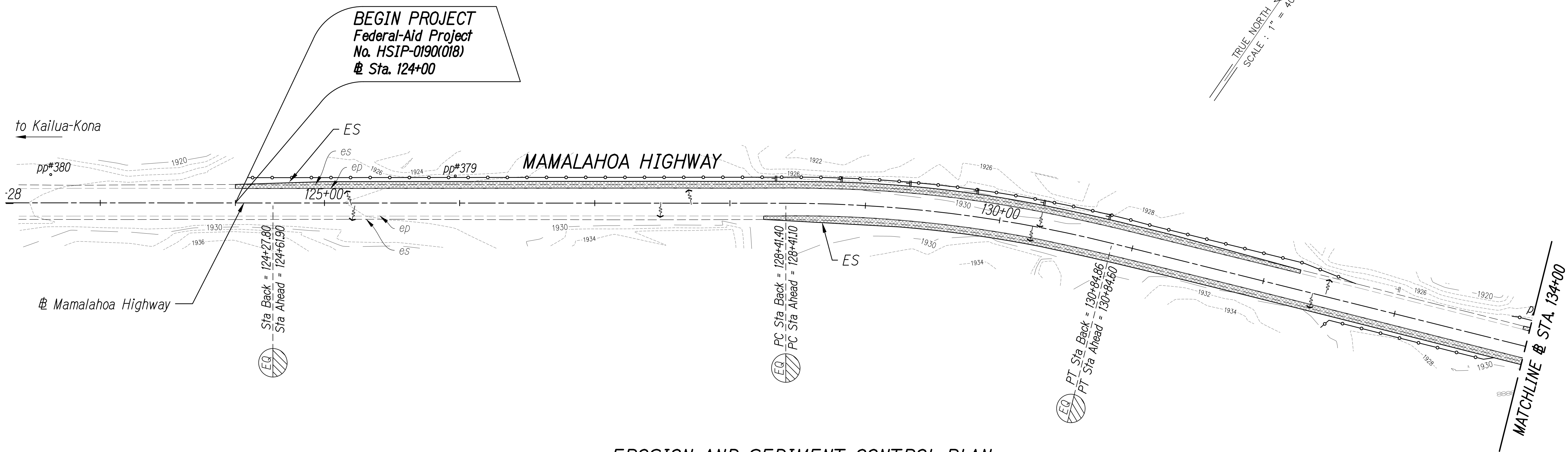
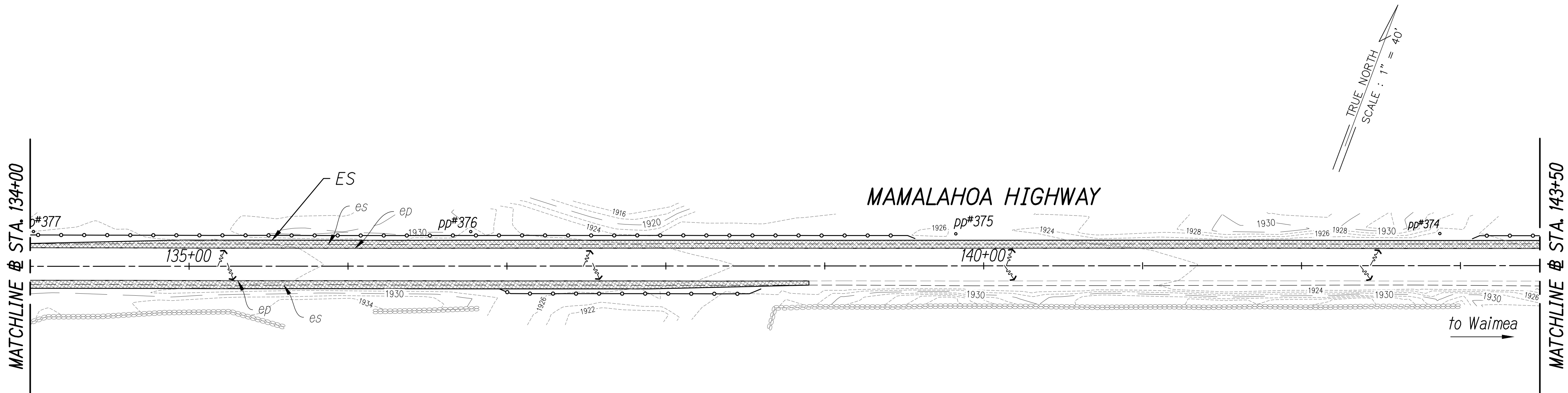


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	50	70



EROSION AND SEDIMENT CONTROL PLAN



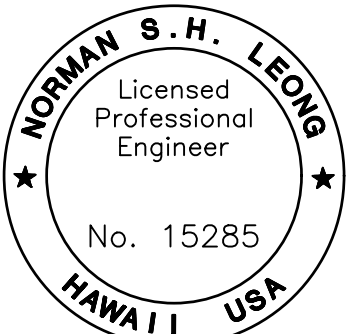
LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock
or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute as acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions 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.
- Protect all catch basins, grated drain inlets, sales, driveways, side roads, etc. that may be affected by stormwater runoff as a result of construction work.

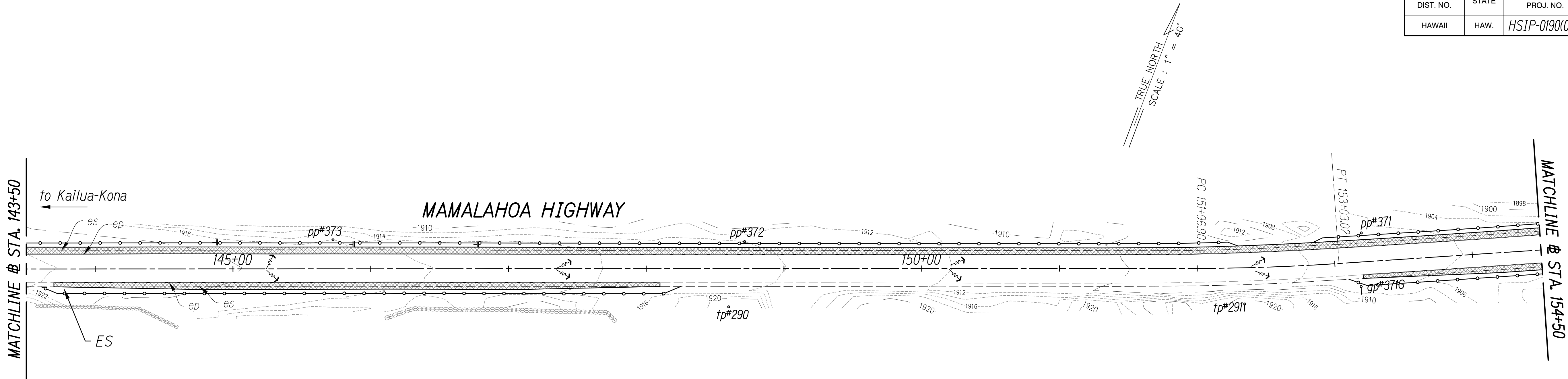
1" = 40' 0' 40' 80'



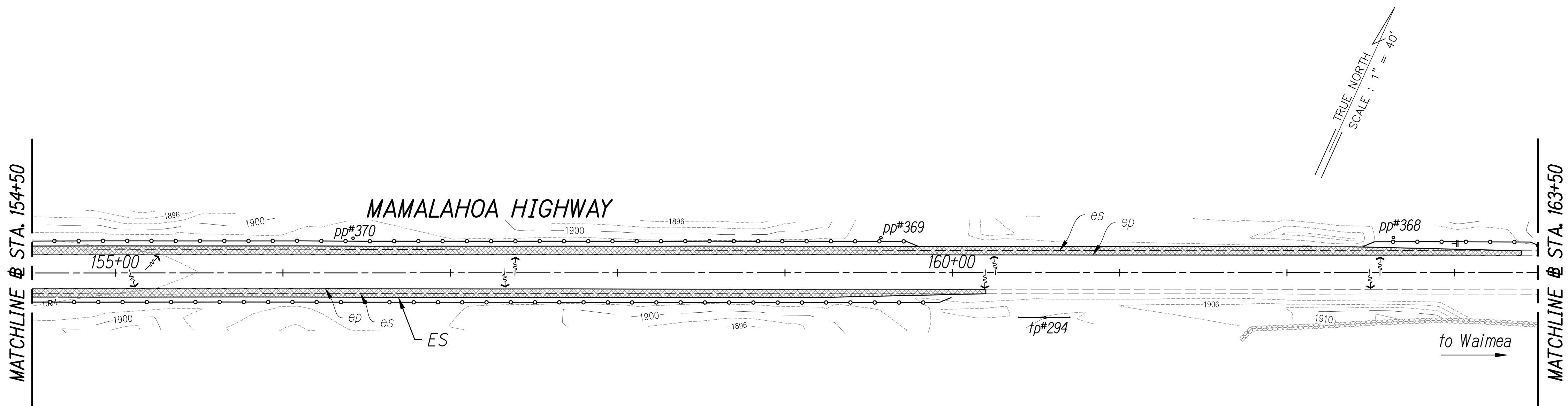
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Norman S.H. Leong
Expiration Date of License 4/24

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**EROSION AND SEDIMENT
CONTROL PLAN**
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	51	70



EROSION AND SEDIMENT CONTROL PLAN



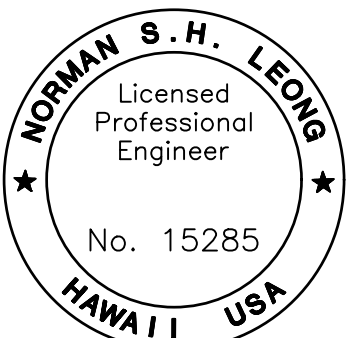
LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

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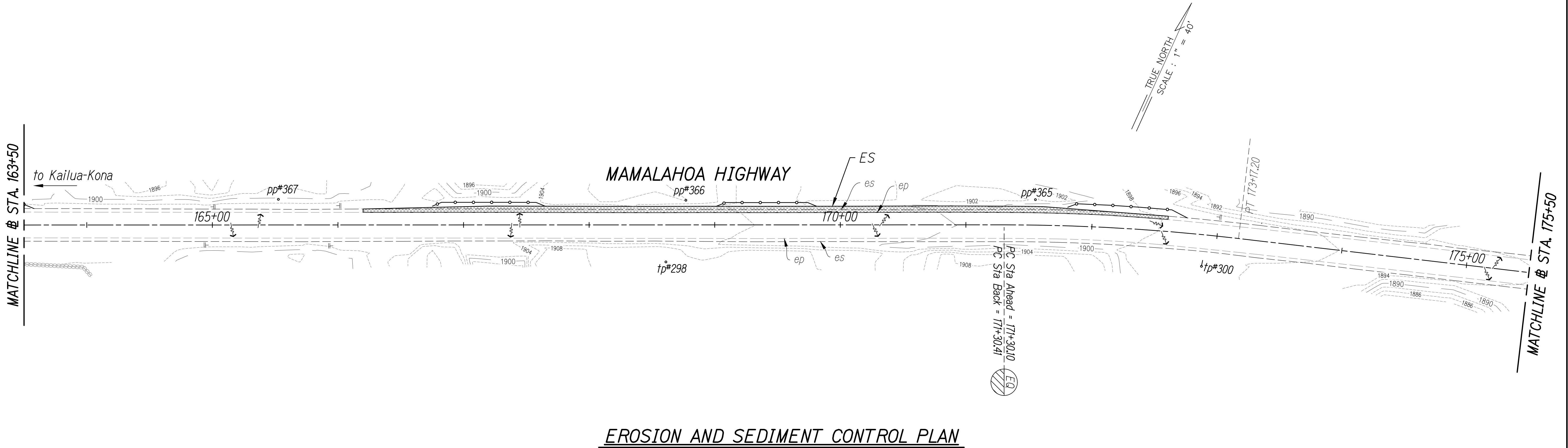


