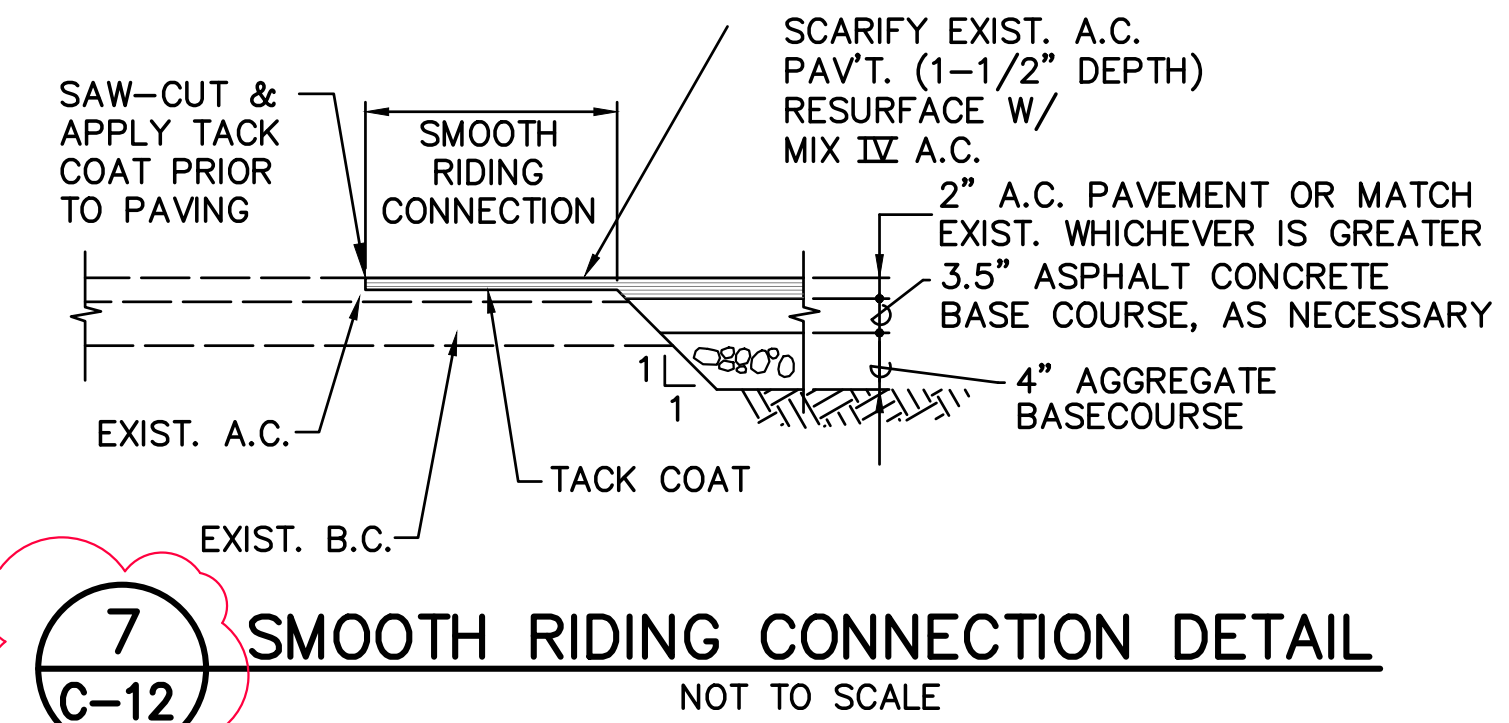
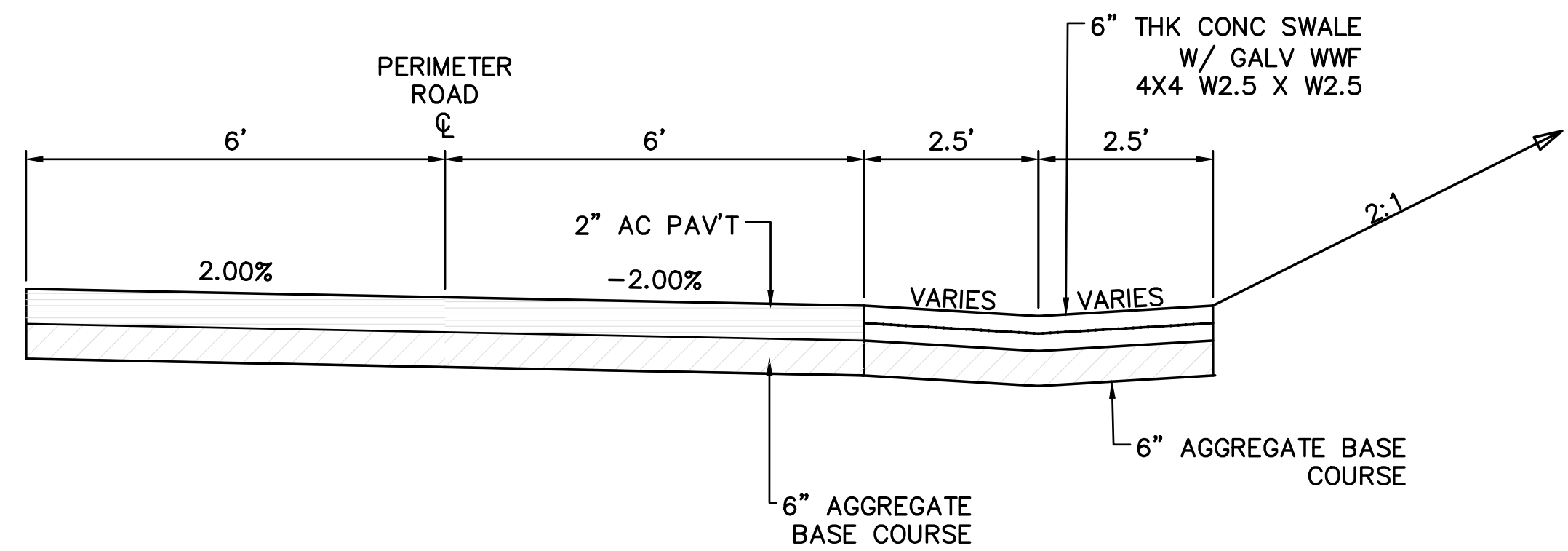
