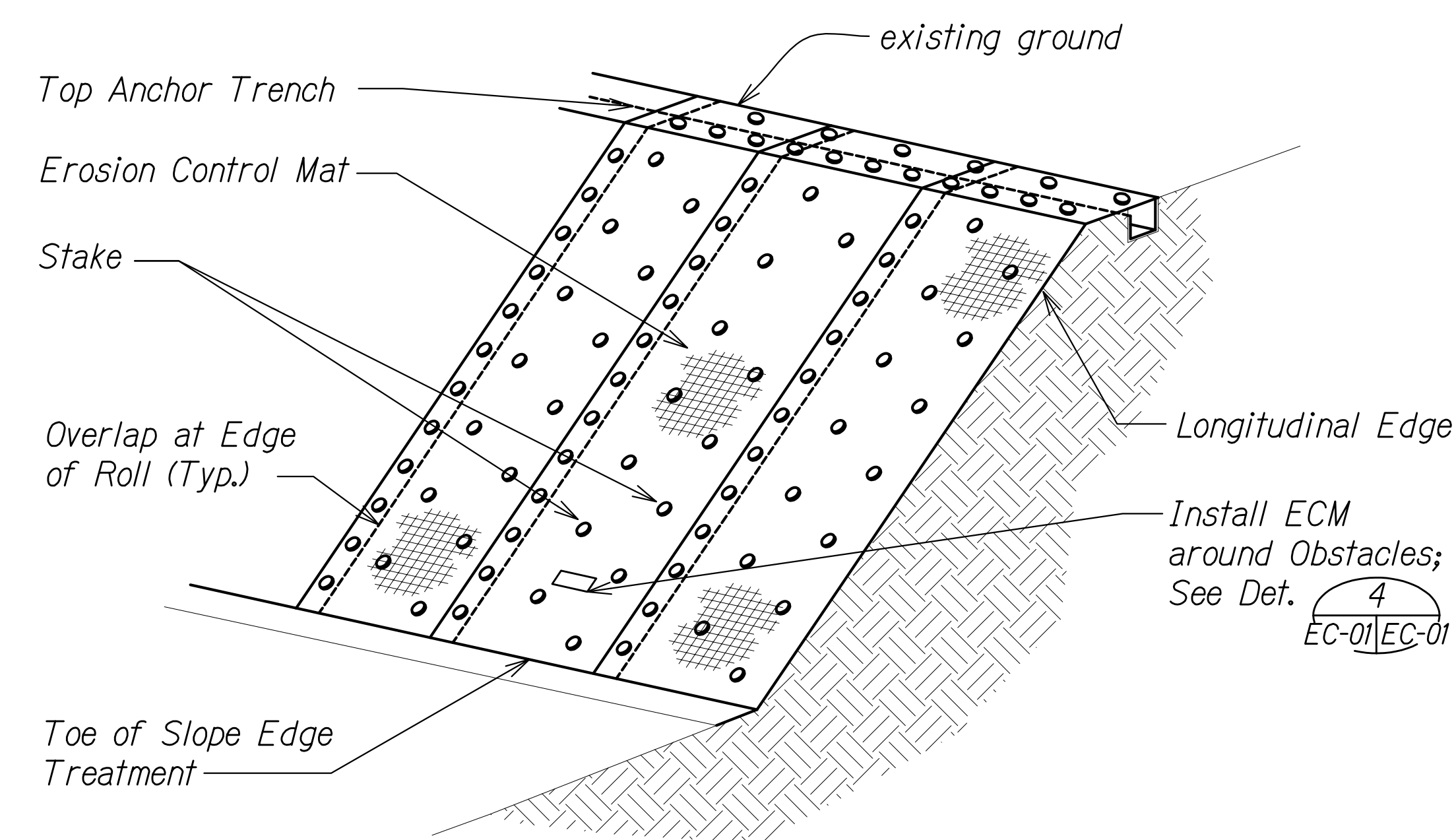
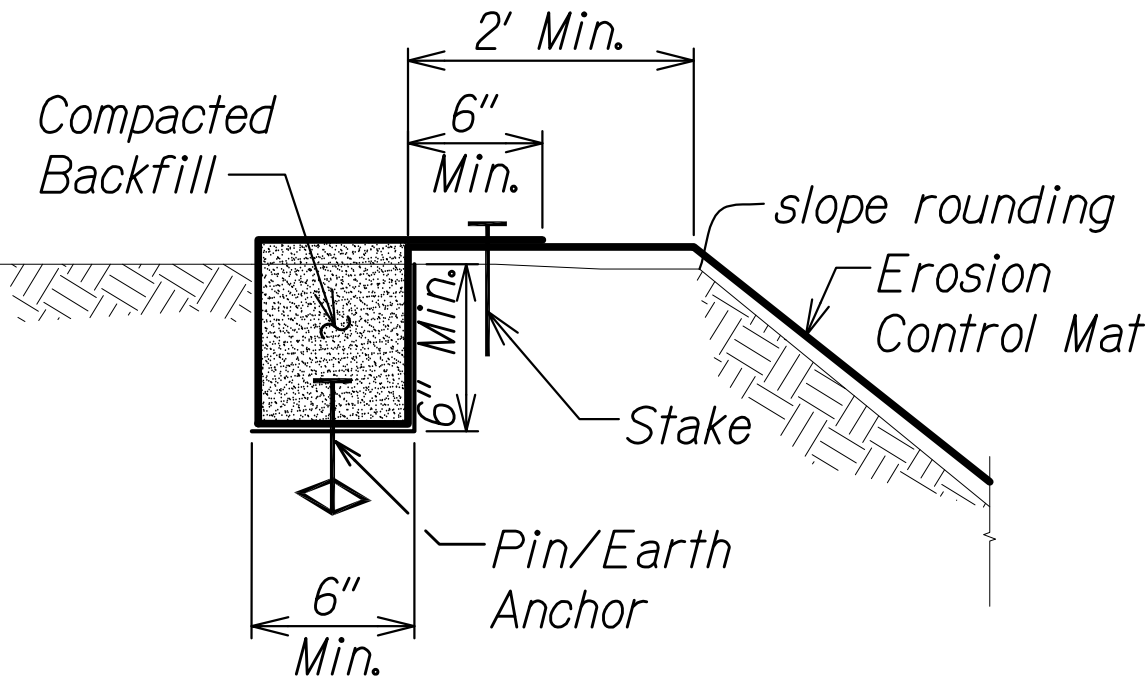


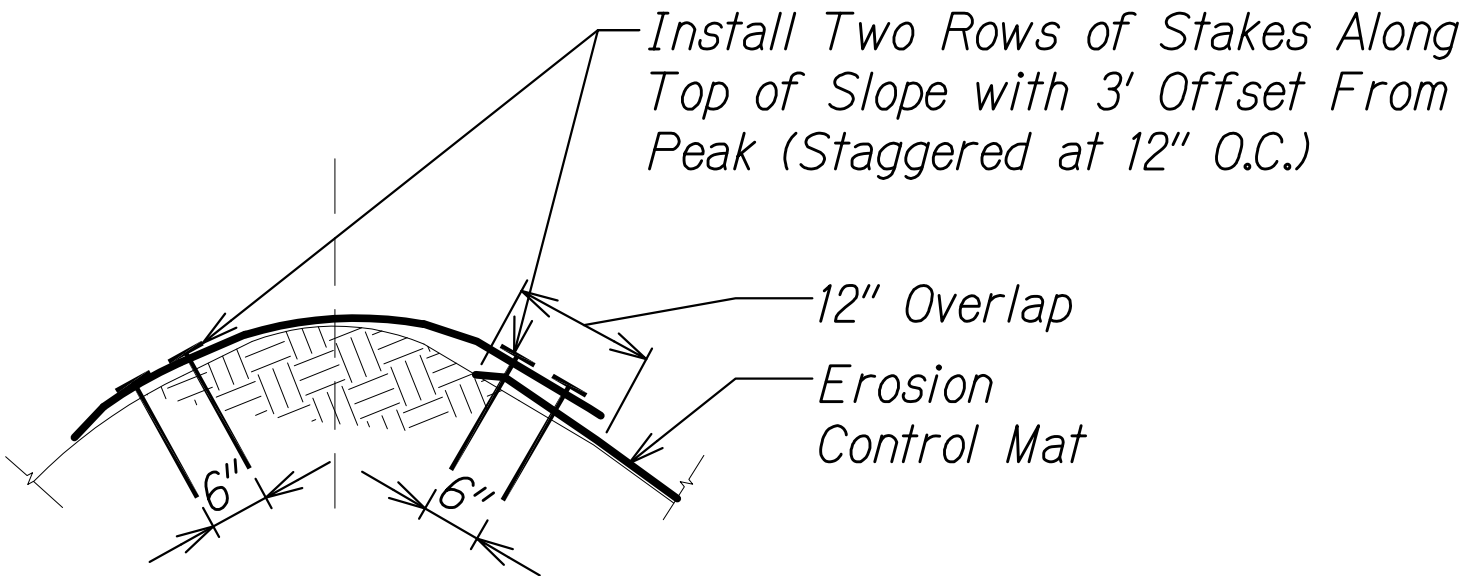
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	14	48



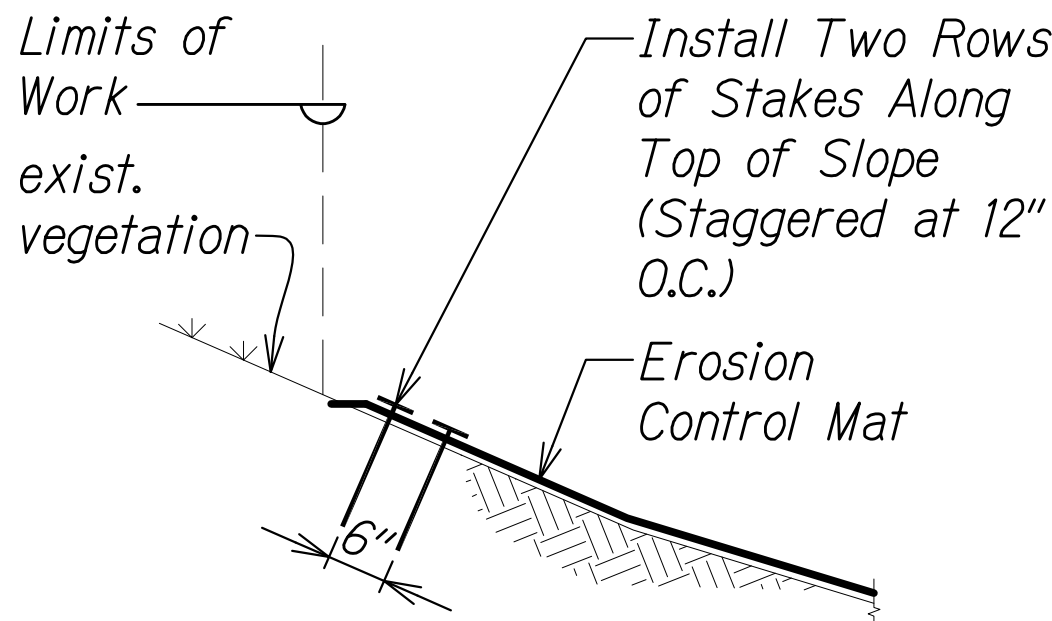
OVERVIEW OF PERMANENT EROSION CONTROL MATTING SYSTEM
Scale: Not to Scale



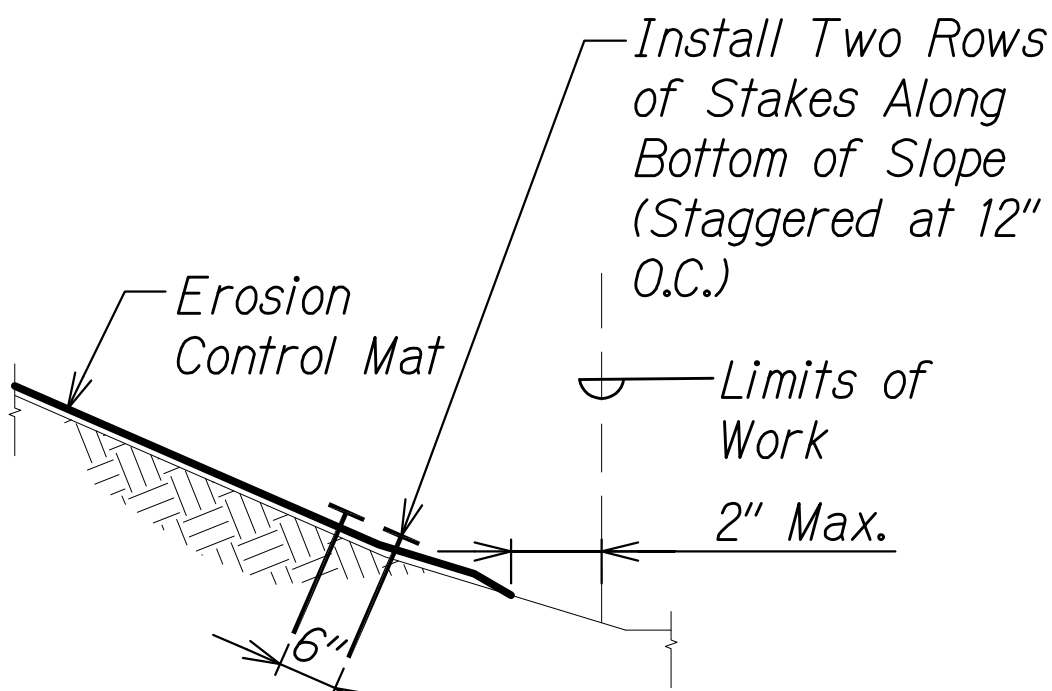
TOP ANCHOR TRENCH



TOP OF SLOPE

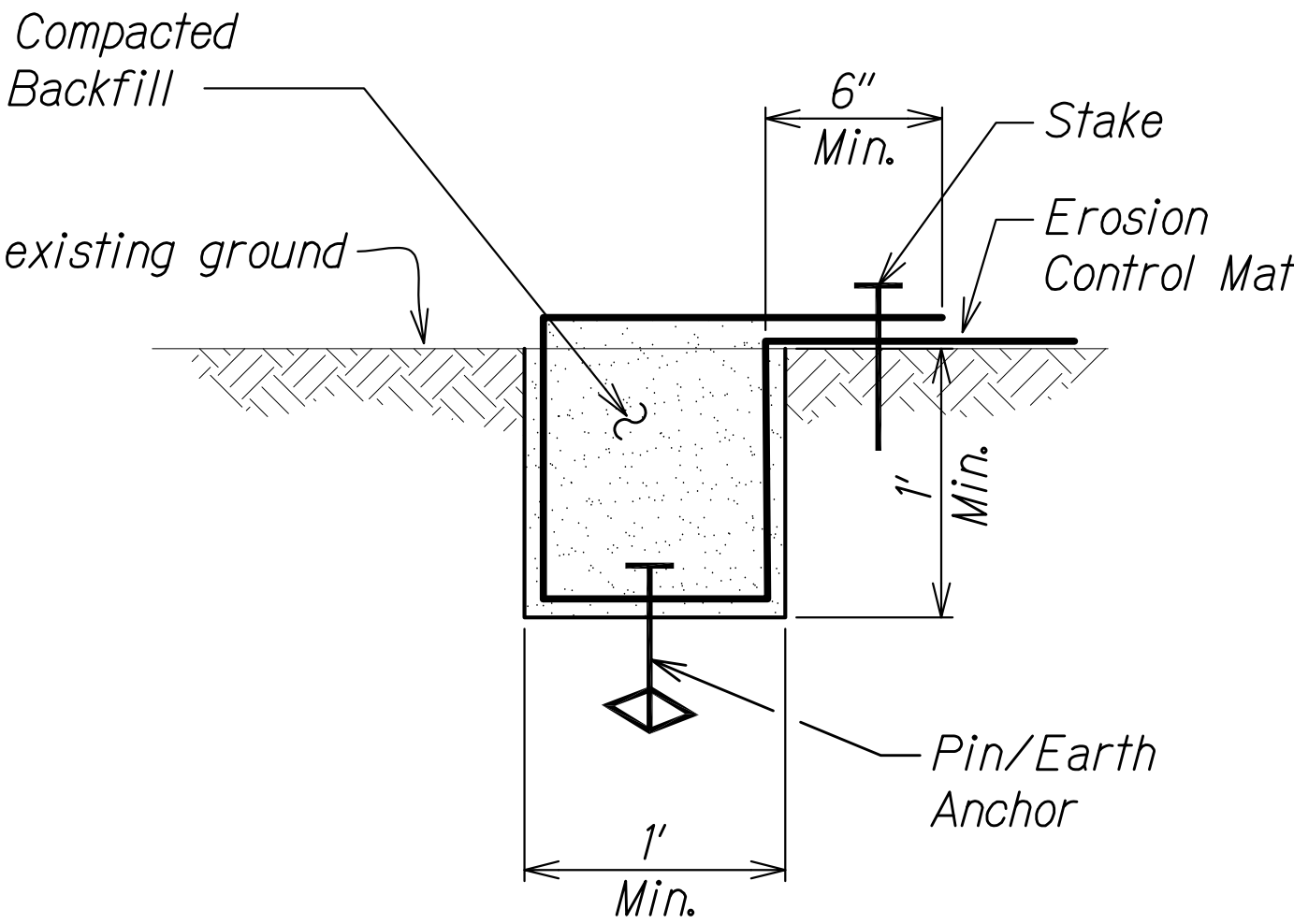


MID-SLOPE

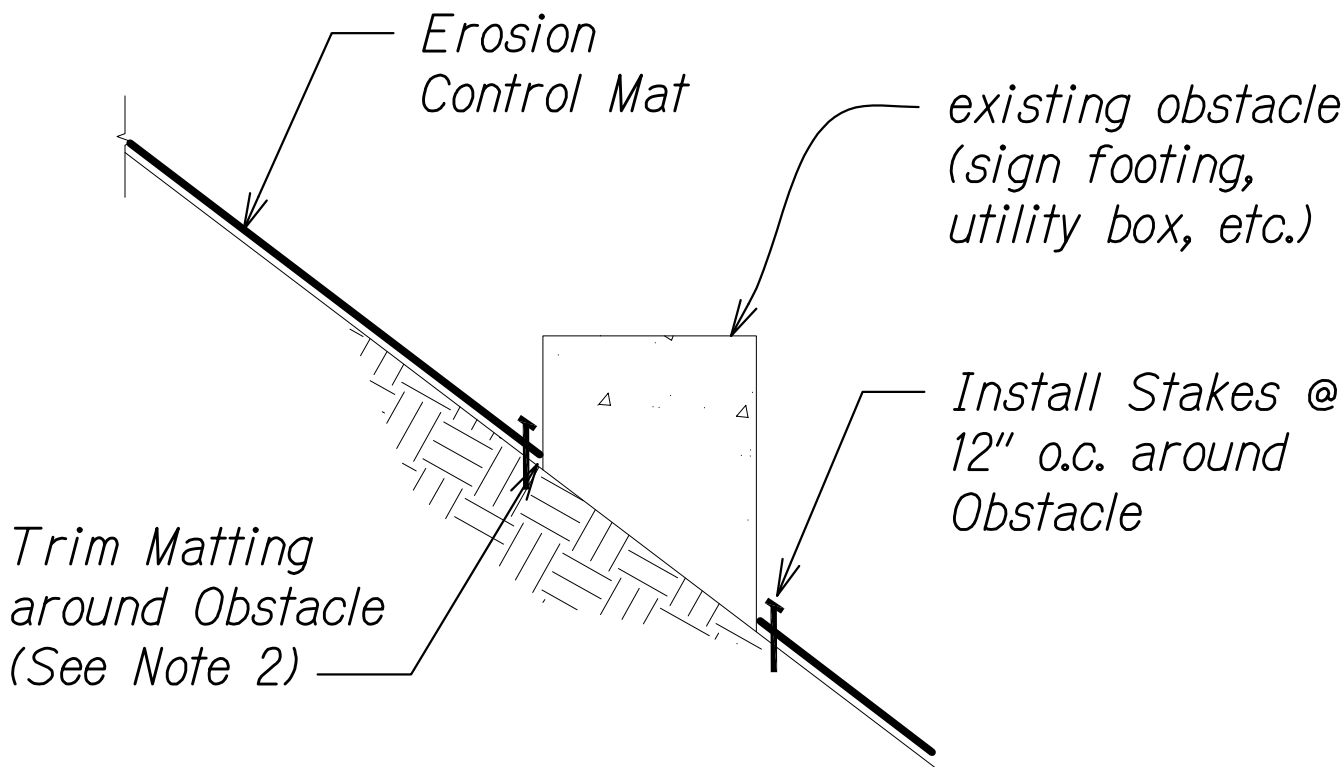


TOE OF SLOPE

EDGE TREATMENT DETAILS
Scale: Not to Scale



LONGITUDINAL EDGE TRENCH DETAIL
Scale: Not to Scale



TYPICAL SECTION AROUND EXISTING OBSTACLES
Scale: Not to Scale

- Notes:
- Matting shall be placed and secured in direct contact with the finish grade.
 - Maximum gap between edge of trimmed matting and obstacle shall be 1 inch.
 - Contractor shall locate and expose exist. utility boxes prior to installing matting.
 - Contractor shall ensure that erosion control matting does not cover existing utility boxes when installed.
 - For installation of matting around existing trees, see Landscape drawings.
 - For temporary Type 2 ECM, anchor trenches are not required. In lieu of top anchor trench, install 2 rows of stakes along top edge, offset at 12" o.c.

