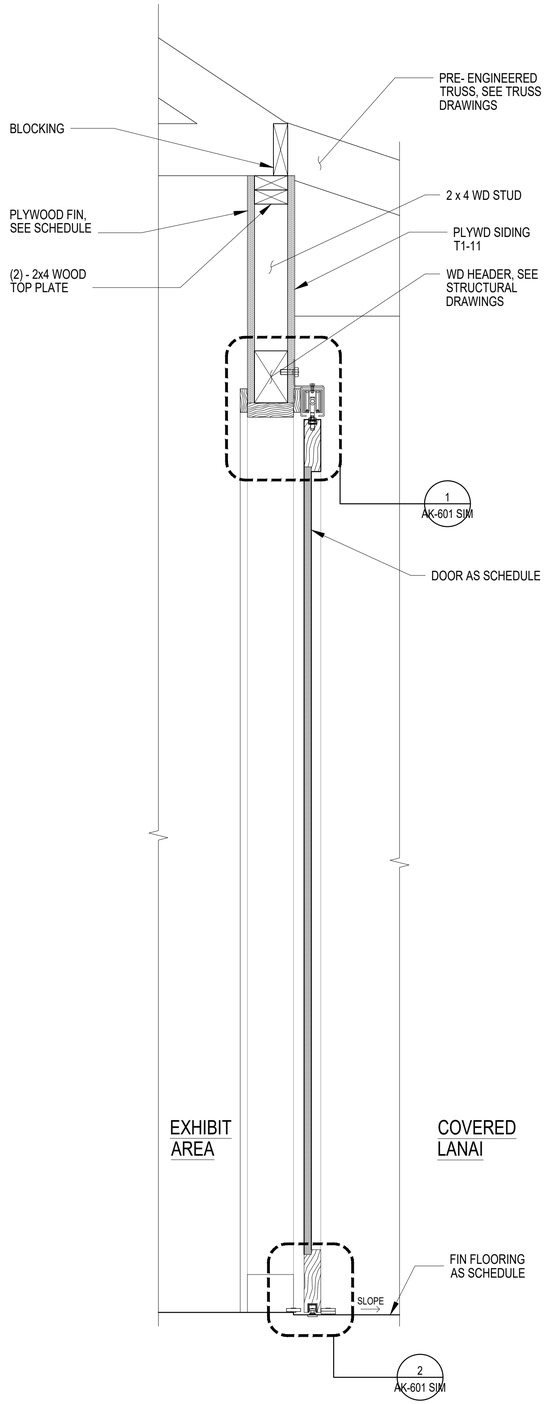
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AK-301
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

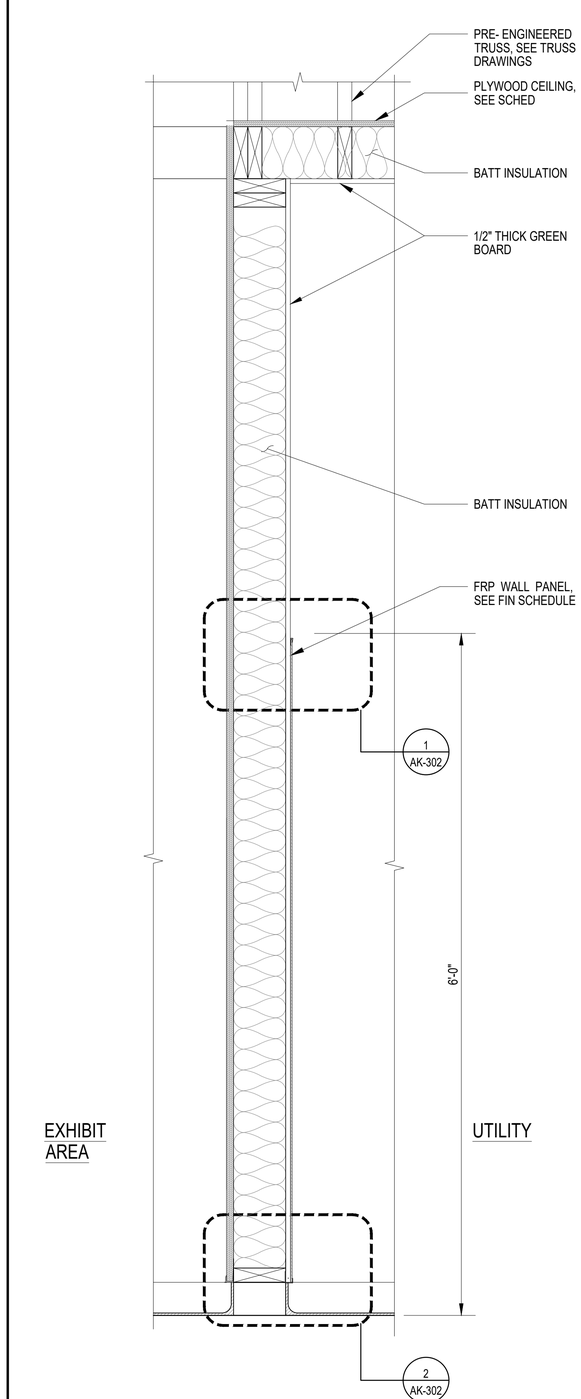
SHEET NO. 54 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

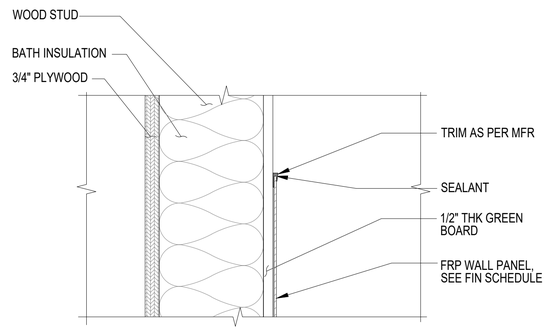
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt



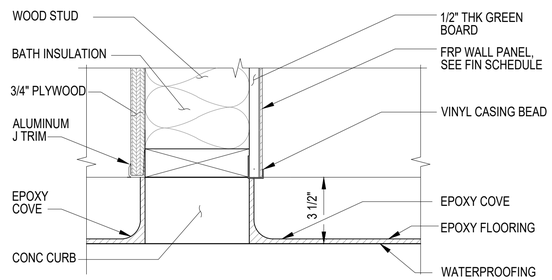
4 WALL SECTION
SCALE: 1-1/2" = 1'-0"
0 6" 1' 1'-6"



3 WALL SECTION
SCALE: 1-1/2" = 1'-0"
0 6" 1' 1'-6"



1 DETAIL
SCALE: 3" = 1'-0"
0 3" 6" 9"



2 DETAIL
SCALE: 3" = 1'-0"
0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
BRIAN F. FUNAI
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER WALL SECTIONS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

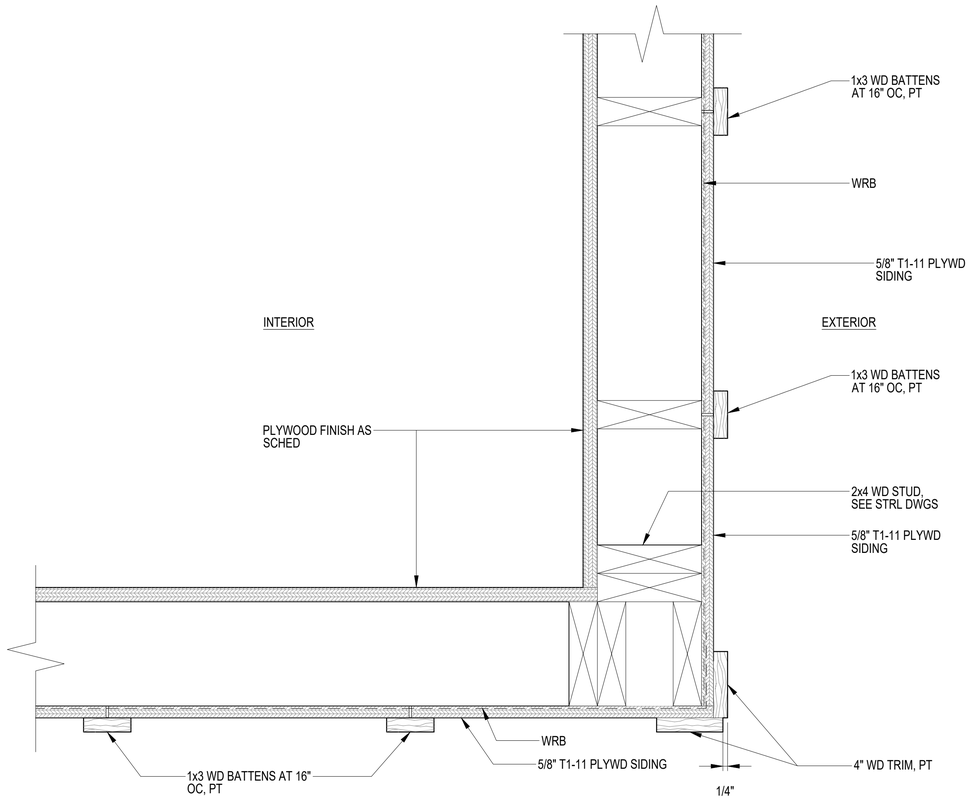
DRAWING NO. AK-302

JOB NO.: F14C728D

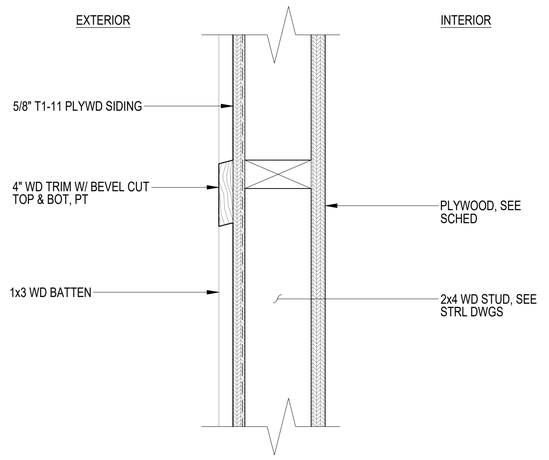
SHEET NO. 55 OF 143 SHEETS

M:\ED PROJECTS\2025 PROJECTS\2025-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDING\DLN# INTERPRETIVE KIOSK\A-302_IK WALL DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



2 CORNER TRIM AND WOOD BATTENS DETAIL
SCALE: 3" = 1'-0"



1 WALL TRIM DETAIL
SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER WALL DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

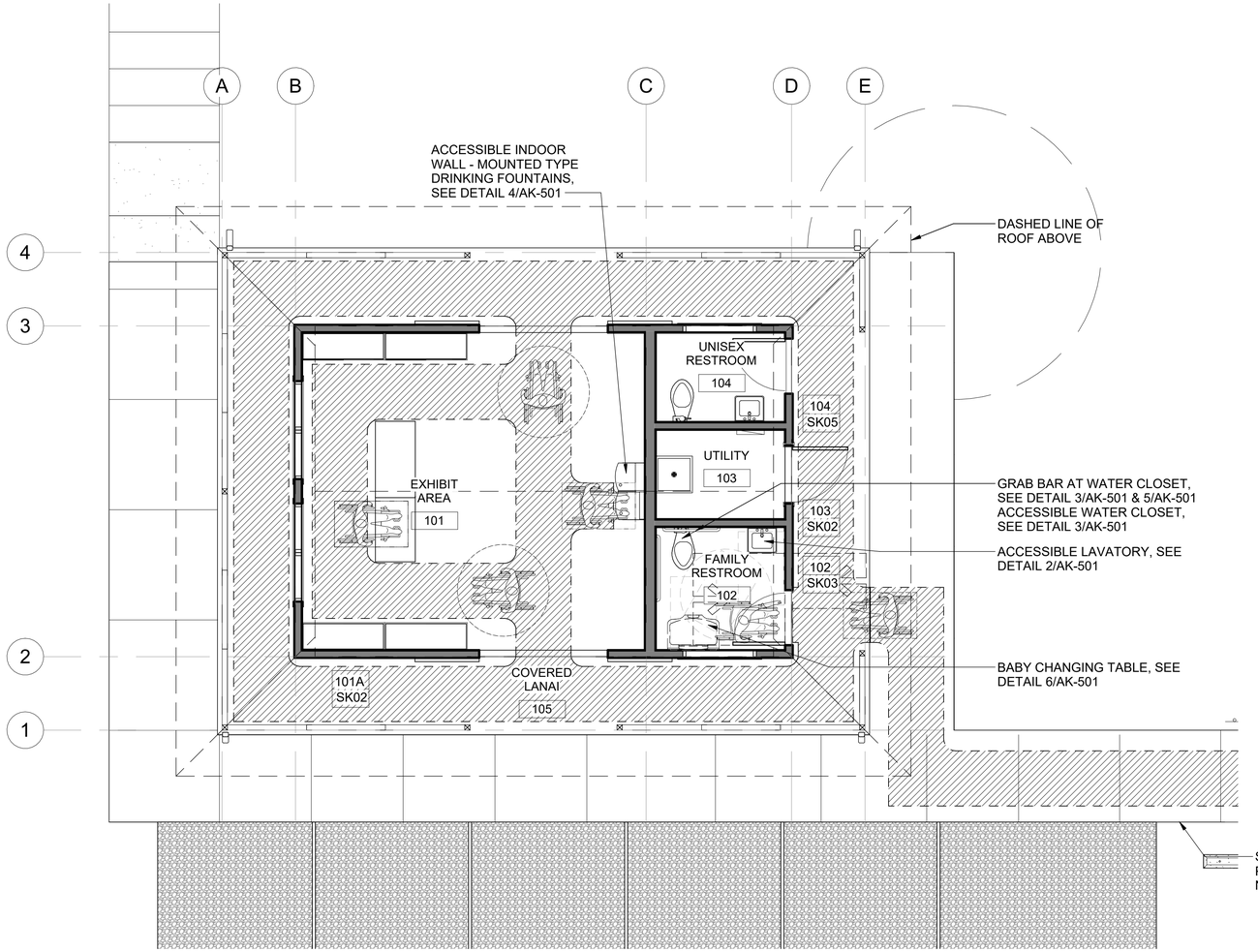
APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AK-303

JOB NO.: F14C728D SHEET NO. 56 OF 143 SHEETS

M:\CO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-303_JK WALL DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



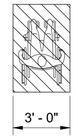
A ACCESSIBLE ROUTE FLOOR & SIGN PLAN

SCALE: 1/4" = 1'-0"

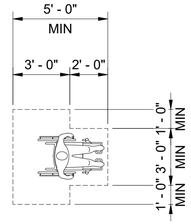
0 2' 4' 8'

N

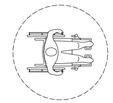
ACCESSIBLE LEGEND



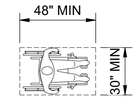
DOJ 2010 ADA STANDARDS FOR ACCESSIBLE ROUTE: DIRECTION OF TRAVEL OR APPROACH SHALL COMPLY WITH SECTION 206



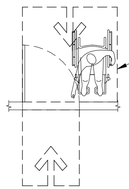
T-SHAPED SPACE (fig 304.3.2)



CIRCULAR SPACE (fig 304.3.1)



CLEAR FLOOR SPACE (fig 305.3)



ACCESSIBLE MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

SIGN SCHEDULE

SIGN MARK	DOOR NUMBER	TEXTS/SYMBOLS	SIGN MATERIAL	SIGN TYPE DET 8/AK-502	MOUNTING DET 9/AK-502	SIGN LOCATION DET 7/AK-502	REMARKS
101A SK01	101A	EXHIBIT AREA	METAL	A	A	B	
101B SK02	101B	EXHIBIT AREA	METAL	A	A	B	
102 SK03	102	FAMILY RESTROOM SEE DETAIL FOR SYMBOL	METAL	C	A	A	
103 SK04	103	UTILITY ROOM	METAL	A	A	A	
104 SK05	104	UNISEX RESTROOM SEE DETAIL FOR SYMBOL	METAL	B	A	A	

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

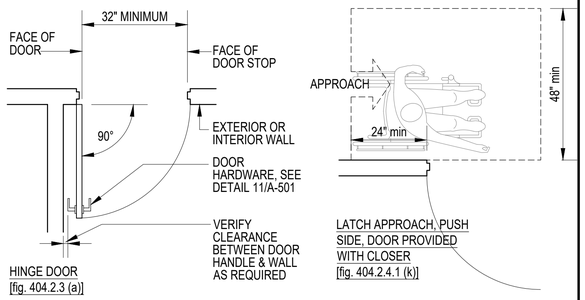
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

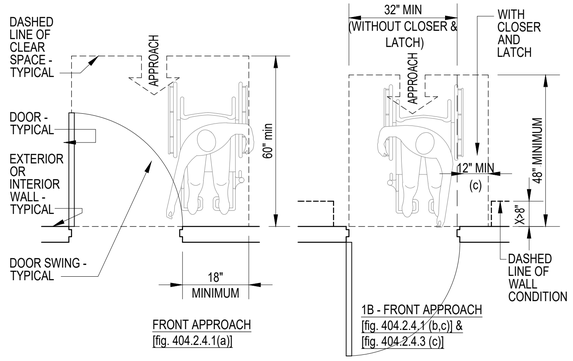
KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

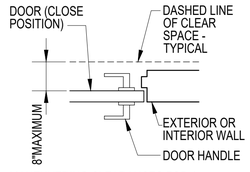
INTERPRETIVE SHELTER ACCESSIBLE ROUTE & SIGN PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AK-401
CHIEF ENGINEER:	DATE:





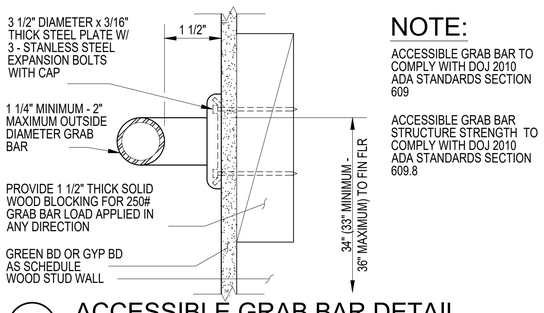


MANEUVERING CLEARANCES FOR A FOWARD APPROCH

NOTE:
1. CLOSER SHALL BE SET FOR MAXIMUM OPENING PRESSURE OF 5 LBS AT EXTERIOR AND INTERIOR DOORS.
2. ACCESSIBLE DOOR HARDWARE, SEE DETAIL 7 ON THIS SHT.

8 ACC MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

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



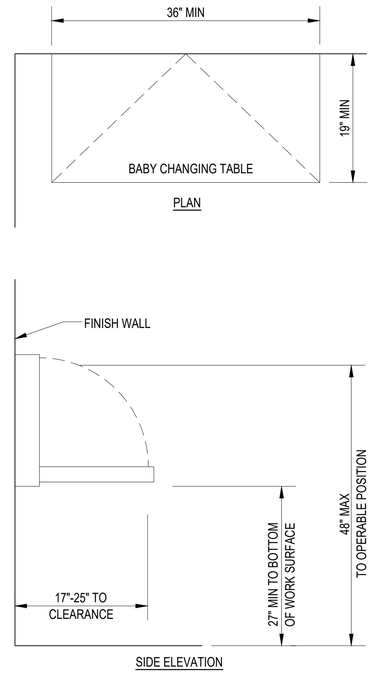
NOTE:

ACCESSIBLE GRAB BAR TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609

ACCESSIBLE GRAB BAR STRUCTURE STRENGTH TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609.8

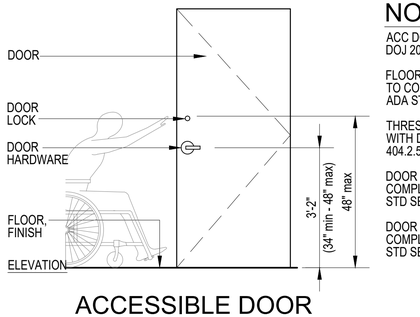
5 ACCESSIBLE GRAB BAR DETAIL

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



6 BABY CHANGING TABLE

NO SCALE



NOTE:

ACC DOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 404

FLOOR OR GROUND SURFACE TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.4.4

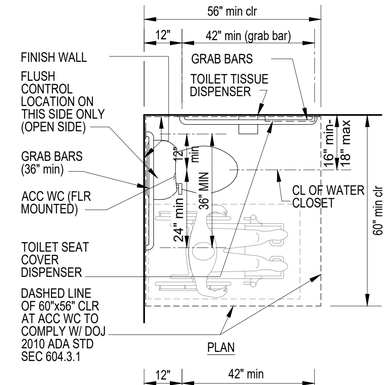
THRESHOLDS TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.5

DOOR HARDWARE TO COMPLY WITH DOJ 2010 ADA STD SEC 309.4 & 404.2.7

DOOR & GATE SURFACE TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.10

7 ACCESSIBLE DOOR HARDWARE DETAIL

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



NOTE:

ACC WATER CLOSET TO COMPLY W/ DOJ 2010 ADA STD SEC 604

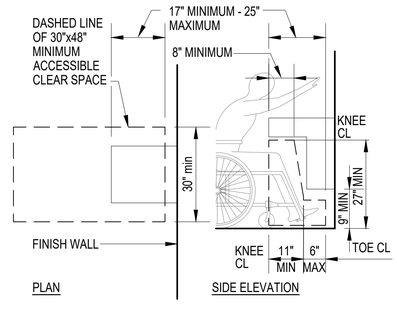
GRAB BAR TO COMPLY W/ DOJ 2010 ADA STD SEC 604.5 & 609

FLUSH CONTROL TO COMPLY W/ DOJ 2010 ADA STD SEC 309 & 604.6

TOILET TISSUE DISPENSER TO COMPLY W/ DOJ 2010 ADA STD SEC 604.7

3 ACCESSIBLE WATER CLOSET AND GRAB BAR DETAILS

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

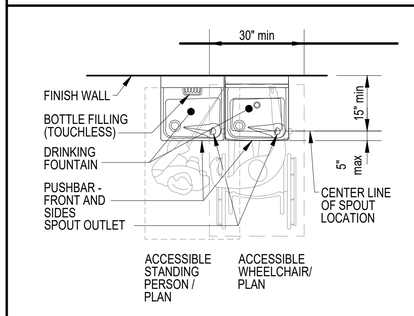


NOTE:

ACCESSIBLE KNEE & TOE CL TO COMPLY WITH DOJ 2010 ADA STD SECT 306

1 ACCESSIBLE KNEE & TOE CLEARANCE

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

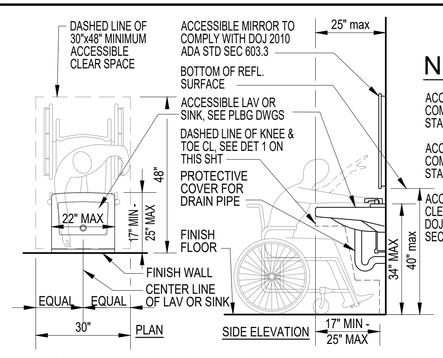


NOTE:

1. PROVIDE & INSTALL IN COMPLIANCE WITH ADA SECTION 602
2. KNEE & TOE CLEARANCE SHALL COMPLY WITH ADA SECTION 306.2
3. MAX. SLOPE 1:48 ANY DIRECTION
4. CLEAR FLOOR OR GROUND SPACE SHALL COMPLY WITH ADAAG SECTION 305

4 ACCESSIBLE INDOOR WALL-MOUNTED TYPE DRINKING FOUNTAINS

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



NOTE:

ACCESSIBLE LAVATORY TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606

ACCESSIBLE FAUCET TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606.4

ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306

2 ACCESSIBLE LAV & MIRROR DETAIL

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AK-501

JOB NO.: F14C728D SHEET NO. 58 OF 143 SHEETS

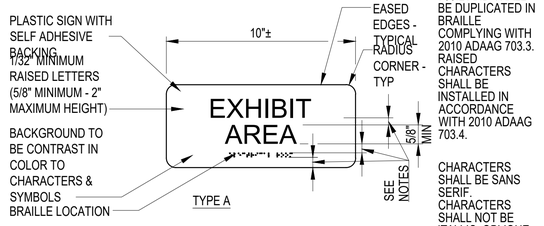
M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-501_A-502 _JK ADA.DWG

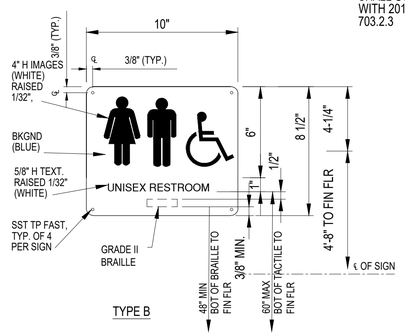
KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

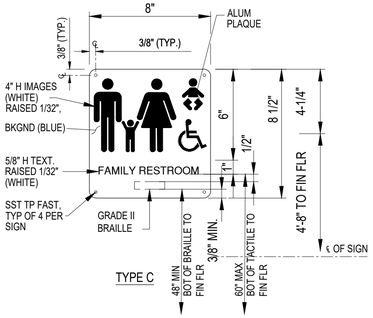
NOTE:

RAISED CHARACTERS SHALL COMPLY WITH 2010 ADAAG 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 2010 ADAAG 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 2010 ADAAG 703.4.

CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALLIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS SHALL CONFORM WITH 2010 ADAAG 703.2.3

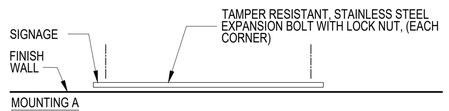






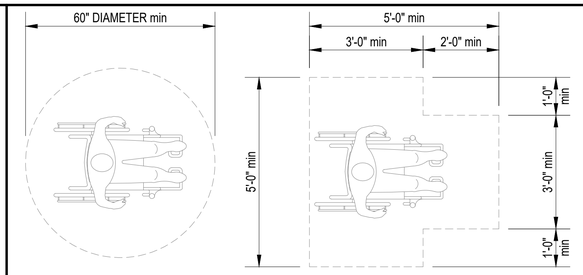
8 SIGN TYPES

NO SCALE



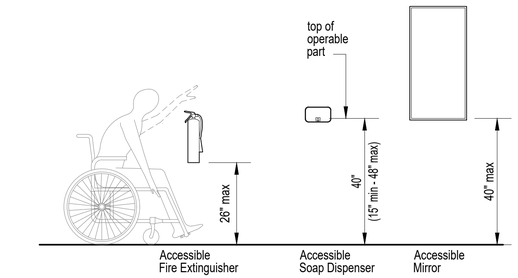
9 SIGN MOUNTING

NO SCALE



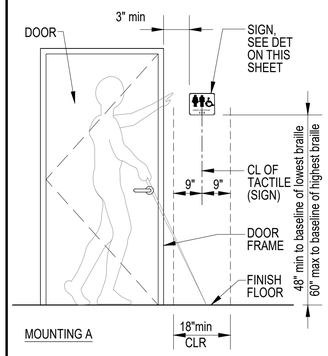
5 ACCESSIBLE TURNING SPACE

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



6 MOUNTING HEIGHT DETAIL

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

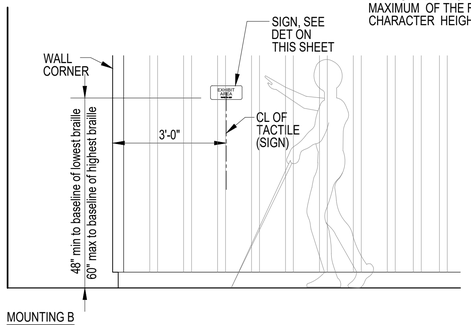


NOTES

ACC DOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 404

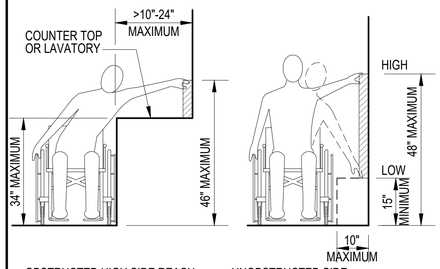
SIGN TO COMPLY WITH DOJ 2010 ADA STD SEC 216 & 703

1. LETTERING & PICTOGRAM TO BE RAISED 1/32"
2. LETTERING TYPE TO "HELVETICA REGULAR"
3. BRAILLE TO BE TYPE 2, RAISED 1/32", DIMENSIONS TO CONFORM TO DOJ 2010 ADA STD SEC 703.3
4. PROVIDE WD BLKG IN BACK OF SIGNS AS REQ
5. SPACING SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT



7 SIGN LOCATION

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



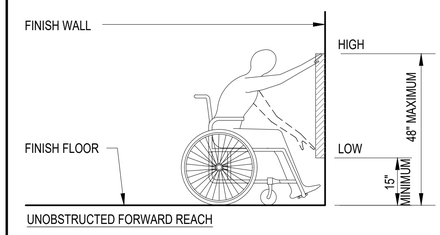
NOTE:

ACCESSIBLE SIDE REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

3 ACCESSIBLE SIDE REACH

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

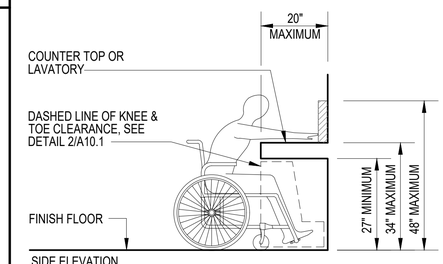


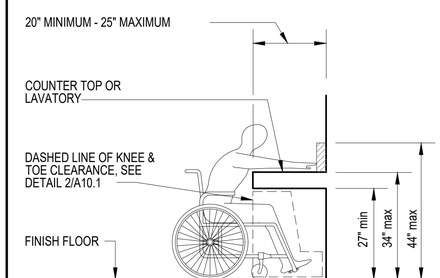
NOTE:

ACCESSIBLE SIDE & FORWARD REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

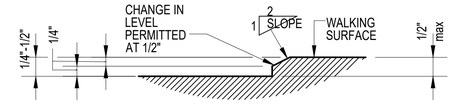
ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306

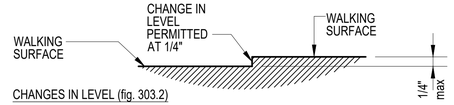




4 ACCESSIBLE FORWARD REACH

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





NOTE:

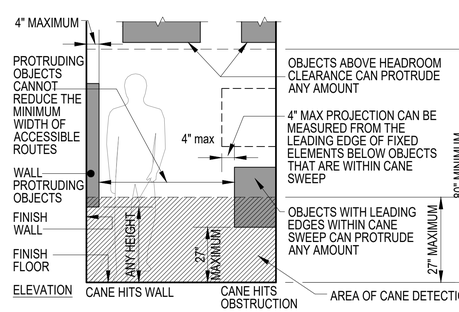
CHANGES IN LEVEL TO COMPLY WITH DOJ 2010 ADA STD SEC 303

SEC 303.4: RAMPS: CHANGES IN LEVEL GREATER THAN 1/2 INCH SHALL BE RAMPED, AND SHALL COMPLY WITH DOJ 2010 ADA STD SEC 405 or 406.

THRESHOLDS TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 404.2.5.

1 CHANGES IN LEVEL

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



NOTE:

PROTRUDING OBJECTS TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 307

ACCESSIBLE ROUTES TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 402

2 ACCESSIBLE PROTRUDING OBJECTS DETAIL

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED:
CHIEF ENGINEER — Dina Lau, E-signed 2026-05-08 09:49PM HST, dina.u.lau@hawaii.gov, State of Hawaii, Civil Engineer

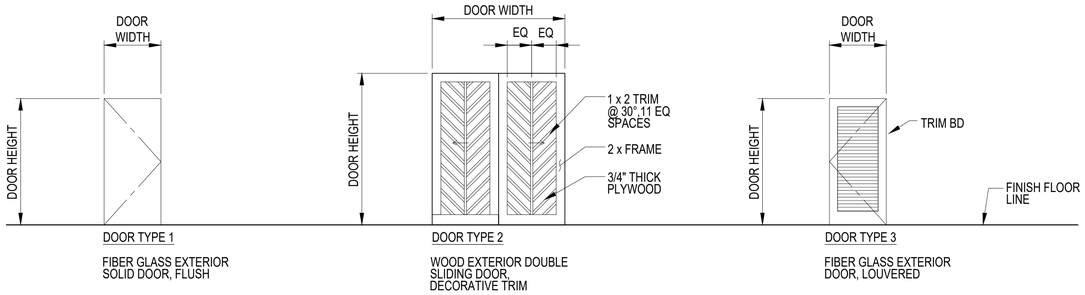
DRAWING NO. AK-502

JOB NO.: F14C728D

SHEET NO. 59 OF 143 SHEETS

M:\EO_PROJECTS\2025_PROJECTS\12005-25-03_KEALAKEKUA_BAY_HISTORICAL_PARK_IMPR\4-DWG\BUILDING\DLNR_INTERPRETIVE_KIOSK\A-501_A-502_JK_ADA.DWG

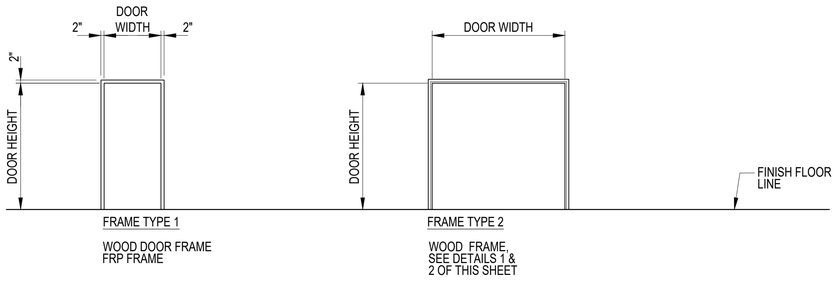
KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



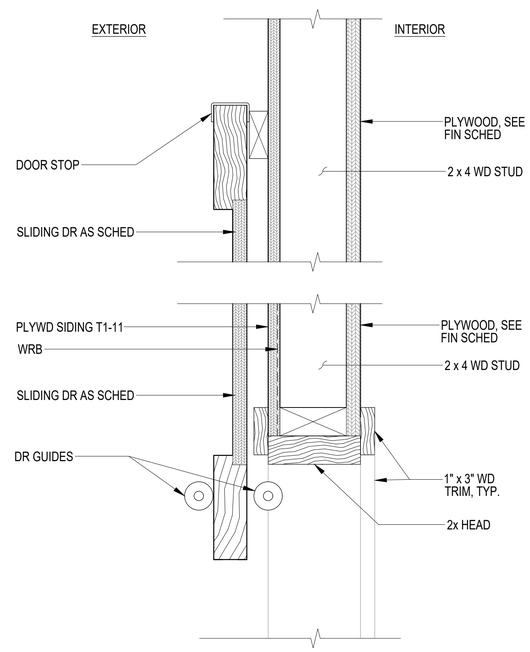
A DOOR TYPE
NO SCALE

DOOR SCHEDULE

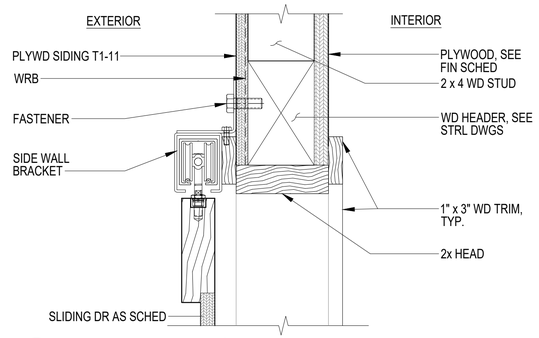
EXT/INT DR LOCATION	DOOR MARK (#)	DOOR TYPE	SIZE			MATERIAL			FRAME TYPE	FIRE RATING (IN MINUTES)	DETAILS				HARDWARE GROUP	REMARKS
			WIDTH	HEIGHT	THICK	DOOR	FRAME	FINISH			HEAD	HINGE JAMB	STRIKE JAMB	THRES-HOLD		
EXT	101A	D2	7'-0"	8'-0"	1 3/4"	WOOD	WOOD	PAINT	-	-	1/AK-601	-	-	2/AK-601	-	FOR JAMB, SEE DET 3/AK-601
EXT	101B	D2	7'-0"	8'-0"	1 3/4"	WOOD	WOOD	PAINT	-	-	1/AK-601	-	-	2/AK-601	-	FOR JAMB, SEE DET 3/AK-601
EXT	102	D3	3'-0"	7-0"	1 3/4"	FRP	FRP	PAINT	-	-	5/AK-601	6/AK-601	7/AK-601	4/AK-601	-	
EXT	103	D1	3'-0"	7-0"	1 3/4"	FRP	FRP	PAINT	-	-	5/AK-601 SIM	6/AK-601 SIM	7/AK-601 SIM	4/AK-601 SIM	-	
EXT	104	D3	3'-0"	7-0"	1 3/4"	FRP	FRP	PAINT	-	-	5/AK-601 SIM	6/AK-601 SIM	7/AK-601 SIM	4/AK-601 SIM	-	



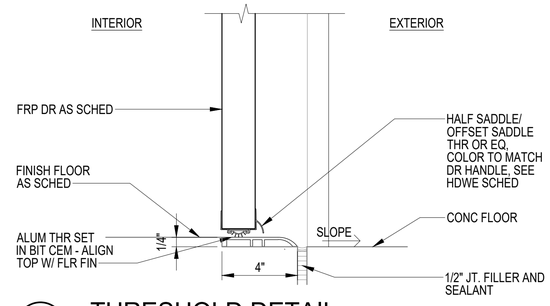
B FRAME TYPE
NO SCALE



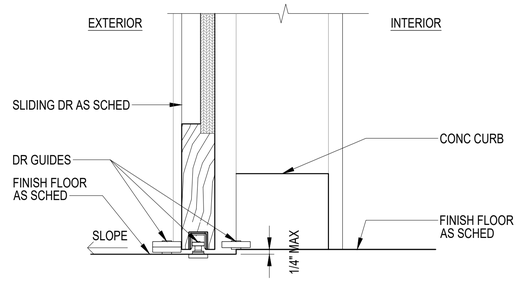
3 JAMB DETAIL
SCALE: 3" = 1'-0"



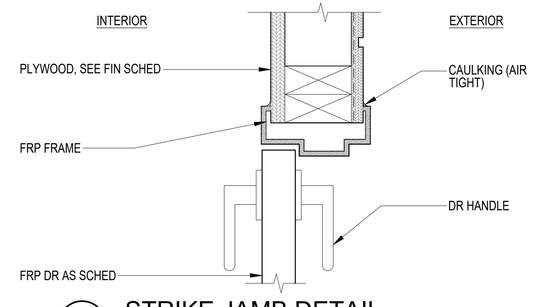
1 HEAD DETAIL
SCALE: 3" = 1'-0"



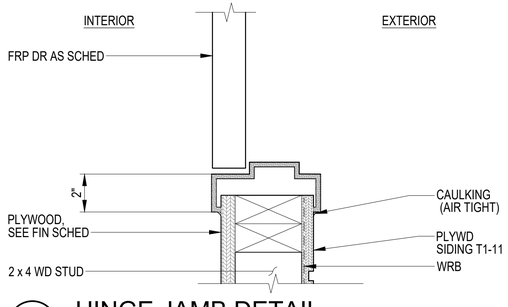
4 THRESHOLD DETAIL
SCALE: 3" = 1'-0"



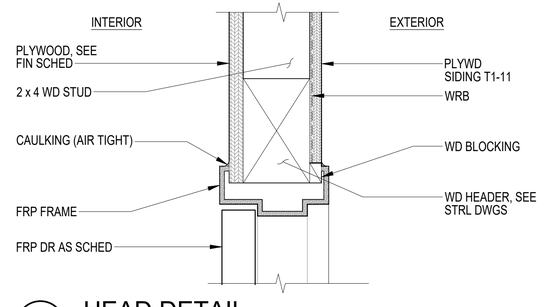
2 THRESHOLD DETAIL
SCALE: 3" = 1'-0"



7 STRIKE JAMB DETAIL
SCALE: 3" = 1'-0"



6 HINGE JAMB DETAIL
SCALE: 3" = 1'-0"



5 HEAD DETAIL
SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER DOOR SCHED, FRAME TYPE AND DETAILS

ENGINEERING PARTNERS, INC

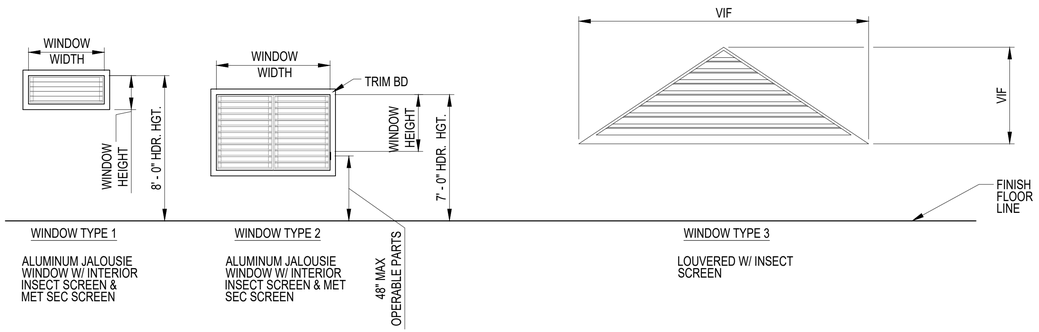
DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
CHIEF ENGINEER: dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

DRAWING NO. AK-601

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS, JOB NO. F14C728D

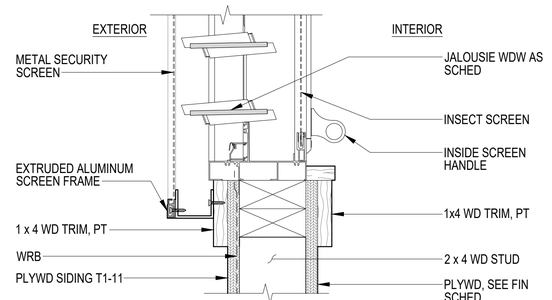
M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-601_IK DOOR DET.DWG



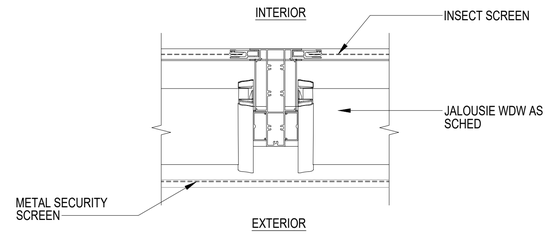
WINDOW SCHEDULE

WINDOW MARK #	WINDOW TYPE	SIZE		MATERIAL		DETAILS					REMARKS
		WIDTH	HEIGHT	FRAME	GLAZING	HEAD	JAMB	MULLION	SILL	TRANSOM	
GROUND FLOOR											
A	2	2'-8"	4'-0"	ALUMINUM	CLEAR	1/AK-602	2/AK-602	4/AK602	3/AK-602	-	
B	1	4'-0"	1'-6"	ALUMINUM	OBSCURE	1/AK-602	2/AK-602	4/AK602	3/AK-602	-	ADAAG SECTION 229.1 PER 205.1, EXCEPTION 1, WINDOWS INTENDED FOR USE ONLY BY SERVICE OR MAINTENANCE PERSONNEL
C	3	-	-	-	-	-	-	-	-		

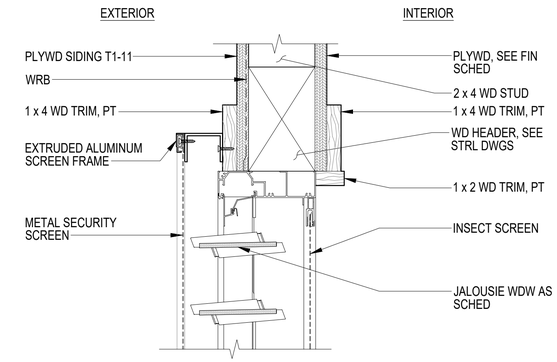
A WINDOW TYPE/ SCHEDULE
NO SCALE



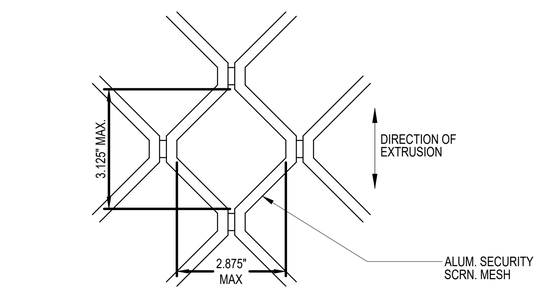
3 JALOUSIE SILL DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



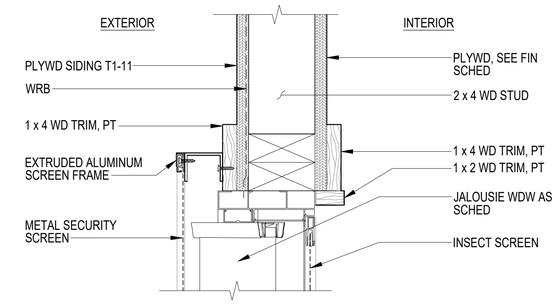
4 MULLION DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



1 JALOUSIE HEAD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



5 SECURITY SCREEN DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



2 JALOUSIE JAMB DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER WINDOW SCHEDULE AND DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

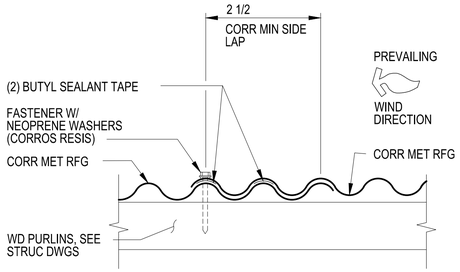
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST
CHIEF ENGINEER dina.u.lau@hawaii.gov State of Hawaii Civil Engineer

DRAWING NO. AK-602

JOB NO.: F14C728D SHEET NO. 61 OF 143 SHEETS

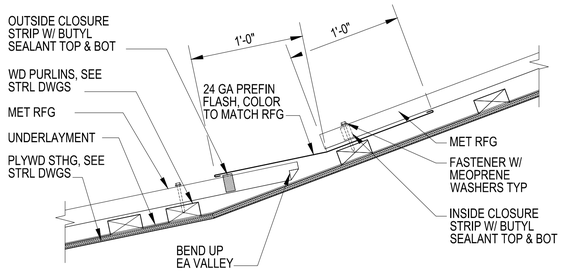
M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-602_JK WINDOW DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



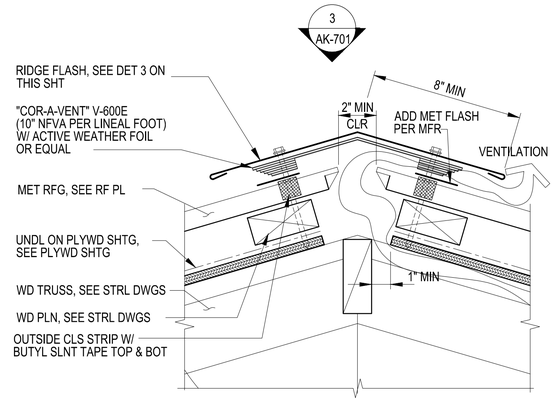
7 CORRUGATED METAL ROOFING DETAIL

SCALE: 3" = 1'-0"



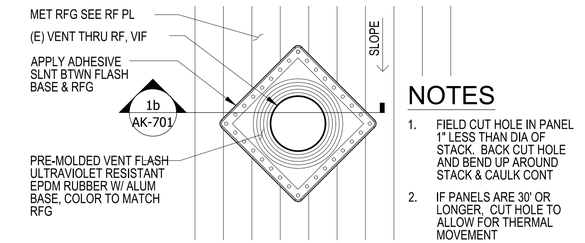
5 TRANSITION FLASHING DETAIL

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



2 RIDGE VENT FLASHING DETAIL

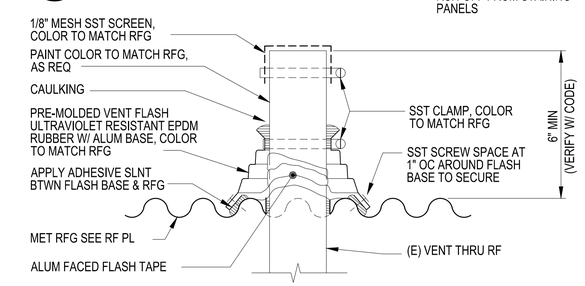
SCALE: 3" = 1'-0"



NOTES

1. FIELD CUT HOLE IN PANEL 1" LESS THAN DIA OF STACK. BACK CUT HOLE AND BEND UP AROUND STACK & CAULK CONT
2. IF PANELS ARE 30' OR LONGER, CUT HOLE TO ALLOW FOR THERMAL MOVEMENT
3. IF (E) PIPE IS MADE OF MET IT MUST BE PAINTED TO PREVENT RUST RUN-OFF FROM STAINING PANELS

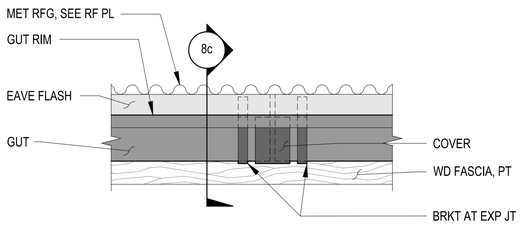
1a ROOF PLAN



1b SECTION

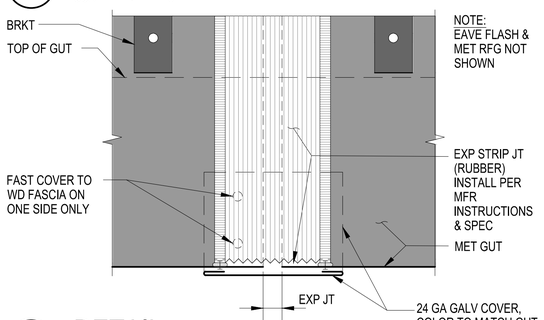
1 TYP FLASHING AT 4" (MAX) DIA VENT THRU ROOF

NO SCALE



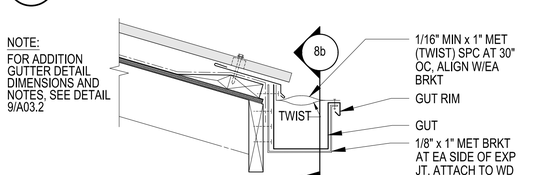
8a ELEVATION

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



8b DETAIL

SCALE: 1/2" = 1"

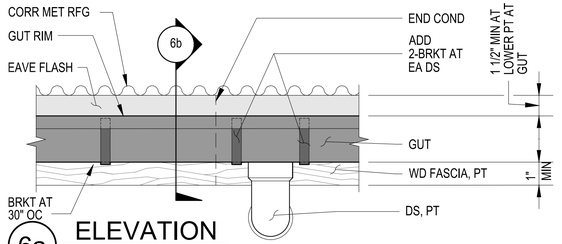


8c SECTION

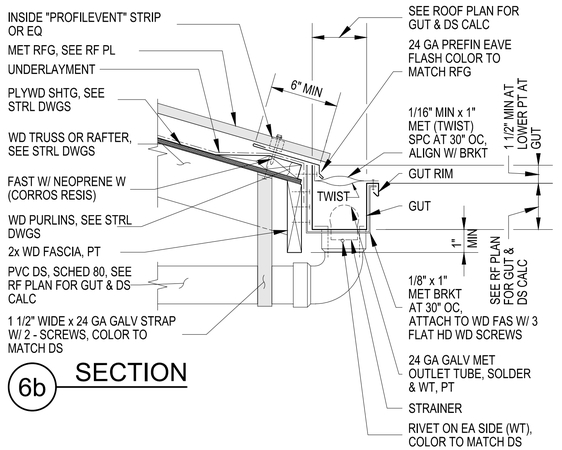
SCALE: 1 1/2" = 1'-0"

8 EXPANSION GUTTER DETAIL

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



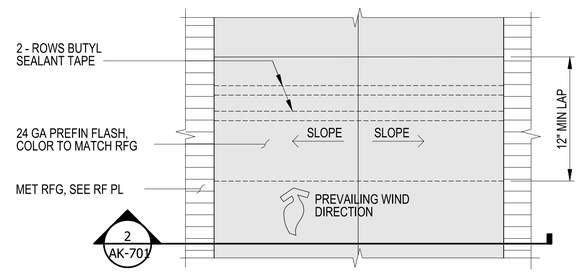
6a ELEVATION



6b SECTION

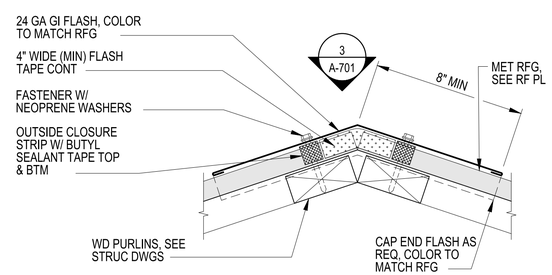
6 GUTTER DETAIL

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



3 RIDGE FLASHING DETAIL/ PLAN

SCALE: 3" = 1'-0"