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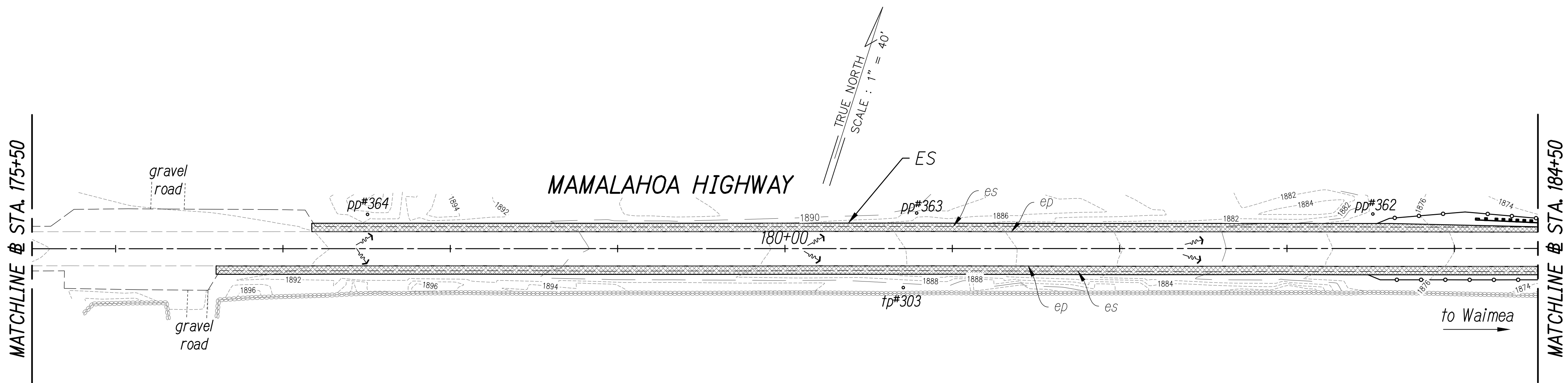
Norman Leong
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STATE OF HAWAII
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HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	52	70



EROSION AND SEDIMENT CONTROL PLAN



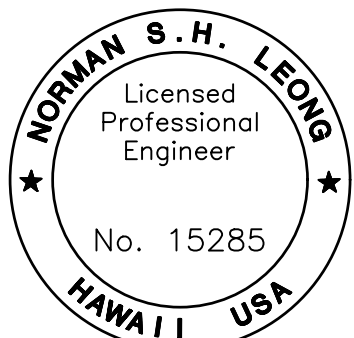
LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

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1" = 40' 0 40' 80'

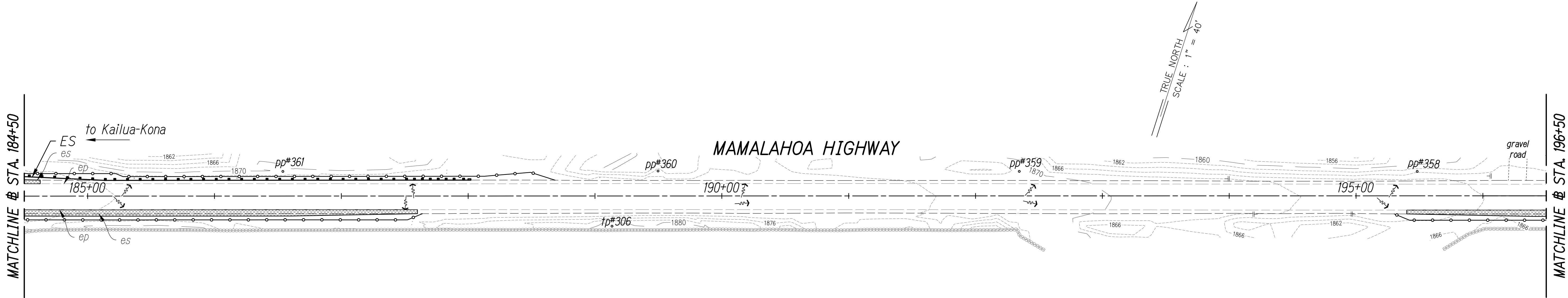


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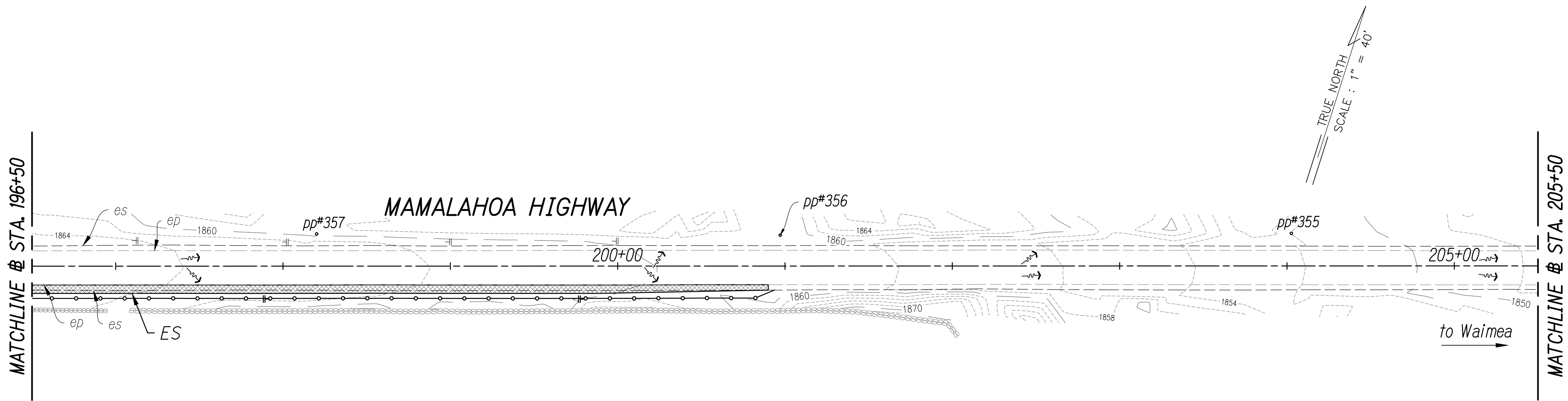
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STATE OF HAWAII
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HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

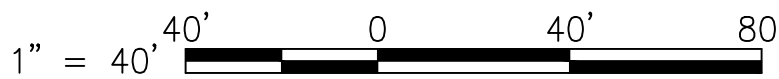
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	53	70



EROSION AND SEDIMENT CONTROL PLAN



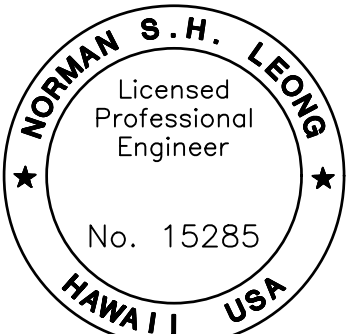
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LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

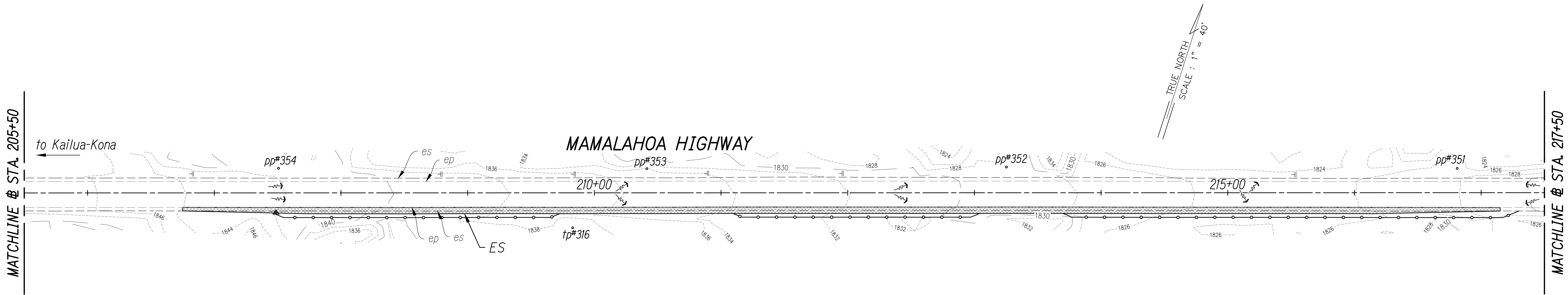
EROSION AND SEDIMENT CONTROL PLAN



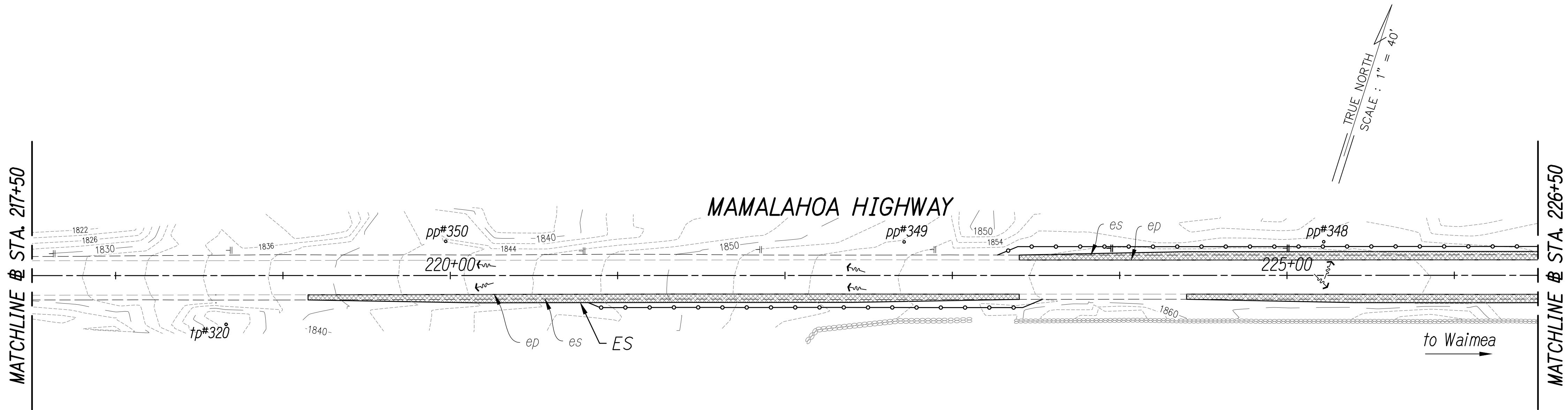
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STATE OF HAWAII
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HIGHWAYS DIVISION
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MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

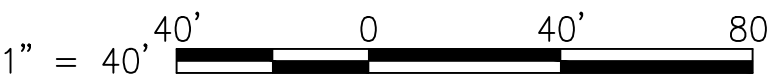
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	54	70



