## 3. PLANS

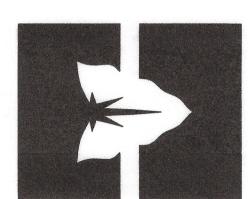
FINAL CONSTRUCTION PLANS FOR:

# ANAHOLAFARMLOTS WATER PROJECT

PHASE I- WATER LINE REPLACEMENT PUBLIC WATER SYSTEM NO. 432, ANAHOLA, ISLAND OF KAUA'I

TMK: 4-8-005:016, 039; 4-8-018:011, 027 & 4-8-021:032

PREPARED FOR:



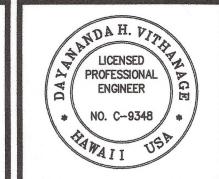
PREPARED BY:



828 FORT STREET MALL, SUITE 600 HONOLULU, HAWAI'I 96813

**DEPARTMENT OF** HAWAIIAN HOME LANDS 91-5420 KAPOLEI PARKWAY KAPOLEI, HAWAI'I 96707

SHEET INDEX VICINITY MAP LOCATION MAP APPROVED NUMBER NUMBER DESCRIPTION OF DRAWINGS TITLE SHEET, VICINITY MAP & LOCATION MAP T-2 2 NOTES PROJECT -3 NOTES T-3**ISLANDS** 3/22/18 LOCATION T-44 NOTES PUBLIC WATER SYSTEM NO. 432 STATE OF HAWAI'I 5 NOTES T-5SERVICE AREA ABBREVIATIONS & LEGEND T-6MOLOA'A FOREST RESERVE GENERAL SITE PLAN C-1EXISTING WATERLINE IMPROVEMENTS: KAMALOMALO'O PLACE & FARM LOTS C-2MA'LAMA'AINA PLACE PROJEC1 EXISTING WATERLINE IMPROVEMENTS: HOKUALELE ROAD (WEST) C-3DEPARTMENT OF HEALTH VICINITY **PROJECT** STATE OF HAWAI'I ANAHOLA EXISTING WATERLINE IMPROVEMENTS: HOKUALELE ROAD (EAST) C-4LOCATION C-511 WATERLINE "A-1" PLAN & PROFILE STA. 0+00 TO STA. 11+00 12 WATERLINE "A-1" PLAN & PROFILE STA. 11+00 TO STA. 22+00 C-64-8-005:039, 4-8-018:027 & 4-8-021:032 C-713 WATERLINE "A-1" PLAN & PROFILE STA. 22+00 TO STA. 33+00 COUNTY ENGINEER. DEPARTMENT OF PUBLIC KAPA'A C - 8WATERLINE "A-1" PLAN & PROFILE STA. 33+00 TO STA. 43+30 WORKS COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS) C - 9WATERLINE "B-1" PLAN & PROFILE STA. 0+00 TO STA. 11+00 WAILUA MANA ANAHOLA C - 1016 WATERLINE "B-1" PLAN & PROFILE STA. 11+00 TO STA. 16+22± KEĀLIA FOREST RESERVE C - 1117 WATERLINE "B-2" PLAN & PROFILE C - 1218 WATERLINE "B-3" PLAN & PROFILE KEKAHA 19 INTERCONNECTION STATION FENCING PLAN C - 13WAIMEA NAWLIWIL BAY 20 PAVEMENT RESTORATION PLAN C - 14LATERAL CONNECTION & TRENCH RESTORATION DETAILS PRESSURE REDUCING VALVE REPLACEMENT ASSEMBLY DETAILS / DT-2CLEANOUT DETAIL PRESSURE REDUCING VALVE ASSEMBLY STA. 28+80 W/L "A-1" DT-3 DETAILS DT-4 24 CHAIN-LINK FENCE DETAILS 25 PAVEMENT RESTORATION DETAILS DT-5DT-6 26 WATERLINE CONNECTION SCHEMATICS DT-727 | EROSION CONTROL TYPICAL DETAILS ISLAND OF KAUA'I TC-128 | TRAFFIC CONTROL SHEET 1 NOT TO SCALE 29 TRAFFIC CONTROL SHEET 2 TC-230 TRAFFIC CONTROL SHEET 3 TC-3SHEET NO. 1 OF 30 SCALE: 1" = 1,000'









915420 Kapolei Parkway Kapolei, Hawai'i 96707 ANAHOLA

Water Line Replacement Anahola, Island of Kaua`

TITLE SHEET

SURVEYED BY: PS DATE: APR. 2018

- 3. PERMITS SHALL BE OBTAINED BY THE CONTRACTOR
- 4. THE CONTRACTOR SHALL CONDUCT ALL TESTS SPECIFIED AND BE RESPONSIBLE FOR EXPENSES INCURRED IN CONDUCTING THESE TESTS.
- 5. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL RESPOND TO COMPLAINTS MADE BY THE PUBLIC AND NEARBY RESIDENTS REGARDING DUST AND NOISE POLLUTION RESULTING FROM HIS WORK.
- 6. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS TO AND FROM ALL DRIVEWAYS AND STREETS.
- 7. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF HIS MATERIAL WITH THE FNGINFER
- 8. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE FACILITY ROADWAYS IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.
- 9. THE CONTRACTOR SHALL RESTRICT ALL VEHICLES, MATERIAL STOCKPILES AND EQUIPMENT TO WITHIN THE CONTRACT LIMIT LINES. ANY TOOLS, MATERIALS, EQUIPMENT, FENCING, ETC. THAT THE CONTRACTOR KEEPS IN THIS AREA ARE STORED AT THE CONTRACTOR'S RISK. IF OTHER SHORT TERM STORAGE AREAS ARE NEEDED, THEY MAY BE ARRANGED THROUGH THE ENGINEER.
- 10. THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. IF DIMENSIONAL ERRORS OR CONFLICTS OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL WAIT FOR CLARIFICATION BEFORE RESUMING OR COMMENCING WORK ON THE DISCREPANCY ITEM.
- 11. DIMENSIONS TAKE PRECEDENCE OVER SCALE.
- 12. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT ARE NOT LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, WIND, SEISMIC, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- 13. ALL MATERIALS SHALL CONFORM TO THE DRAWING AND SPECIFICATIONS.
- 14. ALL WORK CALLED FOR ON THE PLANS AND NOT ITEMIZED IN THE PROPOSAL AND ALL WORK NOT CALLED FOR BUT REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT. SHALL BE CONSIDERED INCIDENTAL.
- 15. CONDITIONS OF THE WORK: ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL AND WORKMANSHIP—LIKE MANNER. CONTRACTOR SHALL NOTIFY THE ENGINEER SHOULD CONDITIONS EXIST WHICH WILL PREVENT SUCH PERFORMANCE AND/OR ANY ADDITIONAL WORK TO BE PERFORMED BEFORE STARTING WORK.
- 16. THE EXISTING IMPROVEMENTS ON THE PREMISES AND IN ADJACENT AREAS THAT ARE NOT TO BE REMOVED SHALL BE PRESERVED AND PROTECTED. ANY AND ALL DAMAGES RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE REPLACED AND REPAIRED TO ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
- 17. ALL EXISTING UTILITIES TO REMAIN IN USE, WHETHER OR NOT SHOWN ON THESE DRAWINGS, SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION UNLESS SPECIFIED ON THE DRAWINGS TO BE ABANDONED OR DEMOLISHED. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR.
- 18. UNLESS RELOCATION IS CALLED FOR ON THESE DRAWINGS, EXISTING UTILITIES SHALL REMAIN IN SERVICE AND IN PLACE. IF RELOCATION OF EXISTING UTILITIES IS REQUIRED FOR THE CONTRACTOR'S CONVENIENCE, INTERRUPTION OF SERVICE SHALL BE KEPT TO A MINIMUM AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE ENGINEER.
- 19. THE CONTRACTOR SHALL MAKE PROPER ARRANGEMENTS FOR THE USE OF UTILITIES SUCH AS ELECTRICITY, WATER, ETC. AND SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS RESULTING FROM SUCH USAGE.
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING A LICENSED SURVEYOR, REGISTERED IN THE STATE OF HAWAII, TO DO THE CONSTRUCTION STAKEOUTS.

#### NOTES FOR GENERAL CONSTRUCTION:

1. ALL CONSTRUCTION WORK IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PUBLICATIONS "HAWAI'I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984" AS AMENDED BY THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, AND THE COUNTIES OF KAUA'I, MAUI, AND HAWAI'I. THE STANDARD DETAILS ARE AVAILABLE AT THE COUNTY OF KAUA'I CLERKS OFFICE.

#### NOTES FOR GENERAL CONSTRUCTION (CONT'D):

- 2. NO GRADING BETWEEN 7 P.M. TO 7 A.M. ON ANY GIVEN DAY OR ON SATURDAYS, SUNDAYS AND HOLIDAYS WITHOUT WRITTEN PERMISSION FROM THE COUNTY ENGINEER AND THE STATE DEPARTMENT OF HEALTH.
- 3. CONTRACTOR TO NOTIFY PUBLIC WORKS DEPARTMENT FIVE (5) BUSINESS DAYS PRIOR TO COMMENCING ANY GRADING WORK. WHEN COMPLETED AND READY FOR FINAL INSPECTION; NOTIFY PUBLIC WORKS DEPARTMENT INSPECTION SECTION.
- 4. CONSTRUCTION PLANS ARE VALID FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL. IF CONSTRUCTION DOES NOT COMMENCE WITHIN THE ONE—YEAR TIME FROM THE DATE OF APPROVAL, THE CONSTRUCTION PLANS SHALL BE RESUBMITTED TO ALL REVIEWING AND APPROVING AGENCIES FOR REVIEW, APPROVAL AND RECERTIFICATION OF THE PLAN.
- 5. ALL GRADING, GRUBBING AND STOCKPILING WORK SHALL BE PERFORMED IN ACCORDANCE WITH COUNTY OF KAUA'I ORDINANCE NO. 808.
- 6. AFTER EACH RAINFALL EVENT, THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE COUNTY ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- 7. DURING CLEARING OPERATIONS, THE CONTRACTOR SHALL SUPPLY A WATER TRUCK FOR DUST CONTROL PURPOSES UNTIL THE VEGETATION HAS RE—ESTABLISHED ITSELF. EXCESS WATER, INCLUDING SILT AND DIRT, SHALL NOT BE ALLOWED TO RUN—OFF THE PROPERTY.
- B. BENCHMARKS THAT ARE DISTURBED OR DESTROYED SHALL BE RESTORED UNDER A LICENSED LAND SURVEYOR'S DIRECTION. COPIES OF FIELD NOTES, DESCRIPTIONS AND NEW VALUES OF THE NEW BENCHMARK SHALL BE SENT TO THE DEPARTMENT OF PUBLIC WORKS SURVEY SECTION FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OVERTIME WORK AND/OR NIGHT WORK PAYMENTS FOR COUNTY'S STAFF AND INSPECTION PERSONNEL INCLUDING CONSULTANTS, WHEN THE CONTRACT REQUIRES OVERTIME OR NIGHT WORK TO BE PERFORMED, OR DIRECTS THE CONTRACTOR TO WORK ADDITIONAL SHIFTS OR OVERTIME FOR COUNTY'S CONVENIENCE.
- 10. BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DUST TO STREAMS, WATERCOURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.
- 11. SURVEYS SHALL BE DONE UNDER THE SUPERVISION OF A LAND SURVEYOR LICENSED IN THE STATE OF HAWAI'I.
- 12. IF SYSTEM CONDITIONS REQUIRE NON-EMERGENCY NIGHT TIME WORK DURING THE AUTUMN SEABIRD FALL SEASON (SEPTEMBER 15 THROUGH DECEMBER 15), USE OF LIGHTING SHALL BE RESTRICTED BETWEEN 9:00 P.M. TO 4:30 A.M. IF LIGHTING OF THE WORK AREA IS REQUIRED IN SUCH SITUATION, ALL LIGHTS SHALL BE SHIELDED (MINIMUM LIGHT SPILL TOWARDS THE SKY) AND DIRECTED DOWNWARDS TO THE MAXIMUM EXTENT PRACTICABLE. MINIMUM REQUIREMENTS FOR LIGHTING BY HIOSH AND OSHA SHALL BE PROVIDED AND ASSURED BY THE CONTRACTOR. THE CONTRACTOR SHALL TRAIN ALL EMPLOYEES WORKING AT NIGHT (RECORDS RETAINED BY THE CONTRACTOR) ON HOW TO HANDLE ANY RETRIEVED DOWNED BIRDS AND SHALL HAVE APPROPRIATE EQUIPMENT AS APPROVED BY SAVE OUR SHEARWATERS (SOS) ON SITE TO HOLD AND TRANSPORT ANY RETRIEVED BIRDS TO A SOS FACILITY. THIS REQUIREMENT DOES NOT ALLOW LIGHTING AS MAY BE RESTRICTED BY OTHER GOVERNMENT AGENCIES.
- 13. PRIOR TO STARTING ANY EXCAVATION ACTIVITIES, THE CONTRACTOR SHALL CONTACT THE HAWAI'I ONE CALL CENTER AT 1-866-423-7287.
- 14. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
- 15. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL, OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- 16. THE CONTRACTOR MAY SUBMIT A SUBSTITUTION REQUEST TO PRECAST ANY DHHL OWNED AND/OR MAINTAINED STRUCTURE. HOWEVER, PRIOR TO CONSTRUCTION AND INSTALLATION OF ANY PRECAST STRUCTURE, THE CONTRACTOR SHALL A) SUBMIT ONE (1) SET OF SHOP DRAWINGS TO THE ENGINEER AND OBTAIN WRITTEN APPROVAL. NON-COMPLIANCE WITH ANY OF THESE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL PRECAST CONSTRUCTION WORK AND REJECTION OF ALL PRECAST STRUCTURES ALREADY CONSTRUCTED.

#### 17. CONFINED SPACE

FOR ENTRY BY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

#### NOTES FOR GENERAL CONSTRUCTION (CONT'D):

- a. FULL BODY HARNESS FOR UP TO TWO PERSONNEL.
- b. LIFELINE AND ASSOCIATED CLIPS.c. INGRESS/EGRESS AND FALL PROTECTION.
- d. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
- e. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION). f. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
- g. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20-FEET AWAY).
- h. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
- II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
- III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).
- 18. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE KAUAUI POLICE DEPARTMENT, AND THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES—HISTORIC PRESERVATION DIVISION (692–8015).

#### NOTES FOR CONSTRUCTION WITHIN COUNTY MAINTAINED ROAD

- 1. ALL DAMAGED PAVEMENT SHALL BE RESTORED TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH THE "HAWAI'I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)" AND ITS AMENDMENTS AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984", AS AMENDED BY THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, AND THE COUNTIES OF KAUA'I, MAUI, AND HAWAI'I, WITH 2"MINIMUM HOT MIXED ASPHALT CONCRETE PAVEMENT (STATE DESIGN MIX V) AND 8"MINIMUM BASE COURSE.
- 2. THE CONTRACTOR SHALL PROVIDE, INSTALL MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND FOR THE CONVENIENCE AND SAFETY OF THE PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND U.S. FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS DATED 2009 AND ITS AMENDMENTS.
- 3. THE CONTRACTOR SHALL, WHENEVER NECESSARY, PROPERLY SHEET AND BRACE ALL EXCAVATIONS TO RENDER IT SECURE AND SHALL REMOVE ALL SUCH SHEETING AND BRACING BEFORE COMPLETION OF THE BACKFILL FOR WATER MAINS. THE MINIMUM COVER REQUIREMENTS (FROM TOP OF PIPE TO FINISHED GRADE OVER PIPE) IS THREE (3) FEET.
- A. PERMIT SHALL BE OBTAINED BY THE CONTRACTOR FROM THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF KAUA'I BEFORE WORK ON A PUBLIC STREET OR HIGHWAY MAY BEGIN. PERMIT FEES SHALL BE AT THE CONTRACTOR'S EXPENSE. B. DRIVEWAYS SHALL BE KEPT OPEN UNLESS OWNERS OF THE ABUTTING LOTS
- USING THESE RIGHT-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
  C. ALL WORK INCLUDING REPAIR OF DAMAGED PAVEMENT AND SHOULDERS SHALL
  BE INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. ALL
  UNAPPROVED WORK SHALL BE CONSIDERED UNACCEPTABLE AND SHALL BE
  REWORKED AND CORRECTED AS DIRECTED BY THE DEPARTMENT OF PUBLIC
- WORKS, AT THE CONTRACTOR'S EXPENSE.

  D. DAMAGED SHOULDERS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION.
- E. WORK ON A PUBLIC STREET AREA MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:00 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY, EXCEPT ON HOLIDAYS RECOGNIZED BY THE COUNTY OF KAUA'I, UNLESS OTHERWISE PERMITTED IN WRITING BY THE COUNTY ENGINEER.
- F. DURING NON-WORKING HOURS, ALL TRENCHED SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPENED TO PUBLIC VEHICULAR AND PEDESTRIAN TRAFFIC.
- G. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN COUNTY RIGHT-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE COUNTY ENGINEER.
- H. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO OFFER THE LEAST POSSIBLE OBSTRUCTIONS AND INCONVENIENCE TO THE PUBLIC AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAT HE CAN EXECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.
- I. ALL EXISTING DRAINAGE FLOW CONDITIONS SHALL BE MAINTAINED.
- 5. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. CERTIFICATION FROM THE GEOTECHNICAL ENGINEER SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS AT THE COMPLETION OF THE CONSTRUCTION WORK. THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE CONSTRUCTION WORK MEETS "STANDARD SPECIFICATIONS". THE GEOTECHNICAL ENGINEER SHALL ALSO SUBMIT TEST RESULTS AS REQUESTED BY THE DEPARTMENT OF PUBLIC WORKS.
- 6. THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION MEETING WITH THE CONSTRUCTION DESIGN SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS BEFORE COMMENCING ANY WORK.
- 7. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PRESERVE BENCHMARKS (SURVEY MONUMENTS) WHENEVER THE CENTER OF A SURVEY MONUMENT IS LESS THAN THREE (3) FEET FROM THE EDGE OF CONSTRUCTION. THE CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO REFERENCE THE LOCATION OF SAID SURVEY MONUMENT.
- 8. BENCHMARKS THAT ARE DISTURBED OR DESTROYED SHALL BE RESTORED UNDER A

#### NOTES FOR CONSTRUCTION WITHIN COUNTY MAINTAINED ROAD (CONT'D):

LICENSED LAND SURVEYOR'S DIRECTION. COPIES OF FIELD NOTES, DESCRIPTIONS AND NEW VALUES OF THE NEW BENCHMARK SHALL BE SENT TO THE DEPARTMENT OF PUBLIC WORKS SURVEY SECTION FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OVERTIME OR NIGHT WORK PAYMENTS FOR COUNTY'S STAFF AND INSPECTION PERSONNEL INCLUDING CONSULTANTS WHEN THE CONTRACT REQUIRES OVERTIME OR NIGHT WORK TO BE PERFORMED, OR DIRECTS THE CONTRACTOR TO WORK ADDITIONAL SHIFTS OR OVERTIME FOR COUNTY'S CONVENIENCE.
- 10. IF SYSTEM CONDITIONS REQUIRE NON-EMERGENCY NIGHTTIME WORK DURING THE AUTUMN SEABIRD FALL SEASON (SEPTEMBER 15 THROUGH DECEMBER 15), USE OF LIGHTING SHALL BE RESTRICTED BETWEEN 9:00 P.M. TO 4:30 A.M. IF LIGHTING OF THE WORK AREA IS REQUIRED IN SUCH SITUATION, ALL LIGHTS SHALL BE SHIELDED (MINIMUM LIGHT SPILL TOWARDS THE SKY) AND DIRECTED DOWNWARDS TO THE MAXIMUM EXTENT PRACTICABLE. MINIMUM REQUIREMENTS FOR LIGHTING BY HIOSH AND OSHA SHALL BE PROVIDED AND ASSURED BY THE CONTRACTOR. THE CONTRACTOR SHALL TRAIN ALL EMPLOYEES WORKING AT NIGHT (RECORDS RETAINED BY THE CONTRACTOR) IN HOW TO HANDLE ANY RETRIEVED DOWNED BIRDS AND SHALL HAVE APPROPRIATE EQUIPMENT AS APPROVED BY SAVE OUR SHEARWATERS (SOS) ON SITE TO HOLD AND TRANSPORT ANY RETRIEVED BIRDS TO AN SOS FACILITY. THIS REQUIREMENT DOES NOT ALLOW LIGHTING AS MAY BE RESTRICTED BY OTHER GOVERNMENT AGENCIES.

#### PAVEMENT AND TRENCH RESTORATION NOTES:

- 1. TRENCH REPAVING SHALL BE A MINIMUM 8-INCHES THICK BASE COURSE AND 2-INCHES MINIMUM ASPHALT CONCRETE (STATE MIX V). IF THE EXISTING PAVEMENT STRUCTURE IS GREATER IN THICKNESS AND QUALITY, THE REPAVING SHALL MATCH THE EXISTING PAVEMENT STRUCTURE.
- 2. PAVEMENT RESURFACING WORK SHALL INCLUDE 2—INCH THICKNESS OF EXISTING A.C. TO BE COLD PLANED AND CONSTRUCTION OF A MINIMUM OF 2—INCH OF NEW A.C. (STATE MIX V) LAYER.
- 3. ROAD RESTORATION FOR TRENCHES ALIGNED ALONG THE LONGITUDINAL DIRECTION SHALL INCLUDE PAVEMENT RESURFACING AS FOLLOWS:

  A. ROADS WITH PAVEMENT WIDTHS OF LESS THAN 12 FEET WIDE SHALL BE
- A. ROADS WITH PAVEMENT WIDTHS OF LESS THAN 12 FEET WIDE SHALL BI REPAVED THE ENTIRE WIDTH.
- B. ROADWAYS BETWEEN 12 AND 28 FEET WIDE WITH NO STRIPING SHALL BE PAVED FOR HALF OF THE ROADWAY.
   C. ROADWAYS WITH NO STRIPING AND PAVEMENT WIDTHS GREATER THAN 28
- FEET SHALL HAVE A 12—FOOT WIDE TRAVEL WAY RESURFACED.

  4. ROAD RESTORATION FOR TRENCHES ALIGNED PERPENDICULAR TO THE ROADWAY SHALL INCLUDE ROAD RESURFACING FOR A MINIMUM OF 6 FEET BEYOND THE
- TRENCH EDGES.

  5. THE ENTIRE ROAD INTERSECTION SHALL BE RESURFACED WHEREVER TRENCH REPAVING IS REQUIRED WITHIN ANY PORTION OF AN INTERSECTION. THE LIMITS OF RESURFACING SHALL BE THE CURVE RETURNS OF THE ROADWAYS OF THE
- INTERSECTIONS.

  6. ALL EXISTING PAVEMENT STRIPING DISTURBED BY THIS PRODUCT SHALL BE RESTORED. THE STRIPING MATERIALS SHALL BE THERMOPLASTIC TAPE OR THERMOPLASTIC EXTRUSION. PAINTING IS NOT ACCEPTABLE.
- 7. THE LIMITS OF ROAD RESTORATION WORK MAY BE REVISED BY THE ENGINEERING DIVISION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS DURING PROCESSING OF ROAD PERMITS FOR THIS PROJECT.

#### HISTORICAL PRESERVATION NOTES:

APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC

COUNTY MAINTAINED ROADS)

WORKS COUNTY OF KAUA'I (FOR WORK WITHIN

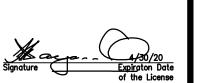
1. SHOULD HISTORIC REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATIONS OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND, AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL CORDON OFF THE AREA AND IMMEDIATELY NOTIFY THE PLANNING DEPARTMENT AT (808) 241–4050 AND THE STATE HISTORIC PRESERVATION DIVISION AT (808) 692–8015, WHO WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND THE APPROPRIATE MITIGATION MEASURES, IF NECESSARY. IN ADDITION IF HUMAN BURIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY OF KAUA'L POLICE DEPARTMENT.

LICENSED PROFESSIONAL ENGINEER

\* NO. C-9348

\* PA I I USP

IIS WORK WAS PREPARED BY ME OR UNDER SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.



© oceanit

			MADE BY APPROVE
			DESCRIPTION
			DATE
			EVISION

DEPARTMENT OF HAWAIIAN HOME LANDS

ANAHOLA FARM LOTS

915420 Kapolei Parkway

Kapolei, Hawai`i 96707

Water Line Replacement

Anahola, Island of Kaua TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

NOTES

DATE

DESIGNED BY: JM

DRAWN BY: GT

CHECKED BY: JM

SURVEYED BY: PS

DRAWING NO.

T-2

DATE: APR. 2018

SHEET NO. 2 OF 30

#### 1. <u>GENERAL:</u>

- A. THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SECTION 209—WATER POLLUTION AND EROSION CONTROL AND SECTION 620—DUST CONTROL IN THE "HAWAI'I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" 2005 AS AMENDED. SECTION 209 DESCRIBES BUT IS NOT LIMITED TO: SUBMITTAL REQUIREMENTS; SCHEDULING OF A WATER POLLUTION AND EROSION CONTROL CONFERENCE WITH THE COUNTY; CONSTRUCTION REQUIREMENTS; METHOD OF MEASUREMENT; AND BASIS OF PAYMENT. NO WORK SHALL COMMENCE WITHOUT A BMP PLAN APPROVED BY THE DEPARTMENT OF HEALTH.
- B. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE "INTERIM BEST MANAGEMENT PRACTICES MANUAL FOR CONSTRUCTION SITES FOR COUNTY OF KAUA'I" APRIL 2004 IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPs) FOR THE PROJECT. THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS TO THE COUNTY FOR ACCEPTANCE.
- C. THE CONTRACTOR SHALL KEEP A COPY OF THE APPROVED BMP PLAN, NOI, ETC. ON THE PROJECT SITE. THE BMP PLAN SHALL BE UPDATED TO REFLECT ANY CHANGES MADE DURING THE COURSE OF CONSTRUCTION FOR THE DURATION OF THE PROJECT.
- D. THE OFFICER-IN-CHARGE MAY ASSESS LIQUIDATED DAMAGES OF UP TO \$27,500 FOR NONCOMPLIANCE OF EACH BMP REQUIREMENT AND EACH REQUIREMENT STATED IN SECTION 209, FOR EVERY DAY OF NON-COMPLIANCE. THERE IS NO MAXIMUM LIMIT ON THE AMOUNT ASSESSED PER DAY.
- THE OFFICER-IN-CHARGE MAY DEDUCT THE COST FROM THE PROGRESS PAYMENT FOR ALL CITATIONS RECEIVED BY THE DEPARTMENT FOR NON COMPLIANCE, OR THE CONTRACTOR/OWNER SHALL REIMBURSE THE STATE, AND/OR COUNTY FOR THE FULL AMOUNT OF THE OUTSTANDING COST INCURRED BY THE STATE AND/OR COUNTY.

#### 2. WASTE DISPOSAL:

- A. WASTE MATERIALS: ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER THAT DOES NOT LEAK. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER SHALL BE EMPTIED A MINIMUM OF TWICE PER WEEK OR AS OFTEN AS IS DEEMED NECESSARY. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ONSITE. THE CONTRACTOR'S SUPERVISORY PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
- B. HAZARDOUS WASTE: ALL HAZARDOUS WASTE MATERIAL SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER. THE CONTRACTOR'S SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.
- C. SANITARY WASTE: ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK, OR AS REQUIRED.
- EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:
- A. ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS FOLLOWING ANY RAINFALL EVENT OF 0.5 INCHES OR GREATER.
- B. ALL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS AFTER THE INSPECTION
- C. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE, WHEN IT HAS REACHED ONE—THIRD THE HEIGHT OF THE FENCE.
- D. SILT SCREEN OR FENCE SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO VERIFY THAT THE FABRIC FENCE IS SECURELY ATTACHED TO THE FENCE POST OR CONCRETE SLAB AND TO VERIFY THAT THE FENCE POST ARE FIRMLY IN THE GROUND.
- E. TEMPORARY AND PERMANENT SEEDING AND PLANTING SHALL BE INSPECTED FOR BARE SPOTS, WASH OUTS AND HEALTHY GROWTH.
- F. THE CONTRACTOR SHALL SUBMIT TO THE COUNTY A MAINTENANCE INSPECTION REPORT PROMPTLY AFTER EACH WEEKLY INSPECTION.
- G. THE CONTRACTOR SHALL SELECT A MINIMUM OF THREE PERSONNEL WHO SHALL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- H. PERSONNEL SELECTED FOR THE INSPECTION AND MAINTENANCE RESPONSIBILITIES SHALL RECEIVE TRAINING FROM THE CONTRACTOR. THEY SHALL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING CONDITIONS.
- I. ALL SLOPES AND EXPOSED AREAS SHALL BE GRASSED AS FINAL GRADES HAVE BEEN ESTABLISHED, GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA IN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED OR EXPOSED FOR MORE THAN 15 DAYS SHALL BE GRASSED IN ORDER TO PREVENT DUST EMISSION, EROSION AND SILT RUNOFF. AREAS WITH IMPORTED SOILS SHALL BE GRASSED NOT MORE THAN 5 WORKING DAYS AFTER THE FINAL GRADES HAVE BEEN ESTABLISHED.
- J. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.

