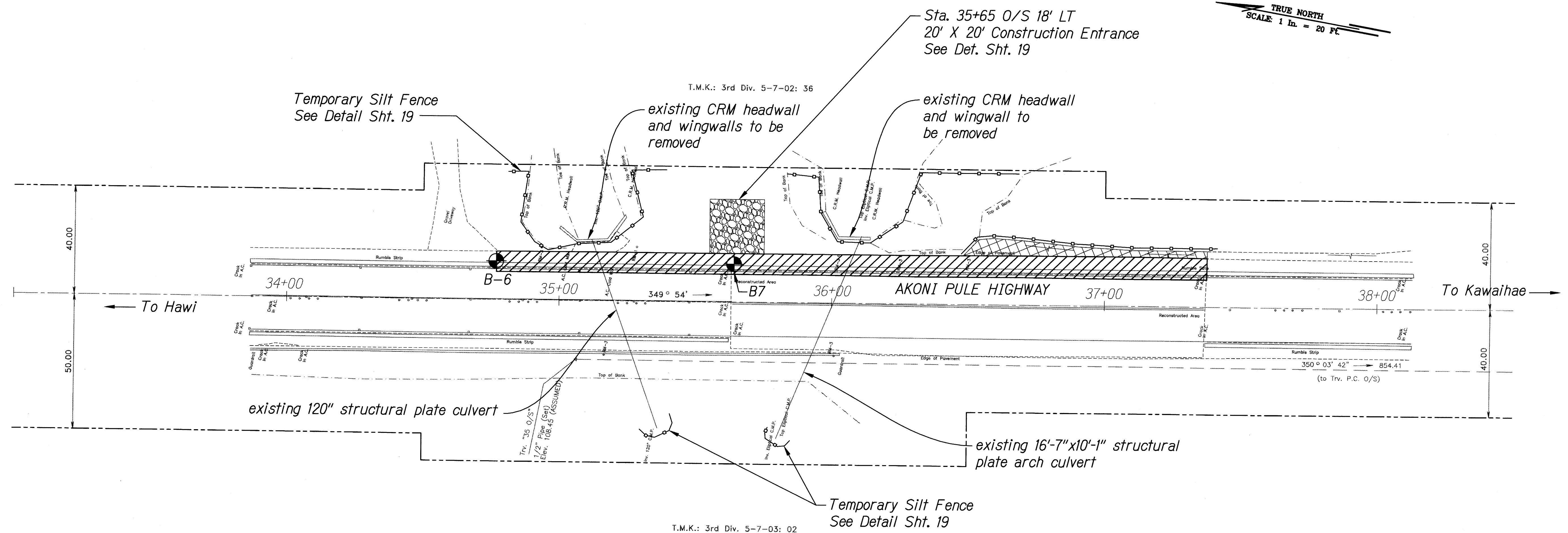


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 26 | 59 |

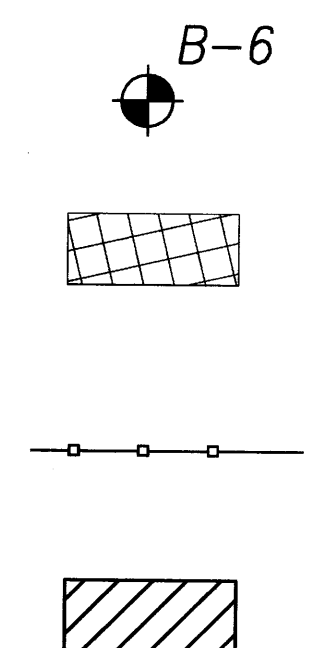


Demolition And Erosion Control Plan - Site 3
Scale: 1" = 20'

NOTES:

1. Survey conducted by Imata and Associates, Inc. dated December 2008.
2. All property azimuths shown were adjusted to match construction plan azimuths.
3. Horizontal controls: adopted centerline road monuments with record azimuths.
4. Baseline stations shown as "(field)" are nails staked by others and stations are painted on pavement. Construction plan stations were calculated for those nails found and noted as "(const. plan)".
5. Elevations were assumed.
6. Underground utilities shown are for information only. Contractor shall be responsible to verify prior to construction.

LEGEND:



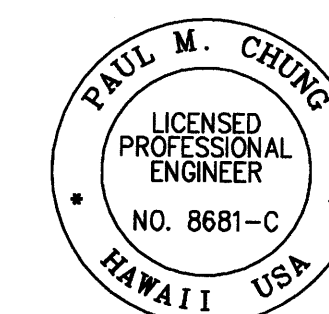
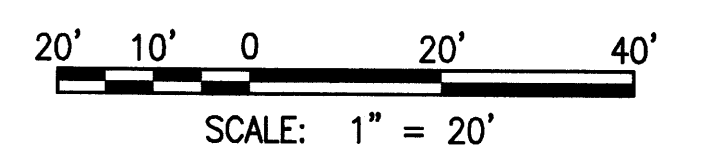
Approx. Boring Location

*Approx. Limits of A.C. Swale Removal And Reconstruction
(Exact Limits To Be Determined By Engineer In Field)*

Temporary Silt Fence

*Approx. Limits Of Shoulder Removal And Reconstruction
(Exact Limits To Be Determined By Engineer In Field)*

GRAPHICAL SCALE:



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OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION AND EROSION CONTROL PLAN - SITE 3

EMERGENCY EARTHQUAKE ROCKFALL REPAIRS

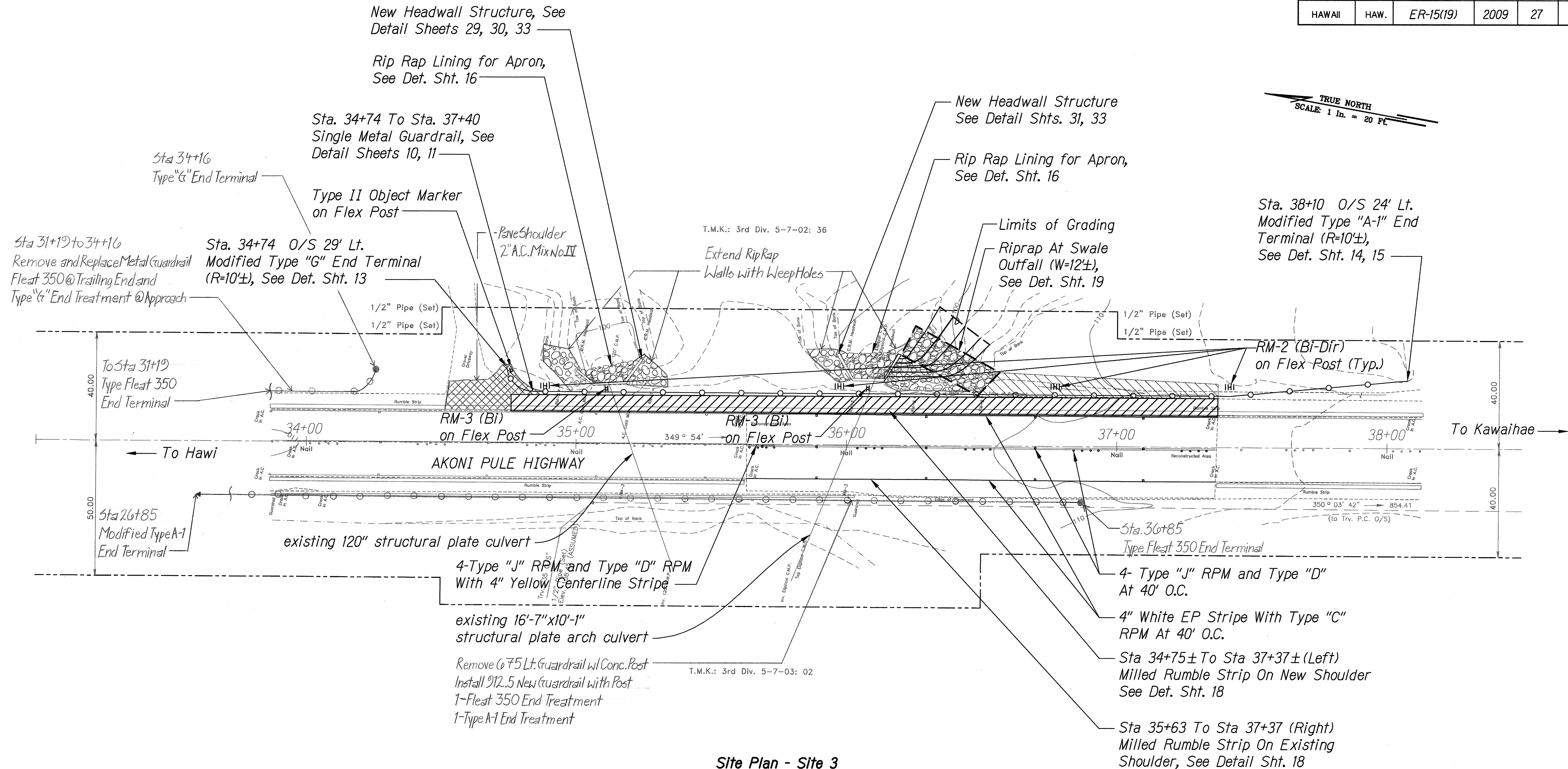
Various Locations on Hawaii, Unit 1
Federal Aid Project No. ER-15(19)

Scale: AS NOTED Date: Dec. 18, 2009

SHEET No. C-3/ OF 9 SHEETS

_CIVIL 3D PROJECTS\2008_116_000 DOT EMERGENCY EQ REPAIRS\C-3_1 DEMOLITION AND EROSION CONTROL PLAN - SITE 3.DWG 12/16/2009 4:06 PM ELUMBANG

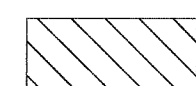
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 27 | 59 |



LEGEND:



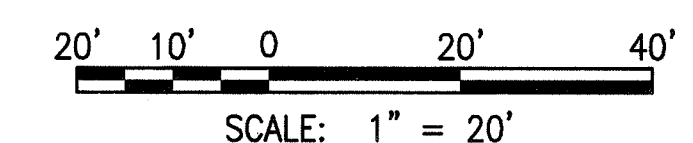
Sta. 34+75 to Sta. 37+37 Lt.
Approx. Limits Of Shoulder Reconstruction
4" A.C. (Mix IV)
8" Hot Mix Glassphalt Base Course
See Det. Sht. 19
(Exact Limits To Be Determined By Engineer In Field)



