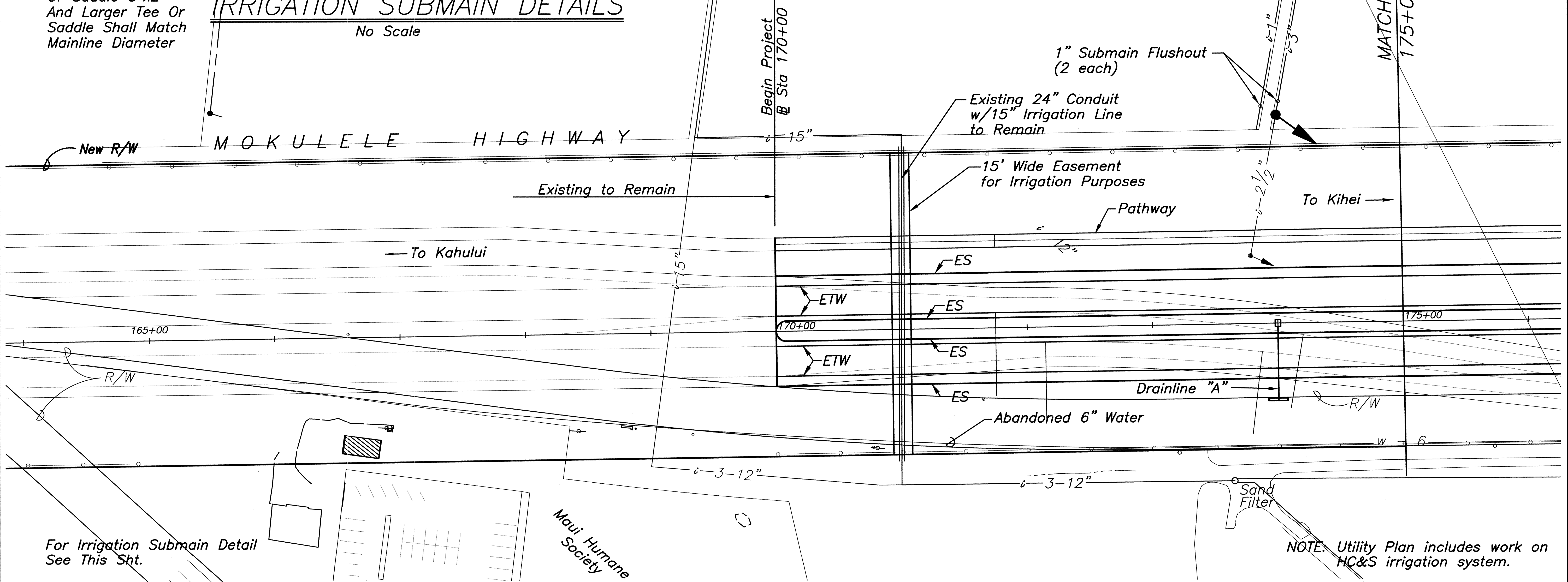
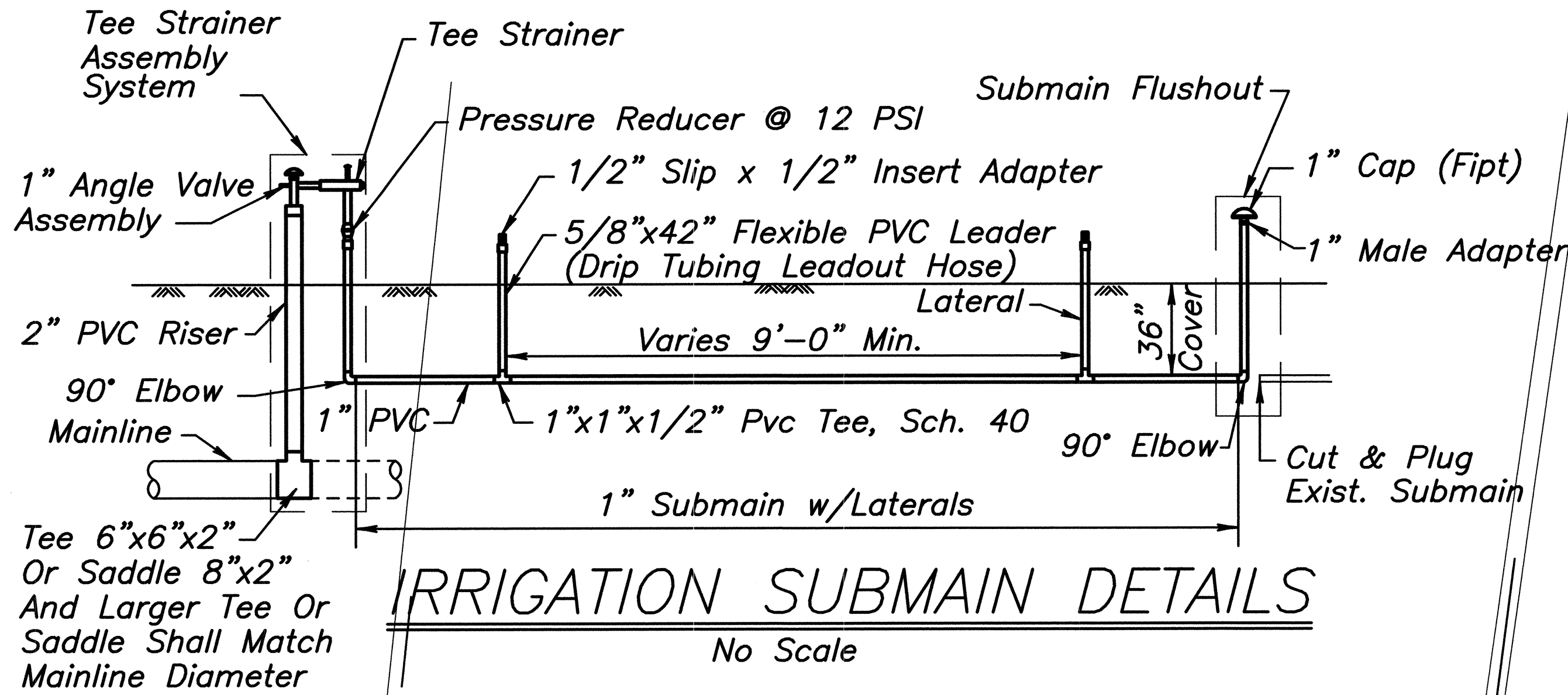


FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	43	173

NOTES:

- PVC Pipe Shall be Schedule 40 Unless Noted Otherwise..
- Coordinate With HC&S for Number and Location of Driptube Laterals.
- Tee Strainer Shall Include 1" Richdale Valve, 40 Mesh Screen (2" Spigot Inlet x 1-1/2" Slip Outlet) as Provided by Irrigation Technology Corp.
- Submain Leader Shall Include 1"x1"x1/2" Tee, 5/8"x42" Flexible PVC Hose and Slip Adapter as Provided by Irrigation Technology Corp.
- Pressure Reducing Valve Shall be Senninger PRV, 2 to 20 gpm, 12 psi, 1" FIPT x 1" FIPT.
- Minimum Cover over Irrigation Mainline shall be 36".

True North
Scale: 1 inch = 40 feet



For Irrigation Submain Detail
See This Sht.

LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line (Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout (Install 15' from New R/W) See Detail Next Sht

- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent and Vacuum Relief Valve
- Existing Flushout to be Removed

NOTE: Utility Plan includes work on HC&S irrigation system.

CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1884-C
HAWAII U.S.A.

