

D:\SCOTT - COVID-19 (HOME WORKING FILES)\219-020_DHHL_KAUMANA_LOTS\3-C-52-5-A\SHEETS\SHI_TITLED\INDEX-LOT-3-C-52-5-A.DWG Plotted: 4/15/2020

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KAUMANA SUBDIVISION

LOT NO. 3-C, LOT NO. 52

AND LOT NO. 5-A

IMPROVEMENTS

JOB NO: RFQ-20-LDD-016

KAUMANA, SOUTH HILO, HAWAII

TMK: (3) 2-5-005:154

TMK: (3) 2-5-005:010

TMK: (3) 2-5-004:060

DEPARTMENT OF HAWAIIAN HOMELANDS
LAND DEVELOPMENT DIVISION
91-5420 KAPOLEI PARKWAY
KAPOLEI, HI 96707



Okahara and Associates, Inc.

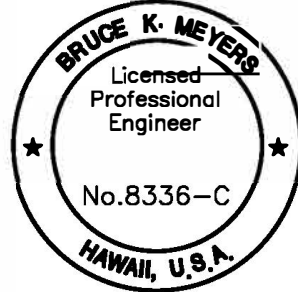
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This work was prepared by me or under my supervision and construction to this project will be under my observation

Bruce K. Meyers

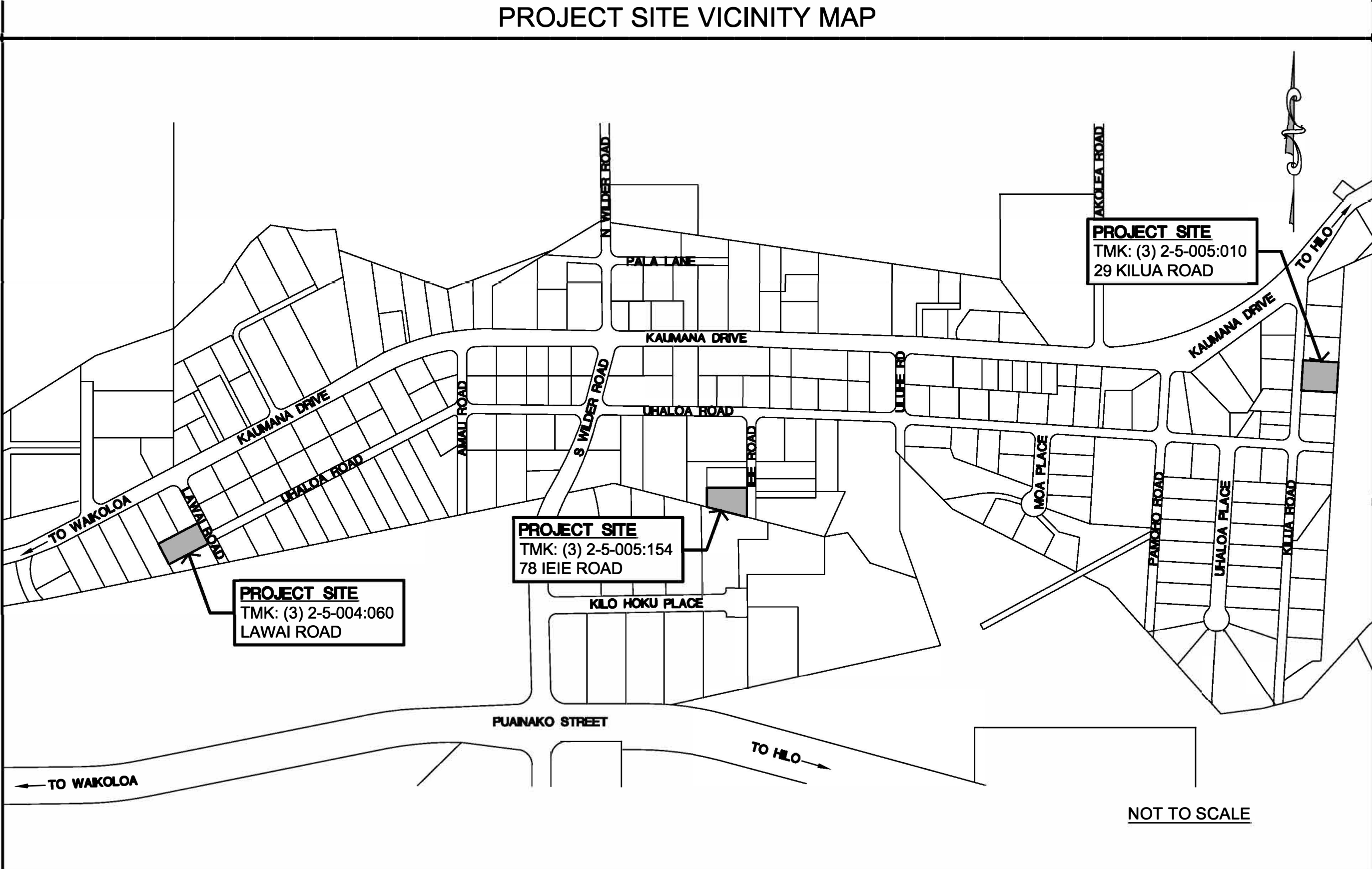
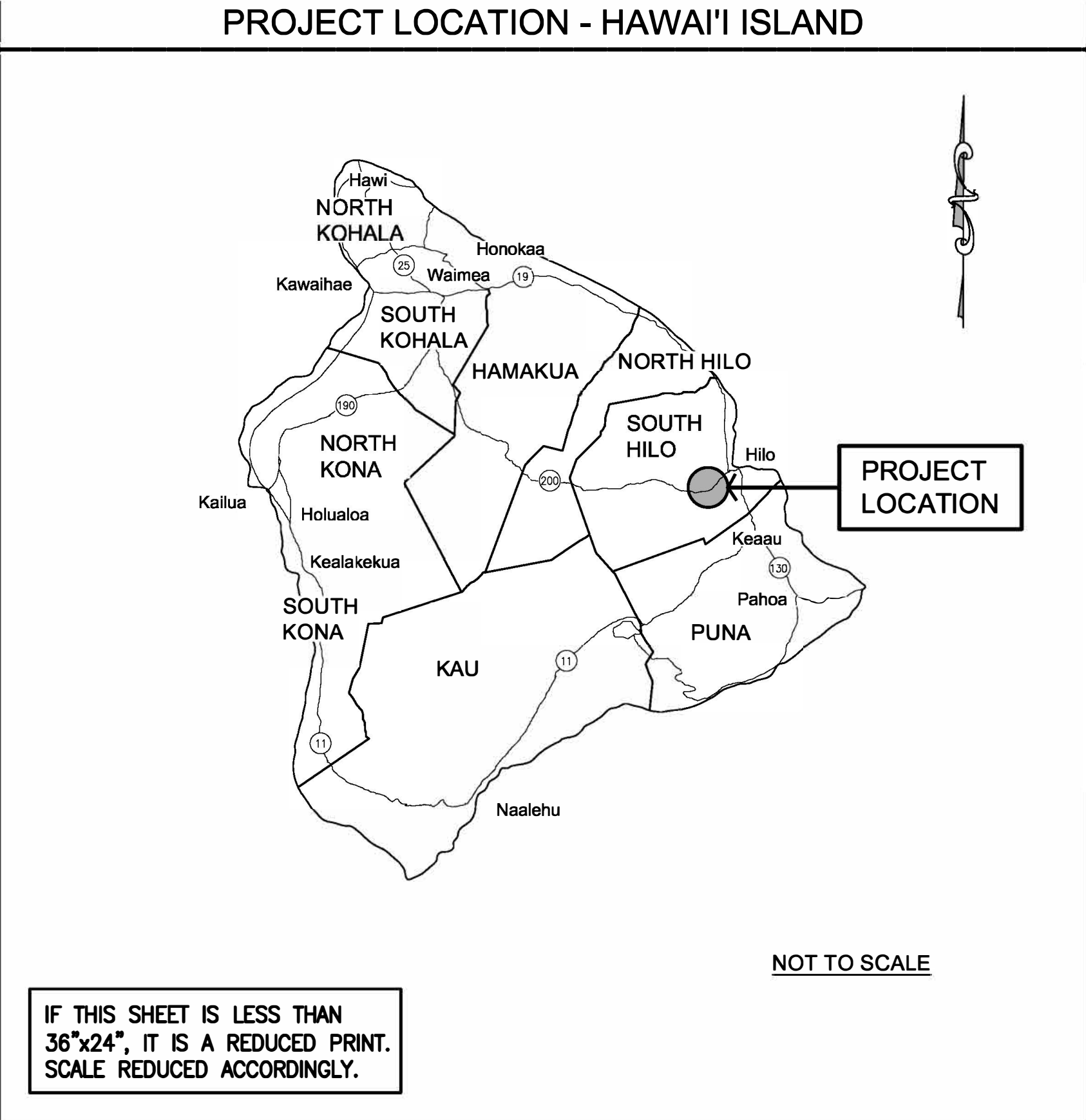
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KAUMANA SUBDIVISION
LOT NO. 3-C, LOT NO. 52
AND LOT NO. 5-A
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KAUMANA, SOUTH HILO, HAWAII