4 HIP FLASHING DETAIL

SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER ROOF DETAILS

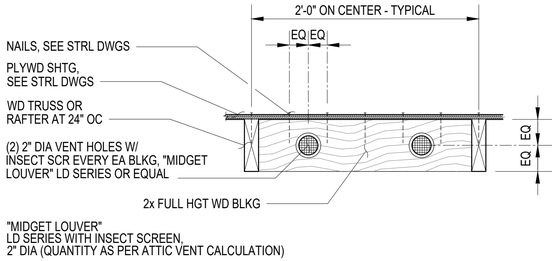
ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED:

CHIEF ENGINEER: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

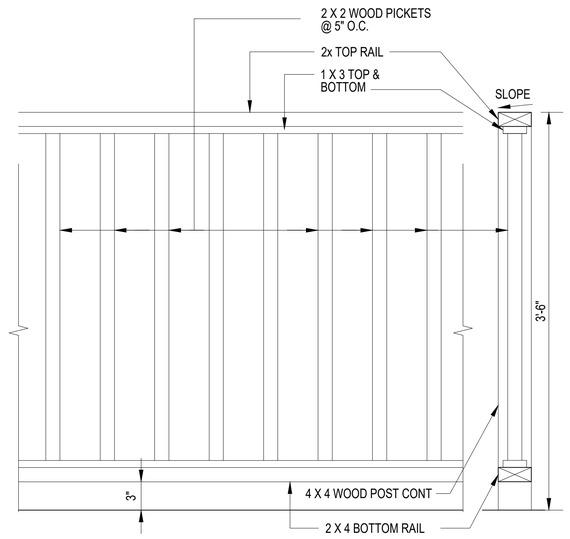
DRAWING NO. AK-701



6 SOFFIT VENT DETAIL

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

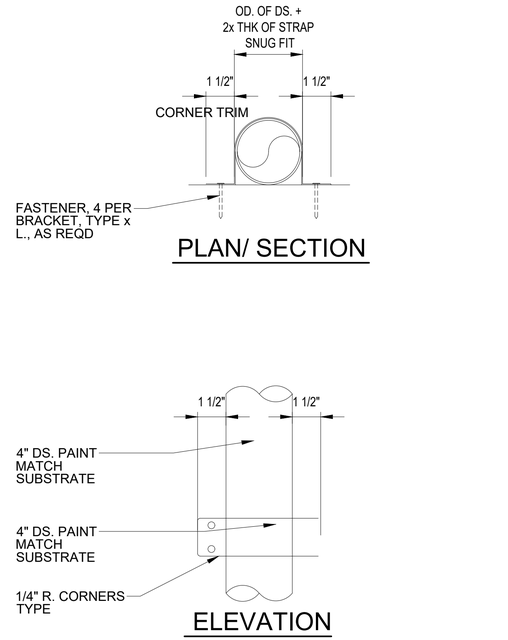
0 6" 1' 1'-6"



4 RAILING DETAIL

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

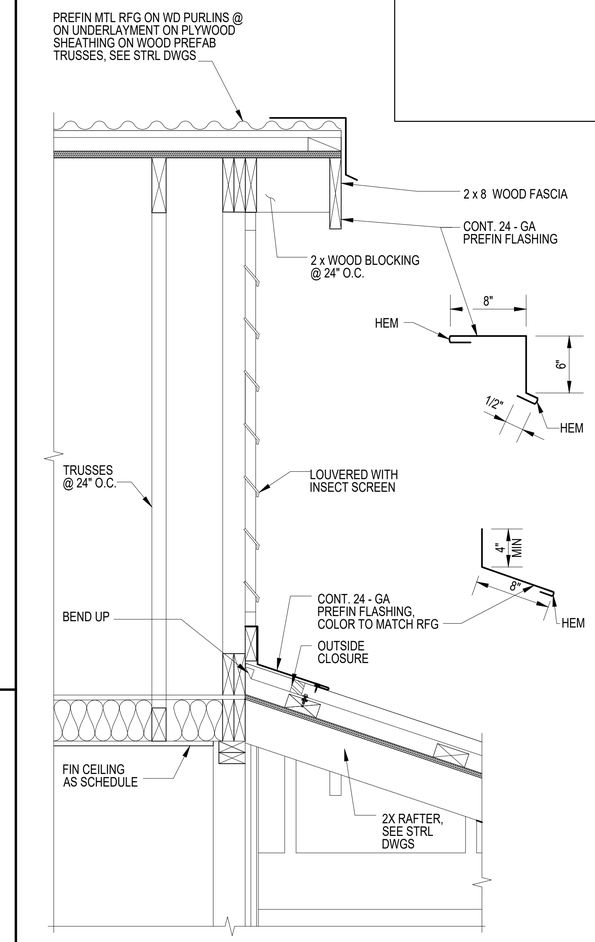
0 6" 1' 1'-6"



2 DOWNSPOUT WALL STRAP DETAIL

SCALE: 3" = 1'-0"

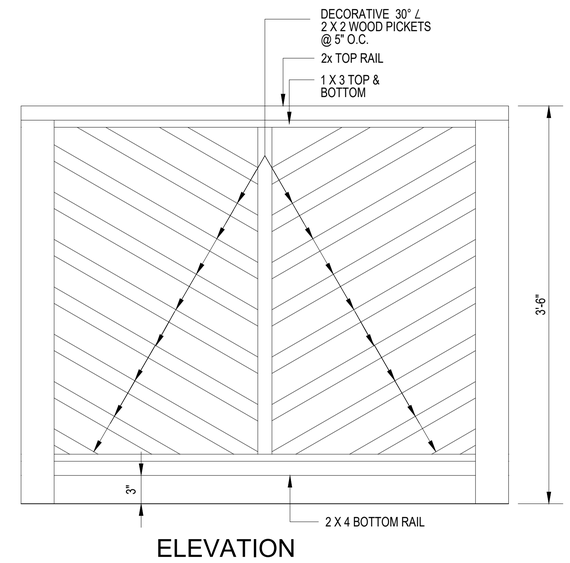
0 3" 6" 9"



1 GABLE END DETAIL

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

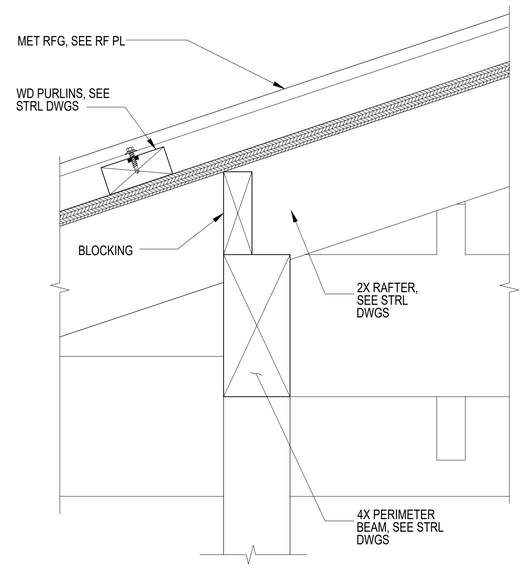
0 6" 1' 1'-6"



5 DECORATIVE RAILING DETAIL

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

0 6" 1' 1'-6"



3 LANAI HEADER DETAIL

SCALE: 3" = 1'-0"

0 3" 6" 9"

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BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

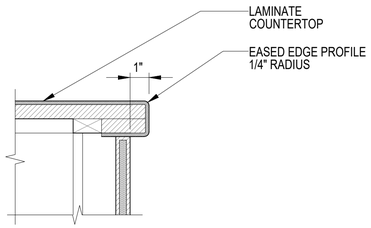
DRAWING NO. AK-702

JOB NO.: F14C728D

SHEET NO. 63 OF 143 SHEETS

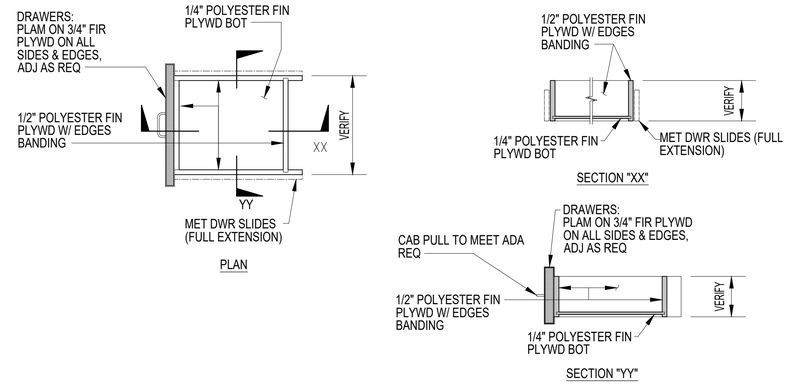
M:\EO PROJECTS\2025 PROJECTS\2025-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-701_A-702 IK_BUILDING DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



5 EASED EDGE DETAIL

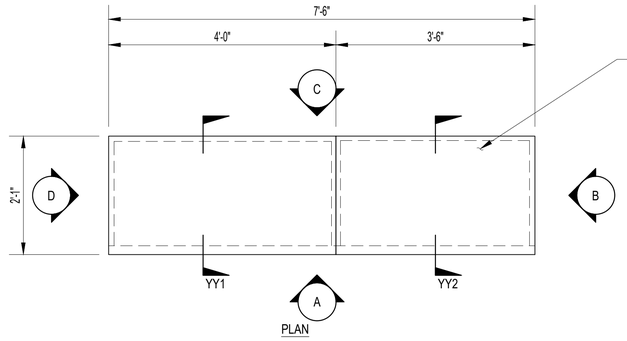
NO SCALE

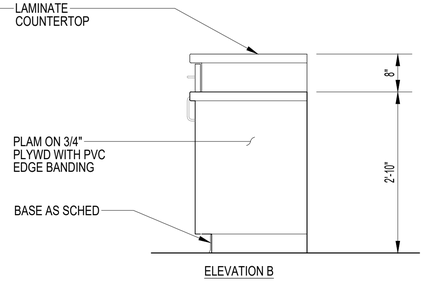


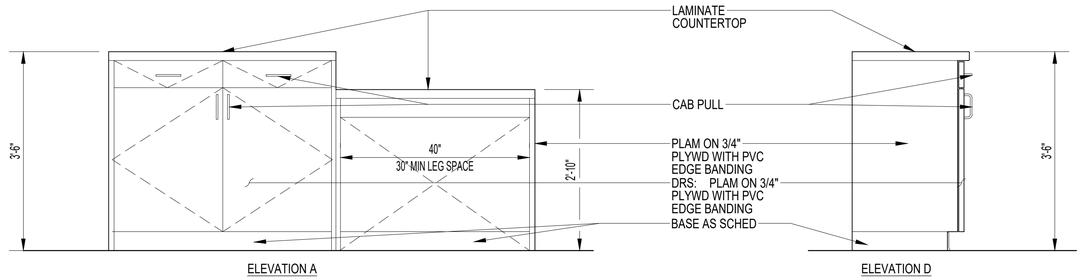
1 TYPICAL DRAWER DETAILS

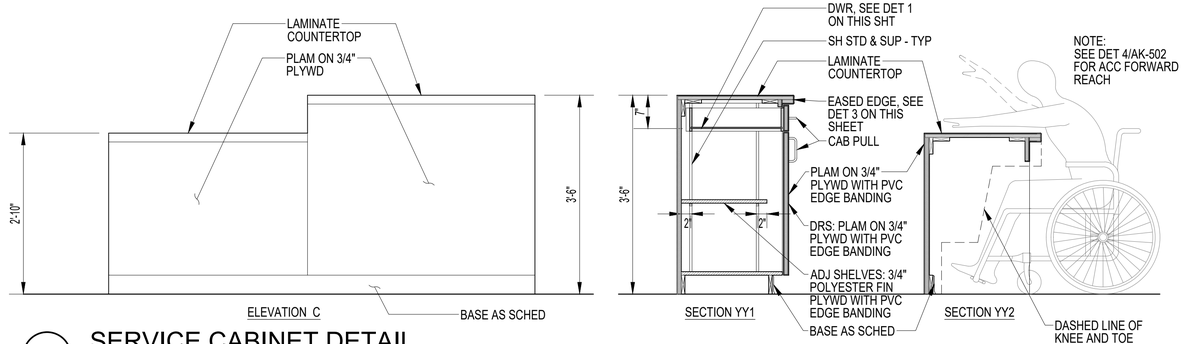
SCALE: 3/4" = 1'-0"

0 1' 2' 3'





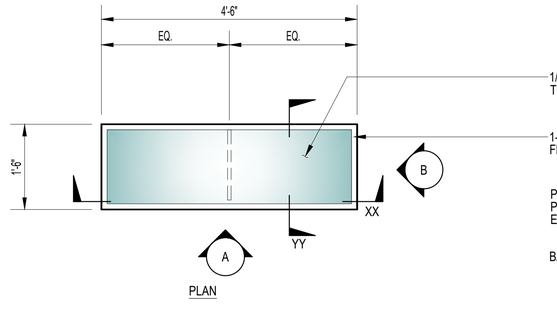


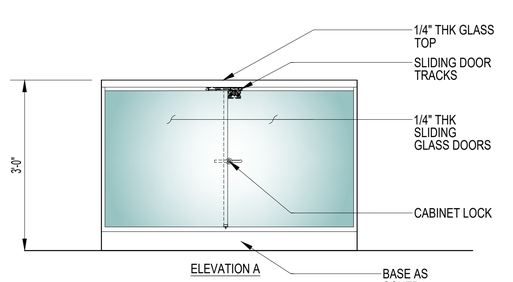


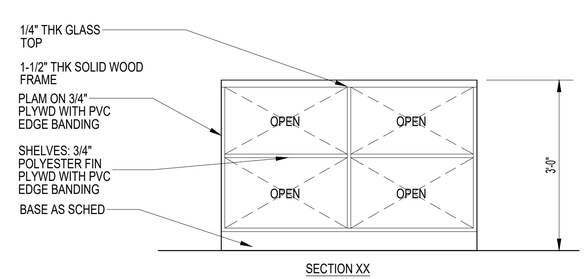
4 SERVICE CABINET DETAIL

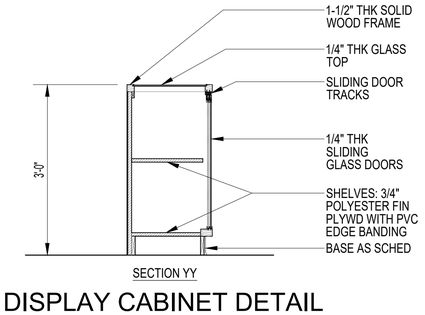
SCALE: 3/4" = 1'-0"

0 1' 2' 3'









2 DISPLAY CABINET DETAIL

SCALE: 3/4" = 1'-0"

0 1' 2' 3'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB/AP	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED:

CHIEF ENGINEER — Dina Lau, E-signed 2026-05-08 09:49PM HST, dina.u.lau@hawaii.gov, State of Hawaii, Civil Engineer

DRAWING NO. AK-703

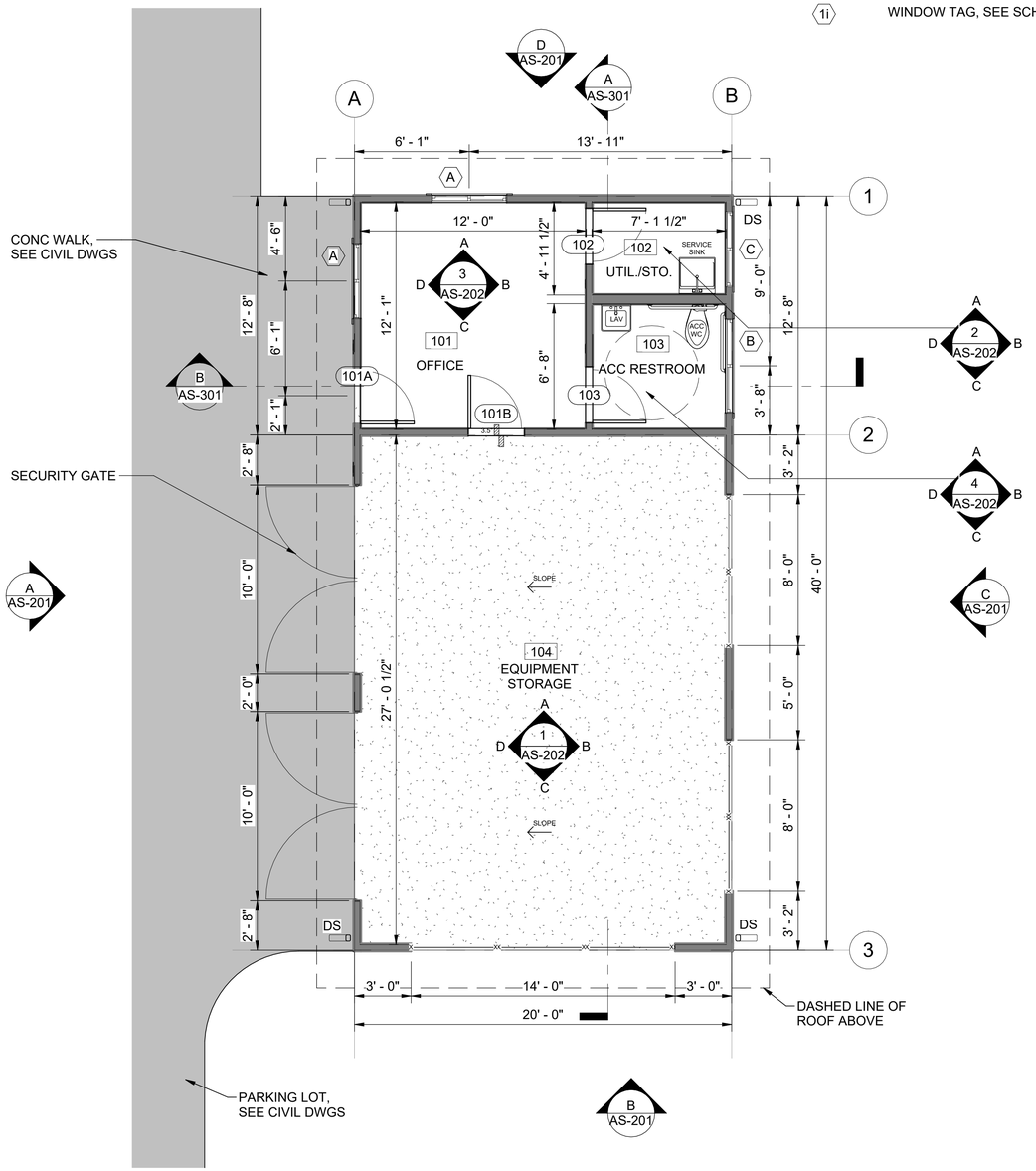
JOB NO.: F14C728D

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDING\DLNR INTERPRETIVE KIOSK\A-703 IK_BUILDING DET.DWG

LEGEND

- 2x4 WOOD STUD WALL
- CONCRETE WALKWAY
- PARKING LOT, SEE CIVIL DWGS
- x——x SECURITY FENCE
- (101) DOOR TAG, SEE SCHEDULE
- ⟨1i⟩ WINDOW TAG, SEE SCHEDULE



A FLOOR PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

NATURAL LIGHTING AND VENTILATION COMPUTATION

MARK	ROOM NAME	AREA (SF NET)	REQUIRED LIGHT 8% (SF)	WINDOW/ DOOR MARK	ACTUAL LIGHT	REQUIRED VENTILATION 5% (SF)	WINDOW/ DOOR MARK	ACTUAL VENTILATION (SF)
101	OFFICE	145	11.60	⟨A⟩ ⟨A⟩	32	7.25	(101) ⟨A⟩ ⟨A⟩	37
102	UTIL/STO.	35	-	-	-	-	-	-
103	ACC RESTROOM	47	3.76	⟨B⟩	10	2.35	⟨B⟩	5
104	EQUIPMENT STORAGE	524	-	-	-	-	-	-

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALL A	WALL B	WALL C	WALL D	CEILING
101	OFFICE	F1	B1	W2	W2	W2	W2	C1
102	UTIL./STO.	F1	B1	W3	W3	W3	W3	C2
103	ACC RESTROOM	F1	B1	W3	W3	W3	W3	C2
104	EQUIPMENT STORAGE	F1	B1	W1	W1	W1	W1	C3

FINISHES LEGEND

FLOOR

F1 VCT FLOORING

F2 TEXTURED SEALED CONCRETE

BASE

B1 4" HIGH VINYL BASE

B2 6" EXTERIOR TRIM BASE

WALL

W1 5/8" THICK T1-11 PLYWOOD, 1X3 BATTENS @ 16" O.C., PAINT FINISH

W2 1/2' GYPSUM WALL BOARD, PAINT FINISH

W3 1/2" MOISTURE RESISTANT GYPSUM WALL BOARD, PAINT FINISH

CEILING

C1 1/2" GYPSUM BOARD, PAINT FINISH

C2 1/2" MOISTURE RESISTANT GYPSUM WALL BOARD, PAINT FINISH

C3 5/8" THICK T1-11 PLYWOOD, SMOOTH, PAINT FINISH

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI LICENSED PROFESSIONAL ARCHITECT Exp. 04/30/28 HAWAII, U.S.A

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE FLOOR PLAN

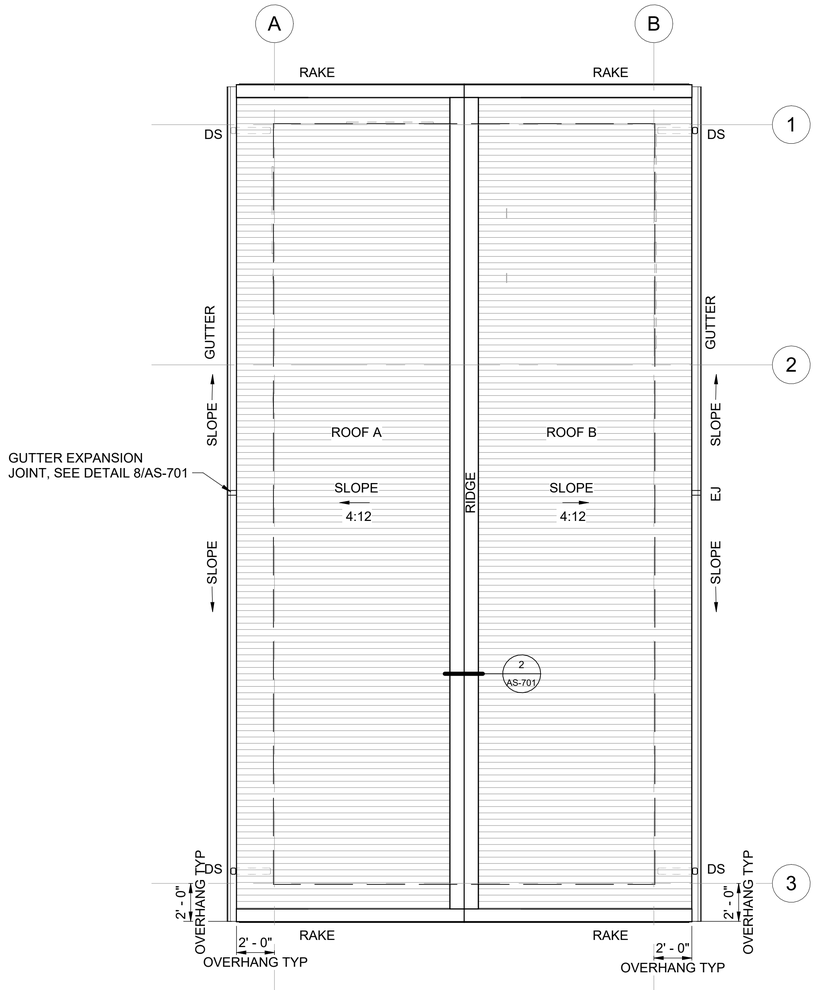
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-101
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D SHEET NO. 65 OF 143 SHEETS

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Equipment Storage Facility.rvt

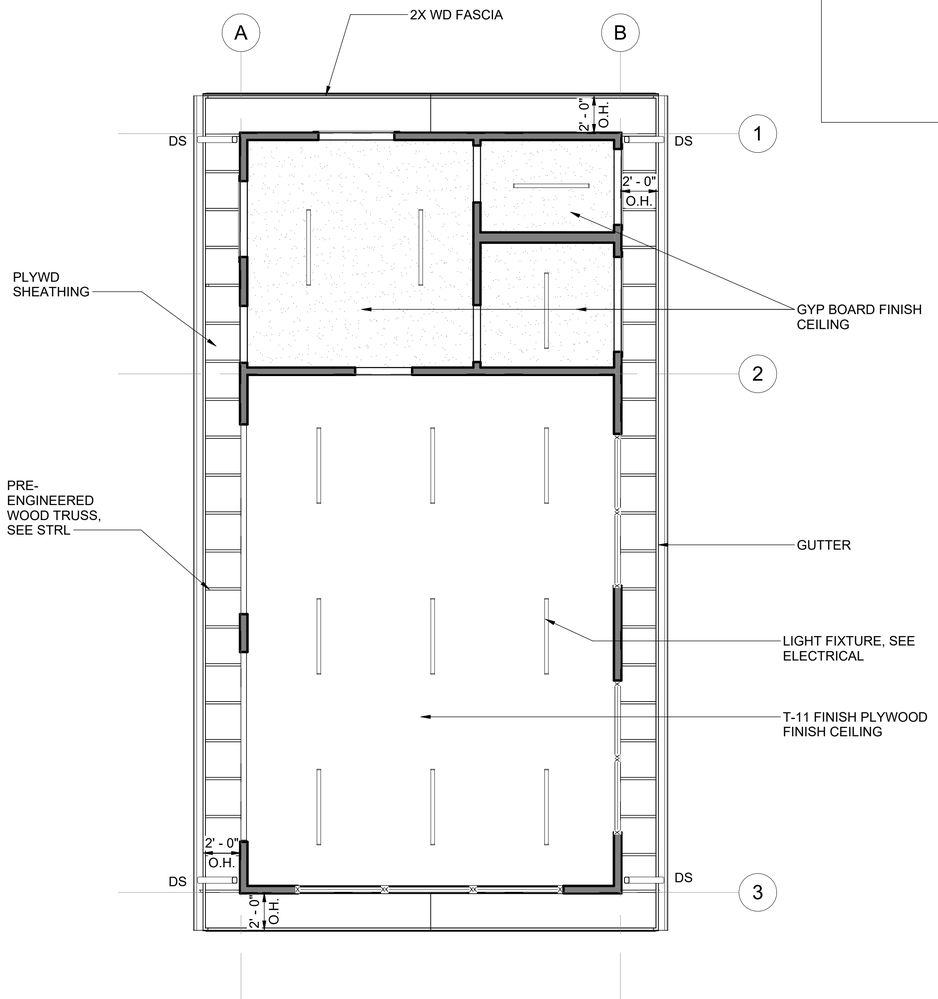
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



A ROOF PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



B REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

GUTTER AND DOWNSPOUT CALCULATIONS

HAWAII -- KONA

Rainfall Intensity (10yr) = 8.7 in./hr.
Rainfall Intensity (100yr) = 12 in./hr.
Drainable Area (10yr) = 140 sq. ft.
Drainable Area (100yr) = 100 sq. ft.
Year Setting = 10 yr.

ROOF A:
Roof Plan Width = 12 ft
Roof Plan Length = 44 ft
Gutter length = 40 ft.
Roof Slope = 4/12
Max Gutter Served by Each DS = 20 ft
Design Area = 554.40 sq. ft.
Minimum Number of DS = 2
Max Roof Area Served by Each DS = 277.20 sq. ft.
Min. Gutter Width = 3 in
Min. Gutter Depth = 3 in
Min. Ds Size = 3 in. dia.

ROOF B:
Roof Plan Width = 12 ft
Roof Plan Length = 44 ft
Gutter length = 40 ft.
Roof Slope = 4/12
Max Gutter Served by Each DS = 20 ft
Design Area = 554.40 sq. ft.
Minimum Number of DS = 2
Max Roof Area Served by Each DS = 277.20 sq. ft.
Min. Gutter Width = 3 in
Min. Gutter Depth = 3 in
Min. Ds Size = 3 in. dia.

ROOF ATTIC VENTILATION

ATTIC AREA
= 800.00 sq ft
800.00 sq ft div by 300 sq ft = 2.67 sq ft of NFVA
2.67 sq ft of NFVA x 144 (inch per sq ft)
= 384.48 sq in of NFVA

SOFFIT VENT
Required Intake portion (60%)
60% of 384.48 sq in = 230.69 sq in
= 231 sq in
Area per 2" diameter Midget Louver LD series with approximate NFVA of 1.7 sq in per louver
231 div 1.7 = 135.88
Required = 136 pieces

RIDGE VENT
Required exhaust portion (40%)
40% of 384.48 sq in = 153.79 sq in
NFVA of "COR-A-VENT", RIDGE VENT V-600E 10"
= 20 sq in
153.79 div by 20 = 7.69 ft
Required = 8 lin ft of ridge vent

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL
PARK IMPROVEMENTS

EQUIPMENT STORAGE ROOF PLAN & RCP

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED

APPROVED:

CHIEF ENGINEER: DATE:

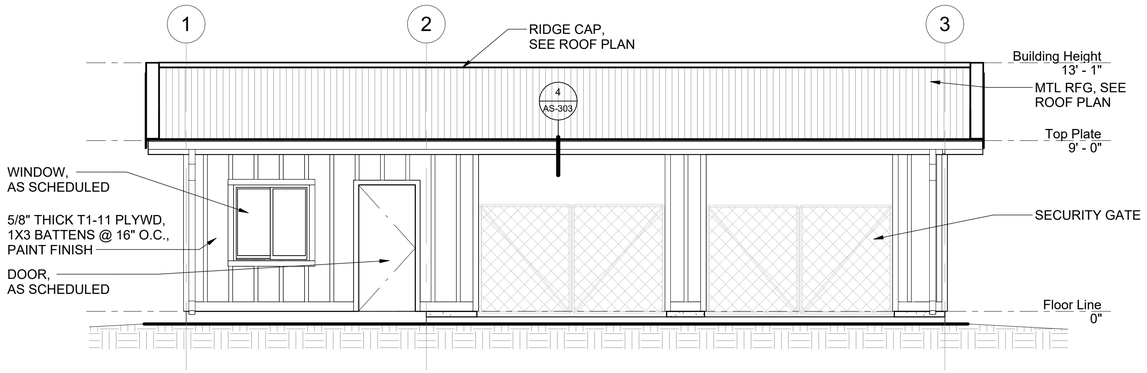
DRAWING NO. AS-102

JOB NO.: F14C728D

SHEET NO. 66 OF 143 SHEETS

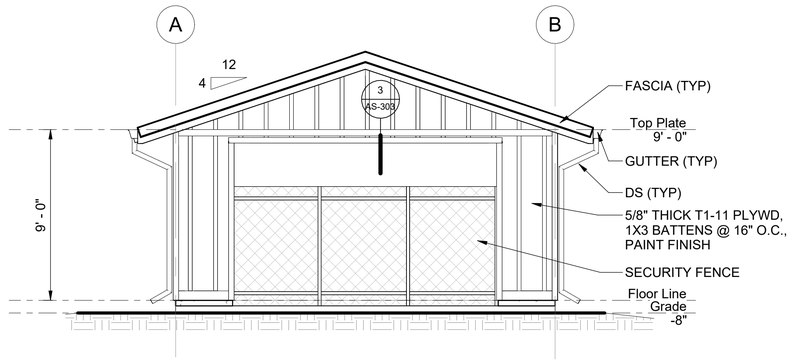
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Equipment Storage Facility.rvt



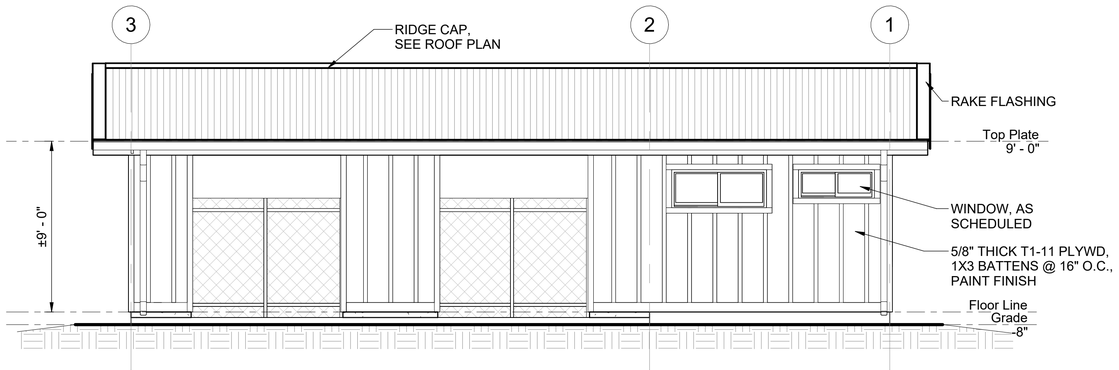
A EXTERIOR ELEVATION - WEST

SCALE: 1/4" = 1'-0" 0 2' 4' 8'



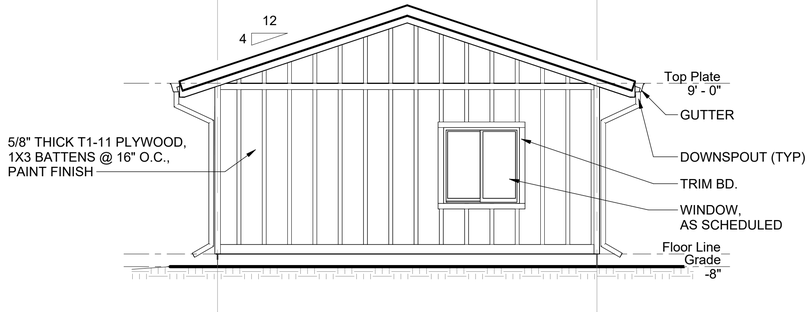
B EXTERIOR ELEVATION - SOUTH

SCALE: 1/4" = 1'-0" 0 2' 4' 8'



C EXTERIOR ELEVATION - EAST

SCALE: 1/4" = 1'-0" 0 2' 4' 8'



D EXTERIOR ELEVATION - NORTH

SCALE: 1/4" = 1'-0" 0 2' 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

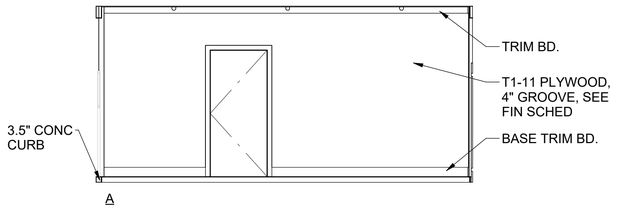
KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE EXTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-201
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D SHEET NO. 67 OF 143 SHEETS



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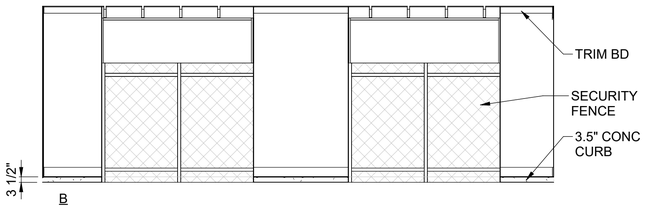

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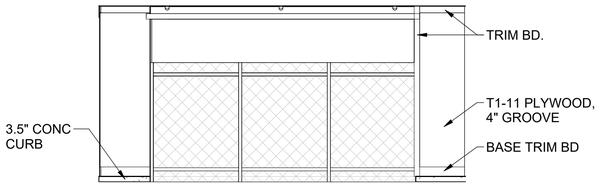

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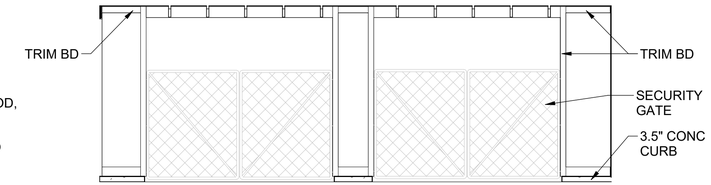
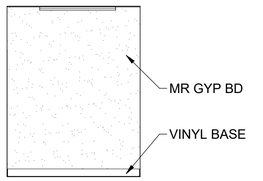


D

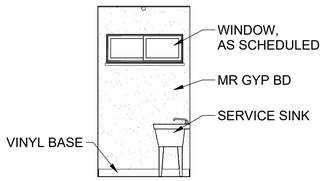
1 EQUIPMENT STORAGE INTERIOR ELEVATIONS-104 CARPORT

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



A



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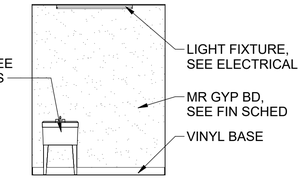

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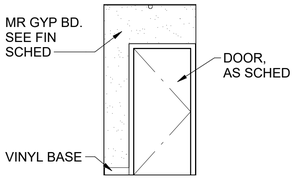


D

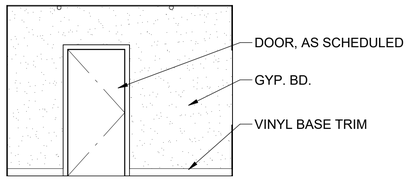
2 EQUIPMENT STORAGE INTERIOR ELEVATIONS-102 UTILITY ROOM

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

A

B



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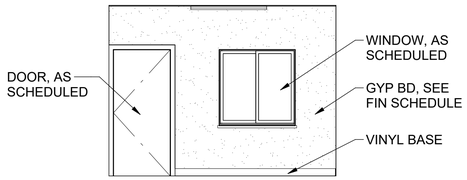


D

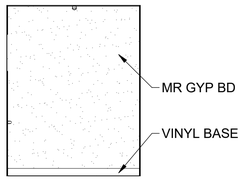
3 EQUIPMENT STORAGE INTERIOR ELEVATIONS-101 OFFICE

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

A

B



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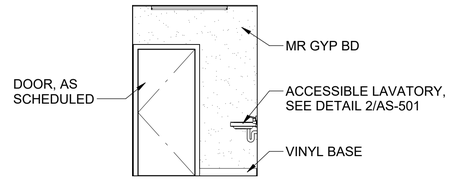

D

4 EQUIPMENT STORAGE INTERIOR ELEVATIONS-103 ACC RESTROOM

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE INTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

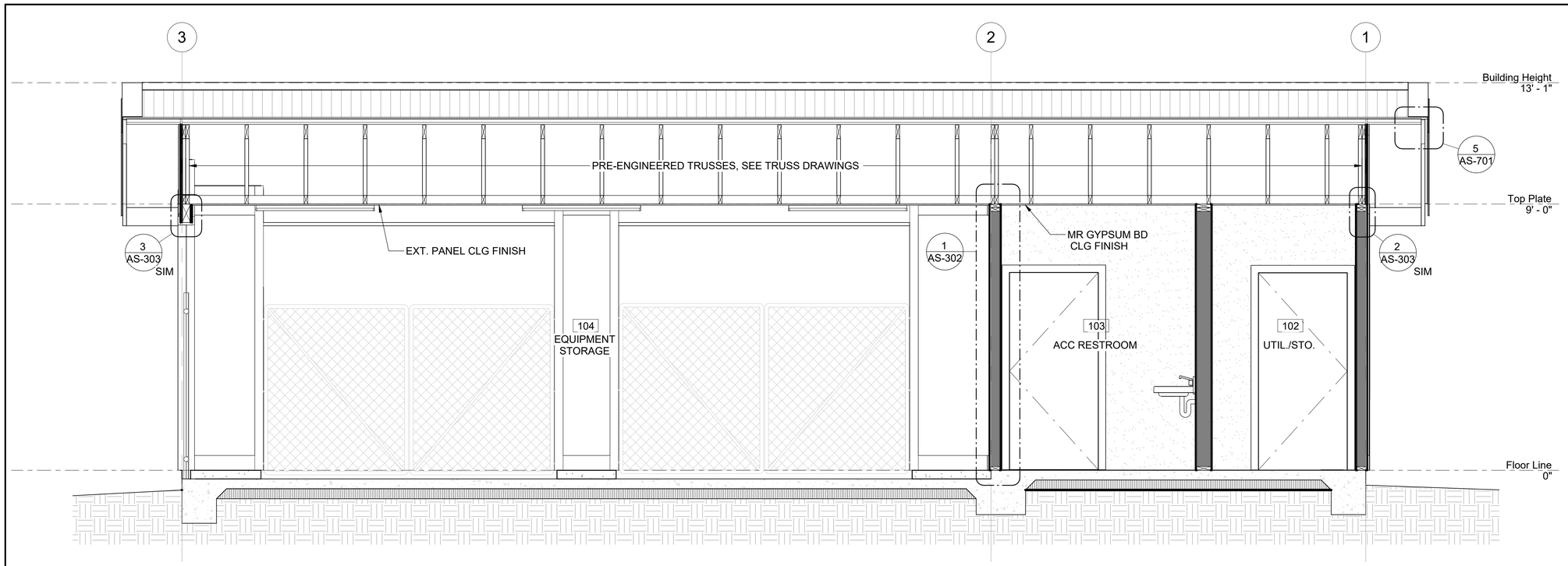
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-202
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 68 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

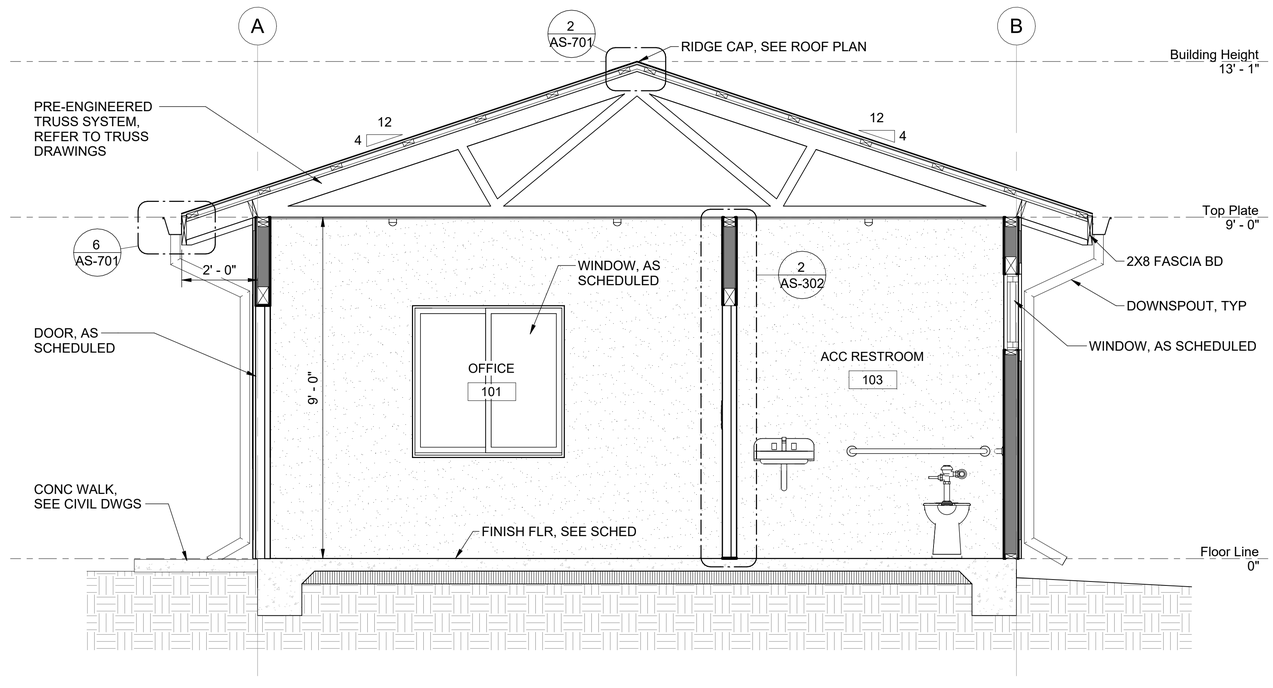
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Equipment Storage Facility.rvt



A SECTION THRU CARPORT AND OFFICE

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

0 1' 2' 4'



B SECTION THRU OFFICE AND ACC RESTROOM

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

0 1' 2' 4'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE SECTIONS

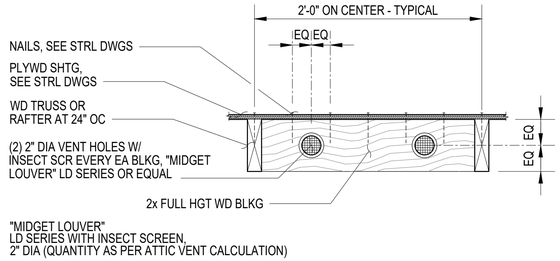
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-301
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

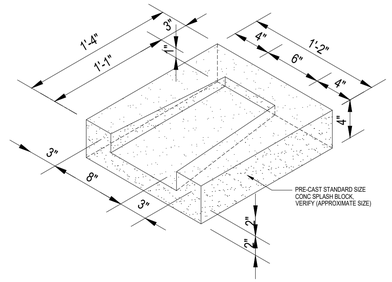
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Equipment Storage Facility.rvt

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



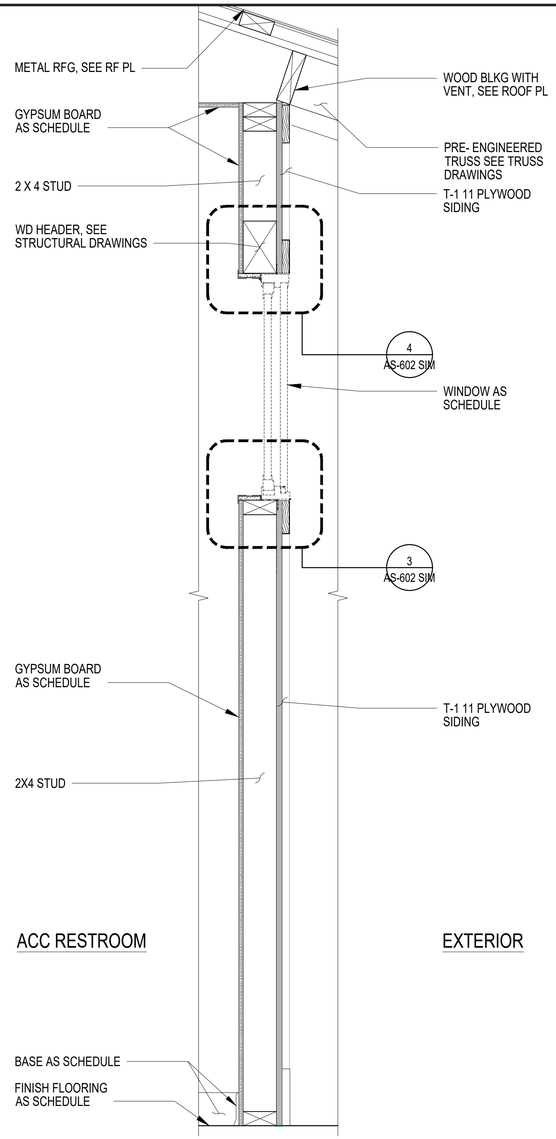
4 SOFFIT VENT DETAIL

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



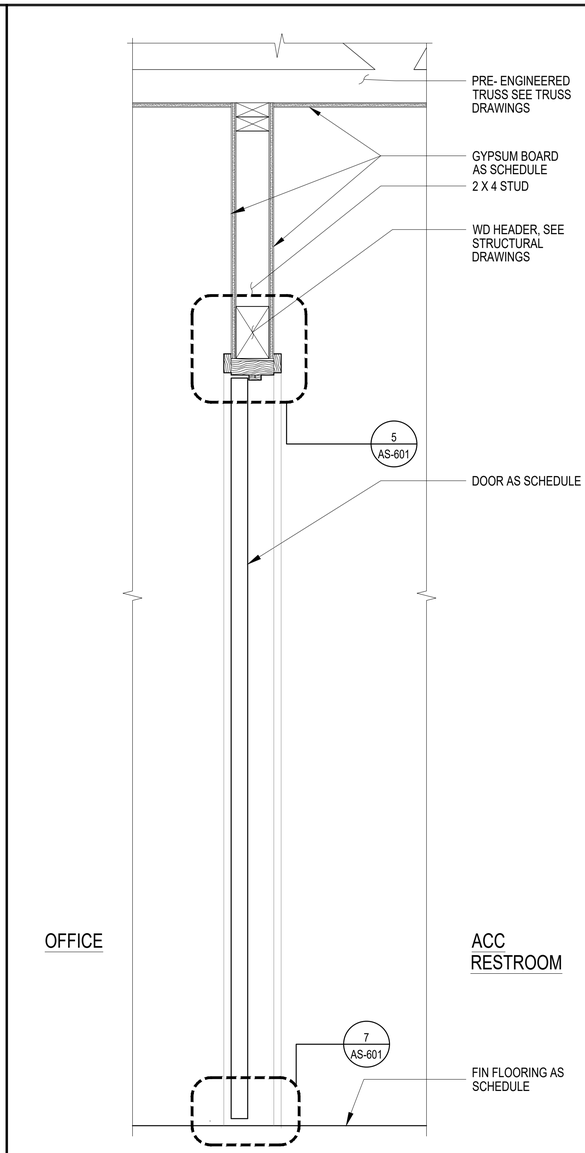
5 SPLASH BLOCK DETAIL

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



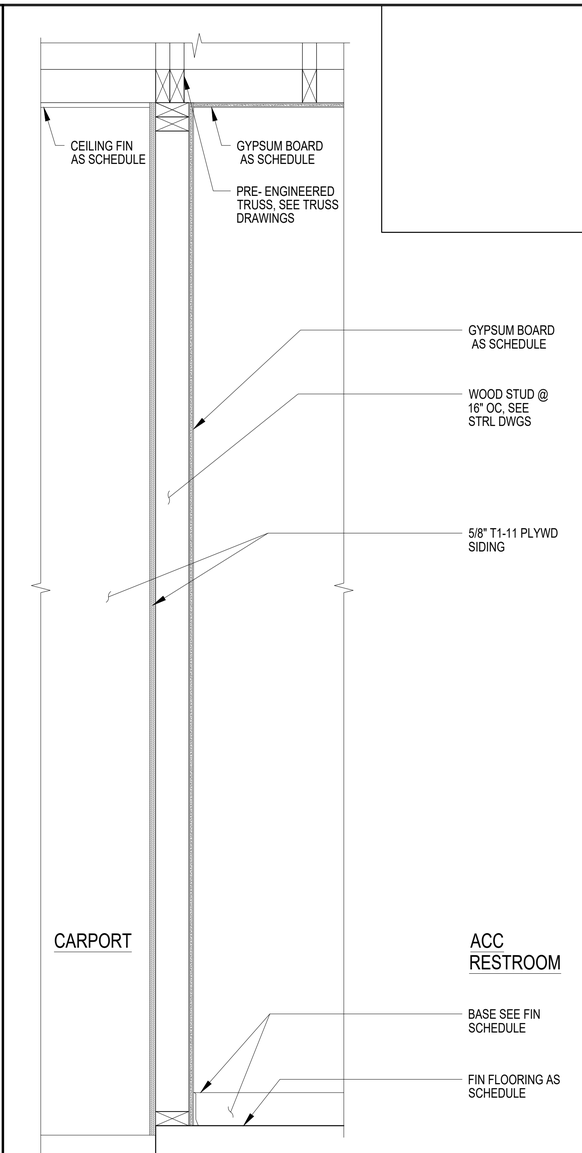
3 WALL SECTION

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



2 WALL SECTION

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



1 WALL SECTION

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE WALL SECTIONS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB/MD	DATE:
CHECKED: -	SCALE: AS NOTED

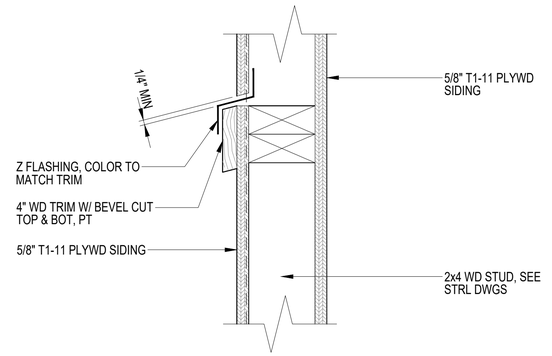
APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-302

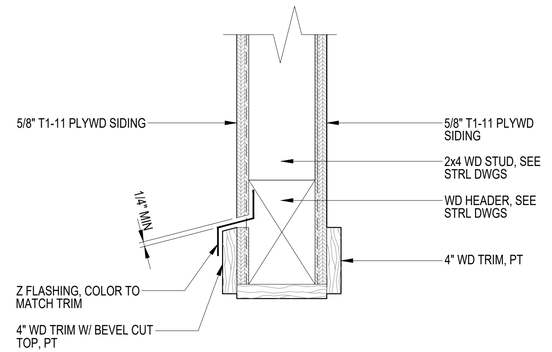
JOB NO.: F14C728D SHEET NO. 70 OF 143 SHEETS