4/30/22
EXP. DATE

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
EROSION CONTROL MATTING

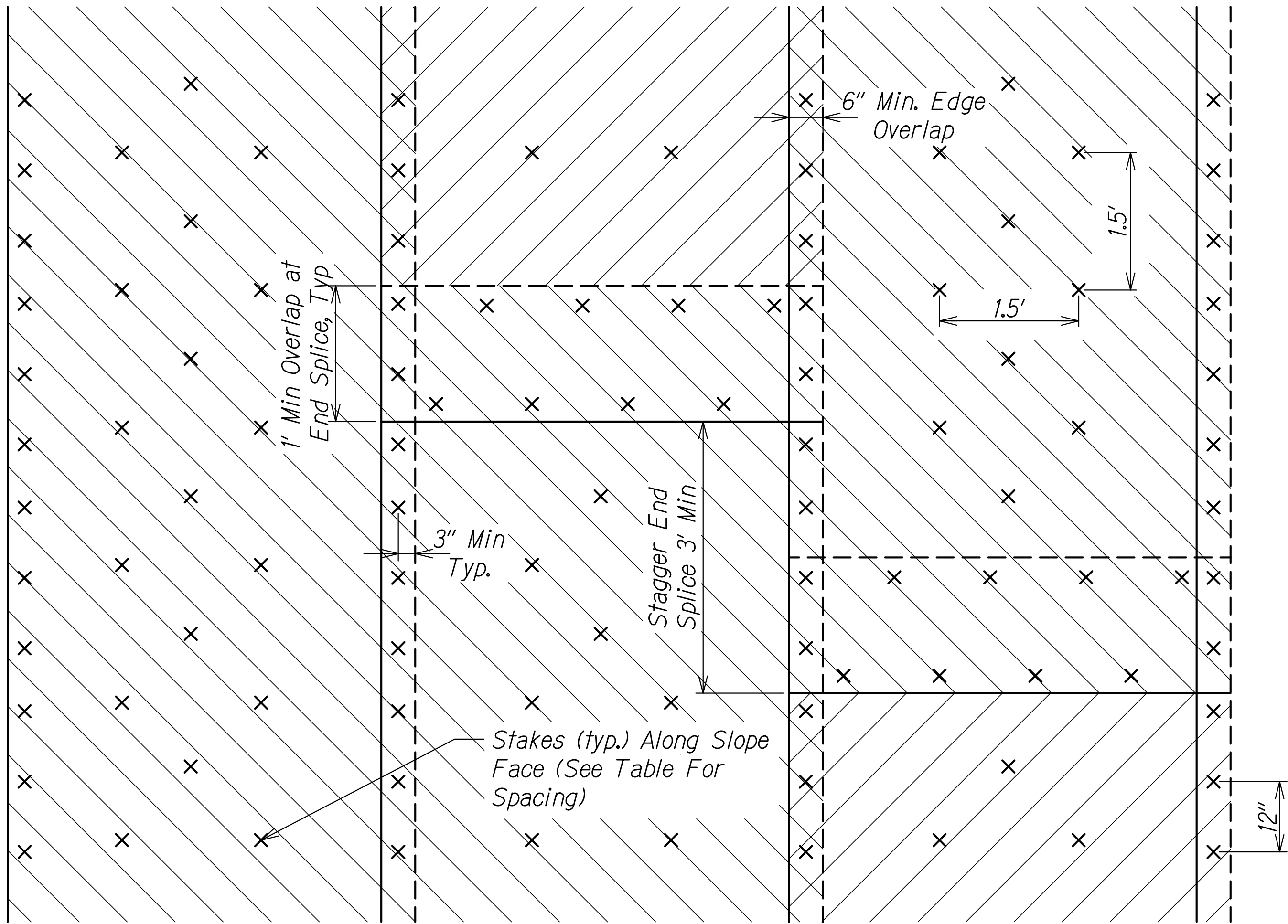
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: Not to Scale Date: May 2020

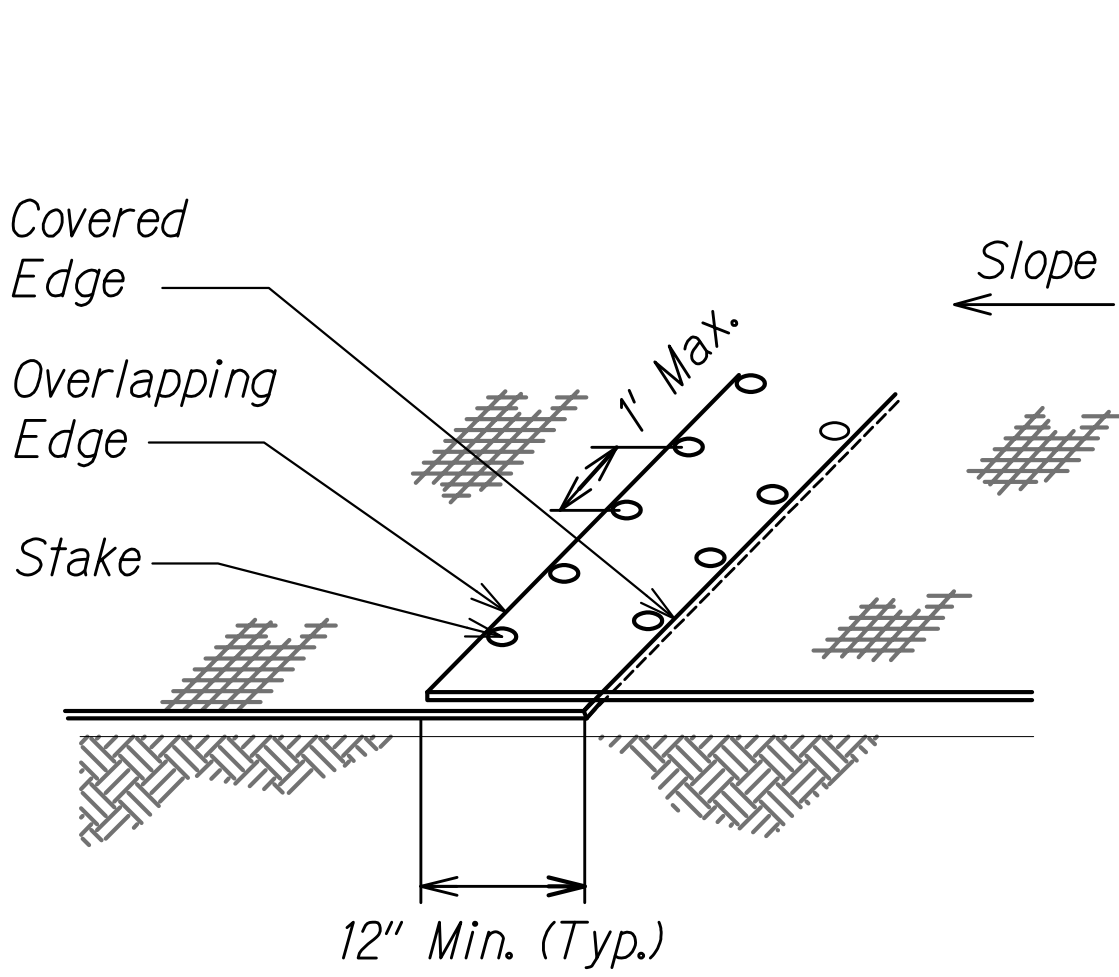
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	15	48

Max. Stake/Earth Anchor Spacing (See Note 1)		
Fastener Type	Along Slope Face	Top & Edge Trenches
Stakes	1.5'	-
Earth Anchor	-	4'

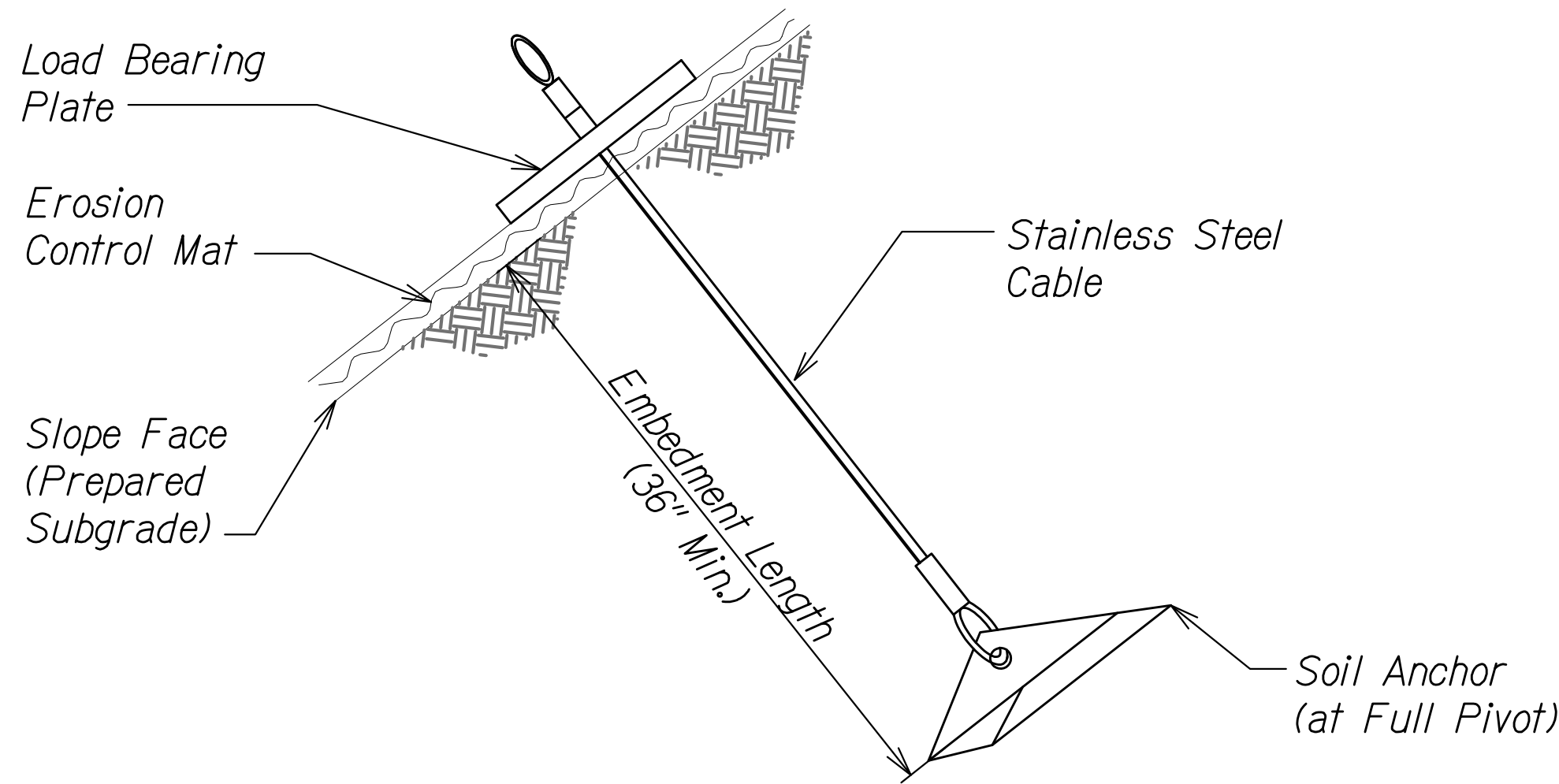
- Notes:
- Secure all erosion control mat edges with stakes at the spacing indicated or the manufacturer's recommended spacing, whichever is more stringent.
 - Stakes shall be a minimum of 12" in length.
 - Stake shall be made of a biodegradable polypropylene-based resin as indicated in Section 659.
 - Earth anchors in trenches shall extend a minimum depth of 3' from the bottom of trench.



TYPICAL PERMANENT EROSION CONTROL MAT AND EARTH ANCHOR/STAKE LAYOUT
Scale: Not to Scale



OVERLAP END DETAIL
Scale: Not to Scale



EARTH ANCHOR DETAIL
Scale: Not to Scale

FERDINAND R. YAGAK
LICENSED PROFESSIONAL ENGINEER
NO. 14993-C
HAWAII, USA

4/30/22
EXP. DATE

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
EROSION CONTROL MATTING
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU
Project No. HWY-O-02-19
Scale: Not to Scale Date: May 2020

SHEET No. EC-02 OF 22 SHEETS

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

13. EROSION CONTROL MATTING DETAILS 2/20/2020 03:06 PM

28 FCP - PTD 1501 DWG 4/29/2020 1:54:48 AM

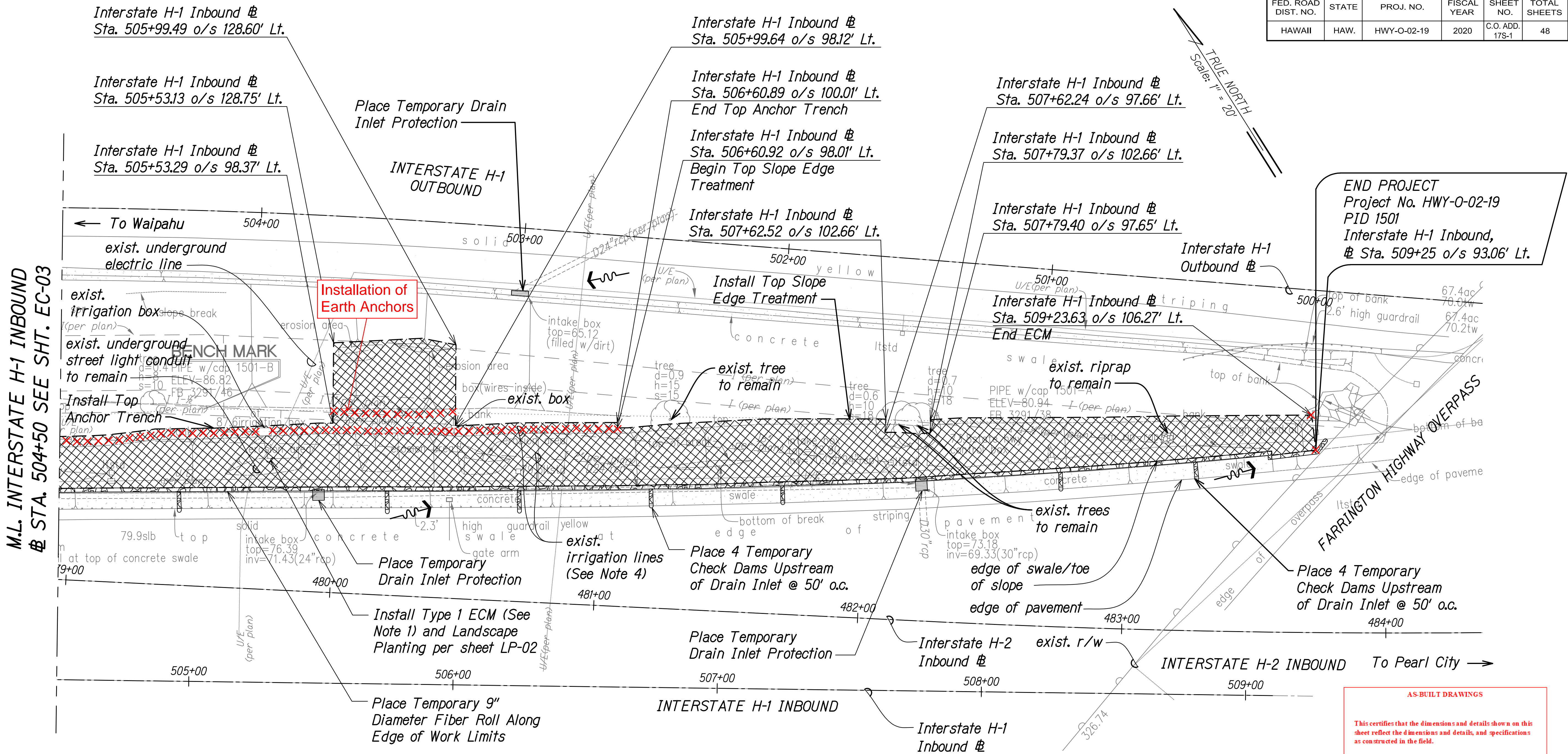


DATE: 7/21/2022

SHEET No. *EC-03* OF 22 SHEETS

ADD. 16

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. ADD. 17S-1	48



TEMPORARY EROSION CONTROL AND PERMANENT BMP PLAN
PID 1501
Scale: 1" = 20'

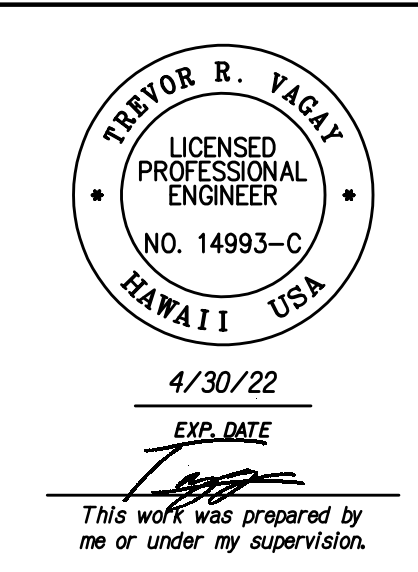
LEGEND
Type 1 ECM and Landscape Planting

- Notes:**
- Contractor shall field verify site conditions and ECM limits.
 - For ECM details, see Sheets EC-01 & EC-02.
 - For installation of ECM around obstacles, see Detail 4 on Sheet EC-01.
 - Irrigation lines within the work area are abandoned and shall be demolished and removed if exposed during the grading work. Cut and plug ends to remain.

- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions, expected run off flows, and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100; Installation, Maintenance, Monitoring, and Removal of BMP.

AS-BUILT DRAWINGS
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.
KAIKOR CONSTRUCTION COMPANY INC.
Steve Park
DATE: 7/21/2022

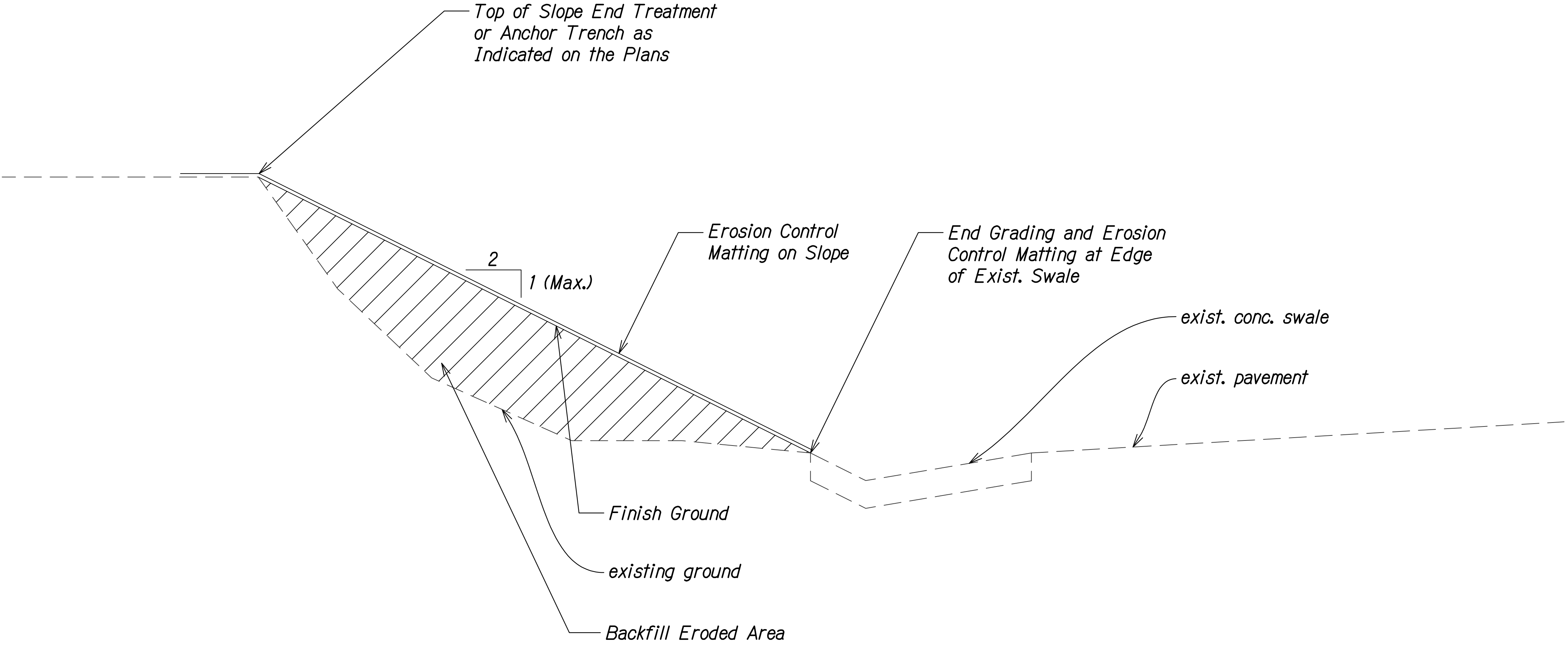
2/19/21	Revised Matting and Planting Limits
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TEMP. EC AND PERMANENT BMP PLAN PID 1501 EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU Project No. HWY-O-02-19 Scale: 1" = 20' Date: May 2020	
SHEET No. EC-04 OF 22 SHEETS	



"AS-BUILT"

C.O. ADD. 17S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	19	48



TYPICAL SECTION - PID 1501 1
Scale: Not to Scale EC-06EC-06

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	NOTED BY	
	CHECKED BY	
NOTE BOOK	DESIGNED BY	
	NOTED BY	
	CHECKED BY	
	DATE	

29 GRADING - PID 1501.DWG 3/30/2020 10:56:41 PM

TEROR R. YAGAKI

LICENSED PROFESSIONAL ENGINEER

NO. 14993-C

HAWAII USA

4/30/22

EXP. DATE

This work was prepared by me or under my supervision.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TYPICAL SECTION

PID 1501

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM

WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19

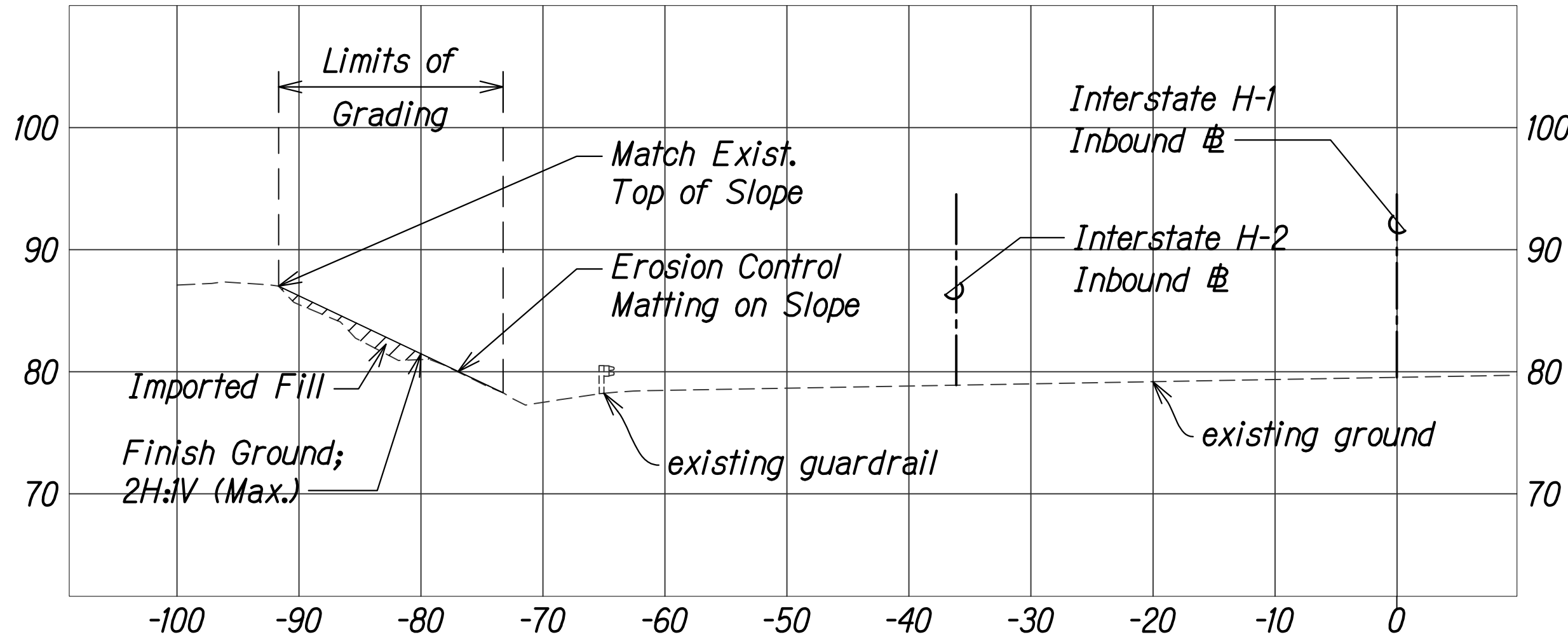
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Date: May 2020

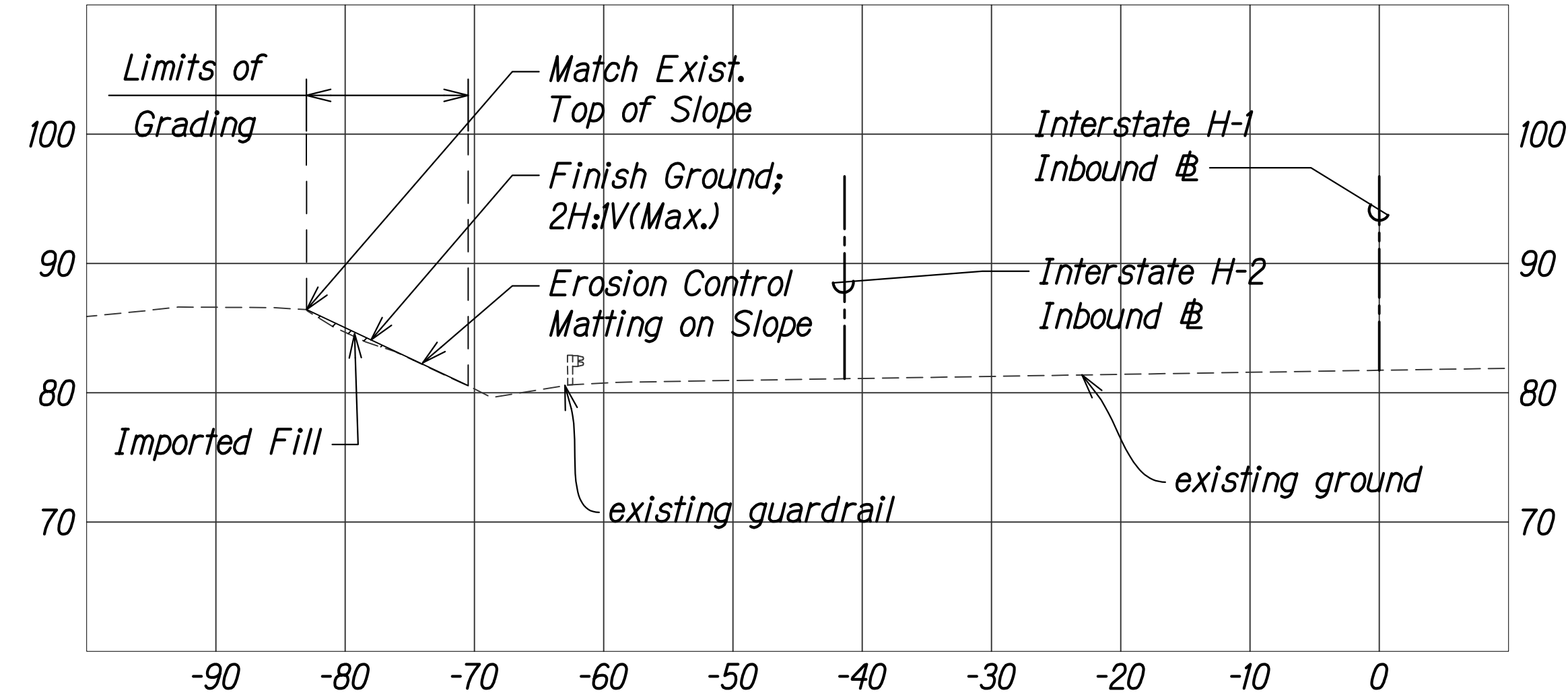
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	20	48



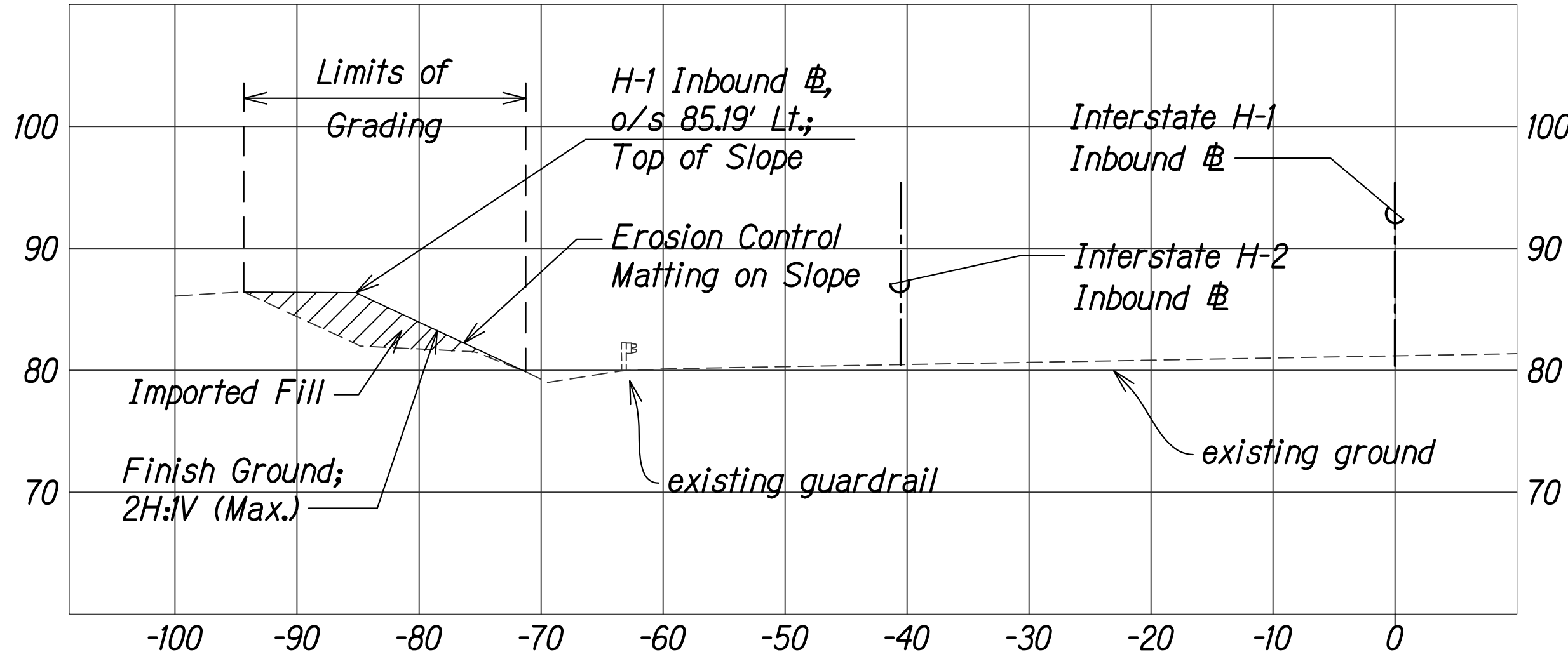
STA. 503+75



STA. 505+00



STA. 503+50



STA. 503+95

CROSS SECTIONS
PID 1501

Scale: Horiz. 1" = 10'-0"
Vert. 1" = 10'-0"

TERVOR R. YAGAY
LICENSED PROFESSIONAL ENGINEER
NO. 14993-C
HAWAII USA

4/30/22
EXP. DATE

This work was prepared by me or under my supervision.

