

GENERAL CONSTRUCTION NOTES

- ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION 2005" AS AMENDED, AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTIES OF THE STATE OF HAWAII, THE "STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION STANDARD PLANS" 2008, THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS", 2009, AND THE CONSTRUCTION DRAWINGS, DETAILS & SPECIFICATIONS PREPARED FOR THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES.
- WHEREVER CROSSINGS OR CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGES TO THE FACILITIES WHETHER SHOWN OR NOT ON THE PLANS.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT ARE NOT GUARANTEED AS TO THE ACCURACY OF THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF LOCATION OF UNCHARTED UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE, AND SHALL PAY FOR ALL DAMAGES TO EXISTING UTILITIES.
- NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.
- EXCEPT DURING ACTUAL WORKING HOURS, ALL SIGNS WHICH DO NOT PERTAIN TO THE CONSTRUCTION ACTIVITY, SUCH AS "MEN WORKING" AND "FLAGMEN AHEAD" SHALL BE COVERED OR LAID DOWN. HOWEVER, ALL SIGNS NECESSARY FOR THE SAFETY OF THE PUBLIC SHALL BE MAINTAINED.
- THE CONTRACTOR SHALL EMPLOY A HAWAII REGISTERED PROFESSIONAL SURVEYOR TO PERFORM ALL CONSTRUCTION STAKEOUTS, THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR, AND PAY FOR ALL TEMPORARY UTILITIES REQUIRED FOR HIS WORK.
- THE CONTRACTOR SHALL HAVE AN ARCHAEOLOGICAL MONITOR PRESENT DURING GROUND DISTURBING ACTIVITIES. THE ARCHAEOLOGICAL MONITOR SHALL INSPECT THE EXPOSED SOIL AND THE STRATIGRAPHIC PROFILE OF ANY EXCAVATED TRENCHES IN AN EFFORT TO IDENTIFY ANY PREVIOUSLY UNDISCOVERED AND UNDISTURBED HISTORIC SITES OR REMAINS. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK, WORK SHALL CEASE IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION ((808) 692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY. A 3-METER / 10-FOOT WIDE BUFFER ZONE EXISTS AROUND ALL SITES IN PRESERVATION DURING CONSTRUCTION. IT IS HIGHLY IMPORTANT THAT THE PRESERVED SITES REMAIN UNDISTURBED.
- THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES AND PERMITS AND SHALL GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
- THE CONTRACTOR SHALL RESTORE ALL EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO PAVEMENT, DRAINAGE FACILITIES, CURBS, GUTTERS, SIGNS, LANDSCAPING, IRRIGATION SYSTEMS, ETC., REMOVED OR DAMAGED AS A RESULT OF HIS OPERATION USING MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", 2005 AS AMENDED, "STANDARD DETAILS", SEPTEMBER 1984 FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF MAUI, AS AMENDED.
- CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC ACCORDING TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", 2009 AND 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 THE U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS", DATED 2005.
- THE DIRECTOR OF PUBLIC WORKS HAS THE RIGHT TO STOP CONSTRUCTION SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLAN OR DETRIMENTAL TO THE PUBLIC'S INTEREST.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH, AND COUNTY GRADING ORDINANCE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE ALL SILT AND DEBRIS DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE DIRECTOR OF PUBLIC WORKS OF THE LOCATION OF THE DISPOSAL SITES. THE DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE. THE CONTRACTOR SHALL MINIMIZE ITS CONSTRUCTION DEBRIS AND SOLID WASTES.
- CONTRACTOR SHALL PROVIDE VEHICULAR AND PEDESTRIAN ACCESS ROUTES AT ALL TIMES TO ALL EXISTING FACILITIES.

- ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS SHALL BE CHECKED AND VERIFIED PRIOR TO THE START OF CONSTRUCTION, AND ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.

CONTRACTOR'S RESPONSIBILITY FOR EXISTING LINES, PIPES AND SERVICES

- INFORMATION REGARDING THE SITE OF THE WORK GIVEN ON THE DRAWINGS OR SPECIFICATIONS HAS BEEN OBTAINED BY THE ENGINEER AND IS BELIEVED TO BE REASONABLY CORRECT; HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SUCH INFORMATION. THE CONTRACTOR SHALL TONE THE AREA TO BE EXCAVATED TO ASCERTAIN THE LOCATION OF UNCHARTED UTILITIES.
- ANY UTILITIES THAT THE CONTRACTOR ENCOUNTERS DURING THE PROGRESS OF THE WORK, SUCH AS BUT NOT LIMITED TO TELEPHONE DUCTS, ELECTRIC DUCTS, WATER LINES, SEWER LINES, ELECTRIC LINES AND DRAINAGE PIPES, WHETHER SHOWN OR NOT ON THE CONTRACT PLANS, SHALL NOT BE DISTURBED OR DAMAGED UNLESS OTHERWISE INSTRUCTED IN THE PLANS AND SPECIFICATIONS.
- IN THE EVENT THE UTILITIES ARE DAMAGED OR DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD LIABLE FOR THE DAMAGED OR DISTURBED UTILITIES.
- THE CONTRACTOR SHALL REPAIR THE DAMAGED OR DISTURBED UTILITIES TO THE EXISTING CONDITION AT NO COST TO THE OWNER. ANY DAMAGE CLAIMS DUE TO THE DISRUPTION OF SERVICE CAUSED BY THE UTILITIES BEING DAMAGED SHALL BE PAID BY THE CONTRACTOR, WHO SHALL SAVE HARMLESS THE OWNER AND ENGINEER FROM ALL SUITS, ACTIONS OR CLAIMS OF ANY CHARACTER BROUGHT ON ACCOUNT OF SUCH DAMAGES.
- IN THE EVENT UTILITIES WHICH WERE NOT SHOWN ON THE PLANS AND SPECIFICATIONS ARE DAMAGED OR DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD LIABLE. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND EXPOSE ALL UTILITY LINES PRIOR TO ANY EXCAVATION AND/OR INSTALLATION OF LINES.

PUBLIC HEALTH, SAFETY AND CONVENIENCE

- THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE COUNTY OF MAUI MAY REQUIRE SUPPLEMENTARY MEASURES AS NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING AND REMOVAL OF ALL SILT AND DEBRIS DEPOSITED AND ACCUMULATED WITHIN DOWNSTREAM WATERWAYS, DITCHES AND DRAIN PIPES AND ON PUBLIC AND PRIVATE ROADWAYS GENERATED BY HIS WORK. THE CONTRACTOR AGREES TO REIMBURSE THE COUNTY OF MAUI FOR ALL COSTS EXPENDED IN PERFORMANCE OF THE ABOVE WORK IF REQUIRED FOR PUBLIC HEALTH AND SAFETY, OR MADE NECESSARY BY NON-PERFORMANCE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC.
- THE CONTRACTOR SHALL PROVIDE A NOISE POLLUTION CONTROL PLAN WHEN APPLYING FOR A CONSTRUCTION PERMIT.
- TEMPORARY PEDESTRIAN ROUTES SHALL BE MAINTAINED IN SAFE, PASSABLE AND ACCESSIBLE CONDITION COMPLYING WITH ADAAG 402.1.

GRADING NOTES

- ALL GRADING AND STOCKPILING WORK SHALL BE IN ACCORDANCE WITH MAUI COUNTY CODE, TITLE 20, CHAPTER 8.
- ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND PREMISES LEFT IN A "RAKE CLEAN" CONDITION.
- THE CONTRACTOR, AT HIS EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST NUISANCE.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN 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, AND IF APPLICABLE, THE NPDES PERMIT FOR THE PROJECT.
- ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AT ALL TIMES, UNLESS NOTED OTHERWISE.
- ALL PLANTER AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED. PLANTING SHALL BE MAINTAINED TO MINIMIZE EROSION.
- THE CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE DEVELOPMENT SERVICES ADMINISTRATION TWO WEEKS PRIOR TO COMMENCEMENT OF ANY CLEARING AND GRUBBING WORK. A SITE SPECIFIC EROSION CONTROL PLAN SHOWING STRUCTURAL & NON-STRUCTURAL BEST MANAGEMENT PRACTICES MUST BE SUBMITTED TO AND APPROVED BY LUCA PRIOR TO ISSUANCE OF A GRADING PERMIT. COMMENCEMENT OF ANY CLEARING AND GRUBBING WORK.

PERMANENT EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF 30 CALENDAR DAYS. ALL COSTS FOR MAINTAINING AND WATERING PERMANENT EROSION CONTROL MEASURES WILL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR MAY USE HYDRO-MULCH TO APPLY THE PERMANENT GROUND COVER.
- PERMANENT BERMUDA GROUND COVER SHALL CONSIST OF 30 LBS. PER ACRE UNHULLED AMERICAN BUFFELGRASS SEED, 50 LBS. PER ACRE ANNUAL RYE GRASS, 6,000 LBS. PER ACRE GYPSUM BASED GEOBINDER, 2,000 LBS. PER ACRE WOOD CELLULOSE FIBER MULCH, AND 400 LBS. PER ACRE 10-30-10 FERTILIZER.

SOLID WASTE CONSTRUCTION NOTES

UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER HANDLING, STORAGE AND/OR DISPOSAL OF ALL WASTE GENERATED BY THE CONSTRUCTION INCLUDING GRUBBING AND EXCESS EXCAVATED MATERIAL. ANY MATERIAL BROUGHT TO THE COUNTY LANDFILLS WILL BE SUBJECT TO THE INSTITUTED TIPPING FEE SYSTEM, WITH NO EXCEPTIONS OR EXEMPTIONS.

TEMPORARY DUST CONTROL MEASURES

- EXCAVATION, EMBANKMENT AND IMPORTED MATERIALS SHALL BE KEPT DAMPENED WITH WATER DURING THE GRADING OPERATIONS.
- THE CONTRACTOR SHALL MAINTAIN A SUITABLE WATER SYSTEM AND DAMPEN THE GRADED OR GRUBBED SITE WITH WATER.
- AT THE END OF EACH DAY, SEVEN (7) DAYS A WEEK, THE PROJECT SITE SHALL BE KEPT DAMP WITH WATER. THE SITE SHALL BE SUFFICIENTLY DAMPENED SO THAT THE SITE WILL REMAIN MOISTENED DURING THE NIGHT.

NOTES FOR ENVIRONMENTAL PROTECTION

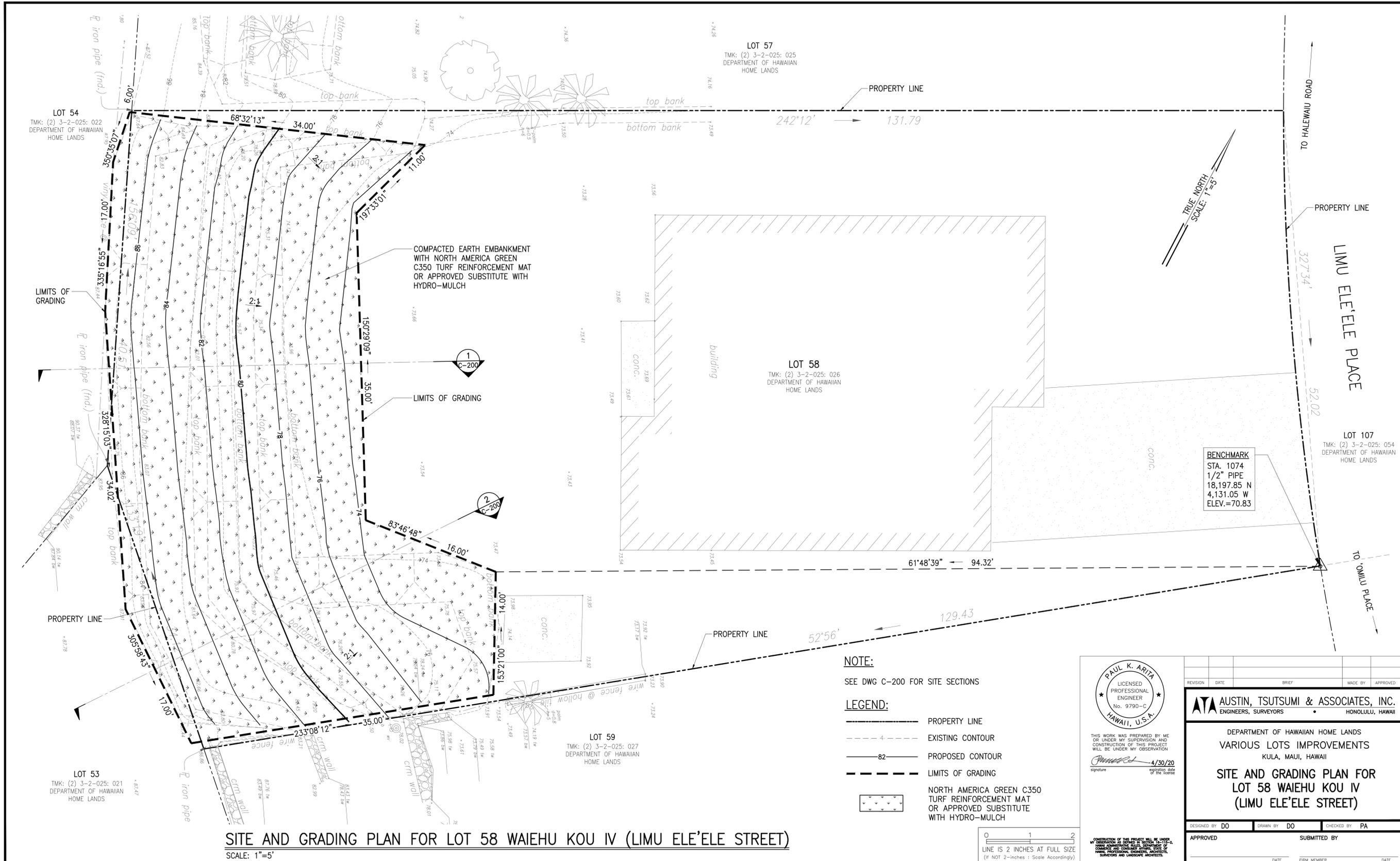
- ENVIRONMENTAL PROTECTION NOTES PERTAINING TO AIR AND WATER POLLUTION SHALL BE ADMINISTERED AND MONITORED BY THE DEPARTMENT OF HEALTH.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSIONS FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY HIS OPERATIONS, THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL (11-60.1).
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE GRADING ORDINANCE TO PREVENT VIOLATION OF THE STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS (11-54, 11-55) DUE TO EROSION AND RUNOFF TO STATE WATERS.
- GRUB MATERIAL, DEMOLITION WASTES, AND CONSTRUCTION WASTES SHALL BE DISPOSED OF AT AN AUTHORIZED SITE HAVING A DEPARTMENT OF HEALTH SOLID WASTE MANAGEMENT PERMIT. OPEN BURNING IS PROHIBITED.
- PERMITS REQUIRED:
 - A NPDES PERMIT MAY BE REQUIRED FROM THE CLEAN WATER BRANCH OF THE DEPARTMENT OF HEALTH FOR STORM WATER DISCHARGE AND HYDROTESTING.
 - A DEWATERING PERMIT MAY BE REQUIRED TO BE OBTAINED FROM THE CLEAN WATER BRANCH OF THE DEPARTMENT OF HEALTH IF DISCHARGING INTO STATE WATERS.
 - PERMIT MUST BE OBTAINED PRIOR TO START OF CONSTRUCTION.
- ENVIRONMENTAL PROTECTION NOTES PERTAINING TO AIR AND WATER POLLUTION SHALL BE ADMINISTERED AND MONITORED BY THE DEPARTMENT OF HEALTH.



CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 11-115-2, CHAPTER 11, ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, PROFESSIONAL ENGINEER, SURVEYOR, ARCHITECT, ENGINEER AND LANDSCAPE ARCHITECTS.

REVISION	DATE	BRIEF	MADE BY	APPROVED
AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOTS IMPROVEMENTS KULA, MAUI, HAWAII				
CONSTRUCTION NOTES				
DESIGNED BY	DO	DRAWN BY	DO	CHECKED BY
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER		

FILE	POCKET	FOLDER	NO.
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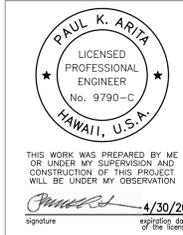
SITE AND GRADING PLAN FOR LOT 58 WAIEHU KOU IV (LIMU ELE'ELE STREET)
 SCALE: 1"=5'

NOTE:

SEE DWG C-200 FOR SITE SECTIONS

LEGEND:

- PROPERTY LINE
- - - - - EXISTING CONTOUR
- 82 — PROPOSED CONTOUR
- - - - - LIMITS OF GRADING
- [Symbol] NORTH AMERICA GREEN C350 TURF REINFORCEMENT MAT OR APPROVED SUBSTITUTE WITH HYDRO-MULCH



signature: *[Signature]* 4/30/20
 expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
 VARIOUS LOTS IMPROVEMENTS
 KULA, MAUI, HAWAII

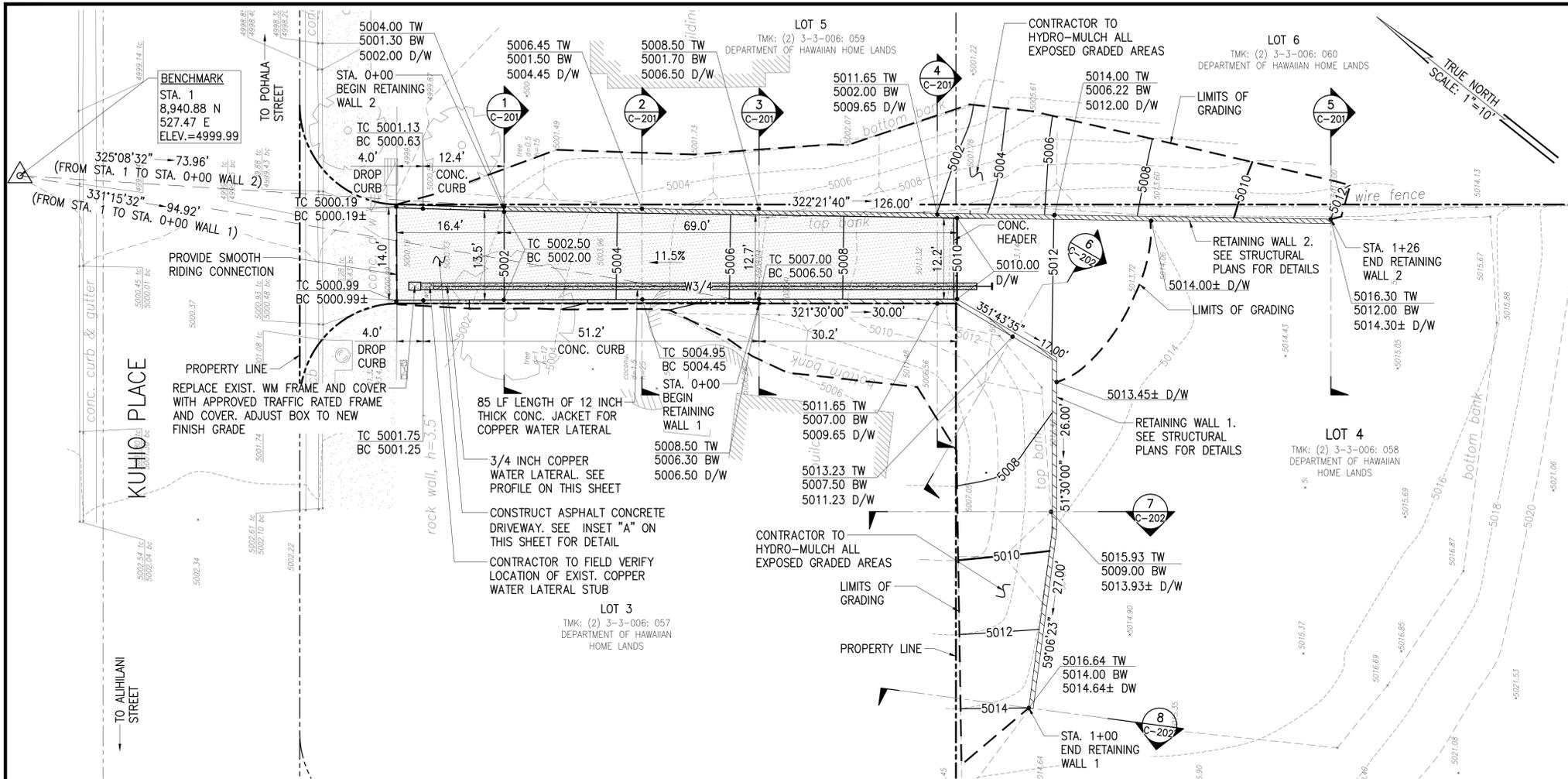
SITE AND GRADING PLAN FOR LOT 58 WAIEHU KOU IV (LIMU ELE'ELE STREET)

DESIGNED BY DO DRAWN BY DO CHECKED BY PA

APPROVED SUBMITTED BY

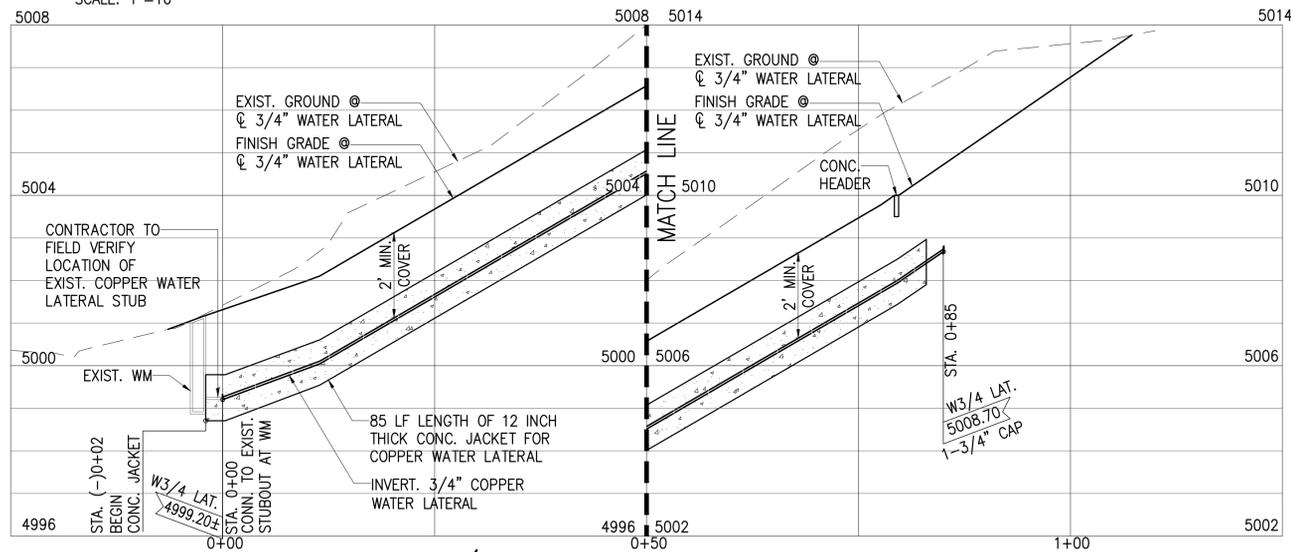
DATE	FIRM MEMBER	DATE

FILE	POCKET	FOLDER	NO.



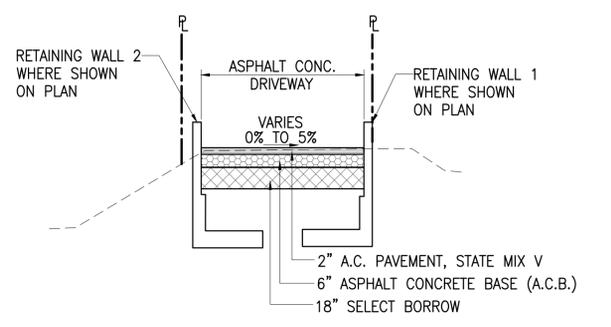
SITE AND GRADING PLAN, PROFILE AND DETAILS FOR LOT 4 PAUKUKALO (KUHIO PLACE)

SCALE: 1"=10'

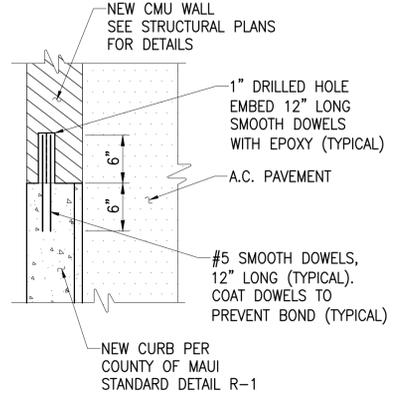


PROFILE - 3/4 INCH COPPER WATER LATERAL

SCALE: HORIZ: 1"=10'
VERT: 1"=2'

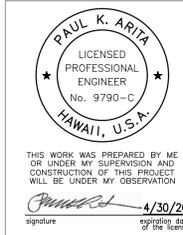


INSET "A" - AC PAVEMENT DETAIL
NOT TO SCALE



WALL TO CONC. CURB DETAIL
NOT TO SCALE

- NOTE:**
SEE DWG C-201 & C-202 FOR SITE SECTIONS
- LEGEND:**
- PROPERTY LINE
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - LIMITS OF GRADING
 - ▨ RETAINING WALL



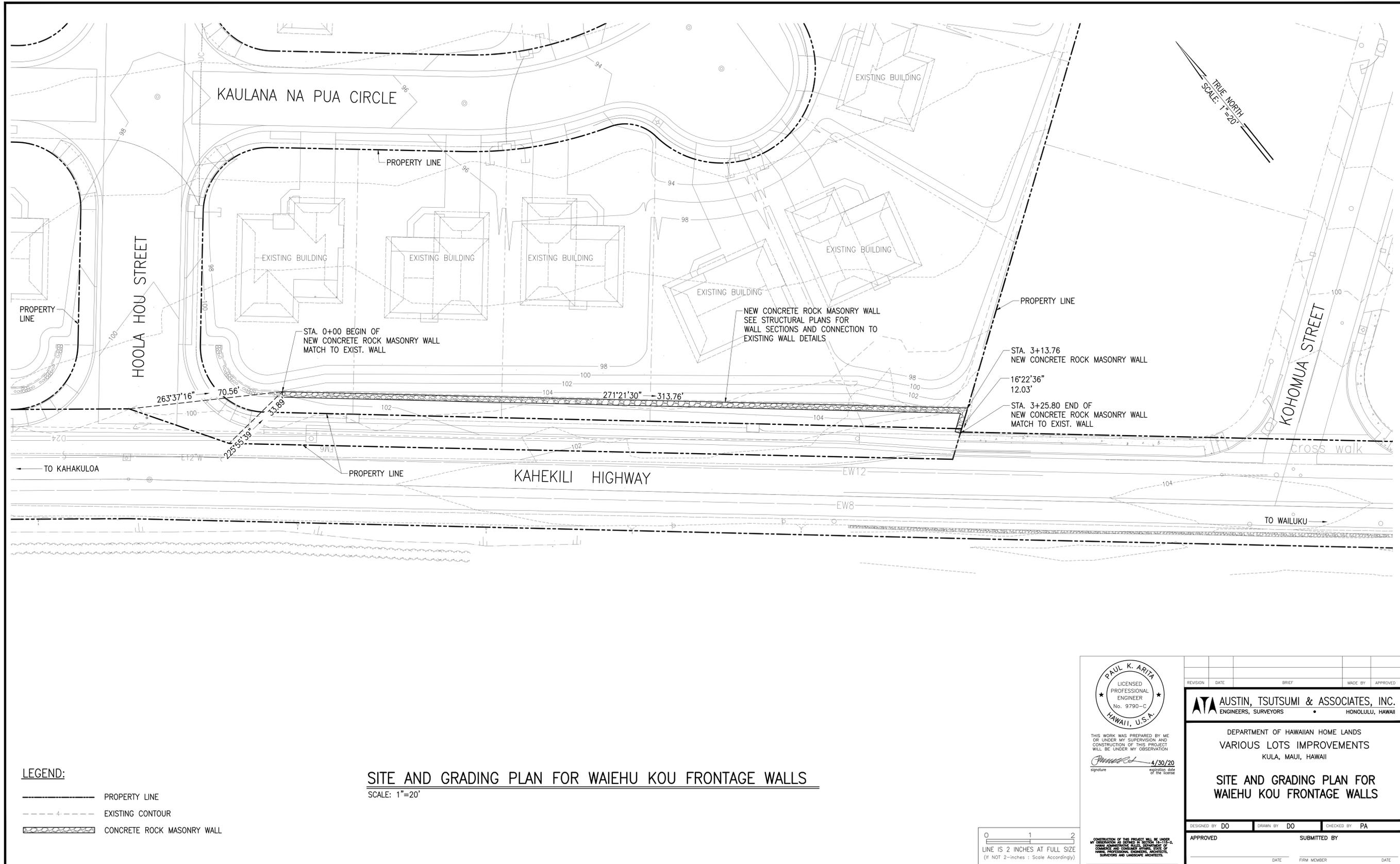
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

