

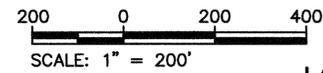
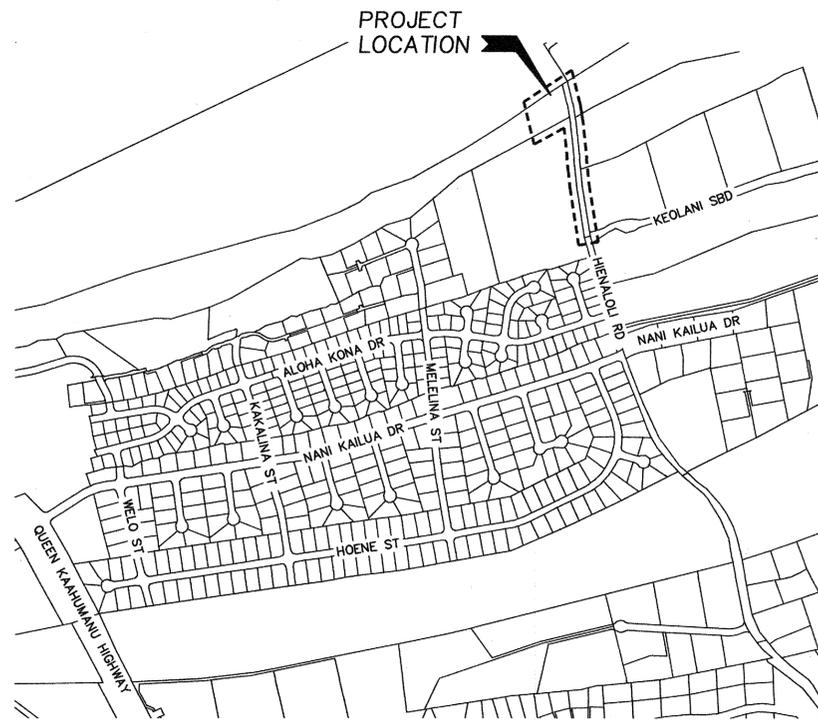
STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 ENGINEERING DIVISION
 FOR
 COMMISSION ON WATER RESOURCE MANAGEMENT
 JOB NO. G75CH18B

KEOPU DEEP MONITOR WELL IMPROVEMENTS

(STATE WELL NO. 8-3858-001)

KAILUA-KONA, HAWAII

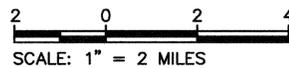
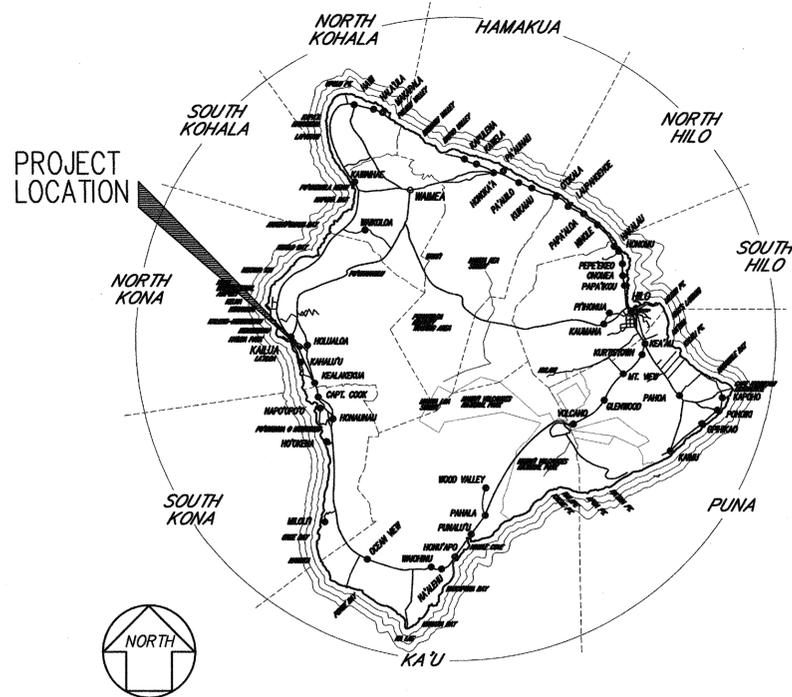
T.M.K.: (3) 7-5-010: 016