#### WATER POLLUTION AND EROSION CONTROL NOTES (CONT'D)

#### 4. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES

A. MATERIALS POLLUTION PREVENTION PLAN:

a. APPLICABLE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION. OTHER MATERIALS AND SUBSTANCES NOT LISTED BELOW SHALL BE ADDED TO THE INVENTORY OF THE CONSTRUCTION CONTRACTOR'S SITE—SPECIFIC BMP PLAN.

CONCRETE
DETERGENTS
PRODUCTS
PAINTS (ENAMEL AND LATEX)

METAL STUDS

CLEANING SOLVENTS WOOD MASONRY BLOCK

FERTILIZERS

PETROLEUM BASED

- b. MATERIAL MANAGEMENT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCTS AS IS REQUIRED TO DO THE JOB.
- c. ALL MATERIALS STORED ONSITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE.
- d. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- f. A PRODUCT SHALL BE USED UP COMPLETELY BEFORE DISPOSING OF THE CONTAINER.
- g. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
- h. THE CONTRACTOR SHALL CONDUCT A DAILY INSPECTION TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
- B. HAZARDOUS MATERIAL POLLUTION PREVENTION PLAN:
- a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- b. ORIGINAL LABELS AND MATERIALS SAFETY DATA SHEETS (MSDS) SHALL BE RETAINED AND MADE AVAILABLE TO THE COUNTY UPON REQUEST.
- c. SURPLUS PRODUCTS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR LOCAL AND STATE RECOMMENDED REGULATIONS.
- C. ONSITE AND OFFSITE PRODUCTS SPECIFIC PLANS:
  - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ONSITE:
  - a. PETROLEUM BASED PRODUCTS: ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
  - b. FERTILIZERS: APPLY FERTILIZER USED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, WORK FERTILIZER INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE SHALL BE IN A COVERED SHED.
  - c. PAINTS: SEAL AND STORE ALL CONTAINERS WHEN NOT REQUIRED FOR USE. DO NOT DISCHARGE EXCESS PAINT TO THE ROADWAY DRAINAGE SYSTEM. DISPOSE PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTION OR STATE AND LOCAL REGULATIONS.
  - d. CONCRETE TRUCKS: WASH OUT OR DISCHARGE CONCRETE TRUCK DRUM WASH WATER ONLY AT A DESIGNATED SITE. DO NOT DISCHARGE WATER IN ROADWAY DRAINAGE SYSTEM OR WATERS OF THE UNITED STATES. CONTACT DRINKING WATER BRANCH, DEPARTMENT OF HEALTH AT (808)586-4258 TO RECEIVE PERMISSION TO DESIGNATE A DISPOSAL SITE. CLEAN DISPOSAL SITE AS REQUIRED OR AS REQUESTED BY THE OWNER'S REPRESENTATIVE.

#### D. SPILL CONTROL PLAN:

- a. POST A SPILL PREVENTION PLAN TO INCLUDE MEASURES TO PREVENT AND CLEAN UP EACH SPILLWAY.
- b. THE CONTRACTOR SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. DESIGNATE AT LEAST THREE SITE PERSONNEL WHO SHALL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS SHALL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. POST THE NAMES OF RESPONSIBLE SPILL PERSONNEL IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.
- c. CLEARLY POST MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP. MAKE SITE PERSONNEL AWARE OF THE PROCEDURES AND THE LOCATION OF INFORMATION AND CLEANUP SUPPLIES.
- d. KEEP MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP IN THE MATERIAL STORAGE AREA ONSITE.
- e. CLEANUP ALL SPILLS IMMEDIATELY AFTER DISCOVERY.

#### WATER POLLUTION AND EROSION CONTROL NOTES (CONT'D)

- f. KEEP THE SPILL AREA WELL VENTILATED. PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH HAZARDOUS SUBSTANCE.
- g. REPORT SPILLS OF TOXIC HAZARDOUS MATERIAL TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- 5. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS:
- A. THE CONTRACTOR SHALL APPLY FOR, OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR KAUA'I DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE KAUA'I DISTRICT OFFICE AT 3040 UMI STREET, SUITE 205. DUE TO POTENTIAL COST IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.
- B. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS FOR ALL PROJECTS WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND. THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAI'I AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM.
- C. THE CONTRACTOR SHALL COMPLETE AND SUBMIT A CONTRACTOR'S CERTIFICATION OF NPDES COMPLIANCE, INCLUDING COMPLETION OF THE BEST MANAGEMENT PRACTICE (BMP) CHECKLIST AND SUBMITTAL OF A WRITTEN BMP PLAN AND DRAWINGS, PRIOR TO ISSUANCE OF THE PERMIT TO PERFORM WORK UPON COUNTY ROADWAYS.

#### PUBLIC HEALTH AND CONVENIENCE NOTES

- 1. CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
- 2. THE CONTRACTOR AT HIS/HER EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- 3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SILT OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATION OCCUR, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS AS NECESSARY AND THE COSTS INCURRED FOR ANY REMEDIAL ACTION SHALL BE PAYABLE BY THE CONTRACTOR.
- 4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO CHAPTER 46, PUBLIC HEALTH REGULATIONS, DEPARTMENT OF HEALTH, STATE OF HAWAI'I, "COMMUNITY NOISE CONTROL," IN WHICH MAXIMUM PERMISSIBLE NOISE LEVELS HAVE BEEN SET. IF THE CONSTRUCTION WORK REQUIRES A PERMIT FROM THE DIRECTOR OF HEALTH, THE CONTRACTOR SHALL OBTAIN A COPY OF CHAPTER 46 AND BECOME FAMILIAR WITH THE NOISE LEVEL RESTRICTIONS AND THE PROCEDURES FOR OBTAINING A PERMIT FOR THE CONSTRUCTION ACTIVITIES. APPLICATION AND INFORMATION ON VARIANCES ARE AVAILABLE FROM THE ENVIRONMENTAL HEALTH SERVICES DIVISION, 1250 PUNCHBOWL ST., HONOLULU, HI 96813 OR BY TELEPHONE (586–4700).
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE BEST MANAGEMENT PRACTICES (BMP) PLAN FOR THE PROJECT.

#### ENVIRONMENTAL NOTES

- 1. IN ACCORDANCE WITH CHAPTER 11-60.1, AIR POLLUTION CONTROL, TITLE 11, HAWAI'I ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EFFECTIVE CONTROL MEASURES ARE PROVIDED TO MINIMIZE OR PREVENT ANY VISIBLE DUST EMISSION CAUSED BY THE CONSTRUCTION WORK FROM IMPACTING THE SURROUNDING AREAS INCLUDING THE OFF-SITE ROADWAYS USED TO ENTER/EXIT THE PROJECT. THESE MEASURES INCLUDE BUT ARE NOT LIMITED TO THE USE OF WATER WAGONS, SPRINKLER SYSTEM, DUST FENCES, ETC.
- 2. IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, HAWAI'I ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL RESPONSIBLE FOR ENSURING THAT THE BEST MANAGEMENT PRACTICES (BMP) TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENTS, DEBRIS AND OTHER WATER POLLUTANT INTO STATE WATERS IS PROVIDED AT ALL TIMES.
- 3. IN ACCORDANCE WITH CHAPTER 11-58, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, HAWAI'I ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT GRUB MATERIAL, DEMOLITION WASTE AND CONSTRUCTION WASTE GENERATED BY THE PROJECT ARE DISPOSED OF IN A MANNER OR AT A SITE APPROVED BY THE STATE DEPARTMENT OF HEALTH. DISPOSAL OF ANY OF THESE WASTES BY BURNING IS PROHIBITED.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL APPLICABLE PERMITS FROM THE DEPARTMENT OF HEALTH INCLUDING BUT NOT LIMITED TO NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), NOTICE OF INTENT AND GENERAL PERMIT FOR STORM WATER, HYDROSTATIC TEST AND DEWATERING DISCHARGES PRIOR TO COMMENCING CONSTRUCTION. NPDES PERMIT SHALL BE REQUIRED PRIOR TO GRADING OR GRUBBING WORK OVER AN AREA OF ONE ACRE OR MORE.
- 5. AFTER EACH RAINFALL EVENT, THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM THIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- 6. BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DUST TO STREAMS, WATER COURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.
- 7. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS FOR ALL PROJECTS WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND. THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAI'I AND HAS SATISFIED ANY OTHER PERMITTING REQUIREMENTS OF THE NPDES PERMIT PROGRAM.
- 8. IN ACCORDANCE WITH CHAPTER 11-46, COMMUNITY NOISE, HAWAI'I ADMINISTRATIVE RULES, THE CONTRACTOR AND THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING EFFECTIVE CONTROL MEASURES TO MINIMIZE OR PREVENT CONSTRUCTION RELATED NOISE FROM IMPACTING THE RESIDENTS IN THE IMMEDIATE AREA. IF REQUIRED, NOISE REDUCTION MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR DURING THE CONSTRUCTION WORK.
- 9. THE PROPERTY MAY HARBOR RODENTS WHICH WILL BE DISPERSED TO THE SURROUNDING AREAS WHEN THE SITE IS CLEARED. IN ACCORDANCE WITH CHAPTER 11–26, ENTITLED VECTOR CONTROL OF TITLE 11, HAR, THE APPLICANT SHALL ASCERTAIN THE PRESENCE OR ABSENCE OF RODENTS ON THE PROPERTY. SHOULD THE PRESENCE OF RODENTS BE DETERMINED, THE APPLICANT SHALL ERADICATE THE RODENTS PRIOR TO CLEARING THE SITE.
- 10. A COPY OF THE PLANS, CONSTRUCTION SCHEDULE AND/OR WRITTEN MEASURES THAT IS REQUIRED TO BE SUBMITTED BY THE CONTRACTOR (DUST CONTROL MEASURES/PLANS) SHOULD ALSO BE SENT TO THE DEPARTMENT OF HEALTH FOR MONITORING PURPOSES.

**APPROVED** 

COUNTY ENGINEER, DEPARTMENT OF PUBLIC

COUNTY MAINTAINED ROADS)

WORKS COUNTY OF KAUA'I (FOR WORK WITHIN

LICENSED PROFESSIONAL ENGINEER

\* NO. C-9348 \*

HAMAII USE

HIS WORK WAS PREPARED BY ME OR UNDER M SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature Expiration Date of the License

4-8-005:039, 4-8-018:027

& 4-8-021:032

SHEET NO. 3 OF 30

DESIGNED BY: JM
DRAWN BY: GT
CHECKED BY: JM
SURVEYED BY: PS
DATE: APR. 2018

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- 3. ALL REQUIRED PROJECT SUBMITTALS (MATERIALS, SHOP DRAWINGS, CHLORINATION PLAN, ETC.) SHALL BE APPROVED BY DHHL BEFORE A PRE-CONSTRUCTION CONFERENCE CAN BE SCHEDULED. ONCE ALL PROJECT SUBMITTALS HAVE BEEN APPROVED BY THE DHHL CONSTRUCTION ENGINEER, THE DHHL CONSTRUCTION ENGINEER WILL NOTIFY THE CONTRACTOR THAT A PRECONSTRUCTION CONFERENCE CAN BE ARRANGED. THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE AT LEAST TEN (10) CALENDAR DAYS BEFORE CONSTRUCTION AND SHALL NOTIFY DHHL AT LEAST THREE (3) WORKING DAYS PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT THE NAMES AND TELEPHONE NUMBERS OF ITS AUTHORIZED JOB SUPERINTENDENT AND AT LEAST THREE (3) ADDITIONAL PERSONS TO CONTACT IN CASE OF AN EMERGENCY DURING NON-WORKING HOURS.
- THE CONTRACTOR SHALL NOTIFY DHHL AT LEAST 24 HOURS PRIOR TO ANY TRENCHING, PIPE LAYING, BACKFILLING, TESTING OR DISINFECTION ACTIVITIES TO ENSURE THAT INSPECTION SERVICES WILL BE AVAILABLE.
- ALL MATERIALS (PIPE, LUBRICANTS, PAINTS, SEALANTS, FORM OIL, CONCRETE ADMIXTURES, ETC.) IN DIRECT CONTACT WITH THE POTABLE WATER SHALL HAVE NATIONAL SANITATION FOUNDATION (NSF) CERTIFICATIONS. THE CONTRACTOR SHALL SUBMIT THESE CERTIFICATIONS TO DHHL FOR REVIEW AND APPROVAL PRIOR TO ITS APPLICATION.
- THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD. EXCAVATION AROUND ANY EXISTING WATER MAIN SHALL BE DONE BY HAND.
- THE CONTRACTOR SHALL PROVIDE UNOBSTRUCTED ACCESS TO EXISTING HYDRANTS, VALVES AND WATER METERS AT ALL TIMES.
- 9. THE CONTRACTOR SHALL SECURE ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REGULATIONS.
- 10. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SYSTEM AND A NON-POTABLE WATER SYSTEM, SEWER, OR APPURTENANCE THERETO WHICH COULD PERMIT THE PASSAGE OF ANY SEWAGE OR POLLUTED WATER INTO THE POTABLE WATER SUPPLY.
- TRENCH EXCAVATION, BACKFILLING IN LIFTS, AND REPAVING SHALL CONFORM TO THE "HAWAI'I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. 2005" AS AMENDED. BACKFILL MATERIAL SHALL BE PER "WATER SYSTEM STANDARDS, 2002," 209.04 UNLESS OTHERWISE SPECIFIED, BACKFILL MATERIAL SHALL BE EVALUATED FOR SUITABILITY BY CONTRACTOR'S GEOTECHNICAL ENGINEER AND APPROVED FOR USE BY THE ENGINEER.
- 12. WARNING TAPE SHALL BE IN ACCORDANCE WITH DIVISION 200, SECTION 212.08 OF THE "WATER SYSTEM STANDARDS." THE WARNING TAPE SHALL BE FOUR MIL THICK. NON-METALLIC, ACID AND ALKALI RESISTANT POLYETHYLENE AND 6-INCHES WIDE WITH MINIMUM STRENGTH OF 1750 PSI LENGTHWISE AND 1500 PSI CROSSWISE, TAPE COLOR SHALL BE "SAFETY PRECAUTION BLUE" AND SHALL BEAR A CONTINUOUS PRINTED INSCRIPTION "CAUTION WATER LINE BURIED BELOW". INSCRIPTION SHALL BE 2-INCHES HIGH, BLACK TEXT.
- 13. ALL HYDRANTS SHALL RECEIVE A MINIMUM SSPC SP3 SURFACE PREPARATION AND COATED IN ACCORDANCE WITH DIVISION 200, SECTION 206.01 OF THE "WATER SYSTEM STANDARDS."
- 14. UNLESS OTHERWISE DIRECTED, PRIOR TO THE CONNECTION OF ANY PIPELINES AND/OR LATERALS TO THE EXISTING MAIN, THE PIPELINES/LATERALS INSTALLED SHALL BE CLEANED, PRESSURE TESTED, CHLORINATED, FLUSHED, AND SAMPLED IN ACCORDANCE WITH DIVISION 300, SECTIONS 302.27 TO 302.29 OF THE "WATER SYSTEM STANDARDS."

WATER SAMPLES SHALL BE TESTED FOR TOTAL COLIFORMS BY A LABORATORY CERTIFIED BY THE STATE OF HAWAII TO PERFORM COLIFORM ANALYSIS. PRESENCE OF COLIFORM BACTERIA IS UNACCEPTABLE.

IN ADDITION TO THE TEST FOR COLIFORMS. A SEPARATE TEST FOR HETEROTROPHIC PLATE COUNT (HPC) SHALL BE CONDUCTED. THE HPC COUNT SHALL BE LESS THAN 300 CFU/ML.

PRIOR TO CHLORINATION, A WATER CHLORINATION AND SANITATION CONTRACTOR WITH A C-37D LICENSE SHALL SUBMIT A CHLORINATION PLAN WITH WATER SOURCE, INJECTION POINTS, SAMPLING POINTS AND PROCEDURE CLEARLY DEFINED FOR APPROVAL BY DHHL.

THE TESTED PIPELINES AND/OR LATERALS MUST BE CONNECTED TO THE EXISTING DHHL SYSTEM WITHIN 14 CALENDAR DAYS OF PULLING THE FIRST DISINFECTION SAMPLE TESTED BY A CERTIFIED LABORATORY. DHHL WILL REQUIRE THE

#### WATER CONSTRUCTION NOTES (CONT'D):

CONTRACTOR TO REDO THE CLEANING, PRESSURE TESTING, AND/OR DISINFECTION OF THE PIPELINES AND/OR LATERALS AT THE CONTRACTOR'S EXPENSE IF THE CONNECTION IS NOT COMPLETED WITHIN THESE 14 CALENDAR DAYS.

- 15. POLYURETHANE FOAM "PIGS" SHALL BE "PUSHED" THROUGH THE LENGTH OF THE INSTALLED PIPELINE USING PRESSURIZED WATER.
- 16. ALL CONNECTIONS SHALL BE SCHEDULED IN COORDINATION WITH DHHL.
- a. AN ADVANCE DEPOSIT IS REQUIRED FOR OPERATING VALVES, FLUSHING LINES AND NOTIFYING CONSUMERS AFFECTED BY A WATER SHUTDOWN DURING CONNECTIONS. THE CONTRACTOR WILL BE CHARGED THE ACTUAL COST.
- b. THE CONTRACTOR SHALL PLACE THE DEPOSIT PRIOR TO SCHEDULING THE CONNECTION DATE.
- c. CONNECTIONS SHALL BE SCHEDULED ON TUESDAYS THROUGH THURSDAYS. NO CONNECTIONS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS, WEEKENDS, AND HOLIDAYS, OR FROM DECEMBER 18 - JANUARY 8 OF EACH YEAR.
- d. ALL MATERIALS SHALL BE ON HAND AND APPROVED BY THE ENGINEER PRIOR TO SCHEDULING THE CONNECTION DATE.
- e. PUMPS USED TO DE-WATER THE CONNECTION AREA SHALL BE OPERATED IN THE PRESENCE OF THE ENGINEER PRIOR TO SCHEDULING THE CONNECTION DATE.

f. ALL CONNECTIONS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.

- 17. IN ORDER TO PREVENT DAMAGE TO THE POLYETHYLENE ENCASEMENT FROM EXCESSIVE HANDLING, THE POLYWRAP SHALL BE INSTALLED AROUND THE BARREL OF THE DUCTILE IRON PIPE AT ITS FINAL LOCATION ALONG THE TRENCHLINE. THE POLYETHYLENE ENCASED PIPE SHALL BE LIFTED USING A FABRIC TYPE SLING OR A SUITABLY PADDED CABLE OR CHAIN TO PREVENT DAMAGE TO THE POLYETHYLENE.
- 18. THE CONTRACTOR SHALL TAKE ALL NECESSARY COMPACTION TESTS WHILE THE WATERLINE TRENCH IS BEING BACKFILLED AND WHILE THE SUBBASE/BASECOURSE IS BEING PLACED. IF THE TEST RESULTS INDICATE THAT ADDITIONAL COMPACTION IS REQUIRED, THE CORRECTIVE WORK SHALL BE COMPLETED BEFORE ANY ADDITIONAL TRENCH EXCAVATION OR PLACING OF SUBBASE/BASECOURSE IS ALLOWED.

THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. THE COMPACTION TEST RESULTS SHALL BE CERTIFIED BY THE GEOTECHNICAL ENGINEER AND SUBMITTED TO DHHL, STATE HIGHWAYS DIVISION (FOR WORK DONE WITHIN STATE R/W) AND THE DEPARTMENT OF PUBLIC WORKS (FOR WORK DONE WITHIN COUNTY R/W). THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE COMPACTION RESULTS MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

- 19. ALL FITTINGS SHALL BE MECHANICAL JOINT (MJ) AT EACH END UNLESS OTHERWISE NOTED. "MEGALUG" RETAINER GLANDS SHALL BE USED WITH ALL MECHANICAL JOINT FITTINGS AND VALVES USED IN CONNECTING NEW WATER MAINS TO EXISTING WATER MAINS UNLESS OTHERWISE NOTED.
- 20. ALL WATER VALVES THAT WILL BE ABANDONED IN PLACE SHALL BE PLACED IN THE "CLOSED" POSITION. REMOVE TOP SECTION OF VALVE BOX AND CONCRETE SETTLEMENT SLAB. FILL REMAINDER OF VALVE BOX WITH CONCRETE. PLACE BACKFILL AND REPAIR PAVEMENT SECTION TO APPLICABLE STATE OR COUNTY STANDARDS, BACKFILL TO FINISH GRADE IN ROAD SHOULDER AREA.
- 21. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE DEPARTMENT OF HEALTH PERMITS PRIOR TO THE START OF CONSTRUCTION, PERMITS INCLUDE, BUT ARE NOT LIMITED TO, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS FOR STORM WATER, HYDROSTATIC TEST, DEWATERING, AND FOR CONSTRUCTION ACTIVITIES, INCLUDING CLEARING, GRADING, AND EXCAVATION, THAT RESULT IN THE DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE OF TOTAL LAND AREA.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF STORM WATER DISCHARGES AND EFFLUENT ASSOCIATED WITH CONSTRUCTION ACTIVITIES INCLUDING HYDROTESTING AND DISINFECTION OPERATIONS, TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR STORM WATER AND CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATION, CHARGES, FEES, AND TAXES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.

- 22. THE CONTRACTOR IS RESPONSIBLE FOR DEWATERING TRENCH AS NECESSARY WHERE GROUNDWATER IS ENCOUNTERED. ALL ASSOCIATED COSTS FOR DEWATERING SHALL BE BORNE BY THE CONTRACTOR.
- 23. THE USE OF KNOWN SEWER PUMP TRUCKS IS PROHIBITED FOR DHHL PROJECTS FOR ANY USE, INCLUDING BUT NOT LIMITED TO DEWATERING AND TESTING OF NEW FACILITIES.
- 24. THE CONTRACTOR SHALL VERIFY OUTSIDE DIAMETER OF ALL EXISTING ASBESTOS CEMENT (AC) WATERLINES TO BE CONNECTED. CONTRACTOR SHALL VERIFY USE OF PROPER GASKETS PRIOR TO CONNECTION. AC PIPE AND GASKET INFORMATION SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.

#### WATER CONSTRUCTION NOTES (CONT'D):

25. ALL REMOVAL, DISPOSAL AND CONNECTION WORK THAT INVOLVES ASBESTOS PIPE/MATERIAL SHALL BE DONE IN THE PRESENCE OF OR BY A LICENSED ASBESTOS CONTRACTOR.

THE LICENSED ASBESTOS CONTRACTOR SHALL SUBMIT THEIR PLAN FOR ALL ASSOCIATED REMOVAL, DISPOSAL AND CONNECTION WORK FOR THE PROJECT TO DHHL FOR REVIEW AND APPROVAL PRIOR TO CONDUCTING THE WORK.

- 26. ALL CONNECTIONS TO EXISTING AC PIPE SHALL BE AT THE NEAREST AC PIPE JOINT. AC PIPE SHALL BE REMOVED BY ENTIRE LENGTH(S) TO FACILITATE THE CONNECTION. CUTTING OF AC PIPE IS PROHIBITED.
- 27. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE OSHA, HIOSH AND FEDERAL REGULATIONS IN HANDLING AND DISPOSAL OF ASBESTOS-CEMENT PIPE. DISPOSAL OF THE PIPE SHALL BE AT AN APPROVED ASBESTOS MATERIAL DISPOSAL SITE.
- 28. ALL WATERWORKS BRASS FITTINGS SHALL BE IN COMPLIANCE WITH THE AMENDED SECTION 1417 OF SAFE DRINKING WATER ACT (SDWA) WHICH TAKES EFFECT ON JANUARY 4, 2014. THE AMENDMENT INCLUDES A CHANGE TO THE DEFINITION OF "LEAD-FREE" BY REDUCING LEAD CONTENT FROM 8% TO A WEIGHTED AVERAGE OF NOT MORE THAN 0.25% IN THE WETTED SURFACE MATERIAL. ALL WATERWORKS BRASS FITTINGS INSTALLED FOR POTABLE WATER SERVICE ON JANUARY 4, 2014 AND BEYOND SHALL CONFORM TO THE AMENDED DEFINITION OF "LEAD-FREE."

AS INDICATED IN SECTION 211 OF WATER SYSTEM STANDARDS — BRASS PRODUCTS, ALL BRASS FITTINGS SHALL CONFORM TO NSF STANDARD 61 AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA), IN ADDITION, ALL BRASS FITTINGS SHALL CONFORM TO NSF STANDARD 372.

- 29. CONTRACTOR SHALL INSTALL WATER FACILITIES ONLY AFTER REACHING FINAL SUBGRADE OR HIGHER. DHHL WILL NOT ALLOW INSTALLATION OF ANY WATER FACILITIES UNTIL THE FINAL SUBGRADE LAYER AT MINIMUM HAS BEEN ACHIEVED.
- 30. PRIOR TO INSTALLATION OF NEW WATER LINES AND/OR FACILITIES, THE CONTRACTOR SHALL HAVE ALL FACILITIES SURVEYED AND STAKED OUT BY A LICENSED SURVEYOR AND THE CONTRACTOR SHALL EXPOSE, VERIFY, AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES IN CLOSE PROXIMITY TO CROSSINGS AND CONNECTIONS PRIOR TO EXCAVATION OF PIPELINE TRENCH. CONTRACTOR SHALL PROVIDE THE LICENSED SURVEYOR CUT SHEET AND THE PROBING INFORMATION TO THE DHHL CONSTRUCTION ENGINEER FOR REVIEW AND APPROVAL BEFORE MOVING FORWARD WITH INSTALLATION VIA THE SUBMITTAL REVIEW PROCESS.
- 31. DHHL SHALL BE PROVIDED TWENTY (20) WORKING DAYS FOR ALL SUBMITTAL REVIEWS FROM THE TIME OF SUBMISSION BY THE CONTRACTOR.

#### SPECIAL NOTES FOR DHHL OPERATED & MAINTAINED WATER SYSTEM:

- 1. THE CONTRACTOR SHALL NOTIFY AQUA ENGINEERS (808-332-7381) AND DHHL LESSEES AND DHHL DESIGN & CONSTRUCTION BRANCH ONE WEEK PRIOR TO TURNING OFF WATER IN THE EXISTING SYSTEM.
- 2. THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING TREES (IF NECESSARY) BY THE LESSEE. COORDINATION SHALL PERMIT ADEQUATE TIME TO ALLOW TREE REMOVAL BY THE LESSEE.