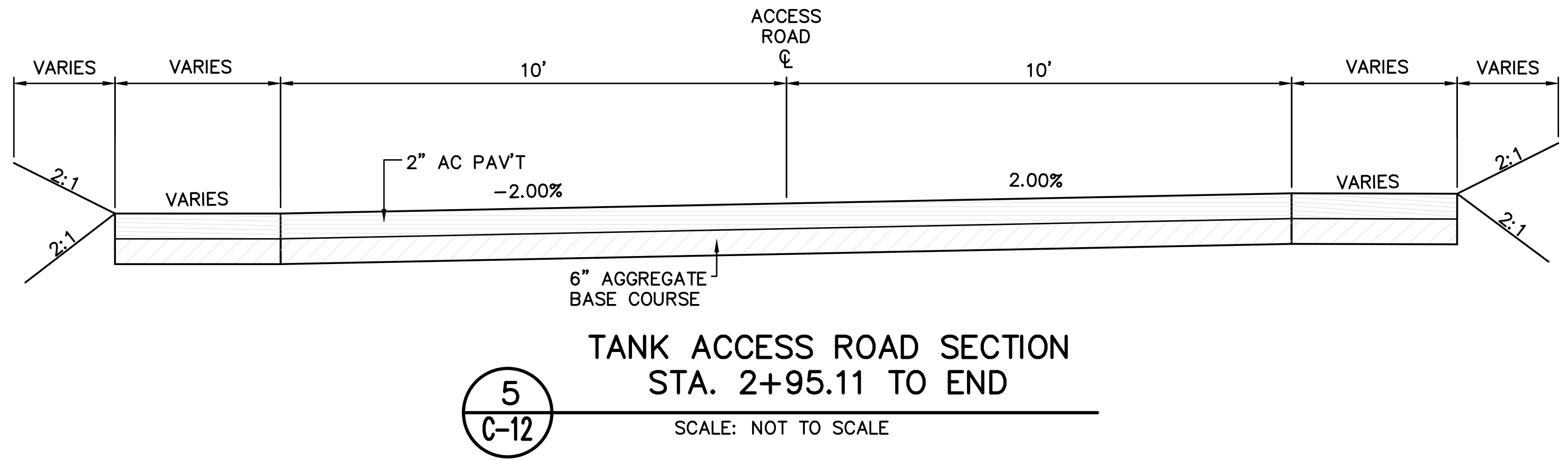
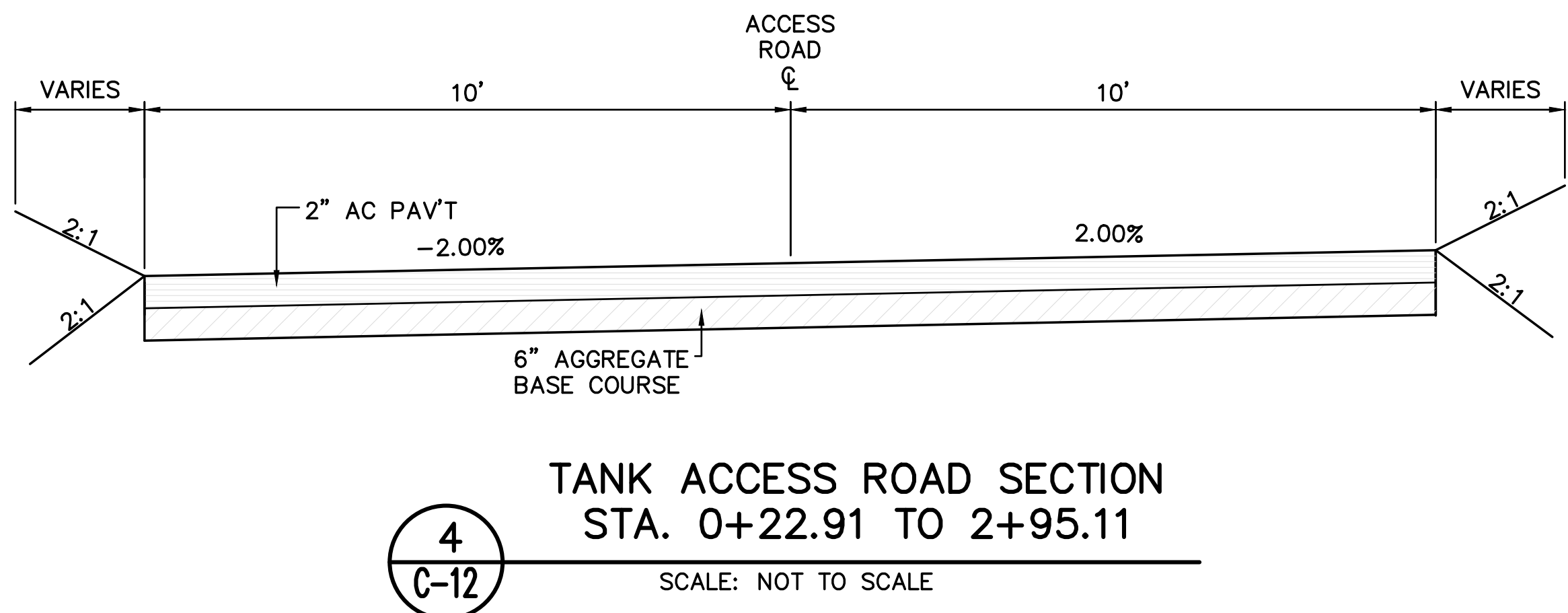
