ATTACHMENT A-5

Topography and Drainage Patterns
(*Item C.8 of Form C*)

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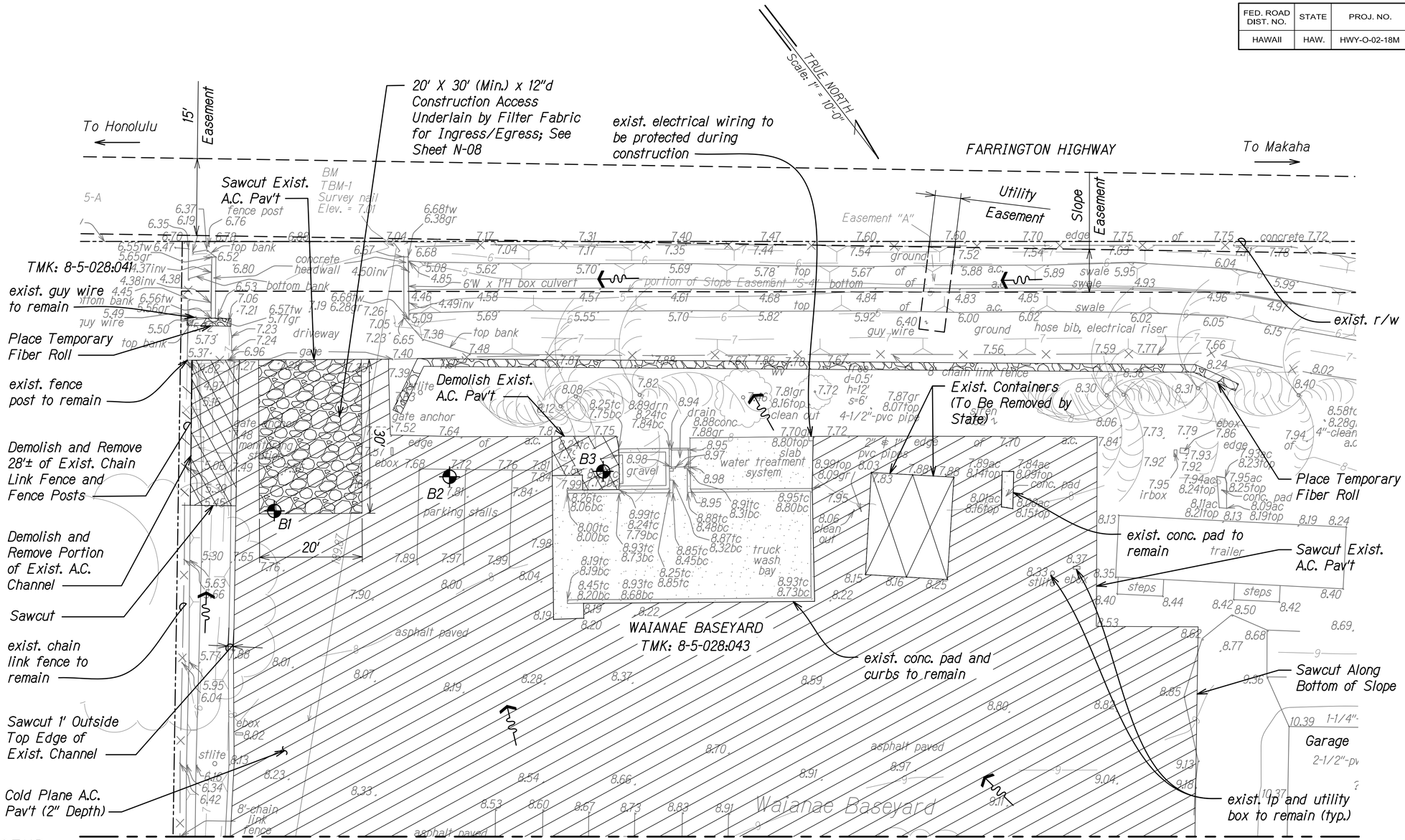
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	11	33



LEGEND

- Direction of Flow
- Cold Plane Existing A.C. Pavement (2" Depth)
- Demolish & Remove Existing A.C. Channel/Pavement
- B1 Approx. Boring Location and ID Number

NOTES:

1. For boring log data, see Sheet EC-22 & EC-23

TEMPORARY BMP AND DEMOLITION PLAN
WAIANAE BASEYARD

Scale: 1" = 10'-0"

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

WAIANAE TEMP EC-2.DWG 3/29/2018 2:28:25 PM

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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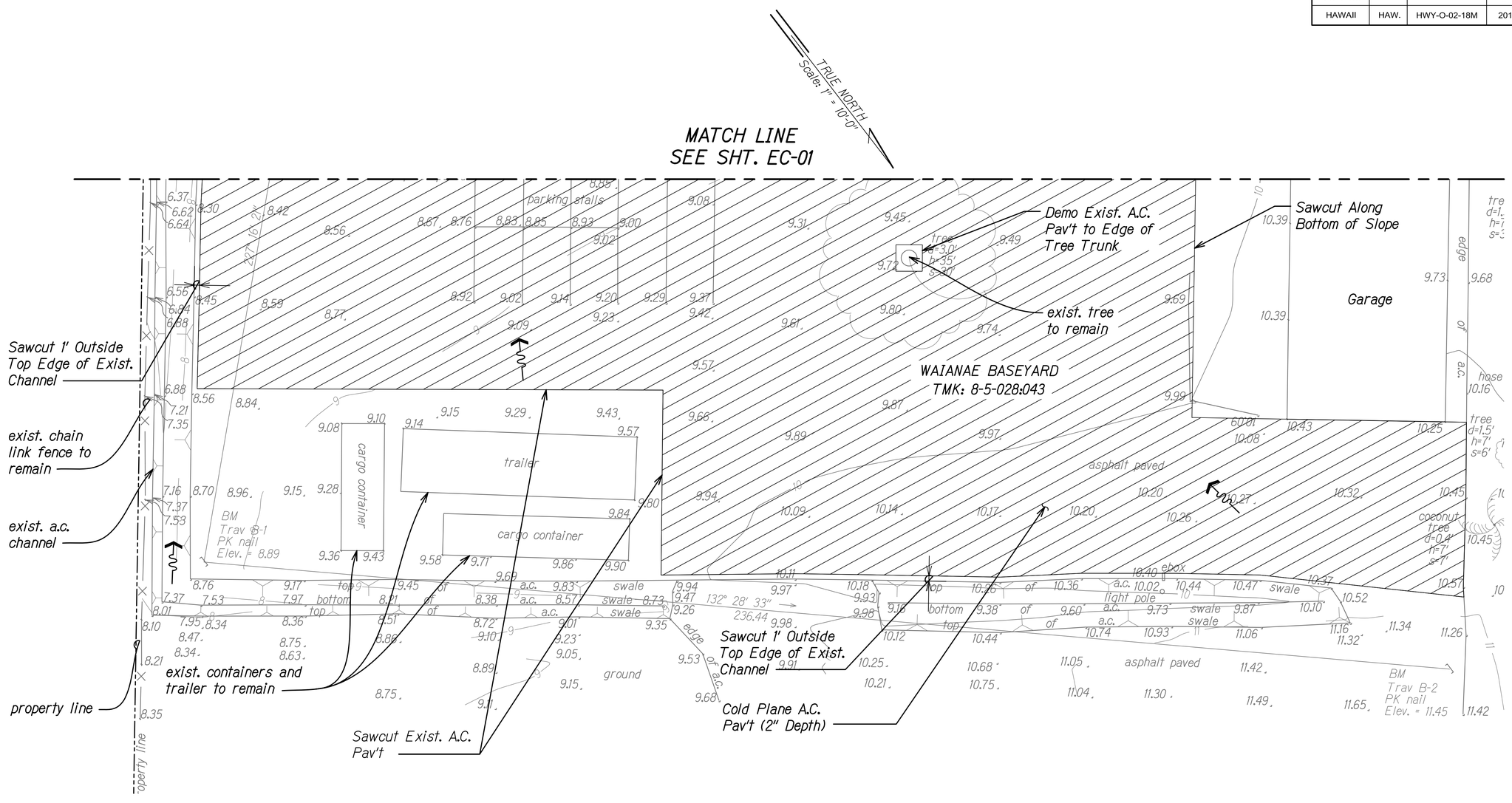
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TEMPORARY BMP AND DEMO PLAN
WAIANAE BASEYARD
STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-01 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	12	33



