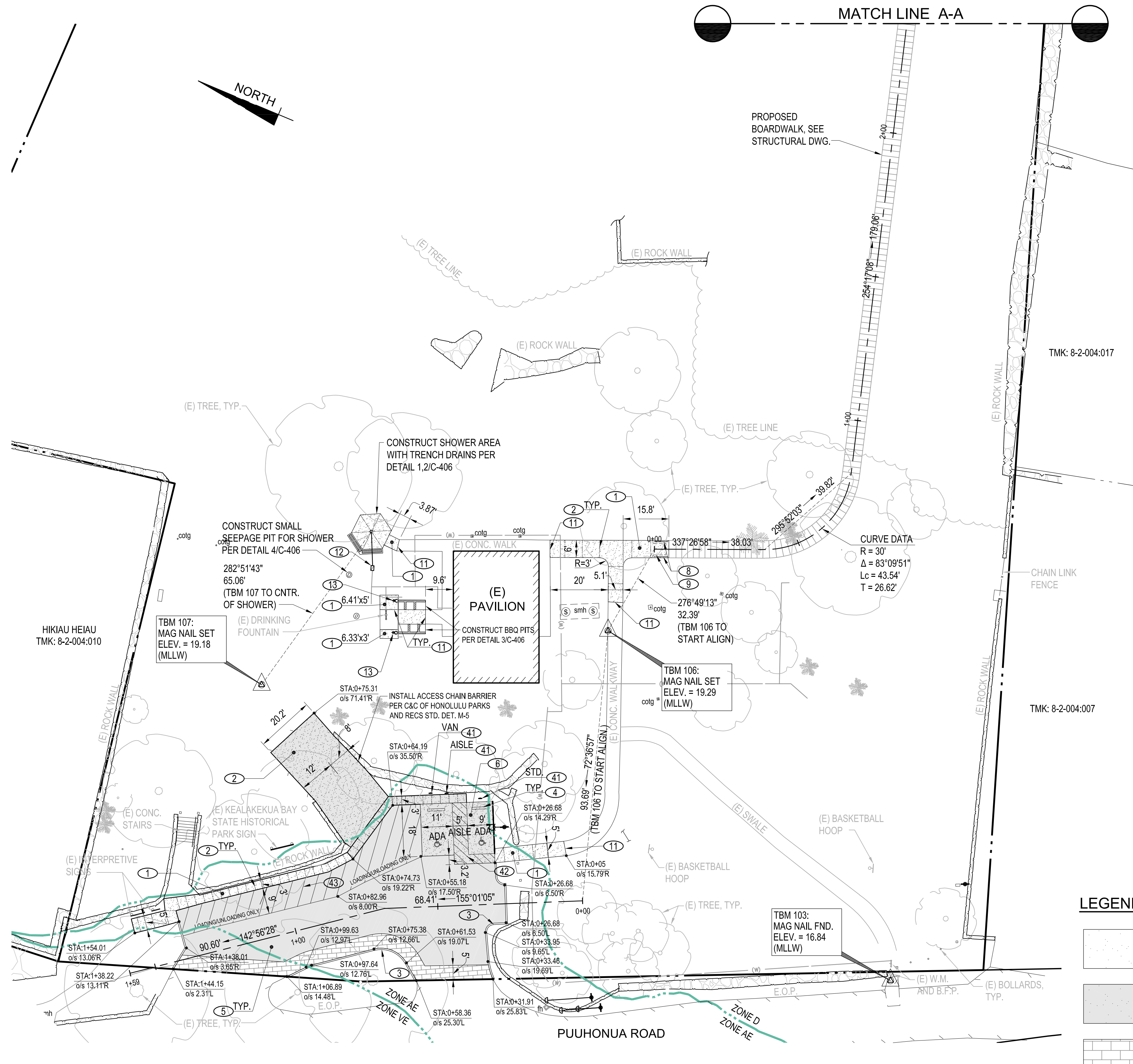
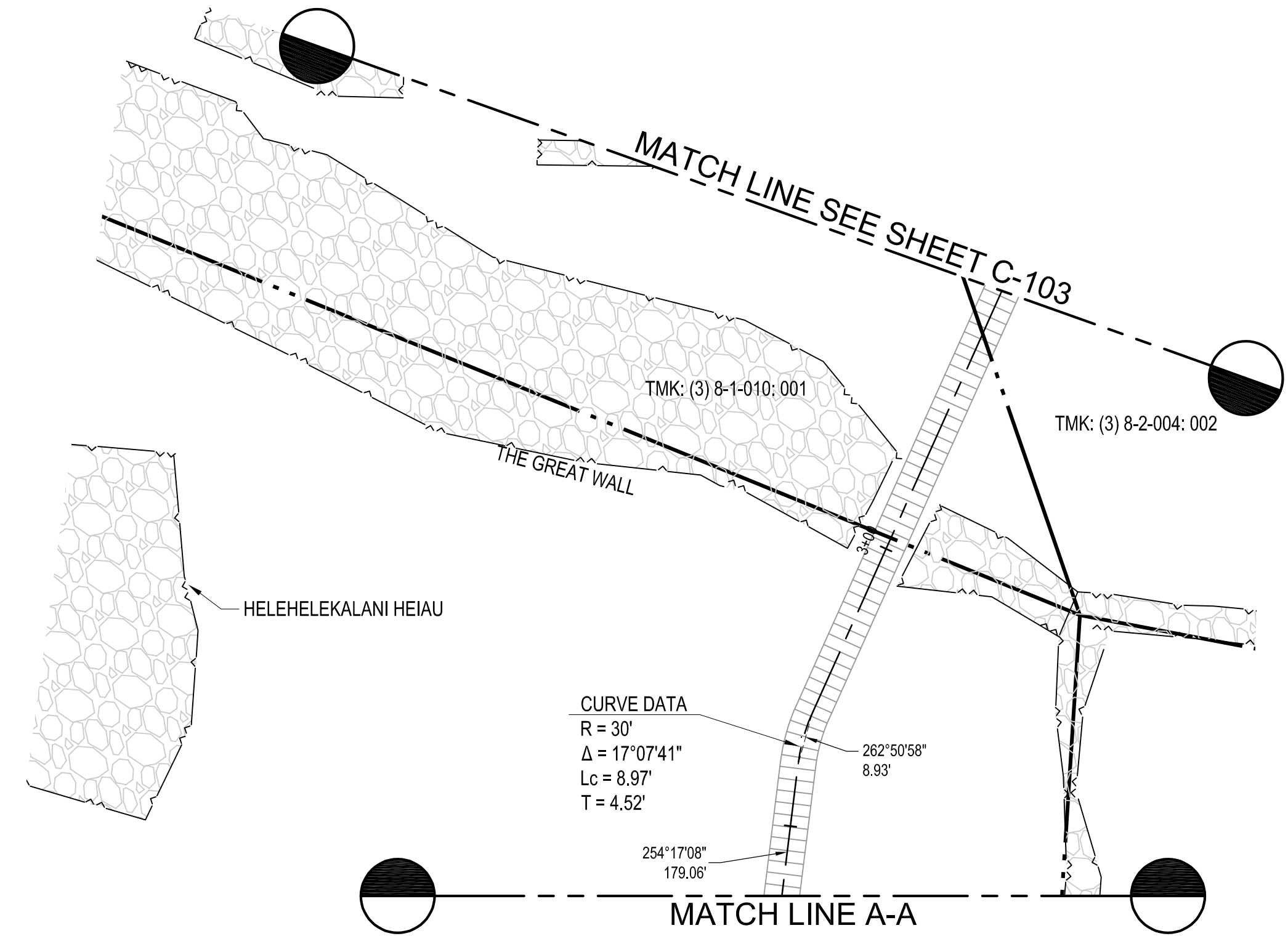


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**A** EXISTING PAVILION GRADING PLAN  
 SCALE: 1" = 20'



**B** EXISTING PAVILION GRADING PLAN  
 SCALE: 1" = 20'

**PAV'T CONST. NOTES**

- ① CONSTRUCT 4" THICK CONC. WALK PER DETAIL
- ② CONSTRUCT CRACK CONTROL JOINT (CCJ) PER DETAIL
- ③ CONSTRUCT CONCRETE CURB PER DETAIL
- ④ CONSTRUCT PRE-CAST 6" WHEEL STOP PER DETAIL
- ⑤ CONSTRUCT PAVEDRAIN PERMEABLE PAVER PER DETAIL
- ⑥ CONSTRUCT 5" THICK CONCRETE PAVEMENT PER DETAIL
- ⑧ INSTALL PEDESTRIAN BARRIER PER DETAIL
- ⑨ CONSTRUCT C.M.U. WALL UNDER WALKWAY PER DETAIL
- ⑩ CONSTRUCT 2" STATE MIX V.A.C. PAVT / 4" A.B. / 6" SUB-BASE PER DETAIL
- ⑪ CONNECT NEW CONCRETE WALKWAY TO EXISTING WALKWAY WITH SMOOTH TRANSITION PER DETAIL
- ⑫ CONTRACTOR TO CUT WATERLINE BACK AND INSTALL NEW 1" BALL VALVE AND BOX. CONTRACTOR TO CONNECT NEW 1" WATER LINE TO NEW SHOWER.
- ⑬ INSTALL NEW HOSE BIBB PER DET. CONTRACTOR SHALL CONNECT TO NEARBY WATERLINE LOCATED AFTER REMOVE (E) HOSEBIBB
- ①.2 C-401
- ② C-402
- ③ C-403
- ④ C-401
- ⑤ C-401
- ④.5 C-401
- ① C-402
- ⑦ C-402
- ⑧ C-402
- ③.4 C-402

**SIGN & STRIPING NOTES**

- ④.1 CONSTRUCT ADA ACCESSIBLE STANDARD & VAN PARKING W/ SIGNS PER DETAIL
- ④.2 STRIPE OUT ACCESS AISLE WITH 4" WIDE DIAGONAL BLUE STRIPING SPACED AT 2' O.C.
- ④.3 STRIPE OUT ACCESS AISLE WITH 4" WIDE DIAGONAL WHITE STRIPING SPACED AT 4' O.C.

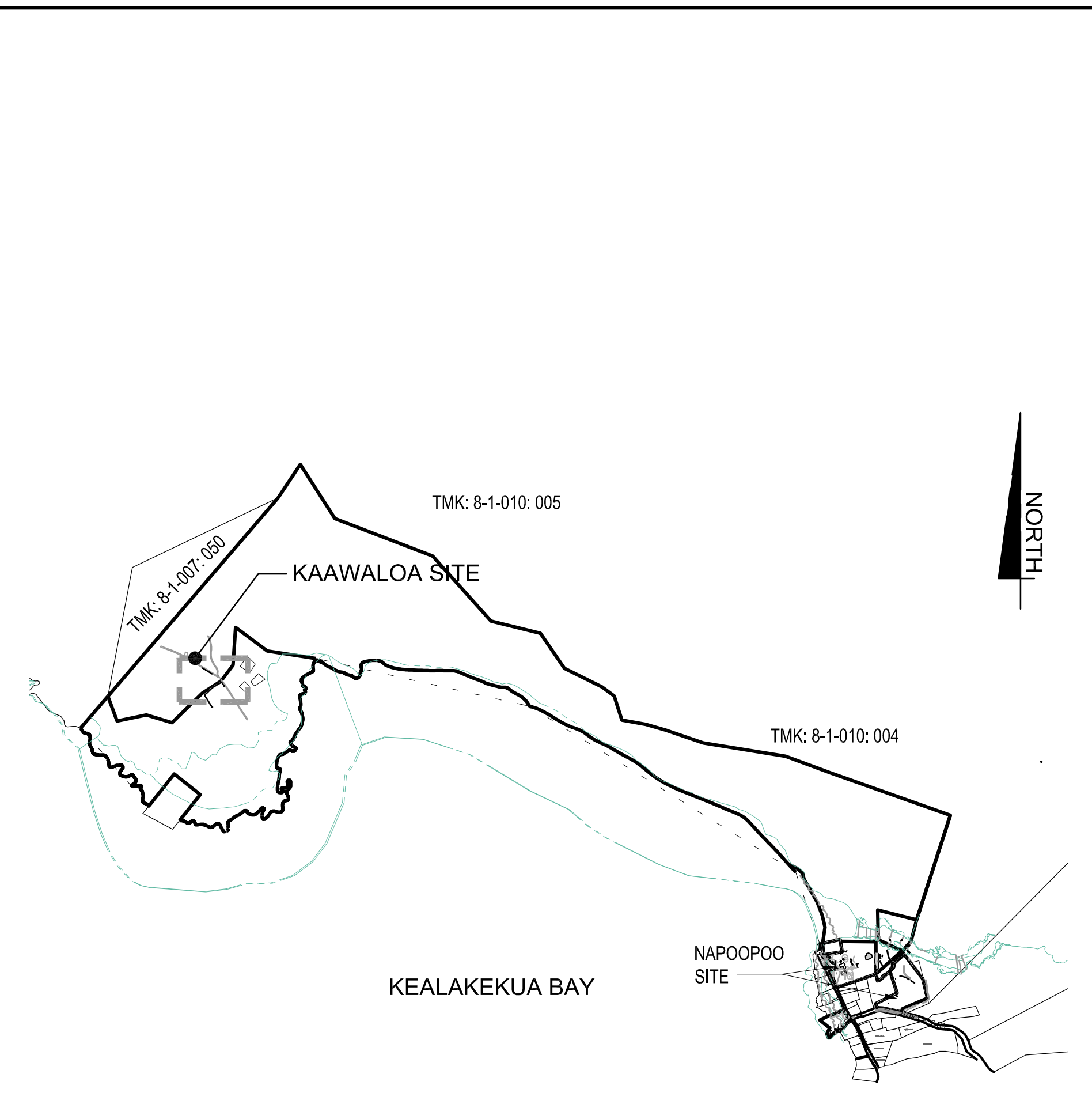
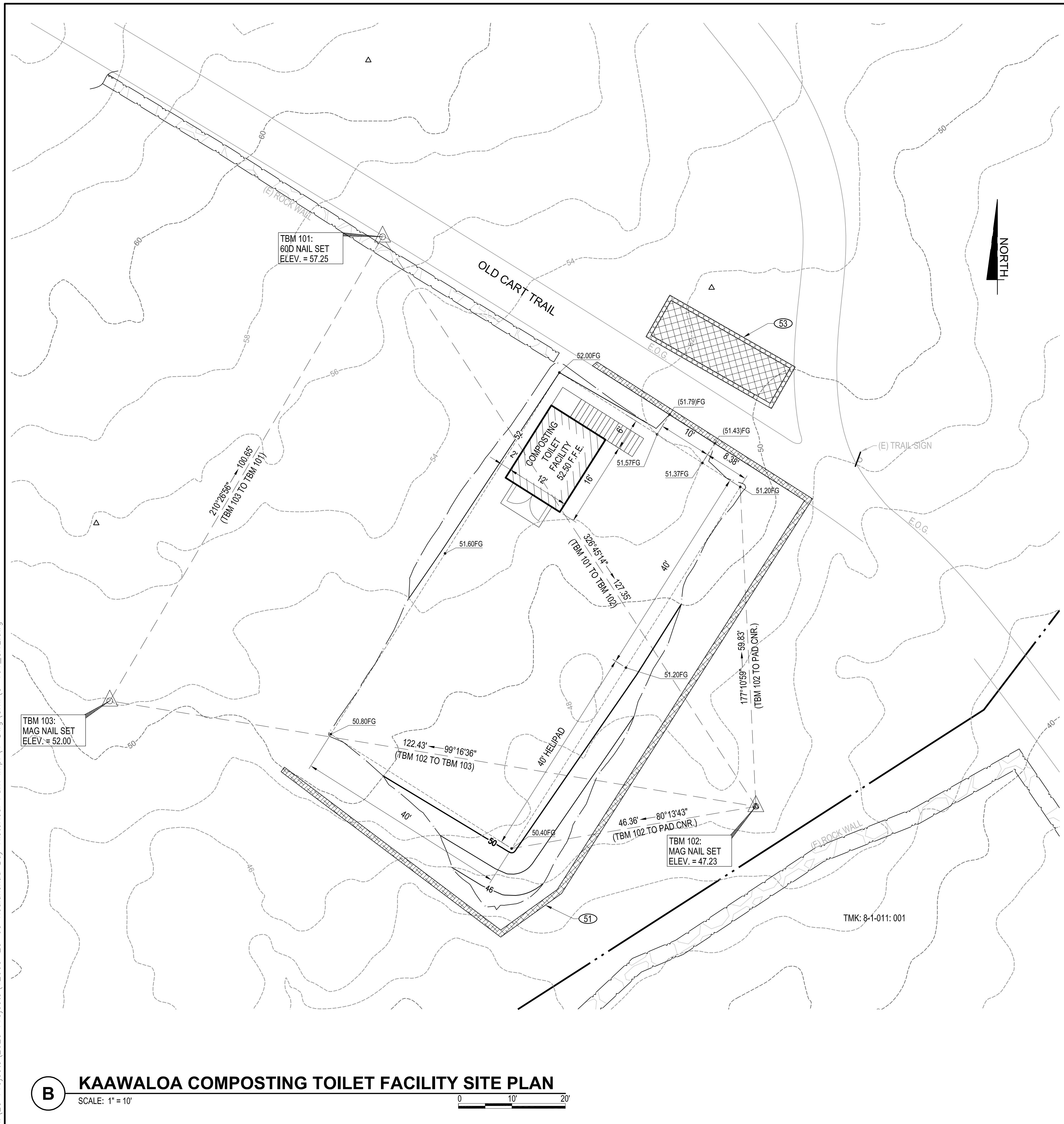
**LEGEND**

- NEW CONCRETE
- NEW CONCRETE PAVEMENT
- NEW PAVEDRAIN PERMEABLE PAVER
- NEW PAVEMENT

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS					
EXISTING PAVILION PARTIAL SITE PLAN					
ENGINEERING PARTNERS, INC					
DESIGNED: OH	SUBMITTED:				
DRAWN: OH	DATE:				
CHECKED: YWF	SCALE: AS NOTED				
APPROVED: YWF	Dina Lau E-signed 2026-05-08 02:16PM HST dina.lau@hawaii.gov State of Hawaii		DRAWING NO. <b>C-104</b>		

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 11:20 am  
 M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-101\_SITE.dwg



**A OVERALL SITE PLAN**  
 SCALE: 1" = 1000'

**LEGEND**

- GB--- GRADE BREAK
- SWALE LINE
- 100--- EXISTING CONTOURS
- 100--- NEW FINISH GRADE CONTOURS
- LIMITS OF GRADING
- [Hatched Box] BIOSOCK/SILT FENCE

**BMP CONSTRUCTION NOTES**  
 (ORDER OF PRECEDENCE FOR INSTALLATION)

- (51) CONSTRUCT SILT FENCE OR BIOSOCK PER DETAIL 3  
C-501
- (53) CONSTRUCT GRAVEL BAG FILTERS OR BIOSOCK AROUND STOCK PILE/ DEBRIS / VEHICLE/ EQUIPMENT STORAGE AREA 2  
C-502

**SPOT ELEVATIONS ABBREVIATION**

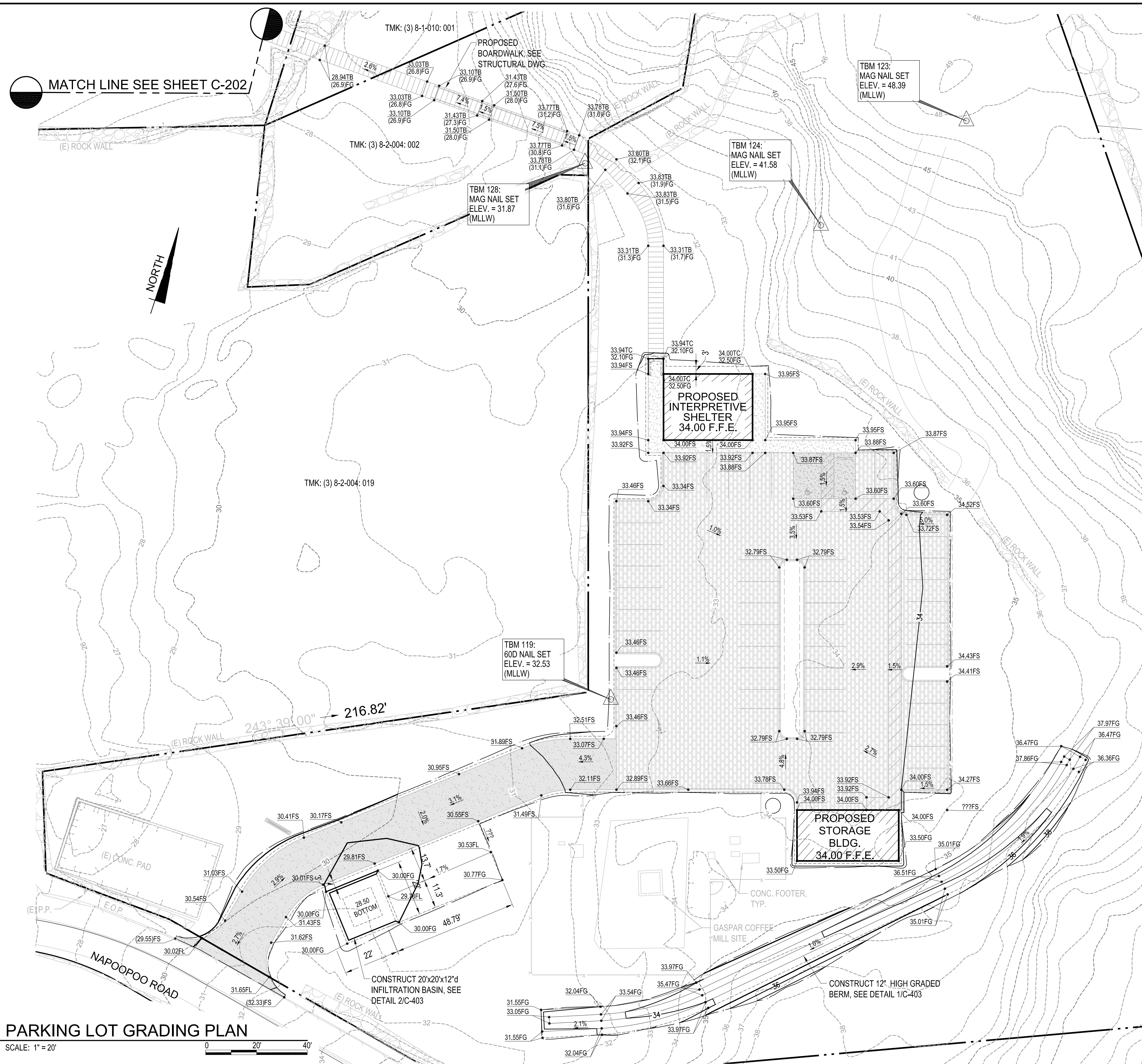
- FG: FINISH GRADE
- FL: FLOW LINE
- FS: FINISH SURFACE
- TC: TOP OF CURB
- TG: TOP OF GRATE
- TB: TOP OF BOARDWALK
- TW: TOP OF WALL
- (ELEV): MATCH EXISTING ELEVATION

**B KAAWALO A COMPOSTING TOILET FACILITY SITE PLAN**  
 SCALE: 1" = 10'

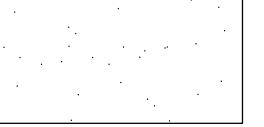

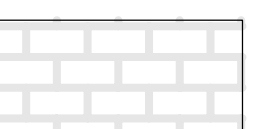

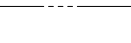

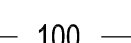
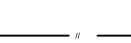
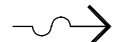
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>KAAWALO A COMPOSTING TOILET FACILITY SITE PLAN</b> ENGINEERING PARTNERS, INC					
DESIGNED:	OH	SUBMITTED:			
DRAWN:	OH	DATE:			
CHECKED:	YWF	SCALE:	AS NOTED		
APPROVED:	YWI	Dina Lau	DRAWING NO.		
CHIEF ENGINEER:	E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii		<b>C-105</b>		

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 11:28 am  
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**LEGEND**

-  NEW CONCRETE
-  NEW CONCRETE PAVEMENT
-  NEW PAVEDRAIN PERMEABLE PAVER
-  GRADE BREAK
-  SWALE LINE
-  EXISTING CONTOURS
-  NEW FINISH GRADE CONTOURS
-  LIMITS OF GRADING
-  DRAINAGE DIRECTION: GRADE AWAY FROM BUILDING, GRADE TOWARDS SWALES AND AREAS DRAINS

**SPOT ELEVATIONS ABBREVIATION**

- FG: FINISH GRADE
- FL: FLOW LINE
- FS: FINISH SURFACE
- TC: TOP OF CURB
- TG: TOP OF GRATE
- TB: TOP OF BOARDWALK
- TW: TOP OF WALL
- (ELEV): MATCH EXISTING ELEVATION

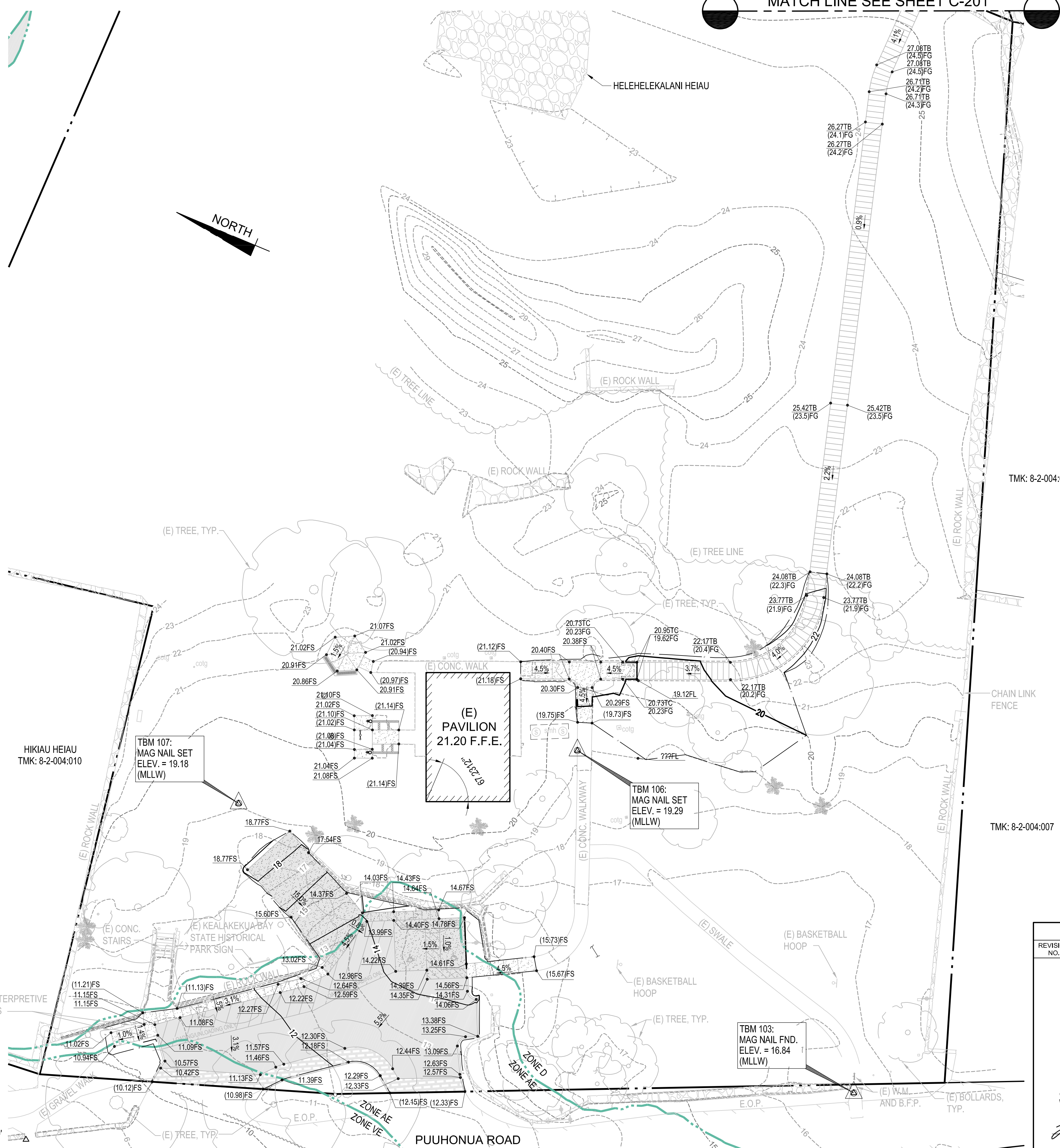
**A PARKING LOT GRADING PLAN**  
 SCALE: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>PARKING LOT GRADING PLAN</b> ENGINEERING PARTNERS, INC					
DESIGNED: OH	SUBMITTED: 				
DRAWN: OH	DATE:				
CHECKED: YWF	SCALE: AS NOTED				
APPROVED: YWF	Dina Lau E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO. <b>C-201</b>		

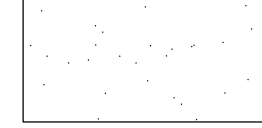

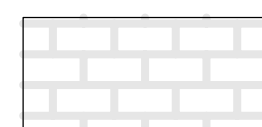

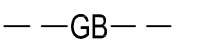
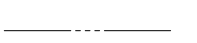



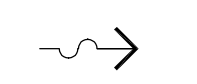
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 11:28 am  
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MATCH LINE SEE SHEET C-201



**LEGEND**

-  NEW CONCRETE
-  NEW CONCRETE PAVEMENT
-  NEW PAVEDRAIN PERMEABLE PAVER
-  NEW PAVEMENT
-  GRADE BREAK
-  SWALE LINE
-  EXISTING CONTOURS
-  NEW FINISH GRADE CONTOURS
-  LIMITS OF GRADING
-  DRAINAGE DIRECTION: GRADE AWAY FROM BUILDING, GRADE TOWARDS SWALES AND AREAS DRAINS

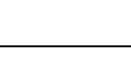
**SPOT ELEVATIONS ABBREVIATION**

- FG: FINISH GRADE
- FL: FLOW LINE
- FS: FINISH SURFACE
- TC: TOP OF CURB
- TG: TOP OF GRATE
- TB: TOP OF BOARDWALK
- TW: TOP OF WALL
- (ELEV): MATCH EXISTING ELEVATION

**EXISTING PAVILION GRADING PLAN**

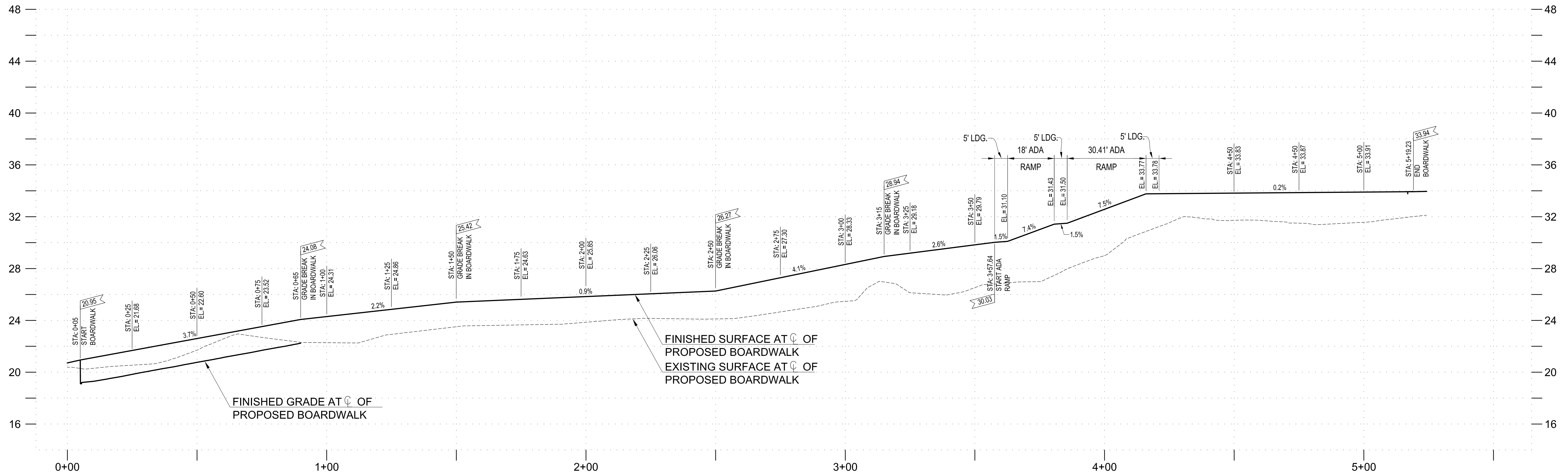
SCALE: 1" = 20'

A

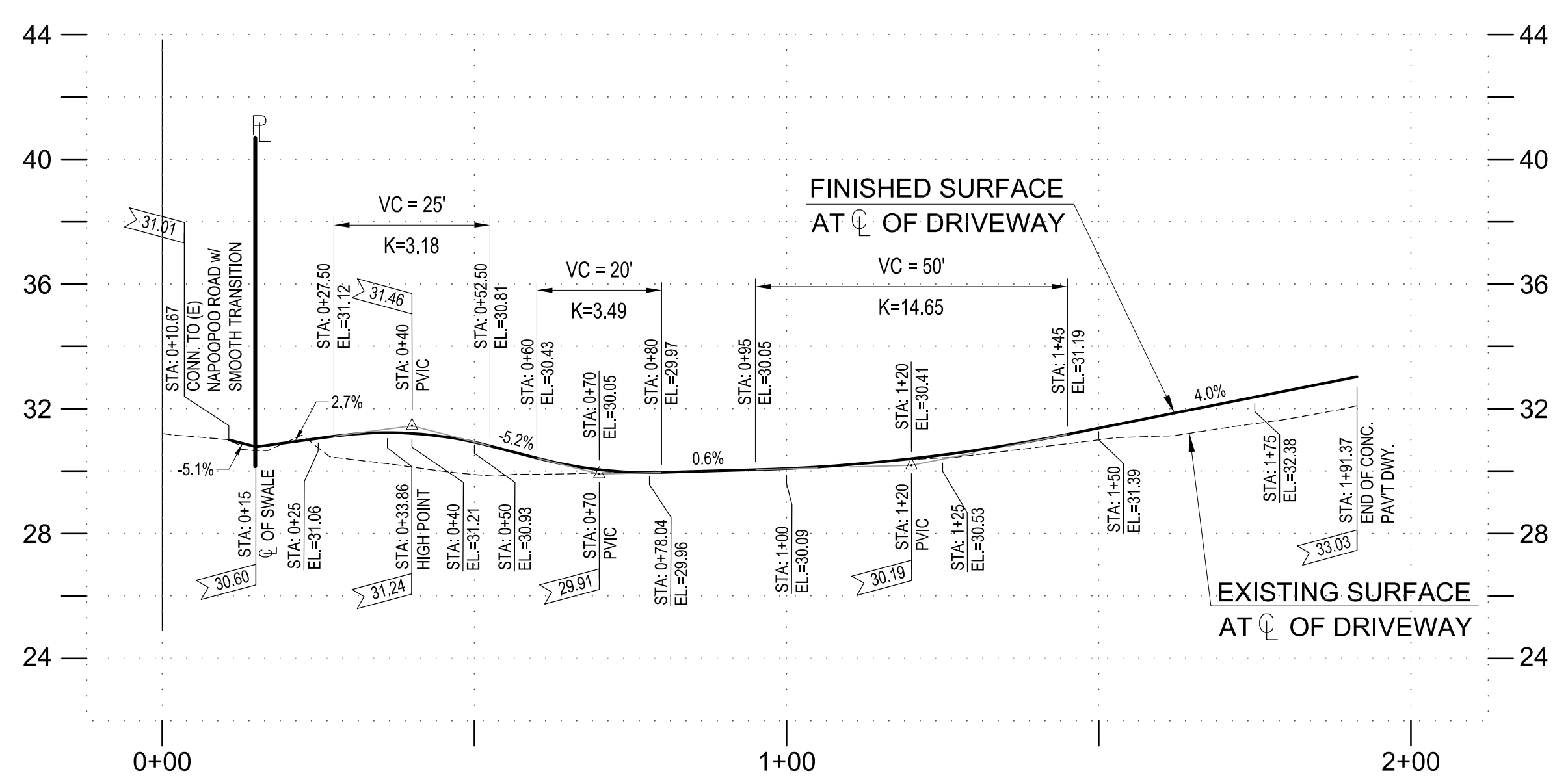
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>EXISTING PAVILION GRADING PLAN</b> ENGINEERING PARTNERS, INC					
DESIGNED: JH	SUBMITTED: 		DATE:		
DRAWN: OH	CHECKED: YWF		SCALE: AS NOTED		
APPROVED: YWF	CHIEF ENGINEER: Dina Lau E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO. <b>C-202</b>		