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LAND SURVEYOR:
ISLAND SURVEY
17 MAKALA STREET, SUITE 102
HILO, HAWAII 96720

GEOTECHNICAL ENGINEER:
KOKUA GEOTECH, L.L.C.
94-974 PAKELA ST. #109
WAIKAPU, HAWAII 96797

APPROVALS

DIRECTOR, DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
(FOR CONSTRUCTION WITHIN COUNTY RIGHT OF WAY ONLY)

DATE

MANAGER-CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY
COUNTY OF HAWAII

DATE

Sheet Title

TITLE SHEET AND DRAWING INDEX

BKM
Project Director

219-020
Project No.

SLP, LG
Drawn By

LOK
Checked By

CAD File Name:

AS SHOWN
Scale:

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Const. Issue Date

1 of 8
Sheets

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WATERLINE NOTES (CONT.)


6. WHERE WATER SHUT-OFF OF MORE THAN 3 HOURS BECOMES NECESSARY, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE A TEMPORARY BY-PASS LINE. THE DWS ENGINEER SHALL DETERMINE THE BY-PASS LINE SIZE. IF NECESSARY, THE DWS ENGINEER MAY REQUIRE A BY-PASS LINE, REGARDLESS OF THE EXPECTED SHUT-OFF PERIOD.
7. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINE AND OTHER UTILITIES SHALL BE 8 FEET UNLESS OTHERWISE SPECIFIED. MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 12" PROVIDED CONCRETE JACKETS ARE USED, AND 18" IF NO CONCRETE JACKETS ARE USED. IN ALL APPLICABLE INSTANCES, THE WATERLINE SHALL BE AT A GRADE HIGHER THAN OTHER UTILITIES.
8. ALL FITTINGS (CLASS 250 MINIMUM) AND ALL GATE VALVES (CLASS 200) SHALL BE DUCTILE IRON, WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED. BUTTERFLY VALVES SHALL BE CLASS 250 WITH EPOXY-COATED INTERIOR UNLESS OTHERWISE SPECIFIED.
9. THE WATERLINE SHALL BE TESTED AT A MINIMUM OF 225 PSI OR ONE AND A HALF TIMES THE STATIC PRESSURE AT THE LOW POINT, WHICHEVER IS GREATER, UNDER DWS SUPERVISION JUST PRIOR TO PAVING.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CHLORINATION OF THE WATER SYSTEM AND SHALL BEAR ALL COSTS. THE PERSON(S) ENGAGED TO DO THE CHLORINATION WORK MUST HAVE THE APPROPRIATE LICENSE TO PERFORM THE WORK IN THE STATE OF HAWAII.
11. EXISTING VALVES, F.H. UNITS, VALVE BOXES, FRAMES AND COVERS DESIGNATED "REMOVE AND SALVAGE" SHALL BE CLEANED OF ALL DIRT, SCABS, AND CONCRETE AND DELIVERED TO THE RESPECTIVE DWS BASEYARD. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS, UNLESS SPECIFIED OTHERWISE.