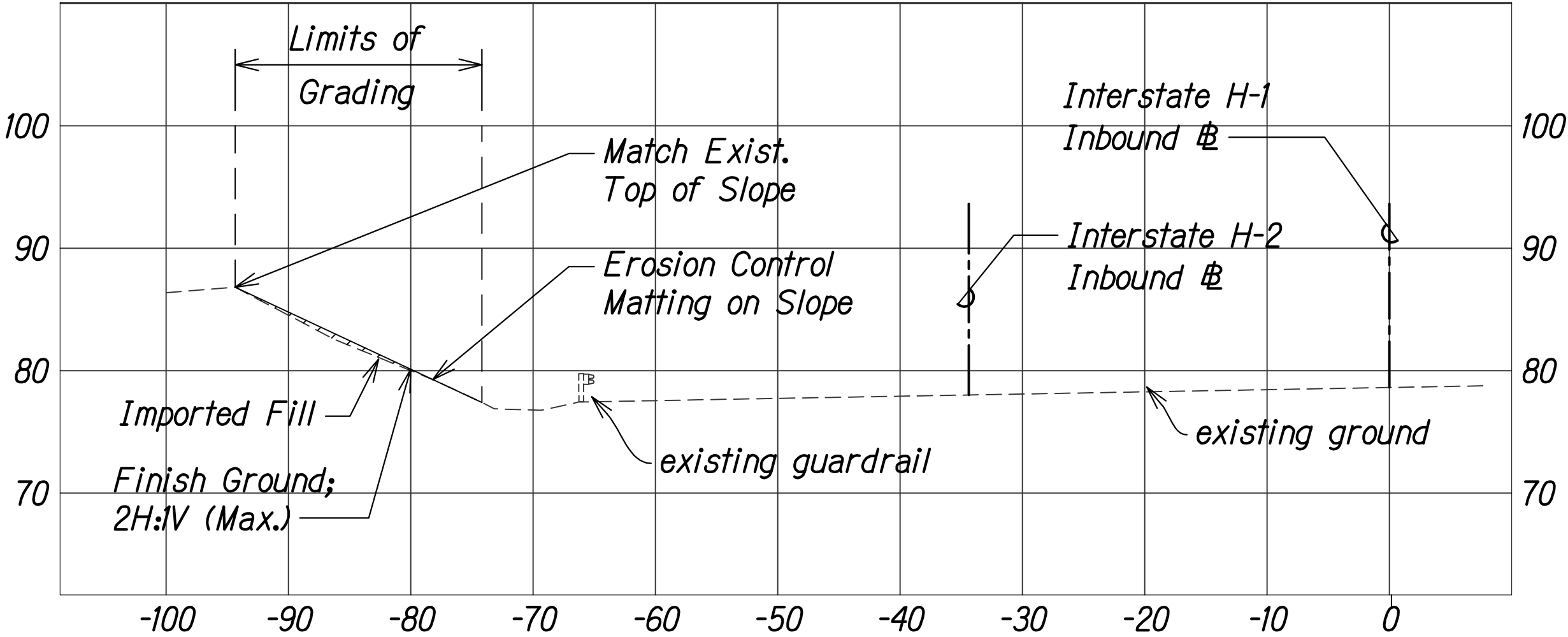
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTIONS
PID 1501

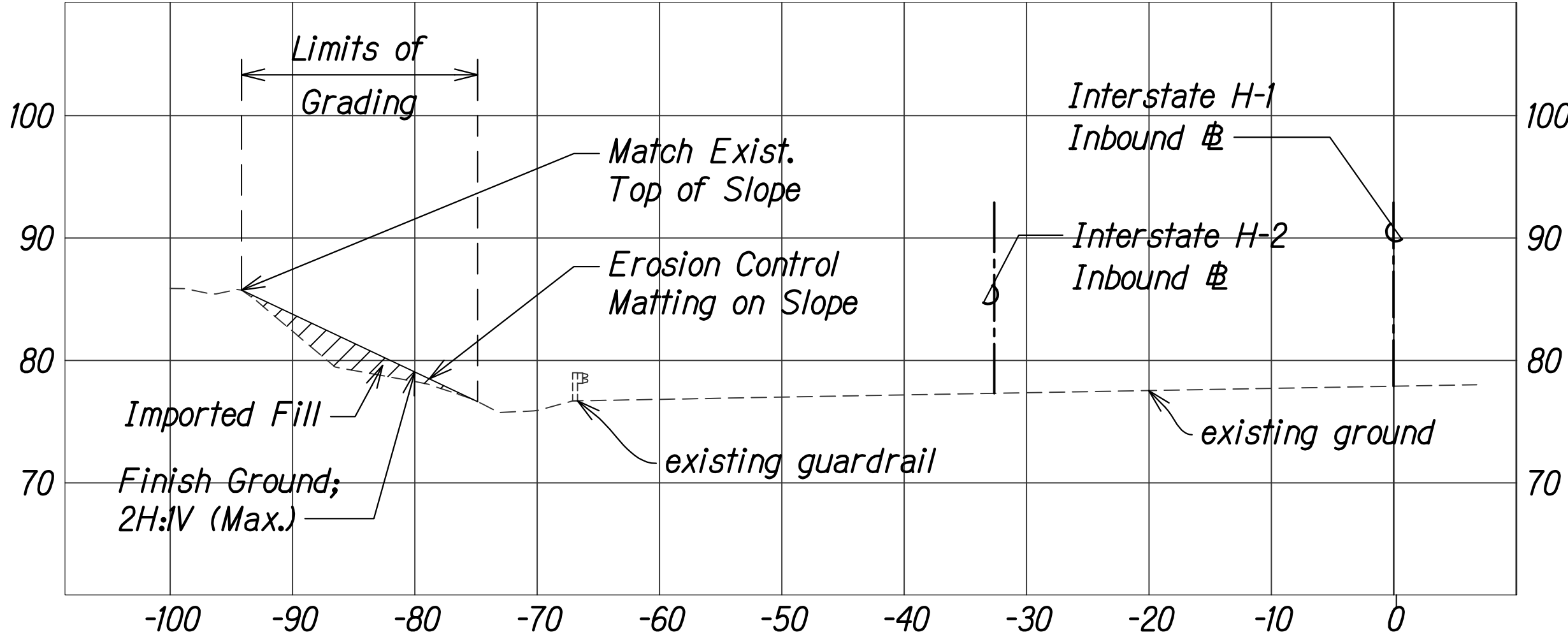
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: 1" = 20'-0" Date: May 2020

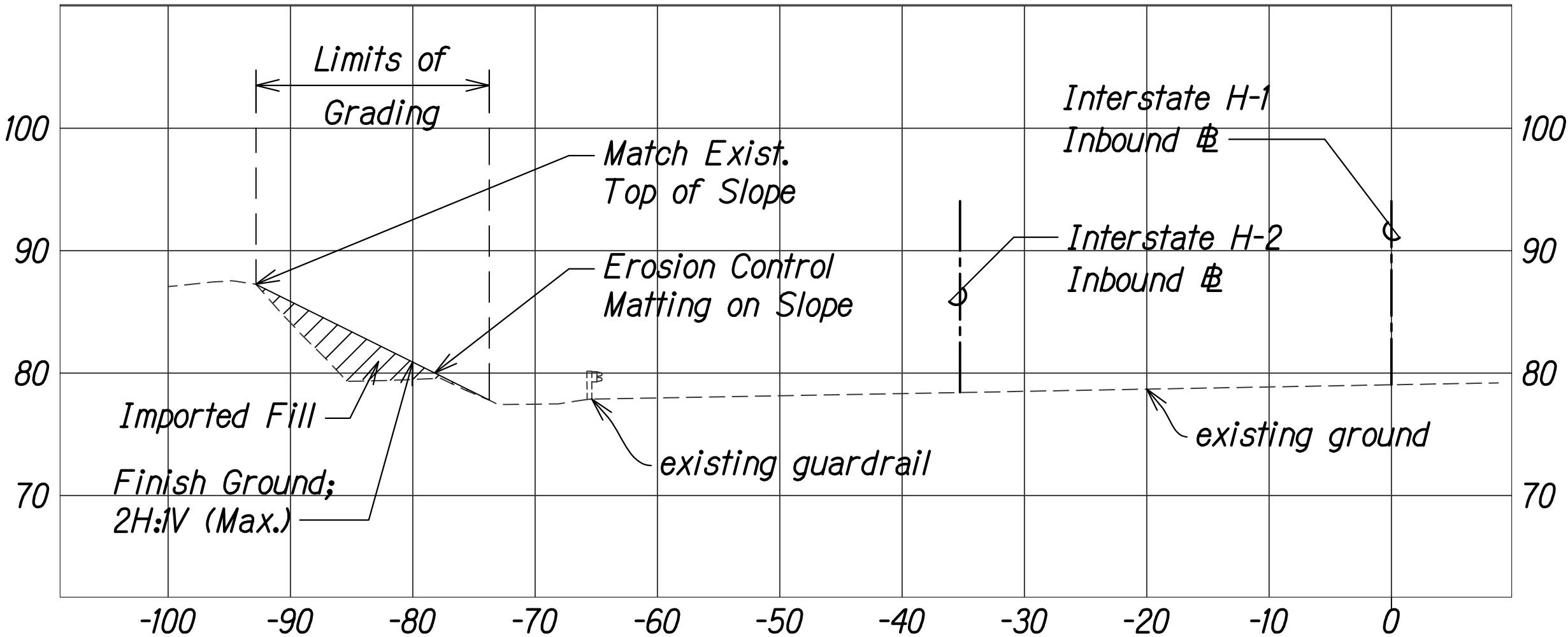
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	21	48



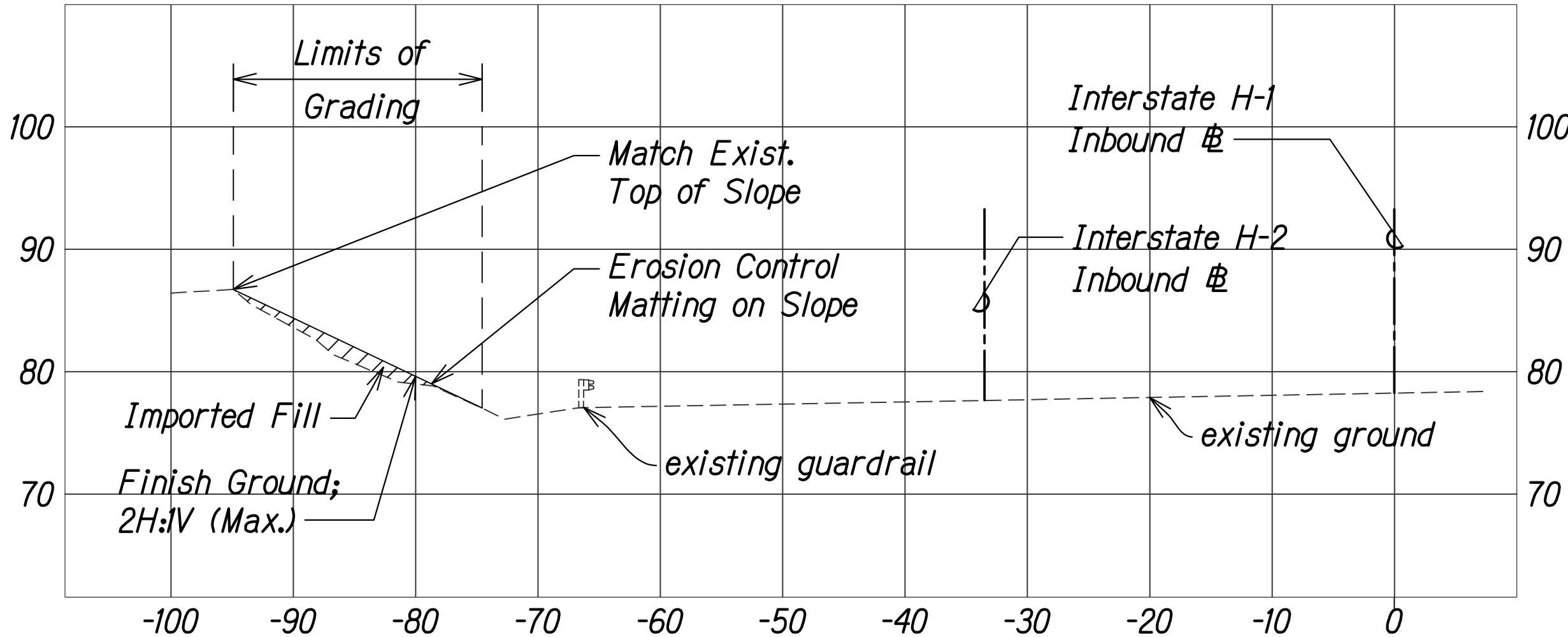
STA. 505+50



STA. 506+00



STA. 505+25



STA. 505+75

CROSS SECTIONS
PID 1501

Scale: Horiz. 1" = 10'-0"
Vert. 1" = 10'-0"

TERVOR R. YAGAN
LICENSED PROFESSIONAL ENGINEER
NO. 14993-C
HAWAII USA

4/30/22
EXP. DATE

This work was prepared by me or under my supervision.

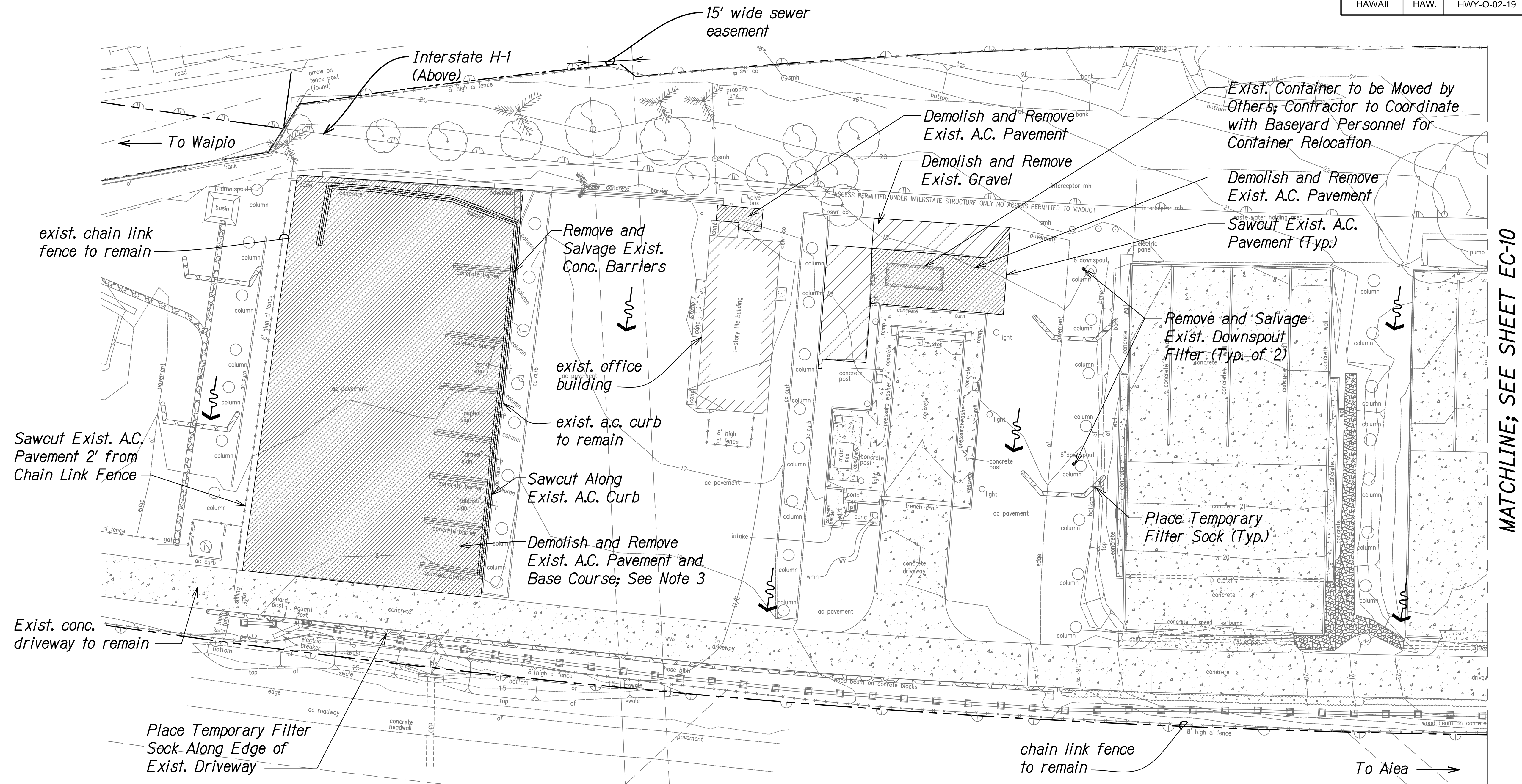
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTIONS
PID 1501

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: 1" = 20'-0" Date: May 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. ADD. 22S-1	48



TRUE NORTH
Scale: 1" = 20'

MATCHLINE; SEE SHEET EC-10

DEMOLITION AND TEMPORARY EROSION CONTROL PLAN PEARL CITY BASEYARD

Scale: 1" = 20'

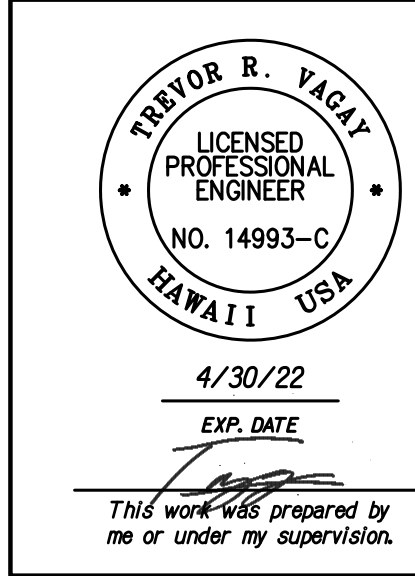
LEGEND

- Demolish and Remove Existing A.C. Pavement
- Remove Existing Gravel
- Direction of Flow Runoff
- Existing Contours
- Existing Chain Link Fence

Notes:

- Contractor shall field verify site conditions and work limits.
- Contractor shall protect all existing utilities, whether or not shown on plans, at all times unless indicated to be removed or relocated.
- According to as-built plans, existing pavement structure is approximately 2" A.C. pavement and 6" base course.
- Contractor shall coordinate with baseyard personnel for allowable staging area. Allowable work hours are Monday through Friday, 7:00 AM to 2:30 PM, excluding holidays.
- All demolition/excavated material shall be removed from the site no later than 60 days after demolition/excavation occurs. See General Notes for disposal requirements.
- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions, expected run off flows, and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100; Installation, Maintenance, Monitoring, and Removal of BMP.

6/7/21	Revised Demolition Limits
4/14/21	Revised Paving Demolition Limits
1/27/21	Revised Paving Demolition Limits
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION AND TEMP. EC PLAN
PEARL CITY BASEYARD

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: 1" = 20' Date: May 2020

SHEET No. EC-09 OF 22 SHEETS

AS-BUILT DRAWINGS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

KAIKOR CONSTRUCTION COMPANY INC.

Stacey Park
DATE: 7/21/2022

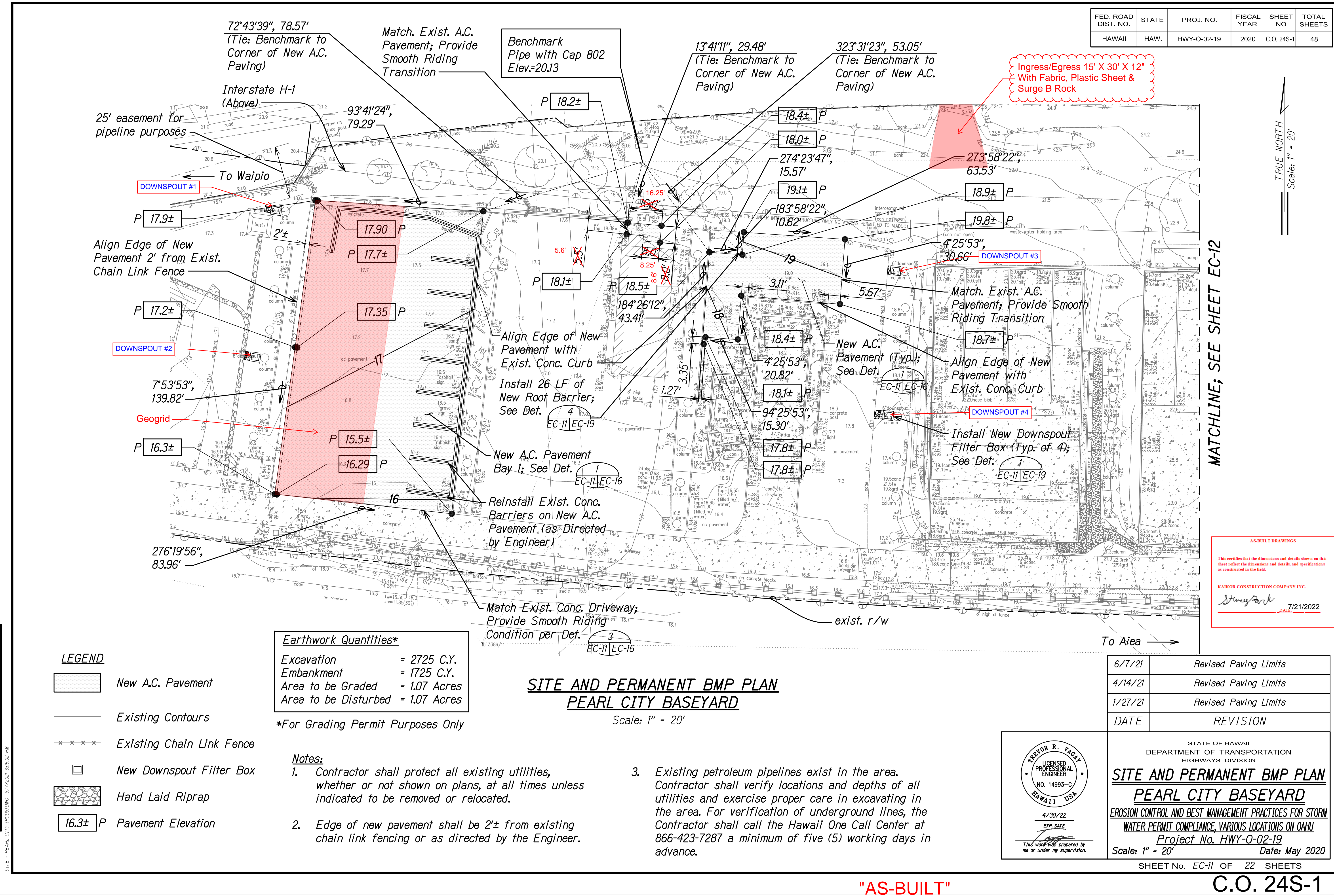
SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
NO.	

