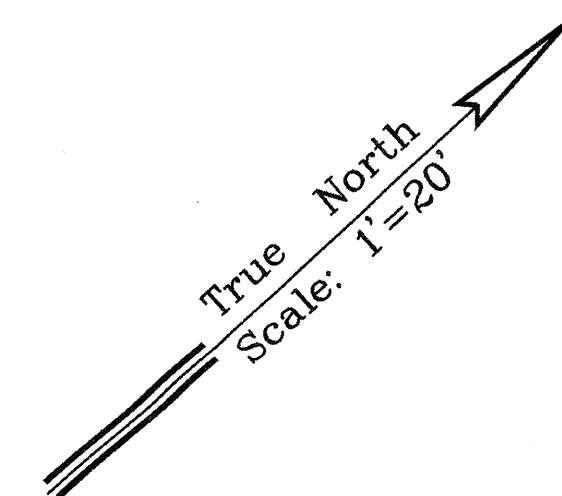


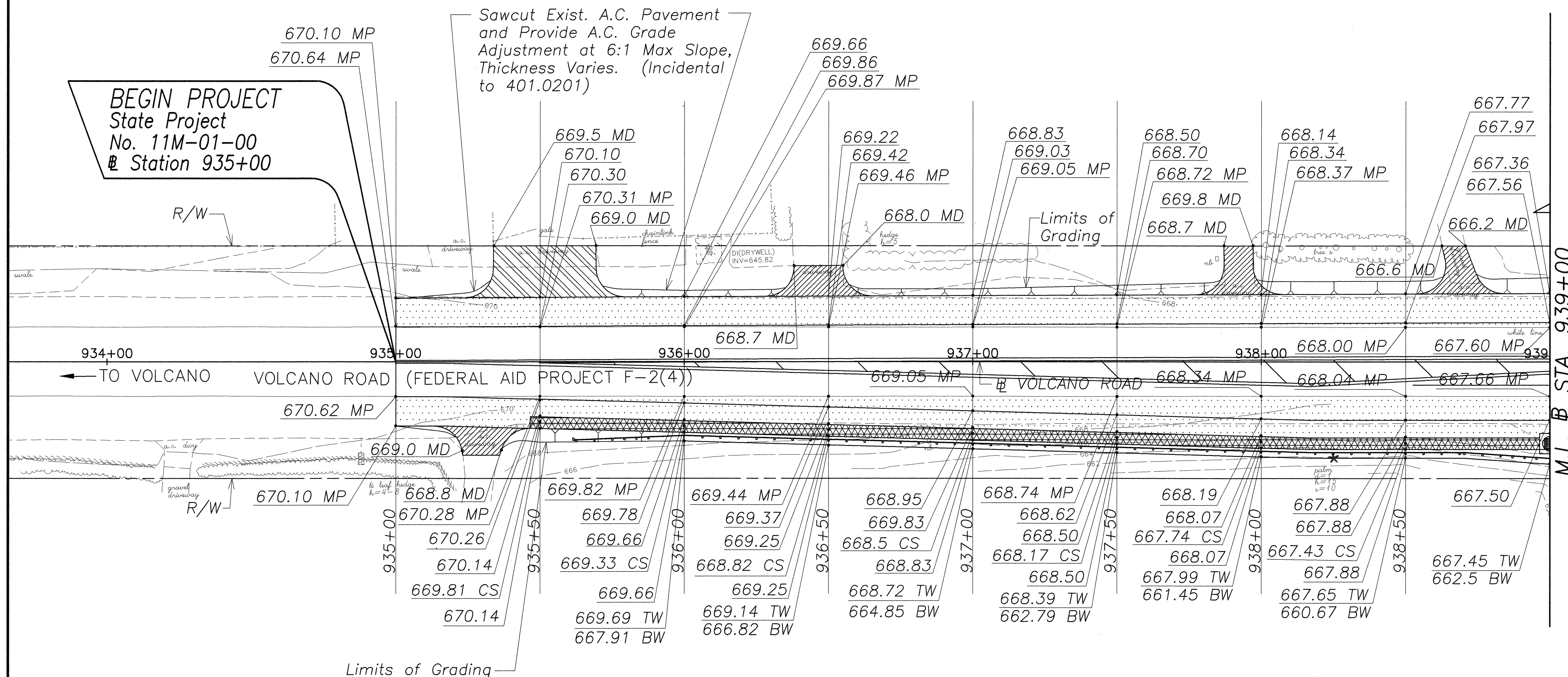
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11M-01-00 | 2002        | 19        | 65           |