Approx. Limits Of A.C. Swale Reconstruction
4" A.C. (Mix IV)
8" Hot Mix Glassphalt Base Course
See Det. Sht. 19
(Exact Limits To Be Determined By Engineer In Field)

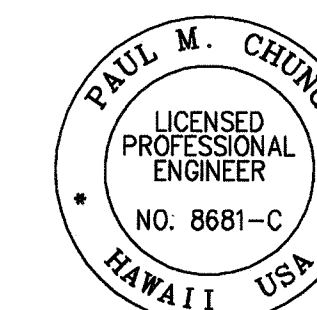
Site Plan - Site 3
Scale: 1" = 20'

GRAPHICAL SCALE:



| | |
|-------------------|------------|
| DATE | 12/17/2009 |
| SURVEY PLOTTED BY | ELUMBANG |
| DRAWN BY | ELUMBANG |
| DESIGNED BY | ELUMBANG |
| CHECKED BY | ELUMBANG |
| NOTE BOOK | |
| No. | |

W:\CIVIL 3D PROJECTS\2008_116_000 DOT EMERGENCY EQ REPAIRS\C-3.2 SITE PLAN - SITE 3.DWG 12/17/2009 10:14 AM ELUMBANG



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PLAN - SITE 3

EMERGENCY EARTHQUAKE ROCKFALL REPAIRS

Various Locations on Hawaii, Unit 1

Federal Aid Project No. ER-15(19)

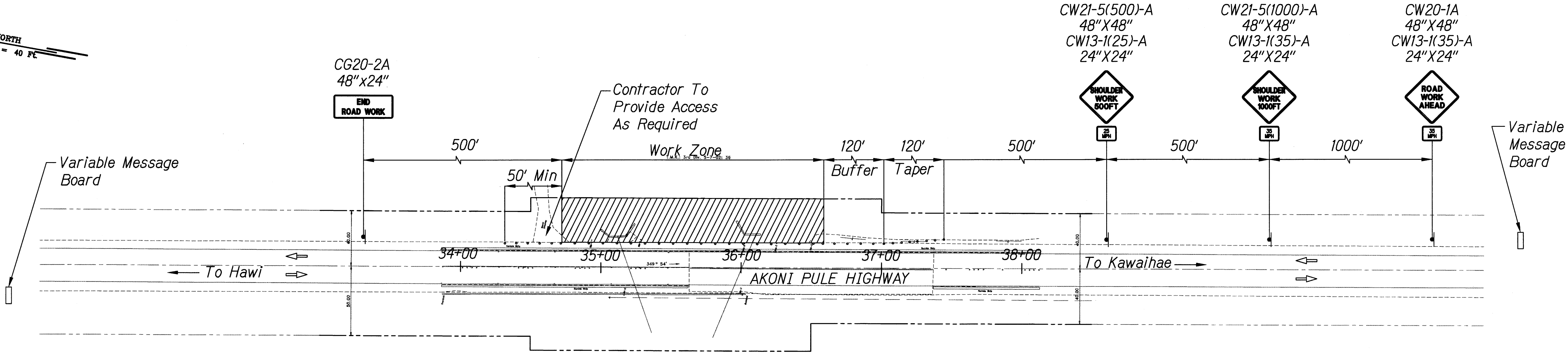
Scale: AS NOTED Date: Dec. 18, 2009

SHEET No. C-3.2 OF 9 SHEETS

"AS-BUILT"

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 28 | 59 |

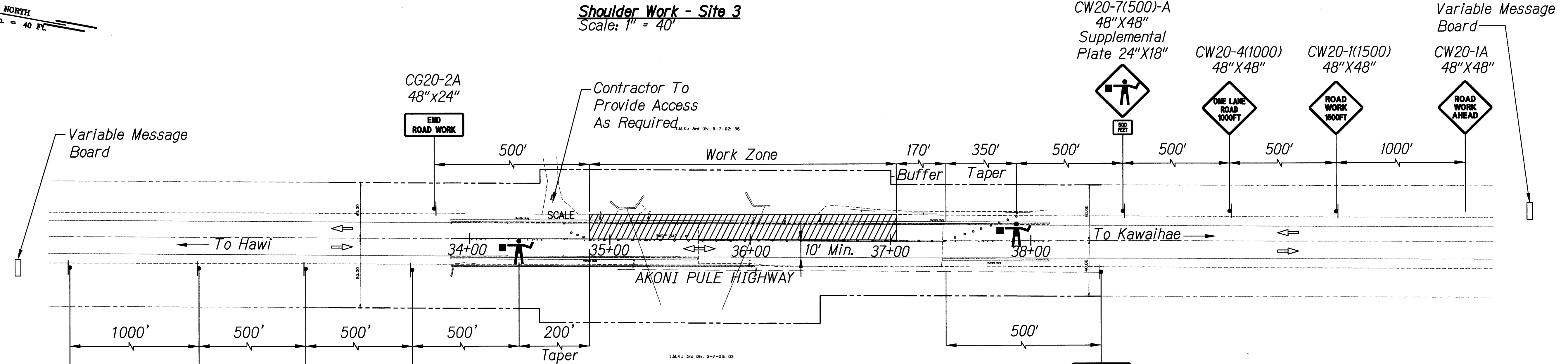
TRUE NORTH
SCALE: 1 in. = 40 ft



T.M.K.: 3rd Div. 5-7-03: 02

Shoulder Work - Site 3
Scale: 1" = 40'

TRUE NORTH
SCALE: 1 in. = 40 ft

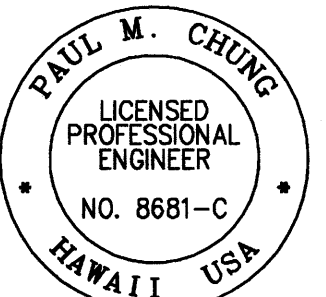


T.M.K.: 3rd Div. 5-7-03: 02

One Lane Closure - Site 3
Scale: 1" = 40'

TRAFFIC CONTROL LEGEND:

- Variable Message Board
- Sign
- Direction Of Traffic
- Cone Or Delineator
- Work Area
- Police Officer or Flagman



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SIGNATURE: [Signature] EXPIRATION DATE OF THE LICENSE: 04/30/10

GRAPHICAL SCALE:
40' 20' 0 40' 80'
SCALE: 1" = 40'

NOTES:

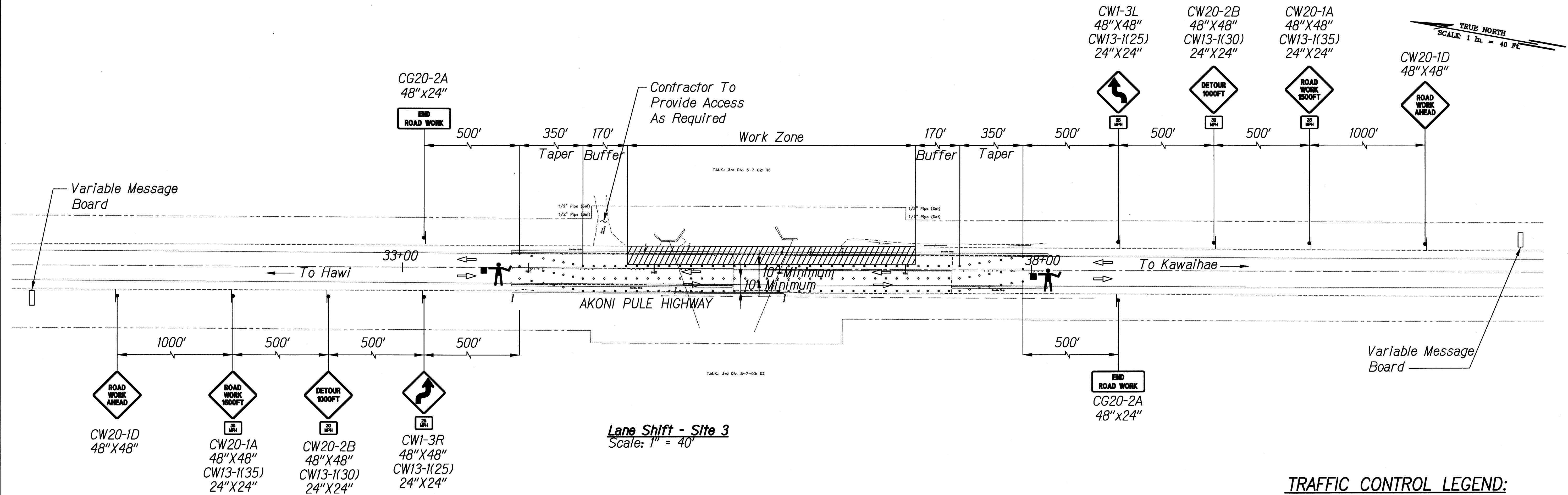
- One lane closure traffic control plan shall be used for working hours only. Contractor shall provide a rideable surface and restore two lanes of traffic at the end of work day.
- Contractor shall coordinate with the State in the event that two (2) lanes of traffic cannot be met.
- Contractor to submit to Engineer for approval the detour Traffic Control Plans for non-working hours. Refer to Section 645 of the Special Provisions.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC CONTROL PLAN - SITE 3
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS
Various Locations on Hawaii, Unit 1
Federal Aid Project No. ER-15(19)
Scale: AS NOTED Date: Dec. 18, 2009
SHEET No. C-3.3 OF 9 SHEETS







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

W:_CIVIL_3D PROJECTS\2008-116-000 DOT EMERGENCY EQ REPAIRS\C-3.3 TRAFFIC CONTROL PLAN - SITE 3.DWG 12/16/2009 3:56 PM ELUMBANG

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 29 | 59 |



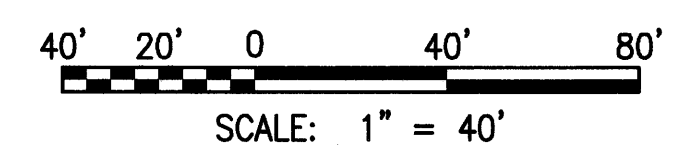
TRAFFIC CONTROL LEGEND:

- | | |
|---|--------------------------------------|
|  | <i>Variable Message Board</i> |
|  | <i>Sign</i> |
|  | <i>Direction Of Traffic</i> |
|  | <i>Cone Or Delineator</i> |
|  | <i>Work Area</i> |
|  | <i>Police Officer or Flagman</i> |


NOTES:

1. *One lane closure traffic control plan shall be used for working hours only. Contractor shall provide a rideable surface and restore two lanes of traffic at the end of work day.*
2. *Contractor shall coordinate with the State in the event that two (2) lanes of traffic cannot be met.*
3. *Contractor to submit to Engineer for approval the detour Traffic Control Plans for non-working hours. Refer to Section 645 of the Special Provisions.*

GRAPHICAL SCALE:



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04/30/10
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OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN – SITE 3

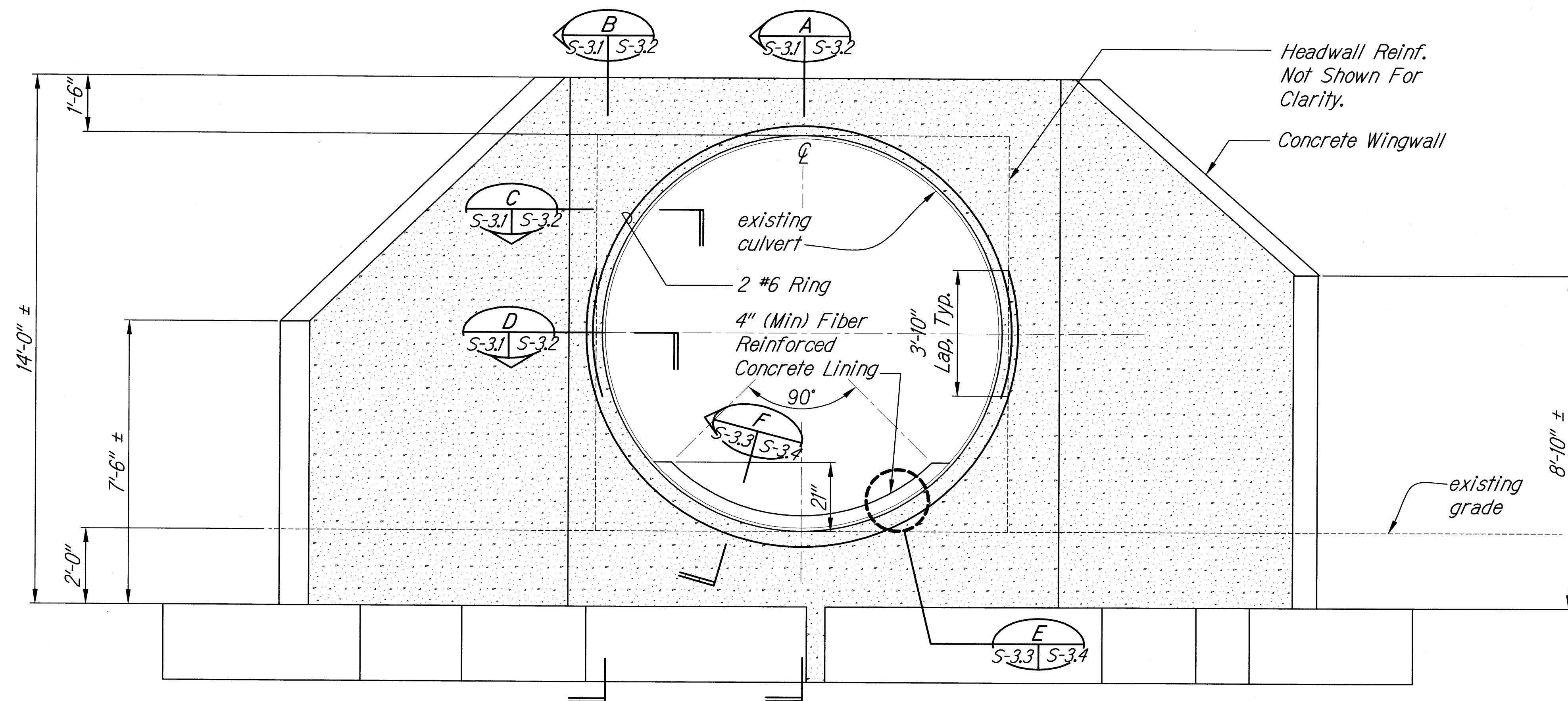
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS

Various Locations on Hawaii, Unit 1
Federal Aid Project No. ER-15(19)

Scale: AS NOTED Date: Dec. 18, 2009

SHEET No. C-34 OF 9 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 30 | 59 |



Notes:

1. Contractor Shall Remove And Dispose Of Dirt, Rust, Scale, And Other Loose Materials From Interior Of Culvert.

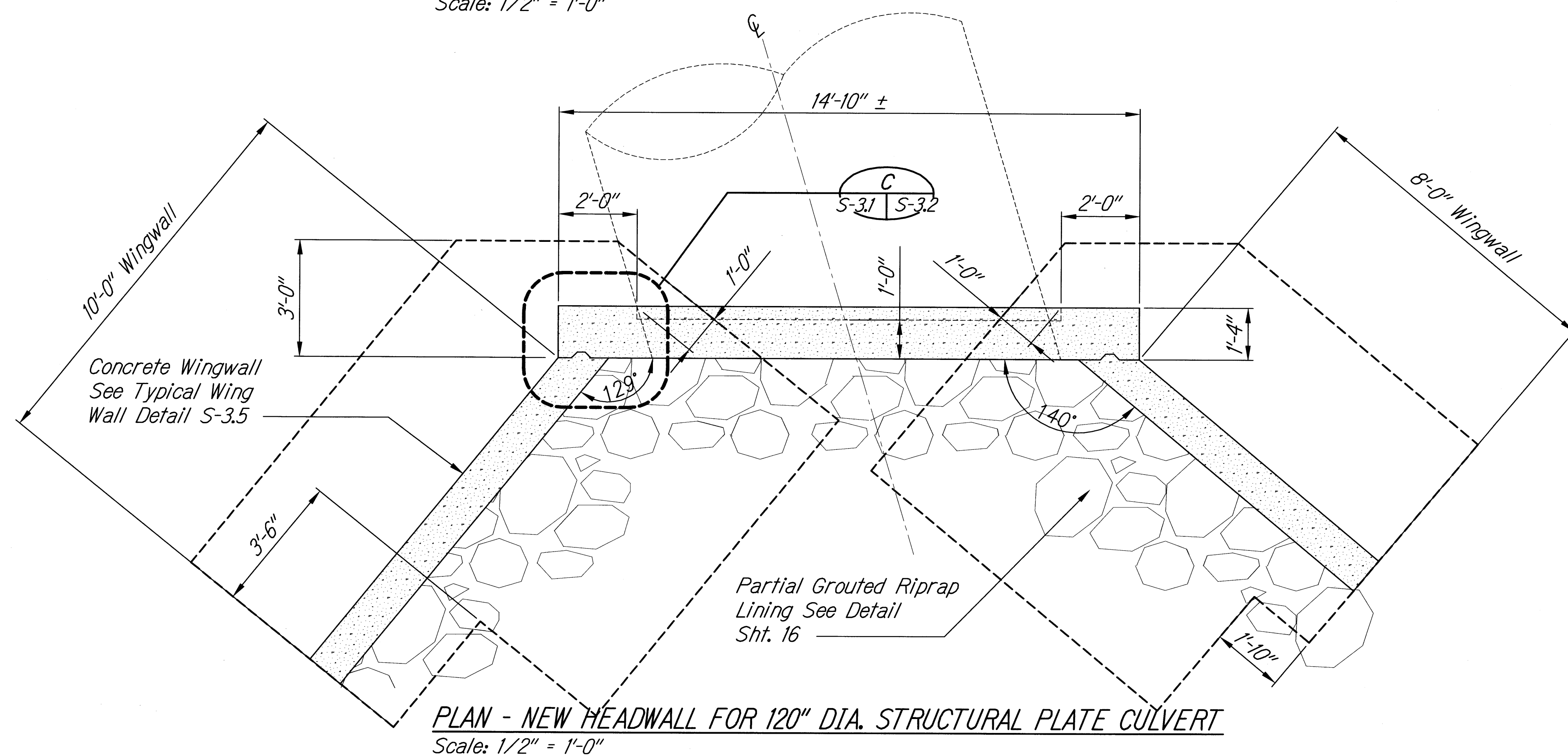
2. Prior To Concrete Placement, The Engineer Will Inspect And Accept The Prepared Culvert Surface From Inlet To Outlet.

3. Payment For Full Compensation For The Work And 4" (Min.) Fiber Reinforced Concrete Lining Material Shall Be Made Under Item No. 653.0100 - Fiber Reinforced Concrete Lining For Culverts, Sta. 35+12 Lt. And Sta. 36+08 Lt.