M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR EQUIPMENT STO FACILITY\A-302_ESP WALL DET.DWG

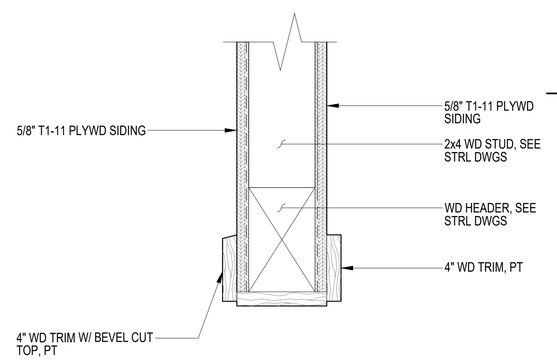
KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



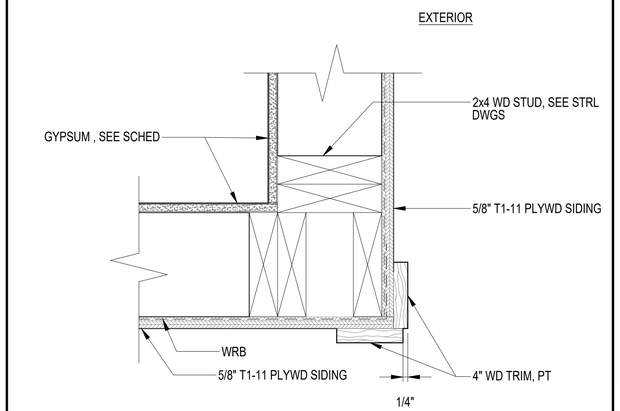
2 WALL TRIM AND FLASHING DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



3 WALL TRIM AND FLASHING DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



4 WALL TRIM DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



1 TYPICAL CORNER TRIM DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE WALL DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

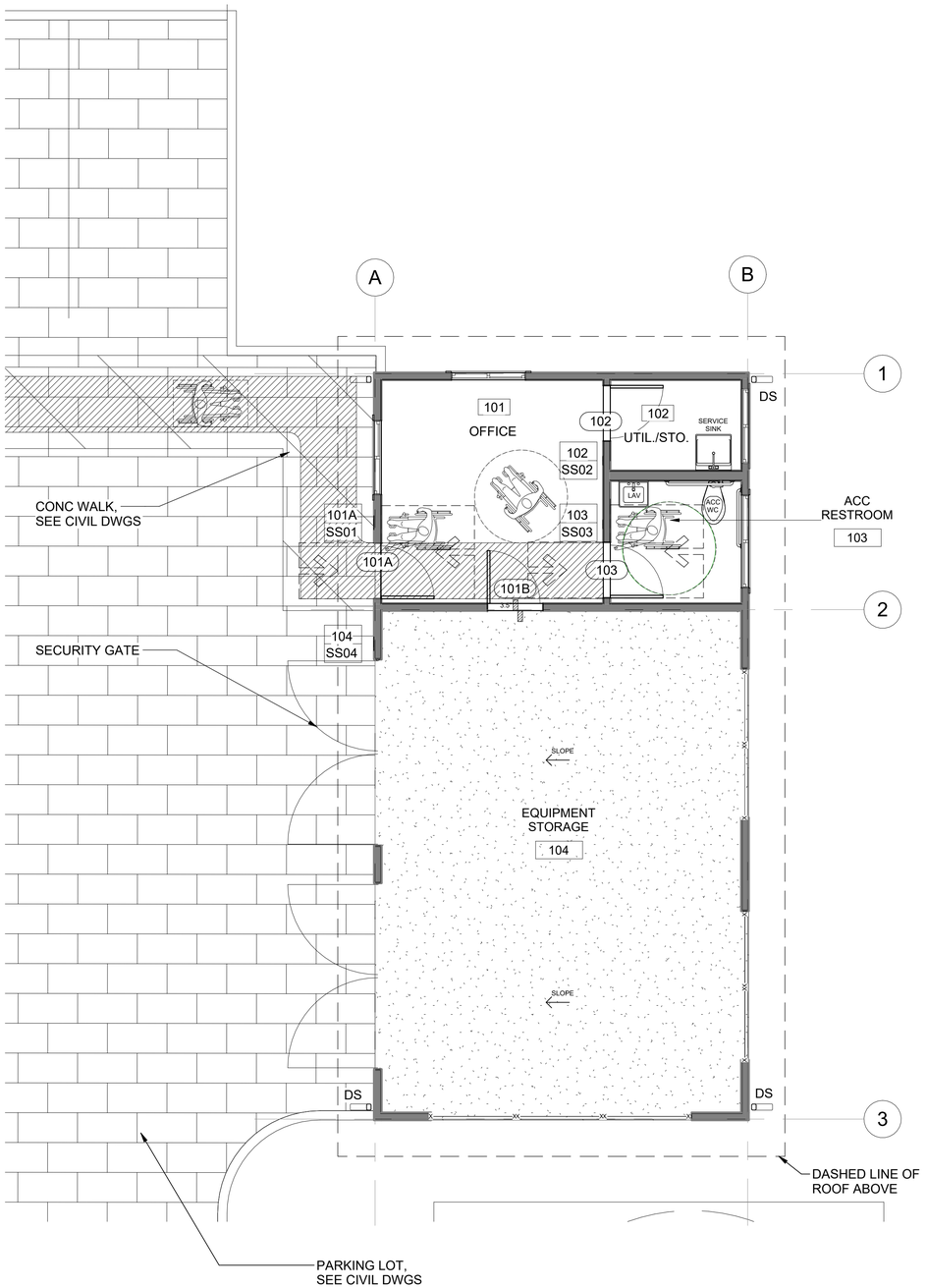
APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-303

JOB NO.: F14C728D SHEET NO. 71 OF 143 SHEETS

M:\EO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDNG\DUNR EQUIPMENT STO FACILITY\A-303_ESF WALL DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

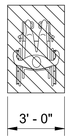


A ACCESSIBLE ROUTE & SIGN PLAN

SCALE: 1/4" = 1'-0"

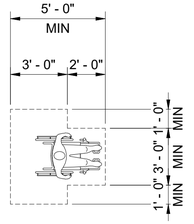
0 2' 4' 8'

ACCESSIBLE LEGEND

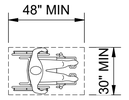


DOJ 2010 ADA STANDARDS FOR ACCESSIBLE ROUTE: DIRECTION OF TRAVEL OR APPROACH SHALL COMPLY WITH SECTION 206

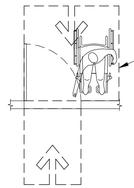
CIRCULAR SPACE (fig 304.3.1)



T-SHAPED SPACE (fig 304.3.2)



CLEAR FLOOR SPACE (fig 305.3)



ACCESSIBLE MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

SIGN SCHEDULE

SIGN MARK	DOOR NUMBER	TEXTS/SYMBOLS	SIGN MATERIAL	SIGN TYPE DET 6/AS-502	MOUNTING DET 7/AS-502	SIGN LOCATION DET 5/AS-502	REMARKS
101A SS01	101A	OFFICE	METAL	B	A	A	
102 SS02	102	UTILITY/STORAGE	ACRYLIC	A	A	A	
103 SS03	103	ACC RESTROOM SEE DETAIL FOR SYMBOL	ACRYLIC	A	A	A	
104 SS04	104	EQUIPMENT STORAGE	METAL	B	A	A	

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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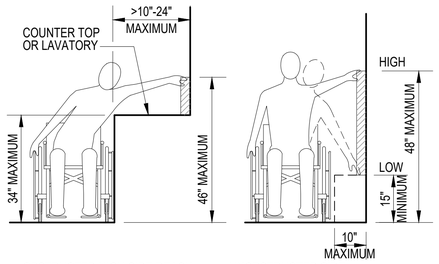
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE ACCESSIBLE ROUTE & SIGN PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-401
CHIEF ENGINEER:	DATE:



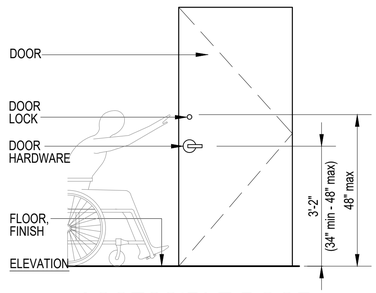
NOTE:

ACCESSIBLE SIDE REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

7 ACCESSIBLE SIDE REACH

SCALE: 1/2" = 1'-0" 0 2' 4'



NOTE:

ACC DOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 404

FLOOR OR GROUND SURFACE TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.4.4

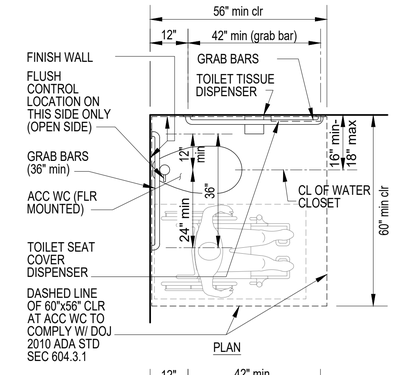
THRESHOLDS TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.5

DOOR HARDWARE TO COMPLY WITH DOJ 2010 ADA STD SEC 309.4 & 404.2.7

DOOR & GATE SURFACE TO COMPLY WITH DOJ 2010 ADA STD SEC 404.2.10

5 ACCESSIBLE DOOR HARDWARE DETAIL

SCALE: 1/2" = 1'-0" 0 2' 4'



NOTE:

ACC WATER CLOSET TO COMPLY W/ DOJ 2010 ADA STD SEC 604

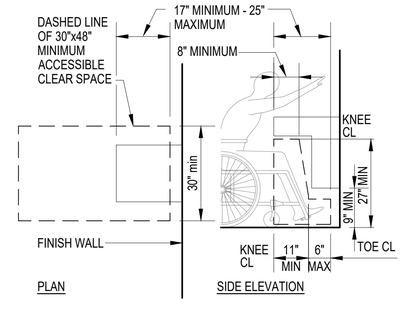
GRAB BAR TO COMPLY W/ DOJ 2010 ADA STD SEC 604.5 & 609

FLUSH CONTROL TO COMPLY W/ DOJ 2010 ADA STD SEC 309 & 604.6

TOILET TISSUE DISPENSER TO COMPLY W/ DOJ 2010 ADA STD SEC 604.7

3 ACCESSIBLE WATER CLOSET AND GRAB BAR DETAILS

SCALE: 1/2" = 1'-0" 0 2' 4'

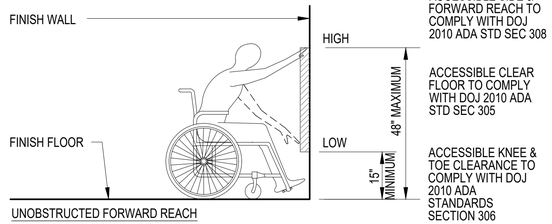


NOTE:

ACCESSIBLE KNEE & TOE CL TO COMPLY WITH DOJ 2010 ADA STD SECT 306

1 ACCESSIBLE KNEE & TOE CLEARANCE

SCALE: 1/2" = 1'-0" 0 2' 4'

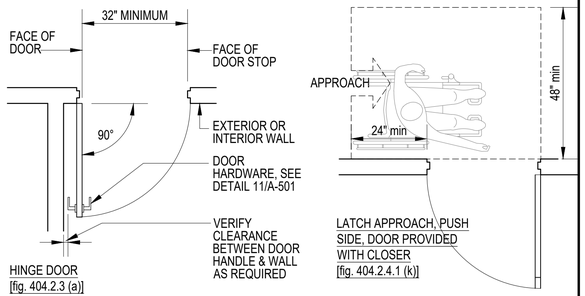


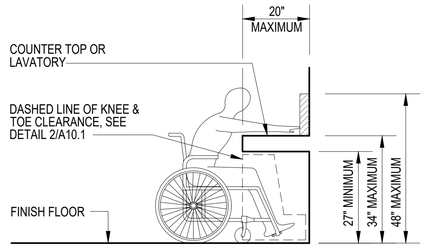
NOTE:

ACCESSIBLE SIDE & FORWARD REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

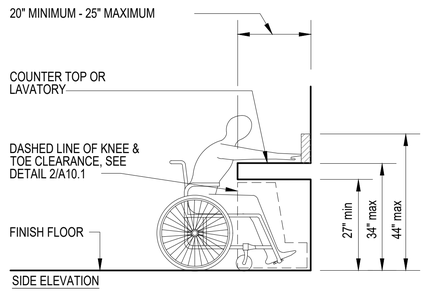
ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306





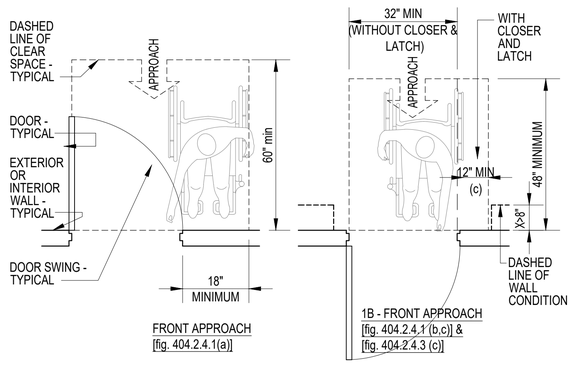
MAXIMUM FORWARD REACH OVER AN OBSTRUCTION

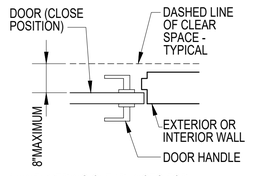


MAXIMUM FORWARD REACH OVER AN OBSTRUCTION

8 ACCESSIBLE FORWARD REACH

SCALE: 1/2" = 1'-0" 0 2' 4'



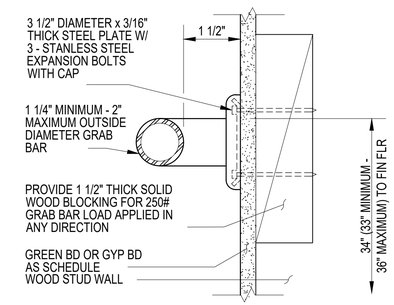


MANEUVERING CLEARANCES FOR A FOWARD APPROCH

NOTE:
1. CLOSER SHALL BE SET FOR MAXIMUM OPENING PRESSURE OF 5 LBS AT EXTERIOR AND INTERIOR DOORS.
2. ACCESSIBLE DOOR HARDWARE, SEE DETAIL 11/A-501

6 ACC MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

SCALE: 1/2" = 1'-0" 0 2' 4'



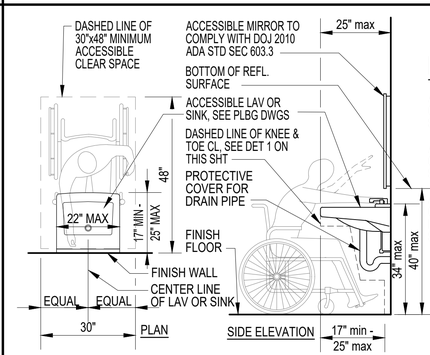
NOTE:

ACCESSIBLE GRAB BAR TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609

ACCESSIBLE GRAB BAR STRUCTURE STRENGTH TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609.8

4 ACCESSIBLE GRAB BAR DETAIL

SCALE: 1/2" = 1'-0" 0 2' 4'



NOTE:

ACCESSIBLE LAVATORY TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606

ACCESSIBLE FAUCET TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606.4

ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306

2 ACCESSIBLE LAV & MIRROR DETAIL

SCALE: 1/2" = 1'-0" 0 2' 4'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
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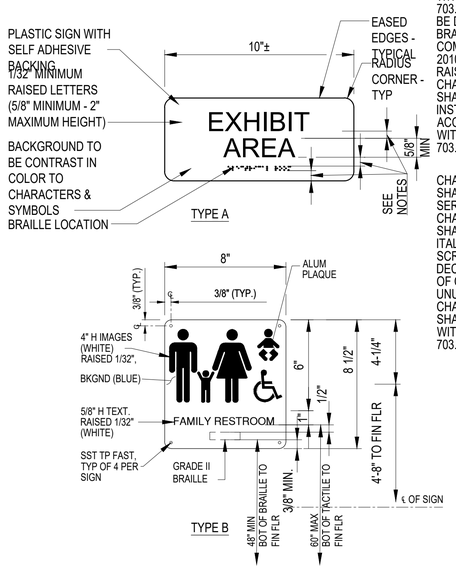
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-501

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO PROJECTS\2025 PROJECTS\12005--25--03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4--DWG\BUILDING\DJNR EQUIPMENT STO FACILITY\A-501_A--502 _ESF ADA.DWG



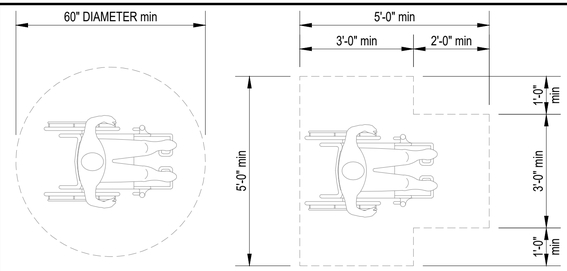
NOTE:

RAISED CHARACTERS SHALL COMPLY WITH 2010 ADAAG 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 2010 ADAAG 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 2010 ADAAG 703.4.

CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS SHALL CONFORM WITH 2010 ADAAG 703.2.3

6 SIGN TYPES

NO SCALE

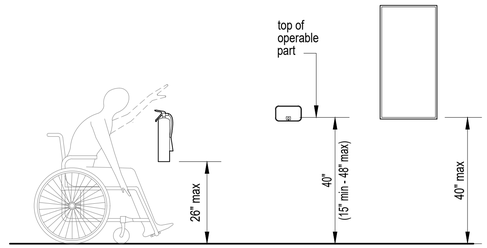


CIRCULAR SPACE SECTION 304.3.1

T-SHAPED SPACE [fig. 304.3.2]

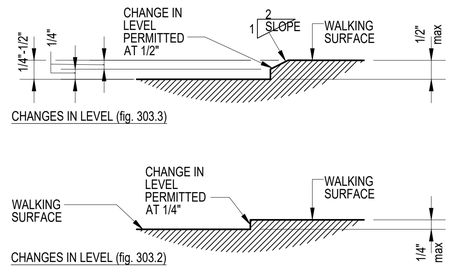
3 ACCESSIBLE TURNING SPACE

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



4 MOUNTING HEIGHT DETAIL

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



NOTE:

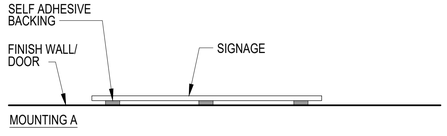
CHANGES IN LEVEL TO COMPLY WITH DOJ 2010 ADA STD SEC 303

SEC 303.4: RAMPS: CHANGES IN LEVEL GREATER THAN 1/2 INCH SHALL BE RAMPED, AND SHALL COMPLY WITH DOJ 2010 ADA STD SEC 405 or 406.

THRESHOLDS TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 404.2.5.

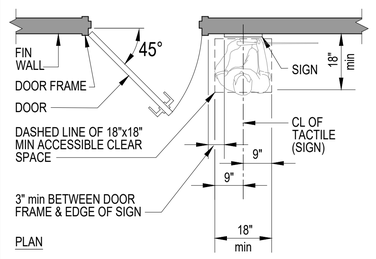
1 CHANGES IN LEVEL

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



7 SIGN TYPES

NO SCALE



LOCATION OF TACTILE SIGNS AT DOORS

NTS

NOTES

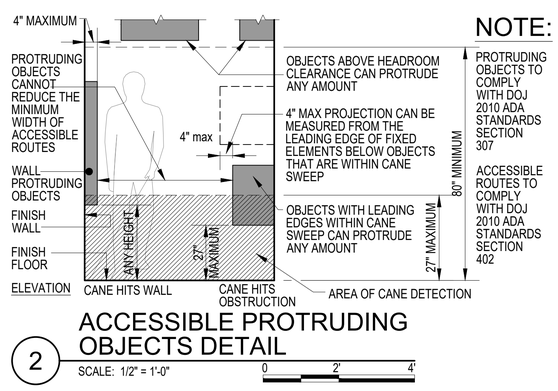
ACC DOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 404

SIGN TO COMPLY WITH DOJ 2010 ADA STD SEC 216 & 703

1. LETTERING & PICTOGRAM TO BE RAISED 1/32"
2. LETTERING TYPE TO "HELVETICAL REGULAR"
3. BRAILLE TO BE TYPE 2, RAISED 1/32", DIMENSIONS TO CONFORM TO DOJ 2010 ADA STD SEC 703.3
4. PROVIDE WD BLKG IN BACK OF SIGNS AS REQ
5. SPACING SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT

5 SIGN MOUNTING LOCATION

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



NOTE:

2 ACCESSIBLE PROTRUDING OBJECTS DETAIL

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
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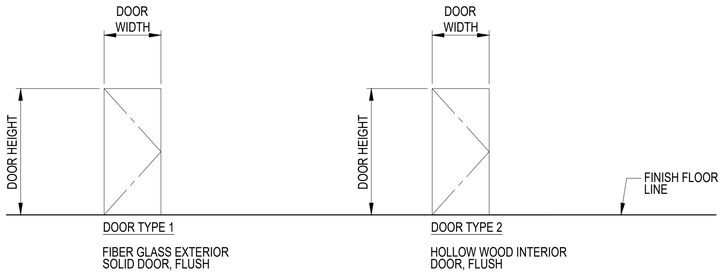
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-502

JOB NO.: F14C728D

M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR EQUIPMENT STO FACILITY\A-501_A-502_ESF ADA.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

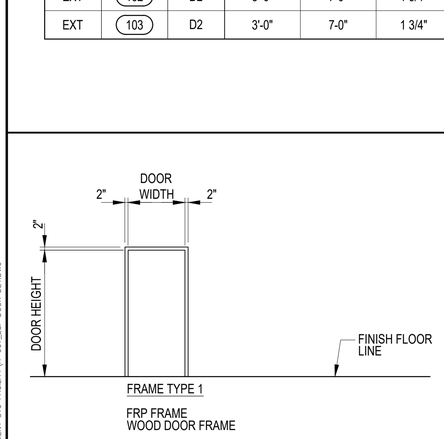


A DOOR TYPE

NO SCALE

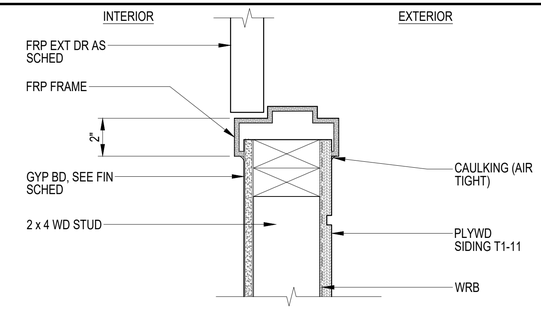
DOOR SCHEDULE

EXT/INT DR LOCATION	DOOR MARK (#)	DOOR TYPE	SIZE			MATERIAL			FRAME TYPE	FIRE RATING (IN MINUTES)	DETAILS				HARDWARE GROUP	REMARKS
			WIDTH	HEIGHT	THICK	DOOR	FRAME	FINISH			HEAD	HINGE JAMB	STRIKE JAMB	THRES-HOLD		
EXT	101A	D1	3'-0"	7-0"	1 3/4"	FRP	FRP	-	-	-	1/AS-601	2/AS-601	3/AS-601		-	
EXT	101B	D2	3'-0"	7-0"	1 3/4"	WOOD	WOOD	-	-	-	5/AS-601	6/AS-601	6/AS-601		-	
EXT	102	D2	3'-0"	7-0"	1 3/4"	WOOD	WOOD	-	-	-	5/AS-601	6/AS-601	6/AS-601		-	
EXT	103	D2	3'-0"	7-0"	1 3/4"	WOOD	WOOD	-	-	-	5/AS-601	6/AS-601	6/AS-601		-	



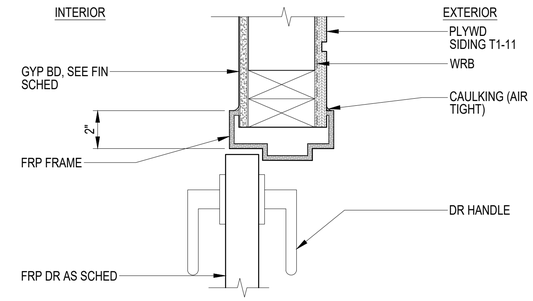
B FRAME TYPE

NO SCALE



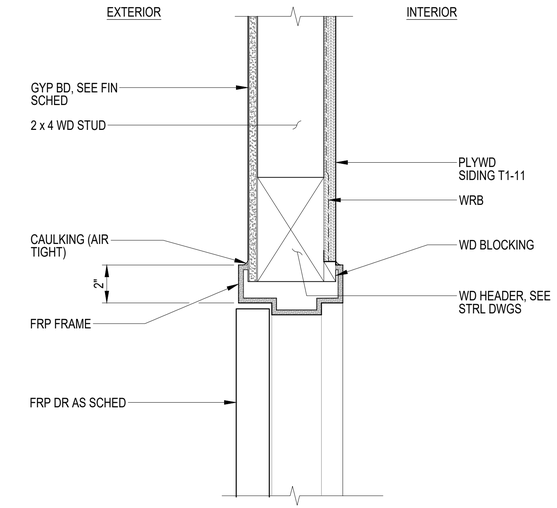
2 HINGE JAMB DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"



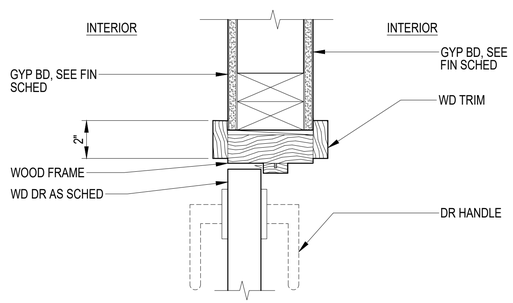
3 STRIKE JAMB DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"



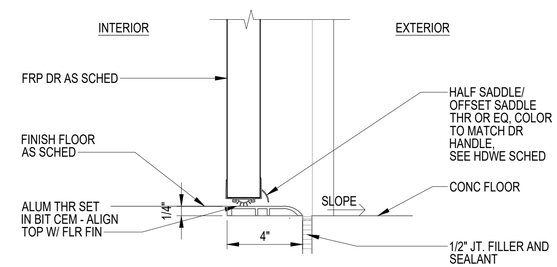
1 HEAD DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"



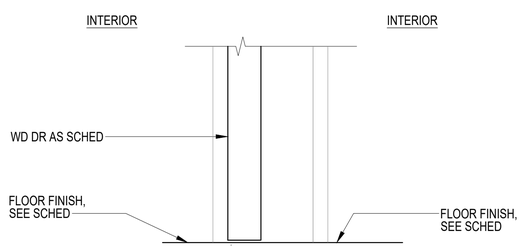
6 HINGE JAMB DETAIL (STRIKE SIM)

SCALE: 3" = 1'-0" 0 3" 6" 9"



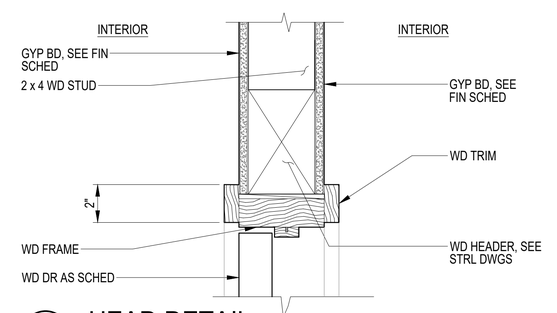
4 THRESHOLD DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"



7 THRESHOLD DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"



5 HEAD DETAIL

SCALE: 3" = 1'-0" 0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE DOOR SCHED, FRAME TYPE AND DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

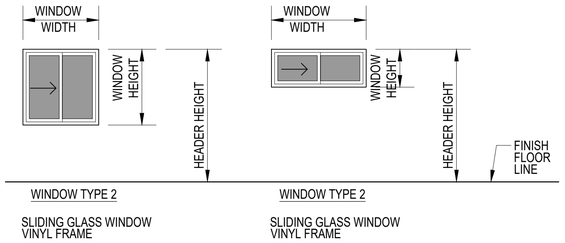
APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-601

JOB NO.: F14C728D SHEET NO. 75 OF 143 SHEETS

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

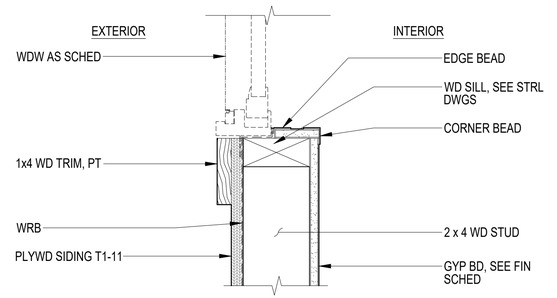
M:\EO PROJECTS\2025 PROJECTS\25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDING\EQUIP EQUIPMENT STO FACILITY\A-601_EQP DOOR DET.DWG



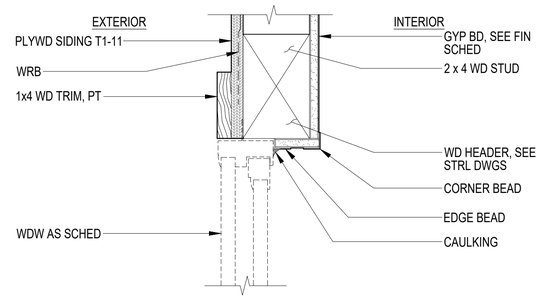
WINDOW SCHEDULE

WINDOW MARK #	WINDOW TYPE	SIZE		MATERIAL		DETAILS					REMARKS
		WIDTH	HEIGHT	FRAME	GLAZING	HEAD	JAMB	MULLION	SILL	TRANSOM	
A	1	4'-0"	4'-0"	VINYL	CLEAR	1/AS-602	2/AS-602		3/AS-602	-	
B	2	5'-0"	2'-0"	VINYL	OBSCURE	1/AS-602	2/AS-602		3/AS-602	-	
C	2	4'-0"	1-6"	VINYL	CLEAR	1/AS-602	2/AS-602		3/AS-602	-	

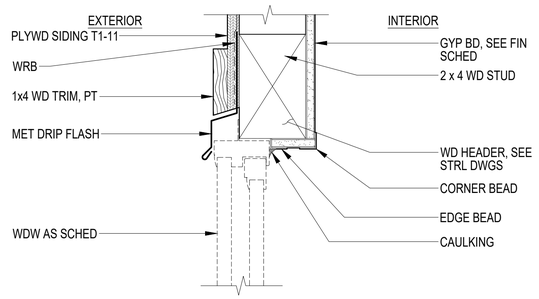
A WINDOW TYPE/ SCHEDULE
NO SCALE



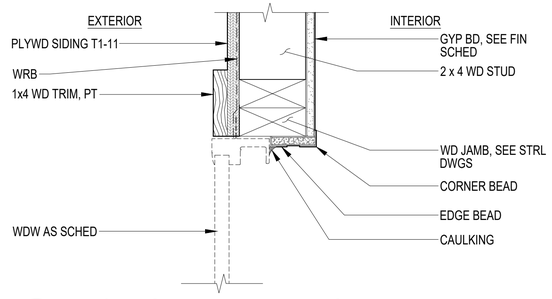
3 WINDOW SILL DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



4 WINDOW HEAD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



1 WINDOW HEAD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



2 WINDOW JAMB DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE WINDOW SCHEDULE, FRAME TYPE & DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

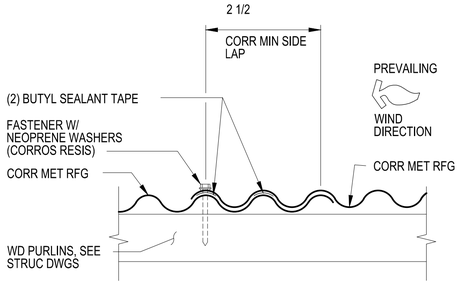
APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

DRAWING NO. AS-602

JOB NO.: F14C728D SHEET NO. 76 OF 143 SHEETS

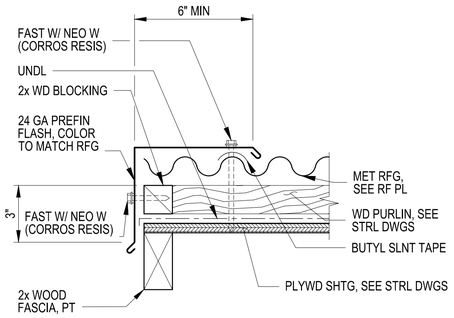
M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR EQUIPMENT STO FACILITY\A-602_ESF WINDOW DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



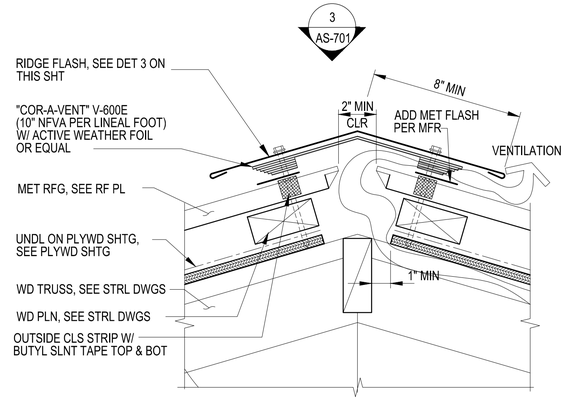
7 CORRUGATED METAL ROOFING DETAIL

SCALE: 3" = 1'-0"



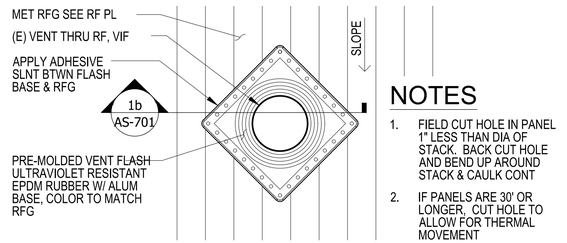
5 GABLE FLASHING DETAIL

SCALE: 3" = 1'-0"



2 RIDGE VENT FLASHING DETAIL

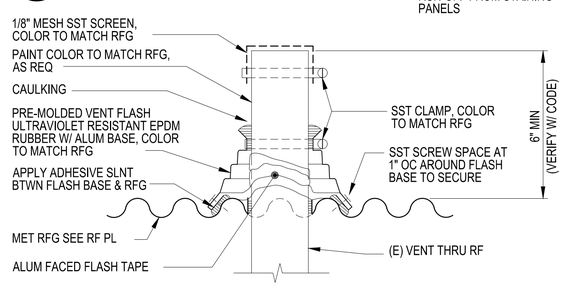
SCALE: 3" = 1'-0"



NOTES

1. FIELD CUT HOLE IN PANEL 1" LESS THAN DIA OF STACK. BACK CUT HOLE AND BEND UP AROUND STACK & CAULK CONT
2. IF PANELS ARE 30' OR LONGER, CUT HOLE TO ALLOW FOR THERMAL MOVEMENT
3. IF (E) PIPE IS MADE OF MET IT MUST BE PAINTED TO PREVENT RUST RUN-OFF FROM STAINING PANELS

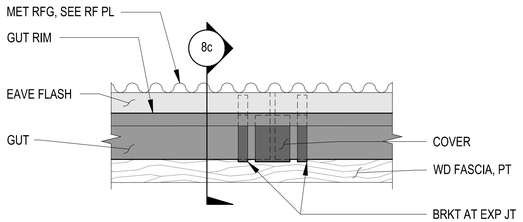
1a ROOF PLAN



1b SECTION

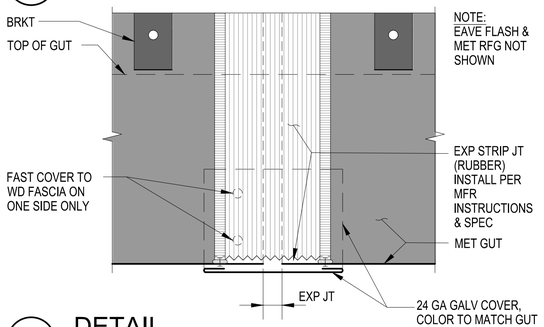
1 TYP FLASHING AT 4" (MAX) DIA VENT THRU ROOF

NO SCALE



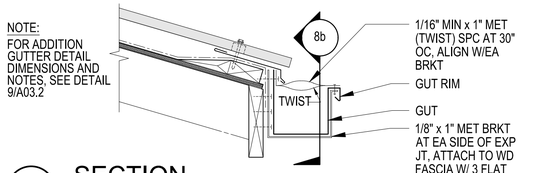
8a ELEVATION

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



8b DETAIL

SCALE: 1/2" = 1"

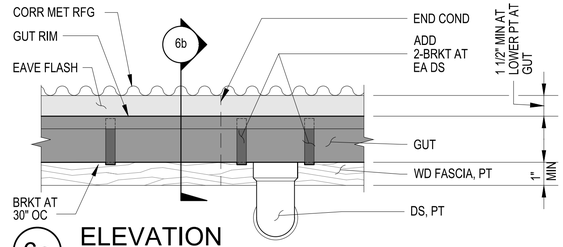


8c SECTION

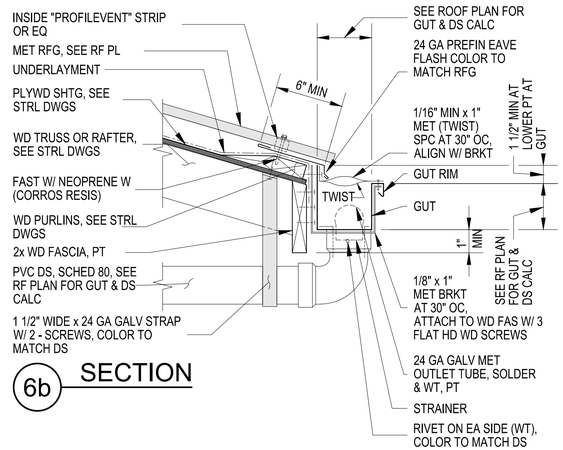
SCALE: 1 1/2" = 1'-0"

8 EXPANSION GUTTER DETAIL

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



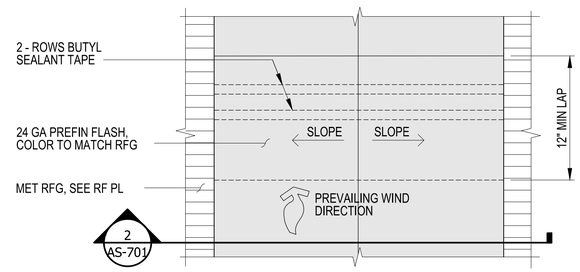
6a ELEVATION



6b SECTION

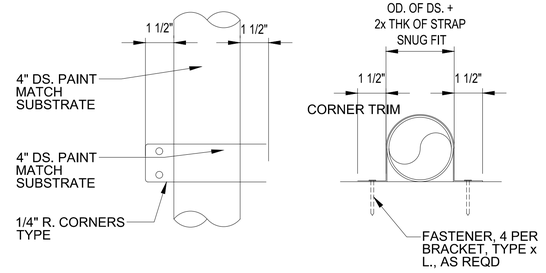
6 GUTTER DETAIL

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



3 RIDGE FLASHING DETAIL/ PLAN

SCALE: 3" = 1'-0"



ELEVATION PLAN/ SECTION

4 DOWNSPOUT WALL STRAP DETAIL

SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI — LICENSED PROFESSIONAL ARCHITECT — Exp. 04/30/28 — AR-7698 — HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

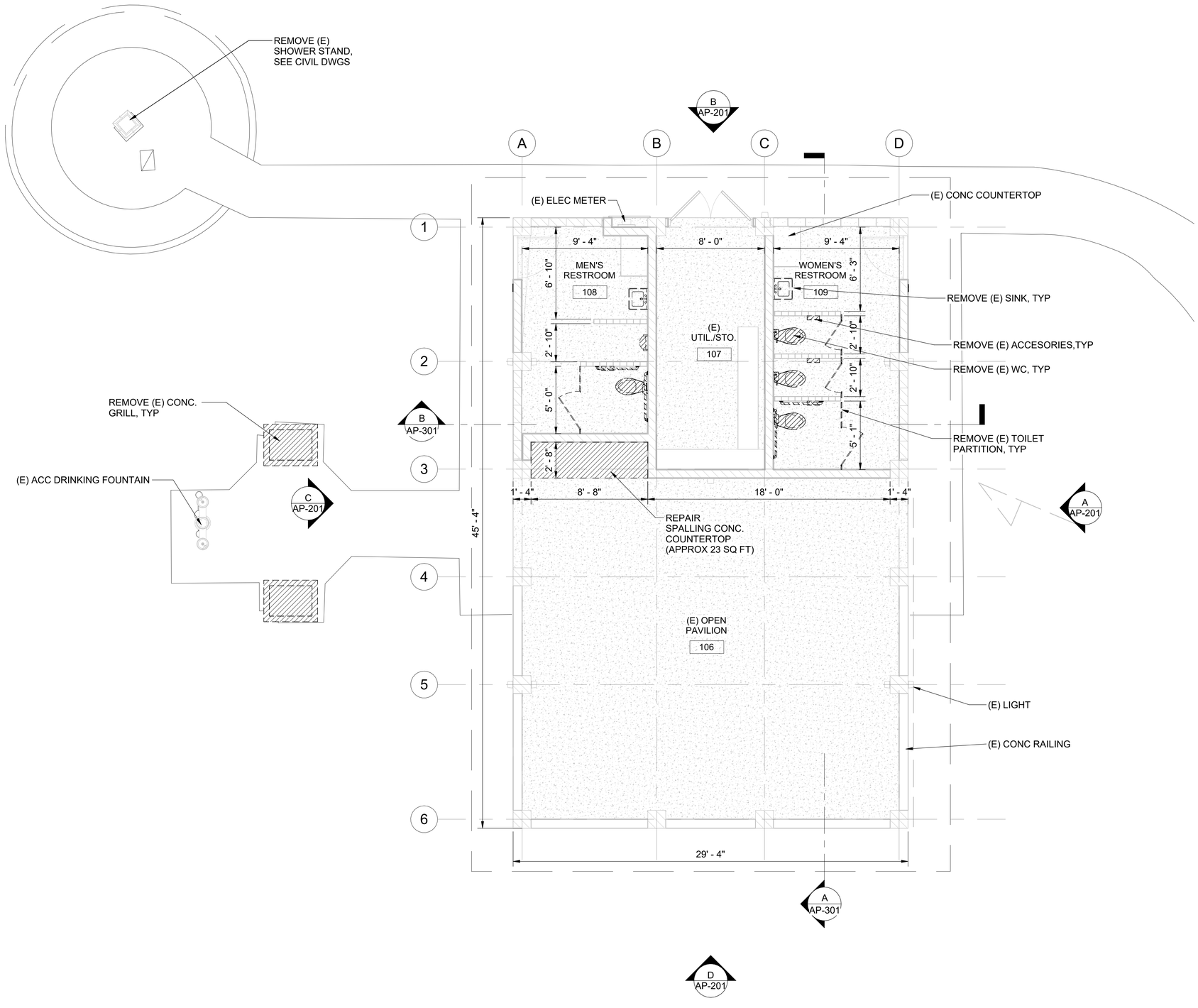
EQUIPMENT STORAGE ROOF DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED
APPROVED:	DRAWING NO. AS-701
CHIEF ENGINEER:	Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer

M:\FO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK MPR\4-DWG\BUILDING\DLNR EQUIPMENT STO FACILITY\A-701 ESF_BUILDING DETLDWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



LEGEND

EXISTING

(E) GATE/DOOR

(E) CMU WALL

(E) CONC COLUMN

DEMOLITION

REMOVE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

LICENSED PROFESSIONAL ARCHITECT
BRIAN F. FUNAI
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION EXIST/DEMO FLOOR PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-101
CHIEF ENGINEER:	DATE:

A EXISTING/DEMO FLOOR PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

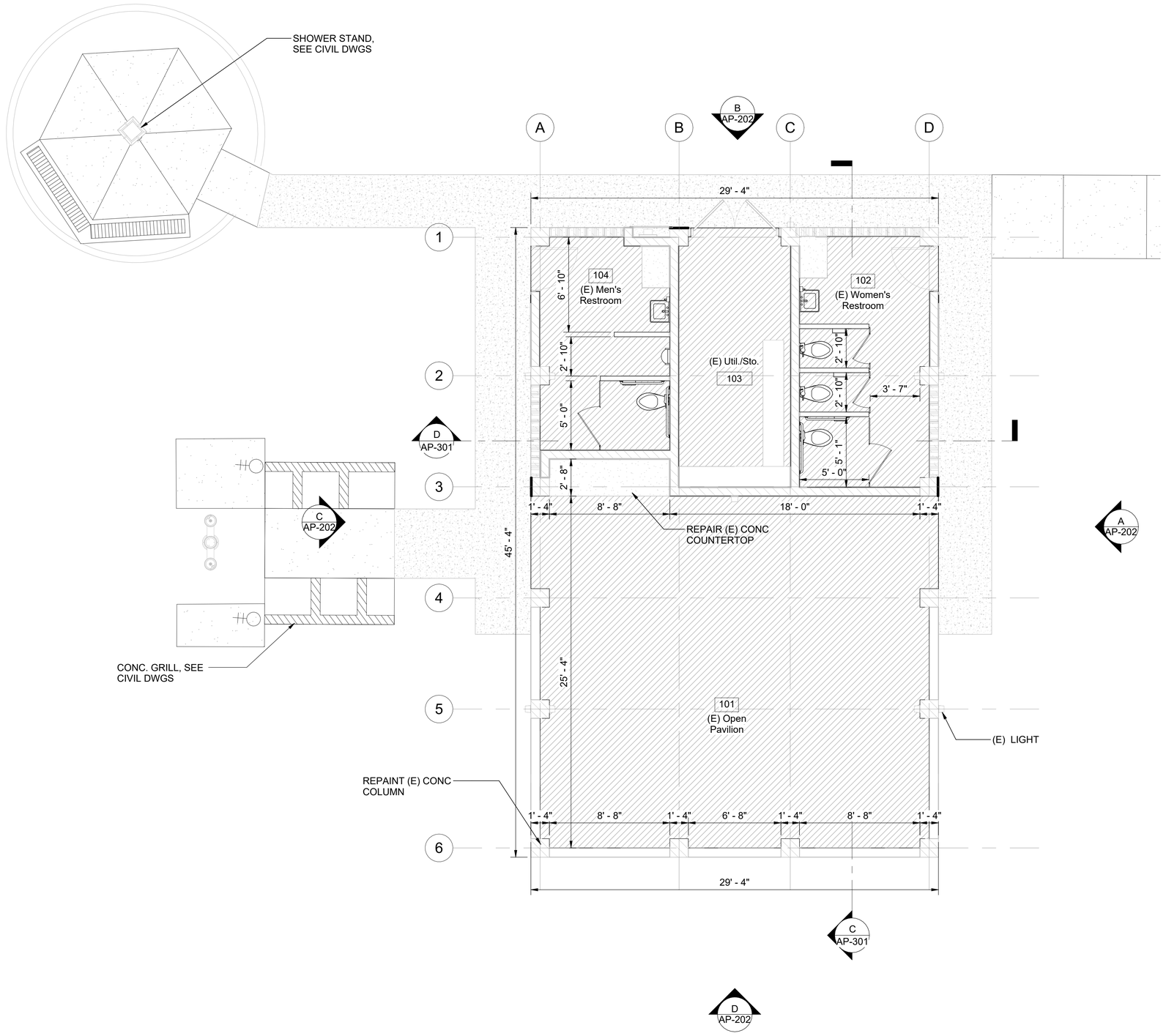
N

JOB NO.: F14C728D

SHEET NO. 78 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Pavilion.rvt



LEGEND

EXISTING

(E) GATE/DOOR

(E) CMU WALL

(E) CONC COLUMN

NEW WORK

EPOXY FLOOR COATING

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

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DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION EXISTING/ NEW FLOOR PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-102
CHIEF ENGINEER:	DATE:

A EXISTING/NEW FLOOR PLAN
SCALE: 1/4" = 1'-0"

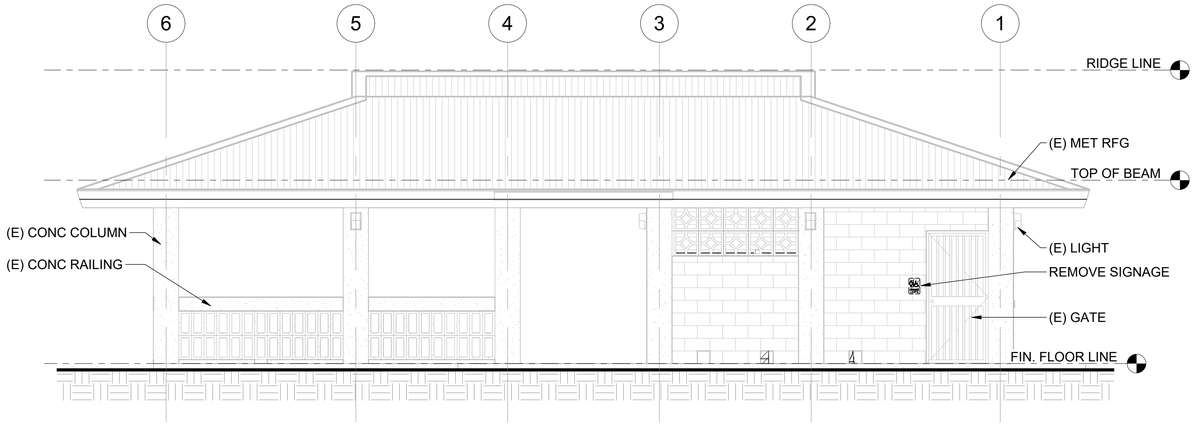
0 2' 4' 8'

JOB NO.: F14C728D

SHEET NO. 79 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

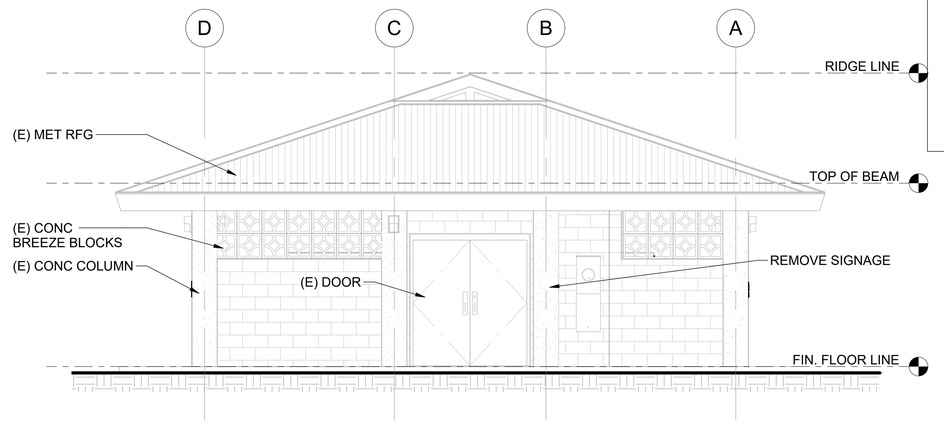
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Pavilion.rvt



A EXISTING/DEMO EXT. ELEVATION - EAST

SCALE: 1/4" = 1'-0"

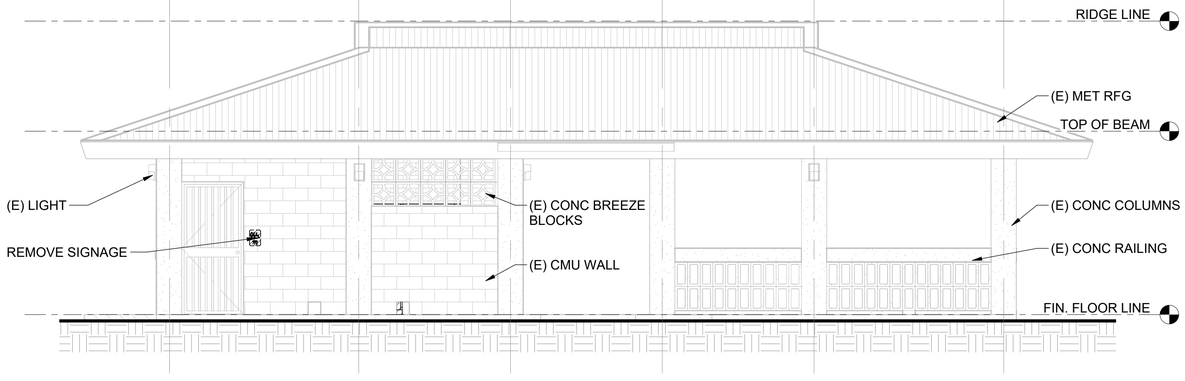
0 2' 4' 8'



B EXISTING/DEMO EXT. ELEVATION - NORTH

SCALE: 1/4" = 1'-0"