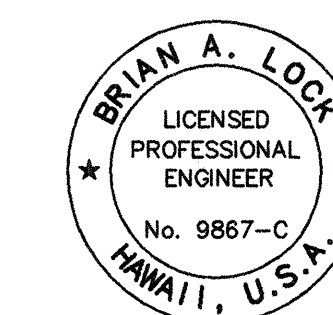
# LEGEND

- 672 Finish Grade
- 673.4 MP Match to Exist. Pavement Grade
- 669.0 MD Match to Exist. Driveway
- 671.42 CS Finish Grade at  $\nabla$  Paved Swale
- 668.75 TW  
664.5 BW Top Wall and Bottom Wall Elevation
- New Pavement
- New Commercial Driveway
- New Private Driveway
- New Paved Swale
- New Paved Swale
- New GRP

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DRAWN BY          |      |
| 11M-01-00     | DESIGNED BY       |      |
| No. 19        | CHECKED BY        |      |



GRADING PLAN 1 – VOLCANO ROAD  
Scale: 1" = 20'



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ENGINEERS-SURVEYORS HAWAII, INC.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

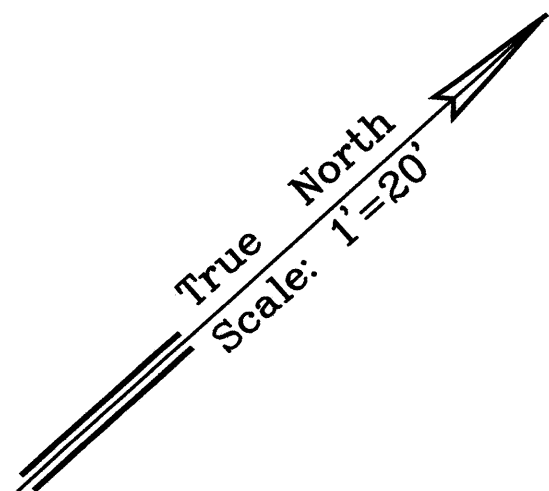
**GRADING PLAN  
VOLCANO ROAD**

VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
State Project No. 11M-01-00

Scale: 1" = 20' Date: November 2001

SHEET No. 1 OF 5 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO.    | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|--------------|--------------|
| HAWAII              | HAW.  | 11M-01-00 | 2002        | C.O. ADD. 20 | 65           |



LEGEND

- 672 Finish Grade
- 673.4 MP Match to Exist. Pavement Grade
- 669.0 MD Match to Exist. Driveway
- 671.42 CS Finish Grade at  $\nabla$  Paved Swale
- 668.75 TW  
664.5 BW Top Wall and Bottom Wall Elevation
- New Pavement
- New Commercial Driveway
- New Private Driveway
- New Paved Swale
- New Paved Swale
- New GRP

|          |                                            |
|----------|--------------------------------------------|
| 09/17/03 | Revised GRP alignment and elevations       |
| 04/10/02 | Revised Drainage Inlets; Added Paved Swale |
| Date     | Revision                                   |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