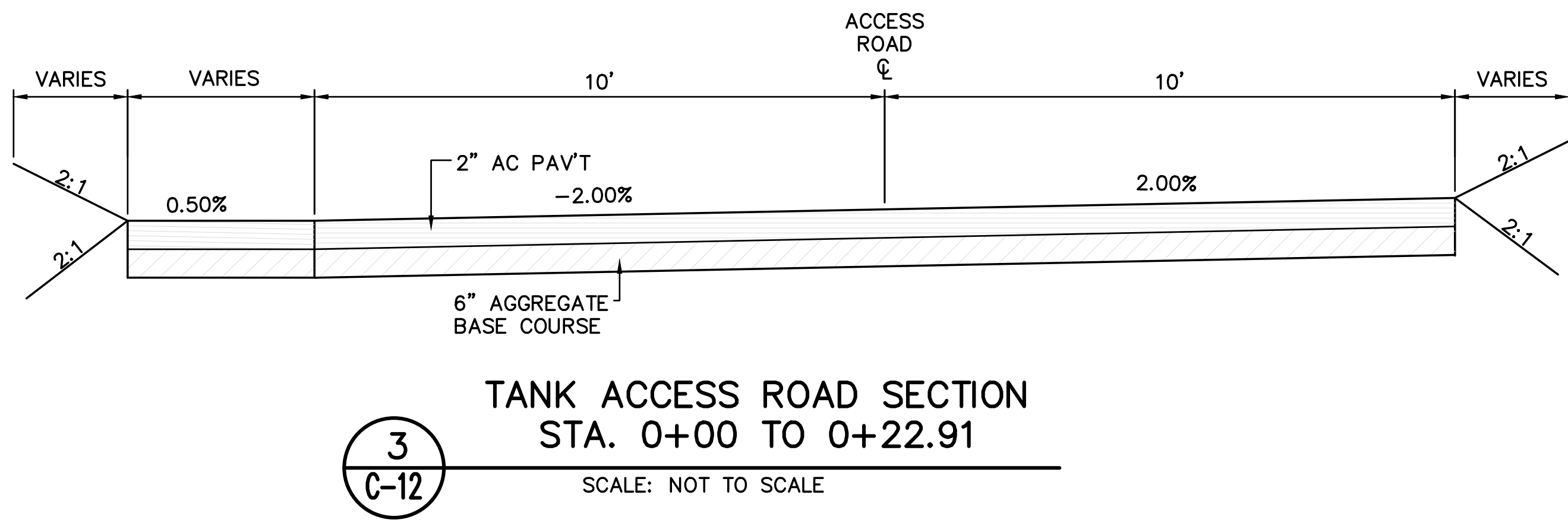
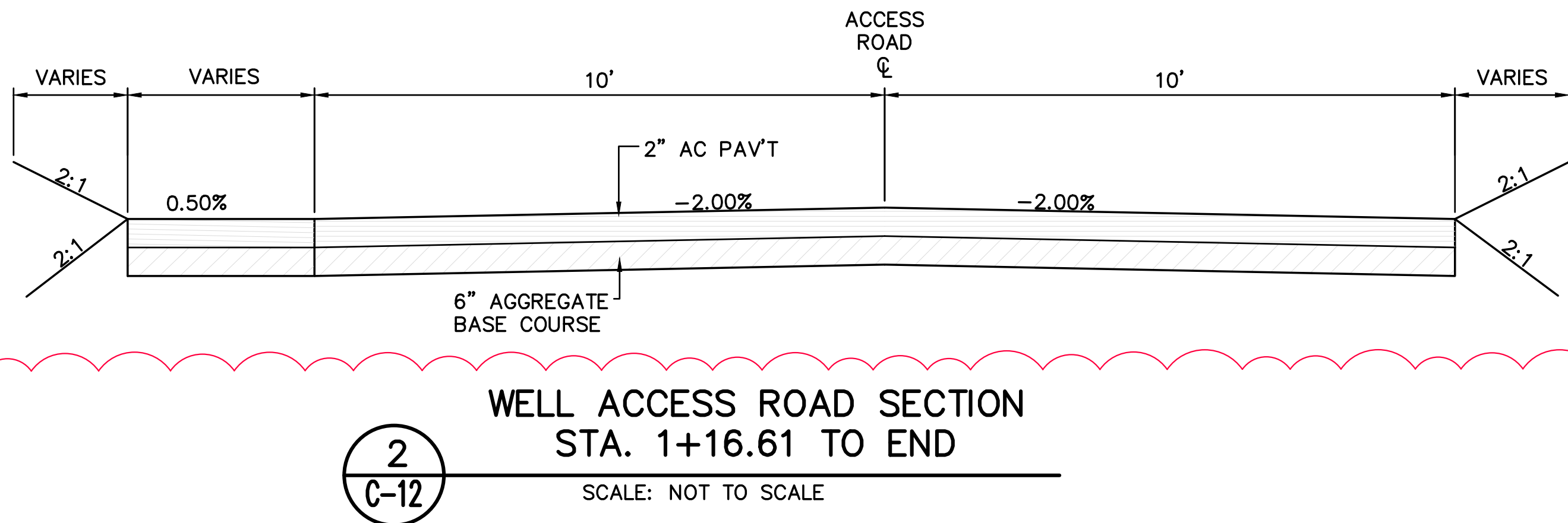