EROSION AND SEDIMENT CONTROL PLAN



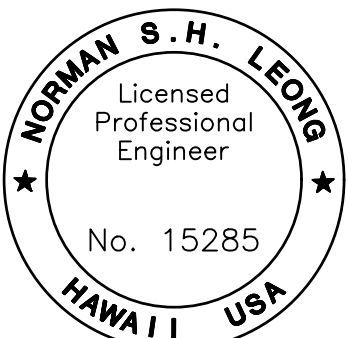
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LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

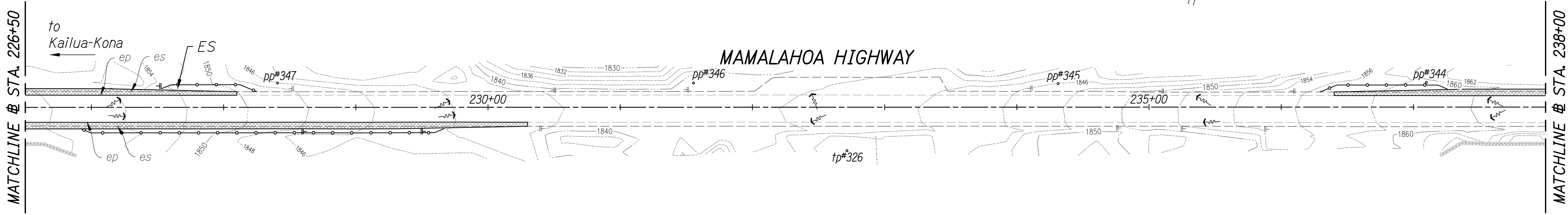


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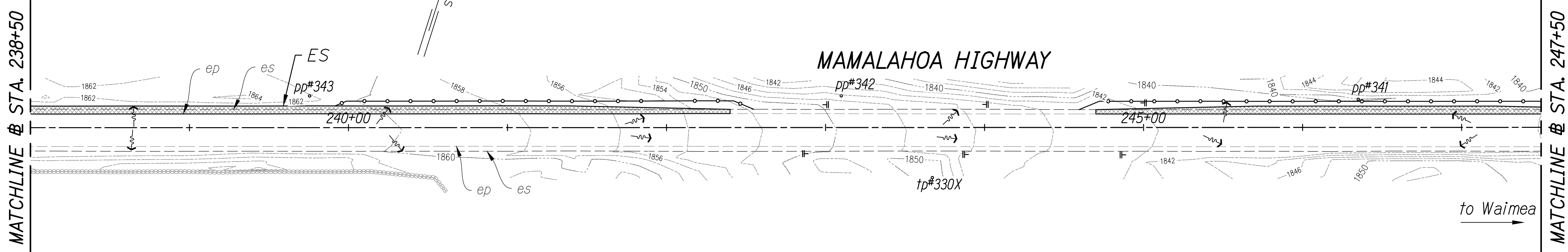
STATE OF HAWAII
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HIGHWAYS DIVISION
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MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

SHEET No. 5 OF 21 SHEETS

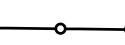
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	55	70



EROSION AND SEDIMENT CONTROL PLAN

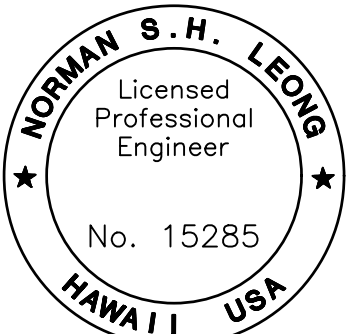
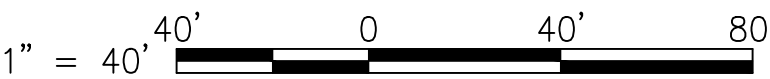


LEGEND:

-  Direction of Surface Flow
-  Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

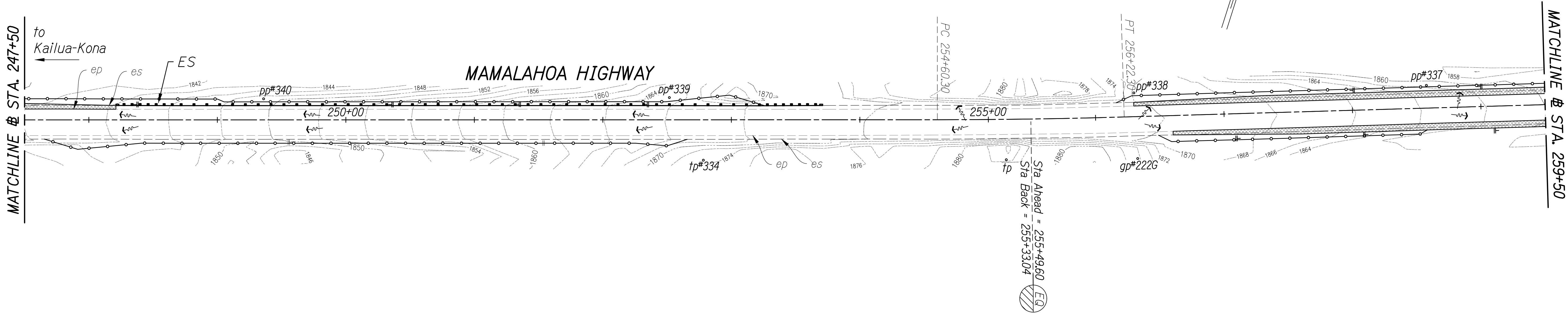
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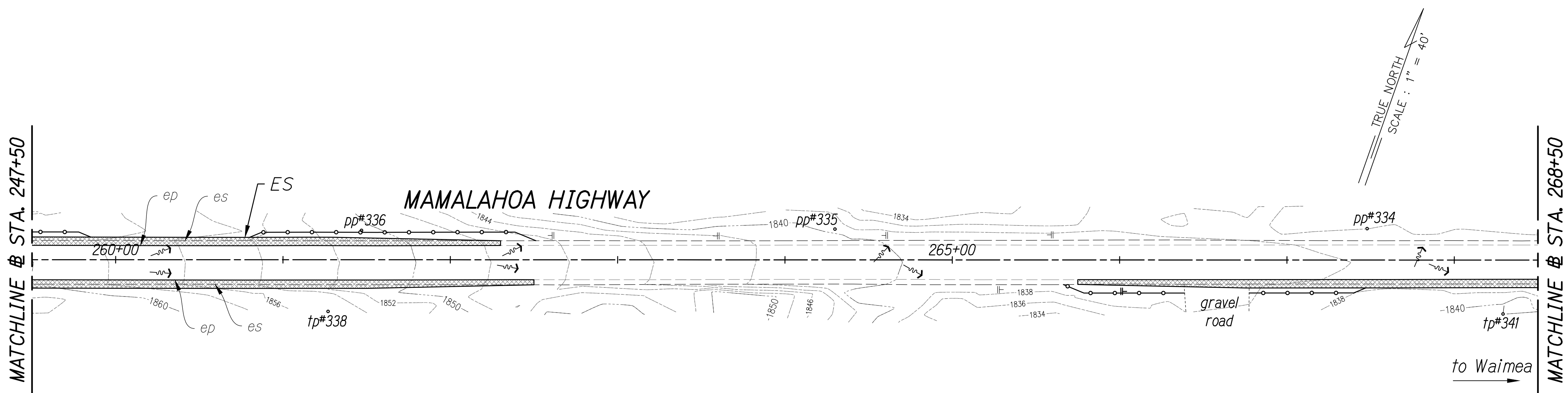
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Norman Leong
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STATE OF HAWAII
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EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	56	70



EROSION AND SEDIMENT CONTROL PLAN



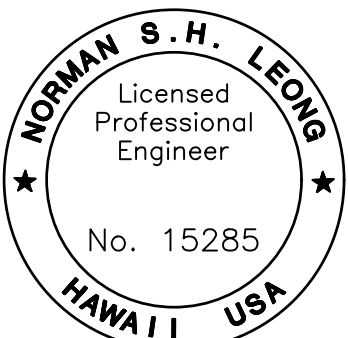
LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

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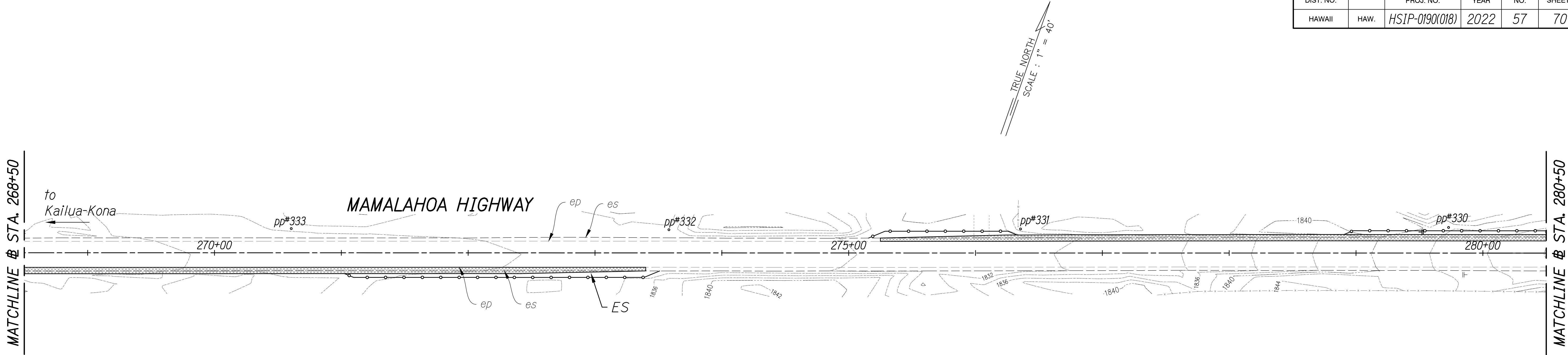
1" = 40' 0 40' 80'



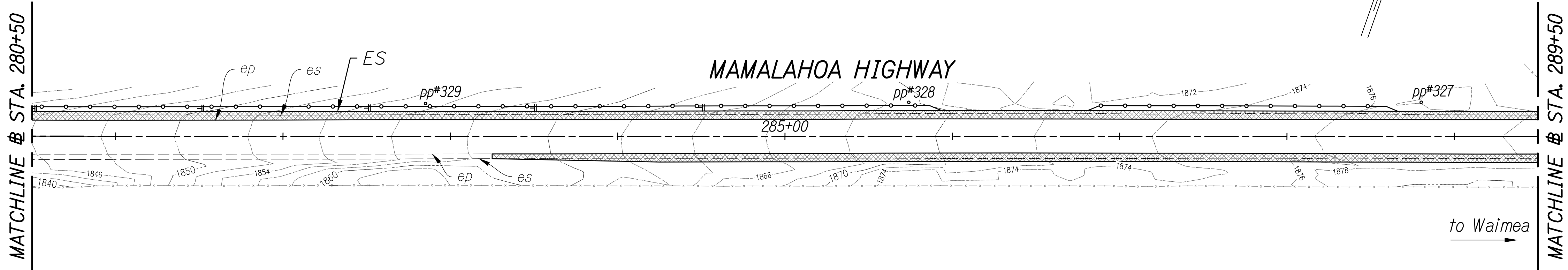
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EROSION AND SEDIMENT CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	57	70