SCALE: 1" = 200'

LOCATION MAP

SCALE: 1" = 200'



SCALE: 1" = 2 MILES

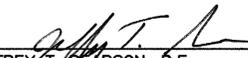
ISLAND OF HAWAII

1" = 2 MILES

INDEX OF DRAWINGS

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APPROVED:



 JEFFREY T. PEARSON, P.E.
 DEPUTY DIRECTOR - WATER
 COMMISSION ON WATER RESOURCE MANAGEMENT

2/4/16
 DATE



 CARY S. CHANG, P.E.
 CHIEF ENGINEER
 ENGINEERING DIVISION
 DEPARTMENT OF LAND AND NATURAL RESOURCES

2/4/16
 DATE

DRAWING NO.
T-1

P.M.: STY
 CURRENT OPR: Irs
 CURRENT TIME: Feb 02, 2016 - 9:30am
 LAST SAVED BY: Irs
 LAST MODIFIED: Tue, 02 Feb 2016 - 8:54am
 PREFIX: G:\DLNR\302 Deep Monitor Wells\300 DSGN\310 PLANS\
 FILE: DLNR\302 Titlesheet.dwg
 LAYOUT: Layout1

GENERAL CONSTRUCTION NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII, DEPARTMENT OF PUBLIC WORKS "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1984, AND "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1986. UNLESS INDICATED OTHERWISE IN THE PLANS, THESE NOTES, OR THE SPECIAL PROVISIONS.
 - SURVEY OF MONUMENT STAKEOUT SHALL BE MADE BY REGISTERED LAND SURVEYORS.
 - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH RESPECTIVE UTILITY COMPANIES.
 - THE CONTRACTOR SHALL MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS TO EXISTING FACILITIES AT ALL TIMES AND SHALL SCHEDULE AND PROSECUTE HIS WORK IN SUCH A MANNER AS TO AVOID INTERRUPTION OF NORMAL ACTIVITIES AT THE EXISTING FACILITIES. THE CONTRACTOR SHALL PROVIDE EARLY NOTIFICATION OF AND OBTAIN APPROVAL FOR ANY ANTICIPATED INTERRUPTIONS. TEMPORARY SAFE PEDESTRIAN PASSAGEWAYS AROUND OR THROUGH A CONSTRUCTION SITE SHALL COMPLY WITH 2010 AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (2010 ADAAG) AS REQUIRED BY HAWAII REVISED STATUTES (HRS) 103-50 STANDARDS.
 - ALL EXISTING UTILITIES, AND OTHER FACILITIES WHETHER SHOWN ON THE PLANS OR NOT, WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE TO THE ORIGINAL UNDAMAGED CONDITION.
 - EXISTING CONDITIONS ARE SHOWN TO THE BEST OF OUR KNOWLEDGE. DISCREPANCIES SHALL BE PROMPTLY BE REPORTED TO THE DIRECTOR AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
 - PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES, WHICH MAY BE AFFECTED BY HIS WORK. INTERFERENCE WITH THE STRUCTURE SHALL PROMPTLY BE REPORTED TO THE DIRECTOR AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
 - SHOULD A DISCREPANCY OCCUR ON THE DRAWINGS BETWEEN ANY PROJECT SPECIAL NOTES/SPECIAL DETAILS, AND THE TYPICAL SPECS/TYPICAL DETAILS, SAID SPECIAL NOTES/SPECIAL DETAILS SHALL TAKE PRECEDENCE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL."
- THE CONTRACTOR SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:
- STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
 - DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.
- IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT [HTTP://HEALTH.HAWAII.GOV/CWB](http://health.hawaii.gov/cwb). THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.
- ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (MSL).
 - THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES TO ITS ORIGINAL CONDITIONS OR BETTER.