Paul K. Arita 4/30/20
signature expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED
<p>ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS HONOLULU, HAWAII</p> <p>DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOTS IMPROVEMENTS KULA, MAUI, HAWAII</p> <p>SITE AND GRADING PLAN, PROFILE AND DETAILS FOR LOT 4 PAUKUKALO (KUHIO PLACE)</p>				
DESIGNED BY DO	DRAWN BY DO	CHECKED BY PA	APPROVED	
DATE		FIRM MEMBER	DATE	

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2-INCHES : SCALE ACCORDINGLY)

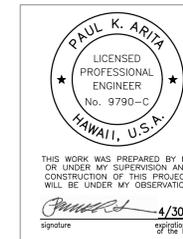


LEGEND:

- PROPERTY LINE
- - - - - EXISTING CONTOUR
- ▨ CONCRETE ROCK MASONRY WALL

SITE AND GRADING PLAN FOR WAIEHU KOU FRONTAGE WALLS

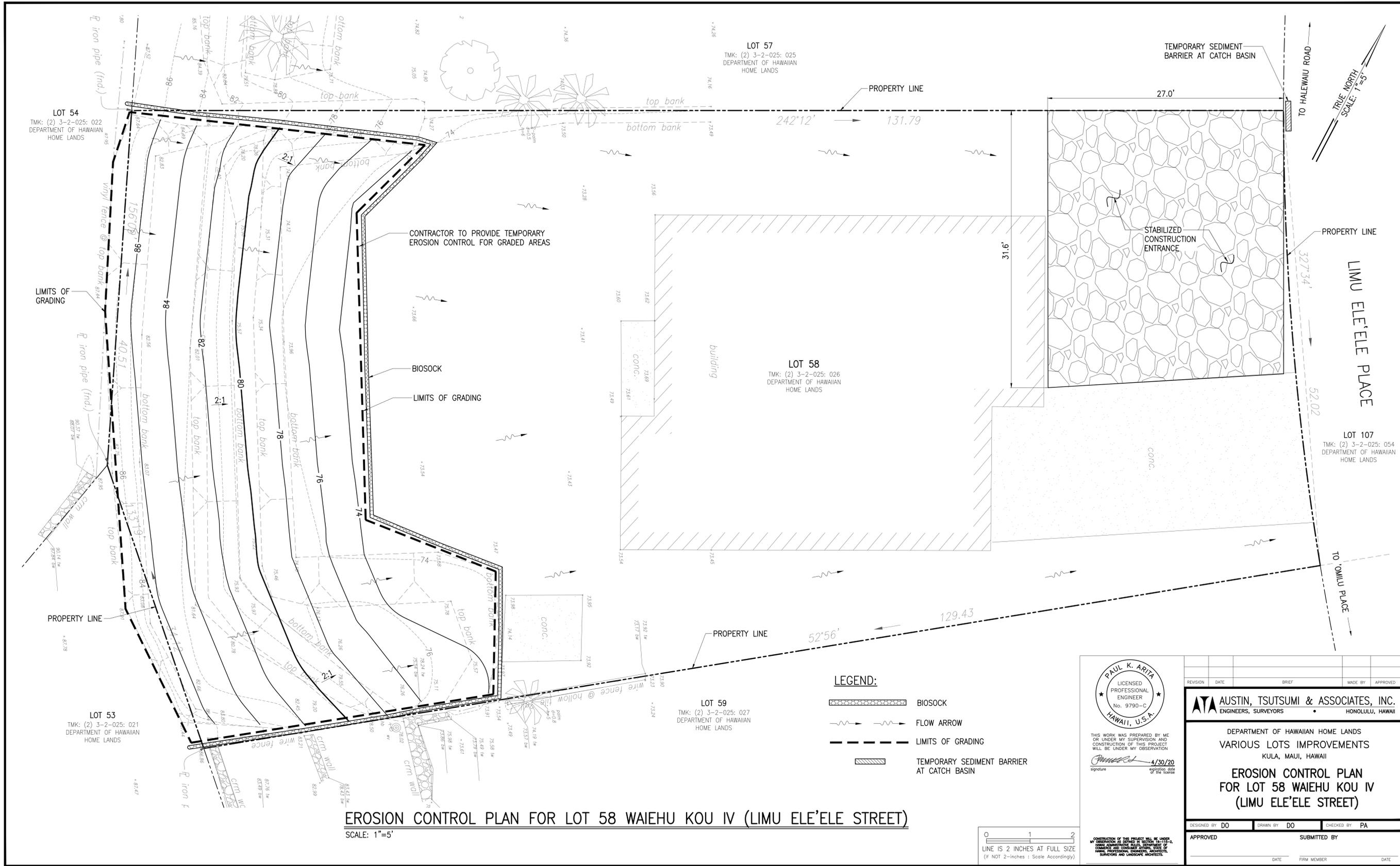
SCALE: 1"=20'



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Paul K. Arita 4/30/20
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ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOTS IMPROVEMENTS KULA, MAUI, HAWAII				
SITE AND GRADING PLAN FOR WAIEHU KOU FRONTAGE WALLS				
DESIGNED BY	DO	DRAWN BY	DO	CHECKED BY PA
APPROVED	SUBMITTED BY			
DATE	FIRM MEMBER	DATE		



EROSION CONTROL PLAN FOR LOT 58 WAIEHU KOU IV (LIMU ELE'ELE STREET)

SCALE: 1"=5'

LEGEND:

-  BIOSOCK
-  FLOW ARROW
-  LIMITS OF GRADING
-  TEMPORARY SEDIMENT BARRIER AT CATCH BASIN



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

Paul K. Arita 4/30/20
signature expiration date of the license



REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOTS IMPROVEMENTS
KULA, MAUI, HAWAII

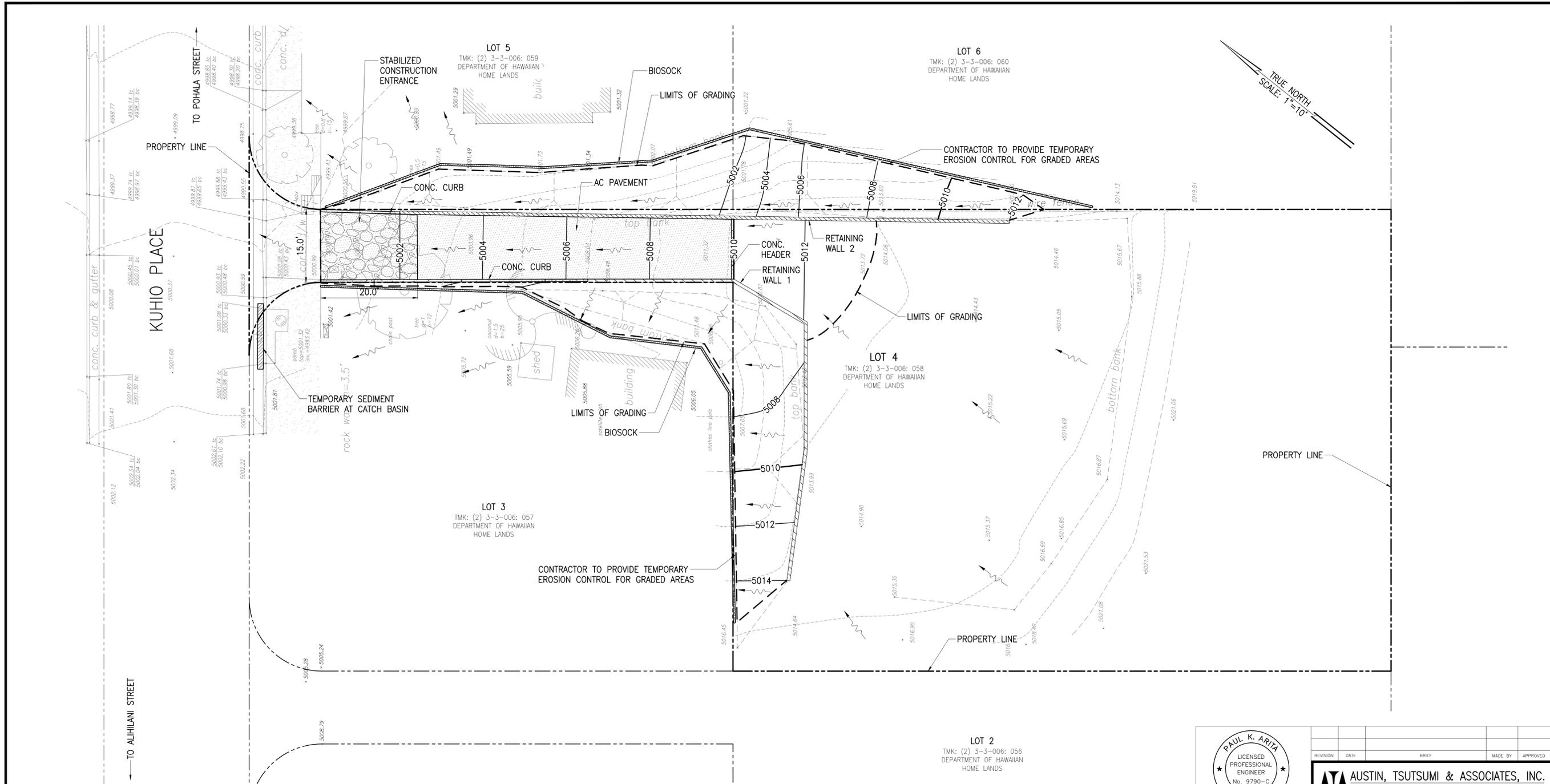
**EROSION CONTROL PLAN
FOR LOT 58 WAIEHU KOU IV
(LIMU ELE'ELE STREET)**

DESIGNED BY DO DRAWN BY DO CHECKED BY PA

APPROVED SUBMITTED BY

DATE FIRM MEMBER DATE

FILE	POCKET	FOLDER	NO.



- LEGEND:**
- BIOSOCK
 - FLOW ARROW
 - LIMITS OF GRADING
 - TEMPORARY SEDIMENT BARRIER AT CATCH BASIN

EROSION CONTROL PLAN FOR LOT 4 PAUKUKALO (KUHIO PLACE)
SCALE: 1"=10'



PAUL K. ARITA
LICENSED PROFESSIONAL ENGINEER
No. 9790-C
HAWAII, U.S.A.

[Signature] 4/30/20
signature expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOTS IMPROVEMENTS
KULA, MAUI, HAWAII

EROSION CONTROL PLAN FOR LOT 4 PAUKUKALO (KUHIO PLACE)

DESIGNED BY DO DRAWN BY DO CHECKED BY PA

APPROVED _____ SUBMITTED BY _____

DATE _____ FIRM MEMBER _____ DATE _____

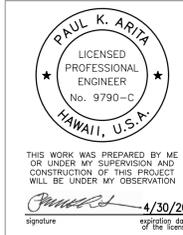
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LEGEND:

- BIOSOCK
- FLOW ARROW
- TEMPORARY SEDIMENT BARRIER AT CATCH BASIN

EROSION CONTROL PLAN FOR WAIEHU KOU FRONTAGE WALLS
 SCALE: 1"=20'



0 1 2
 LINE IS 2 INCHES AT FULL SIZE
 (IF NOT 2-INCHES : Scale Accordingly)

REVISION	DATE	BRIEF	MADE BY	APPROVED
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOTS IMPROVEMENTS KULA, MAUI, HAWAII				
EROSION CONTROL PLAN FOR WAIEHU KOU FRONTAGE WALLS				
DESIGNED BY	DO	DRAWN BY	DO	CHECKED BY
APPROVED		SUBMITTED BY		
DATE	FIRM MEMBER	DATE		

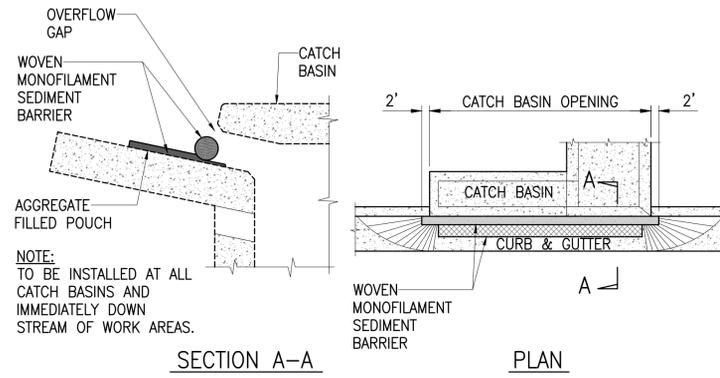
BEST MANAGEMENT PRACTICES (BMP)

NOTES MINIMUM:

- ALL AFFECTED STORM DRAIN INLETS ALONG THE PROJECT SITE SHALL USE AN INLET PROTECTION DEVICE. SEE DETAIL THIS SHEET.
- DURING CONSTRUCTION, DUST POLLUTION SHALL BE KEPT TO A MINIMUM.
- 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 TIRES WITH WATER WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM.
- THE CONTRACTOR SHALL REMOVE FILTERS DURING TIMES OF ABOVE NORMAL RAINFALL EVENTS AND REPLACE THEM WHEN EVENT HAS PASSED.
- THE CONTRACTOR SHALL CHECK THE CONDITION OF THE FILTER AT THE BEGINNING AND ENDING OF EACH WORK DAY AND REPAIR/CLEAN AS NECESSARY.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSIONS FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY THIS OPERATIONS. THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL (11-60.1).
- THE PROJECT SITE THAT IS CLEARED OF VEGETATION SHALL BE KEPT DAMP FOR SEVEN (7) DAYS A WEEK. AT THE END OF EACH DAY, THE SITE SHALL BE SUFFICIENTLY DAMPENED SO THAT THE SITE WILL REMAIN MOISTENED DURING THE NIGHT.
- IF REQUIRED, THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO THAT EXCAVATION, EMBANKMENT, AND IMPORTED MATERIAL SHALL BE DAMPENED TO PREVENT DUST PROBLEMS.
- THE CONTRACTOR SHALL MAINTAIN A SUITABLE SYSTEM AND DAMPEN THE GRUBBED SITE WITH WATER.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE REMEDIAL ACTION SHALL BE PAYABLE BY THE CONTRACTOR.