12. EXISTING WATERLINES, VALVES, FITTINGS AND APPURTENANCES NOT DESIGNATED "REMOVE" OR "TO REMAIN" SHALL BE ABANDONED IN PLACE. ALL EXPOSED VALVE BOXES, VALVES, PIPES AND APPURTENANCES SHALL BE REMOVED AND DISPOSED OF PROPERLY AT NO COST TO THE DWS.
13. THE DWS WILL NOT ASSUME OWNERSHIP OF NOR GRANT ANY WATER SERVICE UNTIL THE WATER SYSTEM IS DEDICATED TO THE DWS ALONG WITH ALL NECESSARY EASEMENTS AND DOCUMENTS.
14. WHEN COMPACTION TESTS ARE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE DWS WITH PROCTOR RESULTS OF MATERIALS TO BE USED FOR THAT PORTION OF WORK REQUIRING COMPACTION. THESE RESULTS SHALL BE CERTIFIED AND SHALL BE FURNISHED TO DWS ONE WEEK PRIOR TO COMMENCEMENT OF WORK. COST FOR COMPACTION TESTS SHALL BE INCIDENTAL TO PIPELINE INSTALLATION.
15. ALL NEWLY INSTALLED WATERLINES SHALL HAVE A BLUE WARNING TAPE LABELED "WATERLINE" PLACED DIRECTLY OVER THE COMPACTED CUSHION MATERIAL.
16. CONSTRUCTION PROJECTS REQUIRING TEMPORARY WATER SERVICE SHALL BE METERED AND PAID FOR BY THE CONTRACTOR.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORD DRAWINGS (AS-BUILT DRAWINGS) AND THE LICENSED ENGINEER SHALL CERTIFY THE DRAWINGS AS TO ACCURACY AND SUBMIT THE DRAWINGS AND AS-BUILT TRACINGS TO THE DWS.
18. ALL RETAINER GLANDS SHALL BE "MEGALUG" SERIES 1100, AS MANUFACTURED BY EBAA IRON SALES, INC., OF EASTLAND, TEXAS, OR APPROVED EQUAL.
19. ALL EXISTING WATER METER BOXES, METERS, AND SERVICE LATERALS SHALL BE REMOVED AND SALVAGED UNLESS OTHERWISE NOTED IN PLANS.
20. THE VARIOUS SCHEDULES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING THE TYPE, SIZE, ETC. OF EXISTING AND NEW UTILITIES AND APPURTENANCES. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND DWS TO ENSURE THE NEW SYSTEM IS BUILT PROPERLY AND TO THE SATISFACTION OF DWS.
21. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR.
22. WATER SERVICE LATERALS AND CUSTOMER PIPING SHALL BE ADJUSTED WHEN WATER METER BOX ADJUSTMENT GREATER THAN 1 INCH IS REQUIRED. THE COST OF SUCH ADJUSTMENT SHALL BE INCIDENTAL TO WATER METER BOX ADJUSTMENT. THIS SHALL INCLUDE NECESSARY EXCAVATION BACKFILL AND PIPING MODIFICATIONS. ALL WORK SHALL BE PER DWS STANDARDS.
23. PIPE CUSHION FOR COPPER PIPES SHALL BE NO. 4 FINE, MANUFACTURED SAND.
24. SOLDER & FLUX SHALL CONTAIN NOT MORE 1 THAN 0.2 PERCENT LEAD.
25. SERVICE LATERAL(S) SHALL BE FLUSHED BY THE CONTRACTOR UNDER DWS SUPERVISION.
26. EXISTING SERVICE LATERALS TO BE REMOVED SHALL BE CUT AND PLUGGED AT THE MAIN.