TEMPORARY BMP AND DEMOLITION PLAN
WAIANAE BASEYARD

Scale: 1" = 10'-0"

LEGEND

Direction of Flow

Cold Plane Existing A.C. Pavement (2" Depth)

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

WAIANAE - TEMP EC2.DWG 7/19/2018 9:06:15 PM

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA

4/30/18
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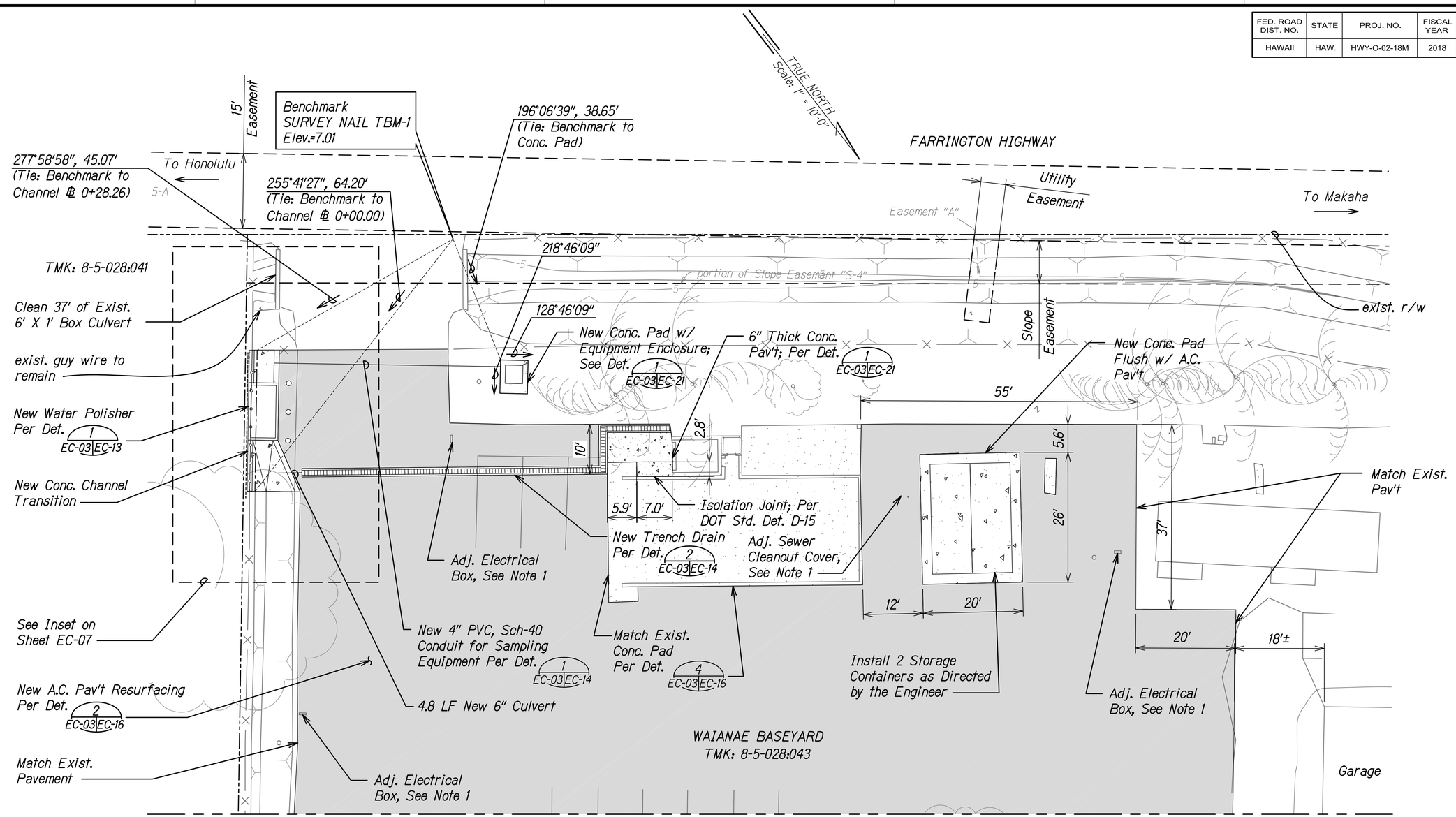
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TEMPORARY BMP AND DEMO PLAN
WAIANAE BASEYARD
STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-02 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	13	33



LEGEND

A.C. Pavement Resurfacing (2" Thickness); State Mix V

Notes:

1. Adjust all utility manhole frame & covers, valve box frame and covers, etc. to new finish grade elevation.

GENERAL PERMANENT BMP PLAN
WAIANAE BASEYARD

Scale: 1" = 10'-0"