#### CHLORINATION OF WATER SYSTEMS:

- 1. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD FOR DISINFECTING WATER MAINS, ANSI/AWWA C651-99, SECTION 4.4.3, CONTINUOUS FEED METHOD.
- 2. LIQUID CHLORINE OR CALCIUM HYPOCHLORITE THAT HAS BEEN TESTED AND CERTIFIED AS MEETING THE SPECIFICATIONS OF ANSI/NSF STANDARD 60. DRINKING WATER TREATMENT CHEMICALS-HEALTH EFFECTS, SHALL BE USED FOR THE CHI ORINATION OF THE WATER MAINS.
- 3. PRIOR TO CHLORINATION, THE WATER MAINS SHALL BE THOROUGHLY FLUSHED.
- 4. THE INTERIOR SURFACES OF THE WATER MAINS SHALL BE EXPOSED TO THE CHLORINATING SOLUTION, BY COMPLETELY FILLING THE MAIN TO REMOVE ALL AIR POCKETS, FOR A MINIMUM OF 24 HOURS AND THE FREE CHLORINE RESIDUAL SHALL NOT BE LESS THAN 10 PPM AFTER SUCH TIME.
- 5. SHOULD CALCIUM HYPOCHLORITE BE USED, NO SOLID AND/OR UNDISSOLVED PORTION OF THE COMPOUND SHALL BE INTRODUCED INTO ANY SECTION OF THE WATER MAINS TO BE CHLORINATED.
- 6. AT THE END OF THE 24 HOUR DISINFECTION PERIOD, REPRESENTATIVE SAMPLES SHALL BE TAKEN AND ANALYZED TO ASSURE A FREE CHLORINE RESIDUAL OF AT LEAST 10 PPM.
- 7. SHOULD THE FREE CHLORINE RESIDUAL RESULTS INDICATE ADEQUATE CHLORINATION, THE WATER MAINS SHALL BE THOROUGHLY FLUSHED AND FILLED WITH WATER FROM THE EXISTING SYSTEM AND AGAIN TESTED FOR FREE CHLORINE RESIDUAL. THE FLUSHING SHALL BE CONSIDERED ADEQUATE IF THE FREE CHLORINE RESIDUAL TEST RESULTS INDICATE THAT THE WATER IN THE WATER MAINS HAVE A COMPARABLE CHLORINE RESIDUAL AS THE WATER IN THE EXISTING SYSTEM.

#### CHLORINATION OF WATER SYSTEMS (CONT'D):

- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF CHLORINATED WATER TO SAFEGUARD PUBLIC HEALTH AND ENVIRONMENT IN ACCORDANCE WITH APPLICABLE STATE DEPARTMENT OF HEALTH REQUIREMENTS. A NEUTRALIZING CHEMICAL SHALL BE APPLIED TO THE WATER TO BE WASTED TO THOROUGHLY NEUTRALIZE THE CHLORINE RESIDUAL REMAINING IN THE WATER IN ACCORDANCE WITH AWWA C651-99, SECTION 4.5.2, AND APPENDIX C.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH, PRIOR TO THE START OF CONSTRUCTION FOR THE DISPOSAL OF WATER USED FOR HYDROTESTING AND CHLORINATION.
- 10. FOLLOWING THE ACCEPTABLE FLUSHING OF THE WATER MAINS, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES, TAKEN AT LEAST 24 HOURS APART FROM REPRESENTATIVE POINTS, SHALL BE SUBJECTED TO MICROBIOLOGICAL TESTS (TOTAL AND FECAL COLIFORM). FOR WATERLINES, AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 1,200 FEET OF THE NEW WATER MAIN, PLUS ONE FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. POSITIVE OR INVALID TEST RESULTS WILL NOT BE ACCEPTABLE AND THE PROCESS WILL BE REPEATED.
- 11. ALL MEASUREMENTS FOR CHLORINE RESIDUAL SHALL BE ANALYZED USING E.P.A. APPROVED METHODS FOR DRINKING WATER.
- 12. ALL MICROBIOLOGICAL TEST SHALL BE PERFORMED BY A LABORATORY APPROVED BY THE DEPARTMENT OF HEALTH, STATE OF HAWAII.
- 13. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ALL OF THE FOREGOING.
- 14. SEE ANSI/AWWA C651-99, SECTION 4.3.6 FOR SWABBING CHLORINATION

#### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEMS (NPDES) AND OTHER AUTHORIZATIONS

THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

- 1. STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
- 2. 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 OPERATION 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/

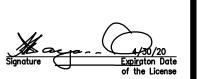
THE GENERAL CONTRACTOR/DEVELOPER/OWNER IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

#### <u>OTHER</u>

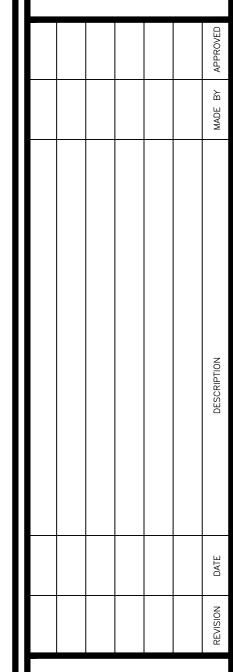
1. ALL MATERIALS (PIPE, PIPE LUBRICANTS, PAINTS, SEALANTS, FORM OIL, CONCRETE ADMIXTURES, ETC.) IN DIRECT CONTACT WITH THE POTABLE WATER SHALL HAVE NATIONAL SANITATION FOUNDATIONS (NSF) APPROVALS. THE CONTRACTOR SHALL SUBMIT THESE APPROVALS TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ITS APPLICATION.

NDAH. VIZ LICENSED PROFESSIONAL ENGINEER NO. C-9348

THIS WORK WAS PREPARED BY ME OR UNDER SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.



oceanit



DEPARTMENT OF

HAWAIIAN HOME LANDS 915420 Kapolei Parkway

ANAHOLA FARM LOTS

Kapolei, Hawai`i 96707

Water Line Replacement

Anahola, Island of Kaua` 4-8-005:039, 4-8-018:027 & 4-8-021:032

**NOTES** 

DRAWING NO ESIGNED BY: JM T-4 DRAWN BY: GT CHECKED BY: JM SURVEYED BY: PS DATE: APR. 2018

SHEET NO. 4 OF 30

- 2. BEFORE PAVEMENT RESTORATION MAY COMMENCE, NOTIFY THE ENGINEER AND FURNISH DATA ON TESTS PERFORMED UNDER THE SUPERVISION OF A REGISTERED CIVIL ENGINEER SUBSTANTIATING THAT THE BACKFILL HAS BEEN COMPACTED TO THE DENSITY SPECIFIED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR ALL TRENCHES THAT ARE OVER 2 FEET IN DEPTH IN MAJOR AND SECONDARY STREETS AND FOR ALL TRENCHES OVER FIFTY FEET IN LENGTH AND OVER 2 FEET IN DEPTH IN MINOR AND DEAD END STREETS. THE DIRECTOR MAY ALSO REQUIRE COMPACTION TESTS OF BACKFILL FOR HOLES AND FOR TRENCHES OF LESS THAN 2 FEET IN DEPTH AND ADDITIONAL COMPACTION TESTS ON TRENCHES FOR WHICH THE PERMITTEE HAS FURNISHED TEST DATA.
- 3. OPEN-CUT TRENCHES SHALL BE COVERED DURING NON-WORKING HOURS TO SAFELY SUPPORT AND MAINTAIN LEGAL VEHICULAR TRAFFIC LOADS.
- 4. ACCOMPLISH EMERGENCY WORK INCLUDING BUT NOT LIMITED TO PATCHING HOLES, REPAIRING TEMPORARY TRENCH COVERS AND INSTALLATION OF WARNING LIGHTS OR BARRICADES WHEN THE "CONTACT FOR EMERGENCY REPAIRS" FURNISHED BY THE APPLICANT IS NOTIFIED. IF THE EMERGENCY WORK IS NOT MADE IN A REASONABLE TIME WHEN NOTIFIED OR UPON FAILURE OF THE "CONTACT FOR EMERGENCY REPAIRS," RESPOND AND PAY THE COST OF THE EMERGENCY WORK MADE BY THE DEPARTMENT OF FACILITY MAINTENANCE, DIVISION OF ROAD MAINTENANCE.
- 5. UNDERTAKE, FOR A PERIOD OF ONE (1) YEAR AFTER THE SATISFACTORY COMPLETION AND APPROVAL OF RESTORATION WORK, ANY NECESSARY REPAIRS TO THE RESTORED WORK OR FACILITIES DISTURBED AND/OR BY THE WORK PERFORMED UNDER THIS PERMIT.
- 6. REMOVE, RELOCATE, REPLACE, RECONSTRUCT OR ADJUST, AT HIS/HER OWN EXPENSE, ANY OF HIS/HER FACILITIES THAT MAY EXIST ON OR UNDER THE RIGHT-OF-WAY WHENEVER AND AS OFTEN AS MAY BE REQUIRED BY THE DIRECTOR OR AN AUTHORIZED REPRESENTATIVE IN ORDER TO UNDERTAKE THE CONSTRUCTION, RECONSTRUCTION OR MAINTENANCE OF SAID RIGHT-OF-WAY.
- 7. KEEP ALL FACILITIES INSTALLED IN GOOD REPAIR SO THAT THE PRESENCE OF SUCH FACILITY ON OR UNDER THE RIGHT-OF-WAY WILL IN NO WAY IMPAIR THE USE OR USEFULNESS OF ANY IMPROVEMENT WHICH MAY NOW EXIST OR HEREAFTER COME INTO EXISTENCE.
- 8. KEEP A COPY OF THE PLANS IN THE HANDS OF THE WORKING CREW FOR EXHIBIT UPON REQUEST OF ANY AUTHORIZED REPRESENTATIVE.
- 9. SUBMIT AS—BUILT DRAWINGS TO THE ENGINEER SHOWING THE ACTUAL CONSTRUCTION PERFORMED.

#### SANDWICH ISLES COMMUNICATIONS (SIC) NOTES

- THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE CAUTION AND SHALL MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO SANDWICH ISLES COMMUNICATIONS, INC. (SIC) FACILITIES.
- PRIOR TO EXCAVATING AND DRILLING OPERATIONS, THE CONTRACTOR SHALL CALL INTO HAWAII'S ONE CALL CENTER AND SHALL COMPLY WITH HAWAII REVISED STATUTES CHAPTER 269E. CONTACT HAWAII ONE CALL AT 1-866-423-7287.
- 3. IF REQUIRED, ADJUSTMENTS SHALL BE MADE TO NEW CONSTRUCTION TO PROVIDE REQUIRED CLEARANCES FROM SIC FACILITIES.
- 4. A SIC INSPECTOR OR DESIGNATED REPRESENTATIVE IS REQUIRED TO BE PRESENT DURING HORIZONTAL DIRECTIONAL DRILLING OPERATIONS WHICH CROSS ANY STRUCTURE OR CONDUIT SYSTEM THAT CONTAIN SIC FACILITIES. TEMPORARY DUCT OR CABLE SUPPORT SHALL BE PROVIDED WHEREVER NECESSARY OR REQUIRED BY SIC INSPECTOR.
- 5. THE CONTRACTOR SHALL NOTIFY SIC AT LEAST 72 HOURS PRIOR TO EXCAVATION, BRACING, BACKFILLING OR CROSSING OF SIC FACILITIES. TO SCHEDULE AN INSPECTOR, CONTACT SIC PROJECT MANAGER, LILY DURAN, AT 808–284–3683 OR SIC CUSTOMER SERVICE AT 1–888–995–7274. ON OAHU CALL 540–5754.
- 6. WHEN EXCAVATION IS ADJACENT TO, ABOVE OR BELOW SIC FACILITIES, THE CONTRACTOR SHALL:
  - A. SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE—INS, OR SETTLEMENTS TO ENSURE NO MOVEMENT OR IMPACT TO SIC FACILITIES.
  - B. SUPPORT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS, OR UNDERPINNING WHILE EXCAVATING AROUND OR BENEATH THEM TO PREVENT ANY MOVEMENT OR IMPACT TO SIC FACILITIES.

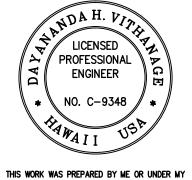
#### KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

#### UNDERGROUND CONSTRUCTION NOTES AND REQUIREMENTS

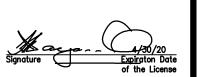
- 1. THESE NOTES ARE NOT INTENDED TO BE USED IN PLACE OF THE SERVICE INSTALLATION MANUAL, PLEASE REFER TO SERVICE INSTALLATION MANUAL FOR ALL SERVICE ISSUES.
- 2. CONTRACTOR SHALL CONTACT KAUAI ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION COORDINATOR/INSPECTOR PRIOR TO START OF WORK ON KIUC FACILITIES AND FOR SCHEDULING SITE INSPECTIONS. (WESTSIDE: 246–2323; EASTSIDE: 246–4343)
- 3. CONTRACTOR SHALL CONTACT KIUC'S DISTRIBUTION PLANNING COORDINATOR @ 246-2373 FOR DESIGN APPROVALS, STANDARD DETAIL DRAWINGS, AND ANY ITEMS NOT ADDRESSED IN THESE NOTES OR DRAWINGS.
- 4. ALL CONTRACTORS ENTERING KIUC FACILITIES MUST BE APPROVED BY KIUC AND MUST HAVE PROPER LICENSING AND INSURANCE COVERAGE. CONTACT KIUC LEGAL COORDINATOR @ 246-4369 FOR DETAILS.
- 5. ALL TRENCHES AND PULLBOXES MUST BE INSPECTED BY KIUC PRIOR TO BACKFILLING AND CONCRETE—ENCASING OPERATIONS. FOR DETAILED TRENCHING AND BACKFILLING REQUIREMENTS REFER TO KIUC'S SERVICE INSTALLATION MANUAL.
- 6. THE CONTRACTOR SHALL PROVIDE A POLY-LINE 200 LB. TEST LINE OR EQUIVALENT AS A PULLING WIRE IN ALL 1 INCH, 2 INCH, 3 INCH AND 4 INCH CONDUITS. IN 5 INCH AND 6 INCH CONDUITS, THE CONTRACTOR SHALL INSTALL NEPTCO WP1BOO MULETAPE AS A PULLING LINE.
- 7. ALL CONDUITS, PULLBOXES, HANDHOLES &' MANHOLES SHALL BE CLEANED AND FREE FROM OBJECTIONABLE MATERIALS. CONDUIT ENDS SHALL BE ADEQUATELY COVERED UNTIL THE CONDUCTOR IS INSTALLED BY THE ELECTRIC COMPANY. (COVERS SHALL BE CARLON PLUG WITH PULL TAB SERIES P25B EQUIVALENT OR BETTER)
- 8. FOR ALL CONDUIT OTHER THAN SERVICES, REFER TO CONDUIT SCHEDULE ON DRAWINGS.
- 9. FOR ALL SERVICES WHERE THE CONDUCTOR IS 1/0 OR LESS, THE DISTANCE FROM KIUC'S HANDHOLE AND CUSTOMER'S METER IS LESS THAN 125 FEET, AND NOT CROSSING ANY DRIVEWAYS OR ROADS THE CONDUIT SHALL BE 2 INCH SCHEDULE 40 PVC. FOR SERVICES GREATER THAN 125 FEET, CONTACT KIUC PLANNER FOR FIELD VERIFICATION AND UNDERGROUND SERVICE REQUIREMENTS. ANY DEVIATIONS WILL REQUIRE KIUC WRITTEN APPROVAL.
- 10. PRIMARY AND SECONDARY CONDUITS FOR NEW LINE EXTENSIONS SHALL BE SCHEDULE 40 PVC. (CARLON P&C DUCT TYPE DB EQUIVALENT OR BETTER.) UNDER DRIVEWAYS AND ROADWAYS, THE CONDUITS SHALL BE ENCASED IN A MINIMUM OF 3 INCH CONCRETE JACKET EXTENDING 12 INCHES OUTSIDE THE EDGE OF THE PAVEMENT.
- 11. SCHEDULE 80 PVC CONDUIT MAY BE SUBSTITUTED FOR THE CONCRETE ENCASED SCHEDULE 40 PVC FOR SERVICE CONDUIT ONLY CROSSING UNDER UNPAVED PRIVATE DRIVEWAYS AND ROADWAYS FROM KIUC POLE/HANDHOLE TO CUSTOMER'S METER. IF CONCRETE DRIVEWAY WILL BE BUILT OVER SERVICE CONDUIT IMMEDIATELY AFTER CONDUIT IS INSTALLED, THEN SCHEDULE 40 PVC MAY BE USED PROVIDED THAT IT MEETS WITH RULE NO. 21.
- 12. ALL PRIMARY AND SECONDARY CONDUITS WHICH ARE CROSSING STATE OR COUNTY ROADWAYS SHALL BE SCHEDULE 40 PVC ENCASED IN A MINIMUM 3 INCH CONCRETE JACKET, WHICH SHALL EXTEND A MINIMUM OF 12 INCHES OUTSIDE OF THE EDGE OF PAVEMENT.
- 13. ELECTRICAL SUPPLY DUCTS, WHEN INSTALLED NEAR COMMUNICATION CABLES, SHALL BE SEPARATED FROM COMMUNICATION DUCT SYSTEMS AND BURIED COMMUNICATION CABLES OR CONDUCTORS BY NOT LESS THAN 3 INCHES OF CONCRETE OR 12 INCHES OF EARTH WHEN PARALLELING OR CROSSING.
- 14. CHAIRS SHALL BE INSTALLED AND SPACED AT A MAXIMUM OF 5 FEET SEPARATION WHEN CONCRETE ENCASING CONDUITS.
- 15. ALL CONDUITS SHALL ENTER BOXES AT A 90 DEGREE ANGLE, PERPENDICULAR AND FLUSH TO THE WALL WITH BELL ENDS TO PREVENT CABLE DAMAGE.
- 16. 90 DEGREE CONDUIT BENDS SHALL BE FACTORY—MADE WITH A MINIMUM RADIUS OF 3 FEET IN TRENCH RUNS.
- 17. CONDUIT BENDS EXCEEDING 90 DEGREES WILL NOT BE ACCEPTED
- 18. A 36 INCH MINIMUM HORIZONTAL CLEARANCE SHALL BE MAINTAINED WHEN RUNNING KIUC CONDUITS PARALLEL TO WATER &' SEWER LINES. IF CLEARANCE IS LESS THAN 36 INCHES, KIUC CONDUIT SHALL BE CONCRETE ENCASED.
- 19. NO FOREIGN PULL BOXES, HANDHOLES, MANHOLES, CONCRETE SLABS/BOXES, STRUCTURES, ETC. ARE TO BE INSTALLED OVER KIUC FACILITIES WITH THE EXCEPTION OF HAWAIIAN TELCOM, CA TV OR WATERLINE CONDUIT CROSSINGS. SUCH CROSSING MUST BE APPROVED BY KIUC'S SERVICE ASSURANCE DEPARTMENT AND KIUC CONDUIT TO BE CONCRETE ENCASED. CONCRETE ENCASEMENT MUST BE MINIMUM OF 3 INCH ENCASEMENT AND EXTEND A MINIMUM OF 1 FOOT BEYOND CROSSING CONDUIT OR PIPE.

#### KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

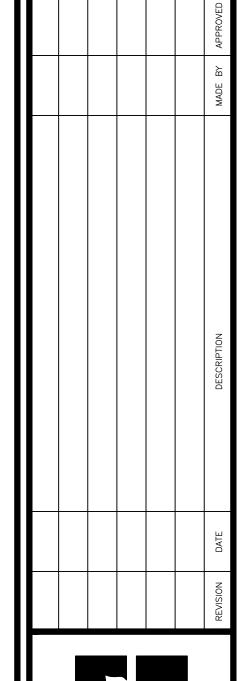
- 20. YELLOW MARKER TAPE TO BE PLACED 1 FOOT ABOVE ELECTRICAL CONDUITS IN THE TRENCH DURING BACKFILLING. (E-Z CODE WBT 6 INCH WIDE 4 MIL POLYETHYLENE PROTECT-A-LINE WARNING TAPE NA-0708 "ELECTRIC LINE" IN YELLOW, EQUIVALENT OR BETTER?
- 21. UNLESS OTHERWISE NOTED, THE TOP OF ALL CONDUITS SHALL BE AT A DEPTH OF 24 INCHES.
- 22. ALL HANDHOLES, PULLBOXES, AND MANHOLES SHALL BE WALKER INDUSTRIES TYPE OR APPROVED EQUAL. CONTACT KIUC PRIOR TO ORDERING UNDERGROUND BOXES FOR VENDOR APPROVAL. CUSTOMER TO SUBMIT MANUFACTURER'S SHOP DRAWINGS IF SUBSTITUTING FROM WALKER INDUSTRIES TYPE.
- 23. TYPICALLY, THE TOP OF ALL ELECTRICAL UTILITY BOXES SHALL BE 1 INCH ABOVE FINISH GRADE, SINGLE PHASE TRANSFORMER PADS SHALL BE 2 INCHES ABOVE FINISH GRADE, AND THREE PHASE TRANSFORMER PADS SHALL BE 4 INCHES ABOVE FINISH GRADE UNLESS OTHERWISE NOTED {SPECIAL CONDITIONS MAY APPLY TO SIDEWALKS, ROADWAYS, ETC., SEE SPECIFIC LOCATION NOTATION}
- 24. AT NO TIME SHALL CEMENT MORTAR, WOOD, OR ANY OTHER MATERIAL BE USED BETWEEN PRE—CAST SECTIONS OF KIUC PULLBOXES, HANDHOLES, OR MANHOLES. THE PERMANENT INSTALLATION OF WOODEN WEDGES TO LEVEL OR RAISE THE PRE—CAST SECTIONS SHALL NOT BE PERMITTED.
- 25. A MINIMUM OF 6 INCHES OF #3 CRUSHED ROCK BACKFILL SHALL BE PLACED LOOSELY BENEATH THE BOTTOM SECTION OF HANDHOLES AND PULLBOXES. CRUSHED ROCK OR OTHER FOREIGN MATERIALS ARE NOT TO BE PLACED INSIDE HANDHOLES AND PULLBOXES.



THIS WORK WAS PREPARED BY ME OR UNDER M SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.



oceanit



DEPARTMENT OF

HAWAIIAN HOME LANDS
915420 Kapolei Parkway

ANAHOLA FARM LOTS

Kapolei, Hawai`i 96707

Water Line Replacement Anahola, Island of Kaua`

4-8-005:039, 4-8-018:027

& 4-8-021:032

NOTES

DESIGNED BY: JM DRAWING NO.

DRAWN BY: GT T-5

CHECKED BY: JM

SURVEYED BY: PS DATE: APR. 2018

SHEET NO. 5 OF 30

FARM LOTS

G,GR,GRD

BBREVI	ATIONS:			
C CP CP CP PPROX RV	ASPHALT CONCRETE ASBESTOS CONCRETE PIPE AMERICANS WITH DISABILITIES ACT ALUMINUM AND APPROXIMATE AIR RELIEF VALVE AT AMERICAN WATERWORKS ASSOCIATION	GALV GB GMH GP GRND GRP GRVL GS GUY	GALVANIZED GRADE BREAK GAS MANHOLE GATE POST GROUND GROUTED RUBBLE PAVING GRAVEL GALVANIZED STEEL GUY WIRE ANCHOR	
C SP DG K M MP OT / V	AGGREGATE BASE COURSE BASELINE BOTTOM BANK BACKFLOW PREVENTER BUILDING BLOCK BENCH MARK BEST MANAGEMENT PRACTICES BOTTOM BOTTOM VERTICAL BEGIN VERTICAL CURVE BOTTOM WALL	H H= HBV HDWL HDPE HOR, HORIZ HP HR HTV HTW	HEIGHT, HIGH, HORIZONTAL APPROXIMATE HEIGHT HORIZONTAL BOTTOM VERTICAL HEADWALL HIGH DENSITY POLYETHYLENE HORIZONTAL HIGH POINT HOUR HORIZONTAL TOP VERTICAL HOLLOW TILE WALL  INSIDE DIAMETER	
A B C T S H L F M M M M M M U	CHORD CENTERLINE CENTRAL ANGLE CATCH BASIN CORP COCK CUBIC FEET CUBIC FEET PER SECOND CHORD LENGTH (CURVE) CAST IRON CHAIN LINK FENCE COMMUNICATION MANHOLE CORRUGATED METAL PIPE CONCRETE MASONRY UNIT	IE IN INV IP IPT K KV L LB Lc LF	THAT IS INCH (ES) INVERT IRON PIPE INTERNAL PIPE THREAD  RATE OF CURVATURE KILO-VOLT  LEFT, LENGTH POUND LENGTH OF CURVE (CURVE LENGTH) LINEAR FEET LOW POINT	
NO DNC DNN DNSTR DNT'D C RM SP J	"CANNOT OPEN" CLEAN OUT CONCRETE CONNECT CONSTRUCTION CONTINUOUS, CONTINUATION CONTINUED CONTROL POINT, CONCRETE POST CONCRETE RUBBLE MASONRY COUNTY STANDARD PIPE COPPER CUBIC YARD	M&O MAX MB MHHW MIN MJ MLLW MON MPT MRP MSL	MAINTENANCE AND OPERATION MAXIMUM METER BOX MEAN HIGHER HIGH WATER MINIMUM MECHANICAL JOINT MEAN LOWER LOW WATER MONUMENT MALE END PIPE THREAD MORTARED RUBBLE PAVING MEAN SEA LEVEL	
= DIA ET P MH PW WG(S)	APPROXIMATE DIAMETER DIAMETER DETAIL DUCTILE IRON PIPE DRAINLINE DRAIN MANHOLE DEPARTMENT OF PUBLIC WORKS DRAWING(S) DRIVEWAY	N NIC NTS OC OD OH OS, O/S	NORTHING NOT IN CONTRACT NOT TO SCALE  ON CENTER OUTSIDE DIAMETER OVERHEAD OFFSET	
CP EC EV, EL MB MH OW PB R /C (IST, EX (P JT	DOUBLE YELLOW LINE  EAST, EASTING EACH END CURVE EDGE OF CONCRETE PAVEMENT EACH FACE EXISTING GROUND ELECTRIC, ELECTRICAL ELEVATION EMBANKMENT ELECTRIC MANHOLE EDGE OF WATER EDGE OF PAVEMENT ELECTRIC PULLBOX EDGE OF ROAD END VERTICAL CURVE EACH WAY EXCAVATION EXISTING EXPANSION JOINT EQUAL  FIELD BOOK FLANGE END	PAV'T PC, POC PCC PE PFC % PH PI PK PL PM PNE PNRS PP PRC PRV PRVC PT PVI PVC PSF PSI	PAVEMENT POINT OF CURVATURE POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE PLAIN END POUNDS PER CUBIC FOOT PERCENT PHONE POINT OF INTERSECTION PARKER—KALON FASTENER PLATE PROPERTY LINE POST MERIDIAN PINE PROJECT NOTIFICATION & REVIEW SYSTEM POWER POLE POINT OF REVERSE CURVE PRESSURE REDUCING VALVE POINT OF REVERSE VERTICAL CURVE POINT OF TANGENCY, POINT POINT OF VERTICAL INTERSECTION POLYVINYL CHLORIDE, POINT ON VERTICAL CURVE POUNDS PER SQUARE INCH	_
GR,GRD	FLANGE END FINISH GROUND FIRE HYDRANT FINISH FLOW LINE FINISHED SURFACE FEET  GRADE, GROUND GALVANIZED IRON	R RC RCJ RCP RD REINF REF REQD RP	RADIUS REINFORCED CONCRETE REINFORCED CONCRETE JACKET REINFORCED CONCRETE PIPE ROAD REINFORCEMENT REFERENCE REQUIRED ROYAL PALM	

RPM Rt ROW	RAISED PAVEMENT MARKER RIGHT RIGHT-OF-WAY
S= SCHD SE SF SHLDR SHT(S) SLP, S SIM SMH SSL STD STA SWL SW SY SYMM	APPROXIMATE SIZE, SLOPE SCHEDULE SCREWED END SQUARE FEET (FOOT) SHOULDER SHEET(S) SLOPE SIMILAR SEWER MANHOLE SINGLE SERVICE LATERAL STANDARD STATION SWALE SIDEWALK SQUARE YARD SYMMETRICAL
T TB TC TCP TEL. THK THRD,THD TMH TP TR TS= TV= TV TW TYP	TANGENT, TELEPHONE TOP BANK TOP CONCRETE TRAFFIC CONTROL PLAN TELEPHONE THICK THREAD TELEPHONE MANHOLE TOP PAVEMENT TOP RIPRAP TOP STEM= TOP VALVE= TOP VERTICAL TOP WALL TYPICAL
UON UP US	UNLESS OTHERWISE NOTED UTILITY POLE UNITED STATES
VAR. VIF V,VER,VERT VC VPC,VPI,VPT	VARIABLE, VARIOUS VERIFY IN FIELD VERTICAL VERTICAL CURVE VERTICAL POINT OF CURVATURE, INTERSECTION, TANGENCY
W W/ W/L WL WMB WMH W/O WP WSS WV W/W	WIDTH WITH WATERLINE WHITE LINE WATER METER BOX WATER MANHOLE WITHOUT WORK POINT, WOOD POST WATER SYSTEM STANDARDS, STATE OF HAWAII, DATED 2002 (AS AMENDED) WATER VALVE WALKWAY

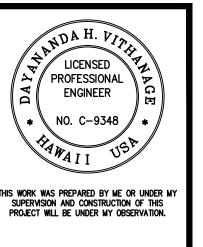
## LEGEND:

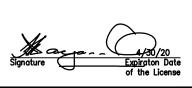
VB

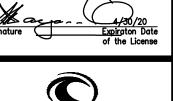
VALVE BOX

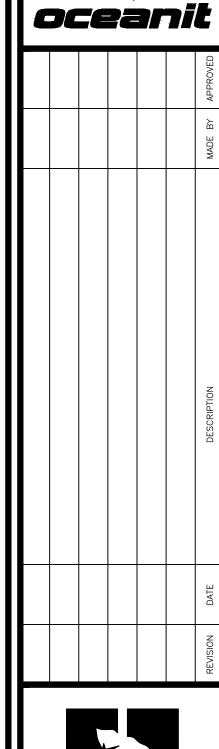
CHAIN LINK FENCE

<u>EGEND.</u>			
	EXIST. WATER LINE		A.C. REPAVE
(1)	EXIST. WATER VALVE	The state of the s	001100575
	EXIST. FIRE HYDRANT		CONCRETE
<b>○</b>	EXIST. BACKFLOW PREVENTER	UL SE M	
	EXIST. SERVICE LATERAL & METER BOX	A CONTRACTOR OF THE PROPERTY O	VARIOUS TREES
<del></del>	NEW WATER LINE		
8	NEW WATER VALVE		
$\mathbf{x}$	NEW FIRE HYDRANT		
•=•	NEW BACKFLOW PREVENTER		
	NEW SERVICE LATERAL & METER BOX		
0	UTILITY POLE		
_0_	STREET SIGN		
	PROPERTY LINE		











ANAHOLA FARM LOTS

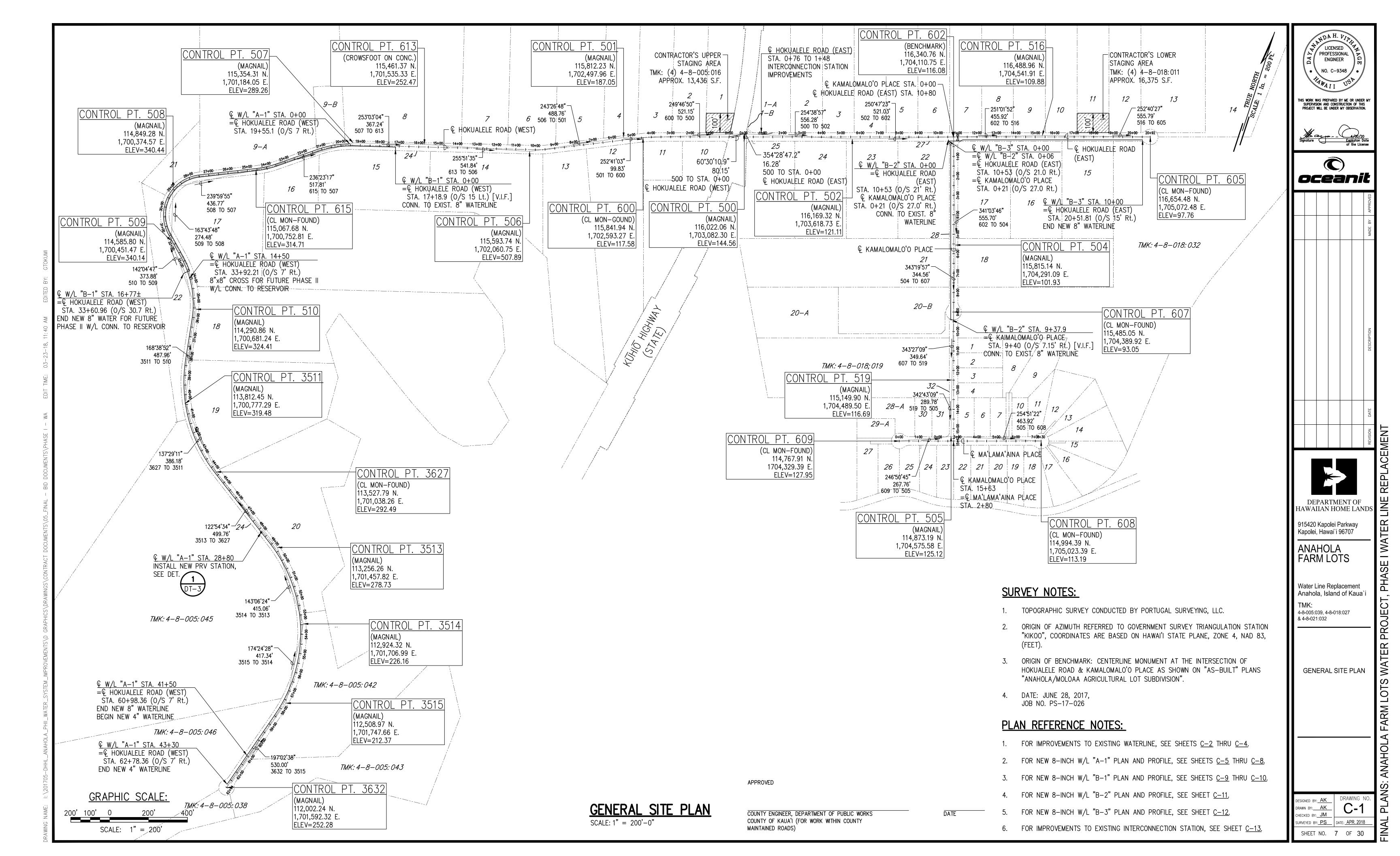
Water Line Replacement Anahola, Island of Kaua`i

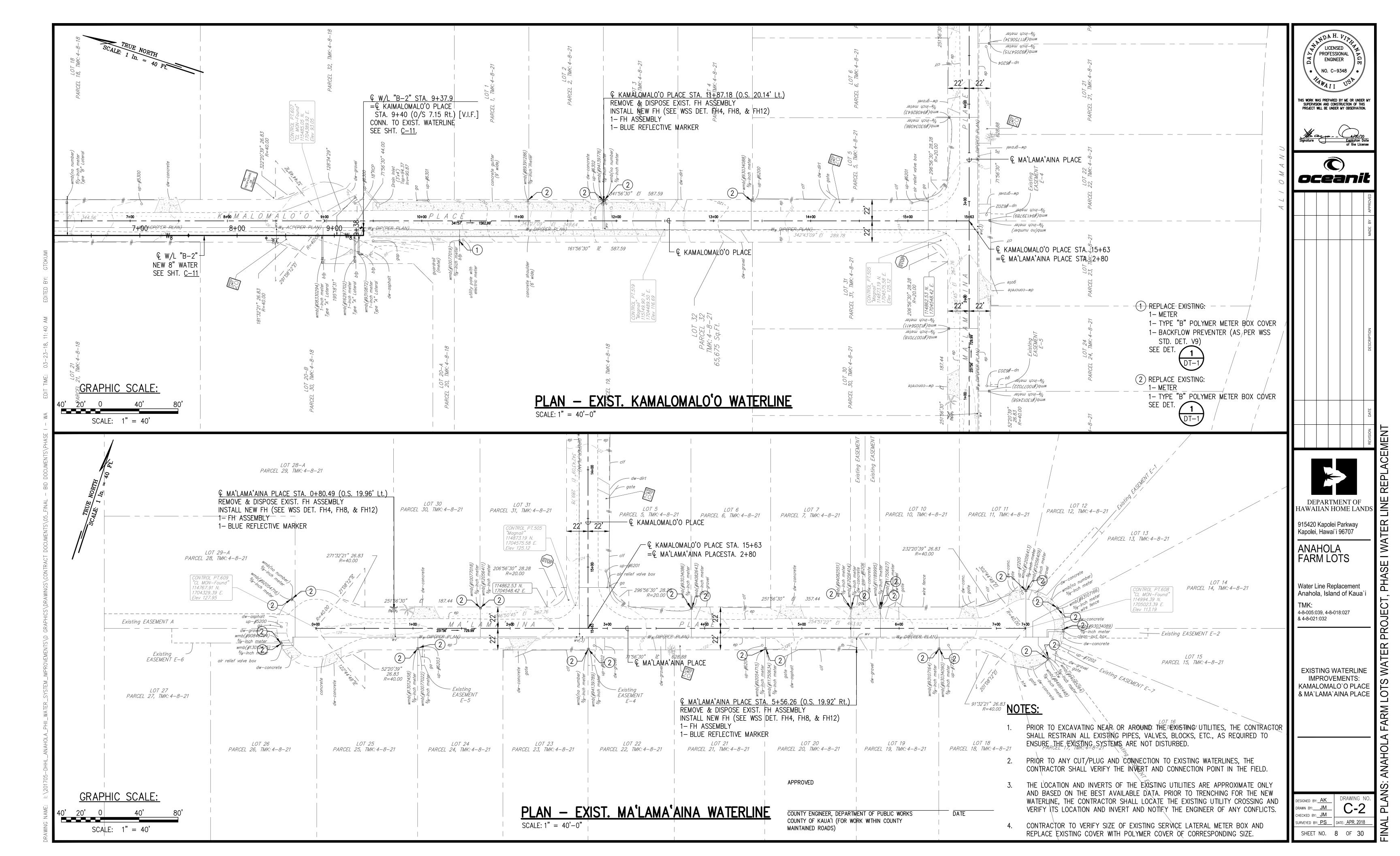
TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

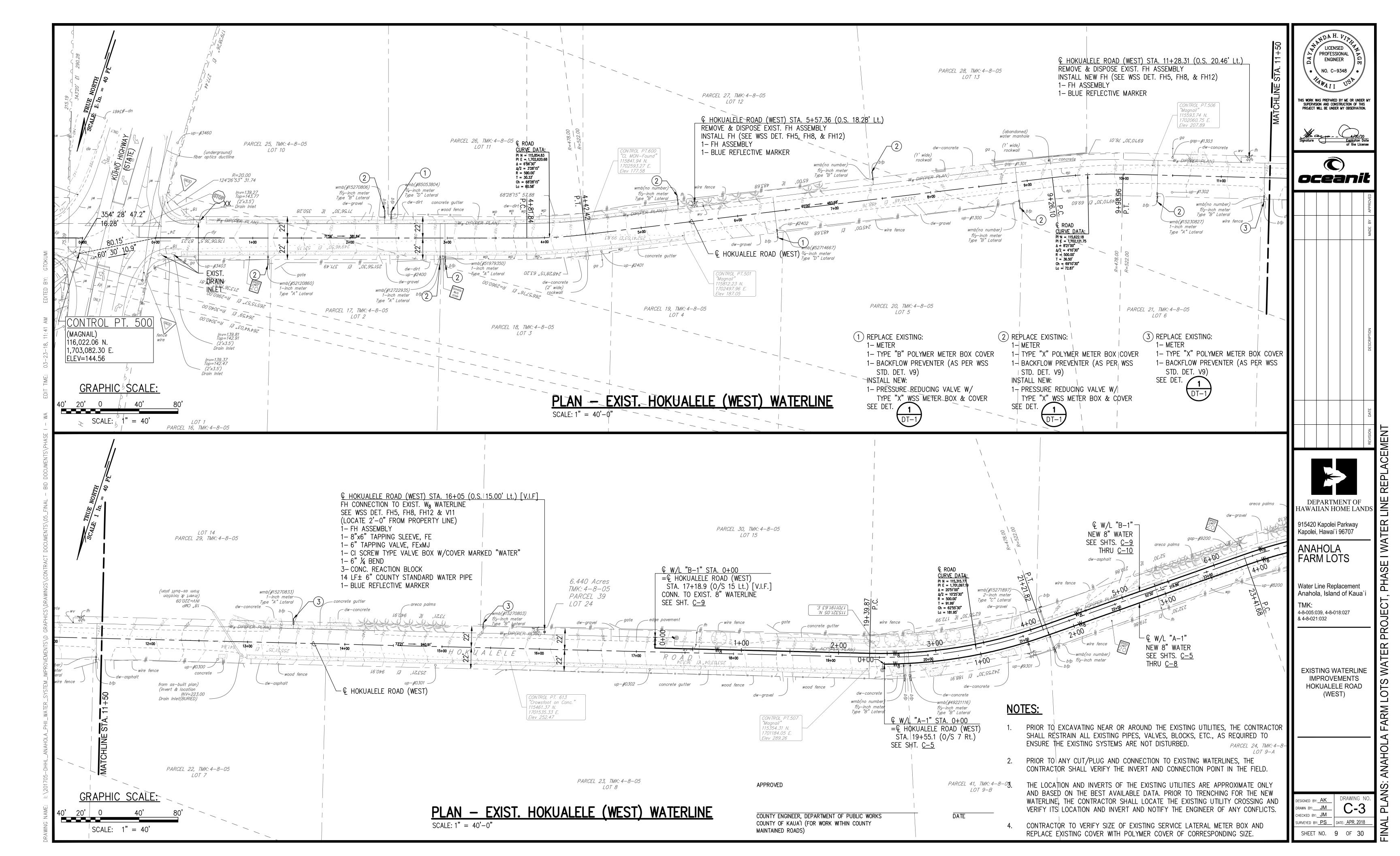
ABBREVIATIONS & LEGEND

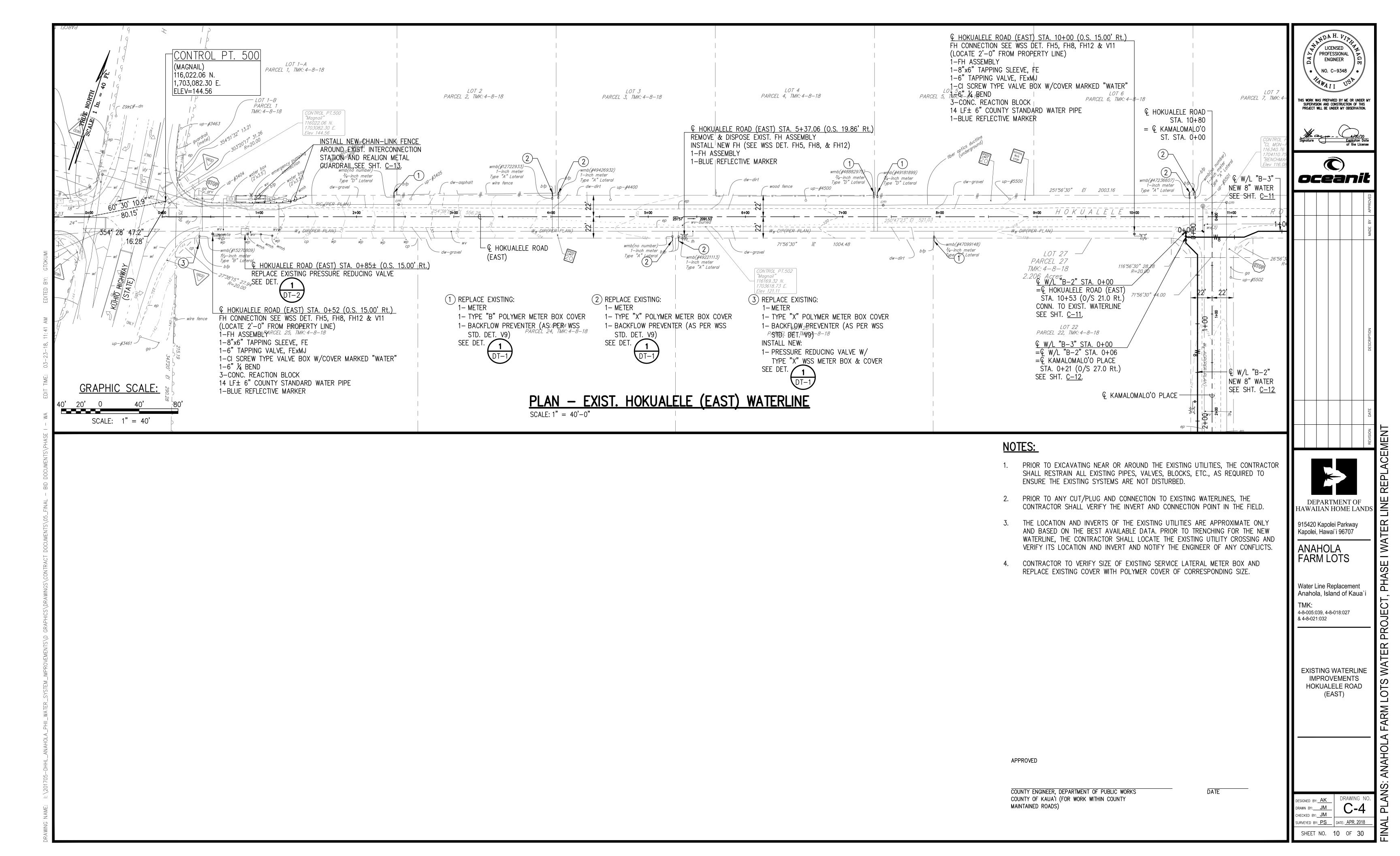
ANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER DESIGNED BY: JM
DRAWN BY: GT
CHECKED BY: JM
SURVEYED BY: PS

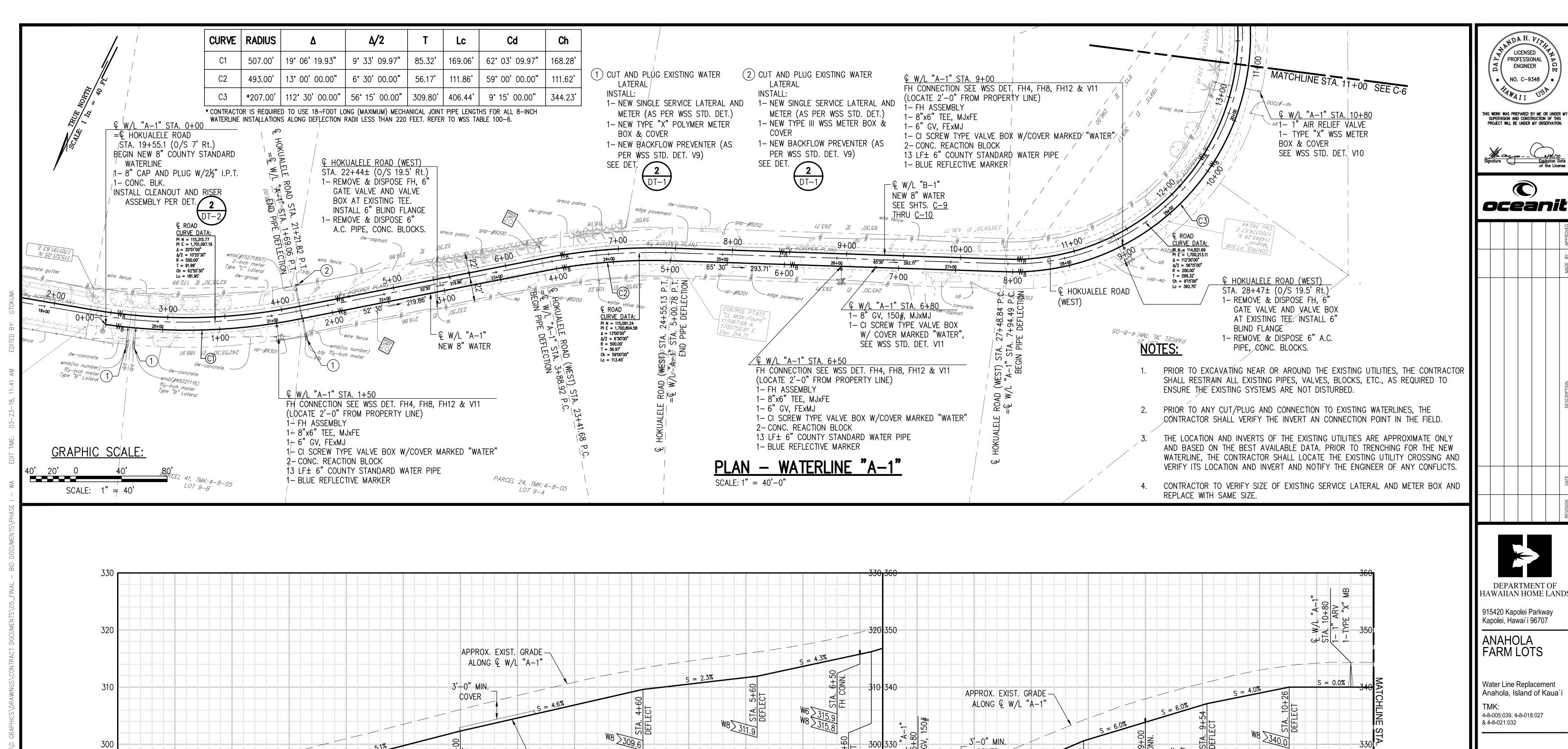
DATE: APR. 2018 T-6 SHEET NO. 6 OF 30

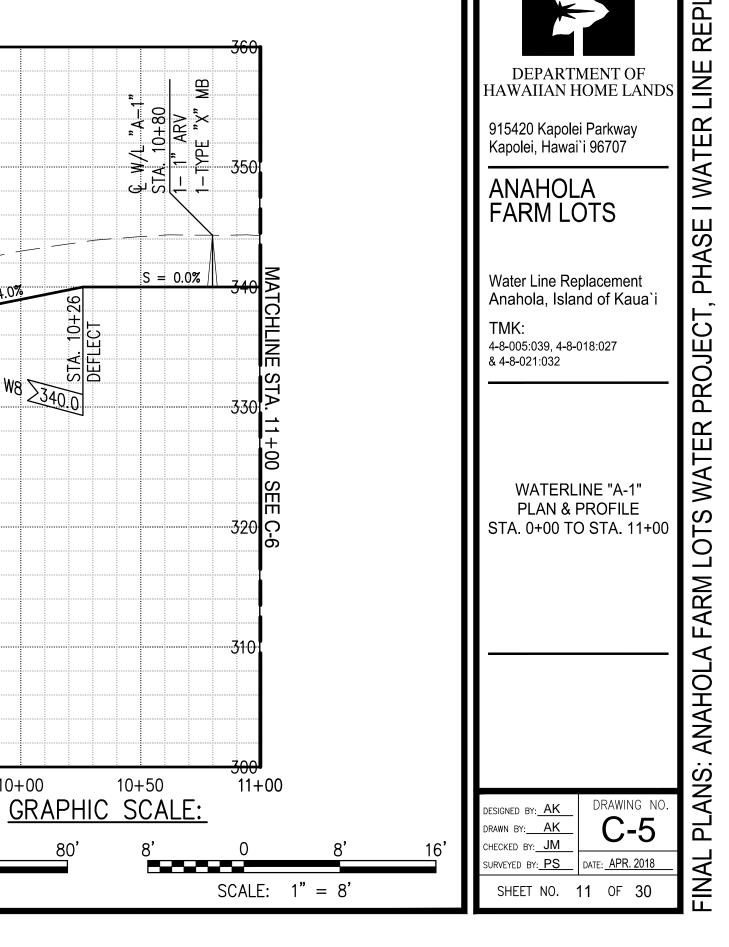












PROFILE - WATERLINE "A-1" SCALE: HOR.: 1" = 40'-0" VER.: 1" = 8'-0"

5+50

6+00

5+00

4+50

NV 8" COUNTY
STANDARD PIPE

4+00

3+50

3+00

300

290

280

270

0+00

0+50

W6 ≥294.8 W8 ≥294.6

1+50

2+00

2+50

1+00

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

7+50

STA. 7+20 DEFLECT

W8≥319.8

6+50 6+70 7+00

APPROVED

3'-0" MIN.

INV. 8" COUNTY

STANDARD PIPE

8+00

8+50

COVER

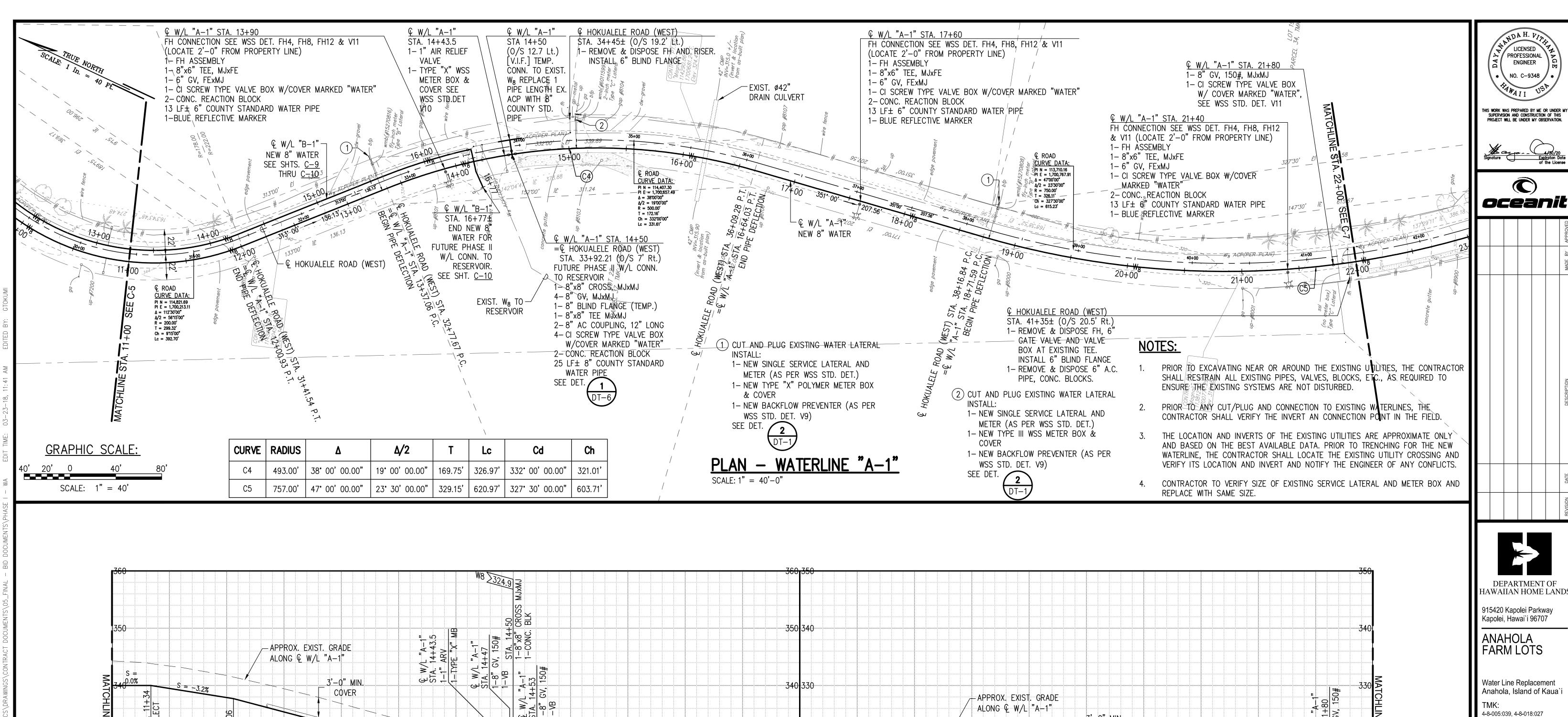
STA. 6+6 DEFLECT

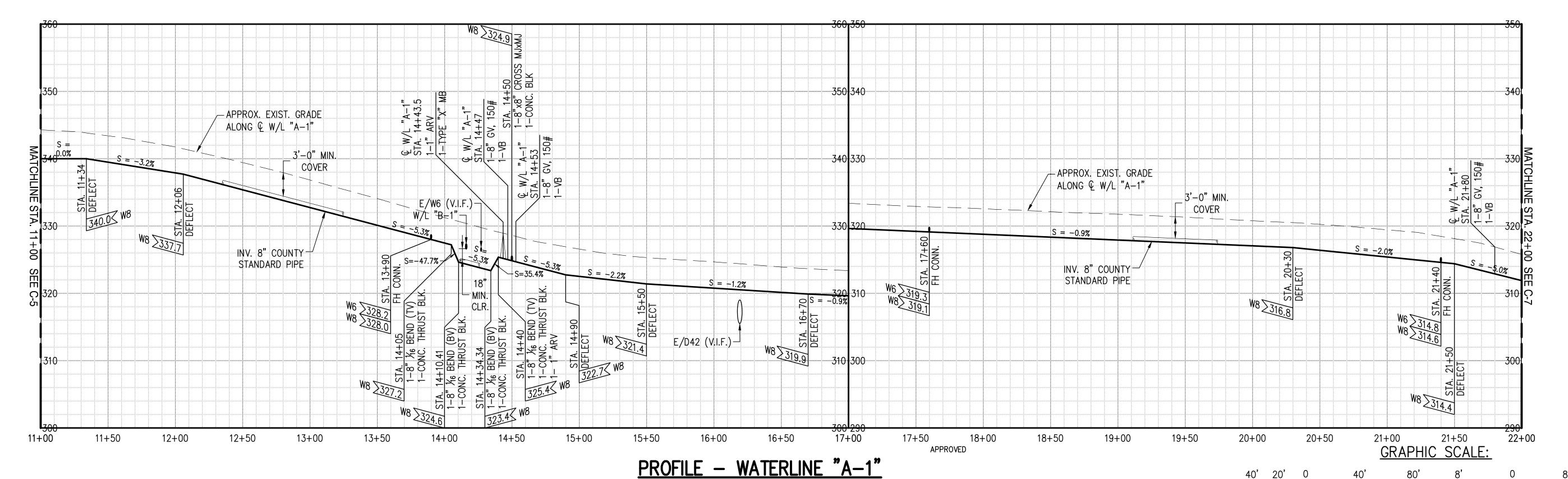
SCALE: 1" = 40

9+50

9+00

10+00





COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF

KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

SCALE: 1" = 40'