EC-9 - PEARL CITY (PCD) DURING 6/7/2021 4:03:31 PM

"AS-BUILT"

C.O. ADD. 22S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 24S-1	48



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

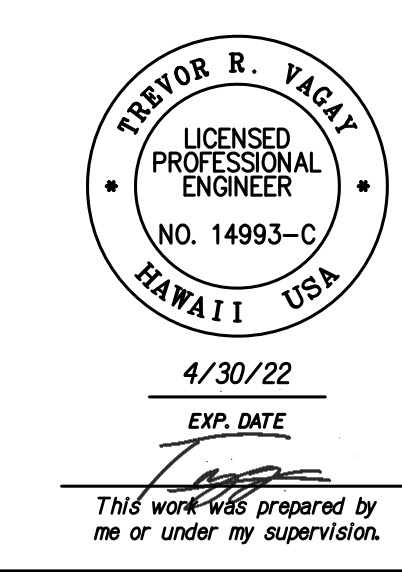
SITE - PEARL CITY (PC000000) 6/7/2023 3:52:02 PM

LEGEND	
	New A.C. Pavement
	Existing Contours
	Existing Chain Link Fence
	New Downspout Filter Box
	Hand Laid Riprap
	Pavement Elevation

Earthwork Quantities*	
Excavation	= 2725 C.Y.
Embankment	= 1725 C.Y.
Area to be Graded	= 1.07 Acres
Area to be Disturbed	= 1.07 Acres
*For Grading Permit Purposes Only	

- Notes:
- Contractor shall protect all existing utilities, whether or not shown on plans, at all times unless indicated to be removed or relocated.
 - Edge of new pavement shall be 2'± from existing chain link fencing or as directed by the Engineer.
 - Existing petroleum pipelines exist in the area. Contractor shall verify locations and depths of all utilities and exercise proper care in excavating in the area. For verification of underground lines, the Contractor shall call the Hawaii One Call Center at 866-423-7287 a minimum of five (5) working days in advance.

SITE AND PERMANENT BMP PLAN
PEARL CITY BASEYARD
Scale: 1" = 20'

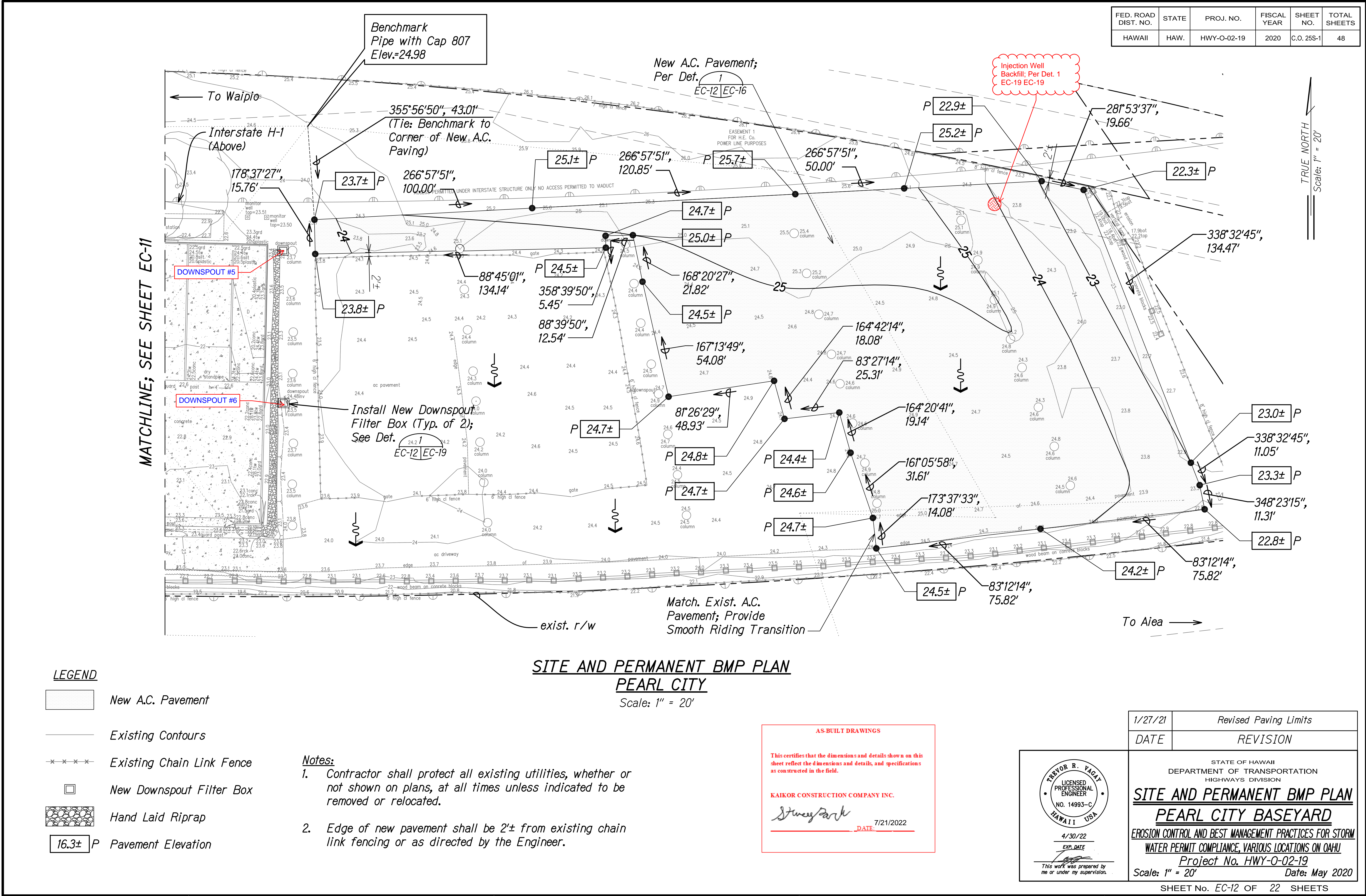


STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
SITE AND PERMANENT BMP PLAN PEARL CITY BASEYARD	
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU	
Project No. HWY-O-02-19	
Scale: 1" = 20'	Date: May 2020
SHEET No. EC-11 OF 22 SHEETS	

"AS-BUILT"

C.O. 24S-1

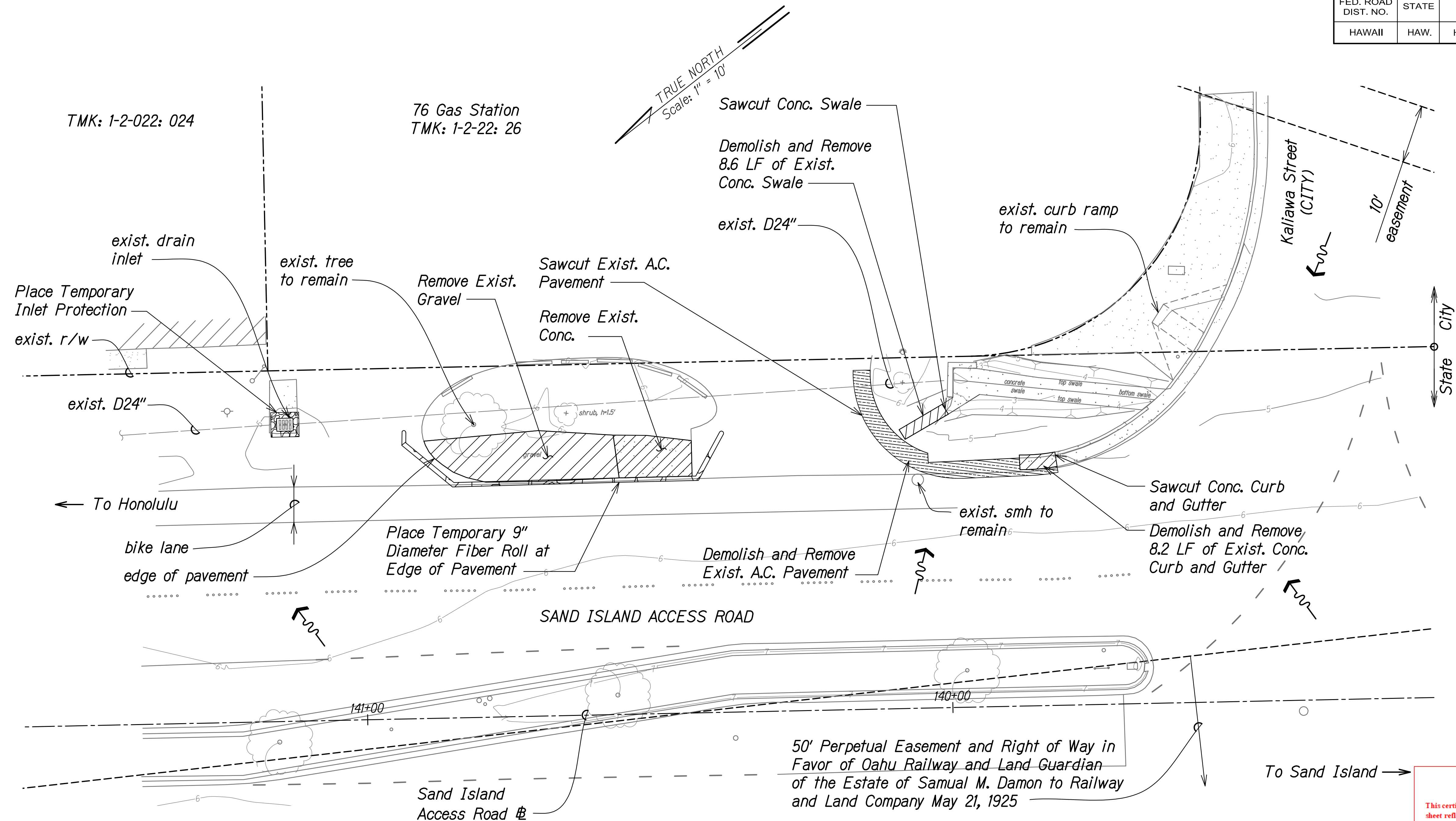
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 25S-1	48



"AS-BUILT"

C.O. 25S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O.ADD. 26S-1	48



DEMOLITION AND TEMPORARY EROSION CONTROL PLAN
PID 467

Scale: 1" = 10'

LEGEND

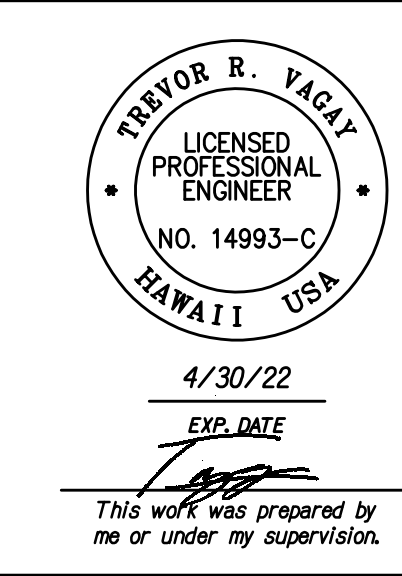
- Direction of Flow
- Demolish and Remove Existing Concrete
- Demolish and Remove Existing A.C. Pavement
- Remove Existing Gravel

Notes:

- Contractor shall field verify site conditions and work limits.
- Contractor shall protect all existing utilities, whether or not shown on plans, at all times unless indicated to be removed or relocated.
- According to as-built plans, existing pavement structure is approximately 4" A.C. pavement and 24" Subbase Course.
- Contractor to remove existing pavement structure to the depth necessary to install the proposed pavement.
- All demolition/excavated material shall be removed from the site no later than 60 days after demolition/excavation occurs. See General Notes for disposal requirements.
- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions, expected run off flows, and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100; Installation, Maintenance, Monitoring, and Removal of BMP.

AS-BUILT DRAWINGS
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.
KAIKOR CONSTRUCTION COMPANY INC.
Steve Park
DATE: 7/21/2022

10/7/20	Revised Pavement Removal for PID 467
DATE	REVISION



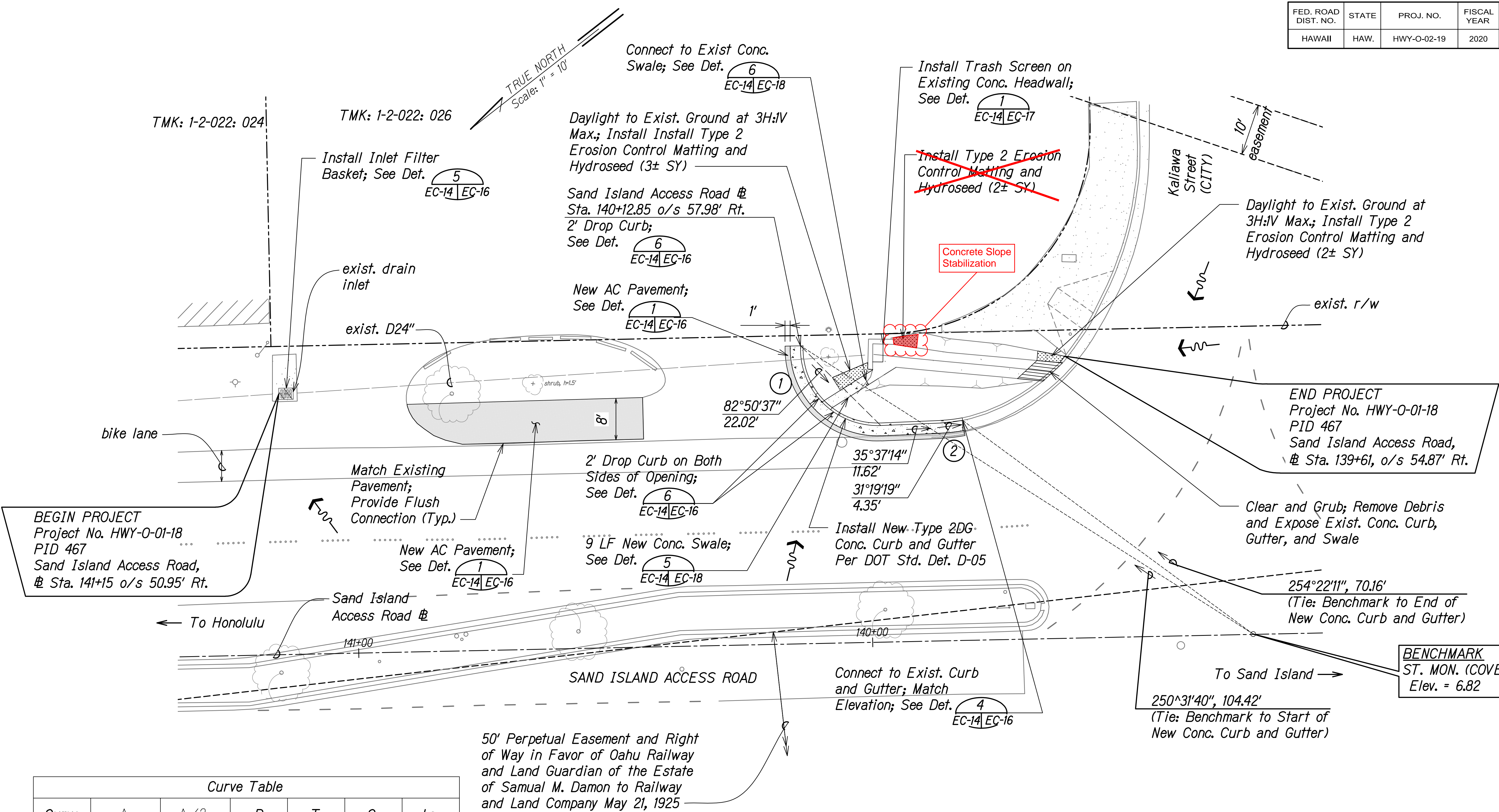
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DEMOLITION AND TEMP. EC PLAN
PID 467
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU
Project No. HWY-O-02-19
Scale: 1" = 10' Date: May 2020

SHEET No. EC-13A OF 22 SHEETS

"AS-BUILT"

C.O.ADD ~~C.O.~~ 26S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 27S-1	48



Curve Table						
Curve	Δ	$\Delta/2$	R	T	C	Lc
①	94°26'45"	47°13'23"	15.00'	16.21'	22.02'	24.73'
②	8°36'17"	4°18'08"	29.00	2.18'	4.35'	4.36'

- Notes:**
- The Contractor shall restore pavement striping to match existing.
 - Dimensions shown are taken from face of curbs.

**PERMANENT BMP PLAN
PID 467**

Scale: 1" = 10'

AS-BUILT DRAWINGS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

KAIKOR CONSTRUCTION COMPANY INC.

Stacey Park

DATE: 7/21/2022

10/7/20	Revised Pavement Limits for PID 467
DATE	REVISION

4/30/22
EXP. DATE

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PERMANENT BMP PLAN
PID 467**

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19

Scale: 1" = 10' Date: May 2020

SHEET No. EC-14A OF 22 SHEETS

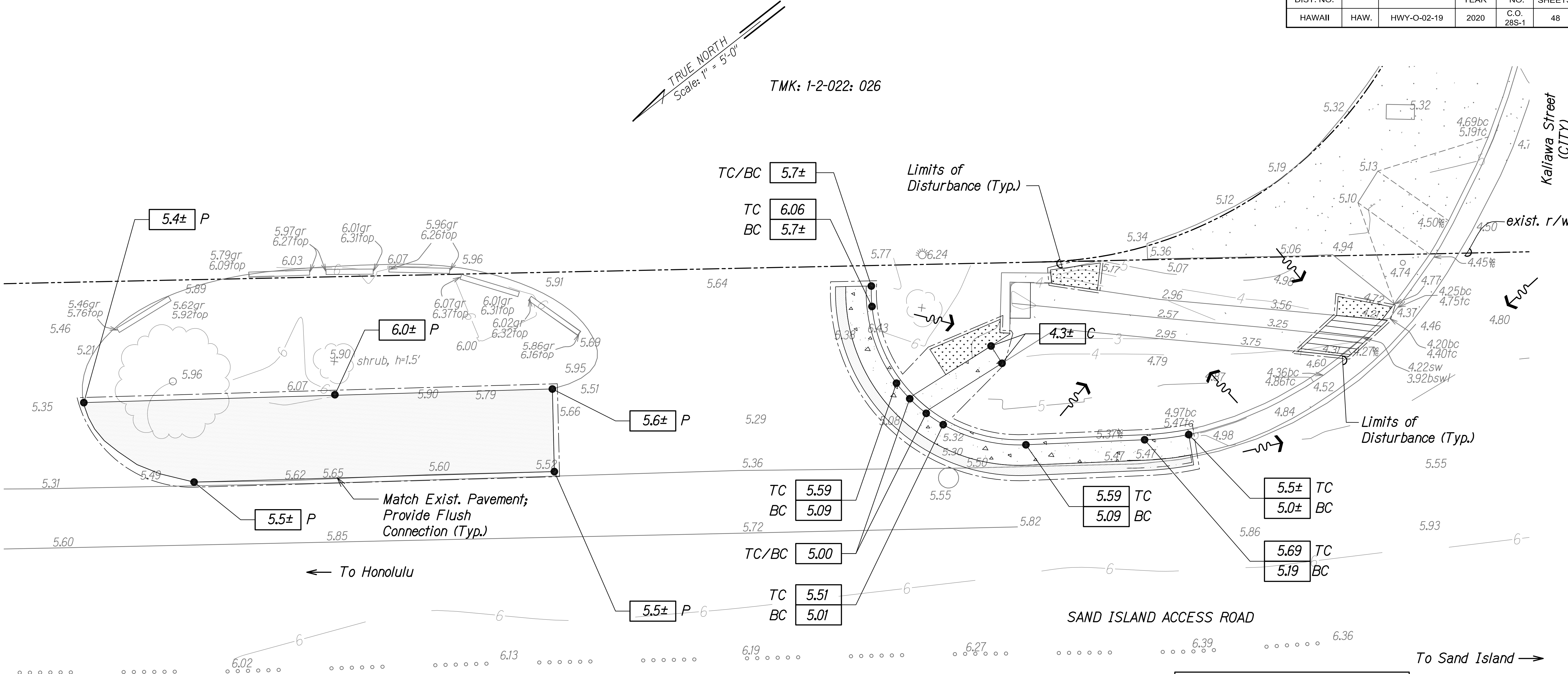
"AS-BUILT"

C.O. 27S-1

SURVEY PLOTTED BY: _____	DATE: _____
DRAWN BY: _____	CHECKED BY: _____
DESIGNED BY: _____	NOTED BY: _____
QUANTITIES BY: _____	

34-ECOP - PID 467 (ADD) 1 - FCDLINC 10/8/2020 3:00:06 AM











FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 28S-1	48



GRADING PLAN
PID 467

Scale: 1" = 5'-0"

LEGEND

- | | | | | | | |
|---|------|--------------------|---|---|------------------|-------------------|
|  | 1.56 | Existing Elevation |  | 100 | Existing Contour | |
|  | 1.67 | FG | Finish Ground Elevation |  | 100 | Finish Contour |
|  | 1.67 | TC | Top of Curb Elevation |  | | Limits of Grading |
|  | 1.67 | BC | Bottom of Curb Elevation |  | | Flow Direction |
|  | 1.67 | P | Pavement Elevation | | | |
|  | 1.67 | C | Concrete Elevation | | | |

AS-BUILT DRAWINGS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

KAIKOR CONSTRUCTION COMPANY INC

Stacey Park

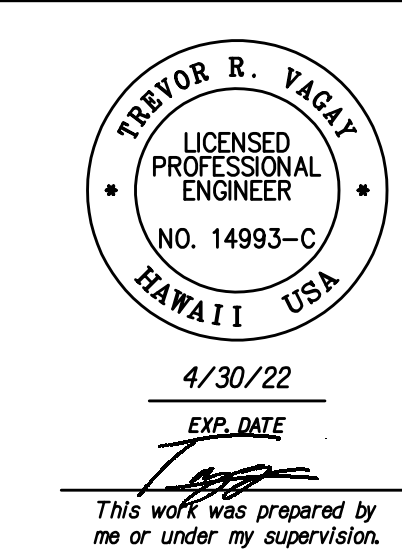
DATE: 7/21/2022

Earthwork Quantities*

Excavation = 10 C.Y.
Embankment = 0 C.Y.
Area to be Graded = 0.02 Acres
Area to be Disturbed = 0.02 Acres

**For Grading Permit Purposes Only*

10/7/20	Revised Pavement Limits for PID 467
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GRADING PLAN
PID 467