EROSION AND SEDIMENT CONTROL PLAN

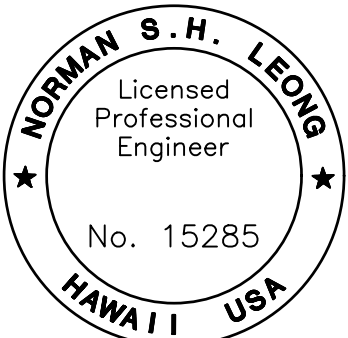


LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

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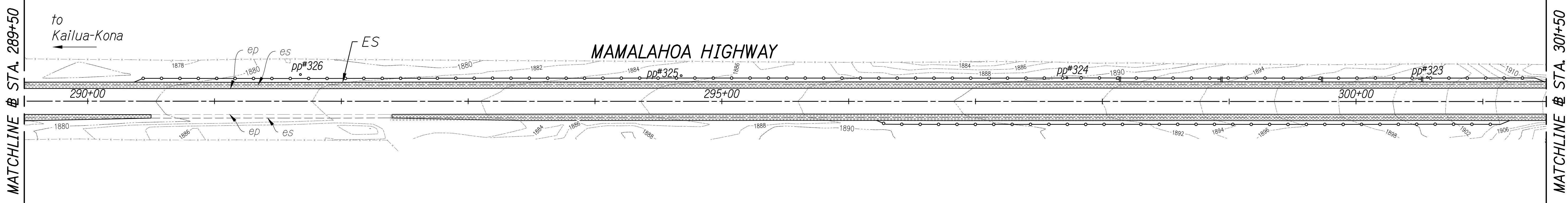
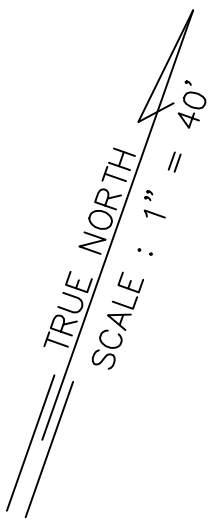


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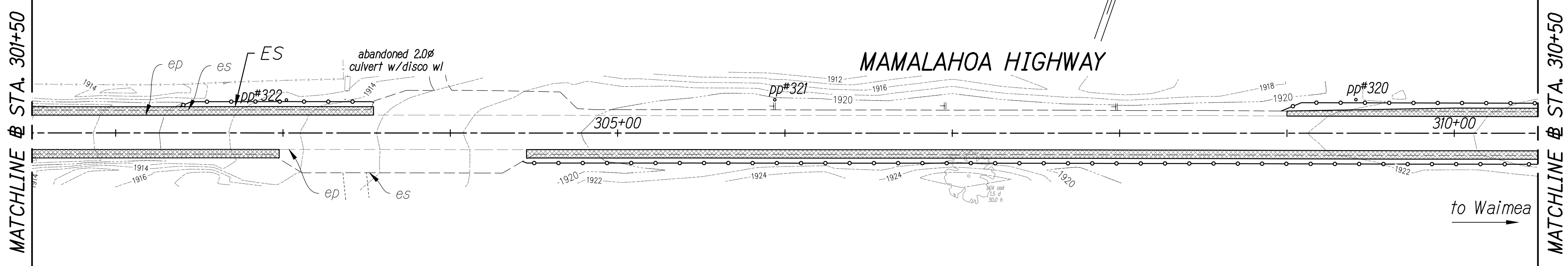
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MAMALAHOA HIGHWAY
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East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	58	70



EROSION AND SEDIMENT CONTROL PLAN



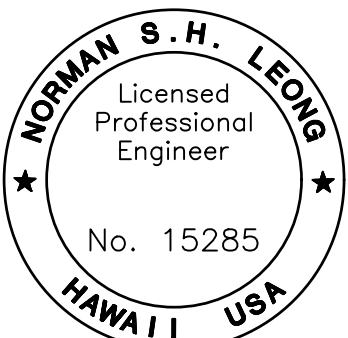
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1" = 40' 0 40' 80'

LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

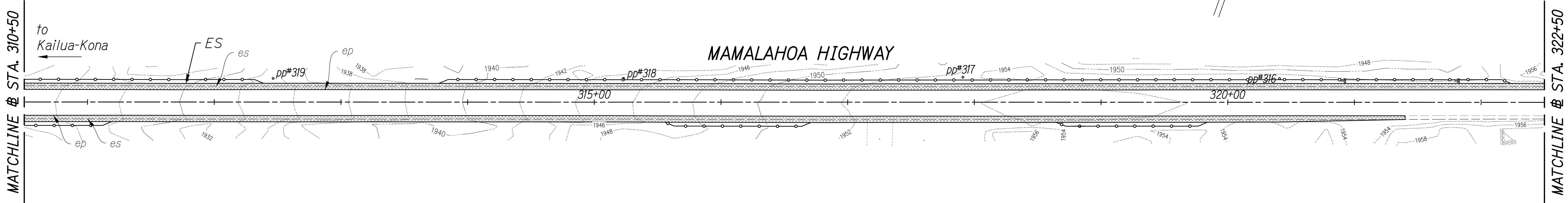


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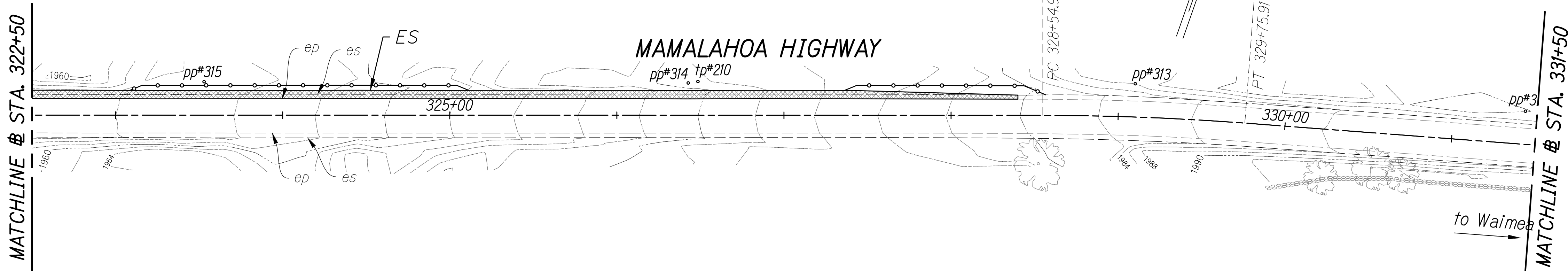
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EROSION AND SEDIMENT
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MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

SHEET No. 9 OF 21 SHEETS

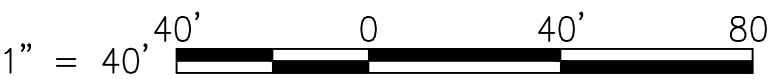
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	59	70



EROSION AND SEDIMENT CONTROL PLAN



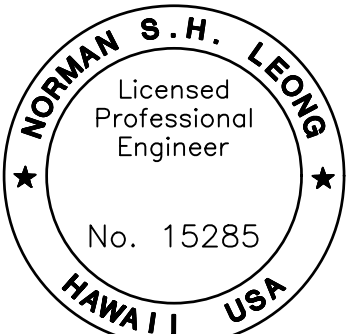
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- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

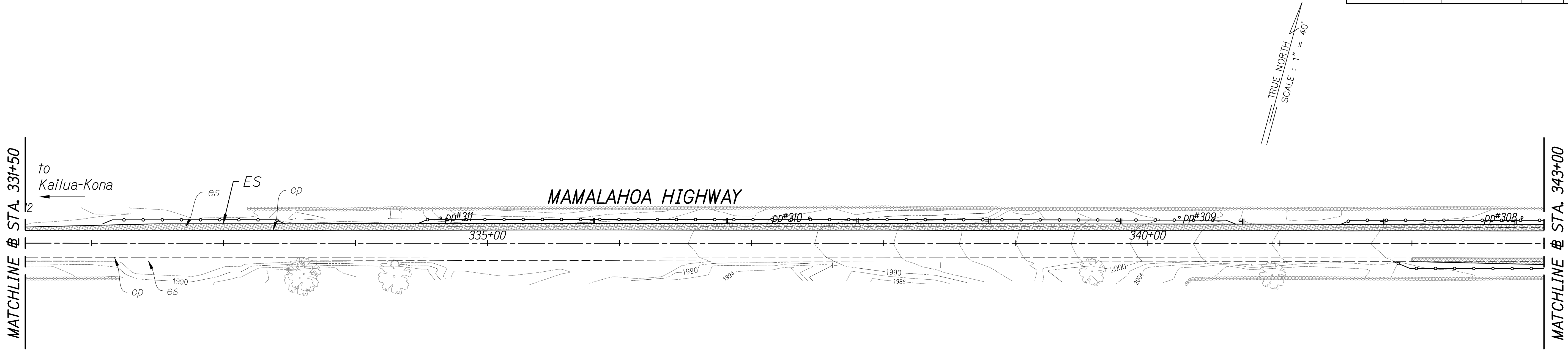


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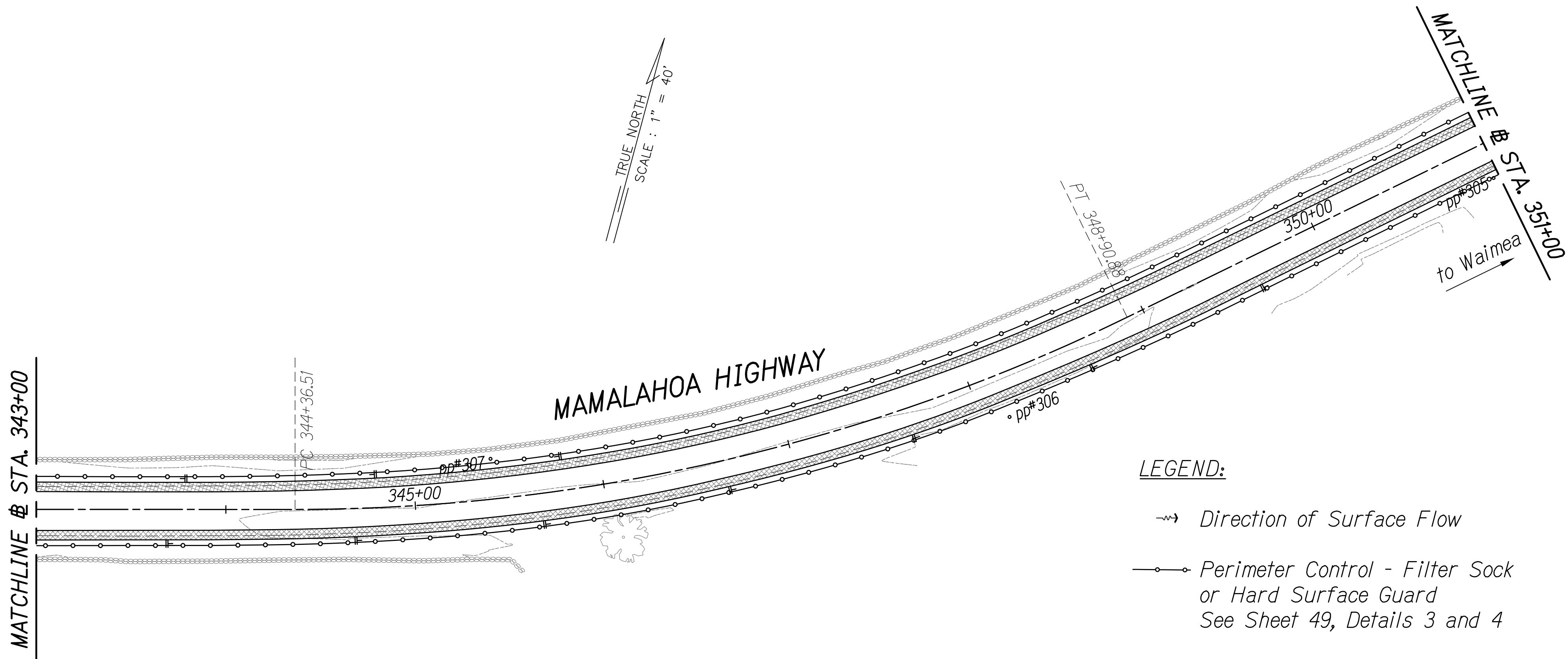
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SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