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

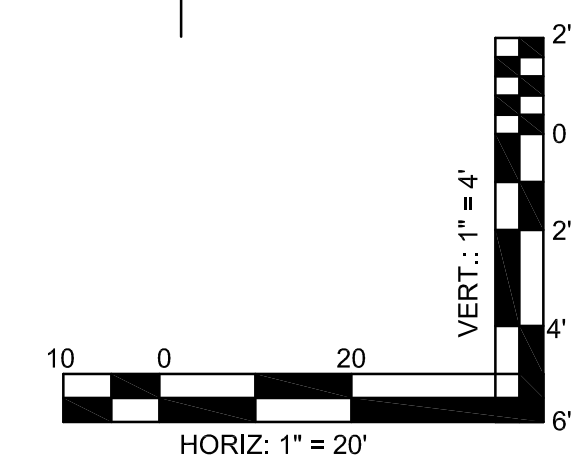
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**A BOARDWALK PROFILE**  
 HORIZ. SCALE: 1" = 20'  
 VERT. SCALE: 1" = 4'



**B DRIVEWAY PROFILE**  
 HORIZ. SCALE: 1" = 20'  
 VERT. SCALE: 1" = 4'



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>DRIVEWAY AND BOARDWALK PROFILES</b> ENGINEERING PARTNERS, INC					
DESIGNED: OH DRAWN: OH CHECKED: YWF APPROVED: YWF CHIEF ENGINEER:			SUBMITTED: <i>[Signature]</i> DATE: SCALE: AS NOTED		DRAWING NO. <b>C-203</b>

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]*  
 SIGNATURE

Dina Lau  
 E-signed 2026-05-08 02:16PM HST  
 dina.u.lau@hawaii.gov  
 State of Hawaii

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 11:30 am  
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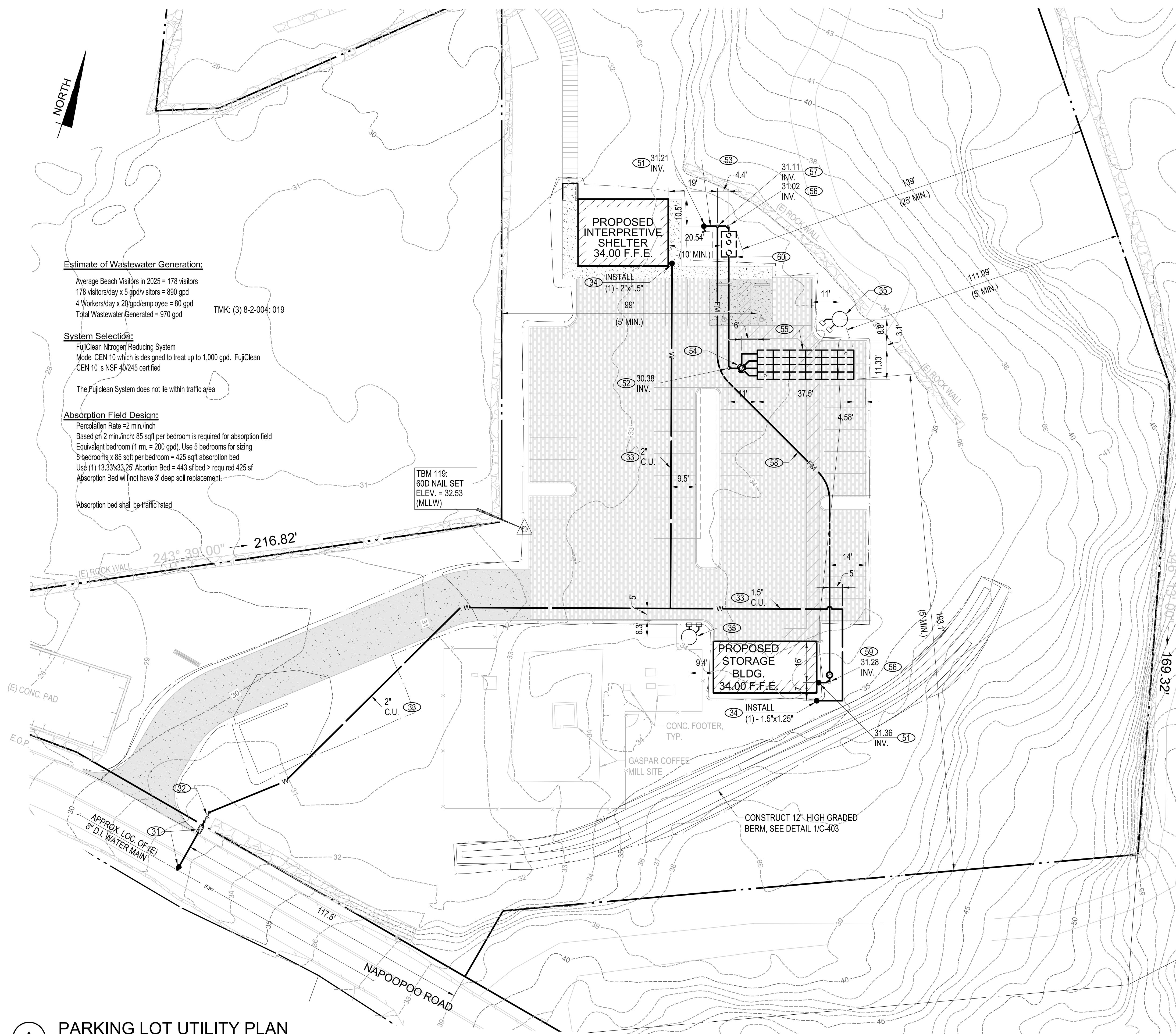


**Estimate of Wastewater Generation:**  
 Average Beach Visitors in 2025 = 178 visitors  
 178 visitors/day x 5 gpd/visitors = 890 gpd  
 4 Workers/day x 20 gpd/employee = 80 gpd  
 Total Wastewater Generated = 970 gpd  
 TMK: (3) 8-2-004: 019

**System Selection:**  
 FujiClean Nitrogen Reducing System  
 Model CEN 10 which is designed to treat up to 1,000 gpd. FujiClean CEN 10 is NSF 40/245 certified  
 The FujiClean System does not lie within traffic area

**Absorption Field Design:**  
 Percolation Rate = 2 min./inch  
 Based on 2 min./inch: 85 sqft per bedroom is required for absorption field  
 Equivalent bedroom (1 rm. = 200 gpd). Use 5 bedrooms for sizing  
 5 bedrooms x 85 sqft per bedroom = 425 sqft absorption bed  
 Use (1) 13.33'x33.25' Absorption Bed = 443 sf bed > required 425 sf  
 Absorption Bed will not have 3' deep soil replacement.  
 Absorption bed shall be traffic rated

TBM 119:  
 60D NAIL SET  
 ELEV. = 32.53  
 (MLLW)



**WATER CONST. NOTES**

- 31 INSTALL NEW 2" COPPER SERVICE LATERAL TYPE "A", FOR A 1.5" WATER METER W/ NEW METER BOX, PER DWS STD. DET. L8, L9, L10, & M3  
 INSTALL:  
 (1) - 2" DOUBLE STRAP SERVICE SADDLE
- 32 INSTALL 2" RP TYPE D.W.S. APPROVED BACKFLOW PREVENTOR WITHIN 5 FEET OF WATER METER PER D.W.S. DET. V9
- 33 CONSTRUCT COPPER WATERLINE, SIZE PER PLAN, PER DETAIL
- 34 CONNECT NEW WATER LINE TO BUILDING WATER LINE. SEE PLUMBING DRAWINGS FOR CONTINUATION
- 35 CONSTRUCT 1,000 GAL. FIRE PROTECTION TANK WITH STAND PIPE AND WATER HAULING TRUCK CONNECTION PER DETAIL

**AEROBIC TREATMENT WASTEWATER TREATMENT SYSTEM CONST. NOTES**

- 51 CONNECT NEW SEWER LINE TO BUILDING SEWER LINE. SEE PLUMBING DRAWINGS FOR CONTINUATION
- 52 CONSTRUCT TRAFFIC RATED CLEANOUT TO GRADE (C.O.T.G.) PER DETAIL
- 53 CONSTRUCT 4" PVC SDR-35 SEWER LINE WITH 2.0% MINIMUM SLOPE, UNLESS OTHERWISE NOTED, PER DETAIL
- 54 CONSTRUCT H-20 TRAFFIC RATED DISTRIBUTION BOX, PER DETAIL
- 55 CONSTRUCT H-20 TRAFFIC RATED GRAVEL-LESS BED WITH INFILTRATOR CHAMBERS, SIZE PER PLAN, PER DETAIL
- 56 CONSTRUCT NON-TRAFFIC RATED CLEANOUT TO GRADE (C.O.T.G.) PER DETAIL
- 57 CONSTRUCT NON-TRAFFIC RATED CLEANOUT TO GRADE (C.O.T.G.) WITH FORCE MAIN CONNECTION PER DETAIL
- 58 CONSTRUCT 1-1/4" SEWER FORCE MAIN PER DETAIL
- 59 CONSTRUCT EONE GRINDER PUMP DH071 PER DETAIL
- 60 CONSTRUCT NITROGEN REDUCING SYSTEM FUJICLEAN CEN10 PER DETAIL

**LEGEND**

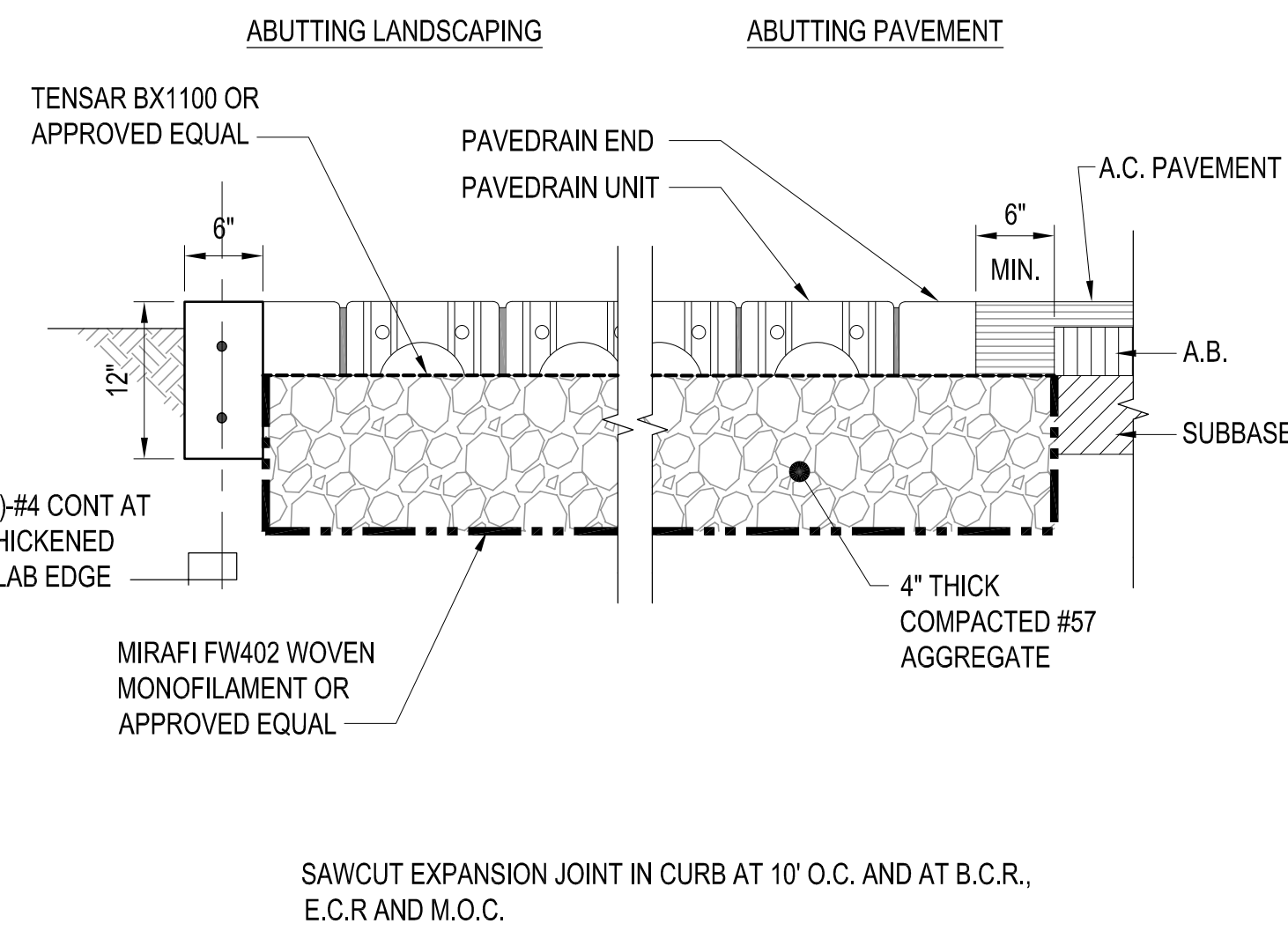
	NEW CONCRETE		SWALE LINE
	NEW CONCRETE PAVEMENT		EXISTING CONTOURS
	NEW PAVEDRAIN PERMEABLE PAVER		NEW FINISH GRADE CONTOURS
			LIMITS OF GRADING
			PROPOSED WATER LINE
			PROPOSED SEWER FORCED MAIN
			PROPOSED SEWER LINE

**A PARKING LOT UTILITY PLAN**  
 SCALE: 1" = 20'

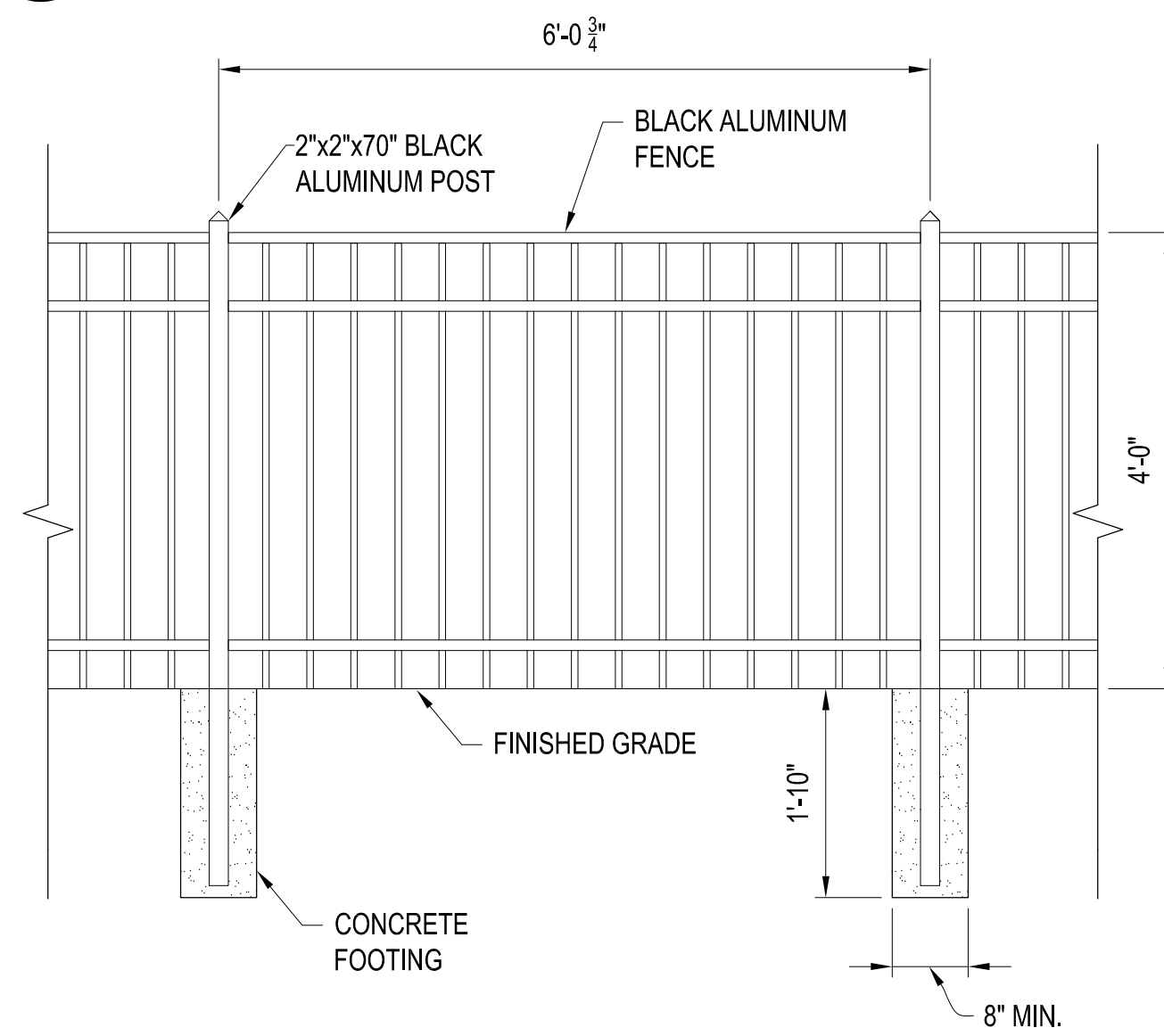
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>PARKING LOT UTILITY PLAN</b> ENGINEERING PARTNERS, INC					
DESIGNED: OH		SUBMITTED:		DATE:	
DRAWN: OH		SCALE: AS NOTED		DRAWING NO. <b>C-301</b>	
CHECKED: YWF		APPROVED: YWF		CHIEF ENGINEER: Dina Lau	
APPROVED: YWF		SIGNATURE:		E-signed 2026-05-08 02:16PM HST dina.lau@hawaii.gov State of Hawaii Civil Engineer	

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

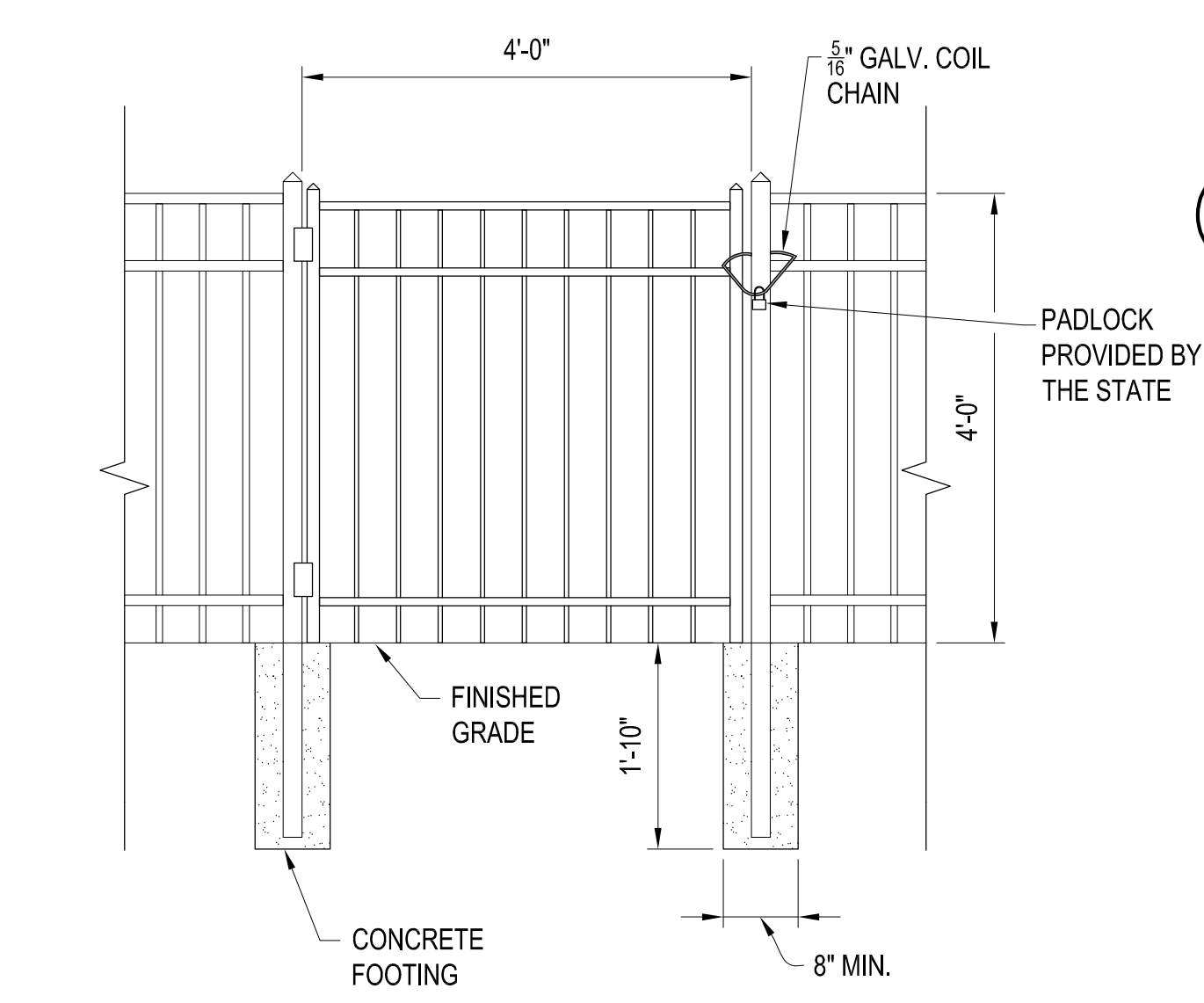
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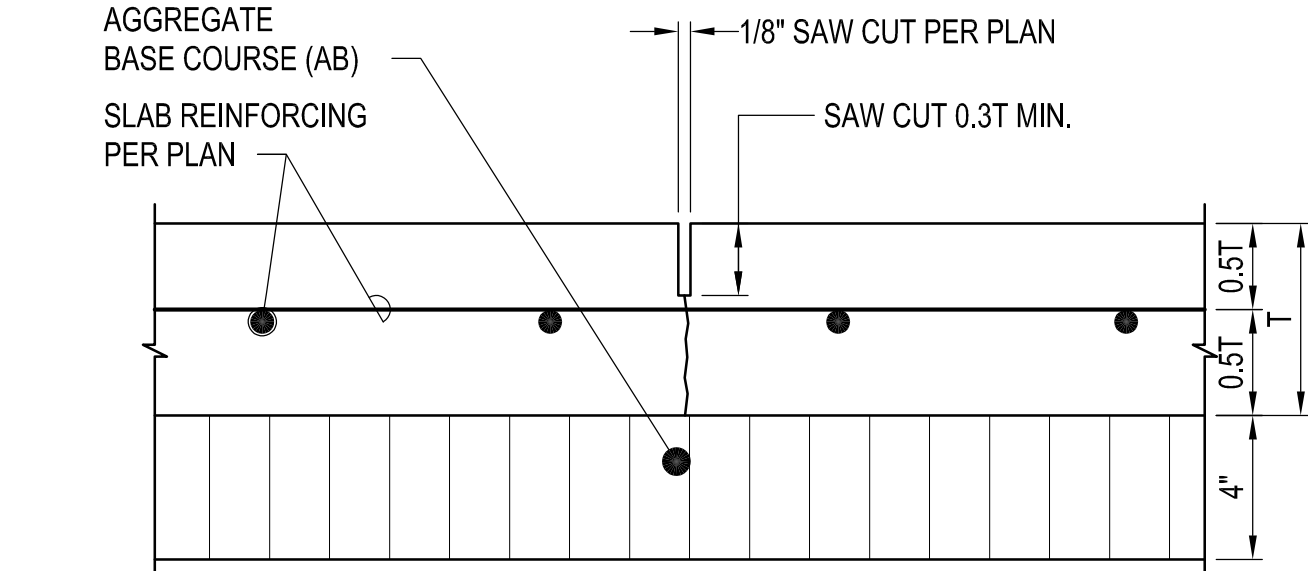
**8 PAVEDRAIN PERMEABLE PAVER**  
 SCALE: NOT TO SCALE



**9 BLACK ALUMINUM FENCE**  
 SCALE: NOT TO SCALE

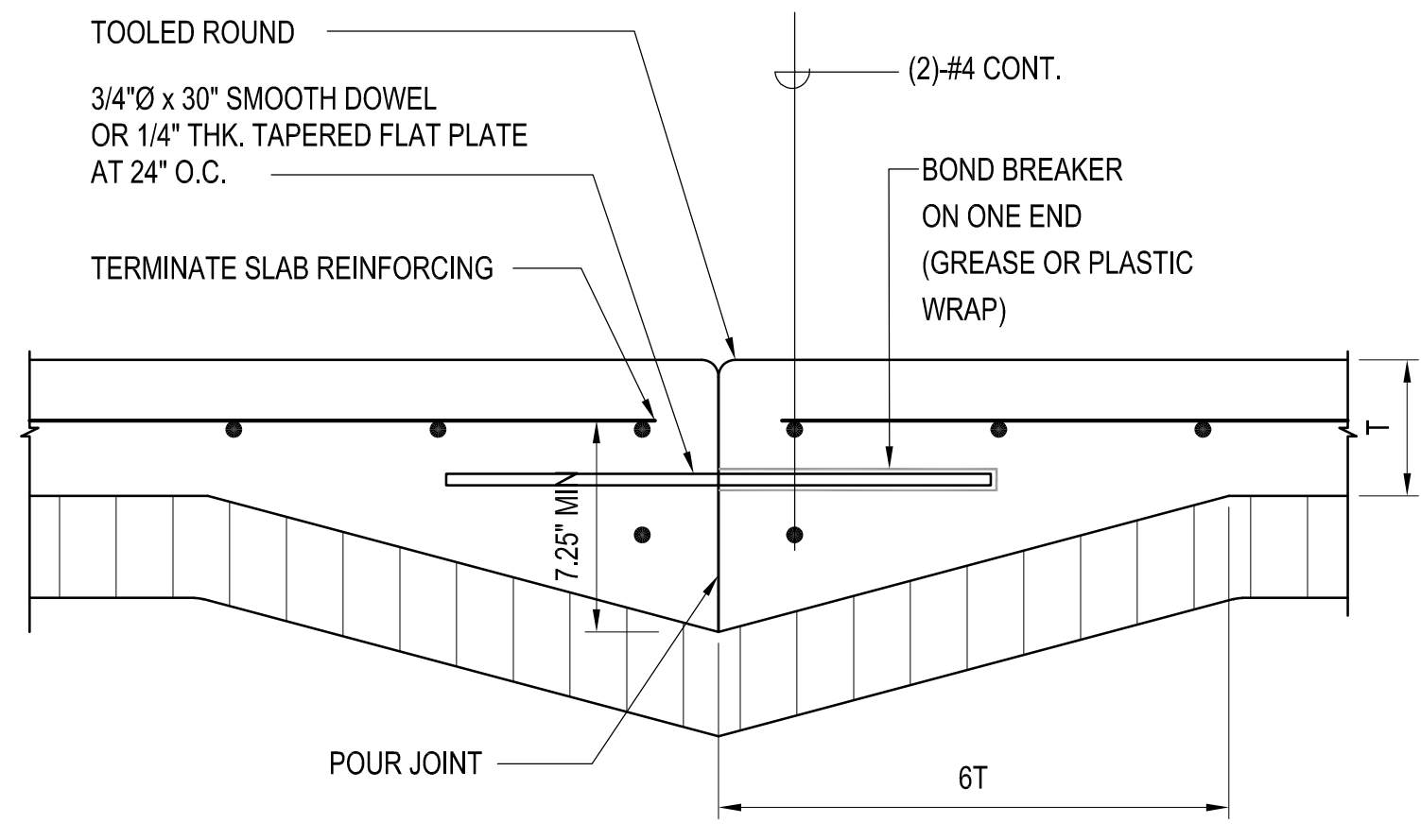


**10 BLACK ALUMINUM FENCE**  
 SCALE: NOT TO SCALE

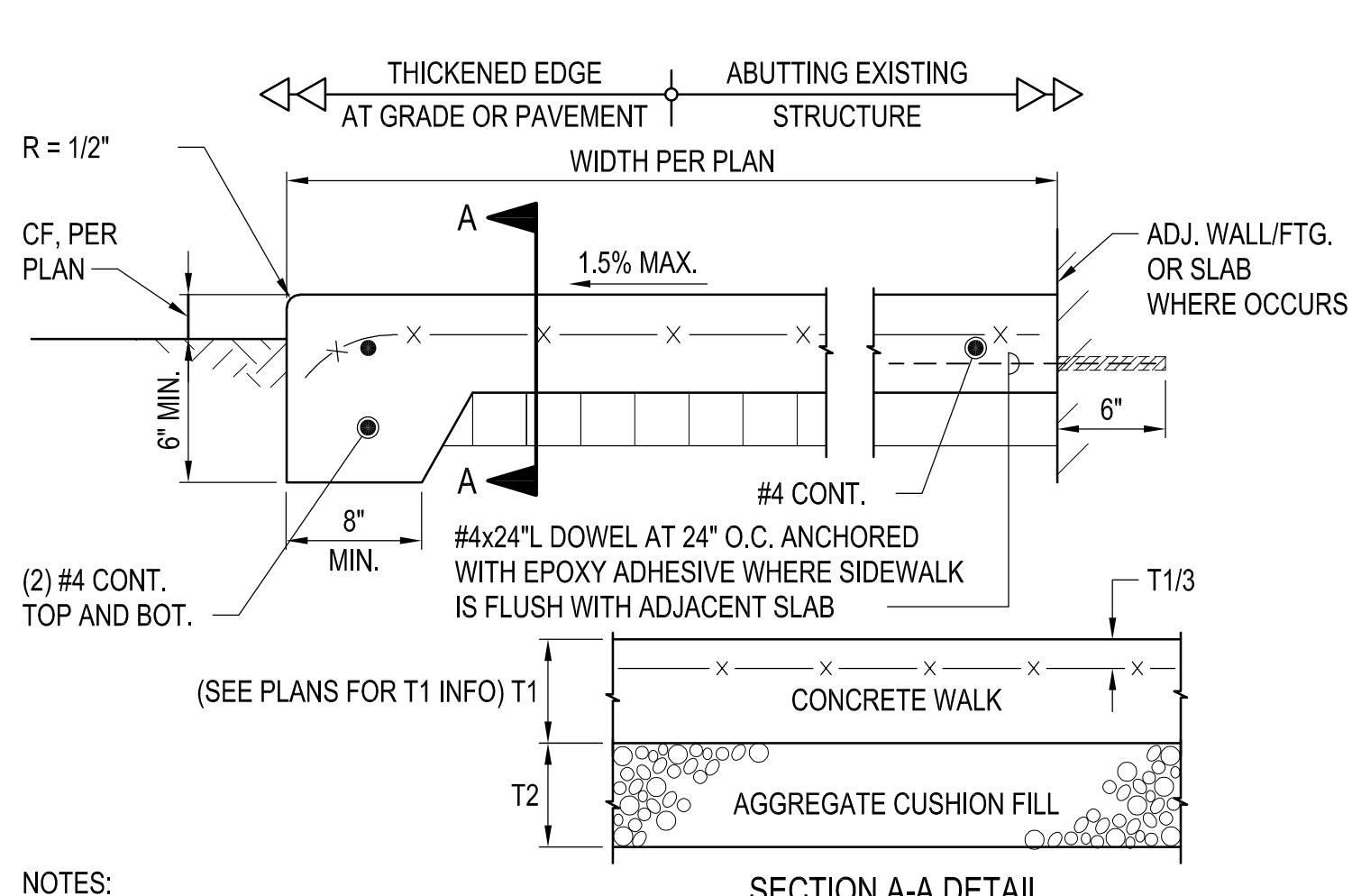


**NOTES:**  
 UNLESS OTHERWISE NOTED, MINIMUM THICKNESS OF CONCRETE PAVEMENT, T, SHALL BE 5 INCHES.  
 U.O.N. MINIMUM CONCRETE COMPRESSIVE STRENGTH, F<sub>c</sub>, SHALL BE 3,000 PSI.  
 U.O.N. MINIMUM CONCRETE PAVEMENT REINFORCING SHALL BE #4 BARS AT 24" O.C., MIN. f<sub>y</sub> = 40 KSI.  
 COMPACTION OF THE SUBGRADE, SUBBASE, AND A.B. MUST BE OBSERVED AND CERTIFIED BY THE GEOTECHNICAL ENGINEER. WHERE THERE IS NO GEOTECHNICAL ENGINEER AVAILABLE, COMPACTION MAY BE DONE BY MAKING A MINIMUM OF EIGHT (8) PASSES WITH A D-9 DOZER OR EQUIVALENT.  
 CCJ SHALL BE CUT IN A SQUARE PATTERN WITH MAXIMUM SPACING AS FOLLOWS: (T = 4", 8" O.C.), (T = 5", 10" O.C.), (T = 6", 12" O.C.)