SCALE: HOR.: 1" = 40'-0" VER.: 1" = 8'-0" DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: JM
SURVEYED BY: PS

DATE: APR. 2018

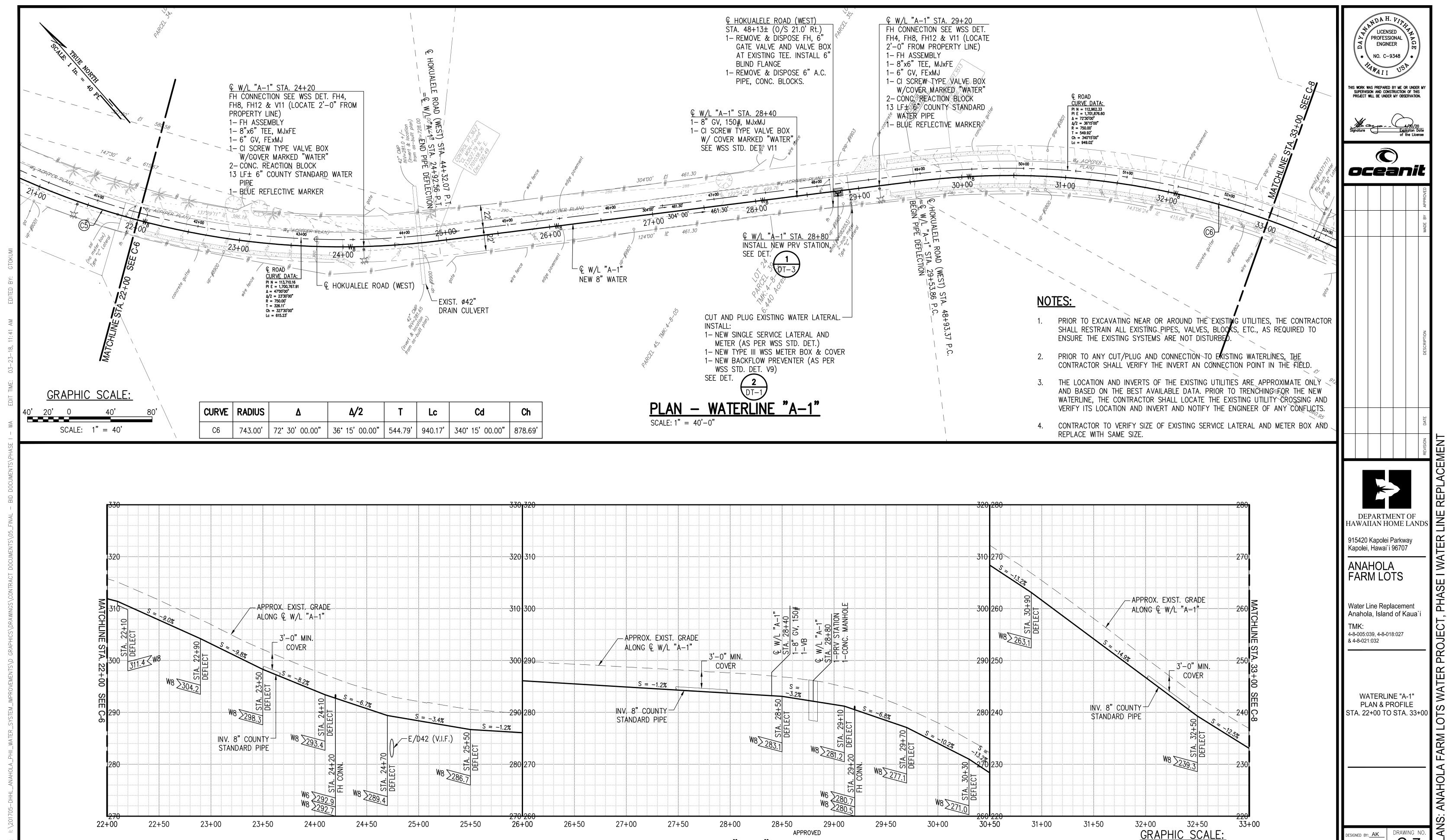
SHEET NO. 12 OF 30

SCALE: 1" = 8'

& 4-8-021:032

WATERLINE "A-1" PLAN & PROFILE STA. 11+00 TO STA. 22+00

LINE



PROFILE - WATERLINE "A-1"

SCALE: HOR.: 1" = 40'-0" VER.: 1" = 8'-0"

**APPROVED** 

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF

KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

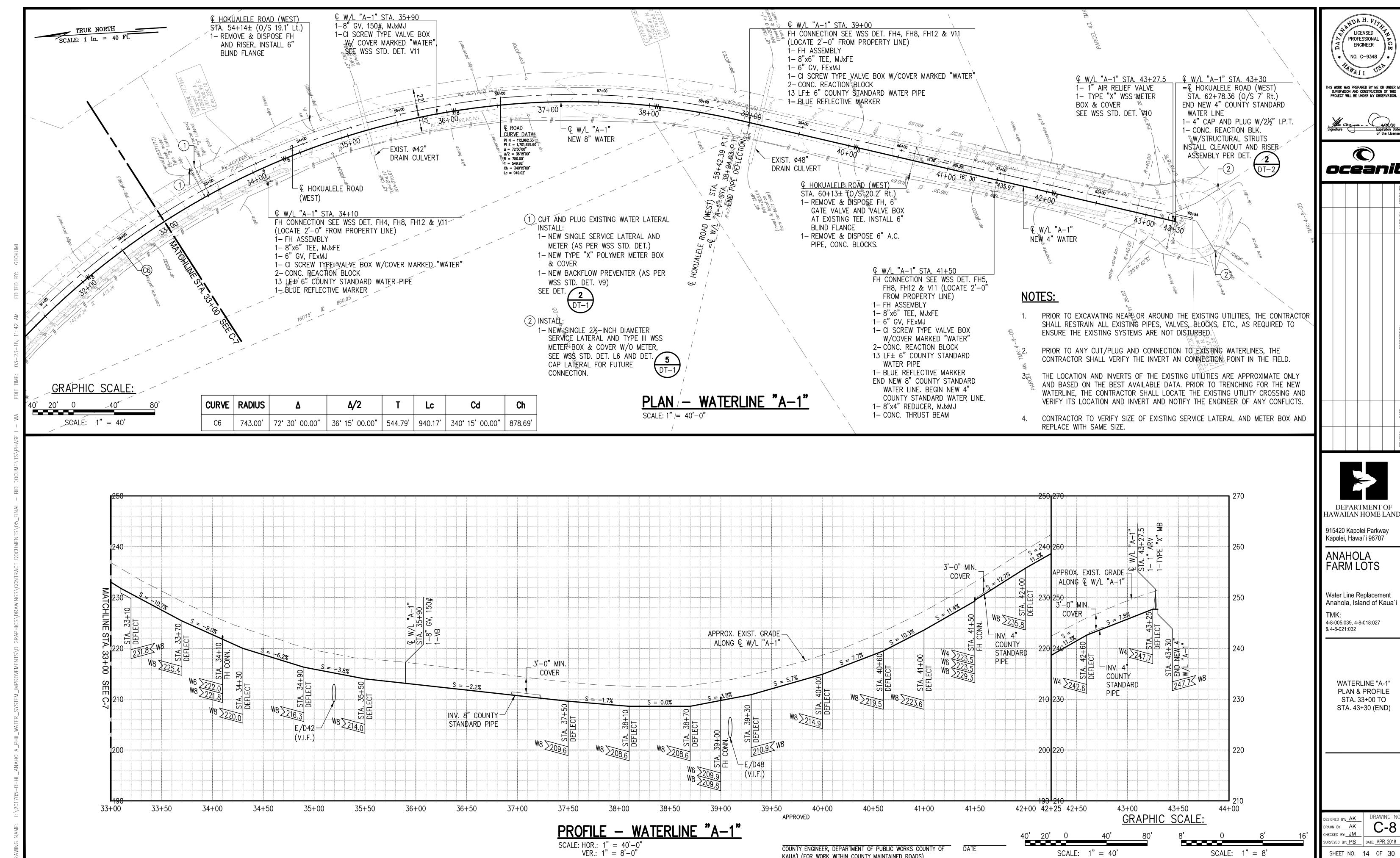
SCALE: 1" = 40

SURVEYED BY: PS

SHEET NO. 13 OF 30

SCALE: 1" = 8'

DATE: APR. 2018



KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)



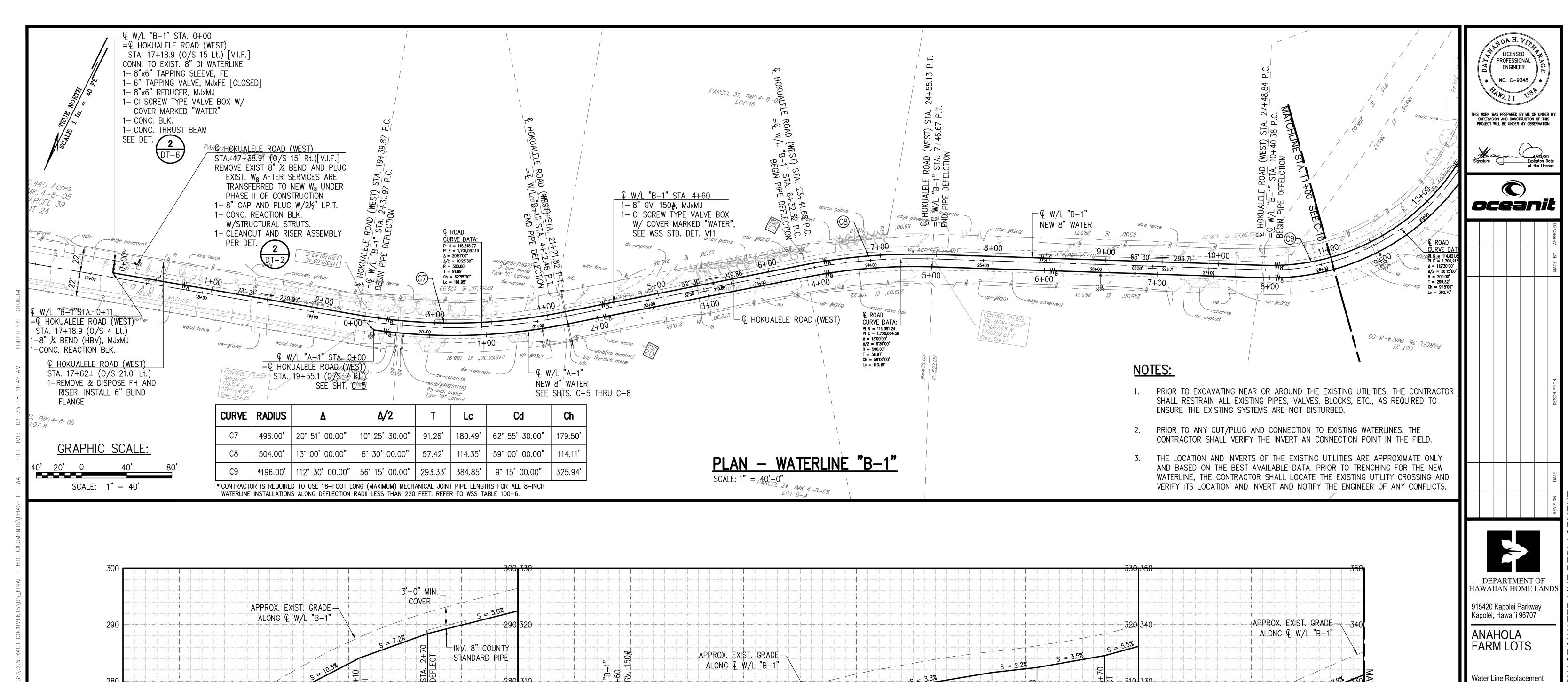
oceanit

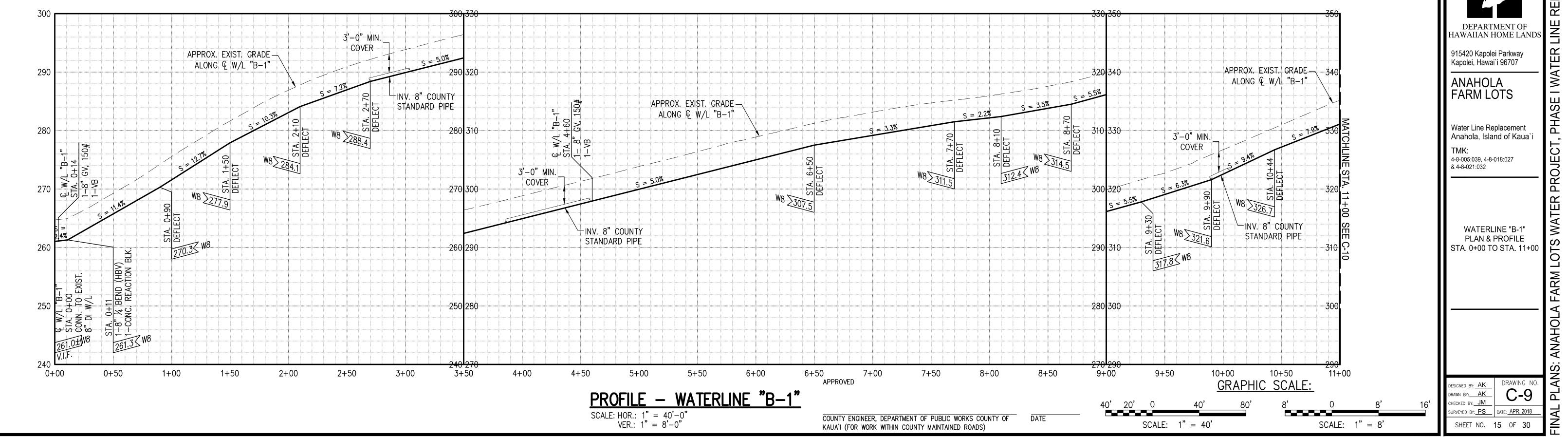


DEPARTMENT OF HAWAIIAN HOME LANDS

**FARM LOTS** 

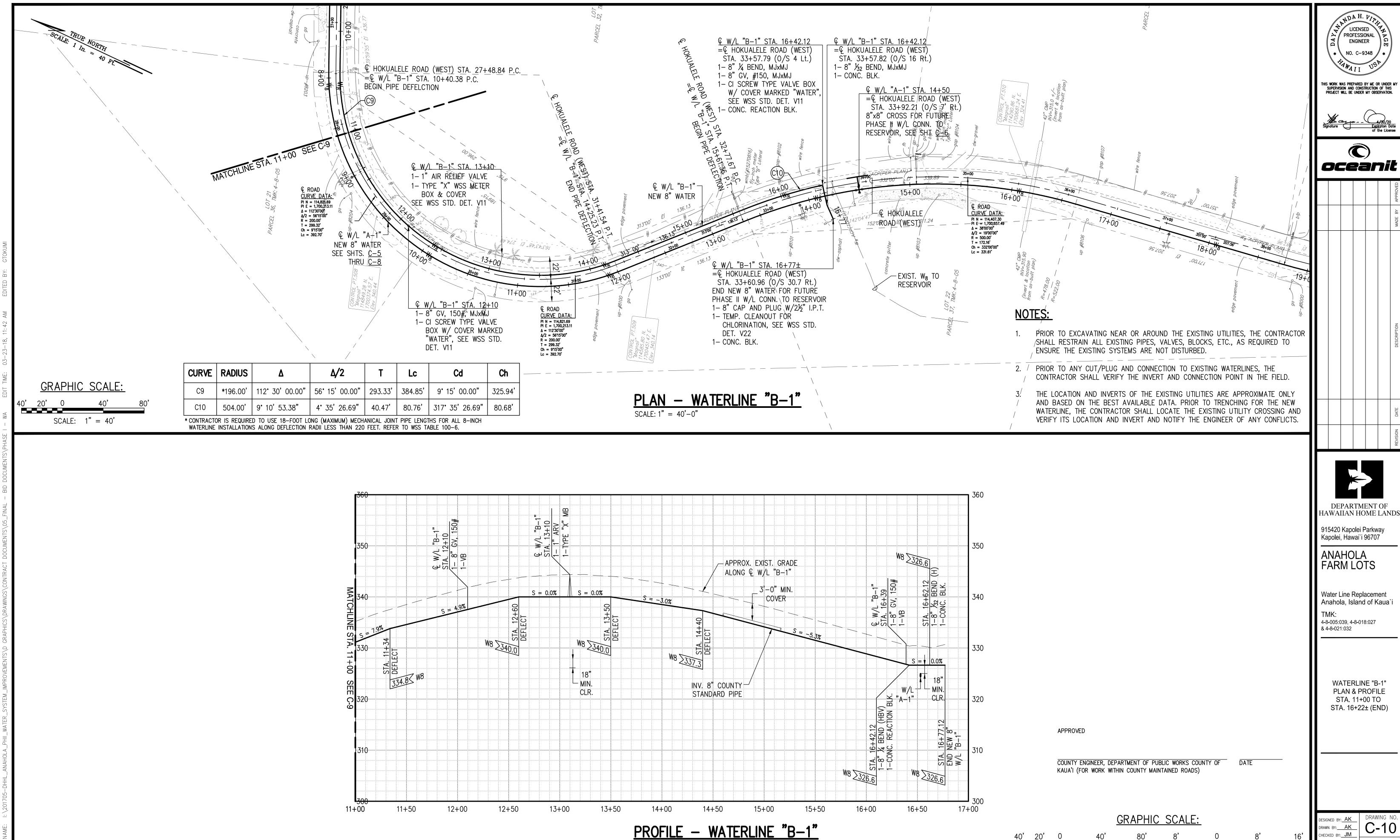
C-8 DATE: <u>APR. 2018</u> SHEET NO. 14 OF 30





**C-9** 

DATE: <u>APR. 2018</u>



SCALE: HOR.: 1" = 40'-0" VER.: 1" = 8'-0"



oceanit

LINE RE

Anahola, Island of Kaua

A FARM LOTS WATER PROJECT, PHASE I WATER

DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: JM
SURVEYED BY: PS

DRAWING NO.

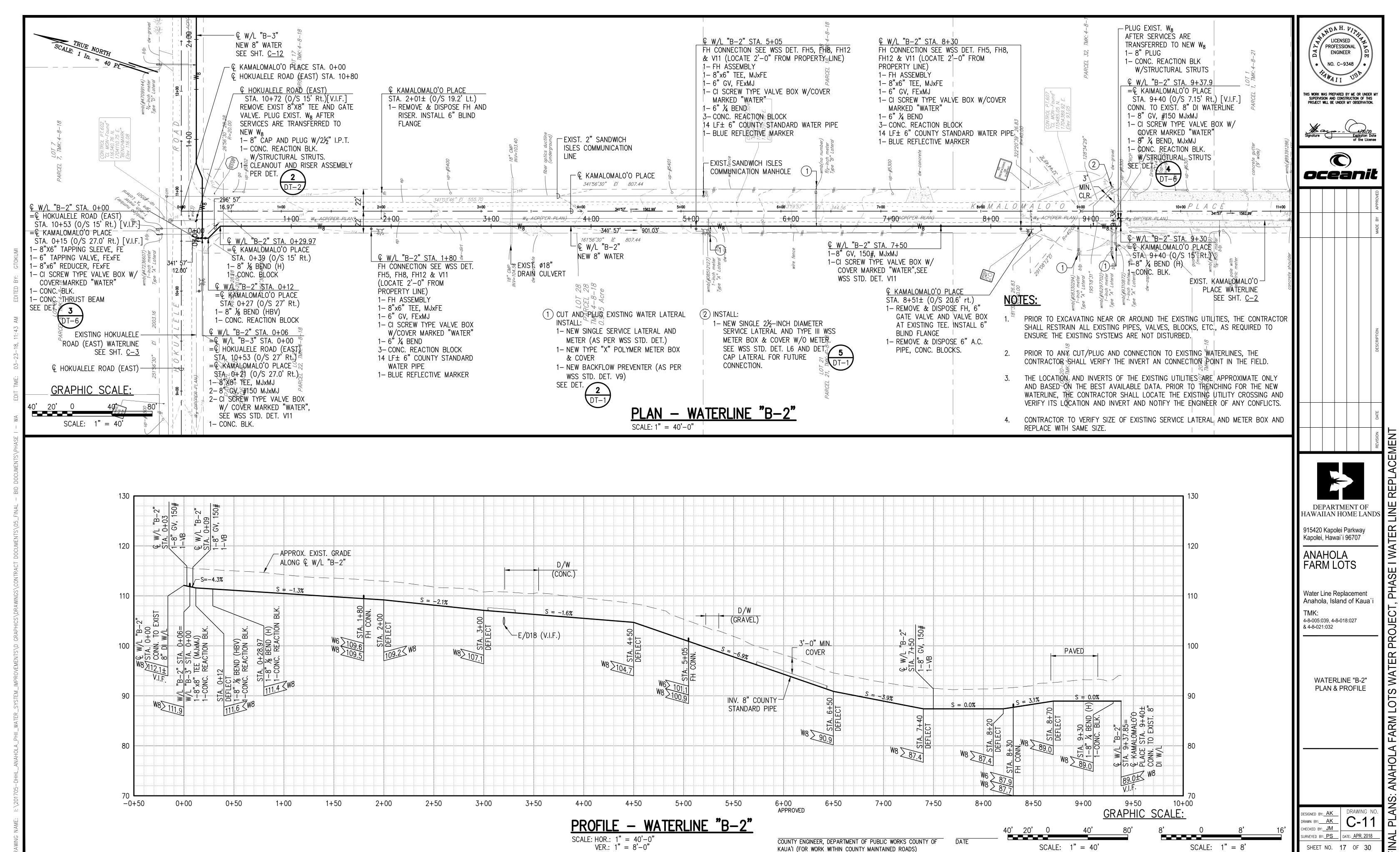
C-10

DRAWING NO.

DATE: APR. 2018 SHEET NO. 16 OF 30

SCALE: 1" = 8'

SCALE: 1" = 40'



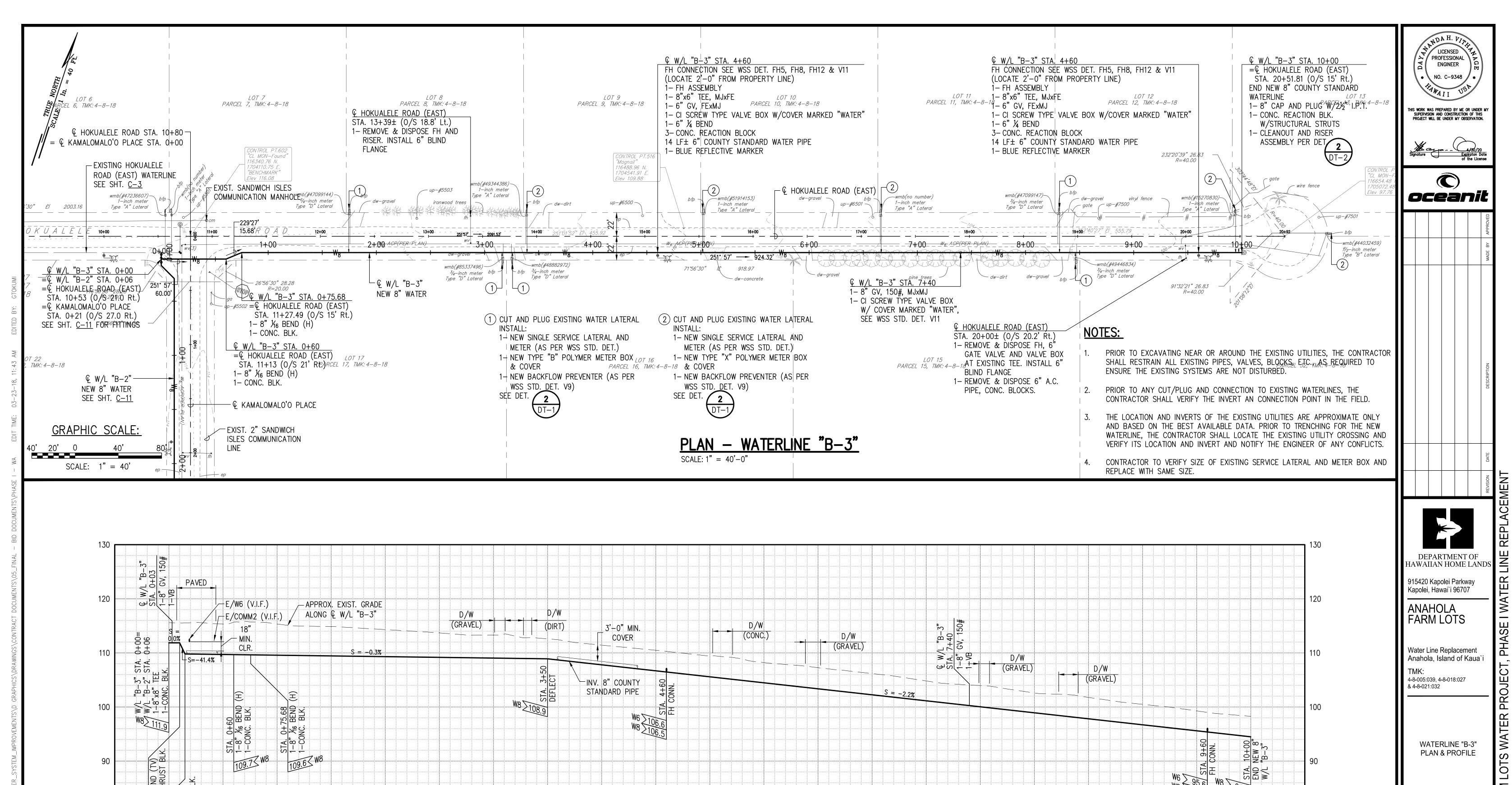
COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF

KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

SCALE: 1" = 40

SHEET NO. 17 OF 30

SCALE: 1" = 8'



4+50

SCALE: HOR.: 1" = 40'-0" VER.: 1" = 8'-0"

5+50

5+00

PROFILE - WATERLINE "B-3"