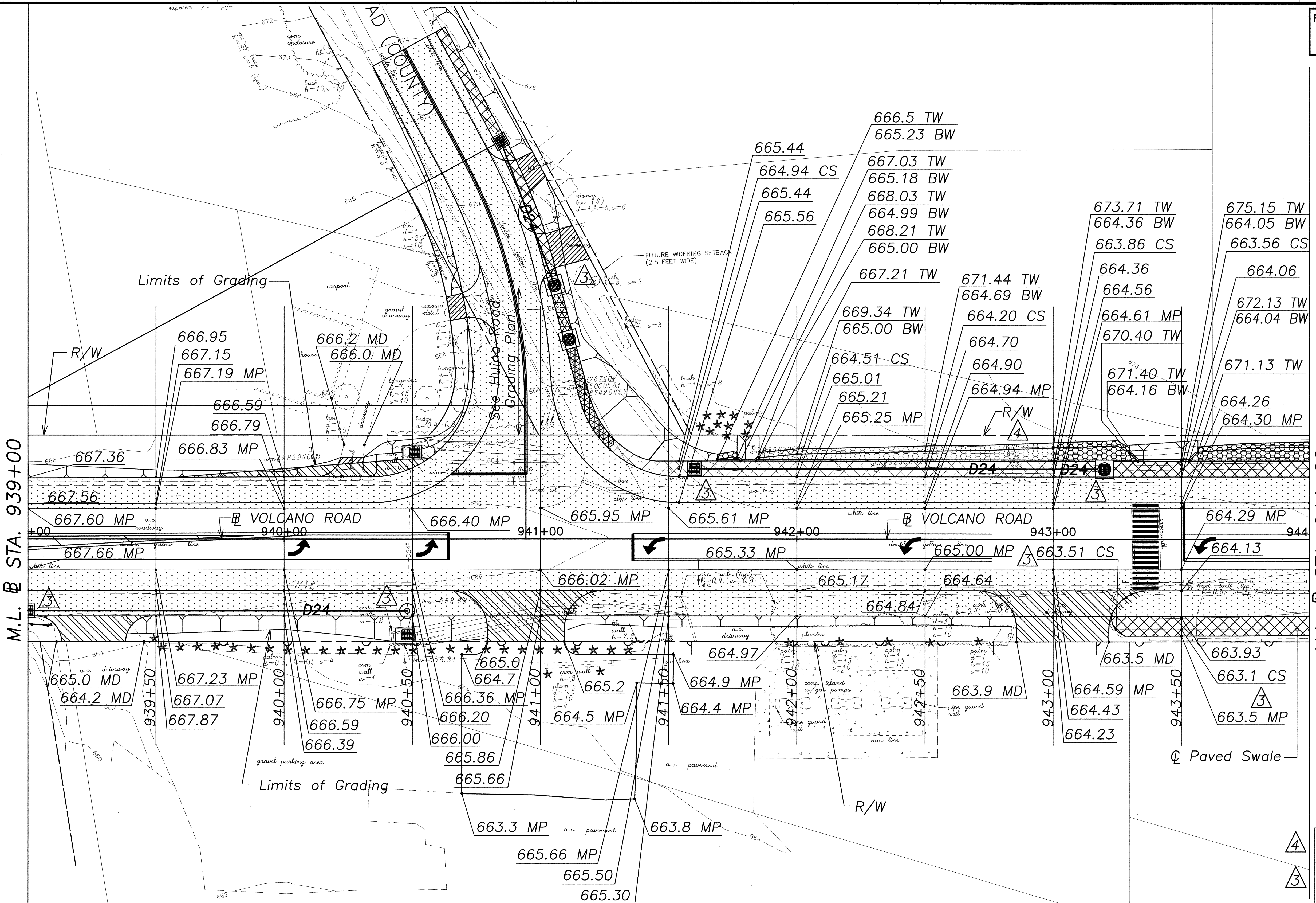
GRADING PLAN  
VOLCANO ROAD

VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
Project No. 11M-01-00

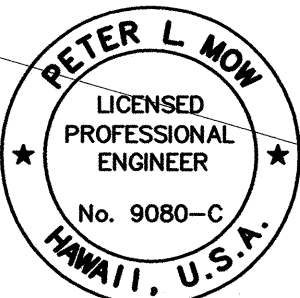