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

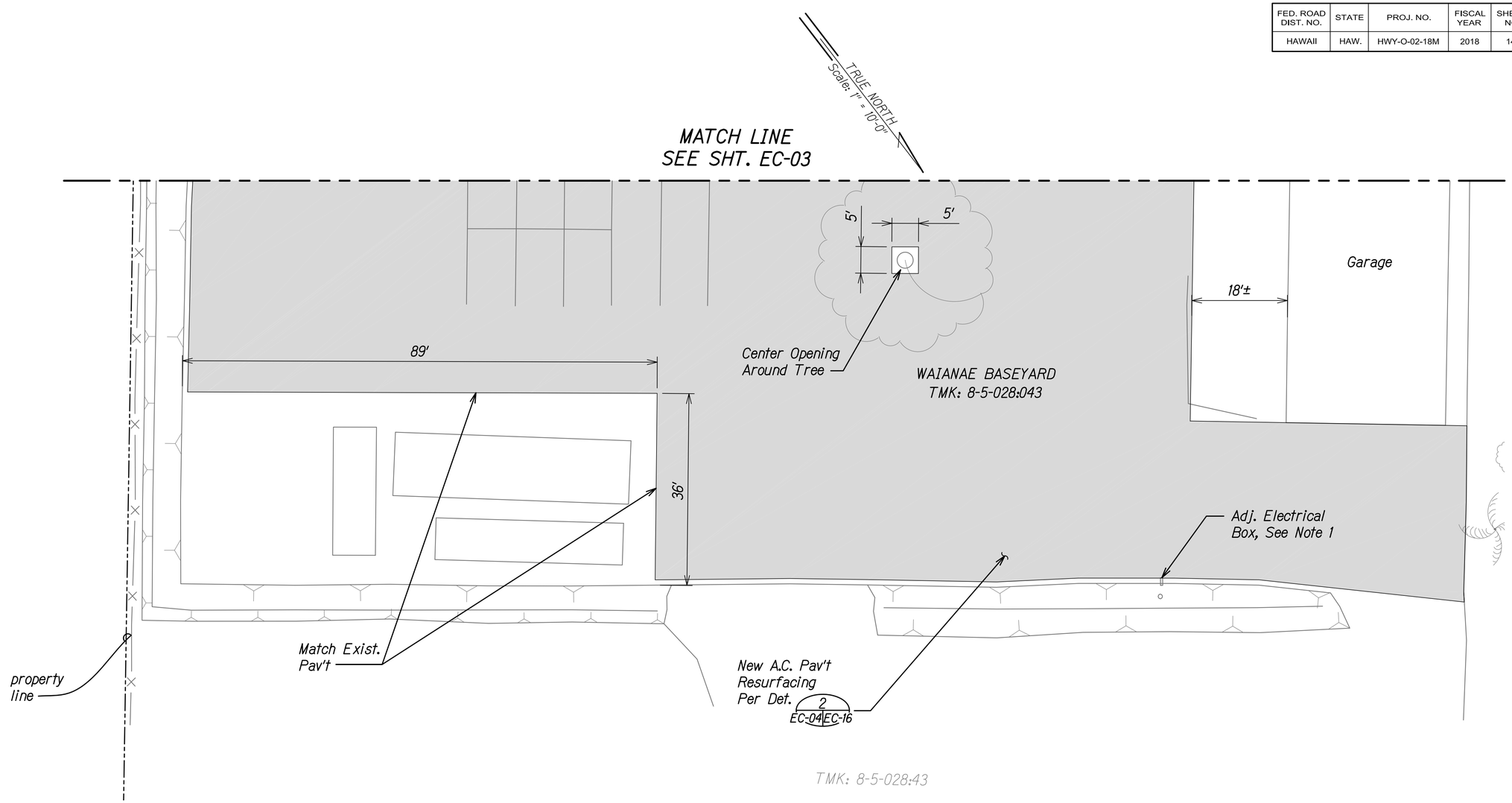
GENERAL PERMANENT BMP PLAN
WAIANAE BASEYARD
STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-03 OF 23 SHEETS

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

WAIANAE - TEMP EC-2.DWG 3/19/2018 2:08:26 PM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	14	33



LEGEND

A.C. Pavement Resurfacing
(2" Thickness); State Mix V

Notes:

1. Adjust all utility manhole frame & covers, valve box frame and covers, etc. to new finish grade elevation.

GENERAL PERMANENT BMP PLAN
WAIANAE BASEYARD

Scale: 1" = 10'-0"

JASON H. LAU
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NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

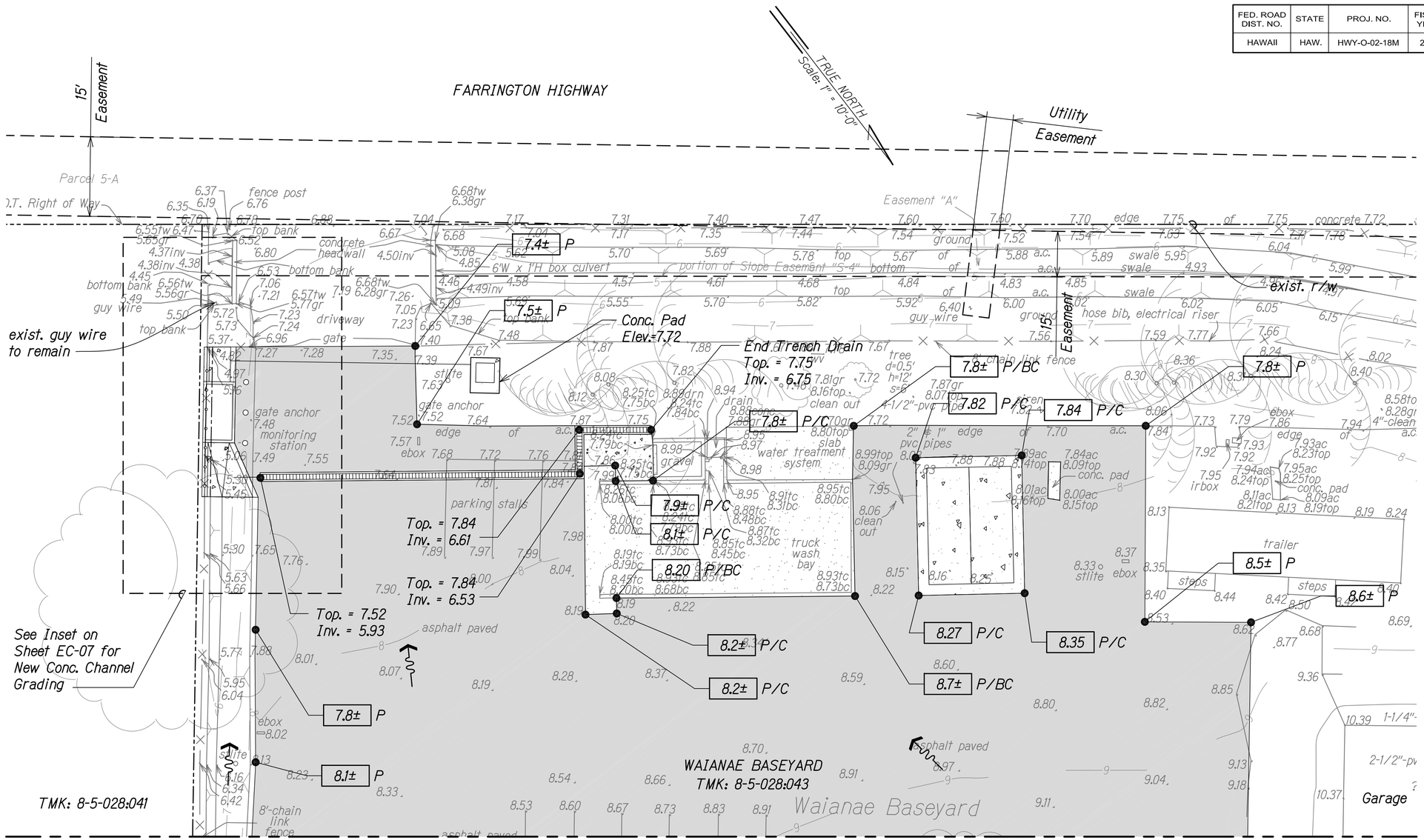
GENERAL PERMANENT BMP PLAN
WAIANAE BASEYARD
STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-04 OF 23 SHEETS

