

DAVID Y. IGE  
GOVERNOR



HAKIM OUANSAFI  
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**STATE OF HAWAII**  
DEPARTMENT OF HUMAN SERVICES  
HAWAII PUBLIC HOUSING AUTHORITY  
1002 NORTH SCHOOL STREET  
P.O. BOX 17907  
Honolulu, Hawaii 96817

BARBARA E. ARASHIRO  
EXECUTIVE ASSISTANT

**ADDENDUM NO. 6**

TO THE  
PLANS AND SPECIFICATIONS  
FOR  
FURNISHING LABOR AND MATERIALS  
REQUIRED FOR

**PALOLO VALLEY HOMES MODERNIZATION, PHASE 3**  
HONOLULU, OAHU, HAWAII  
Tax Map Key No.: (1) 3-004-015

**HPHA Job No. 15-016-108-Z**  
IFB-CMB-2016-17

June 9, 2016

The items listed hereinafter are hereby made a part of the contract for the above project and shall govern the work, taking precedence over previously issued plans and specifications governing the items mentioned.

**I. CHANGES TO SPECIFICATIONS**

- A. Section 02722 – Sewer System
1. Paragraph 2.01.A: Replace paragraph as follows:  
“Polyvinyl Chloride (PVC C-900) plastic pipes and fittings shall be used in sewer lines 8 inches or larger and for 6 inch sewer lines within the City’s sewer easement as shown on the plans.”
  2. Paragraph 2.01.A.1: Replace paragraph as follows:  
“Polyvinyl chloride (PVC) plastic pipe shall conform to the Construction Notes (Special Provisions for PVC Pipe).”

3. Paragraph 2.01.A.2: Revise text as follows:  
Delete "vitrified clay sewer lines and shall conform to Section 15 – Crushed Rock of the DPW Standard Specifications." and replace with "sewer lines and shall conform to the Construction Notes (Special Provisions for PVC Pipe)."
4. Add Paragraph 2.01.A.3:  
"Detectable warning tape shall be 4-mil, non-metallic, green colored, 6 inches wide. Tape shall be marked with "CAUTION SEWER LINE BURIED BELOW"."
5. Paragraph 2.01.B: Revise as follows:  
Delete "For six (6) inch sewer lines," and replace with "For six (6) inch sewer lines that are private,"
6. Add the following sentence to Paragraph 3.02.E:  
"Tape shall be installed 24 inches above sewer lines and laterals located in the City's sewer easement as shown in the typical sewer trench detail on the plans."

## **II. CHANGES TO PLANS**

- A. The following drawing sheets have been revised and marked Rev. 6 dated 6/09/16 (see attached). The revised sheet shall supersede the original liked plan sheet (general descriptions are noted hereinafter).
  1. Drawing No. C-001
    - a. Revised Index of Drawings to include Dwg. C-103
  2. Drawing No. C-102
    - a. Revised Sewer Notes (Revised Notes 3, 19, and 20 and added Notes 21 thru 26).
    - b. Added Sewer Bypass Notes and Special Provisions for PVC Pipe.
  3. Drawing No. C-103
    - a. New sheet – Water Notes and Construction Notes for Gas Facilities that were originally shown on Dwg. C-102 were moved to this sheet.
  4. Drawing No. C-105
    - a. Added silt fence/compost filter sock north of Parking Lot C and extended silt fence/compost filter sock along Ahe Street.
    - b. Moved erosion control mat for Building 13 that was originally shown on Dwg. C-303 to this sheet.

5. Drawing No. C-201
  - a. Called out additional trees to be removed.
  - b. Added Note 12.
  
6. Drawing No. C-303
  - a. Revised callouts.
  - b. Revised Note 12.
  
7. Drawing No. C-401
  - a. Removed callout for accessible path to thru gutter detail.
  
8. Drawing No. C-501
  - a. Added callout and note for sawcut joints to the thru gutter detail.
  
9. Drawing No. C-504
  - a. Added S4C Pipe Cradle Seal details.
  - b. Added Typical Sewer Trench Detail.
  - c. Revised pipe material for laterals and pipe within City Sewer easement.
  - d. Revised Sewer Line 1 profile.
  - e. Added SMH-1 and Existing SMH-16 detail.
  
10. Drawing No. C-505
  - a. Added Sewer Reconstruction – Conical detail.
  
11. Drawing No. A-501
  - a. Revised Wall Type B, detail 2/A-501
  
12. Drawing No. S-101
  - a. Added detail 2/S-101
  
13. Drawing No. S-202
  - a. Added opening for Tub Drain.
  
14. Drawing No. S-203
  - a. Added opening for Tub Drain.
  
15. Drawing No. S-204
  - a. Added opening for Tub Drain.
  
16. Drawing No. M-101
  - a. Plumbing Changes.
  
17. Drawing No. M-103
  - a. Plumbing Changes.
  
18. Drawing No. E1.1
  - a. Added Sewer Notes.

All other items and conditions shall remain in full force and effect.

Approved by:



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Rick T. Sogawa  
Procurement Officer

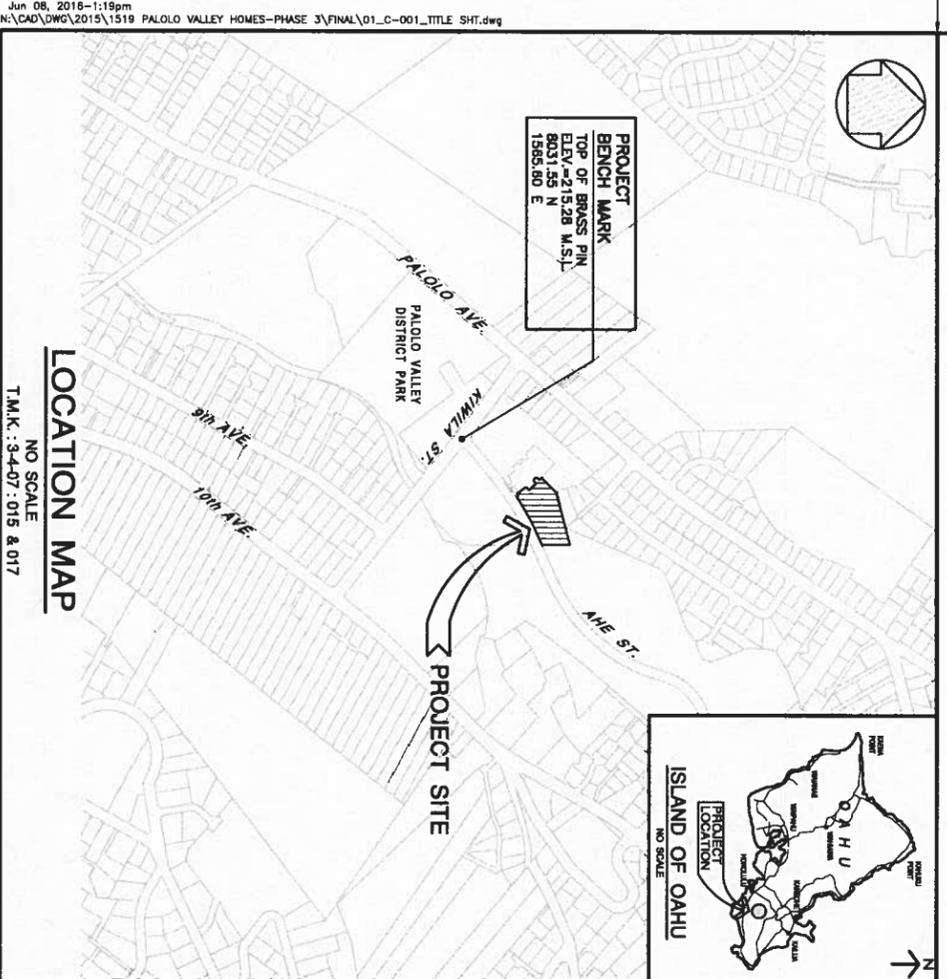


HAWAII PUBLIC HOUSING AUTHORITY  
STATE OF HAWAII

PALOLO VALLEY HOMES  
MODERNIZATION PHASE 3

HONOLULU, OAHU, HAWAII  
TAX MAP KEY: (1) 3 - 4 - 007 : 015 & 017  
CONSTRUCTION PLAN FILE NO. : 2016/CP - 108

PREPARED BY :  
Engineering Concepts, Inc.  
CONSULTING ENGINEERS  
HONOLULU, HAWAII