Scale: 1" = 20' Date: Sep 2003

SHEET No. 2 OF 5 SHEETS

C.O. ADD. 20



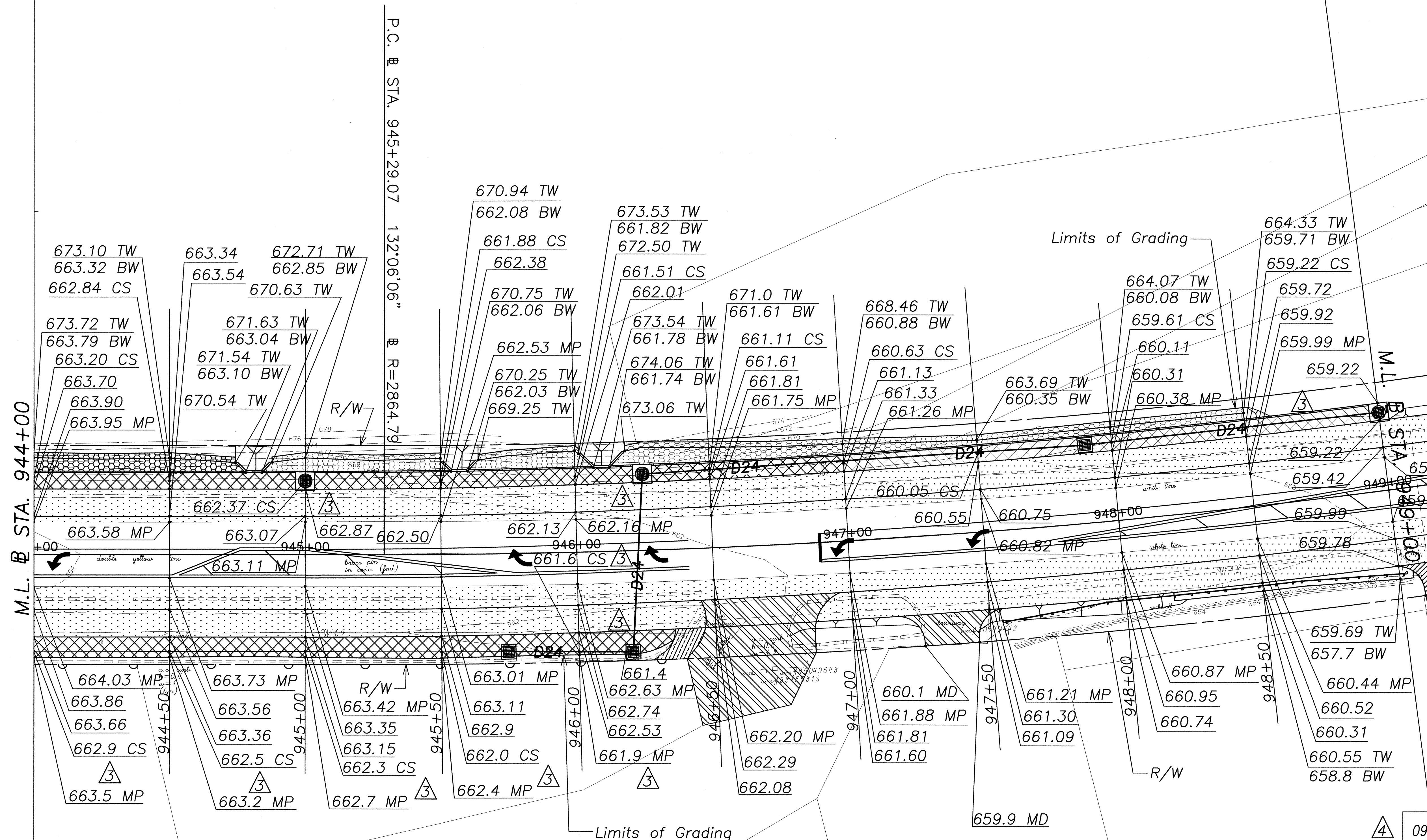
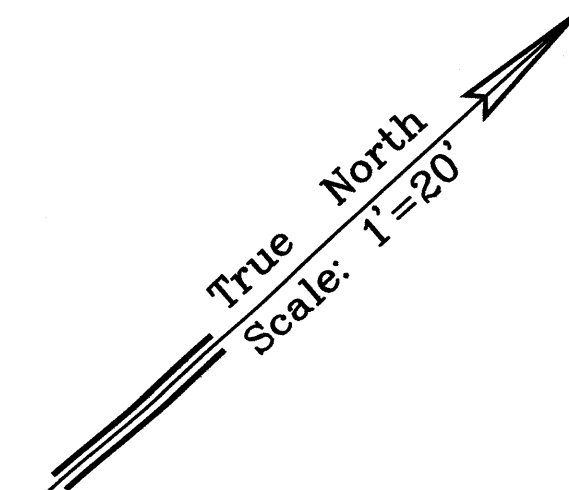
GRADING PLAN 2 – VOLCANO ROAD  
Scale: 1" = 20'