**6 CONCRETE PAVEMENT AND CRACK CONTROL JOINT (CCJ)**  
 SCALE: NOT TO SCALE

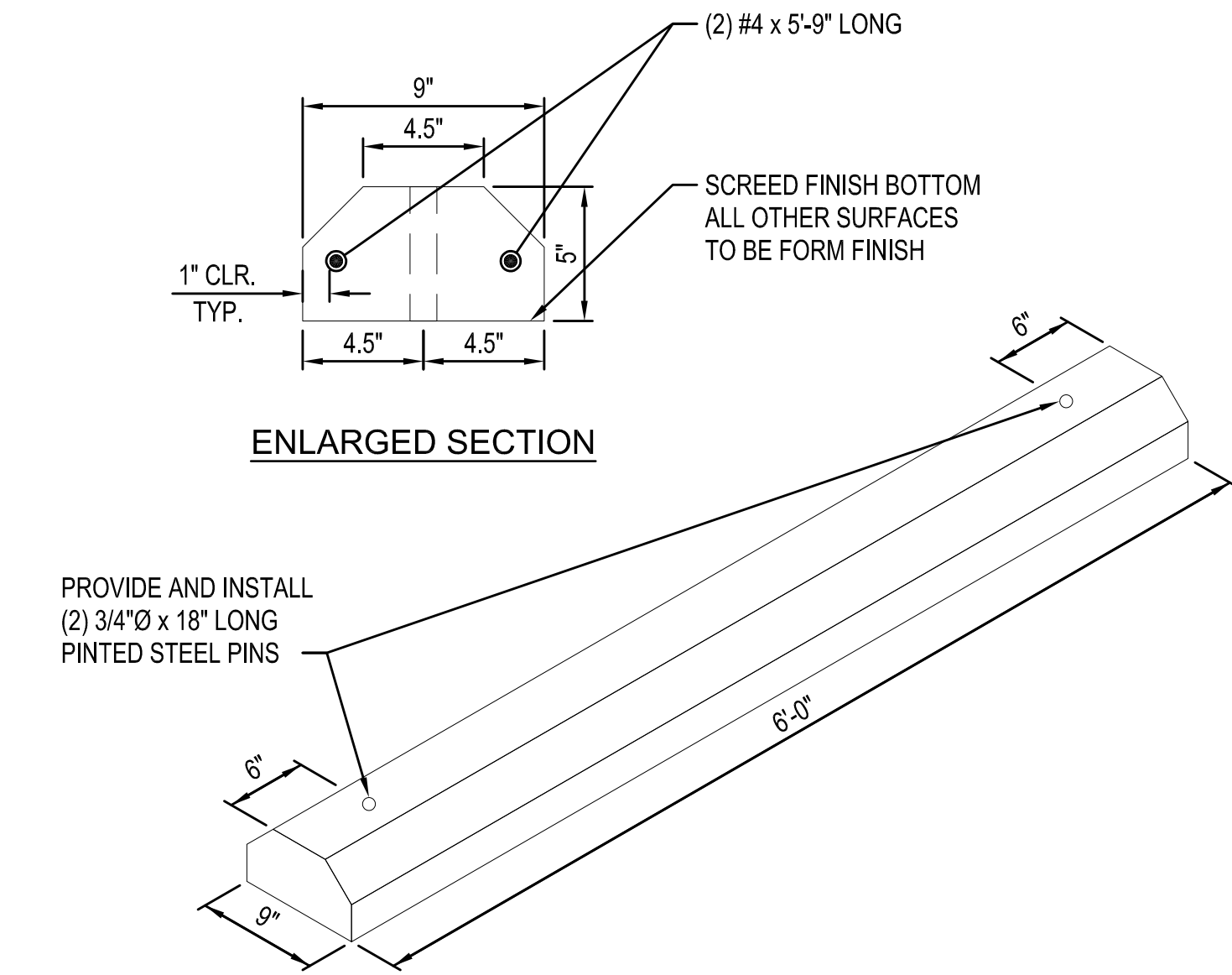


**7 CONC. PAV'T CONST. JOINT (CJ)**  
 SCALE: NOT TO SCALE

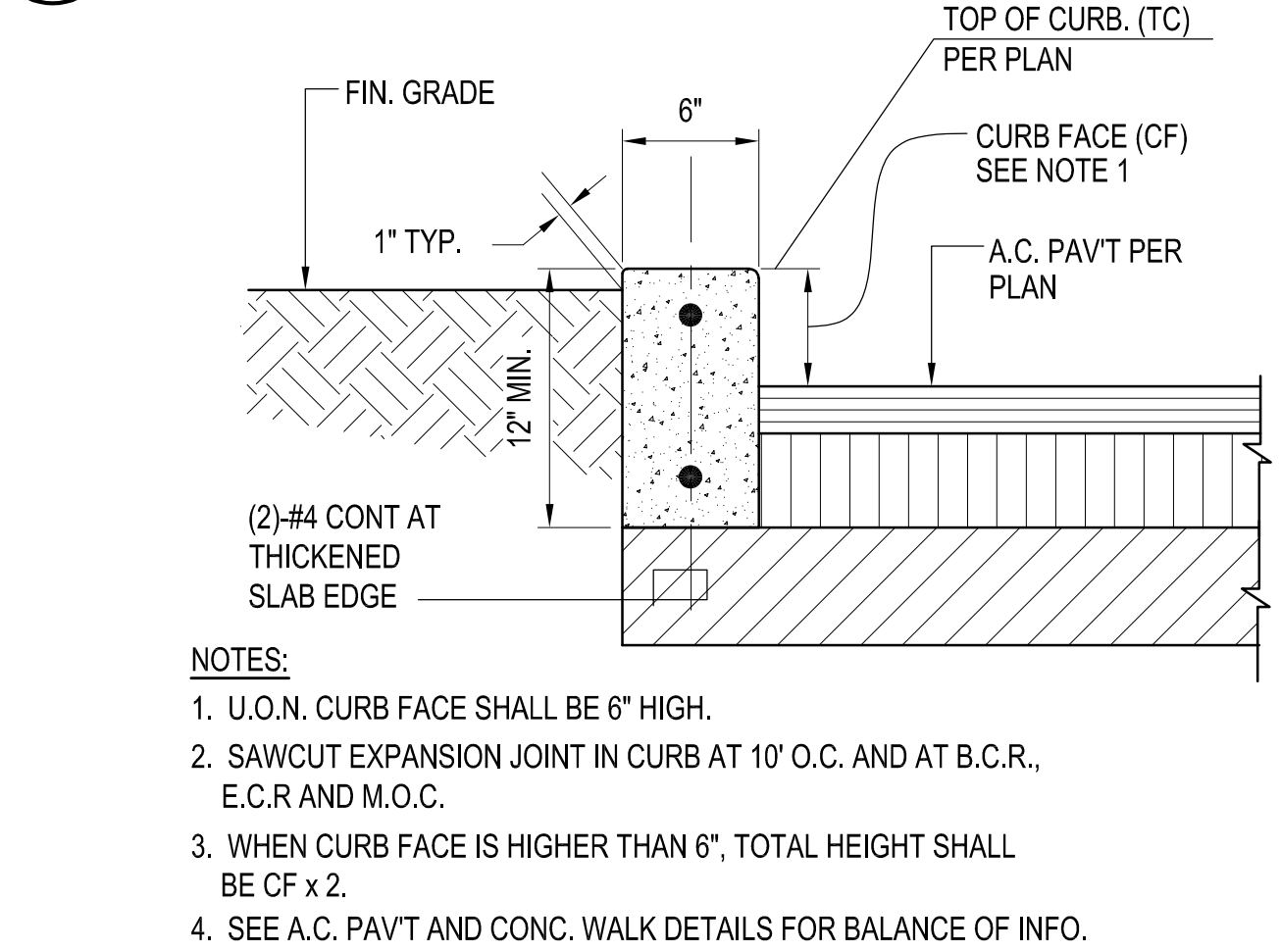


**NOTES:**  
 U.O.N. MINIMUM REQUIREMENTS SHALL BE:  
 1. CONCRETE SHALL BE 2,500 PSI. T<sub>1</sub> = 4"  
 2. AGGREGATE CUSHION FILL SHALL BE ASTM C33 NO. 67. T<sub>2</sub> = 4"  
 3. REINFORCING SHALL BE GALVANIZED 6"x6" 10/10 (6"x6" W1.4xW1.4) WWM.  
 4. #4 BARS MAY BE SUBSTITUTED WITH 3/8" GATORBAR

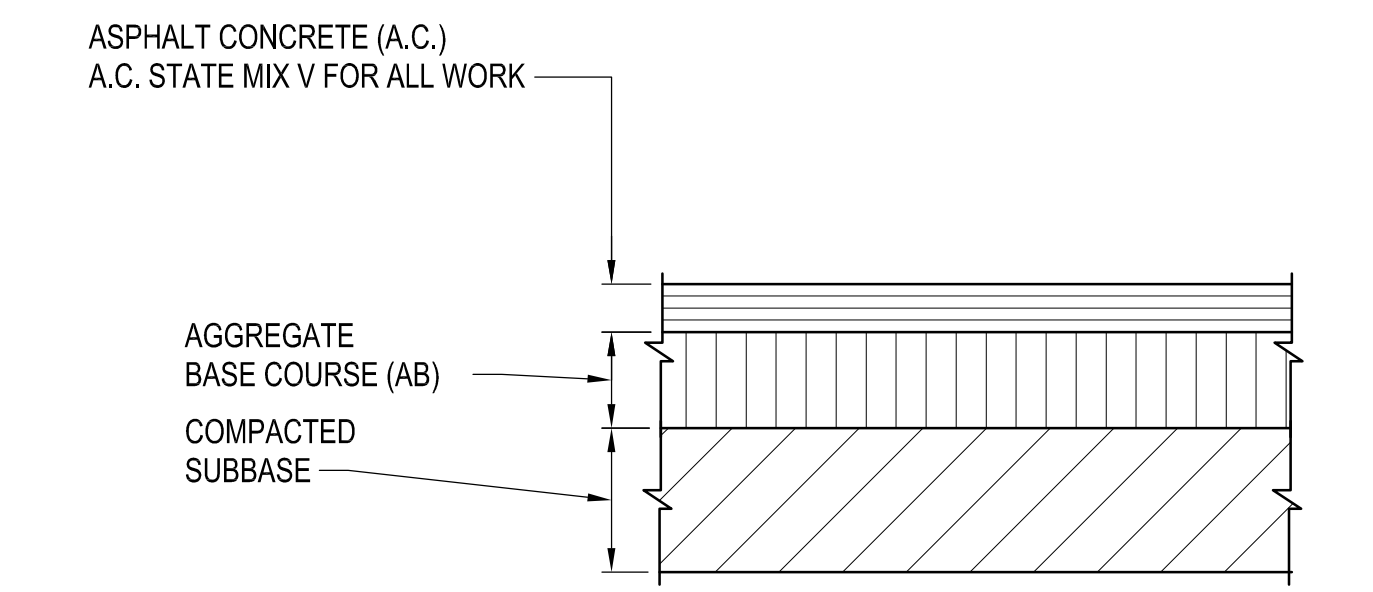
**3 TYPICAL CONCRETE WALK DETAIL**  
 SCALE: NOT TO SCALE



**4 PRECAST CONCRETE WHEELSTOP**  
 SCALE: NOT TO SCALE

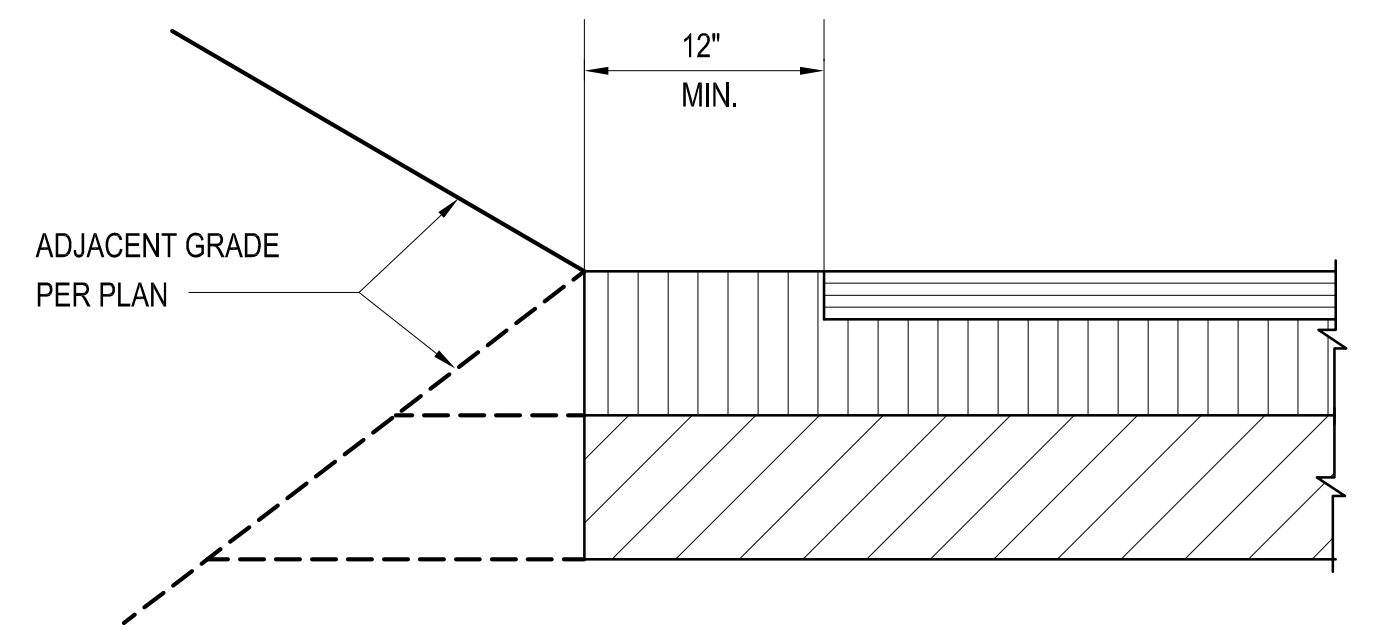


**5 PLANTER CURB DETAIL**  
 SCALE: NOT TO SCALE



**THICKNESS OF A.C., A.B., AND SUBBASE PER PLAN**  
 U.O.N. MINIMUM PAVEMENT SECTION SHALL BE 2" A.C. / 4" A.B. ON 90% COMPACTED SUBGRADE  
 FOR WORK WITHIN COUNTY R.O.W., SUBBASE SHALL BE 6" THICK MINIMUM OR AS SPECIFIED BY THE ENGINEER  
 COMPACTION OF THE SUBGRADE, SUBBASE, AND A.B. MUST BE OBSERVED AND CERTIFIED BY THE GEOTECHNICAL ENGINEER. WHERE THERE IS NO GEOTECHNICAL ENGINEER AVAILABLE, COMPACTION MAY BE DONE BY MAKING A MINIMUM OF EIGHT (8) PASSES WITH A D-9 DOZER OR EQUIVALENT.

**1 TYPICAL A.C. PAVEMENT SECTION**  
 SCALE: NOT TO SCALE



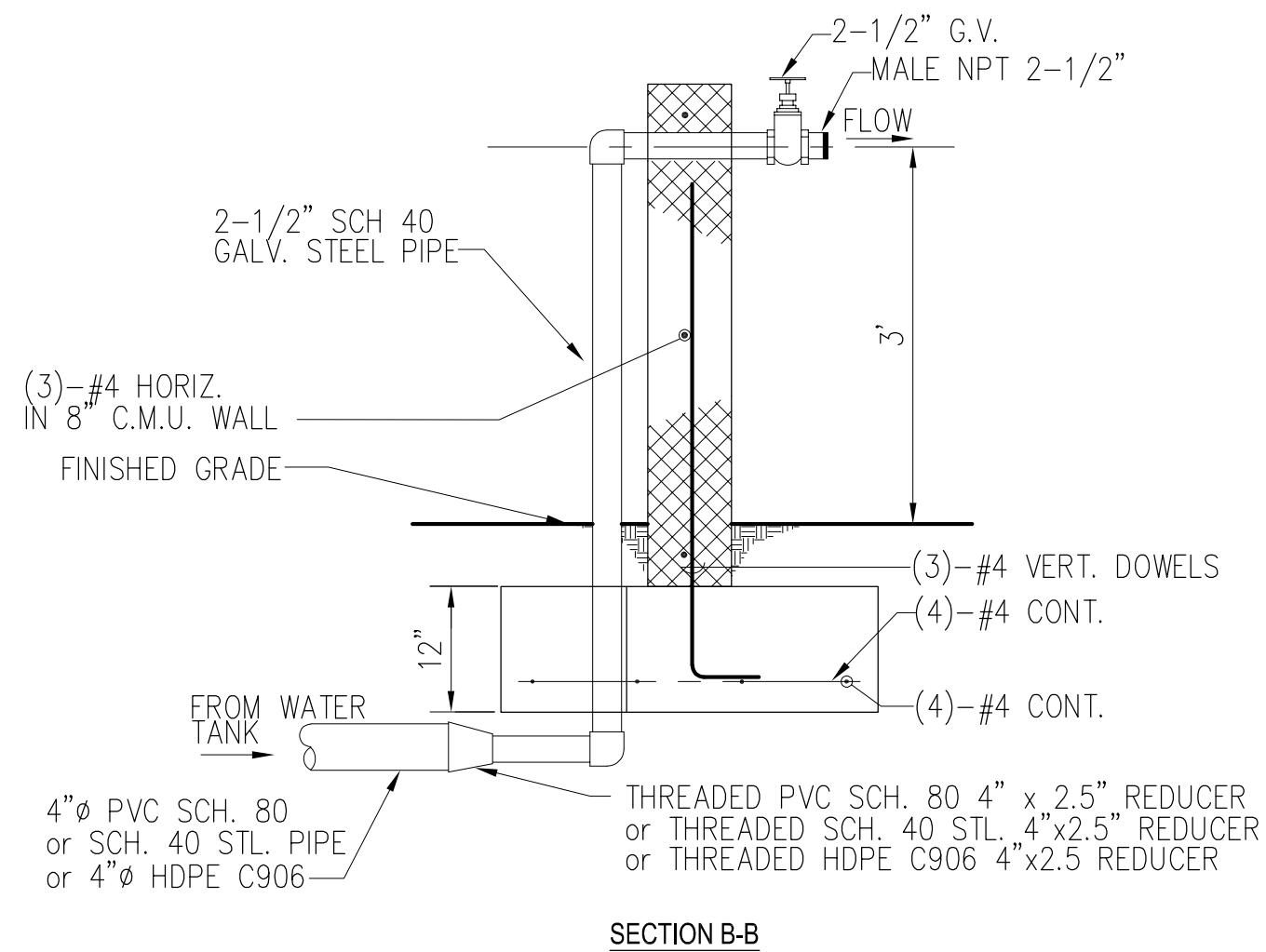
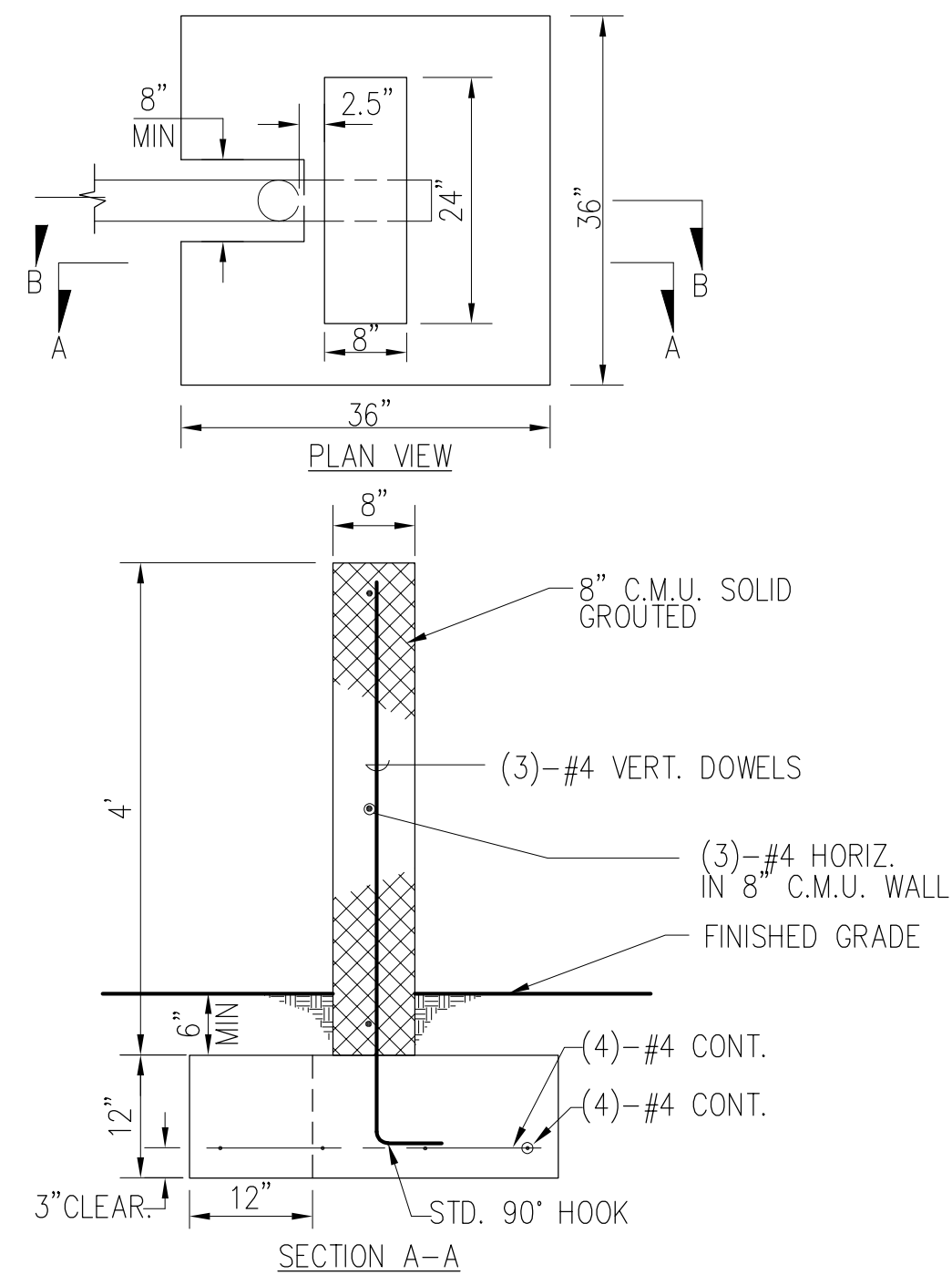
**2 TYPICAL EDGE OF A.C. PAVEMENT**  
 SCALE: NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>CIVIL DETAILS</b> ENGINEERING PARTNERS, INC					
DESIGNED:	OH	SUBMITTED:			
DRAWN:	OH	DATE:			
CHECKED:	YWF	SCALE:	AS NOTED		
APPROVED:	YWF	Dina Lau	E-signed 2026-05-08 02:16PM HST		DRAWING NO.
CHIEF ENGINEER:		dina.lau@hawaii.gov	State of Hawaii		<b>C-401</b>

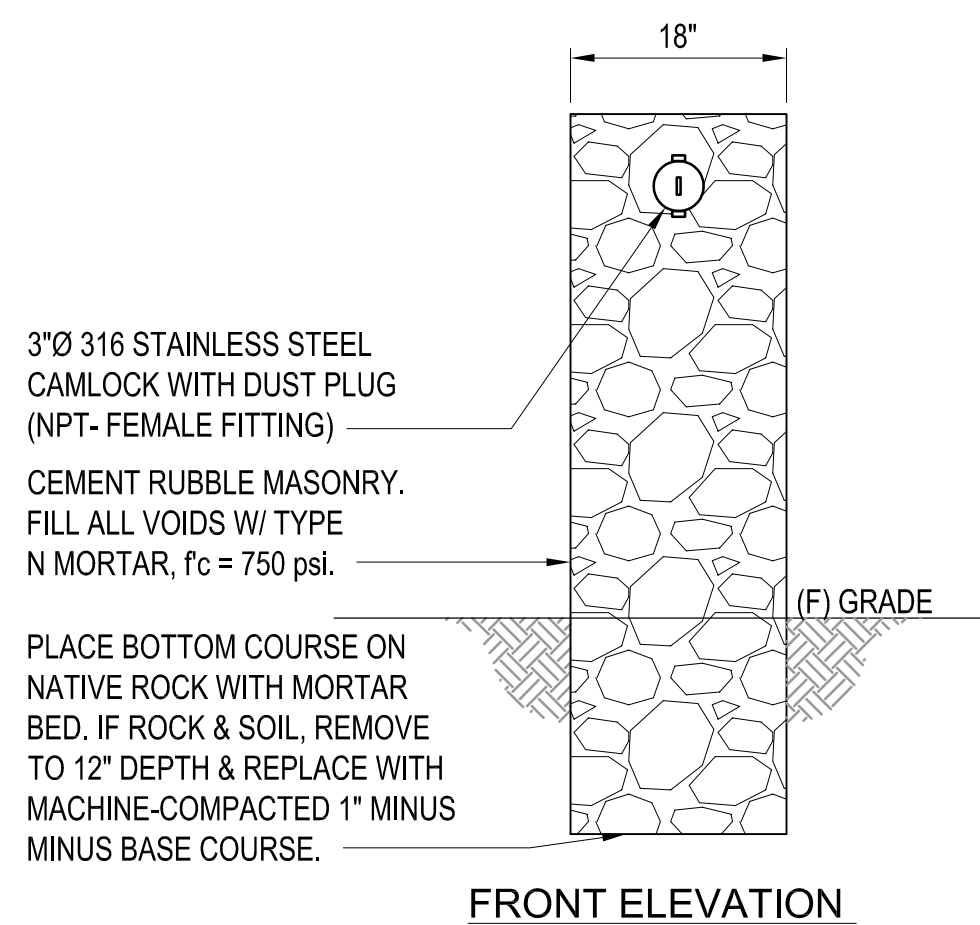
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



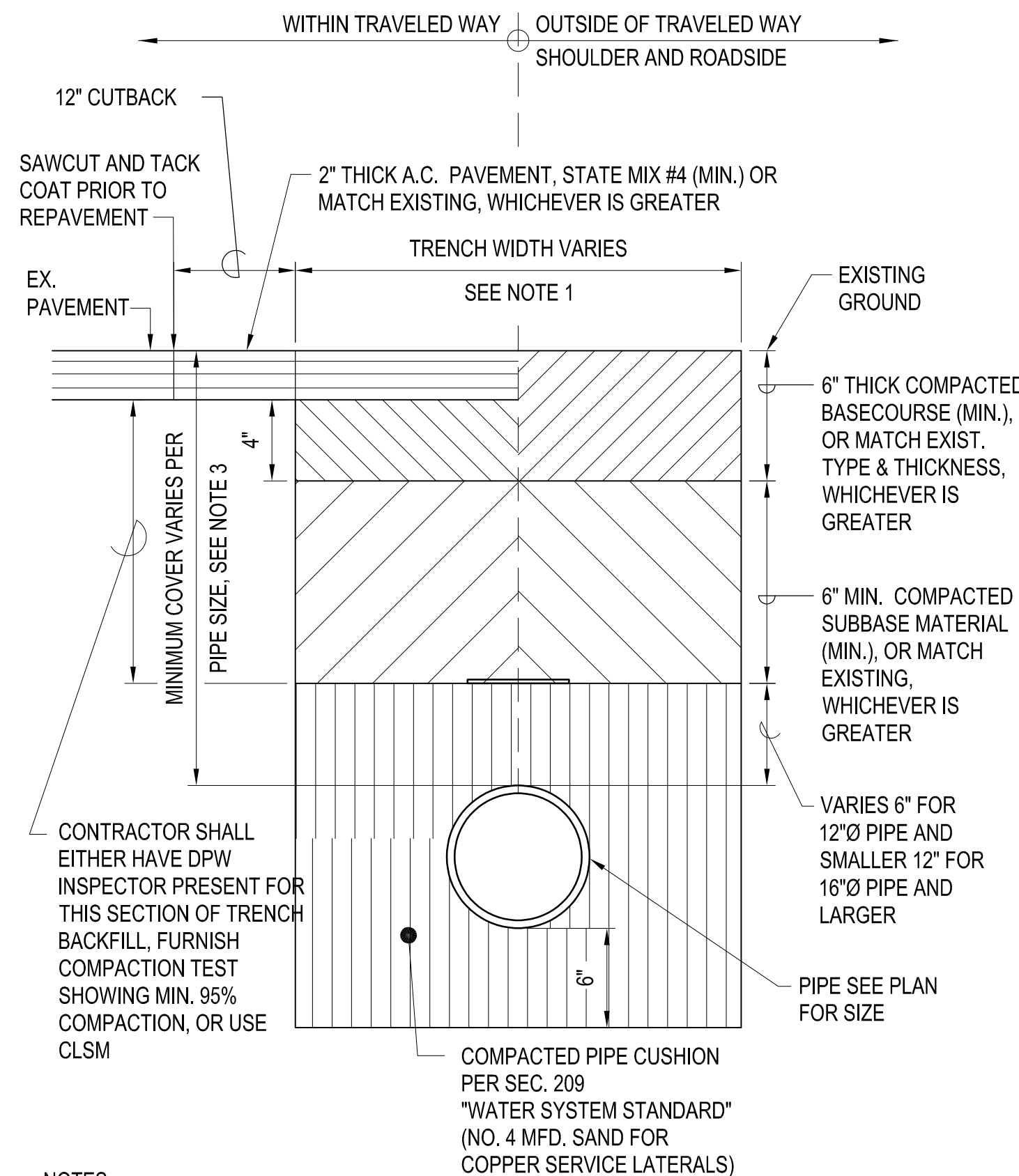
05/05/2026 11:30 am  
 M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-401\_DET.dwg



**4 DRY FIRE HYDRANT MONUMENT**  
 SCALE: NOT TO SCALE

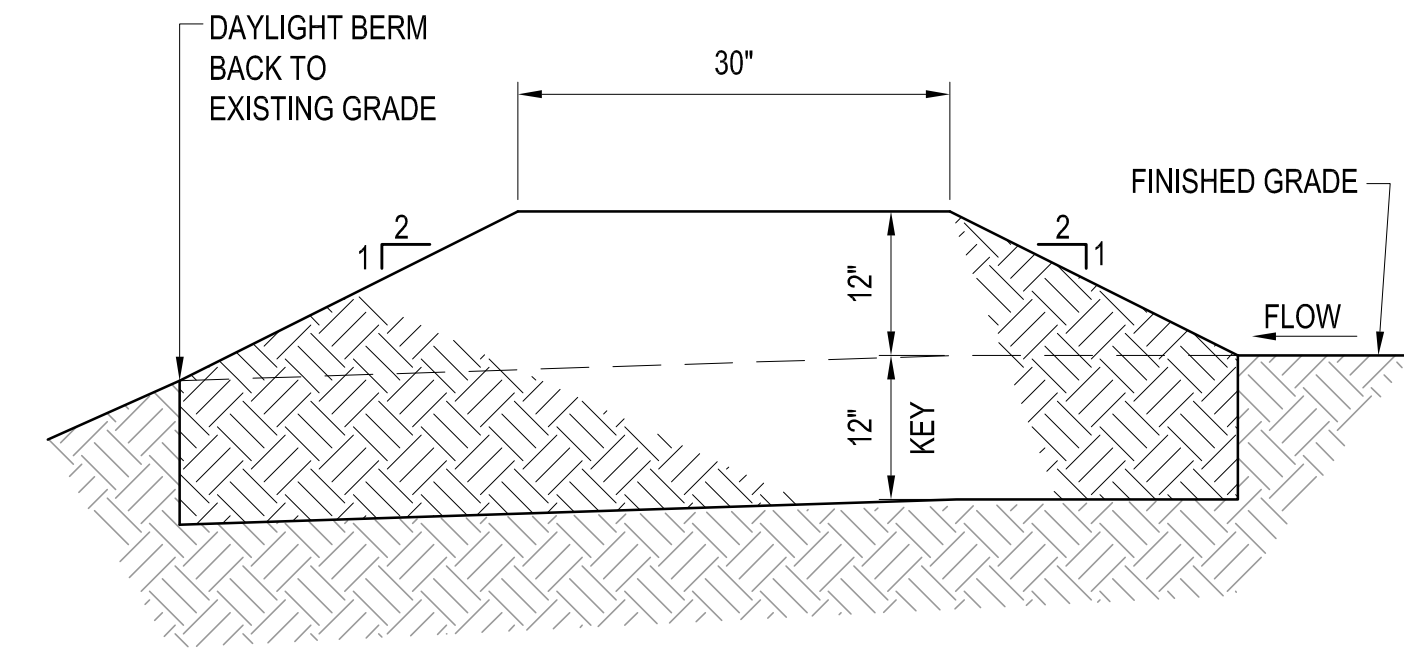
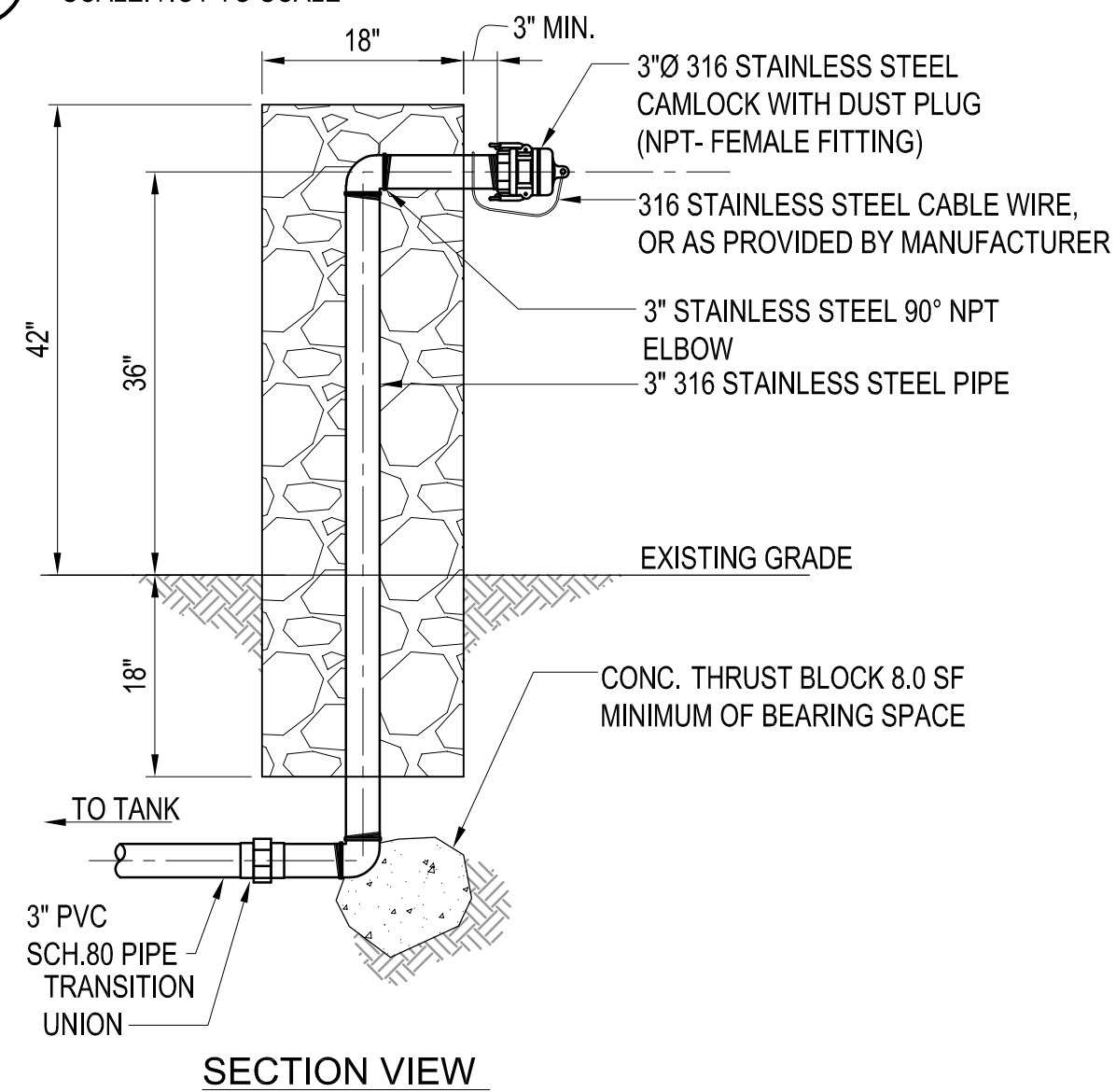