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM

WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-0-02-19

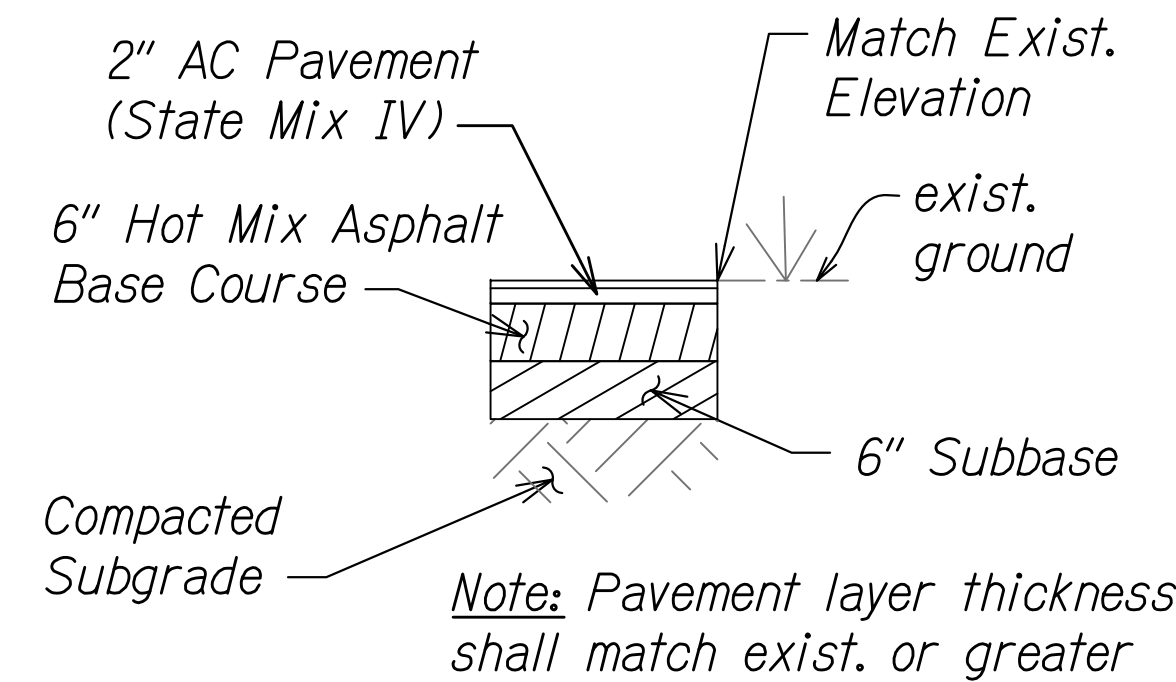
Scale: As Shown Date: May 2020

SHEET No. *EC-15A* OF 22 SHEETS

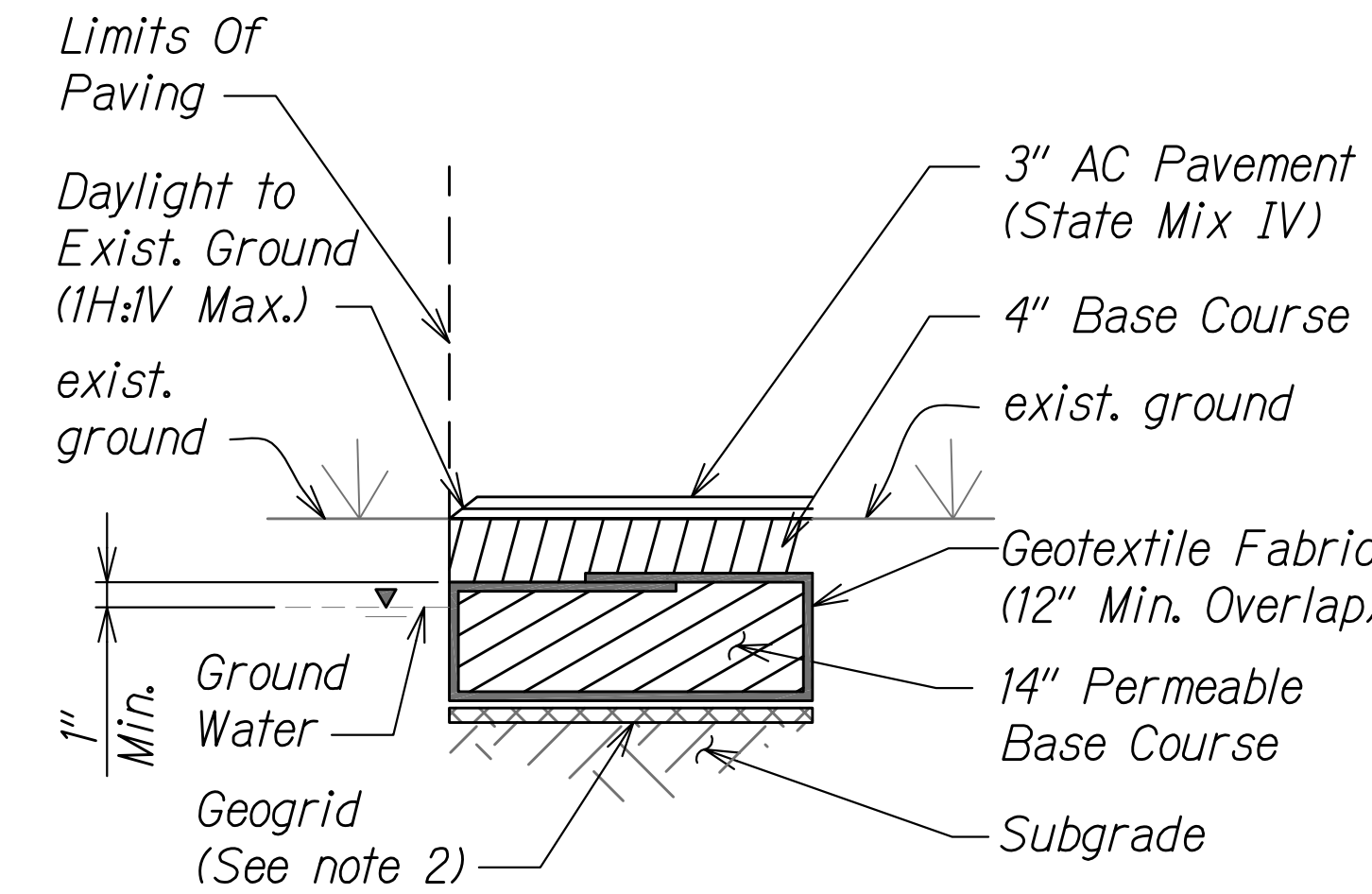
"AS-BUILT"

C.O. 28S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 29	48



PID 467



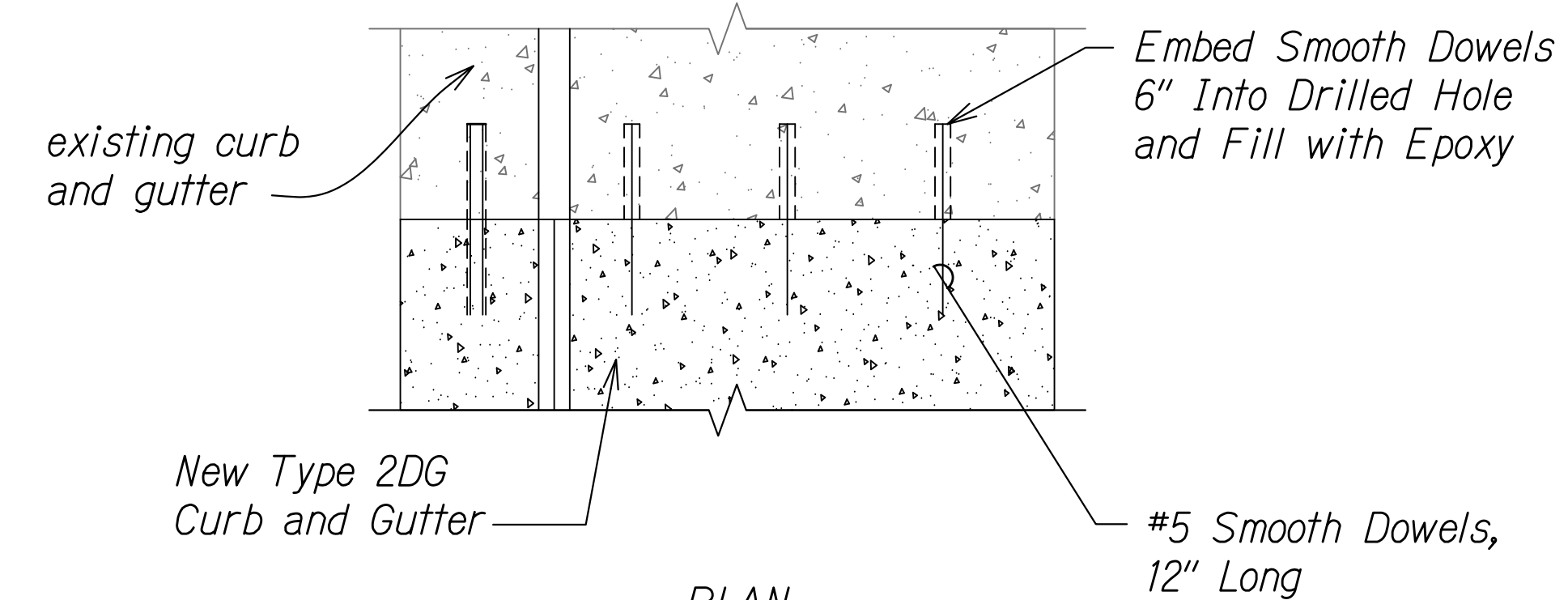
PEARL CITY BASEYARD - BAY 1
(GROUND WATER <8" BELOW GRADE)

- Notes:
1. Pavement layer thickness shall match exist. or greater.
 2. Geogrid only required if groundwater encountered during excavation.
 3. If no groundwater is encountered, only layer of geotextile fabric is required between base course and #2 coarse material.
 4. If no groundwater encountered, compact subgrade between 90% and 95% compaction.

AC PAVEMENT DETAIL

Scale: Not to Scale

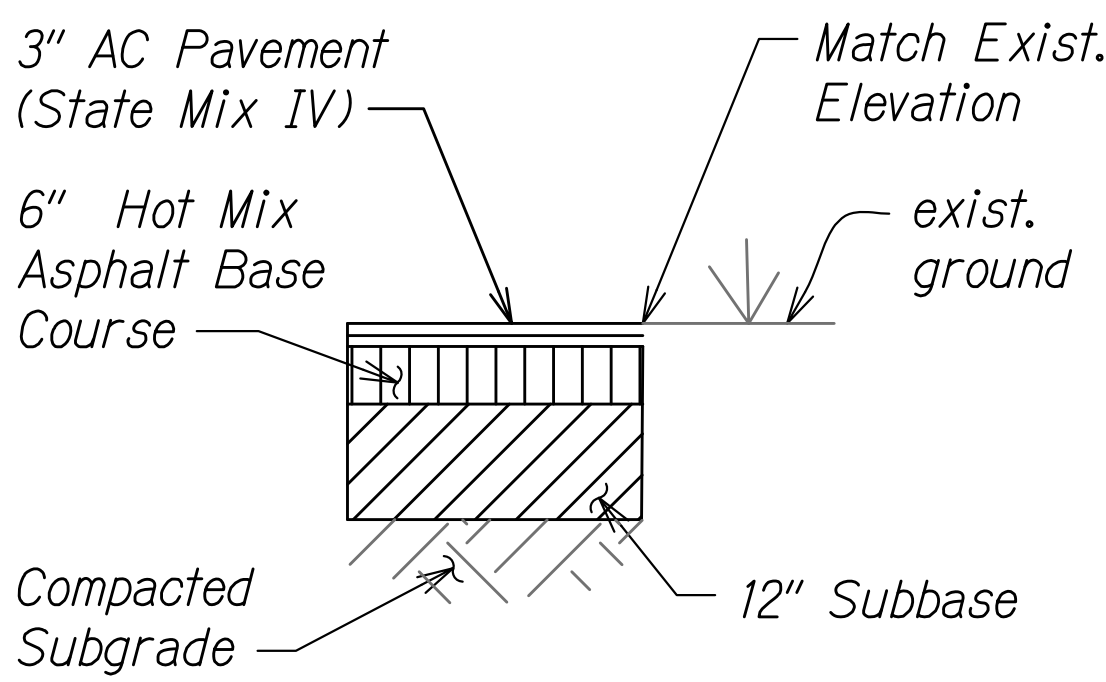
EC-11, 12, 14, 16 EC-16



CONC. CURB & GUTTER CONNECTION DETAIL

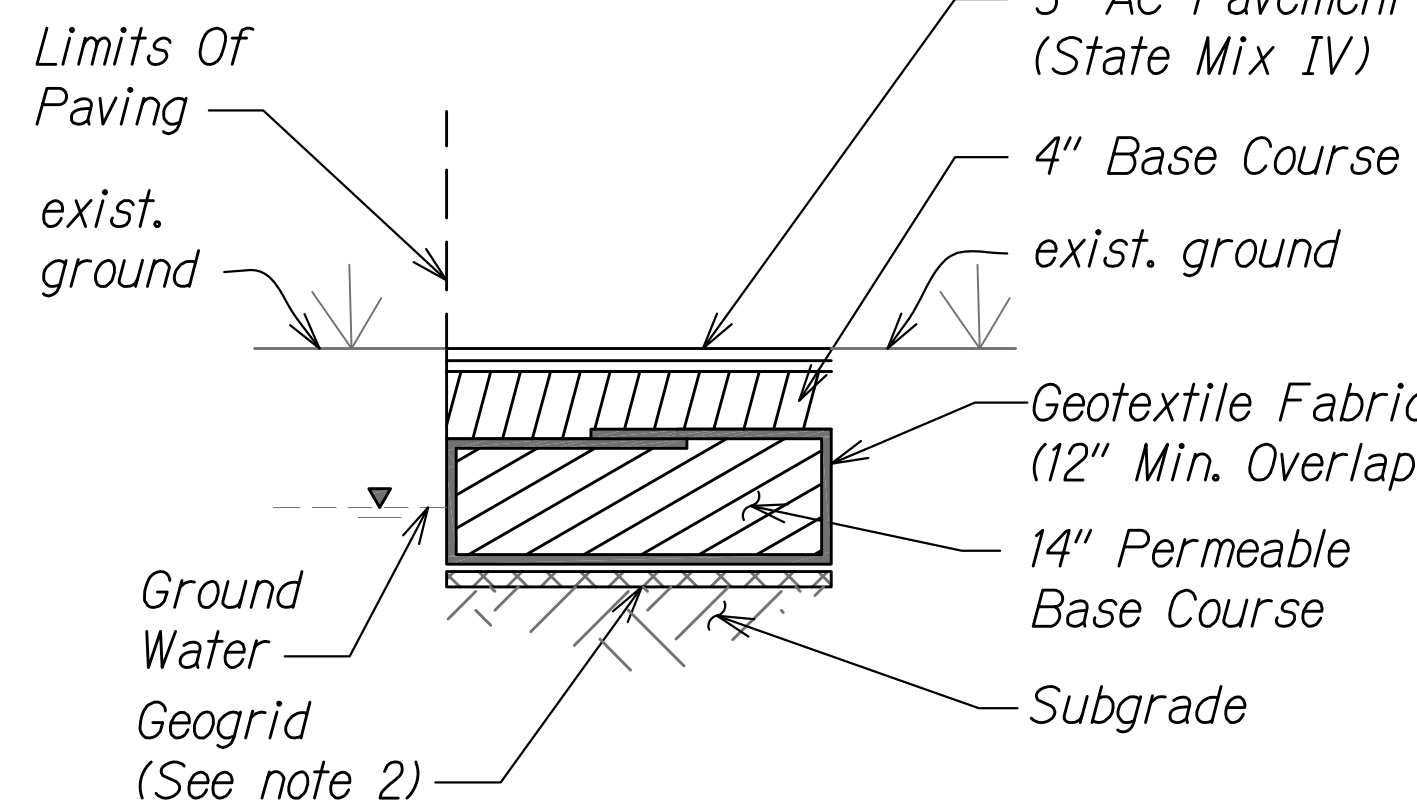
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4
EC-14 EC-16

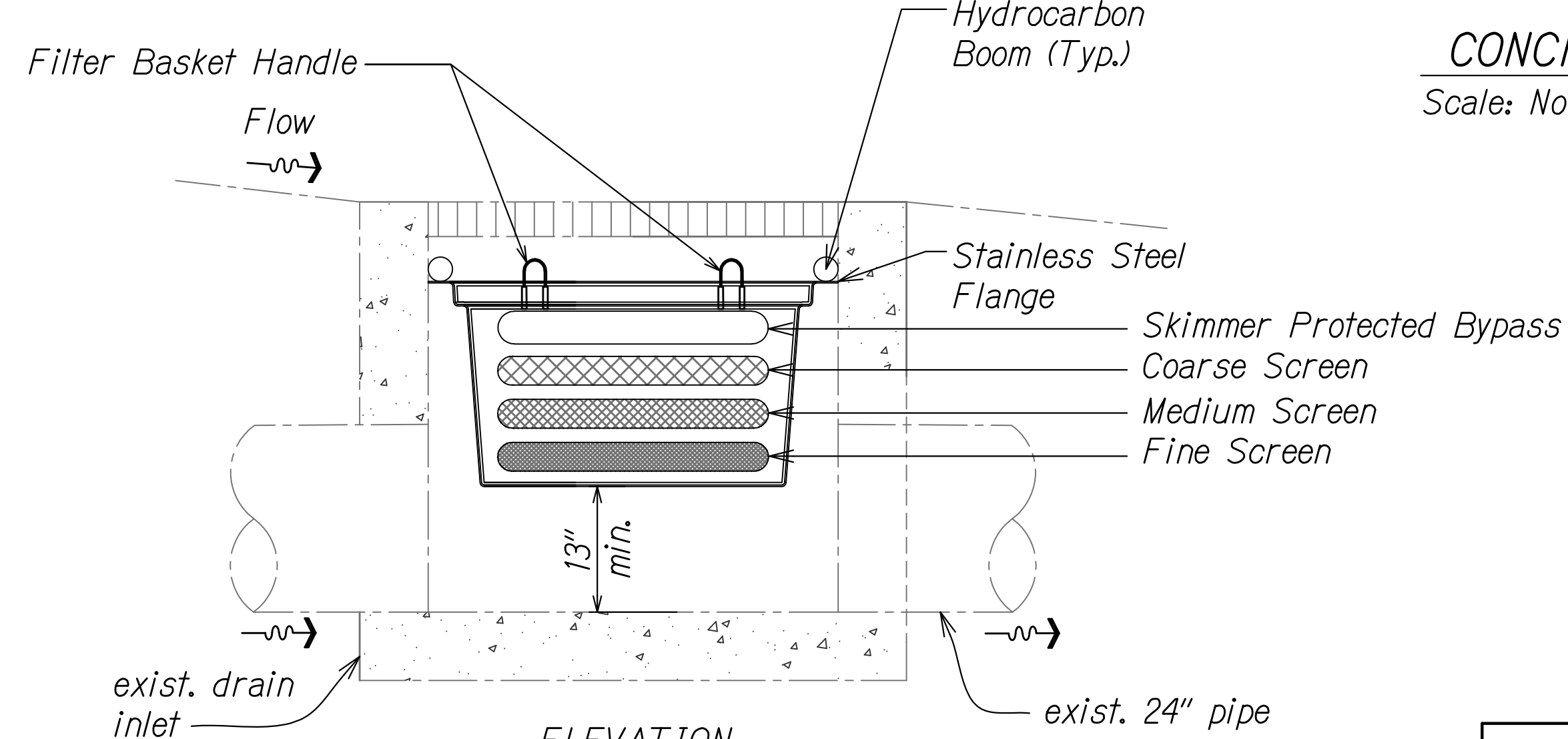


Note: Pavement layer thickness shall match exist. or greater

PEARL CITY BASEYARD



PEARL CITY BASEYARD - BAY 1
(GROUND WATER >8" BELOW GRADE)

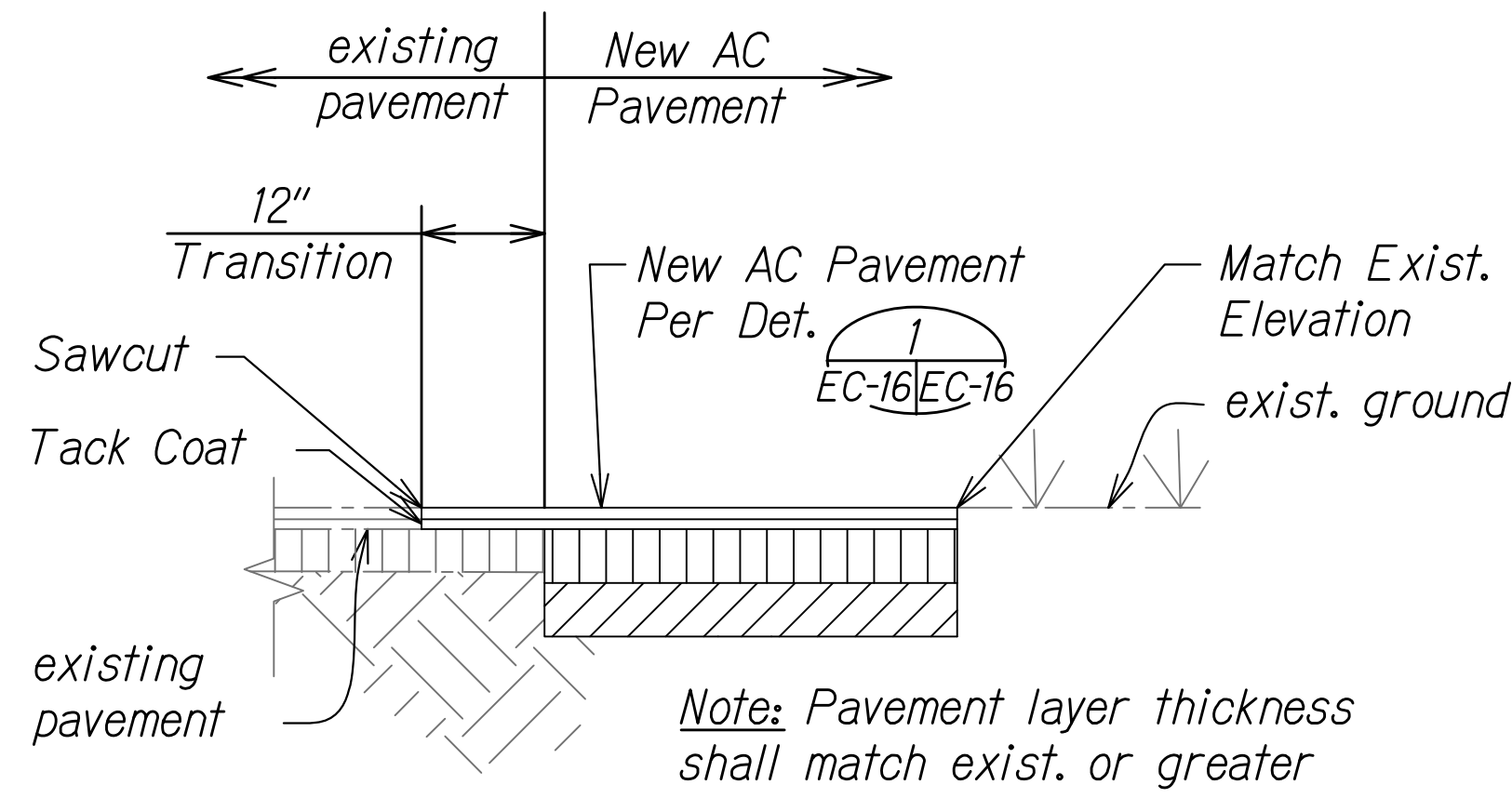


- Notes:
1. Install Filter Basket per manufacturer's recommendations.
 2. Contractor to verify existing inlet dimensions