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[Signature]  
ENGINEERS SURVEYORS HAWAII, INC.  
LIC. EXP. 4/30/2004

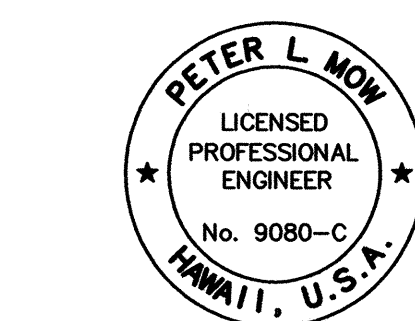
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|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DRAWN BY          |      |
| DESIGNED BY   |                   |      |
| QUANTITIES BY |                   |      |
| CHECKED BY    |     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

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO.    | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|--------------|--------------|
| HAWAII              | HAW.  | 11M-01-00 | 2002        | C.O. ADD. 21 | 65           |



| LEGEND |                                                 |
|--------|-------------------------------------------------|
|        | 672 Finish Grade                                |
|        | 673.4 MP Match to Exist. Pavement Grade         |
|        | 669.0 MD Match to Exist. Driveway               |
|        | 671.42 CS Finish Grade at $\bar{Q}$ Paved Swale |
|        | 668.75 TW Top Wall and Bottom Wall Elevation    |
|        | 664.5 BW                                        |
|        | New Pavement                                    |
|        | New Commercial Driveway                         |
|        | New Private Driveway                            |
|        | New Paved Swale                                 |
|        | New Paved Swale                                 |
|        | Demolish Exist. A.C. Pavement                   |
|        | New GRP                                         |