WATERLINE NOTES (CONT.)

27. RELOCATION OF EXISTING METERS SHALL BE DONE UNDER DWS SUPERVISION. RELOCATION OF CUSTOMER SERVICE LINES TO RELOCATED METERS SHALL BE DONE BY THE CONTRACTOR. MATERIALS USED TO CONNECT CUSTOMER LINES TO RELOCATED METERS SHALL BE NEW 3/4" COPPER TYPE "K". ALL WORK AND MATERIALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS. A DIELECTRIC UNION SHALL BE USED TO CONNECT THE COPPER PIPE TO THE CUSTOMER'S G.I. PIPE.
28. IT IS THE INTENT OF THE DWS TO UTILIZE THE EXISTING CORPORATION STOP IN LOCATIONS WHERE ONLY THE SERVICE LATERALS WILL BE REPLACED. THE CONTRACTOR SHALL PERFORM ALL NECESSARY WORK REQUIRED TO CUT OFF EXISTING AND CONNECTING NEW PIPE TO THE EXISTING CORPORATION STOP. IN LOCATIONS WHERE NEW TAPS ARE REQUIRED, THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH DWS 24 HOURS IN ADVANCE FOR A NEW TAP. ON NEW PIPELINE, THE CONTRACTOR WILL MAKE THEIR OWN TAPS.
29. CONTRACTOR SHALL INFORM THE CUSTOMER 24 HOURS IN ADVANCE OF WATER SHUT-OFF TO COMPLETE NEW SERVICE CONNECTION TO CUSTOMER'S LINE.
30. WATER SERVICE LATERAL AND METER RELOCATION: PROVIDE DWS APPROVED 2" PVC, SCHEDULE 40 SLEEVE THROUGH WALL. FILL SPACE WITH AN APPROVED ASPHALT FILLER AS REQUIRED. ALSO, RELOCATE EXISTING WATER VALVE, VALVE BOX & COVER, ALL INCIDENTAL.
31. COORDINATE WITH DWS REGARDING SCHEDULING AND DWS REQUIREMENTS OF CONCRETE JACKET INSTALLATION, SHORING AND WATERLINE RELOCATION/ADJUSTMENT AT DRYWELL/DRAINAGE SYSTEM LOCATIONS. WATERLINE ADJUSTMENT/RELOCATION CONCRETE JACKET SHORING SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
32. RELOCATE EXISTING WATER METER BOX AND SERVICE LATERAL TO FRONT OF PROPERTY, INCIDENTAL, TYPICAL.
33. DWS BOX ADJUSTMENT:
CONTRACTOR TO SUBMIT DETAILED ADJUSTMENT DRAWINGS TO DWS FOR APPROVAL PRIOR TO DOING WORK (TYPICAL).
34. IF A WATER METER IS RELOCATED AND THE SERVICE HAS A BACKFLOW PREVENTION ASSEMBLY (BFPA), BFPA NEEDS TO BE RELOCATED WITH THE WATER METER. (INCIDENTAL)
35. RELOCATION/ADJUSTMENT OF EXISTING METERS SHALL BE DONE UNDER DWS SUPERVISION. CONTRACTOR TO PROVIDE NEW TYPE "X" METER BOX, INCIDENTAL. RELOCATION/ADJUSTMENT OF CUSTOMER SERVICE LINES AND EXTENSION OF EXISTING LATERALS TO RELOCATED METERS SHALL BE DONE BY THE CONTRACTOR.