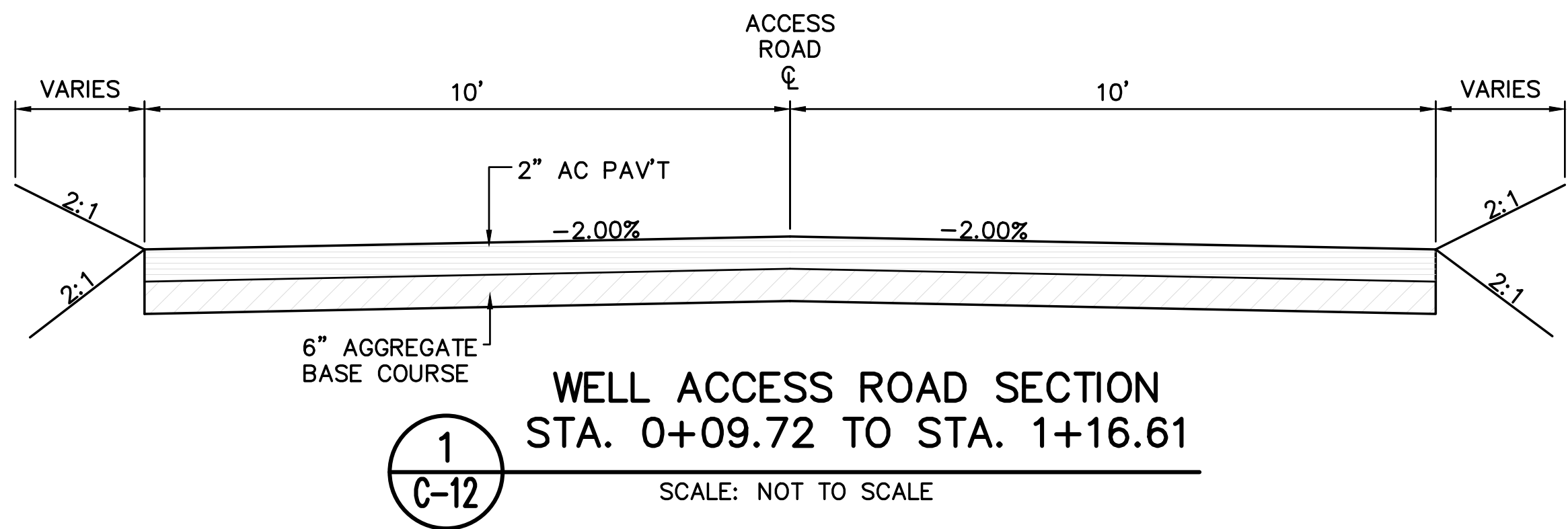
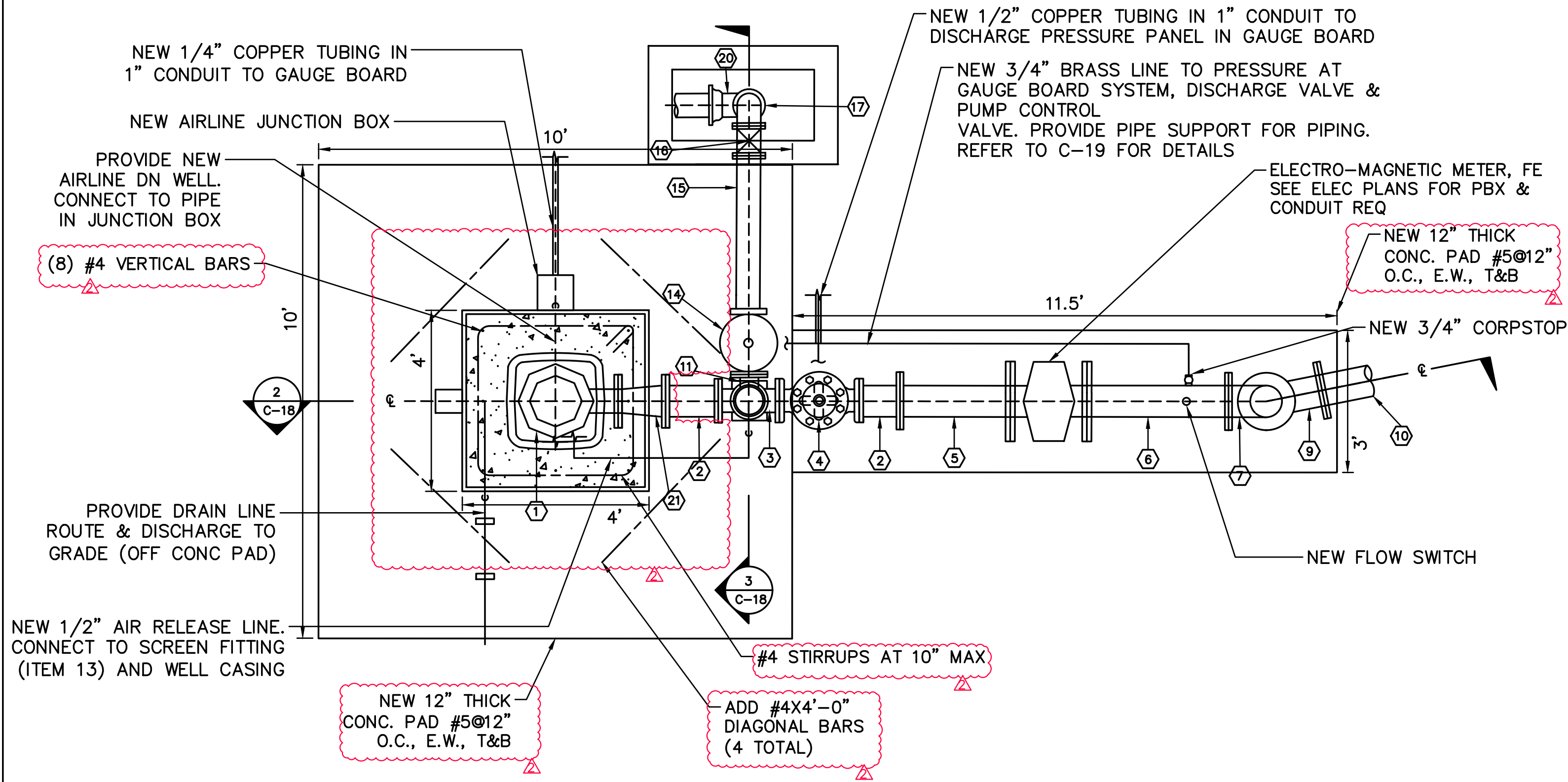