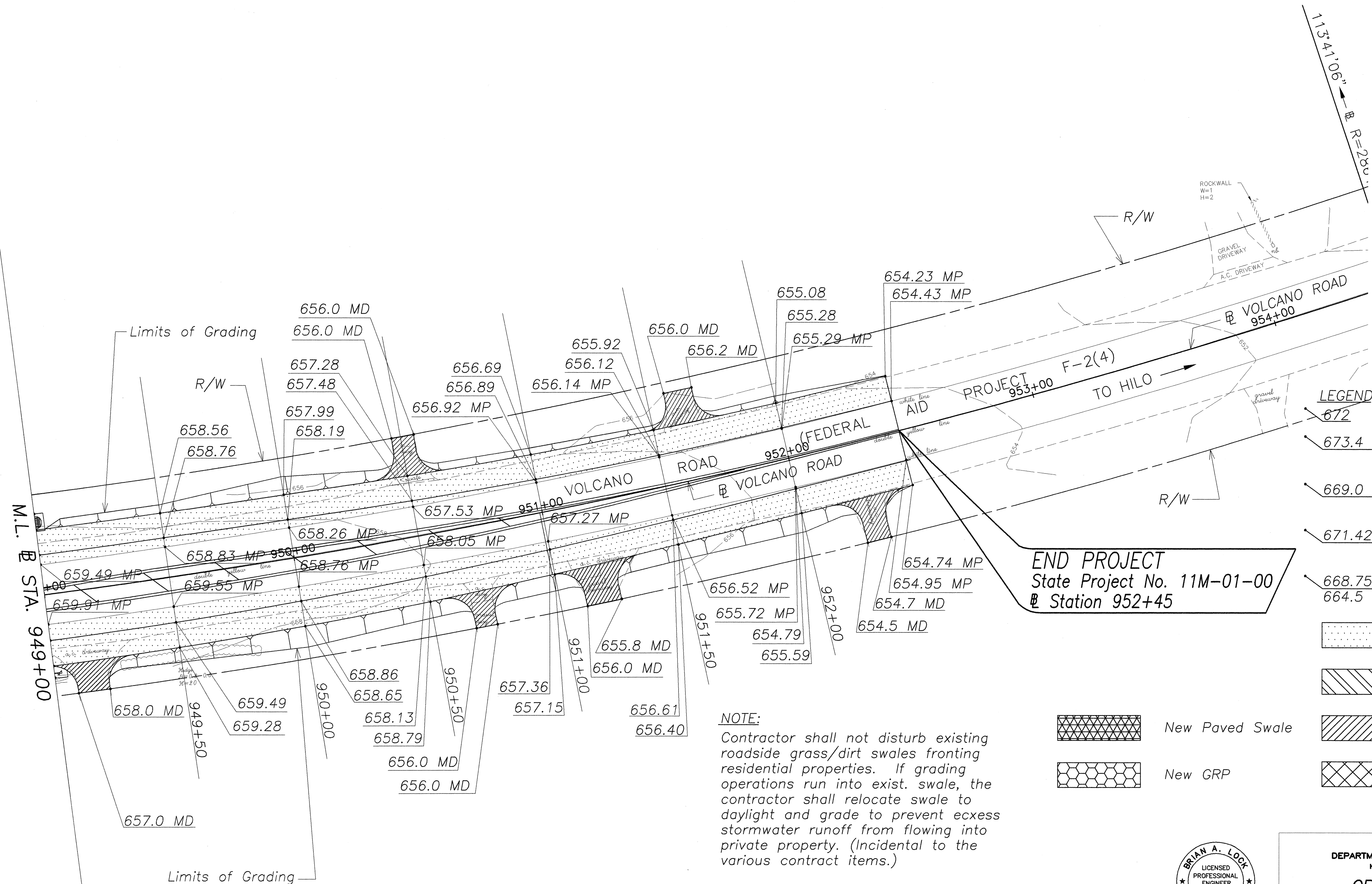
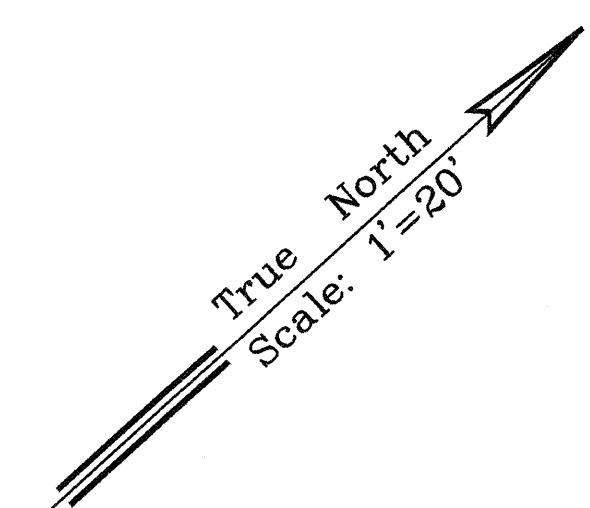
GRADING PLAN 3 – VOLCANO ROAD  
Scale: 1" = 20'



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*Peter L. Mow*  
ENGINEERS SURVEYORS HAWAII, INC.  
LIC. EXP. 4/30/2004

|                                                                                                                                                                                                                                                                                                                           |          |                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------|
| 4                                                                                                                                                                                                                                                                                                                         | 09/17/03 | Revised GRP alignment and elevations          |
| 3                                                                                                                                                                                                                                                                                                                         | 04/10/02 | Revised Drainage System;<br>Added Paved Swale |
| Date                                                                                                                                                                                                                                                                                                                      | Revision |                                               |
| <p>STATE OF HAWAII<br/>DEPARTMENT OF TRANSPORTATION<br/>HIGHWAYS DIVISION</p> <p><u>GRADING PLAN</u><br/><u>VOLCANO ROAD</u></p> <p><u>VOLCANO ROAD INTERSECTION</u><br/><u>IMPROVEMENTS AT HUINA ROAD</u><br/><u>Project No. 11M-01-00</u></p> <p>Scale: 1" = 20'      Date: Sep 2003</p> <p>SHEET No. 3 OF 5 SHEETS</p> |          |                                               |

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11M-01-00 | 2002        | 22        | 65           |