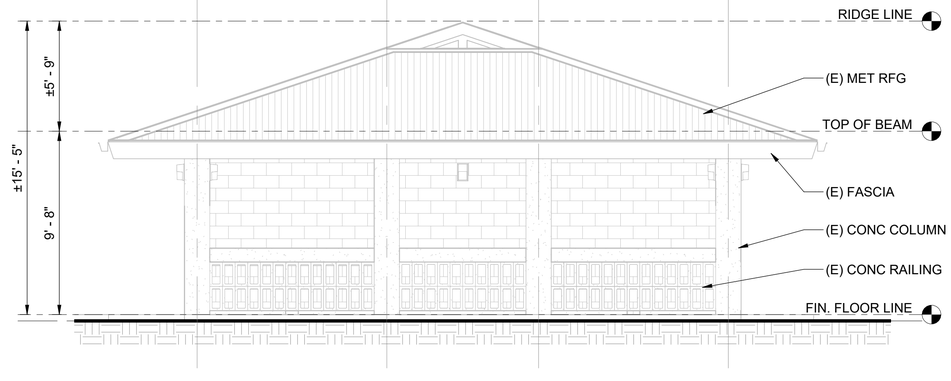
0 2' 4' 8'



C EXISTING/DEMO EXT. ELEVATION - WEST

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



D EXISTING/DEMO EXT. ELEVATION - SOUTH

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION EXISTING/DEMO EXTERIOR ELEVATIONS

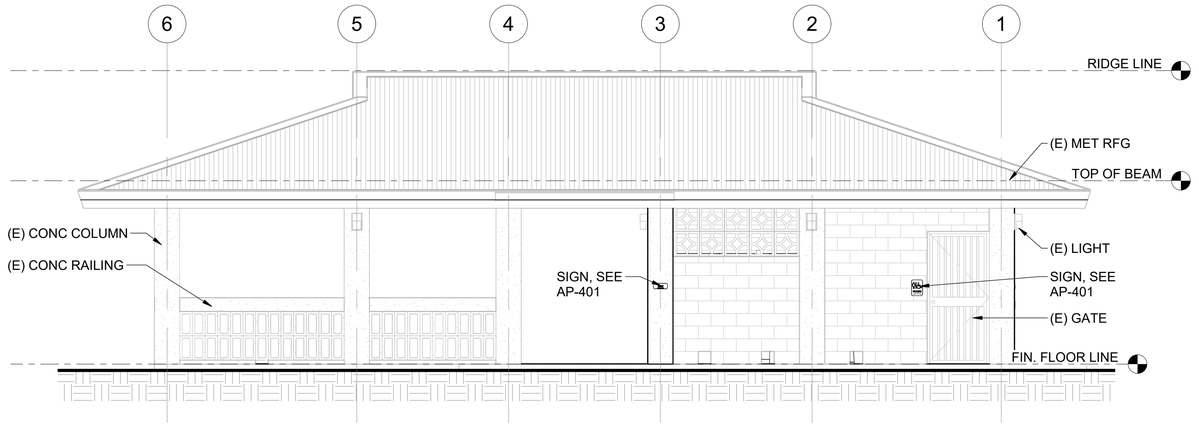
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-201
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

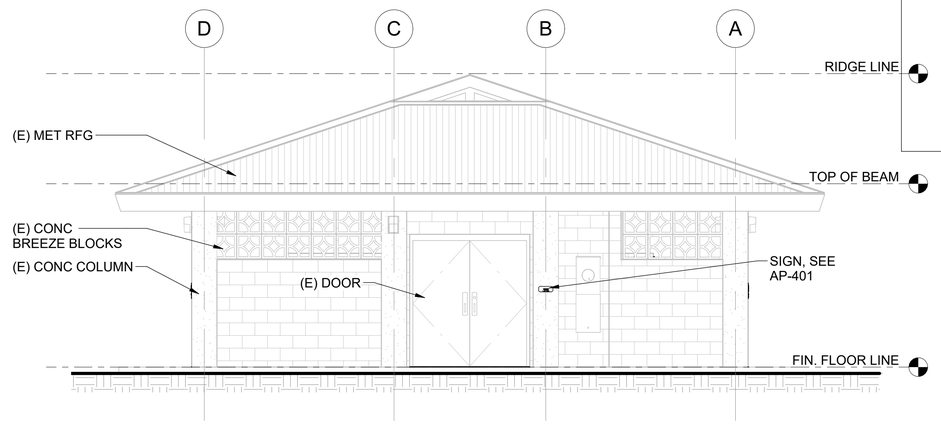
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Pavilion.rvt



A EXTERIOR ELEVATION - EAST

SCALE: 1/4" = 1'-0"

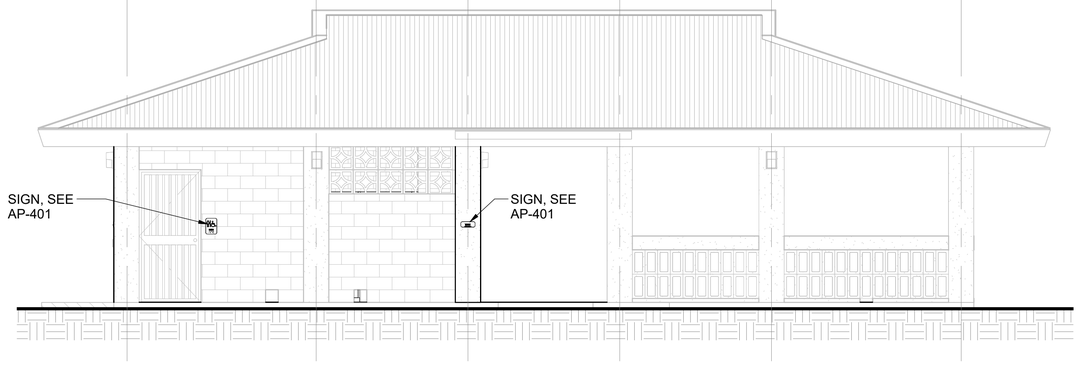
0 2' 4' 8'



B EXTERIOR ELEVATION - NORTH

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



C EXTERIOR ELEVATION - WEST

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

D EXTERIOR ELEVATION - SOUTH

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

NOTE:

1. REPAINT ALL EXPOSED WOOD AND CONCRETE SURFACES

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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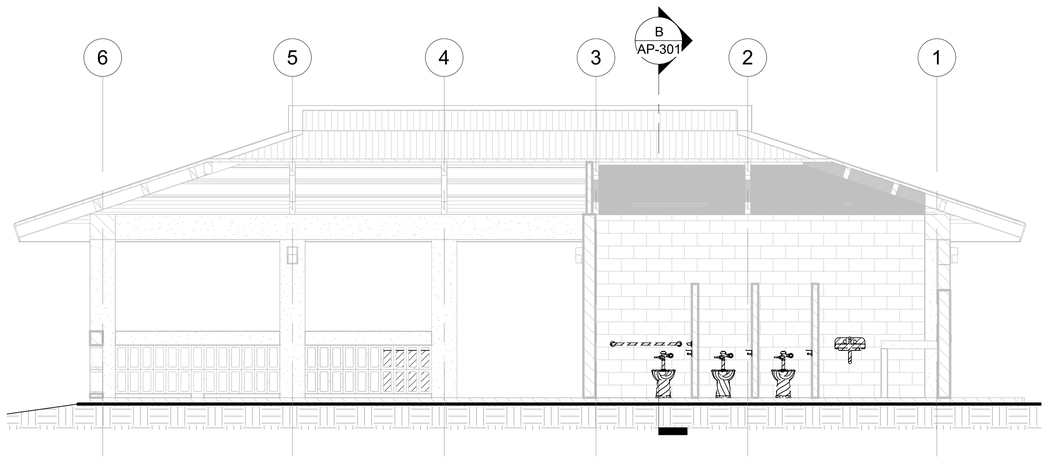
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION EXISTING/NEW EXTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

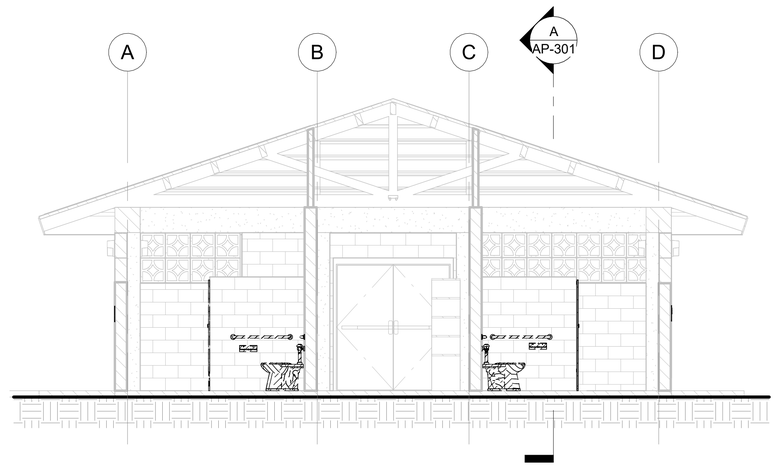
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-202
CHIEF ENGINEER:	DATE:



A EXISTING/DEMO SECTION THRU WOMEN'S BATH & OPEN PAVILION

SCALE: 1/4" = 1'-0"

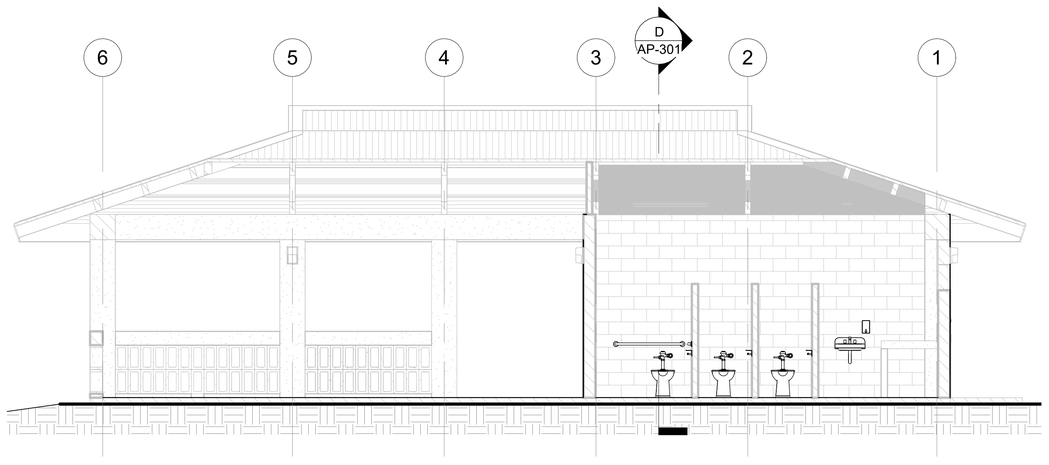
0 2' 4' 8'



B EXISTING/DEMO SECTION THRU BATHROOMS/UTILITY

SCALE: 1/4" = 1'-0"

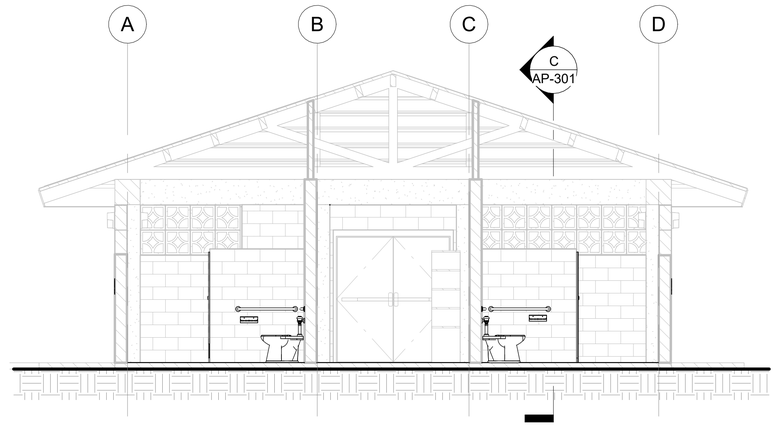
0 2' 4' 8'



C NEW WORK SECTION THRU WOMEN'S BATH & OPEN PAVILION

SCALE: 1/4" = 1'-0"

0 2' 4' 8'



D NEW WORK SECTION THRU BATHROOMS/UTILITY

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

NOTE:

1. REPAINT ALL EXPOSED WOOD AND CONCRETE SURFACES

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION SECTIONS

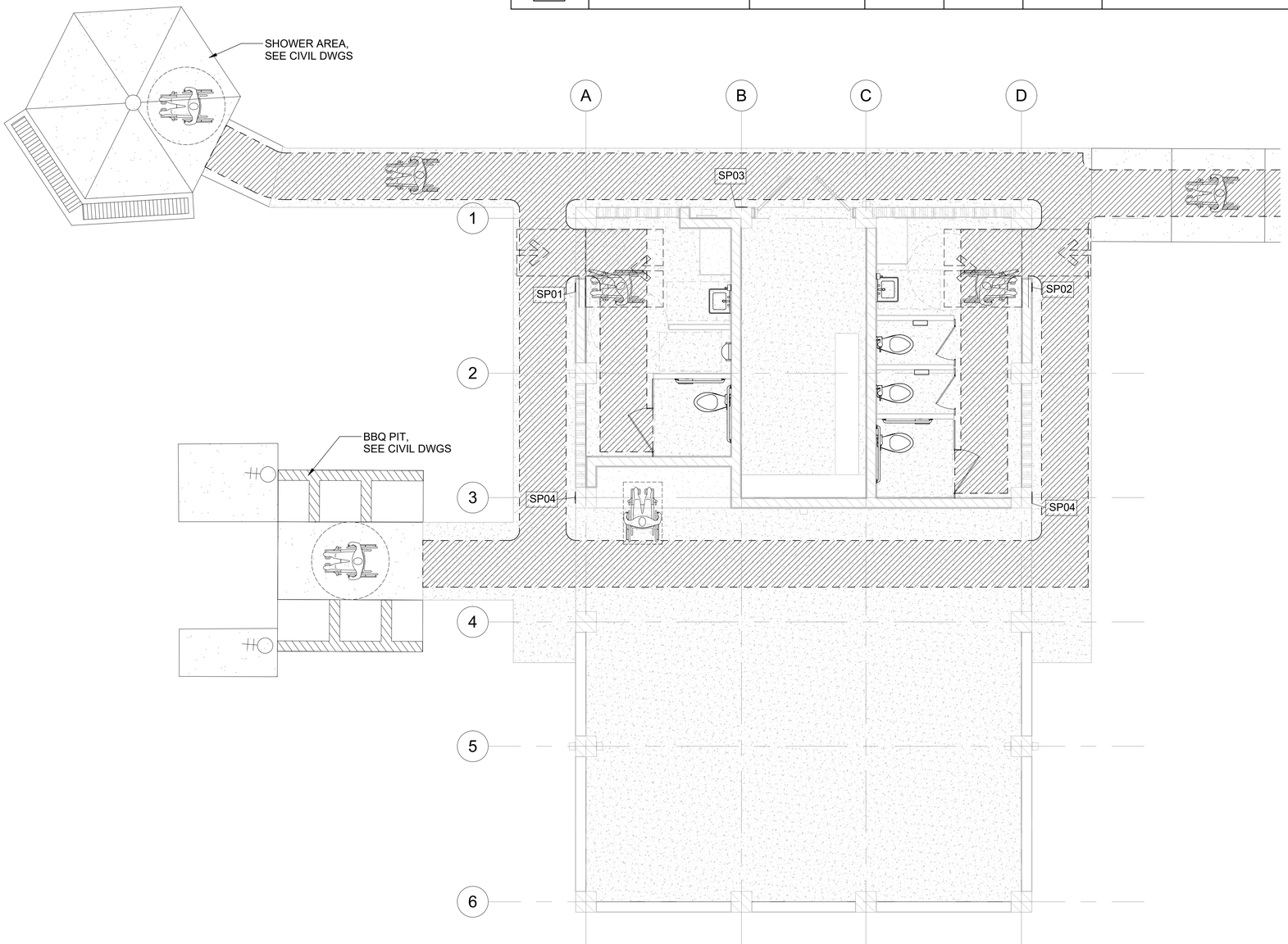
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-301
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SIGN SCHEDULE

SIGN MARK	TEXTS/SYMBOLS	SIGN MATERIAL	SIGN TYPE DET 6/AP-502	MOUNTING DET 7/AP-502	SIGN HEIGHT DET 5/AP-502	REMARKS
SP01	MEN'S RESTROOM	METAL	3	B	A	
SP02	WOMEN'S RESTROOM	METAL	2	B	A	
SP03	UTILTIY/STORAGE	METAL	B	B	A	
SP04	PAVILION	METAL	B	B	A	

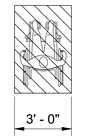


A ACCESSIBILITY ROUTE & SIGN PLAN

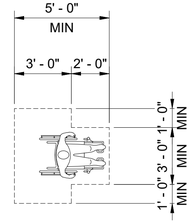
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

ACCESSIBLE LEGEND

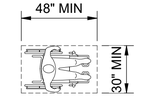


DOJ 2010 ADA STANDARDS
FOR ACCESSIBLE ROUTE:
DIRECTION OF TRAVEL OR APPROACH
SHALL COMPLY WITH SECTION 206

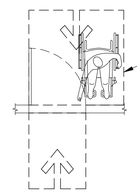


T-SHAPED SPACE
(fig 304.3.2)

CIRCULAR SPACE
(fig 304.3.1)



CLEAR FLOOR SPACE
(fig 305.3)



ACCESSIBLE MANEUVERING
CLEARANCE AT MANUAL
SWINGING DOORS

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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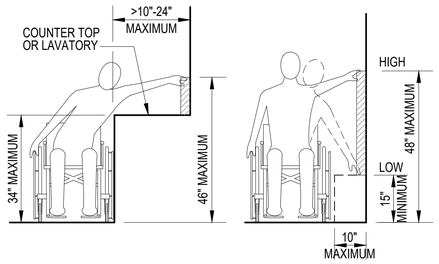
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION ACCESSIBILITY ROUTE & SIGN PLAN

ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AP-401
CHIEF ENGINEER:	DATE:



NOTE:

ACCESSIBLE SIDE REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

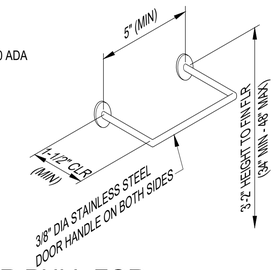
ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

7 ACCESSIBLE SIDE REACH

SCALE: 1/2" = 1'-0" 0 2' 4'

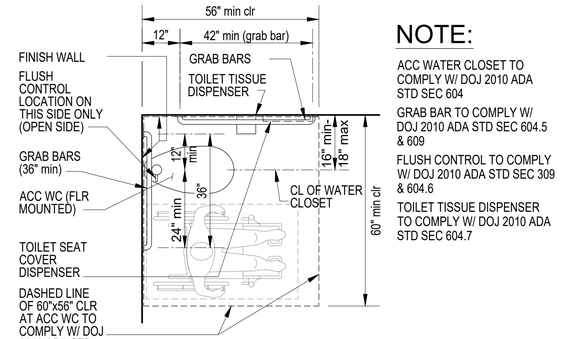
NOTE:

DOOR HARDWARE TO COMPLY WITH DOJ 2010 ADA STD SEC 404 & 404.2.7



5 DOOR PULL FOR TOILET COMPARTMENT DETAIL

SCALE: NOT TO SCALE



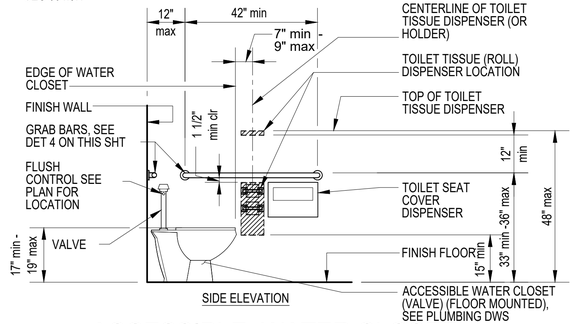
NOTE:

ACC WATER CLOSET TO COMPLY W/ DOJ 2010 ADA STD SEC 604

GRAB BAR TO COMPLY W/ DOJ 2010 ADA STD SEC 604.5 & 609

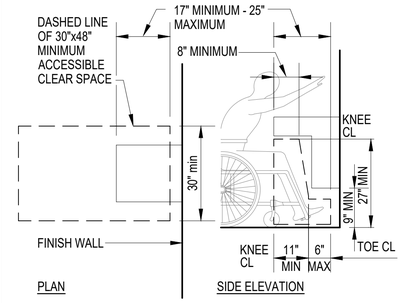
FLUSH CONTROL TO COMPLY W/ DOJ 2010 ADA STD SEC 309 & 604.6

TOILET TISSUE DISPENSER TO COMPLY W/ DOJ 2010 ADA STD SEC 604.7



3 ACCESSIBLE WATER CLOSET AND GRAB BAR DETAILS

SCALE: 1/2" = 1'-0" 0 2' 4'

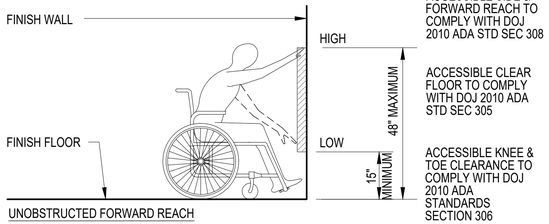


NOTE:

ACCESSIBLE KNEE & TOE CL TO COMPLY WITH DOJ 2010 ADA STD SECT 306

1 ACCESSIBLE KNEE & TOE CLEARANCE

SCALE: 1/2" = 1'-0" 0 2' 4'

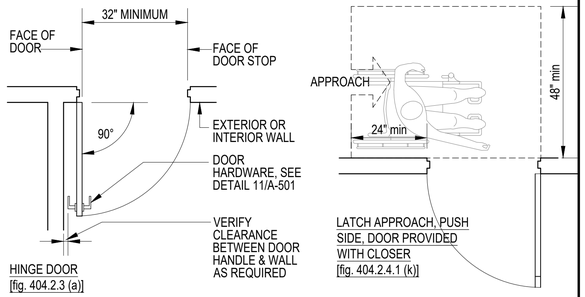


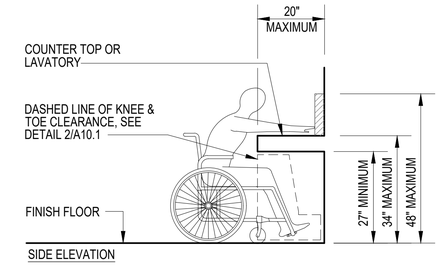
NOTE:

ACCESSIBLE SIDE & FORWARD REACH TO COMPLY WITH DOJ 2010 ADA STD SEC 308

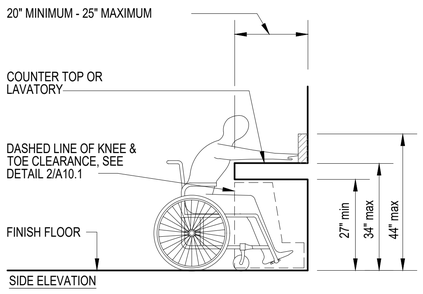
ACCESSIBLE CLEAR FLOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 305

ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306





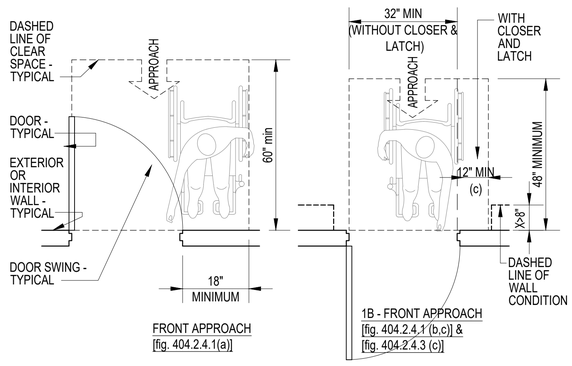
MAXIMUM FORWARD REACH OVER AN OBSTRUCTION

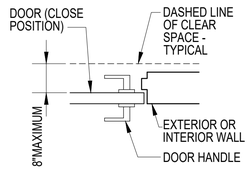


MAXIMUM FORWARD REACH OVER AN OBSTRUCTION

8 ACCESSIBLE FORWARD REACH

SCALE: 1/2" = 1'-0" 0 2' 4'





MANEUVERING CLEARANCES FOR A FOWARD APPROCH

NOTE:
1. CLOSER SHALL BE SET FOR MAXIMUM OPENING PRESSURE OF 5 LBS AT EXTERIOR AND INTERIOR DOORS.
2. ACCESSIBLE DOOR HARDWARE, SEE DETAIL 11/A-501

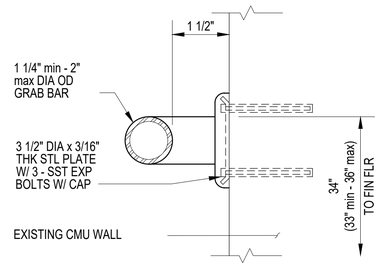
6 ACC MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

SCALE: 1/2" = 1'-0" 0 2' 4'

NOTE:

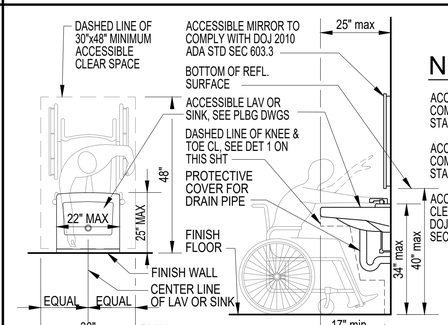
ACCESSIBLE GRAB BAR TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609

ACCESSIBLE GRAB BAR STRUCTURE STRENGTH TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 609.8



4 GRAB BAR DETAIL

SCALE: 1/2" = 1'-0" 0 2' 4'



NOTE:

ACCESSIBLE LAVATORY TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606

ACCESSIBLE FAUCET TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 606.4

ACCESSIBLE KNEE & TOE CLEARANCE TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 306

2 ACCESSIBLE LAV & MIRROR DETAIL

SCALE: 1/2" = 1'-0" 0 2' 4'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

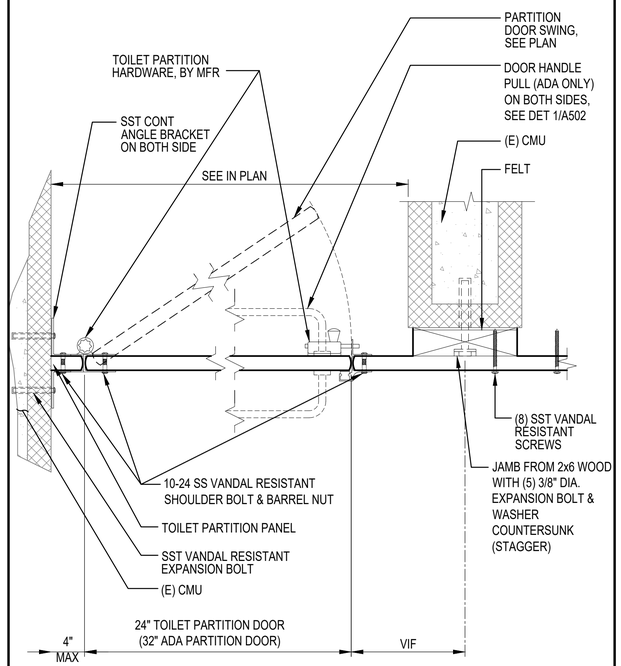
PAVILION ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

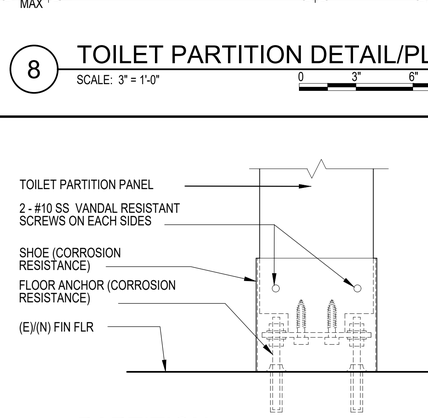
DESIGNED: -	SUBMITTED:
DRAWN: AU	DATE:
CHECKED: -	SCALE: AS NOTED
APPROVED: Dina Lau E-signed 2026-05-08 09:49PM HST	DRAWING NO. AP-501
CHIEF ENGINEER dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

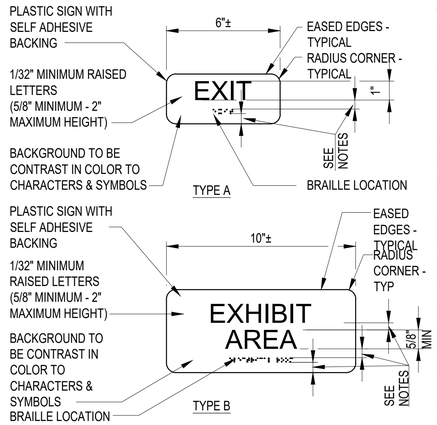
M:\EO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR PAVILION IMPROVVA-501_A-502 _PAV ADA.DWG



8 TOILET PARTITION DETAIL/PLAN
SCALE: 3" = 1'-0"



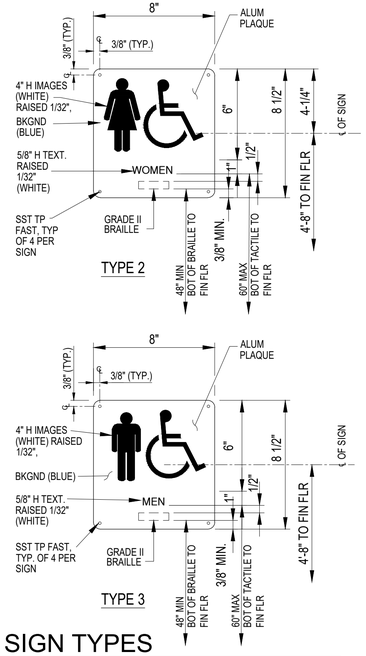
9 PARTITION ANCHORING AT FLOOR
SCALE: 3" = 1'-0"



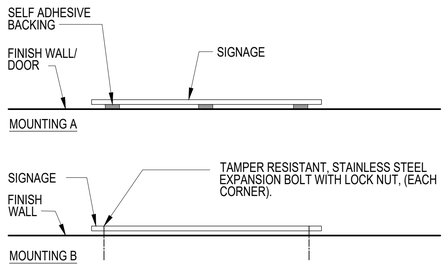
NOTE:

RAISED CHARACTERS SHALL COMPLY WITH 2010 ADAAG 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 2010 ADAAG 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 2010 ADAAG 703.4.

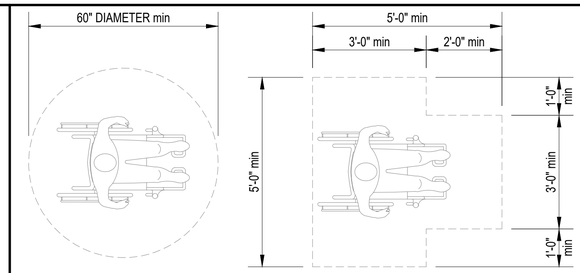
CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALLIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS SHALL CONFORM WITH 2010 ADAAG 703.2.3



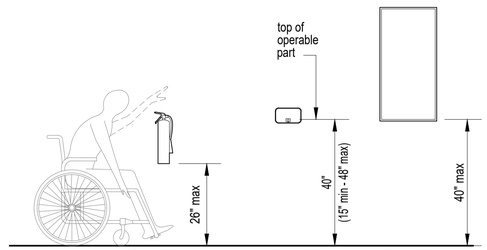
6 SIGN TYPES
NO SCALE



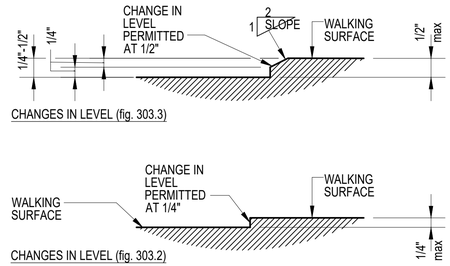
7 SIGN TYPES
NO SCALE



3 ACCESSIBLE TURNING SPACE
SCALE: 1/2" = 1'-0"



4 MOUNTING HEIGHT DETAIL
SCALE: 1/2" = 1'-0"



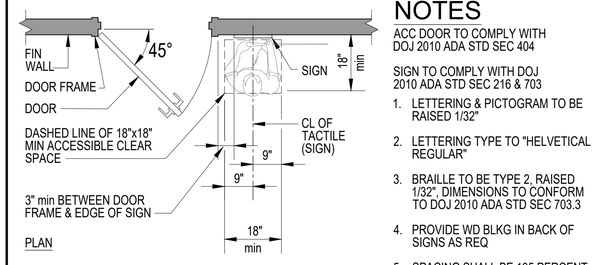
NOTE:

CHANGES IN LEVEL TO COMPLY WITH DOJ 2010 ADA STD SEC 303

SEC 303.4: RAMPS: CHANGES IN LEVEL GREATER THAN 1/2 INCH SHALL BE RAMPED, AND SHALL COMPLY WITH DOJ 2010 ADA STD SEC 405 or 406.

THRESHOLDS TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 404.2.5.

1 CHANGES IN LEVEL
SCALE: 1/2" = 1'-0"



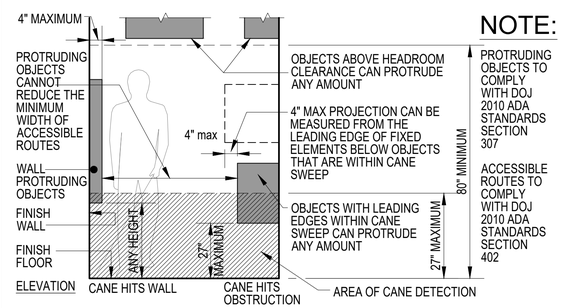
NOTES

ACC DOOR TO COMPLY WITH DOJ 2010 ADA STD SEC 404

SIGN TO COMPLY WITH DOJ 2010 ADA STD SEC 216 & 703

1. LETTERING & PICTOGRAM TO BE RAISED 1/32"
2. LETTERING TYPE TO "HELVETICAL REGULAR"
3. BRAILLE TO BE TYPE 2, RAISED 1/32", DIMENSIONS TO CONFORM TO DOJ 2010 ADA STD SEC 703.3
4. PROVIDE WD BLKG IN BACK OF SIGNS AS REQ
5. SPACING SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT

5 SIGN MOUNTING HEIGHT
SCALE: 1/2" = 1'-0"



NOTE:

PROTRUDING OBJECTS TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 307

ACCESSIBLE ROUTES TO COMPLY WITH DOJ 2010 ADA STANDARDS SECTION 402

2 ACCESSIBLE PROTRUDING OBJECTS DETAIL
SCALE: 1/2" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION ACCESSIBILITY DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AU	DATE:
CHECKED: -	SCALE: AS NOTED

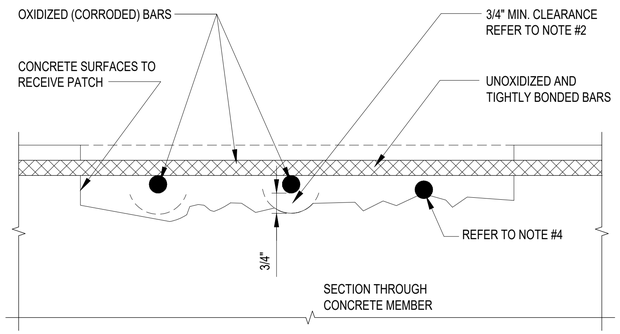
APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

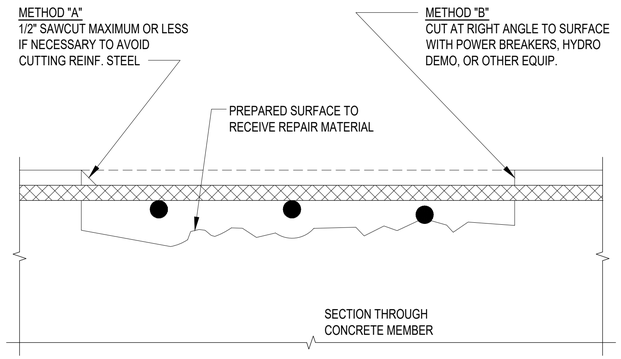
DRAWING NO. AP-502

JOB NO.: F14C728D SHEET NO. 85 OF 143 SHEETS

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPRV\4-DWG\BUILDING\DLNR PAVILION IMPROV\A-501_A-502 _PAV ADA.DWG





NOTES:

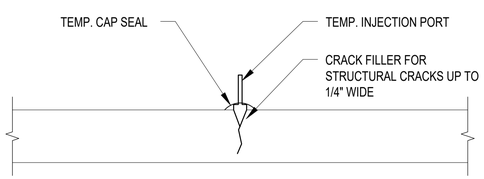
1. REMOVE LOOSE OR DELAMINATED CONCRETE ABOVE OXIDIZED REINFORCING STEEL. ONCE INITIAL REMOVAL IS MADE, PROCEED WITH UNDERCUTTING OF EXPOSED OXIDIZED (CORRODED) BARS. UNDERCUTTING WILL PROVIDE CLEARANCE FOR UNDER BAR CLEANING FULL BAR CIRCUMFERENCE BONDING TO SURROUNDING CONCRETE, AND WILL SECURE PATCH STRUCTURALLY.
2. PROVIDE MINIMUM 3/4" CLEARANCE BETWEEN EXPOSED REBAR AND SURROUNDING CONCRETE OR 1/4" LARGER THAN LARGEST AGGREGATE IN REPAIR MORTAR, WHICHEVER IS GREATER.
3. EXTEND CONCRETE REMOVAL ALONG BARS TO LOCATIONS ALONG BAR FREE OF BOND INHIBITING CORROSION AND WHERE BAR IS WELL BONDED TO SURROUNDING CONCRETE.
4. IF UNOXIDIZED REINFORCING STEEL IS EXPOSED DURING UNDERCUTTING PROCESS, TAKE CARE NOT TO DAMAGE BARS BOND TO SURROUDING CONCRETE. IF BOND BETWEEN BAR AND CONCRETE IS BROKEN, UNDERCUTTING OF BAR IS REQUIRED.
5. SECURE REINFORCEMENT WHICH IS LOOSE IN PLACE BY TYING TO OTHER SECURED BARS OR BY OTHER APPROVED METHODS.
6. CAUTION: BEFORE STARTING REBAR REMOVAL, REVIEW EFFECT OF REMOVAL ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AT NO ADDTIONAL COST.
7. AT EDGE LOCATIONS, PROVIDE EITHER METHOD "A" OR METHOD "B" RIGHT ANGLE CUTS. AVOID FEATHER EDGES. FOR SHOTCRETE REPAIRS REFER TO ACI 506 EDGE PREPARATION GUIDELINES. KEEP PATCH CONFIGURATIONS AS SIMPLE AS POSSIBLE. FOR EXAMPLE:

8. AFTER REMOVALS AND EDGE CONDITIONING ARE COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, CONCRETE SLURRY, LOOSELY BONDED AGGREGATES), BY USING HAND TOOLS TO ENSURE THAT SURFACE IS FREE FROM LOOSE AGGREGATE, OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT. ABRASIVE BLASTING AND HIGH PRESSURE WATERBLASTING ARE PROHIBITED FOR THIS PROJECT.
9. IF HYDRODEMOLITION IS USED, REMOVE CEMENT AND PARTICULATE SLURRY FROM PREPARED SURFACES BEFORE SLURRY HARDENS. MEASURES MUST BE TAKEN TO PREVENT ALL WATER AND DEBRIS FROM ENTERING THE HARBOR OR OTHER RECEIVING WATERS.

3 TYPICAL EDGE AND SURFACE CONDITIONING DETAIL

NO SCALE

- APPLICABLE TO HORIZONTAL, VERTICAL AND OVERHEAD LOCATIONS.
- FOR CRACKS THAT REQUIRE CLEANING AND/OR REPAIR OF REINFORCING STEEL, REFER TO DETAILS 1, 2 AND 3 ON THIS SHEET.

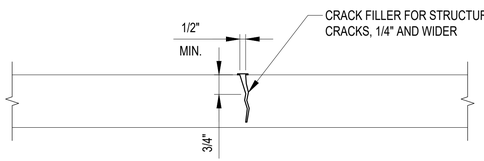


NOTES:

1. PRIOR TO APPLICATION OF EPOXY, CRACKS AND ADJACENT SURFACES SHALL BE CLEANED OF DIRT, DUST, OIL, PAINT AND OTHER MATERIALS THAT MAY AFFECT EPOXY BONDING.
2. PRESSURE INJECTION EPOXY CRACK FILLER ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
3. FOR HORIZONTAL AND VERTICAL SURFACES.
4. THIS DETAIL IS APPLICABLE FOR BOTH CONCRETE AND CMU WALLS

5 TYPICAL STRUCTURAL PRESSURE INJECTION CRACK REPAIR DETAIL

NO SCALE

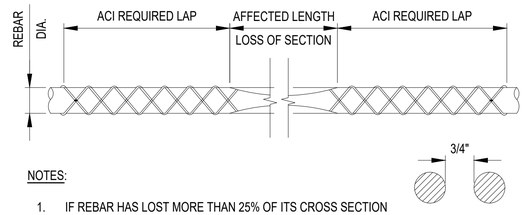


NOTES:

1. GRIND OR ROUTE CRACK TO A 1/2" MIN. WIDTH AND 3/4" MIN. DEPTH.
2. PRIOR TO APPLICATION OF EPOXY, CRACKS AND ADJACENT SURFACES SHALL BE CLEANED OF DIRT, DUST, OIL, PAINT AND OTHER MATERIALS THAT MAY AFFECT EPOXY BONDING.
3. APPLY EPOXY FILLER MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. FOR USE ON HORIZONTAL AND VERTICAL SURFACES.
5. THIS DETAIL IS APPLICABLE FOR BOTH CONCRETE AND CMU WALLS
6. THE FOLLOWING CRACKS SEALANT SHALL BE USED
   - A. OVERHEAD INJECTION CRACK SEALANT
     - I. SIMPSON STRONG TIE-CRACK-PAC INJECTION EPOXY
     - II. SIKA SIKADUR CRACK REPAIR KIT
   - B. NON-OVERHEAD CRACK SEALANT
     - I. SIMPSON STRONG TIE-SET-XP OR SE 3G EPOXY
     - II. UNITEX PRO-POXY 300 FAST GEL EPOXY

4 STRUCTURAL AND NON-STRUCTURAL NOTCH AND SEAL CRACK REPAIR DETAIL

NO SCALE

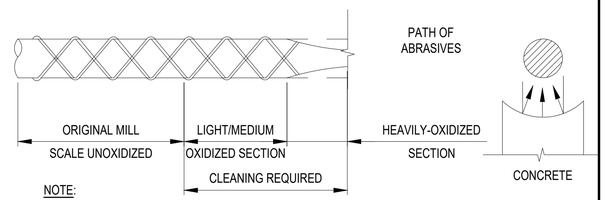


NOTES:

1. IF REBAR HAS LOST MORE THAN 25% OF ITS CROSS SECTION (20% IF 2 OR MORE CONSECUTIVE PARALLEL BARS ARE AFFECTED), CONSULT THE ENGINEER.
2. IF REPAIRS ARE REQUIRED TO REINFORCING STEEL USE ONE OF THE FOLLOWING REBAR METHODS:
   - A. COMPLETE BAR REPLACEMENT SEE DETAIL 2/S-103 OR
   - B. ADDITION OF SUPPLEMENTAL REBAR OVER AFFECTED SECTION, NEW BAR MAY BE MECHANICALLY SPLICED TO OLD BAR OR PLACED PARALLEL TO APPROXIMATELY 3/4" FROM EXISTING BAR.
   - C. NEW REBAR SHALL MATCH SIZE OF EXISTING.
3. LAP LENGTH SHALL BE DETERMINED IN ACCORDANCE WITH ACI 318, ALSO REFER TO CRSI MANUAL

1 TYP. REPAIR OF REINFORCING STEEL DET.

NO SCALE



NOTE:

REMOVE HEAVY OXIDES AND SCALE FROM BAR TO PROMOTE MAXIMUM BOND OF REPLACEMENT MATERIAL. ABRASIVE BLASTING AND HIGH PRESSURE WATERBLASTING ARE PROHIBITED FOR THIS PROJECT. HAND TOOLS SHALL BE USED TO CLEAN SURFACES. IF A PROTECTIVE COATING IS BEING APPLIED TO THE BAR SURFACE FOLLOW COATING MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION.

2 TYP. CLEANING OF REINFORCING STEEL DET.

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

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SIGNATURE

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DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

PAVILION CONCRETE REPAIR DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: _____ CHIEF ENGINEER

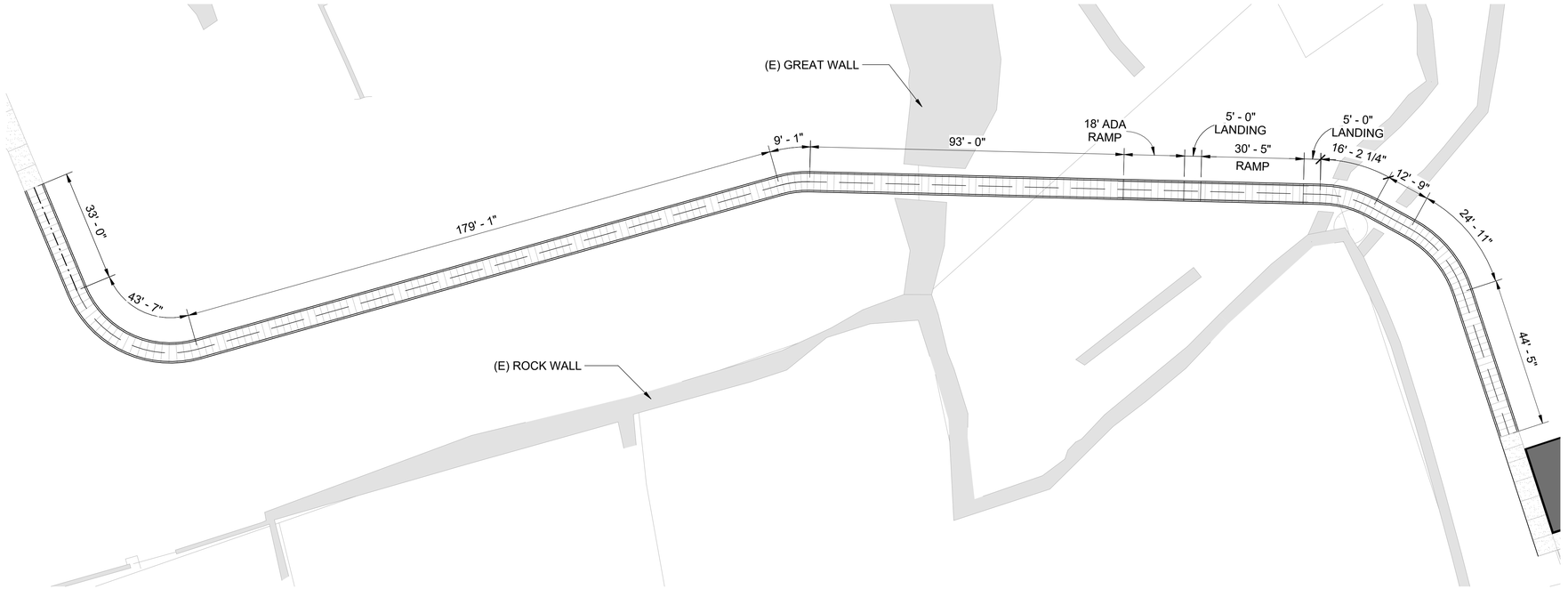
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

DRAWING NO. AP-503

JOB NO.: F14C728D SHEET NO. 86 OF 143 SHEETS

M:\EO_PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR PAVILION IMPROV\A-503_CONC REPAIR DETAILS.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

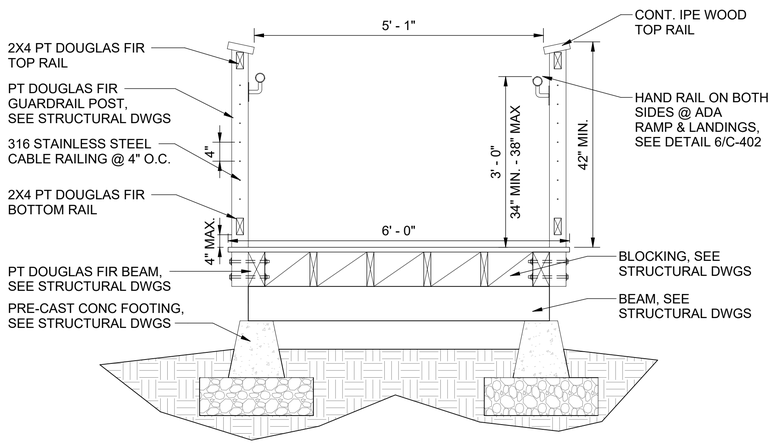


A OVERALL BOARDWALK PLAN

SCALE: 1" = 20'-0"

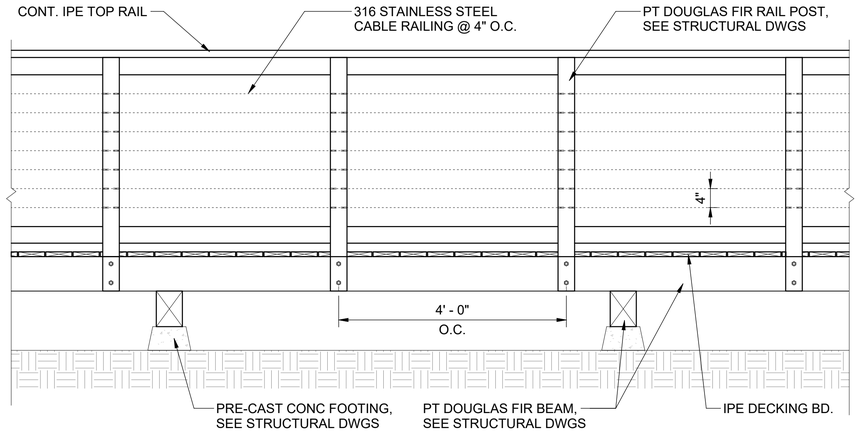
0 10' 20' 40'

N



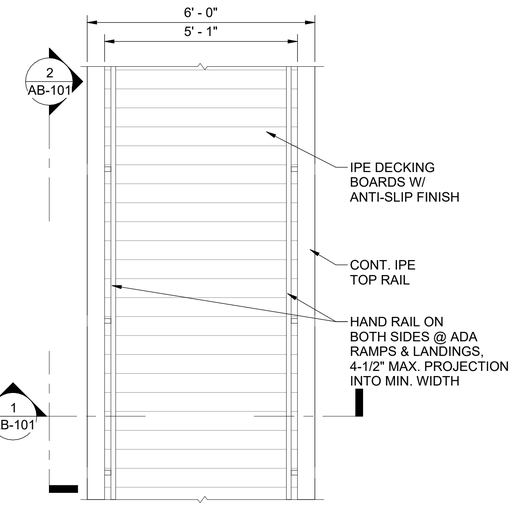
1 BOARDWALK SECTION

SCALE: 3/4" = 1'-0"



2 BOARDWALK ELEVATION

SCALE: 3/4" = 1'-0"



3 BOARDWALK PLAN VIEW

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
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KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

BOARDWALK DETAILS

ENGINEERING PARTNERS, INC

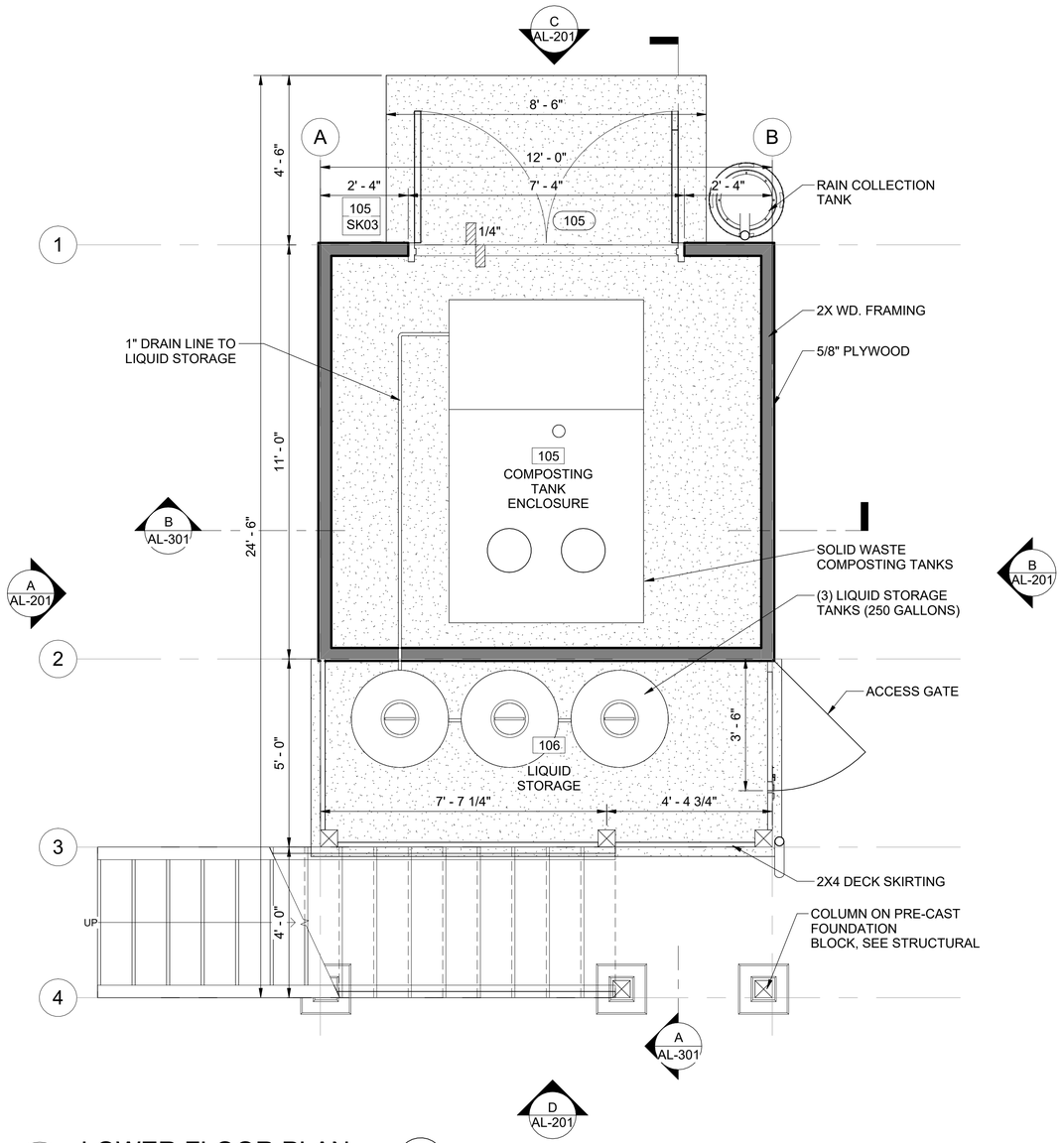
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AB-101
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 87 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Napo'opo'o Interpretive Shelter.rvt