**5 HAULER TRUCK CONNECTION**  
 SCALE: NOT TO SCALE



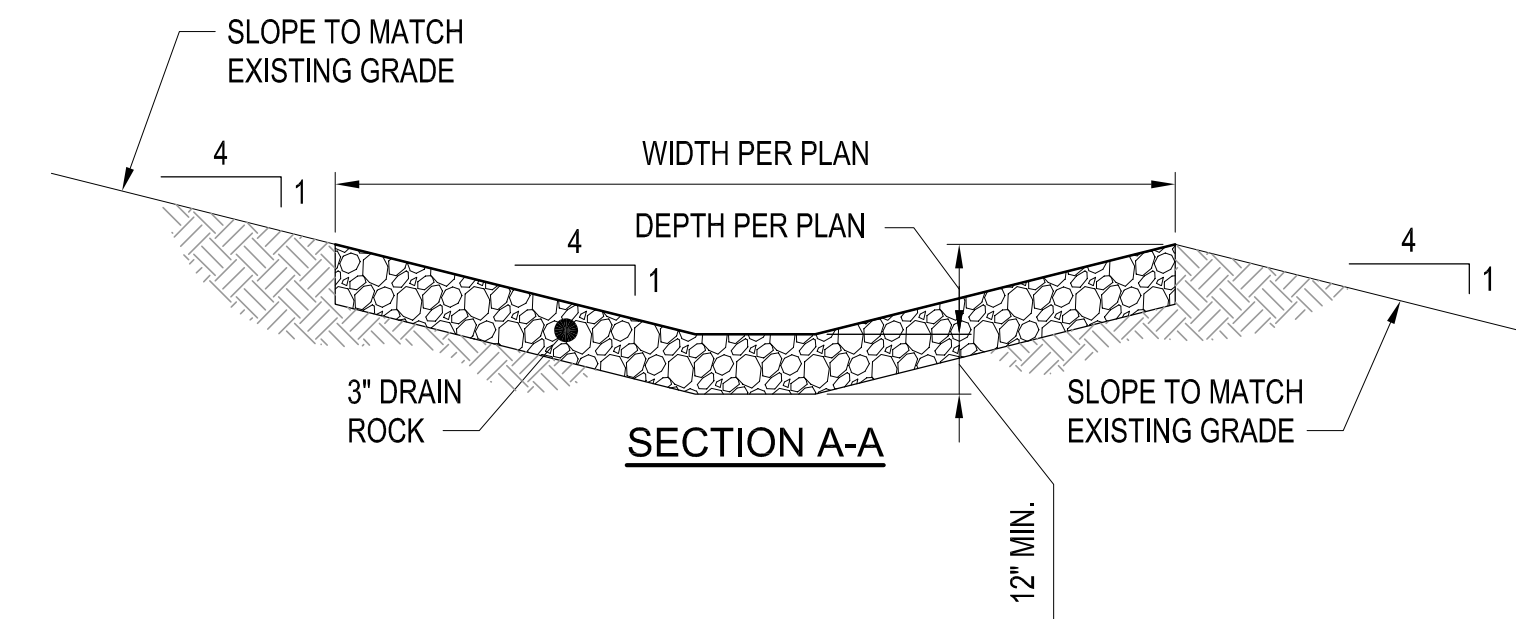
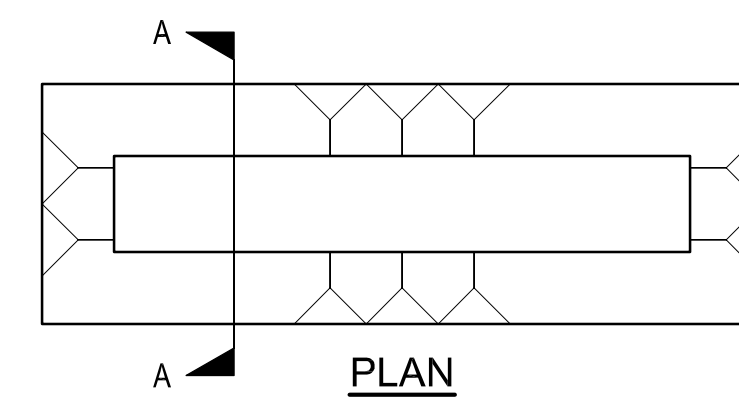
- NOTES:
- SEE TABLE 300-1, PAGE 302-3, WATER SYSTEM STANDARDS AS AMENDED 2002.
  - LOCAL MATERIAL MAY BE USED OUTSIDE SHOULDER AREA.
  - SEE TABLE 100-3, PAGE 102-4, WATER SYSTEM STANDARDS.
  - DRIVEWAY RESTORATION
    - WHERE EXISTING DRIVEWAY IS CONCRETE, 4" THICK CONCRETE REINFORCED WITH 6x6 10/10 WWM ON 4" THICK BASECOURSE SHALL BE USED IN LIEU OF THE ABOVE SECTION.
    - WHERE AN EXISTING DRIVEWAY IS UNPAVED, THE DRIVEWAY SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN THE EXISTING DRIVEWAY.
    - WHERE EXISTING DRIVEWAY IS PAVED, THE DRIVEWAY SHALL BE RESTORED AS SHOWN ABOVE.
    - CONTRACTOR SHALL NOTIFY THE OWNER OF THE DRIVEWAY 48 HOURS BEFORE COMMENCEMENT OF ANY WORK.
  - ALL NEWLY INSTALLED WATERLINES SHALL HAVE A 4 MIL THICK, 6 INCH WIDE, NON METALLIC BLUE WARNING TAPE OVER CENTERLINE OF PIPE LABELED "CAUTION WATERLINE BURIED BELOW"

**3 TYPICAL TRENCH AND PAVEMENT REPAIR SECTION**  
 SCALE: NOT TO SCALE



- NOTES:
- HYDRO-SEED EARTH BERM AFTER CONSTRUCTION.

**1 GRADED EARTH BERM DETAIL**  
 NOT TO SCALE

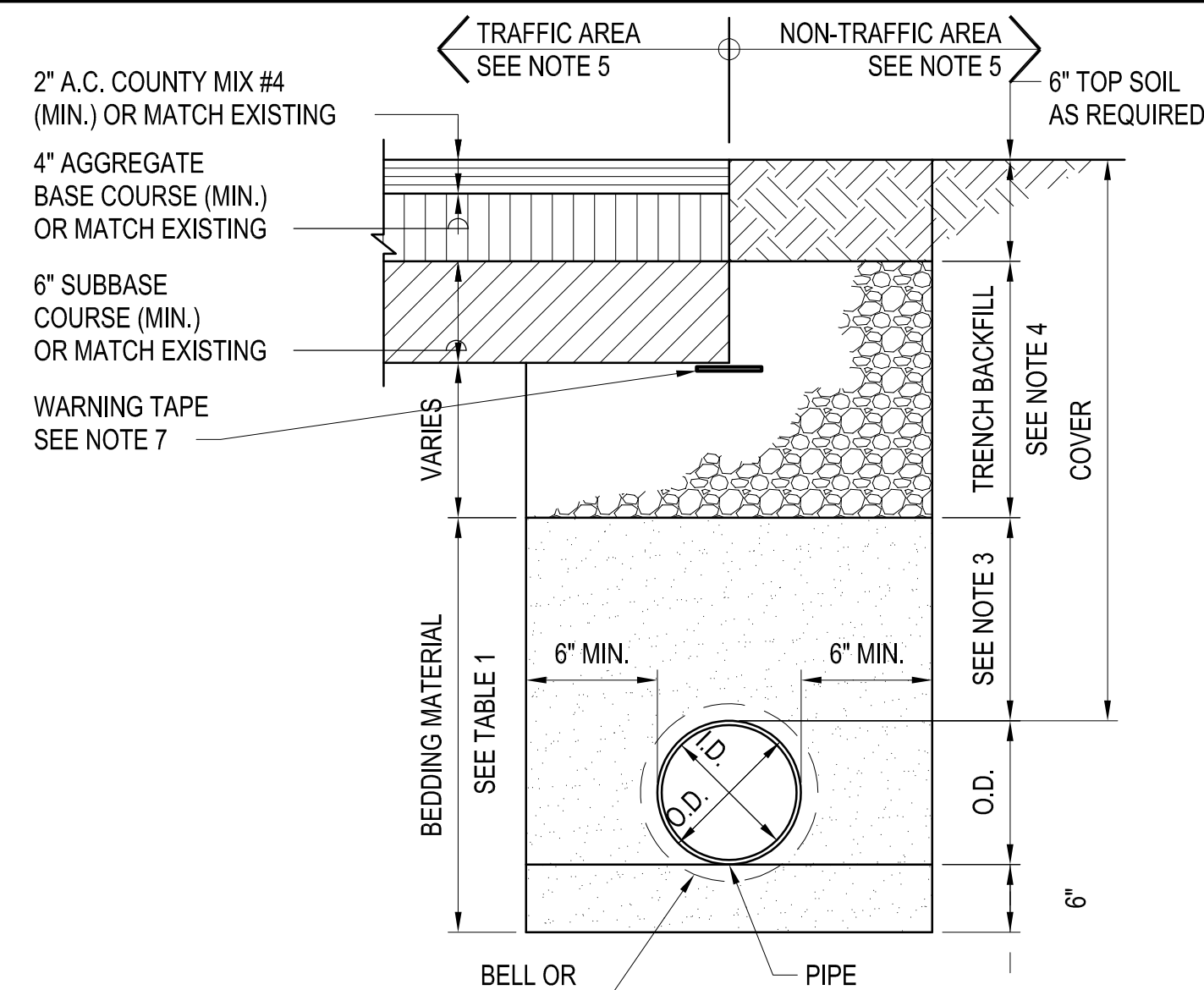


**2 INFILTRATION BASIN**  
 SCALE: NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS CIVIL DETAILS ENGINEERING PARTNERS, INC					
DESIGNED: OH DRAWN: OH CHECKED: YWF APPROVED: YWF CHIEF ENGINEER:			SUBMITTED: <i>[Signature]</i> DATE: SCALE: AS NOTED DINA LAU E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii CIVIL ENGINEER		
				<b>C-403</b>	

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

05/05/2026 11:30 am M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-401\_DET.dwg



**NOTES:**

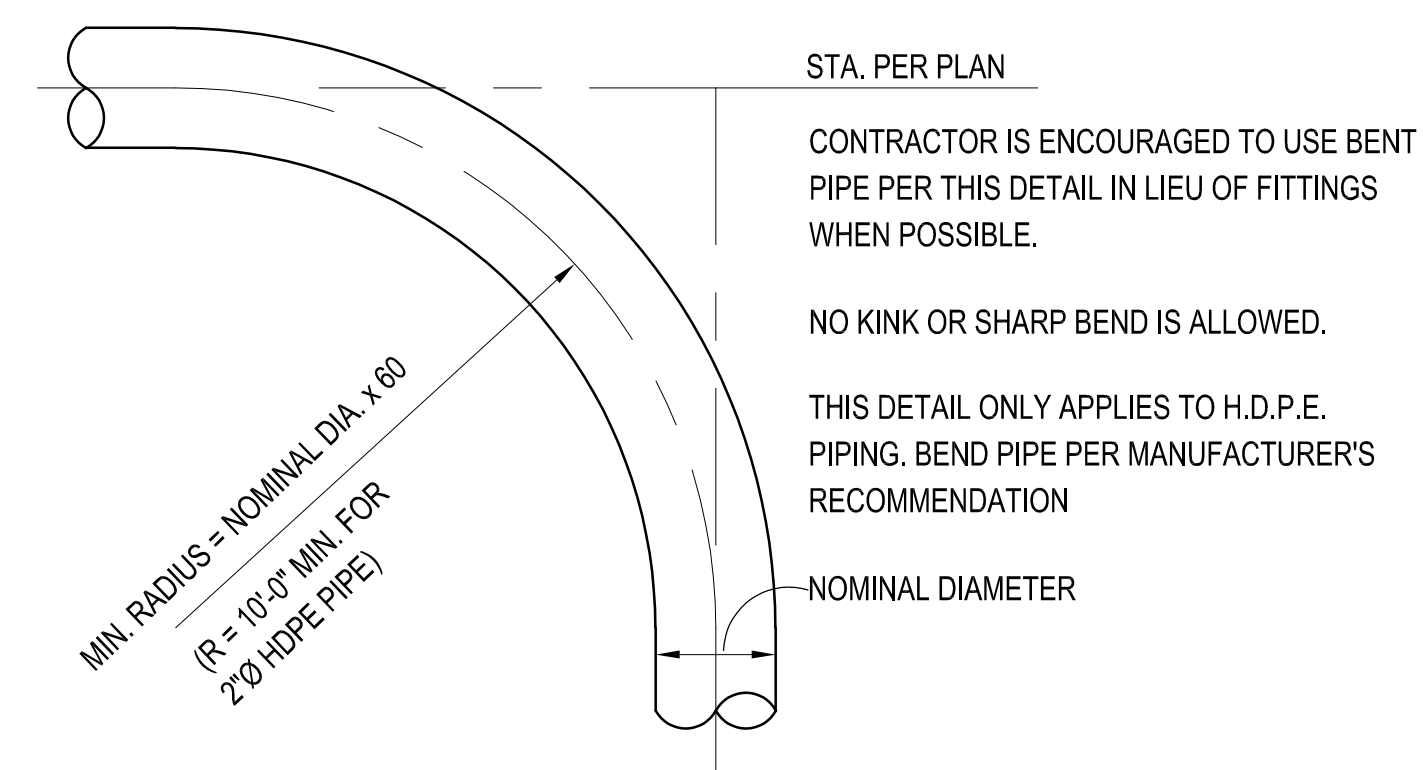
- THIS TRENCH SECTION APPLIES TO FLEXIBLE PIPES INCLUDING SEWER, STORM DRAIN, AND WATER PIPES. FLEXIBLE PIPE MATERIAL INCLUDES COPPER, CMP, PVC, ABS, AND HDPE.
- THIS TRENCH SECTION APPLIES TO PIPING WITHIN PRIVATE PROPERTIES ONLY.
- BEDDING MATERIAL ABOVE PIPE SHALL BE 12" HIGH FOR GRANULAR MATERIAL AND 6" HIGH FOR CONCRETE. NO. 10 OR NO. 67 GRANULAR BEDDING SHALL BE COMPACTED BY MAKING TWO PASSES PER LIFT WITH A VIBRATORY PLATE COMPACTOR. BEDDING MATERIAL FOR PIPES 2" OR LARGER SHALL BE 3/4" BASE COURSE COMPACTED TO 95% MAX. DRY DENSITY.
- TRENCH BACKFILL SHALL BE 3" MINUS GRANULAR BACKFILL OR SUITABLE NATIVE MATERIAL NO LARGER THAN 6". TRENCH BACKFILL SHALL BE COMPACTED TO 95% MAX. DRY DENSITY.
- TRAFFIC AREA SHALL INCLUDE BUT NOT BE LIMITED TO PAVED OR UNPAVED ROADWAY, SHOULDER, DRIVEWAY, CARPATH, PARKING, LOADING ZONE, STORAGE AREA AND AREAS NOT PROTECTED FROM TRAFFIC LOAD. NON-TRAFFIC AREA SHALL BE PROTECTED FROM TRAFFIC LOAD BY MEANS OF CONCRETE CURBS, GUARDRAILS, BARRICADE, AND AREAS INACCESSIBLE BY VEHICLES.
- BEDDING MATERIAL FOR COPPER PIPE SHALL BE #4 SAND OR CONCRETE ONLY.
- MIN. 6" WIDE WARNING TAPE IDENTIFYING THE BURIED UTILITY SHALL BE PLACED CONTINUOUSLY ALONG THE LENGTH OF THE PIPE JUST BELOW THE SUBBASE OR 12" BELOW THE SURFACE FOR UNPAVED AREAS. FOR METALLIC PIPE, TAPE SHALL BE NON-METALLIC. FOR NON-METALLIC PIPE, TAPE SHALL BE DETECTABLE BY STANDARD, NON-DESTRUCTIVE PIPE DETECTION METHODS.

TABLE 1: BEDDING MATERIAL

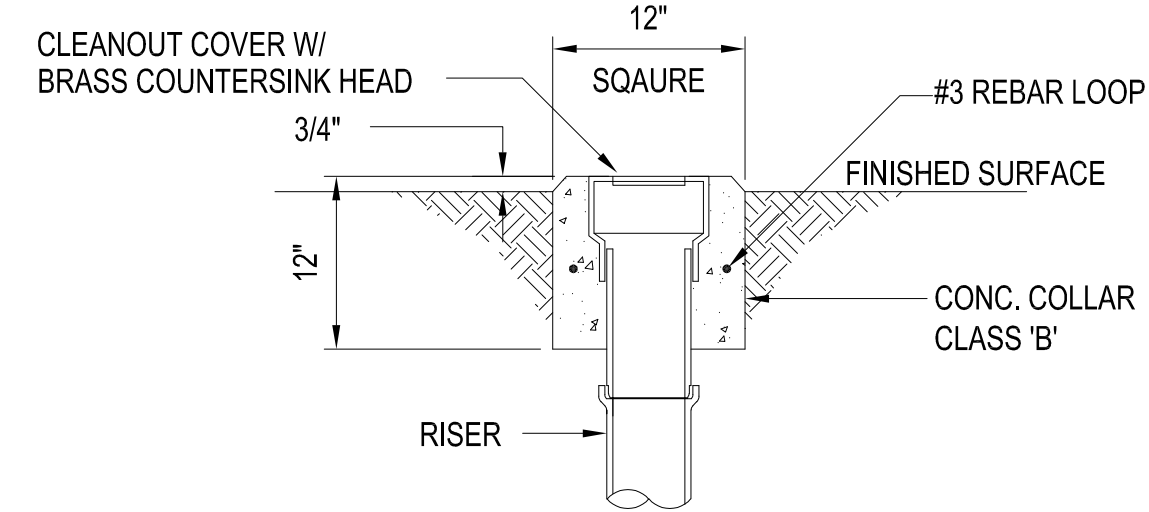
DEPTH OF COVER IN FT.	TRAFFIC AREA	NON-TRAFFIC AREA
6" < COVER < 12"	NOT ALLOWED	ALLOWED FOR 6"Ø PIPE OR SMALLER ONLY WITH NO. 10 CRUSHED ROCK (SEE NOTE 3)
12" < COVER < 18"	ALLOWED FOR 6"Ø PIPE OR SMALLER ONLY WITH CLASS "C" CONCRETE	NO. 10 CRUSHED ROCK (#4 SAND) (SEE NOTE 3)
18" < COVER < 24"	CLASS "C" CONCRETE	NO. 10 OR NO. 67 CRUSHED ROCK (SEE NOTE 3)
COVER > 24"	NO. 10 OR NO. 67 CRUSHED ROCK	NO. 10 OR NO. 67 CRUSHED ROCK (SEE NOTE 3)

(FOR PRIVATE UTILITY PIPING ONLY)

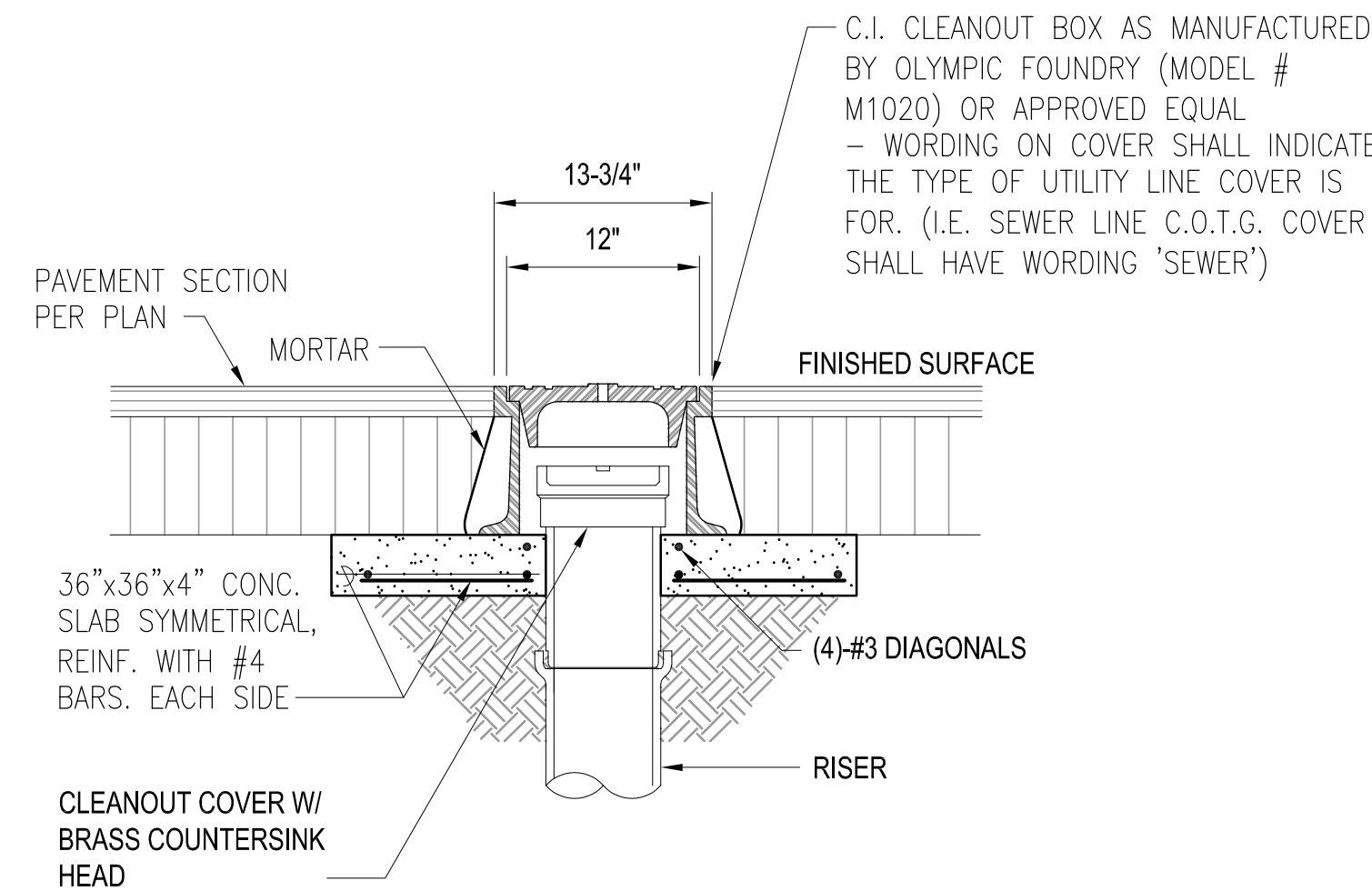
**4 FLEXIBLE PIPE TRENCH SECTION**  
SCALE: NOT TO SCALE



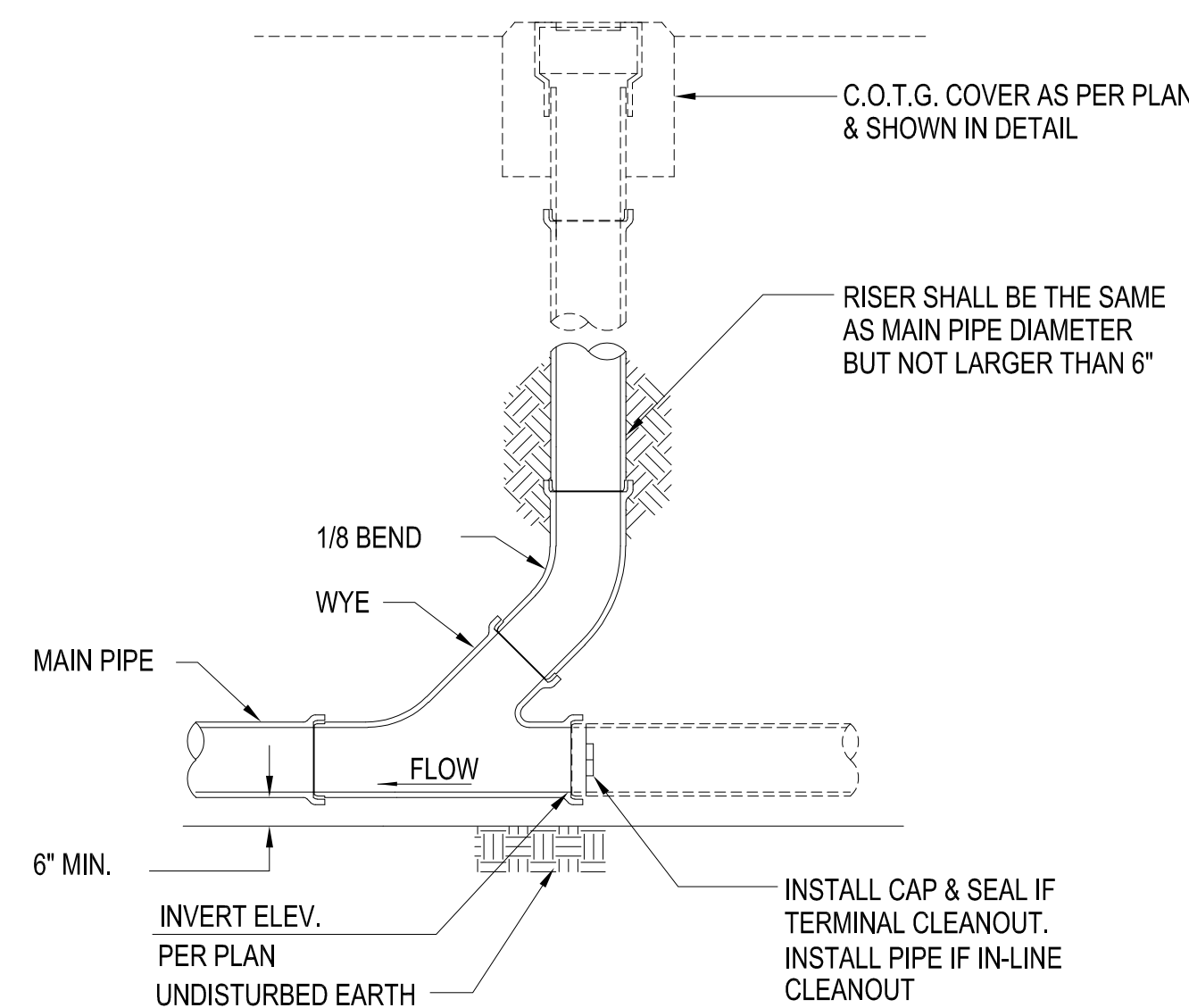
**5 PIPE BENDING DETAIL**  
SCALE: NOT TO SCALE