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

WAIANAE - TEMP EC-2.DWG 3/29/2018 2:26:25 PM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	15	33



LEGEND

1.67	BC	Bottom of Curb Elevation
1.67	C	Concrete Elevation
1.67	P	A.C. Pavement Elevation
←		Flow Direction

GRADING PLAN
WAIANAE BASEYARD

Scale: 1" = 10'-0"

JASON H. LAU
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NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GRADING PLAN
WAIANAE BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M

Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-05 OF 23 SHEETS

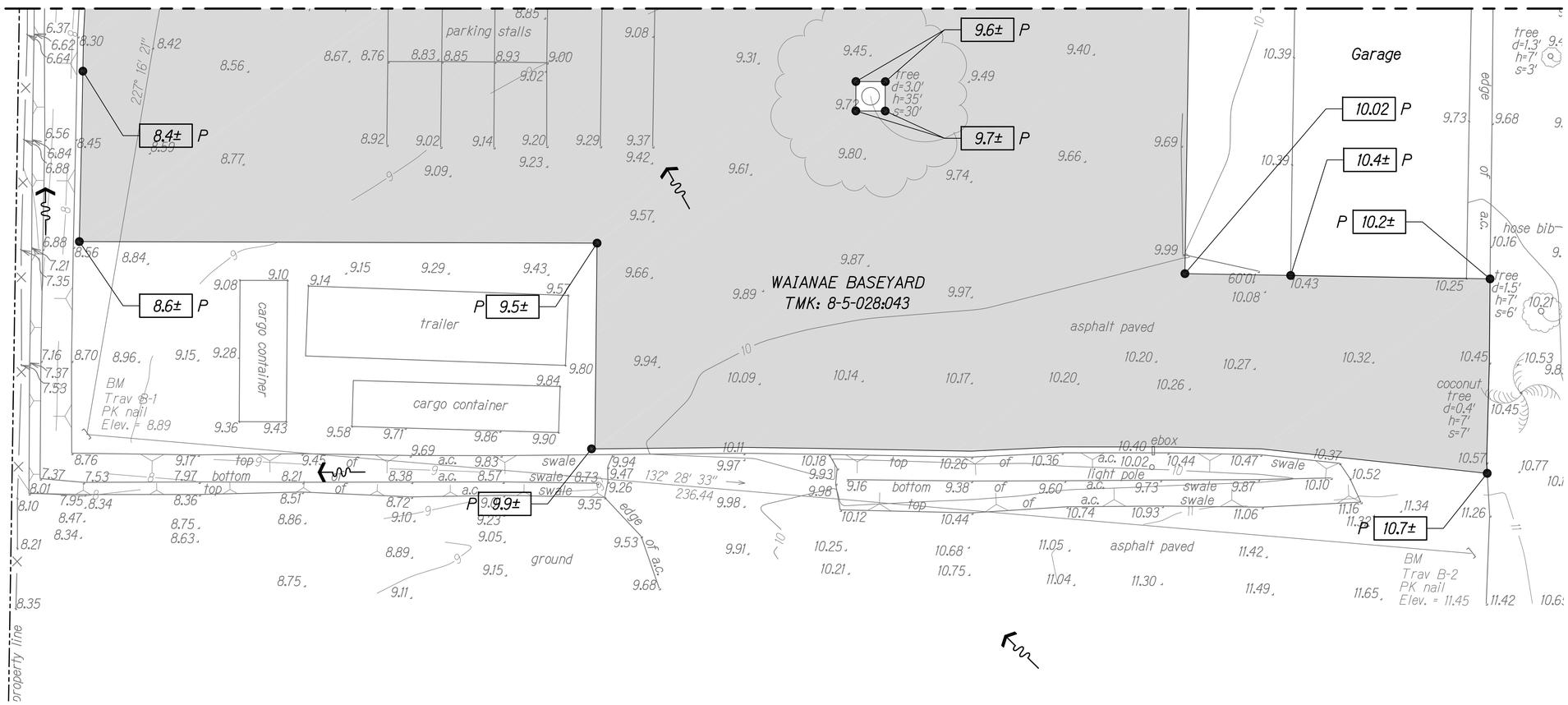
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK No.

WAIANAE - PERM BMP.DWG 3/19/2018 7:46:47 AM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	16	33

TRUE NORTH
Scale: 1" = 10'-0"

MATCH LINE
SEE SHT. EC-05



LEGEND

1.67	P	A.C. Pavement Elevation
←		Flow Direction

GRADING PLAN
WAIANAE BASEYARD
Scale: 1" = 10'-0"

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

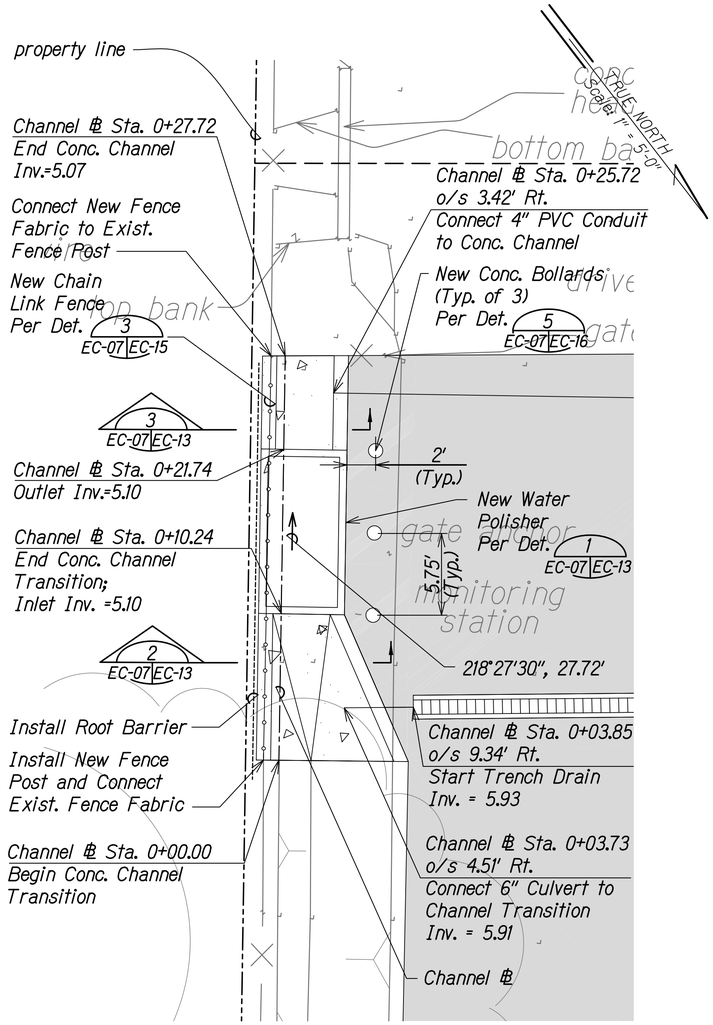
GRADING PLAN
WAIANAE BASEYARD
STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 10'-0" Date: March 2018