NOTES ON CONTROLS FOR LAND DISTURBANCES

HAR CHAPTER 11-55 APPENDIX C REQUIREMENTS THE FOLLOWING SPECIAL CONDITIONS APPLY TO ALL LAND DISTURBANCES WORK CONDUCTED UNDER THIS GENERAL PERMIT:

A. CONSTRUCTION MANAGEMENT TECHNIQUES

- CLEARING AND GRUBBING SHALL BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.
- CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF THE CLEARED SURFACE AREA.
- CONSTRUCTION SHALL BE STAGED OR PHASED FOR LARGE PROJECTS. AREAS OF ONE PHASE SHALL BE STABILIZED BEFORE ANOTHER PHASE IS INITIATED. STABILIZATION SHALL BE ACCOMPLISHED BY TEMPORARILY OR PERMANENTLY PROTECTING THE DISTURBED SOIL SURFACE FROM RAINFALL IMPACTS AND RUNOFF.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, FOR EXAMPLE, WEEKLY IN DRY PERIODS AND WITHIN TWENTY-FOUR PERIOD DURING PROLONGED RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF CHECKS AND REPAIRS. CHECK AND REPAIRS.
- THE PERMITTEE SHALL MAINTAIN RECORDS OF THE DURATION AND ESTIMATED VOLUME OF STORM WATER DISCHARGE(S).
- A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.

B. VEGETATION CONTROLS

- PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED, OR DISTURBED MORE THAN TWENTY CALENDAR DAYS PRIOR TO LAND DISTURBANCE.
- TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN THIRTY CALENDAR DAYS.
- PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION OR PAVEMENT SHALL BE APPLIED AS SOON AS PRACTICAL AFTER FINAL GRADING. IRRIGATION AND MAINTENANCE OF THE PERENNIAL VEGETATION SHALL BE PROVIDED FOR THIRTY CALENDAR DAYS OR UNTIL THE VEGETATION TAKES ROOT, WHICHEVER IS SHORTER.