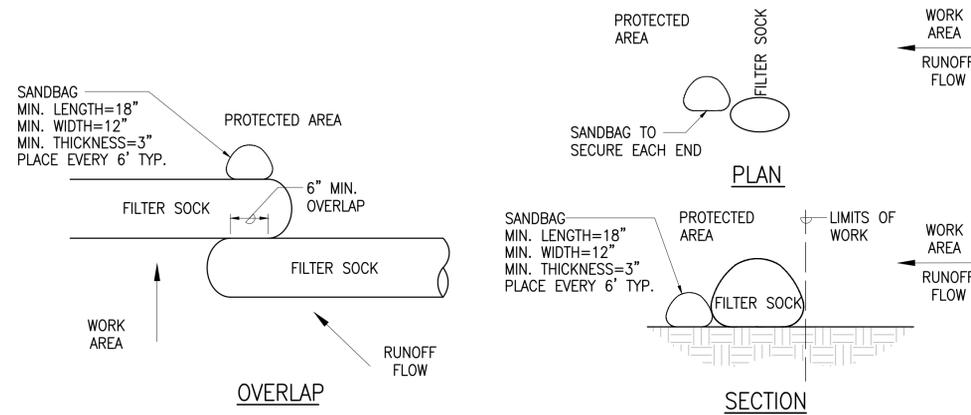
POST CONSTRUCTION:

- THE CONSTRUCTION AREA AND SURROUNDING AREAS AND ADJOINING STREETS SHALL BE CLEARED OF ALL TRASH AND DEBRIS.
- ALL MOBILIZED EQUIPMENT SHALL BE REMOVED.
- EXCESS EXCAVATED MATERIAL NOT UTILIZED FOR BACKFILL SHALL BE REMOVED. ALL EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HAULED FROM THE JOBSITE.
- HAULING OF WET, DRIPPING MATERIAL OVER PUBLIC STREETS WILL NOT BE PERMITTED.



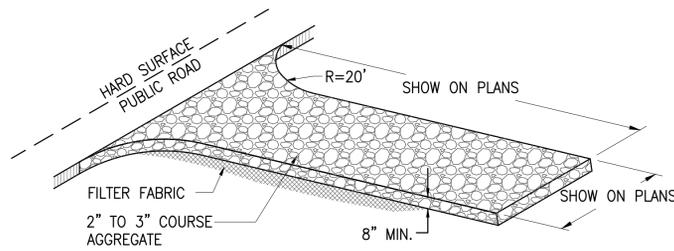
TEMPORARY SEDIMENT BARRIER AT CATCH BASIN

NOT TO SCALE



BIO SOCK

NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



PAUL K. ARITA
LICENSED PROFESSIONAL ENGINEER
No. 9790-C
HAWAII, U.S.A.

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

Signature 4/30/20
signature expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOTS IMPROVEMENTS
KULA, MAUI, HAWAII

EROSION CONTROL NOTES AND DETAILS

DESIGNED BY DO DRAWN BY DO CHECKED BY PA

APPROVED SUBMITTED BY

DATE FIRM MEMBER DATE

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN SECTION 101-115-2, CHAPTER 101, HAWAIIAN ZONING ORDINANCE AND CONFORM WITH THE STATE OF HAWAII, PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR AND LANDSCAPE ARCHITECT.

FILE	POCKET	FOLDER	NO.

5008

5004

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4996

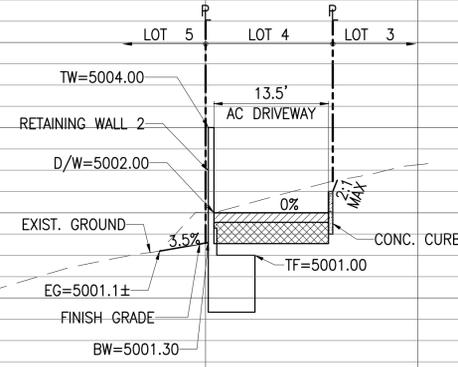
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5008

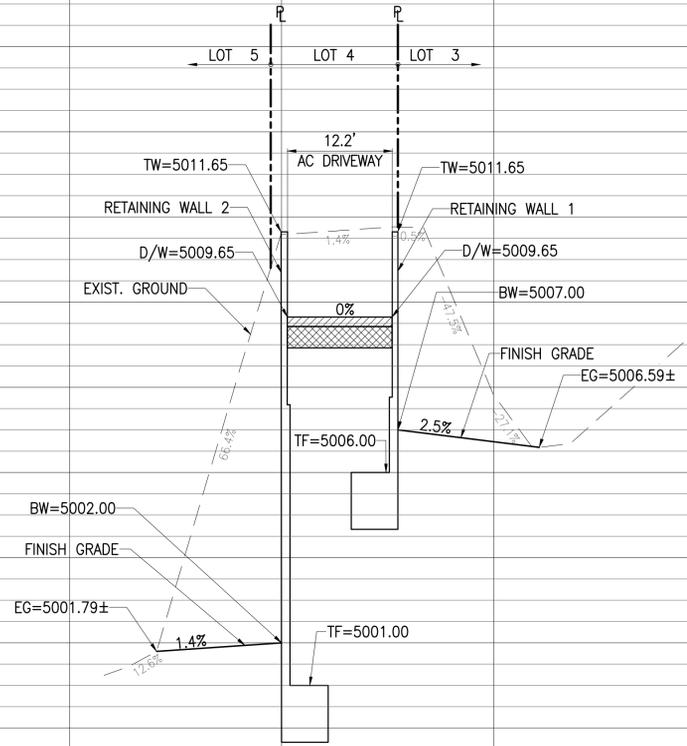
5004

5000



SECTION 1

SCALE: HORIZ: 1"=20'
VERT.: 1"=4'



SECTION 4

SCALE: HORIZ: 1"=10'
VERT.: 1"=2'

5008

5004

5000

4996

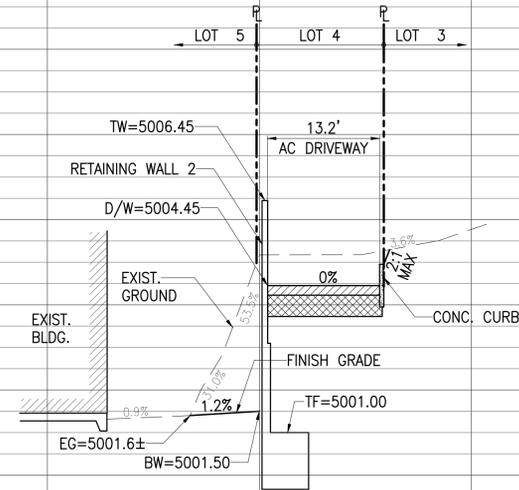
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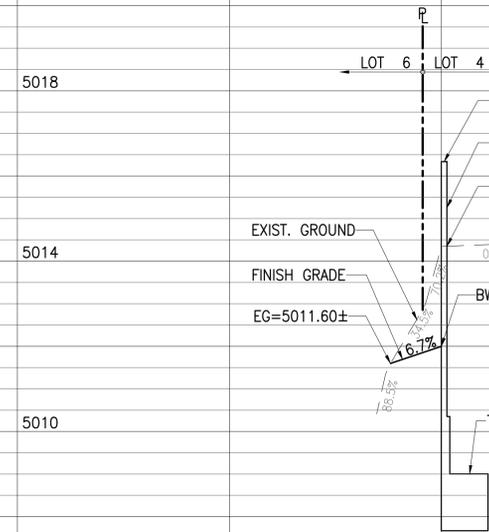
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5000



SECTION 2

SCALE: HORIZ: 1"=10'
VERT.: 1"=2'



SECTION 5

SCALE: HORIZ: 1"=10'
VERT.: 1"=2'

5010

5006

5002

4998

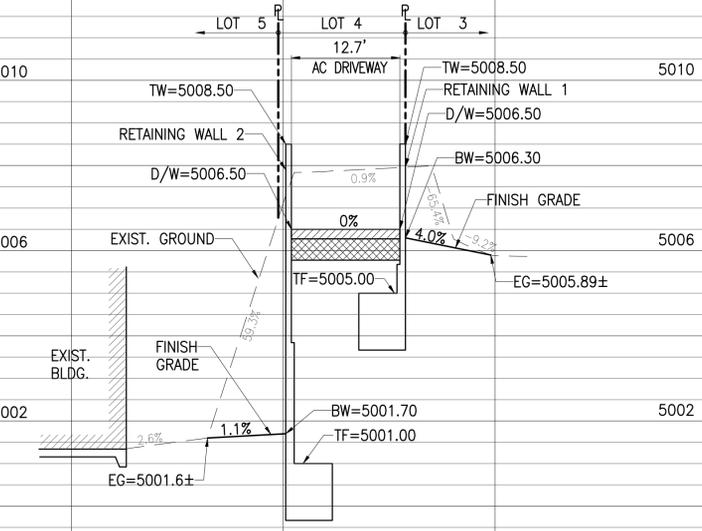
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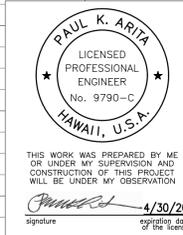


SECTION 3

SCALE: HORIZ: 1"=10'
VERT.: 1"=2'

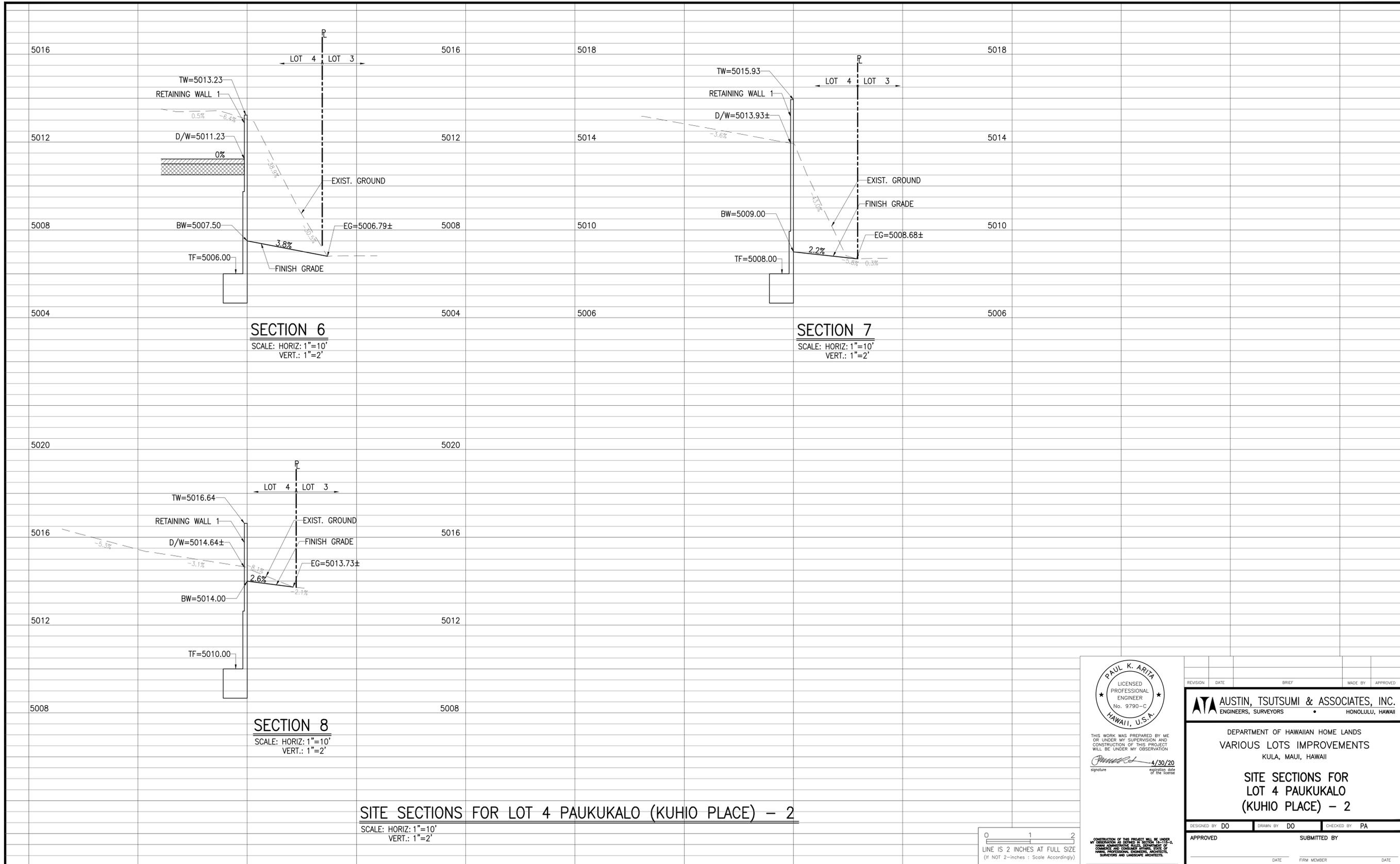
SITE SECTIONS FOR LOT 4 PAUKUKALO (KUHIO PLACE) - 1

SCALE: HORIZ: 1"=10'
VERT.: 1"=2'



REVISION	DATE	BRIEF	MADE BY	APPROVED
AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOTS IMPROVEMENTS KULA, MAUI, HAWAII				
SITE SECTIONS FOR LOT 4 PAUKUKALO (KUHIO PLACE) - 1				
DESIGNED BY	DO	DRAWN BY	DO	CHECKED BY
APPROVED	SUBMITTED BY			
DATE	FIRM MEMBER	DATE		

FILE	POCKET	FOLDER	NO.
------	--------	--------	-----



PAUL K. ARITA
LICENSED PROFESSIONAL ENGINEER
No. 9790-C
HAWAII, U.S.A.