SHEET No. EC-06 OF 23 SHEETS

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

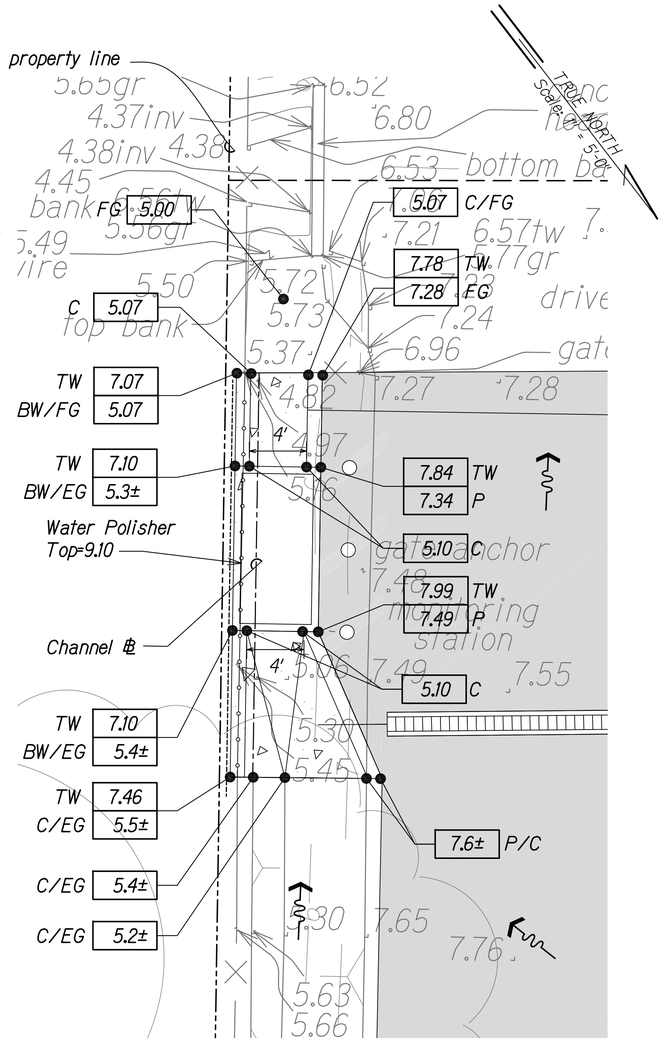
WAIANAE - PERM BMP.DWG 3/29/2018 7:29:27 AM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	17	33



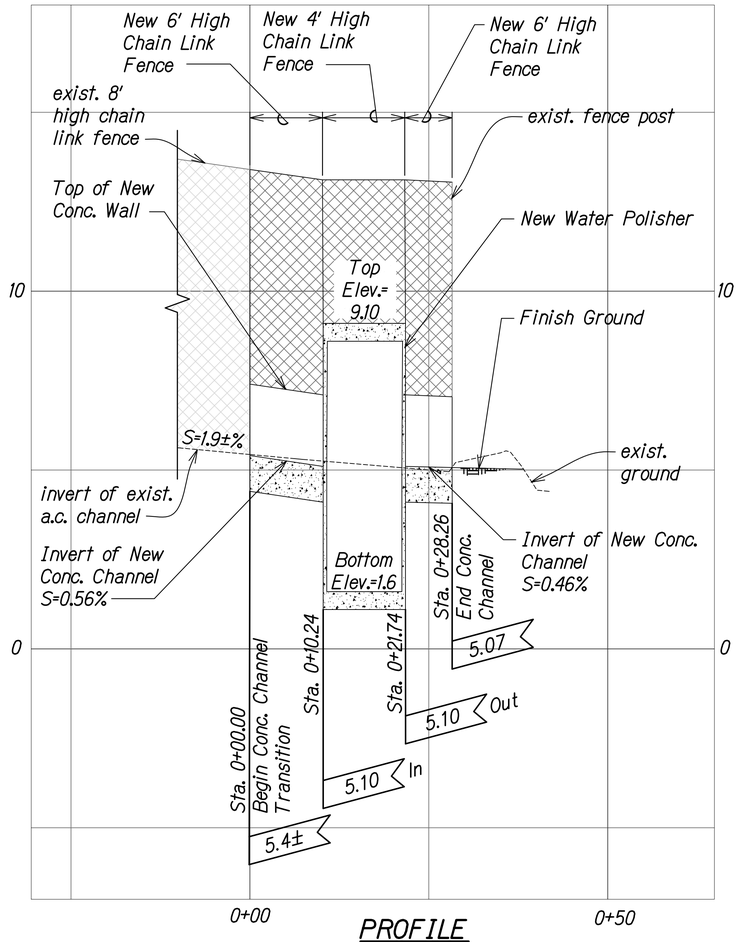
PERMANENT BMP PLAN INSET
WAIANAE BASEYARD

Scale: 1" = 5'-0"



GRADING PLAN INSET
WAIANAE BASEYARD

Scale: 1" = 5'-0"



PROFILE
WAIANAE BASEYARD

Scale: Horiz. 1" = 10'-0"
Vert. 1" = 2'-0"

LEGEND

1.56	eg	Existing Ground Elevation	1.67	C	Concrete Elevation
1.67	FG	Finish Ground Elevation	1.67	P	A.C. Pavement Elevation
1.67	TW	Top of Wall Elevation			Flow Direction
1.67	BW	Bottom of Wall Elevation			

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

WAIANAE - PERM BMP.DWG 3/29/2018 7:49:47 AM

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERM. BMP & GRADING PLAN INSETS & PROFILE