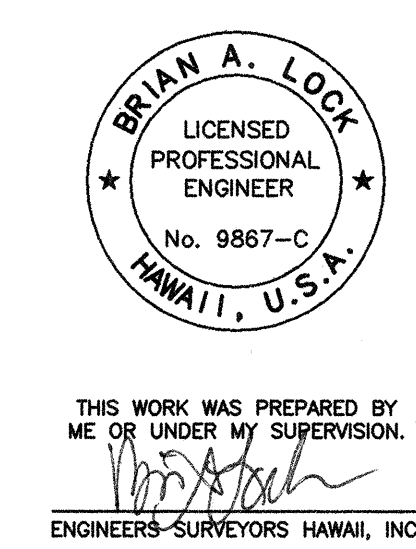


| LEGEND |                                    |
|--------|------------------------------------|
|        | Finish Grade                       |
|        | Match to Exist. Pavement Grade     |
|        | Match to Exist. Driveway           |
|        | Finish Grade at Paved Swale        |
|        | Top Wall and Bottom Wall Elevation |
|        | New Pavement                       |
|        | New Commercial Driveway            |
|        | New Private Driveway               |
|        | New Paved Swale                    |

**NOTE:**  
Contractor shall not disturb existing roadside grass/dirt swales fronting residential properties. If grading operations run into exist. swale, the contractor shall relocate swale to daylight and grade to prevent excess stormwater runoff from flowing into private property. (Incidental to the various contract items.)

**GRADING PLAN 4 – VOLCANO ROAD**  
Scale: 1" = 20'

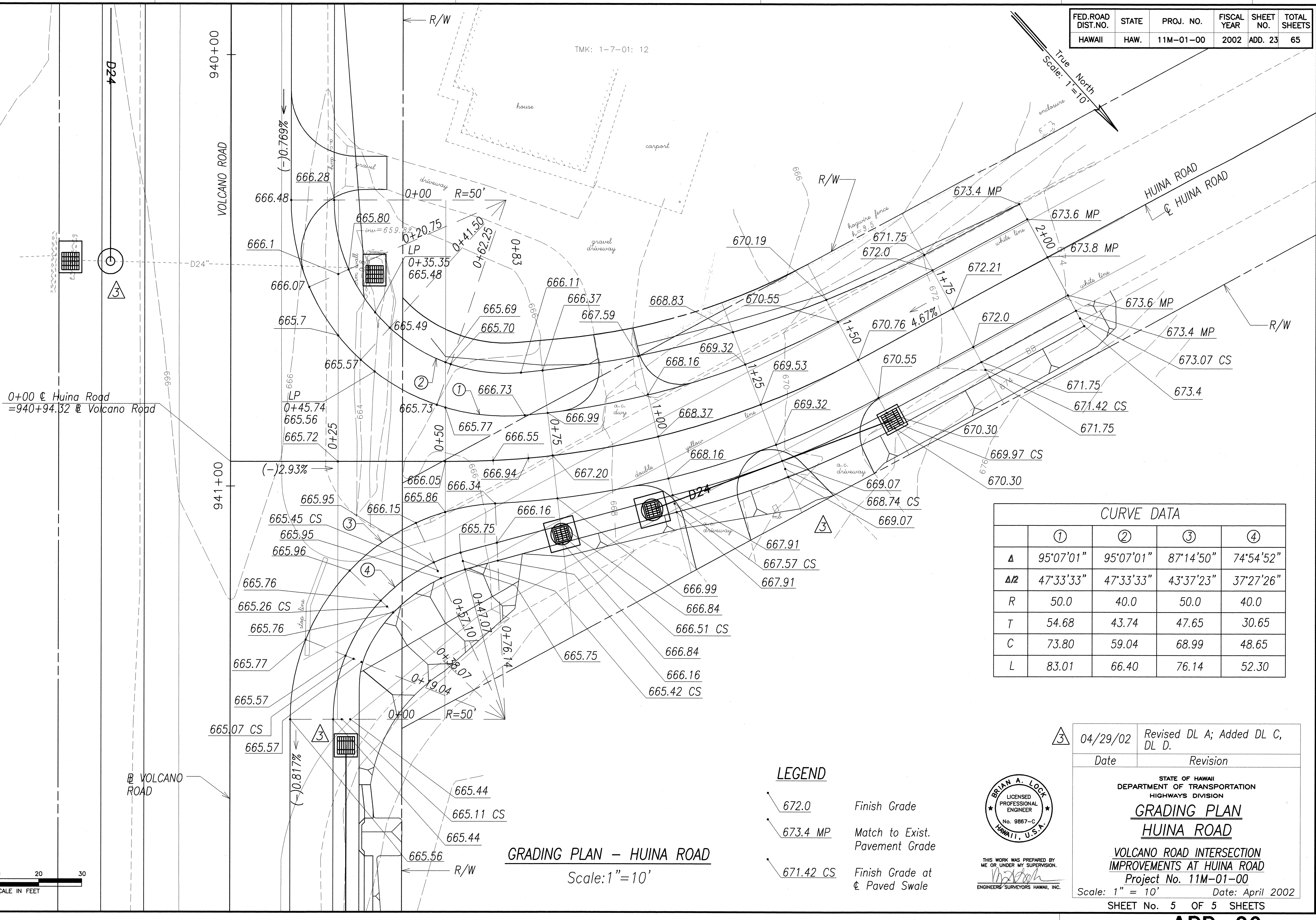
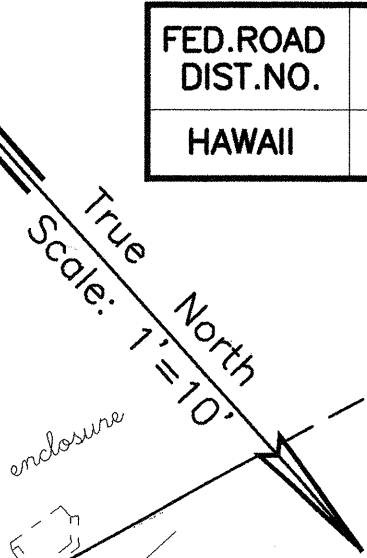
|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DESIGNED BY       | _____ |
| CHECKED BY        | _____ |
| ORIGINAL PLAN     | _____ |
| NOTE BOOK         | _____ |
| NO.               | _____ |