SHT.	DWG.	DESCRIPTION
1	C-001	CIVIL
4-6	C-101 TO C-103	CIVIL TITLE SHEET, INDEX OF DRAWINGS & LOCATION MAP
7	C-104	CONSTRUCTION NOTES
8	C-105	GENERAL PLAN
9	C-201	EROSION CONTROL PLAN & DETAILS
10	C-301	DEMOLITION PLAN
11	C-302	SITE, GRADING & UTILITY PLAN-1 (BLDG. 10 & 11)
12	C-303	SITE, GRADING & UTILITY PLAN-2 (BLDG. 12)
13	C-401	SITE, GRADING & UTILITY PLAN-3 (BLDG. 13 & PARKING LOT C)
14	C-402	PAVEMENT PLAN
15-17	C-501 TO C-503	CLOTHESLINE PAD JOINTING PLAN
18-19	C-504 TO C-505	MISCELLANEOUS DETAILS
20	C-601	MISCELLANEOUS SEWER DETAILS
21	C-602	TRAFFIC CONTROL PLAN (PHASE 1 & 2)
22	C-603	TRAFFIC CONTROL PLAN (PHASE 3)
23	C-701	TRAFFIC NOTES
78	E1.1	PARTIAL SITE ELECTRICAL PLAN
97	ES.1	DUCT SECTION DETAILS AND ELECTRICAL DETAILS

APPROVED:

DIRECTOR, DEPARTMENT OF PLANNING & PERMITTING, CITY & COUNTY OF HONOLULU  
(FOR SITE GRADING & WORK WITHIN CITY R/W & EASEMENT) DATE

ADD-#	SYMBOL	DESCRIPTION	SHEET NO.	DATE	APPROVED BY
ADD-6	6	ADDED CONSTRUCTION NOTES SHEET	1/18	09/16	
ADD-2	2	ADDED ELECT DWGS TO INDEX, T.M.K. LOT NO. & CP NO.	1/17	5/27/16	

DEPARTMENT OF HUMAN SERVICES  
HAWAII PUBLIC HOUSING AUTHORITY  
STATE OF HAWAII

PALOLO VALLEY HOMES MODERNIZATION PHASE 3

CIVIL TITLE SHEET, INDEX OF DRAWINGS & LOCATION MAP

ENGINEERING CONCEPTS, INC.  
DESIGNED BY: D.V.  
CHECKED BY: CA  
DRAWN BY: HH  
APPROVED BY: CA

15-019-108-Z  
DATE: 05-08-16

1 OF 98 SHEETS



**SEWER NOTES**

1. ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S STANDARD SPECIFICATIONS, SEPTEMBER 1988, THE DEPARTMENT OF PUBLIC WORKS CURRENT CITY PRACTICES AND REVISED ORDINANCES OF HONOLULU, 1980, AS AMENDED, AND THE DESIGN STANDARDS OF THE DEPARTMENT OF WASTEWATER MANAGEMENT, VOL. 1, JULY 1983.
2. IN THE EVENT THAT ANY CHANGE IN ALIGNMENT OR GRADE FOR THE PROPOSED SEWERS ARE REQUIRED DUE TO UNFORESEEN CONTACT WITH OTHER UTILITIES, THE ENGINEER IN CHARGE OR THE MAKER OF THE PLANS SHALL BE RESPONSIBLE FOR THE REQUIRED CHANGES WHICH ARE TO BE PRESENTED TO THE DEPARTMENT OF PLANNING AND PERMITTING (DPP) FOR APPROVAL.
3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGEMENT BRANCH, WASTEWATER DIVISION, DEPARTMENT OF DESIGN AND CONSTRUCTION AT 788-8772 OR 788-8770 TO ARRANGE FOR INSPECTION SERVICES AND SUBMIT FIVE (5) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF SEWER WORK. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION COSTS.
4. TREES IN THE ROAD RIGHT-OF-WAY SHALL BE SITUATED A MINIMUM OF 5'-0" FROM THE CITY'S SEWER LINE.
5. THE UNDERGROUND PIPES, CABLES OR DUCT LINES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES, INCLUDING AND AFFECTING SEWER LINES, IN THE PRESENCE OF THE WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWER SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATIONS AND PRESS RELEASES.
8. THE CONTRACTOR SHALL INSTALL "TRANSSTOPPER" MANHOLE INSERTS IN ALL SEWER MANHOLES WITH TYPE "SA" FRAME AND COVER.
9. CONTAINED SPACE
  1. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
    - A. FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
    - B. LIFELINE AND ASSOCIATED CLIPS.
    - C. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
    - D. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
    - E. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTES DURATION).
    - F. CELLULAR TELEPHONE TO CALL TO FOR EMERGENCY ASSISTANCE.
    - G. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20-FEET AWAY).
    - H. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
  2. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
  3. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).
  4. NO RIGS SHALL BE INSTALLED INSIDE NEW SEWER MANHOLES.
  5. FOR SEWER MANHOLE ADJUSTMENTS UPWARD LESS THAN 3" SEE STD. DETAIL S-25. FOR SHIM ADJUSTMENTS UPWARD GREATER THAN 3" OR FOR ANY ADJUSTMENTS DOWNWARD, RECONSTRUCT SHIM TOP FROM BELOW THE CONE SECTION.
  6. IF CONTRACTOR ENCOUNTERS FLOW MONITORING DEVICES SUCH AS SPECIAL SEWER MANHOLE COVER EMBEDDED WITH SOLAR PANELS; NOTIFY C & C OF HONOLULU, EW-CSM AT 788-7772 TO COORDINATE TEMPORARY REMOVAL.
  7. CONTRACTOR SHALL MAINTAIN VISIBILITY AND MAINTENANCE ACCESS TO LIVE SEWER MANHOLE LOCATIONS AT ALL TIMES, INCLUDING DURING NON-WORK HOURS AND PAUSING OPERATIONS.
  8. CONTRACTOR SHALL USE MANHOLE DEBRIS CATCHING DEVICE WHEN PERFORMING MANHOLE HEIGHT ADJUSTMENT WORK AND REMOVE ANY CONSTRUCTION DEBRIS THAT HAS FALLEN INTO THE MANHOLE. DISPOSAL OF CONSTRUCTION DEBRIS IN THE SEWER SYSTEM IS STRICTLY PROHIBITED.
  9. TOPS OF SEWER MANHOLES IN LANDSCAPED / GRASSED AREAS SHALL BE TWO INCHES ABOVE FINISH GRADE UNLESS OTHERWISE INDICATED BY THE ENGINEER.