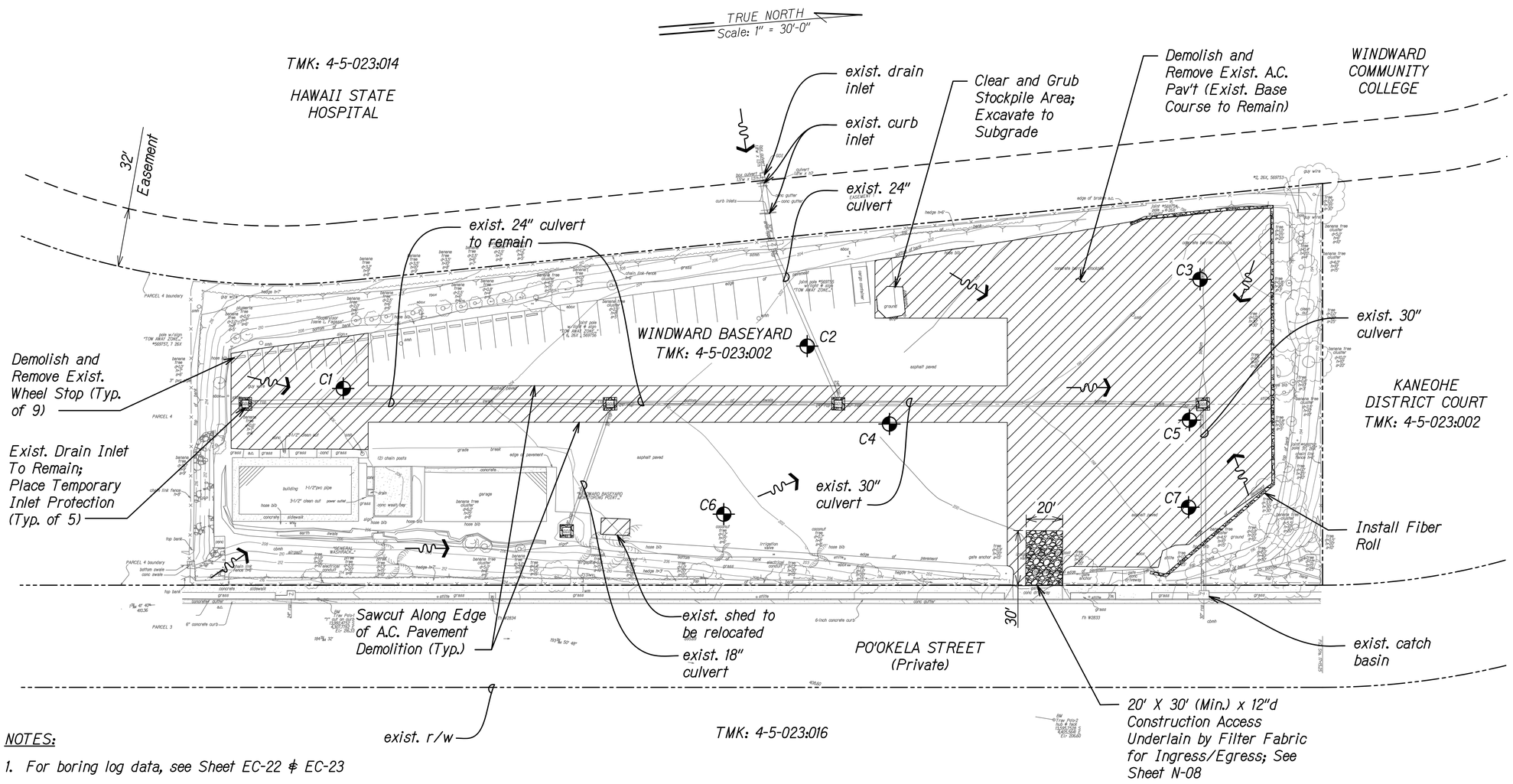
WAIANAE BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M

Scale: As Shown | Date: March 2018

SHEET No. EC-07 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	18	33



NOTES:

1. For boring log data, see Sheet EC-22 & EC-23

LEGEND

- A.C. Pavement Demolition, Approx. 2" to 3.5" Thick (Exist. Base Course to Remain)
- Direction of Flow
- C1 — Approx. Boring Location and ID Number

TEMPORARY BMP AND DEMOLITION PLAN
WINDWARD BASEYARD

Scale: 1" = 30'-0"

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

WINDWARD - TEMP ECO.DWG 3/19/2018 2:26:45 PM

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LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

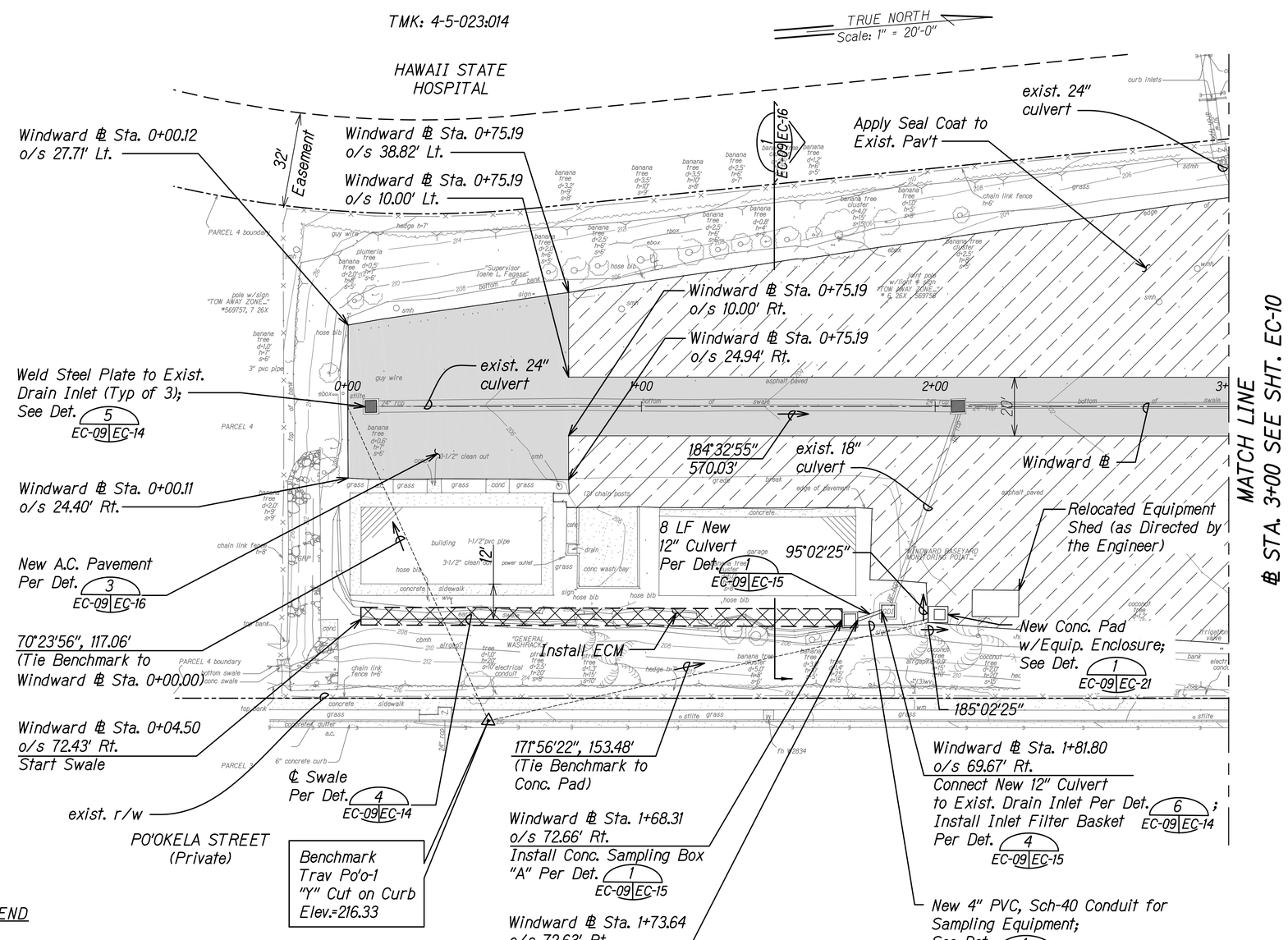
TEMPORARY BMP AND DEMO PLAN
WINDWARD BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M

Scale: 1" = 30'-0" Date: March 2018

SHEET No. EC-08 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	19	33



LEGEND

- A.C. Pavement Reconstruction, (3" Thick); State Mix V
- Seal Coat
- Erosion Control Matting

Notes:

1. Adjust all utility manhole frame & covers, valve box frame and covers, etc. to new finish grade elevation.

PERMANENT BMP PLAN
WINDWARD BASEYARD

Scale: 1" = 20'-0"

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

NOTE BOOK No.

