DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

JUNE 18, 2015

ADDENDUM NO. 1 TO

PROPOSAL, SPECIFICATIONS, CONTRACT AND BOND FOR
IFB NO.: IFB-15-HHL-023

KANEHILI SOUND/ SAFETY WALL

LOCATION: EAST KAPOLEI, OAHU, HAWAII
TAX MAP KEY: (1) 9-1-152 & 153

NOTICE TO ALL PROSPECTIVE BIDDERS

This addendum is hereby made a part of the contract documents for KANEHILI SOUND/ SAFETY WALL, EAST KAPOLEI, OAHU, HAWAII, and it shall amend the said contract documents as detailed within this Addendum document.

APPROVED:

N Satamo-Jo

Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

Date: June 18, 2015

Please detach, execute, and return immediately, the receipt below, to the Department of Hawaiian Home Lands, P. O. Box 1879, Honolulu, HI 96805, or by facsimile to 620-9299.

Receipt of Addendum No. 1 for IFB-15-HHL-023, KANEHILI SOUND/ SAFETY WALL , is hereby acknowledged.

Signed_____ Title_____

Firm_____ Date_____

ADDENDUM NO. 1

TO
PROPOSAL, SPECIFICATIONS, CONTRACT AND BOND FOR
IFB NO.: IFB-15-HHL-023
KANEHILI SOUND/ SAFETY WALL
EAST KAPOLEI, OAHU, HAWAII
TAX MAP KEY: (1) 9-1-152 & 153

IFB-15-HHL-023 is revised as follows:

PRE-BID MEETING

1. Minutes and sign-in sheet from the Pre-Bid Meeting are attached.

CONTRACTOR'S SUBMITTALS - BID OFFER FORM

1. Delete page number 5 on Bid Offer Form and replace with Addendum No. 1 (June 18, 2015) page number 5 attached to this addendum.

DHHL SPECIAL CONDITIONS

(No Change)

TECHNICAL SPECIFICATIONS

(No Change)

CONSTRUCTION PLANS

1. Delete KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET Drawings in its entirety, and replace with the Signed Drawings (dated May 31, 2015) attached to this addendum.

REQUESTS FOR CLARIFICATION

Questions asked at the Pre-Bid Meeting and Site Inspection

Please refer to the Pre-Bid Meeting Minutes attached within this Addendum No.1

Questions asked after the Pre-Bid Meeting

1. When is the deadline to submit SPO Form 21? IFB Checklist (page 14 of the Instructions for Bid Submittal) indicates June 24, 2015. Section C.1. of the Instructions for Bid Submittal states "the tenth calendar day prior to the day designated for opening bids". The Notice to Bidders states "ten working days prior to the day designated for opening bids".

   The deadline is June 24, 2015 as noted on the checklist and at the Pre-Bid meeting.

REQUEST FOR SUBSTITUTION

Following brand items are approved for substitution as attached to this addendum.

1. MasterSeal 381, BASF The Chemical Company, is approved substitution for TAMOSEAL, Euclid Chemical Company.
2. MasterEmaco A 660, BASF The Chemical Company, is approved substitution for AKKRO 7T, Euclid Chemical Company.

Kanehili Barrier Wall and Street and Sidewalk Repairs
IFB-15-HHL-023
Pre-bid Informational Conference Meeting Minutes
Wednesday, June 3, 2015
DHHL Annex Building

1. Attendance sheet was located at the entrance, and a copy is attached.

2. Introductions :
   a. Department of Hawaiian Home Lands
   b. Community Planning and Engineering, Inc.
   c. Bowers + Kubota (Not available)
   d. PSC Consultants

3. Scope of Work
   a. Construction of approximately 1,876 lineal feet of CMU barrier wall within the Kanehili residential subdivision adjacent to Kualaka'i Parkway
   b. Repair of sidewalks on Kaapuwai Street and Kamakahelei Street in Kanehili.

4. General requirements
   a. This project is exempt from the General Excise Tax. Do not include General Excise Tax in Bid.
   b. This project will be subject to Department of Labor and Industrial Relations and Davis Bacon Prevailing wages and salaries.
   c. Section 103D-310 HRS – Submittal by bidder not required; DHHL shall verify through Hawaii Compliance Express.
   d. Section 103-55.6 HRS – Apprenticeship Agreement Preference
   e. Chapter 103B HRS – Employment of State Residents on Construction Projects

5. Special Conditions
   a. SC-03: Completion Schedule and Liquidated Damages
      1) Time to complete: 270 calendar days
      2) Liquidated damages: $1,000 per calendar day

6. Engineer Comments
   a. Three sets of drawings are included in the IFB.
      1) Kanehili Barrier Wall;
      2) Kanehili Sidewalk Repair Kaapuwai Street and Place, and Kamakahelei Street; and
      3) Record Drawings for the East Kapolei I Development for reference purpose.
   b. Drawings show "Work by others", but there will only be one contractor working on the entire project. Over lapping area is by the Mailbox Center. The sidewalk replacement work is covered by the Repair Work plans.
   c. Backfill for wall will be to the finish pad elevation, Contractor needs to cut swales as shown on Wall plans.
   d. There will be an addendum for the description of proposal Item No.14. Item No.14 should read as follows:

      "Epoxy grout cracks in existing curb, gutter, sidewalk, driveway, or curb ramp, **at noted locations**, in place complete"

   e. There are existing sewer manholes along Kualaka'i Parkway and some of them are very close to the fence. Contractor shall protect them and make sure not to damage them during construction.

7. Deadlines
   a. Substitution/ Hawaii Product Preference requests – Friday, June 12, 2015
   b. Intent to Bid – Tuesday, June 16, 2015
   c. Issue addenda – Thursday, June 18, 2014
   d. Standard of Qualification Questionnaire – Wednesday, June 24, 2015
      Submittals for previous projects not valid
   e. Bid submittal/opening – Friday, June 26, 2015, 2:00 pm
      Deliver to Hale Kalanianaole, 91-5420 Kapolei Parkway

8. Questions and Answers
   a. What is the deadline for submitting requests for information (RFI) regarding the bidding?
      RFI should be submitted as soon as possible, keeping in mind that DHHL will respond by way of an addenda to the IFB to be issued no later than June 18, 2015.

   b. Are there any archaeological sites on the property?
      None that DHHL is aware of. The land had been previously disturbed by the sugar plantations, and has since been excavated and filled for construction of the Kualaka'i Parkway and Kanehili Subdivision.

   c. Where will the construction staging area be located?
      Location of the staging area will be determined at the pre-construction meeting, based on discussions between DHHL and the contractor.

   d. Will a construction permit be required? Will the City inspect?
      Although not required, DHHL had requested the City review the wall plans and inspect construction. Construction permit is required. The street and sidewalk repairs are not considered new construction and will not be inspected by the City.

   e. What is the estimated construction start date?
      Estimating issuance of Notice to Proceed in September 2015.

   f. Regarding the restoration of disturbed area; Do the pad and swale elevations need to be certified by licensed surveyor? And is it just the disturbed area or does the entire lot need to be recertified?
      Yes, the finished pad and swale elevations need be certified by a licensed surveyor. Only the disturbed areas need to be recertified, not the entire lot.

   g. Is the contractor responsible for compaction tests?
      PSC has been retained by DHHL to provide soil compaction testing.

   h. Is the contractor responsible for concrete cylinder testing?
      Yes, the Contractor is responsible for concrete testing.

   i. Is a special inspection required?
      Yes.

   j. Is a Structural Engineer required to check the rebar?
      Yes, DHHL has a Structural Engineer onboard for inspection of the rebar.

9. Site Inspection
   a. Wall Construction Questions and Answers
      1. Are there existing utility lines that we need to be aware of?
      There are sewer lines and manholes on the Kualaka'i Parkway side of the wall. There are Sandwich Isles Communications' underground telephone lines in the Kamakahelei Street cul-de-sac. The approximate locations of these are shown on the plans.

      2. What do we do with the existing chainlink fence?

DHHL shall designate a location for the temporary storage of the fence. DHHL is currently in discussions with DOT to relocate the fence into the median strip to discourage jay walking. Contractor shall discuss with DHHL prior to removing from project site.

3. Are all of the columns/pilasters evenly spaced along the wall?
No, the spacing of the pilasters varies along the wall. Note that there are three (3) locations where the spacing is 10' wide for future pedestrian access walkways. These sections of the wall will remain closed until DOT allows access to Kualaka'i Parkway, at which time these sections will be removed. If this occurs during construction of the wall, DHHL will issue a change order.

4. Is construction water available?
Contractor may use one of the existing fire hydrants within the Kanehili subdivision. Payment for the temporary meter, facility fees, and water consumed is considered incidental to the wall construction

5. Is the height of the wall the same throughout its length?
No. the wall height varies.

6. Does the wall require painting?
No, the wall does not need to be painted.

7. What happens if there is graffiti on the wall?
Contractor shall coordinate removal of any graffiti with DHHL.

8. What are the limits for clearing and grubbing?
Contractor shall clear and grub only the area necessary for wall construction.

9. Is a Dust Fence required?
Dust fence is a contingency item.

b. Sidewalk Repair Work: Questions and Answers
1. How does the contractor dispose of spoils from the sidewalk subbase and removal of slopes?
Removal of spoils from the site is considered incidental to the contract work.

2. Who will send notification of the start of work to adjacent homeowners?
DHHL shall notify the adjacent homeowners and community association.