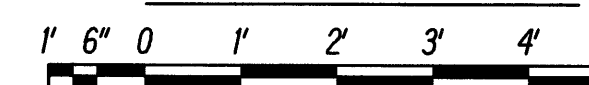
SITE 3- STA. 35+12 LT

ELEVATION - NEW HEADWALL FOR 120" DIA. STRUCTURAL PLATE CULVERT

Scale: $1/2'' = 1'-0''$



GRAPHIC SCALES



SCALE: 1/2" = 1'-0"



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OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

120" STRUCTURAL PLATE CULVERT
PLAN AND ELEVATION
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS

Various Locations on Hawaii Unit 1

Various Locations on Hawaii, Unit 1

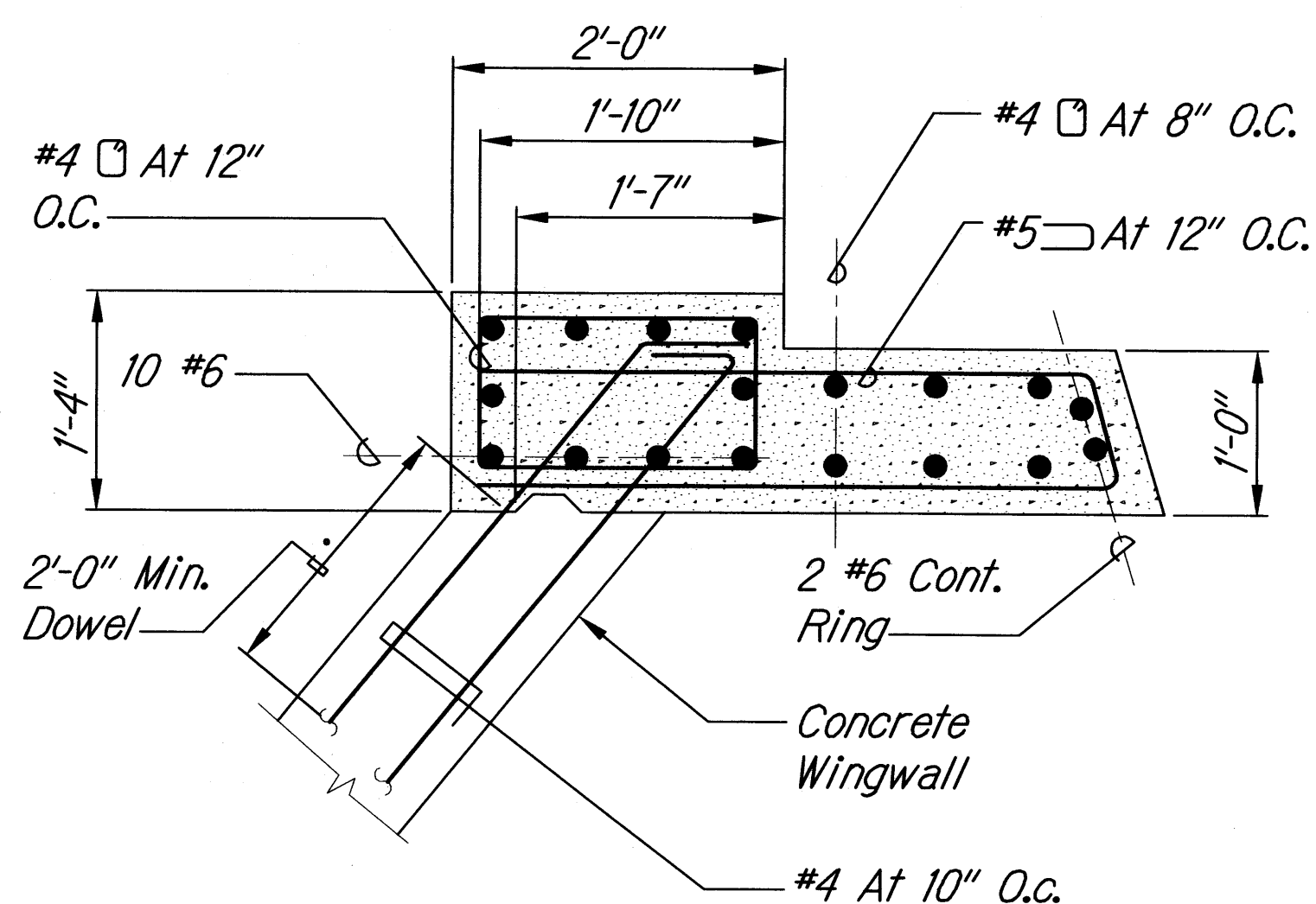
Federal Aid Project No. ER-15(19)

Scale: AS NOTED

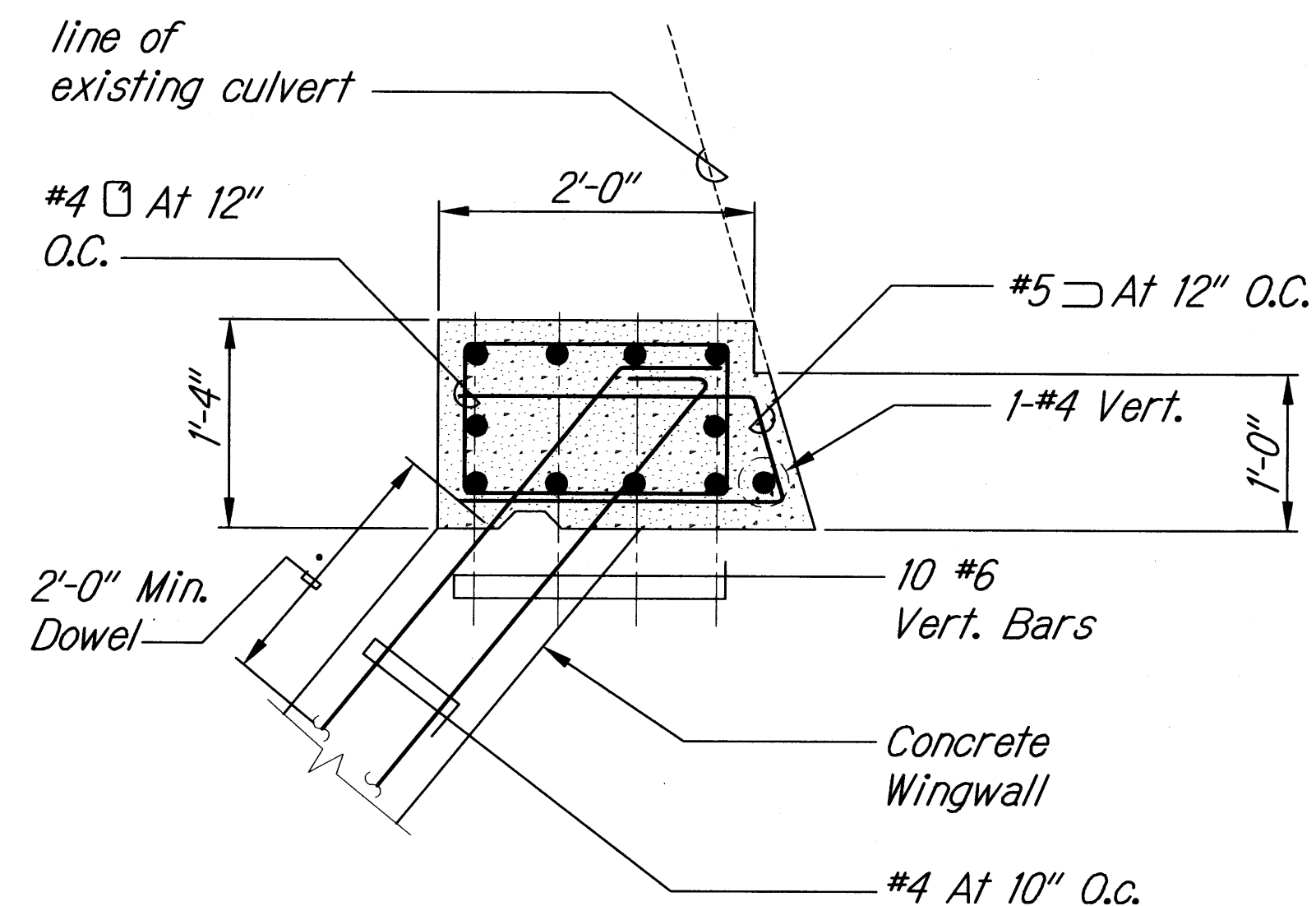
Date: 12/18/09

SHEET No. *S-3.1* OF *9* SHEETS

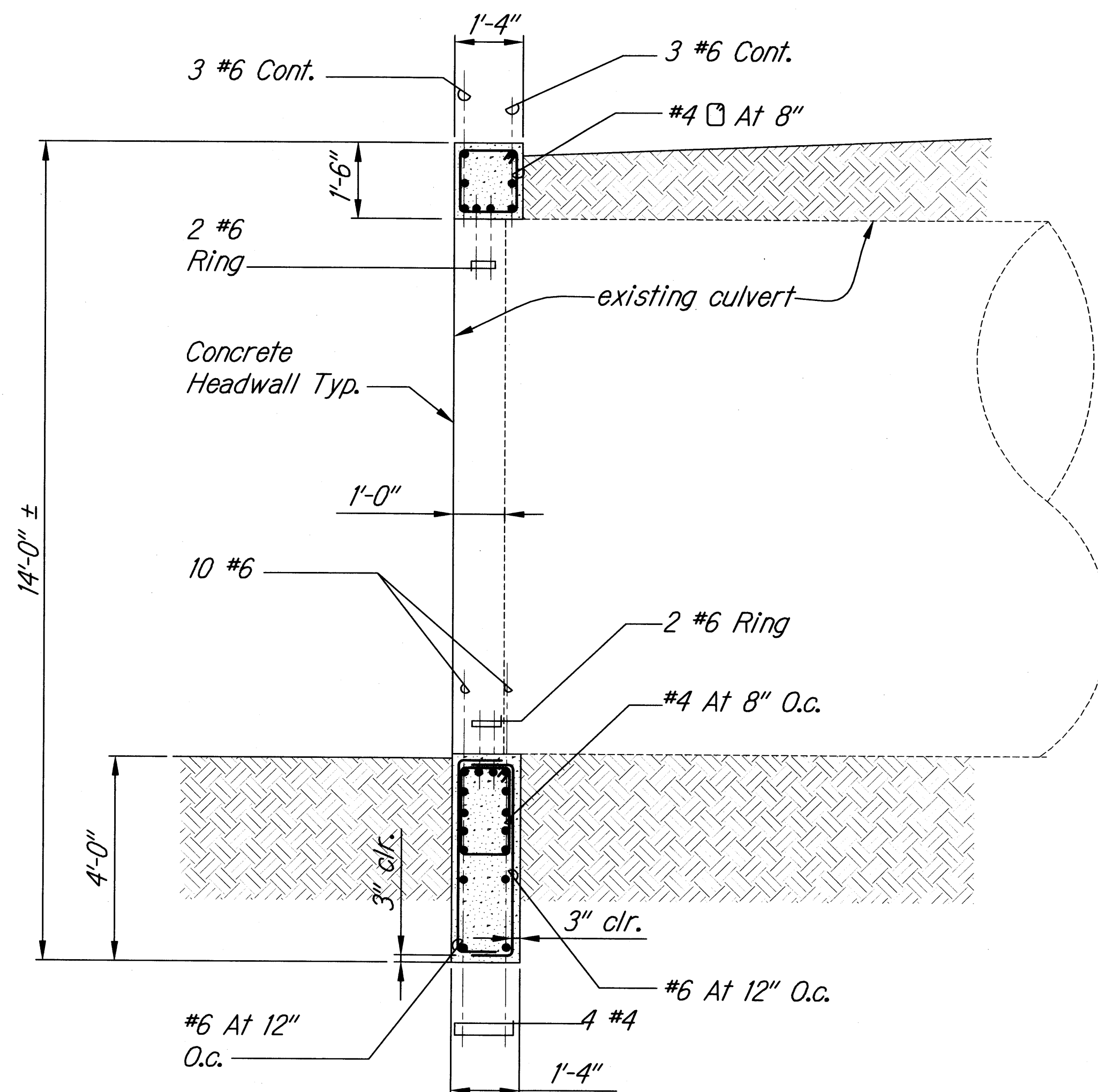
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 31 | 59 |