Signature: *Clifford M. Arakawa*
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
04/30/08
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

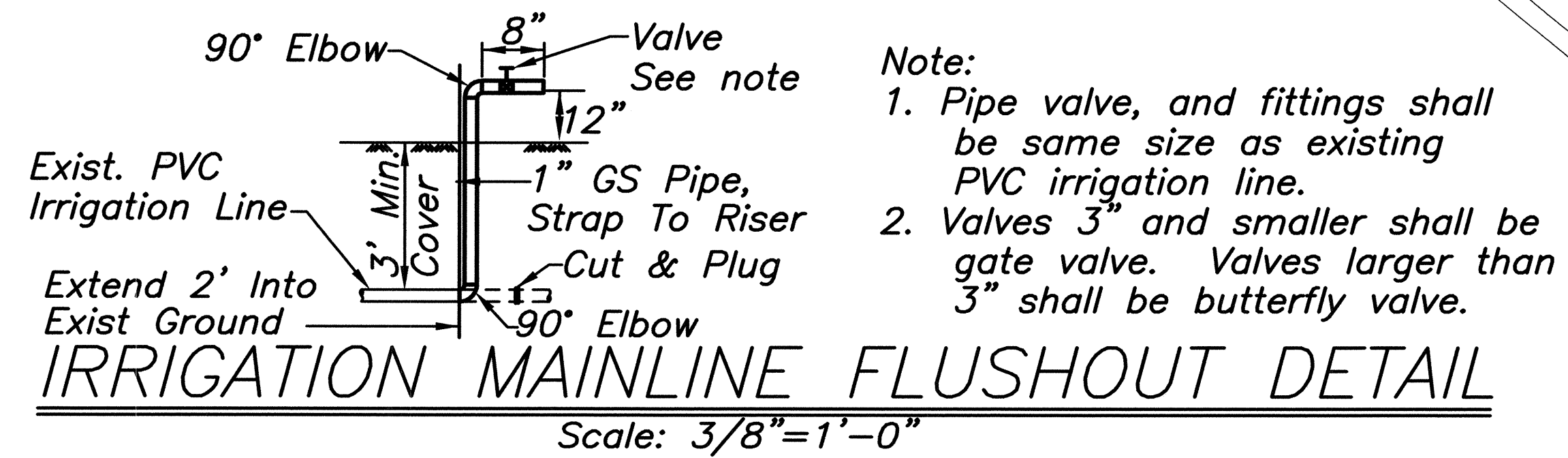
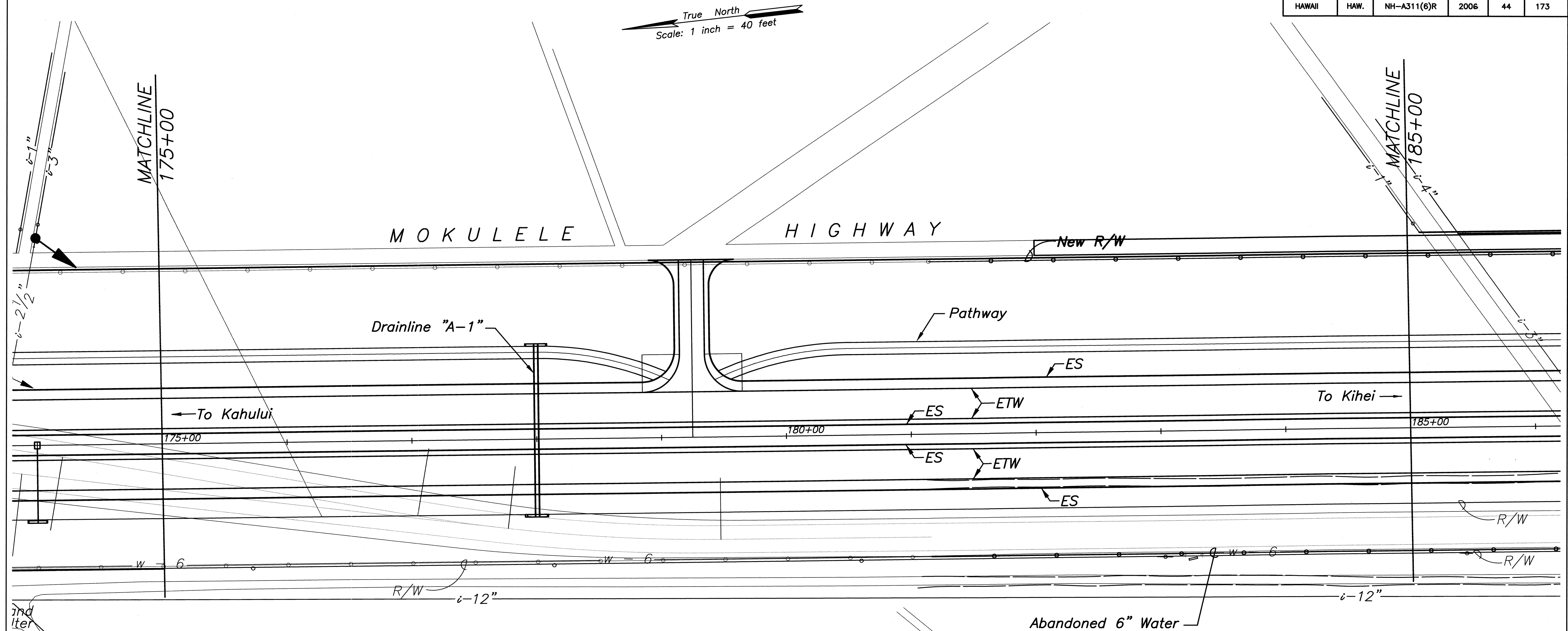
UTILITY PLAN

MOKULELE HIGHWAY WIDENING

Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 1 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	44	173



For Irrigation Submain Detail
See Sht. 43

LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line (Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout (Install 15' from New R/W) See Detail This Sht

- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent and Vacuum Relief Valve

NOTE: Utility Plan includes work on HC&S irrigation system.

CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1864-C
HAWAII U.S.A.

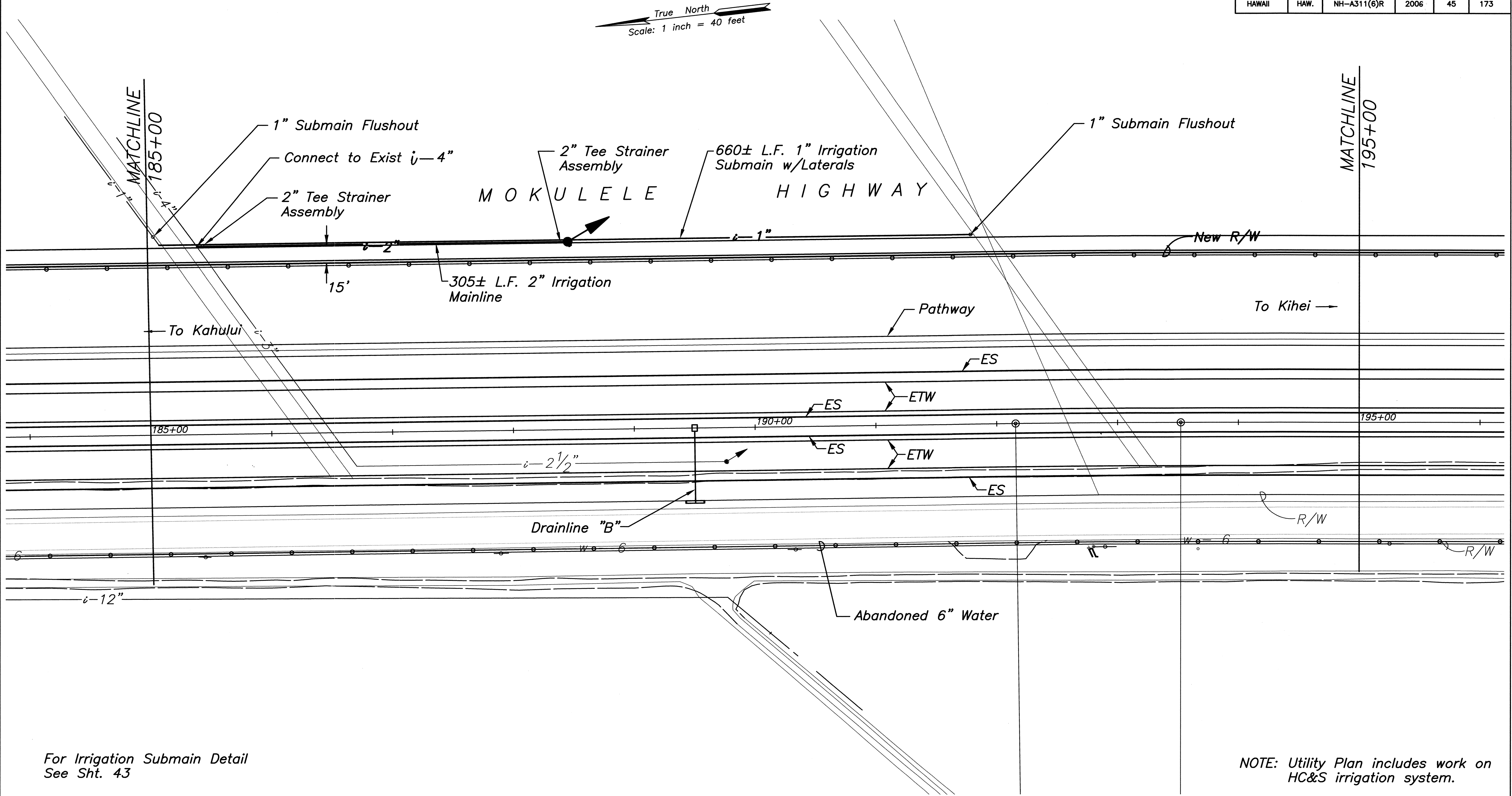
Clifford M. Arakawa
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04/30/06
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN
MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 2 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	45	173