3. If Contractor needs to repair their work 6 months after finishing the work, does the 1 year warranty start from the date of repair?
The 1-year warranty starts from the Project Acceptance Date.

c. Sidewalk Repair Work: Engineer Comments
1. Dowels were installed at the back of the curbs for the driveway aprons and curb ramps. These dowels need to be maintained during the repair work unless noted otherwise on the plans.
2. Compaction should be performed with moisture content 2% higher than optimum moisture content.
3. Pedestrian traffic control is required as work progresses.
4. See "Record Drawings" for finish pad, road and curb ramp elevations.

10:00 a.m., Wednesday, June 2, 2015

Pre-Bid Meeting
Kanehili Barrier Wall and Street and Sidewalk Repairs
IFB-15-HHL-023

Name	Company/Agency	Telephone/Fax	e-mail
Darrell Ing	DHHL	620-9276(O) 620-9299 (F) 544-8966 (C)	Darrell.H.Ing@hawaii.gov
FRANCISCO ASTUDILLO	HAWAII WORKS INC.	847-7140 262-5717 FAX	FASTUDILLO@HAWAIIWORKSINC.COM
SAM SILVA	CPE	531-4252 x 1019 469-7022	ssilva@cpe-hawaii.com
HYUNWOONG Hong	CPE	531-4252 x1012 808-772-1273	hwhong@CPE-hawaii.com
DERRICK CHUN	PSC	808 676 6677	derrick@pscconsultants.com
Mike Son	MJ Construction	265-1669 676-0650 F	~~mikeson~~ mikeson@hawaii.rr.com
GEORGE TAKAMIYA	PSC CONSULTANTS	203-3082	g@pscconsultants.com
Alex Kwon	Paradigm Construction	847-1646 (F)847-1647	alex@paradigmhi.com
Darian Chun	Delta Construction	690-8616	dchun@deltaconstcorp.com

10:00 a.m., Wednesday, June 2, 2015

Pre-Bid Meeting
Kanehili Barrier Wall and Street and Sidewalk Repairs
IFB-15-HHL-023

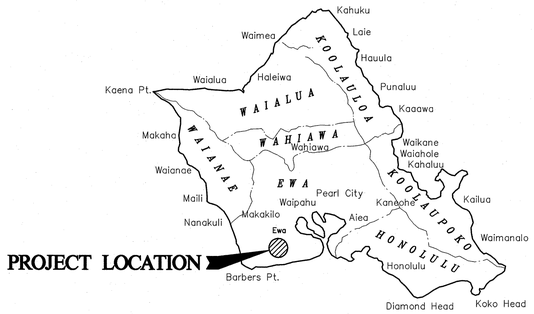
Name	Company/Agency	Telephone/Fax	e-mail
SIOWE MANUELE	MOLINA	(808) 782-3032 (808) 691-0443	ELITEMASONS@LIVE.COM MOLINAENGINEERING@EMAIL.COM

SIDEWALK REPAIR

III. ROADWAYS

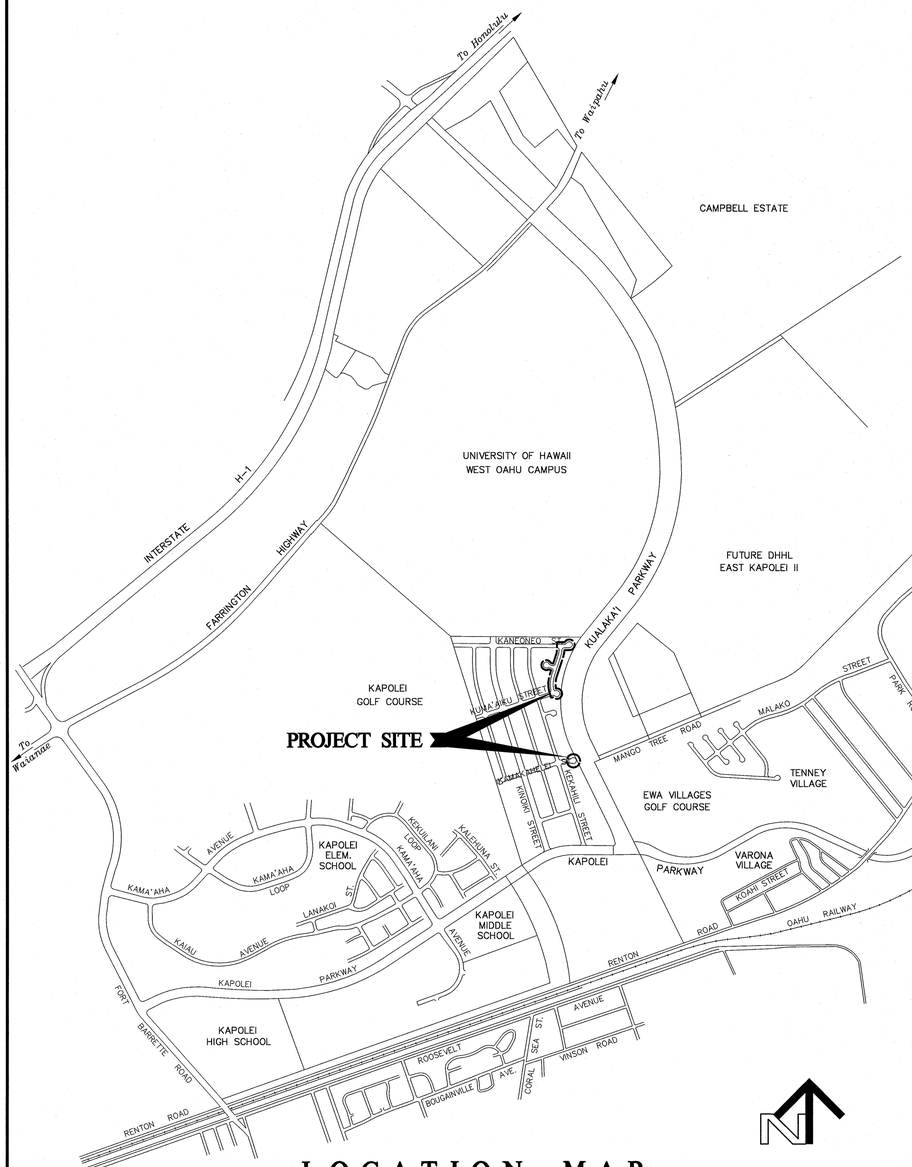
The prices bid herein for the following items shall include furnishing all materials, labor, tools, equipment, machinery and all incidentals necessary to demolish, remove, replace, reconstruct, or install these items in place complete, all in accordance with the plans and specifications.

11.	8	Each, Sediment control filter at catch basins, including installation, maintenance, and removal, in place complete.		
			Per Each $ _____	$ _____
12.	L.S.	Demolish and remove existing grade adjustment wall at Kamakahelei Street, including footing, and approximately 45-Lin. Ft. of existing concrete sidewalk, in place complete.		
			Lump Sum	$ _____
13.	L.S.	Reconstruct sidewalk at Kamakahelei Street, including restoration of planter area to original condition or better, in place complete.		
			Lump Sum	$ _____
14.	L.S.	Epoxy grout cracks in existing curb, gutter, sidewalk, driveway, or curb ramp, at noted locations, in place complete.		
			Lump Sum	$ _____
15.	L.S.	Demolish, remove and reconstruct existing standard curb and gutter at noted locations, in place complete.		
			Lump Sum	$ _____
16.	L.S.	Demolish, remove and reconstruct existing drop curb and gutter at noted locations, in place complete.		
			Lump Sum	$ _____
17.	L.S.	Demolish, remove and reconstruct existing sidewalk at noted locations, in place complete.		
			Lump Sum	$ _____
18.	L.S.	Demolish, remove and reconstruct existing driveway flare at noted locations, in place complete.		
			Lump Sum	$ _____



VICINITY MAP

4 0 4 8
SCALE IN MILES



LOCATION MAP

NOT TO SCALE

KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII

OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS

TAX MAP KEY: 9-1-151:055

Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

INDEX TO DRAWINGS

APPROVED

CHAIRMAN, HAWAIIAN HOMES COMMISSION
DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

5/31/15
DATE

DHHL - KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

GENERAL NOTES

1. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
2. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH ORDINANCE NOS. 2875 AND 3375 (UNDERGROUND UTILITIES).
3. 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 ANY REMEDIAL ACTIONS NECESSARY.
4. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT 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.
5. 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.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.
7. ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AT ALL TIMES UNLESS OTHERWISE NOTED.
8. 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.
9. 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 HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES–HISTORIC PRESERVATION DIVISION (692–8015). IN ADDITION, FOR NON–CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768–8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.
10. DURING NON–WORKING HOURS, THE TRENCHES ON CITY STREETS SHALL BE COVERED WITH NON–SKID STEEL PLATES AND ALL LANES MAINTAINED OPEN FOR TRAFFIC.
11. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986 AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.
12. CONTRACTOR TO PROVIDE AS–BUILT DRAWINGS.
13. FOR BENCH MARK, SEE DWG NO. C–2

NATIONAL DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR PERMIT PROJECTS WITHIN STATE HIGHWAY RIGHT–OF–WAY

1. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR OAHU DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE OAHU DISTRICT OFFICE AT 727 KAKOI STREET (PH. 831–6793). DUE TO POTENTIAL COST IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.
2. 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 STATE HIGHWAYS. DUE TO POTENTIAL TIME IMPACTS ON REVIEWING BMPS, THE CONTRACTOR NEEDS TO ALLOW ENOUGH TIME FOR THE APPROVAL PROCESS.
3. THE CONTRACTOR SHALL MEET APPLICABLE CONDITIONS DESCRIBED IN THE CURRENT HAWAII REVISED STATUTES (HAR) CHAPTER 11–55. THE CONTRACTOR SHALL ALSO FOLLOW THE GUIDELINES IN THE CURRENT HIGHWAYS DIVISION'S "CONSTRUCTION BEST MANAGEMENT PRACTICES FIELD MANUAL" IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPS) FOR THE PROJECT. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO DOCUMENTS, THEN THE CONDITIONS IN THE HAR 11–55 SHALL GOVERN.
4. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES FOR SOIL EROSION STANDARDS AND GUIDELINES" FOR THE PROJECT.
5. PLEASE BE ADVISED THAT NPDES REQUIREMENTS FOR PERMIT PROJECTS WITHIN STATE HIGHWAY RIGHT–OF–WAY ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

DISABILITY AND COMMUNICATION ACCESS BOARD (DCAB) REQUIREMENTS

WHERE PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED. TEMPORARY PEDESTRIAN PASSAGES SHALL BE ACCESSIBLE PER ADAAG 4.1.1 (4) AND SHALL COMPLY W/ADAAG 4.3.1.