SHEET No. 10 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	60	70



EROSION AND SEDIMENT CONTROL PLAN

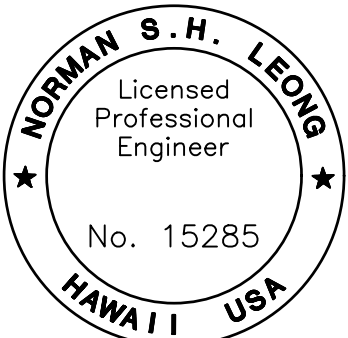


LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

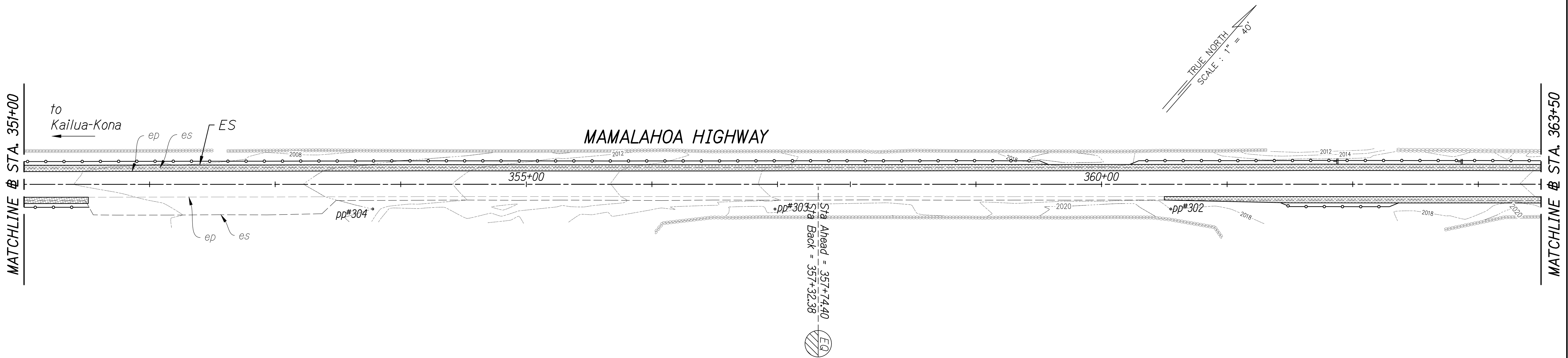
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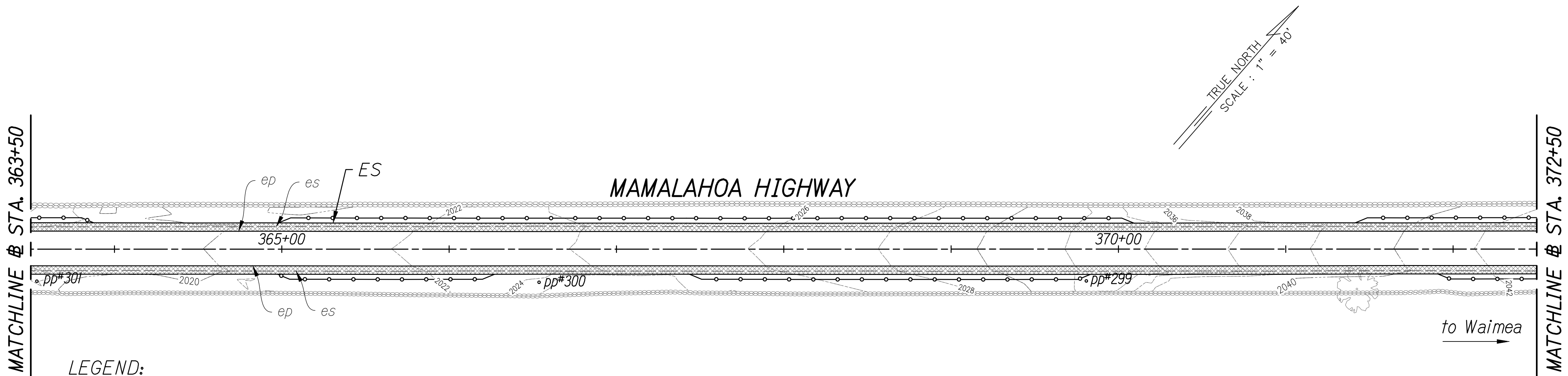
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	61	70



EROSION AND SEDIMENT CONTROL PLAN

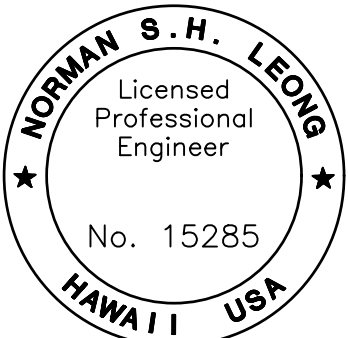


LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute as acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions 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.
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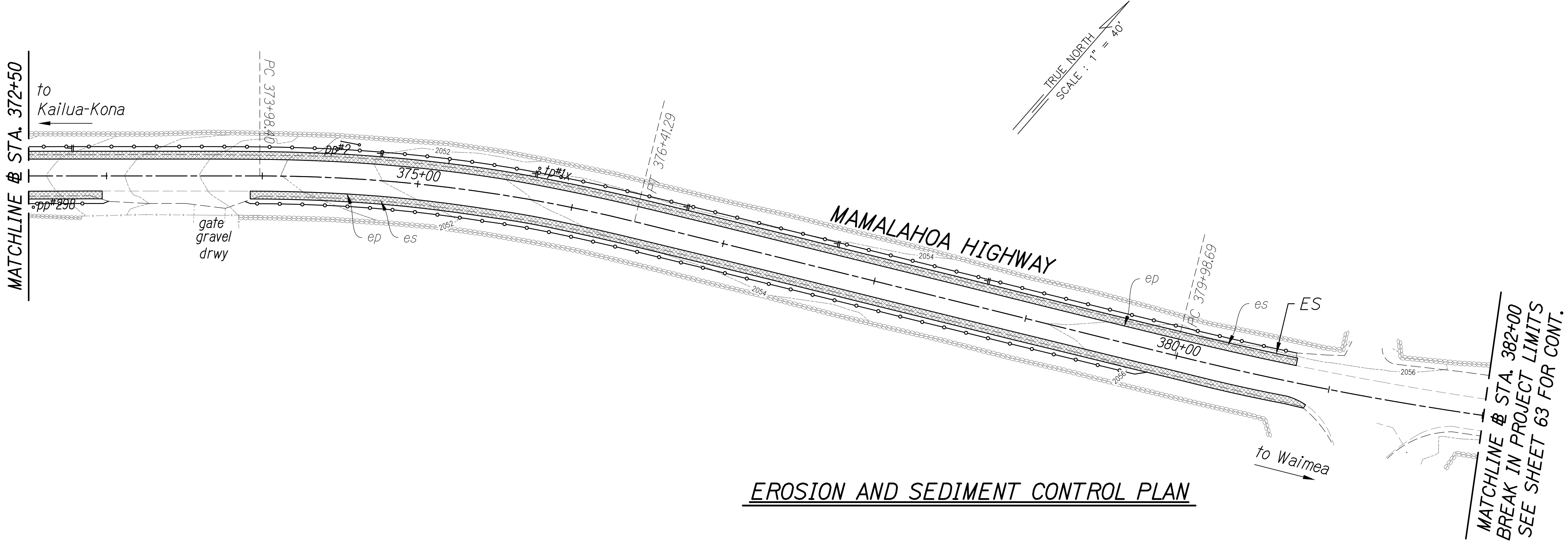
1" = 40' 0 40' 80'



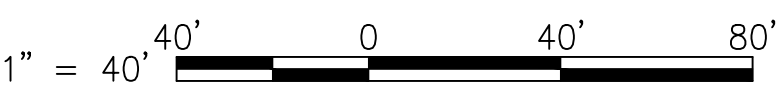
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Norman S.H. Leong
Expiration Date of License 4/24

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**EROSION AND SEDIMENT
CONTROL PLAN**
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	62	70



1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute as acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions 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.
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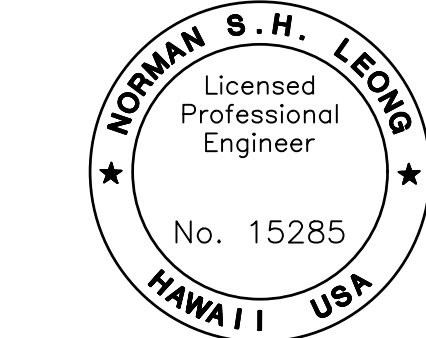
LEGEND:

→ Direction of Surface Flow

—○— Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

SURVEY PLOTTED BY	DATE
DRAWN BY	" "
DESIGNED BY	" "
QUANTITIES BY	" "
CHECKED BY	" "

ORIGINAL PLAN	No.
NOTE BOOK	No.