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**GRADING PLAN  
VOLCANO ROAD**  
  
VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
State Project No. 11M-01-00  
Scale: 1" = 20'      Date: November 2001  
SHEET No. 4 OF 5 SHEETS

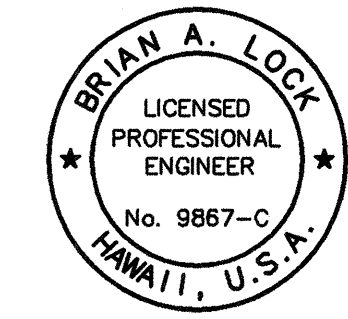
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 11M-01-00 | 2002        | ADD. 23   | 65           |



| CURVE DATA |           |           |           |           |
|------------|-----------|-----------|-----------|-----------|
|            | ①         | ②         | ③         | ④         |
| $\Delta$   | 95°07'01" | 95°07'01" | 87°14'50" | 74°54'52" |
| $\Delta/2$ | 47°33'33" | 47°33'33" | 43°37'23" | 37°27'26" |
| R          | 50.0      | 40.0      | 50.0      | 40.0      |
| T          | 54.68     | 43.74     | 47.65     | 30.65     |
| C          | 73.80     | 59.04     | 68.99     | 48.65     |
| L          | 83.01     | 66.40     | 76.14     | 52.30     |

LEGEND

- 672.0 Finish Grade
- 673.4 MP Match to Exist. Pavement Grade
- 671.42 CS Finish Grade at Paved Swale



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 ENGINEERS SURVEYORS HAWAII, INC.

04/29/02

Revised DL A; Added DL C, DL D.

Date

Revision

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

GRADING PLAN

HUINA ROAD

VOLCANO ROAD INTERSECTION

IMPROVEMENTS AT HUINA ROAD

Project No. 11M-01-00

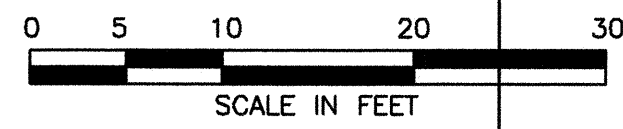
Scale: 1" = 10'

Date: April 2002

SHEET No. 5

OF 5 SHEETS

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



GRADING PLAN – HUINA ROAD  
 Scale: 1"=10'