CONSTRUCTION BMPS

1. THE FOLLOWING SPECIAL CONDITIONS APPLY TO ALL LAND DISTURBANCE WORK CONDUCTED UNDER THE GENERAL PERMIT:

A. CONSTRUCTION MANAGEMENT TECHNIQUES INCLUDE:

1. CLEARING AND GRUBBING SHALL BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN AND SHALL BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT SHALL BE REPLACED AT THE END OF THE WORK DAY.
3. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED, AS NECESSARY, WEEKLY IN DRY PERIODS AND WITHIN 24–HOUR PERIOD. DURING PROLONGED RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF CHECKS AND REPAIRS.
4. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.

B. VEGETATION CONTROLS INCLUDE:

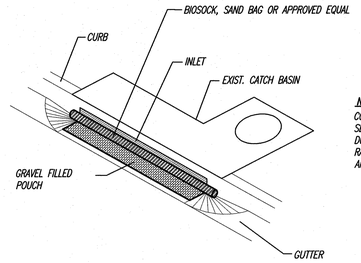
1. PRE–CONSTRUCTION VEGETATIVE GROUND OR MULCH COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 20 CALENDAR DAYS PRIOR TO SITE DISTURBANCE.
2. TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION OR MULCH SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN 30 CALENDAR DAYS.
3. PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION SHALL BE APPLIED AS SOON AS PRACTICABLE AFTER FINAL GRADING.

C. STRUCTURAL CONTROLS INCLUDE:

1. ALL SURFACE WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING BERMS, CHANNELS, SEDIMENT TRAPS, AND OTHER APPROPRIATE CONTROL MEASURES, AS PRACTICAL.
2. EROSION CONTROL MEASURES SHALL BE DESIGNED ACCORDING TO THE SIZE OF DISTURBED OR DRAINAGE AREAS, TO DETAIN RUNOFF AND TRAP SEDIMENT.
3. WATER MUST BE DISCHARGED THROUGH A PIPE OR LINED CHANNEL SO THAT THE DISCHARGE DOES NOT CAUSE EROSION.
4. STORM DRAIN INLET PROTECTION.

D. EROSION CONTROLS / BEST MANAGEMENT PRACTICE INCLUDE;

1. GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT, AND DEBRIS.
2. 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 OR ONTO THE ROADWAY.
3. AT THE END OF GRADING OPERATIONS AND AT THE COMPLETION OF PROJECT, 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. PLEASE NOTE THAT FLUSHING INTO THE DRAIN STRUCTURES ARE PROHIBITED.
4. 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 PROJECT.



NOTE:
CONTRACTOR SHALL REMOVE SEDIMENT CONTROL FILTER DURING AN ABOVE–NORMAL RAINFALL EVENT AND REPLACE AFTER EVENT HAS PASSED.

DETAIL – SEDIMENT CONTROL FILTER AT EXISTING CATCH BASIN
NOT TO SCALE

AMSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. LICENSE EXPIRATION DATE: 04/30/16

REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9–1–151:055

GENERAL NOTES

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

FILE	POCKET	FOLDER	NO.

GENERAL SITE PLAN
Scale: 1"=120'

120 60 0 120 240
Graphic Scale in Feet

REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e **Community Planning and Engineering, Inc.**
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

GENERAL SITE PLAN

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

ANSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. LICENSE EXPIRATION DATE: 04/30/16

DWG. NO. **C-2** SHEET 3 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.

REPAIR NOTES

(1)	EPOXY GROUT CRACK(S) IN CURB, GUTTER, SIDEWALK, DRIVEWAY, OR CURB RAMP.
(2)	DEMOLISH & RECONSTRUCT EXISTING STD. CURB & GUTTER. SEE DETAIL DWG. NO. C-5.
(3)	DEMOLISH & RECONSTRUCT EXISTING DROP CURB & GUTTER. SEE DETAIL DWG. NO. C-5.
(4)	DEMOLISH & RECONSTRUCT EXISTING SIDEWALK. SEE DETAIL DWG. NO. C-5.
(5)	DEMOLISH & RECONSTRUCT EXISTING DRIVEWAY FLARE. SEE DETAIL DWG. NO. C-5.
(6)	DEMOLISH & RECONSTRUCT EXISTING CURB RAMP & SIDEWALK. SEE DWG. NO. C-6.
(7)	DEMOLISH & RECONSTRUCT EXISTING 4" THICK CONCRETE SLAB FOR FIRE HYDRANT.
(8)	DEMOLISH & RECONSTRUCT EXISTING SIDEWALK AT WATER METER BOXES.
(9)	REMOVE & REPLACE EXISTING EXPANSION JOINT CAULKING.
(10)	REMOVE & REPLACE EXISTING TYPE "D" RAISED PAVEMENT MARKERS.
(11)	INSTALL TYPE "D" RAISED PAVEMENT MARKER AT STOP BAR.
(12)	REMOVE & REPLACE EXISTING TYPE "DB" HYDRANT MARKER.
(13)	DEMOLISH & RECONSTRUCT EXISTING PAVEMENT TO LIMITS SHOWN. SEE DET. DWG. NO. C-5

NOTES :

1. THE CONTRACTOR SHALL PERFORM APPLICABLE CONSTRUCTION WORK, ALL IN ACCORDANCE WITH THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1984, AS AMENDED, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1986, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, 1978, AS AMENDED.

2. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.

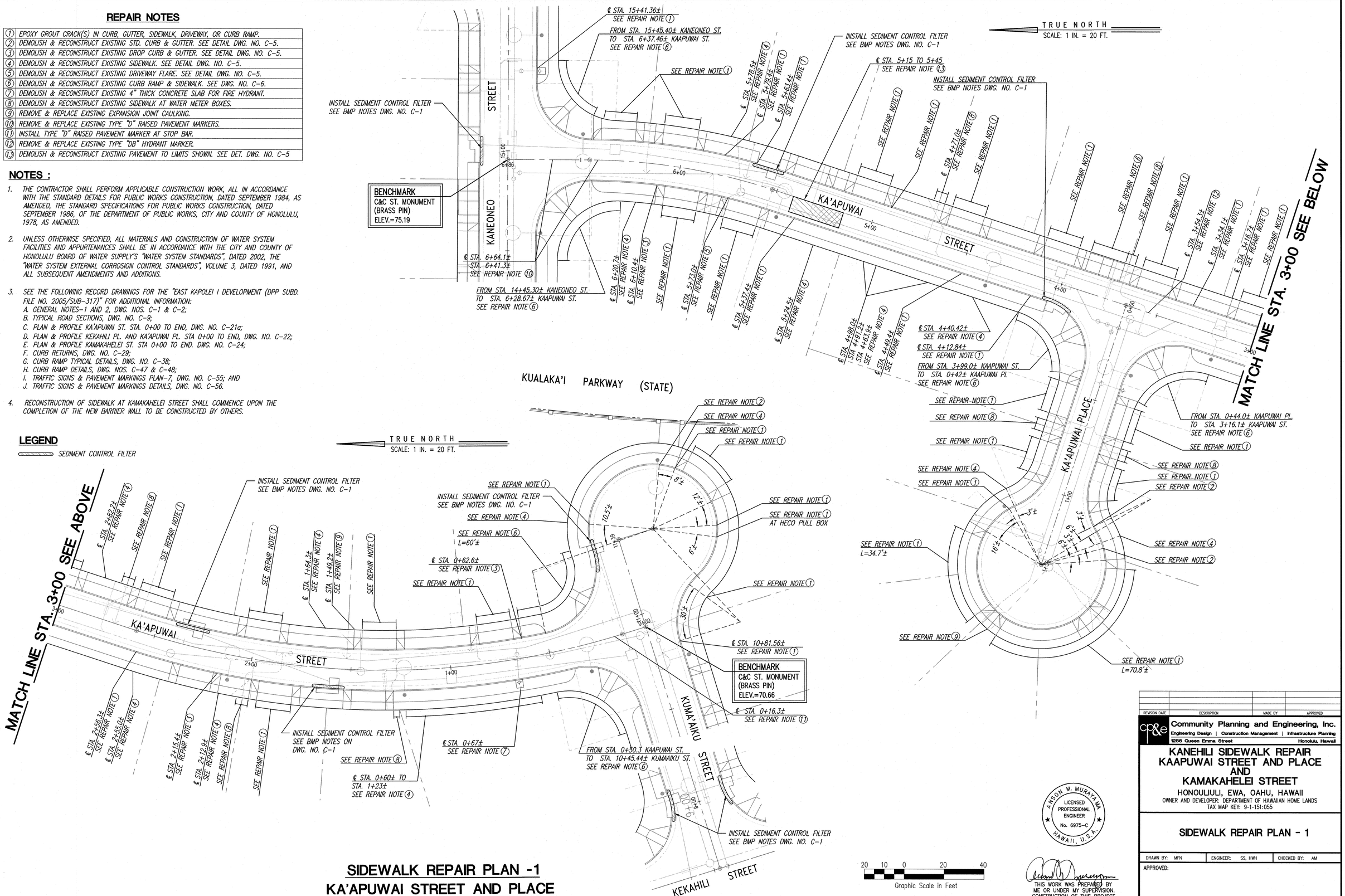
3. SEE THE FOLLOWING RECORD DRAWINGS FOR THE "EAST KAPOLEI I DEVELOPMENT (DPP SUBD. FILE NO. 2005/SUB-317)" FOR ADDITIONAL INFORMATION:
   A. GENERAL NOTES-1 AND 2, DWG. NOS. C-1 & C-2;
   B. TYPICAL ROAD SECTIONS, DWG. NO. C-9;
   C. PLAN & PROFILE KA'APUWAI ST. STA. 0+00 TO END, DWG. NO. C-21a;
   D. PLAN & PROFILE KEKAHILI PL. AND KA'APUWAI PL. STA 0+00 TO END, DWG. NO. C-22;
   E. PLAN & PROFILE KAMAKAHELEI ST. STA 0+00 TO END. DWG. NO. C-24;
   F. CURB RETURNS, DWG. NO. C-29;
   G. CURB RAMP TYPICAL DETAILS, DWG. NO. C-38;
   H. CURB RAMP DETAILS, DWG. NOS. C-47 & C-48;
   I. TRAFFIC SIGNS & PAVEMENT MARKINGS PLAN-7, DWG. NO. C-55; AND
   J. TRAFFIC SIGNS & PAVEMENT MARKINGS DETAILS, DWG. NO. C-56.