36. CONTRACTOR SHALL PROVIDE NECESSARY MEASURES TO RESTRAIN THE EXISTING GATE VALVES TO THE WATER MAIN PRIOR TO PERFORMING RELOCATION, REPLACEMENT AND HEIGHT ADJUSTMENT WORK ON THE EXISTING FIRE HYDRANTS.
37. RELOCATED/ADJUST EXISTING WATER VALVE BOX WITH ROUND VALVE BOX: IDENTIFICATION TAGS INDICATING VALVE SIZE AND NUMBER OF TURNS TO CLOSE (REFER TO WATER SYSTEM DETAIL NO. V-17) ARE NOT REQUIRED ON THE NEW VALVE BOX COVERS, AS THE NUMBER OF TURNS TO CLOSE THE EXISTING VALVES CANNOT BE ACCURATELY DETERMINED.
38. CONTRACTOR SHALL RELOCATE EXISTING WATER METER BY EXTENDING THE SERVICE LATERAL FROM EXISTING CURB STOPS.
39. CONTRACTOR SHALL FURNISH AND INSTALL NEW CURB STOPS WHERE NONE EXIST AND MAY EXTEND SERVICE LATERAL FROM THE NEW CURB STOP.
40. ALL WATER SERVICE LATERAL MATERIALS DOWNSTREAM OF THE NEW CURB STOP SHALL BE NEW (COPPER FITTINGS, BRASS FITTINGS, VALVES AND METER BOXES).
41. TYPICAL FOR EXISTING 1 1/4" TYPE "B" AND "C" WATER SERVICE LATERALS: INSTALL NEW 1 1/4" CURB STOP AS SHOWN AND BY NOTE PER DWS STANDARD DETAIL L7.
42. FIRE HYDRANT ASSEMBLIES SHALL UTILIZE EBAA "MEGALUGS" (OR APPROVED EQUAL) AT ALL MJ CONNECTIONS.
43. ALL BRASS PRODUCTS MUST CONFORM TO NSF STANDARD 61 AND NSF 372 OF THE SDWA, AND BE CERTIFIED AS "LEAD-FREE" BY THE MANUFACTURER. "LEAD-FREE" IS DEFINED AS THE ALLOWABLE LEAD CONTENT OF NOT MORE THAN 0.25% IN THE WETTED SURFACE. CERTIFICATION FROM THE MANUFACTURER MUST BE SUBMITTED TO THE DEPARTMENT OF WATER SUPPLY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY BRASS PRODUCTS INSTALLED WITHOUT APPROVAL MUST BE REMOVED AT NO EXPENSE TO THE DEPARTMENT.
44. FIRE HYDRANTS REQUIRE JOINT RESTRAIN BETWEEN THE TEE AND GATE VALVE.
45. WATER SERVICES THAT REQUIRE A DEPARTMENT OF WATER SUPPLY APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL HAVE ONE INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF WATER SUPPLY'S WATER SYSTEM STANDARD (DIVISION 100 - SECTION 107 AND DETAIL V-9). THE SERVICE OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, YEARLY TESTING AND MAKE PROVISIONS FOR THE WATER SERVICE DURING THE TESTING OF THE BACKFLOW ASSEMBLY. THE INSTALLATION OF THE BACKFLOW PREVENTION ASSEMBLY SHALL BE APPROVED BY THE DEPARTMENT BEFORE WATER SERVICE IS ACTIVATED.