C. STRUCTURAL CONTROLS

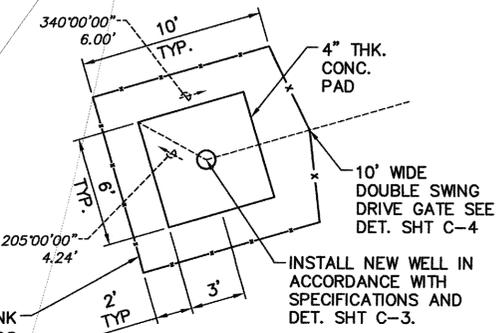
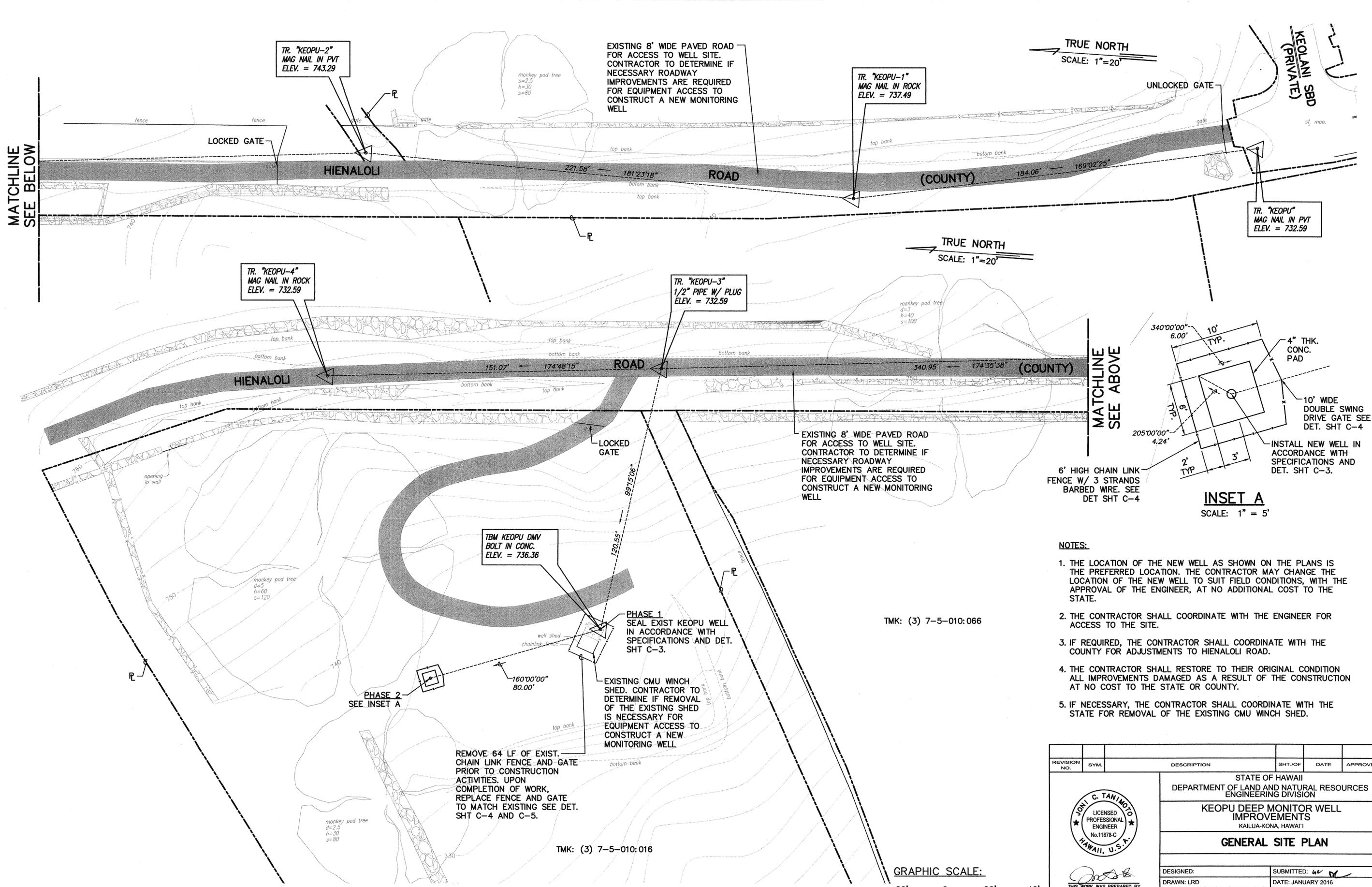
- STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES, AS PRACTICAL.
- EROSION CONTROL MEASURES SHALL BE DESIGNED ACCORDING TO THE SIZE OF DISTURBED OR DRAINAGE AREAS TO DETAIN RUNOFF AND TRAP SEDIMENT.
- WATER MUST BE DISCHARGED IN A MANNER THAT THE DISCHARGE SHALL NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE BASIC WATER QUALITY CRITERIA AS SPECIFIED IN SECTION 11-54-04.

NOTES FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII, DEPARTMENT OF PUBLIC WORKS (DPW), "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1986 AND "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1984.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY COMPANIES.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," AND AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.
- THE REQUIRED PERMIT, UNDER CHAPTER 22, ARTICLE 3, SECTION 22-44 OF THE HAWAII COUNTY CODE, SHALL BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS BY THE CONTRACTOR FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY.
- ANY PAVEMENT OUTSIDE THE CONTRACT ZONE LIMITS DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL CONDITION, OR BETTER, AS DIRECTED BY THE DPW.
- NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.