For Irrigation Submain Detail
See Sht. 43

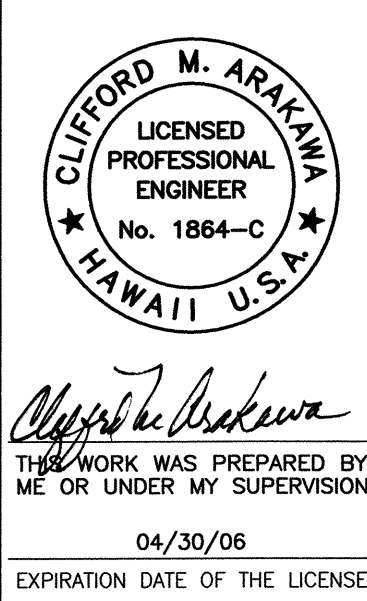
NOTE: Utility Plan includes work on
HC&S irrigation system.

LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line
(Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout
(Install 15' from New R/W)
See Detail Sht 44

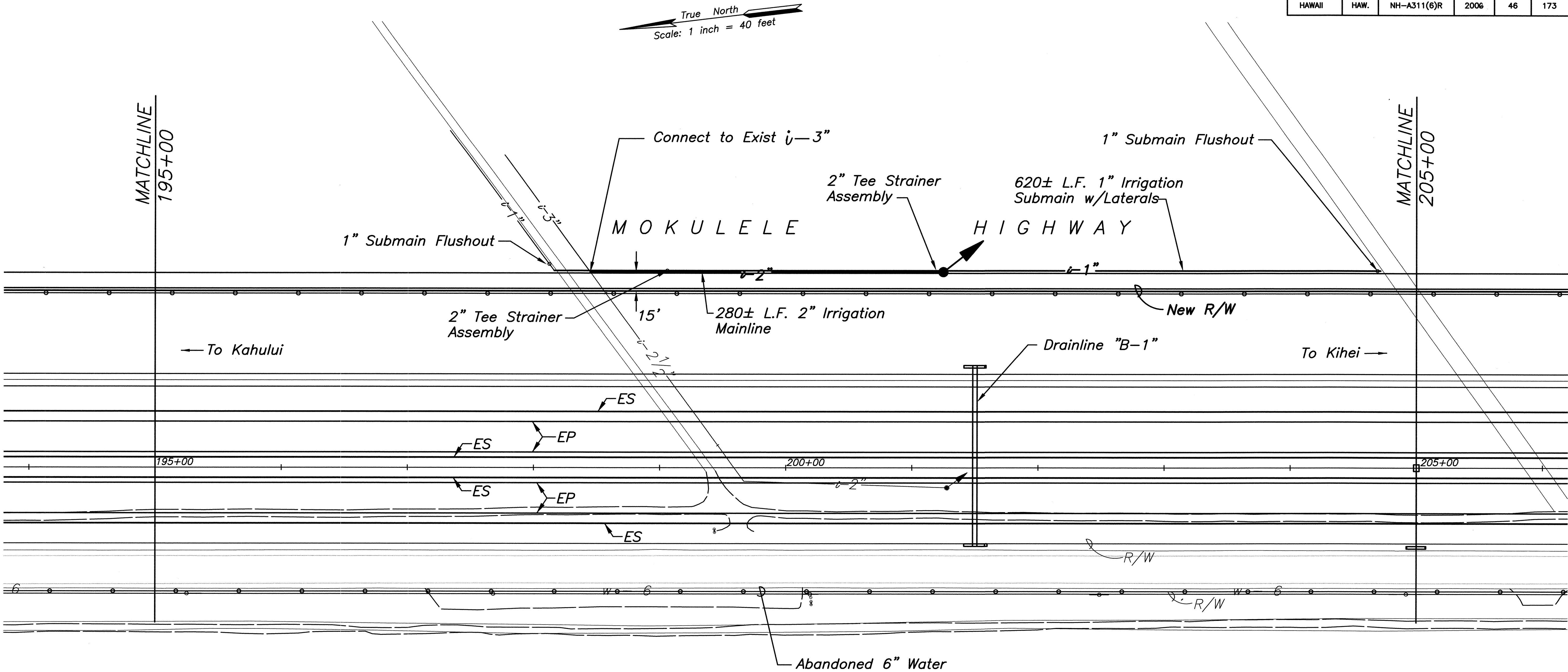
- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent
and Vacuum Relief Valve



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY PLAN
MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005
SHEET No. 4 OF 12 SHEETS

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

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	46	173



For Irrigation Submain Detail
See Sht. 43

LEGEND: (HC&S Irrigation Lines)

- 1/2-3" — Existing to Remain
- 1/2-6" — Existing to be abandoned
- 1/2-5" — New Irrigation line (Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout (Install 15' from New R/W See Detail Sht 44)

- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent and Vacuum Relief Valve

NOTE: Utility Plan includes work on
HC&S irrigation system.

CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1864-C
HAWAII U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

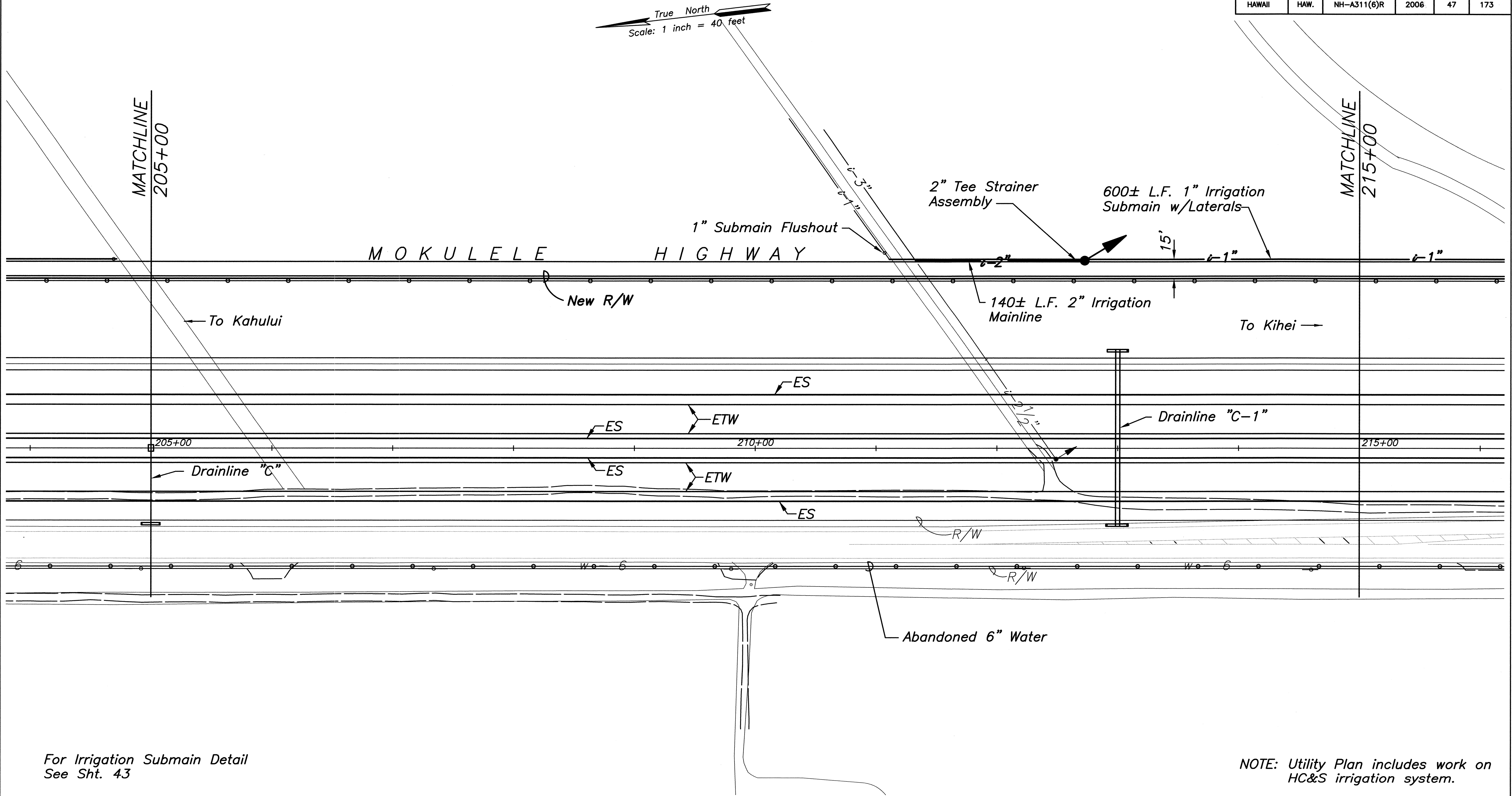
UTILITY PLAN

MOKULELE HIGHWAY WIDENING

Maui Humane Society
To
Vicinity of Kalaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 4 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	47	173