**NON-TRAFFIC RATED C.O.T.G. COVER IN LAWN AREAS**

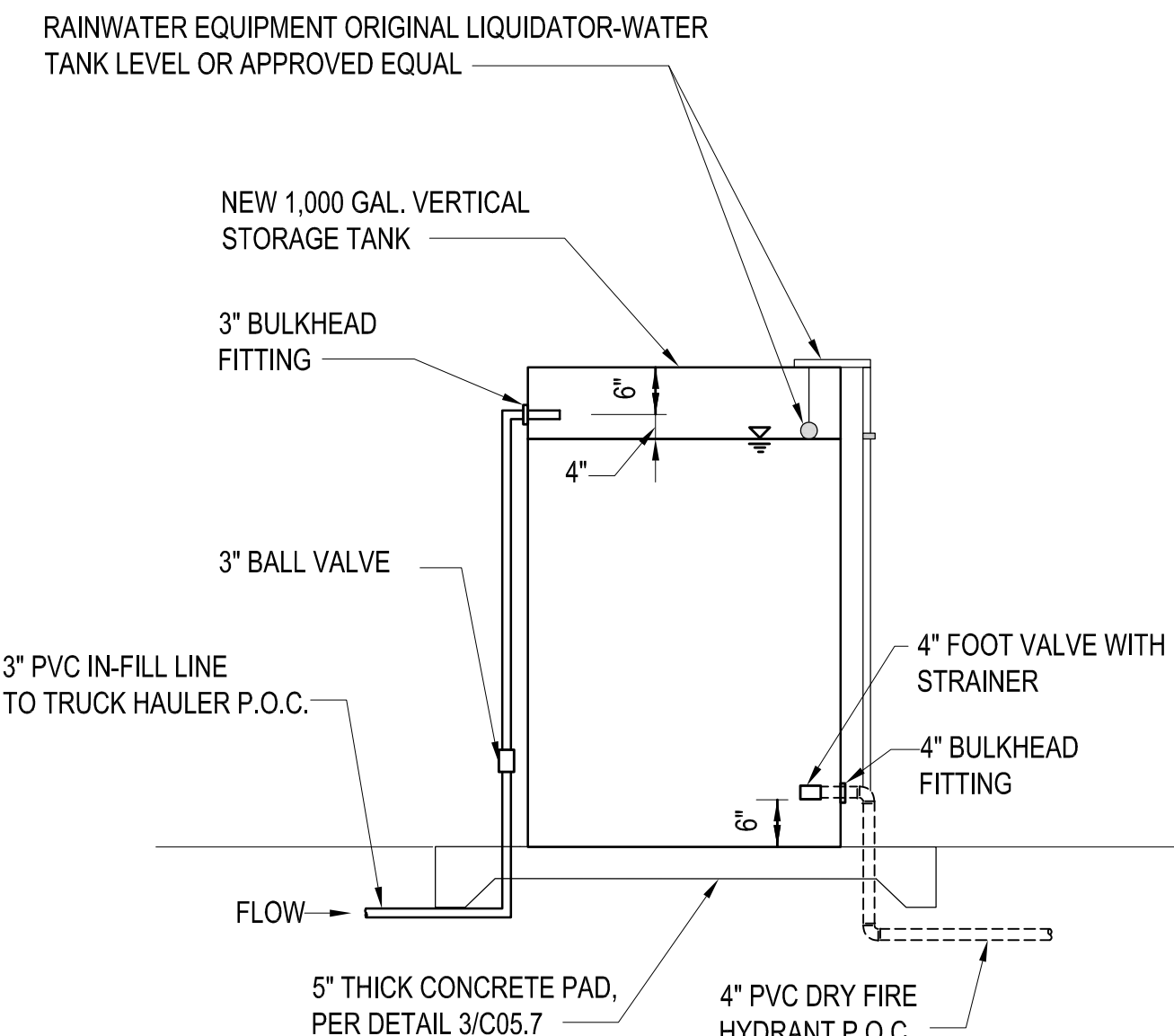


**TRAFFIC RATED C.O.T.G. COVER IN AC PAVEMENT AREAS**

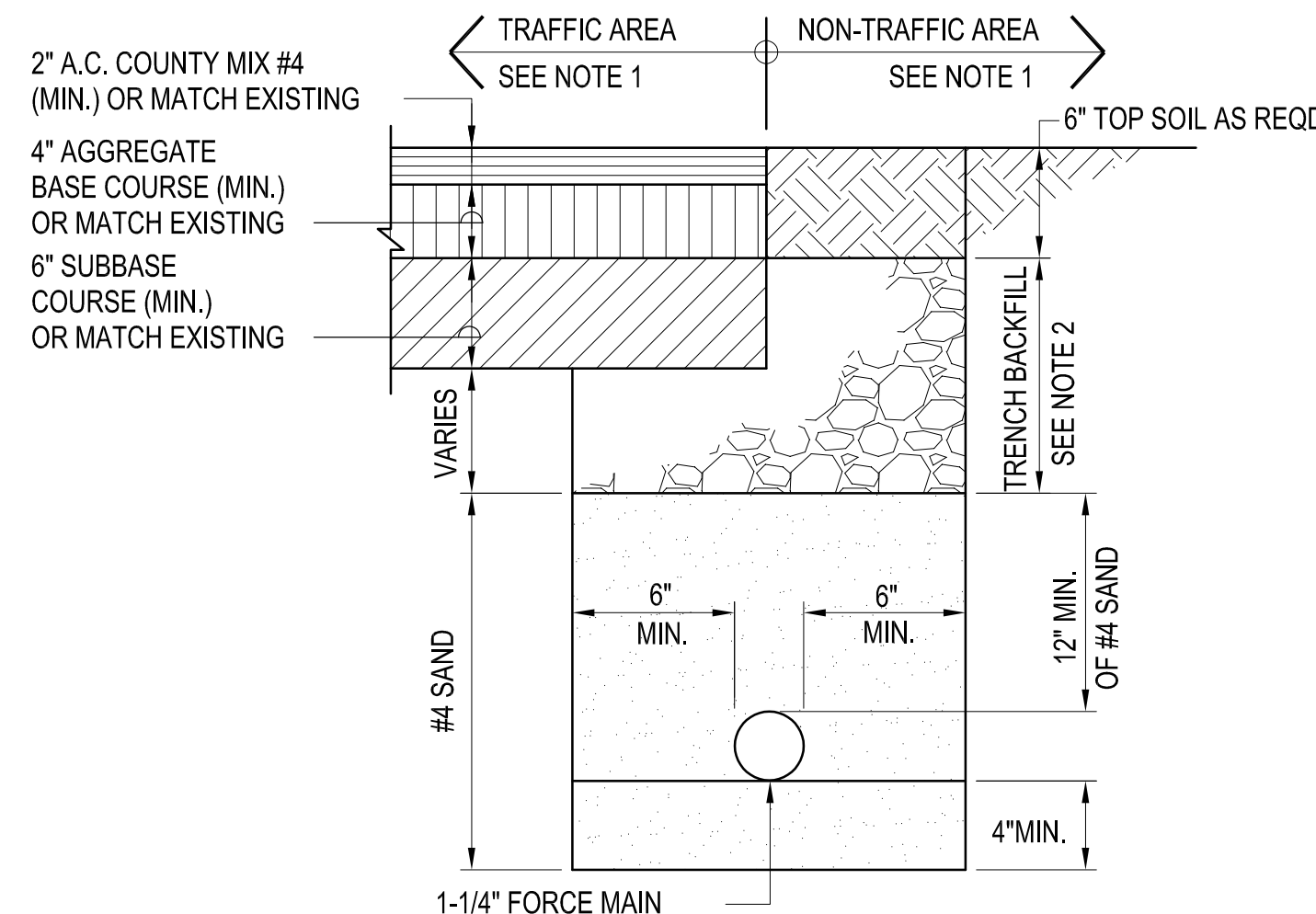


**TYPICAL C.O.T.G. CONSTRUCTION**

**3 CLEANOUT TO GRADE (C.O.T.G.)**  
SCALE: NOT TO SCALE



**1 FIRE PROTECTION TANK DETAIL**  
SCALE: NOT TO SCALE



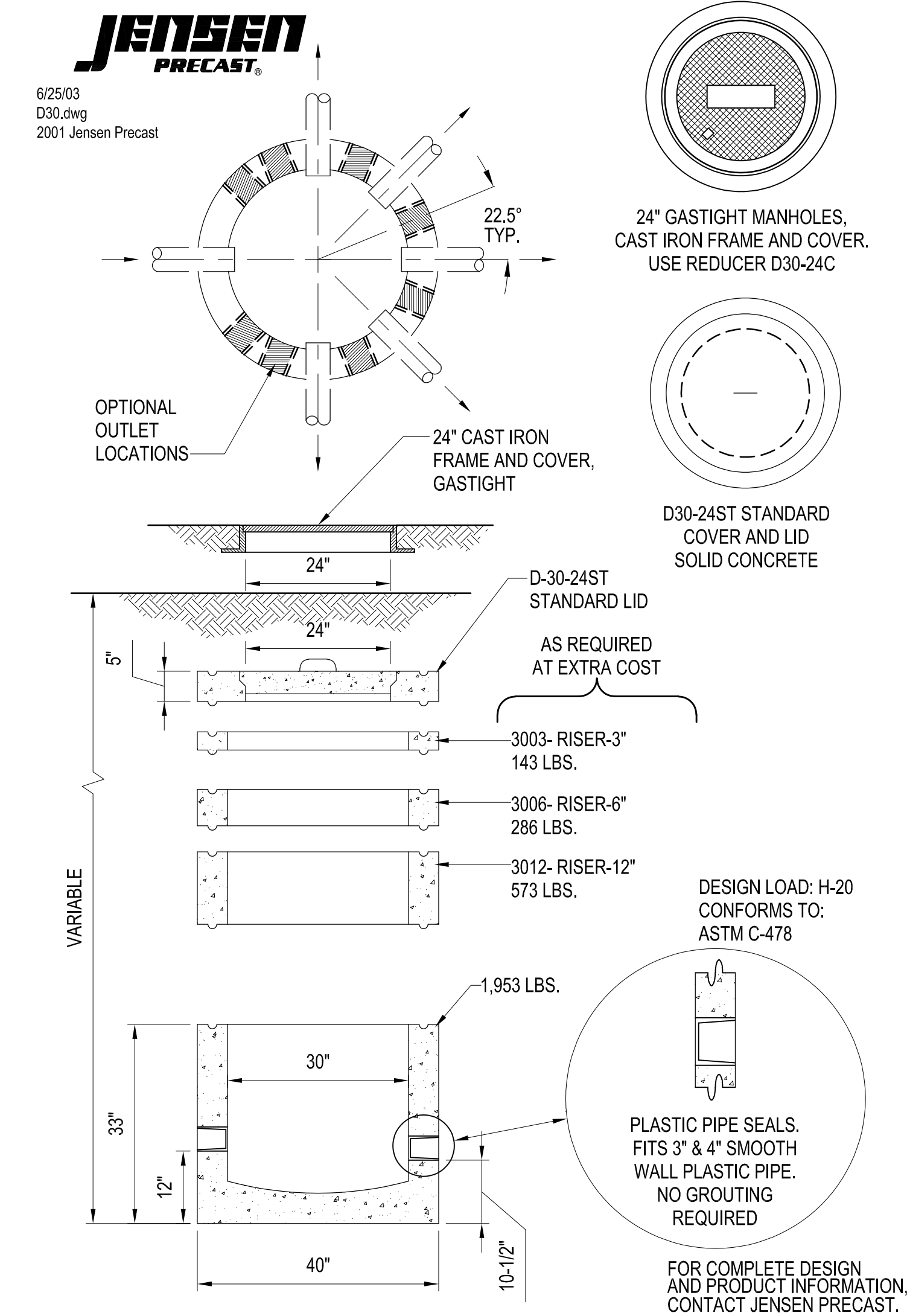
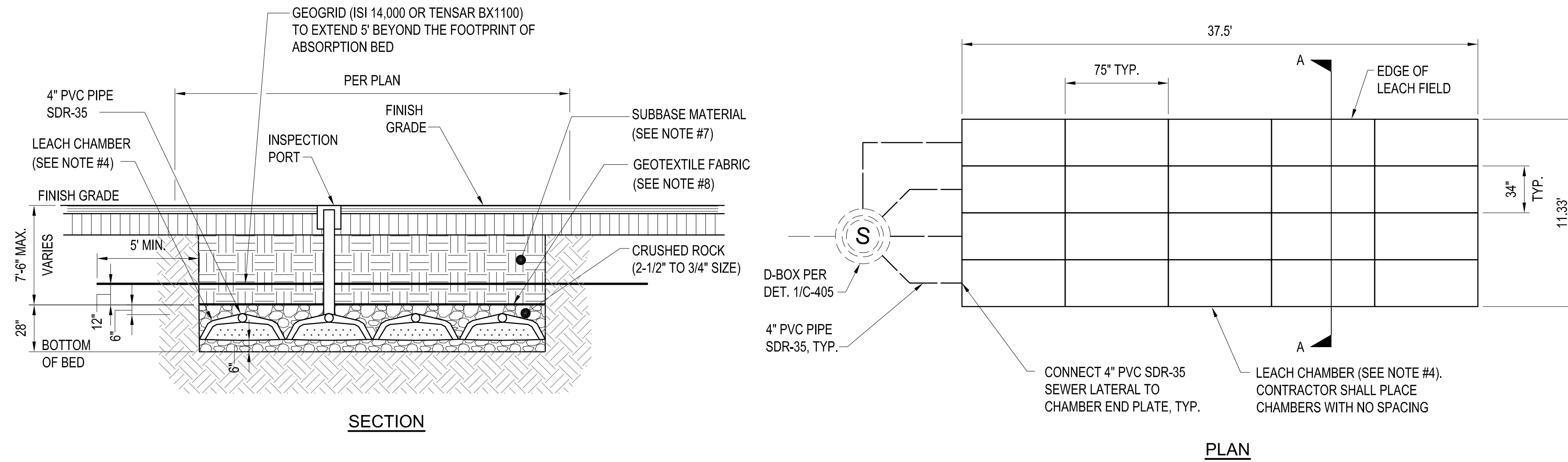
**NOTES:**

- TRAFFIC AREA SHALL INCLUDE BUT NOT LIMITED TO PAVED OR UNPAVED ROADWAY, SHOULDER, DRIVEWAY, CARPATH, PARKING, LOADING ZONE, STORAGE AREA AND AREAS NOT PROTECTED FROM TRAFFIC LOAD. NON-TRAFFIC AREA SHALL BE PROTECTED FROM TRAFFIC LOAD BY MEANS OF CONCRETE CURBS, GUARDRAILS, BARRICADE, AND AREAS INACCESSIBLE BY VEHICLES.
- TRENCH BACKFILL SHALL BE 3" MINUS GRANULAR BACKFILL OR SUITABLE NATIVE MATERIAL NO LARGER THAN 6". TRENCH BACKFILL SHALL BE COMPACTED TO 95% COMPACTION.

**2 FORCE MAIN DETAIL**  
SCALE: NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
<p>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION</p> <p>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</p> <p>CIVIL DETAILS</p> <p>ENGINEERING PARTNERS, INC</p>					
DESIGNED: OH		SUBMITTED: <i>YWF</i>			
DRAWN: OH		DATE:			
CHECKED: YWF		SCALE: AS NOTED			
APPROVED: YWF		Dina Lau		DRAWING NO.	
CHIEF ENGINEER:		E-signed 2026-05-08 02:16PM HST dina.lau@hawaii.gov		C-404	
		State of Hawaii			

05/05/2026 11:30 am M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-401\_DET.dwg



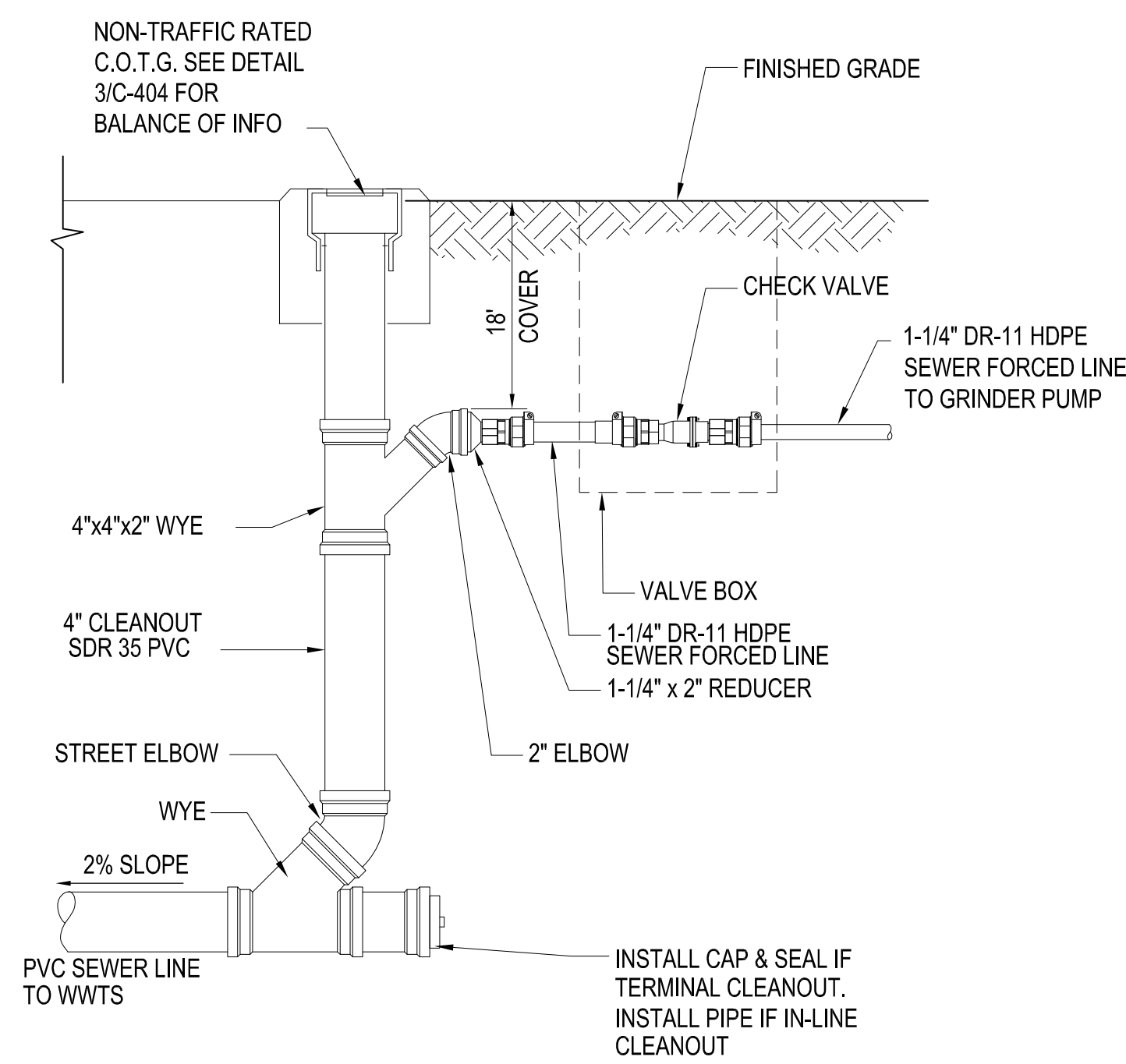
**CONSTRUCTION NOTES:**

1. THE BOTTOM OF THE BED AND LEACH CHAMBER SHALL BE LEVEL.
2. INSTALLATION OF LEACH CHAMBERS AND BACKFILL SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
3. WHERE NOT OTHERWISE SPECIFIED, THE CONSTRUCTION OF THE TRENCH SHALL CONFORM TO CHAPTER 62, WASTE WATER RULES AND REGULATIONS, SECTION 11-62-34, STATE OF HAWAII
4. LEACH CHAMBER SHALL BE STANDARD INFILTRATOR CHAMBER RATED FOR H-20 TRAFFIC LOADING, AS MANUFACTURED BY INFILTRATOR SYSTEM, INC., OR APPROVED EQUAL
5. GRANULAR MATERIAL SHALL BE DRAIN ROCK (GRAVEL OR CRUSHED STONE - WASHED - NOMINAL SIZE 3/4\" - 2 1/2\") CANNOT USE #3 ROAD BASECOURSE.
6. THE DEPTHS TO THE PIPE INVERTS OF THE SEPTIC TANK, DISTRIBUTION BOX, AND ABSORPTION SYSTEM ARE CONTROLLED BY TOPOGRAPHIC FEATURES AND THE INVERT OF THE BUILDING SEWER WHICH MAY IMPACT THE DEPTHS SHOWN ON THE DRAWINGS.
7. SUBBASE MATERIAL SHALL BE 3\" MINUS GRANULAR MATERIAL, WITH NO MORE THAN 10% FINES PASSING THE #200 SIEVE, COMPACTED TO 95% COMPACTION.
8. GEOTEXTILE FABRIC SHALL BE MADE FOR BURIAL, FINE ENOUGH TO STOP SILT AND ALLOW WATER TO PASS (AS SUPPLIED BY CENTRAL SUPPLY OR EQUIVALENT).

NOTE: CONTRACTOR SHALL NOTIFY ENGINEER OF UNUSUAL CONDITIONS FOUND DURING CONSTRUCTION THAT COULD IMPACT IWS FUNCTION SUCH AS LAVA TUBES, UNDERGROUND HOLES, WATER, EVIDENCE OF INTERMITTENT FLOWING WATER, ETC.

**2 GRAVEL LESS BED SECTION**  
SCALE: NOT TO SCALE

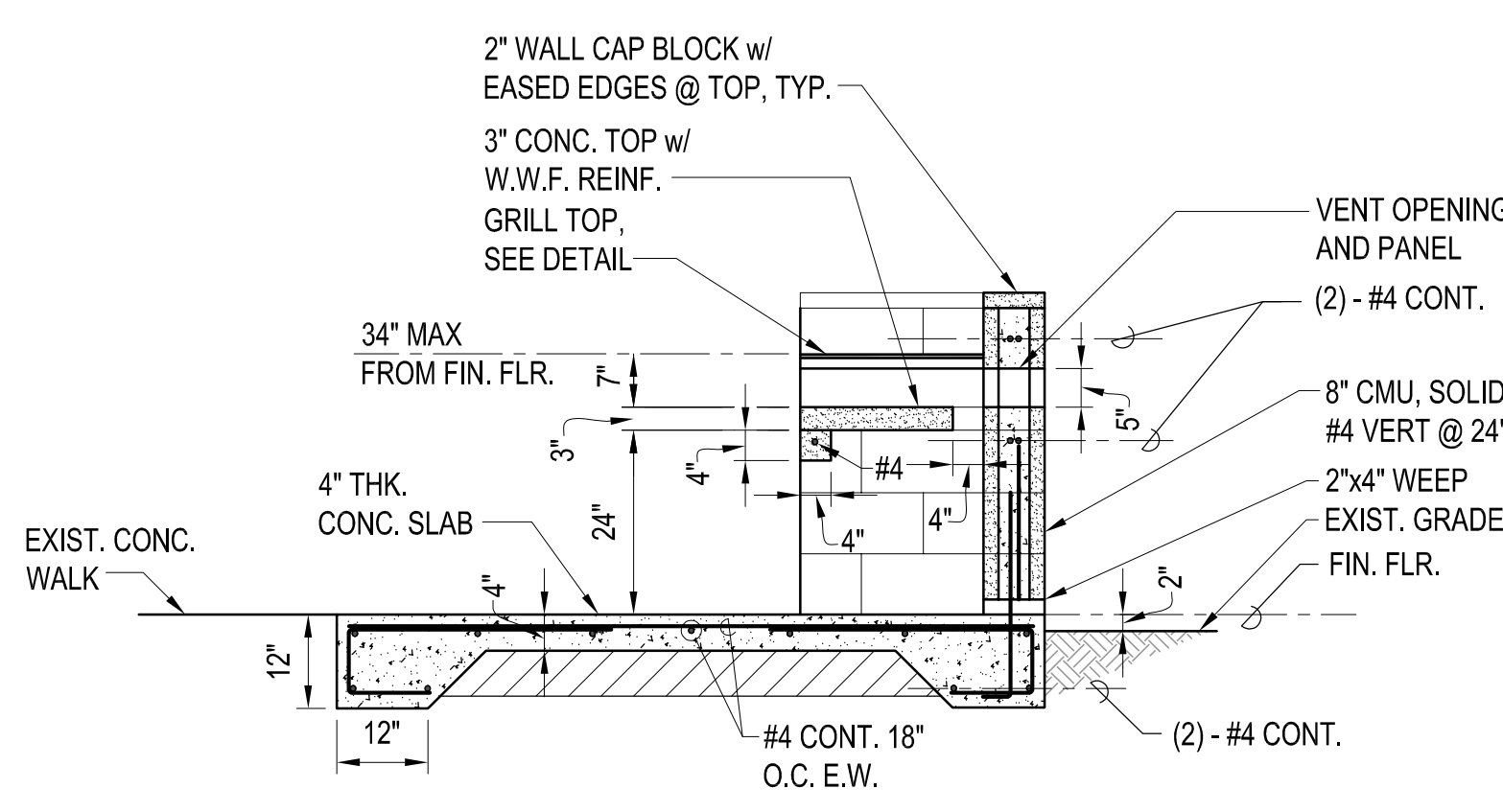
**1 H20 TRAFFIC RATED DISTRIBUTION BOX**  
SCALE: NOT TO SCALE



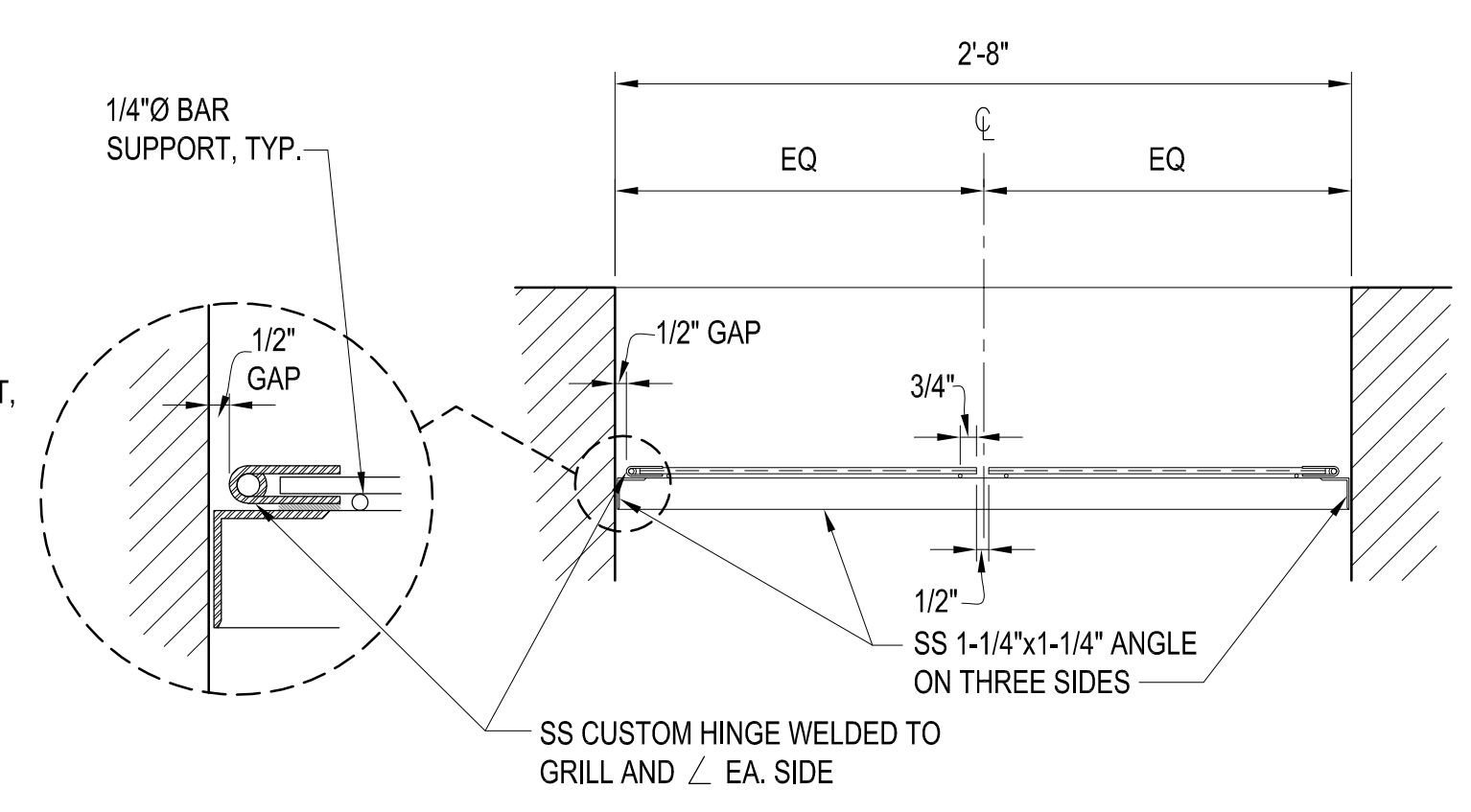
**3 TRAFFIC-RATED INSPECTION PORT DETAIL**  
SCALE: NOT TO SCALE

**4 FORCE MAIN TO COTG DETAIL**  
SCALE: NOT TO SCALE

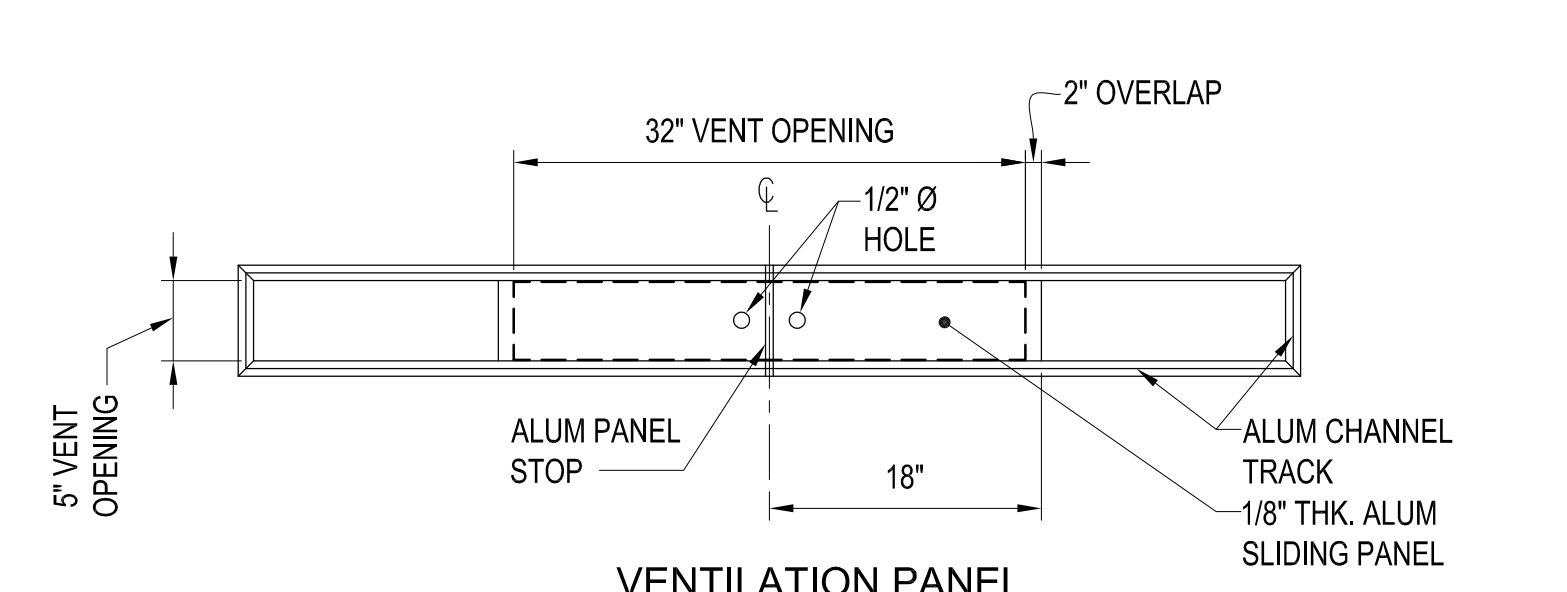
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<b>STATE OF HAWAII</b> DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>CIVIL DETAILS</b> ENGINEERING PARTNERS, INC					
DESIGNED:	OH	SUBMITTED:			
DRAWN:	OH	DATE:			
CHECKED:	YWF	SCALE:	AS NOTED		
APPROVED:	YWF	Dina Lau	E-signed 2026-05-08 02:16PM HST		
CHIEF ENGINEER:	YWF	dina.u.lau@hawaii.gov	DRAWING NO. C-405		
		State of Hawaii	SHEET NO. 25 OF 143 SHEETS		