**SEWER BYPASS NOTES**

1. WHEN THE SEWER BYPASS SYSTEM IS IN OPERATION, THE CONTRACTOR SHALL ENSURE THAT THE SYSTEM IS CONTINUOUSLY MAINTAINED, OPERATED MONITORED, AND MAINTAINED BY SHIM TECHNICIANS SPECIFICALLY TRAINED AND EXPERIENCED IN ALL ASPECTS OF SUCH BYPASS SYSTEMS.
2. THE BYPASS PUMP(S) SHALL HAVE ADEQUATE PUMPING CAPACITY.
3. AT LEAST ONE (1) STANDBY PUMP OF EQUAL SIZE SHALL BE ON-SITE DURING PUMPING OPERATIONS.
4. TEMPORARY BYPASS PIPING MAY BE LAID ON THE GROUND SURFACE, PINNED FIRMLY IN PLACE TO PREVENT MOVEMENT OR BREAKAGE DURING USAGE AND PROPERLY PROTECTED AGAINST VANDALISM. SAFE PASSAGE OF PEDESTRIAN TRAFFIC MUST BE ENSURED THROUGH AND AROUND ALL BYPASS EQUIPMENT AND MATERIALS.
5. WHEN SEWER BYPASSING IS USED, PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT WATER LEVELS DO NOT CREATE BACKUPS NOR CAUSE DAMAGE OR FLOODING TO ANY PUBLIC OR PRIVATE PROPERTIES. ANY SUCH DAMAGE, CLAIMS OR FINES DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED, CLEANED, AND COMPENSATED AT THE SOLE EXPENSE OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, BUYING, INSTALLATION, OPERATION, MAINTENANCE AND REMOVAL OF THE SEWER BYPASS SYSTEMS NECESSARY TO COMPLETE THE WORK. THE SCHEDULES AND OTHER INFORMATION PRESENTED HEREIN ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE TO ASSIST IN THE DEVELOPMENT AND EXECUTION OF THE CONTRACTOR'S BYPASS PLANS.
7. ALL BYPASS SEWAGE SHALL BE COMPLETED IN ADEQUATELY SIZED PIPES THAT ARE PROPERLY PROTECTED. ALL BYPASSED SEWAGE SHALL BE REDIRECTED BACK INTO THE SANITARY SEWER SYSTEM.
8. THE TEMPORARY BYPASS SYSTEM SHALL INCLUDE BUT NOT BE LIMITED TO ALL POWER, BACKUP POWER, PRIMARY AND STANDBY PUMPS, PIPING AND APPURTENANCES NEEDED TO CONVEY EXISTING FLOWS AND MAINTAIN SERVICES. THE CONTRACTOR SHALL USE QUIET POWER GENERATORS FOR THE BYPASS SYSTEM.
9. THE CONTRACTOR SHALL OBTAIN THE NECESSARY APPROVALS FROM UTILITIES AND PUBLIC AGENCIES FOR POTENTIAL CONFLICTS DURING BYPASS OPERATIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING BYPASS OPERATIONS WITH THE DEPARTMENT OF ENVIRONMENT SERVICES AND SHALL NOTIFY THE DIRECTOR AT 788-3488 AT LEAST THIRTY (30) DAYS PRIOR TO CONSTRUCTION.
11. PRIOR TO START OF SEWER LINE AND MANHOLE WORK, ALL CORRESPONDING BYPASS SYSTEMS SHALL BE IN PLACE, TESTED USING PORTABLE WATER AND COMPLETE.
12. THE TEMPORARY BYPASS SYSTEM FOR EACH WORK AREA SHALL BE CONTINUOUSLY MONITORED AND MAINTAINED BY THE CONTRACTOR TO PREVENT SEWAGE SPILLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY PUBLIC OR PRIVATE PROPERTY CAUSED BY THE CONTRACTOR'S OPERATIONS.
13. THE CONTRACTOR SHALL REMOVE ALL BYPASS PIPING AND RESTORE PAVEMENT AND OTHER PROPERTY DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO THEIR ORIGINAL CONDITION FOLLOWING THE COMPLETION OF THE REQUIRED WORK.
14. THE CONTRACTOR SHALL SCHEDULE WORK TO MINIMIZE THE POSSIBILITY OF BYPASS OPERATIONS OCCURRING DURING RAINFALL EVENTS.

**SPECIAL PROVISIONS FOR PVC PIPE**

1. POLYVINYL CHLORIDE (PVC) PLASTIC SEWER PIPE AND APPURTENANCES USED ON THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF SECTION 21 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1988, EXCEPT AS MODIFIED HEREIN.
  - A. GENERAL: PVC GRAVITY SEWER PIPE AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF C-900/C-905.
  - B. ACCEPTANCE: THE BASIS FOR ACCEPTANCE SHALL BE THE INSPECTION OF PIPE FITTINGS AND COULINGS. THE TESTS SPECIFIED HEREIN AND IN SECTION 21, AND COMPLIANCE WITH THE SPECIFICATIONS, AT THE TIME OF THE MANUFACTURE, EACH LOT OF PIPE AND FITTINGS SHALL BE TESTED IN ACCORDANCE WITH ASTM D2454 AND D2455. THE ENGINEER MAY REJECT PIPE AND FITTINGS BY THE MANUFACTURER THAT THE TEST RESULTS COMPLY WITH SPECIFICATION REQUIREMENTS. WHEN THE PIPE IS DELIVERED TO THE JOB SITE, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL TESTING TO INSURE THE QUALITY OF THE PIPE AT NO EXPENSE TO THE CITY. PIPE WHICH IS NOT INSTALLED WITHIN 120 DAYS OF THE LATEST FACTORY TEST SHALL NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
  - C. SELECTION OF TEST PIPE: WHEN TESTING IS REQUIRED BY THE ENGINEER, ONE TEST PIPE SHALL BE SELECTED AT RANDOM BY THE ENGINEER FROM EACH 1200 LINEAR FEET OR FRACTION THEREOF OF EACH SIZE OF PIPE DELIVERED TO THE JOB SITE BUT NO LESS THAN ONE TEST PIPE PER LOT. A LOT SHALL BE DEFINED AS PIPE HAVING THE SAME MANUFACTURER MARKING. THE LENGTH OF SPECIMEN OF EACH SELECTED PIPE SHALL BE MINIMUM OF 8 FEET.
  - D. CELL CLASSIFICATION: PIPE SHALL BE MADE OF PVC PLASTIC HAVING A CELL CLASSIFICATION OF 1244-A, 1334-A, OR 1334-B AS DENIED IN ASTM D1784. THE FITTINGS SHALL BE MADE OF PVC PLASTIC HAVING A CELL CLASSIFICATION OF 1244-B, 1244-C, OR 1334-C. PVC COMPOUNDS OF OTHER CELL CLASSIFICATIONS SHALL BE PRE-QUALIFIED BY THE MANUFACTURER.
  - E. JOINTS: PIPE JOINTS SHALL BE BELL AND SPIGOT TYPE WITH AN ELASTOMERIC GASKET. THE GASKETED JOINTS SHALL BE MANUFACTURED WITH A SOCKET CONFIGURATION WHICH WILL PRECLUDE IMPROPER INSTALLATION OF THE GASKET AND WILL INSURE THE GASKET REMAINS IN PLACE DURING THE JOINING OPERATION. ALL PIPE SHALL HAVE A HOME MARK ON THE SPIGOT END TO INDICATE PROPER PENETRATION WHEN THE JOINT IS MADE.
  - F. IDENTIFICATION MARKS: ALL PIPE FITTINGS AND COULINGS SHALL BE CLEARLY MARKED AT AN INTERVAL NOT TO EXCEED 5 FEET AS FOLLOWS:
    - (1) NOMINAL PIPE DIAMETER.
    - (2) PVC CELL CLASSIFICATION.
    - (3) COMPANY, PLANT, SHIFT, ASTA, SPR, AND DATE DESIGNATIONS.
    - (4) SERVICE DESIGNATION AND LEGEND.
  - G. DIMENSIONS AND TOLERANCES:
 

TABLE 2 - PIPE DIMENSIONS (INCHES)			
NOMINAL SIZE	AVERAGE O.D.	MINIMUM WALL THICKNESS	APPROXIMATE WEIGHT (LBS)
6	6.80	±0.012	104
8	8.05	±0.012	178
  - H. CHEMICAL RESISTANCE: THE PVC COMPOUND FOR CELL CLASSIFICATIONS NOT SPECIFICALLY IDENTIFIED IN ITEM D ABOVE SHALL BE PRE-QUALIFIED BY THE PIPE MANUFACTURER BY MEETING THE CHEMICAL RESISTANCE TESTS WHICH FOLLOW. COMPOUND SAMPLES AND MOLDED TEST SPECIMENS SHALL BE PREPARED IN ACCORDANCE WITH ASTM D543.
 