4. RECONSTRUCTION OF SIDEWALK AT KAMAKAHELEI STREET SHALL COMMENCE UPON THE COMPLETION OF THE NEW BARRIER WALL TO BE CONSTRUCTED BY OTHERS.

LEGEND

SEDIMENT CONTROL FILTER

TRUE NORTH
SCALE: 1 IN. = 20 FT.



SIDEWALK REPAIR PLAN -1
KA'APUWAI STREET AND PLACE

SCALE: 1" = 20'

20 10 0 20 40
Graphic Scale in Feet

ANSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. LICENSE EXPIRATION DATE: 04/30/16

REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

KANEHILI SIDEWALK REPAIR
KAAPUWAI STREET AND PLACE
AND
KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

SIDEWALK REPAIR PLAN - 1

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

DWG. NO. C-3 SHEET 4 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.

REPAIR NOTES

(1)	EPOXY GROUT CRACK(S) IN CURB, GUTTER, SIDEWALK, DRIVEWAY, OR CURB RAMP.
(2)	DEMOLISH & RECONSTRUCT EXISTING STD. CURB & GUTTER. SEE DETAIL DWG. NO. C-5.
(3)	DEMOLISH & RECONSTRUCT EXISTING DROP CURB & GUTTER. SEE DETAIL DWG. NO. C-5.
(4)	DEMOLISH & RECONSTRUCT EXISTING SIDEWALK. SEE DETAIL DWG. NO. C-5.
(5)	DEMOLISH & RECONSTRUCT EXISTING DRIVEWAY FLARE. SEE DETAIL DWG. NO. C-5.
(6)	DEMOLISH & RECONSTRUCT EXISTING CURB RAMP & SIDEWALK. SEE DWG. NO. C-6.
(7)	DEMOLISH & RECONSTRUCT EXISTING 4" THICK CONCRETE SLAB FOR FIRE HYDRANT.
(8)	DEMOLISH & RECONSTRUCT EXISTING SIDEWALK AT WATER METER BOXES.
(9)	REMOVE & REPLACE EXISTING EXPANSION JOINT CAULKING.
(10)	REMOVE & REPLACE EXISTING TYPE "D" RAISED PAVEMENT MARKERS.
(11)	INSTALL TYPE "D" RAISED PAVEMENT MARKER AT STOP BAR.
(12)	REMOVE & REPLACE EXISTING TYPE "DB" HYDRANT MARKER.
(13)	DEMOLISH & RECONSTRUCT EXISTING PAVEMENT TO LIMITS SHOWN. SEE DET. DWG. NO. C-5

NOTES :

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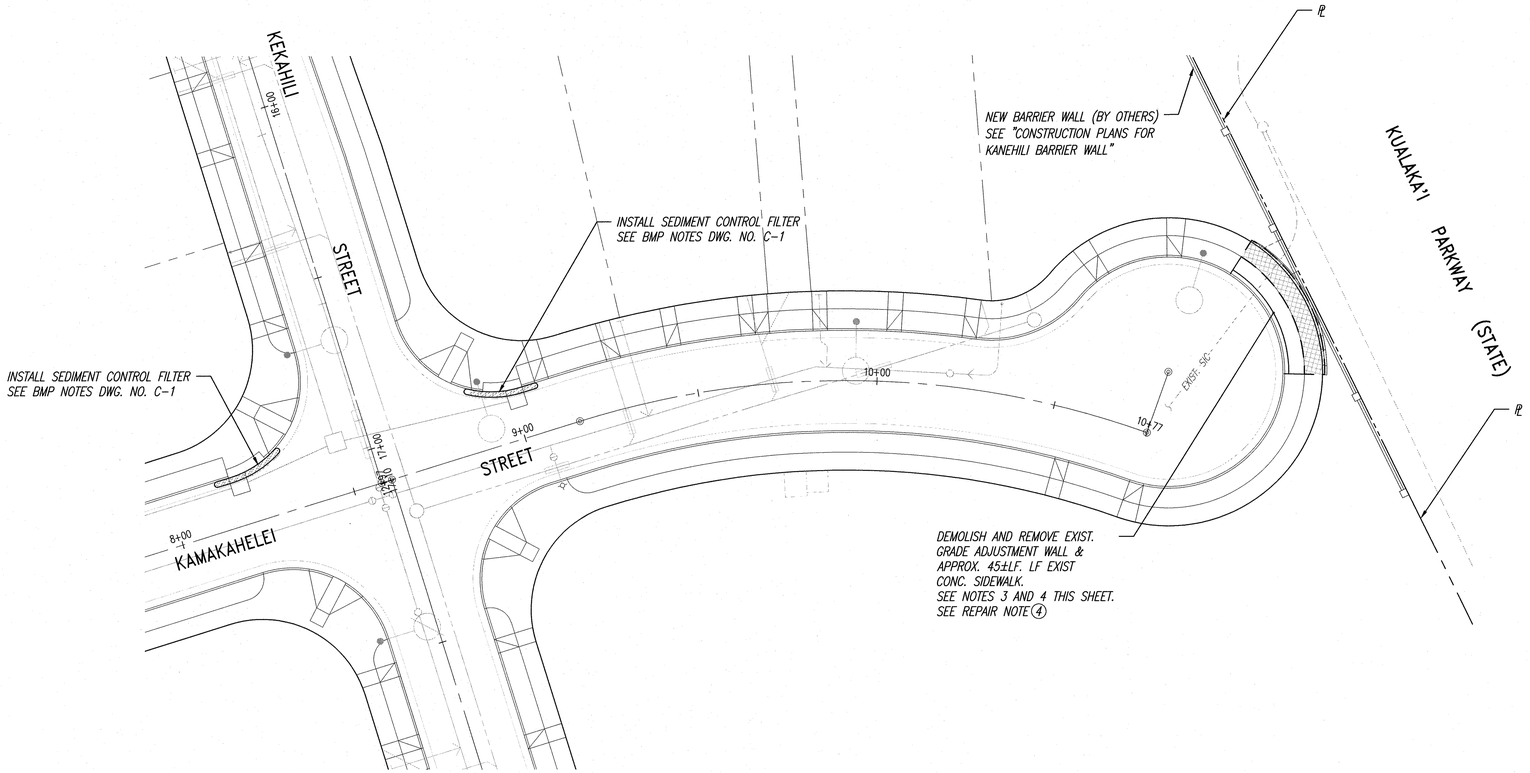
   C. PLAN & PROFILE KA'APUWAI ST. STA. 0+00 TO END, DWG. NO. C-21a;
   D. PLAN & PROFILE KEKAHILI PL. AND KA'APUWAI PL. STA 0+00 TO END, DWG. NO. C-22;
   E. PLAN & PROFILE KAMAKAHELEI ST. STA 0+00 TO END. DWG. NO. C-24;
   F. CURB RETURNS, DWG. NO. C-29;
   G. CURB RAMP TYPICAL DETAILS, DWG. NO. C-38;
   H. CURB RAMP DETAILS, DWG. NOS. C-47 & C-48;
   I. TRAFFIC SIGNS & PAVEMENT MARKINGS PLAN-7, DWG. NO. C-55; AND
   J. TRAFFIC SIGNS & PAVEMENT MARKINGS DETAILS, DWG. NO. C-56.

4. RECONSTRUCTION OF SIDEWALK AT KAMAKAHELEI STREET SHALL COMMENCE UPON THE COMPLETION OF THE NEW BARRIER WALL TO BE CONSTRUCTED BY OTHERS.