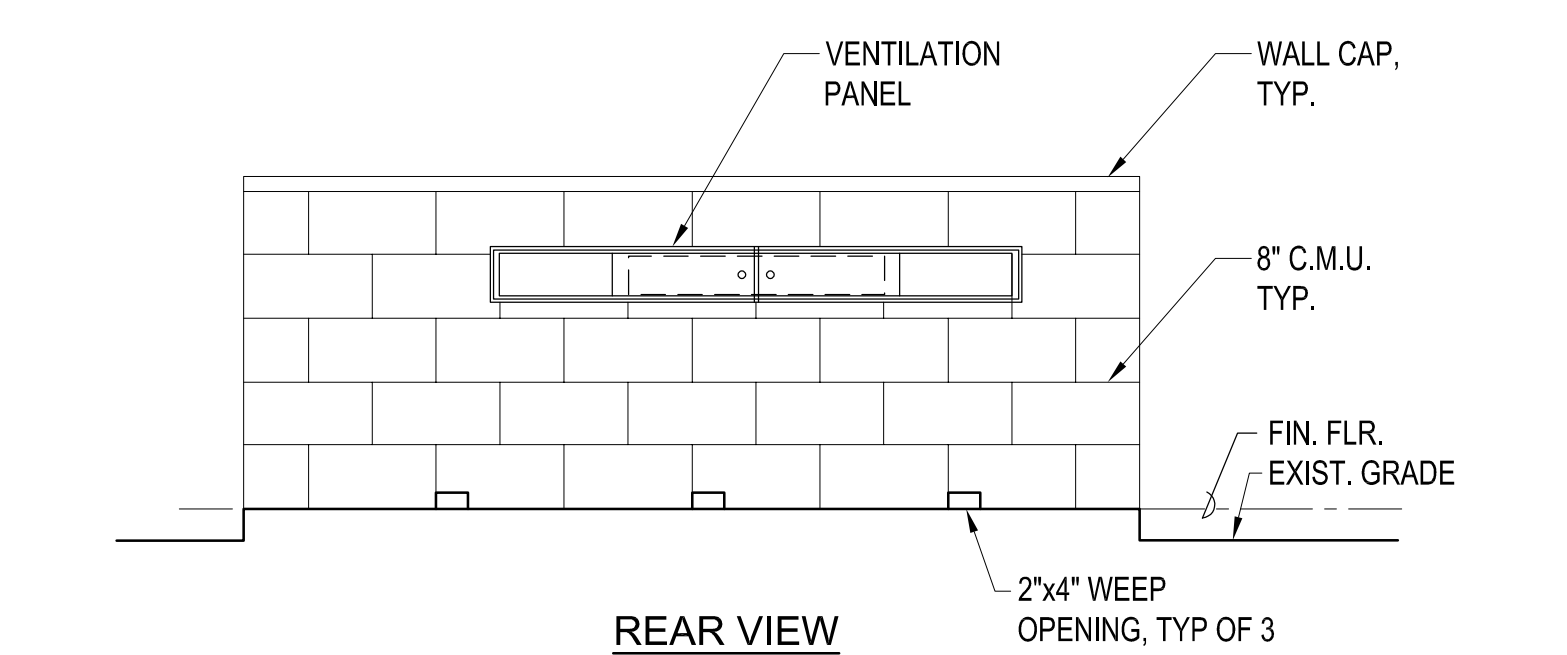
**BBQ PIT SECTION**



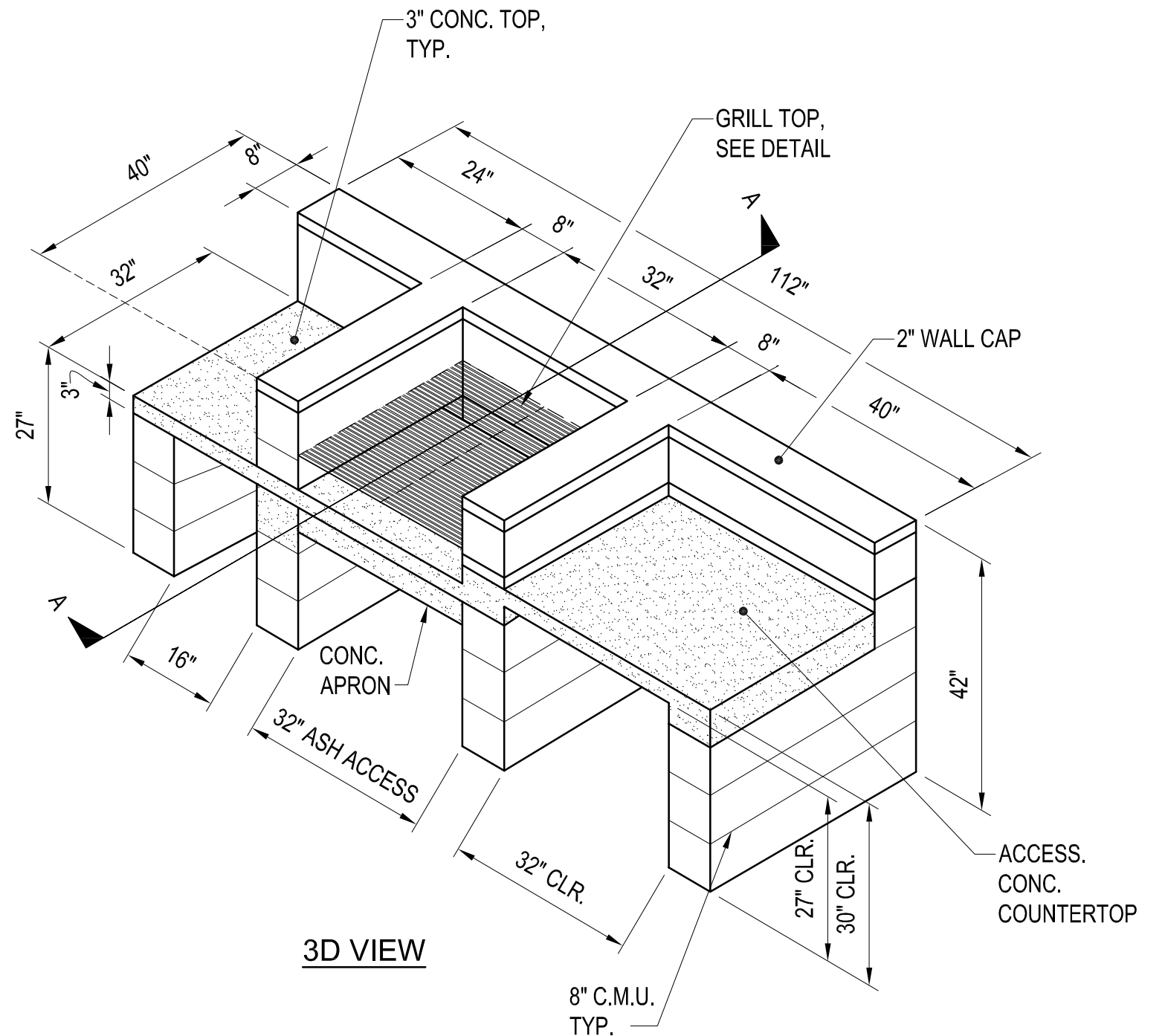
**BBQ PIT SECTION**



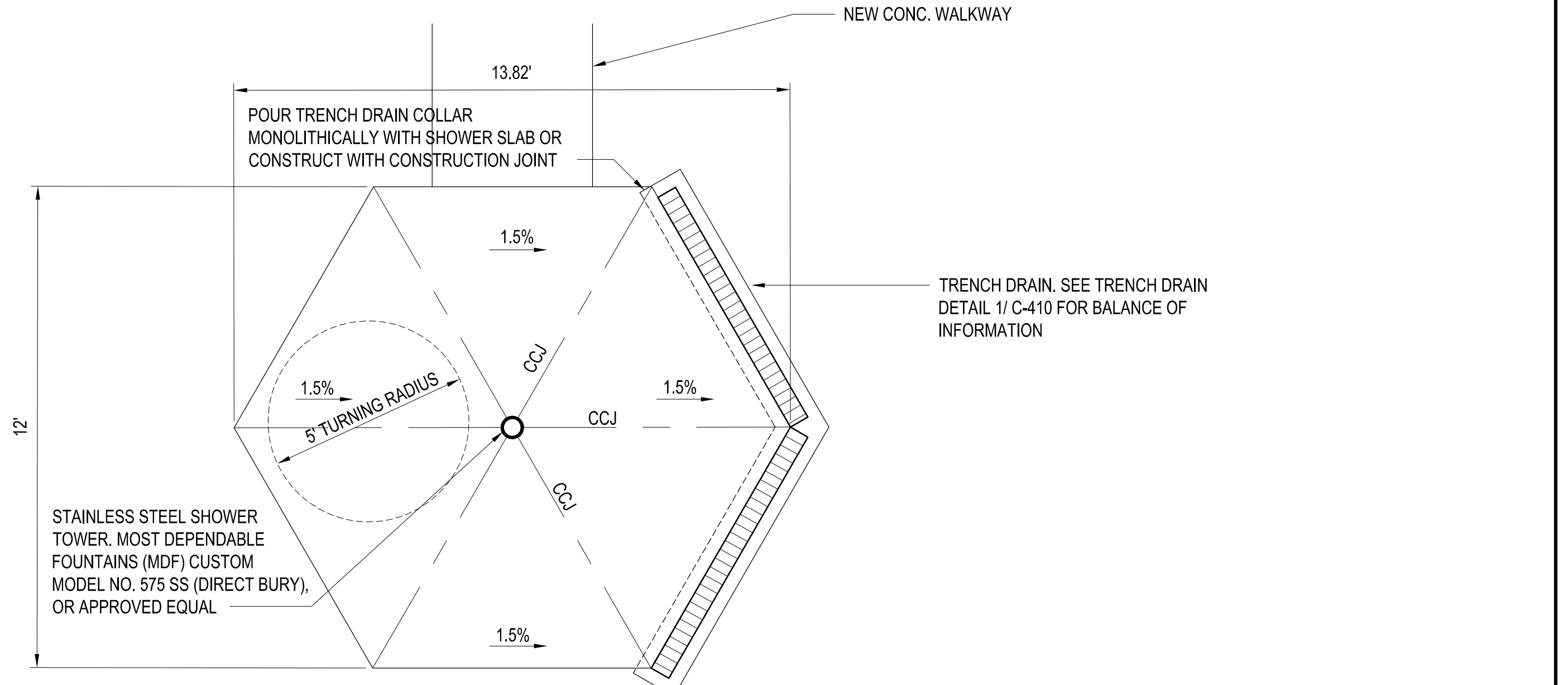
**VENTILATION PANEL**



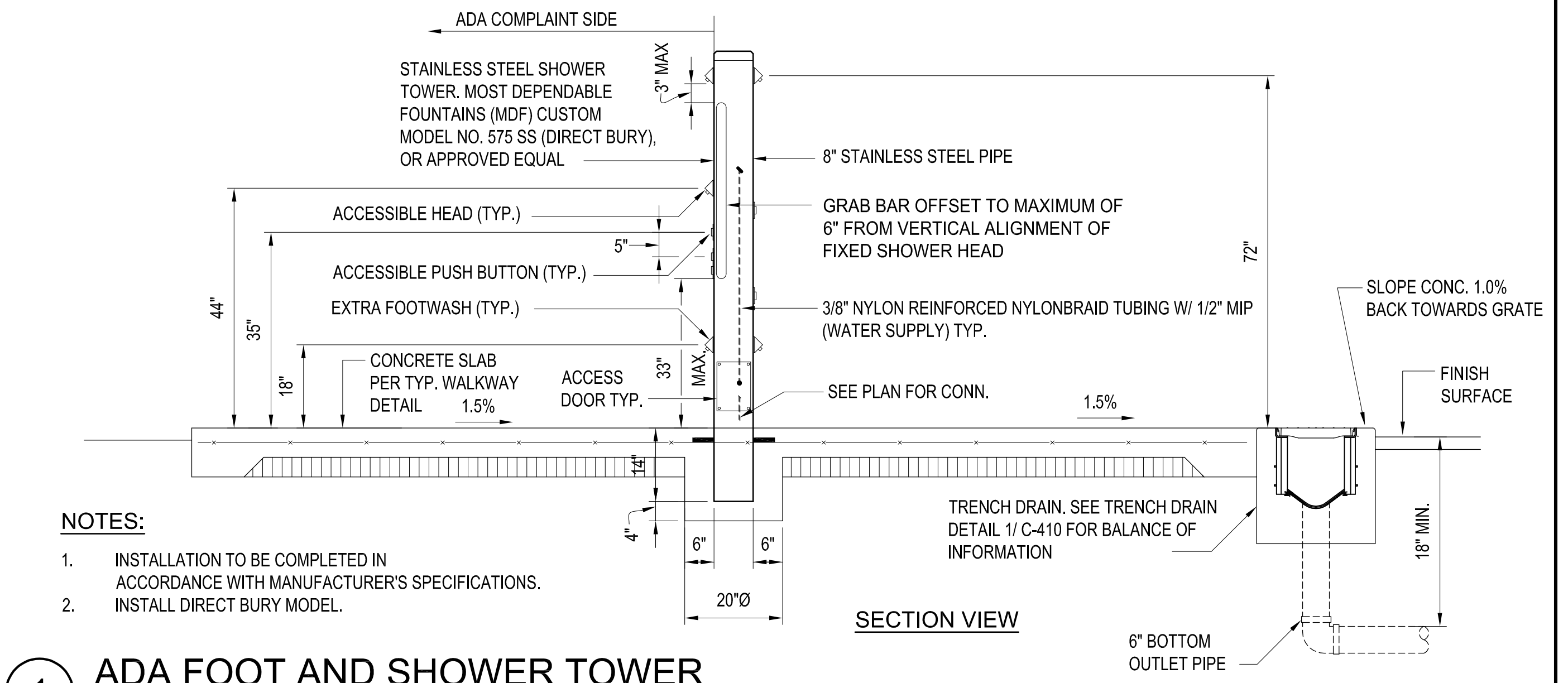
**REAR VIEW**



**3D VIEW**



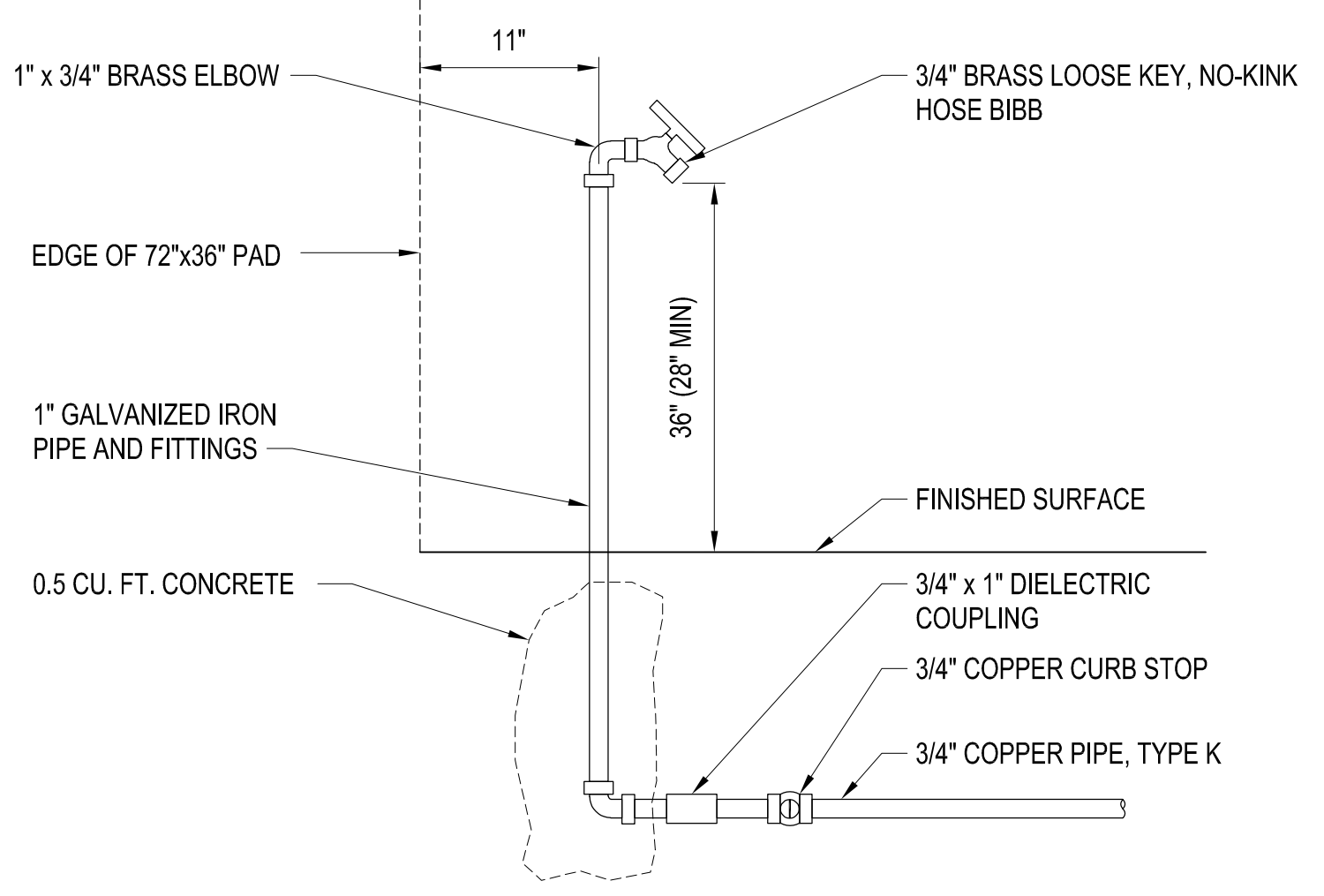
**PLAN VIEW**



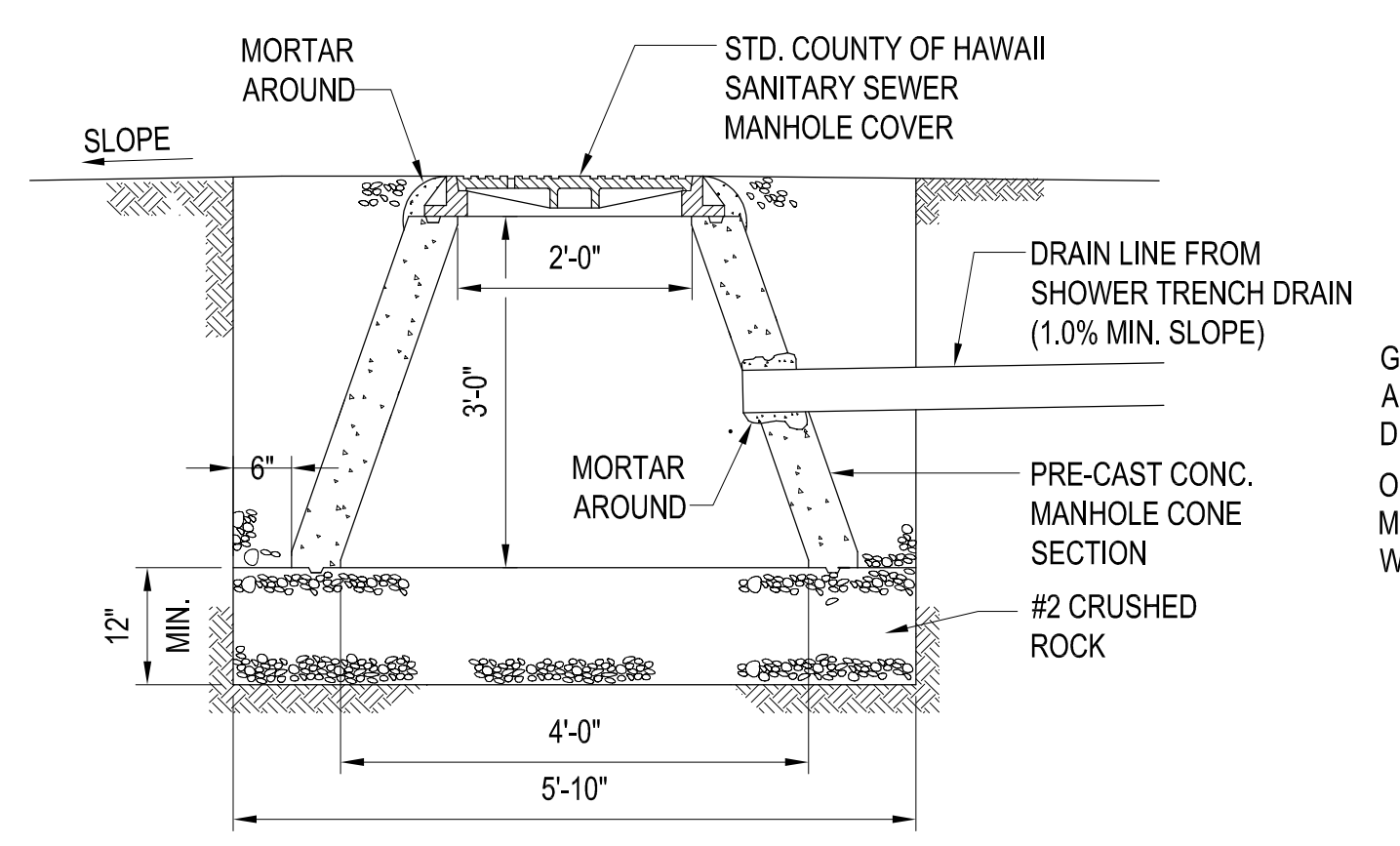
**SECTION VIEW**

- NOTES:**
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - INSTALL DIRECT BURY MODEL.

**3 BBQ PIT DETAILS**  
SCALE: NOT TO SCALE



**5 HOSE BIBB DETAIL**  
SCALE: NOT TO SCALE

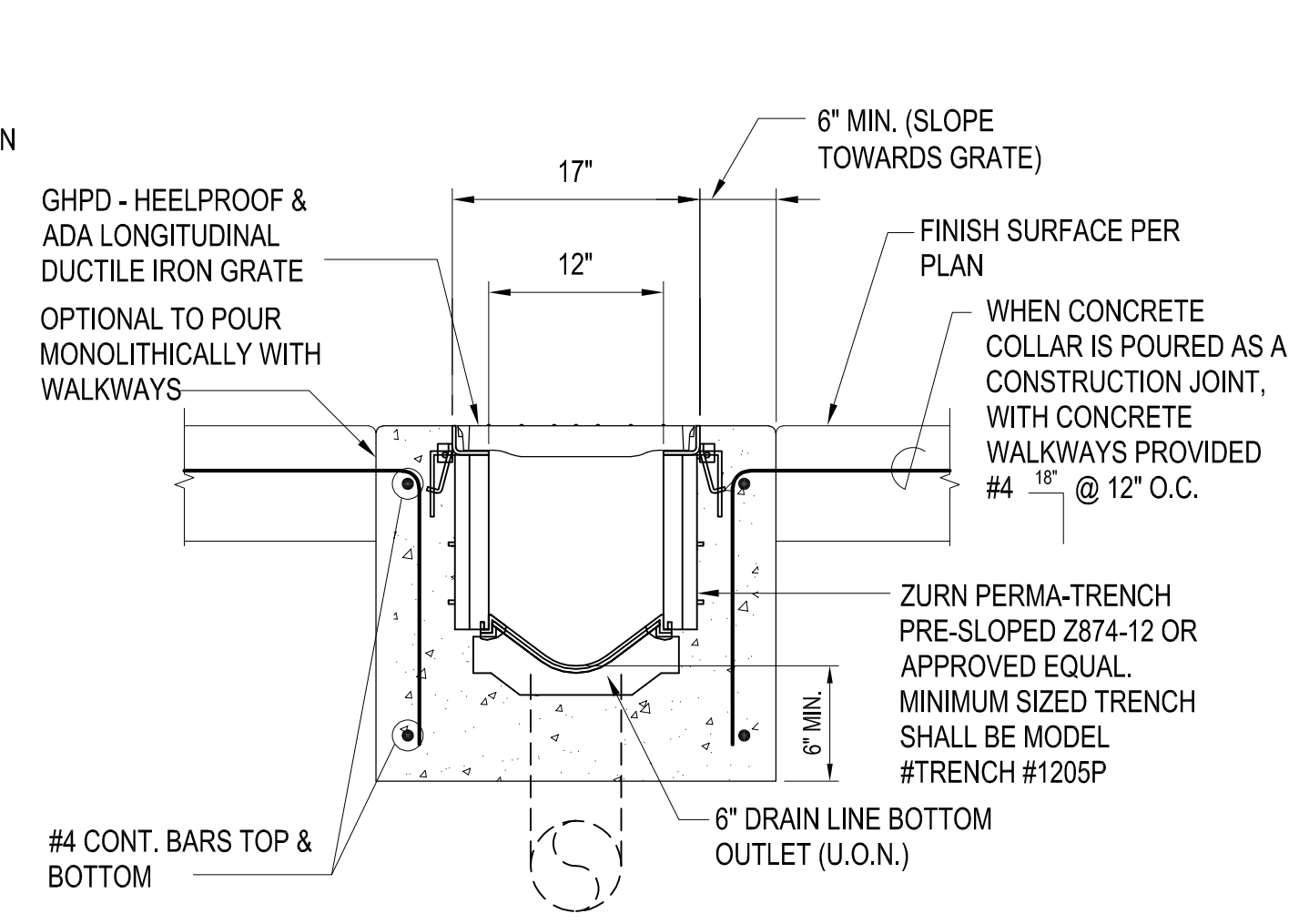


- NOTES:**
- USE PRECAST CONCRETE CONE SECTION WITHOUT RUNGS.
  - PUNCH THRU PRECAST CONCRETE MANHOLE WALL AND MORTAR AROUND DRAIN PIPE.

**SEEPAGE PIT**

**4 SMALL SEEPAGE PIT**  
NOT TO SCALE

**1 ADA FOOT AND SHOWER TOWER**  
SCALE: NOT TO SCALE



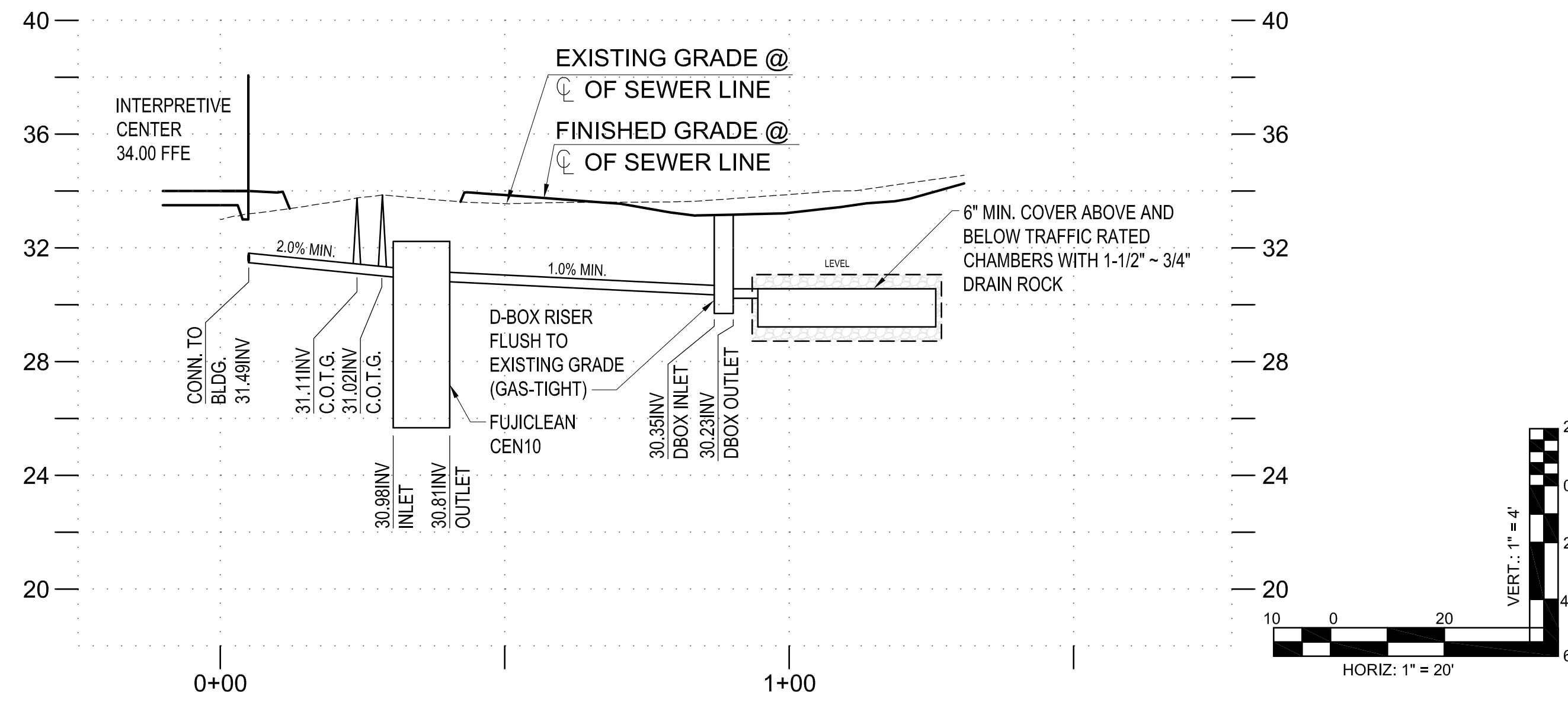
**2 TRENCH DRAIN**  
NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
<p>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION</p> <p>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</p> <p><b>CIVIL DETAILS</b></p> <p>ENGINEERING PARTNERS, INC</p>					
DESIGNED:	OH	SUBMITTED:			
DRAWN:	OH	DATE:			
CHECKED:	YWF	SCALE:	AS NOTED		
APPROVED:	YWF	Dina Lau E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov			DRAWING NO. <b>C-406</b>
CHIEF ENGINEER:		State of Hawaii Civil Engineer			

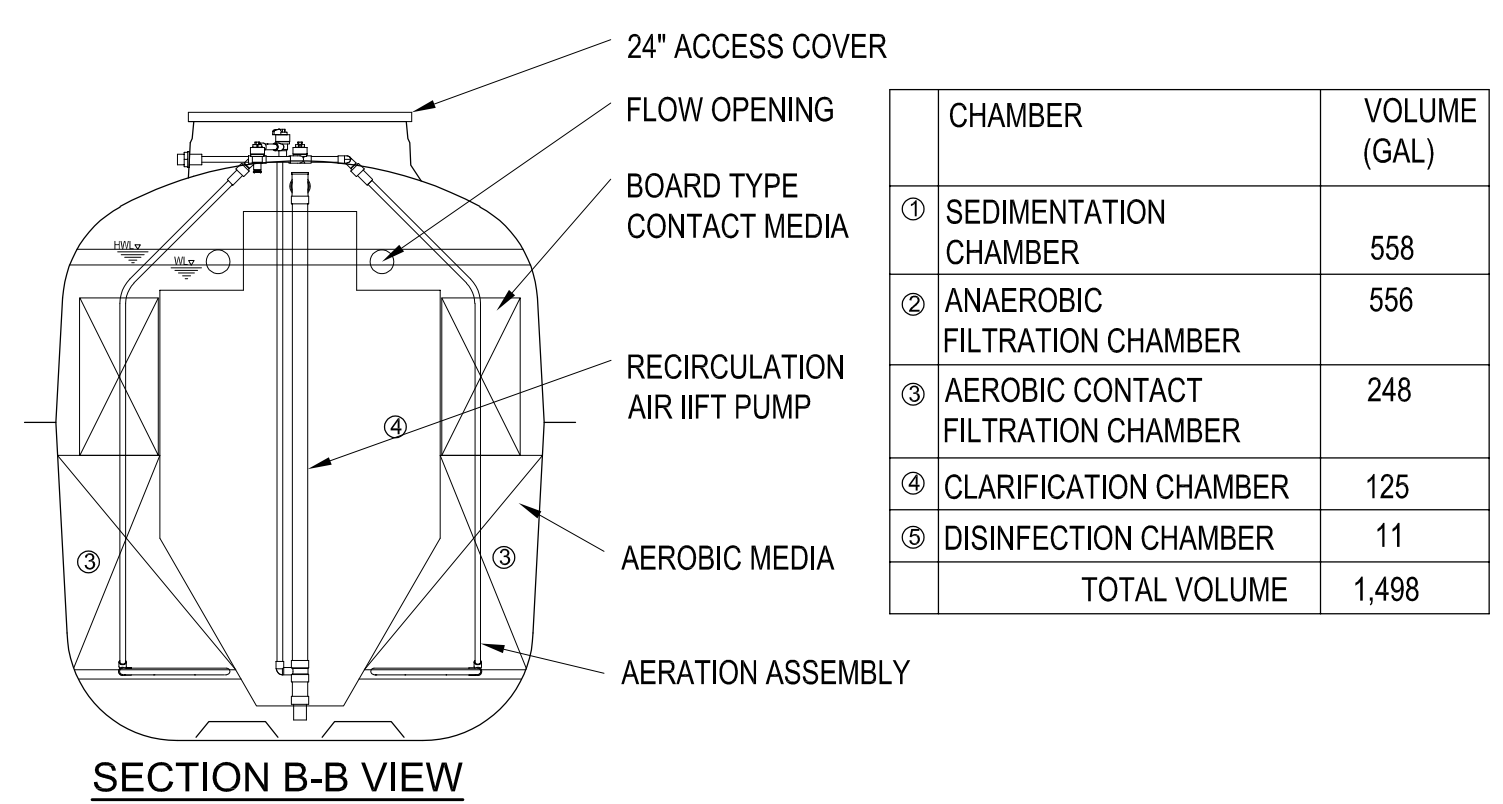
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KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

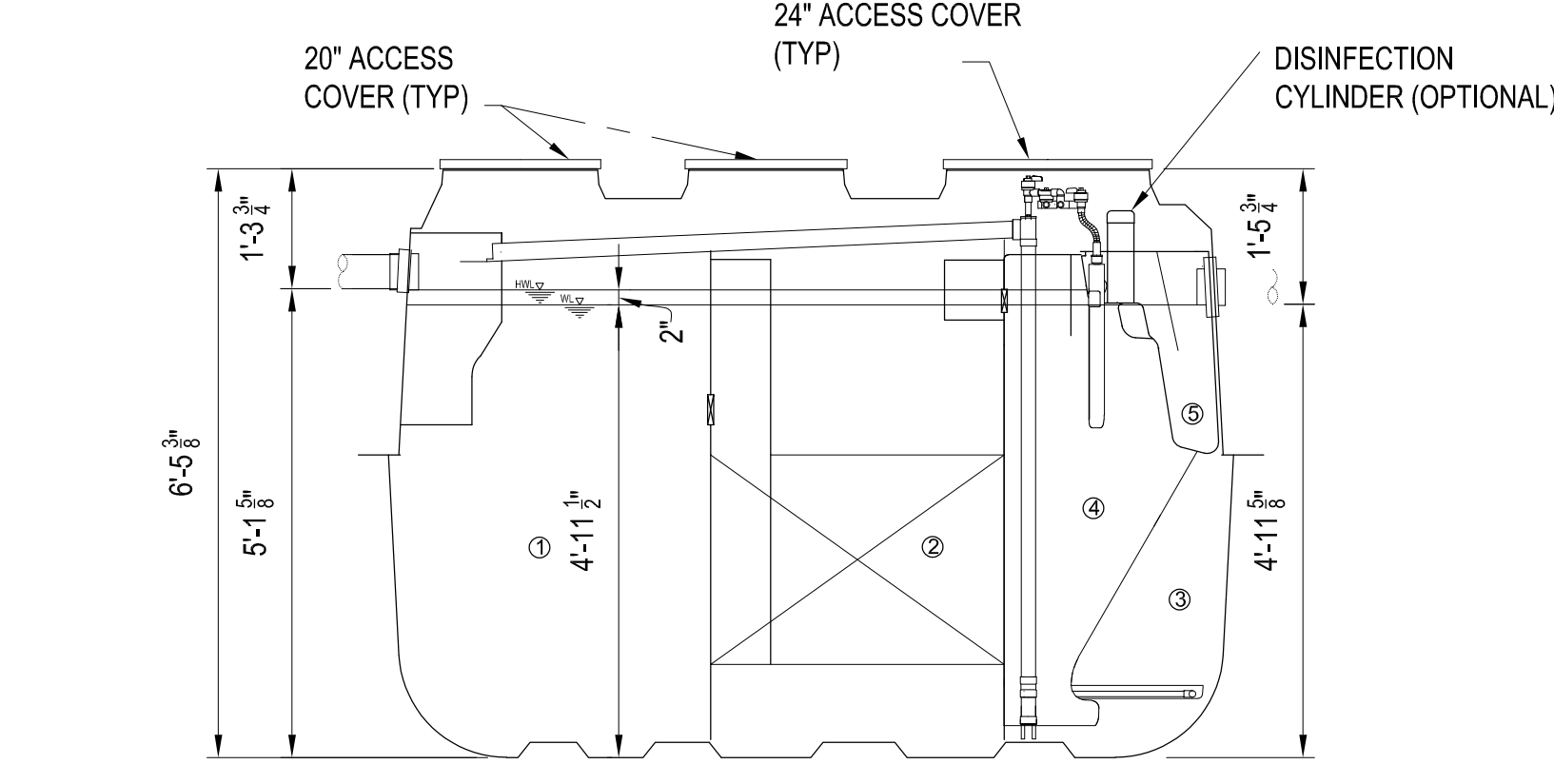
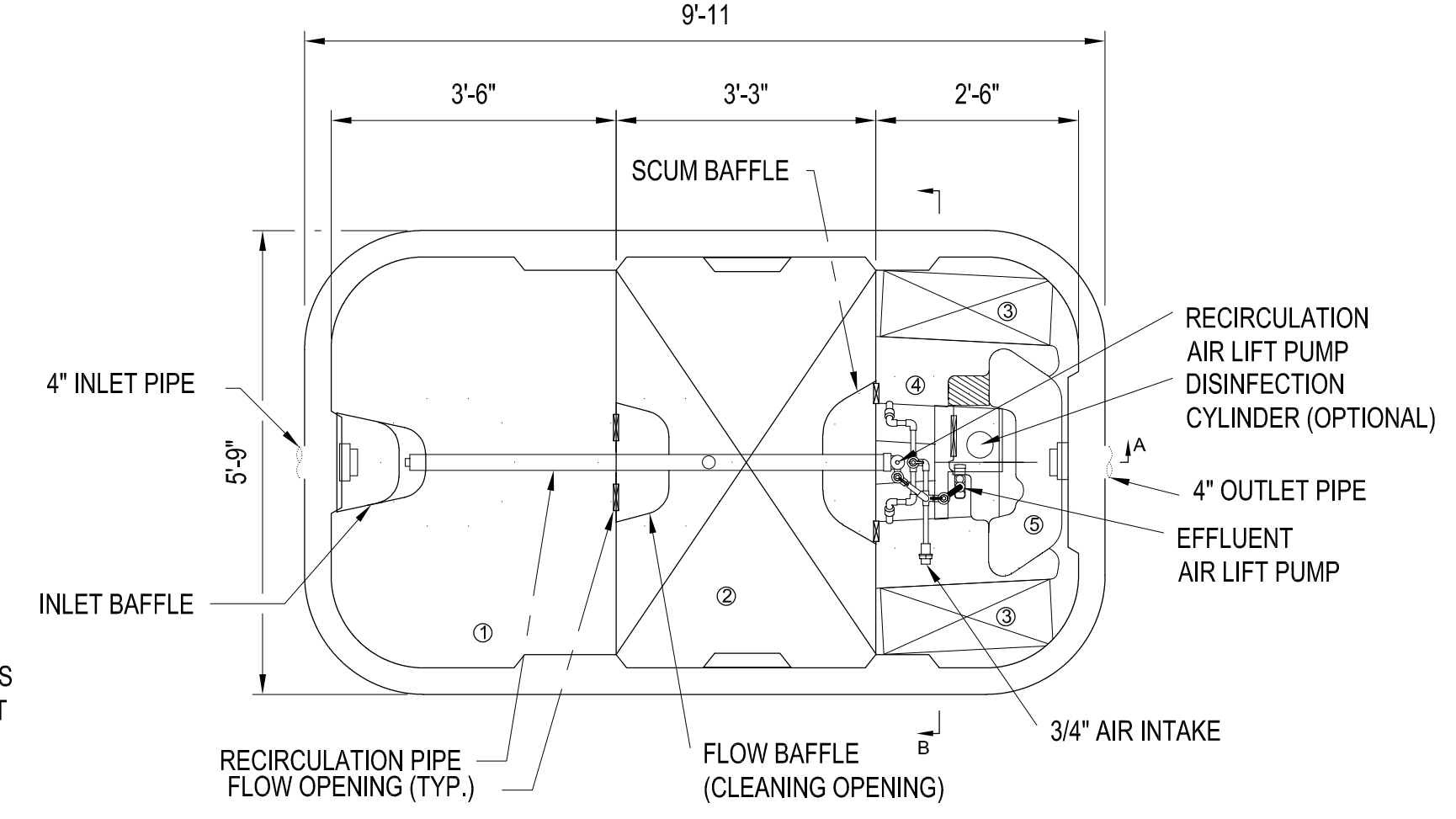
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 M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-401\_DET.dwg



**A IWS PROFILE**  
 SCALE: 1" = 20'



CHAMBER	VOLUME (GAL)
① SEDIMENTATION CHAMBER	558
② ANAEROBIC FILTRATION CHAMBER	556
③ AEROBIC CONTACT FILTRATION CHAMBER	248
④ CLARIFICATION CHAMBER	125
⑤ DISINFECTION CHAMBER	11
<b>TOTAL VOLUME</b>	<b>1,498</b>