6+00

6+50

APPROVED

7+00

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF

KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

7+50

8+00

8+50

9+00

SCALE: 1" = 40

-0+50

0+00

0+50

1+00

1+50

2+00

2+50

3+00

3+50

4+00

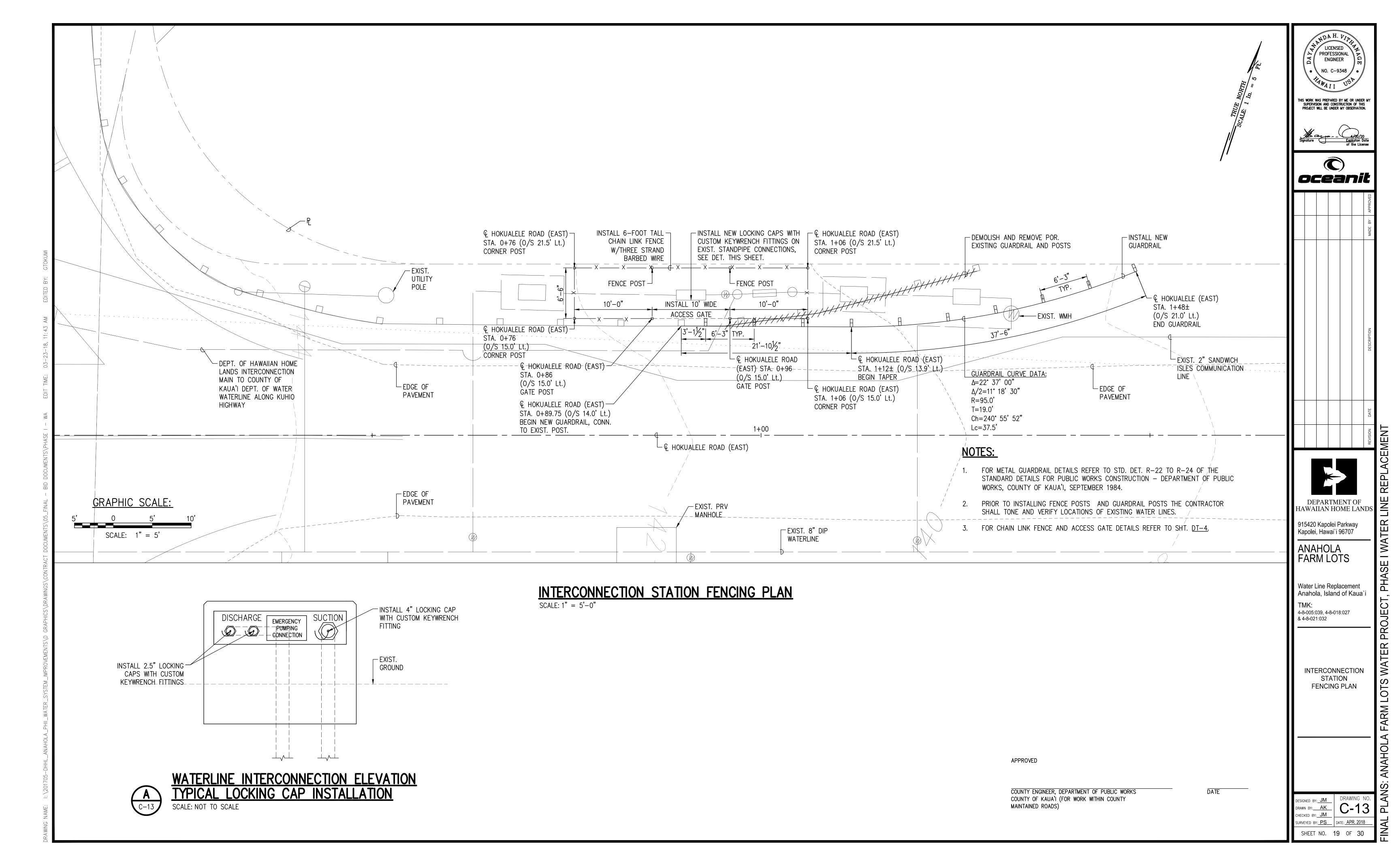
FARM LOTS WATER PROJECT, C-12 DATE: <u>APR. 2018</u> SCALE: 1" = 8'SHEET NO. 18 OF 30

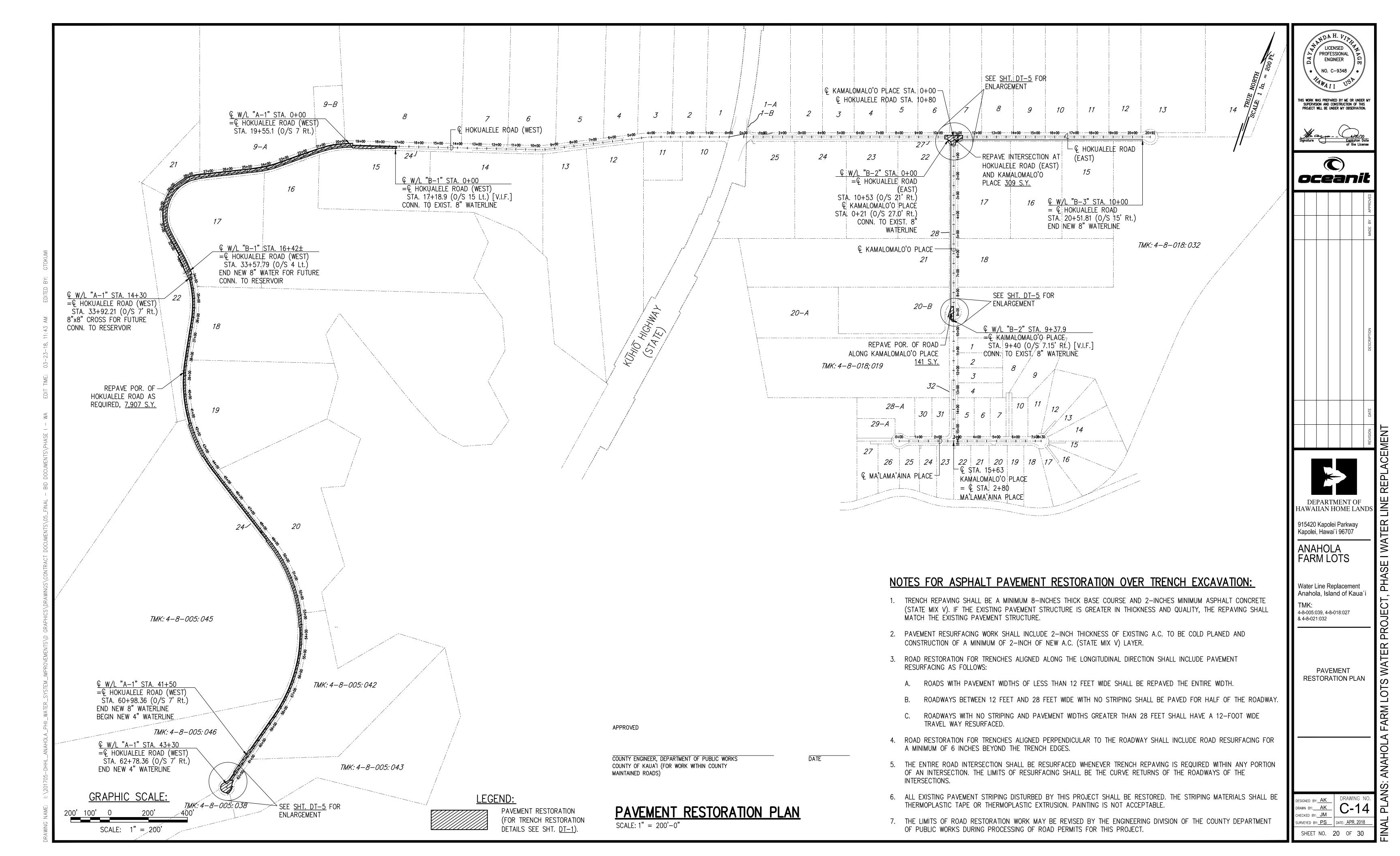
9+50

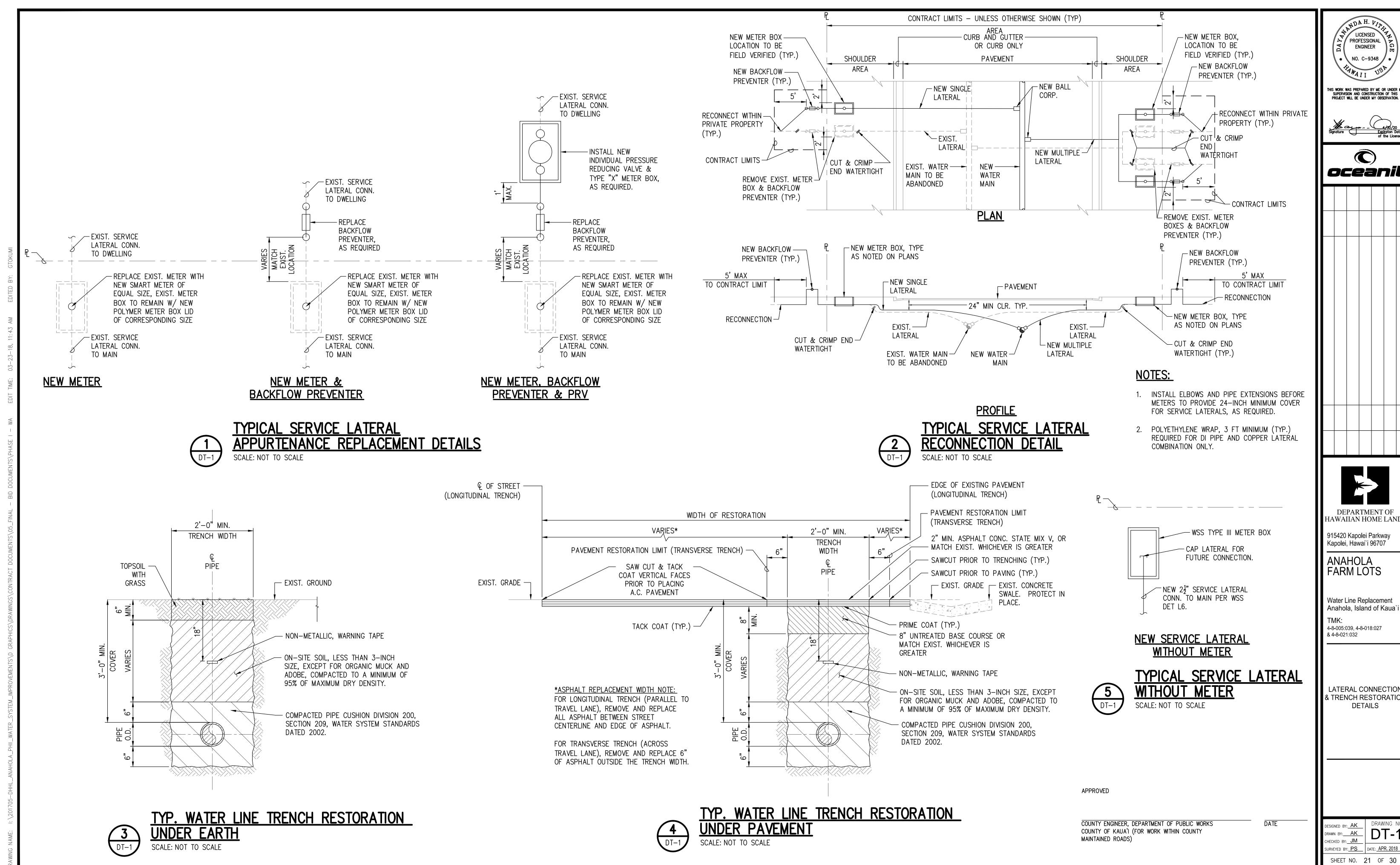
10+00

**GRAPHIC SCALE:** 

10+50







ANDA H. VIN LICENSED PROFESSIONAL ENGINEER NO. C-9348

HIS WORK WAS PREPARED BY ME OR UNDER IN SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.



oceanit

**DEPARTMENT OF** HAWAIIAN HOME LANDS

Kapolei, Hawai`i 96707

FARM LOTS

Water Line Replacement Anahola, Island of Kaua`

4-8-005:039, 4-8-018:027

LATERAL CONNECTION & TRENCH RESTORATION **DETAILS** 

DRAWING INC. ,

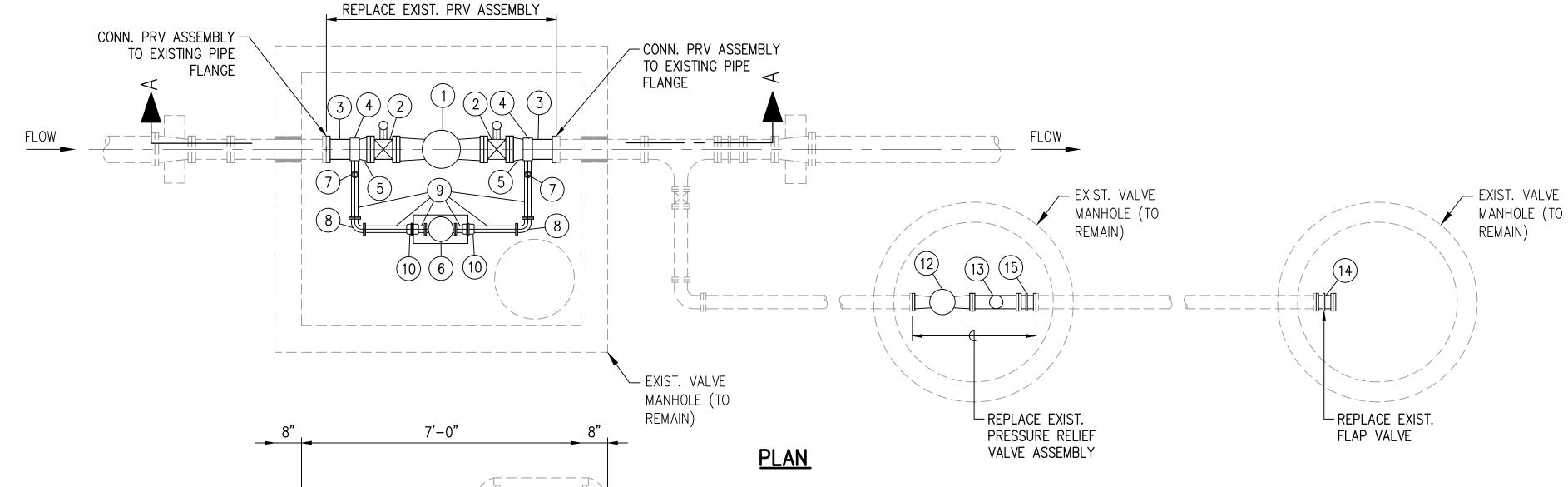
DRAWN BY: AK

DRAWN BY: AK

DRAWING INC. ,



- APPROXIMATE 6" PRV SETTING = 100 / 50 PSI (TO BE VERIFIED/SET IN FIELD)
- APPROXIMATE 2" PRV SETTING = 100 / 55 PSI (TO BE VERIFIED/SET IN FIELD)
- 3. APPROXIMATE 4" RELIEF VALVE SETTING = 100 PSI

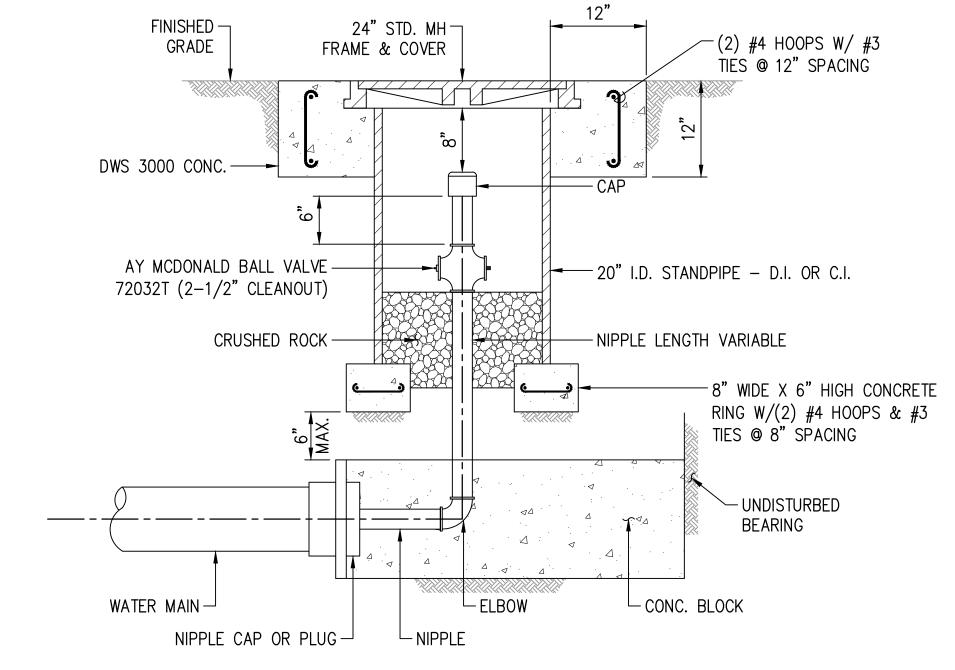


# — EXIST. VALVE MANHOLE (TO REMAIN) REPLACE EXIST. PRV ASSEMBLY SUPPORT

SECTION A-A

# PRESSURE REDUCING VALVE REPLACEMENT ASSEMBLY STA. 0+85 & HOKUALELE ROAD (EAST) SCALE: 1/2" = 1'-0"

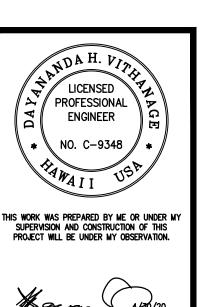
	PRV RI	EMOVE AND REPLACE MATERIAL LIST
ITEM	QUANTITY	DESCRIPTION
1	1	6" PRESSURE REDUCING VALVE, F.E. (CLA-VAL MODEL 90-01)
2	2	6" BUTTERFLY VALVE, WAFER TYPE W/HAND WHEEL
3	2	6" C.I. NIPPLE FLANGE X P.E. (LENGTH TO FIT)
4	2	6" BRONZE DOUBLE STRAP SERVICE SADDLE W/ 1-1/2 CC TAP
5	3	6" CAST FLANGED COUPLING ADAPTER (ROCKWELL #912-069006-000)
6	1	2" PRESSURE REDUCING VALVE, S.E., W/ VALVE POSITION INDICATOR (CLAYTON 90G-01S)
7	2	1-1/2" CC X 2" MPT BALL CORP
8	2	2" BRONZE ELBOW
9	6	2" BRONZE NIPPLE
(10)	2	2" BRONZE UNION
(11)	2	PRESSURE GAUGE (0-160 PSI) W/STOP COCK AND SNUBBER (RAY PRESSURE SNUBBER)
(12)	1	4" CLAYTON RELIEF VALVE, F.E.
(13)	1	4" CENTERGUIDED SILENT CHECK VALVE, F.E.
(14)	1	4" C.I. NIPPLE, FLANGE X P.E. W/FLAP VALVE, F.E.
(15)	1	4" CAST FLANGED COUPLING ADAPTOR (SMITH-BLAIR MODEL 912)

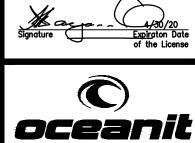


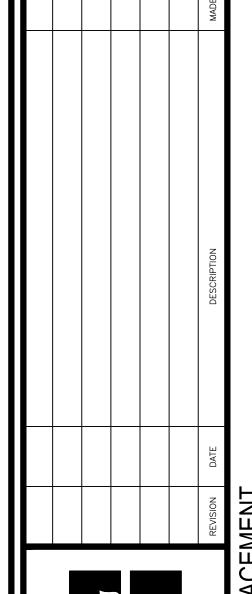
1. CLEANOUT SHALL INCLUDE THE CAP, PLUG AND APPURTENANCES AS SHOWN.

2. ASS CLEANOUT INSTALLATION SHALL BE BRASS OR COPPER.









DEPARTMENT OF HAWAIIAN HOME LANDS

915420 Kapolei Parkway Kapolei, Hawai`i 96707

ANAHOLA FARM LOTS

Water Line Replacement Anahola, Island of Kaua`i

TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

PRESSURE REDUCING VALVE REPLACEMENT ASSEMBLY DETAILS / CLEANOUT DETAIL

DESIGNED BY: JM
DRAWN BY: GT
CHECKED BY: JM
SURVEYED BY: PS

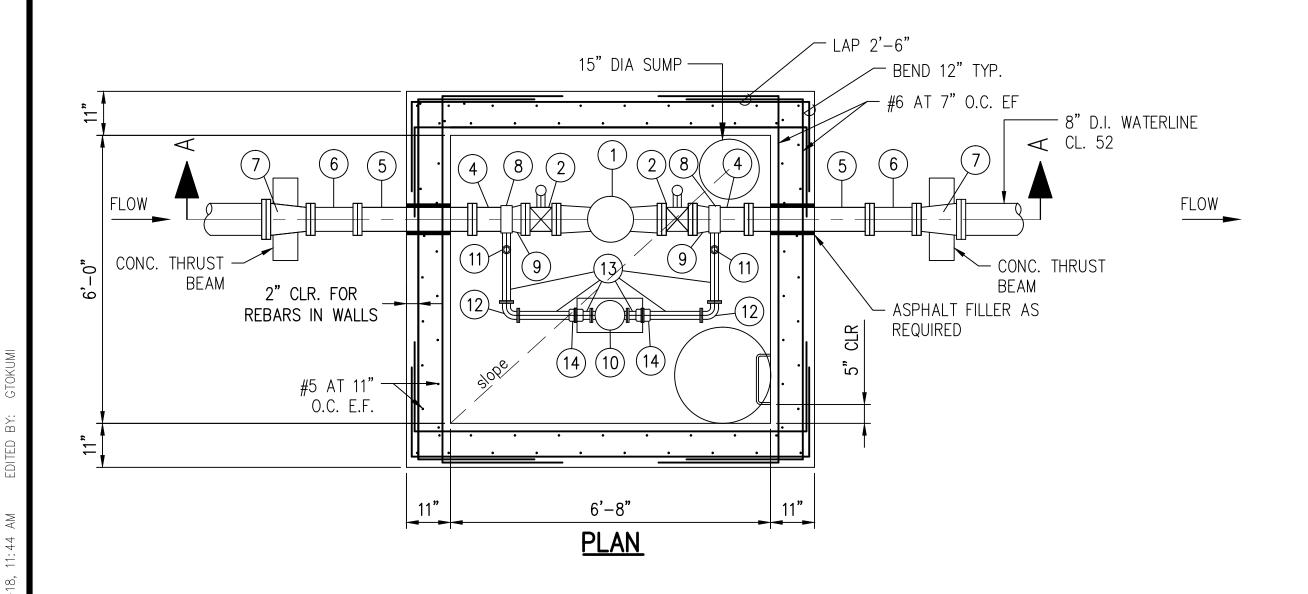
DRAWING NO.
DT-2

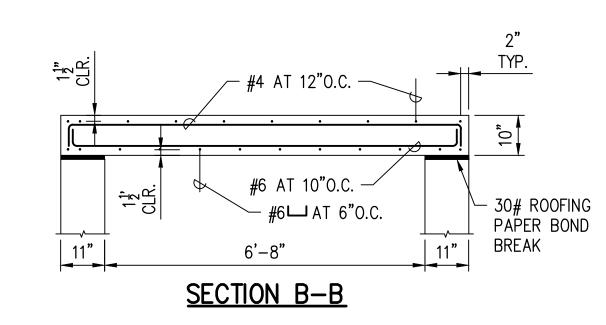
DATE: APR. 2018

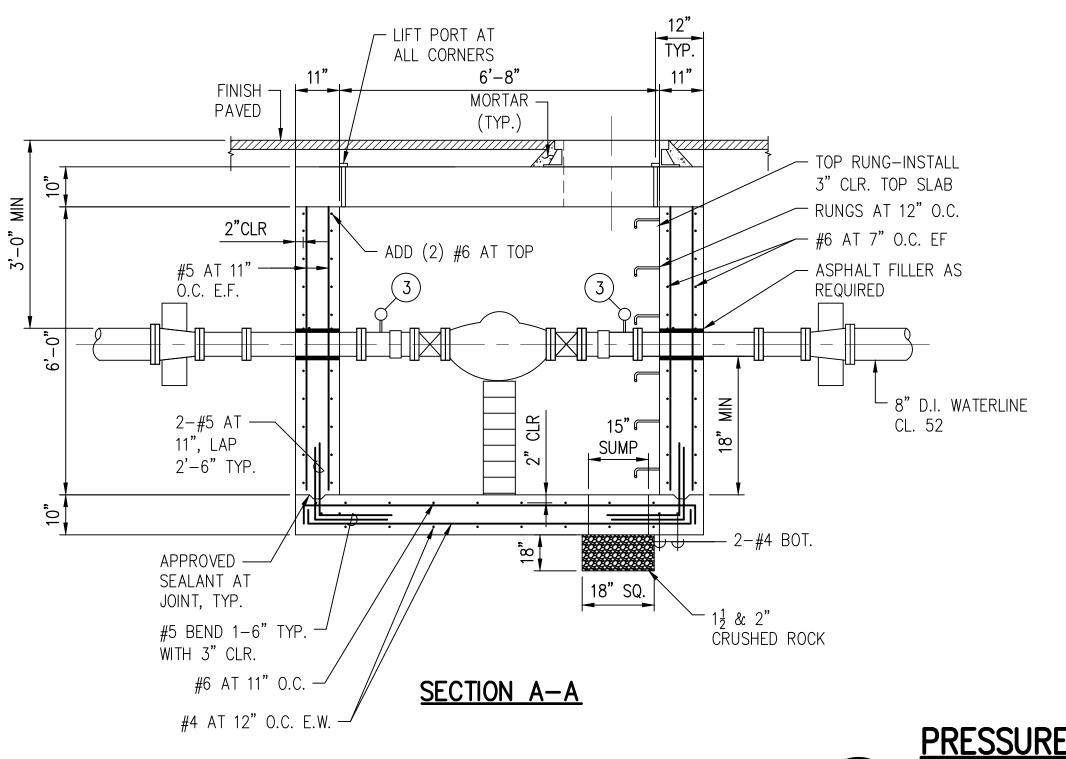
**GRAPHIC SCALE:** SCALE: 1/2" = 1'-0"

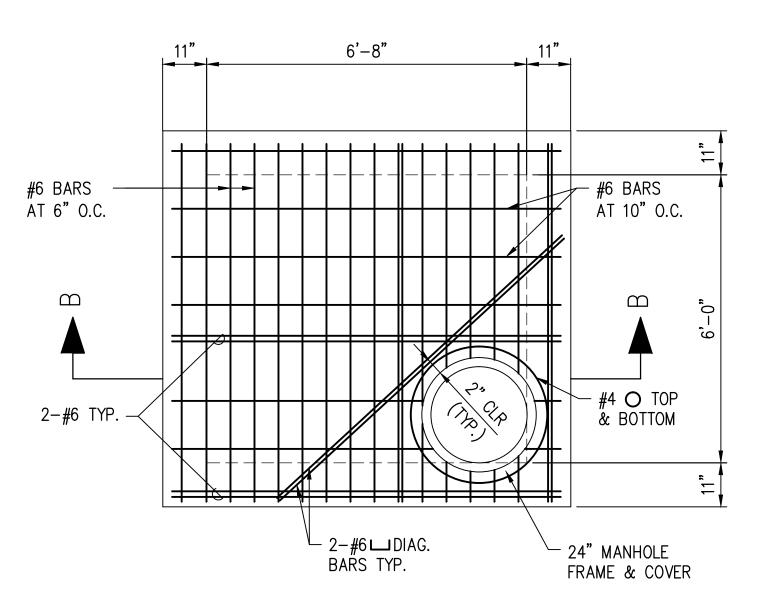
### NOTES:

- 1. APPROXIMATE 6" PRV SETTING = 80 / 50 PSI
- 2. APPROXIMATE 2" PRV SETTING = 80 / 55 PSI







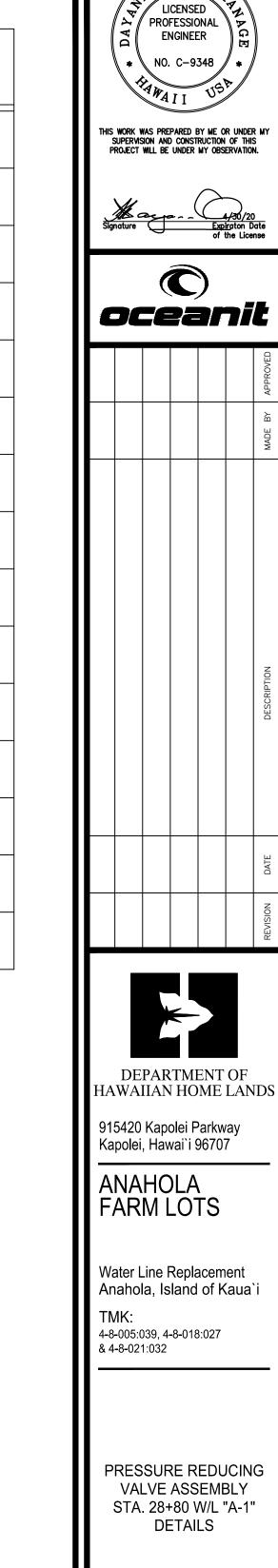


2" CLR (TYP) BETWEEN MANHOLE COVER AND REBARS

TOP SLAB REINFORCEMENT

PRESSURE REDUCING VALVE ASSEMBLY STA. 28+80 W/L "A-1"