For Irrigation Submain Detail
See Sht. 43

NOTE: Utility Plan includes work on
HC&S irrigation system.

LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line (Install w/3' Min Cover)

- ⋈ Relocated Butterfly Valve
- ➔ New Mainline Flushout (Install 15' from New R/W) See Detail Sht 44

- Relocated Vacuum Relief Valve
- ⊙ Relocated Continuous Acting Air Vent and Vacuum Relief Valve

DATE	
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DESIGNED BY	
CHECKED BY	
NOTE BOOK	
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CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1884-C
HAWAII, U.S.A.

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04/30/06
EXPIRATION DATE OF THE LICENSE

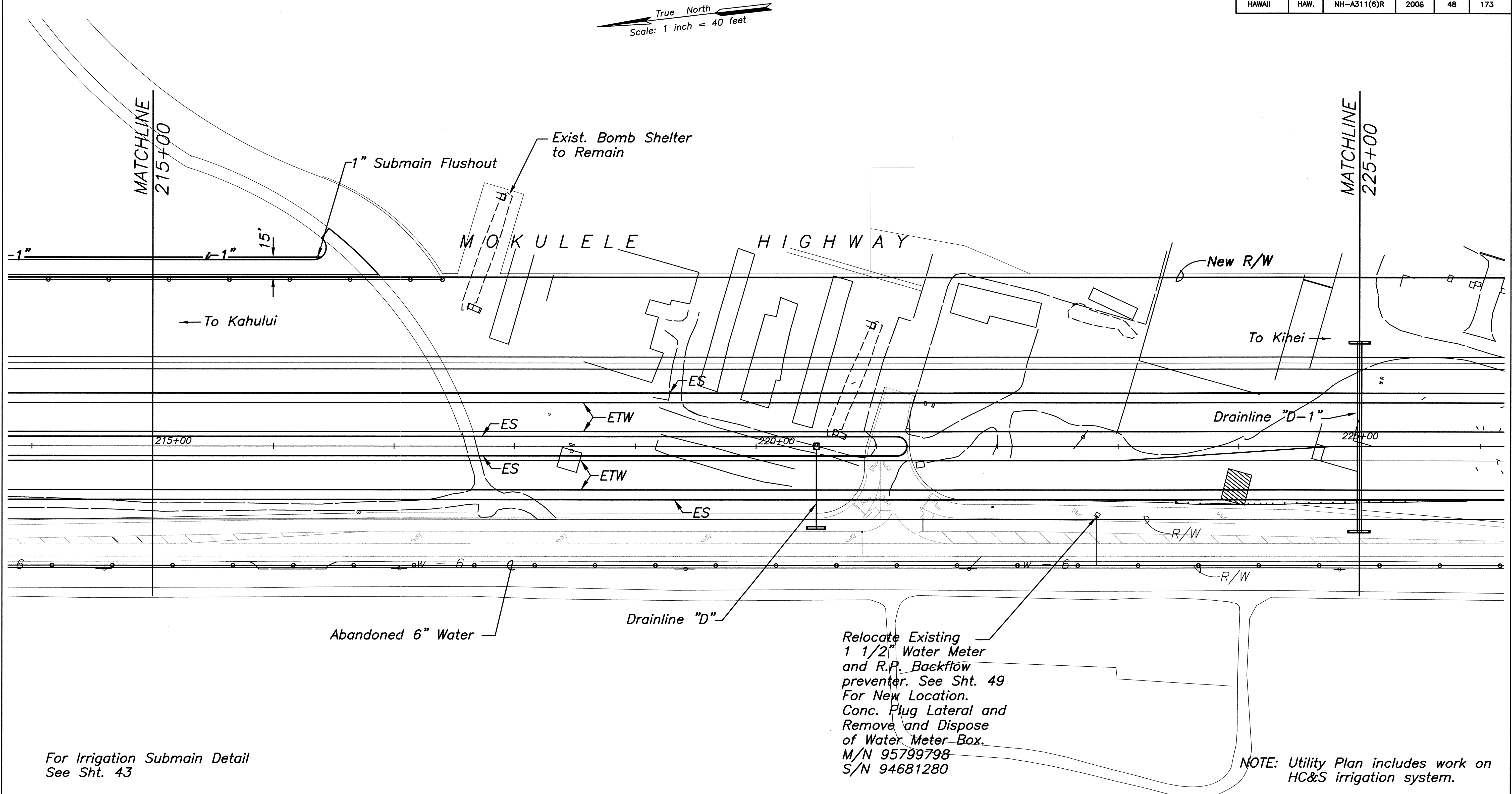
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 5 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	48	173



For Irrigation Submain Detail
See Sht. 43

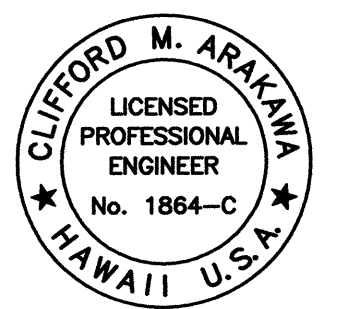
LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line
(Install w/3' Min Cover)

- ⋈ Relocated Butterfly Valve
- ➔ New Mainline Flushout
(Install 15' from New R/W)
See Detail Sht 44

- ⊙ Relocated Vacuum Relief Valve
- ⊙ Relocated Continuous Acting Air Vent
and Vacuum Relief Valve

DATE	
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DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