WINDWARD - GENERAL SITE.DWG 3/19/2018 8:05:02 AM

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4/30/18
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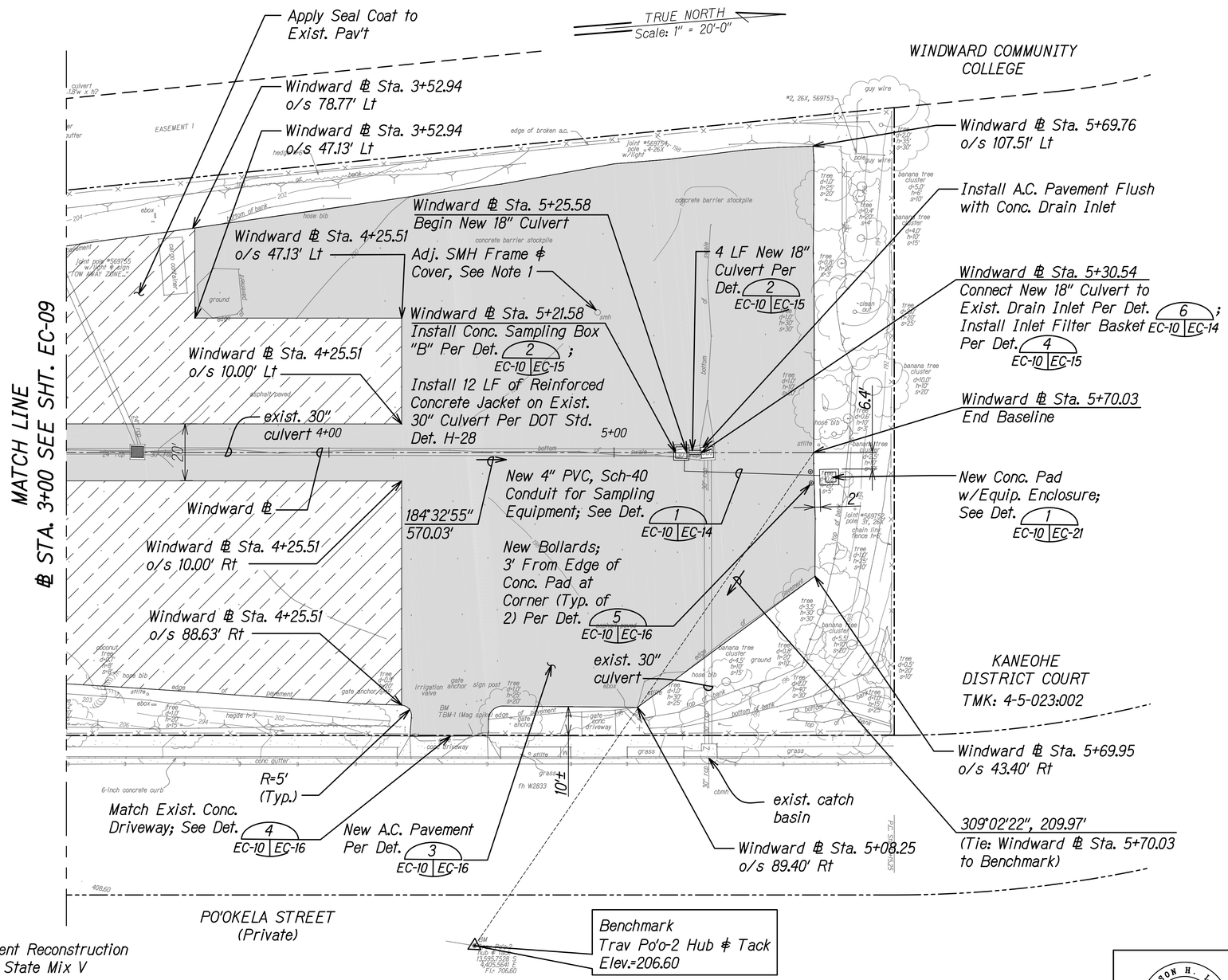
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT BMP PLAN
WINDWARD BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 20'-0" Date: March 2018

SHEET No. EC-09 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	20	33



LEGEND

A.C. Pavement Reconstruction (3" Thick); State Mix V

Seal Coat

Notes:

1. Adjust all utility manhole frame & covers, valve box frame and covers, etc. to new finish grade elevation.

PERMANENT BMP PLAN
WINDWARD BASEYARD

Scale: 1" = 20'-0"

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

WINDWARD - GENERAL SITE.DWG 3/19/2018 10:51:02 AM

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4/30/18
EXP. DATE

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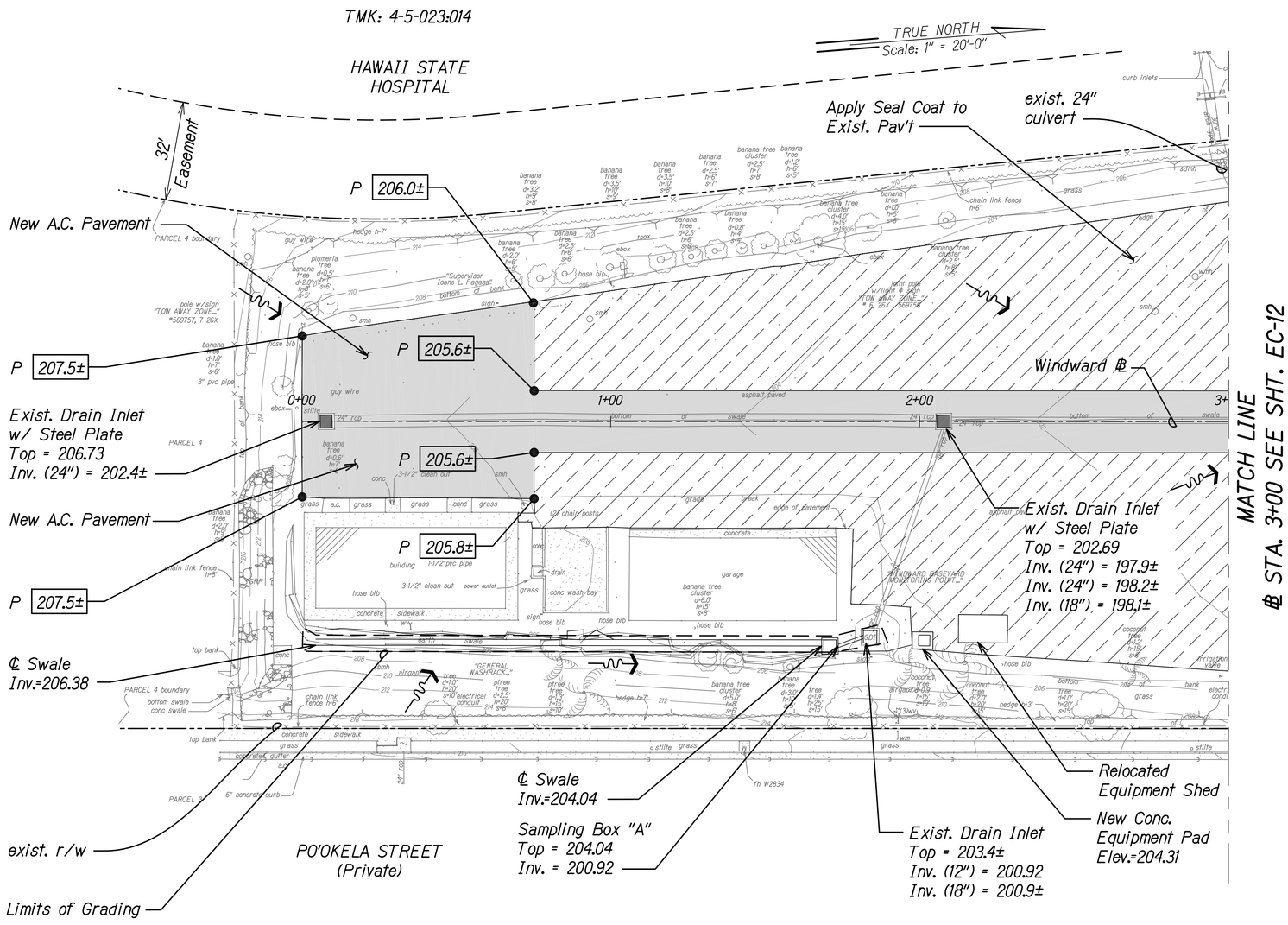
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT BMP PLAN
WINDWARD BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 20'-0" Date: March 2018