LEGEND

SEDIMENT CONTROL FILTER



SIDEWALK REPAIR PLAN - 2
KAMAKAHELEI STREET
SCALE: 1" = 20'

20 10 0 20 40
Graphic Scale in Feet

ANSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975-C
HAWAII, U.S.A.

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REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

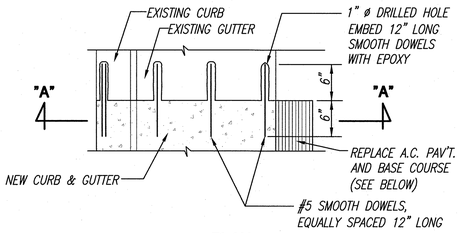
KANEHILI SIDEWALK REPAIR
KAAPUWAI STREET AND PLACE
AND
KAMAKAHELEI STREET
HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

SIDEWALK REPAIR PLAN - 2

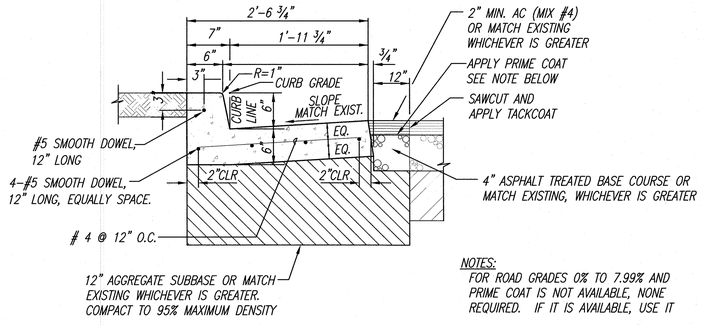
DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

FILE	POCKET	FOLDER	NO.



PLAN

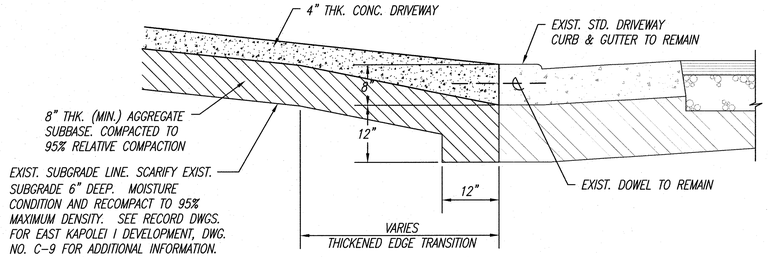


NOTES:
FOR ROAD GRADES 0% TO 7.99% AND PRIME COAT IS NOT AVAILABLE, NONE REQUIRED. IF IT IS AVAILABLE, USE IT

SECTION "A"-"A"

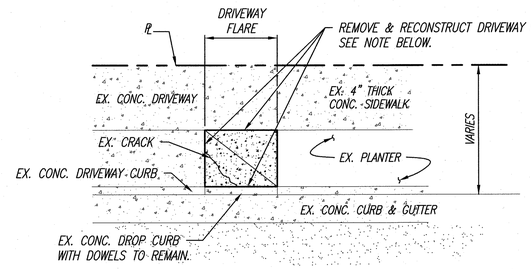
CURB AND GUTTER CONNECTION DETAIL

NOT TO SCALE



DRIVEWAY CONNECTION DETAIL

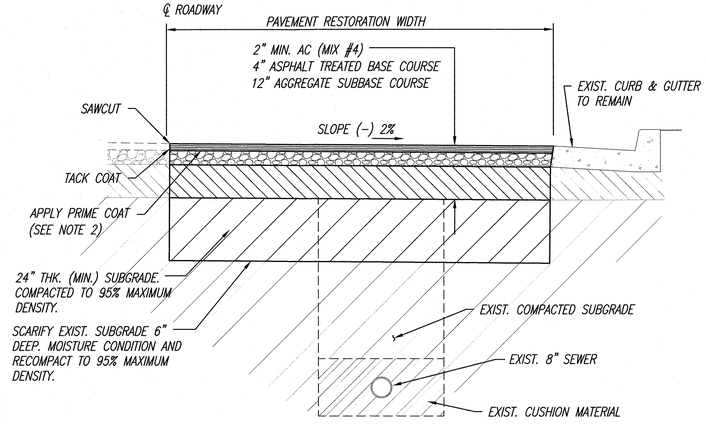
NOT TO SCALE



NOTE:
SAWCUT AT SCORELINE OR JOINT. DEMOLISH AND REMOVE EXISTING DRIVEWAY FLARE AS REQUIRED. MAINTAIN EXIST. DOWELS AT BACK OF CURB. ROUGHEN EXIST. EDGES & RECONSTRUCT DRIVEWAY FLARE WITH THICKENED EDGE AT BACK OF CURB. MATCH EXISTING GRADES. SEE SIDEWALK CONNECTION DETAIL AND DRIVEWAY CONNECTION DETAIL THIS SHEET. SEE STD. DET. R-29A (JULY 2009) FOR ADDITIONAL INFORMATION.

DRIVEWAY FLARE DEMOLITION & RECONSTRUCTION DETAIL

NOT TO SCALE

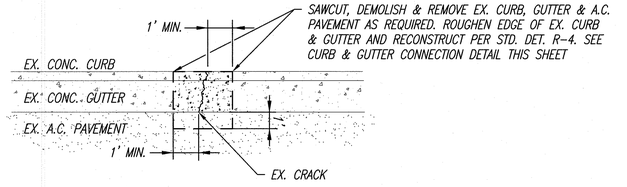


NOTES:

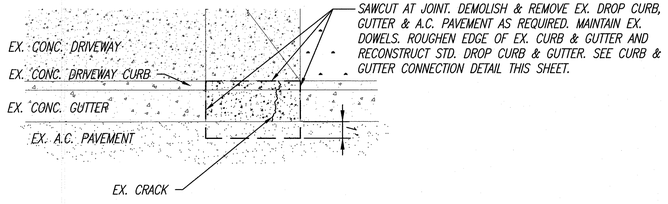
1. PAVEMENT STRUCTURE SHALL BE EQUAL TO OR BETTER THAN EXISTING IN THICKNESS AND QUALITY.
2. FOR ROAD GRADES 0% TO 7.99% PRIME COAT IS NOT REQUIRED.

PAVEMENT REPAIR DETAIL

NOT TO SCALE



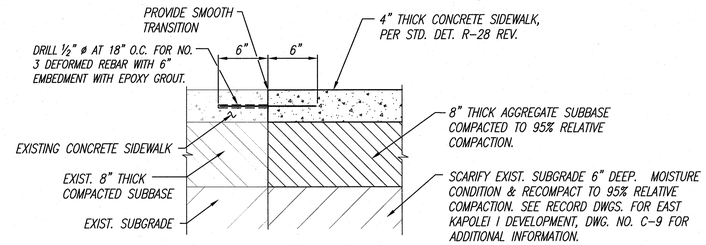
STANDARD CURB & GUTTER



DROP CURB & GUTTER

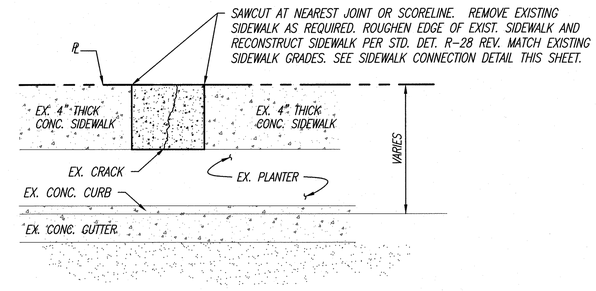
CURB AND GUTTER DEMOLITION & RECONSTRUCTION DETAILS

NOT TO SCALE



SIDEWALK CONNECTION DETAIL

NOT TO SCALE



NOTE:
FOR GRASSED AREA, RESTORE BACK TO ORIGINAL CONDITION OR BETTER. PROVIDE 4" MIN. TOPSOIL OR MATCH EXISTING, WHICHEVER IS GREATER.

SIDEWALK DEMOLITION & RECONSTRUCTION DETAIL

NOT TO SCALE

REVISION DATE	DESCRIPTION	MADE BY	APPROVED

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KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII

OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

DETAILS - 1

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

AMSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975-C
HAWAII, U.S.A.