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

Signature 4/30/20
signature expiration date of the license

REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS
HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOTS IMPROVEMENTS
KULA, MAUI, HAWAII

SITE SECTIONS FOR LOT 4 PAUKUKALO (KUHIO PLACE) - 2

DESIGNED BY DO DRAWN BY DO CHECKED BY PA

APPROVED SUBMITTED BY

DATE FIRM MEMBER DATE

0 1 2
LINE IS 2 INCHES AT FULL SIZE
(If NOT 2-inches : Scale Accordingly)

GENERAL

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DRAWINGS.
- THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, WIND AND SEISMIC LOADING. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS NOR RELIEVE THE CONTRACTOR OF HIS/HER OBLIGATIONS, DUTIES AND RESPONSIBILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF PROPERTY AND UTILITIES.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS.
- SHOP DRAWINGS REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ORDERING OF MATERIALS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY LINES AND NOTIFY THE RESPECTIVE OWNERS BEFORE COMMENCING WITH WORK. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS.
- DESIGN CRITERIA –
 - CODES:
2012 INTERNATIONAL BUILDING CODE
 - WIND:
BASIC WIND SPEED = 115 MPH
EXPOSURE C
 - SEISMIC:
SEISMIC DESIGN CATEGORY = D
- SPECIAL INSPECTION REQUIREMENTS FOR RETAINING WALL CONSTRUCTION.

A. FOOTING CONCRETE	NOT REQUIRED
B. FOOTING REINFORCING STEEL	NOT REQUIRED
C. MASONRY AND REINFORCING STEEL	LEVEL 1
D. WALL CONCRETE	REQUIRED
E. WALL REINFORCING STEEL	REQUIRED

CONTRACTOR SHALL HIRE AND PAY FOR THIRD-PARTY TESTING SERVICES. STRUCTURAL OBSERVATION PROVIDED BY ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE DRAWINGS AND TO PROVIDE SAFETY ON SITE. CONTRACTOR SHALL NOTIFY SPECIAL INSPECTOR AT LEAST 72 HOURS IN ADVANCE FOR WORK TO BE PERFORMED REQUIRING SPECIAL INSPECTION.

FOUNDATION

- FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY HIRATA AND ASSOCIATES, INC. "GEOTECHNICAL INVESTIGATION, 169 LIMU ELE'ELE STREET AND 893 KUHIO PLACE, WAILUKU, HAWAII, CONTRACT NO. 65802, DATED JUNE 28, 2019. THE CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT FOR GROUND PREPARATION AND SUBSEQUENT RECOMMENDATIONS BEFORE PROCEEDING WITH WORK.
 - SUBSURFACE SOIL CONDITION AT SITE CONSISTS MAJORITY OF TAN SAND WITH LITTLE FINES (POORLY GRADED SAND).
 - RETAINING WALL ALLOWABLE BEARING PRESSURE = 3,500 PSF WITH 1/3 INCREASE FOR SHORT DURATION LOADS SUCH AS WIND OR SEISMIC
 - LATERAL DESIGN FOR 893 KUHIO PLACE
 COEFFICIENT OF FRICTION = 0.40
 ACTIVE EARTH PRESSURE = 40 PCF
 PASSIVE EARTH PRESSURE = 300 PCF
- IN ALL AREAS TO RECEIVE FILL AND IN STRUCTURAL AREAS, ALL VEGETATION, WEEDS, BRUSH, ROOTS, STUMPS, RUBBISH, DEBRIS, SOFT SOIL AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE.
- THE EXPOSED SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF 6 INCHES, MOISTURE CONDITIONED TO BETWEEN ZERO TO 3 PERCENT OF THE SOILS OPTIMUM MOISTURE CONTENT (ASTM D1557) AND THEN COMPACTED TO AT LEAST 90 PERCENT OF THE SOILS MAXIMUM DRY DENSITY (ASTM D1557). IF SOFT OR LOOSE SPOTS ARE ENCOUNTERED, THE LOOSE/SOFT AREAS SHALL BE REMOVED TO FIRM MATERIAL AND THE RESULTING DEPRESSION SHALL BE FILLED WITH PROPERLY COMPACTED FILL.
- A MINIMUM 12-INCH THICK LAYER OF FREE-DRAINING GRAVEL SHALL BE PLACED AT THE BACK OF THE RETAINING WALL. THE GRAVEL SHOULD EXTEND FROM THE BASE OF THE WALL, AROUND SUBDRAINS AND/OR WEEPHOLES, AND UP TO WITHIN 12 INCHES OF FINISH GRADE.
- THE ONSITE SAND MAY BE REUSED IN COMPACTED FILLS AND BACKFILLS, EXCEPT IN THE GRANULAR FILL BELOW FOUNDATIONS. ALL ROCK FRAGMENTS LARGER THAN 3 INCHES IN MAXIMUM DIMENSION SHOULD BE REMOVED FROM THE SOIL PRIOR TO COMPACTION. IN ADDITION, THE MOISTURE CONTENT OF THE SILTY CLAY SHOULD BE MAINTAINED AT ABOUT 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT DURING RECOMPACTION. IMPORTED STRUCTURAL FILL SHOULD BE WELL-GRADED, NON-EXPANSIVE GRANULAR MATERIAL. SEE GEOTECHNICAL REPORT FOR SPECIFICATIONS.
- THE ONSITE SAND AND IMPORTED GRANULAR STRUCTURAL FILL USED FOR BACKFILLING THE RETAINING WALLS FOR THE DRIVEWAY SHOULD BE PLACED IN HORIZONTAL LIFTS RESTRICTED TO 8 INCHES IN LOOSE THICKNESS, AND COMPACTED TO A MINIMUM 90 PERCENT COMPACTION AS DETERMINED BY ASTM D 1557. OVERCOMPACTION OF BACKFILL NEAR THE BACK OF THE RETAINING WALL SHOULD BE AVOIDED. FOR OTHER LOCATIONS, THE IMPORTED GRANULAR STRUCTURAL FILL SHOULD BE PLACED IN 8-INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95 PERCENT COMPACTION AS DETERMINED BY ASTM D 1557.
- PRIOR TO PLACING REINFORCING STEEL OR POURING CONCRETE, THE BOTTOM OF ALL FOOTING EXCAVATIONS SHALL BE CLEANED OF LOOSE MATERIAL AND SOILS THAT HAVE BEEN DISTURBED BY THE EXCAVATION PROCESS.

CONCRETE

- CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301, UON.
- ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE NORMAL WEIGHT HARD ROCK TYPE (150#/CU. FT.) PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
- SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTH AND TYPES:

FOUNDATIONS	3,000 PSI
WALLS	4,000 PSI
- CLEAR COVERAGE OF CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS (U.O.N.):
 - CONCRETE DIRECTLY AGAINST EARTH
3" CLEAR TO REINFORCING
 - CONCRETE AGAINST FORMWORK
2" UON

- ALL REINFORCING BARS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- CONTRACTOR SHALL PROVIDE THE ENGINEER A SCHEDULE SPECIFYING CONCRETE POURS IN UPCOMING THREE WEEKS.
- CONCRETE ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED.
- ALL ROUGHENED SURFACES IN CONCRETE SHALL BE MADE WITH A MINIMUM AMPLITUDE OF 1/4".

CONCRETE MASONRY (CMU)

- CONCRETE BLOCK SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM C90, NORMAL WEIGHT.
- ALL WALLS SHALL BE CONSTRUCTED IN RUNNING BOND WITH TYPE M MORTAR UNLESS OTHERWISE NOTED. MORTAR SHALL ATTAIN COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.
- GROUT SHALL FLOW INTO ALL JOINTS OF THE MASONRY WITHOUT SEGREGATION COMPRESSIVE STRENGTH AT 28 DAYS = 3,000 PSI.
- REINFORCING BARS – SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.
- PROVIDE A MINIMUM OF 1/2" GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
- GROUT SOLID ALL CELLS.
- DO NOT STACK CMU BLOCK ABOVE 5'-4" BEFORE GROUTING UNLESS CLEANOUT IS PROVIDED AT BOTTOM OF CELL WITH VERTICAL BARS.

REINFORCING STEEL

- REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60 REQUIREMENTS.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE "ACI DETAILING MANUAL – 2004" (SP-66) AS MODIFIED BY THE PROJECT DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL SUBMIT REINFORCING BAR LAYOUTS AND DETAILS FOR ENGINEER'S REVIEW PRIOR TO FABRICATION. FABRICATE FROM REVIEWED DRAWINGS ONLY.
- WELDING OF REINFORCING STEEL IS NOT PERMITTED.
- DO NOT CUT REINFORCING WHICH MAY CONFLICT WITH EMBEDDED POSTS. NOTIFY THE ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
- DOWELS AND OTHER EMBEDDED ITEMS ARE TO BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.

ABBREVIATIONS

ARCH	ARCHITECTURAL
BOT	BOTTOM
CJ	CONTROL JOINT
CL, CLR	CLEAR
CONC	CONCRETE
CONT	CONTINUOUS
DIA	DIAMETER
DWG, DWGS	DRAWING(S)
EA	EACH
EF	EACH FACE
EW	EACH WAY
FIN	FINISH
FTG	FOOTING
(H), HORIZ	HORIZONTAL
INFO	INFORMATION
JT	JOINT
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
REINF	REINFORCING
RET	RETAIN/RETAINING
SIM	SIMILAR
SL	SLOPE
STA	STATION
T&B	TOP AND BOTTOM
TOF, TF	TOP OF FOOTING
TOW, TW	TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
(V), VERT	VERTICAL
W/	WITH
#4, #10	REINFORCING BAR SIZE

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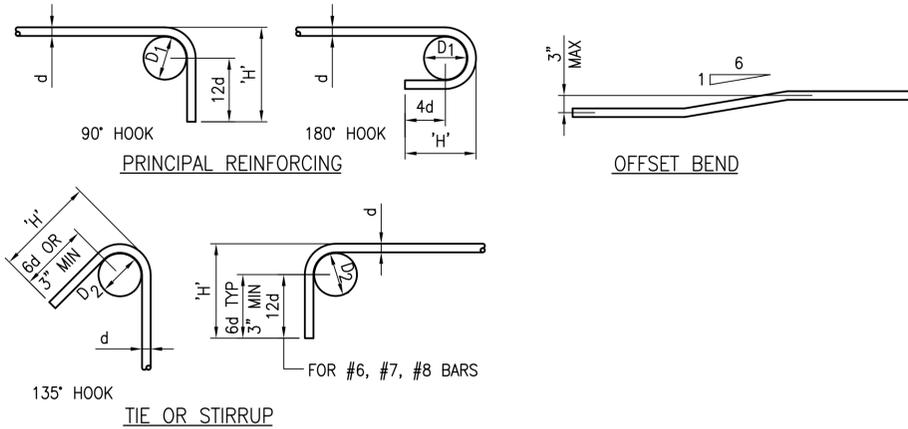


REVISION	DATE	BRIEF	MADE BY	APPROVED
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOT IMPROVEMENTS FOR WAIIEHU KOU AND PAUKUKALO MAUI, HAWAII STRUCTURAL GENERAL NOTES				
DESIGNED BY: DO	DRAWN BY: DO	CHECKED BY: PA		
APPROVED	SUBMITTED BY			
DATE	FIRM MEMBER	DATE		

FILE	POCKET	FOLDER	NO.
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HOOK LENGTHS (H) (IN INCHES)						
BAR SIZE	STANDARD HOOKS		STIRRUP OR TIE HOOK		D ₂	D ₁
	90° HOOK	180° HOOK	90° HOOK	135° HOOK		
#3	6	4	3-1/2	4	1-1/2	2-1/4
#4	8	4-1/2	4-1/2	4-1/2	2	3
#5	10	5	5-1/2	5-1/2	2-1/2	3-3/4
#6	12	6	7-1/2	7-1/2	4-1/2	4-1/2
#7	14	7	14	9	-	5-1/2
#8	16	8	-	-	-	6



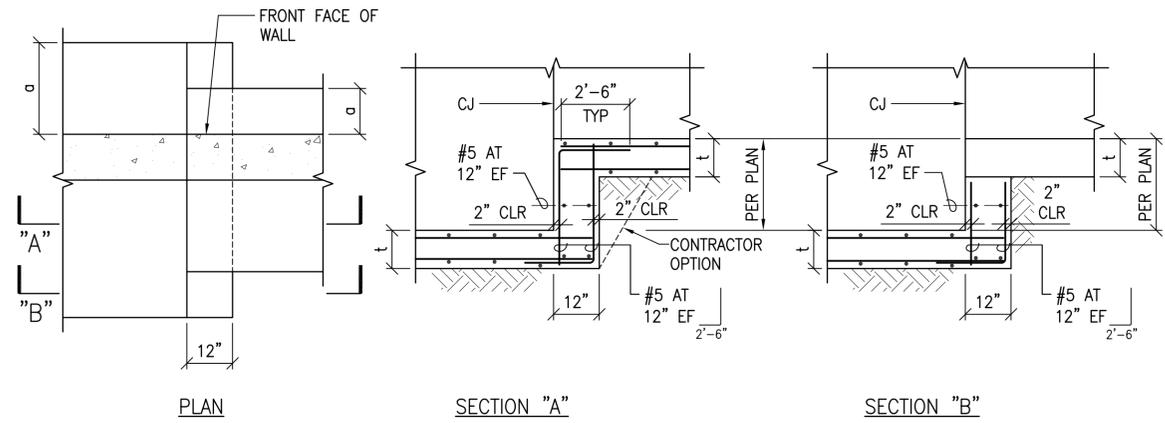
NOTES:
1. ALL BENDS SHALL BE MADE COLD.