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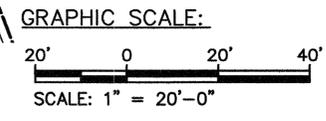
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DESIGNED: LRD			SUBMITTED: <i>ac bl</i>		
DRAWN: LRD			DATE: JANUARY 2016		
CHECKED: JCT			SCALE: AS NOTED		
APPROVED: <i>[Signature]</i> CHIEF ENGINEER			FEB -4 2016		DRAWING NO. C-1



- NOTES:**
1. THE LOCATION OF THE NEW WELL AS SHOWN ON THE PLANS IS THE PREFERRED LOCATION. THE CONTRACTOR MAY CHANGE THE LOCATION OF THE NEW WELL TO SUIT FIELD CONDITIONS, WITH THE APPROVAL OF THE ENGINEER, AT NO ADDITIONAL COST TO THE STATE.
 2. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR ACCESS TO THE SITE.
 3. IF REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY FOR ADJUSTMENTS TO HIENALOLI ROAD.
 4. THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION AT NO COST TO THE STATE OR COUNTY.
 5. IF NECESSARY, THE CONTRACTOR SHALL COORDINATE WITH THE STATE FOR REMOVAL OF THE EXISTING CMU WINCH SHED.

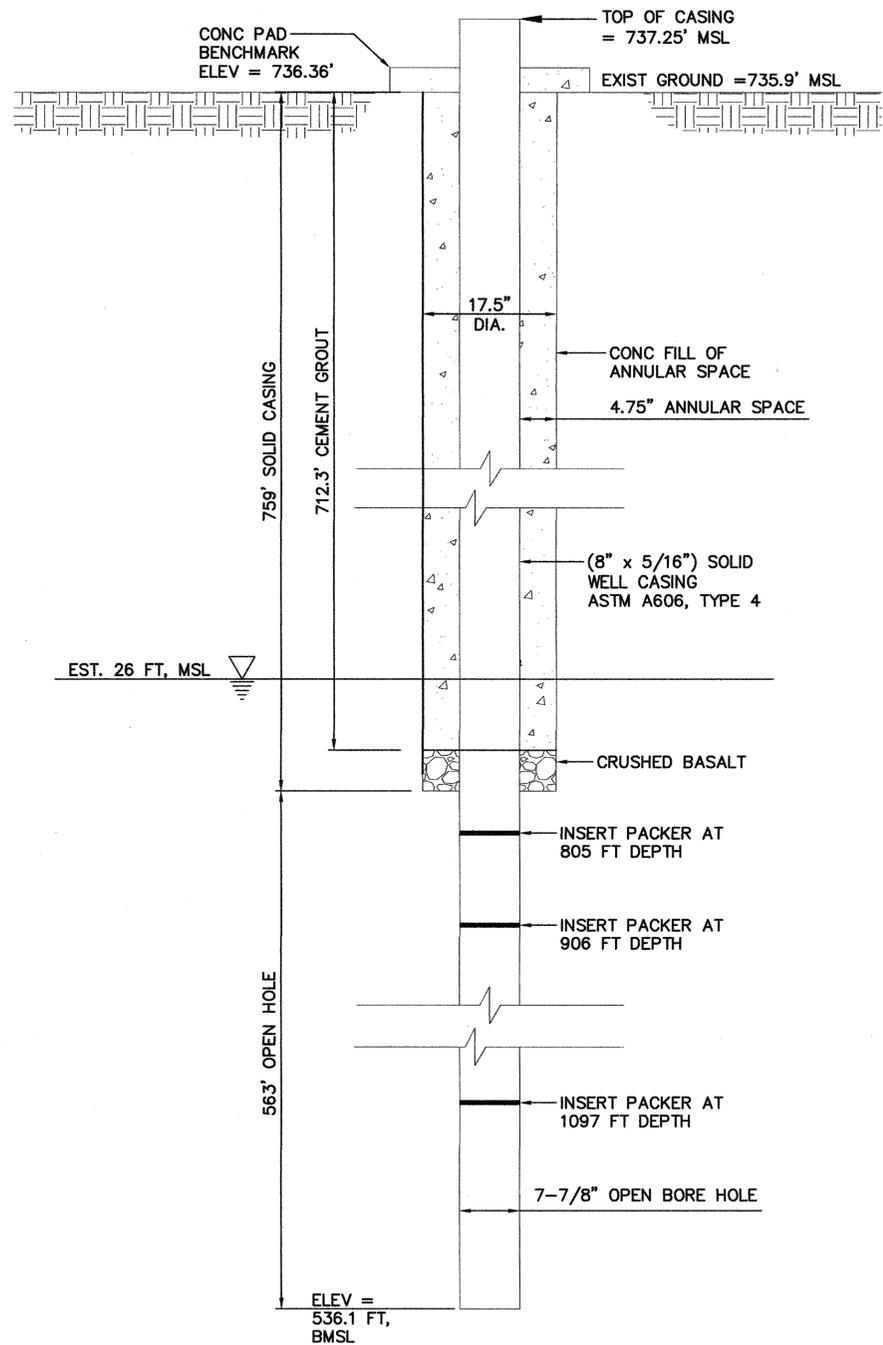
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KEOPU DEEP MONITOR WELL IMPROVEMENTS KAILUA-KONA, HAWAII					
GENERAL SITE PLAN					
DESIGNED: [Signature]			SUBMITTED: 6/2/16		
DRAWN: LRD			DATE: JANUARY 2016		
CHECKED: JCT			SCALE: AS NOTED		
APPROVED: [Signature]			FEB -4 2016		DRAWING NO.
CHIEF ENGINEER			DATE		C-2