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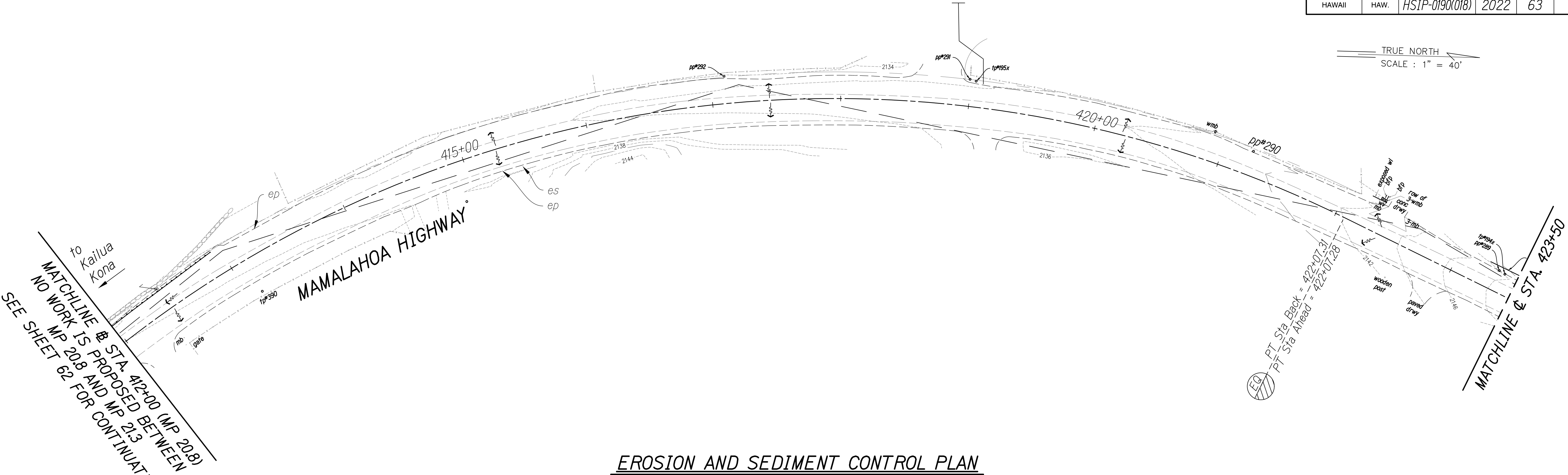
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION AND SEDIMENT CONTROL PLAN

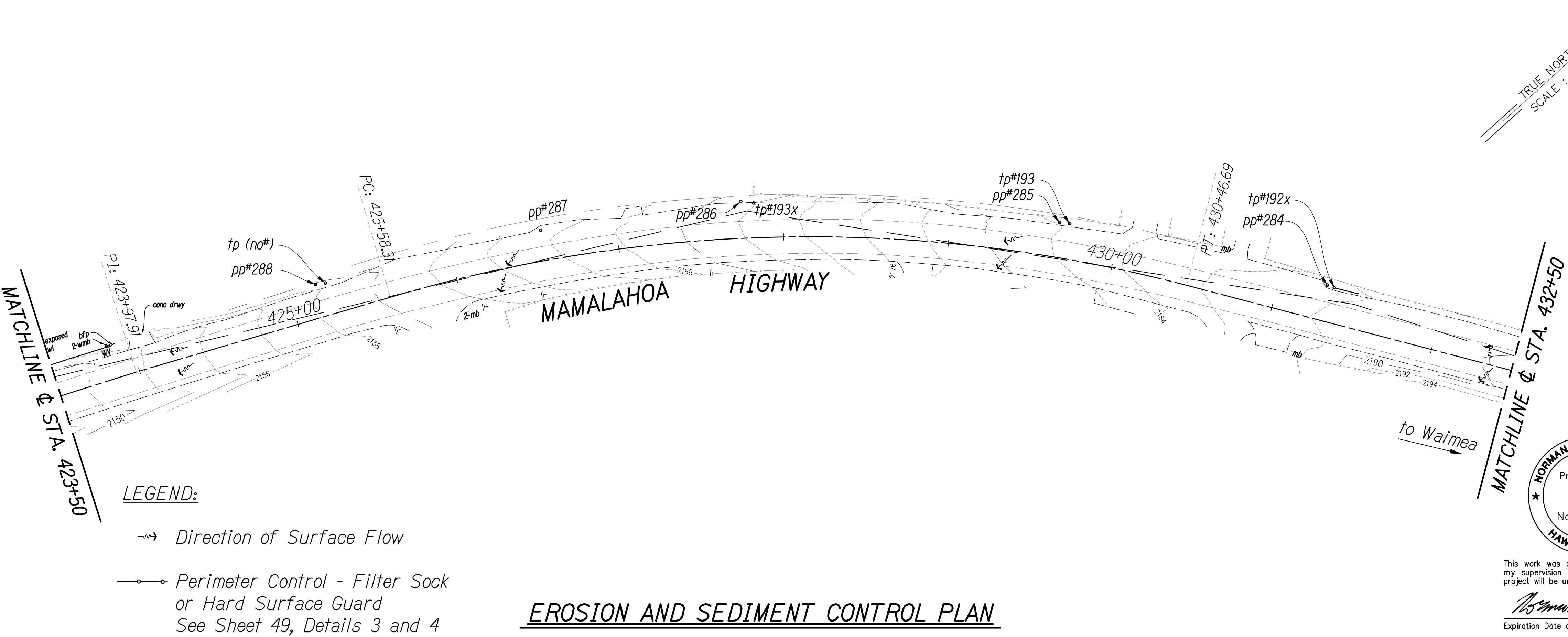
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)

Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	63	70

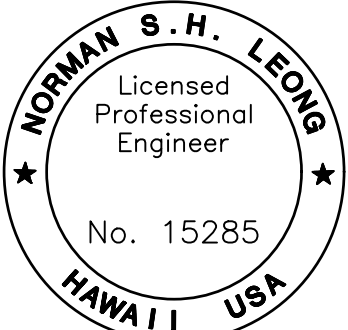
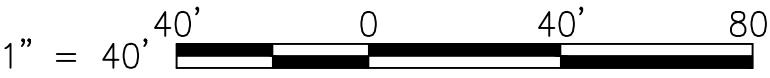


EROSION AND SEDIMENT CONTROL PLAN



EROSION AND SEDIMENT CONTROL PLAN

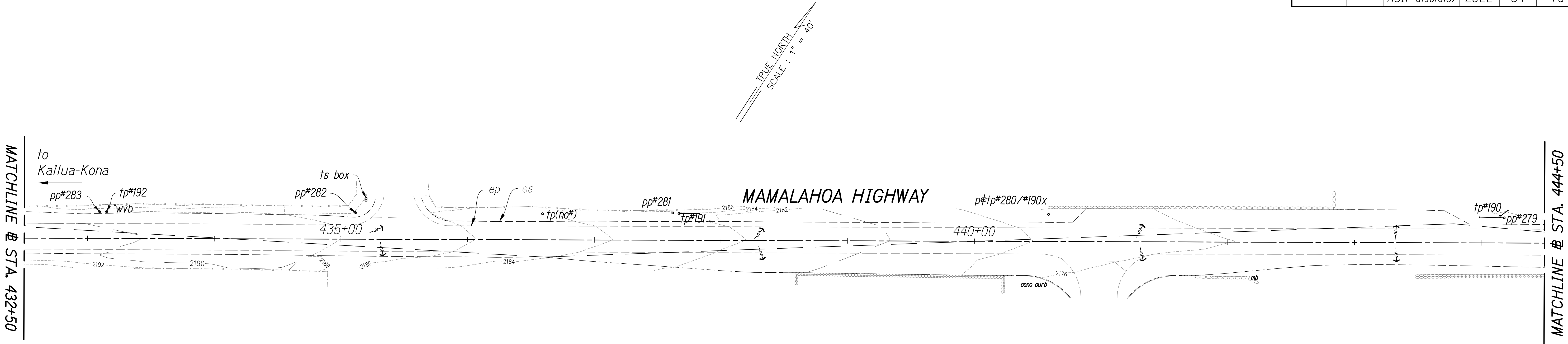
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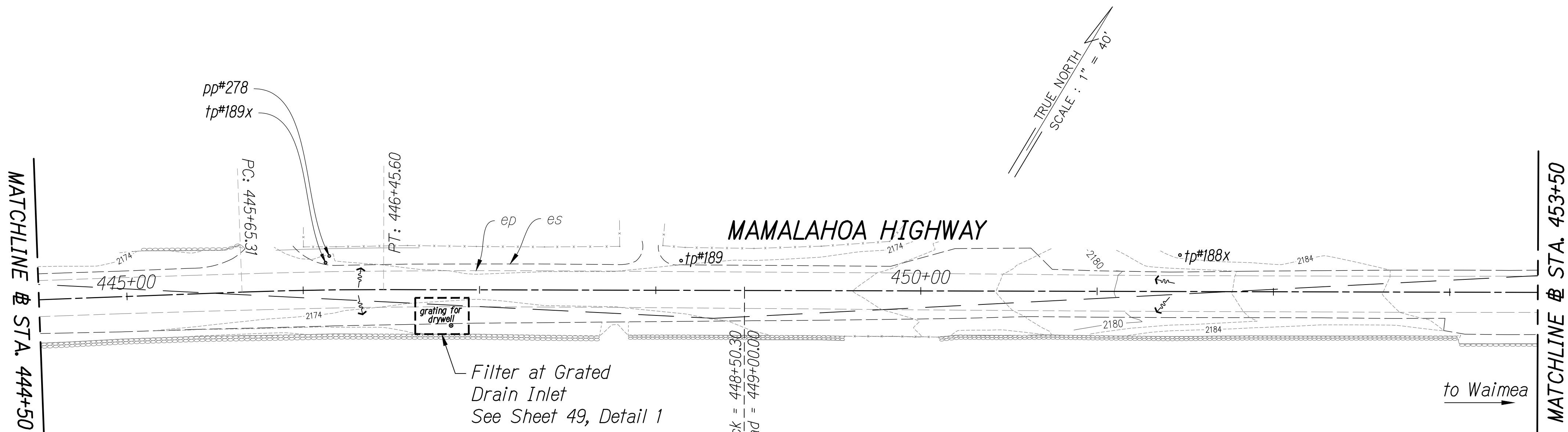
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STATE OF HAWAII
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HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	64	70



EROSION AND SEDIMENT CONTROL PLAN

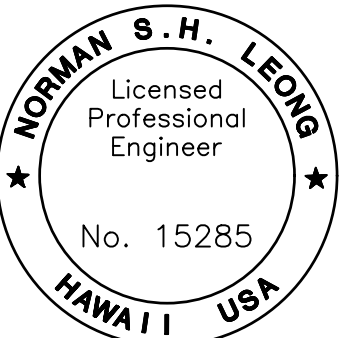


LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

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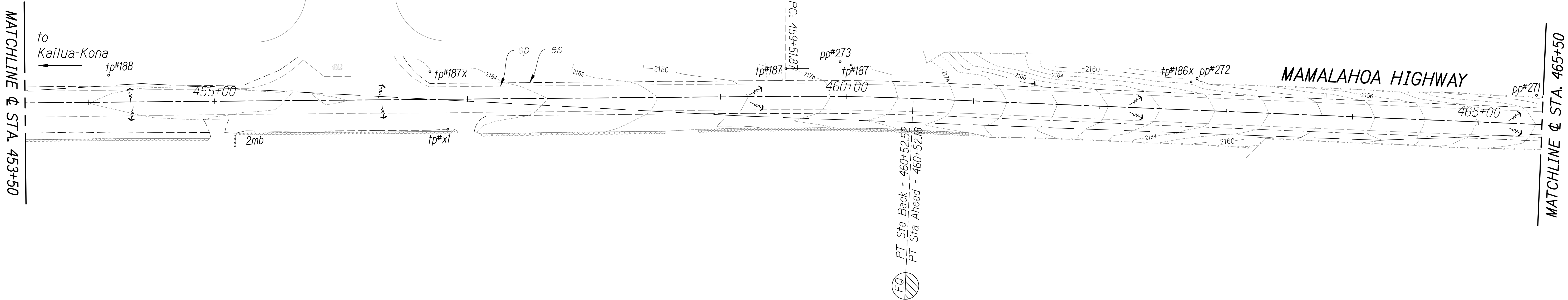


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EROSION AND SEDIMENT CONTROL PLAN
MAMALAHOA HIGHWAY SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