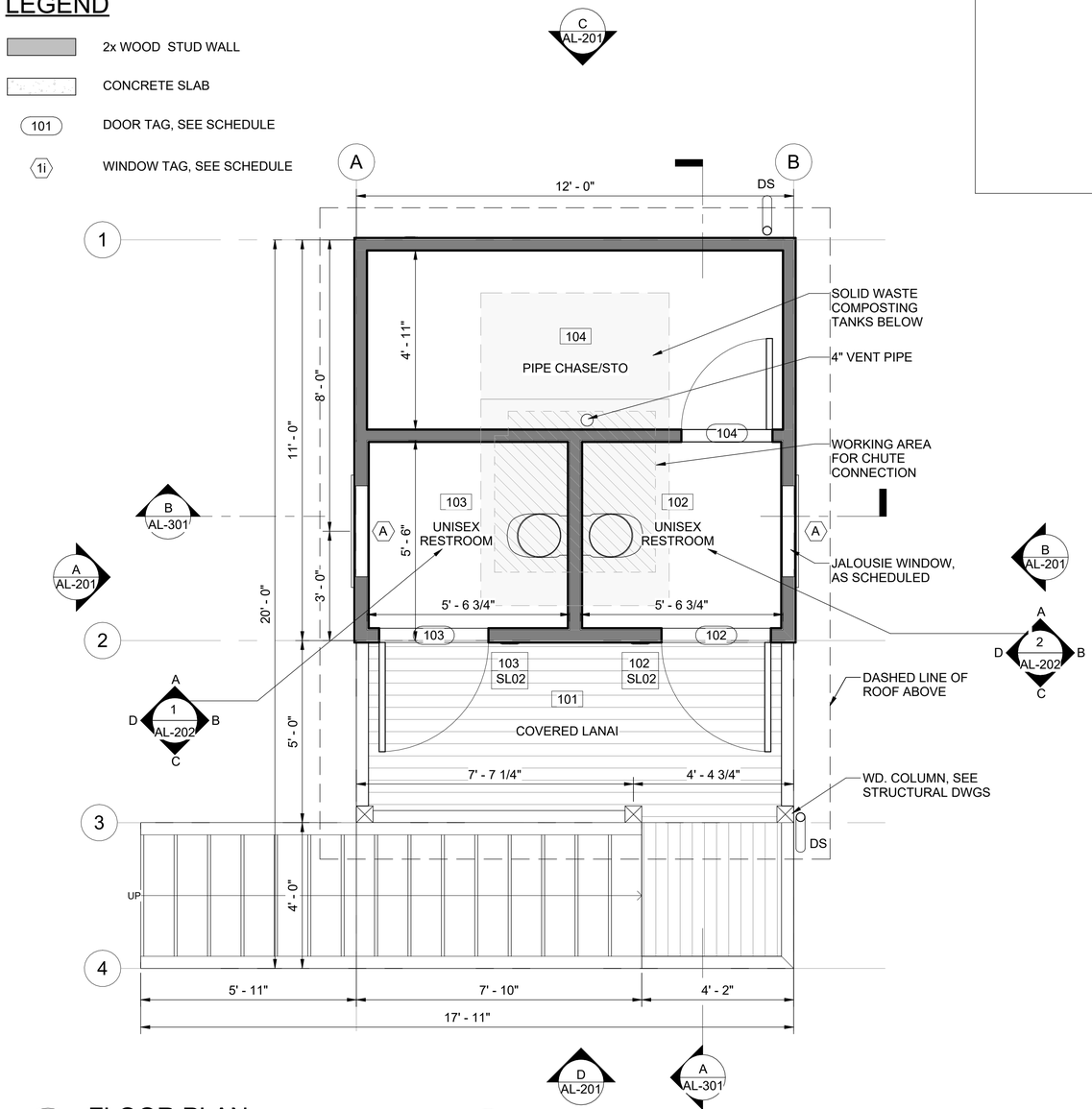


A LOWER FLOOR PLAN

SCALE: 1/2" = 1'-0" 0 1' 2' 4'

LEGEND

- 2x WOOD STUD WALL
- CONCRETE SLAB
- 101 DOOR TAG, SEE SCHEDULE
- 1i WINDOW TAG, SEE SCHEDULE



B FLOOR PLAN

SCALE: 1/2" = 1'-0" 0 1' 2' 4'

NATURAL LIGHTING AND VENTILATION COMPUTATION

MARK	ROOM NAME	AREA (SF NET)	REQD LIGHT 8% (SF)	WINDOW/ DOOR MARK	ACTUAL LIGHT	REQD VENTILATION 5% (SF)	WINDOW/ DOOR MARK	ACTUAL VENTILATION
102	UNISEX RESTROOM	28	2.24	A	LIGHTING	1.40	A	MECHANICAL VENTILATION
103	UNISEX RESTROOM	28	2.24	A	LIGHTING	1.40	A	MECHANICAL VENTILATION

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	A	B	C	D	CEILING	REMARKS
101	COVERED LANAI	F3	B2	W1	W4	W4	W4	C3	
102	UNISEX RESTROOM	F1	B1	W3	W3	W3	W3	C1, C2	
103	UNISEX RESTROOM	F1	B1	W3	W3	W3	W3	C1, C2	
104	PIPE CHASE/STO	F4	-	W4	W2	W2	W2	C3	
105	COMPOSTING TANK ENCLOSURE	F2	-	W4	W4	W4	W4	C3	
106	LIQUID STORAGE	F2	B2	W1	W4	W4	W4	C3	

FINISHES LEGEND

FLOOR

- F1 EPOXY FLOORING
- F2 TEXTURED SEALED CONCRETE
- F3 WOOD DECKING
- F4 UNFINISHED PLYWOOD SHEATHING

BASE

- B1 EPOXY COVE BASE
- B2 6" EXTERIOR TRIM BASE

WALL

- W1 5/8" THICK T1-11 PLYWOOD, 1X3 BATTENS @ 16" O.C., PAINT FINISH
- W2 2X4 DECK SKIRTING
- W3 FRP PANELING OVER 1/2" PLYWOOD
- W4 EXPOSED FRAMING

CEILING

- C1 1/2" PLYWOOD
- C2 FRP PANELING
- C3 EXPOSED STRUCTURAL

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI LICENSED PROFESSIONAL ARCHITECT Exp. 04/30/28 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

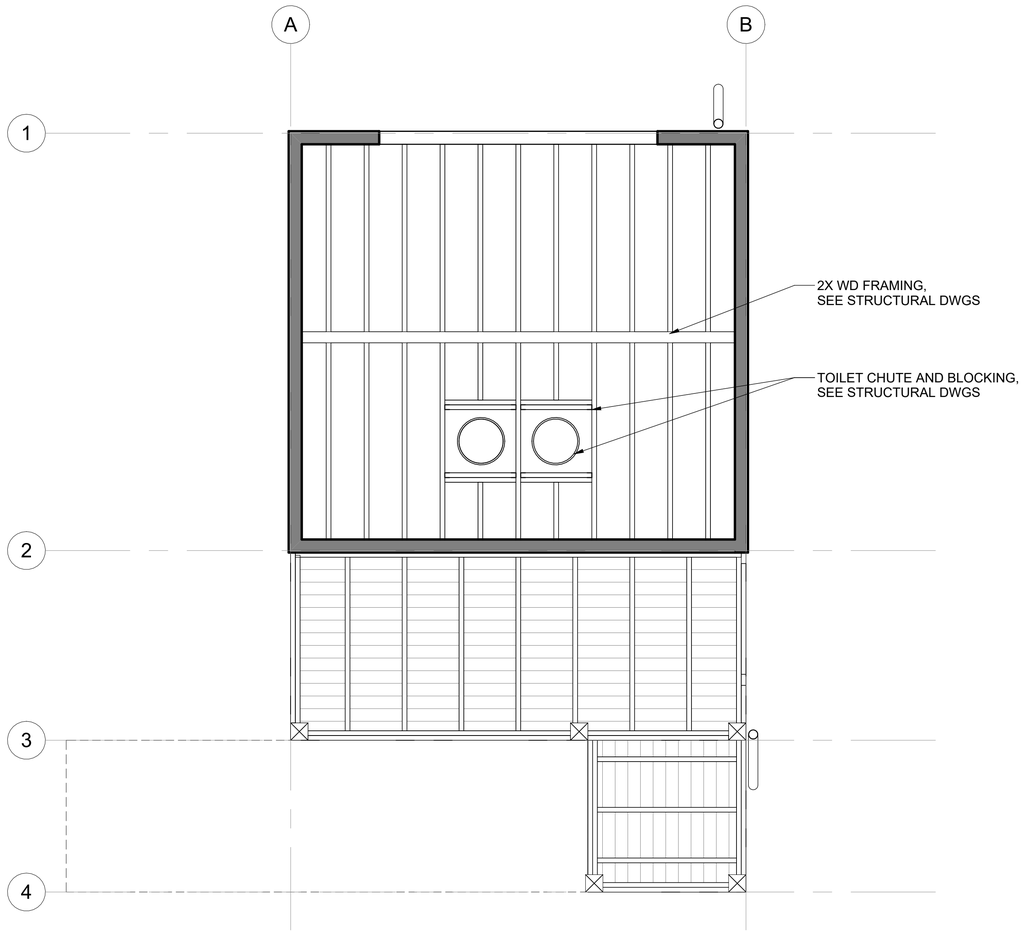
KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA FLOOR PLANS

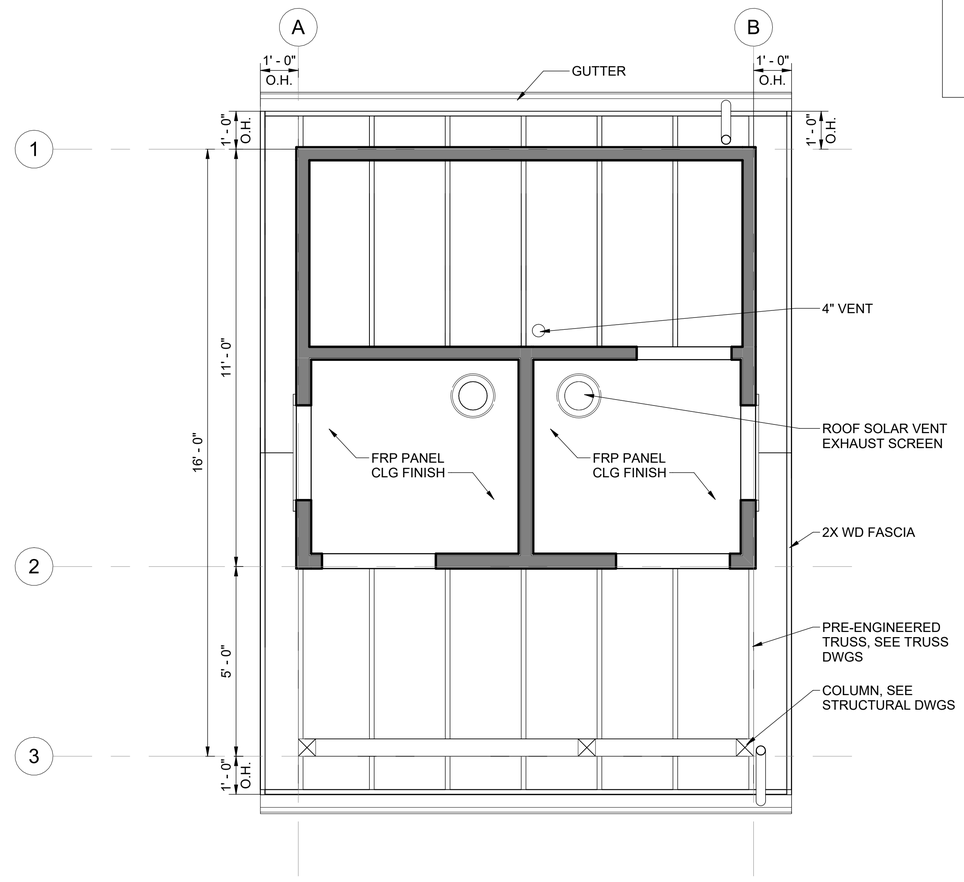
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-101
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D SHEET NO. 88 OF 143 SHEETS



A LOWER RCP
SCALE: 1/2" = 1'-0"
0 1' 2' 4'
N



B REFLECTED CEILING PLAN
SCALE: 1/2" = 1'-0"
0 1' 2' 4'
N

ROOF ATTIC VENTILATION

ATTIC AREA
= 132.00 sq ft
132.00 sq ft div by 300 sq ft = 0.44 sq ft of NFVA
0.44 sq ft of NFVA x 144 (inch per sq ft)
= 63.36 sq in of NFVA

SOFFIT VENT
Required Intake portion (60%)
60% of 63.36 sq in = 38.02 sq in
= 38 sq in
Area per 2" diameter Midget Louver LD series with approximate NFVA of 1.7 sq in per louver
38 div 1.7 = 22.35
Required = 23 pieces

RIDGE VENT
Required exhaust portion (40%)
40% of 63.36 sq in = 25.34 sq in
NFVA of "COR-A-VENT", RIDGE VENT V-600E 10"
= 20 sq in
25.34 div by 20 = 1.27 ft
Required = 1 lin ft of ridge vent

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA REFLECTED CEILING PLANS

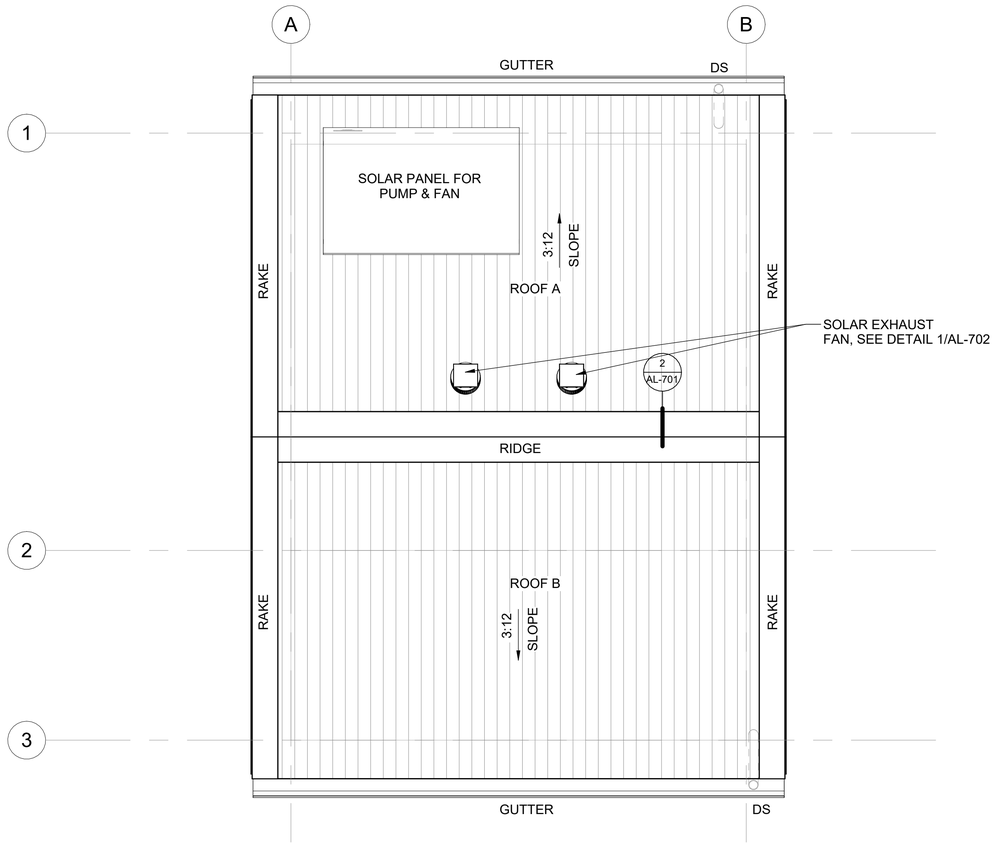
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-102
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D SHEET NO. 89 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Kaawaloa Compost Toilet.rvt



A ROOF PLAN
SCALE: 1/2" = 1'-0"

0 1' 2' 4'

N

GUTTER AND DOWNSPOUT CALCULATION
(REFERENCE ONLY)

HAWAII -- KONA

Rainfall Intensity (10yr) = 8.7 in./hr.
Rainfall Intensity (100yr) = 12 in./hr.
Drainable Area (10yr) = 140 sq. ft.
Drainable Area (100yr) = 100 sq. ft.
Year Setting = 10 yr.

ROOF A:
Roof Plan Width = 9 ft
Roof Plan Length = 14 ft
Gutter length = 14 ft.
Roof Slope = 3/12 (max)
Max Gutter Served by Each DS = 14 ft
Design Area = 124 sq. ft.
Minimum Number of DS = 1
Max Roof Area Served by Each DS = 126 sq ft
Min. Gutter Width = 3 in
Min. Gutter Depth = 3 in
Min. Ds Size = 3 in. dia.

ROOF B:
Roof Plan Width = 9 ft
Roof Plan Length = 14 ft
Gutter length = 14 ft.
Roof Slope = 3/12 (max)
Max Gutter Served by Each DS = 14 ft
Design Area = 124 sq. ft.
Minimum Number of DS = 1
Max Roof Area Served by Each DS = 126 sq ft
Min. Gutter Width = 3 in
Min. Gutter Depth = 3 in
Min. Ds Size = 3 in. dia.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

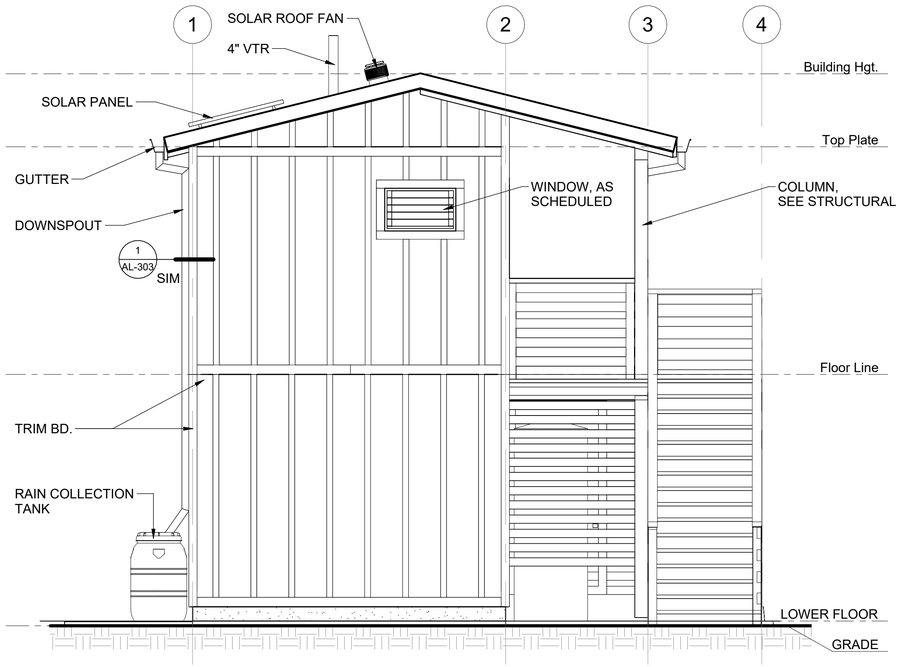
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL
PARK IMPROVEMENTS

COMPOST LUA ROOF PLAN

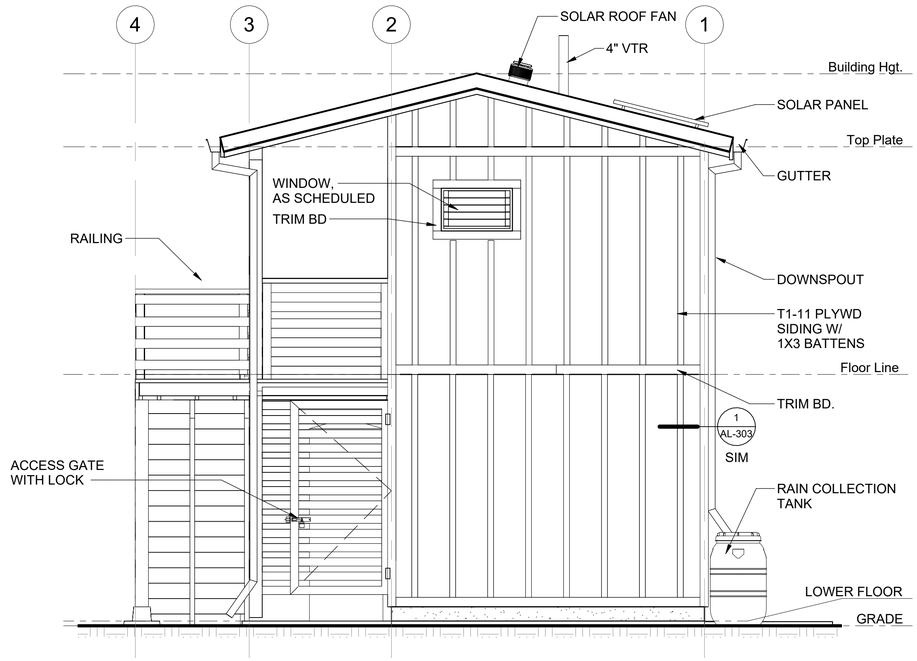
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-103
CHIEF ENGINEER:	DATE:



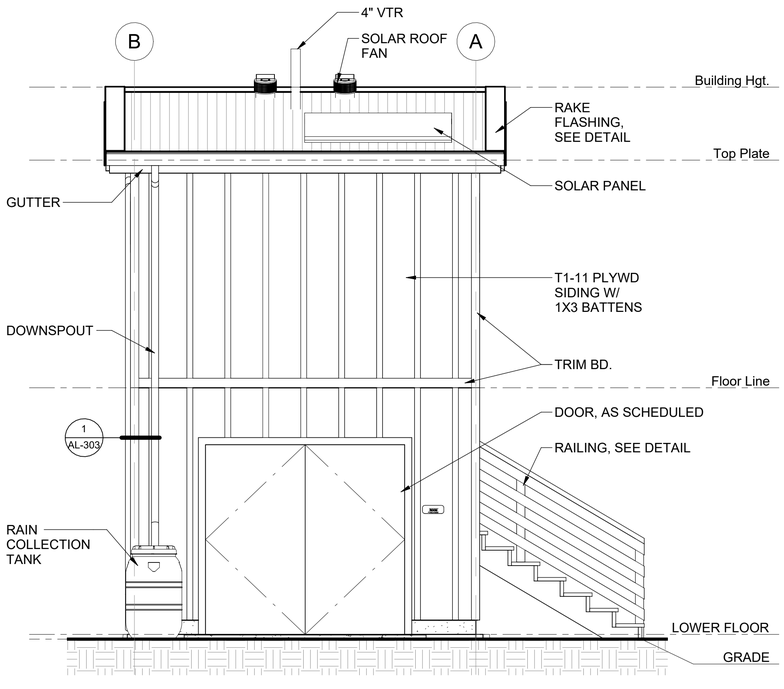
A EXTERIOR ELEVATION - SOUTHEAST

SCALE: 3/8" = 1'-0"



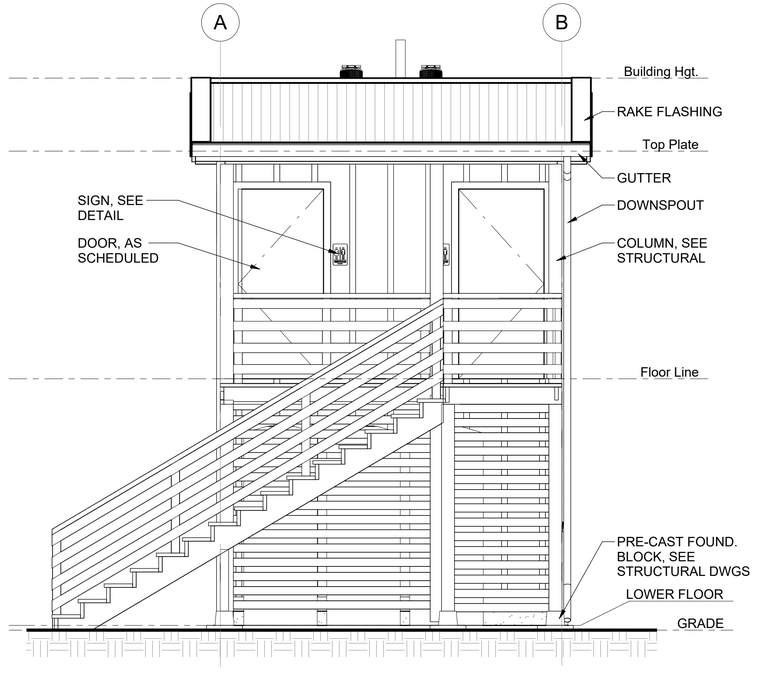
B EXTERIOR ELEVATION - NORTHWEST

SCALE: 3/8" = 1'-0"



C EXTERIOR ELEVATION - SOUTHWEST

SCALE: 3/8" = 1'-0"



D EXTERIOR ELEVATION - NORTHEAST

SCALE: 3/8" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA EXTERIOR ELEVATIONS

ENGINEERING PARTNERS, INC

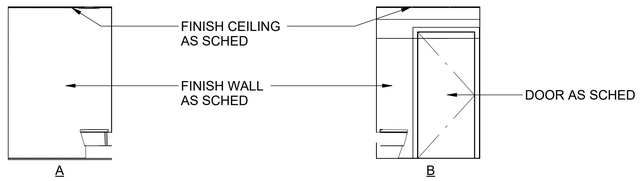
DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-201
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

SHEET NO. 91 OF 143 SHEETS

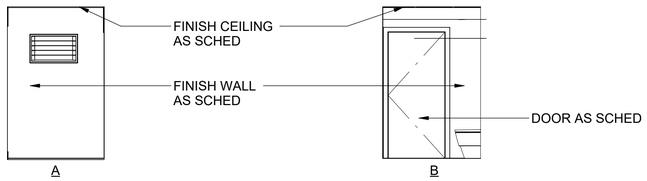
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Kaawaloa Compost Toilet.rvt



1 COMPOST LUA INTERIOR ELEVATIONS-103 UNISEX RESTROOM

SCALE: 1/4" = 1'-0"

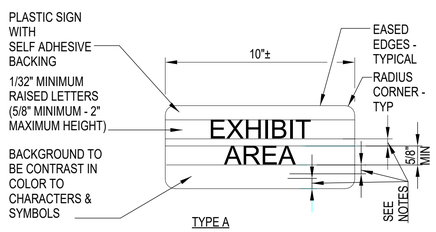


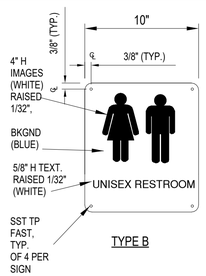
2 COMPOST LUA INTERIOR ELEVATIONS-102 UNISEX RESTROOM

NOT TO SCALE

SIGN SCHEDULE

SIGN MARK	DOOR NUMBER	TEXTS/SYMBOLS	SIGN MATERIAL	SIGN TYPE DET 8/AK-502	MOUNTING DET 9/AK-502	SIGN LOCATION DET 7/AK-502	REMARKS
102 SL01	102	UNISEX RESTROOM SEE DETAIL FOR SYMBOL	METAL	A	A	B	
103 SL02	103	UNISEX RESTROOM SEE DETAIL FOR SYMBOL	METAL	A	A	B	
105 SL03	105	COMPOSTING TANK	METAL	C	A	A	



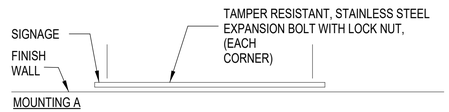


NOTE:

CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL
NOT BE ITALLIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS SHALL CONFORM WITH 2010 ADAAG 703.2.3

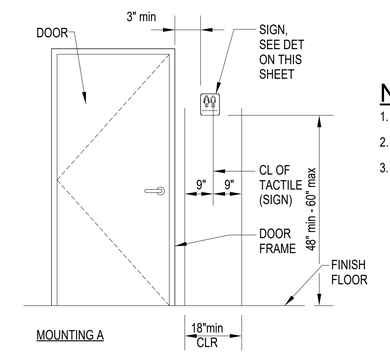
5 SIGN TYPES

NOT TO SCALE



4 SIGN TYPES

NOT TO SCALE



NOTES

1. LETTERING TYPE TO "HELVETICA REGU
2. PROVIDE WD BLKG IN BACK OF SIGNS AS REQ
3. SPACING SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT

3 SIGN LOCATION

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

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA INTERIOR ELEVATIONS & SIGN DETAILS

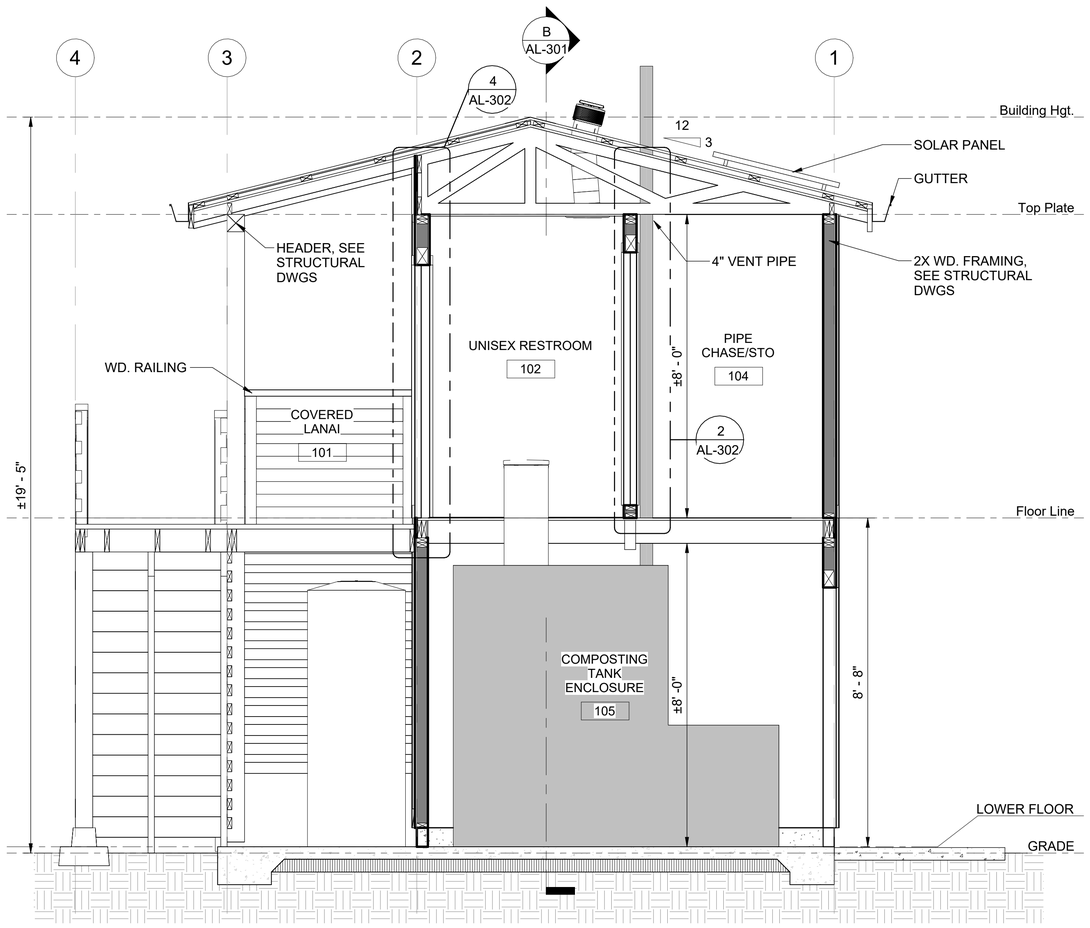
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-202
CHIEF ENGINEER:	DATE:

JOB NO.: F14C728D

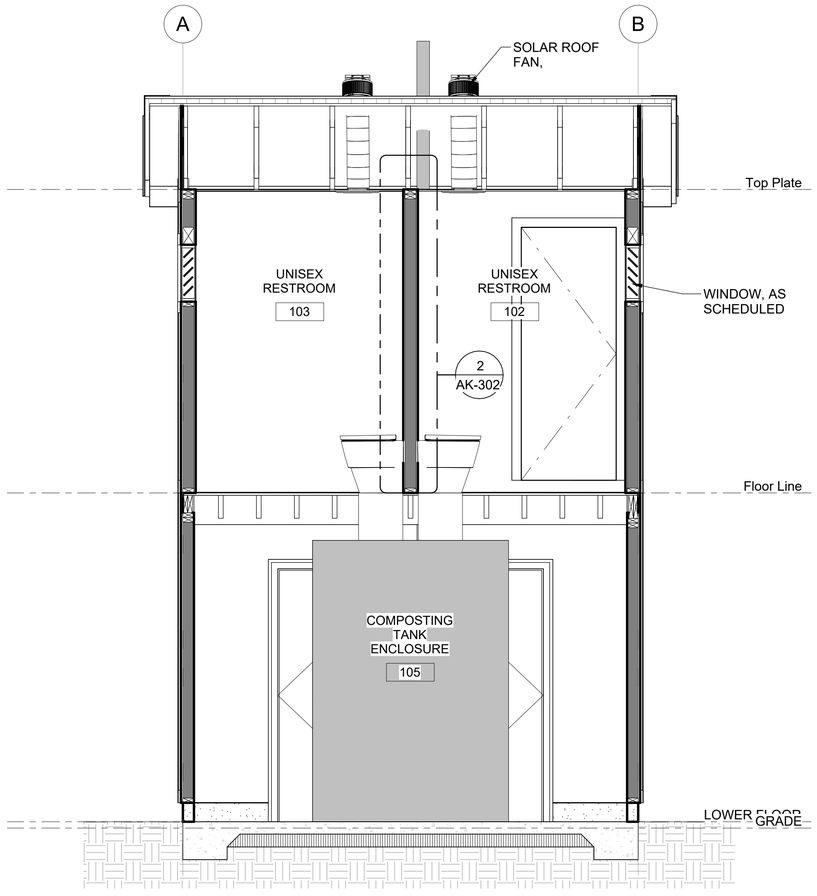
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Kaawaloa Compost Toilet.rvt



A BUILDING SECTION

SCALE: 1/2" = 1'-0" 0 1' 2' 4'



B BUILDING SECTION 2

SCALE: 1/2" = 1'-0" 0 1' 2' 4'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA BUILDING SECTIONS

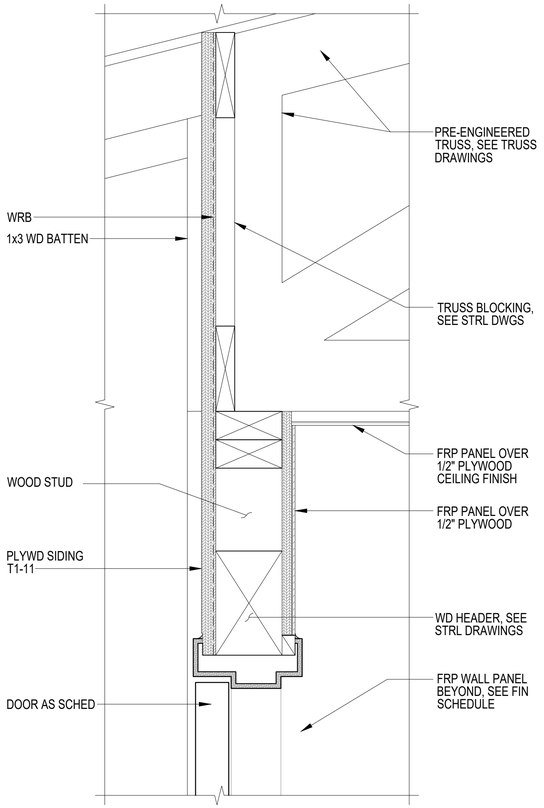
ENGINEERING PARTNERS, INC

DESIGNED:	SUBMITTED:
DRAWN:	DATE:
CHECKED:	SCALE: AS NOTED
APPROVED:	DRAWING NO. AL-301
CHIEF ENGINEER:	DATE:

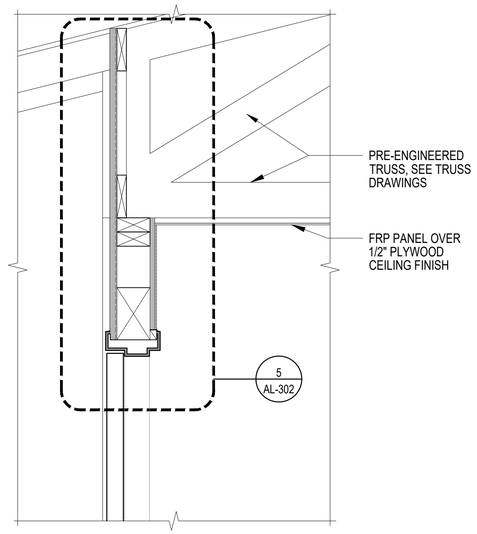
JOB NO.: F14C728D SHEET NO. 93 OF 143 SHEETS

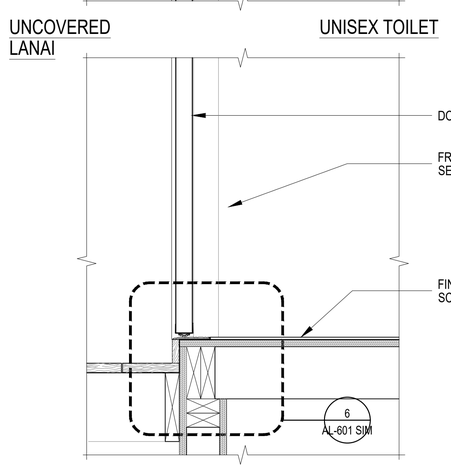
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\5-Rvt\2026-04-27 DLNR Kaawaloa Compost Toilet.rvt

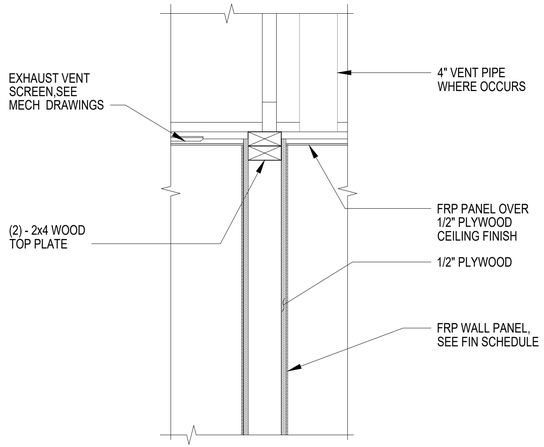


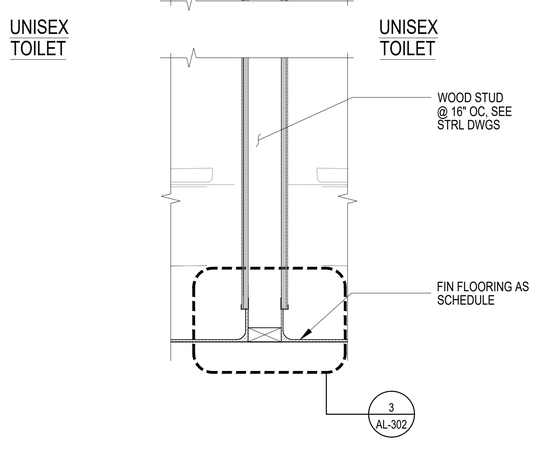
5 WALL DETAIL
SCALE: 3" = 1'-0"



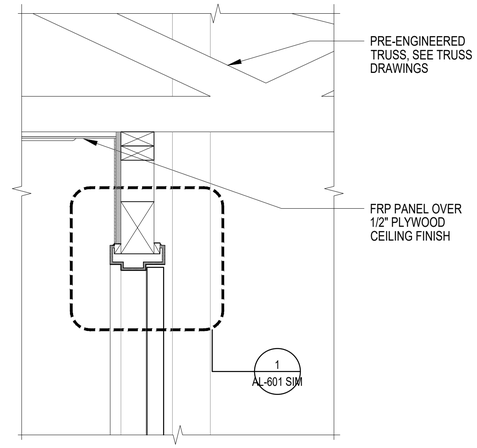


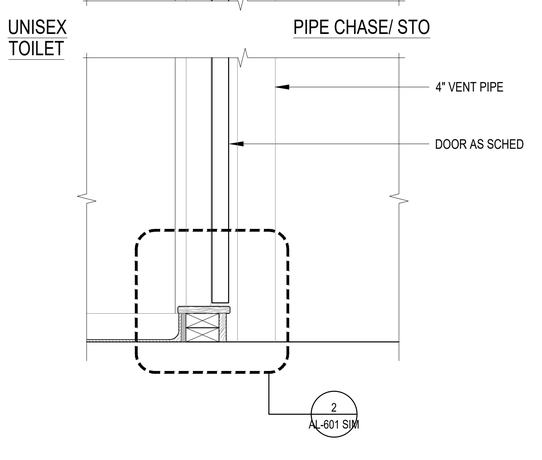
4 WALL SECTION
SCALE: 1-1/2" = 1'-0"



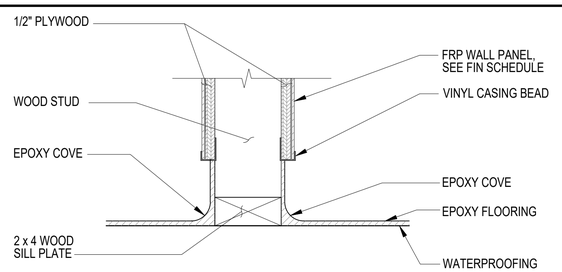


2 WALL SECTION
SCALE: 1-1/2" = 1'-0"





1 WALL SECTION
SCALE: 1-1/2" = 1'-0"



3 DETAIL
SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA SECTION DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AU/MD/MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER

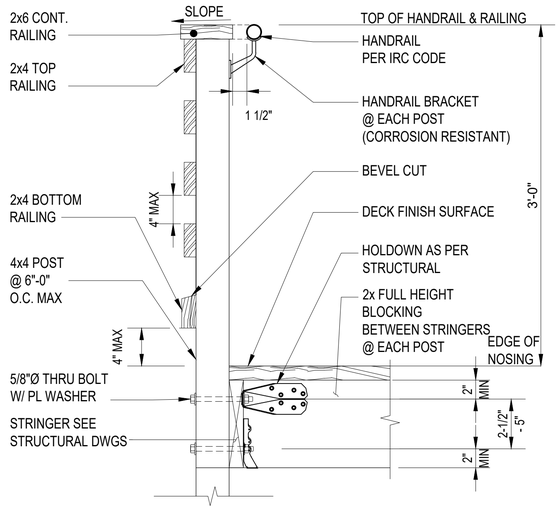
DRAWING NO. AL-302

JOB NO.: F14C728D

SHEET NO. 94 OF 143 SHEETS

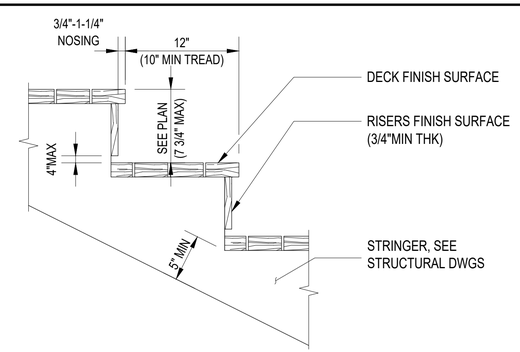
M:\EO_PROJECTS\2025_PROJECTS\12005-25-03_KEALAKEKUA_BAY_HISTORICAL_PARK_IMPRV\4-DWG\BUILDING\DLNR_COMPOST_TOILET\A-302_CT_WALL_DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



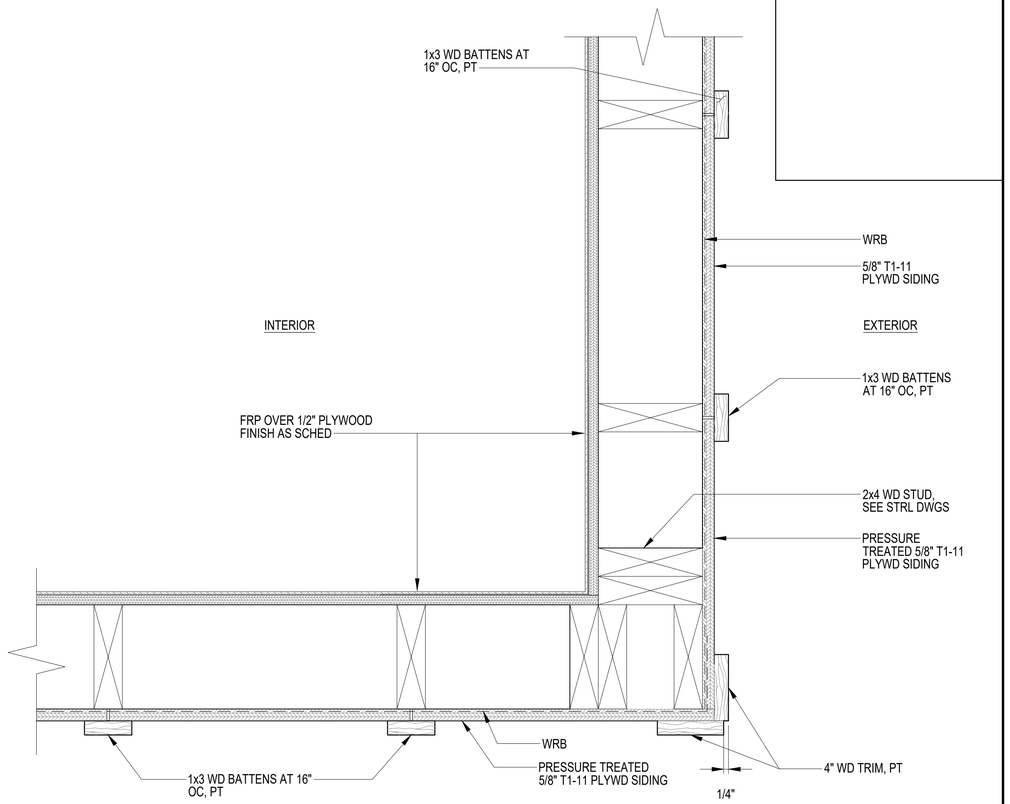
3 GUARDRAIL & HANDRAIL DETAIL

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



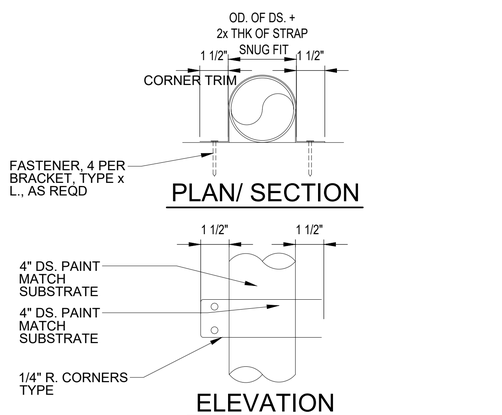
4 RISER & TREAD DETAIL AT DECKING

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



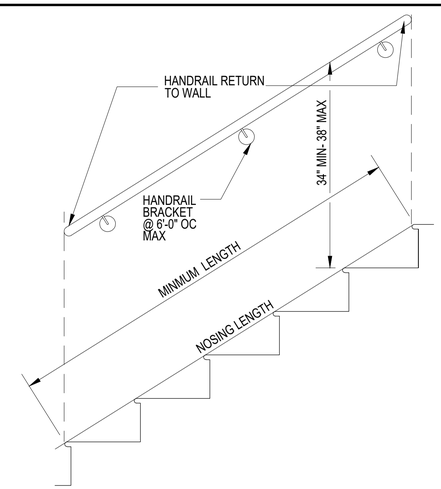
1 CORNER TRIM AND WOOD BATTENS DETAIL

SCALE: 3" = 1'-0"



5 DOWNSPOUT WALL STRAP DETAIL

SCALE: 3" = 1'-0"



2 HANDRAIL DETAIL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA WALL DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP/AU	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
CHIEF ENGINEER dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

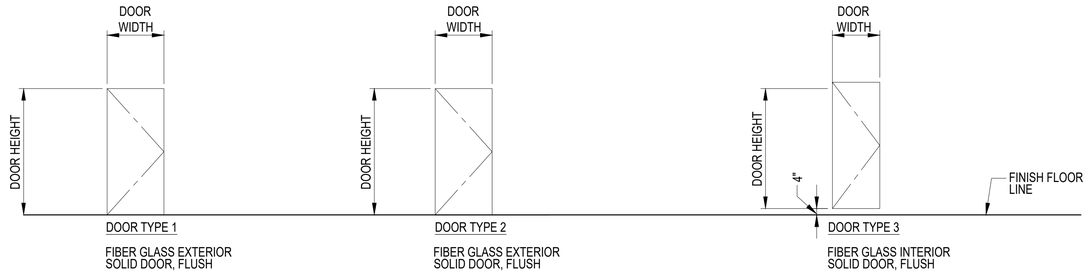
DRAWING NO. AL-303

JOB NO.: F14C728D

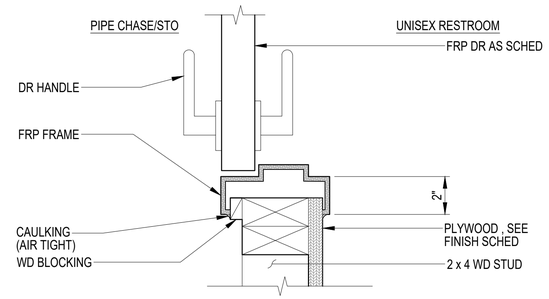
SHEET NO. 95 OF 143 SHEETS

M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\ULNAR COMPOST TOILET\A-303_CT WALL DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



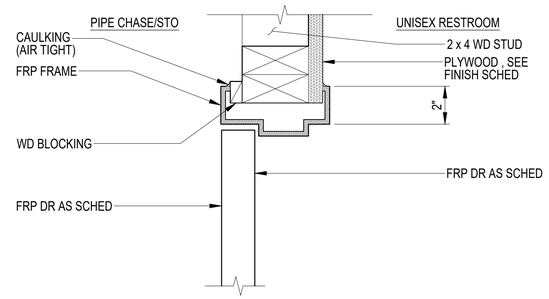
A DOOR TYPE
NO SCALE



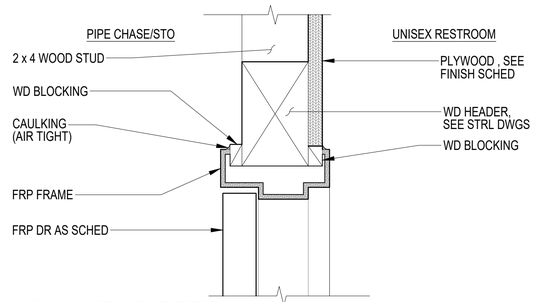
3 STRIKE JAMB DETAIL
SCALE: 3" = 1'-0"