CIVIL ABBREVIATIONS / SYMBOLS

A.C.	ASPHALT CONCRETE
APPROX.	APPROXIMATE
BOT.	BOTTOM
B.O.W.	BOTTOM OF WALL
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CLR.	CLEARANCE
C.O.	CLEANOUT
CONC.	CONCRETE
CONT.	CONTINUATION, CONTINUOUS
C.Y.	CUBIC YARD
D.L	DRAIN LINE
DPW	DEPARTMENT OF PUBLIC WORKS
DWGS.	DRAWINGS
E/TEL	ELECTRICAL/TELEPHONE
ELEV.	ELEVATION
EXIST.	EXISTING
F.H.	FIRE HYDRANT
FT.	FEET
INV.	INVERT
L.F.	LINEAR FEET
L.P.	LIGHT POST
MECH.	MECHANICAL
MIN.	MINIMUM
NGPC	NOTICE OF GENERAL PERMIT COVERAGE
NO.	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE
	ELIMINATION SYSTEM
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT.	PAVEMENT
REINF.	REINFORCED
SCH.	SCHEDULE
SDMH	STORM DRAIN MANHOLE
S.F.	SQUARE FEET
SHT.	SHEET
STA.	STATION
STD.	STANDARD
STRUCT.	STRUCTURAL
TEL	TELEPHONE
TMK	TAX MAP KEY
T.O.C.	TOP OF CURB
T.O.G.	TOP OF GRATE
T.O.W.	TOP OF WALL
TYP.	TYPICAL
VERT.	VERTICAL
WV	WATER VALVE
Ø	DIAMETER
≡	CUT & PLUG EXIST. WATER LINE
D#	EXIST. DRAIN LINE
E#	EXIST. ELECTRICAL LINE
W#	EXIST. WATER LINE



Okahara and Associates, Inc.

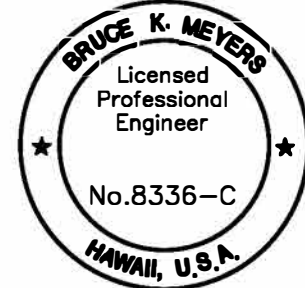
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Bruce K. Meyers

Expiration Date of License: 4/30/22

Revisions		
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Project

KAUMANA SUBDIVISION
LOT NO. 3-C, LOT NO. 52
AND LOT NO. 5-A
IMPROVEMENTS

TMK: (3) 2-5-005:154
TMK: (3) 2-5-005:010
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KAUMANA, SOUTH HILO, HAWAII

Sheet Title

CIVIL NOTES

BKM
Project Director

219-020
Project No.

SLP, LG
Drawn By

LOK
Checked By

CAD File Name:

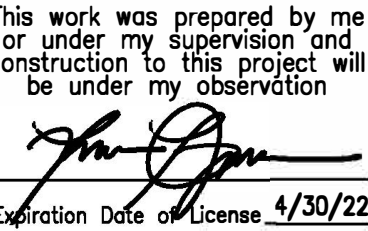
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LOT NO. 3-C, LOT NO. 52
AND LOT NO. 5-A
IMPROVEMENTS**

IMK: (3) 2-5-005:154
TMK: (3) 2-5-005:010
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ANA, SOUTH HILO, HI

KAUMANA, SOUTH HILO, HAWAII

OVERALL SITE PLAN

AS SHOWN

APRIL 2020
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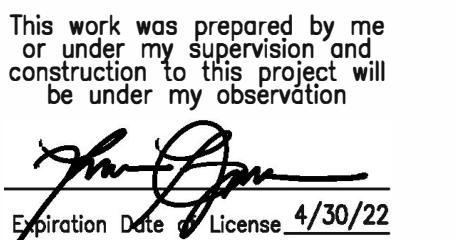
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OVERALL SITE PLAN

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Project

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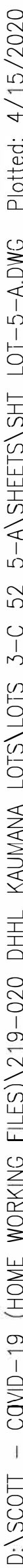
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KAUMANA, SOUTH HILO, HAWAII

SERVICE CONNECTION SCHEDULE										
EXISTING								NEW		
ID#	TMK	SVC. NO.	M/N	MTR SIZE	LAT SIZE	LAT TYPE	BOX TYPE	CU RECON/TYPE BOX	LATERAL/TYPE BOX	COMMENTS
6	2-5-005:154							-	-	-







**Okahara and
Associates, Inc.**

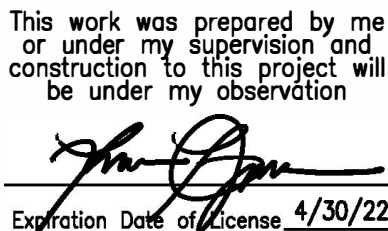
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SERVICE CONNECTION SCHEDULE