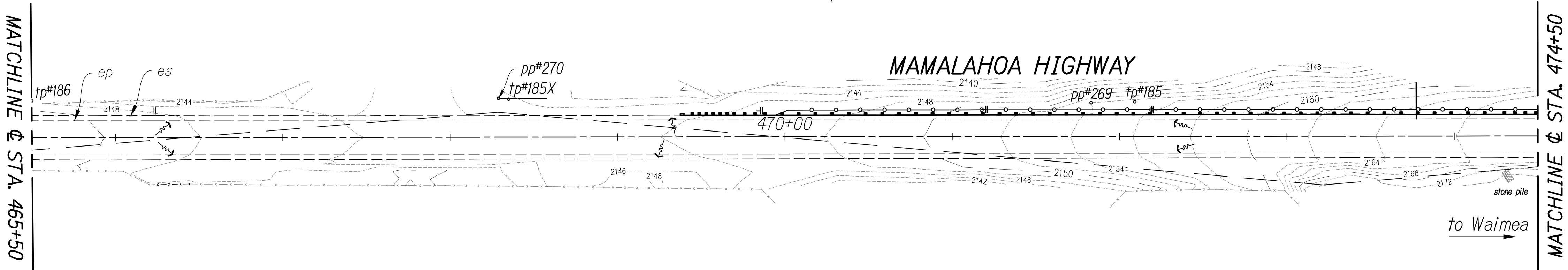
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	65	70

TRUE NORTH
SCALE : 1" = 40'



EROSION AND SEDIMENT CONTROL PLAN

TRUE NORTH
SCALE : 1" = 40'



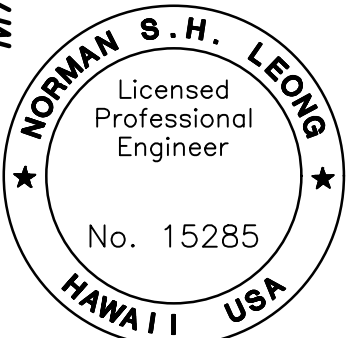
LEGEND:

- Direction of Surface Flow
- Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

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1" = 40' 0 40' 80'

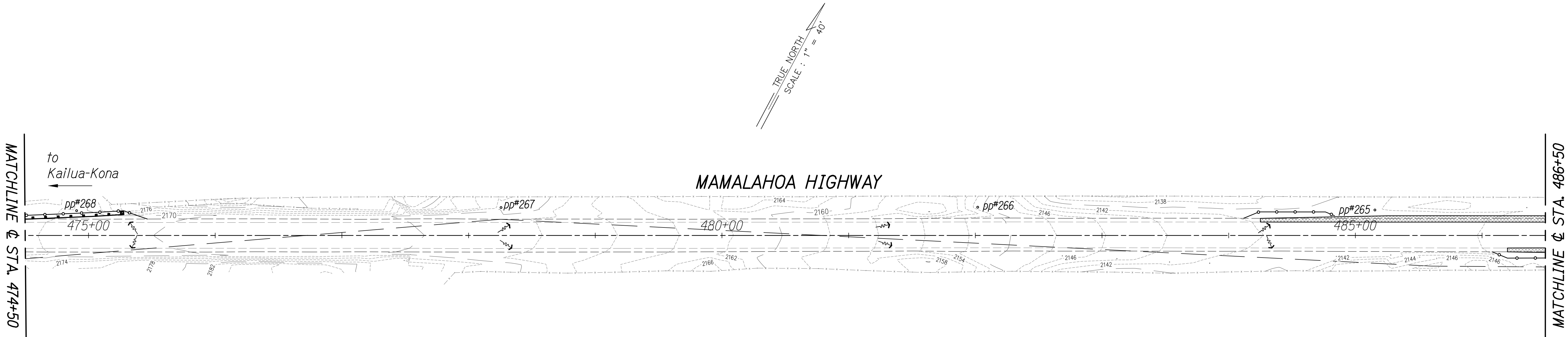


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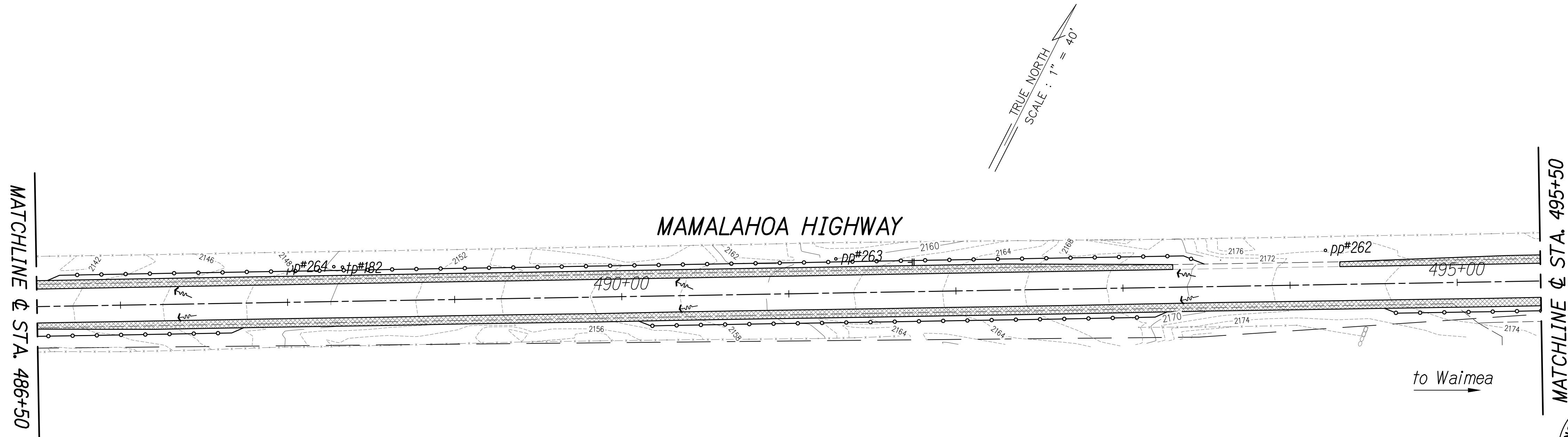
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STATE OF HAWAII
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HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

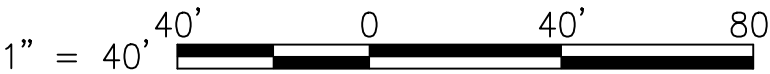
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	66	70



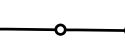
EROSION AND SEDIMENT CONTROL PLAN



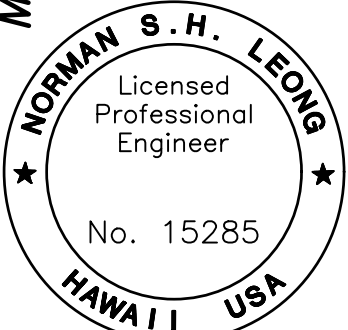
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LEGEND:

-  Direction of Surface Flow
-  Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

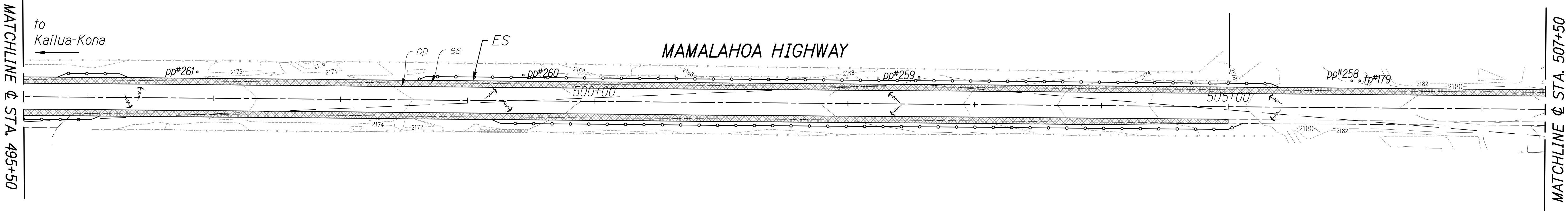
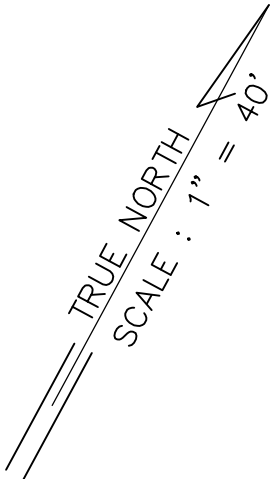
EROSION AND SEDIMENT CONTROL PLAN



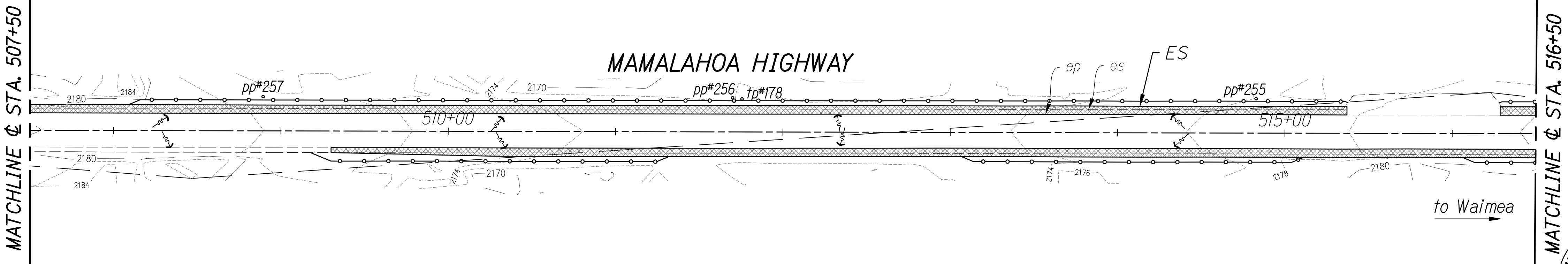
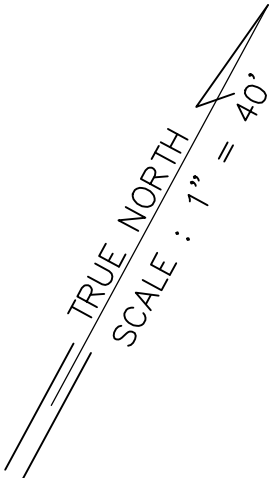
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STATE OF HAWAII
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HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

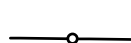
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	67	70



EROSION AND SEDIMENT CONTROL PLAN

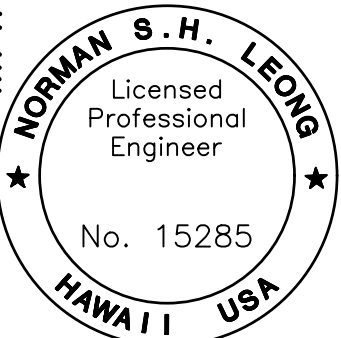


LEGEND:

-  Direction of Surface Flow
-  Perimeter Control - Filter Sock or Hard Surface Guard
See Sheet 49, Details 3 and 4