GENERAL SITE PLAN
SCALE: 1" = 20'

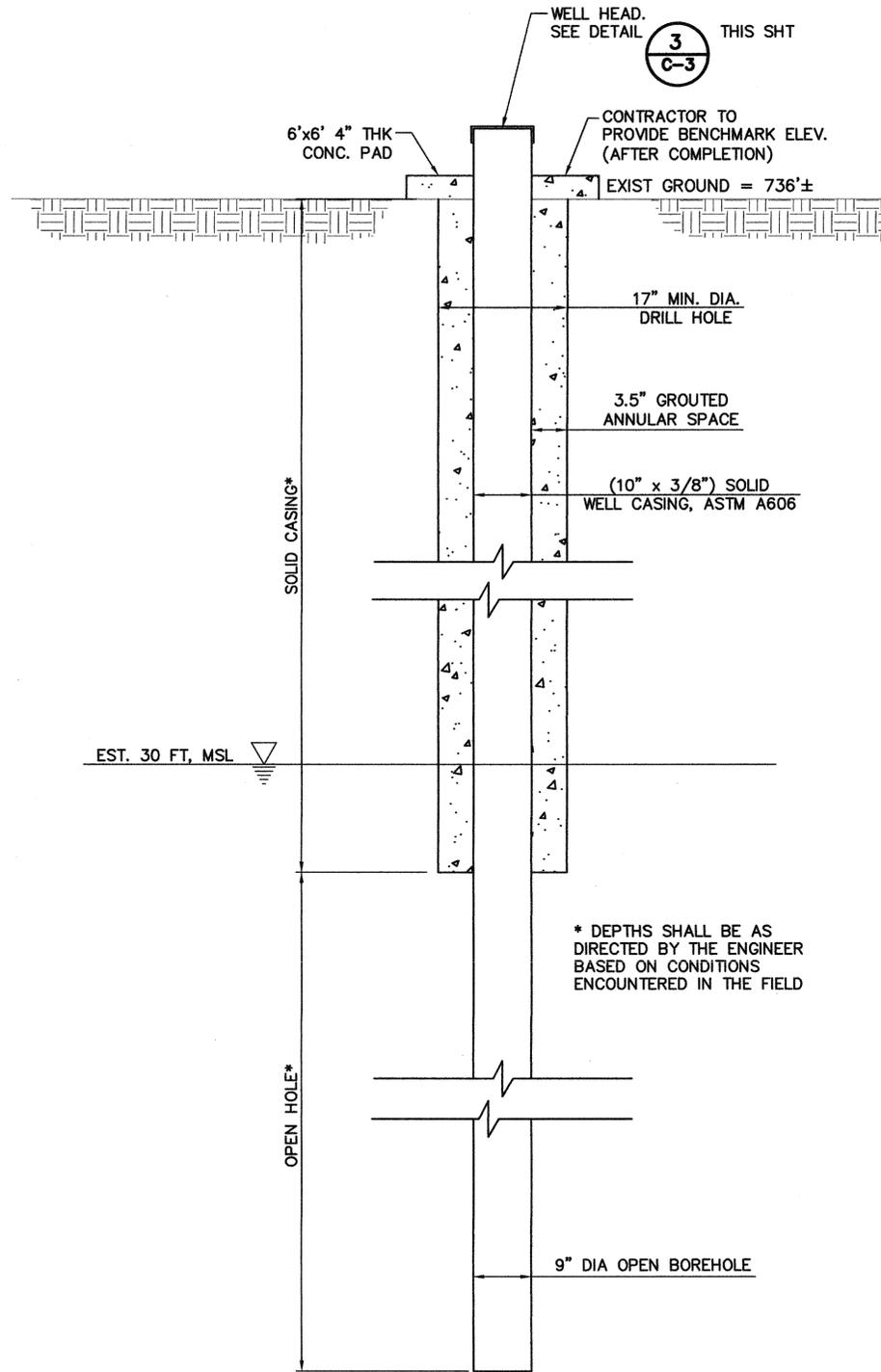


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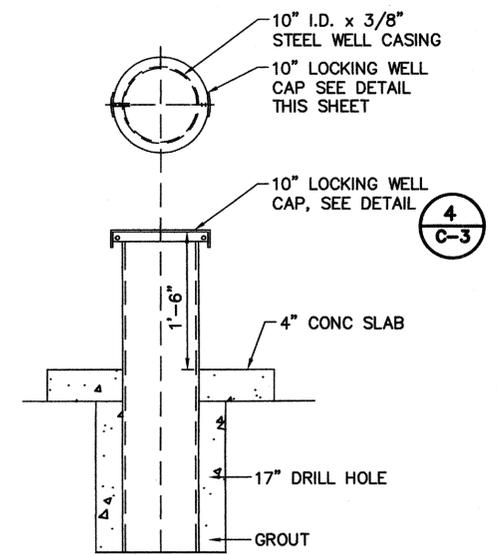
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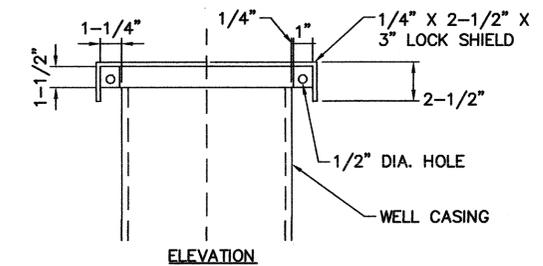
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C-3 **EXIST KEOPU WELL SECTION - PHASE 1**
 NOT TO SCALE



2
C-3 **NEW WELL SECTION - PHASE 2**
 NOT TO SCALE



3
C-3 **WELL HEAD DETAIL**
 NOT TO SCALE



4
C-3 **CASING LOCK DETAIL**
 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KEOPU DEEP MONITOR WELL IMPROVEMENTS KAILUA-KONA, HAWAII					
WELL SECTION AND DETAILS					
DESIGNED:			SUBMITTED: <i>LRD</i>		
DRAWN: LRD			DATE: JANUARY 2016		
CHECKED: JCT			SCALE: AS NOTED		
APPROVED: <i>[Signature]</i>			DRAWING NO. C-3		
CHIEF ENGINEER			DATE: FEB -4 2016		