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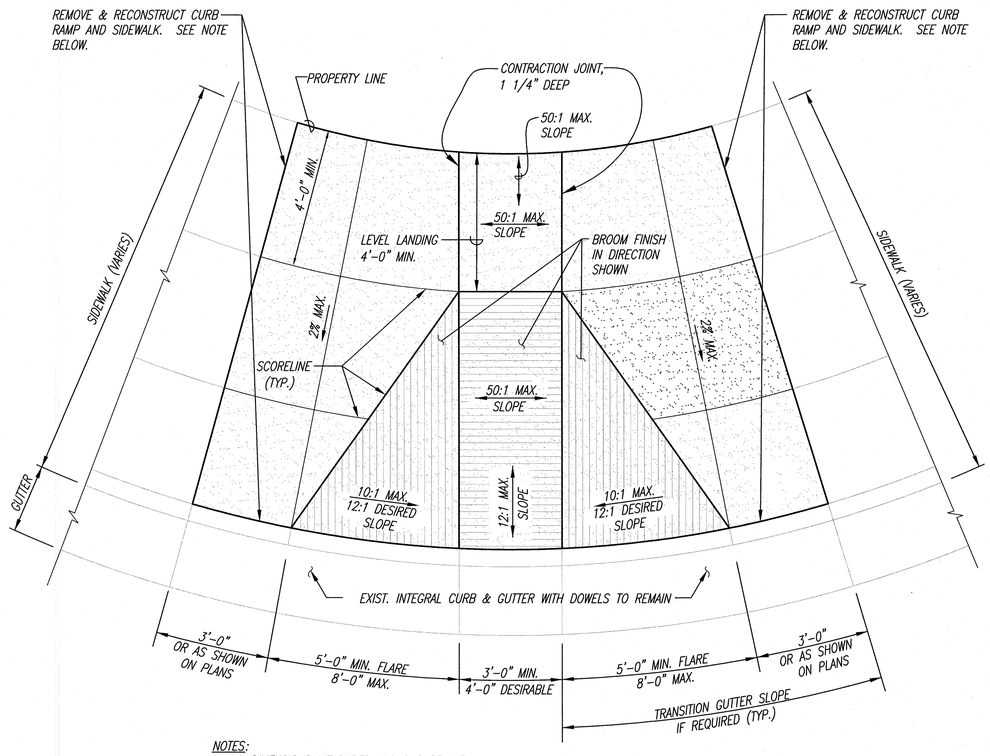
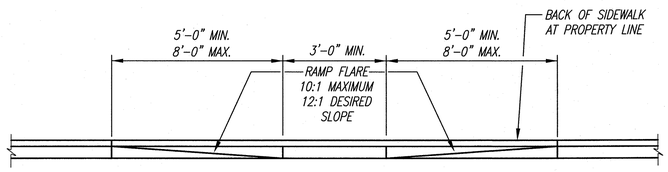
DWG. NO. C-5 SHEET 6 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.

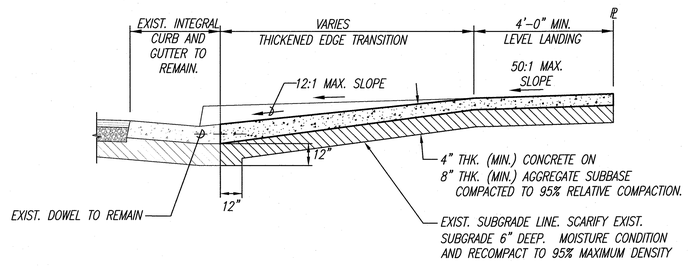


NOTES:
1. DIMENSIONS MEASURED ALONG CURBLINE.
2. SAWCUT AT SCORELINE OR JOINT. DEMOLISH & REMOVE EXISTING CURB RAMP & SIDEWALK AS REQUIRED. MAINTAIN EXISTING DOWELS AT BACK OF CURB. ROUGHEN EXISTING EDGES & RECONSTRUCT CURB RAMP AND SIDEWALK. PROVIDE THICKENED EDGE AT BACK OF CURB FOR CURB RAMP ONLY. MATCH EXISTING GRADES. SEE SIDEWALK CONNECTION DETAIL DWG. NO. C-5.

PLAN



ELEVATION



SECTION

CURB RAMP DEMOLITION & RECONSTRUCTION DETAIL

NOT TO SCALE

CURB RAMP GENERAL NOTES

1. THE CONSTRUCTION TOLERANCES FOR ADA CURB RAMP SLOPES PROVIDED IN THE SP SECTION FOR CURB RAMPS, WILL BE APPLIED, AS APPLICABLE, TO THE SLOPES REFLECTED ON THE PROJECT'S CURB RAMP DETAILS.
2. FOR CURB RAMPS AT CURB RETURNS, INSTALL EXPANSION JOINTS PER STANDARD DETAIL R-27, FULL WIDTH SIDEWALK AT CURB RETURN. EXPANSION JOINTS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT. EXPANSION JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE CURB RAMP CONTRACT ITEMS.
3. WHEN DIRECTED BY THE ENGINEER, SIDEWALK TRANSITION AREA SHALL BE EXTENDED BEYOND SHOWN PLAN LIMITS TO MATCH THE NEAREST SCORELINE.

ANSON M. MURAYAMA
LICENSED PROFESSIONAL ENGINEER
No. 6975-C
HAWAII, U.S.A.

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REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e **Community Planning and Engineering, Inc.**
Engineering Design | Construction Management | Infrastructure Planning
1286 Queen Emma Street Honolulu, Hawaii

KANEHILI SIDEWALK REPAIR
KAAPUWAI STREET AND PLACE
AND
KAMAKAHELEI STREET
HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

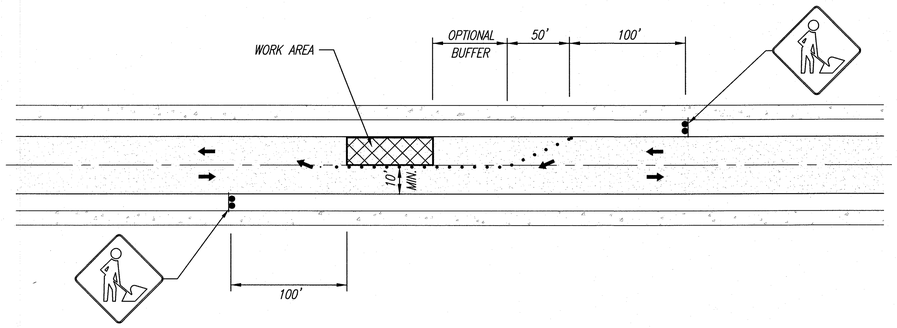
DETAILS - 2

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

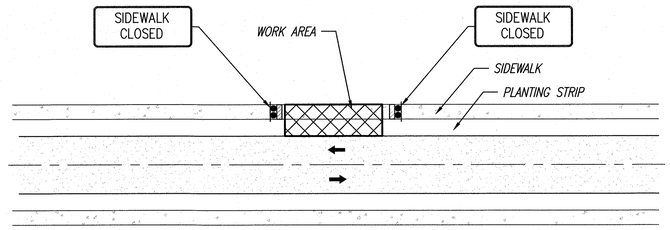
APPROVED:

DWG. NO. **C-6** SHEET 7 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.



TYPICAL TRAFFIC CONTROL PLAN
(LANE CLOSURE ON A MINOR STREET)
NOT TO SCALE

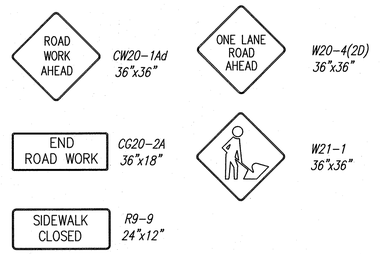


TYPICAL SIDEWALK CLOSURE
NOT TO SCALE

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. THE PERMITTEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
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. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
6. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
7. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
8. 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. EXISTING FADED OR OBLITERATED PAVEMENT MARKINGS THAT ARE NECESSARY FOR SAFE TRAFFIC FLOW IN THE CONSTRUCTION AREA SHALL BE REPLACED WITH TEMPORARY OR PERMANENT MARKINGS BEFORE OPENING THE ROADWAY TO PUBLIC TRAFFIC EACH DAY.
9. PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL BE REPLACED UPON COMPLETION OF EACH PHASE OF WORK.
10. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THE RIGHT-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY. FURTHER, THE PERMITTEE SHALL CONTROL TRAFFIC GOING IN AND OUT OF DRIVEWAYS.

LEGEND



ANSON M. MURAYAMA
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HAWAII, U.S.A.

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REVISION DATE	DESCRIPTION	MADE BY	APPROVED

cp&e
Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1288 Queen Emma Street — Honolulu, Hawaii

KANEHILI SIDEWALK REPAIR KAAPUWAI STREET AND PLACE AND KAMAKAHELEI STREET

HONOULIULI, EWA, OAHU, HAWAII
OWNER AND DEVELOPER: DEPARTMENT OF HAWAIIAN HOME LANDS
TAX MAP KEY: 9-1-151:055

TRAFFIC CONTROL PLAN

DRAWN BY: MFN	ENGINEER: SS, HWH	CHECKED BY: AM

APPROVED:

DWG. NO. **C-7** SHEET 8 OF 8 SHEETS

FILE	POCKET	FOLDER	NO.

BASF

The Chemical Company

DEPT OF HAWAIIAN HOME LANDS

2015 JUN -5 A 10:31

RECEIVED
LAND DEVELOPMENT DIVISION

2015 JUN -5 PM 12:27

BASF Building Systems
91-985 Puahala Street 42-S
Ewa Beach, Hawaii 96706

P 1-808-226-3574
michael.nishikawa@gmail.com

06-05-2015

DHHL
Land Development Division
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Dear Project Manager

Subject: REQUEST FOR SUBSTITUTION

Project: Kanehili Sound/ Safety Wall , East Kapolei, Oahu

JOB NO. IFB 15- HHL -023

In accordance with the A general requirements, I hereby submit for substitution three (3) sets of technical brochures and statement of variances for your review and approval for the item(s) shown below.

SECTION SITE	Specified BRAND	SUBSTITUTE OR ALTERNATIVE BRAND	VARIANCE 3/ FEATURES
On Plans	TAMOSEAL Euclid Chemical Company	MasterSeal 581 BASF The Chemical CO	None
	AKKRO 7T Euclid Chemical Company	MasterEmaco A 660 BASF The Chemical CO	None

I further certify that my request for substitution of the above item(s) has no other variant Features and complies with the plans and specifications for Subject project.