CHEMICAL SOLUTION	CONCENTRATION (%)
SULFURIC ACID	20*
SODIUM HYDROXIDE	5*
AMMONIUM HYDROXIDE	5*
NITRIC ACID	1*
FERRIC CHLORIDE	0.1
DETERGENT (LINEAR ALKYL BENZYL SULFONATE OR LAS)	0.1

 \*VOLUMETRIC PERCENTAGES OR CONCENTRATED REAGENTS OF C.P. GRADE.
 

WEIGHT CHANGE SPECIMENS SHALL BE 2 INCHES IN DIAMETER AND MAY BE MOLDED FROM 2 INCHES TO 12 INCHES IN DIAMETER. SPECIMENS SHALL BE CONDITIONED FOR SEVEN DAYS AT 43° ± 2°C COOLED IN A DESICCATOR FOR THE THREE HOURS AT 23° ± 2°C, WEIGHED, AND THEN IMMERSED IN THE SOLUTIONS AT 43° ± 2°C. SELECTED SPECIMENS SHALL THEN BE RECONDITIONED FOR SEVEN DAYS AT 43° ± 2°C, COOLED IN A DESICCATOR FOR THREE HOURS AT 23° ± 2°C AND AGAIN WEIGHED. INITIAL AND POST EXPOSURE SPECIMENS SHALL MEET THE FOLLOWING REQUIREMENTS WHEN TESTED AT 23° ± 2°C:

PROPERTY	ASTM TEST METHOD	CELL CLASS	MINIMUM VALUES	VALUES
TENSILE STRENGTH (YIELD), PSI	D 638	7000	8000	8000
IMPACT STRENGTH FT-LBS/IN. METHOD A	D 256	0.85	1.5	1.5
WEIGHT CHANGE, %	D 543	1.5	1.5	1.5

 IF ANY SPECIMEN FAILS TO MEET THE REQUIREMENTS AT ANY TIME DURING THE 112 DAY EXPOSURE PERIOD, THE MATERIAL WILL BE SUBJECT TO REJECTION.

1. TRENCH EXCAVATION: TRENCHES FOR PVC SEWER PIPE SHALL BE EXCAVATED AND PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 11 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EXCEPT AS MODIFIED HEREIN.

OVER-EXCAVATION: THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE PLUS 18-INCHES FOR PIPES UP TO 12 INCHES (I.D.). IF THE TRENCH EXCAVATION EXCEEDS THE COMPUTED MAXIMUM ALLOWABLE TRENCH WIDTH WHETHER BY EXCAVATION, GIVE-IN, OR BY GROUND MOVEMENT, THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ADDITIONAL BEDDING, ANOTHER TYPE OF BEDDING, AND/OR A HIGHER STRENGTH OF PIPE DESIGNATED BY THE ENGINEER WHERE SHOULDER IS REQUIRED. THE ALLOWABLE WIDTH OF THE TRENCH SHALL BE INCREASED ONLY BY THE THICKNESS OF THE SHOULDER.

2. BEDDING: WHERE UNSUITABLE MATERIAL IS ENCOUNTERED AT THE SUBGRADE AND ADDITIONAL EXCAVATION IS REQUIRED, THE VOID CREATED BY THE ADDITIONAL EXCAVATION SHALL BE FILLED AND COMPACTED WITH BEDDING MATERIAL SPECIFIED ON THE PLANS OR SPECIAL PROVISIONS, WHERE CONCRETE IS SPECIFIED TO BED THE TOP OF THE CONCRETE SHALL BE CONSIDERED AS THE TOP OF THE BEDDING. BEDDING MATERIAL SHALL CONSIST OF ONE OF THE FOLLOWING:

- (1) BEACH SAND.
- (2) NO. 8 OR NO. 87 AGGREGATE CONFORMING TO THE GRADATION REQUIREMENTS OR ASTM C333.
- (3) 3/4 INCH FILTER AGGREGATE.
- (4) NATIVE FREE - DRAINING GRANULAR MATERIAL HAVING A MINIMUM SAND EQUIVALENT OF 30 OR HAVING A COEFFICIENT OF PERMEABILITY GREATER THAN 0.001 EQUIVALENT PER SECOND.
- (5) OTHER MATERIAL APPROVED BY THE ENGINEER.

3. BEDDING MATERIAL SHALL FIRST BE PLACED SO THAT THE PIPE IS SUPPORTED FOR THE FULL LENGTH. THE BARRELS WITH FULL BEARING ON THE BOTTOM SHOULD BE THE FIRST EQUAL TO A MINIMUM OF 0.4 TIMES THE OUTSIDE DIAMETER OF THE BARREL. IF THE PIPE IS TO BE LAID IN A ROCK EXCAVATION, THE ROCK SHALL BE REMOVED SUCH THAT NO RISERS, ROCKS, OR SOLID PROJECTIONS SHALL BE WITHIN 6 INCHES OF THE SEWER PIPE HORIZONTALLY AND THERE SHALL BE AT LEAST 4 INCHES OF BEDDING BELOW THE PIPE.

4. COMPACTOR OF THE BEDDING FROM THE BOTTOM OF THE PIPE TO 12 INCHES ABOVE THE PIPE BARREL, BY LETTING OR BE PERMITTED PROVIDED THAT THE FOUNDATION MATERIAL WILL NOT SETTLE OR BE OTHERWISE DAMAGED BY THE APPLIED WATER. FLOODING OR PONDING METHODS OF ACHIEVING THE REQUIRED RELATIVE DENSITY WILL NOT BE PERMITTED. THE SIZE AND LENGTH OF SET PIPES, QUANTITIES AND PRESSURE OF WATER, AND SETTING CONDITIONS SHALL BE SUFFICIENT TO COMPACT THE BEDDING TO THE REQUIRED RELATIVE DENSITY. THE PIPE BARREL TO BE FINISHED SURFACE SHALL BE WITHIN 1/2 INCHES OF THE REQUIRED RELATIVE DENSITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORKERS CONSTRUCTION.

5. MANHOLE TEST OF PVC PIPE: A MANHOLE TEST SHALL BE PERFORMED NO SOONER THAN 30 DAYS AFTER TRENCH BACKFILL IS COMPLETED. IN ROUGHNESS AREAS THE 30-DAY PERIOD SHALL BEGIN AFTER INSTALLATION AND COMPLETION OF BEDDING. BACKFILL SHALL BE PULLED THROUGH THE PIPE BY HAND AND BETWEEN ADJACENT MANHOLES TO MEASURE FOR OBSTRUCTIONS (DEFLECTION, JOINT OFFSETS AND LATHEAL PIPE INTUITIONS). THE MANHOLE SHALL HAVE A CROSS SECTION EQUIVALENT TO A CIRCLE HAVING A DIAMETER AT LEAST 95 PERCENT OF THE SPECIFIED AVERAGE INSIDE DIAMETER OF THE PIPE. THE MINIMUM LENGTH OF THE CIRCULAR PORTION OF THE MANHOLE SHALL BE EQUAL TO THE NOMINAL DIAMETER OF THE PIPE. THIS TEST SHALL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY. ANY SECTION OF PIPE THAT FAILS TO PERMIT PASSAGE OF THE MANHOLE WILL NOT BE ACCEPTED UNTIL PROBABLY REPAIRED OR REPLACED AND RETESTED.

6. INSTALL 4-MIL THICK NON-METALLIC GREEN COLORED 6-INCH WIDE WARNING TAPE OVER CENTERLINE OF PVC PIPE ABOVE THE BEDDING ALONG THE ENTIRE LENGTH OF TRENCH. TAPE SHOULD BE MARKED WITH "CAUTION SEWER LINE BURIED BELOW".