DOOR SCHEDULE

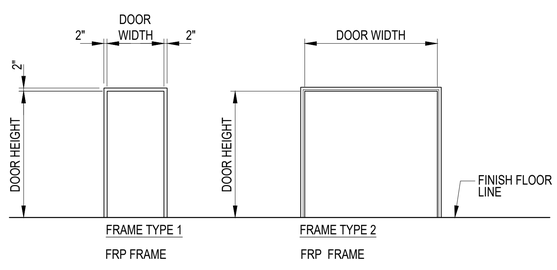
EXT/INT DR LOCATION	DOOR MARK (#)	DOOR TYPE	SIZE			MATERIAL			FRAME TYPE	FIRE RATING (IN MINUTES)	DETAILS				HARDWARE GROUP	REMARKS
			WIDTH	HEIGHT	THICK	DOOR	FRAME	FINISH			HEAD	HINGE JAMB	STRIKE JAMB	THRES-HOLD		
EXT	102	D1	3'-0"	7-0"	1 3/4"	FRP	FRP	-	-	-	5/AL-601	8/AL-601	7/AL-601	6/AL-601	-	
EXT	103	D1	3'-0"	7-0"	1 3/4"	FRP	FRP	-	-	-	5/AL-601 SIM	8/AL-601 SIM	7/AL-601 SIM	6/AL-601 SIM	-	
EXT	104	D3	2'-6"	7-0"	1 3/4"	FRP	FRP	-	-	-	1/AL-601	4/AL-601	3/AL-601	2/A-601	-	
EXT	105	D2	7'-0"	7-0"	1 3/4"	FRP	FRP	-	-	-	5/AL-602	-	-	6/AL-602	-	FOR JAMB AND MEETING STILE, SEE DET 7/AL-602



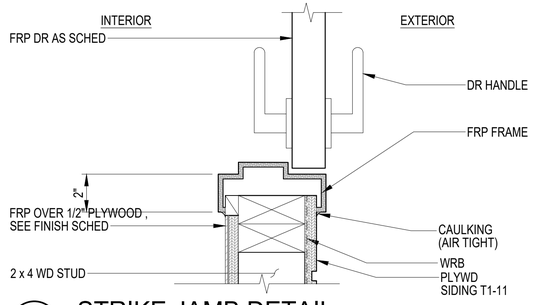
4 HINGE JAMB DETAIL
SCALE: 3" = 1'-0"



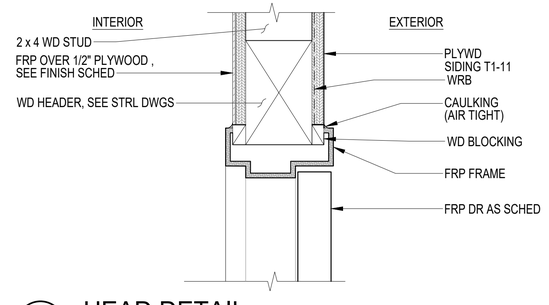
1 HEAD DETAIL
SCALE: 3" = 1'-0"



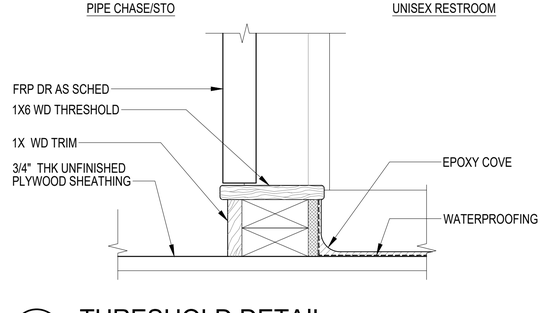
B FRAME TYPE
NO SCALE



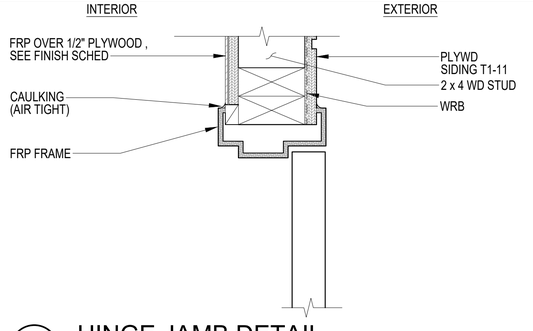
7 STRIKE JAMB DETAIL
SCALE: 3" = 1'-0"



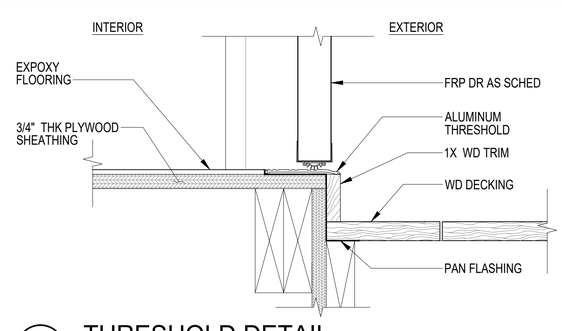
5 HEAD DETAIL
SCALE: 3" = 1'-0"



2 THRESHOLD DETAIL
SCALE: 3" = 1'-0"



8 HINGE JAMB DETAIL
SCALE: 3" = 1'-0"



6 THRESHOLD DETAIL
SCALE: 3" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN F. FUNAI
LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA DOOR SCHEDULE, FRAME TYPE AND DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

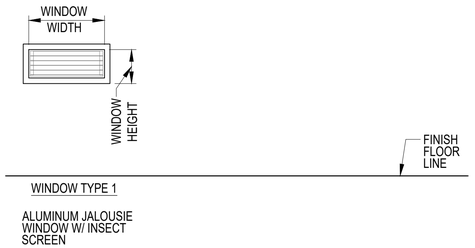
APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
CHIEF ENGINEER dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

DRAWING NO. AL-601

JOB NO.: F14C728D SHEET NO. 96 OF 143 SHEETS

M:\EO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR COMPOST TOILET\A-601 CT_DOOR DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



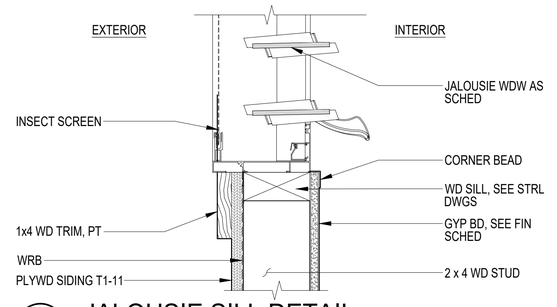
WINDOW TYPE 1

ALUMINUM JALOUSIE WINDOW W/ INSECT SCREEN

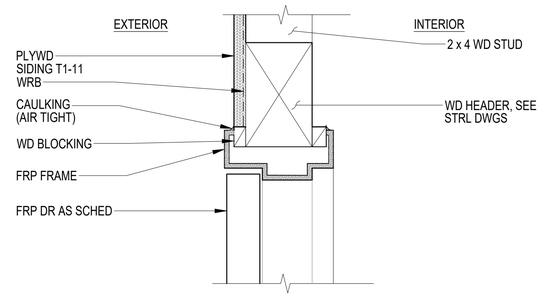
WINDOW SCHEDULE

WINDOW MARK	WINDOW TYPE	SIZE		MATERIAL		DETAILS					REMARKS
#		WIDTH	HEIGHT	FRAME	GLAZING	HEAD	JAMB	MULLION	SILL	TRANSOM	
GROUND FLOOR											
A	1	4'-0"	1'-6"	ALUMINUM	CLEAR	1/AL-602	2/AL-602	-	3/AL-602	-	

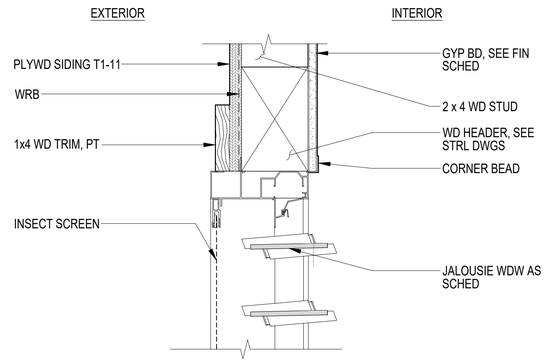
A WINDOW TYPE/ SCHEDULE
NO SCALE



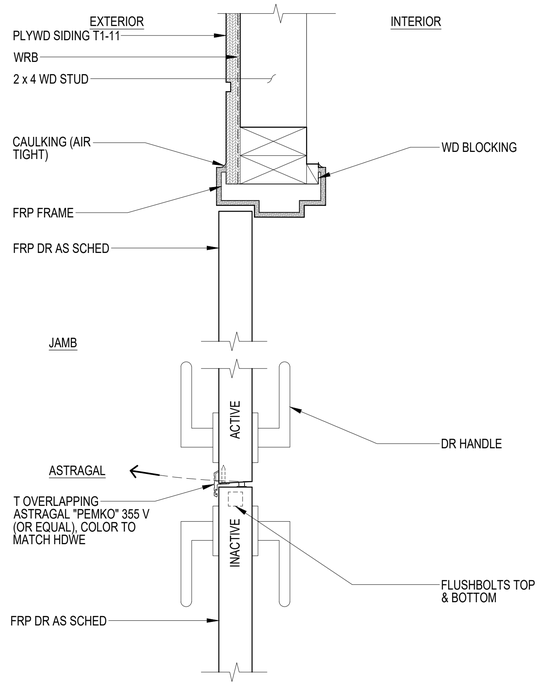
3 JALOUSIE SILL DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



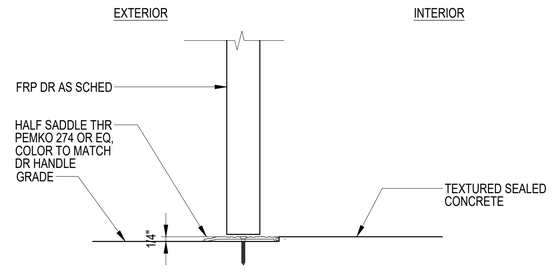
4 HEAD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



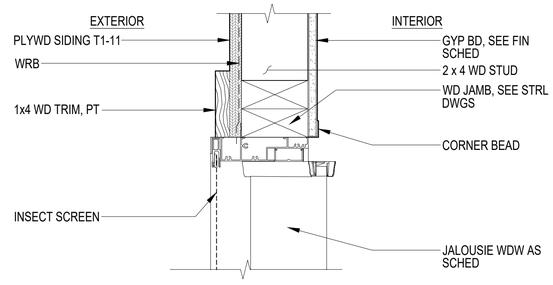
1 JALOUSIE HEAD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



6 JAMB AND MEETING STILE DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



5 THRESHOLD DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"



2 JALOUSIE JAMB DETAIL
SCALE: 3" = 1'-0" 0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
AR-7698
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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA
WINDOW SCHEDULE AND DETAILS

ENGINEERING PARTNERS, INC

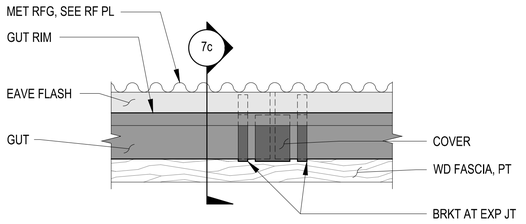
DESIGNED: -	SUBMITTED:
DRAWN: AP	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED: Dina Lau
E-signed 2026-05-08 09:49PM HST
CHIEF ENGINEER dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

DRAWING NO. AL-602

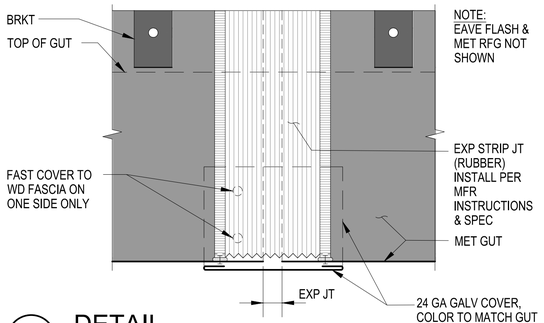
M:\EO PROJECTS\2025 PROJECTS\12005-25-03 KEALAKEKUA BAY HISTORICAL PARK IMPR\4-DWG\BUILDING\DLNR COMPOST TOILET\A-602 CT_WINDOW DETDWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



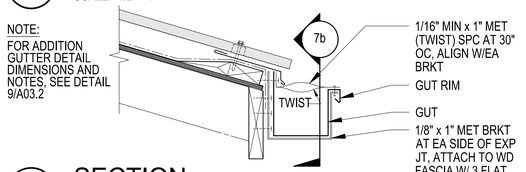
7a ELEVATION

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



7b DETAIL

SCALE: 1/2" = 1"



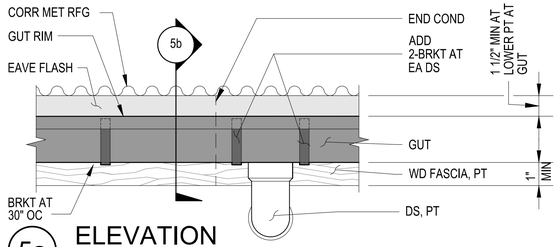
7c SECTION

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

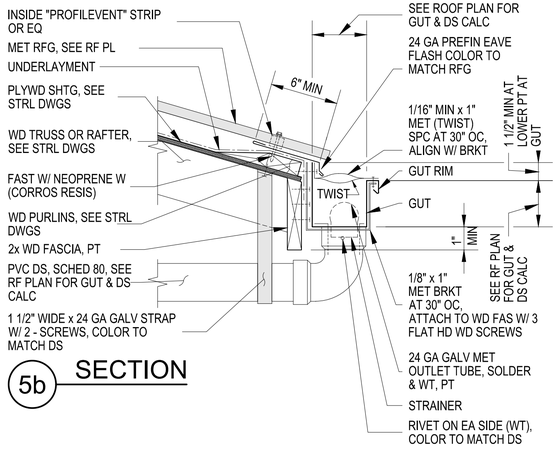
7 EXPANSION GUTTER DETAIL

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

0 6" 1' 1'-6"



5a ELEVATION

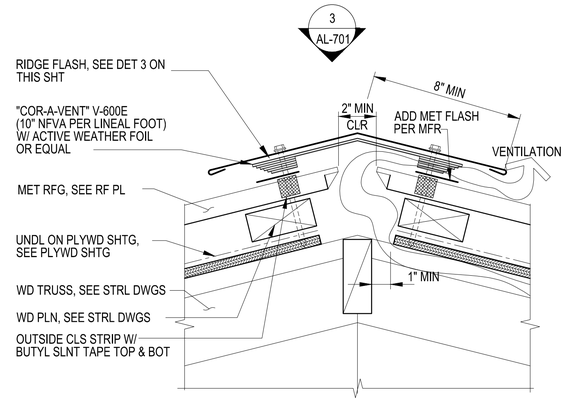


5b SECTION

5 GUTTER DETAIL

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

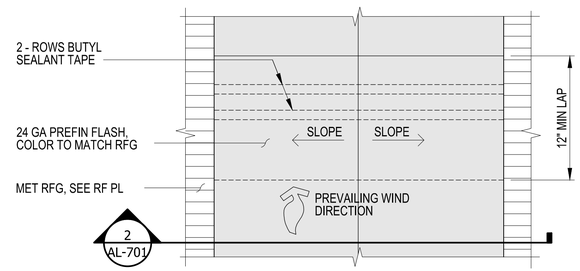
0 6" 1' 1'-6"



2 RIDGE VENT FLASHING DETAIL

SCALE: 3" = 1'-0"

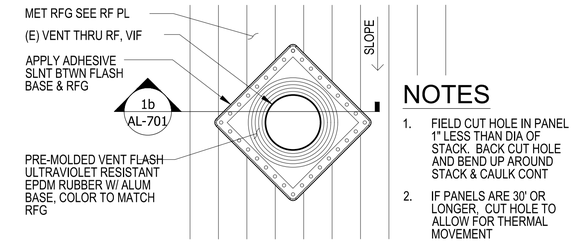
0 3" 6" 9"



3 RIDGE FLASHING DETAIL/ PLAN

SCALE: 3" = 1'-0"

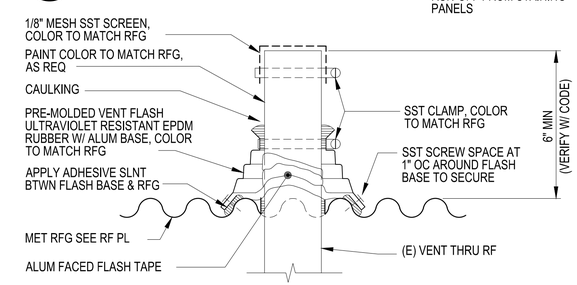
0 3" 6" 9"



NOTES

1. FIELD CUT HOLE IN PANEL 1" LESS THAN DIA OF STACK. BACK CUT HOLE AND BEND UP AROUND STACK & CAULK CONT
2. IF PANELS ARE 30' OR LONGER, CUT HOLE TO ALLOW FOR THERMAL MOVEMENT
3. IF (E) PIPE IS MADE OF MET IT MUST BE PAINTED TO PREVENT RUST RUN-OFF FROM STAINING PANELS

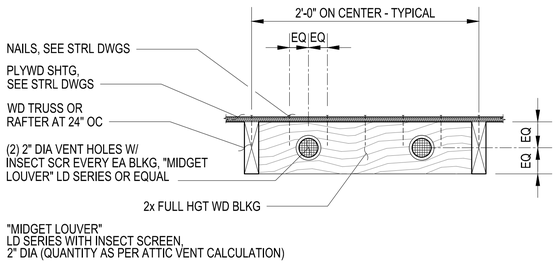
1a ROOF PLAN



1b SECTION

1 TYP FLASHING AT 4" (MAX) DIA VENT THRU ROOF

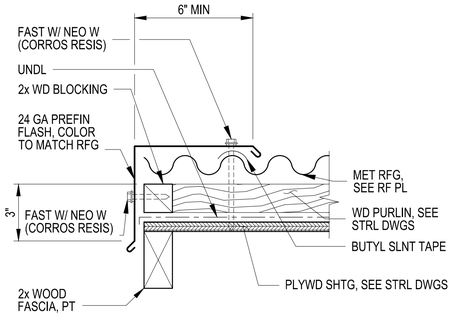
NO SCALE



8 SOFFIT VENT DETAIL

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

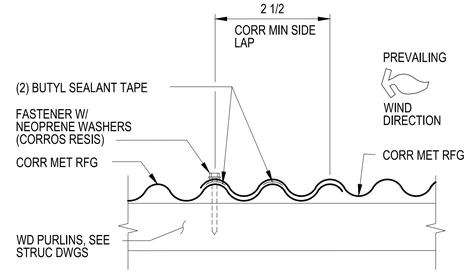
0 6" 1' 1'-6"



6 GABLE FLASHING DETAIL

SCALE: 3" = 1'-0"

0 3" 6" 9"



4 CORRUGATED METAL ROOFING DETAIL

SCALE: 3" = 1'-0"

0 3" 6" 9"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ARCHITECT
Exp. 04/30/28
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DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

COMPOST LUA ROOF DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: -	SUBMITTED:
DRAWN: MPB	DATE:
CHECKED: -	SCALE: AS NOTED

APPROVED:
Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer
CHIEF ENGINEER:

DRAWING NO. AL-701

JOB NO.: F14C728D

SHEET NO. 98 OF 143 SHEETS

M:\FO PROJECTS\2025 PROJECTS\2005-25-03 KEALAKEKUA BAY HISTORICAL PARK MPR\4-DWG\BUILDING\DLNR COMPOST TOILET\A-701 CT_BUILDING DET.DWG

KEALAKEKUA BAY STATE HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

STRUCTURAL GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AS AMENDED BY THE COUNTY OF HAWAII.

2. STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE, AND DO NOT SPECIFY THE MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEANS NECESSARY TO PROTECT THE STRUCTURE, AND ANY ADJACENT NEW OR EXISTING STRUCTURES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING AND SHORING FOR LOADS ACTING ON THE STRUCTURE DURING CONSTRUCTION. OBSERVATION BY THE STRUCTURAL ENGINEER DURING CONSTRUCTION WILL NOT INCLUDE INSPECTION OF AFOREMENTIONED BRACING AND SHORING.

3. EXISTING CONDITIONS ARE SHOWN TO THE BEST OF OUR KNOWLEDGE. DISCREPANCIES SHALL PROMPTLY BE REPORTED TO THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

4. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES, WHICH MAY BE AFFECTED BY ITS WORK. INTERFERENCES WITH THE STRUCTURE SHALL PROMPTLY BE REPORTED TO THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND VERIFYING ALL DIMENSIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL STRUCTURAL DISCREPANCIES, AND THESE DISCREPANCIES SHALL BE RESOLVED PRIOR TO PROCEEDING WITH THE WORK.

6. SHOULD A DISCREPANCY OCCUR ON THE DRAWINGS BETWEEN ANY PROJECT SPECIAL NOTES/SPECIAL DETAILS, AND THE TYPICAL SPECS/TYPICAL DETAILS, SAID SPECIAL NOTES/SPECIAL DETAILS SHALL TAKE PRECEDENCE. DETAILS NOTED AS TYPICAL SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.

7. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR DIMENSIONS AND LOCATIONS OF OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS.

8. PENETRATIONS AND OPENINGS WITH ANY DIMENSION GREATER THAN 2" THAT ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS ARE PROHIBITED UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. NO PENETRATION SHALL BE ALLOWED THROUGH ANY STRUCTURAL MEMBER WITHOUT THE APPROVAL OF THE ENGINEER.

9. ANY CONSTRUCTION MATERIAL THAT IS TEMPORARILY PLACED ON FLOOR AND/OR ROOF FRAMING SHALL BE DISTRIBUTED OVER THE FRAMING SYSTEM SUCH THAT THE CONSTRUCTION LOAD DOES NOT EXCEED THE LOAD THAT THE FRAMING SYSTEM WAS DESIGNED FOR.

10. DESIGN CRITERIA -

A. DESIGN LIVE LOADS	
1. ROOF	= 20 PSF
2. FLOOR	= 100 PSF
B. DESIGN DEAD LOADS (ADDITIONAL TO SELF WEIGHT)	
1. FINISH @ ROOF	= 3 PSF
2. MECHANICAL & ELECTRICAL @ ROOF	= 1 PSF
C. WIND	
BASIC WIND SPEED (PER ASCE 7-16 USING ASCE 7 HAZARD TOOL)	120 MPH
EFFECTIVE WIND SPEED /Kzt	93 MPH/ 1.0
EXPOSURE CATEGORY	D
PRIMARY FRAME DESIGN METHOD	METHOD 2 (ANALYTICAL)
BUILDING CLASSIFICATION	PARTIALLY ENCLOSED
IMPORTANCE FACTOR	1.0
D. SEISMIC	
OCCUPANCY CATEGORY	II
SITE CLASS	D
Sds	1.848 g
Sd1	1.19 g
SEISMIC DESIGN CATEGORY	E

11. SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENTS. THE CONTRACTOR SHALL DETAIL ALL MEMBERS AND CONNECTIONS NOT SHOWN BUT WHICH ARE REQUIRED AND SHALL SUBMIT THEM FOR REVIEW. COST OF THESE MEMBERS AND CONNECTIONS SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.

13. THE GENERAL CONTRACTOR AND ITS SUBCONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS.

FOUNDATION NOTES

1. THE FOUNDATION DESIGN WAS BASED ON THE ASSUMPTIONS PRESENTED BELOW IN THE ABSENCE OF A SOILS REPORT:

ALLOWABLE SOIL BEARING PRESSURE	= 1500 PSF
ALLOWABLE PASSIVE EARTH RESISTANCE	= 150 PCF
FRICTIONAL RESISTANCE	= 0.4 X DEAD LOAD

2. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS. FLOODING IS PROHIBITED.

3. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER, OR SEEPAGE.

4. PRIOR TO COMMENCING WITH GRADING OPERATIONS, THE GROUND SURFACE MUST BE PREPARED AS FOLLOWS: THE SITE SHALL BE STRIPPED OF ALL VEGETATION, DEBRIS, BOULDERS, RUBBISH, AND OTHER ORGANIC AND DELETERIOUS MATERIALS. VEGETATION SHALL BE REMOVED TO A MINIMUM DEPTH OF SIX INCHES. THE ROOT BALLS OF TREES SHALL BE REMOVED IN THEIR ENTIRETY WITHIN THE BUILDING PAD.

5. THE CONTRACTOR SHALL EXCAVATE A MINIMUM OF 4 EXPLORATION POTHOLES TO A DEPTH OF 4 FEET DEEP AT 4 CORNERS OF THE BUILDING PAD. THE CONTRACTOR SHALL DETERMINE AND REPORT BACK TO THE ENGINEER IF THE BUILDING PAD LOCATION IS ON NATIVE UNDISTURBED GROUND OR A PREVIOUSLY FILLED AREA.

6. IF THE CONTRACTOR DISCOVERS UNCOMPACTED FILL OR UNSUITABLE MATERIAL IN THE POTHOLE EXCAVATION, ALL UNCOMPACTED FILL AND/OR UNSUITABLE MATERIAL WITHIN THE BUILDING PAD SHALL BE REMOVED AND BACKFILLED WITH SUITABLE STRUCTURAL FILL.

7. UNSUITABLE MATERIALS ARE ORGANIC MATTERS I.E. GREEN WASTE, BAGASSE, ROOTS, STUMPS, CONSTRUCTION LUMBER, RUBBISH I.E. PLASTIC, METAL, DOMESTIC AND CONSTRUCTION WASTE, UNPROCESSED CONCRETE PARTICLES LARGER THAN 3 INCH DIAMETER, NATIVE VOLCANIC ASH SOIL AND CINDERS, MUCK, MUD AND ANY HAZARDOUS MATERIAL I.E. ASBESTOS, CONTAMINATED SOIL.

8. ALL BUILDING FOUNDATION AND SLAB SHALL BEAR ON FIRM SUBGRADE I.E. SOLID BASALT ROCK OR SCARIFIED AND RE-COMPACTED NATIVE FRACTURED ROCK OR GRANULAR MATERIAL. ALL UNSUITABLE MATERIAL BENEATH FOOTINGS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED STRUCTURAL FILL. ALL COMPACTION EFFORT FOR BUILDING PAD SHALL BE MINIMUM 95% COMPACTION.

9. WHERE COMPACTION TEST OF A SOIL/ROCK TYPE IS NOT PRACTICAL, THE SUBGRADE SHALL BE COMPACTED TO UNYIELDING CONDITION WITH A NARROW TRACK D-8 DOZER OR EQUIVALENT SIZE COMPACTOR.

10. LIMITS OF BUILDING PAD IS DEFINED AS MINIMUM 3 FEET FROM THE MOST OUTER EDGE OF THE BUILDING FOUNDATION. THIS OUTER MOST FOUNDATION EDGE SHALL BE MINIMUM 5 FEET FROM THE FACE OF A SLOPE STEEPER THAN 5H TO 1V. DEEPEN THE FOUNDATION AS NECESSARY TO ACHIEVE THIS DISTANCE.

11. WHERE ROCK-SOIL (VOLCANIC ASH) MIX IS FOUND TO HAVE SOIL CONTENT MORE THAN 30% BY VOLUME, THE ENTIRE BUILDING PAD SHALL BE OVER-EXCAVATED 3 FEET BELOW THE FOOTINGS AND SLAB (2 FEET SQUARE PAD UP TO 3 FEET DEEP FOR SPREAD FOOTINGS), LAY DOWN MIRAFI HP 370 GEOTEXTILE AND BACKFILL WITH 3" MINUS COMPACTED STRUCTURAL FILL.

12. WHERE DEEP ASH SOIL IS PRESENT (COMMONLY FOUND IN NORTH OF ALENAIO STREAM IN HILO, NORTH HILO AND HAMAKUA AREA), SPECIAL SUBGRADE TREATMENT OR DEEP FOUNDATION SYSTEM WILL BE REQUIRED. CONTRACTOR SHALL PROVIDE THE OWNER PRICING OPTIONS FOR THE FOLLOWING TREATMENT OPTIONS:

    A. 16-INCH DIAMETER X 20' DEEP DRILLED PIERS: (6)-#5 VERTICAL WITH #2 SPIRAL TIES @ 3" PITCH, MINIMUM 3000 PSI CONCRETE USING TREMIE METHOD. USE 15'X15' DRILLED PIER GRID SPACING.

    B. MICRO PILE DRILLED 2 FOOT INTO BEDROCK ACHIEVING MINIMUM WORKING LOAD OF 25,000 LB PER MICRO PILE. FIELD PULL TEST TO VERIFY CAPACITY REQUIRED. USE 15'X15' MICRO PILE GRID SPACING.

    C. HELICAL PILE ACHIEVING MINIMUM WORKING LOAD OF 25,000 LB PER HELICAL PILE. FIELD PULL TEST TO VERIFY CAPACITY REQUIRED. HOT DIPPED GALVANIZED HELICAL PILE INSTALLED WITH CEMENT SLURRY. USE 15'X15' HELICAL PILE GRID SPACING.

    D. OVEREXCAVATE ENTIRE BUILDING PAD 3 FEET DEEP, LAY DOWN MIRAFI HP 370 GEOTEXTILE, AND BACKFILL WITH 3" MINUS COMPACTED STRUCTURAL FILL.

ANCHORS

1. REINFORCING OR THREADED RODS DRILLED AND EXPOXIED INTO EXISTING CONCRETE AS DETAILED ON THE DRAWINGS SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUIVALENT:
    A. SIMPSON 'SET-3G' ICC REPORT ESR-4057/4844
    B.HILTI 'RE-500 SD' ICC REPORT ESR-2322
    C. DEWALT 'PURE 110+' ICC REPORT ESR-3298

2. INSTALLATION OF EPOXIED DOWELS SHALL FOLLOW THE STRICT RECOMMENDATIONS OF THE MANUFACTURER AND THE APPLICABLE ICC REPORT AND HAVE A MINIMUM OF 9 DIAMETERS EMBEDMENT.

3. INSTALLATION SHALL FOLLOW THE STRICT RECOMMENDATIONS OF THE MANUFACTURER AND THE APPLICABLE ICC ER REPORT. CONTRACTOR SHALL HAVE APPROPRIATE ICC ER REPORT ON-SITE DURING ALL INSTALLATIONS.

4. ANY ENGINEERING DESIGN PROVIDED BY CONTRACTOR OR OTHERS SHALL BE SUBMITTED FOR REVIEW BY THE INSURED AND REGISTERED STRUCTURAL ENGINEER WITH CONTINUOUS FIVE YEARS OF EXPERIENCE IN THE TYPE OF DESIGN SUBMITTED.

CONCRETE NOTES

1. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150#/CU.FT.).

2. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-19) WITH MODIFICATIONS AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.

3. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTH AND TYPES:

LOCATION OF STRUCTURE	STRENGTH
FOOTINGS, GRADE BEAM, AND SLAB-ON-GRADE	3000 PSI
ALL OTHER CONCRETE	3000 PSI

4. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE II.

5. AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS.

6. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR HIS REVIEW 2 WEEKS PRIOR TO POUR.

7. CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C-94.

8. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 301 AND PROJECT SPECIFICATIONS.

9. UNLESS OTHERWISE NOTED ON THE PLANS, MINIMUM CLEAR COVERAGE OF NEW CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS:
    A. CONCRETE POURED DIRECTLY
        AGAINST EARTH.....3" CLEAR TO REINFORCING
    B. WALL FACES:
        EXPOSED TO EARTH WITH
        FORMED SURFACES OR
        EXPOSED TO WEATHER.....1-1/2" CLEAR FOR #5 BAR & SMALLER
        2" CLEAR FOR #6 BARS & LARGER
        INTERIOR FACES.....3/4 CLEAR
    C. BEAMS AND COLUMNS:
        NOT EXPOSED TO EARTH
        OR WEATHER.....1-1/2" CLEAR TO STIRRUPS & TIES
        FORMED AND EXPOSED TO EARTH
        OR WEATHER.....1 1/2" CLEAR TO STIRRUPS & TIES
        STRUCTURAL SLABS.....1" CLEAR AT TOP AND BOTTOM

10. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.

11. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, EQUIPMENT PADS, ETC., SHALL BE FORMED WITH 3/4" CHAMFER, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.

12. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.

13. CONDUIT OR PIPE SIZE (O.D.) THAT IS BURIED IN ANY CONCRETE SLABS SHALL NOT EXCEED 25 PERCENT OF SLAB THICKNESS AND SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATIONS OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED.

14. DO NOT USE CONCRETE ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS.

15. ALL ROUGHENED SURFACES IN CONCRETE SHALL BE MADE WITH A MINIMUM AMPLITUDE OF 1/4".

18. READY-MIX CONCRETE SUPPLIER SHALL INCLUDE WATER REDUCER, RETARDER, SUPERPLASTICIZER AND/OR OTHER CONCRETE ADMIXTURES TO ACHIEVE THE SPECIFICATION AND WORKABILITY AT THE JOB SITE.

19. CONTRACTOR AND READY-MIX CONCRETE SUPPLIER SHALL FOLLOW THE ADMIXTURE MANUFACTURERS' RECOMMENDATIONS FOR MIXING, DOSAGE, HANDLING, PROCESSING OF THE ADMIXTURES, AND FRESH CONCRETE.

REINFORCING STEEL NOTES

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-19), THE CRSI "MANUAL OF STANDARD PRACTICE," AND THE "ACI DETAILING MANUAL (SP-66) AS MODIFIED BY THE PROJECT DRAWINGS AND SPECIFICATIONS.

2. REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60 REQUIREMENTS. #4 AND SMALLER BARS MAY BE GRADE 40.

3. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS ARE TO BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.

4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

5. REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS.

6. DOWELS BETWEEN FOOTING AND WALL OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING, AND NUMBER AS THE VERTICAL REINFORCING RESPECTIVELY, U.O.N.

7. WELDING OF REINFORCING STEEL IS NOT PERMITTED UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

8. CONTRACTOR SHALL SUBMIT REINFORCING BAR LAYOUTS AND DETAILS FOR ARCHITECT'S REVIEW PRIOR TO FABRICATION. FABRICATE FROM REVIEWED DRAWINGS ONLY.

9. REINFORCING BARS SHALL BE AS LONG AS PRACTICABLE AND AS DETAILED AND SHALL BE LAPPED AT SPLICES AND CORNERS NOT LESS THAN 32 BAR DIAMETER (24" MINIMUM), UNLESS OTHERWISE SHOWN. STAGGER HORIZONTAL WALL BAR SPLICES. IN GENERAL, BAR SPLICES SHALL BE MADE AT POINTS OF MINIMUM STRESS. IN BEAMS AND SLABS, SPLICE TOP BARS AT MID-SPAN, BOTTOM BARS OVER SUPPORTS, UNLESS OTHERWISE SHOWN.

10. EMBEDDED METAL COMPONENTS MADE UP OF ALLOYS THAT ARE DIS-SIMILAR TO THAT OF THE REINFORCING STEEL SHALL NOT BE ATTACHED DIRECTLY TO REINFORCING. MEASURES SHALL BE TAKEN TO ELECTRICALLY ISOLATE SAID COMPONENTS FROM ANY REINFORCING TO PREVENT CATHODIC EFFECTS.

11. REINFORCING STEEL PLACED BELOW THE WATER TABLE SHALL BE EPOXY COATED PER ASTM A775. ANY DAMAGES OR DEFFECTS OF EPOXY COATING SHALL BE REPAIRED WITH PATCHING MATERIAL PER MANUFACTURER'S INSTRUCTIONS. BARS WITH MORE THAN 1% DAMAGED AREA PER FOOT SHALL BE DISCARDED.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

STRUCTURAL GENERAL NOTES

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. S-001
CHIEF ENGINEER:	

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State of Hawaii
Civil Engineer

JOB NO.: F14C728D SHEET NO. 99 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/06/2026 9:06 am
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WOOD NOTES

1. ALL NEW FRAMING LUMBER SHALL BE DOUGLAS FIR, GRADED BY WCLIB, AS FOLLOWS:

TRUSS MEMBERS	NO. 2 MIN.
JOISTS (2" WIDE)	NO. 1
BEAM (GREATER THAN 2" WIDE)	SELECT STRUCT.
POSTS	NO. 1
STUDS	NO. 2

2. SPECIE AND GRADES NOTED ABOVE ARE THE MINIMUM REQUIRED: REFER TO PROJECT SPECIFICATIONS OR ARCHITECTURAL DRAWINGS FOR TIMBERS EXPOSED TO VIEW, ELEMENTS, ETC.

3. MINIMUM NAILING SHALL COMPLY WITH TABLE 2304.10.2 OF THE I.B.C. U.O.N. ON THE PLANS. ALL NAILS SHALL BE HOT DIPPED GALVANIZED COMMON NAILS U.O.N.

EQUIVALENT FACTOR MULTIPLIER BTW NAIL TYPES

COMMON WIRE NAIL				BOX NAIL				GUN NAIL			
SIZE	DIA.	LENGTH	EQ. FAC.	SIZE	DIA.	LENGTH	EQ. FAC.	SIZE	DIA.	LENGTH	EQ. FAC.
6d	0.120"	2"	1	6d	0.099"	2"	1.5 X	6d	0.113"	2"	1.2 X
8d	0.134"	2.5"	1	8d	0.113"	2.5"	1.4 X	8d	0.113" 0.131"	2.5" 2.5"	1.4 X 1.0 X
10d	0.148"	3"	1	10d	0.128"	3"	1.4 X	10d	0.120" 0.131"	3" 3"	1.6 X 1.3 X
12d	0.148"	3.25"	1	12d	0.128"	3.25"	1.4 X	12d	0.131"	3.25"	1.3 X
16d	0.162"	3.5"	1	16d	0.135"	3.5"	1.5 X	16d	0.131"	3.25"	1.6 X

* WHEN SUBSTITUTING COMMON WIRE NAIL FOR BOX OR GUN NAILS, MULTIPLY THE REQUIRED NUMBER OF COMMON NAILS BY THE EQUIVALENT FACTOR OF THE NAIL TYPE TO DETERMINE THE NUMBER OF NAIL NEEDED.

** GUN NAILS IN TRUE COMMON WIRE NAIL SIZES ARE AVAILABLE AT HUBHASIT.COM / INFO@HUBHASIT.COM

4. ALL BOLTS SHALL BE GALV. U.O.N. BOLT HOLES SHALL BE A MAX. OF 1/16" LARGER DIAMETER THAN NOMINAL SIZE OF BOLT USED. RE-TIGHTEN ALL NUTS PRIOR TO CLOSING IN. STANDARD GALV. U.O.N. CUT WASHERS SHALL BE USED UNDER BOLT HEADS AND NUTS AGAINST WOOD. ALL WOOD FRAMING SCREWS SHALL BE HOT DIPPED GALVANIZED OR BETTER RATED FOR EXTERIOR EXPOSURE. USE PROPER DRIVE HEAD WITH MINIMUM 2" EMBEDMENT INTO THE MAIN MEMBER, UNLESS NOTED OTHERWISE.

5. DO NOT BORE OR NOTCH JOISTS, RAFTERS OR BEAMS, EXCEPT WHERE SHOWN IN DETAILS. OBTAIN ARCHITECT'S APPROVAL FOR ANY HOLES OR NOTCHES NOT DETAILED.

6. ALL CONNECTOR REFERENCES AND FRAMING HARDWARE SHALL BE SIMPSON "STRONG TIE" CONNECTORS OR APPROVED STRUCTURAL EQUIVALENT. ALL CONNECTORS SHALL BE HOT-DIP GALV. U.O.N. WITH GALV. NAILS, WHEN AVAILABLE FROM MANUFACTURER. CONNECTOR HARDWARE THAT IS NOT AVAILABLE IN GALV. SHALL BE GALVANIZED IF AVAILABLE, OR HAVE SIMPSON ZMAX FINISH. HARDWARE SHALL BE INSTALLED WITH NAILS OR BOLTS AS INDICATED IN THE MANUFACTURER'S CATALOG. WHERE NAIL HOLES AND BOLT HOLES HAVE BEEN PROVIDED, USE NAILS UNLESS OTHERWISE NOTED.

7. STAINLESS STEEL CONNECTORS AND FASTENERS SHALL BE GRADE 316L.

8. STAINLESS STEEL NAILS SHALL BE RING SHANK.

9. STAINLESS STEEL FASTENER SHALL BE USED WITH STAINLESS STEEL HARDWARE. THE USE OF GALVANIZED FASTENERS WITH STAINLESS STEEL HARDWARE IS PROHIBITED.

10. ALL WOOD AND PLYWOOD PRODUCTS SHALL BE PRESSURE-PRESERVATIVE-TREATED.

11. WOOD GLUE: APA AFG-01 WATERPROOF, WATERBASE, AIR CURE TYPE.

12. GLU-LAMINATED MEMBERS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE UNIT STRESSES:

	GLB	/ ROSBORO BIG BEAM
EXTREME FIBER IN BENDING	2400 PSI	3000 PSI
HORIZONTAL SHEAR	165 PSI	300 PSI
COMPRESSION PERPENDICULAR TO GRAIN	450 PSI	650 PSI
MODULUS OF ELASTICITY	1,800,000 PSI	2,100,000 PSI

13. INSTALL 40# FELT BETWEEN ALL WOOD MEMBERS AND CONCRETE.

14. FOR JOISTS UNDER 12' LONG, NO BLOCKING IS REQUIRED. FOR JOISTS BETWEEN 12' AND 16' LONG, 1 ROW OF BLOCKING AT THE MIDPOINT IS REQUIRED. FOR JOISTS OVER 16' LONG, 2 ROWS OF BLOCKING IS REQUIRED AT THIRD POINTS.

PREFABRICATED WOOD TRUSS NOTES

1. PREFABRICATED WOOD TRUSSES SHALL CONFORM TO THE "DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES" AS ADOPTED BY THE TRUSS PLATE INSTITUTE.

2. CONNECTOR PLATES SHALL BE PRIME COMMERCIAL QUALITY GALVANIZED STEEL SHEETS NO LESS THAN 20 GAGE

3. ALL TRUSSES SHALL SATISFY STRESS AND DEFLECTION REQUIREMENTS. ALLOWABLE TOTAL LOAD DEFLECTON SHALL BE SPAN/240, BUT NOT MORE THAN 1".

4. WEB CONFIGURATION SHOWN ON ELEVATIONS ARE SCHEMATIC ONLY. TRUSS WEBS LESS THAN 7'-9" SHALL BE DESIGNED WITHOUT INTERIOR BRACE.

5. UNLESS NOTED OTHERWISE, ALL TRUSS TOP CHORDS SHALL BE ASSUMED TO BE 2x6. TRUSS FABRICATOR/DESIGNER SHALL VERIFY ADEQUACY OF THIS ASSUMPTION. ALL WEBS AND BOTTOM CHORDS SHALL BE AS REQUIRED TO SATISFY STRESS AND DEFLECTION CRITERIA. TRUSS FABRICATOR/DESIGNER SHALL VERIFY ALL TRUSS SIZES, DIMENSIONS AND RAFTER SLOPES WITH ARCHITECTURAL DRAWINGS.

6. TRUSS MANUFACTURER SHALL FOLLOW TRUSS LAYOUT PLANS AS SHOWN IN THESE STRUCTURAL DRAWINGS. DEVIATIONS FROM THE ILLUSTRATED LAYOUT WILL NOT BE ACCEPTED.

7. SUBMITTAL:
   A. LAYOUT PLAN FOR TRUSSES WITH PROPER DESIGNATIONS THAT IDENTIFY TRUSSES ON LAYOUT PLAN WITH SUBMITTED CALCULATIONS.
   B. FABRICATION AND ERECTION DRAWINGS SHOWING ALL MEMBER SIZES, CONNECTOR PLATES, PLATE DIMENSIONS, BRACING, AND CAPACITIES.
   C. DESIGN CALCULATIONS, STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF HAWAII.
   D. ALL SUBMITTALS SHALL BE REVIEWED PRIOR TO STARTING FABRICATION.

8. TRUSS MANUFACTURER SHALL BE FULLY RESPONSIBLE FOR THE DESIGN, FABRICATION AND SUPPLY OF ALL TRUSSES, AND TRUSS-TO-TRUSS CONNECTIONS.

9. FOR ADDITIONAL CORROSION PROTECTION, ALL TRUSS CONNECTOR PLATES SHALL BE SHOP PAINTED WITH ONE COAT OF HIGH ZINC PRIMER AND ONE COAT OF HIGH PERFORMANCE EPOXY PAINT.

SPECIAL INSPECTION NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK, AS REQUIRED BY THE BUILDING CODE OF THE COUNTY OF HAWAII, BE MADE AT THE APPROPRIATE TIME. THE CONTRACTOR MUST COORDINATE, SCHEDULE, AND FACILITATE THE WORK OF THE SPECIAL INSPECTOR; AND ENSURE THE SPECIAL INSPECTION WORK IS COMPLETED WHEN REQUIRED. CONTRACTOR MUST GIVE THE SPECIAL INSPECTOR A MINIMUM OF 48 HOUR WORKING DAY NOTICE OF WHEN AND WHERE THE SPECIAL INSPECTION IS REQUIRED. CONTRACTOR MUST PROVIDE ACCESS FOR THE SPECIAL INSPECTOR, INCLUDING LADDERS, SCAFFOLDING, FALL PROTECTION, MAN LIFT, ETC. CONTRACTOR MUST CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE CONTRACTING OFFICER, AND PAY FOR RE-INSPECTION BY SPECIAL INSPECTOR.

2. THE FOLLOWING IS A SUMMARY OF THE SPECIAL INSPECTION REQUIREMENTS:

INSPECTION OF WOOD TRUSS FABRICATORS	YES, PER IBC 1705.5.2
CONCRETE REINFORCING STEEL & FORMWORK	YES, PER IBC TABLE 1705.3
ANCHOR BOLTS (RODS) IN CONCRETE	YES, PER IBC TABLE 1705.3
CONCRETE POUR	YES, PER IBC TABLE 1705.3
CONCRETE CYLINDER TEST	YES, PER IBC TABLE 1705.3
WOOD CONSTRUCTION	NO, NO HIGH LOAD DIAPHRAGMS USED IN DESIGN
SEISMIC RESISTANCE	YES, PER IBC 1705.13
- SHEAR WALLS	PERIODIC
PERIODIC SPECIAL CASES:	YES, EPOXY ANCHORS & DOWELS

ABBREVIATIONS

A.B.	ANCHOR BOLT	MAX	MAXIMUM
ALT.	ALTERNATE	M.B.	MACHINE BOLT
APPROX.	APPROXIMATE	MECH.	MECHANICAL
ARCH.	ARCHITECTURAL	MIN.	MINIMUM
(B)	BOTTOM (REINFORCEMENT)	MISC.	MISCELLANEOUS
BLDG.	BUILDING	N.I.C.	NOT IN CONTRACT
BM.	BEAM	NO. OR #	NUMBER
B.O.F.	BOTTOM OF FOOTING	N.T.S.	NOT TO SCALE
BOT.	BOTTOM	O.C.	ON CENTER
C.I.P.	CAST-IN-PLACE	O.D.	OUTSIDE DIAMETER (DIMENSION)
CL.	CENTERLINE	O.F.	OUTSIDE FACE
CLR.	CLEAR(ANCE)	O.H.	OPPOSITE HAND
CMU	CONCRETE MASONRY UNIT	OPNG.	OPENING
COL.	COLUMN	OPP.	OPPOSITE
CONC.	CONCRETE	PJP	PARTIAL JOINT PENTRATION
CONN.	CONNECTION	PL.	PLATE
CJP	COMPLETE JOINT PENETRATION	PLWD.	PLYWOOD
CONSTR.	CONSTRUCTION	PREFAB.	PREFABRICATION/PREFABRICATED
CONT.	CONTINUOUS	PT.	POINT
CRM	CUT ROCK MASONRY	REF.	REFERENCE
DBL.	DOUBLE	R.O.	ROUGH OPENING
DET.	DETAIL	R.	RADIUS
DIA.	DIAMETER	REINF.	REINFORCEMENT
DIM.	DIMENSION	REQ.	REQUIRED/REQUIREMENT(S)
DWG.	DRAWING	SCHED.	SCHEDULE
EA.	EACH	SECT.	SECTION
E.F.	EACH FACE	SHT.	SHEET
E.J.	EXPANSION JOINT	SIM.	SIMILAR
EL.	ELEVATION	SL.	SLOPE
EQ.	EQUAL	S.O.G.	SLAB-ON-GRADE
EQUIPT.	EQUIPMENT	SPEC.	SPECIFICATION
E.S.	EACH SIDE	SQ.	SQUARE
E.W.	EACH WAY	SST.	STAINLESS STEEL
EXP.	EXPANSION	STD.	STANDARD
EXT.	EXTERIOR	STIFF.	STIFFENER
EXIST.	EXISTING	STRUCT.	STRUCTURAL
FDTN.	FOUNDATION	SYM.	SYMBOL
FLR.	FLOOR	(T)	TOP (REINFORCEMENT)
F.O.P.	FACE OF CONCRETE	T & B	TOP AND BOTTOM
FIN.	FINISH	T & G	TONGUE AND GROOVE
FIN. FLR.	FINISH FLOOR	THRU	THROUGH
FT.	FOOT OR FEET	T.O.C.	TOP OF CURB
FTG.	FOOTING	T.O.F.	TOP OF FOOTING
GA.	GAUGE	T.O.S.	TOP OF SLAB, TOP OF STEEL
GALV.	GALVANIZED	T.O.W.	TOP OF WALL
(H)	HORIZONTAL (REINFORCEMENT)	TRANSV.	TRANSVERSE
HK.	HOOK	TYP.	TYPICAL
HORIZ.	HORIZONTAL	U.O.N.	UNLESS OTHERWISE NOTED
I.D.	INSIDE DIAMETER (DIMENSION)	VERT.	VERTICAL
INFO.	INFORMATION	W/	WITH
INT.	INTERIOR	WD.	WOOD
INTERM.	INTERMEDIATE	W.W.M.	WELDED WIRE MESH
JT.	JOINT	LLH.	LONG LEG HORIZONTAL
LLV.	LONG LEG VERTICAL		
LONG.	LONGITUDINAL	NOTE:	
		NOT ALL ABBREVIATIONS ARE NECESSARILY USED	

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

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SIGNATURE

CHIEF ENGINEER

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

STRUCTURAL GENERAL NOTES & ABBREVIATIONS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. S-002

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SHEET NO. 100 OF 143 SHEETS

05/06/2026 9:06 am
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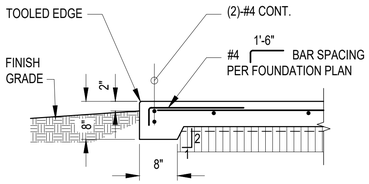
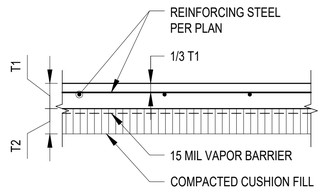
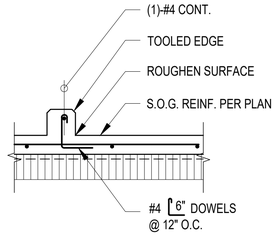
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



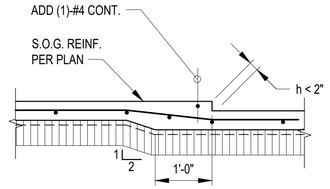
AT SLAB EDGE (TS-1)



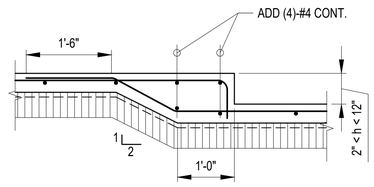
AT TYPICAL



AT CURB



AT DEPRESSED SLAB

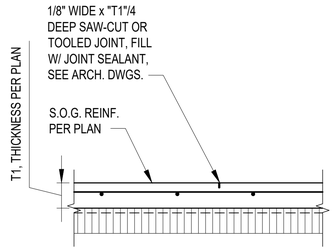


LOWERED
FROM 2" TO 12"

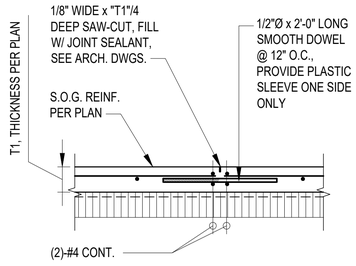
NOTES:
1. SLAB-ON-GRADE THICKNESS (T1) AS PER PLAN.
2. CUSHION FILL THICKNESS (T2) AS PER PLAN. CUSHION FILL SHALL BE #3 FINE GRAVEL (ASTM NO. 67 GRAVEL)

1 TYPICAL SLAB-ON-GRADE (S.O.G.) DETAILS

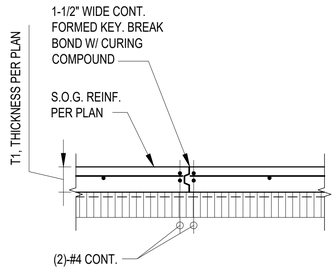
NO SCALE



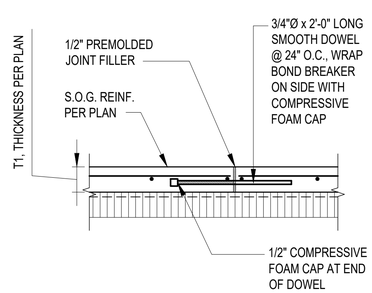
CRACK CONTROL JOINT (CCJ-1)



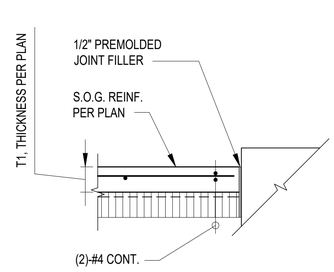
CRACK CONTROL JOINT (CCJ-2)



CRACK CONTROL JOINT (CCJ-3)



EXPANSION JOINT (EJ)

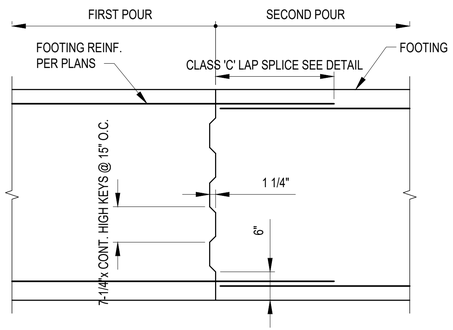


ISOLATION JOINT (IJ)

NOTES:
1. CONTROL JOINTS TO BE LOCATED AT COLUMN CENTER LINES AND MAXIMUM OF 24 TIMES SLAB THICKNESS (I.E. 4" SLAB = 8'-0" O.C., 6" SLAB = 12'-0" O.C.) REFER TO PLANS FOR LOCATIONS.
2. IF SAW-CUT CONTROL JOINT ARE TO BE USED, SAW-CUT WITHIN 24 HOURS OF POUR.
3. CONSTRUCTION JOINTS TO BE LOCATED AS PER NOTES #1 AND #2 UNLESS SPECIFICALLY INDICATED ON PLANS.