Sincerely

Michael Nishikawa
Manufacture Representative
BASF The Chemical Company

BASF

The Chemical Company

Technical Data Guide

7 | 07 92 00
Cementitious Waterproofing

MasterSeal® 581

Waterproof cement-based coating for concrete and masonry

FORMERLY THOROSEAL®

PACKAGING

MasterSeal 581:
- 50 lb (22.7 kg) polyethylene-lined bags for MasterSeal 581 white, standard gray, all landscape colors and custom colors
- 50 lb (22.7 kg) pails for MasterSeal 581 white, standard gray, and pearl gray

MasterEmaco A 660:
- 1 qt (0.9 L) bottles (8 qt per carton)
- 1 gal (3.8 L) bottles (4 gal per carton)
- 5 gal (18.9 L) pails
- 55 gal (208 L) drums

YIELD
- 225 ft²/50 lb (20.9 m²/22.7 kg) bag as a base coat at 1/16" (1.6 mm) dry-film thickness.
- 450 ft²/50 lb (41.8 m²/22.7 kg) bag as a topcoat at 1/32" (0.8 mm) dry-film thickness.

Coverage will vary depending on surface texture and porosity.

SHELF LIFE

1 year when properly stored

VOC CONTENT

0 g/L less water and exempt solvents

DESCRIPTION

MasterSeal 581 is a Portland cement-based coating for concrete and masonry that resists both positive and negative hydrostatic pressure. Polymer-modified with MasterEmaco A 660, MasterSeal 581 creates a low maintenance and highly durable waterproof barrier.

PRODUCT HIGHLIGHTS
- Waterproof to help protect building interiors from dampness and moisture damage
- Resistant to both positive and negative hydrostatic pressure, making MasterSeal 581 suitable for use below grade interior and exterior and in water treatment construction
- Breathable, allowing interior moisture to escape without damaging coating
- Compatible with high-performance coatings, including a wide range of architectural coatings and textured finishes
- Hides minor surface defects and blemishes in architectural concrete
- Available in ten landscape colors and custom colors (with minimum order quantities)
- Certified to the NSF/ANSI Standard 61 for potable water contact

APPLICATIONS
- Vertical and light-pedestrian horizontal surfaces
- Interior and exterior
- Above and below grade
- Alternative to mechanical finishing or rubbing of concrete
- Waterproofing basement and retaining walls
- Foundations
- Bridges and tunnels (non- traffic barring surface)
- Water cisterns

SUBSTRATES
- Cast-in-place and precast concrete
- Block, brick and porous stone

COLOR
- White and standard gray
- Custom and landscape colors are available for 5,000 lbs (2,268 kg) minimum order.
- Ten landscape colors: bone, dijon, French vanilla, good earth, light khaki, Thoro gray, Navajo white, parchment, pearl gray and putty tan

STORAGE

Transport and store in unopened containers and keep in a clean, dry place protected from rain, dew and humidity. Do not stack bags more than two pallets high. If dry onsite storage of bags is unavailable or if project is located in a very wet, humid climate zone, then specify MasterSeal 581 packaged in 50 lb (22.7 kg) metal pails. Store MasterEmaco A 660 in similar conditions. Do not allow MasterEmaco A 660 to freeze.

Technical Data

Composition

MasterSeal 581 contains cement, graded sand, and proprietary additives.

Test Data

PROPERTY	RESULTS	TEST METHOD
Initial Set, min, at 70° F (21° C), 50% rh	10	Lab Method
Final Set, at 70° F (21° C), 50% rh	90	Lab Method
Density, (cured), lbs/ft³ (kg/m³)	129 (2,080)	Lab Method
Positive resistance to hydrostatic pressure, hrs, at 200 psi (1.4 MPa), 461 head ft, air cured at 70° F (21° C), 50% rh	752 No leakage, no softening	CRD C 48, modified
Negative resistance to hydrostatic pressure, hrs, at 200 psi (1.4 MPa), 461 head ft, air cured at 70° F (21° C) 50% rh	664 Limited dampness	CRD C 48, modified
Water absorption, %, boiling water submersion at 24 hours	3.6	ASTM C 67 (Section 7.3)
Compressive strength, psi (MPa)		ASTM C 109
7 days	4,200 (29)	
28 days	6,030 (42)	
Flexural strength, psi (MPa)		ASTM C 348
7 days	360 (2.5)	
28 days	1,027 (7)	
Tensile strength, psi (MPa)		ASTM C 190
7 days	250 (2)	
28 days	440 (3)	
Modulus of elasticity, psi (MPa)		ASTM C 469
28 days	2.72×10^6 (1.87×10^4)	
Artificial weathering, hrs		
Xenon Arc	5,000 = No failure	ASTM G 26
Carbon Arc	500 = No failure	ASTM G 23
Adhesion strength, psi (MPa)	418 (2.9)	Test by tensile bond
Artificial weathering, 500 hours	No cracking, loss of adhesion, checking, or other defect	Atlas Type DMC weatherometer
Freeze/thaw resistance, 200 cycles	No change	ASTM C 666 (Procedure B)
Salt spray resistance, 300 hours	No defect	ASTM B 117
Carbon Dioxide (CO_2), in (mm)	1/16 (1.6) Equivalent to ¾" (19 mm) new concrete	Lab Method Diffusion
Permeance, perms (metric permeability)	12 (0.10698) 18×10^3 resistance	ASTM E 96 (water-vapor transmission) Swedish standard SS-02-15-82

Test Data, continued

PROPERTY	RESULTS	TEST METHOD
Wind-driven rain, hrs	8 = excellent	Fed. Spec. TT-P-0035 (Para 4.4.7)
Coefficient of thermal expansion, in/in/° F (mm/mm/° C), at 28 days	6.99 x 10^{-6} (5 x 10^{-7})	ASTM C 531
Impact strength (Gardener impact tester)	No chipping	Fed. Spec. TT-P-0035 (Cement paints para. 3.4.8)
Hardness, (Barber Colemen Impressor) Requirement min = 30, max = 60		Fed. Spec. TT-P-0035 (para 4.4.9)
7 days	35	
14 days	47	
21 days	52	
Abrasion resistance, 3,000 L sand	Passed	Fed. Spec. TT-P-141B
Standard Reflectance		ASTM D 2244 using Hunterlab D-25 meter
Gray MasterSeal 581	64.2	
White MasterSeal 581	88.1	
Fungus resistance, at 21 days	No growth; meets all requirements	Fed. Spec. TT-P-29B
Surface burning characteristics		ASTM E 84
Flame Spread	0	
Smoke developed	5	
Fire Propagation	Index = 1.5	BS476: Part 6:1981
Flame spread	Class 1	BS476: Part 7:1971

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

HOW TO APPLY

SURFACE PREPARATION

1. Surface preparation is extremely important for proper adhesion. Substrates must be sound and free of dust, dirt, laitance, paints, oils, grease, curing compounds or any other contaminants. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 3–14 days. If efflorescence is present, mechanically remove it before proceeding. For extreme cases where this is not adequate, contact Technical Service.
2. Patch all holes and non-moving cracks before installation with appropriate BASF product.
3. Relieve hydrostatic pressure in concrete block with weep holes.
4. Roughen or brush blast extremely smooth surfaces such as precast and cast-in-place concrete to ensure good mechanical adhesion of MasterSeal 581.
5. Completely saturate the substrate with water and allow surface to dry before application starts. A damp surface will prevent surface drag on the material, keep the substrate cool and eliminate flash drying.

MIXING

1. Mix MasterSeal 581 with a mixing liquid consisting of a blend of MasterEmaco A 660 diluted with water. Maximum dilution ratio is one part MasterEmaco A 660 to three parts water. Approximately 6 quarts of mixing liquid is needed per 50 lbs of MasterSeal 581 powder. Up to 2 additional quarts of mixing liquid may be added when using as a rubbing compound.
2. For best results, mechanically mix MasterSeal 581 with a slow-speed drill and mixing paddle. Gradually add the powder to the mixing liquid while drill is running.
3. When properly blended, MasterSeal 581 will have the lump-free consistency of smooth, heavy batter.
4. Allow the MasterSeal 581 and MasterEmaco A 660 mixture to rest undisturbed for a minimum of 10 minutes to fully wet out all the powder. Then mix the wet mixture and apply. A small amount of mixing liquid can be added to the mixture.
5. Pot life is 60–90 minutes at 70° F (21° C). At high temperatures and low relative humidity, pot life can be significantly less.

APPLICATION

1. Apply MasterSeal 581 with a tampico brush or broom or equivalent stiff fiber brush or by textured spray equipment. Spray applications of the first coat require back brushing or brooming to properly fill voids and achieve uniformity and optimum adhesion.
2. It is essential to work first coat thoroughly into the substrate to completely fill and cover all voids, holes and nonmoving cracks. Finish with a horizontal stroke for an even coat.
3. Allow to cure 24 hours, then apply the second coat and finish with a vertical stroke. Above grade, the second coat can be replaced with a Thoro high-build architectural coating to achieve better color uniformity.
4. On block or masonry walls, allow 5–7 days before applying second coat to eliminate joint read through or shadowing.

SPECIFIC APPLICATIONS

Above-grade interior or exterior applications in positive pressure situations (direct contact with rain or standing water with a low head of pressure)

1. A 50 lb (22.7 kg) bag of MasterSeal 581 will provide the following coverage at the designated material usage.

   RECOMMENDED COVERAGE:
   - First Coat: 2 lbs/yd² (1.1 kg/m²) = 225 ft²/50 lb bag (20.9 m2/22.7 kg bag)
   - Second Coat: 1 lb/yd² (0.54 kg/m²) = 450 ft²/50 lb bag (41.8 m²/22.7 kg bag)
   - Total: 3 lbs/yd² (1.6 kg/m²), cured nominal thickness of 1/16" (1.6 mm).