	PRV MATERIAL LIST						
ITEM	QUANTITY	DESCRIPTION					
1	1	6" PRESSURE REDUCING VALVE, F.E. (CLA-VAL MODEL 90-01)					
2	2	6" BUTTERFLY VALVE, WAFER TYPE W/HAND WHEEL					
3	2	PRESSURE GAUGE (0-160 PSI) W/STOP COCK AND SNUBBER (RAY PRESSURE SNUBBER)					
4	2	6" C.I. NIPPLE, FLANGE X P.E. (LENGTH TO FIT)					
5	2	6" C.I. SPOOL, FLANGE (24" LONG)					
6	1	6" COUNTY STANDARD WATER PIPE NIPPLE, FLANGE X P.E.					
7)	2	8"X 6" COUNTY STANDARD WATER PIPE REDUCER, M.J.					
8	2	8" BRONZE DOUBLE STRAP SERVICE SADDLE W/ 1-1/2 CC TAP					
9	2	6" CAST FLANGED COUPLING ADAPTER (ROCKWELL #912-069006-000)					
10)	1	2" PRESSURE REDUCING VALVE, S.E., W/ VALVE POSITION INDICATOR (CLAYTON 90G-01S)					
(11)	2	1-1/2" CC X 2" MPT BALL CORP					
(12)	2	2" BRONZE ELBOW					
(13)	6	2" BRONZE NIPPLE					
14)	2	2" BRONZE UNION					



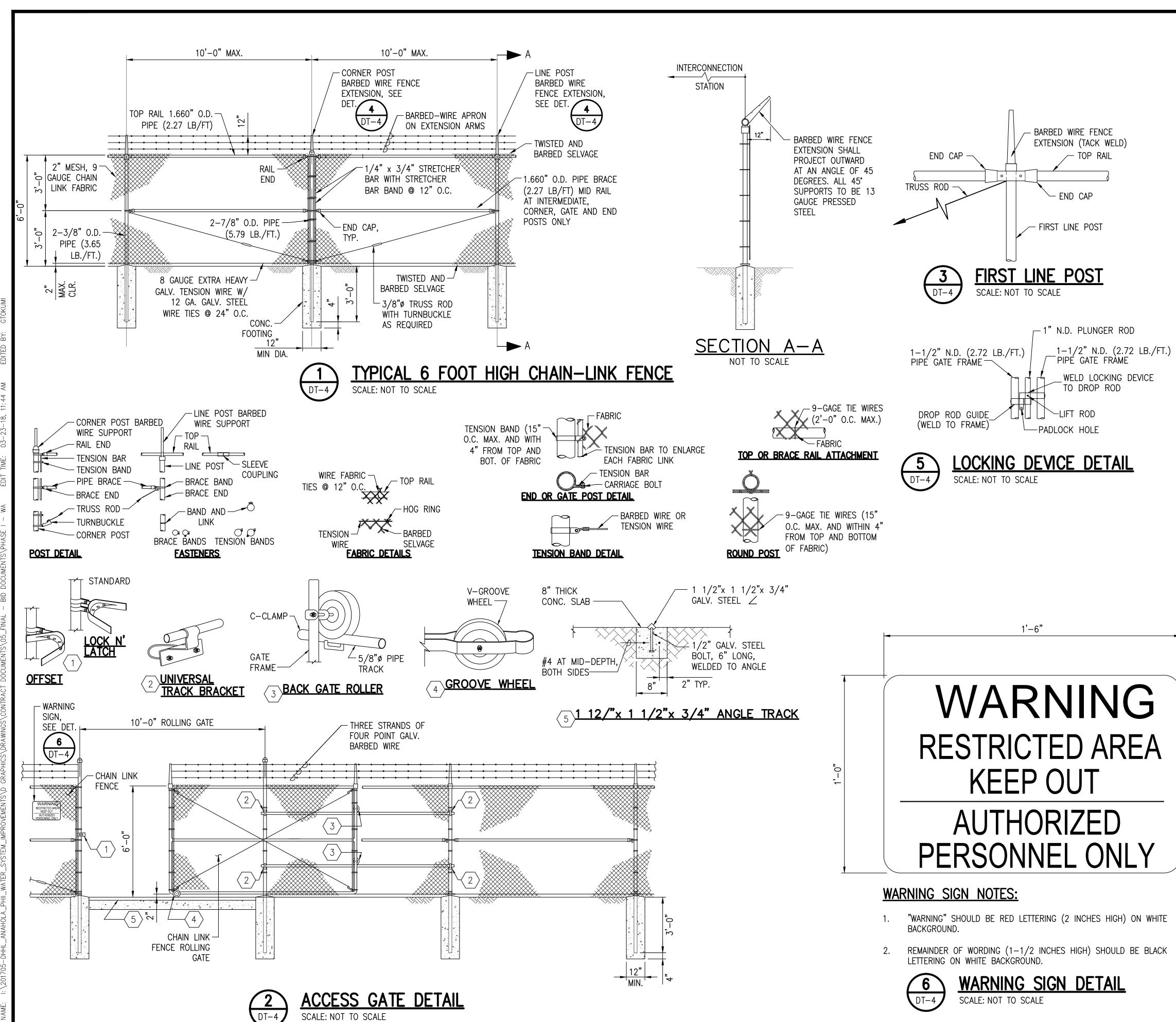
LINE RE

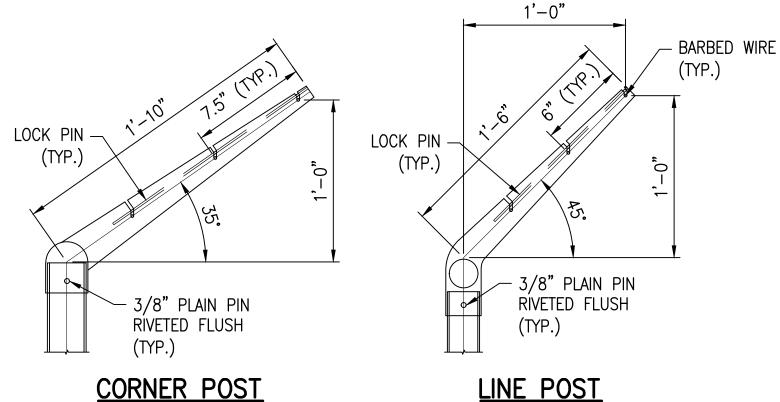
**GRAPHIC SCALE:** SCALE: 1/2" = 1'-0"

DESIGNED BY: JM
DRAWN BY: GT
CHECKED BY: JM
SURVEYED BY: PS

DRAWING NO.
DT-3

DATE: APR. 2018 SHEET NO. 23 OF 30

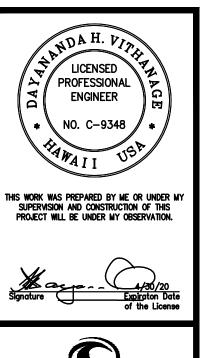




BARBED WIRE FENCE EXTENSION
SCALE: NOT TO SCALE

#### NOTES FOR FENCE AND GATE:

- 1. FENCING SHALL BE AS SPECIFIED IN WATER SYSTEM STANDARDS SEC 303.33 CHAIN LINK FENCE AND GATE.
- FABRIC SHALL BE CONTINUOUS AND FASTENED TO END POSTS BY STRETCHER TENSION BARS AND TENSION BANDS SPACED 14" MAX. APART
- 3. WIRE FASTENINGS SHALL BE NO. 9 GAUGE GALVANIZED TIE WIRE
- 4. LINE POSTS WIRE FASTENINGS SHALL BE SPACED APPROX. 12" APART
- 5. HORIZONTAL RAIL WIRE FASTENINGS SHALL BE SPACED APPROX. 24" APART.
- 6. NO SPLICING SHALL BE ALLOWED ON ALL STRAIGHT-RUN PIPES.
- 7. CONC. FOR FOOTING SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 2,500 PSI @ 28 DAYS.
- 8. ALL WELDED CONNECTIONS SHALL BE PAINTED WITH TWO COATS OF ZINC COLD GALVANIZING COMPOUND.
- 9. POSTS, BRACES, AND GATE FRAMES SHALL BE AS SPECIFIED IN WATER SYSTEM STANDARDS TABLE 300-16, UNLESS OTHERWISE INDICATED.
- 10. GATE FRAME SHALL BE OF WELDED PIPE CONSTRUCTION. FOR ALL WELDED CONNECTIONS: CORNERS SHALL BE MITERED AND ALL PIPE BRACES PROPERLY COPED.
- 11. BEFORE PLACING FENCE POSTS CONTRACTOR SHALL TONE AND VERIFY LOCATIONS OF EXISTING WATER LINES.
- 12. THE CONTRACTOR SHALL FURNISH PADLOCK FOR SLIDING GATE. PADLOCK SHALL BE "BEST" MODEL 41B722-L-P5-1534X1534 MANUFACTURED BY BEST LOCK CORPORATION D/B/A BEST ACCESS SYSTEMS. CONTRACTOR TO PROVIDE CORE AND 4 KEYS.
- 13. CORNER FITTINGS FOR GAIN FRAMES MAY BE USED IN LIEU OF WELDING.
- 14. INSTALL DOUBLE WHEEL ON GATE AND BACK GATE ROLLERS WITH C-CLAMPS.
- 15. INSTALL UNIVERSAL TRACK BRACKETS (SET TOP END BRACKET UPSIDE DOWN) ON POSTS AND MEASURE LENGTHS TO CUT THE 5/8"Ø PIPE TRACK, CUT PIPE TRACK AND INSTALL WITH UNIVERSAL TRACK BRACKETS. SET TWO PIPE TRACKS PARALLEL ABOUT ONE FOOT FROM THE TOP AND BOTTOM OF THE POSTS.
- 16. SLIDING WHEEL GATE SHALL BE SINGLE OVERHEAD, GALVANIZED STEEL WITH ALL FRAMING AND FABRIC SAME AS FENCE. PROVIDE INTERMEDIATE MEMBERS AS NECESSARY TO PROVIDE RIGID CONSTRUCTION FREE FROM SAGOR TWIST
- 17. POST EXTENSION ARMS FOR BARBED WIRE SHALL BE FORMED FROM 0.090" STEEL SHEET AND EXTEND AT A 45° ANGLE OUTWARD.
- 18. BARBED WIRE SHALL BE 3 STRANDS NO. 12-1/2 GAUGE WIRE WITH 4 POINT BARBS SPACED 5 INCHES APART AND HEAVILY GALVANIZED.



REVISION DATE BY APPROVED

DEPARTMENT OF HAWAIIAN HOME LANDS

915420 Kapolei Parkway Kapolei, Hawai`i 96707

ANAHOLA FARM LOTS

Water Line Replacement Anahola, Island of Kaua

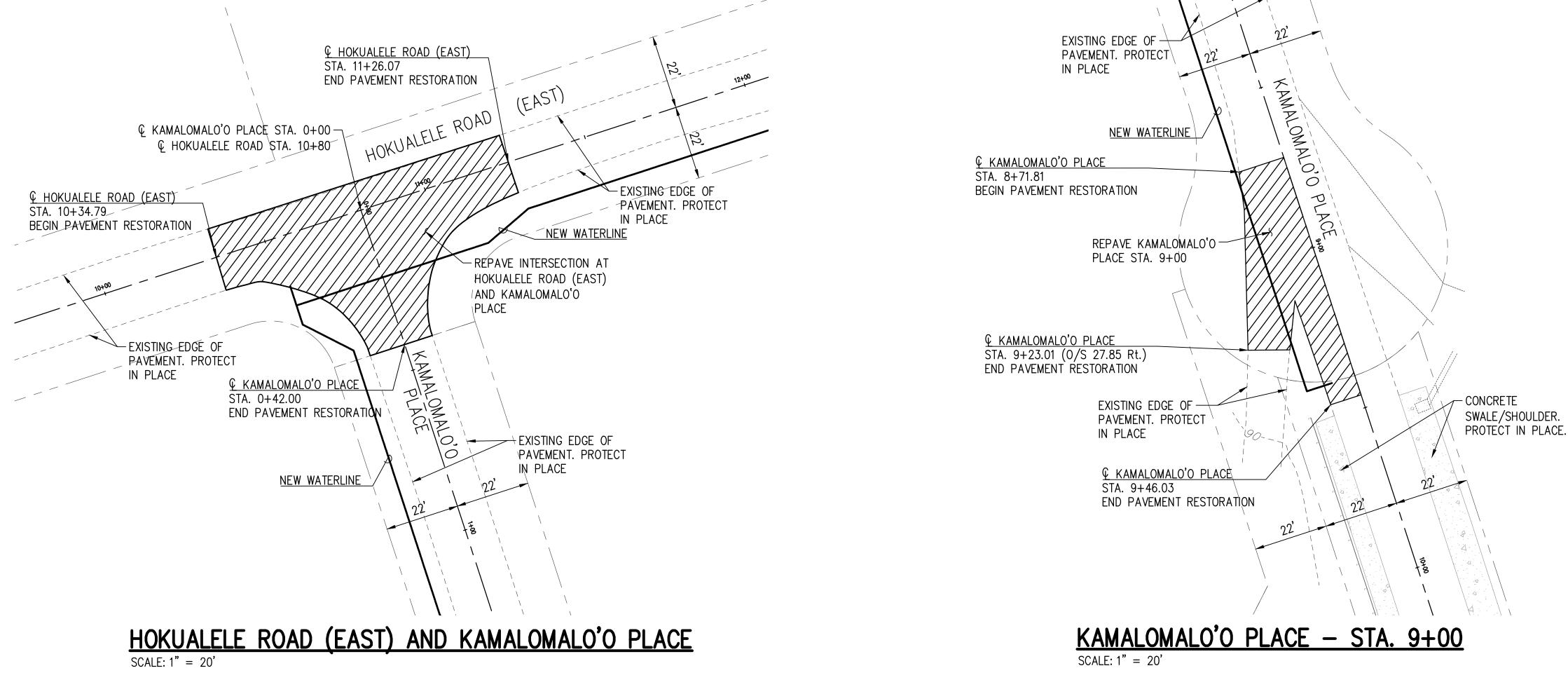
TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

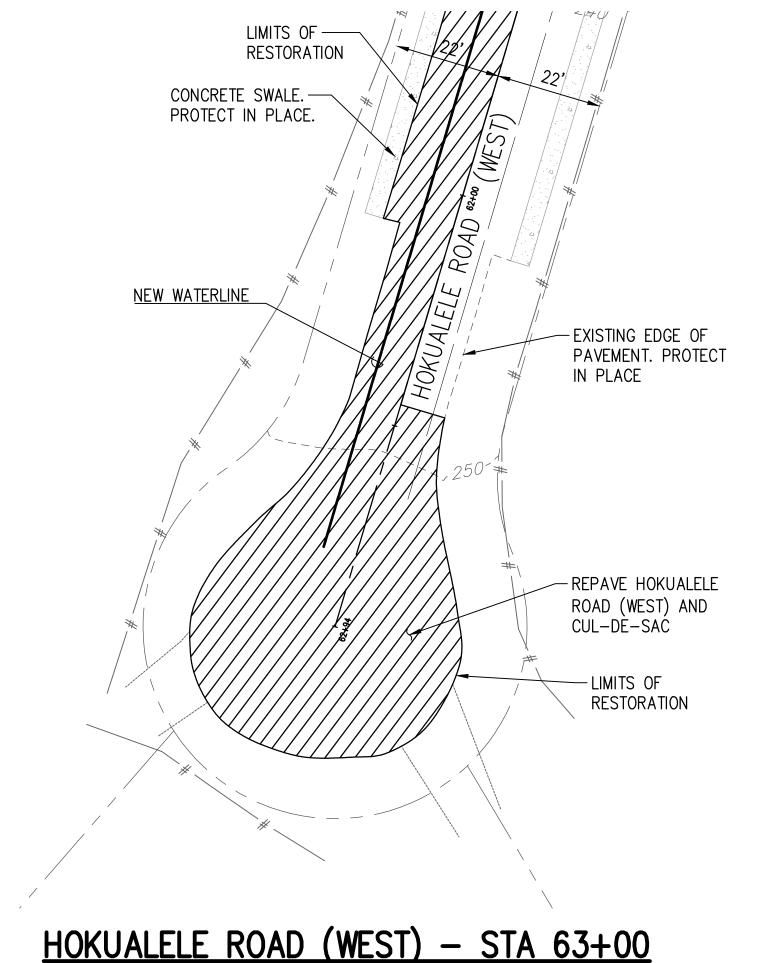
> DETAILS CHAIN-LINK FENCE

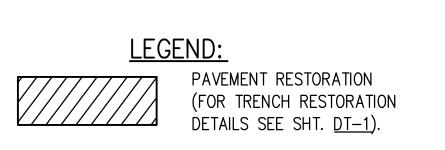
DESIGNED BY: JM
DRAWN BY: JM
CHECKED BY: JM
SURVEYED BY: PS

DATE: APR. 2018

SHEET NO. 24 OF 30







DEPARTMENT OF HAWAIIAN HOME LANDS 915420 Kapolei Parkway Kapolei, Hawai`i 96707 ANAHOLA FARM LOTS Water Line Replacement Anahola, Island of Kaua`i 4-8-005:039, 4-8-018:027 & 4-8-021:032 PAVEMENT RESTORATION DETAILS

LICENSED PROFESSIONAL ENGINEER

THIS WORK WAS PREPARED BY ME OR UNDER IN SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

oceanit

DESIGNED BY: JM
DRAWN BY: JM
CHECKED BY: JM
SURVEYED BY: PS

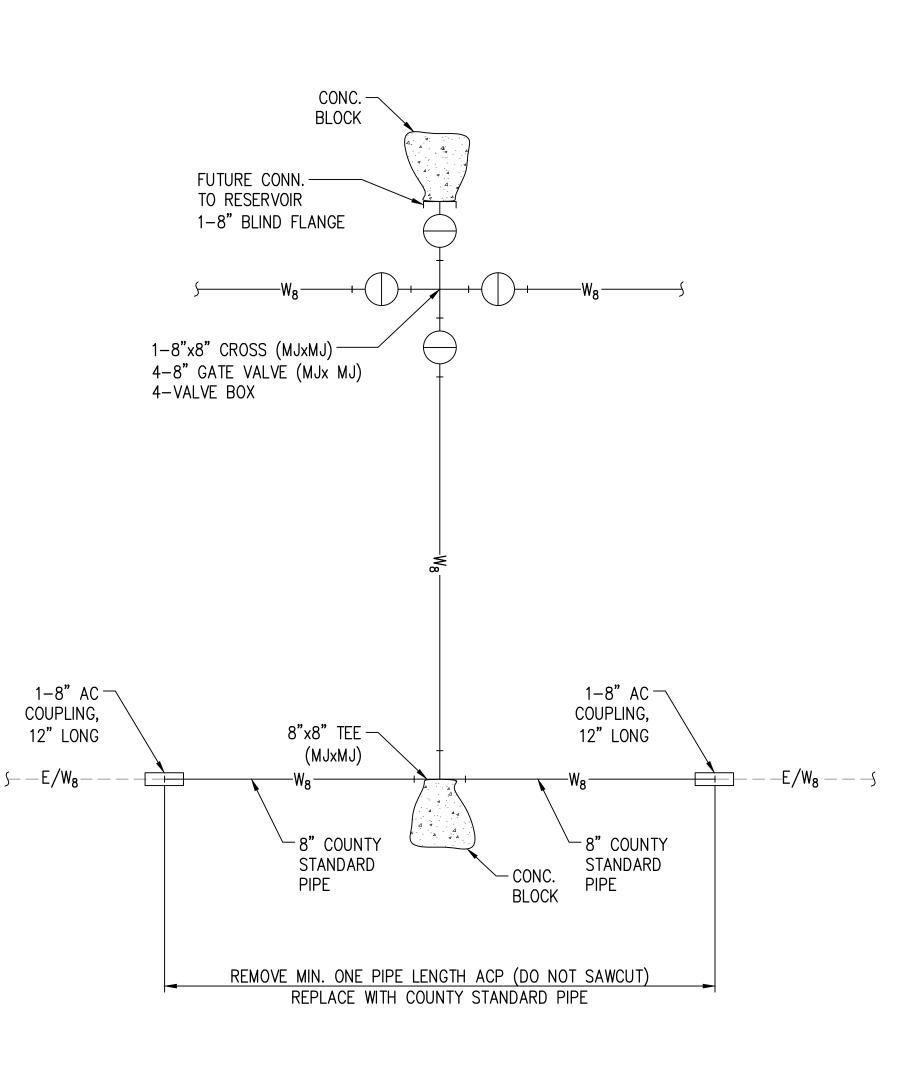
DRAWING NO.
DT-5

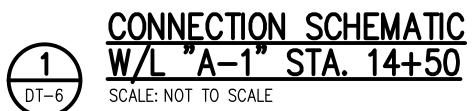
DATE: APR. 2018

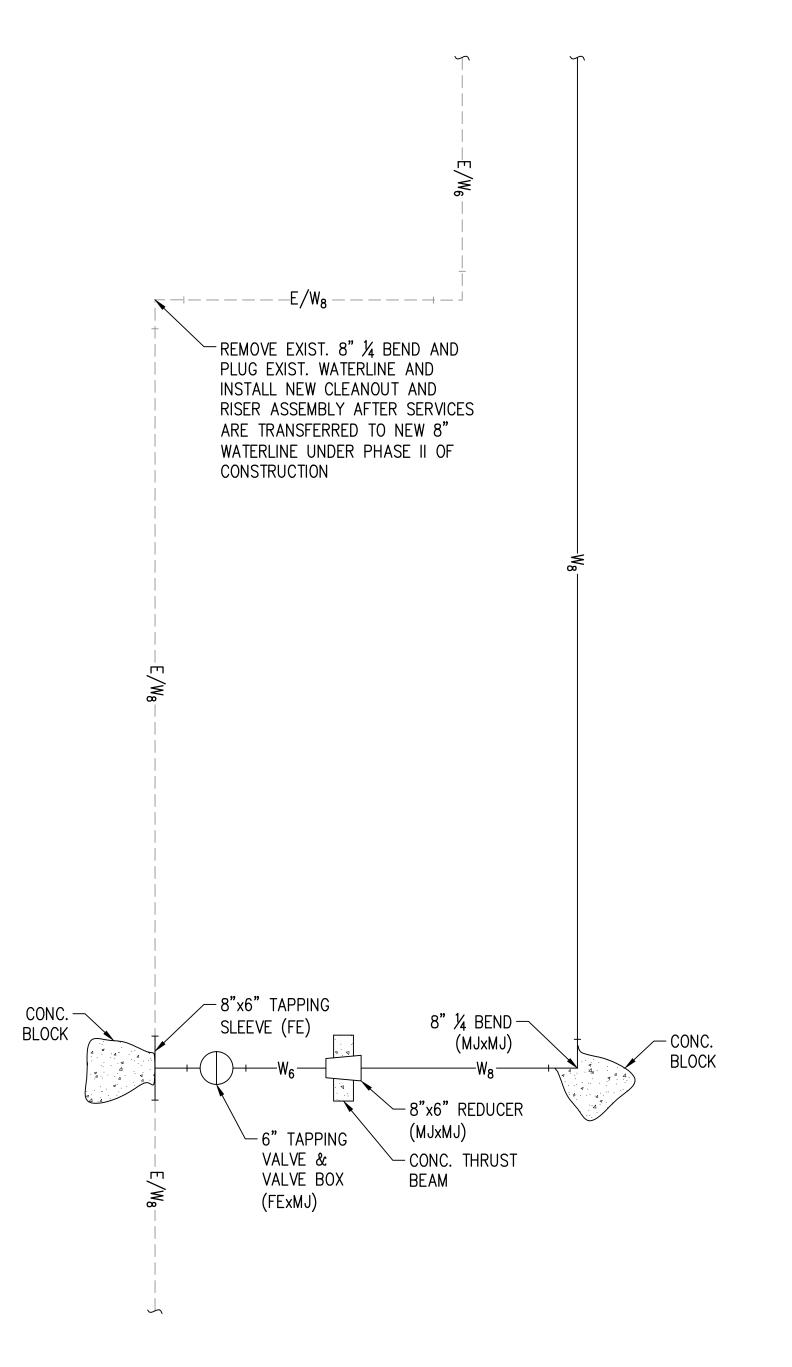
COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

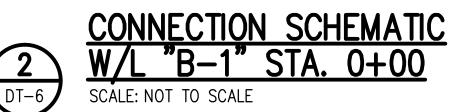
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SHEET NO. 25 OF 30

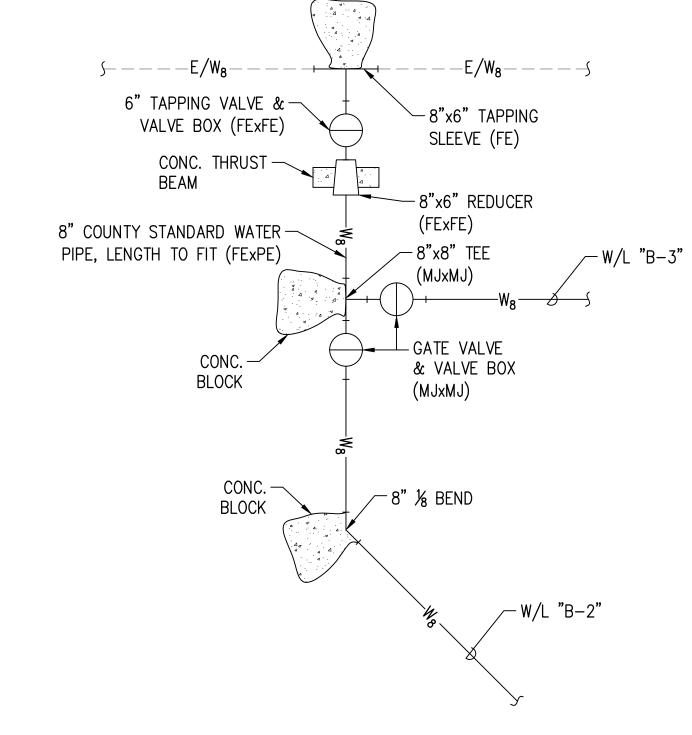


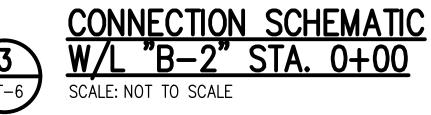


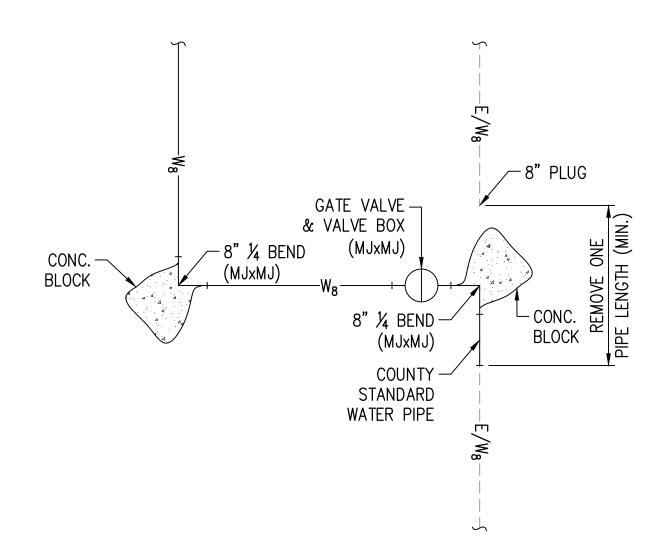




NOTE: ALL STAINLESS STEEL FITTINGS INSTALLED DURING CONSTRUCTION OF THE NEW WATER LINE SHALL BE CONCRETE ENCASED.