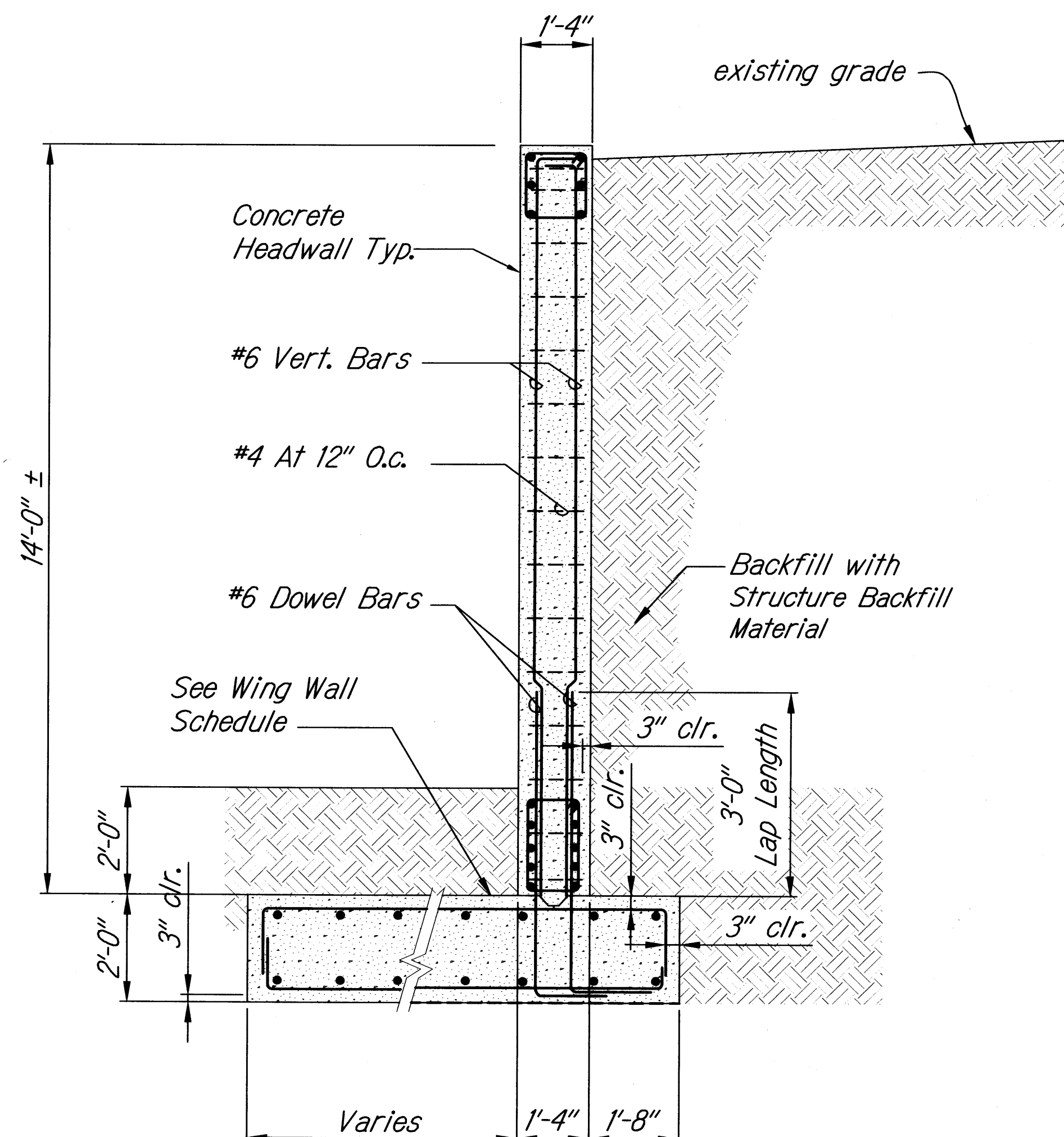
SECTION C
Scale: 1" = 1'-0"



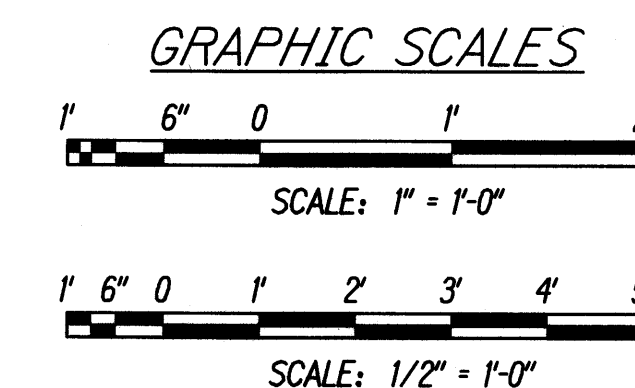
SECTION D
Scale: 1" = 1'-0"



SECTION A
Scale: 1/2" = 1'-0"



SECTION B
Scale: 1/2" = 1'-0"



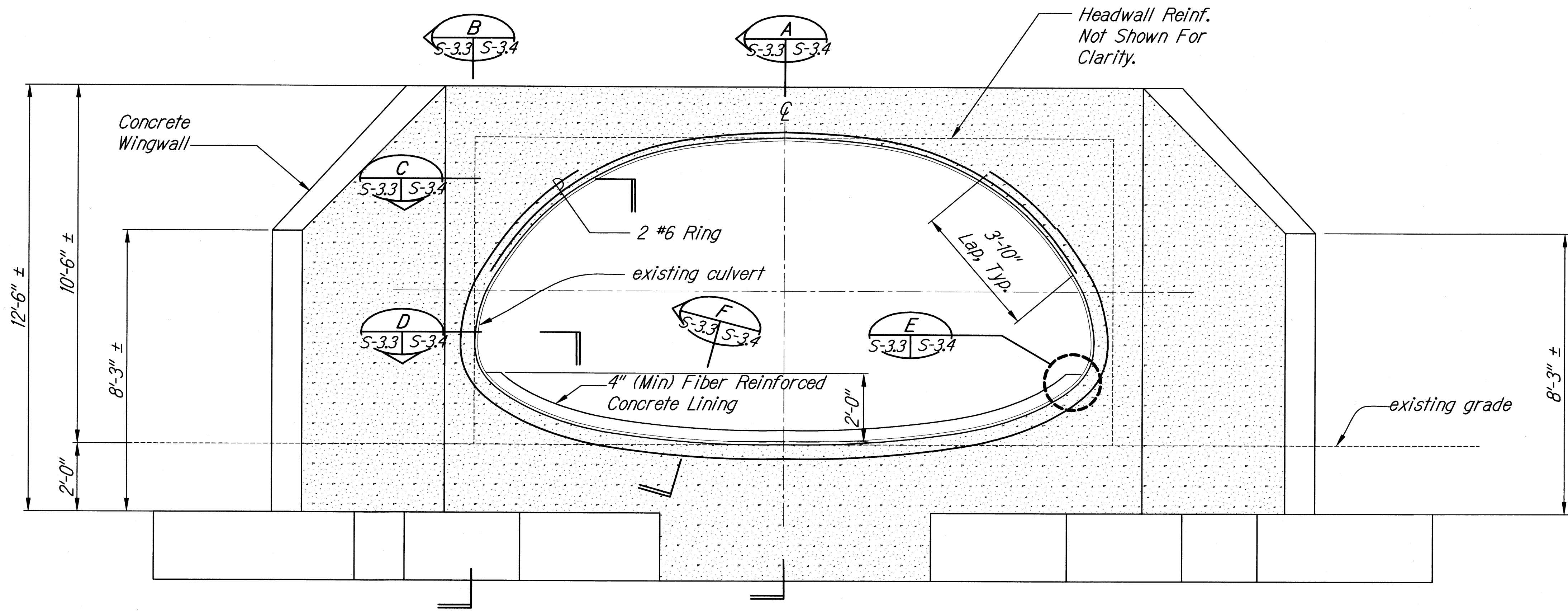
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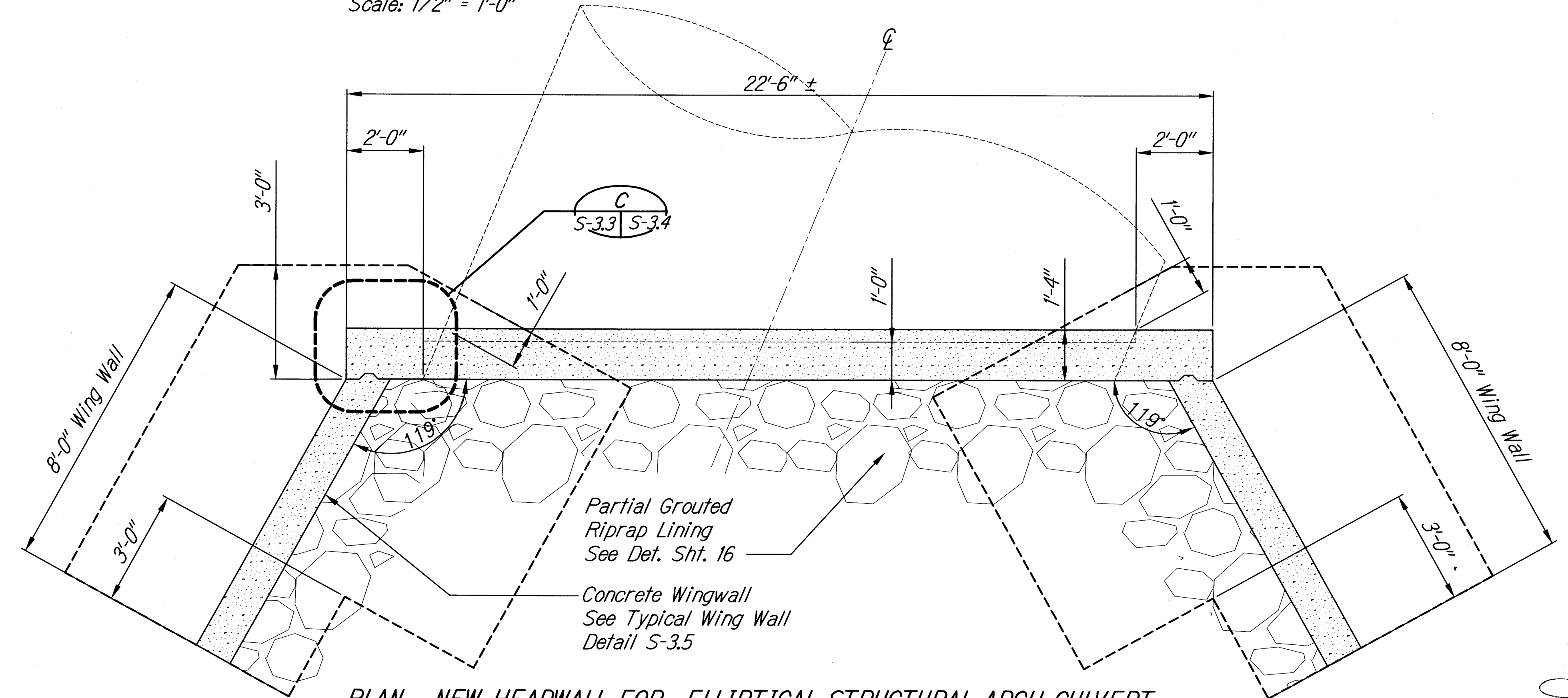
4/30/10
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
120" STRUCTURAL PLATE CULVERT
SECTION AND DETAILS
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS
Various Locations on Hawaii, Unit 1
Federal Aid Project No. ER-15(19)
Scale: AS NOTED Date: 12/18/09
SHEET No. S-3.2 OF 9 SHEETS