INLET FILTER BASKET DETAIL

Scale: Not to Scale

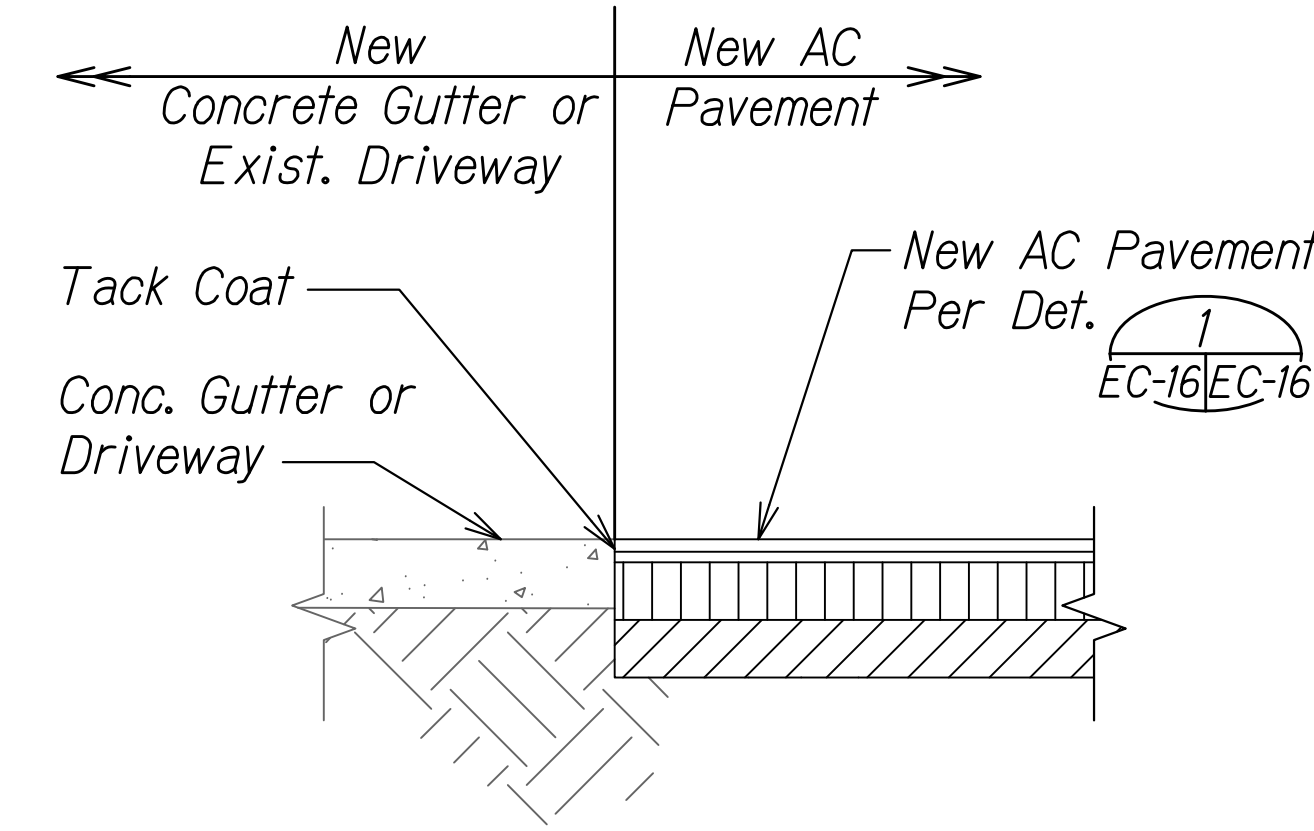
5
EC-14 EC-16



AC PAVEMENT TRANSITION DETAIL

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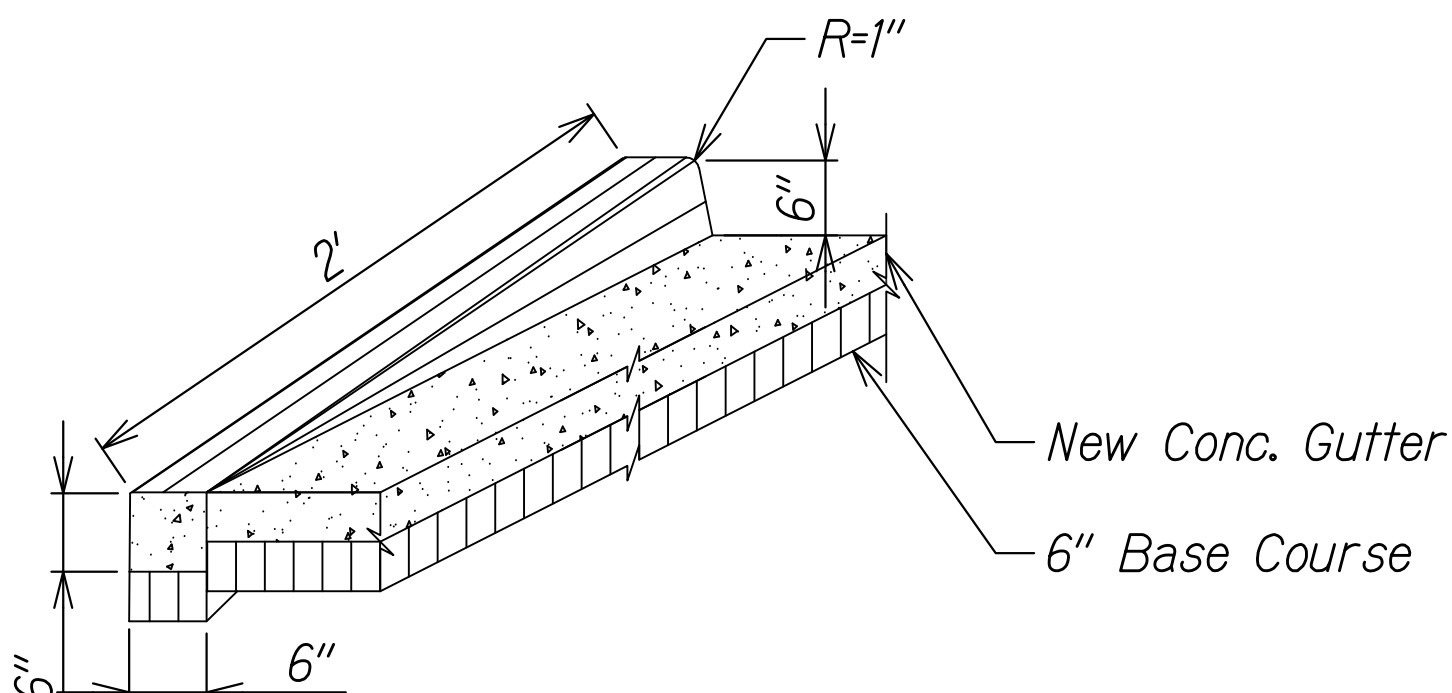
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EC-14 EC-16



AC PAVEMENT/CONCRETE TRANSITION DETAIL

Scale: Not to Scale

3
EC-14 EC-16



CONCRETE DROP CURB DETAIL

Scale: Not to Scale

6
EC-14 EC-16

AS-BUILT DRAWINGS

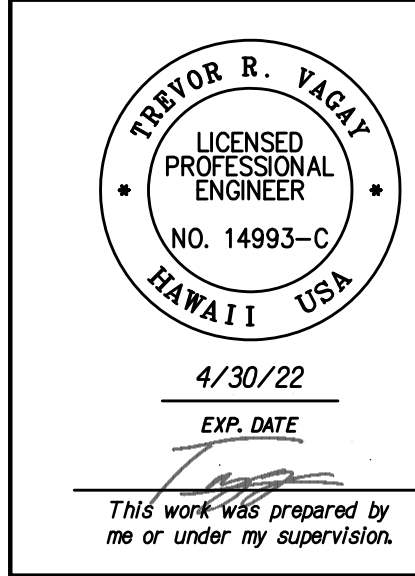
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

KAIKOR CONSTRUCTION COMPANY INC.

Stacey Park

DATE: 7/21/2022

6/7/21	Revised Pavement Detail
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU
Project No. HWY-O-02-19
Scale: Not to Scale Date: May 2020

SHEET No. EC-16 OF 22 SHEETS

C.O. 29

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

DETAILS (PCD) 6/10/22 3:06:06 PM

STRUCTURAL COLD-FORMED STAINLESS STEEL NOTES:

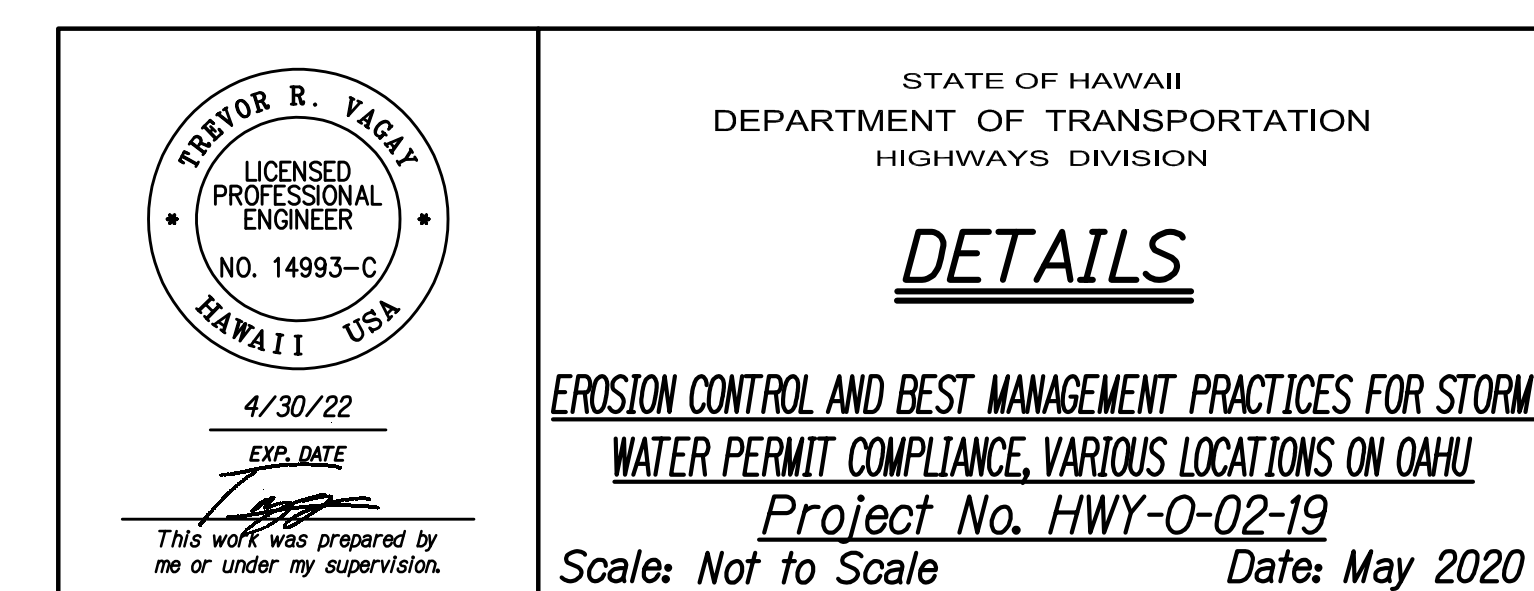
-
- Mount Frame to Exist. Headwall (Typ. Both Ends); See Det.
- 4
EC-17/EC-18
- exist. r/w
- Flow ←
- exist. D24"
- New Trash Screen
- exist. conc. headwall
- 11"± thick Contractor to Verify, typ.
- 11"± thick Contractor to Verify, typ.
- 2
EC-17/EC-18
- Stainless Steel L3½x3½x¼ Angle
- Flow ← exist. conc. swale
- ¾" Ø Stainless Steel Bar @ 6" O.C. Max
- See Det. 3
EC-17/EC-18
- Stainless Steel L3½x3½x¼ Angle
- 1
EC-17/EC-18
- PLAN
- TRASH SCREEN FRAMING PLAN**
- Scale: Not to Scale
- 1
EC-14/EC-17

EPOXIED DOWEL & THREADED ROD INSTALLATIONS NOTES:

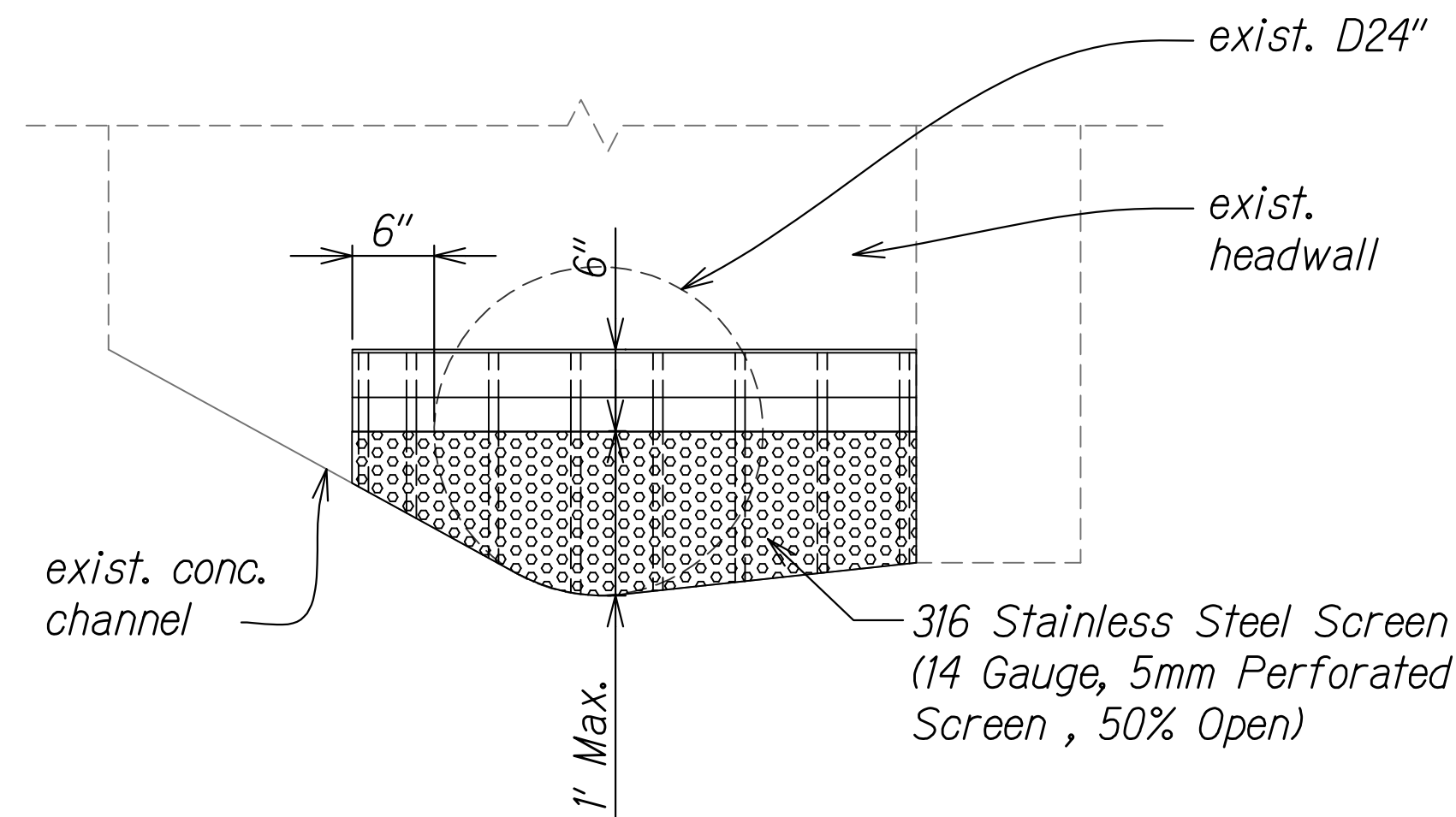
1. *Epoxy used for anchoring threaded rods and dowels into existing concrete shall be Hilti HIT-RE500 V3, Simpson SET 3G, or approved equal, and shall be installed per manufacturer's recommendations.*
2. *Anchors shall be installed within the minimum embedment requirements as indicated on the drawings.*

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

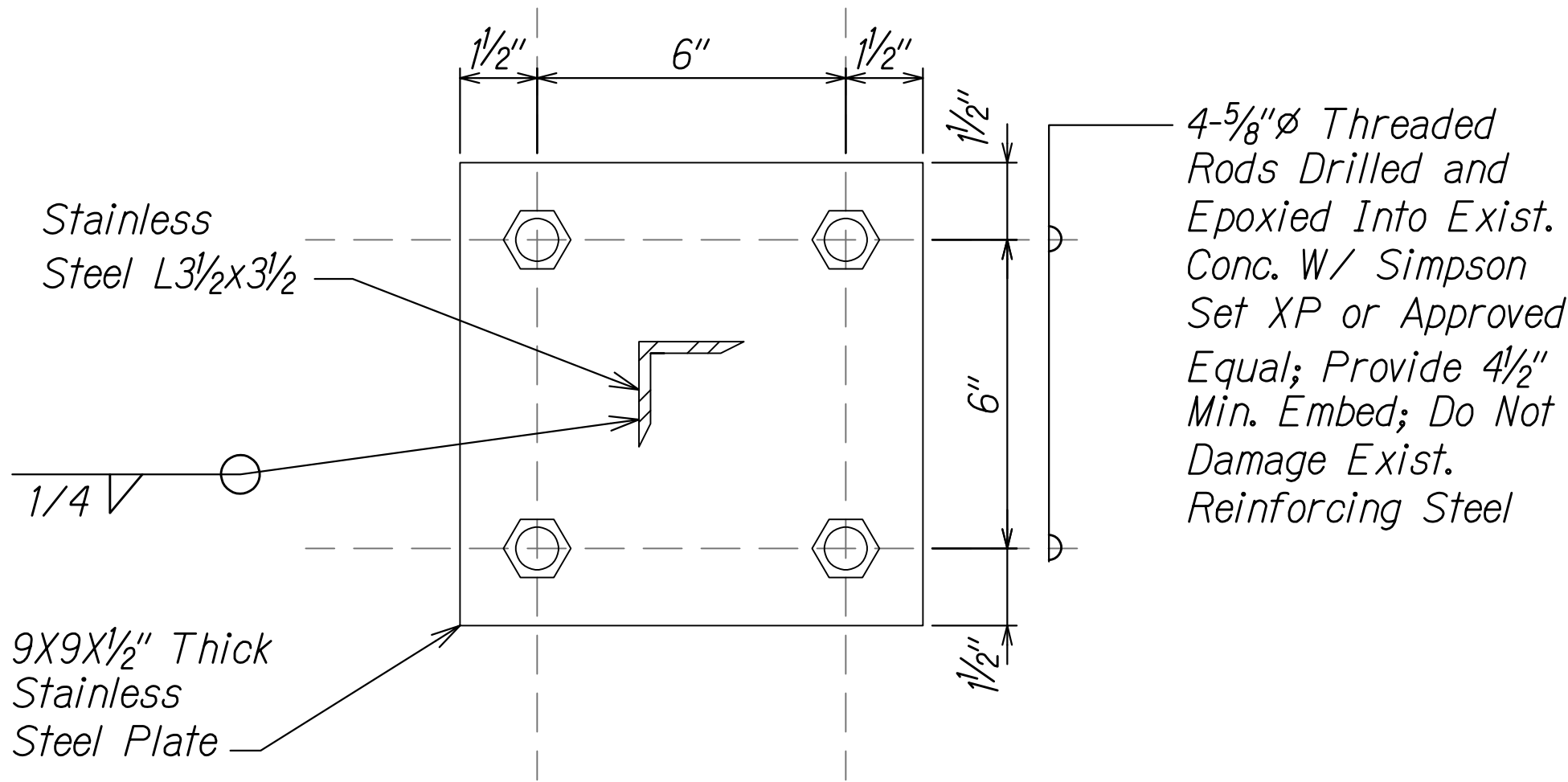
DETAILS DWG 3/30/2020 10:36:34 PM



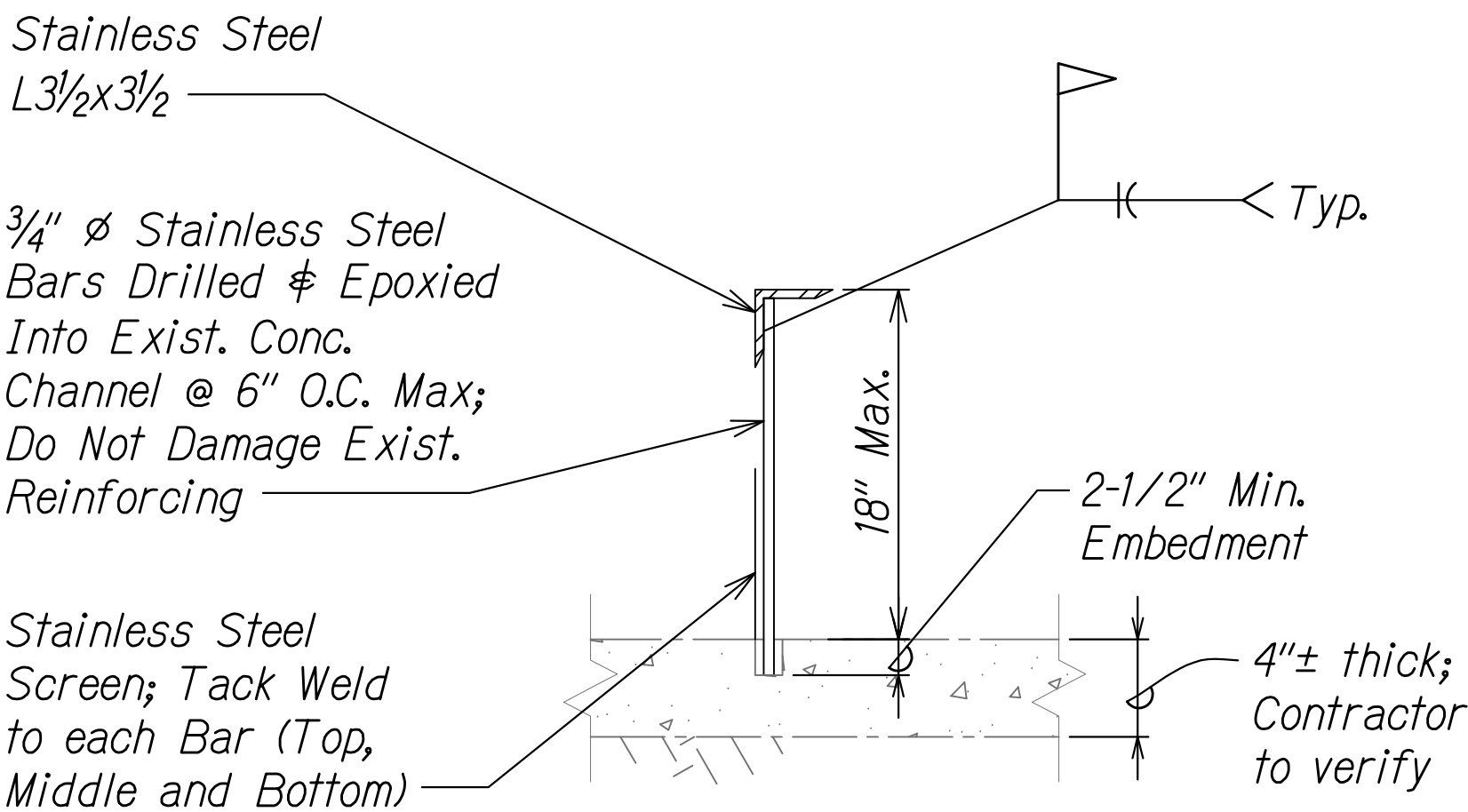
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	31	48



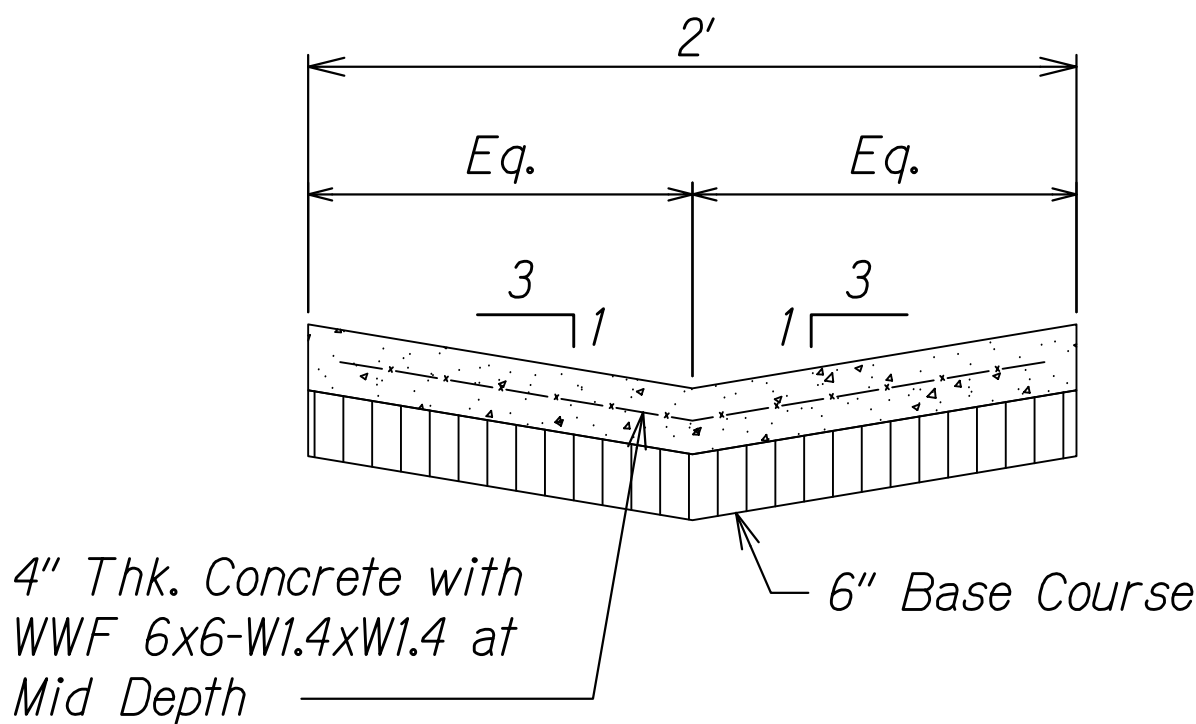
SECTION 1
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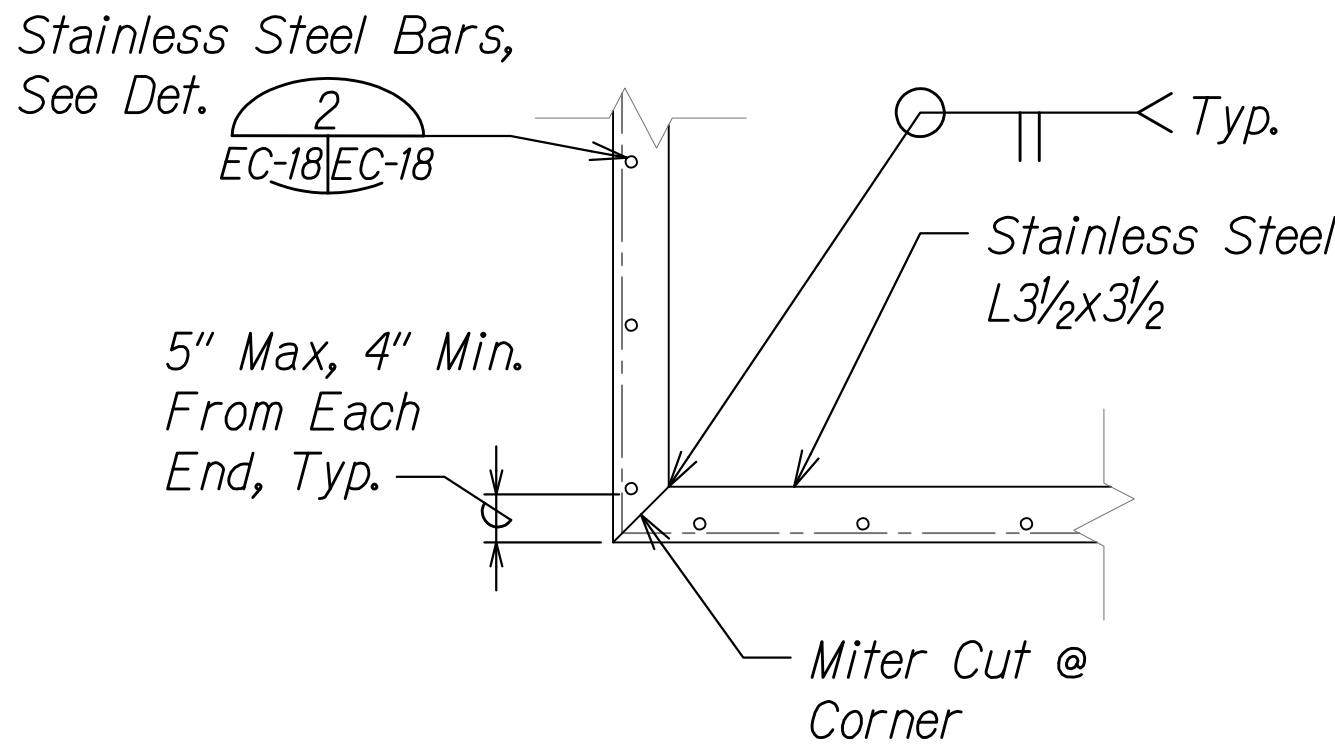
HEAD WALL MOUNTING DETAIL
Scale: Not to Scale