7. THE MANHOLE DESIGN DEFLECTION (FLATTENING) FOR PLASTIC PIPE SHALL BE 5 PERCENT.

8. SPECIAL WATER-TIGHT MANHOLE COUPLINGS PER STANDARD DETAIL S-48 WILL BE REQUIRED FOR ALL MANHOLE CONNECTIONS. COUPLINGS MAY BE CAST DIRECTLY INTO CAST-IN-PLACE EXPANSION TYPE GROUT.

9. FOR CONNECTIONS OF PVC LATERAL SEWERS TO MAINS OF DIFFERENT MATERIALS, AN APPROVED SADDLE WIRE FITTING CONSTRUCTED OF THE SAME MATERIAL AS THE MAIN LINE SHALL BE INSTALLED. CONNECTION TO THE SADDLE FITTING SHALL BE MADE BY MEANS OF AN APPROVED FLEXIBLE RUBBER COUPLING IN ACCORDANCE WITH THE COUPLING MANUFACTURER'S INSTALLATION RECOMMENDATIONS OR BY OTHER MEANS ACCEPTABLE TO THE ENGINEER.

10. INSTALL 4-MIL THICK NON-METALLIC GREEN COLORED 6-INCH WIDE WARNING TAPE OVER CENTERLINE OF PVC PIPE ABOVE THE BEDDING ALONG THE ENTIRE LENGTH OF TRENCH. TAPE SHOULD BE MARKED WITH "CAUTION SEWER LINE BURIED BELOW".

License Expiration Date 08-28-18

DEPARTMENT OF HUMAN SERVICES  
 HAWAII PUBLIC HOUSING AUTHORITY  
 STATE OF HAWAII

CONSTRUCTION NOTES

PALOLO VALLEY HOMES MODERNIZATION PHASE 3

ENGINEERING CONCERN, INC.  
 15-019-108-Z  
 05-08-18

C-102

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05-08-18

**WATER NOTES (PRIVATE)**

1. 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.
2. TEST PRESSURE SHALL BE ONE OF THE FOLLOWING:
  - A. PREVAILING LINE PRESSURE JOINTS LEFT EXPOSED FOR 24 HOURS TO CHECK FOR LEAKS PRIOR TO BACKFILL.
  - B. 150 PSI DURING THE 30-MINUTE PRESSURE TEST. THE PRESSURE SHALL NOT DROP MORE THAN 10 PSI.
3. THE CONTRACTOR SHALL CHLORINATE THE ENTIRE INSIDE SURFACE OF EACH PIPE AND FITTING WITH DISINFECTANT SOLUTION OF 5 QUINCES OF SODIUM HYPOCHLORITE MIXED WITH 10 GALLONS OF WATER. (FOR CONNECTION ONLY)
4. THE PROJECT SHALL PAY THE APPLICABLE WATER SYSTEM FACILITIES AND/OR ONE-TIME SERVICE CHARGE AND FOR THE METER WHICH WILL BE FURNISHED BY BWS AND INSTALLED BY THE CONTRACTOR WHEN THE LATERAL IS INSTALLED.
5. THE CONTRACTOR SHALL NOTIFY BWS CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION IN WRITING AND SUBMIT SIX (6) SETS OF APPROVED CONSTRUCTION PLANS ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
6. CONTRACTOR SHALL CUT AND PLUG ALL EXISTING UNUSED LATERALS AT THE MAIN WHETHER OR NOT SHOWN ON THE PLANS. METER AND VALVE BOXES TO BE OR ALREADY ABANDONED SHALL BE DEMOLISHED OR REMOVED AND PROPERLY DISPOSED OF. THE DAMAGED AREA SHALL BE REPAIRED TO AN EQUAL OR BETTER CONDITION THAN THE IMMEDIATE AREA ALL WORK SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.
7. AFTER INSTALLATION OF TAPPING STEVE AND VALVE PRIOR TO ACTUAL TAPPING OPERATIONS, THE ASSEMBLY SHALL BE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE.
8. ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY.
9. BOARD OF WATER SUPPLY APPROVAL OF THESE PLANS DOES NOT CONSTITUTE A WATER COMMITMENT. AVAILABILITY OF WATER WILL BE DETERMINED WHEN BUILDING PERMIT IS PRESENTED TO THE DEPARTMENT. WATER COMMITMENT WILL DEPEND UPON THE STATUS OF THE WATER SYSTEM AT THE TIME SHOULD WATER SERVICE BE MADE AVAILABLE. THE WATER COMMITMENT WILL BE EFFECTIVE WHEN THE PROJECT RECEIVES AN APPROVED BUILDING PERMIT FROM THE BUILDING DEPARTMENT. ALL WATER COMMITMENTS WILL BE CANCELLED IN THE EVENT THE BUILDING PERMIT IS CANCELLED.
10. THE PROJECT SHALL BE SUBJECT TO THE BOARD OF WATER SUPPLY'S CROSS-CONNECTION CONTROL REQUIREMENTS PRIOR TO ISSUANCE OF THE BUILDING PERMIT.
11. THE INSTALLATION, CHLORINATION AND TESTING OF THE WATER MAIN AND FACILITIES AFTER THE METER SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATER LINES, TEES AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATER LINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING PROTECTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURE NECESSARY TO PROTECT THE WATER LINES, SUCH AS CONSTRUCTING SPECIAL PROTECTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
13. 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 OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
14. POLYGON SHAPE FOR MECHANICAL JOINT GLANDS AS DESCRIBED IN ANWA STANDARD C111 SHALL BE "STRAIGHT-SIDED" OR AN APPROVED EQUAL ON A JOB TO JOB BASIS.
15. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
16. THE CONTRACTOR/DEVELOPER SHALL OBTAIN A NPDES PERMIT PRIOR TO CHLORINATION AND/OR DEMATERING. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE BOARD OF WATER SUPPLY, CAPITAL PROJECTS DIVISION, CONSTRUCTION SECTION.
17. PIPE CUSHION SHALL BE OF HIGH RESISTANT MATERIAL. THE CONTRACTOR SHALL SUBMIT A SOIL CERTIFICATION THAT HIGH RESISTANT CUSHION MATERIAL HAS A RESISTANT GREATER THAN 5,000 OHM-CM. REMAINDER OF THE BACKFILL MATERIAL SHALL BE AS SPECIFIED IN THE WATER SYSTEM STANDARDS. PIPE CUSHION AND BACKFILL MATERIAL SHALL CONTAIN NO HAZARDOUS SUBSTANCES ABOVE REGULATORY ACTION LEVELS INCLUDING BUT NOT LIMITED TO LEAD, ASBESTOS, MERCURY, CHROMIUM, CADMIUM, ZINC, STRONTIUM, AND POLYCHLORINATED BI-PHENYLS (PCB).