SHEET No. EC-10 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	21	33



GRADING PLAN
WINDWARD BASEYARD

Scale: 1" = 20'-0"

LEGEND

1.67	P	A.C. Pavement Elevation
— — — —		Limits of Grading
		Flow Direction

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

WINDWARD - GRADING.DWG 3/30/2018 7:25:25 AM

JASON H. LAU
LICENSED PROFESSIONAL ENGINEER
NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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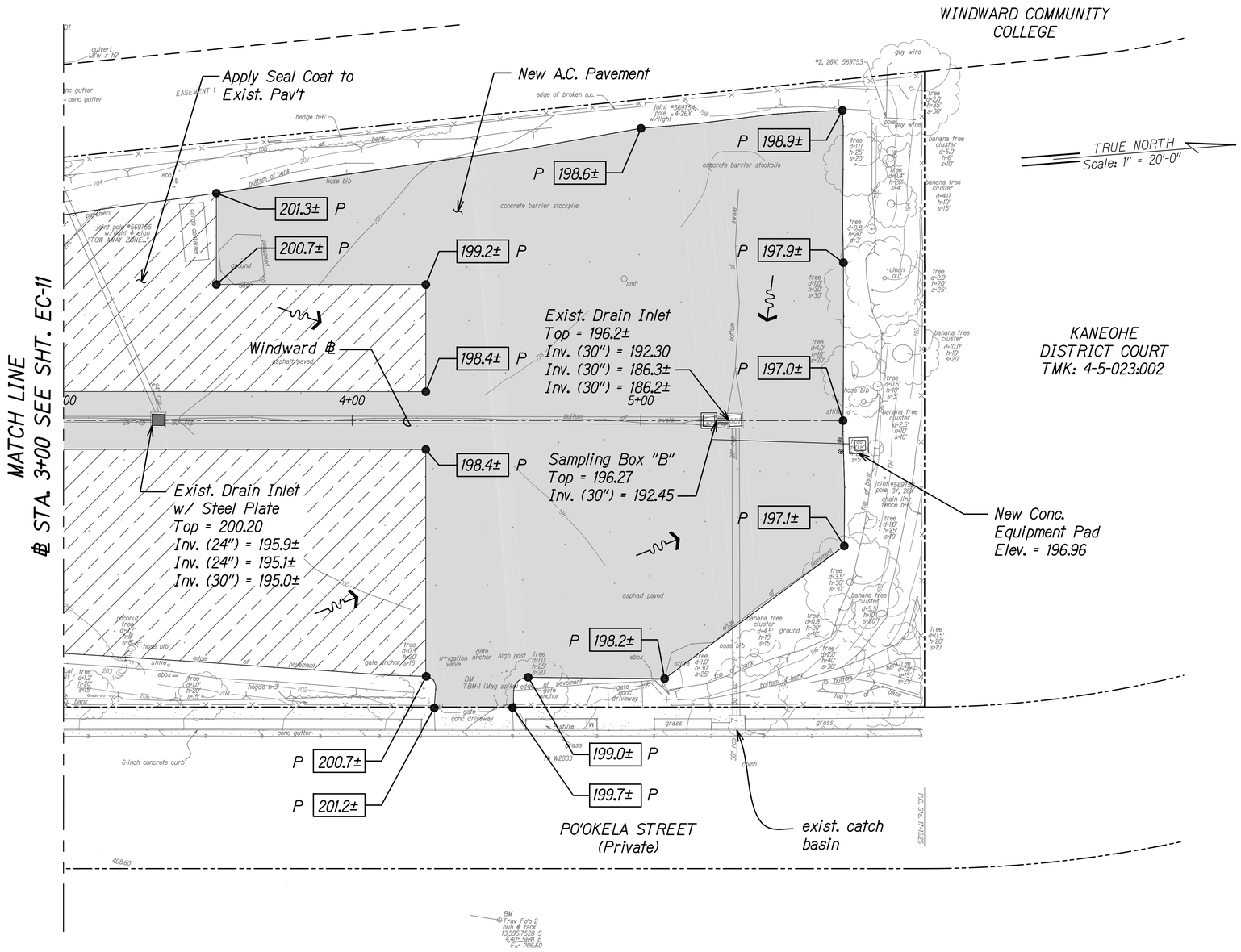
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT BMP PLAN
WINDWARD BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M
Scale: 1" = 20'-0" Date: March 2018

SHEET No. EC-11 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-02-18M	2018	22	33



LEGEND

1.67 P	A.C. Pavement Elevation
— — — —	Limits of Grading
⟶	Flow Direction

GRADING PLAN
WINDWARD BASEYARD

Scale: 1" = 20'-0"

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

WINDWARD - GRADING.DGN 3/20/2018 3:25:55 AM

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NO. 9360-C
HAWAII USA
4/30/18
EXP. DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT BMP PLAN
WINDWARD BASEYARD

STORM WATER BEST MANAGEMENT PRACTICES
IMPROVEMENTS AT MAINTENANCE BASEYARDS ON OAHU
Project No. HWY-O-02-18M

Scale: 1" = 20'-0" Date: March 2018

SHEET No. EC-12 OF 23 SHEETS