2 TYPICAL SLAB & CONSTRUCTION JOINTS DETAIL

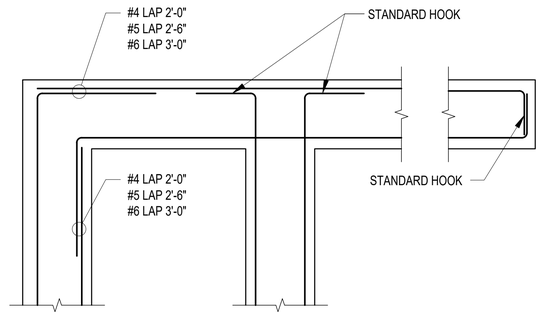
NO SCALE



NOTES:
WELDED SPLICES REQUIRED FOR #14 AND LARGER BARS. WHERE CONTINUOUS FOOTING IS UNDER A WALL, LOCATE CONSTRUCTION JOINT AT 1/4 OF THE CLEAR OPENING WIDTH ABOVE FROM FACE OF OPENING, OR IN MIDDLE 1/3 OF THE DISTANCE BETWEEN COLUMNS

5 CONT. FOOTING CONSTR. JOINT

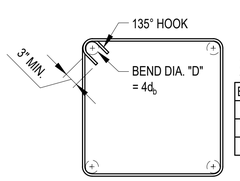
NO SCALE



AT CORNER AT INTERSECTION AT ENDS

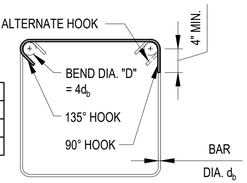
4 TYP. FOOTING REINF. DETAIL

NO SCALE

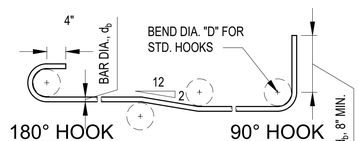


TIES & STIRRUPS

BAR SIZE	'D'
#3	1-1/2"
#4	2"
#5	2-1/2"



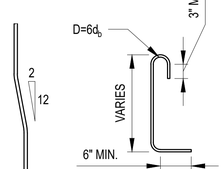
1-PIECE CLOSED HOOP ALTERNATE 2-PIECE HOOP



180° HOOK 90° HOOK

BAR SIZE	'D'
#3 THRU #8	$6d_b$
#9 THRU #11	$8d_b$
#14 THRU #18	$10d_b$

STANDARD HOOKS



TYPICAL COLUMN BAR OFFSET

#3 or #4 VERT. DOWEL

3 TYP. REINF. BENDING DETAIL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

TYPICAL FOUNDATION DETAILS

ENGINEERING PARTNERS, INC

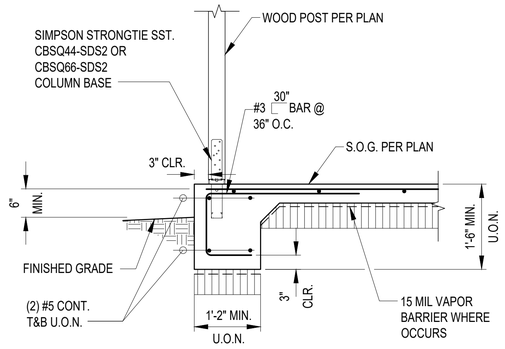
DESIGNED: ST		SUBMITTED:	
DRAWN: ZR / ST		DATE:	
CHECKED: MAF		SCALE: AS NOTED	
APPROVED: YWI	Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO.	S-003
CHIEF ENGINEER			

JOB NO.: F14C728D

SHEET NO. 101 OF 143 SHEETS

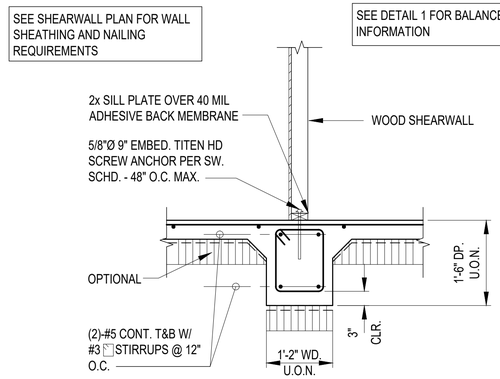
05/06/2026 9:07 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



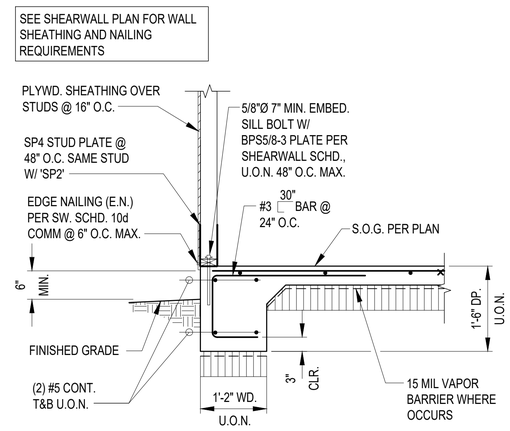
6 WOOD POST TO SLAB @ WF-1

NO SCALE



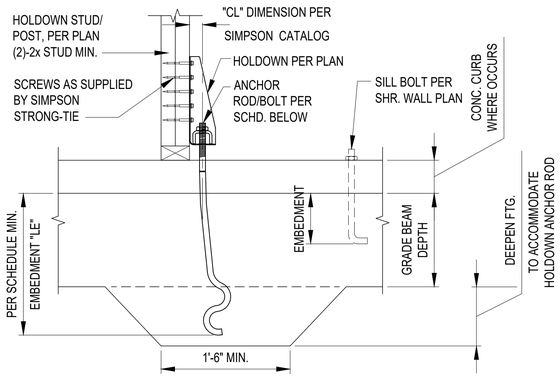
3 INTERIOR SHEAR WALL FTG. (WF-2)

NO SCALE



1 STUD WALL FTG. @ GRADE (WF-1)

NO SCALE



SIMPSON HOLDOWN SCHEDULE PER SIMPSON STRONG-TIE COMPANY INC. CATALOG.						
MARK	NAME	SDS SCREWS	ANCHOR ROD Ø	HOLDDOWN ANCHOR ROD	EFFECT. EMBED.	ANCHOR STUD
H3	HDUE3	(7) ½X3 SDS	⅝	SEE SHEAR WALL SCHEDULE		
H5	HDUE5	(10) ½X3 SDS	⅝			
H7	HDUE7	(13) ½X3 SDS	⅝			
H9	HDUE9	(16) ½X3 SDS	⅞			
H13	HDUE13	(23) ½X3 SDS	1			
H17	HDUE17	(28) ½X3 SDS	1			

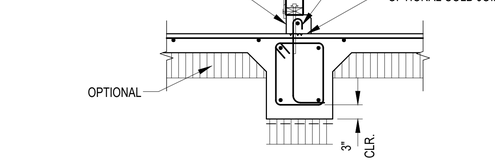
NOTES:

1. 1-INCH OR LARGER DIA. ANCHOR RODS SHALL CONFORM TO ASTM F-1554, GRADE 36 ANCHOR ROD SHALL BE FULL THREADED ROD WITH TWO (2) NUTS AND 2.5"x2.5"x3/8" PLATE WASHER AT THE EMBEDMENT END.

2. TO PROPERLY LOCATE HOLDOWN ANCHOR RODS/BOLTS, THE CONTRACTOR SHALL CHECK STRUCTURAL FRAMING AND LOCATION OF ARCHITECTURAL OPENINGS BEFORE PLACING BOLTS. PLACE ANCHORS ON THE OUTSIDE ENDS OF THE PANELS WHERE POSSIBLE. USE PLATE WASHERS TYP.

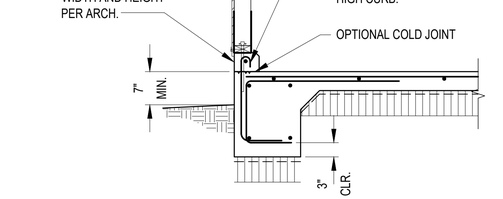
7 HOLDOWN DETAIL

NO SCALE



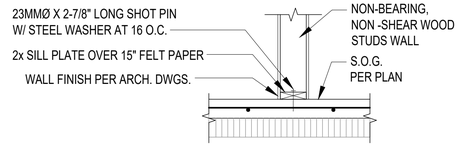
4 INTERIOR SHEAR WALL FTG. W/ CURB (WF-2A)

NO SCALE



2 STUD WALL FTG. W/ CURB (WF-1A)

NO SCALE



5 INTERIOR NON-BEARING WALL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

FOUNDATION DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. S-004
CHIEF ENGINEER:	

Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

JOB NO.: F14C728D

SHEET NO. 102 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

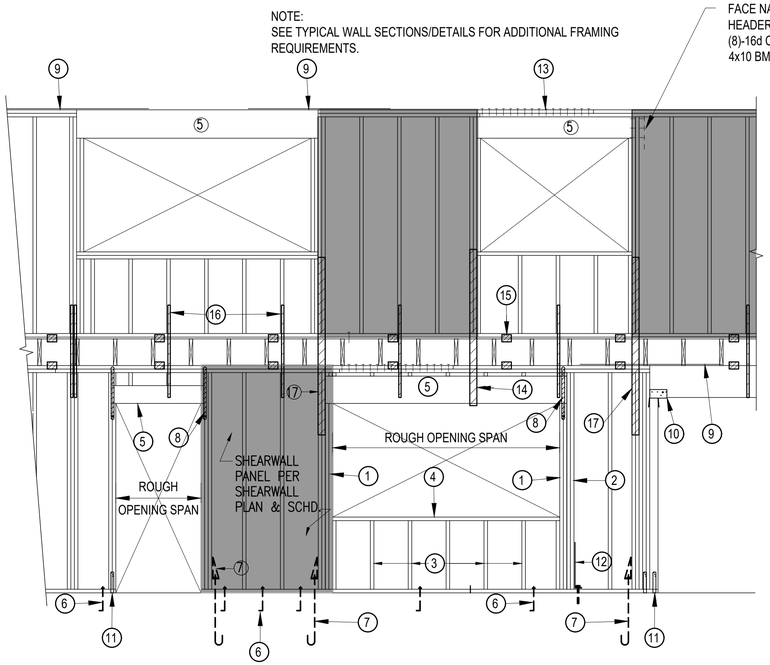
05/06/2026 9:08 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

TYP. UPPER EXT. WALL OPENING FRAMING SCHEDULE					
ROUGH OPENING SPAN	UPPER FLOOR HEADER BEAM SIZE (U.N.O.) (5)	TRIMMER STUD SIZE (1)	KING STUD (2)	WINDOW SILL (4)	ANCHOR STRAP (8)
4'-0" & LESS	4x6 D.F. #2 MIN.	(1) 2x C.G.	(1) 2x	(1) 2x DF#2	CS18x1'-8"
6'-0" & LESS	4x6 D.F. #1 MIN.	(2) 2x C.G.	(1) 2x	(1) 2x DF#2	CS18x1'-8"
8'-0" & LESS	4x8 D.F. #1 MIN.	(2) 2x C.G.	(1) 2x	(2) 2x DF#1	(2) CS18x1'-8"
10'-0" & LESS	CHECK W/ ARCH. OR S.E.	(2) 2x C.G.	(2) 2x	(3) 2x DF#1	(2) CS18x1'-8"
12'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F.#2	(2) 2x	SP. DESIGN REQUIRED	(2) CS18x1'-8"
14'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F.#2	(3) 2x	SP. DESIGN REQUIRED	(2) MSTC 28
16'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x6 D.F.#2	(3) 2x	SP. DESIGN REQUIRED	(2) MSTC 28

NOTES:
THE HEADER BEAM SIZE SHOWN ON THE FRAMING PLAN SHALL TAKE PRECEDENT OF THE SCHEDULE ABOVE. USE THE BEAM SIZE IN THIS SCHEDULE ONLY WHEN THERE IS NO BEAM SIZE SHOWN ON THE FRAMING PLAN.
D.F. #1= DOUGLAS FIR NO. 1 OR BETTER
C.G.= CONSTRUCTION GRADE
CS18= SIMPSON COIL STRAP, 18 GA. , WRAP OVER TOP OF TOP PLATES
LTP4= SIMPSON LTP4 FRAMING PLATE
USE 2x6 STUD AND 6x6 POST WHEN STUD FRAMING IS 2x6

TYP. LOWER EXT. WALL OPENING FRAMING SCHEDULE				
ROUGH OPENING SPAN	LOWER FLOOR HEADER BEAM SIZE (U.N.O.) (5)	TRIMMER STUD SIZE (1)	KING STUD (2)	ANCHOR STRAP (8)
4'-0" & LESS	4x6 D.F. #2 MIN.	(1) 2x CONSTR. GR.	(1) 2x	CS18x1'-8"
6'-0" & LESS	4x6 D.F. #1 MIN.	(2) 2x CONSTR. GR.	(1) 2x	CS18x1'-8"
8'-0" & LESS	4x8 D.F. #1 MIN.	4x4 D.F. No. 2	(1) 2x	(2) CS18x1'-8"
10'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F. No. 2	(2) 2x	(2) CS18x1'-8"
12'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F. No. 2	(2) 2x	(2) CS18x1'-8"
14'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F. No. 2	(3) 2x	(2) MSTC 28
16'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x6 D.F. No. 2	(3) 2x	(2) MSTC 28

NOTES:
THE HEADER BEAM SIZE SHOWN ON THE FRAMING PLAN SHALL TAKE PRECEDENT OF THE SCHEDULE ABOVE. USE THE BEAM SIZE IN THIS SCHEDULE ONLY WHEN THERE IS NO BEAM SIZE SHOWN ON THE FRAMING PLAN.
D.F. #1= DOUGLAS FIR NO. 1 OR BETTER
C.G.= CONSTRUCTION GRADE
CS18= SIMPSON COIL STRAP, 18 GA. , WRAP OVER TOP OF TOP PLATES
LTP4= SIMPSON LTP4 FRAMING PLATE
USE 2x6 STUD AND 6x6 POST WHEN STUD FRAMING IS 2x6



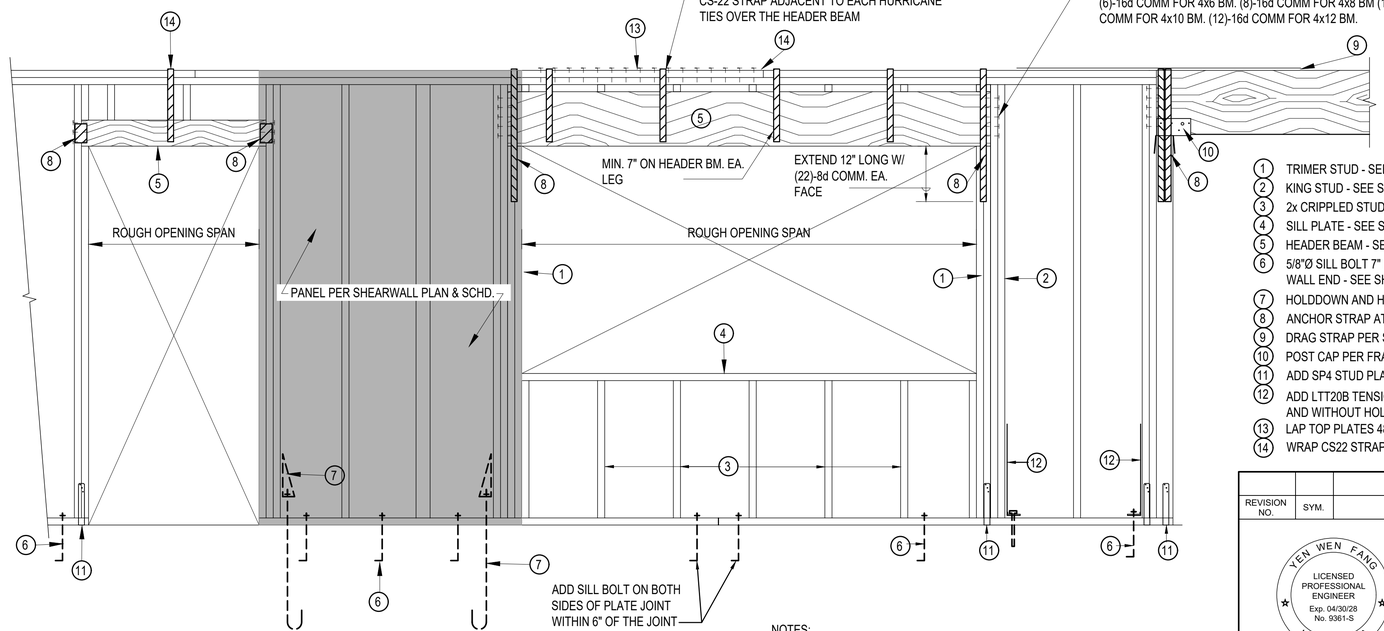
1 TRIMER STUD - SEE SCHD. FOR SIZE
2 KING STUD - SEE SCHD. FOR SIZE
3 2x CRIPPLED STUD AT 16" O.C.
4 SILL PLATE - SEE SCHD FOR SIZE
5 HEADER BEAM - SEE SCHD. FOR SIZE
6 5/8"Ø SILL BOLT 7" MIN. EMBEDMENT AT 48" O.C. MAX. LOCATE WITHIN 12" OF WALL END - SEE SHEARWALL SCHD. FOR MORE REQUIREMENTS
7 HOLDDOWN AND HOLDDOWN ROD PER SHEARWALL SCHD.
8 ANCHOR STRAP AT HEADER SUPPORT - SEE SCHD.
9 DRAG STRAP PER SHEARWALL PLAN - CS16x30" MIN.
10 POST CAP PER FRAMING PLAN, SIMPSON U.N.O.
11 ADD SP4 STUD PLATE AT OPENING
12 ADD LTT20B TENSION TIE AT OPENING LARGER THAN 6' WIDE AND WITHOUT HOLDDOWN ASSEMBLY
13 LAP TOP PLATES 48" LONG W/ 16-16d COMM. NAILS
14 PRE-BENT STRAP HOLDDOWN PER SHEARWALL PLAN
15 LTP4 FRAMING PLATE AS REQUIRED PER SHEARWALL SCHEDULE
16 CS18 COIL STRAP AT 48" O.C. AS FLOOR TO FLOOR TIE
17 HOLDDOWN STRAP PER SHEARWALL PLAN

1 TYP. TWO STORY EXT. WALL FRAMING AND WALL OPENING DETAIL

NO SCALE

TYP. EXT. WALL OPENING FRAMING SCHEDULE					
ROUGH OPENING SPAN	SINGLE STORY HEADER BEAM SIZE (U.N.O.) (5)	TRIMMER STUD SIZE (1)	KING STUD (2)	WINDOW SILL (4)	ANCHOR STRAP (8)
4'-0" & LESS	4x6 D.F. #2 MIN.	(1) 2x C.G.	(1) 2x	(1) 2x DF#2	LTP4 ONE FACE
6'-0" & LESS	4x6 D.F. #1 MIN.	(2) 2x C.G.	(1) 2x	(1) 2x DF#2	LTP4 ONE FACE
8'-0" & LESS	4x8 D.F. #1 MIN.	(2) 2x C.G.	(1) 2x	(2) 2x DF#1	LTP4 BOTH FACES
10'-0" & LESS	CHECK W/ ARCH. OR S.E.	(2) 2x C.G.	(2) 2x	(3) 2x DF#1	(1) CS18 STRAP WRAP OVER TOP
12'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F.#2	(2) 2x	SP. DESIGN REQUIRED	(1) CS18 STRAP WRAP OVER TOP
14'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x4 D.F.#2	(3) 2x	SP. DESIGN REQUIRED	(2) CS18 STRAP WRAP OVER TOP
16'-0" & LESS	CHECK W/ ARCH. OR S.E.	4x6 D.F.#2	(3) 2x	SP. DESIGN REQUIRED	(2) CS18 STRAP WRAP OVER TOP

NOTES:
THE HEADER BEAM SIZE SHOWN ON THE FRAMING PLAN SHALL TAKE PRECEDENT OF THE SCHEDULE ABOVE.
USE THE BEAM SIZE IN THIS SCHEDULE ONLY WHEN THERE IS NO BEAM SIZE SHOWN ON THE FRAMING PLAN.
D.F. #1= DOUGLAS FIR NO. 1 OR BETTER
C.G.= CONSTRUCTION GRADE
CS18= SIMPSON COIL STRAP, 18 GA. , WRAP OVER TOP OF TOP PLATES
LTP4= SIMPSON LTP4 FRAMING PLATE
USE 2x6 STUD AND 6x6 POST WHEN STUD FRAMING IS 2x6



1 TRIMER STUD - SEE SCHD. FOR SIZE
2 KING STUD - SEE SCHD. FOR SIZE
3 2x CRIPPLED STUD AT 16" O.C.
4 SILL PLATE - SEE SCHD FOR SIZE
5 HEADER BEAM - SEE SCHD. FOR SIZE
6 5/8"Ø SILL BOLT 7" MIN. EMBEDMENT AT 48" O.C. MAX. LOCATE WITHIN 12" OF WALL END - SEE SHEARWALL SCHD. FOR MORE REQUIREMENTS
7 HOLDDOWN AND HOLDDOWN ROD PER SHEARWALL SCHD.
8 ANCHOR STRAP AT HEADER SUPPORT - SEE SCHD.
9 DRAG STRAP PER SHEARWALL PLAN - CS16x30" MIN.
10 POST CAP PER FRAMING PLAN, SIMPSON U.N.O.
11 ADD SP4 STUD PLATE AT OPENING
12 ADD LTT20B TENSION TIE AT OPENING LARGER THAN 6' WIDE AND WITHOUT HOLDDOWN ASSEMBLY
13 LAP TOP PLATES 48" LONG W/ 16-16d COMM. NAILS
14 WRAP CS22 STRAP OVER TOP PLATE W/ MIN. (7)-10d TO BOTH FACES OF HEADER BEAM

NOTES:
STUD PLATE CONNECTORS (SP1, SP2, SP4....) AND HURRICANE TIES ARE NOT SHOWN FOR CLARITY. SEE OTHER DETAILS FOR BALANCE OF CONNECTORS TO COMPLETE LOAD PATH.

2 TYP. ONE STORY EXT. WALL FRAMING AND WALL OPENING DETAIL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

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SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

TYPICAL WALL FRAMING DETAILS

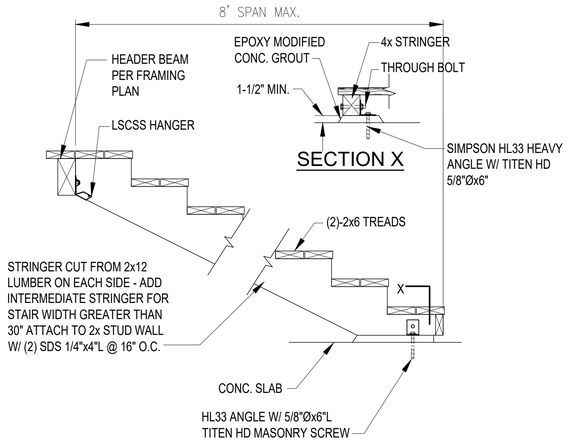
ENGINEERING PARTNERS, INC

DESIGNED: ST		SUBMITTED:	
DRAWN: ZR / ST		DATE:	
CHECKED: MAF		SCALE: AS NOTED	
APPROVED: YWF	Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO.	S-005
CHIEF ENGINEER			

JOB NO.: F14C728D SHEET NO. 103 OF 143 SHEETS

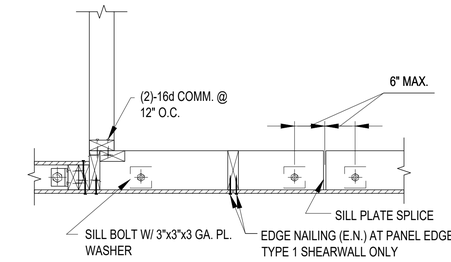
05/06/2026 9:08 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



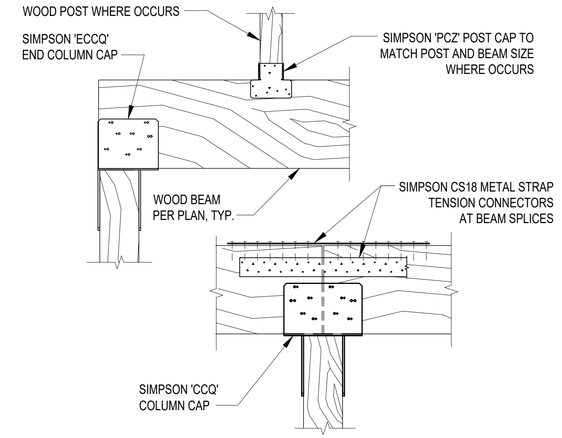
6 TYPICAL WOOD STAIR DETAIL

NO SCALE



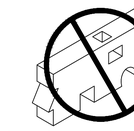
WIDTH CHANGE SILL PLATE JOINT

INTERIOR



2 TYP. WOOD BEAM TO WOOD POST

NO SCALE

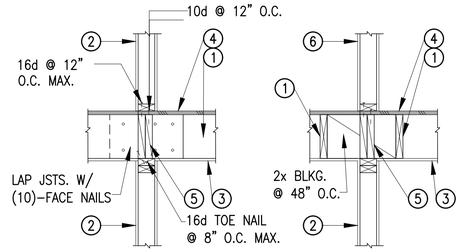


CUT ONLY ROUND HOLES AND ONLY IN ALLOWED HOLE ZONE.
RECTANGULAR HOLES ARE NOT ALLOWED.
MAXIMUM 2 HOLES ALLOWED AT CANTILEVER.
VERTICAL HOLES ARE NOT ALLOWED.

ROUND HOLE CHART

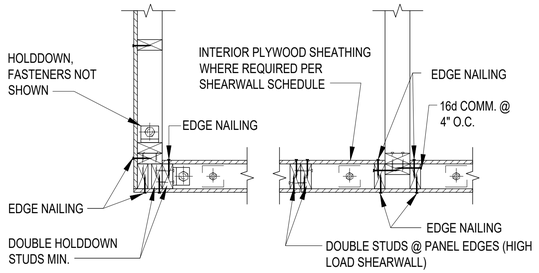
BEAM DEPTH	MAXIMUM ROUND HOLE SIZE
4 3/8"	1"
5 1/2"	1 3/4"
7 1/4" TO 20"	2"

SEE ILLUSTRATION FOR ALLOWED HOLE ZONE



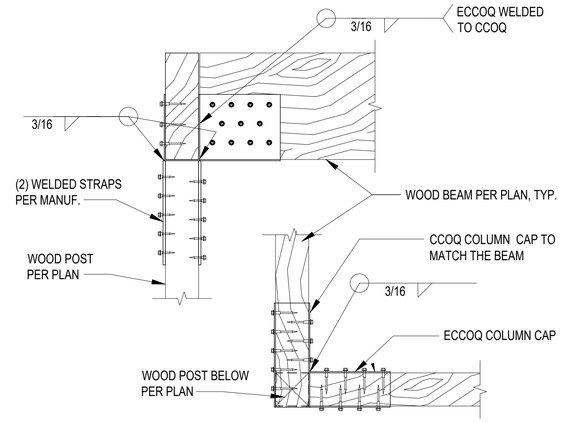
FLR. JST PERP. TO INT. NON-SHEAR, BEARING WALL

FLR. JST. PARALLEL TO INT. NON-SHEAR, BEARING WALL



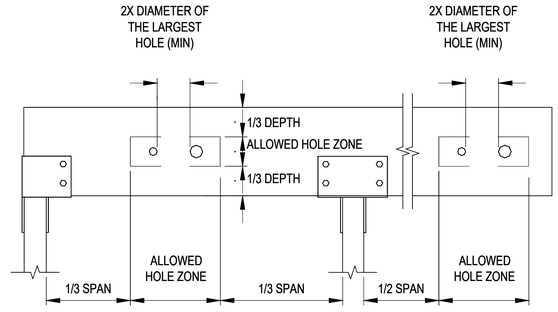
CORNER

TEE INTERSECTION
AT 2-SIDE SHEATHED SHEARWALL



3 TYP. 2-WAY BEAM TO WOOD POST

NO SCALE



1 ALLOWABLE HOLES DETAIL

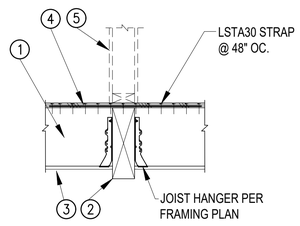
NO SCALE

NOTES:

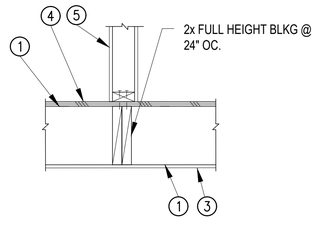
1. NOT ALL FASTENERS ARE SHOWN.
2. SILL BOLTS SHALL BE WITHIN 12" OF END OF SILL PLATE.
3. SEE SHEARWALL SCHEDULE FOR EDGE NAILING & FIELD NAILING REQUIREMENT

5 TYP. STUD WALL FRAMING DETAIL

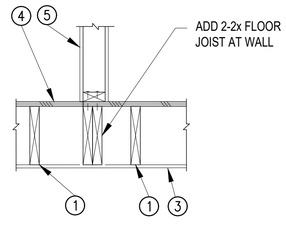
NO SCALE



FLOOR BEAM TO JOIST CONN.



NON-BEARING WALL PERP. TO FLR. JST.

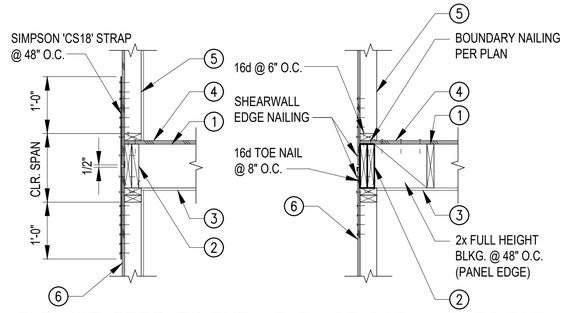


NON-BEARING WALL DIRECTLY OVER FLR. JST.

1. FLOOR JOIST, SIZE AND SPACING PER FRAMING PLAN FLOOR
2. BEAM, SIZE PER FRAMING PLAN
3. CEILING FINISH PER ARCH. DWGS.
4. PLYWOOD SUBFLOOR / SHEATHING, PER FRAMING PLAN
5. INTERIOR WALL ABOVE

8 INTERIOR PARTITION WALL ON WOOD FRAMED FLOOR DETAILS

NO SCALE



FLR. JST. PERP. TO EXT. SHEAR/BEARING WALL

FLR. JST. PARALLEL TO EXT. SHEAR/BEARING WALL

1. FLOOR JOIST, PER PLAN
2. RIM JOIST, SAME SIZE AS FLOOR JOIST.
3. CEILING FINISH
4. PLYWOOD SHEATHING PER PLAN
5. EXT. STUD WALL
6. PLYWOOD SHEATHING PER SHEAR WALL PLAN/SCHD.
7. DOUBLE FULL HEIGHT BLKG.

4 EXT. WALL TO FLR. JST. DETAIL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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Exp. 04/30/28
No. 9361-S
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SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

WALL FRAMING DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. S-006
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JOB NO.: F14C728D SHEET NO. 104 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/06/2026 9:06 am
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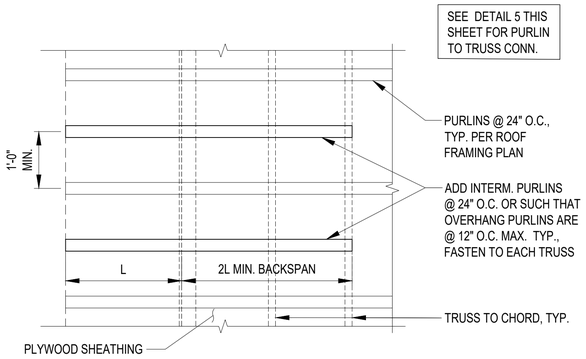
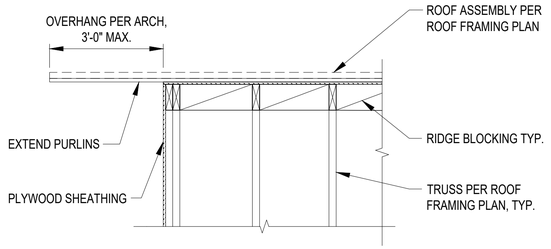


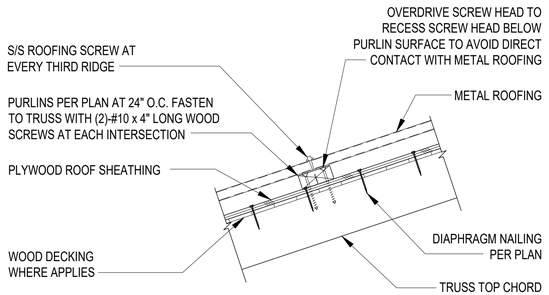
PLAN VIEW



SECTION VIEW

8 GABLE END OVERHANG DET. (3'-0" MAX)

NO SCALE

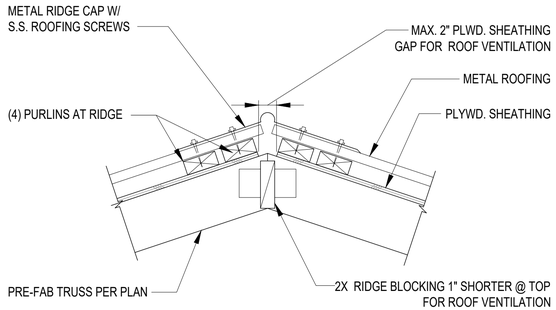


5 WOOD PURLIN TO TRUSS DETAIL

NO SCALE

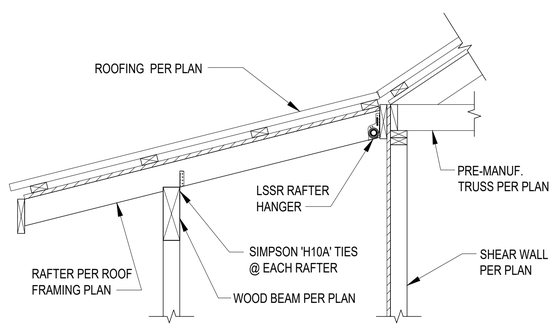
NOTE:

COORDINATE RIDGE VENTILATION WITH ARCH.



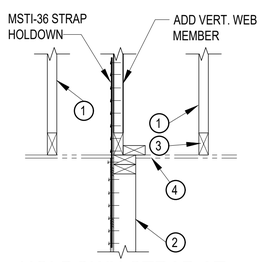
6 TYP. TRUSS AT RIDGE DETAIL

NO SCALE

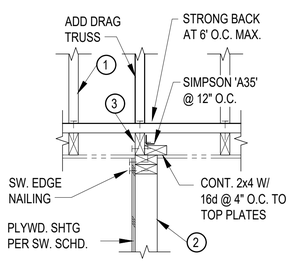


9 LEAN-TO-WALL RAFTER

NO SCALE

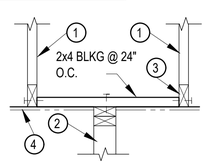


HOLDOWN STRAP AT SHEAR WALL



SHEAR WALL

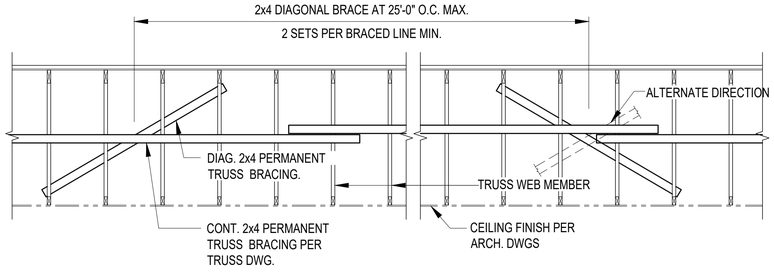
1. PRE-ENG. TRUSSES PER ROOF FRAMING PLAN
2. 2x INTERIOR STUD WALL PARALLEL TO TRUSSES
3. BOTTOM CHORD OF TRUSS
4. CEILING FINISH PER ARCH. DWG.



NON-SHEAR / NON-BEARING WALL

7 INT. WALL PARALLEL TO TRUSSES

NO SCALE

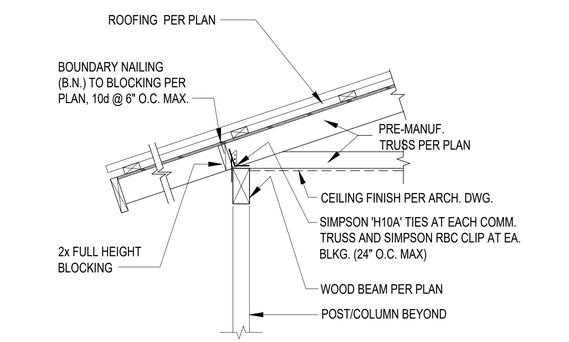


NOTES:

1. ALL PERMANENT AND TEMPORARY TRUSS BRACING SHALL BE INSTALLED AS SOON AS POSSIBLE DURING THE TRUSS ERECTION.
2. ALL BRACING MEMBERS SHALL BE NAILED TO INTERSECTING TRUSS WEB MEMBERS WITH 2-16d COMM. NAILS MIN.
3. CONTINUOUS HORIZONTAL BRACING AND DIAGONAL BRACING MAY BE NAILED TO OPPOSITE EDGE OF TRUSS WEB.
4. NOT ALL REQUIRED TRUSS BRACING ARE SHOWN.

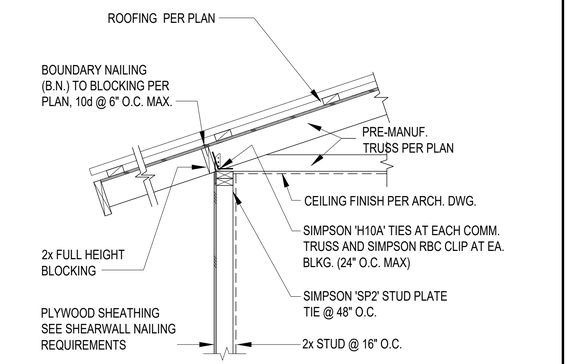
1 TRUSS BRACING DETAIL

NO SCALE



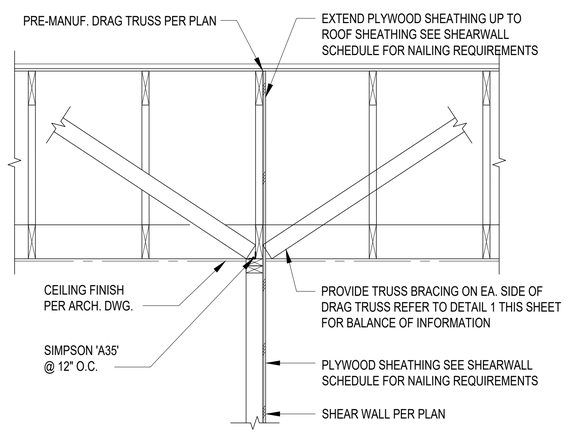
3 TYP. TRUSS TO BEAM DETAIL

NO SCALE



2 TYP. TRUSS TO WALL DETAIL

NO SCALE



4 DRAG TRUSS & TRUSS DETAIL

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

ROOF FRAMING DETAILS

ENGINEERING PARTNERS, INC

DESIGNED:	ST	SUBMITTED:	
DRAWN:	ZR / ST	DATE:	
CHECKED:	MAF	SCALE:	AS NOTED
APPROVED:	YWF	DRAWING NO.	S-007
CHIEF ENGINEER:			

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State of Hawaii
Civil Engineer

JOB NO.: F14C728D

SHEET NO. 105 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/06/2026 9:06 am
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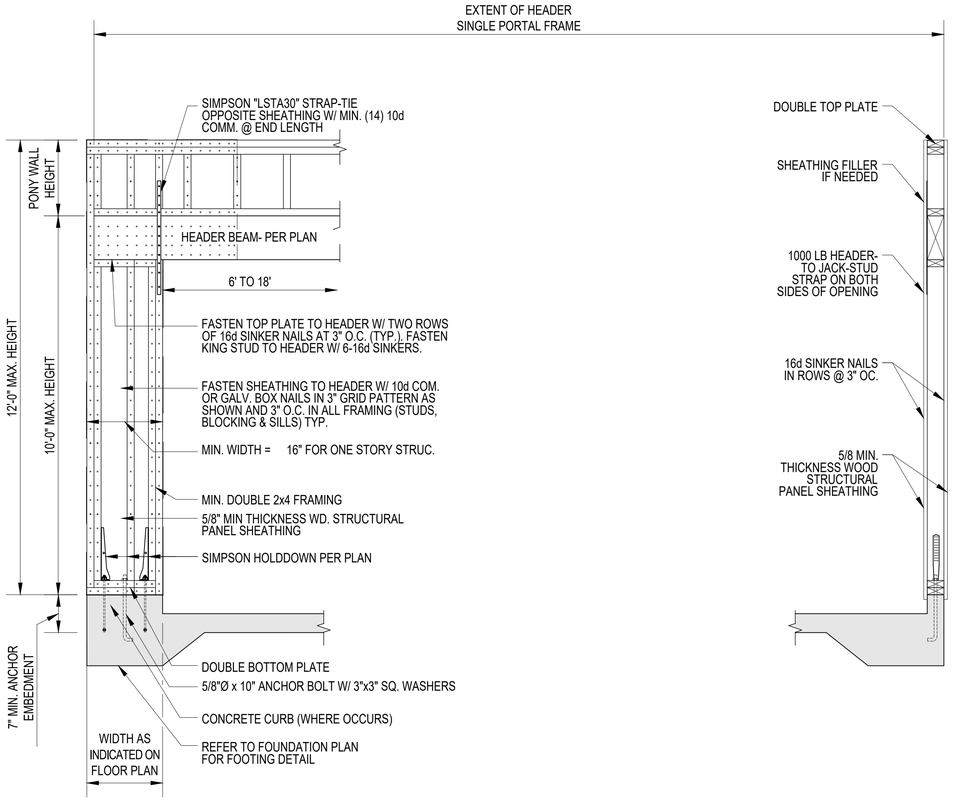
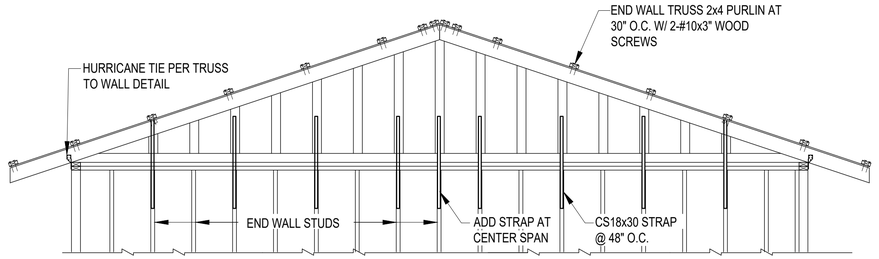


3 PORTAL FRAME W/ HOLD-DOWNS DETAIL

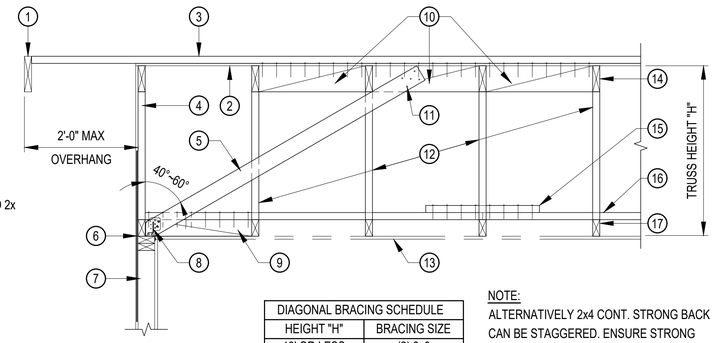
NO SCALE



1 END WALL FRAMING DETAIL

NO SCALE

1. FASCIA BOARD PER ARCH. DWGS.
2. PLYWOOD SHEATHING PER ROOF FRAMING PLAN
3. 2x4 FLAT PURLINS @ 24" O.C.
4. GABLE END WALL TRUSS
5. DIAGONAL BRACE @ 4'-0" O.C. SEE DIAGONAL BRACE SCHEDULE
6. CS18x36" LONG @ 48" O.C.
7. GABLE END STUD WALL
8. GBC BRACE CONNNECTOR ON EA. SIDE OF DIAGONAL BRACE
9. 2x BLKG. @ 4'-0" O.C. (ALIGN W/ STRONG BACK) W/ 12d COMM. @ 3" O.C. FROM STRONG BACK ABOVE
10. (3) 2x FULL HT. BLKG. W/ 10d COMM. @ 3" O.C. FROM PLYWOOD DOWN TO 2x BLKG. AND (3) 8d COMM. EA. END OF BLKG. TOE NAILED TO TRUSS TOP CHORD
11. (5) 12d COMM. FOR 2x4 BRACE OR (8) 12d COMM. FOR 2x6 BRACE
12. PRE-MANUF. TRUSSES PER ROOF FRAMING PLAN
13. CEILING FINISH PER ARCH. DWGS.
14. TRUSS TOP CHORD TYP.
15. 2x4 SPLICE x 2'-0" LONG MIN. W/ 12d COMM. @ 3" O.C.
16. 2x4 CONT. STRONG BACK @ 4'-0" O.C. (ALIGN W/ DIAGONAL BRACE) W/ (2) 12d COMM. INTO EACH TRUSS BOTTOM CHORD
17. TRUSS BOTTOM CHORD TYP.



DIAGONAL BRACING SCHEDULE	
HEIGHT "H"	BRACING SIZE
13' OR LESS	(2) 2x6
10' OR LESS	(2) 2x4
4'-6" OR LESS	2x4

NOTE:
ALTERNATIVELY 2x4 CONT. STRONG BACK CAN BE STAGGERED. ENSURE STRONG BACK IS LAPPED OVER TWO TRUSSES. ATTACH EACH STRONG BACK TO TRUSS BOTTOM CHORD W/ (2) 12d COMM.

NOTE:
SEE DET. 8/ S-007 IF OVERHANG EXCEEDS 2'-0".

2 GABLE ENDWALL BRACING

NO SCALE

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YEN WEN FANG
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Exp. 04/30/28
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ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

ROOF FRAMING DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. S-008
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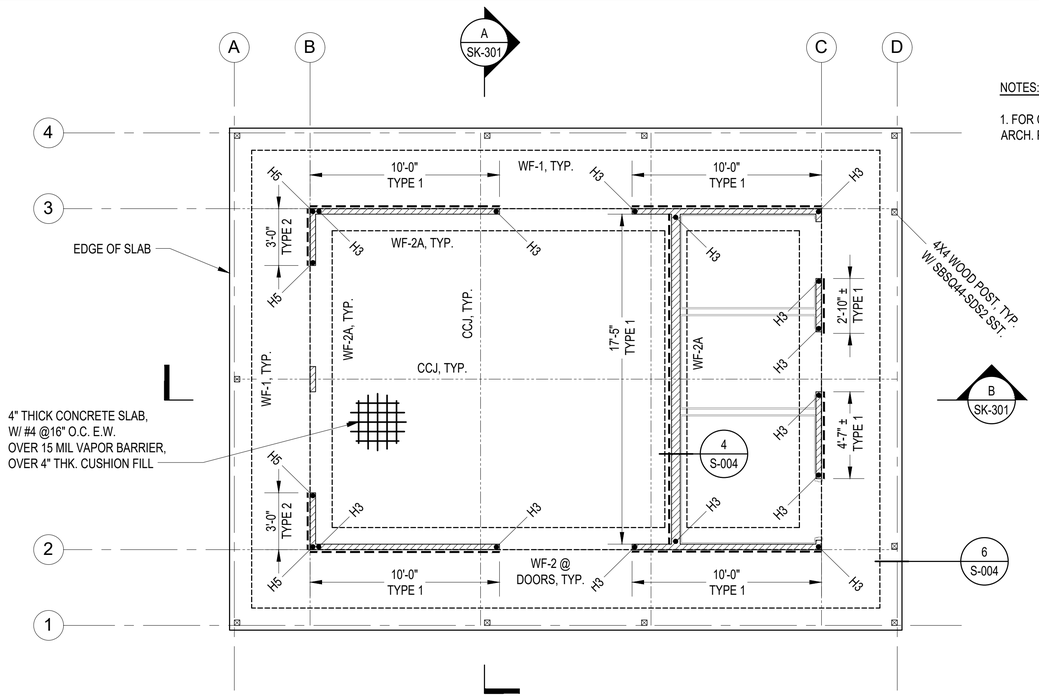
Civil Engineer

JOB NO.: F14C728D SHEET NO. 106 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/06/2026 9:08 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg



NOTES:

1. FOR CURB HEIGHT AND WIDTH SEE ARCH. PLANS

LEGEND:

- FOOTING
- WF-X — FOOTING TYPE (1 S-004, 2 S-004, 3 S-004, 4 S-004, 6 S-004, 5 S-003)
- PROPOSED CRACK CONTROL JOINT (CCJ)
- BEARING 2X4 @ 16" O.C. STUD WALL
- NON-BEARING PARTITION WALL
- WOOD POST
- SHEAR WALL
- SHEATHING SIDE
- X'-X" TYPE X — MIN. LENGTH OF SHEAR WALL / TYPE OF SHEAR WALL
- HX — HOLDOWN PER PLAN (7 S-004)

SHEAR WALL NOTES:

1. ALL STUDS TO BE AT 16" O.C.
2. USE (2)-2x STUDS OR (2)-2x BLOCKING AT ALL ADJOINING PLYWOOD EDGES AND FOR SHEAR WALLS GREATER THAN 320 PLF.
3. (2)-2x MEMBERS SHALL BE STITCH NAILED AND CLINCHED WITH 16d @ 3" O.C. 3x SILL PLATE MAY NOT BE SUBSTITUTED W/ (2)-2x MEMBER.
4. WHERE SHEATHING IS REQUIRED ON 2 SIDES, 3/8" PLYWOOD SHEATHING BE USED FOR INSIDE FACE AS AN EQUIVALENT TO 5/8" T-1-11 SIDING W/ GROOVES.
5. USE MIN. 2x6 STUDS AT PLUMBING WALL(S).
6. ALL SILL ANCHOR BOLTS SHALL HAVE A 1/4" THICK x 3" SQUARE PLATE WASHER UNDER EACH NUT AND THE NUT SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. WHEN SLOTTED PLATE WASHERS ARE USED, INSTALL WITH STANDARD ROUND WASHERS ALSO.
7. SILL ANCHOR BOLTS SHALL HAVE MIN. 7" EMBEDMENT.
8. 8d NAILS SHALL BE HDG COMMON NAILS (2-1/2"x0.131"Ø) OR GALVANIZED BOX NAILS (2-1/2"x0.113"Ø).
9. 1/2" EDGE DISTANCE FOR PLYWOOD BOUNDARY NAILING.
10. POSITION SILL BOLTS AND HOLDOWN ANCHOR BOLTS AT PROPER LOCATIONS TO PREVENT CONFLICT WITH STUDS.