   Coverage will vary depending on surface texture and porosity.
2. A 3 lbs/yd² (1.6 kg/m²) application rate does not eliminate surface irregularities such as struck mortar joints. To hide surface irregularities, spray and back-brush a base coat of MasterSeal 581 at 2 lbs/yd² (1.1 kg/m²) and allow it to cure for 5–7 days. If additional leveling is required use MasterSeal 581 Plaster Mix.

BELOW-GRADE INTERIOR APPLICATIONS

1. The standard application is 3 lbs/yd² (1.6 kg/m²).
2. For high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), increase application rate to 4 lbs/yd² (2.2 kg/m²) and waterproof from the positive side wherever possible.

BELOW-GRADE EXTERIOR APPLICATIONS

1. Use MasterSeal 582 (see Form No. 1019907) For high hydrostatic pressure conditions (over 15 psi [0.10 MPa]), apply a base coat of MasterSeal 582 at 2 lbs/yd² (1.1 kg/m²) and allow to cure for 5–7 days.
2. Then apply MasterSeal 581 at 2 lbs/yd² (1.1 kg/m²). If additional leveling is required use MasterSeal 581 Plaster Mix. A steel trowel finish is recommended.
3. For both below-grade interior and below-grade exterior applications where water might move between vertical walls and slab or footer, it is recommended to cut out and place a MasterSeal 590 cove at the wall and floor junction prior to the application of the MasterSeal 581 base coat.
4. MasterSeal 581 can be covered with extruded polystyrene insulation board during the second coat application. The board must be fully coated with MasterSeal 581 and embedded into the still-wet coating already in place on the walls. Use care when placing the coated board because it should not be moved or slipped. Once placed, do not move the board. After curing, prepare the above-grade portions of the boards by roughening or removing the surface skin and then coating with MasterSeal 581 to protect them from UV light degradation.

WATERPROOFING POTABLE WATER TANKS OR RESERVOIRS

1. Install MasterSeal 581 as directed in the general Application instructions.
2. After MasterSeal 581 has fully cured, wash down the MasterSeal 581 surface with saline solution (salt brine, 1 lb salt per 1 gallon water).
3. Leave saline solution on the entire MasterSeal 581 surface for at least 24 hours.
4. Rinse off saline solution completely. If needed, reapply saline solution until final rinse water is completely clean and clear.

COLOR UNIFORMITY

With any cementitious product, such as MasterSeal 581, it may be difficult to achieve color uniformity due to weather and substrate variability. For this reason, it may be necessary to apply a topcoat of a MasterProtect architectural coating.

CLEAN UP

Promptly clean hands and all tools with warm water while product is still wet. Cured material may only be removed mechanically.

FOR BEST PERFORMANCE

- MasterSeal 581 must be modified with MasterEmaco A 660 to achieve the properties listed in the technical data section.
- Do not apply to substrates with active water leaks or moving cracks; patch all leaking static cracks and holes with MasterSeal 590. Repair any other nonmoving cracks or voids with the appropriate Thoro repair product and repair all moving cracks or voids with appropriate sealant.
- Do not apply in rain or when rain is expected within 24 hours. Do not apply above 90° F (32° C) or below 40° F (4° C) or when temperatures are expected to fall below 40° F (4° C) within 24 hours. For hot and cold temperature applications, store MasterSeal 581, MasterEmaco A 660 and water at 50° F (10° C) to 70° F (21° C) before use.
- Hot substrates will affect working time and material strength.
- Variations between inside and outside temperatures may result in condensation on below-grade walls treated with MasterSeal 581. This can be alleviated by assuring that adequate ventilation exists.
- Windy, dry or hot conditions may require rewetting of MasterSeal 581 during cure and the use of polyethylene barriers.
- Before specifying MasterSeal 581 for water retaining structures, conduct tests to determine water quality. MasterSeal 581 is not intended for continuous contact with acid or sulfate-containing water. Very soft water will have an adverse effect on MasterSeal 581.
- Service temperatures: immersion, up to 140° F (60° C); cleaning water, up to 200° F (93° C); dry air, up to 220° F (104° C).
- On all projects, it is recommended that a sample be prepared on site and approved prior to the commencement of the work. The site sample should confirm the color, texture and workmanship required until the job is finished and accepted. Retain the sample until final approval is secured.
- Allow MasterSeal 581 to cure 7–10 days before immersion in water.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed. **For medical emergencies only, call ChemTrec® 1(800)424-9300.**

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The Chemical Company

Technical Data Guide

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Maintenance of Concrete

MasterEmaco® A 660
MasterEmaco® A 660 C

Water-based acrylic bonding and modifying admixture

FORMERLY ACRYL® 60 AND ACRYL® 60 CONCENTRATE

PACKAGING
MasterEmaco® A 660
1-quart (0.9 L) bottles
1-gallon (3.8 L) bottles
5-gallon (18.9 L) pails
55-gallon (208 L) drums

MasterEmaco® A 660 C
330-gallon (1,249 L) totes
(Made to Order)

YIELD
Varies according to application.
See Mixing Ratio table on page 3.

STORAGE
Transport and store in unopened containers between 40° and 100° F (4° and 38° C). Protect from freezing.

SHELF LIFE
Quart, 1-gallon and 5-gallon containers: 18 months when properly stored.

55-gallon drums and 330-gallon totes: 12 months when properly stored.

VOC CONTENT
1 g/L, less water and exempt solvents

DESCRIPTION
MasterEmaco® A 660 is an acrylic-polymer emulsion which enhances the adhesion, physical properties and durability of Portland cement mortars, plasters, stucco, and concrete mixes. MasterEmaco® A 660 C is a concentrated form of the product supplied in convenient 330-gallon totes.

PRODUCT HIGHLIGHTS
- Acrylic polymer significantly improves adhesion, cohesion, tensile, compressive, and flexural strengths of cement-based materials
- Excellent chemical and UV resistance promotes long-lasting repairs
- Improves freeze/thaw stability of Portland cement-based materials for durability in cold climates
- Retains stability when exposed to water for long term performance of repairs

APPLICATIONS
- Interior and exterior
- Above or below grade
- Horizontal, vertical and overhead surfaces
- Improve adhesion and durability of cement-based mixes
- As gauging liquid for BASF waterproofing and repair products, such as MasterSeal® 581

SUBSTRATES
- Concrete

INDUSTRIES/SECTORS
- Commercial
- Residential
- Building Restoration
- Infrastructure

MASTER® BUILDERS SOLUTIONS

HOW TO APPLY

SURFACE PREPARATION

1. Follow surface preparation recommendations for repair material to be used.
2. The area to be patched or coated should be in a saturated surface-dry (SSD) condition, with no standing water on surface.
3. For additional surface preparation guidelines, refer to the instructions for the BASF repair mortar or coating being used.

MIXING

NOTE: When using MasterEmaco® A 660 C, first dilute the concentrate 1:1.5 with potable water (1 gallon (3.8 L) of MasterEmaco® 660 C to 1.5 gallons (5.7 L) of potable water) to arrive at the concentration of standard MasterEmaco® A 660. Then proceed as follows:

1. 1 part of MasterEmaco A 660 is typically mixed with 3 parts of potable water. Where increased physical and chemical resistance are required, increase the MasterEmaco A 660 water ratio to 1:2 or 1:1 (see Mixing Ratio table on page 3).
2. Mechanically mix at low speed to avoid trapping air. Do not overmix or mix at a high speed.

APPLICATION

SAND/CEMENT MORTAR

1. Thoroughly mix all cement and sand first. The sand must be clean, free of clay, and dry.
2. Make up mixing liquid from a 1:3 or 1:2 MasterEmaco A 660/water mix, depending on requirements.
3. Slowly add the mixing liquid to the cement/sand mixture and mix with a slow-speed mixer for 1-2 minutes to avoid trapping air.
4. After preparing, cleaning, and pre-dampening the surface, brush-apply a scrub coat (not diluted) of the MasterEmaco A 660-modified cement/sand. Scrub vigorously into the surface to displace any air pockets.
5. While the scrub coat is still wet or tacky, fill the repair area with the modified cement/sand mix, being careful not to over-trowel. The trowel should be cleaned frequently, kept wet, and used with minimal pressure.
6. Maximum time for placement should not exceed 20 minutes. Higher air and surface temperatures or the use of fast-setting repair materials will decrease working and placement time.

CURING

1. When rapid drying is expected due to high temperatures, rapid air movement, or wind, it is recommended that the surface be covered with wet burlap to retain moisture.
2. For normal use, allow a 24-hour curing period.
3. For heavy wheeled traffic, allow a 4-day curing period.

CLEAN UP

Clean all tools and equipment immediately with water. Cured material may be removed by mechanical means.

FOR BEST PERFORMANCE

- Do not use MasterEmaco A 660 when the substrate or ambient temperature is below 40° F (4° C) or when the temperature is expected to fall below 40° F (4° C) within 24 hours. High relative humidity, excessive moisture, and low temperatures will retard the curing of mixes modified with MasterEmaco A 660.
- Caution is required when using MasterEmaco A 660 in a mix that already has air entrained; consult Technical Support for its proper use.
- Do not overmix or aerate mixes.
- Use with proper ventilation.
- Do not use MasterEmaco A 660 as a surface-applied external bonding agent or as a primer.
- Do not subject cement-based mixes modified with MasterEmaco A 660 to water immersion for a minimum of 24 hours at 73° F (23° C).
- Not recommended for exposure to soft water or immersion where contact with water-treatment chemicals is present without a protective top coat.
- Caution should be used when a solvent-based material is being used over a base system that contains MasterEmaco A 660.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of product data sheet and SDS are being used; call Customer Service to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.