1 BARS BENDS AND HOOKS
NOT TO SCALE

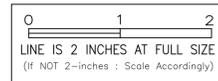
SLAB & WALL SPLICE LENGTHS (INCHES) GRADE 60				
f'c	3000 PSI		4000 PSI	
BAR SIZE	OTHER BAR	TOP BAR	OTHER BAR	TOP BAR
#3	13	17	12	16
#4	21	28	18	24
#5	31	41	27	35
#6	43	56	37	48
#7	69	90	60	78

NOTES:
1. TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE SPLICE.
2. SPLICES BASED ON 3/4" MINIMUM COVER.

2 TYPICAL SLAB AND WALL BAR SPLICE TABLE
NOT TO SCALE



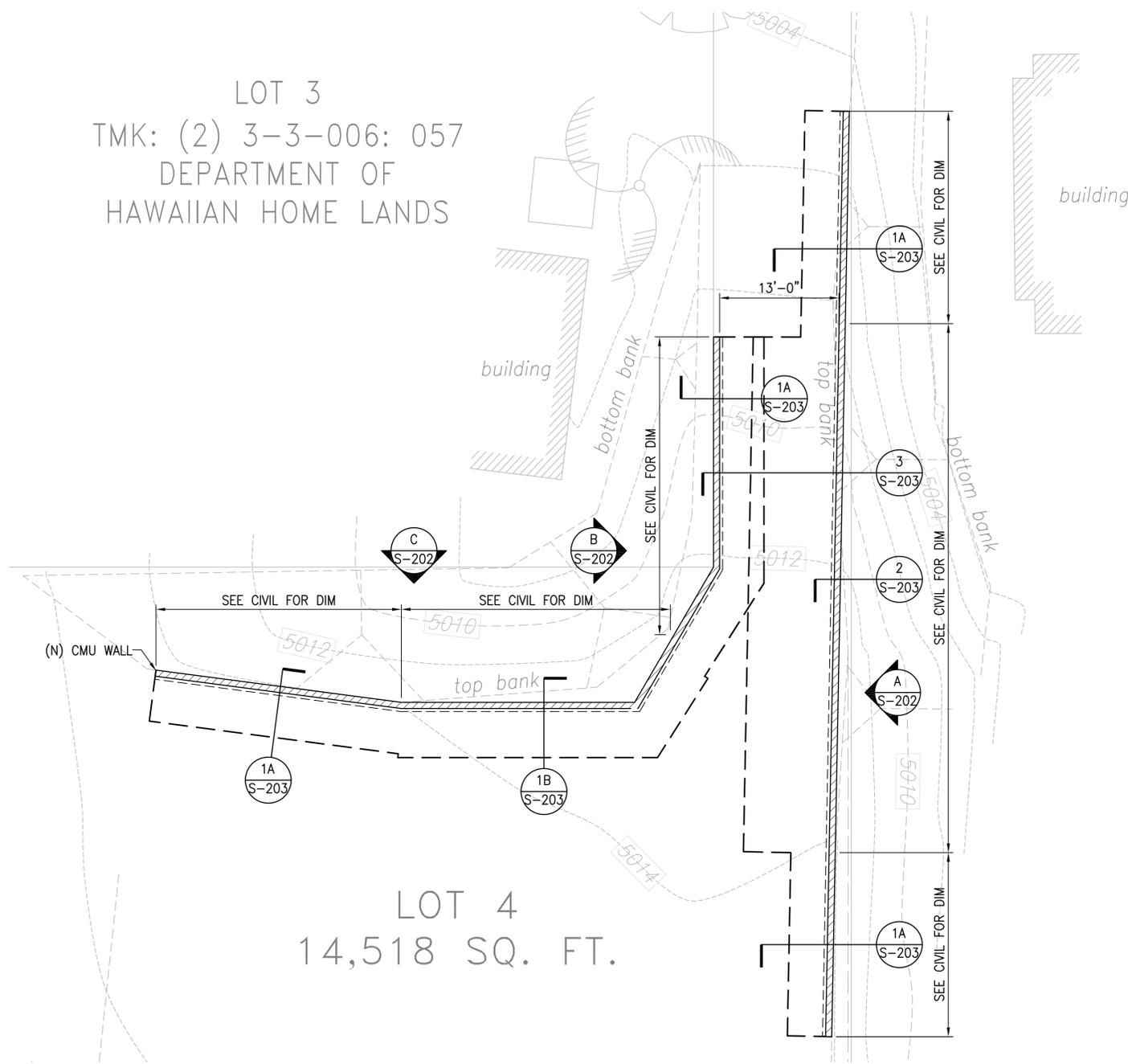
3 TYPICAL RETAINING WALL FOOTING STEP
NOT TO SCALE



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ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOT IMPROVEMENTS FOR WAIEHU KOU AND PAUKUKALO MAUI, HAWAII TYPICAL DETAILS				
DESIGNED BY: DO	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER	DATE	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION
signature _____ expiration date 4/30/20 of license _____
CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS NOTED IN SECTION 16-115-2, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

LOT 3
 TMK: (2) 3-3-006: 057
 DEPARTMENT OF
 HAWAIIAN HOME LANDS



NOTES:

1. REFER TO GENERAL NOTES ON SHEET S-101 FOR ADDITIONAL INFORMATION.
2. REFER TO CIVIL DWGS FOR ALL GRADING INFORMATION AND DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
3. FOR RETAINING WALL PROFILE, SEE SHEET S-202.
4. = INDICATES 8" CMU WALL AND 12" CMU WALL

LOT 4
 14,518 SQ. FT.

1 RETAINING WALL FOUNDATION PLAN
 SCALE: 1/8" = 1'-0"



GRAPHIC SCALE



REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
 VARIOUS LOT IMPROVEMENTS
 FOR WAIIEHU KOU AND PAUKUKALO
 MAUI, HAWAII

PAUKUKALO (KUHIO PL) RETAINING
 WALL FOUNDATION PLAN

DESIGNED BY: DO DRAWN BY: DO CHECKED BY: PA

APPROVED _____ SUBMITTED BY _____

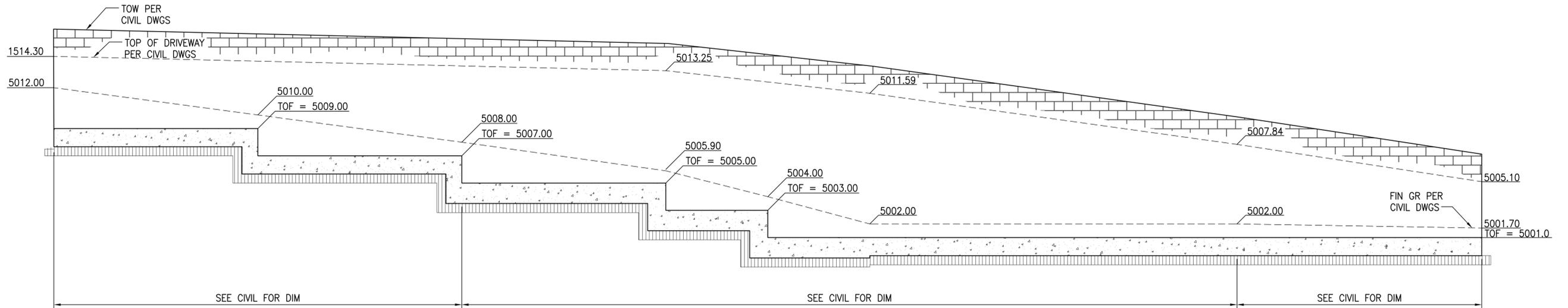
DATE _____ FIRM MEMBER _____ DATE _____

S-201

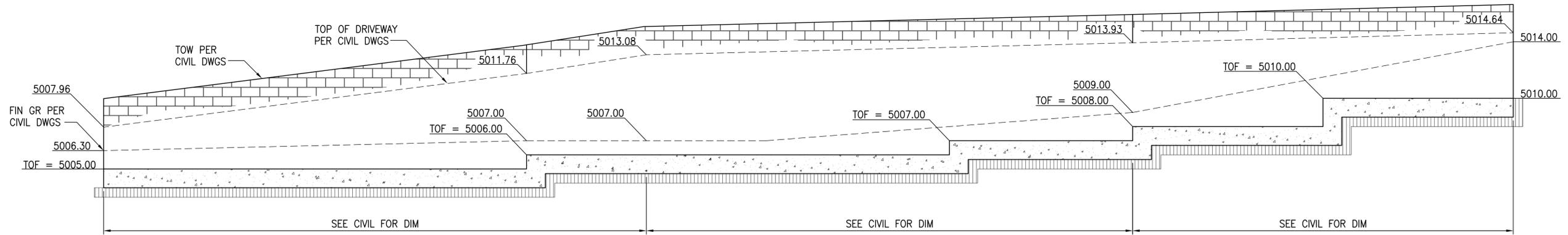
SHEET X OF X

FILE	POCKET	FOLDER	NO.

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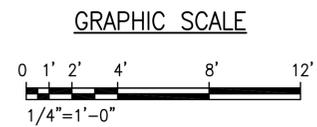


A **NORTHEAST WALL ELEVATION**
SCALE: 1/4" = 1'-0"



B **SOUTHWEST WALL ELEVATION**
SCALE: 1/4" = 1'-0"

C **NORTHWEST WALL ELEVATION**
SCALE: 1/4" = 1'-0"



0 1 2
LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2-inches : Scale Accordingly)

REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOT IMPROVEMENTS
FOR WAIEHU KOU AND PAUKUKALO
MAUI, HAWAII

PAUKUKALO (KUHIO PL) RETAINING
WALL ELEVATIONS

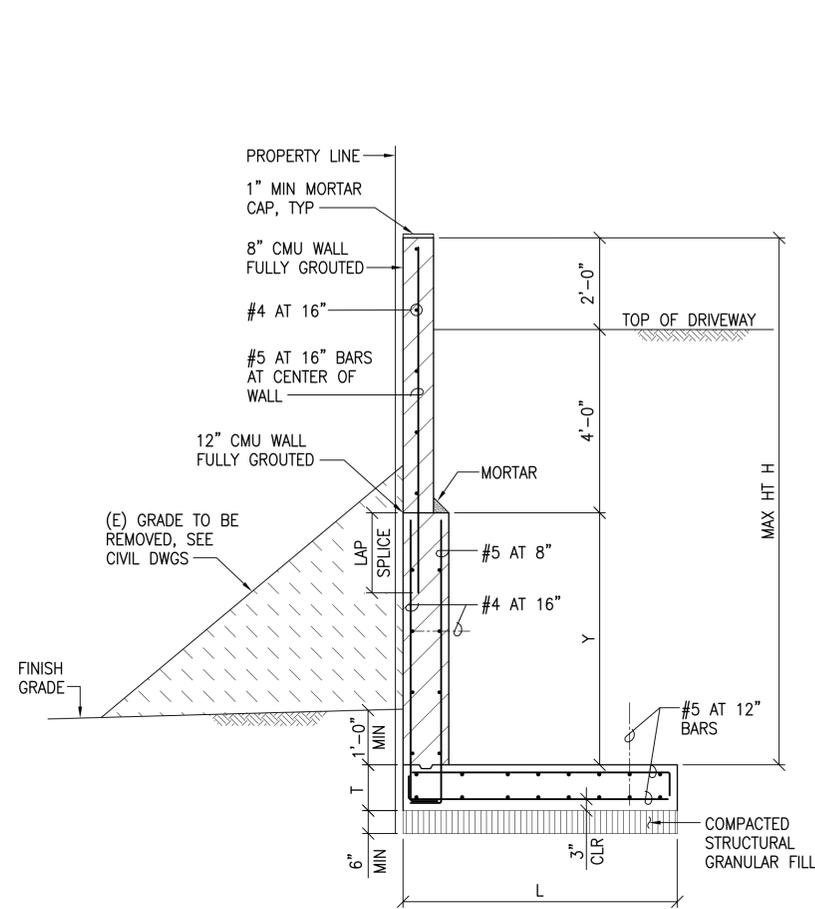
DESIGNED BY: DO DRAWN BY: DO CHECKED BY: PA
APPROVED SUBMITTED BY

DATE FIRM MEMBER DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION
signature: _____ expiration date of license: 4/30/20