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AINOUYE design\310 plans\DLNR2101 - TYPICAL ROAD
Last Saved: 2/14/2023
Plotted on: 2/15/2023
SECTIONS.dwg



| | | | | | |
|---|-----------------------------|--------------------|---------|-------------|----------|
| 2 | ADD 2: REVISE ROAD SECTIONS | 3 OF 4 | 2/16/23 | OK | |
| REVISION NO. | SYM. | DESCRIPTION | SHT./OF | DATE | APPROVED |
| STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION UPOLU WELL DEVELOPMENT, 578' 0.5 MG RESERVOIR, AND TRANSMISSION MAIN HAWAII, HAWAII | | | | | |
| TYPICAL ROAD SECTIONS | | | | | |
| DESIGNED: | | SUBMITTED: | | | |
| DRAWN: AKI | | DATE: JANUARY 2023 | | | |
| CHECKED: SAK | | SCALE: AS NOTED | | | |
| APPROVED: | | 02/16/23 | | DRAWING NO. | |
| CHIEF ENGINEER | | DATE | | C-12 | |

Last Save by: ANOUYE
Last Saved: 2/15/2023
Plotted on: 2/15/2023
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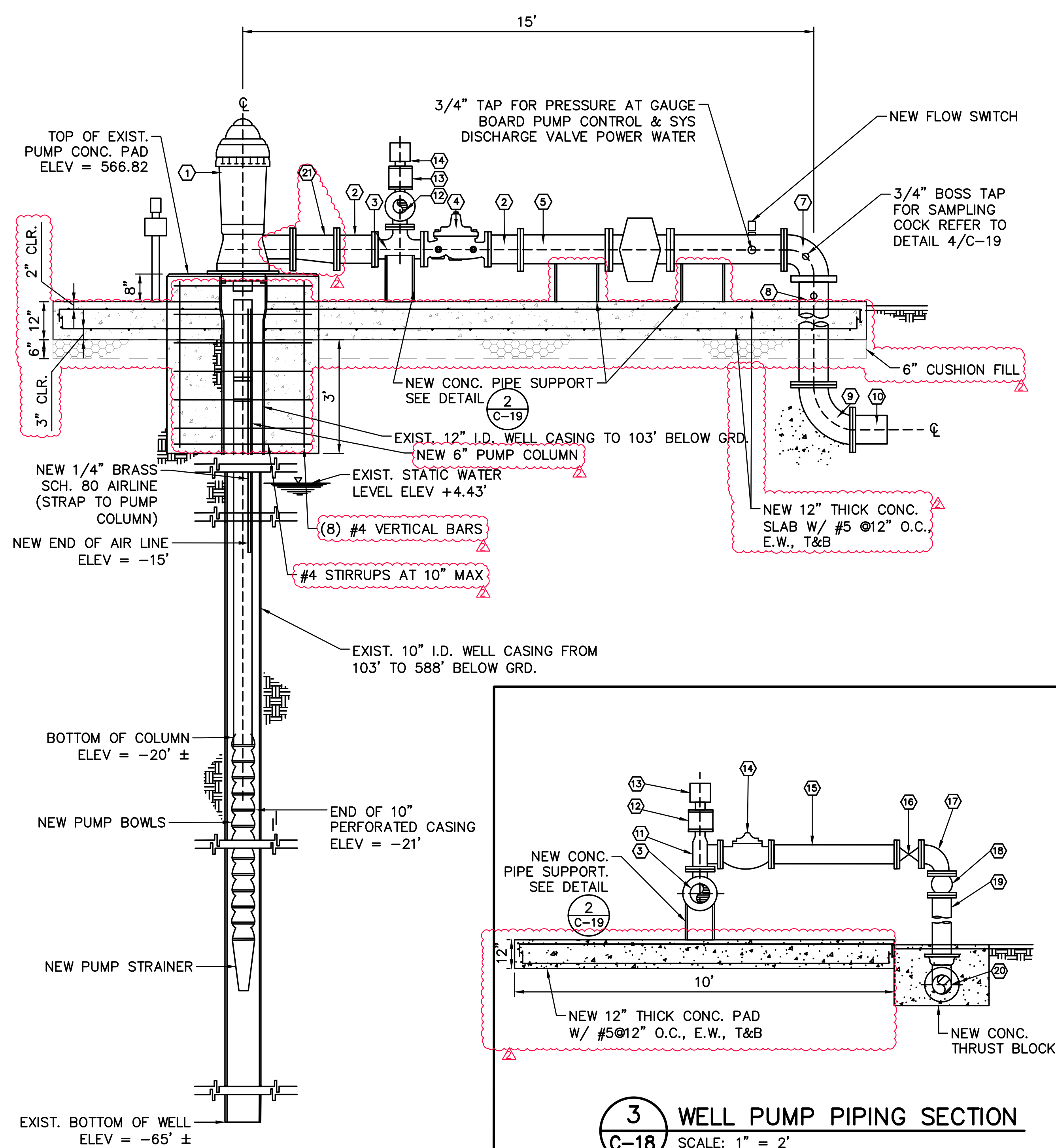