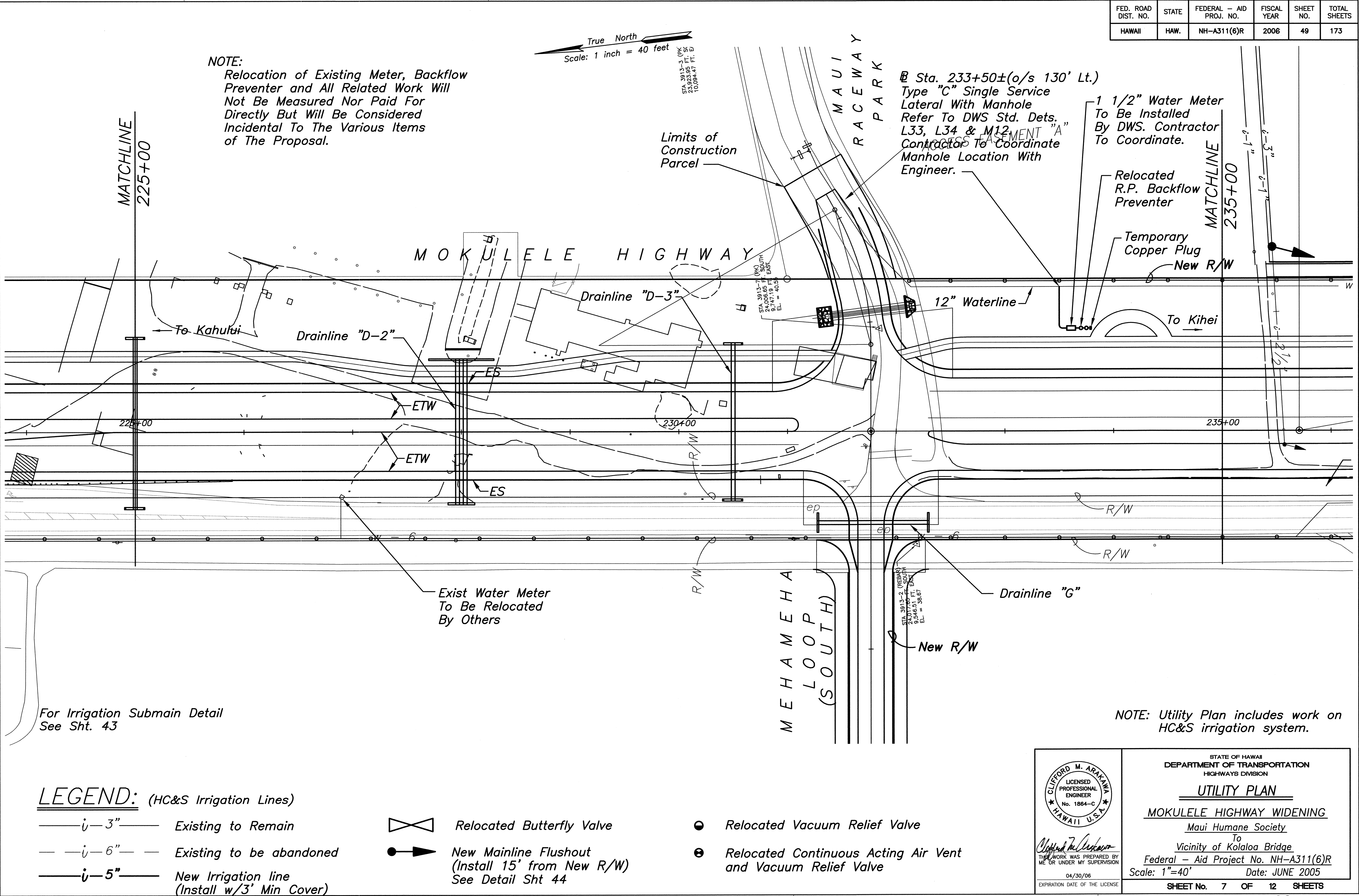
UTILITY PLAN

MOKULELE HIGHWAY WIDENING

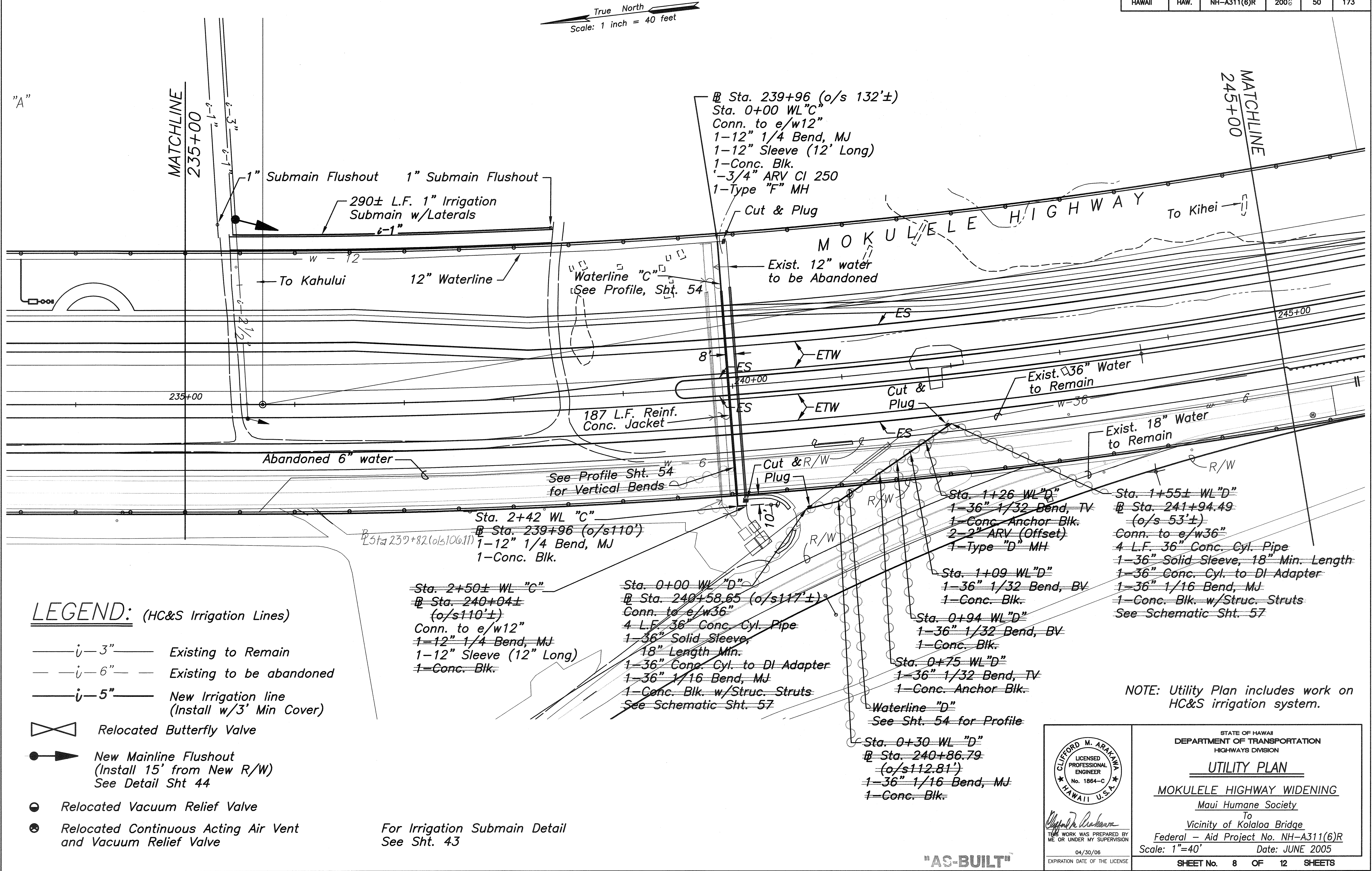
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 6 OF 12 SHEETS

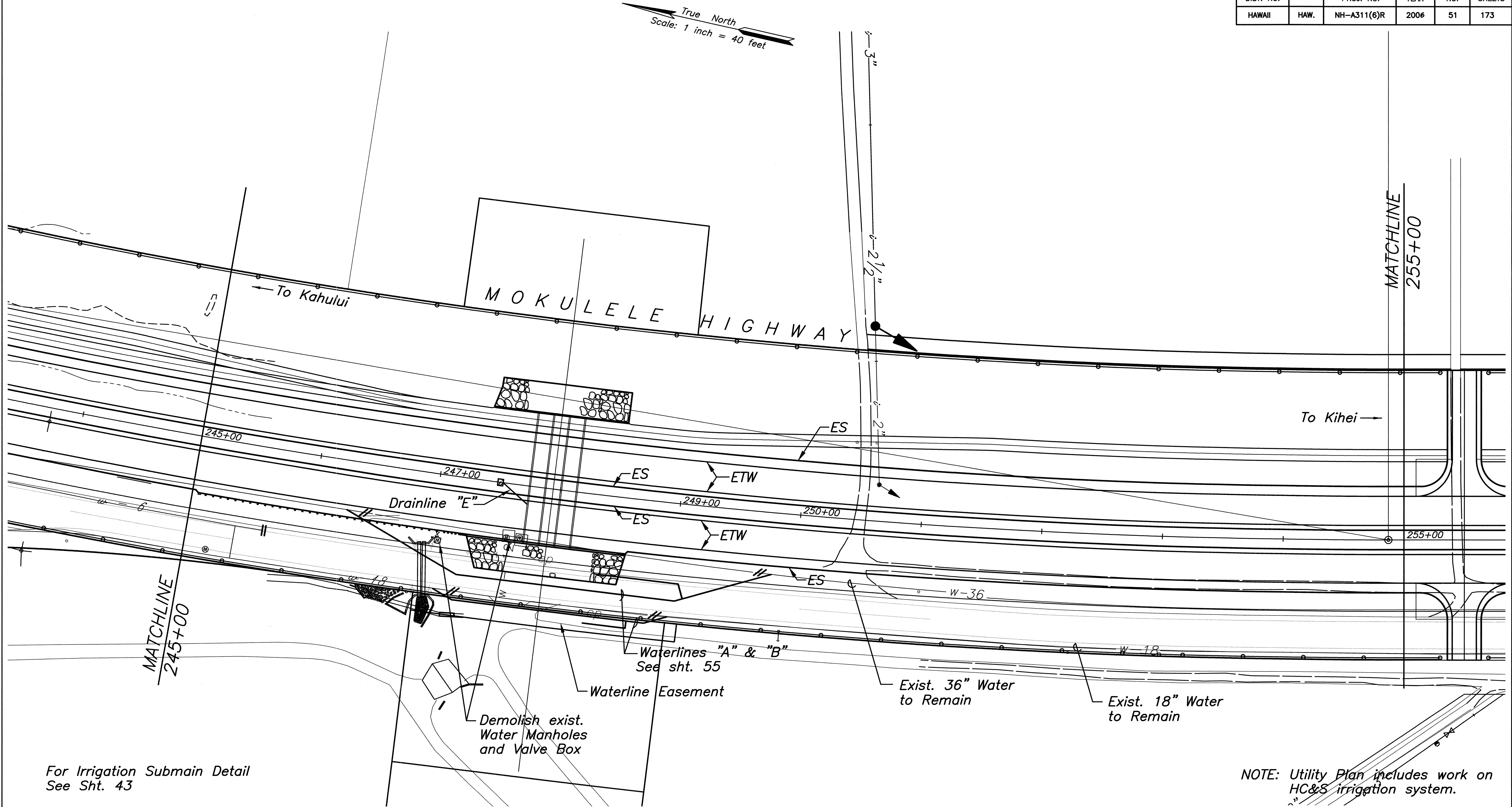
FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	49	173



FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	50	173



FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	51	173



For Irrigation Submain Detail
See Sht. 43

NOTE: Utility Plan includes work on
HC&S irrigation system.

LEGEND: (HC&S Irrigation Lines)

- 3" — Existing to Remain
- 6" — Existing to be abandoned
- 5" — New Irrigation line
(Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout
(Install 15' from New R/W)
See Detail Sht 44

- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent
and Vacuum Relief Valve

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

CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1884-C
HAWAII U.S.A.

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04/30/06
EXPIRATION DATE OF THE LICENSE

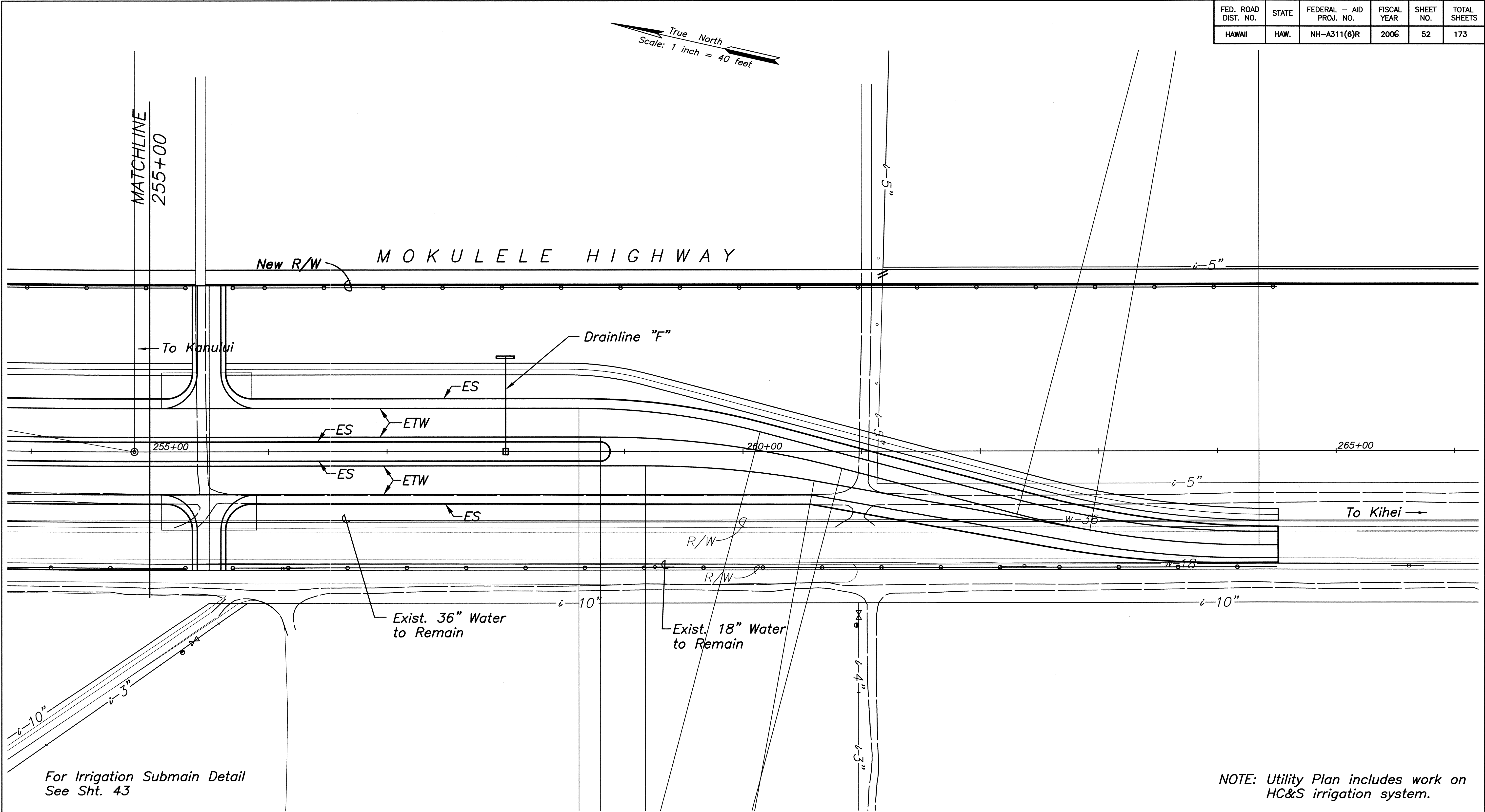
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY PLAN

MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 9 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	52	173



For Irrigation Submain Detail
See Sht. 43

NOTE: Utility Plan includes work on
HC&S irrigation system.

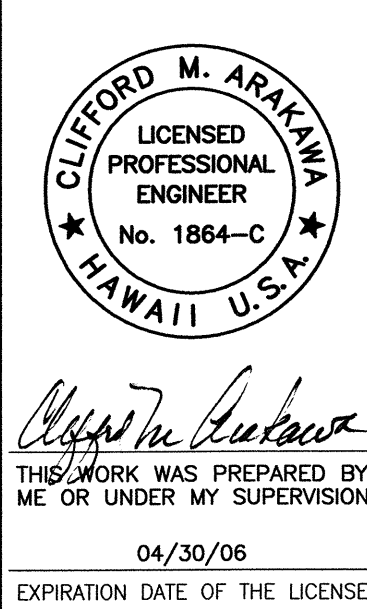
LEGEND: (HC&S Irrigation Lines)

- i-3" — Existing to Remain
- i-6" — Existing to be abandoned
- i-5" — New Irrigation line
(Install w/3' Min Cover)

- Relocated Butterfly Valve
- New Mainline Flushout
(Install 15' from New R/W)
See Detail Sht 44

- Relocated Vacuum Relief Valve
- Relocated Continuous Acting Air Vent
and Vacuum Relief Valve