**CONSTRUCTION NOTES FOR GAS FACILITIES**

1. THE GAS COMPANY GAS PIPELINES IN THE PROJECT AREA ARE PLASTIC COATED AND CATHODICALLY PROTECTED. THE CONTRACTOR SHALL BE EXTREMELY CAREFUL WHEN WORKING NEAR THESE GAS PIPELINES.
2. WRITTEN CLEARANCES MUST BE OBTAINED FROM THE GAS COMPANY. MAPS AND RECORDS DEPARTMENT, 515 KAMAKEE STREET, AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING EXCAVATION NEAR THESE GAS PIPELINES.
3. SINCE GAS LINE LOCATIONS ON FIELD MAPS ARE APPROXIMATE, THE CONTRACTOR, AFTER OBTAINING WRITTEN CLEARANCE, SHALL CALL HAWAII ONE CALL CENTER A MINIMUM OF FIVE (5) WORKING DAYS BEFORE STARTING EXCAVATION TO ARRANGE FOR FIELD LOCATION OF THE EXISTING GAS PIPELINES. THE TELEPHONE NUMBER IS 811 OR 1-888-423-7287.
4. THE CONTRACTOR SHALL EXCAVATE AND BACKFILL AROUND GAS PIPELINES IN THE PRESENCE OF A REPRESENTATIVE OF THE GAS COMPANY. ALL BACKFILL WITHIN SIX INCHES OF ANY GAS PIPELINE SHALL BE SELECT CUSHION MATERIAL APPROVED BY THE GAS COMPANY.
5. FOR RELOCATION OF ANY GAS PIPELINE, THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY FIVE (5) WORKING DAYS BEFORE STARTING WORK. THE TELEPHONE NUMBER IS 594-5574. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EXCAVATION AND BACKFILL, OBTAIN TRAFFIC PERMITS, AND RESTORE PAVEMENT, SIDEWALKS, AND OTHER FACILITIES. ANY RELOCATION OF GAS FACILITIES SHALL BE DONE BY THE GAS COMPANY AND PAID FOR BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY IMMEDIATELY AFTER ANY DAMAGE HAS BEEN CAUSED TO EXISTING GAS PIPELINES, COATINGS, OR ITS CATHODIC PROTECTION DEVICES. THE TELEPHONE NUMBER IS 533-9833. 24 HOURS A DAY, THE CONTRACTOR SHALL BE AVAILABLE TO THE GAS COMPANY FACILITIES. THE REPAIR WORK ON SUCH DAMAGE SHALL BE DONE BY THE GAS COMPANY WITH PAYMENT FOR THIS WORK TO BE BORNE BY THE CONTRACTOR.
7. MINIMUM VERTICAL AND HORIZONTAL CLEARANCE BETWEEN THE GAS PIPELINES AND OTHER PIPELINES, CONDUITS, DUCTLINES, OR OTHER FACILITIES SHALL BE 12 INCHES. ADEQUATE SUPPORT AND PROTECTION FOR GAS PIPELINES EXPOSED IN THE TRENCH SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE GAS COMPANY.
8. THE CONTRACTOR SHALL WORK IN AN EXPEDITIOUS MANNER IN ORDER TO KEEP THE UNCOVERED GAS PIPELINES EXPOSED FOR AS SHORT A PERIOD OF TIME AS POSSIBLE.

REGION	STATE	DESCRIPTION	DATE	APPROVED
ADD-6	6	ADDED SHT. MOVED NOTES FROM C-102 TO C-103	6/8/16	

License Expiration Date: 06-30-18

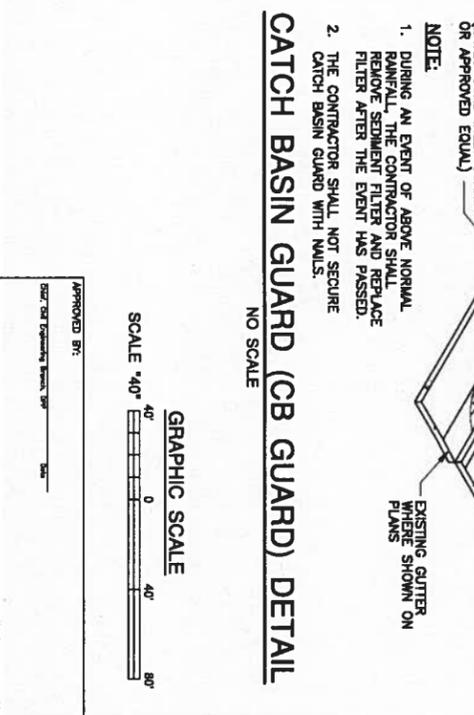
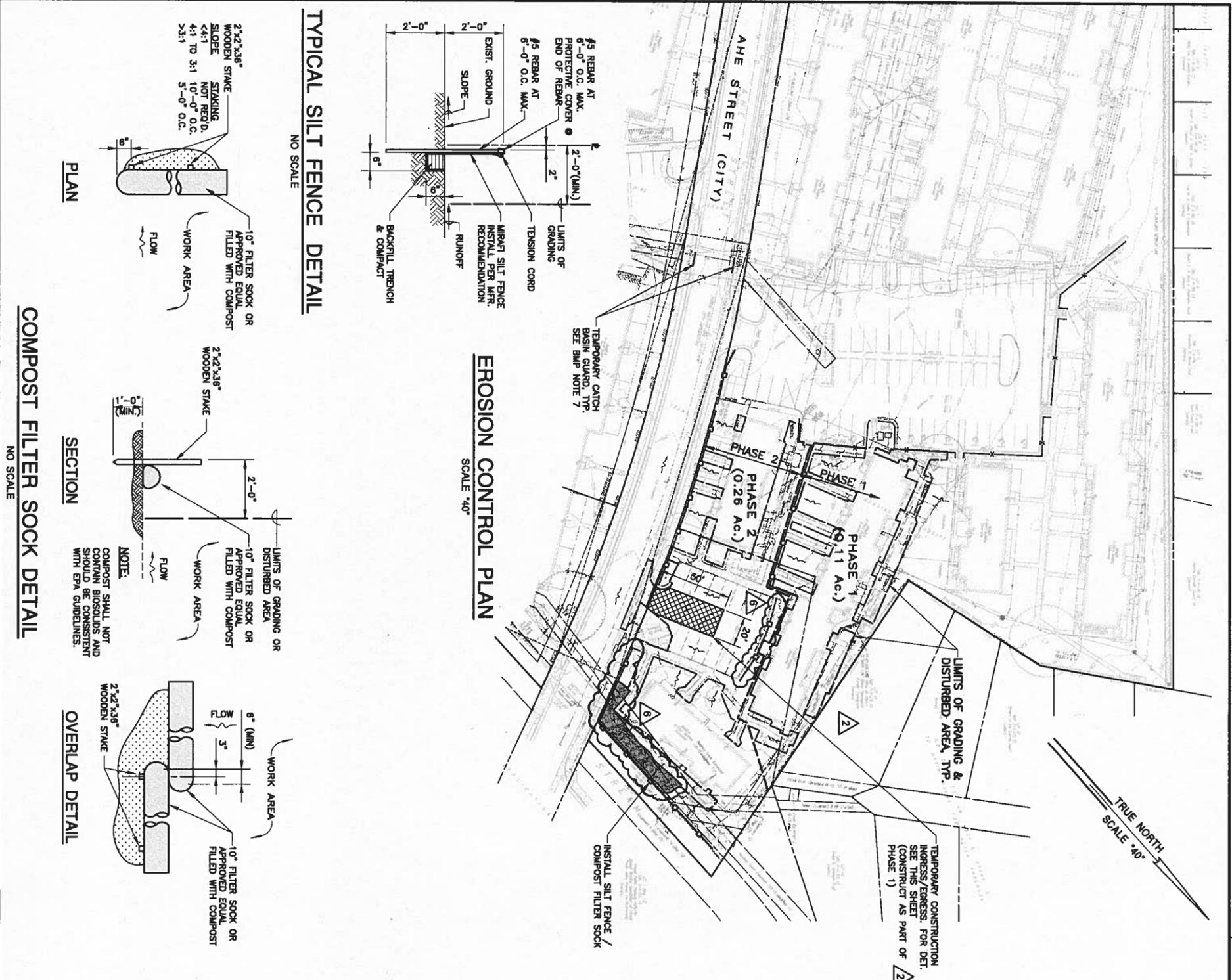
DEPARTMENT OF HUMAN SERVICES  
 HAWAII PUBLIC HOUSING AUTHORITY  
 STATE OF HAWAII

CONSTRUCTION NOTES

PALOLO VALLEY HOMES MODERNIZATION PHASE 3

ENGINEERING CONCEPTS, INC.	1544 JOE RD.	05-08-16	6
DESIGNED BY: CA	15-015-108-Z	DATE	SHEET
DRAWN BY: CA			6
APPROVED BY: CA			98