EROSION AND SEDIMENT CONTROL PLAN

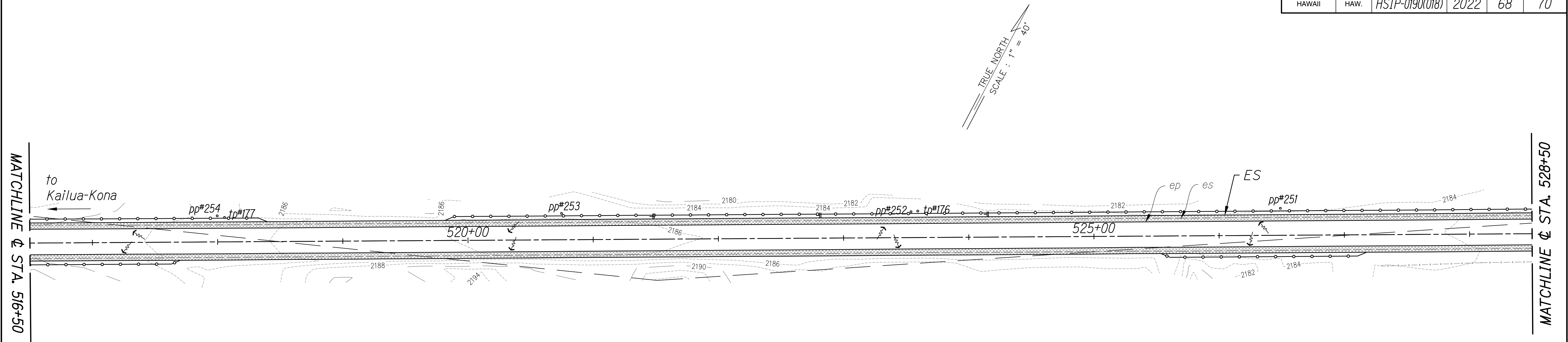
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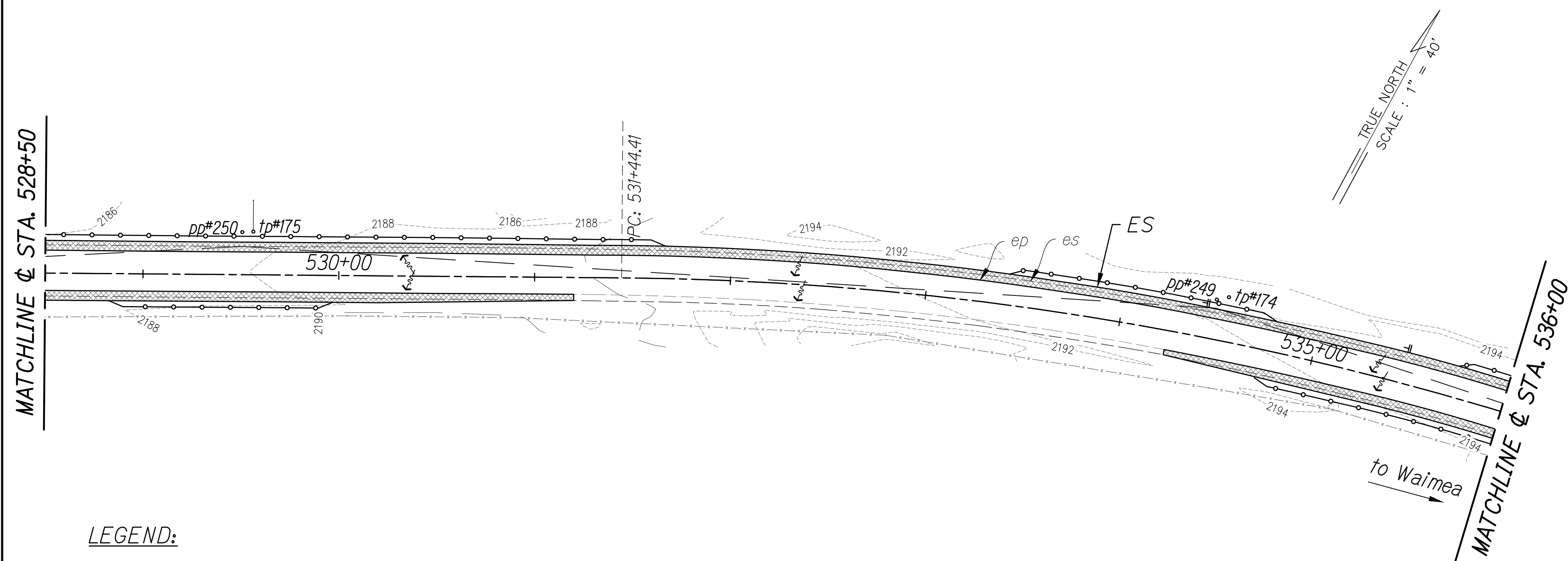
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)
Scale: 1" = 40' Date: July 2022

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	68	70

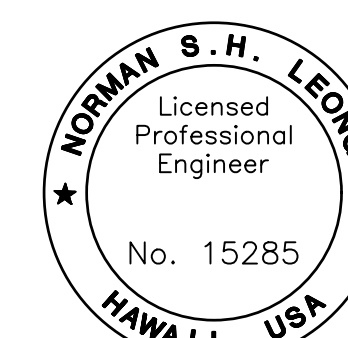


EROSION AND SEDIMENT CONTROL PLAN



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1" = 40', 40', 0, 40', 80'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION AND SEDIMENT
CONTROL PLAN
MAMALAHOA HIGHWAY
SAFETY IMPROVEMENTS
East and West of Puuwaawaa Ranch
Federal Aid Project No. HSIP-0190(018)

Scale: 1" = 40' Date: July 2022

SHEET No. 19 OF 21 SHEETS

68

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

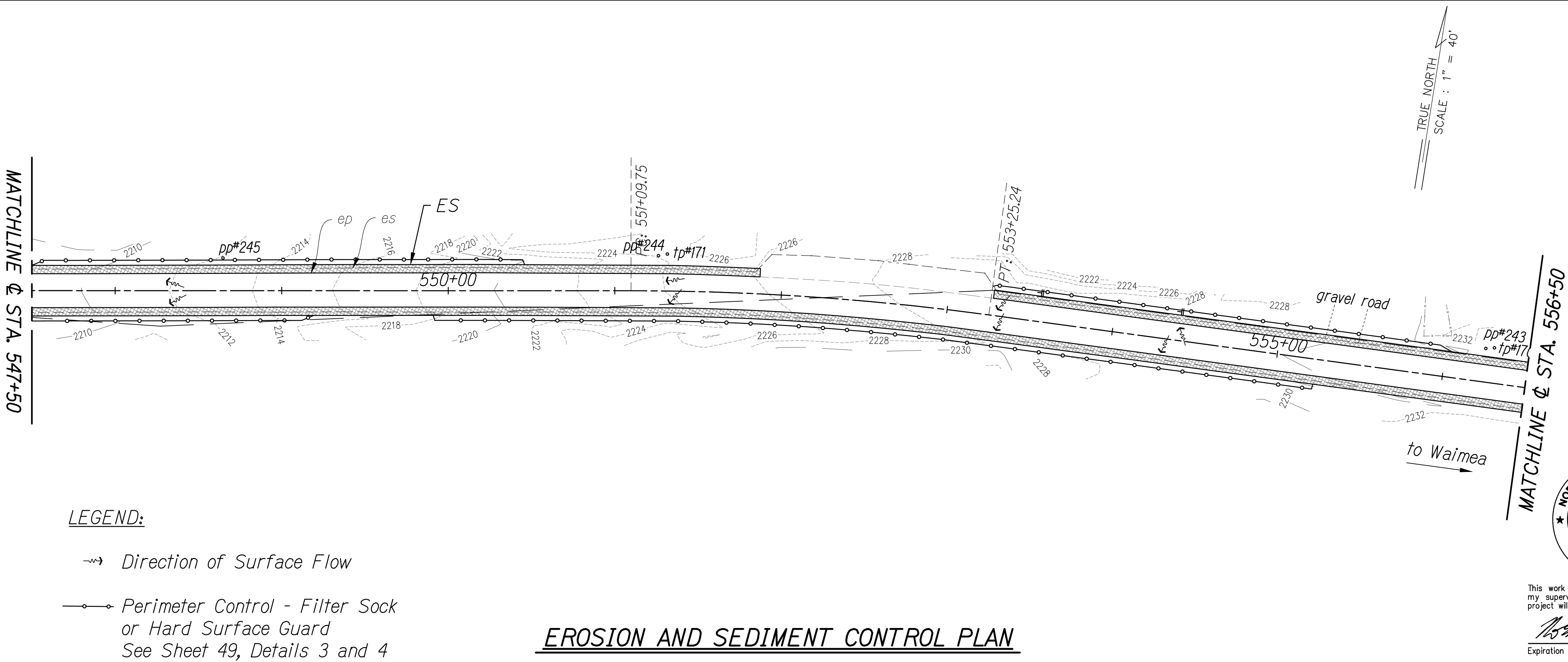
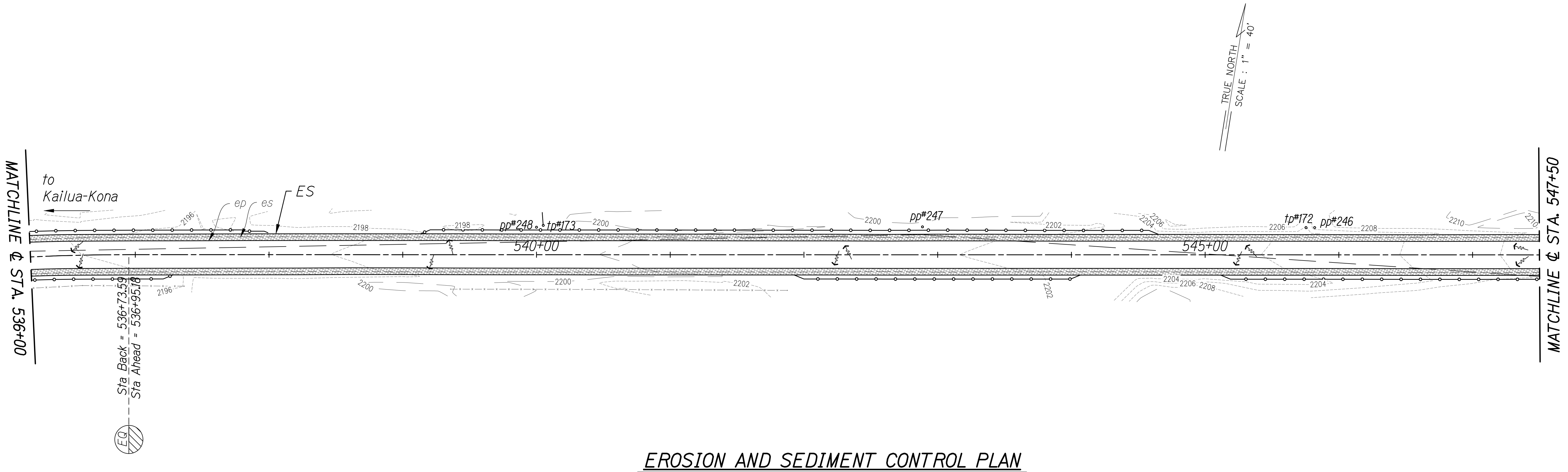
LEGEND:

→ Direction of Surface Flow

—○— Perimeter Control - Filter Sock
or Hard Surface Guard
See Sheet 49, Details 3 and 4

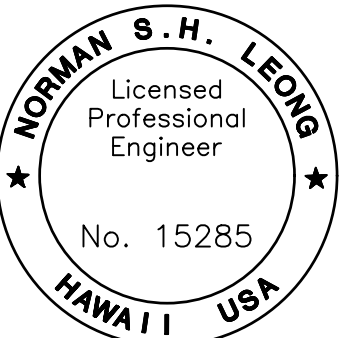
EROSION AND SEDIMENT CONTROL PLAN

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0190(018)	2022	69	70



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