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

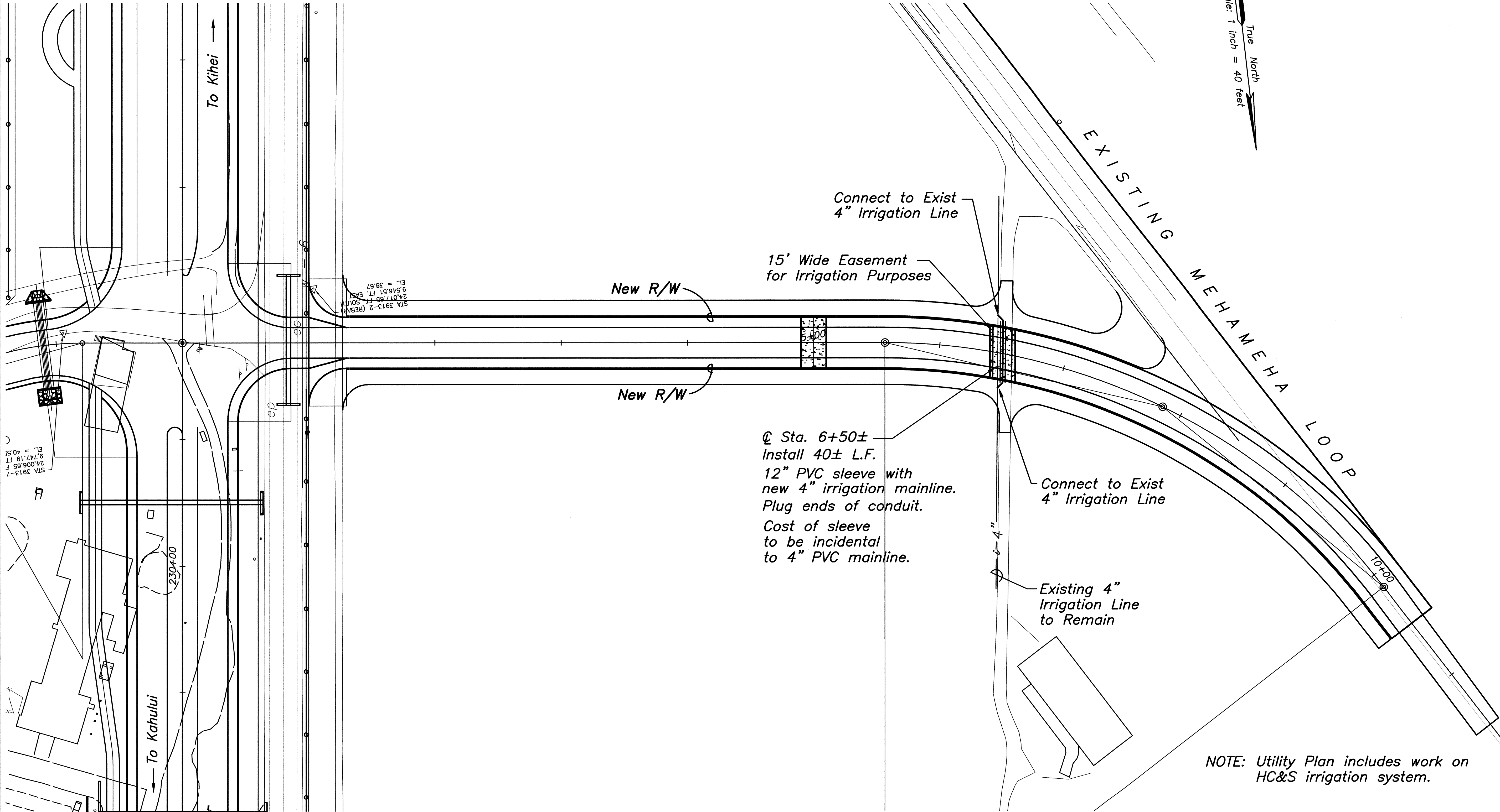
UTILITY PLAN
MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 10 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	53	173

Scale: 1 inch = 40 feet

True North



② Sta. 6+50±
Install 40± L.F.
12" PVC sleeve with
new 4" irrigation mainline.
Plug ends of conduit.
Cost of sleeve
to be incidental
to 4" PVC mainline.

NOTE: Utility Plan includes work on
HC&S irrigation system.

LEGEND: (HC&S Irrigation Lines)

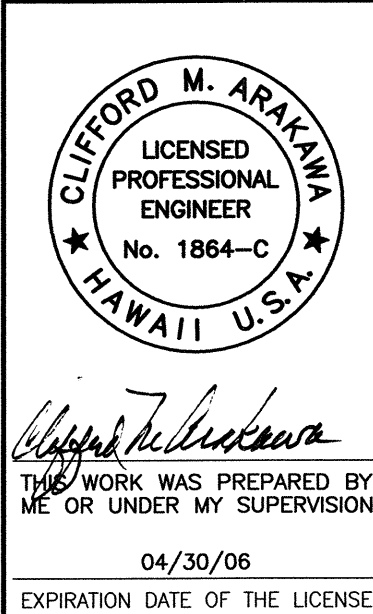
- i-5"— Existing to Remain
- i-5"— Existing to be abandoned
- i-5"— New Irrigation line
(Install w/3' Min Cover)

For Irrigation Submain Detail
See Sht. 43

- ⋈ Relocated Butterfly Valve
- ➔ New Mainline Flushout
(Install 15' from New R/W)
See Detail Sht 44

- Relocated Vacuum Relief Valve
- ⊙ Relocated Continuous Acting Air Vent
and Vacuum Relief Valve

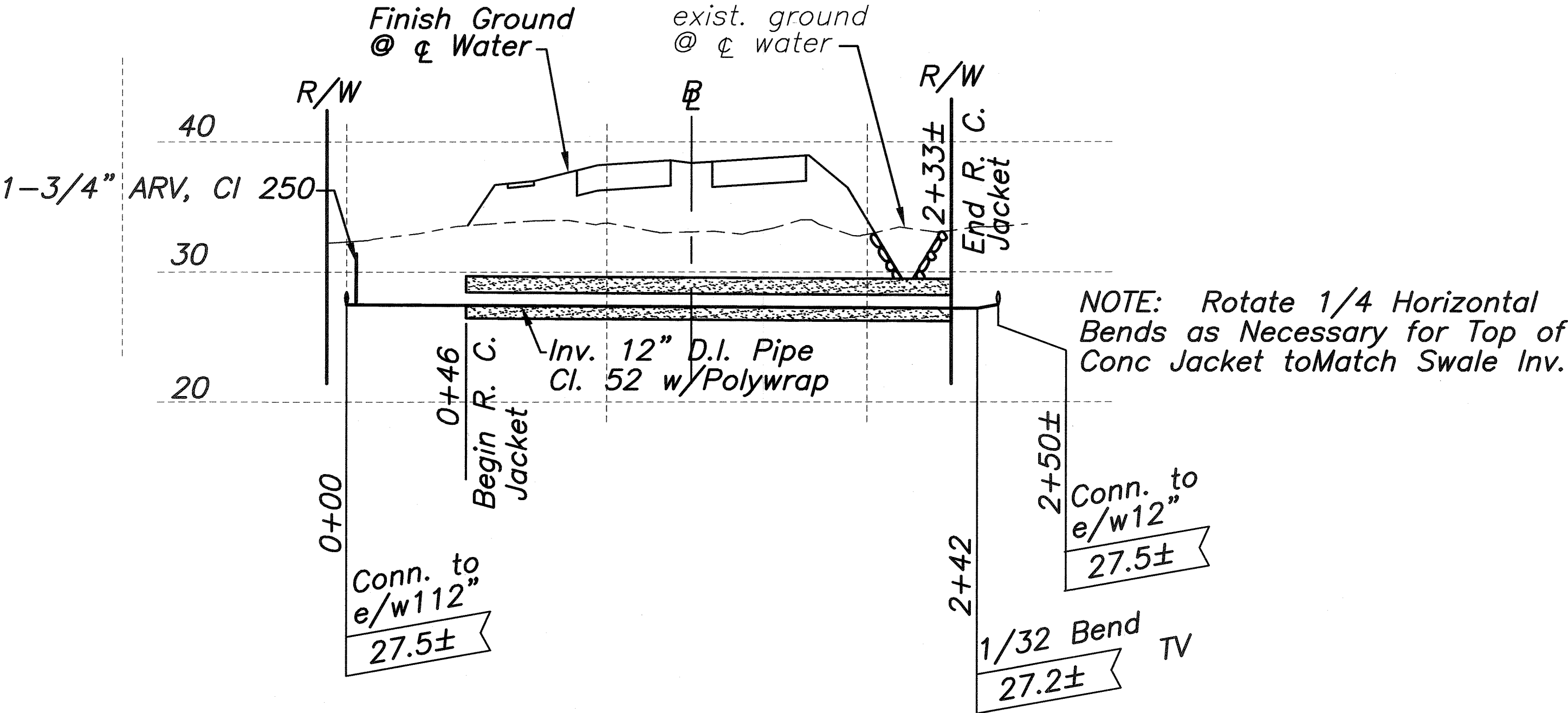
DATE	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
No.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY PLAN
MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005
SHEET No. 11 OF 12 SHEETS