1 PLAN - WELL PUMP PIPING
C-18 SCALE: 1" = 2'

| NEW MATERIAL LIST | | | | | |
|-------------------|-----|---|-----|-----|---|
| NO. | QTY | DESCRIPTION | NO. | QTY | DESCRIPTION |
| 1 | 1 | NEW VERTICAL TURBINE PUMP | 12 | 1 | NEW 4" PUMP VACUUM RELEASE CHECK VALVE, CLASS 250 |
| 2 | 2 | NEW 8" FL. SPOOL, 2'-0" FL. TO FL. CLASS 250 | 13 | 1 | NEW SCREEN AND FITTING, REFER TO DETAIL 3 ON SHT. C-19 |
| 3 | 1 | NEW 8"x8"x6" FL. TEE, CLASS 250 | 14 | 1 | NEW 6" WELL CONTROL VALVE, CLASS 250 |
| 4 | 1 | NEW 8" SYSTEM DISCHARGE VALVE, CL 250 | 15 | 1 | NEW 6" FL. PIPE, LENGTH TO SUIT, CLASS 125 FL (ITEM 17 SIDE) & CLASS 250 FL. (ITEM 15 SIDE) |
| 5 | 1 | NEW 8" FL. PIPE, LENGTH TO SUIT, CLASS 125 FL. (ITEM 6 SIDE) & CLASS 250 FL. (ITEM 4 SIDE) | 16 | 1 | NEW 6" NRS GATE VALVE, 10" FL. TO FL, CL 125 |
| 6 | 2 | NEW 8" FL. PIPE, LENGTH TO SUIT, W/ 1-1/2" TAP FOR FLOW SWITCH & 3/4" FOR PRESSURE AT GAUGE BOARD PUMP CONTROL AND SYS DISCHARGE VALVE. | 17 | 1 | NEW 6" 90° BEND, 8" C TO FL, CLASS 125 |
| 7 | 1 | NEW 8" FL. 90° BEND, 1'-0" C TO FL., CLASS 125 PROVIDE 3/4" BOSS TAP FOR SAMPLING COCK (REFER TO DETAIL 4/C-19) | 18 | 1 | NEW 6" SILENT CHECK VALVE, 9-3/4" FL TO FL, CLASS 125 |
| 8 | 1 | NEW 8" FL. PIPE, LENGTH TO SUIT | 19 | 1 | NEW 6" FL. AND SPIGOT PIPE, LENGTH TO SUIT |
| 9 | 1 | NEW 8" FL. LONG RADIUS 90° BEND, 1'-7" C TO FL. | 20 | 1 | NEW 6" BELL SHORT RADIUS 90° BEND |
| 10 | 1 | NEW 8" FL.-PE PIPE, SEE CIVIL DWGS | 21 | 1 | NEW 8"x6" ECCENTRIC REDUCER, FL. TO FL., CLASS 250 |
| 11 | 1 | NEW 6"x4"x6" FL. REDUCING TEE, 8-1/2" C TO FL. CLASS 250 (VERT) | | | |