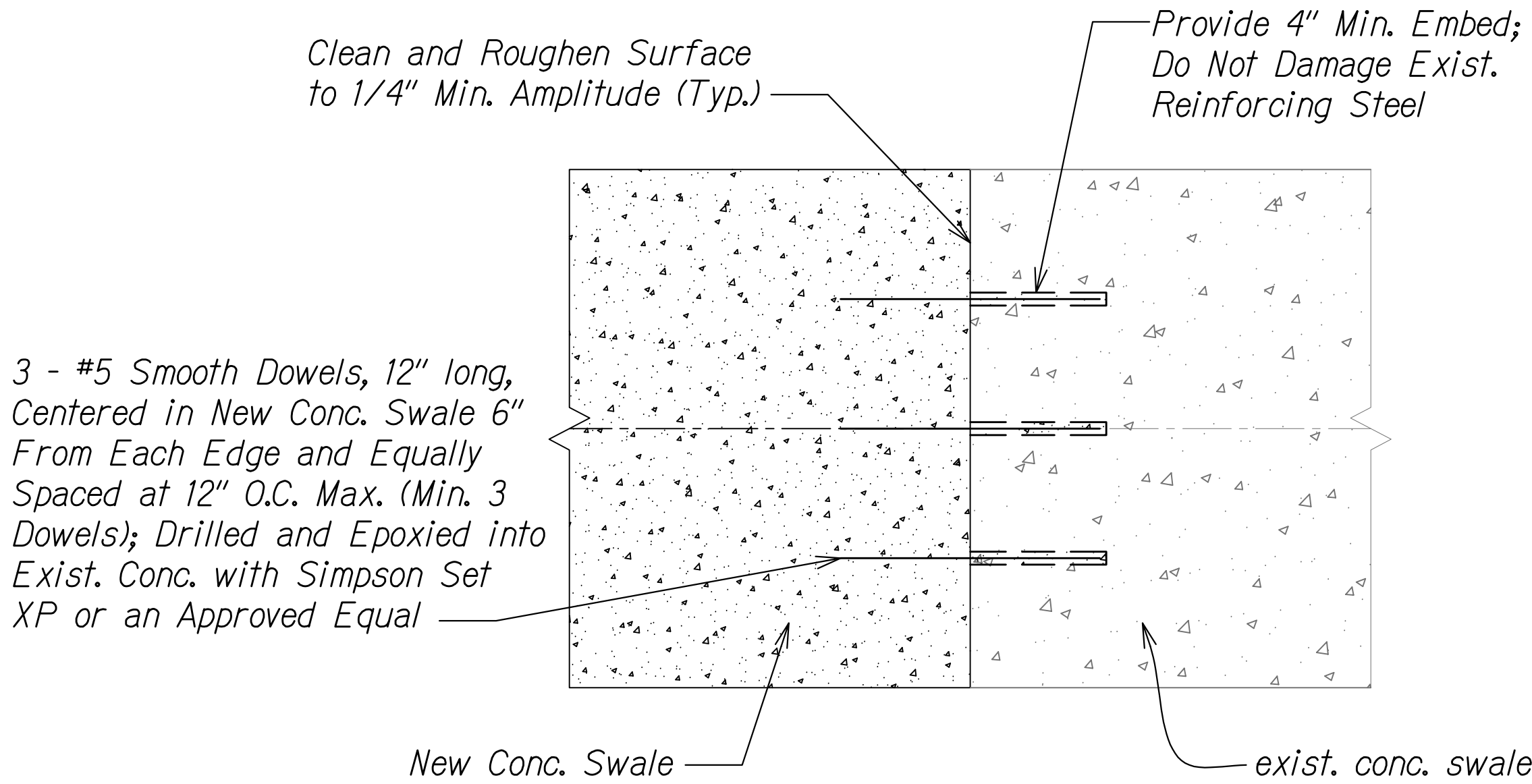
SECTION 2
Scale: Not to Scale



CONCRETE SWALE DETAIL
Scale: Not to Scale



FRAME CORNER DETAIL
Scale: Not to Scale



SWALE CONNECTION DETAIL
Scale: Not to Scale

ORIGINAL PLAN	DATE
DESIGNED BY	DATE
NOTED BY	DATE
CHECKED BY	DATE
DATE	DATE

DETAILS.DWG 3/30/2020 03:35:34 PM

4/30/22
EXP. DATE

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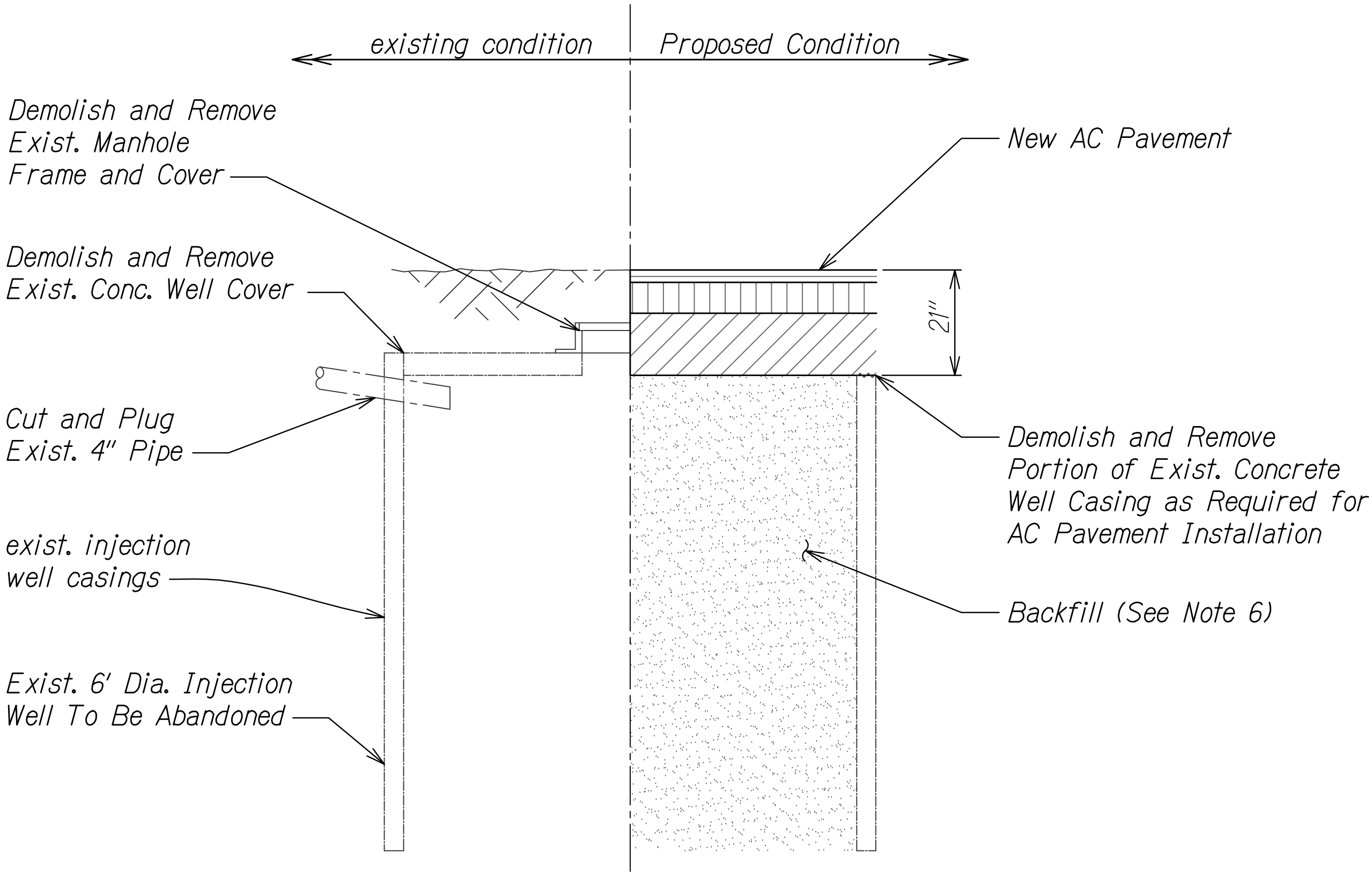
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: Not to Scale Date: May 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	C.O. 32S-1	48



INJECTION WELL BACKFILL DETAIL 1
Scale: Not to Scale EC-19/EC-19

- DRYWELL ABANDONMENT/BACKFILLING NOTES:**
1. The Contractor shall notify Mr. Mark Frazier of the Department of Health, Safe Drinking Water Branch (DOH SDWB) at (808) 586-4258 one week before backfilling operations. Presence of DOH SDWB personnel may be required during the backfilling operation. Conducting abandonment and backfill procedures without properly notifying DOH SDWB may result in re-excavating and re-backfilling of the injection well under proper witnessing.
 2. Cut or permanently seal any piping leading to the injection well.
 3. Contractor shall remove the concrete well cover slab including the overlying manhole cover, and soil material to expose the injection well and all impediments to allow for the cleaning and complete backfilling of the injection well.
 4. All accumulated sediments and sludge in the injection well shall be removed until natural ground is exposed at the bottom of the injection well. Use a rigid pole, rod, or appropriate equipment to probe that the natural bottom is achieved. The injection well must be cleared to its original excavated depth before backfilling commences. Back-to-back clearing and backfilling on the same day is not recommended.
 5. All sediments and sludge removed from the injection well or waste materials generated from clearing or backfilling the injection well, shall be handled and disposed of properly.
 6. After the injection well is cleared, backfill the injection well with controlled low-strength material (CLSM). The CLSM shall have a design strength greater than or equal to 600 pounds per square inch (psi) and shall completely fill the injection well up to the depth indicated with appropriate allowance for the AC pavement structure. A vibrator shall be used to remove entrapped air and settle the CLSM. Backfilling of the injection well shall be considered complete when the CLSM has hardened and no settlement has occurred. If settlement occurs, additional CLSM shall be added to compensate for the settlement.
 7. Backfilling with CLSM shall stop short of reaching the ground in order to accommodate AC pavement structure. Stop-short depths shall be lower than the bottom of the proposed pavement structure. Short-stop depths do not apply in casings; if left in-place, casings must always be filled completely.
 8. During CLSM emplacement, do not allow the CLSM to free-fall for more than six (6) feet. If standing water is present in the injection well, remove the standing water before CLSM emplacement or if removal is not possible, employ the tremie method to emplace the CLSM below the water level.
 9. The CLSM shall be ordered as ready-mix, a purchase order receipt shall be submitted to DOH to substantiate that a minimum 600 psi CLSM was used. Submit a copy of the purchase order receipt along with the Abandonment Summary Report.
 10. Contractors on their own initiative should not revise or modify the commercial CLSM mix design specification. any change to the specified CLSM shall only be valid upon DOH approval.
 11. Other DOH approved backfill material may be substituted in part or in full for the CLSM. The proposed backfill material and placement method shall be approved by DOH before the backfilling occurs.
 12. If unanticipated conditions occur during the backfilling operation that prevent the execution of the prescribed procedures, the backfilling operation should be suspended until DOH concurs with any procedural modification needed to complete the backfilling operation.
 13. Instructions, procedures, and specifications for injection well abandonment are prescribed specifically for this facility. Any work done not in accordance with the requirements, unless approved in writing by DOH before starting, shall be corrected which can include reexcavation and rebackfilling of the injection well.

7/15/21	Injection Well Backfill
DATE	REVISION

TERVOR R. YAGAKI
LICENSED PROFESSIONAL ENGINEER
NO. 14993-C
HAWAII, USA
4/30/22
EXP. DATE
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DETAILS
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU
Project No. HWY-O-02-19
Scale: Not to Scale Date: May 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	33	48

GENERAL

1. *Workmanship and materials shall conform to the Hawaii Standard Specifications for Road & Bridge Construction (2005 Edition) & Special Provisions. However, where reference is made to performance conforming to other standards the more stringent shall apply.*
2. *The Contractor shall compare all the contract documents with each other and report in writing to the Engineer all inconsistencies and omissions.*
3. *The Contractor shall take field measurements and verify field conditions and shall compare such field measurements and conditions with the drawings before commencing work. Report in writing to the Engineer all inconsistencies and omissions.*
4. *The Contractor shall be responsible for methods of construction, workmanship and job safety. The Contractor shall provide temporary shoring and bracing as required for stability of structural members and systems.*
5. *The Contractor shall be responsible for protection of the adjacent properties, structures, streets and utilities during the construction period.*
6. *Details noted as typical on the Structural drawings shall apply in all conditions unless specifically shown or noted.*
7. *The General Contractor and his subcontractors must submit in writing any requests for modifications to the plans and specifications.*

FOUNDATION

1. Foundation design is based on geotechnical investigation by Hiraoka & Associates, Inc. and memorandum dated March 12, 2018.
2. The Contractor shall provide for de-watering of excavation from surface water, ground water or seepage.
3. Foundation slab-on-grade subgrades shall be underlain by at least 12 inches of properly compacted imported granular fill. Subgrade shall be moisture conditioned to about 2 percent above optimum moisture content and compacted to a minimum 90 to 95 percent relative compaction as determined by ASTM D 1557. The granular structural fill shall be compacted to a minimum 95 percent compaction as determined by ASTM D 1557 prior to placement of reinforcing steel and concrete.
4. The Contractor shall provide for design and installation of all cribbing, sheeting, and shoring necessary to preserve excavation and earth banks.
5. The Contractor shall brace or protect all walls below grade from lateral loads until they have attained full design strength.
6. Allowable Bearing Capacity _____ 1000 PSF

CONCRETE

1. Concrete construction workmanship & materials shall conform to the Hawaii Standard Specifications for Road & Bridge Construction (2005 Edition) & Special Provisions.
2. Concrete shall be regular weight hard rock concrete and shall have the following minimum 28 day compressive strengths:
 - a. Mat Foundation————4,000 psi
 - b. Walls————4,000 psi
3. Concrete delivery tickets shall record all free water in the mix: at batching by plant, for consistency by driver, and any additional request by contractor if permitted by the mix design.
4. All inserts, anchor bolts, plates, and other items to be cast in the concrete shall be hot-dipped galvanized unless otherwise noted.
5. Reinforcing bars, anchor bolts, inserts, and other items to be cast in the concrete shall be secured in position prior to placement of concrete.
6. The Contractor shall locate construction joints so as not to impair the strength of the structure and to minimize shrinkage stresses. Submit location of construction joints to the Engineer for approval, unless otherwise noted.
7. The Engineer shall be notified at least 3 working days prior to any concrete pour. No concrete shall be poured prior to observation by the Engineer or his/her representative.
 - a. The concrete pour notice shall include the following.
 1. Project No. and brief description.
 2. Date & time
 3. Type of concrete
 4. Quantity
 5. Supplier
 6. Purpose/ Location
 7. Additional special conditions, changes in pour schedule, etc.

REINFORCING STEEL

1. Reinforcing Steel shall be deformed bars conforming to AASHTO M31, Grade 60.
2. Clear concrete cover for reinforcing bars shall be as follows, unless otherwise noted:
 - a. Mat Foundation, etc. cast against earth—————3"
 - b. Mat Foundation, etc. formed and exposed
to earth or weather—————2"
 - c. Walls
 1. Formed faces exposed
to earth or weather—————2"
3. Reinforcing Steel shall be spliced where indicated on plans. Provide lap splice length per typical details and schedule, unless otherwise noted.

REINFORCING STEEL (CONT'D).


4. *Bar laps shall be made away from points of maximum stress. Unless noted otherwise, splices, laps, dowel extensions and embedments shall be 48 bar diameters, but not less than 24 inches. Splices shall be staggered where possible.*
5. *Unless otherwise noted, all horizontal reinforcing steel at wall and wall footing corners and intersections shall extend to the far face of the corner and hooked a length of 48 bar diameters, but not less than 24 inches, around the corner.*
6. *Bar bends and hooks shall be "Standard Hooks" in accordance with AASHTO LRFD Bridge Design Specifications, Second Edition, Article 5.10.2- Hooks and Bends. See Detail 1 On Sheet EC-05.*

WATERSTOPS:

1. *Waterstops for new fluid containing cast in place concrete structures shall be polyvinyl chloride (pvc) waterstops made of extruded polyvinylchloride (pvc) manufactured from virgin materials conforming to coe crd-c-572.*
2. *Waterstop type for construction joints shall be serrated (ribbed) flat and shall be vinylex r6-38, greenstreak style 679 by vinylex corporation, greenstreak plastic products company, or approved equal.*

INSPECTION OF WORK AND MATERIALS:

1. Contractor shall be responsible for ensuring that inspection of portions of the work, as required by The Hawaii Standard Specifications for Road and Bridge Construction & Special Provisions, is made at the appropriate time. the contractor shall give timely notice of when and where inspections are to be made and provide access for the inspector. the contractor shall correct defective work at no additional cost to the owner and pay for re-inspection.
2. The following structural work require inspection:
 - A. Concrete
 - B. Reinforcing Steel
3. Periodic inspection of the reinforcing of all concrete foundations shall be required.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU
Project No. HWY-0-02-19
Scale: AS INDICATED Date: MAY 2020

4/30/22

EXP. DATE

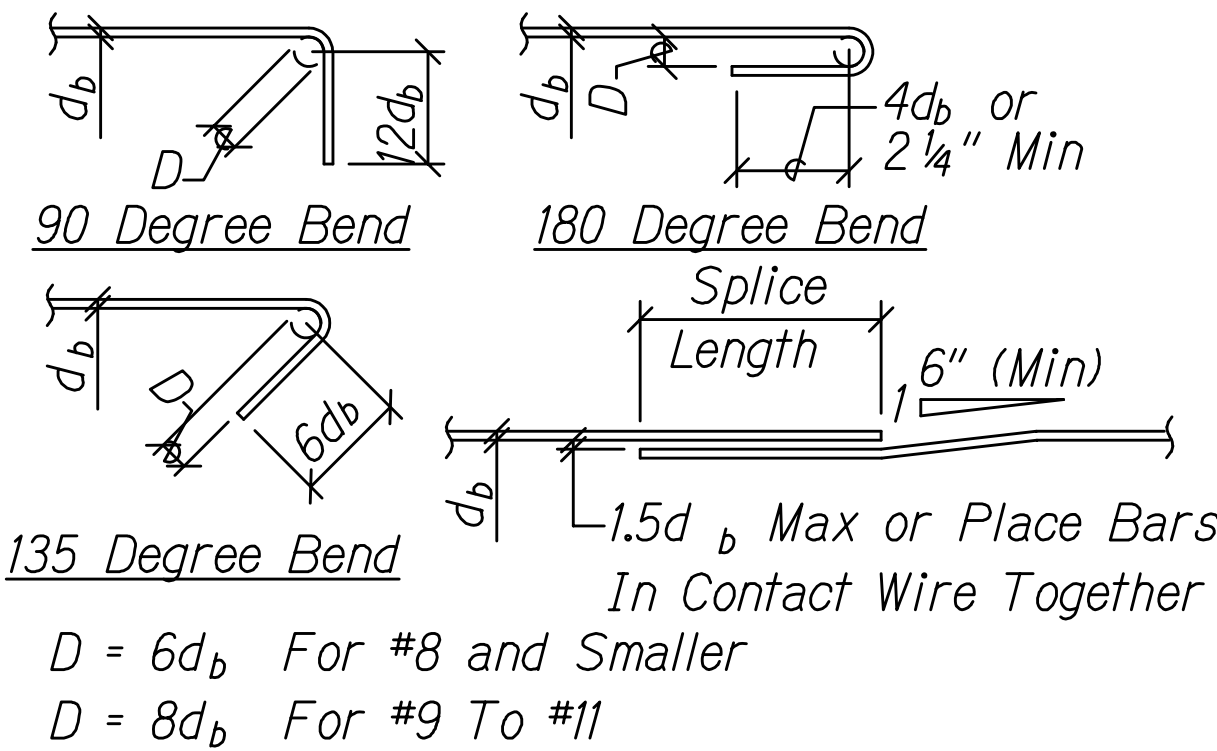
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	34	48

Minimum Splice & Embedment Lengths For Concrete					
Bar Size	Lap Splice		Embedment		
	Bot Bar Or Wall Bar	Top Bar	Straight Bot Bar Or Wall Bar	Top Bar	w/ Std Hook
#3, #4	29"	38"	22"	29"	11"
#5	36"	47"	28"	36"	14"
#6	43"	56"	33"	43"	17"
#7	63"	82"	48"	63"	20"

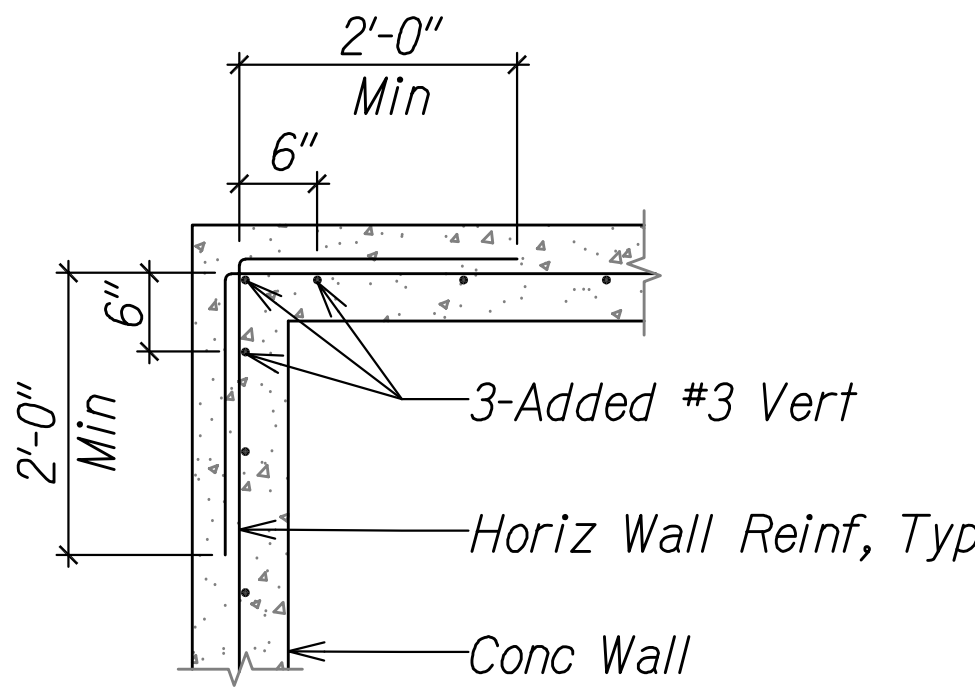
- Lengths Are For Concrete Beams & Columns With Rebar Spaced 1 Bar Diameter Min O.C. And Concrete Walls with Rebars Spaced 2 Bar Diameters Min O.C. Increase Bar Length 50% For Bars Spaced Closer Than Minimums Specified.
- "Top Bars" Are Horizontal Bars With 12" Or More Of Concrete Cast Below.