SHEAR WALL SCHEDULE

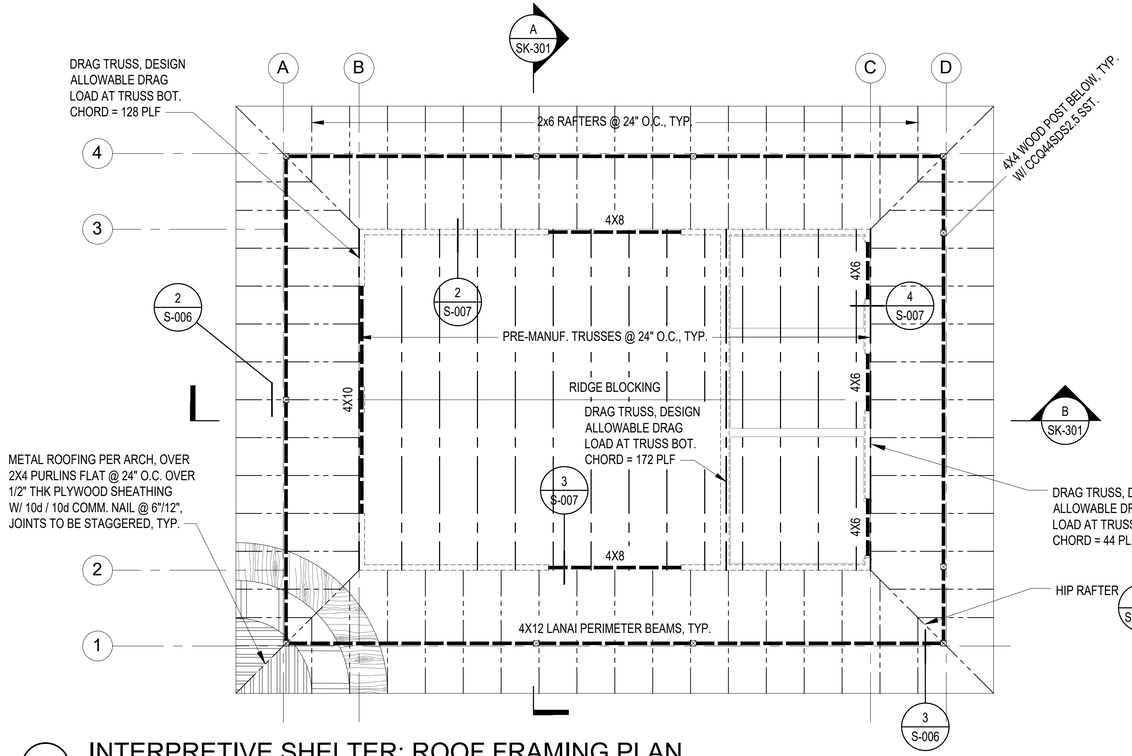
TYPE	MATERIAL (BLOCKED)	FACES	NAILS SPACING	HOLDDOWN ANCHOR ROD	EFFECT. EMBED.	ANCHOR STUD	SILL BOLT	SILL PL SIZE	(EQ/WIND) SHEAR CAP #/FT
TYPE 1	5/8 T1-11	1	10d @ 6"	SSTB20	12 5/8"	(2)-2x4	5/8" @ 48"	2x	260/365
TYPE 2	5/8 T1-11	1	10d @ 4"	SSTB24	16 5/8"	(2)-2x4	5/8" @ 24"	2x	380/532

A INTERPRETIVE SHELTER: FOUNDATION PLAN AND SHEAR WALL PLAN

SCALE: 1/4" = 1'-0"

0 4' 8'

N



LEGEND:

- BEAM PER PLAN
- PRE-MANUFACTURED TRUSSES PER PLAN
- 4X6 ROOF RAFTERS PER PLAN (10 S-007)
- BEARING WALL BELOW
- WOOD POST BELOW

ROOF SHEATHING NAILING:
10d / 10d COMM. NAIL @ 6"/12"

- FIELD NAILING
- EDGE/BOUNDARY NAILING
- FIELD NAIL SIZE
- EDGE/BOUNDARY NAIL SIZE

B INTERPRETIVE SHELTER: ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

0 4' 8'

N

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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Exp. 04/30/28
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ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER:
FOUNDATION, SHEARWALL & ROOF FRAMING PLANS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ZR / ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YW	DRAWING NO. SK-101
CHIEF ENGINEER	

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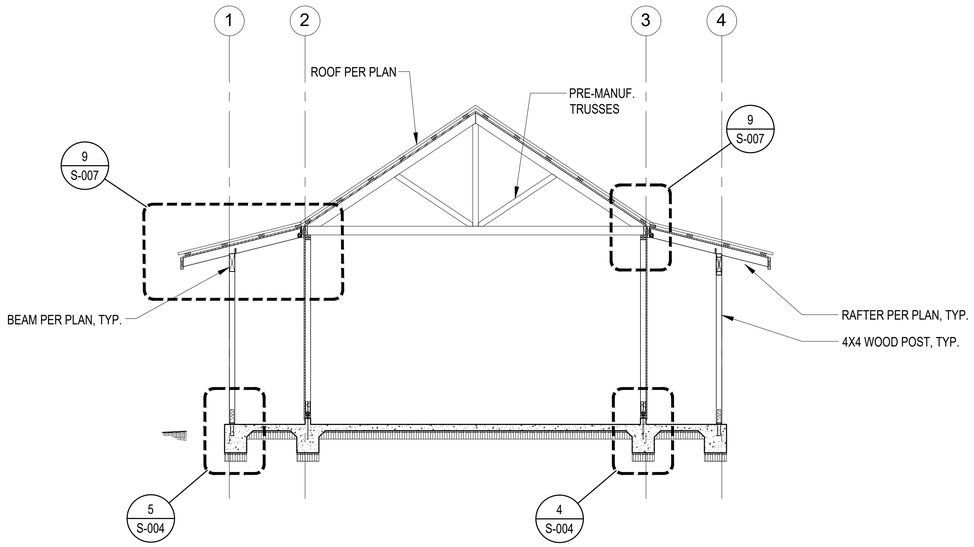
State of Hawaii
Civil Engineer

JOB NO.: F14C728D

SHEET NO. 107 OF 143 SHEETS

05/06/2026 9:07 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

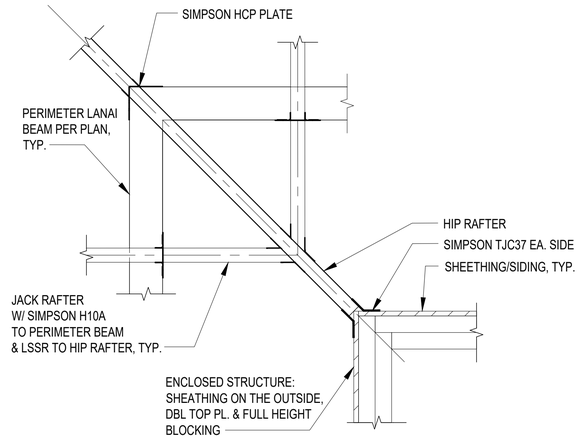
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



A INTERPRETIVE SHELTER: TRANSVERSE SECTION

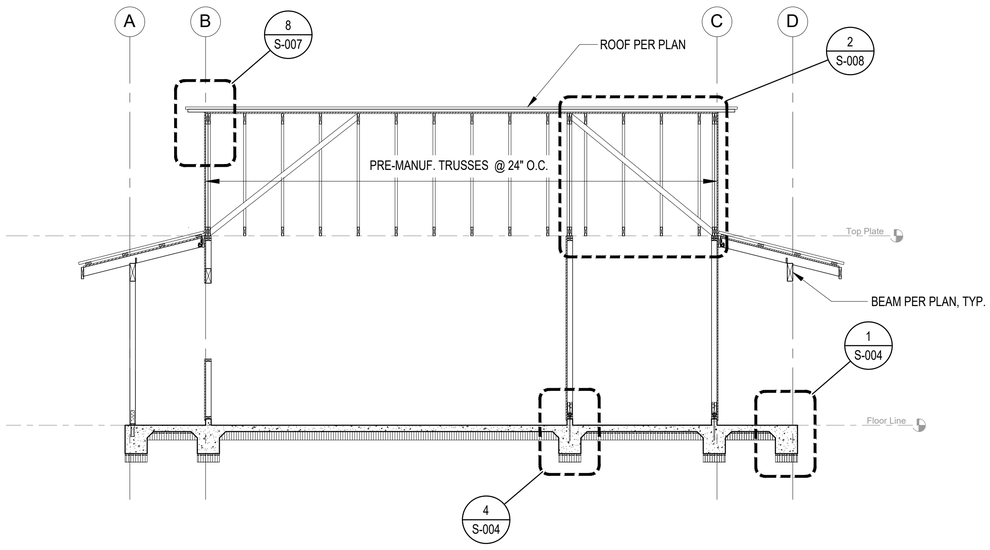
SCALE: 1/4" = 1'-0"

0 4' 8'



1 TYP. JACK TO HIP TO WALL CONN.

NO SCALE



B INTERPRETIVE SHELTER: LONGITUDINAL SECTION

SCALE: 1/4" = 1'-0"

0 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

INTERPRETIVE SHELTER: SECTIONS & DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. SK-201

Dina Lau
E-signed 2026-05-08 09:49PM HST
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State of Hawaii
Civil Engineer

CHIEF ENGINEER

JOB NO.: F14C728D

SHEET NO. 108 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

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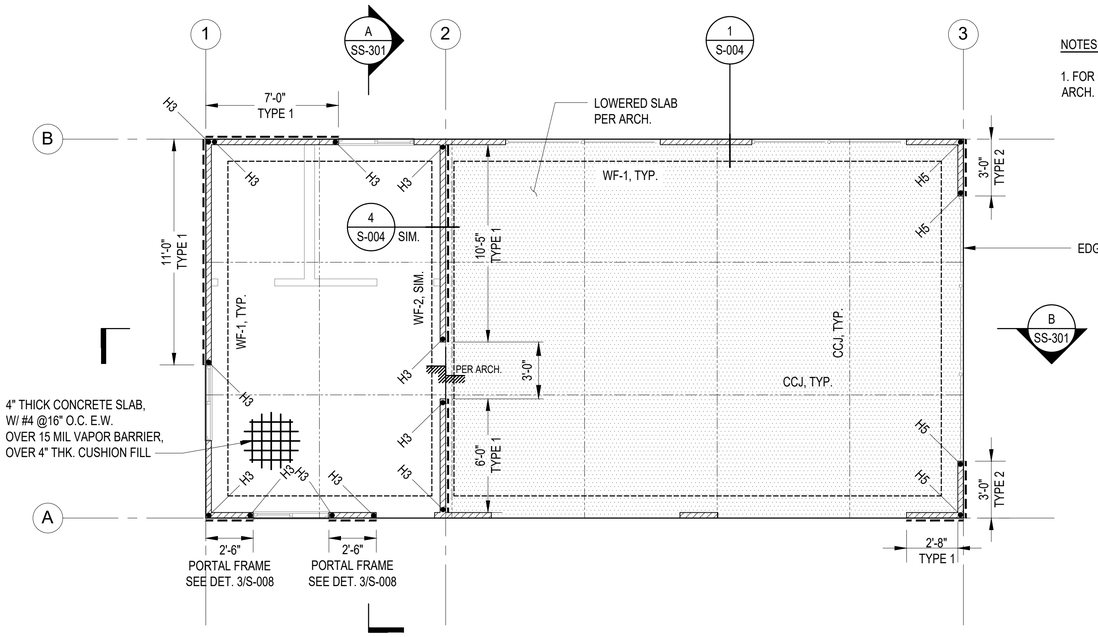


NOTES:

1. FOR CURB WIDTH AND HEIGHT SEE ARCH. PLANS.

LEGEND:

- FOOTING
- WF-X — FOOTING TYPE (1 S-004, 2 S-004, 3 S-004, 4 S-004, 6 S-004, 5 S-003)
- PROPOSED CRACK CONTROL JOINT (CCJ)
- BEARING 2X4 @ 16" O.C. STUD WALL
- NON-BEARING PARTITION WALL
- WOOD POST
- SHEAR WALL
  - SHEATHING SIDE
  - X'-X" TYPE X — MIN. LENGTH OF SHEAR WALL
  - TYPE OF SHEAR WALL
- HX — HOLDOWN PER PLAN (7 S-004)

SHEAR WALL NOTES:

1. ALL STUDS TO BE AT 16" O.C.
2. USE (2)-2x STUDS OR (2)-2x BLOCKING AT ALL ADJOINING PLYWOOD EDGES AND FOR SHEAR WALLS GREATER THAN 320 PLF.
3. (2)-2x MEMBERS SHALL BE STITCH NAILED AND CLINCHED WITH 16d @ 3" O.C. 3x SILL PLATE MAY NOT BE SUBSTITUTED W/ (2)-2x MEMBER.
4. WHERE SHEATHING IS REQUIRED ON 2 SIDES, 3/8" PLYWOOD SHEATHING BE USED FOR INSIDE FACE AS AN EQUIVALENT TO 5/8" T-1-11 SIDING W/ GROOVES.
5. USE MIN. 2x6 STUDS AT PLUMBING WALL(S).
6. ALL SILL ANCHOR BOLTS SHALL HAVE A 1/4" THICK x 3" SQUARE PLATE WASHER UNDER EACH NUT AND THE NUT SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. WHEN SLOTTED PLATE WASHERS ARE USED, INSTALL WITH STANDARD ROUND WASHERS ALSO.
7. SILL ANCHOR BOLTS SHALL HAVE MIN. 7" EMBEDMENT.
8. 8d NAILS SHALL BE HDG COMMON NAILS (2-1/2"x0.131"Ø) OR GALVANIZED BOX NAILS (2-1/2"x0.113"Ø).
9. 1/2" EDGE DISTANCE FOR PLYWOOD BOUNDARY NAILING.
10. POSITION SILL BOLTS AND HOLDOWN ANCHOR BOLTS AT PROPER LOCATIONS TO PREVENT CONFLICT WITH STUDS.

SHEAR WALL SCHEDULE

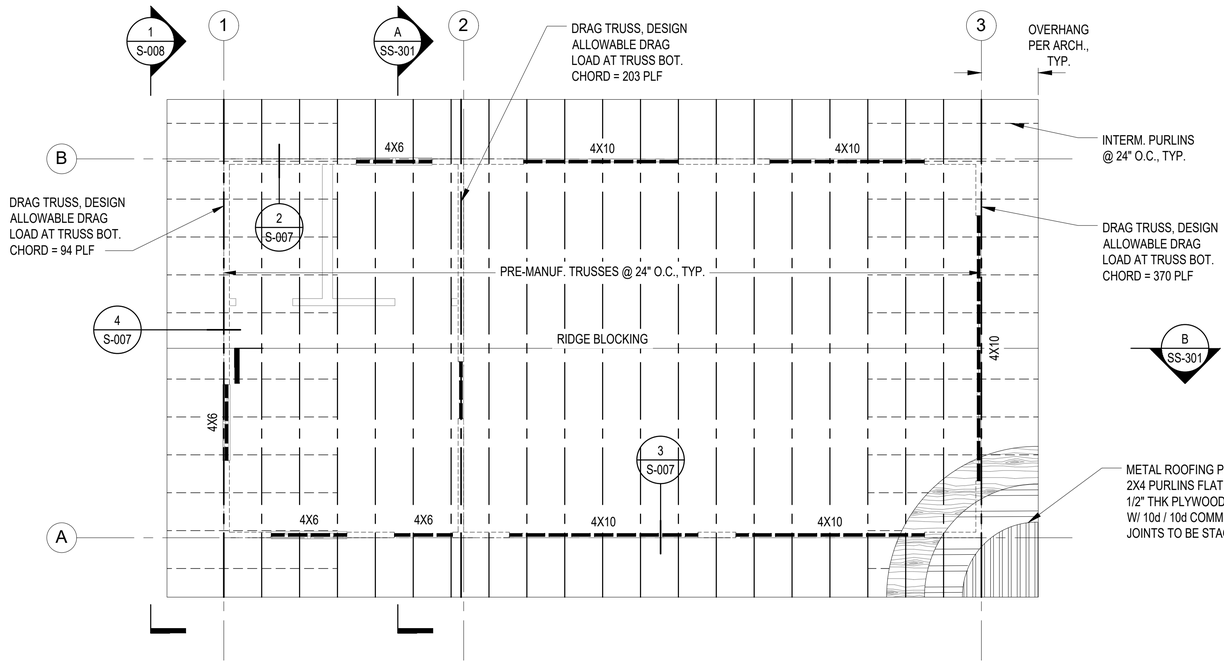
TYPE	MATERIAL (BLOCKED)	FACES	NAILS SPACING	HOLDDOWN ANCHOR ROD	EFFECT. EMBED.	ANCHOR STUD	SILL BOLT	SILL PL SIZE	(EQ/WIND) SHEAR CAP #/FT
TYPE 1	5/8 T1-11	1	10d @ 6"	SSTB20	12 5/8"	(2)-2x4	5/8" @ 48"	2x	260/365
TYPE 2	5/8 T1-11	1	10d @ 4"	SSTB24	16 5/8"	(2)-2x4	5/8" @ 24"	2x	380/532

A EQUIPMENT STORAGE BUILDING: FOUNDATION PLAN AND SHEAR WALL PLAN

SCALE: 1/4" = 1'-0"

0 4' 8'

N



LEGEND:

- BEAM PER PLAN
- PRE-MANUFACTURED TRUSSES PER PLAN
- INTERMIDIATE PURLINS @ 24" O.C. (8 S-007)
- BEARING WALL BELOW
- WOOD POST BELOW

ROOF SHEATHING NAILING:
10d / 10d COMM. NAIL @ 6"/12"

- FIELD NAILING
- EDGE/BOUNDARY NAILING
- FIELD NAIL SIZE
- EDGE/BOUNDARY NAIL SIZE

B EQUIPMENT STORAGE BUILDING: ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

0 4' 8'

N

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG — LICENSED PROFESSIONAL ENGINEER — Exp. 04/30/28 — No. 9361-S — HAWAII, U.S.A.

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SIGNATURE

STATE OR HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE BUILDING: FOUNDATION, SHEARWALL & ROOF FRAMING PLANS

ENGINEERING PARTNERS, INC

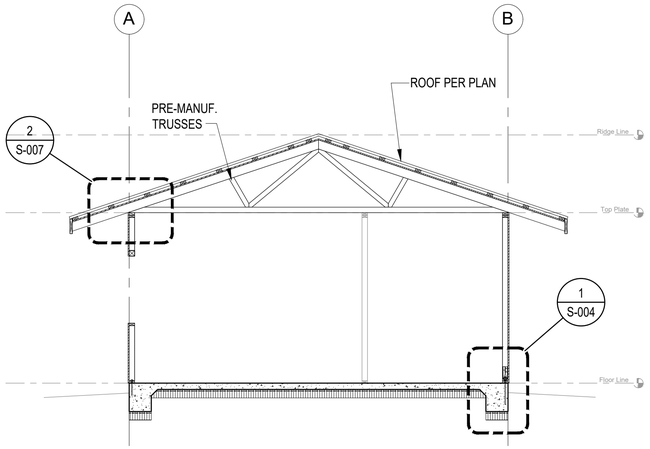
DESIGNED: ST	SUBMITTED:
DRAWN: ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO. SS-101
CHIEF ENGINEER:	

JOB NO.: F14C728D

SHEET NO. 109 OF 143 SHEETS

05/06/2026 9:08 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

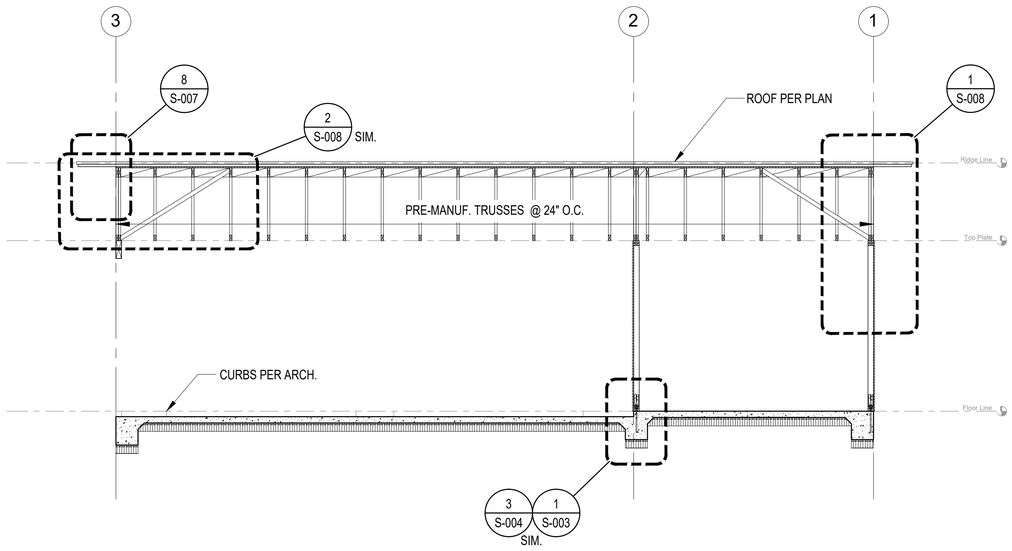
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



A EQUIPMENT STORAGE BUILDING: TRANSVERSE SECTION

SCALE: 1/4" = 1'-0"

0 4' 8'



B EQUIPMENT STORAGE BUILDING: LONGITUDINAL SECTION

SCALE: 1/4" = 1'-0"

0 4' 8'

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ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

EQUIPMENT STORAGE BUILDING: SECTIONS

ENGINEERING PARTNERS, INC

DESIGNED: ST		SUBMITTED:	
DRAWN: ST		DATE:	
CHECKED: MAF		SCALE: AS NOTED	
APPROVED: YWF	Dina Lau E-signed 2026-05-08 09:49PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer	DRAWING NO.	SS-201
CHIEF ENGINEER:			

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SHEET NO. 110 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

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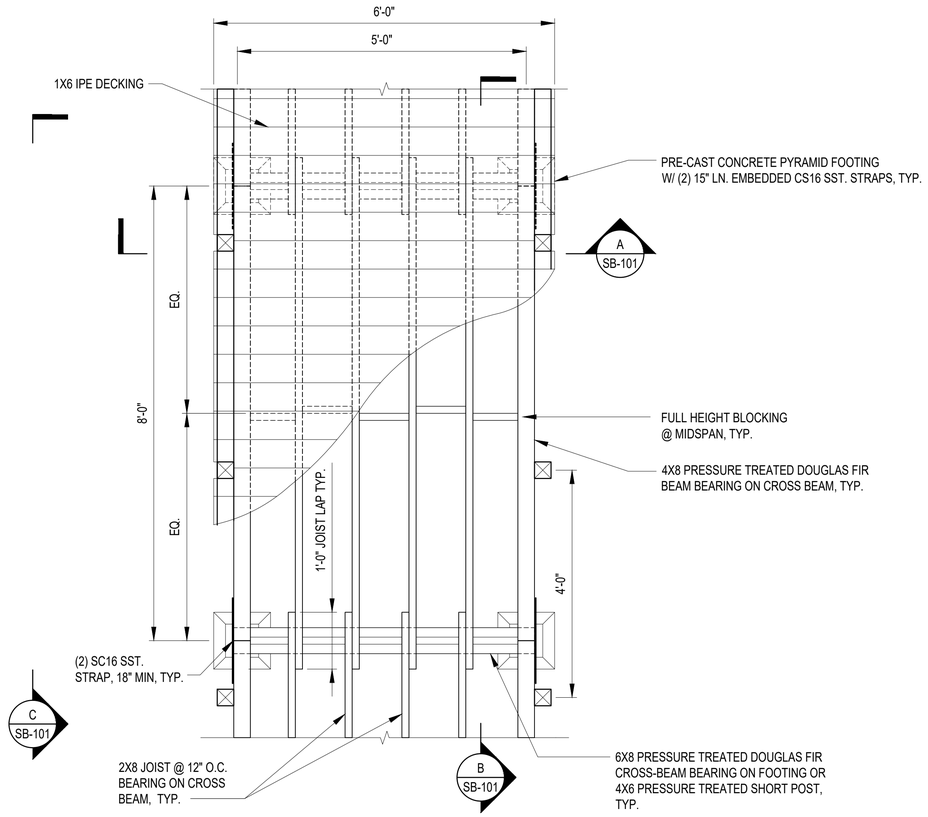
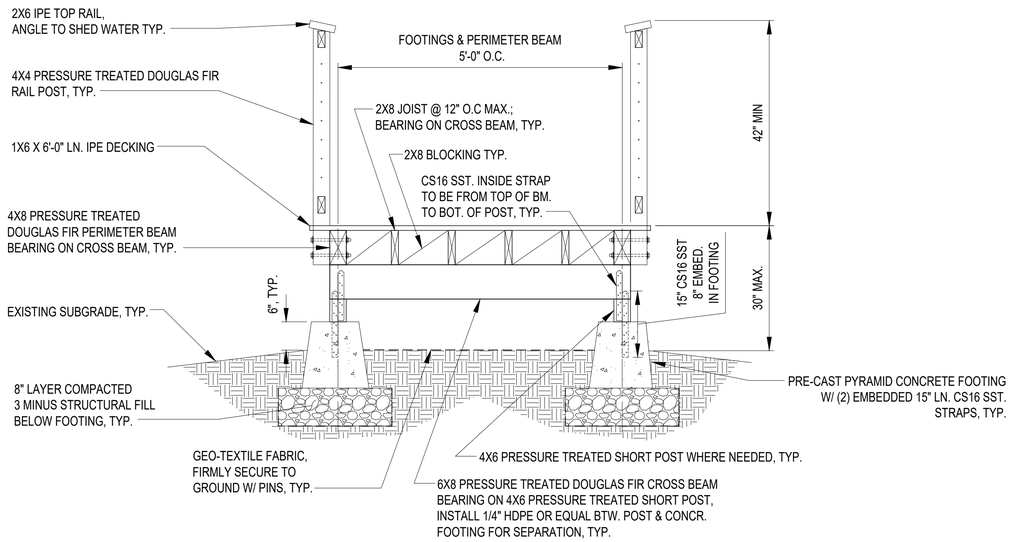
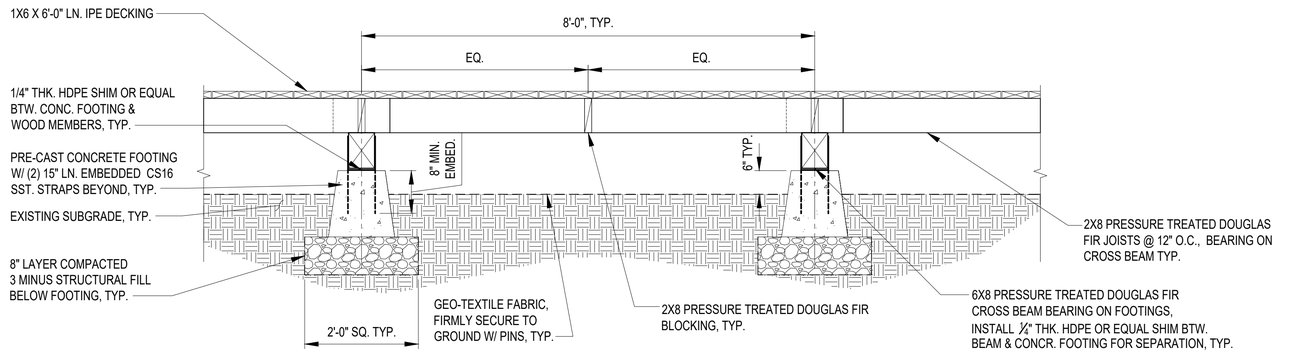


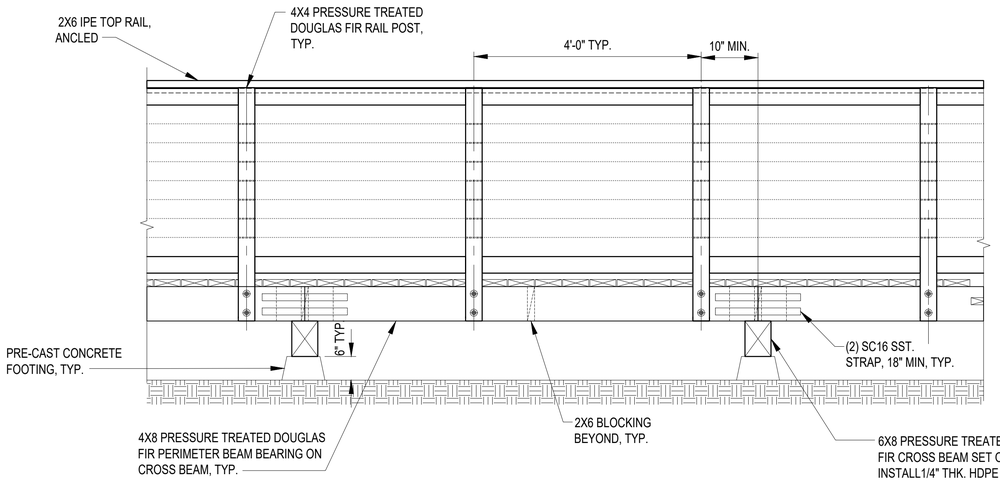
PLAN



SECTION-A



SECTION - B



ELEVATION - C

BOARDWALK NOTES:

1. ALL WOOD FRAMING SHALL BE TREATED WITH OIL-BORNE PRESERVATIVES.
2. SEAL ALL FRAMING FIELD CUTS AND END GRAIN.
3. ALL HARDWARE AND FASTENERS FOR BOARDWALK SHALL BE STAINLESS STEEL.
4. USE OF GALVANIZED FASTENERS WITH STAINLESS STEEL HARDWARE IS PROHIBITED.
5. USE OF GALVANIZED PLATES, SHIMS, HARDWARE, FASTENERS, ETC. IS PROHIBITED IN CONTACT WITH OIL-BORNE PRESERVATIVE TREATED WOOD MEMBERS.
6. SELF-ADHESIVE BUTYL TAPE SHALL BE APPLIED ON TOP OF EVERY JOIST AND BEAM.
7. CONTRACTOR SHALL COUNTERSINK STRUCTURAL FASTENERS (I.E. THREADED RODS, BOLTS, ETC) WHEN REQUIRED TO PROVIDE FLUSH MOUNTING SURFACE FOR SIMPSON STRONG TIE CONNECTIONS, DECKING, ETC., TYP.
8. CONTRACTOR SHALL PROVIDE GEO-TEXTILE FABRIC FOR WEED CONTROL BELOW ALL BOARDWALK AREAS. GEO-TEXTILE FABRIC SHALL BE FIRMLY SECURE TO GROUND WITH PINS.
9. BURY PRE-CAST CONCRETE FOOTING MINIMUM 6" WITH 8" MIN. LAYER COMPACTED 3 MINUS STRUCTURAL FILL COMPACTED TO 95% BELOW INSTALLED OVER GEOTEXTILE.
10. INSTALL 1/4" THK. HDPE OR EQUAL SHIM BETWEEN WOOD MEMBERS & CONCRETE FOOTING FOR SEPARATION, TYP.

1 BOARDWALK: PLAN & SECTIONS & ELEVATION

NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
LICENSED PROFESSIONAL ENGINEER
Exp. 04/30/28
No. 9361-S
HAWAII, U.S.A.

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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

BOARDWALK: FOUNDATION PLAN, SECTIONS & ELEVATIONS

ENGINEERING PARTNERS, INC

DESIGNED: MAF	SUBMITTED:
DRAWN: ST	DATE:
CHECKED: MAF	SCALE: AS NOTED

APPROVED: YWI **Dina Lau**
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

CHIEF ENGINEER

DRAWING NO. SB-101

JOB NO.: F14C728D

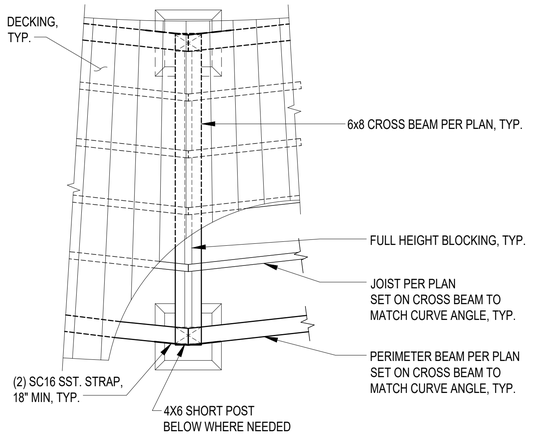
SHEET NO. 111 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

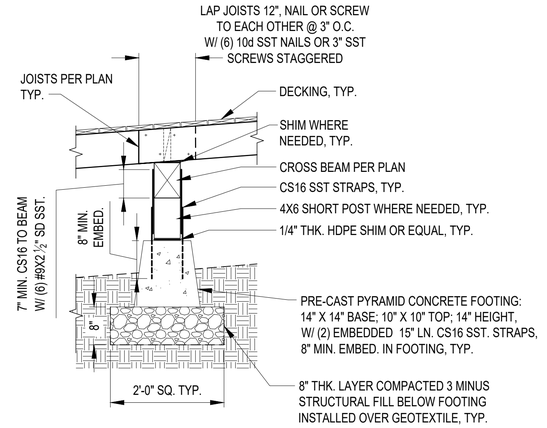
05/06/2026 9:08 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

NOTES:

1. FASTEN EACH PERIMETER BEAM TO CROSS BEAM THROUGH THE TOP W/ (2) SDWS271000SS, COUNTERSINK THE SCREWS, TYP.
2. TOE-NAIL FASTEN JOISTS TO CROSS BEAM W/ (3) 10d SST. RING SHANK NAILS OR (3) SD1921SS, TYP.
3. FASTEN BLOCKING W/ 16d SST. RING SHANK NAILS OR 3" SDWS TIMBER SS SCREWS TYP.



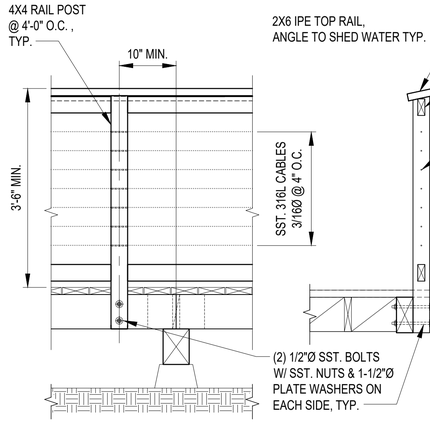
3 TYP. BOARDWALK CURVE FRAMING
NO SCALE



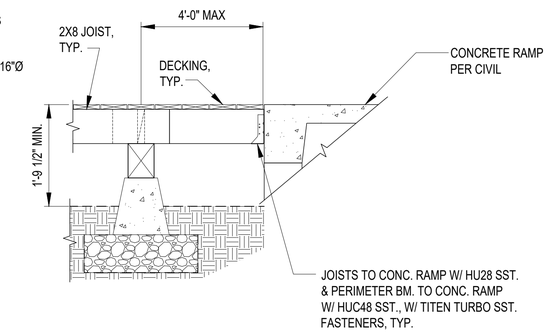
NOTES:

WHERE UNSUITABLE MATERIAL INCLUDING NATIVE ASH SOIL IS DISCOVERED UNDERNETH THE FOOTING, OVEREXCAVATE 2'-0"X2'-0" PAD 3 FEET DEEP OR TO THE BEDROCK, LAY DOWN MIRAFI HP 370 GEOTEXTILE, AND BACKFILL WITH 3" MINUS COMPACTED STRUCTURAL FILL.

1 BEAM ON FOOTING TYP.
NO SCALE



4 TYP. RAILING CONN.
NO SCALE



2 BOARDWAK TO CONCR. RAMP CONN.
NO SCALE

BOARDWALK NOTES:

1. ALL WOOD FRAMING SHALL BE TREATED WITH OIL-BORNE PRESERVATIVES.
2. SEAL ALL FRAMING FIELD CUTS AND END GRAIN.
3. ALL HARDWARE AND FASTENERS FOR BOARDWALK SHALL BE STAINLESS STEEL.
4. USE OF GALVANIZED FASTENERS WITH STAINLESS STEEL HARDWARE IS PROHIBITED.
5. USE OF GALVANIZED PLATES, SHIMS, HARDWARE, FASTENERS, ETC. IS PROHIBITED IN CONTACT WITH OIL-BORNE PRESERVATIVE TREATED WOOD MEMBERS.
6. SELF-ADHESIVE BUTYL TAPE SHALL BE APPLIED ON TOP OF EVERY JOIST AND BEAM.
7. CONTRACTOR SHALL COUNTERSINK STRUCTURAL FASTENERS (I.E. THREADED RODS, BOLTS, ETC) WHEN REQUIRED TO PROVIDE FLUSH MOUNTING SURFACE FOR SIMPSON STRONG TIE CONNECTIONS, DECKING, ETC., TYP.
8. CONTRACTOR SHALL PROVIDE GEO-TEXTILE FABRIC FOR WEED CONTROL BELOW ALL BOARDWALK AREAS. GEO-TEXTILE FABRIC SHALL BE FIRMLY SECURE TO GROUND WITH PINS.
9. BURY PRE-CAST CONCRETE FOOTING MINIMUM 6" WITH 8" MIN. LAYER COMPACTED 3 MINUS STRUCTURAL FILL COMPACTED TO 95% BELOW INSTALLED OVER GEOTEXTILE.
10. INSTALL ¼" THK. HDPE OR EQUAL SHIM BETWEEN WOOD MEMBERS & CONCRETE FOOTING FOR SEPARATION, TYP.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG
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DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

BOARDWALK: DETAILS

ENGINEERING PARTNERS, INC

DESIGNED:	MAF	SUBMITTED:	
DRAWN:	ST	DATE:	
CHECKED:	MAF	SCALE:	AS NOTED
APPROVED:	YWF	DRAWING NO.	SB-102
CHIEF ENGINEER:			

Dina Lau
E-signed 2026-05-08 09:49PM HST
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State of Hawaii
Civil Engineer

JOB NO.: F14C728D

SHEET NO. 112 OF 143 SHEETS

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

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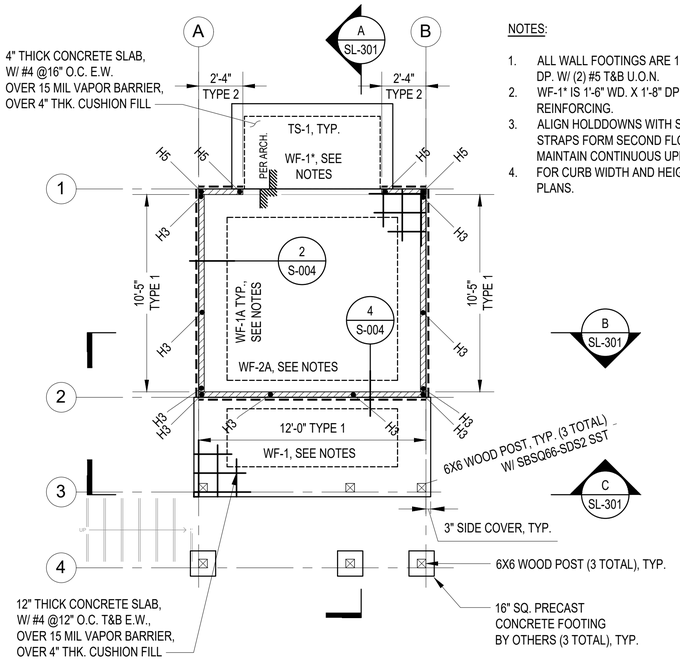
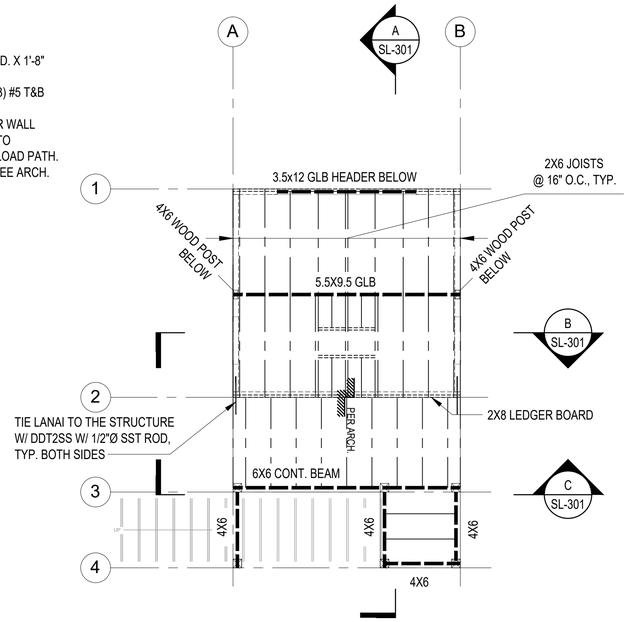


NOTES:

1. ALL WALL FOOTINGS ARE 1'-6" WD. X 1'-8" DP. W/ (2) #5 T&B U.O.N.
2. WF-1* IS 1'-6" WD. X 1'-8" DP. W/ (3) #5 T&B REINFORCING.
3. ALIGN HOLDDOWNS WITH SHEAR WALL STRAPS FORM SECOND FLOOR TO MAINTAIN CONTINUOUS UPLIFT LOAD PATH.
4. FOR CURB WIDTH AND HEIGHT SEE ARCH. PLANS.

A LUA: FOUNDATION PLAN & LOWER SHEAR WALL PLAN

SCALE: 1/4" = 1'-0"

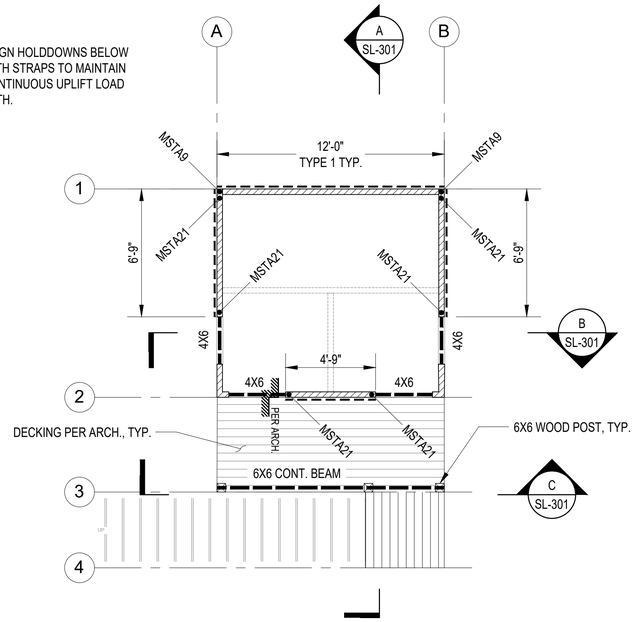


B LUA: FLOOR FRAMING PLAN

SCALE: 1/4" = 1'-0"

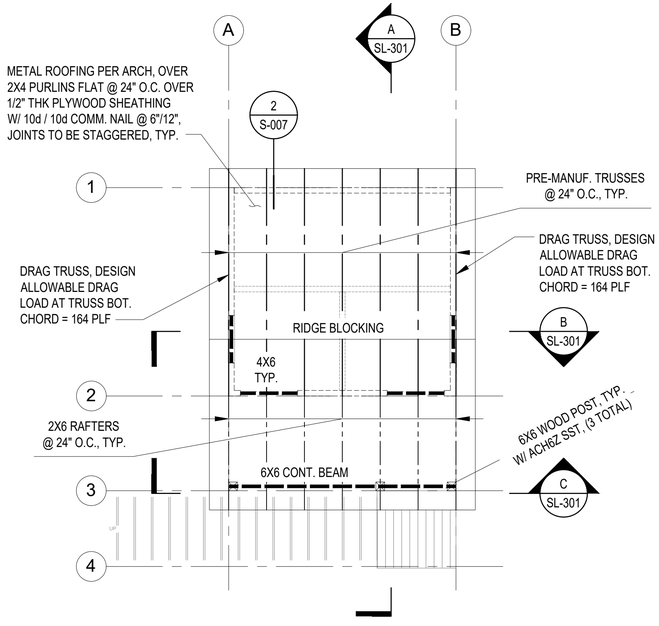
NOTES:

1. ALIGN HOLDDOWNS BELOW WITH STRAPS TO MAINTAIN CONTINUOUS UPLIFT LOAD PATH.



C LUA: UPPER SHEAR WALL PLAN

SCALE: 1/4" = 1'-0"



D LUA: ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

LEGEND:

- FLOOR JOIST PER PLAN
- FULL HEIGHT BLOCKING PER PLAN
- BEAM PER PLAN
- PRE-MANUFACTURED TRUSSES PER PLAN
- ROOF RAFTERS PER PLAN
- BEARING WALL BELOW
- WOOD POST BELOW

ROOF SHEATHING NAILING: 10d / 10d COMM. NAIL @ 6"/12"

- FIELD NAILING
- EDGE/BOUNDARY NAILING
- FIELD NAIL SIZE
- EDGE/BOUNDARY NAIL SIZE

- FOOTING
- WF-X — FOOTING TYPE (1 S-004; 2 S-004; 3 S-004; 4 S-004; 5 S003; 6 S-004)
- PROPOSED CRACK CONTROL JOINT (CCJ)
- BEARING 2X4 @ 16" O.C. STUD WALL
- NON-BEARING PARTITION WALL
- WOOD POST
- SHEATHING SIDE
- X'-X" TYPE X — MIN. LENGTH OF SHEAR WALL
- TYPE OF SHEAR WALL
- HX — HOLDOWN OR STRAP PER SHEAR WALL PLAN

SHEAR WALL SCHEDULE

TYPE	MATERIAL (BLOCKED)	FACES	NAILS SPACING	HOLDDOWN ANCHOR ROD	EFFECT. EMBED.	ANCHOR STUD	SILL BOLT	SILL PL SIZE	(EQ/WIND) SHEAR CAP #/FT
TYPE 1	5/8 T1-11	1	10d @ 6"	SSTB20	12 5/8"	(2)-2x4	5/8" @ 48"	2x	260/365
TYPE 2	5/8 T1-11	1	10d @ 4"	SSTB24	16 5/8"	(2)-2x4	5/8" @ 24"	2x	380/532

SHEAR WALL NOTES:

1. ALL STUDS TO BE AT 16" O.C.
2. USE (2)-2x STUDS OR (2)-2x BLOCKING AT ALL ADJOINING PLYWOOD EDGES AND FOR SHEAR WALLS GREATER THAN 320 PLF.
3. (2)-2x MEMBERS SHALL BE STITCH NAILED AND CLINCHED WITH 16d @ 3" O.C. 3x SILL PLATE MAY NOT BE SUBSTITUTED W/ (2)-2x MEMBER.
4. WHERE SHEATHING IS REQUIRED ON 2 SIDES, 3/8" PLYWOOD SHEATHING BE USED FOR INSIDE FACE AS AN EQUIVALENT TO 5/8" T-1-11 SIDING W/ GROOVES.
5. USE MIN. 2x6 STUDS AT PLUMBING WALL(S).
6. ALL SILL ANCHOR BOLTS SHALL HAVE A 1/4" THICK x 3" SQUARE PLATE WASHER UNDER EACH NUT AND THE NUT SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. WHEN SLOTTED PLATE WASHERS ARE USED, INSTALL WITH STANDARD ROUND WASHERS ALSO.
7. SILL ANCHOR BOLTS SHALL HAVE MIN. 7" EMBEDMENT.
8. 8d NAILS SHALL BE HDG COMMON NAILS (2-1/2"x0.131"Ø) OR GALVANIZED BOX NAILS (2-1/2"x0.113"Ø).
9. 1/2" EDGE DISTANCE FOR PLYWOOD BOUNDARY NAILING.
10. POSITION SILL BOLTS AND HOLDOWN ANCHOR BOLTS AT PROPER LOCATIONS TO PREVENT CONFLICT WITH STUDS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

YEN WEN FANG — LICENSED PROFESSIONAL ENGINEER — Exp. 04/30/28 — No. 9361-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS

LUA: FOUNDATION, SHEARWALL & ROOF FRAMING PLANS & SECTIONS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YWF	DRAWING NO. SL-101
CHIEF ENGINEER:	

Dina Lau
E-signed 2026-05-08 09:49PM HST
dina.u.lau@hawaii.gov
State of Hawaii
Civil Engineer

JOB NO.: F14C728D

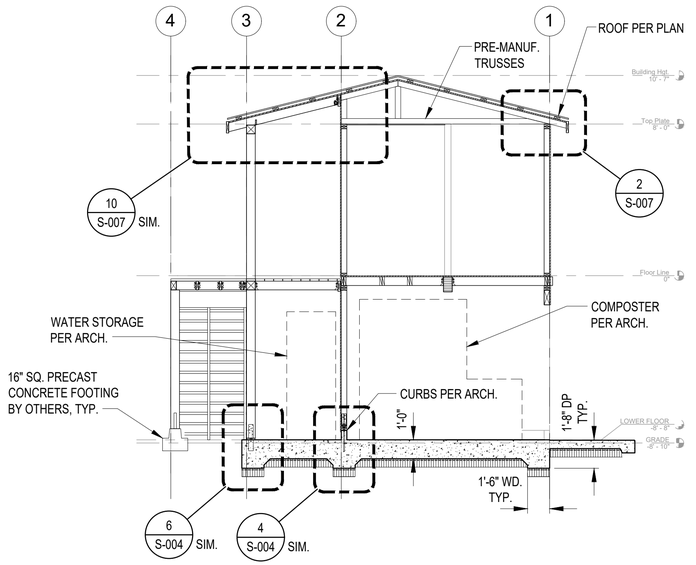
SHEET NO. 113 OF 143 SHEETS

05/06/2026 9:06 am
M:\EO Projects\2025 Projects\12005-25-03 Kealakekua Bay Historical Park Impr\4-Dwg\Structural\S-X.dwg

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

NOTES:

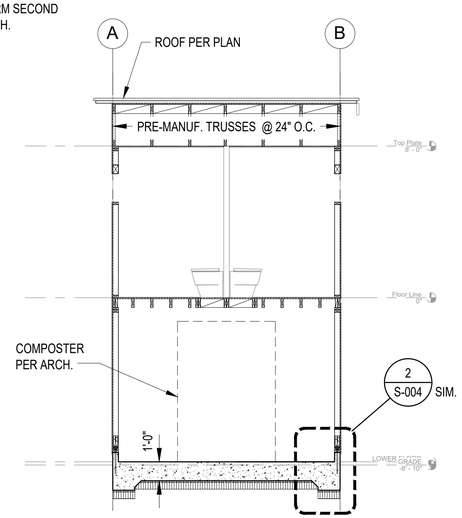
1. ALL WALL FOOTINGS ARE 1'-6" WD. X 1'-8" DP. W/ (2) #5 T&B U.O.N.
2. WF-1* IS 1'-6" WD. X 1'-8" DP. W/ (3) #5 T&B REINFORCING.
3. ALIGN HOLDDOWNS WITH SHEAR WALL STRAPS FORM SECOND FLOOR TO MAINTAIN CONTINUOUS UPLIFT LOAD PATH.
4. FOR CURB WIDTH AND HEIGHT SEE ARCH. PLANS.



A LUA: TRANSVERSE SECTION

SCALE: 1/4" = 1'-0"

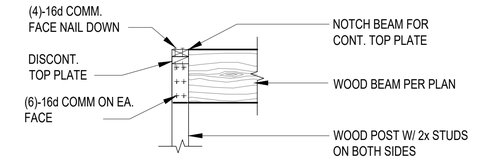
0 4' 8'



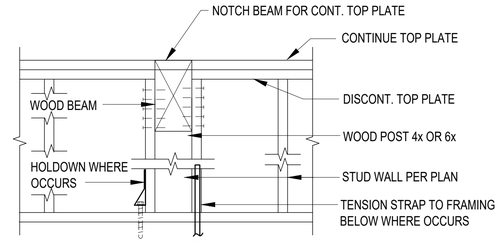
B LUA: LONGITUDINAL SECTION

SCALE: 1/4" = 1'-0"

0 4' 8'



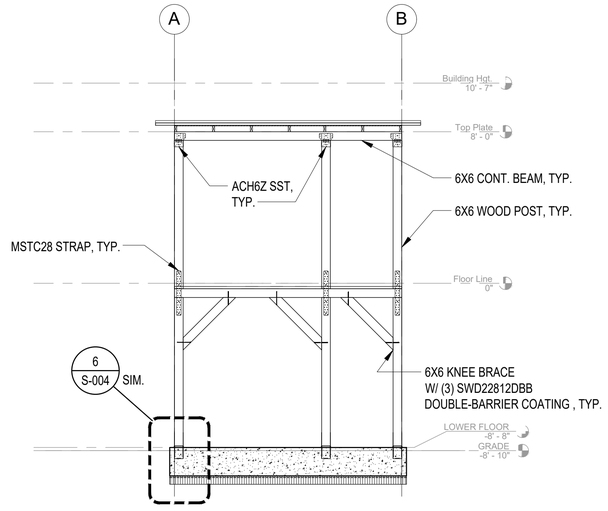
PLAN VIEW



ELEVATION

1 BEAM POCKET - CONT. WALL

NO SCALE



C LUA: WOOD FRAME SECTION

SCALE: 1/4" = 1'-0"

0 4' 8'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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CHIEF ENGINEER

STATE OR HAWAII
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LUA: SECTIONS & DETAILS

ENGINEERING PARTNERS, INC

DESIGNED: ST	SUBMITTED:
DRAWN: ST	DATE:
CHECKED: MAF	SCALE: AS NOTED
APPROVED: YW	DRAWING NO. SL-201

Dina Lau
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Civil Engineer

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