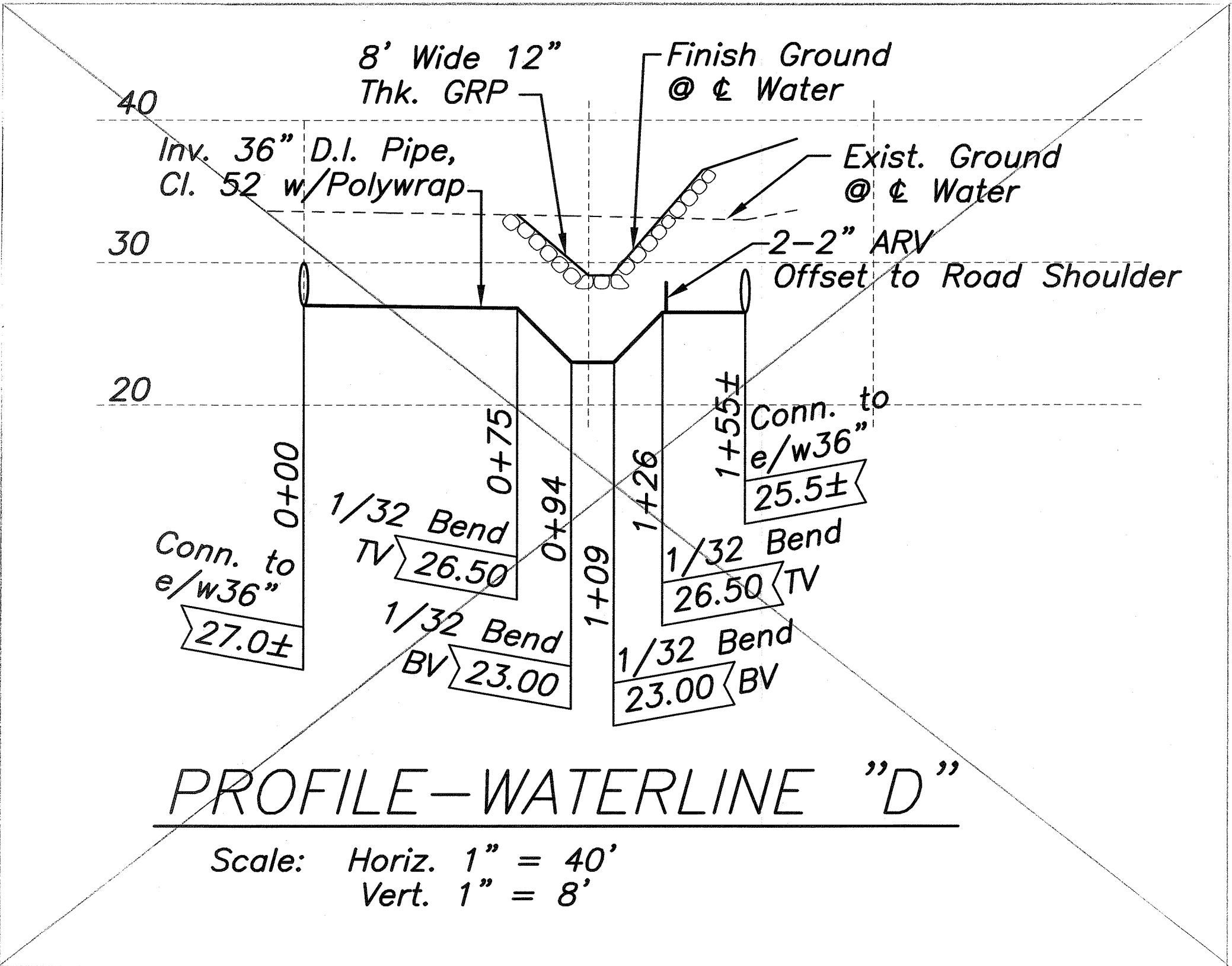
53

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(6)R	2006	54	173



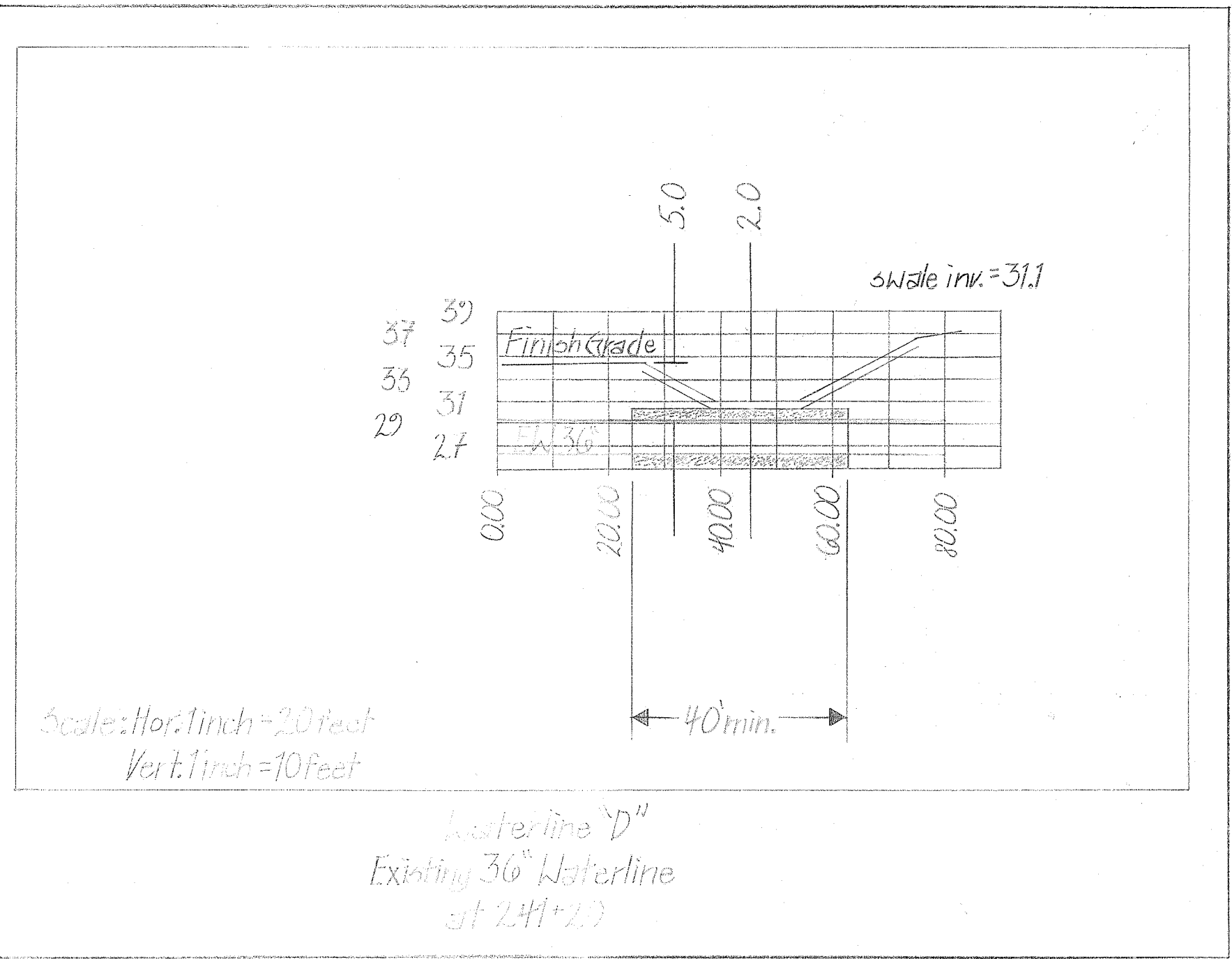
PROFILE - WATERLINE "C"

Scale: Horiz. 1" = 40'
Vert. 1" = 8'



PROFILE - WATERLINE "D"

Scale: Horiz. 1" = 40'
Vert. 1" = 8'



Scale: Horiz. 1 inch = 20 feet
Vert. 1 inch = 10 feet

Waterline "D"
Existing 36" Waterline
at 2:41+20

"AS-BUILT"

CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1864-C
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
EXPIRATION DATE OF THE LICENSE: 04/30/06

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS WATERLINE PROFILES

MOKULELE HIGHWAY WIDENING
To
Vicinity of Kolaloa Bridge
Federal - Aid Project No. NH-A311(6)R
Scale: 1"=40' Date: JUNE 2005

SHEET No. 12 OF 12 SHEETS

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