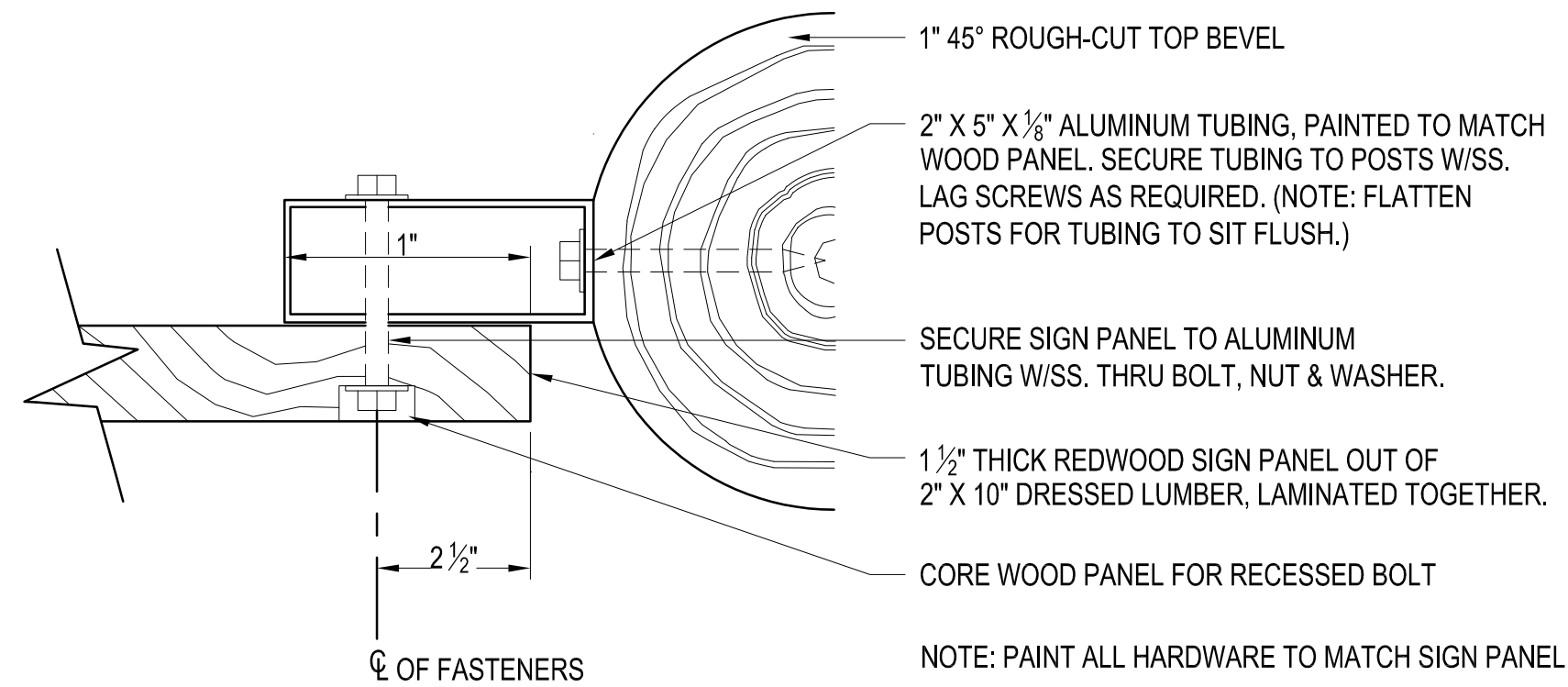
**2 EONE GRINDER PUMP DH071**  
 NOT TO SCALE

**1 FUJICLEAN CEN-10**  
 NOT TO SCALE

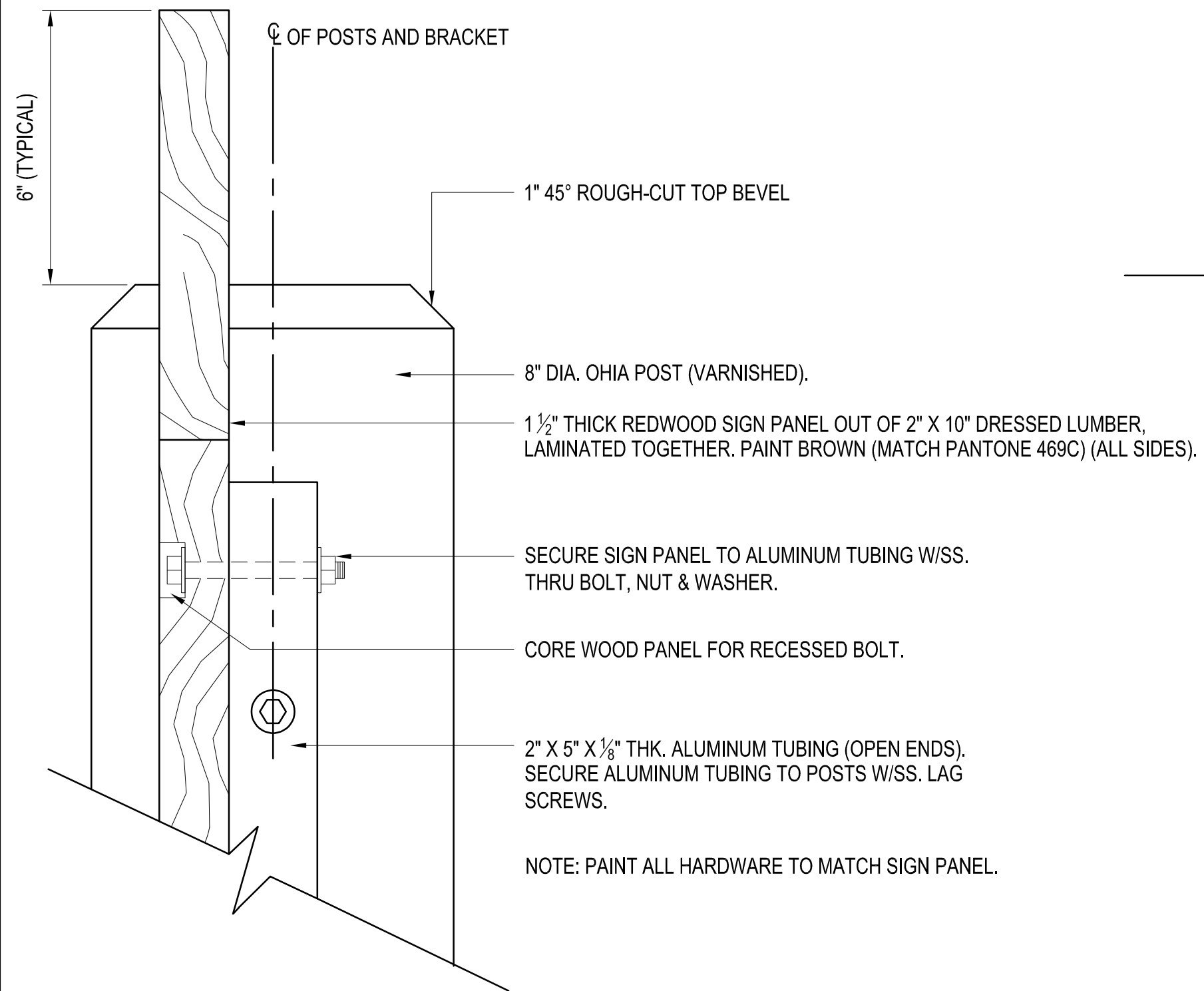
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STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>CIVIL DETAILS AND IWS PROFILE</b> ENGINEERING PARTNERS, INC					
DESIGNED: OH DRAWN: OH CHECKED: YWF APPROVED: YW Dina Lau CHIEF ENGINEER:			SUBMITTED: <i>[Signature]</i> DATE: SCALE: AS NOTED E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer		
				<b>DRAWING NO. C-407</b>	

KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D

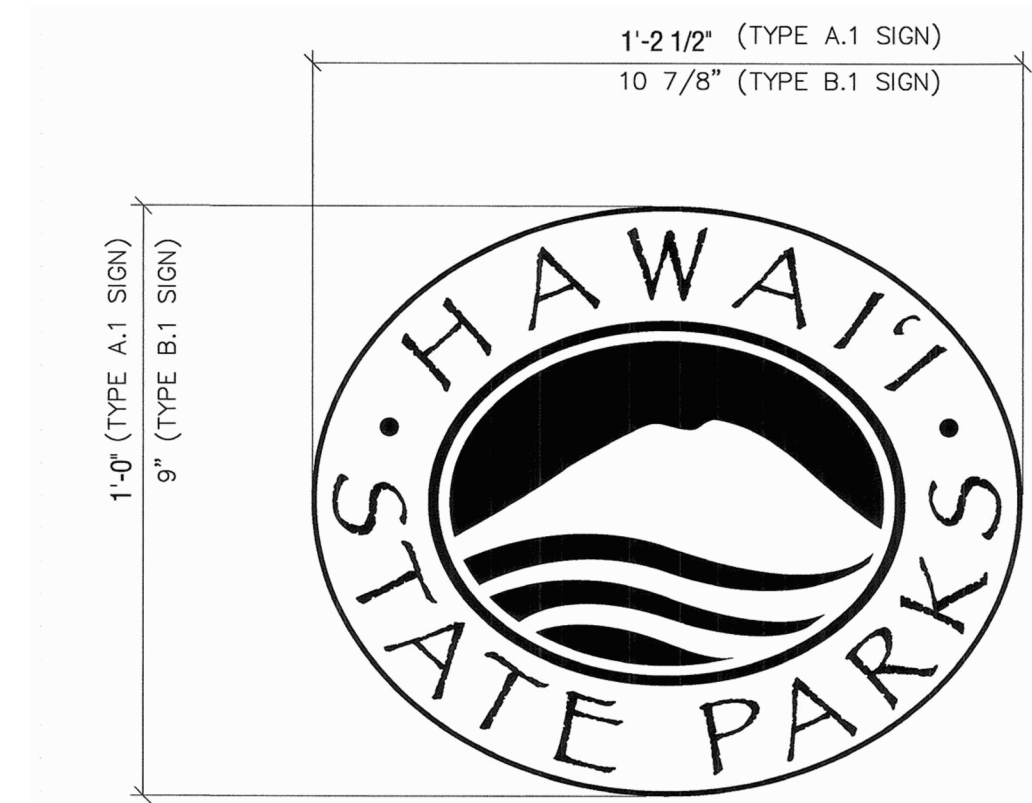
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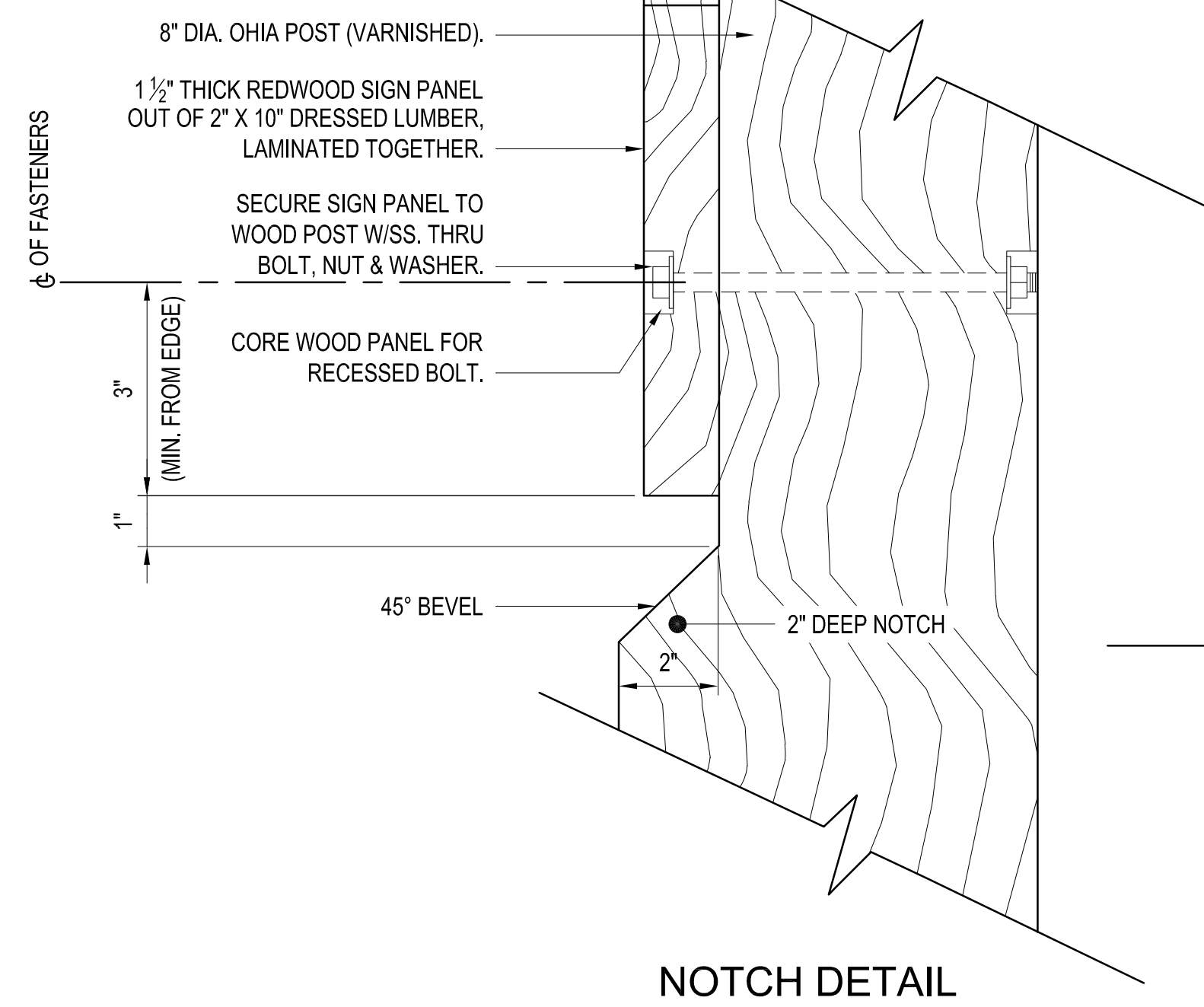


SECTION

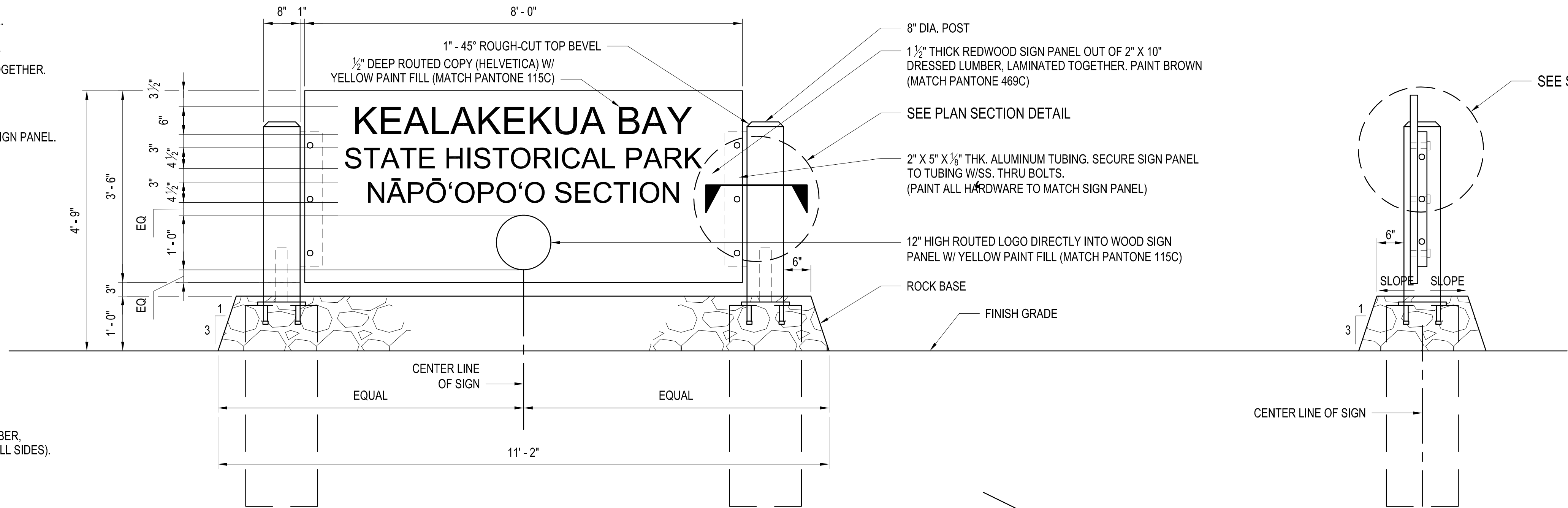


NOTES:  
 ROUTE LOGO DIRECTLY INTO WOOD SIGN PANEL TO A DEPTH OF 1/4\"/>

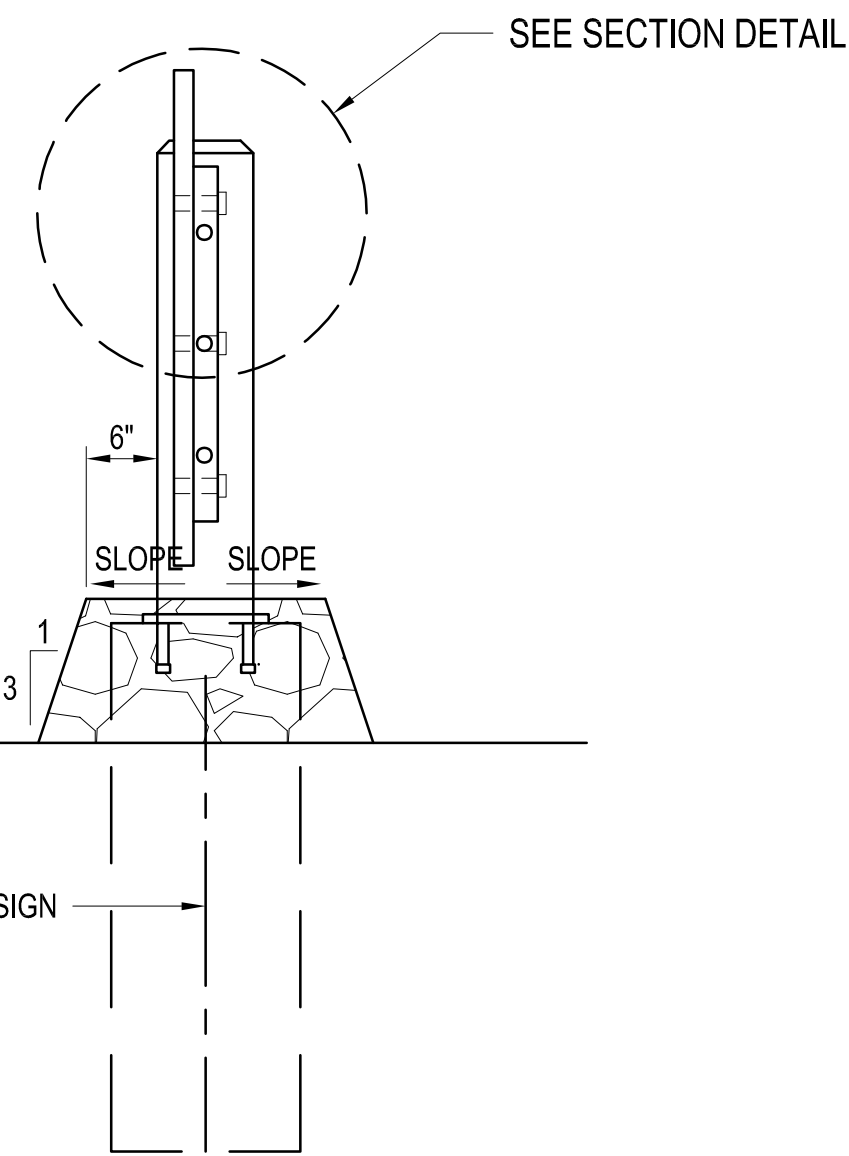
CAMERA-READY ARTWORK TO BE PROVIDED TO AWARDED CONTRACTOR.



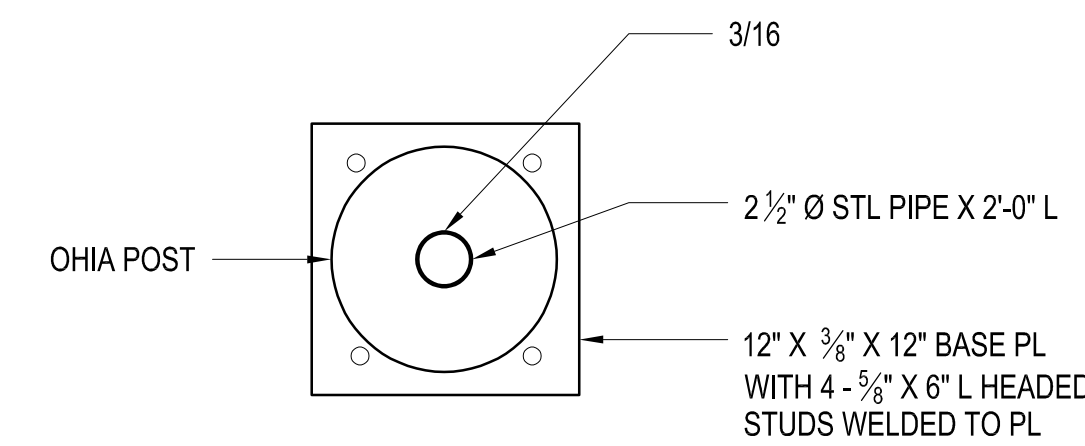
NOTCH DETAIL



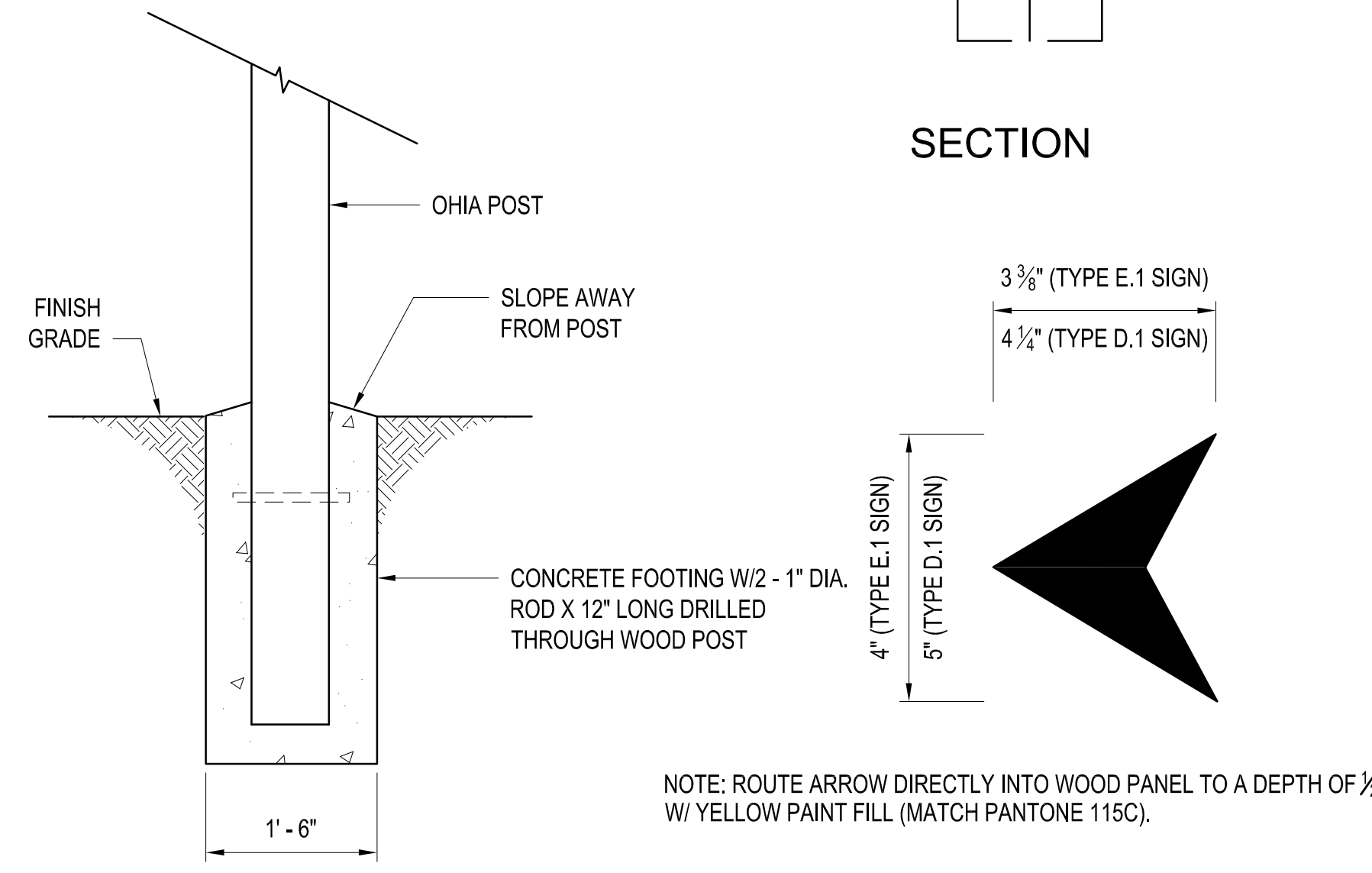
KEALAKEKUA BAY  
 STATE HISTORICAL PARK  
 NĀPŌ'OPO'O SECTION



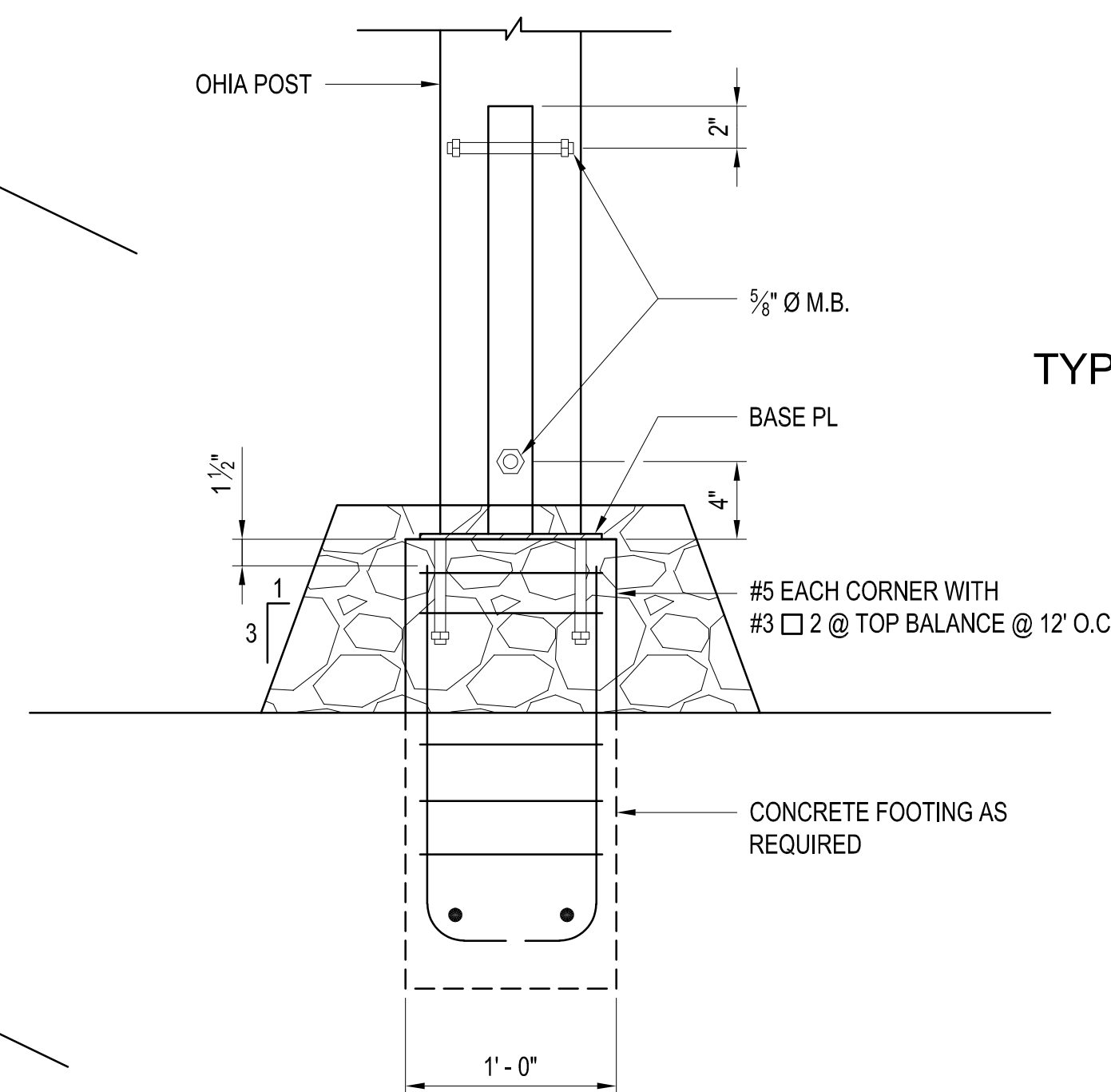
SECTION



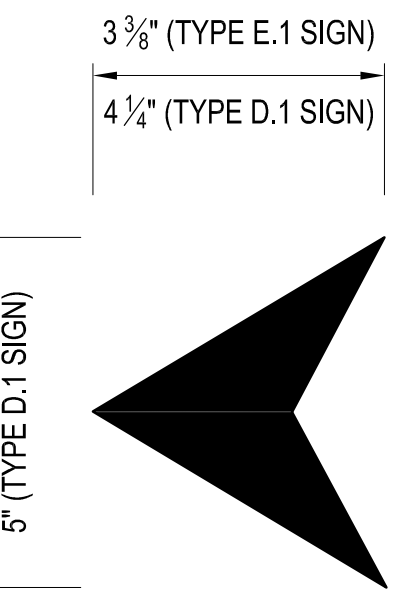
PLAN



TYPE 2 FOOTING DETAIL



TYPE 1 FOOTING DETAIL



ARROW DETAIL

NOTE: ROUTE ARROW DIRECTLY INTO WOOD PANEL TO A DEPTH OF 1/2\"/>

1 STATE PARKS SIGN TYPE A.1a SIGN (3-LINE)  
 SCALE: NO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>CIVIL DETAILS</b> ENGINEERING PARTNERS, INC					
DESIGNED:	OH	SUBMITTED:			
DRAWN:	OH	DATE:			
CHECKED:	YWF	SCALE:	AS NOTED		
APPROVED:	YWF	Dina Lau	E-signed 2026-05-08 02:16PM HST		
CHIEF ENGINEER:	YWF	dina.u.lau@hawaii.gov	DRAWING NO. C-408		
		State of Hawaii	SHEET NO. 28 OF 143 SHEETS		
		Civil Engineer			

05/05/2026 11:30 am  
 M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-501\_BMP.dwg

**SITE SPECIFIC CONSTRUCTION BMP CONTROL MEASURES**

**CONSTRUCTION ACTIVITIES**

The property area is 160.22 acres. Of the property area, approximately 1.20 acres will be disturbed by the proposed construction activities. Construction activities will include the Interpretive Shelter Building, Storage/Office Building, Renovations of existing restrooms, AC paving, concrete walkway/pavement/pad construction, site utility installation, basin construction, site grading, fence construction, landscaping, and fire protection water tank construction. The area expected to be disturbed at any one time should be no greater than 4.0 acres. Construction areas, including support areas such as stockpiles, and storage, will be confined to the project site.

All construction activity will incorporate these bmps without modification. Construction site manager will conduct a site inspection daily for any potential pollution sources. All equipment stored onsite will be in good working order with no fuel, oil, transmission fluid, or hydraulic leaks. Any equipment found to be faulty will be repaired immediately with necessary bmp precautions taken to prevent and contain storm water contamination. Equipment which cannot be repaired within the same working day, shall be removed from the site to an appropriate repair facility.

Construction equipment includes; dozer, excavator, loader, dump trucks, concrete trucks, drum roller/compactor, etc.

**QUALITY OF DISCHARGE**

The existing soil is pahoehoe lava. The site is partially developed with light vegetal ground cover. No storm water management facilities exist on the site. Discharge during construction will be controlled by, silt fence, sediment waddles, biosocks, and gravel bag filters. All disturbed areas that are not scheduled to be paved, landscaped, or covered by a structure or gravel will have hydromulch or grass seed applied to stabilize the soil.

**CONTROL FOR LAND DISTURBANCES**

The general contractor shall comply with the special conditions for land disturbances (from har, chapter 11-55, appendix c). Refer to the "notes on controls for land disturbances" on this sheet.

**EROSION AND SEDIMENT CONTROL REQUIREMENTS**

The contractor shall have the county approved grading permit available for inspection 30 days before the start of construction activities.

**POTENTIAL POLLUTANTS**

Removed vegetation and other debris will be disposed of at the West Hawaii sanitary landfill. Debris will be temporarily stored in the stockpile and storage area as shown on sheet c-703. The stockpile and equipment/vehicle storage area is protected by stacked gravel bag filters.

No fuel, oil, or hydraulic fluid shall be stored onsite. Fueling or field maintenance of equipment shall be performed within vehicle storage area. The vehicle storage area is protected with a gravel bag containment berm. Drip pans will be placed under vehicles onsite while not in use. In the event of a spill or leak from equipment, the flow of fuel will be stopped and all sources of ignition will be removed. The spill will be contained by placing sand bags around the spill area. The contaminated earth will be placed in containers. In the case of ponding fuel, a hazardous materials vacuum truck will remove the fuel.

Disturbed areas will be protected with silt fence, sediment waddles, and gravel bag filters. All disturbed areas that are not scheduled to be paved, landscaped, or covered by a structure or gravel will have hydromulch or grass seed applied to stabilize the soil.

**PRODUCT SPECIFICATIONS FOR BMPs**

Filter fabric shall be: 8.0 oz./sq. Yd. Geotextile  
 Gravel filter shall be: 3/4" for gravel filter bags

**CONSTRUCTION SCHEDULE**

Contractor selection date: Tbd  
 Construction will begin: Tbd  
 Construction will end: Tbd

Bmps will be implemented from the first day of construction and will be removed when all civil work items are complete and vegetation cover is reestablished.

All major construction activities will proceed in a logical sequence. Major construction activities will be concurrent when appropriate.