SCALE AS INDICATED



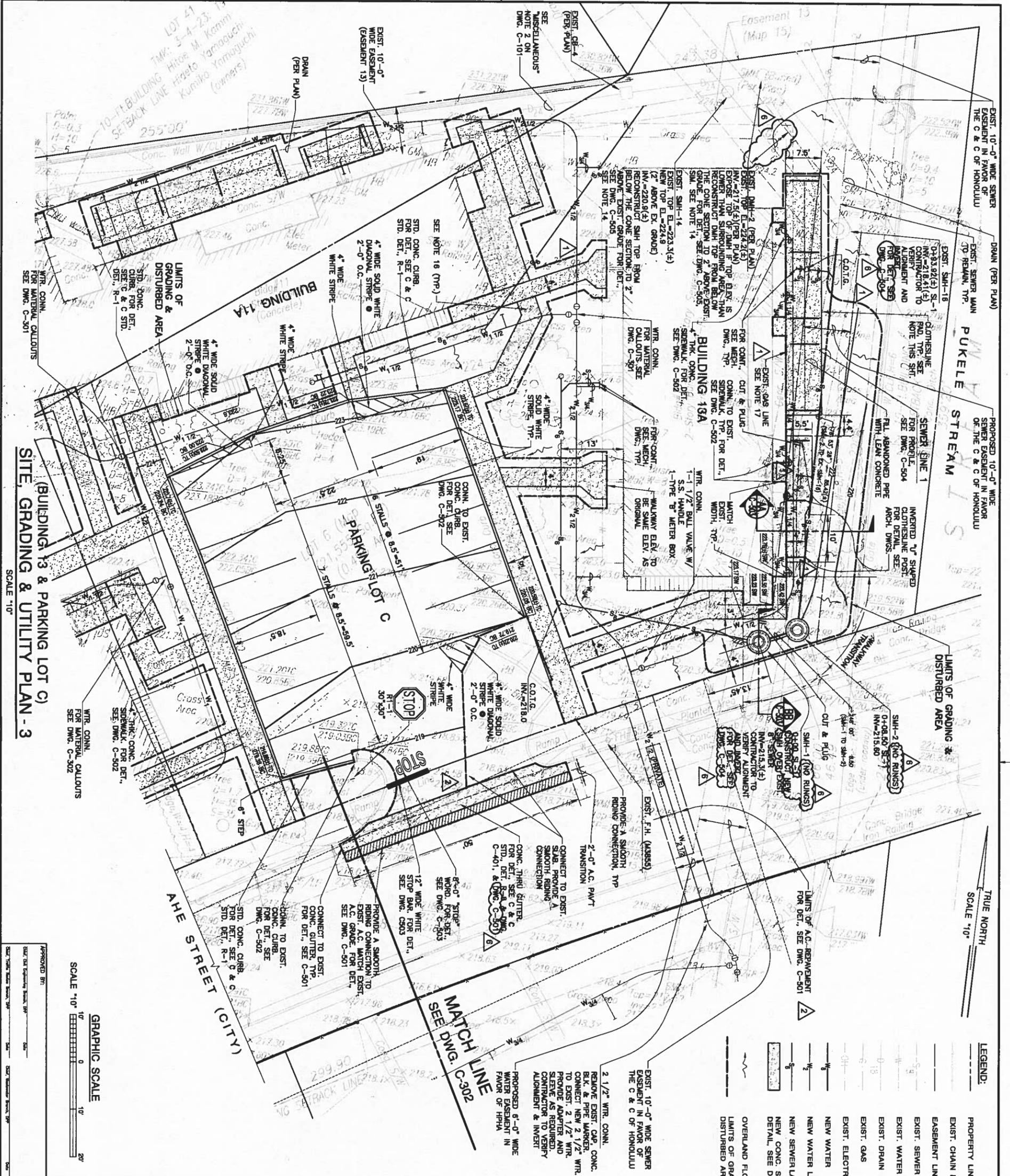
**BEST MANAGEMENT PRACTICES NOTES:**

1. THE CONTRACTOR SHALL CONSTRUCT/INSTALL SILT FENCES/COMPOST FILTER SOCK CATCH-BASIN GUARDS, CONSTRUCTION INGRESS/EGRESS AND OTHER ITEMS SHOWN ON THE EROSION CONTROL PLAN AS FUNCTIONAL AND TO THE EXTENT PRACTICAL PRIOR TO PHASE 2 CONSTRUCTION. THE CONTRACTOR SHALL INSTALL SILT FENCE/COMPOST FILTER SOCK SPACING FOR BLOBS 12 & 13 AS SHOWN ON THIS PLAN. FOR DETAILS, SEE THIS SHEET.
2. THE CONSTRUCTION INGRESS/EGRESS SHALL HAVE AN 8" THICK 1" TO 3" COARSE AGGREGATE OR LARGER (7 MAX.) LAYER LOCATED AT AND TO DIMENSIONS AS SHOWN ON THE BMP PLAN. SHOULD THE CONTRACTOR REQUIRE AN INGRESS/EGRESS OTHER THAN WHAT IS SHOWN ON THE BMP PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY APPROVALS, INCLUDING THAT FOR RELOCATION OF THE CROSSED ROAD AREA AS REQUIRED.
3. SLOPES AND EXPOSED AREAS SHALL BE SOLOPED OR PLANTED AS SOON AS FINAL GRADING HAS BEEN ESTABLISHED. PLANTING SHALL NOT BE PERMITTED UNTIL ALL GRADING HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE COMPLETED WITHIN 24 HOURS AFTER THE INSPECTION. DELAYED SHALL BE PLANTED, UNLESS OTHERWISE INDICATED IN THE SPECIAL PROVISIONS OR PROPOSAL. PAYMENT FOR PLANTING OR GRASSING, INCLUDING MAINTENANCE REQUIRED UNDER THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE PRICE BID FOR GRADING.
4. ALL BEST MANAGEMENT PRACTICES (BMP's) FOR EACH PHASE SHALL NOT BE REMOVED UNTIL ALL PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.
5. AT THE END OF GRADING OPERATIONS, EXISTING CATCH-BASINS AND DRAIN MANHOLES SURROUNDING THE PROJECT SITE SHALL BE INSPECTED AND ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE DRAIN STRUCTURES SHALL BE REMOVED. FLUSHING INTO THE CATCH-BASINS AND DRAIN MANHOLES IS PROHIBITED.
6. THE CONTRACTOR SHALL INSPECT AND CLEAN THE TEMPORARY SILT FENCES / COMPOST FILTER SOCK AFTER EACH STORM EVENT.
7. FOR CATCH-BASIN GUARD, INSTALL CURB INLET GUARD BY EREX OR ENVIRONMENTAL SYSTEMS OR APPROVED EQUAL. FOR THE DURATION OF CONSTRUCTION, INCLUDING MAINTENANCE AS REQUIRED, INSTALL CB-GUARD PER MANUFACTURER'S RECOMMENDATION PRIOR TO CLEANING & GRUBBING OPERATIONS. REMOVE ALL TEMPORARY CB-GUARDS AFTER CONSTRUCTION IS COMPLETED.
8. CATCH-BASIN GUARDS SHALL BE REMOVED IN THE EVENT OF AN ABOVE NORMAL RAINFALL AND SHALL BE REINSTALLED AFTER THE EVENT.
9. MAINTAIN ALL MEASURES IN GOOD WORKING ORDER. IF REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS AFTER THE INSPECTION.
10. GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF THE ROADWAYS FROM MUD, DIRT AND DEBRIS.
11. NO MATERIAL SHALL BE STOCKPILED WITHIN THE CITY ROAD RIGHT-OF-WAY.

REVISION	NO.	DATE	DESCRIPTION
ADD-6	6	08/16	ADDED EROSION CONTROL MAT & SILT FENCE/COMPOST FILTER SOCK
ADD-2	2	5/27/16	REV. BMP NOTES, LEGEND & EROSION CONTROL PLAN.