TYPICAL REBAR SPLICE & EMBEDMENT LENGTH SCHEDULE

Scale: Not to Scale

1
EC-21 EC-21



TYPICAL CONCRETE WALL CORNER DETAIL

Scale: Not to Scale

2
EC-21 EC-21

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
FILED	

SWMP PEARL CITY BASEYARD STRUCT.DWG 4/7/2020 9:35:43 AM

ERIC S. TOMISHIMA

LICENSED PROFESSIONAL ENGINEER

No. 16572-S

HAWAII U.S.A.

4/30/22

EXP. DATE

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STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

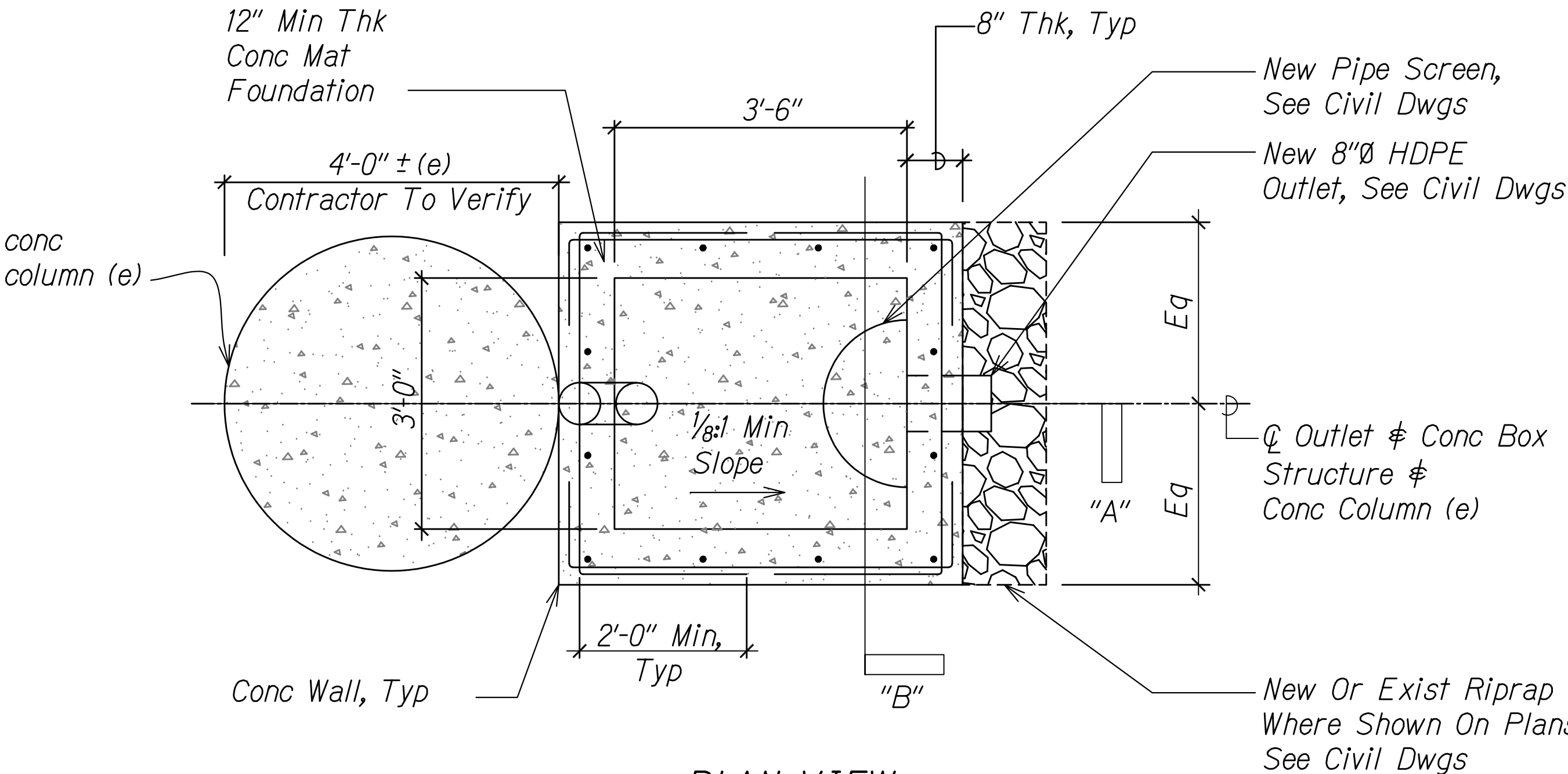
TYPICAL DETAILS

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19

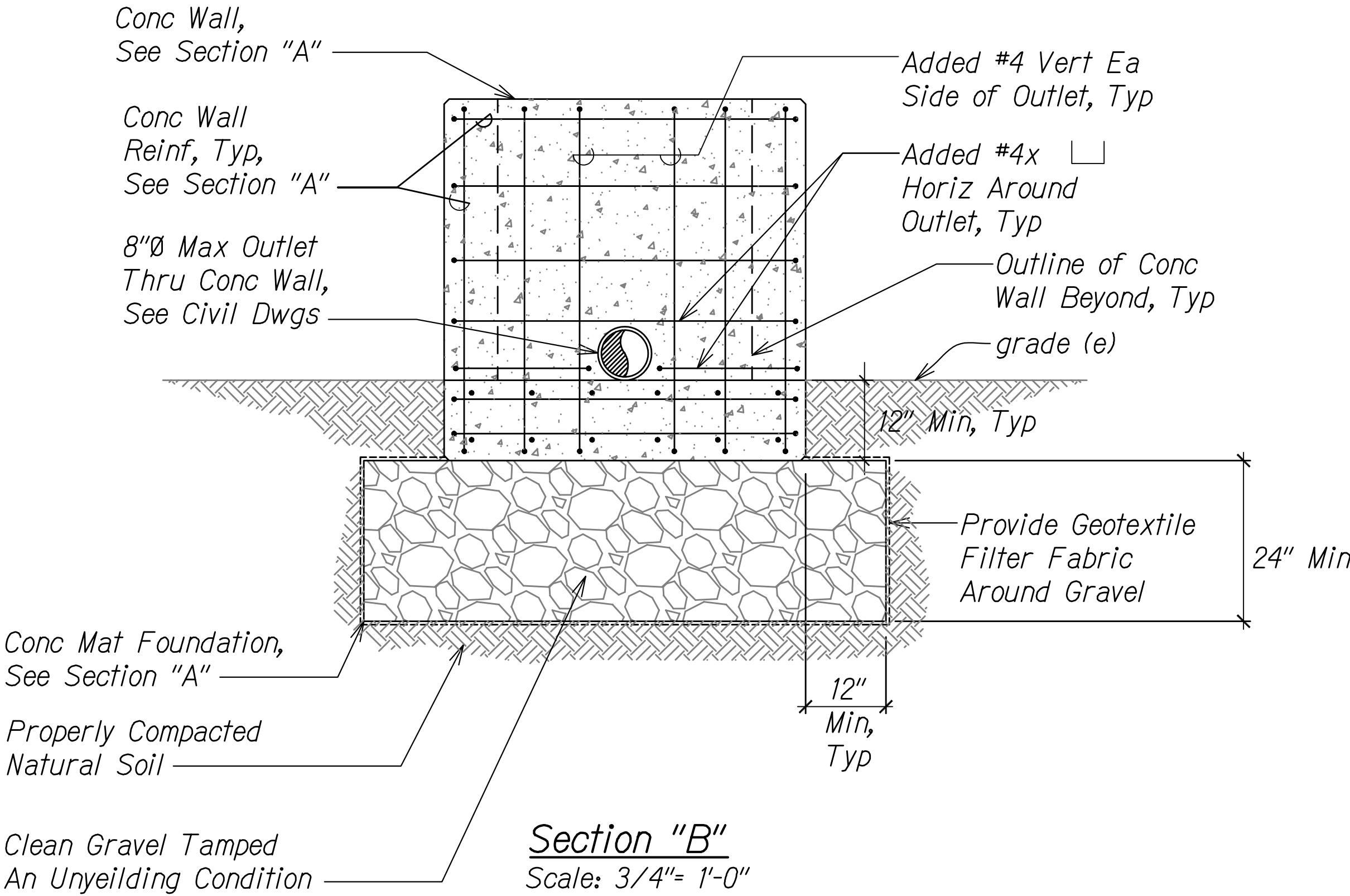
Scale: AS INDICATED Date: MAY 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	35	48

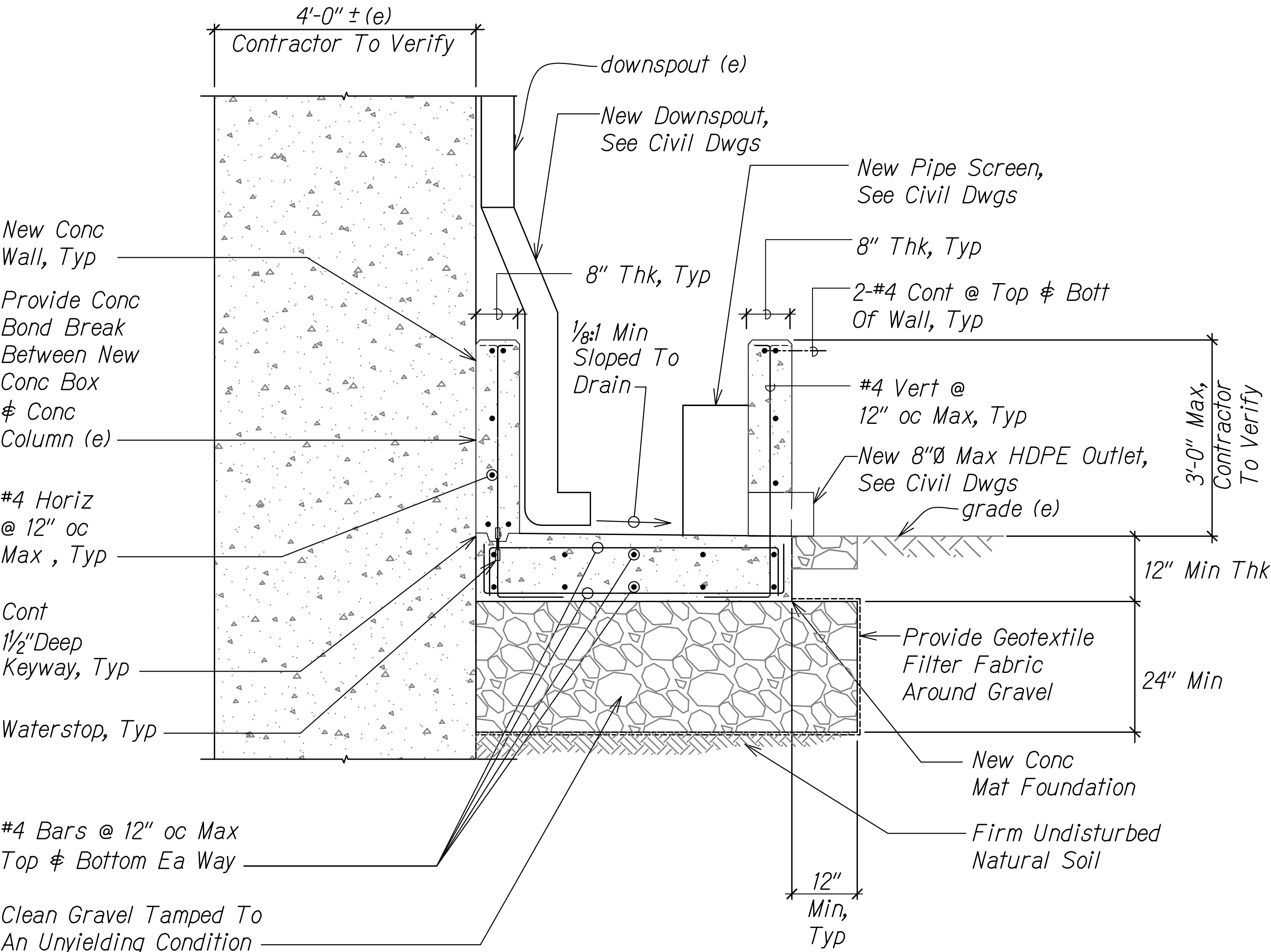


PLAN VIEW
Scale: 3/4"= 1'-0"

Note: For Balance Of Information, See Section "A"



DOWNSPOUT FLITER BOX DETAILS
Scale: 3/4"= 1'-0"



Section "A"
Scale: 3/4"= 1'-0"

SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
NO.	

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4/30/22

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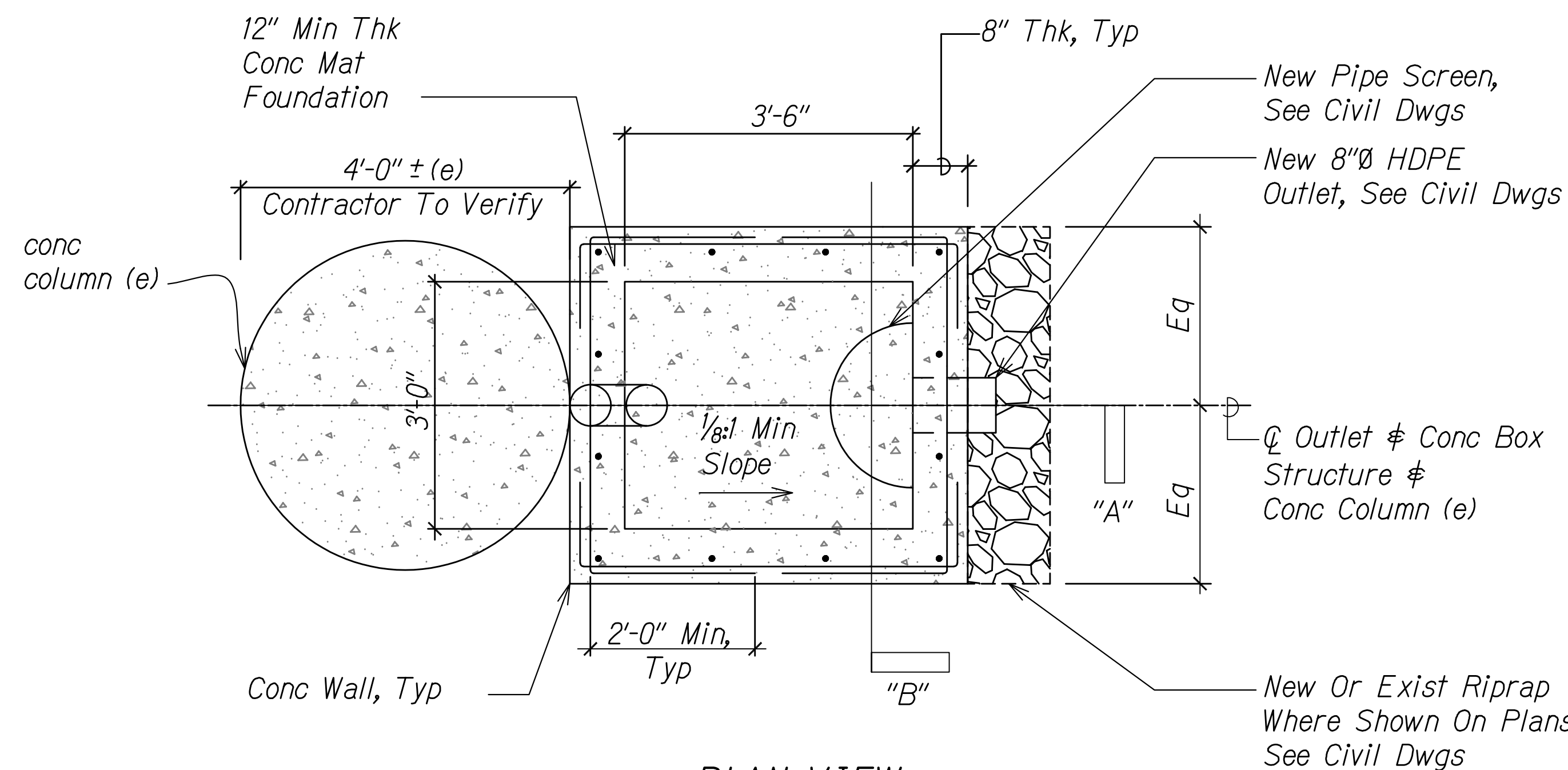
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**DOWNSPOUT FILTER
BOX DETAILS**

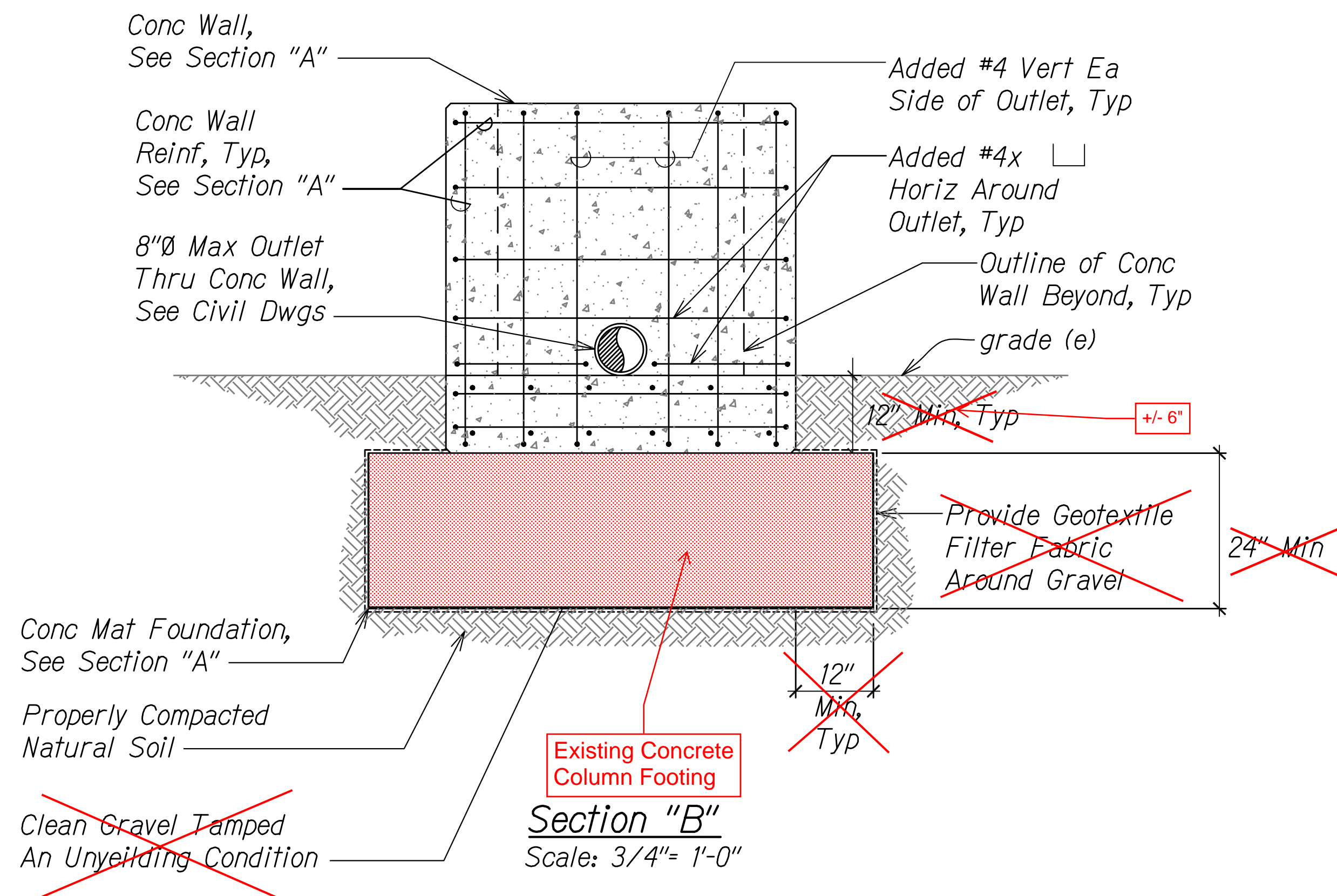
EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM
WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: AS INDICATED Date: MAY 2020

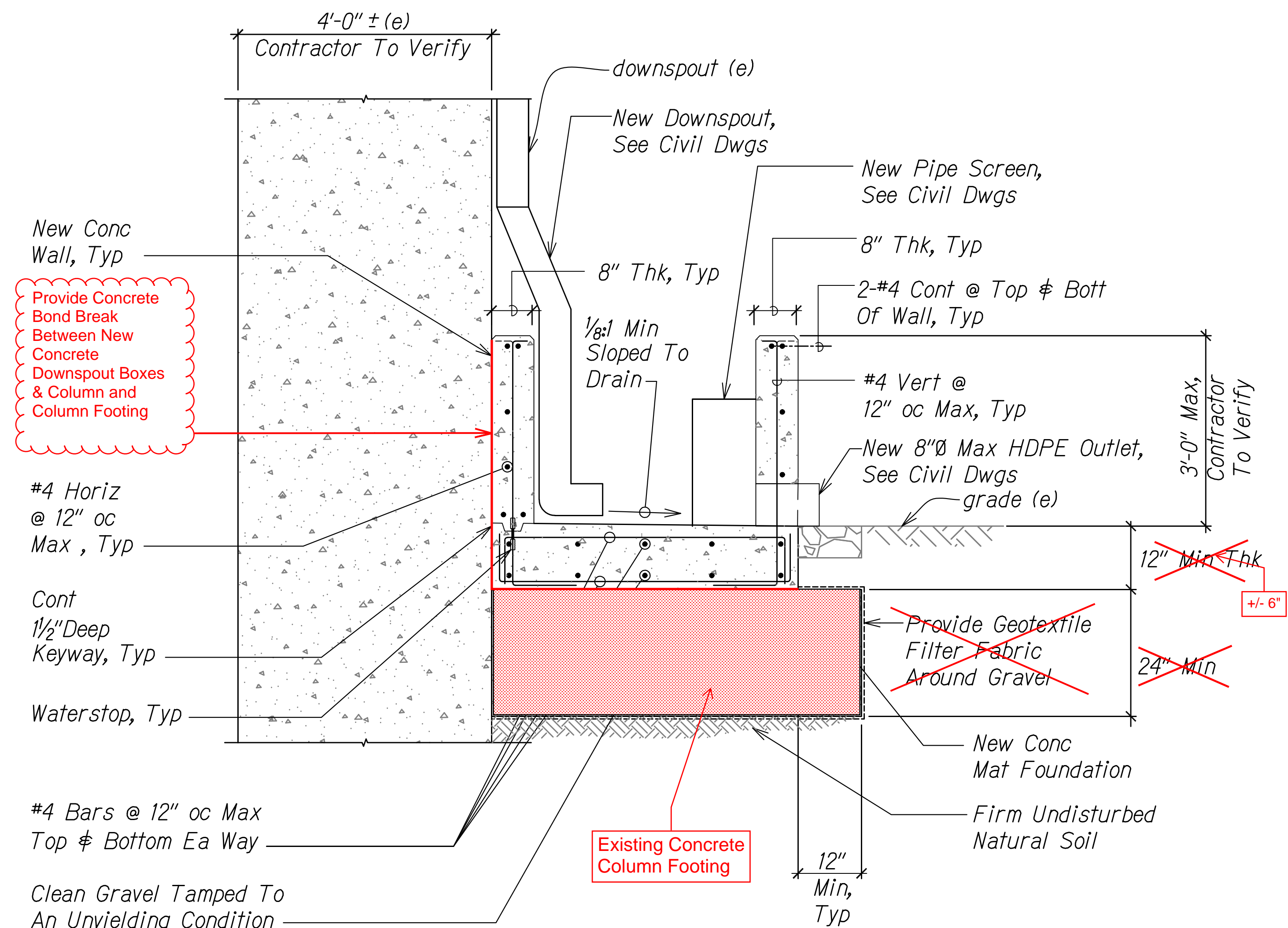
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-19	2020	35	48



Note: For Balance Of Information, See Section "A"



DOWNSPOUT FILTER BOX #5 BOX DETAILS
Scale: 3/4"= 1'-0"



Section "A"
Scale: 3/4"= 1'-0"

AS-BUILT DRAWINGS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

KAIKOR CONSTRUCTION COMPANY INC.

Stacey Park

DATE: 7/21/2022

ERIC S. TOMISHIMA
LICENSED PROFESSIONAL ENGINEER
No. 16572-S
HAWAII, U.S.A.

4/30/22
EXP. DATE
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DOWNSPOUT FILTER BOX DETAILS

EROSION CONTROL AND BEST MANAGEMENT PRACTICES FOR STORM WATER PERMIT COMPLIANCE, VARIOUS LOCATIONS ON OAHU

Project No. HWY-O-02-19
Scale: AS INDICATED Date: MAY 2020

SHEET No. EC-22 OF 22 SHEETS

"AS-BUILT"

35S-2