EXISTING								NEW		
ID#	TMK	SVC. NO.	M/N	MTR SIZE	LAT SIZE	LAT TYPE	BOX TYPE	CJ RECON/TYPE BOX	LATERAL/TYPE BOX	COMMENTS
2-5-004:060								-	-	-

LOT 65
TMK: 2-5-004:060

LOT 5
TMK: 2-5-004:060

INSTALL 4" TOPSOIL AND GRASSING ON THE GRADED AREA IN ACCORDANCE WITH SECTIONS 50 AND 51 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1986

TIE UHA-5A TO PROPERTY CORNER
67°28'35"
166.36'

INSTALL 1" TYPE A WATER LATERAL WITH 3/8" METER AND BOX PER DWS STD. DET. FOR HAWAII COUNTY

TIE UHA-5A TO WATER LINE LATERAL
269°24'40"
6.13'

TEMPORARY BENCHMARK
UHA-5A
-885.27 N
-4,668.76 E
ELEV.=1175.49'

COMMUNITY MAILBOX

UHA-5A
1175.49

LAHAI ROAD

UHALOA ROAD

UHA-4B
1179.01

UHA-4A
1178.37

METAL GRATING TO COVER CAVE ENTRANCE

INSTALL SILT FENCE OR SEDIMENT CONTROL LOGS (TYP.) SEE DETAIL

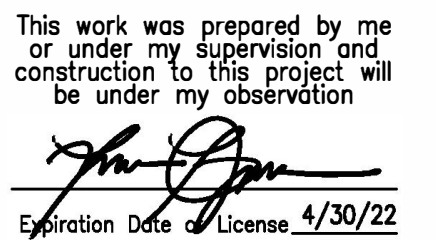
MAKE 20' OPENING IN SILT FENCE

SCALE: 1"=10'

SITE PLAN - LOT NO. 5-A

SITE PLAN – LOT NO. 5-A
SCALE: 1"=10'

of **8** Sheets

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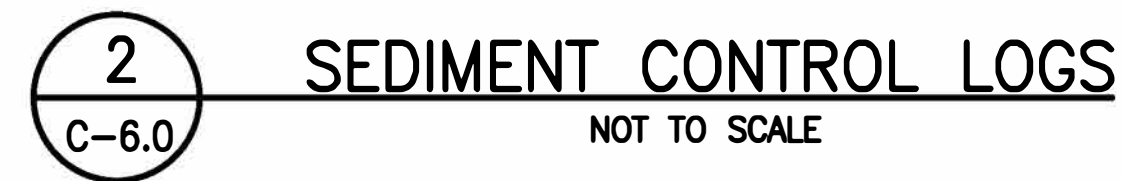
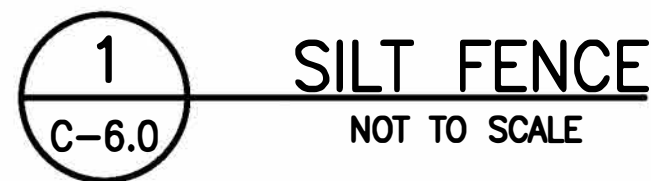
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C-6.0	
Const. Issue Date	
8	or 8
Sheets	



- NOTES:**
1. STAKE SEDIMENT LOGS IN PLACE WITH 2" X 2" X 30" WOOD STAKES SPACE NO LESS THAN 24" APART UNLESS OTHERWISE NOTED. DRIVE STAKES INTO GROUND A MINIMUM OF 6".
 2. INSTALL SEDIMENT CONTROL LOGS DIRECTLY ON GROUND MAKING SURE BOTTOM OF LOG IS IN FULL CONTACT WITH GROUND. TAMP SOIL BACKFILL AGAINST UPSTREAM SIDE OF LOG TO ASSURE STORM WATER IS FORCED FLOW THROUGH LOG RATHER THAN UNDER IT.



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