LICENSED PROFESSIONAL **ENGINEER** NO. C-9348 THIS WORK WAS PREPARED BY ME OR UNDER IN SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. oceanit LINE RE DEPARTMENT OF HAWAIIAN HOME LANDS A FARM LOTS WATER PROJECT, PHASE I WATER 915420 Kapolei Parkway Kapolei, Hawai`i 96707 ANAHOLA FARM LOTS

Water Line Replacement Anahola, Island of Kaua`i TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

> WATERLINE CONNECTION SCHEMATICS

DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: JM
SURVEYED BY: PS

DRAWING NO.
DT-6

DATE: APR. 2018 SHEET NO. 26 OF 30

NOT TO SCALE

## EROSION CONTROL NOTES AND BEST MANAGEMENT PRACTICES (BMPS):

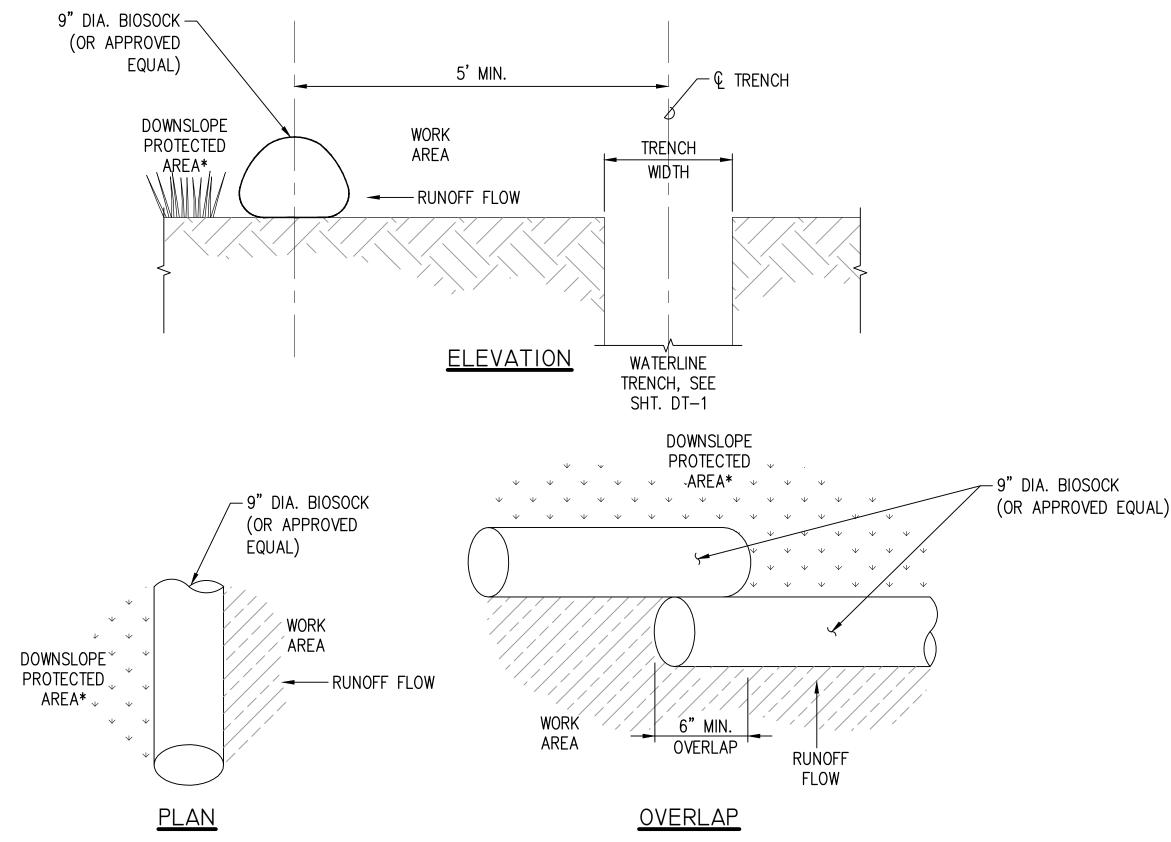
- MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY TRENCHING WORK IS INITIATED. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND SHALL REMAIN IN PLACE UNTIL THE PERMANENT GROUND COVER IS FULLY ESTABLISHED.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN TEMPORARY FIBER ROLL BARRIER AS INDICATED ON THIS SHEET. FIBER ROLL ALIGNMENT AND LENGTH SHOWN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST ACTUAL LOCATIONS TO ACCOMMODATE HIS/HER CONSTRUCTION METHODS AND RETAIN SILT ON-SITE.
- CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF CLEARED SURFACE AREA. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN TWENTY (20) CALENDAR DAYS PRIOR TO SITE DISTURBANCE.
- TEMPORARY STOCKPILING OF EXCAVATED MATERIAL SHALL NOT BE PERMITTED AT THE PROJECT SITE. ALL EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE DAILY.
- GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT AND DEBRIS.
- THE CONTRACTOR SHALL ENSURE THAT ALL TIRES OF CONSTRUCTION VEHICLES ARE SUFFICIENTLY CLEANED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRE WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM OR ONTO THE STATE'S ROW.
- AT THE END OF TEENCHING OPERATIONS AND AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL INSPECT ALL CATCH BASIN, DRAIN INLET AND DRAIN MANHOLE SURROUNDING THE PROJECT SITE. ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE STORM DRAIN STRUCTURES SHALL BE REMOVED. FLUSHING INTO THE DRAIN STRUCTURES IS PROHIBITED.
- ANY DIRT OR GRASSED AREA DISTURBED SHALL BE RESTORED BY RE-GRASSING THE AREA OR BY SEEDED HYDROMULCH. THE GRASS SHALL BE FULLY ESTABLISHED AT COMPLETION OF THE PROJECT.
- ALL FLUIDS, CUTTINGS, SURFACTANTS AND ASSOCIATED CHEMICALS FROM HORIZONTAL DIRECTIONAL DRILLING OPERATIONS SHALL BE CONTAINED WITHIN ON-SITE DRILL PITS.
- 10. STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES AS PRACTICAL. ADDITIONALLY, STORM WATER SHALL NOT BE PERMITTED TO SHEETFLOW OVER THE OPEN DRILL PITS.
- 11. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

### MAINTENANCE:

- INSPECT AND FIBER ROLL DAILY AND IMMEDIATELY AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY
- SHOULD THE FABRIC ON A FIBER ROLL DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FIBER ROLL SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. SEDIMENT SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
- 4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FIBER ROLL IS NO LONGER REQUIRED SHALL BE REMOVED BY THE CONTRACTOR.

### FIBER ROLL NOTES:

- FIBER ROLLS AT THE TOE OF SLOPES GREATER THAN 5:1 (H:V) SHOULD BE A MINIMUM OF 20 IN. DIAMETER OR INSTALLATIONS ACHIEVING THE SAME
- FIBER ROLLS SHOULD BE EITHER PREFABRICATED ROLLS OR ROLLED TUBES OF EROSION CONTROL BLANKET.
- ROLL LENGTH OF EROSION CONTROL BLANKET INTO A TUBE OF MINIMUM 8 IN.
- BIND ROLL AT EACH END AND EVERY 4 FT ALONG LENGTH OF ROLL WITH JUTE-TYPE TWINE.
- LOCATE FIBER ROLLS ON LEVEL CONTOURS SPACED AS FOLLOWS:
  - A. SLOPE INCLINATION OF 4:1 (H: V) OR FLATTER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTÈRVAL OF 20 FT.
  - SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H: V): FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT. (A CLOSER SPACING IS MORE EFFECTIVE).
  - C. SLOPE INCLINATION 2:1 (H: V) OR GREATER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 10 FT. (A CLOSER SPACING IS MORE EFFECTIVE).
- FIBER ROLLS PLACED ON SLOPES WITH AN INCLINATION OF 4:1 (H: V) OR GREATER SHALL BE ANCHORED.
- TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
- 8. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED.



\*DOWNSLOPE PROTECTED

AREA MAY BE ROADWAY

FIBER ROLL DETAIL

NOT TO SCALE

## PERMANENT EROSION CONTROL MEASURES

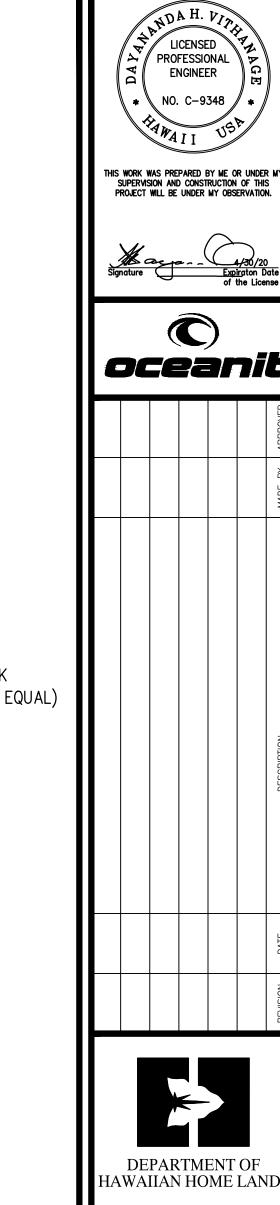
CONFIGURATION THAT WILL BEST

CAPTURE RUNOFF POLLUTANTS.

SHALL REQUIRE ANCHORING.

FIBER ROLLS LOCATED ON GROUND WITH STEEPER THAN A 4:1 GRADE

- 1. THE CONTRACTOR SHALL GRASS THE ENTIRE PROJECT SITE, EXCEPT PAVED AREAS WITH BERMUDA GRASS SPRIGS. THE GRASS SHALL BE PLANTED, FERTILIZED, AND MAINTAINED IN ACCORDANCE WITH THE "HAWAI'I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS.
- 2. THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF 30 CALENDAR DAYS.
- 3. IN LIEU OF GRASS SPRIGS (NOTE 1), THE CONTRACTOR MAY USE HYDROMULCH WITH SEEDLINGS AND IRRIGATION SPRINKLER SYSTEM.



HAWAIIAN HOME LANDS

Kapolei. Hawai`i 96707 ANAHOLA

915420 Kapolei Parkway

FARM LOTS

Water Line Replacement Anahola, Island of Kaua` 4-8-005:039, 4-8-018:027

& 4-8-021:032

**EROSION CONTROL** 

TYPICAL DETAILS

DESIGNED BY: AK DRAWING NO

DRAWN BY: AK DT-7 CHECKED BY: JM SURVEYED BY: PS DATE: APR. 2018 SHEET NO. 27 OF 30

- 3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
- 4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
- 5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- 6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITTEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN IN THE MUTCD.
- 7. SIGN SPACING (D), TAPER LENGTHS (T) AND SPACING OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
- 8. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
- 9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
- 10. THE BACKS OF ALL SIGNS SHALL BE PROMPTLY REMOVED OR COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES), WHENEVER THE MESSAGES ARE NOT APPLICABLE OR NOT IN USE.
- 11. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED. THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
- 12. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
- 13. POLICE OFFICERS/FLAGGERS SHALL BE PRESENT AT ALL TIMES.
- 14. WHEN REQUIRED BY THE COUNTY OF KAUA'I, AN ADVERTISEMENT SHALL BE PLACED IN THE NEWSPAPER BY THE CONTRACTOR FOR ANY LANE CLOSURE. THE ADVERTISEMENT SHALL BE MADE ONE (1) WEEK BEFORE ANY LANE CLOSURE AND SHALL CONTAIN THE FOLLOWING INFORMATION:
  - A. MAP OF THE TRAFFIC CHANGE LIMITS;
  - B. NOTICE OF STARTING AND ENDING DATES, TIMES AND DURATION;
  - C. MAP TO SHOW LANE CLOSURE;

W21-10

48"x 48"

W13-1(10)

24"x 24"

D. EXPLANATION OF LANE CLOSURE, "NOTICE TO MOTORISTS AND PEDESTRIANS"

THE CONTRACTOR SHALL BE REQUIRED TO HAVE ANY LANE CLOSURE ANNOUNCED DAILY OVER THE RADIO TWO (2) DAYS BEFORE STARTING DATE UNTIL THE WORK IS COMPLETED. BOTH ADVERTISEMENTS IN THE NEWSPAPER AND OVER THE RADIO SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO NOTIFY THE HOSPITALS, POLICE, FIRE, AND AMBULATORY SERVICES OF THE LANE CLOSURES.

- 15. ALL WORKERS WITHIN THE COUNTY RIGHT OF WAY WHO ARE EXPOSED TO EITHER VEHICLES USING THE ROADWAY OR TO CONSTRUCTION EQUIPMENT SHALL WEAR HIGH VISIBILITY SAFETY APPAREL THAT MEETS THE PERFORMANCE CLASS 2 OR 3 REQUIREMENTS OF ANSI/ISEA 107-2004. "WORKERS" ARE DEFINED AS PEOPLE ON FOOT WHOSE DUTIES PLACE THEM WITHIN THE COUNTY R/W, SUCH AS, BUT NOT LIMITED TO CONSTRUCTION AND MAINTENANCE FORCES, EQUIPMENT OPERATORS, SURVEY CREW, UTILITY CREW, RESPONDERS TO INCIDENTS (EG. EMT AND FIREMEN), AND LAW ENFORCEMENT PERSONNEL DIRECTING TRAFFIC, INVESTIGATING ACCIDENTS, HANDLING LANE CLOSURES AND INSTALLING WATER SERVICE CONNECTIONS (ROADWAY CONSTRUCTION).
- 16. ALL TRAFFIC CONTROL DEVICE SHALL BE REFLECTORIZED WHEN USED AT NIGHT. CONES SHALL BE EQUIPPED WITH REFLECTORIZED COLLAR WHEN USED AT NIGHT. FLASHING LIGHTS SHALL BE USED WITH BARRICADES AND STEADY BURN LIGHTS WHEN USED IN A SERIES FOR CHANNELIZATION. FLAGGER STATIONS SHALL BE ADEQUATELY ILLUMINATED AT NIGHT.
- 17. CONTRACTOR TO PROVIDE ACCESS AND/OR DIRECTION SIGNS TO REROUTE PEDESTRIAN TRAFFIC.
- 18. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE USE AND DURATION OF STEEL PLATES. ALL STEEL PLATES SHALL HAVE A NON-SKID SURFACING. THE COUNTY MAY REQUIRE THE BACKFILLING AND PATCHING OF THE TRENCH DUE TO THE EXCESSIVE USE OF STEEL PLATES.
- 19. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE NON-SLIP BRIDGING MATERIAL, INCLUDING SHORING OVER TRENCHES IN PAVEMENT AREAS. THE BRIDGING SHALL BE ABLE TO SUPPORT ALL TYPES OF VEHICULAR AND PEDESTRIAN TRAFFIC.

W20-7A

48"x 48"

**SUPPLEMENTAL** 

PLATE 24"x 18"

20. WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN A SAFE AND PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGES BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.

	TABLE 1							
POSTED SPEED	/FF		NGTH (T) ET)	LONGITUDINAL	SPACING OF CONES OR DELINEATORS (FEET)			
LIMIT (M.P.H.)	(D) (FEET)	W=12' OR LESS (1)	W=GREATER THAN 12' (1)	BUFFER SPACE (B) FEET	TAPER	TANGENT	WORK AREA	
20	250	200	W X 17	35	20	20	10	
25	250	200	W X 17	55	25	25	10	
30	250	250	W X 20	85	30	30	10	
35	250	250	W X 20	120	35	35	10	
40	500	350	W X 30	170	40	40	10	
45	500	550	W X 45	220	45	45	10	
50	1000	600	W X 50	280	50	50	10	
55	1000	700	W X 55	335	55	55	10	

ROAD WORK

G20-2A 36"X18"

100'

(1) W=WIDTH OF LANE, SHOULDER, OR OFFSET

HOKUALELE ROAD / KAMALOMALOO PLACE

(COUNTY MAINTAINED)

100'

## TRAFFIC CONTROL LEGEND: WORK AREA CONE OR DELINEATOR \*

DIRECTION OF TRAFFIC

100'

\*CONE SPACING:

48"X48"

ROAD WORK

10' O.C. FOR WORK AREAS

20' O.C. FOR TAPERS AND BUFFERS

10' O.C. FOR TRANSVERSELY ALIGNED

ROAD WORK AHEAD W21-10

48"X48"

- EDGE OF

**PAVEMENT** 

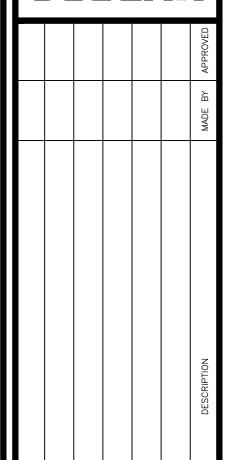
FLAGGER

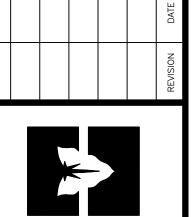
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Kapolei, Hawai`i 96707 ANAHOLA

915420 Kapolei Parkway

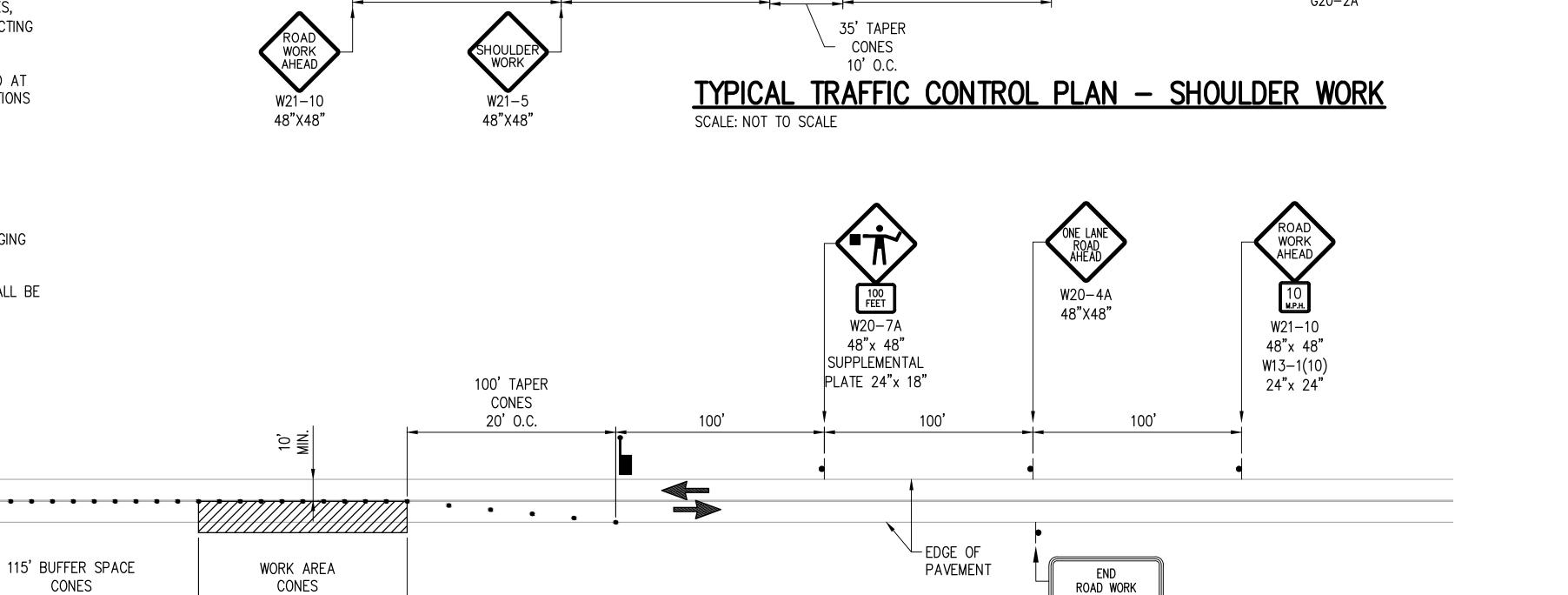
FARM LOTS

Water Line Replacement Anahola, Island of Kaua` 4-8-005:039, 4-8-018:027 & 4-8-021:032

> TRAFFIC CONTROL SHEET - 1

TC-1 SURVEYED BY: PS DATE: APR. 2018

SHEET NO. 28 OF 30



WORK AREA

CONES

10' O.C.

100' 100' 100' ROAD WORK AHEAD W20-4A 48"X48"

HOKUALELE ROAD / KAMALOMALOO PLACE

(COUNTY MAINTAINED)

ROAD WORK

G20-2A 36"X18"

<u>TYPICAL TRAFFIC CONTROL PLAN - ONE LANE CLOSURE</u>

10' O.C.

SCALE: NOT TO SCALE

CONES

10' O.C.

100' TAPER

CONES

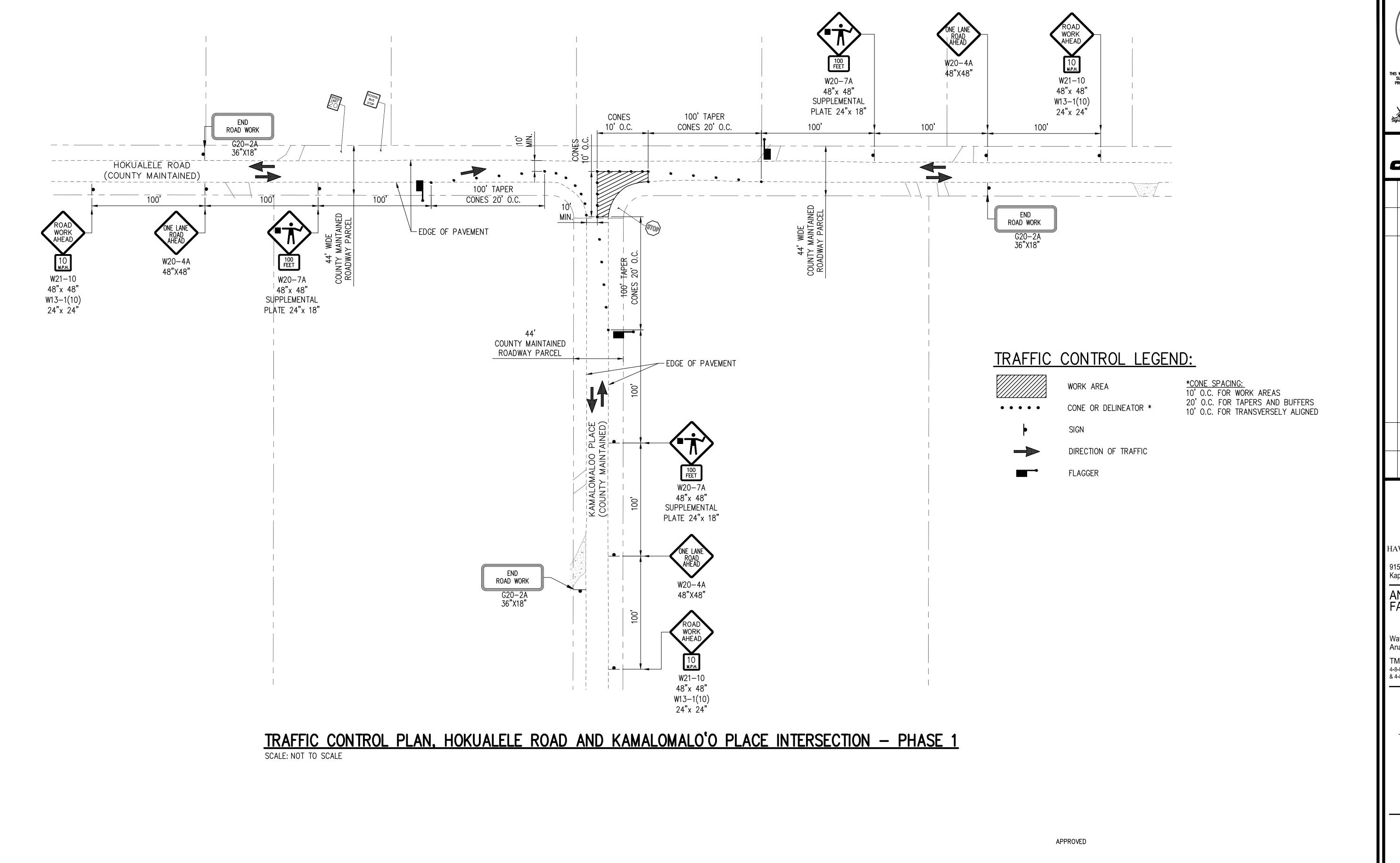
20' O.C.

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS

COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

G20-2A 36"X18"

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NO. C-9348

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REVISION DATE

DEPARTMENT OF

DEPARTMENT OF HAWAIIAN HOME LANDS

915420 Kapolei Parkway Kapolei, Hawai`i 96707

ANAHOLA FARM LOTS

Water Line Replacement Anahola, Island of Kaua`i

TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032

> TRAFFIC CONTROL SHEET - 2

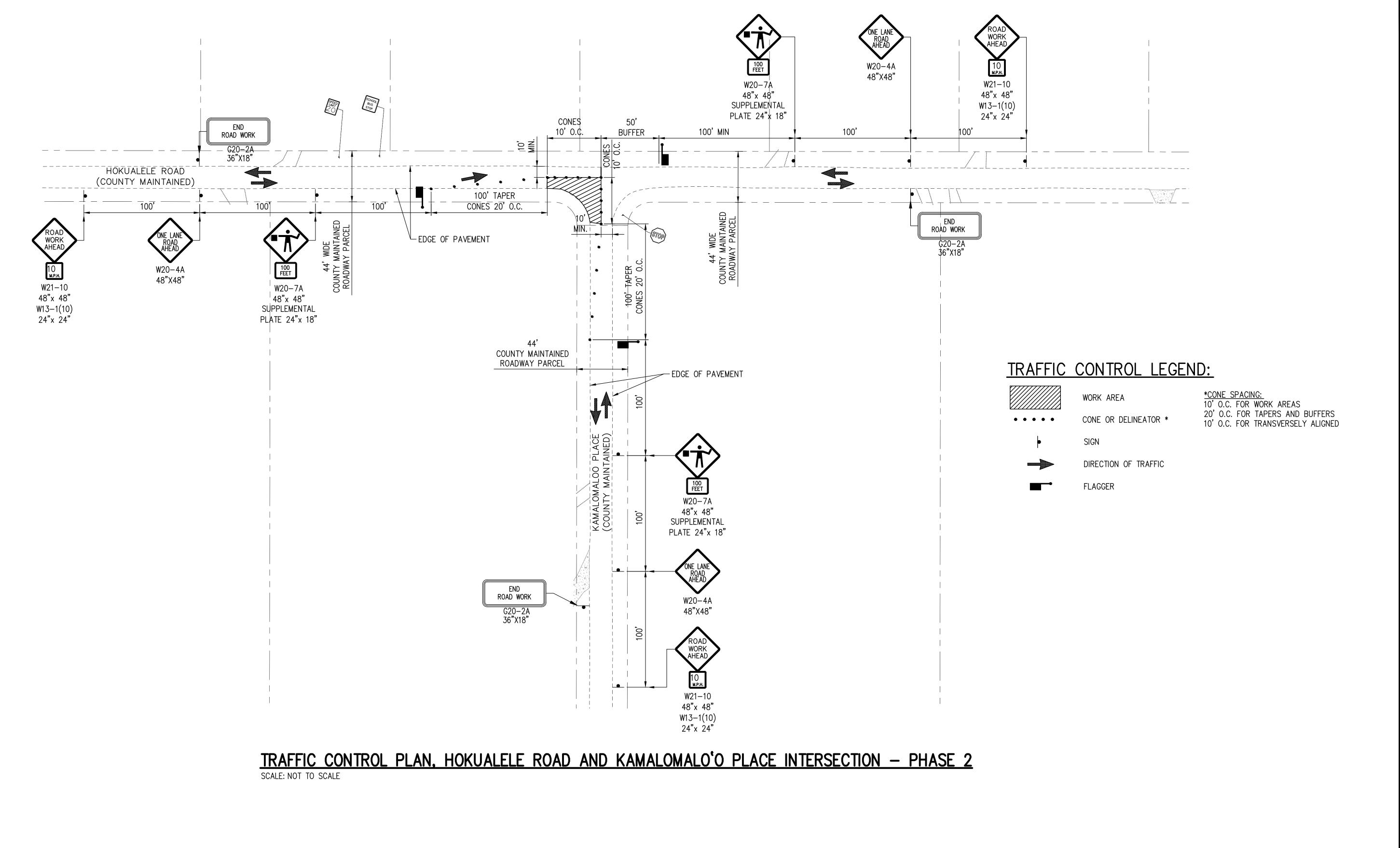
COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS

COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY MAINTAINED ROADS)

DRAWING NO.

BY: GT
ED BY: JM
YED BY: PS

DATE: APR. 2018



PROFESSIONAL ENGINEER

oceanit

DEPARTMENT OF HAWAIIAN HOME LANDS

915420 Kapolei Parkway Kapolei, Hawai`i 96707

ANAHOLA FARM LOTS

Water Line Replacement Anahola, Island of Kaua`i

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TRAFFIC CONTROL SHEET - 3

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