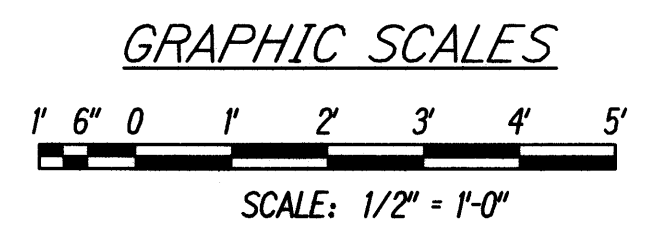
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 32 | 59 |



SITE 3 - STA. 36+08 LT.
ELEVATION - NEW HEADWALL FOR ELLIPTICAL STRUCTURAL ARCH CULVERT
Scale: 1/2" = 1'-0"



PLAN - NEW HEADWALL FOR ELLIPTICAL STRUCTURAL ARCH CULVERT
Scale: 1/2" = 1'-0"



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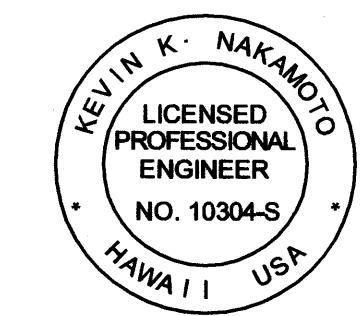
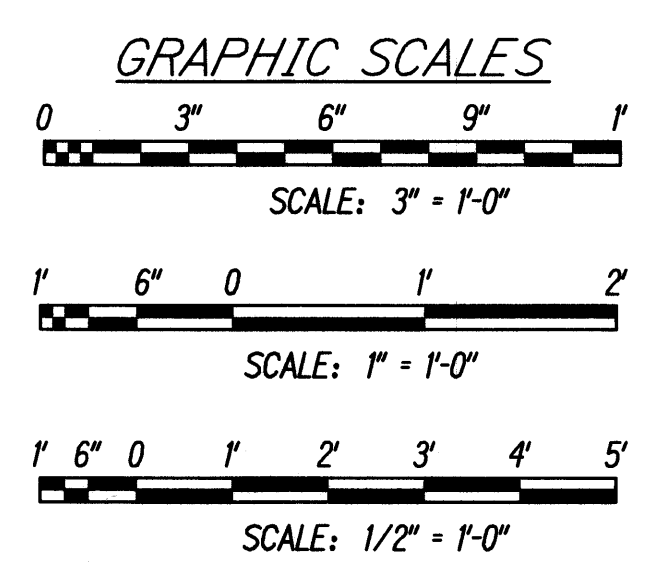
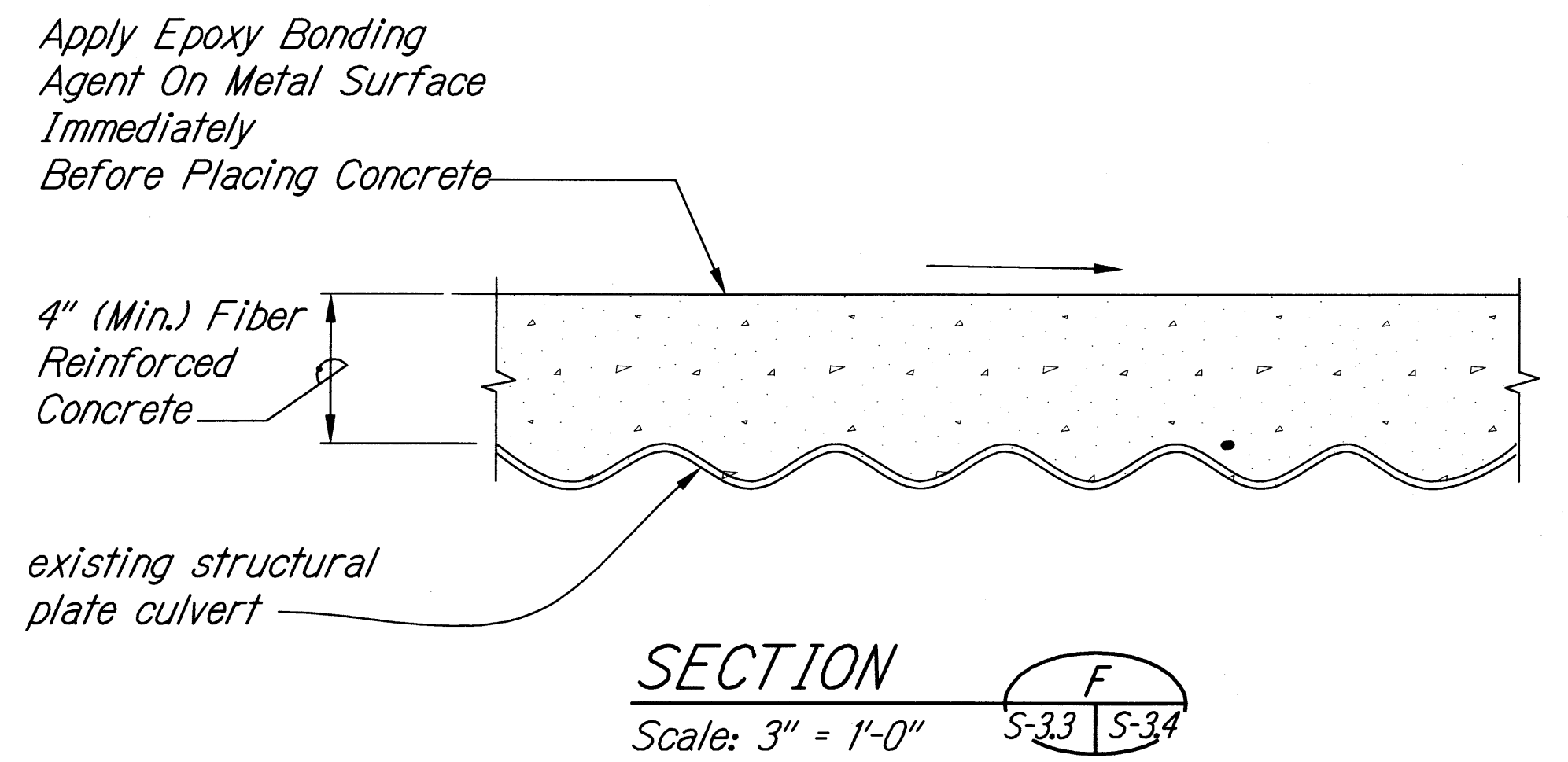
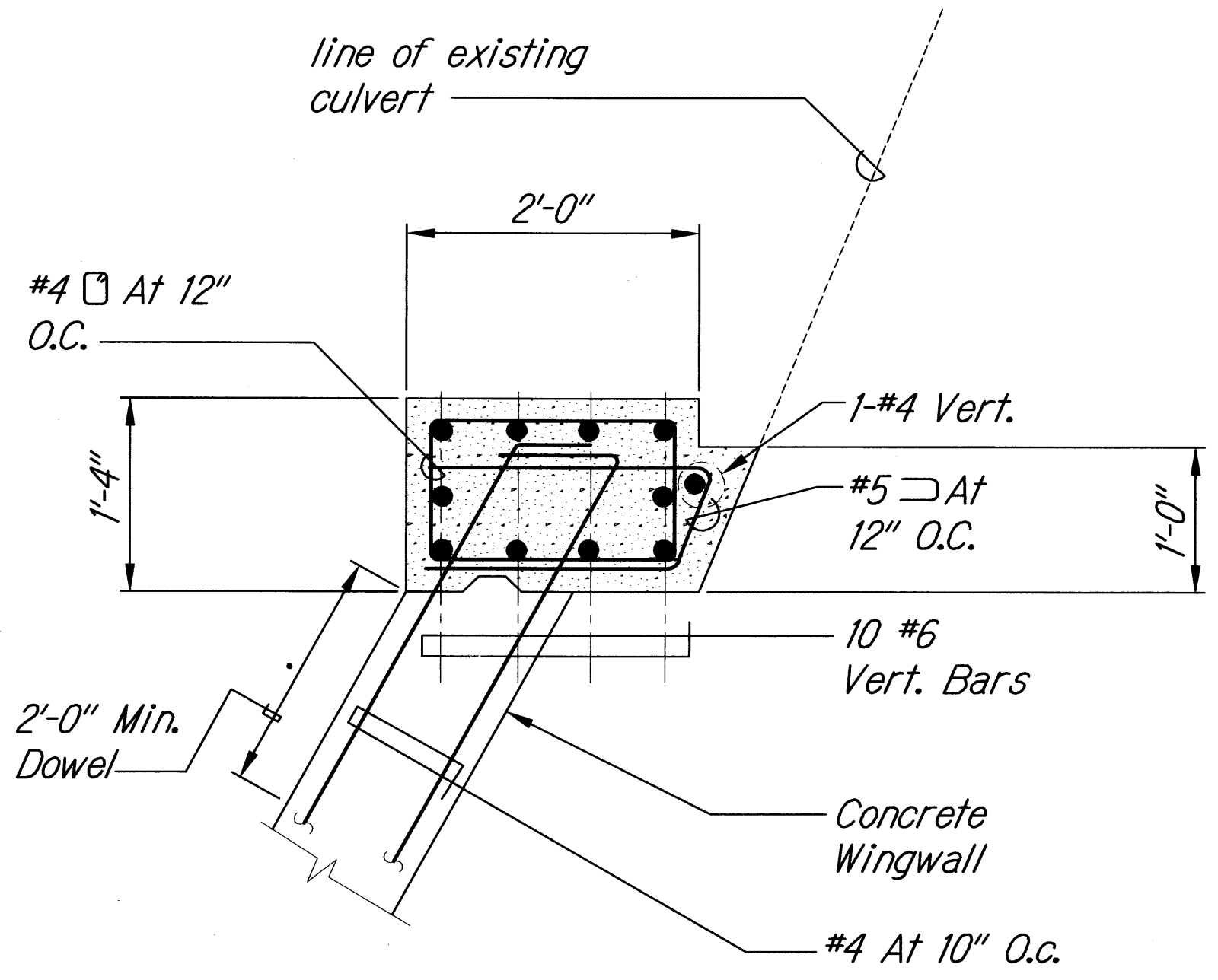
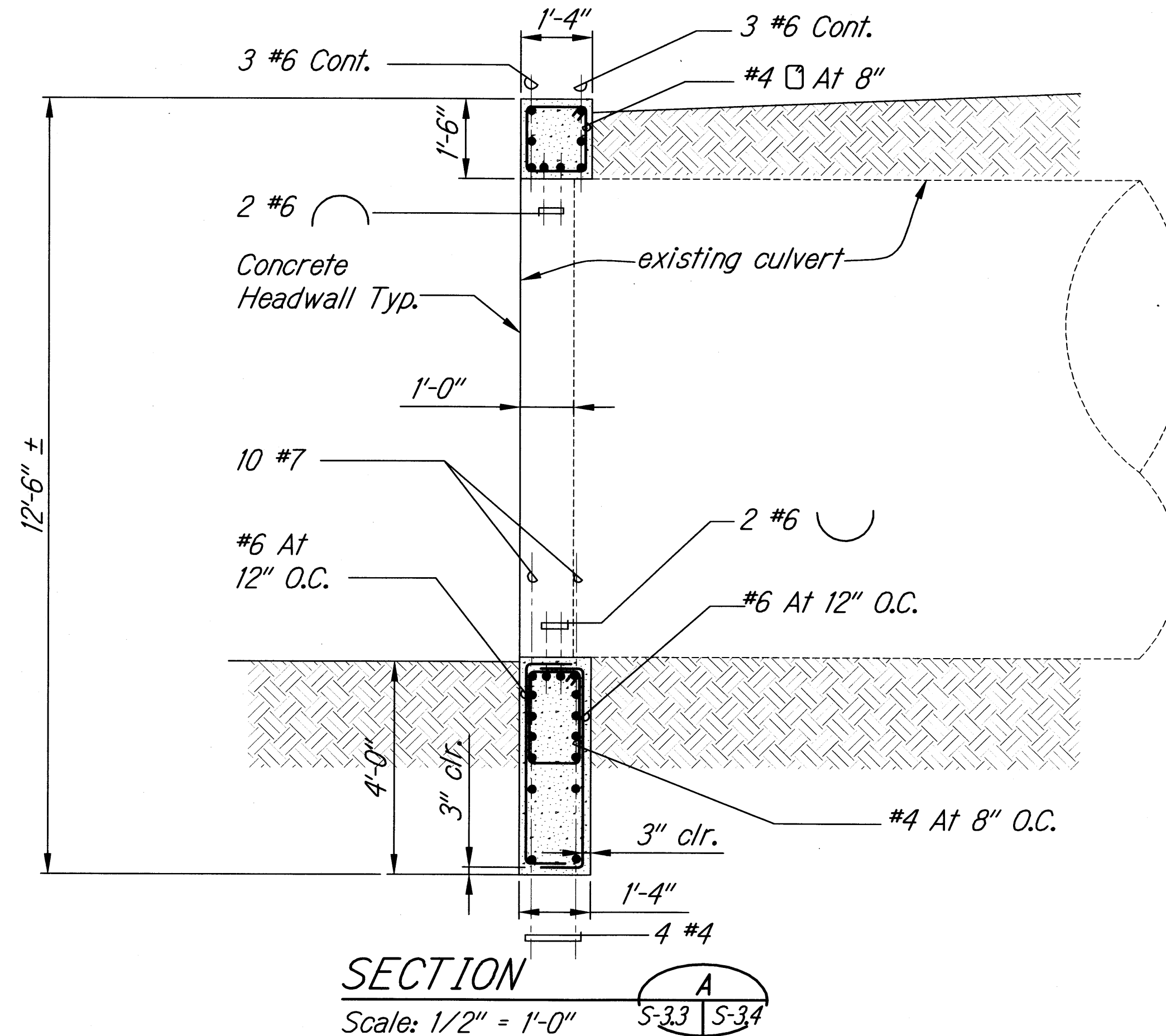
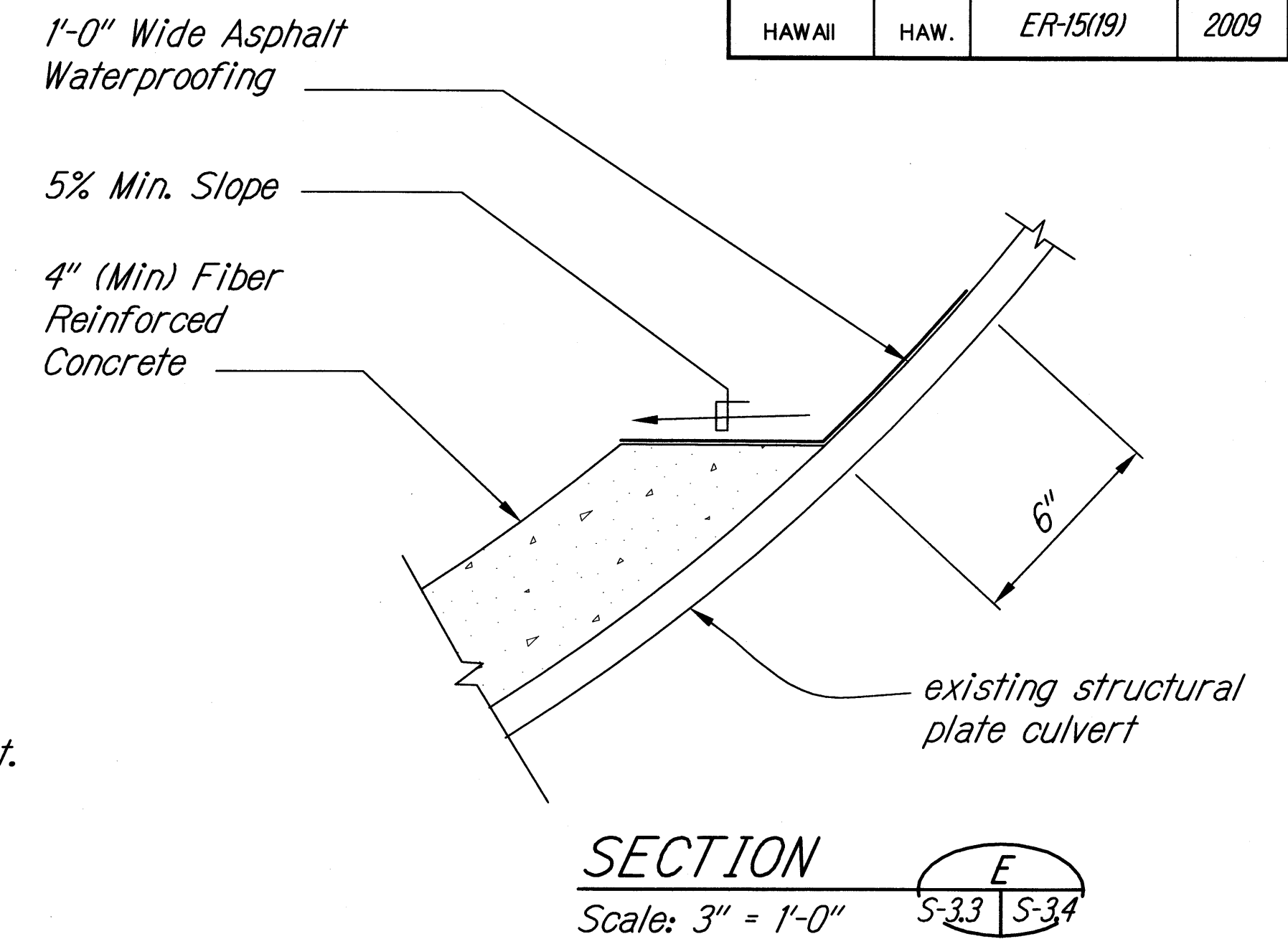
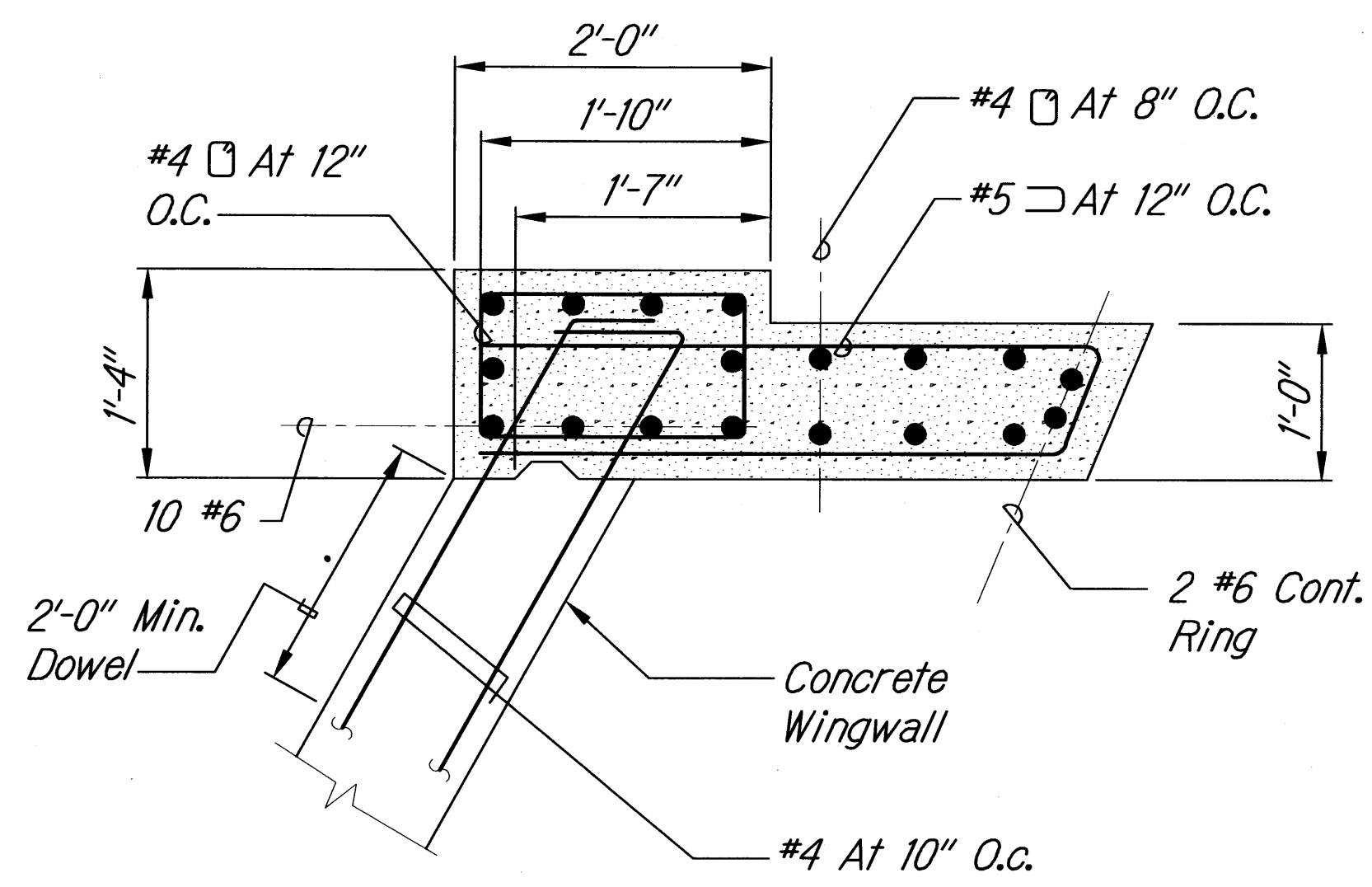
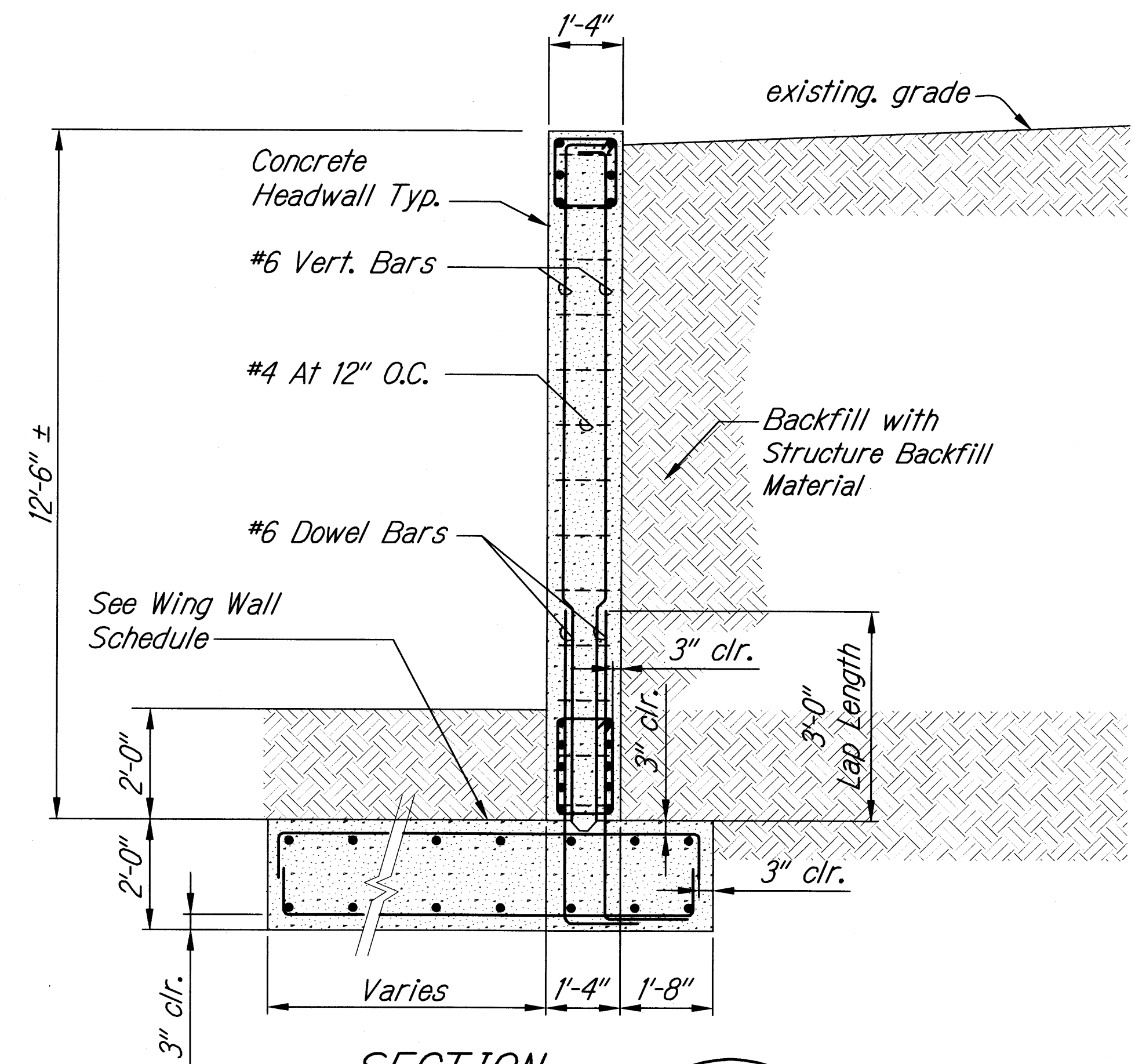
SIGNATURE