The following bmps will be implemented the first day of construction:

- Silt fence or biosock
- Stabilized construction entrance
- Vehicle/equipment wash w/ sediment basin w/ impermeable liner
- Vehicle/equipment storage area
- Gravel bag filters or biosock
- The following bmp will be implemented as slopes are graded
- Throughout construction
- Sediment waddles or biosock
- Grated inlet protection

**NOTES ON CONTROLS FOR LAND DISTURBANCES**

Har chapter 11-55 appendix c requirements

The following special conditions apply to all land disturbance work conducted under this general permit:

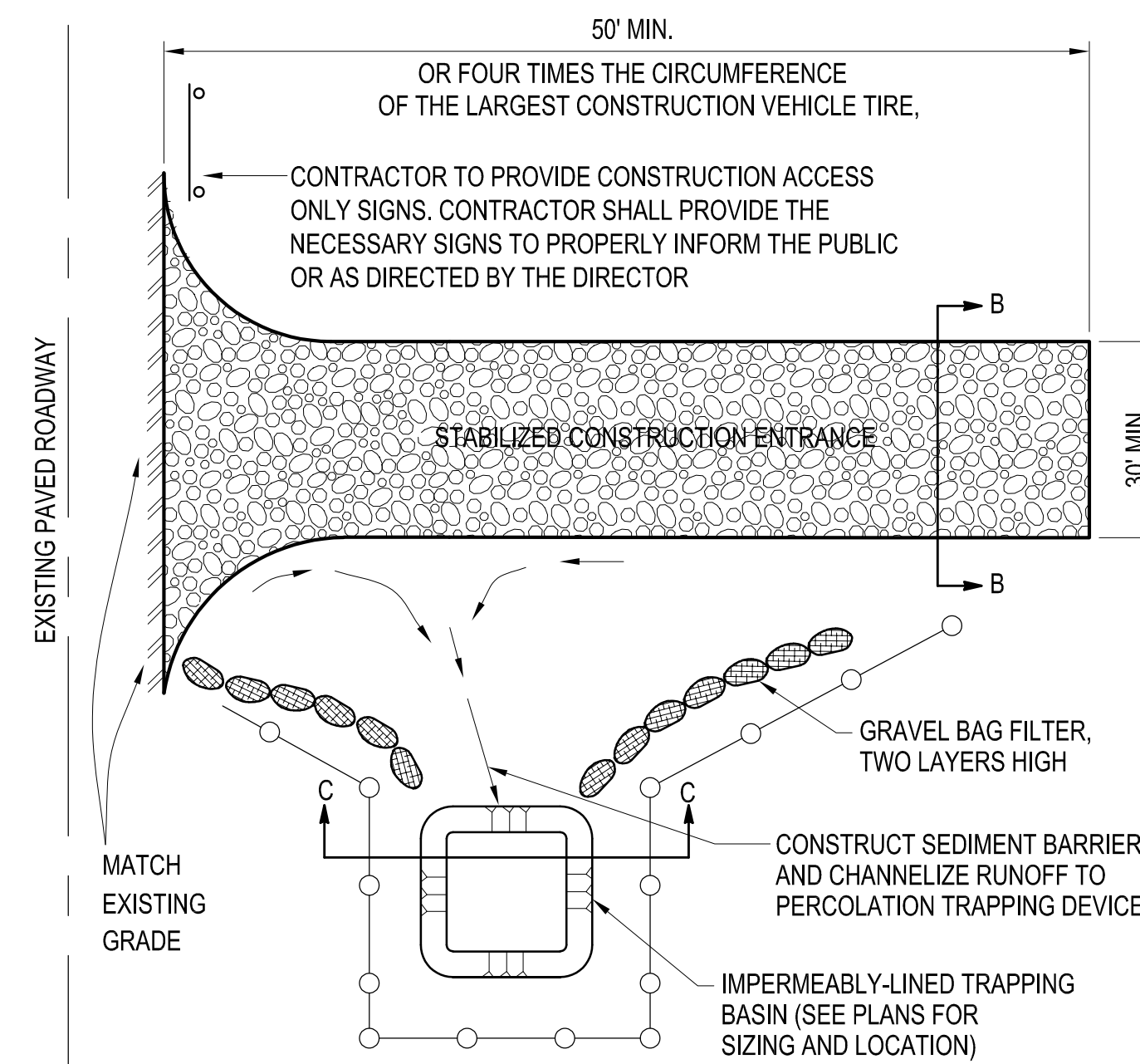
- (a) construction management techniques
- (1) clearing and grubbing shall be held to the minimum necessary for grading and equipment operation.
  - (2) construction shall be sequenced to minimize the exposure time of the cleared surface area.
  - (3) construction shall be staged or phased for large projects. Areas of one phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff.
  - (4) erosion and sediment control measures shall be in place and functional before earth moving operations begin. These measures shall be properly constructed and maintained throughout the construction period.
  - (5) all control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within 24 hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, daily checking is necessary. The permittee shall maintain records of checks and repairs.
  - (6) the permittee shall maintain records of the duration and estimated volume of storm water discharge(s).
  - (7) a specific individual shall be responsible for erosion and sediment controls on each project site.

(b) vegetation controls

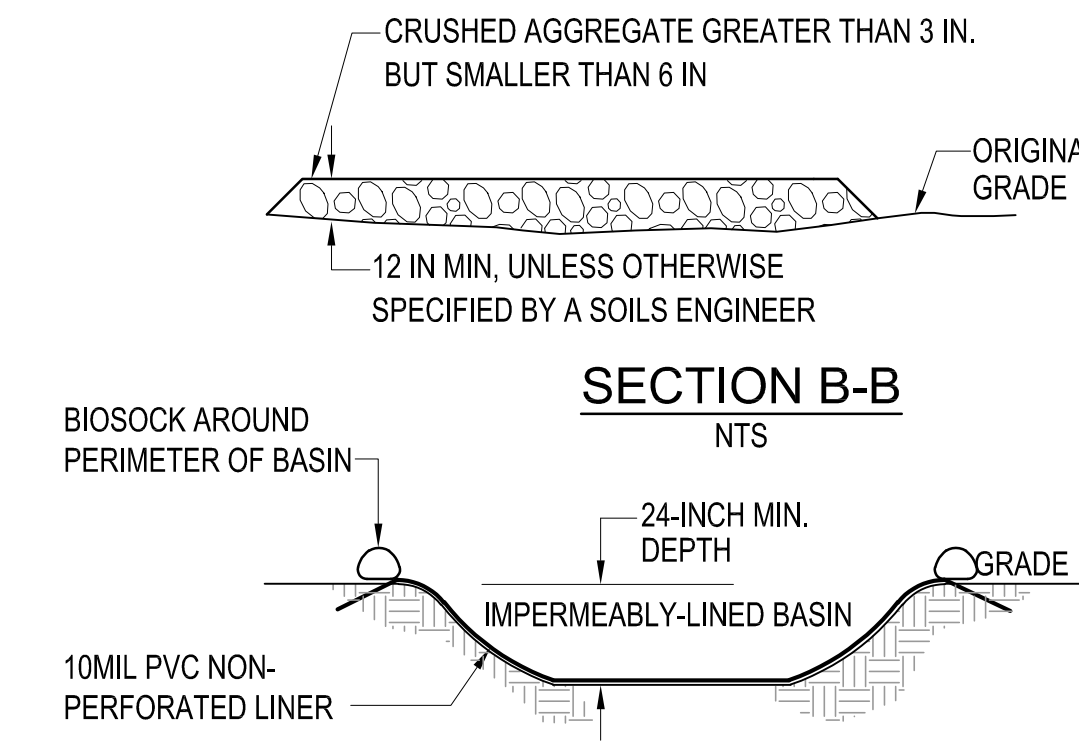
- (1) pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than twenty calendar days prior to land disturbance.
- (2) temporary soil stabilization with appropriate vegetation shall be applied on areas that will remain unfinished for more than thirty calendar days.
- (3) permanent soil stabilization with perennial vegetation or pavement shall be applied as soon as practical after final grading. Irrigation and maintenance of the perennial vegetation shall be provided for until the vegetation takes root.

(c) structural controls

- (1) storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.
- (2) erosion control measures shall be designed according to the size of disturbed or drainage areas to detain runoff and trap sediment.
- (3) water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in section 11-54-04.



PLAN NTS

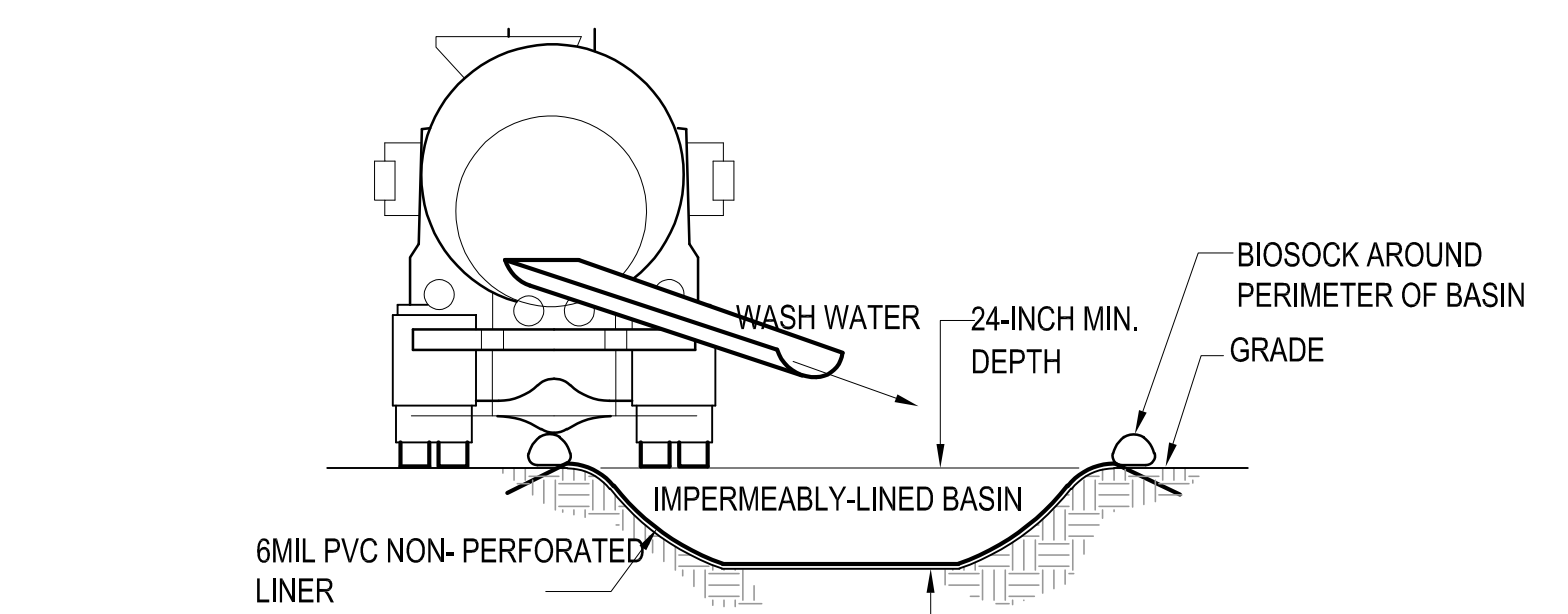


SECTION B-B NTS

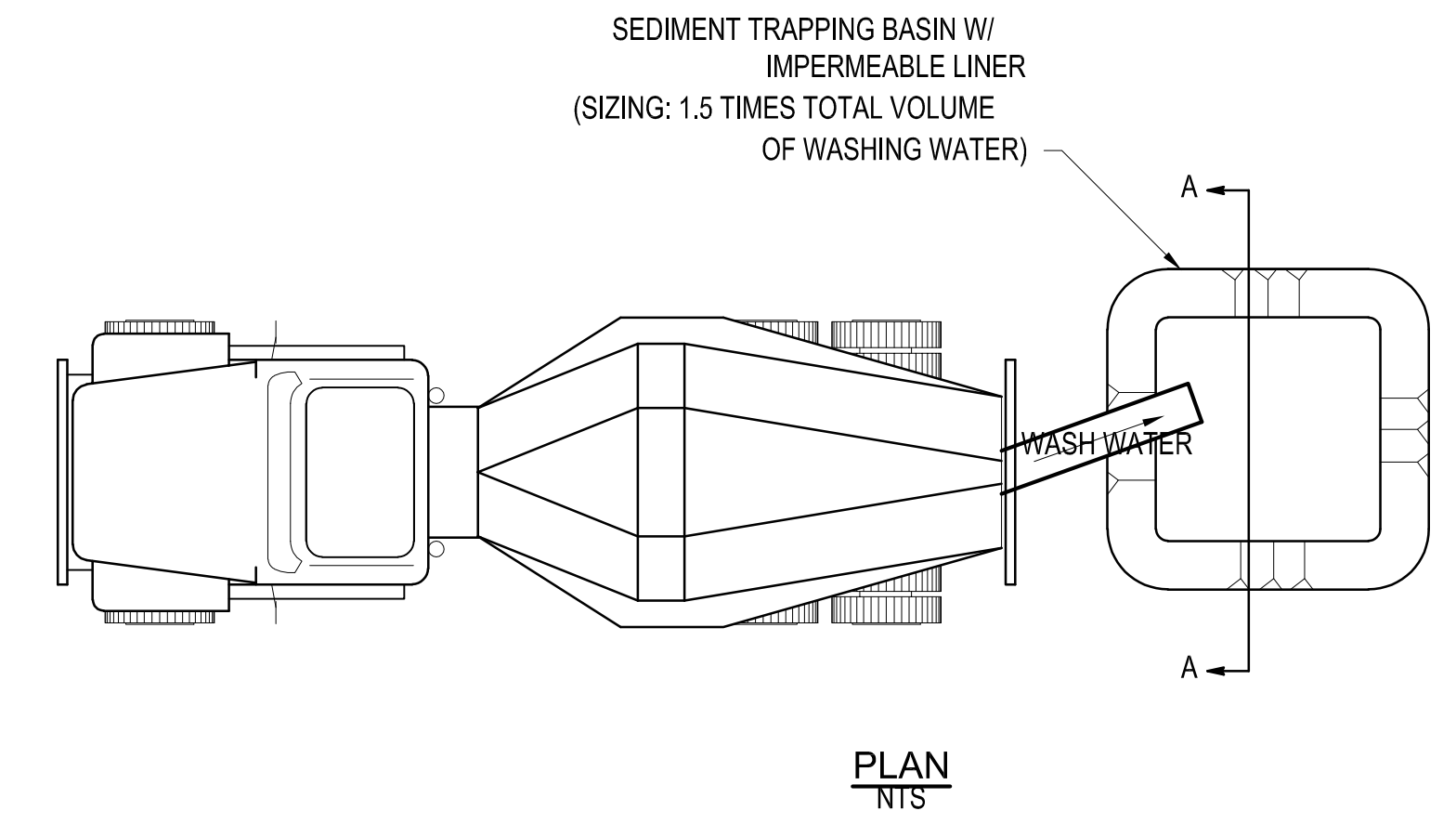


SECTION C-C NTS

2 STABILIZED CONST. ENTRANCE SCALE: NOT TO SCALE

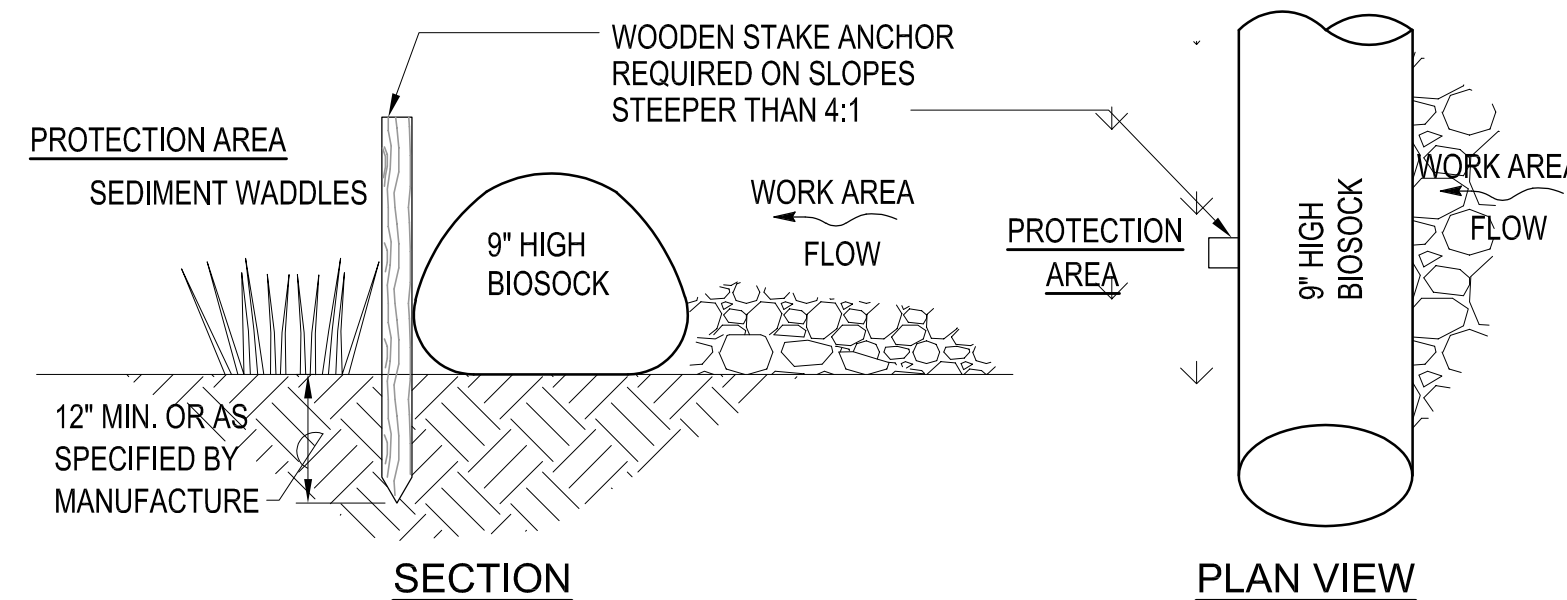


SECTION A-A NTS



PLAN NTS

1 CONCRETE TRUCK DRUM/CHUTE WASH WATER SEDIMENT BASIN SCALE: NOT TO SCALE



\*WOOD ANCHOR STAKES SHALL HAVE A NOMINAL CLASSIFICATION OF 3/4" BY 3/4" AND MINIMUM LENGTH OR 24 INCHES. DO NOT USE REBAR OR OTHER METAL RODS

NOTE PRODUCT SHOWN IS A PRODUCT OF HAWAII BIOSOCKS. PRODUCT MAY BE A PRODUCT OF HAWAII BIOSOCKS OR APPROVED EQUAL

3 TYPICAL BIOSOCK INSTALLATION SCALE: NOT TO SCALE

WOODEN STAKE ANCHOR REQUIRED ON SLOPES STEEPER THAN 4:1

PROTECTION AREA

9" HIGH BIOSOCK

9" HIGH BIOSOCK

6" MIN.

WOODEN STAKE ANCHOR SPACING

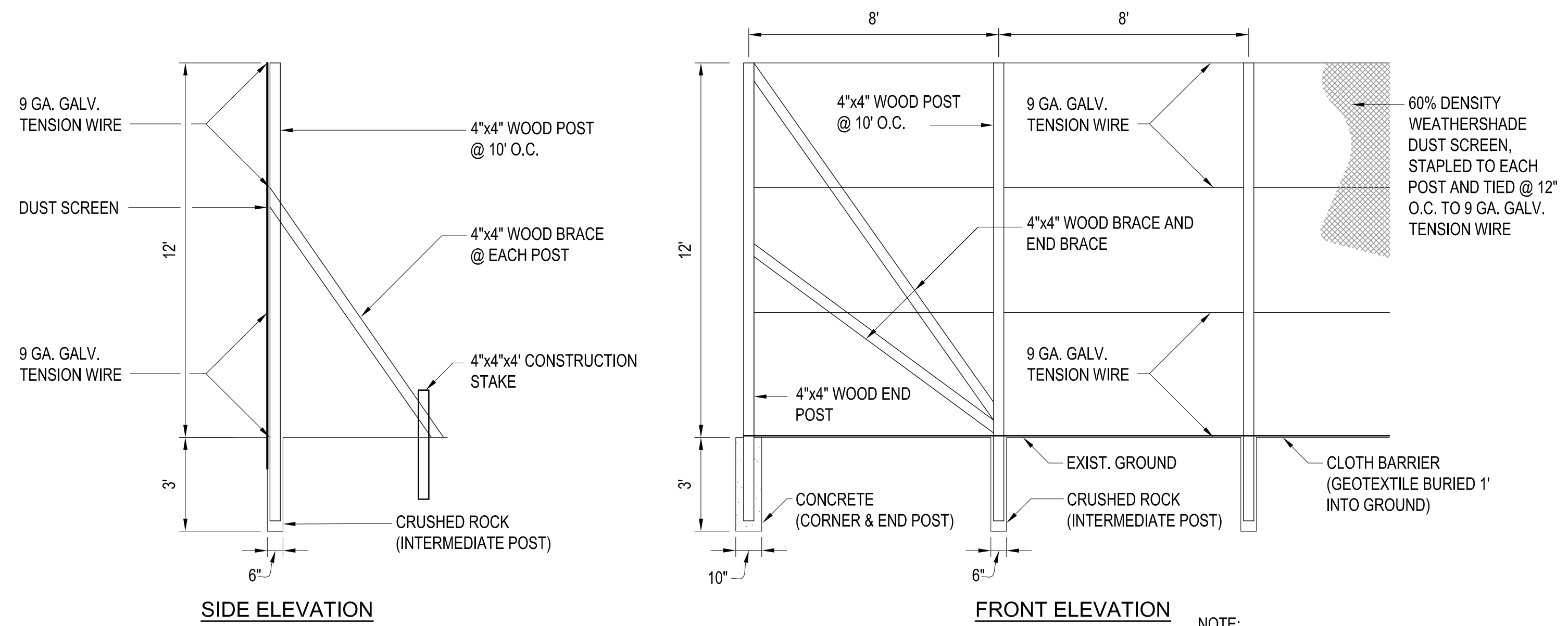
SLOPE GRADIENT	ANCHOR SPACING
<4:1	NOT REQUIRED
4:1 TO 3:1	10' ON CENTER
>3:1 TO 2:1	5' TO 10' ON CENTER
>2:1	5' ON CENTER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS					
BMP NOTES AND DETAILS					
ENGINEERING PARTNERS, INC					
DESIGNED: OH	SUBMITTED: <i>[Signature]</i>				
DRAWN: OH	DATE:				
CHECKED: YWF	SCALE: AS NOTED				
APPROVED: YWF	Dina Lau E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO. <b>C-501</b>		
CHIEF ENGINEER: <i>[Signature]</i>					

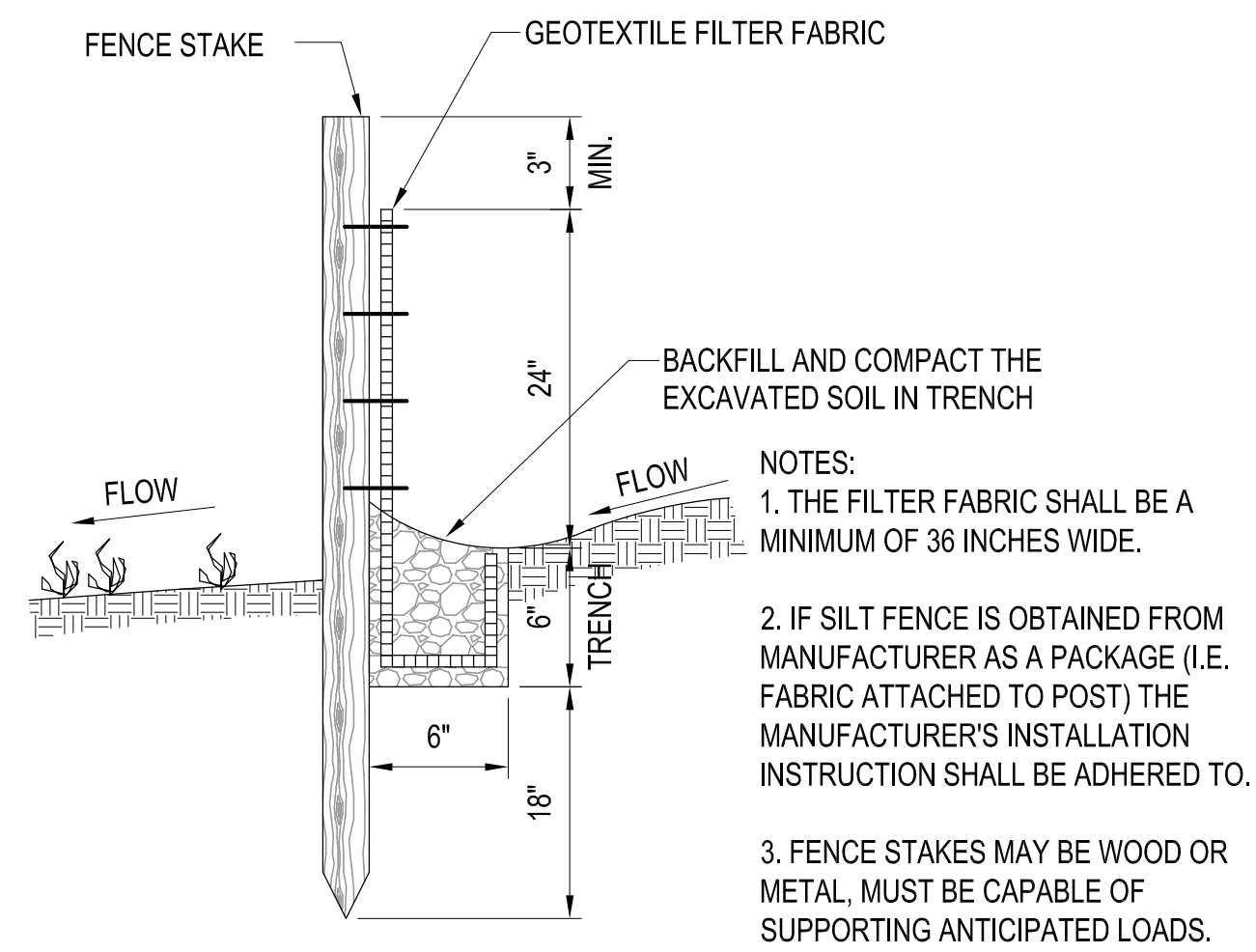
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

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

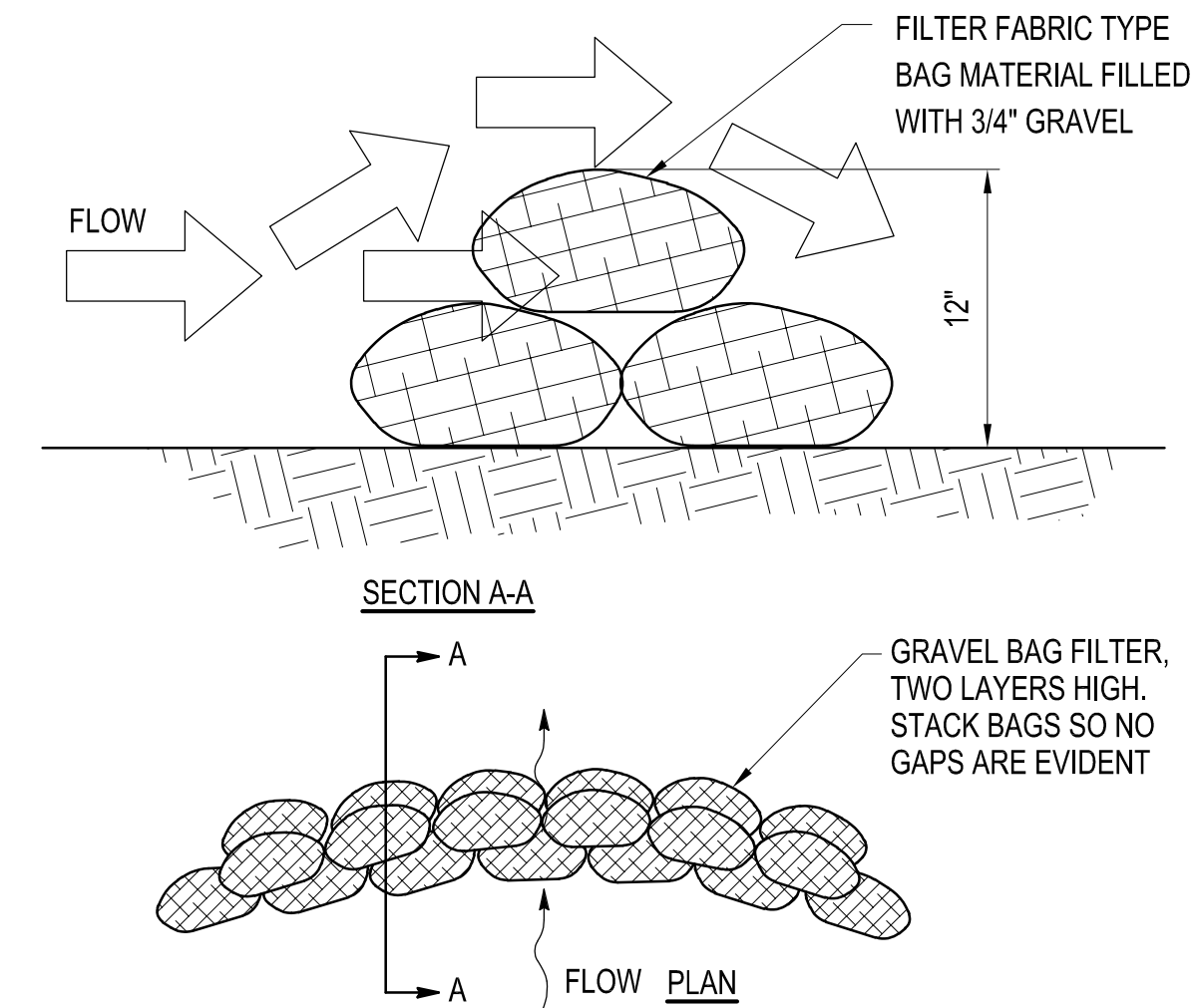
KEALAKEKUA BAY HISTORICAL PARK SITE IMPROVEMENTS JOB NO. F14C728D



**1 DUST SCREEN DETAIL**  
SCALE: NOT TO SCALE



**3 SILT FENCE DETAIL**  
SCALE: NOT TO SCALE



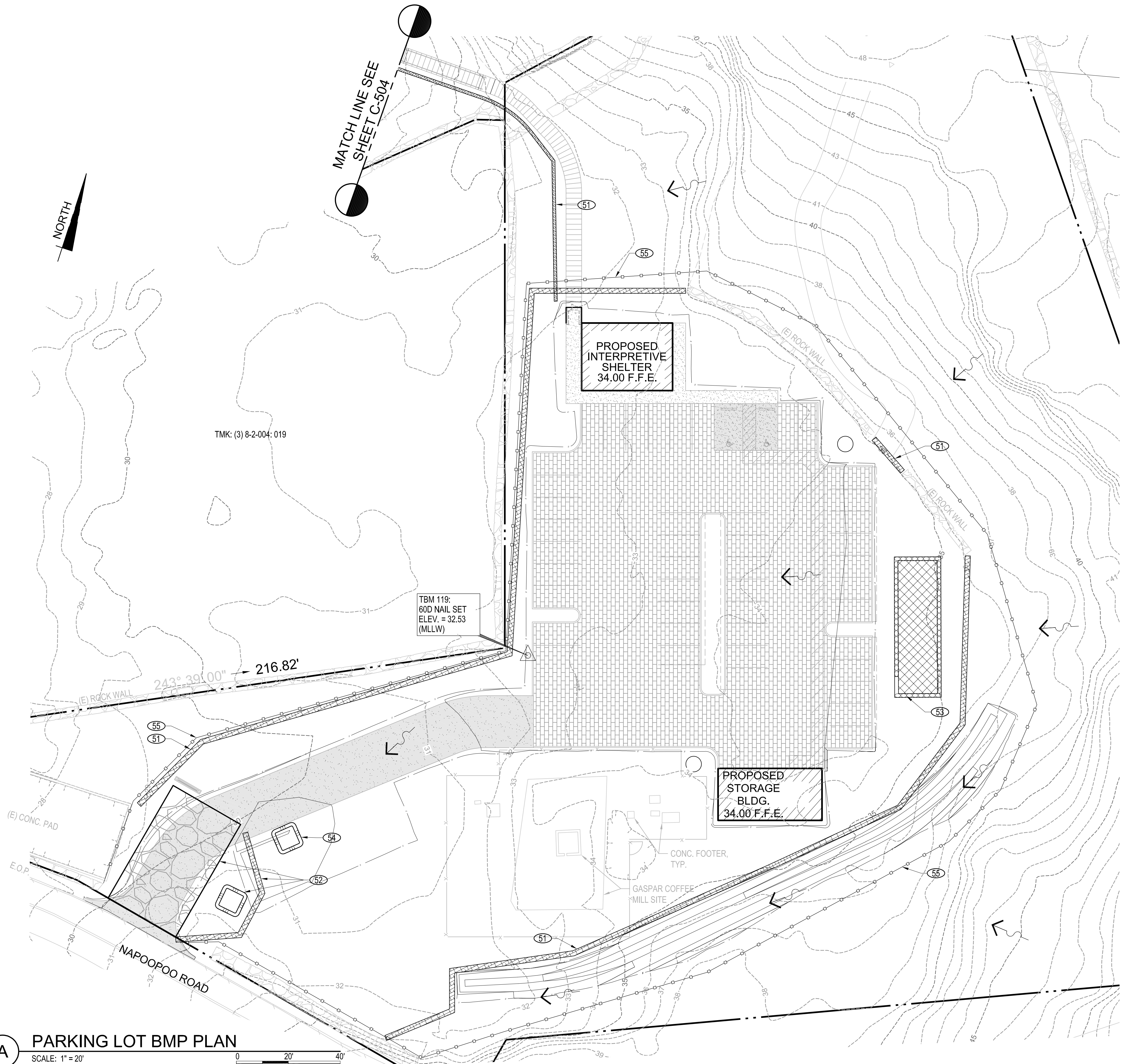
**2 GRAVEL BAG FILTER**  
SCALE: NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>BMP DETAILS</b> ENGINEERING PARTNERS, INC					
			DESIGNED: OH DRAWN: OH CHECKED: YWF APPROVED: YWF CHIEF ENGINEER: Dina Lau E-signed 2026-05-08 02:16PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer		
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. 			SUBMITTED: DATE: SCALE: AS NOTED		DRAWING NO. <b>C-502</b>
JOB NO.: F14C728D SHEET NO. 30 OF 143 SHEETS					

05/05/2026 11:31 am  
 M:\EO Projects\2025 Projects\12005-25-03 Kealahou Bay Historical Park Impr\4-Dwg\Civil\C-501\_BMP.dwg



MATCH LINE SEE SHEET C-504



TMK: (3) 8-2-004: 019

TBM 119:  
 60D NAIL SET  
 ELEV. = 32.53  
 (MLLW)

243° 39' 00" 216.82'

PROPOSED INTERPRETIVE SHELTER  
 34.00 F.F.E.

PROPOSED STORAGE BLDG.  
 34.00 F.F.E.

CONC. FOOTER, TYP.  
 GASPAR COFFEE MILL SITE

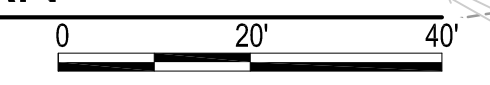
**BMP CONSTRUCTION NOTES**  
 (ORDER OF PRECEDENCE FOR INSTALLATION)

- 51 CONSTRUCT SILT FENCE OR BIOSOCK PER DETAIL 3  
C-501 3  
C-502
- 52 CONSTRUCT STABILIZED 30' x 50' CONSTRUCTION ENTRANCE AND VEHICLE / EQUIPMENT WASH AREA W/ IMPERMEABLE-LINED BASIN 2  
C-501
- 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 2  
C06.3
- 55 CONSTRUCT DUST FENCE PER DETAIL 6  
C06.3

**LEGEND**

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

**A PARKING LOT BMP PLAN**  
 SCALE: 1" = 20'



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION <b>KEALAKEKUA BAY STATE HISTORICAL PARK IMPROVEMENTS</b> <b>PARKING LOT BMP PLAN</b> ENGINEERING PARTNERS, INC					
DESIGNED: OH		SUBMITTED: <i>YWF</i>		DATE:	
DRAWN: OH		SCALE: AS NOTED		DRAWING NO. <b>C-503</b>	
CHECKED: YWF		APPROVED: YWF		CHIEF ENGINEER: Dina Lau	
APPROVED: YWF		E-signed 2026-05-08 02:16PM HST		dina.u.lau@hawaii.gov	
CHIEF ENGINEER: YWF		Civil Engineer		State of Hawaii	