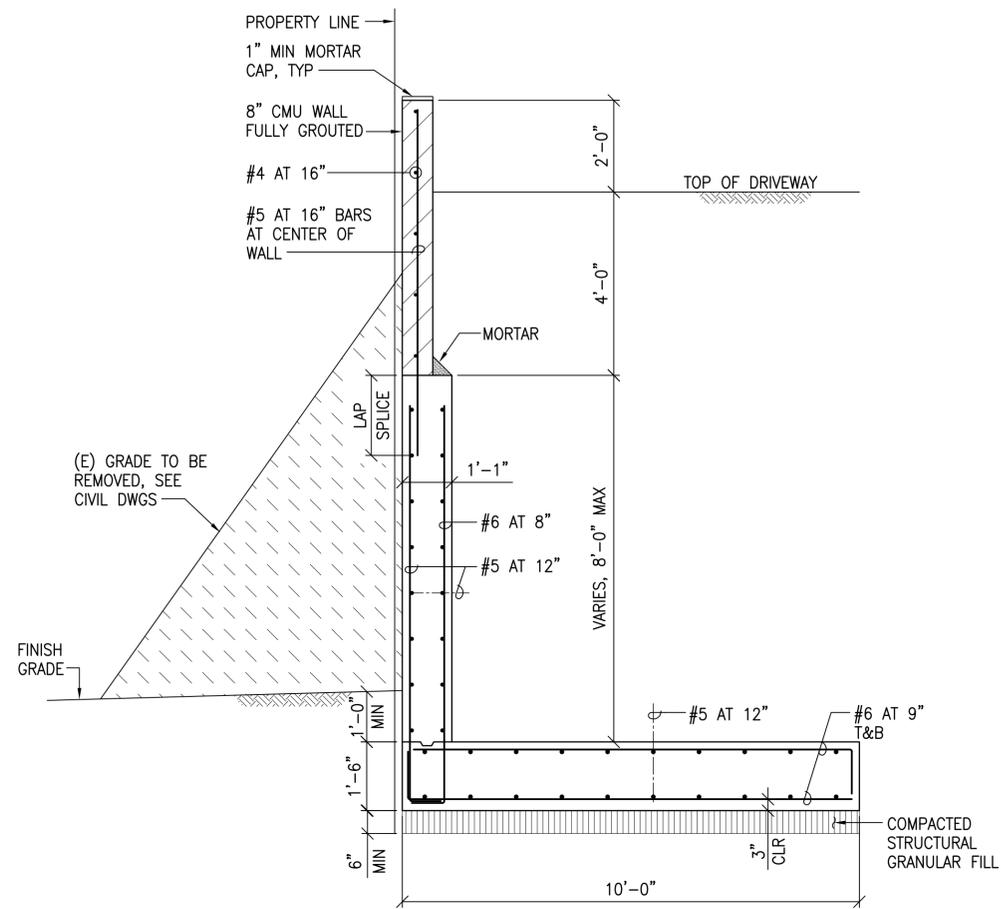
CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS NOTED IN SECTION 18-115-2, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

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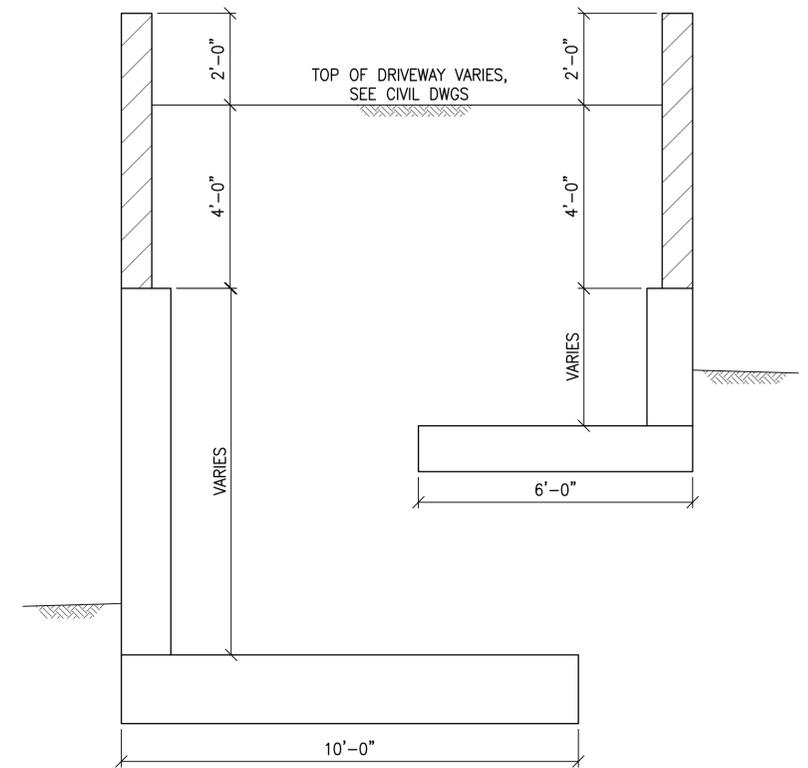


1 TYPE 1 RETAINING WALL
SCALE: 1/2" = 1'-0"

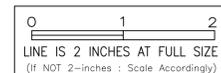
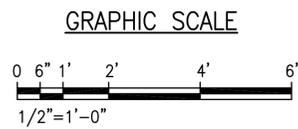
CMU RETAINING WALL SCHEDULE		
DETAIL/WALL TYPE	1A	1B
MAX HT H	7'-0"	8'-0"
Y	VARIES, 3'-0" MAX	VARIES, 4'-0" MAX
L	6'-0"	6'-6"
T	1'-4"	1'-4"



2 TYPE 2 RETAINING WALL
SCALE: 1/2" = 1'-0"



3 TYP DRIVEWAY SECTION
SCALE: 1/2" = 1'-0"



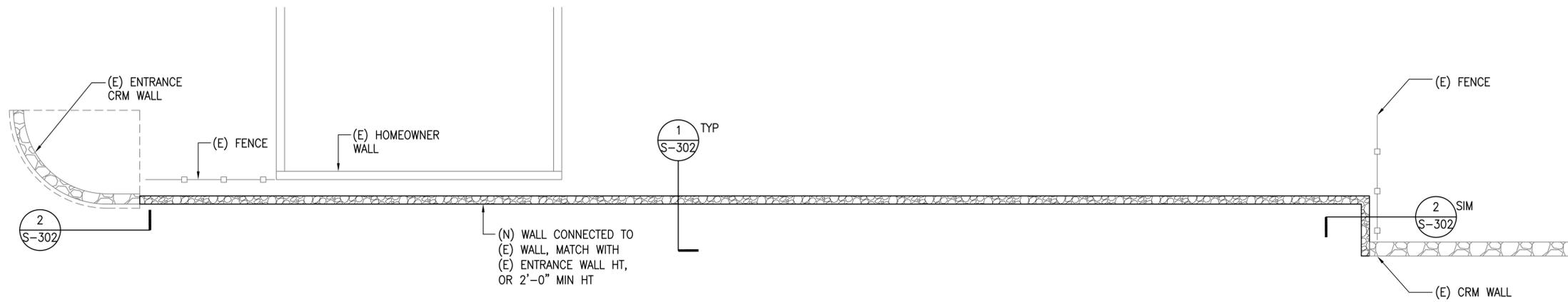
REVISION	DATE	BRIEF	MADE BY	APPROVED
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS HONOLULU, HAWAII				
DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOT IMPROVEMENTS FOR WAIEHU KOU AND PAUKUKALO MAUI, HAWAII PAUKUKALO (KUHIU PL) RETAINING WALL SECTIONS & DETAILS				
DESIGNED BY: DO	DRAWN BY: DO	CHECKED BY: PA		
APPROVED		SUBMITTED BY		
DATE		FIRM MEMBER DATE		

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

signature _____ expiration date of license 4/30/20

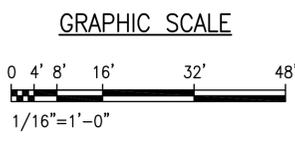
CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS NOTED IN SECTION 16-115-2, DRAINAGE ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

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1 CRM WALL FOUNDATION PLAN
 SCALE: 1/16" = 1'-0"

- NOTES:**
- REFER TO GENERAL NOTES ON SHEET S-101 FOR ADDITIONAL INFORMATION.
 - REFER TO CIVIL DWGS FOR ALL GRADING INFORMATION AND DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
 - = INDICATES CRM WALL



0 1 2
 LINE IS 2 INCHES AT FULL SIZE
 (IF NOT 2-inches : Scale Accordingly)

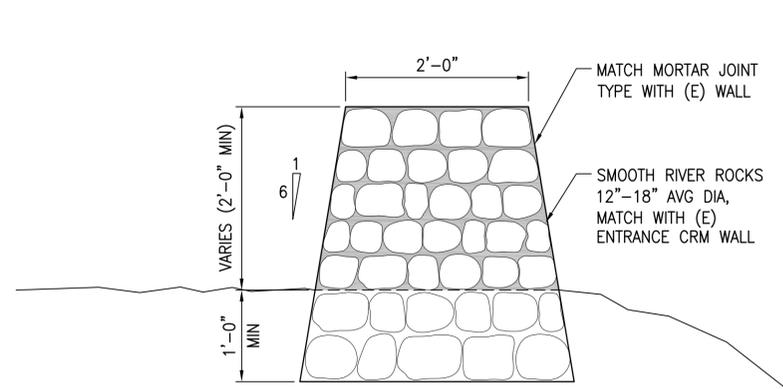
REVISION		DATE	BRIEF	MADE BY	APPROVED
<p>ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII</p> <p>DEPARTMENT OF HAWAIIAN HOME LANDS VARIOUS LOT IMPROVEMENTS FOR WAIIEHU KOU AND PAUKUKALO MAUI, HAWAII</p> <p>WAIIEHU KOU CRM WALL FOUNDATION PLAN</p>					
DESIGNED BY: DO	DRAWN BY: DO	CHECKED BY: PA	APPROVED		
DATE		FIRM MEMBER	DATE		

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

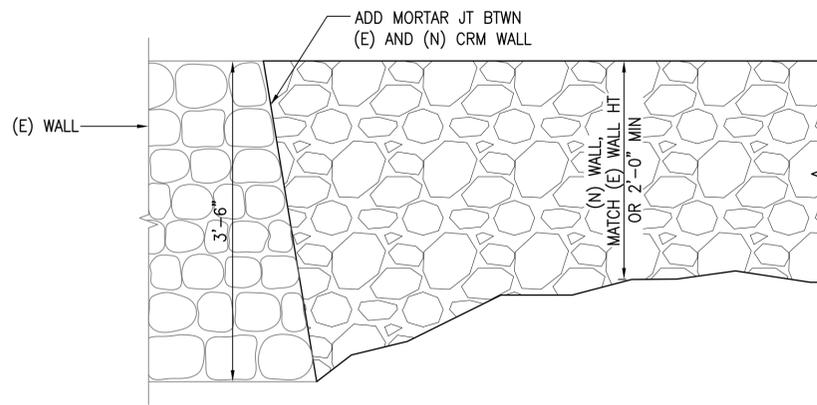
signature _____ expiration date 4/30/20 of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS NOTED IN SECTION 16-115-2, HAWAII ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

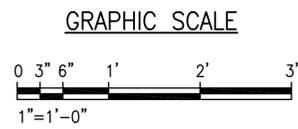
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1 TYP CRM WALL SECTION
SCALE: 1" = 1'-0"



2 CONNECTION DETAIL
SCALE: 1" = 1'-0"



REVISION	DATE	BRIEF	MADE BY	APPROVED

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
VARIOUS LOT IMPROVEMENTS
FOR WAIIEHU KOU AND PAUKUKALO
MAUI, HAWAII

WAIIEHU KOU RETAINING WALL
SECTIONS & DETAILS

DESIGNED BY: DO DRAWN BY: DO CHECKED BY: PA

APPROVED _____ SUBMITTED BY _____
DATE _____ FIRM MEMBER _____ DATE _____

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION
signature _____ 4/30/20 expiration date of the license

CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS NOTED IN SECTION 16-115-2, DRAIN ADMINISTRATIVE RULES, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, STATE OF HAWAII. PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

47 **(IV)** Amend **203.03(C)(2)(a) – Maximum Dry Unit Weight** from line 245 to line
48 255 to read as follows:

49
50
51
52
53
54
55

“(a) Maximum Dry Unit Weight. Test for maximum dry unit weight according to AASHTO T 180, and apply the correction for fraction larger than 3/4 inch. Use Hawaii Test Method HDOT TM 5 for sample preparation of sensitive soils when so designated by the Engineer.”

56

57 **(V)** Amend **203.04 – Measurement** line 367 to read as follows:

58

59 **“(D)** Lot excavation and lot embankment per cubic yard.”

60

61

62 **(V)** Amend **203.05 – Payment** from line 376 to 377 to read as follows:

63

“Pay Item	Pay Unit
------------------	-----------------

64

Lot Excavation; In Place Complete	Cubic Yard
-----------------------------------	------------

65

Lot Embankment; In place Complete	Cubic Yard”
-----------------------------------	-------------

66

67

68 **(VI)** Amend **203.05 – Payment** from line 442 to 446 to read as follows:

69

70
71 “The Engineer will not pay for stockpiling selected material, placing
72 selected material in final position, or placing selected material in windrows along
73 tops of roadway or lot slopes for erosion control work, separately and will
74 consider the cost as included in the unit prices for the various excavation contract
75 pay items. The cost is for work prescribed in this section and the contract
76 documents.”

77

78

79
80
81 **(VII)** Amend **203.05 – Payment** by deleting the last paragraph, from line 455 to
82 457, in its entirety.