NEW WORK NOTES

- CONTRACTOR SHALL FIELD VERIFY MATERIAL LIST, ELEVATIONS, AND ALL DIMENSIONS PRIOR TO ORDERING OF PARTS AND INSTALL.
- CONTRACTOR SHALL FIELD VERIFY ALL SIZE, FLANGE, AND CLASS TO ENSURE PROPER FIT OF ALL VALVES, PIPING AND FITTINGS.
- WHERE DEEMED NECESSARY, CONTRACTOR SHALL ADD FITTINGS OR MODIFY LAYOUT TO ENSURE PROPER FIT AT NO ADDITIONAL COST TO DLNR.

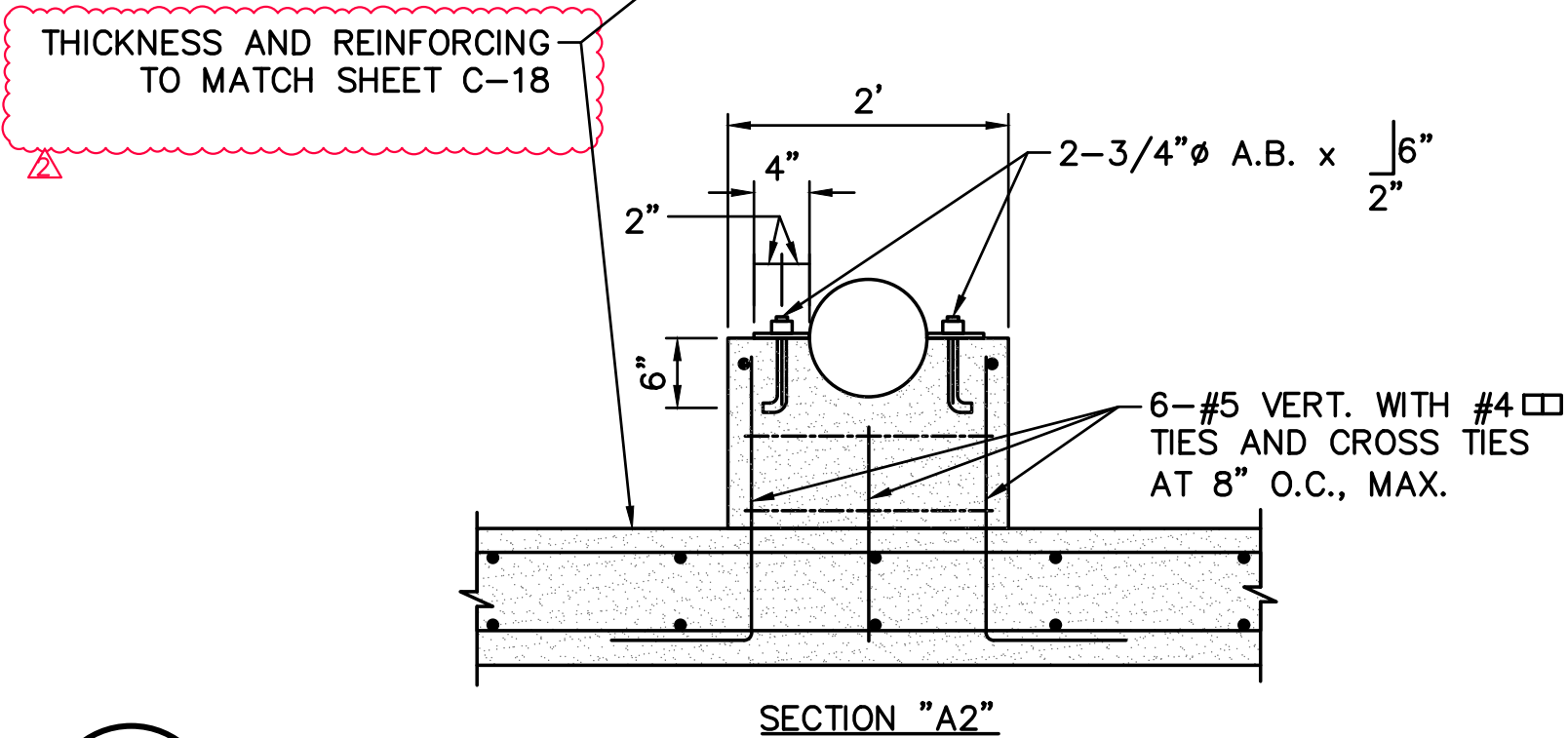
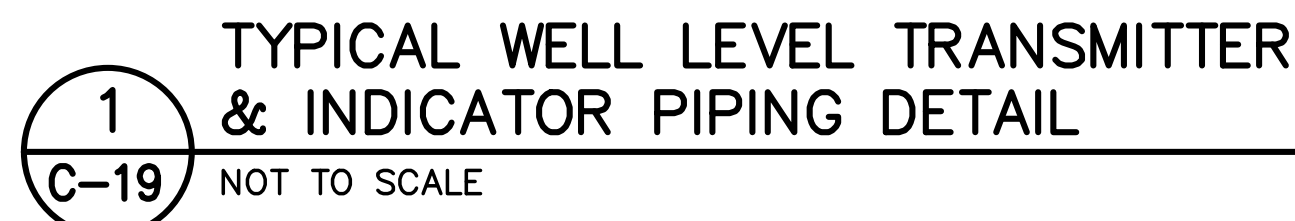