4/30/10
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURAL ARCH CULVERT
PLAN AND ELEVATION
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS
Various Locations on Hawaii, Unit 1
Federal Aid Project No. ER-15(19)
Scale: AS NOTED Date: 12/18/09
SHEET No. S-3.3 OF 9 SHEETS

| | |
|---------------|------|
| ORIGINAL PLAN | DATE |
| NOTED BY | |
| DESIGNED BY | |
| QUANTITIES BY | |
| CHECKED BY | |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | ER-15(19) | 2009 | 33 | 59 |



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STATE OF HAWAII
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 HIGHWAYS DIVISION
STRUCTURAL ARCH CULVERT
SECTION AND DETAILS
 EMERGENCY EARTHQUAKE ROCKFALL REPAIRS
 Various Locations on Hawaii, Unit 1
 Federal Aid Project No. ER-15(19)
 Scale: AS NOTED Date: 12/18/09
 SHEET No. S-34 OF 9 SHEETS


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

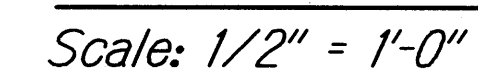
Technical drawing showing a cross-section of a wall and footing. The wall is 12" thick. Reinforcement includes #4 bars at 10" O.C. in the wall, #4 bars at 8" O.C. in the footing, and "d" bars in the wall. A 2" Dia. PVC Weephole is shown at 6' O.C. Max. Slope 1V:2H. The footing is 4'-6" high. The drawing includes dimensions for height (H), total height (T), and footing width (L). Other dimensions include 12", 1-2", 3" cl., and 6".

Labels and dimensions include:

- 12"
- Add #4 At 16" O.C.
- 1/2"
- 12"
- #4 At 10" O.C.
- #4 At 10" O.C.
- 2" Dia. PVC Weephole at 6' O.C. Max. Slope 1V:2H
- existing grade
- Top Of Footing
- Backfill with Structure Backfill Material
- "d" Bars
- "c" Bars
- Square Screen At Weephole Opening With 1 Cu. Ft. (min) Of Gravel (No. 67 Gradation) Wrapped With A Permeable Separator
- "a" Bars
- 3" cl.
- "b" Bars
- #4 Cont. At 8" O.C., Top And Bott.
- 1-2"
- 1-2"
- 3" cl.
- A
- B
- L
- H
- T
- 4'-6"
- 6"

Scale: 1/2" = 1'-0"





SCALE: $1/2" = 1'-0"$