83

84

85

86

END OF SECTION 203

87

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92

47	“ Pay Item	Pay Unit
48		
49	Installation, Maintenance, Monitoring, and Removal	Linear Foot
50	of Silt Fence and Dust Screen with Silt Fence;	
51	In Place Complete	
52		
53	Installation, Maintenance, Monitoring, and Removal	Linear Foot
54	of Dust Screen; In Place Complete	
55		
56	Installation, Maintenance, Monitoring, and Removal	Linear Foot
57	Of Temporary Sediment Barrier; In Place Complete	
58		
59	Installation, Maintenance, Monitoring, and Removal	Linear Foot
60	Of Sediment Filter Sock; In Place Complete	
61		
62	Installation, Maintenance, Monitoring, and Removal	Square Yard
63	of 8-inch Thick Ingress/Egress Gravel Access; In Place	
64	Complete”	
65		
66		
67	END OF SECTION 209	

1 **SECTION 305 – AGGREGATE SUBBASE COURSE**

2
3 Make the following amendment to said Section:

4
5 **(I) Amend 305.04 – Measurement** from line 54 to 55 to read as follows:

6
7 **“305.04 Measurement.** Aggregate subbase will be paid for per square
8 yard. The Engineer will measure aggregate subbase per square yard in
9 accordance with contract documents.”

10
11
12 **(II) Amend 305.05 – Payment** from line 57 to 66 to read as follows:

13
14 **“304.05 Payment.** The Engineer will pay for the accepted aggregate
15 subbase on a square yard basis. Payment will be full compensation for the work
16 prescribed in this section and the contract documents.

17
18 The Engineer will pay for the following pay item when included in the
19 proposal schedule:

20

“Pay Item	Pay Unit
18 Inch Select Borrow; In Place Complete”	Square Yard

21
22
23
24
25

26
27 **END OF SECTION 305**

1 **SECTION 401 – HOT MIX ASPHALT (HMA) PAVEMENT**

2
3 Make the following amendment to said Section:

4
5 **(I) Amend 401.05 – Payment** from line 612 to 619 to read as follows:

6
7 The Engineer will pay for the following pay item when included in the
8 proposal schedule:

9

10 “Pay Item	11 Pay Unit
12 2 Inch HMA Pavement, State Mix No. V; 13 In Place Complete”	14 Square Yard

15
16 **END OF SECTION 401**

1 Make the following a part of the Standard Specifications:
2

3 **“SECTION 509 – Masonry Structures**
4

5 **509.01 Description.** This section describes construction of masonry
6 structures.
7

8 **509.02 Materials**
9

10 Masonry Units 704.02
11

12 **509.03 Submittals**
13

14 (A.) **Product Data:** Submit manufacturer’s product data for
15 each type of masonry unit accessory, and other
16 manufactured products, including certifications that each
17 type complies with specified requirements.
18

19 (B.) **Reinforcing Steel Certificates:** Certified copies of mill
20 reports attesting that the reinforcing steel furnished
21 contains no less than 25 percent recycled scrap steel and
22 meets the requirements specified herein, prior to the
23 installation of reinforcing steel.
24

25 **509.04 Protection of New Work**
26

27 (A.) **Covers:** Cover tops of construction with heavy waterproof
28 sheeting. Cover tops of partially completed structures
29 when work is not in progress. Extend covers a minimum of
30 24" down each side and secure in place.
31

32 (B.) **Staining:** prevent grout, mortar, soil, and other staining
33 materials from the faces of units to be left exposed or
34 painted. Remove all stains immediately from such
35 surfaces.
36

37 **509.05 Construction Tolerances**
38

39 (A.) **Variation from Plumb:** For vertical lines and surfaces of
40 walls and arrises do not exceed 1/8" in 5'-0". For vertical
41 alignment of shear joints do not exceed plus or minus 1/8"
42 in 5'.
43

44 (B.) **Variation from Level:** Bed joints and lines shall not
45 exceed 1/8" in 20' maximum, nor 1/2" in 40' or more.
46

47 (C.) **Variation in Cross Sectional Dimensions:** For thickness
48 of walls, from dimensions shown, do not exceed minus 1/2"
49 nor plus 1/2".

50
51 (D.) **Variation in Mortar Joint Thickness:** Do not exceed bed
52 joint thickness indicated by more than plus or minus 1/8",
53 with a maximum thickness limited to 1/2". Do not exceed
54 head joint thickness indicated by more than plus or minus
55 1/8".

56
57 **509.06 General Installation**

58
59 (A.) **Construction:** Comply with specified construction
60 tolerances, with courses accurately spaced and
61 coordinated with either work. Maintain core (cell) continuity
62 to ensure proper clearances for reinforcement.

63
64 (B.) **Pattern Bond:** Lay in "running bond". Pattern, unless
65 otherwise indicated. Bond and interlock each course of
66 each wythe at corners.

67
68 (C.) **Wetting Limitation:** Do not wet units. Keep units dry.
69 Protect from rain and other sources of moisture.

70
71 (D.) **Temporary Support Work:** Provide temporary support
72 work, including forms and shores and bracing, as
73 necessary to support masonry elements requiring support.
74 Do not remove temporary supports until the masonry work
75 can support its own weight and other reasonable
76 temporary loads which may be placed on it during the
77 Contract Period.

78
79 (E.) **Stopping and Resuming Work:** Rack back 1/2-unit
80 length in each course; do not tooth. Clean exposed
81 surfaces of set masonry, wet units lightly (if required) and
82 remove loose masonry units and mortar prior to laying
83 fresh masonry.

84
85 (F.) **Full mortar Bedding:** Provide full mortar bedding to all
86 horizontal and vertical (end flange) face shells and to all
87 webs for following types of installation. Lay walls with 3/8"
88 joints, unless otherwise indicated with joints slightly
89 concave using a jointer.

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91 **509.07 Reinforcement Bars**

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- (A.) **Proximity Between Vertical Bars:** Where vertical bars are in close proximity, provide a clear distance between bars of not less than nominal bar diameter or 1" (whichever is greater); provide a clear distance between vertical bars indicated, but not less than 1-1/2 times the nominal bar diameter or 1-1/2", whichever is greater.
 - (B.) **Splicing:** Splice reinforcement bars where shown; do not splice at other points unless acceptable to the Engineer. Provide lapped splices of laps not less than indicated or required by governing code. In splicing vertical bars or attaching to dowels, lap ends, place in contact and wire tie.
 - (C.) **Placement:** Place Vertical reinforcement before grouting; before or after laying masonry units, as required by job conditions. Place horizontal reinforcement as the masonry units are laid. Tie vertical reinforcement to dowels at base of masonry where shown and thread CMU over or around reinforcement. Support vertical reinforcement at lesser of intervals not exceeding 192 bar diameters but not more than 10'.

115 **509.08 Grouting**

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- (A.) **Grouting Technique:**
 - (1) **Low-Lift Grouting:**
 - (a) **Pump Size:** Not less than 2" in any dimension and with a minimum clear area of 8 sq. in.
 - (b) **Reinforcement Installation:** Place vertical reinforcements prior to laying of CMU. Extend above elevation of maximum pour height as required for splicing. Support in position at vertical intervals not exceeding 192 bar diameters but not more than 10 ft.
 - (c) **Pour Height:** Do not exceed 5'-4" height, or if bond beam occurs below 5'-4" height stop pour at course below bond beam.
 - (d) **Grouting:** Pour grout using chute or container with spout. Rod or vibrate grout during placing. Place grout continuously; do not interrupt pouring of grout

138 for more than one hour. Terminate grout pours
139 1-1/2" below top course of pour.

140
141 **(2) Preparation of Grout Spaces:**

142
143 **(a) Cleaning:** Prior to grouting, inspect and clean grout
144 spaces. Remove dust, dirt, mortar droppings, loose
145 pieces of masonry and other foreign materials from
146 grout spaces. Clean reinforcement and adjust to
147 proper position. Clean top surface of structural
148 members supporting masonry to ensure bond. After
149 final cleaning and inspection, close cleanout holes
150 and brace closures to resist grout pressures.

151
152 **(b) Masonry Strength:** Do not place grout until entire
153 height of masonry to be grouted has attained
154 sufficient strength to resist displacement of masonry
155 units and breaking of mortar bond. Install shores
156 and bracing, if required, before starting grouting
157 operations.

158
159 **(3) Grouting:** Place grout by pumping into grout spaces
160 unless alternate methods are acceptable to the
161 Engineer. Limit grout pours to sections which can be
162 completed in one working day with not more than one
163 hour interruption of pouring operation. Place grout in
164 lifts which do not exceed 5'-0". Allow not less than 30
165 minutes, nor more than one hour between lifts of a given
166 pour. Rod or vibrate each grout lift during pouring
167 operation.

168
169 **(4) Pours per Section:** When more than one pour is
170 required to complete a given section of masonry, extend
171 reinforcement beyond masonry as required for splicing.
172 Pour grout to within 1-1/2" of top course of first pour.
173 After grouted masonry is cured, lay masonry units and
174 place reinforcement for second pour section before
175 grouting. Repeat sequence if more pours is required.

176
177 **509.09 Repair, Pointing, and Cleaning**

178
179 **(A.) Defective Work:** Remove and replace masonry units which are
180 loose, chipped, broken, stained or otherwise damaged, or if
181 units do not match adjoining units as intended. Provide new
182 units to match adjoining units and install in fresh mortar or grout,
183 pointed to eliminate evidence of replacement.

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(B.) Pointing: During the tooling of joints, enlarge any voids or holes, and completely fill with mortar. Point-up all joints including corners, openings and adjacent work to provide a neat, uniform appearance, prepared for application of sealants.

(C.) Cleaning: Clean exposed CMU masonry by appropriate methods and as soon as required to prevent permanent staining to masonry units. Dry brush at end of each day's work and final clean after final pointing. Comply with requirements of NCMA TEK 8-2A. Do not use acid cleaners that can damage masonry units. Do not use acid cleaners without approval from Engineer and after review of a test panel on masonry unit at a location to be selected by Engineer. Remove all products of cleaning processes that are deleterious to work or any finishes which are to be applied.

509.10 Special Inspection

All special inspections shall be done in accordance with International Building Code (IBC) 2012 Special Inspection provisions Section 1704. Special inspection shall be performed by the Owner. The contractor shall hire and pay for testing services.

All grout testing shall be tested by an independent testing laboratory approved by the Engineer and paid for by the Contractor. Contractor shall notify Engineer, Special Inspector and testing agency at least 72 hours in advance for work to be performed.

Masonry Special Inspection requirements (Level 1) shall be per IBC 2012 and summarized as follows:

- (1)** Periodic special inspection for all reinforcing placement. Special inspector shall verify that reinforcing size and spacing conform to structural details and pre-reviewed shop drawings.
- (2)** Continuous special inspection for grout placement.

Special Inspector personnel shall be in addition to the Contractor's quality control inspections and inspectors as required by the Contractor Quality Control Program. Special inspection shall be as follows:

- (1) Continuous Special Inspection:** Continuous special inspection is the full time observation of the work by the Special Inspector present in the work area whenever work is being

230 performed. Perform continuous special inspection where
231 specified for items as shown on the drawings.

232
233 **(2) Periodic Special Inspection:** Periodic special inspection is the
234 intermittent observation of the work by a Special Inspector
235 present in the work area while work is being performed. The
236 intermittent observation periods shall be: at times of significant
237 work; recurrent over the complete work period; and total at least
238 25 percent of the total work time. Perform periodic special
239 inspection where specified for items as shown on the drawings.

240
241 **509.12 Measurement.** Masonry units will be paid on a lump sum basis.
242 Measurement for payment will not apply.

243
244 **509.13 Payment.** The Engineer will pay for accepted concrete masonry on
245 a contract lump sum basis. Payment will be full compensation for the work
246 prescribed in this section and the contract documents.

247
248 The Engineer will pay for each of the following pay items when
249 included in the proposal schedule:

250	251 Pay Item	252 Pay Unit
253	Concrete Masonry Wall	Lump Sum

254
255 The Engineer will not pay for the accepted reinforcing steel separately.
256 The Engineer shall consider the cost for the accepted reinforcing steel as
257 included in the contract price of the various contract items. The cost is for
258 the work prescribed in this section and the contract documents."

259
260 **END OF SECTION 509**

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SECTION 638 – PORTLAND CEMENT CONCRETE CURB AND GUTTER

Make the following amendment to said Section:

(I) Amend 638.04 – Measurement from line 130 to 131 to read as follows:

638.04 Measurement. Curb will be paid per linear foot. The Engineer will measure curb per linear foot in accordance with contract documents”

(II) Amend 638.05 – Payment from line 133 to 148 to read as follows:

638.05 Payment. The Engineer will pay for the accepted curb on a contract on a linear foot basis. Payment will be full compensation for work prescribed in this section and contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

“Pay Item	Pay Unit
Cast-In-Place Concrete Curb, Type 2	Linear Foot”

END OF SECTION 638

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(A.) Concrete Masonry Units

- (1) Hollow Load Bearing Units:** ASTM C 90, as follows.
- (2) Size:** Nominal 8" x 8" x 16" (7-5/8" x 7-5/8" x 15-5/8" Actual), unless otherwise indicated.
- (3) Grade:** N.
- (4) Type:** II.
- (5) Weight Classification:** Normal Weight.
- (6) Exposed Face:** Standard, gray and smooth.
- (7) Moisture Control:** Cure units by atmospheric drying for not less than 30 days before installation to comply with ASTM C 90, Type II.

(B.) Mortar and Grout Materials

- (1) Mortar:** Portland Cement Lime, with proportions complying with ASTM C 270, Table 1. Type M; For units in contact with grade and where indicated.
- (2) Grout:** ASTM C 476, fine or coarse as required herein.
- (3) Portland Cement:** ASTM C 150, Type 1 or Type II.
- (4) Hydrated Lime:** ASTM C 207, Type S.
- (5) Aggregate for Mortar:** ASTM C 144, except for joints less than 1/4" use aggregate graded with 100% passing the No. 16 sieve.
- (6) Aggregate for Grout:** ASTM C 404.
- (7) Water:** Clean and potable with no deleterious substances to mix.

(C.) Reinforcing Steel

- (1) Reinforcing Bars:** ASTM A 615, deformed, of grades and sizes as indicated on Drawings.

END OF SECTION 704