2 SECTION - WELL PUMP PIPING
C-18 SCALE: 1" = 2'

2' 0 2' 4'
SCALE: 1" = 2'-0"

3 WELL PUMP PIPING SECTION
C-18 SCALE: 1" = 2'

| 2 | ADD 2: REVISE PUMP COLUMN SIZE, ADD CONC. REINFORCEMENT DETAILS, REVISE CALLOUTS | 4 OF 4 | 2/16/23 | | | | | | | | | | | | | | |
|--|--|-------------|---------|------|----------|-----------|------------|------------|--------------------|--------------|-----------------|-----------|-------------|----------------|------------------|--|-------------|
| REVISION NO. | SYM. | DESCRIPTION | SHT. OF | DATE | APPROVED | | | | | | | | | | | | |
| <div><div><div>KEN C. KAWAHARA LICENSED PROFESSIONAL ENGINEER No. 9148-C HAWAII, U.S.A.</div><div>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION LICENSE EXPIRES 4/30/24</div></div><div><div>STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION UPOLU WELL DEVELOPMENT, 578' 0.5 MG RESERVOIR, AND TRANSMISSION MAIN HAWAII, HAWAII</div><div>WELL PUMP PIPING PLAN & SECTION</div><div><table><tr><td>DESIGNED:</td><td>SUBMITTED:</td></tr><tr><td>DRAWN: AKI</td><td>DATE: JANUARY 2023</td></tr><tr><td>CHECKED: SAK</td><td>SCALE: AS NOTED</td></tr><tr><td>APPROVED:</td><td>DRAWING NO.</td></tr><tr><td>CHIEF ENGINEER</td><td>02/16/23 DATE</td></tr><tr><td></td><td>C-18</td></tr></table></div></div></div> | | | | | | DESIGNED: | SUBMITTED: | DRAWN: AKI | DATE: JANUARY 2023 | CHECKED: SAK | SCALE: AS NOTED | APPROVED: | DRAWING NO. | CHIEF ENGINEER | 02/16/23 DATE | | C-18 |
| DESIGNED: | SUBMITTED: | | | | | | | | | | | | | | | | |
| DRAWN: AKI | DATE: JANUARY 2023 | | | | | | | | | | | | | | | | |
| CHECKED: SAK | SCALE: AS NOTED | | | | | | | | | | | | | | | | |
| APPROVED: | DRAWING NO. | | | | | | | | | | | | | | | | |
| CHIEF ENGINEER | 02/16/23 DATE | | | | | | | | | | | | | | | | |
| | C-18 | | | | | | | | | | | | | | | | |

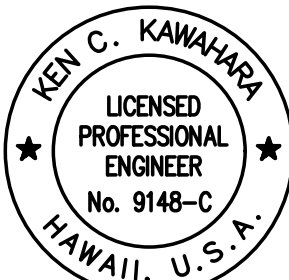



SECTION A2
2 TYPICAL PIPE SUPPORT PEDESTAL (TYPE 2)
C-19 NOT TO SCALE



7 PIPE SUPPORT
C-19 NOT TO SCALE



| 2 | ADD 2: REVISE SHEET REFERENCE | 4 of 4 | 2/16/23 | OK | |
|---|-------------------------------|--|---------|--------------------|----------|
| REVISION NO. | SYM. | DESCRIPTION | SHT./OF | DATE | APPROVED |
| <div><p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION LICENSE EXPIRES 4/30/24</p></div> | | STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION | | | |
| | | UPOLU WELL DEVELOPMENT, 578' 0.5 MG RESERVOIR, AND TRANSMISSION MAIN HAWAII, HAWAII | | | |
| | | WELL PUMP & PIPING DETAILS | | | |
| | | DESIGNED: | | SUBMITTED: | |
| | | DRAWN: AKI | | DATE: JANUARY 2023 | |
| | | CHECKED: SAK | | SCALE: AS NOTED | |
| | | APPROVED:  | | DRAWING NO. | |
| | | CHIEF ENGINEER | | C-19 | |
| | | 02/16/23 | | DATE | |



5 WELL PUMP SERVICE LINE SCHEMATIC