APPROVED BY: *[Signature]*  
 SCALE 1/40  
 GRAPHIC SCALE  
 0 40' 80'





**GRAPHIC SCALE**

0 10' 20'

**SCALE 1"=10'**

**KEY MAP**  
NO SCALE

**DEPARTMENT OF HUMAN SERVICES**  
HAWAII PUBLIC HOUSING AUTHORITY  
STATE OF HAWAII

**PALOLO VALLEY HOMES MODERNIZATION PHASE 3**  
SITE GRADING & UTILITY PLAN - 3  
(BLDG. 13 & PARKING LOT C)

**C-303**

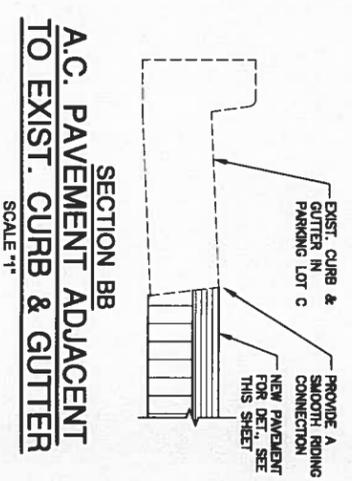
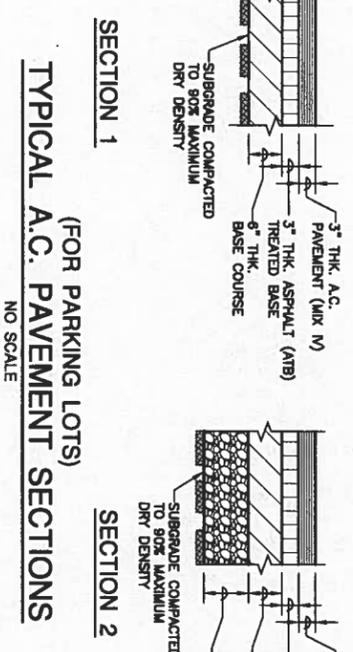
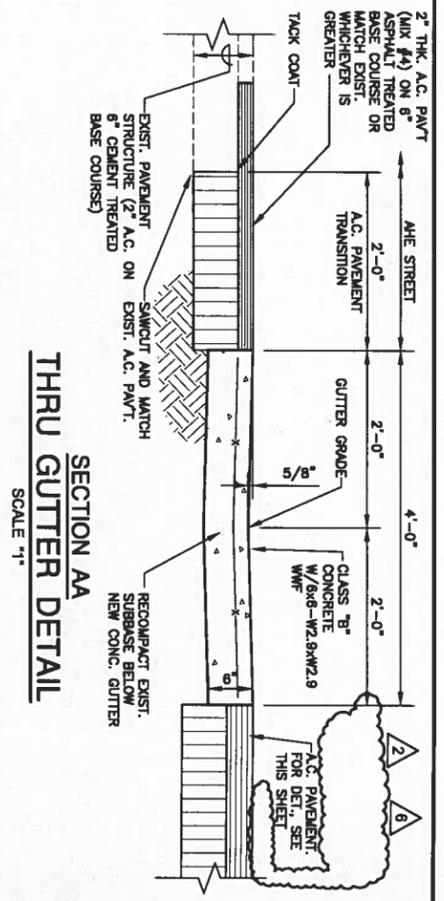
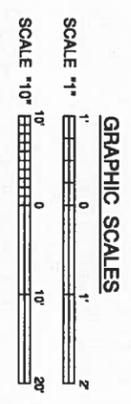
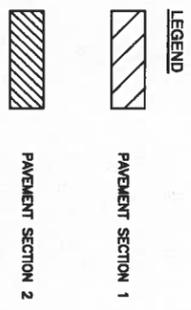
DESIGNED BY	CA	15-016-106-Z	DATE	05-06-16
CHECKED BY	CA			
APPROVED BY	CA			
DRAWN BY	HH			
SHEET	12			
DATE	05-06-16			

SCALE AS INDICATED



- NOTES:**
- CONTRACTOR SHALL EXERCISE CARE WHEN EXCAVATING FOR THE PAVEMENT SECTION NEAR EXISTING CURBS, GUTTERS, CONC. RESPONSIBLE FOR ANY DAMAGES INCURRED.
  - FOR LIMITS OF GRADING & DISTURBED AREA, SEE DWG. C-303.

**PAVEMENT PLAN**  
 SCALE 1/10"



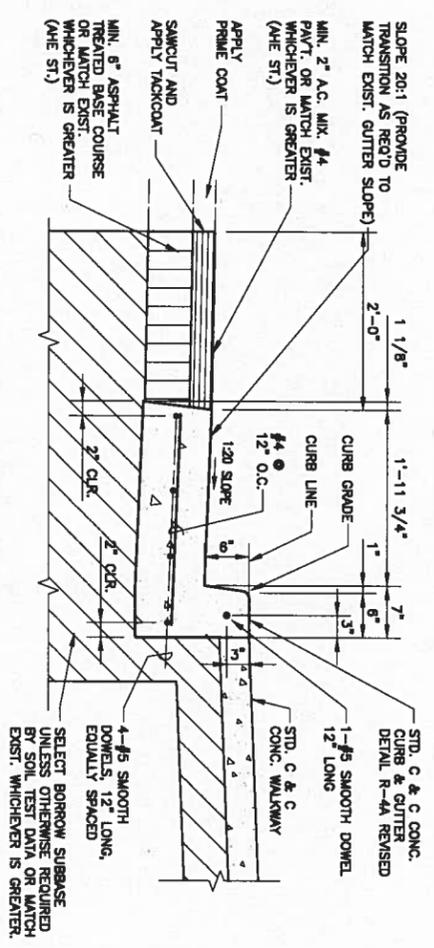
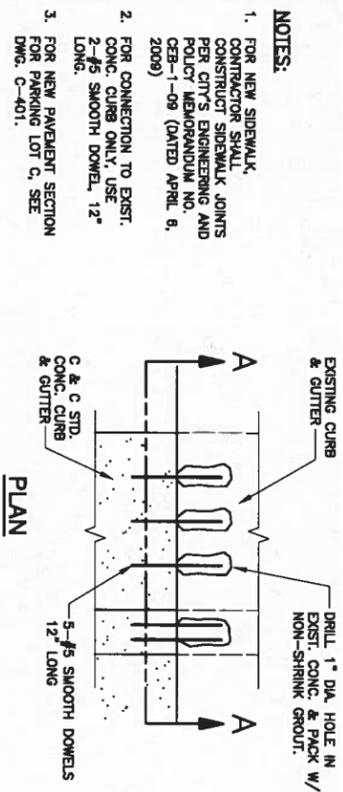
NO.	DESCRIPTION	DATE	APPROVED
ADD-6	REMOVE CALLOUTS FOR ACCESSIBLE PATH	7/18	6/8/16
ADD-2	REV. NOTES AND THRU GUTTER DETAIL	6/17	5/27/16



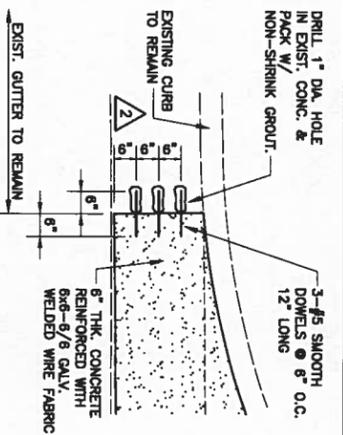
DEPARTMENT OF HUMAN SERVICES  
 HAWAII PUBLIC HOUSING AUTHORITY  
 PALOLO VALLEY HOMES MODERNIZATION PHASE 3

ENGINEERING CONCERNS, INC.  
 ENGINEER: D.Y.  
 DESIGNER: C.A.  
 DRAWN BY: H.H.  
 CHECKED BY: C.A.  
 DATE: 05-08-16

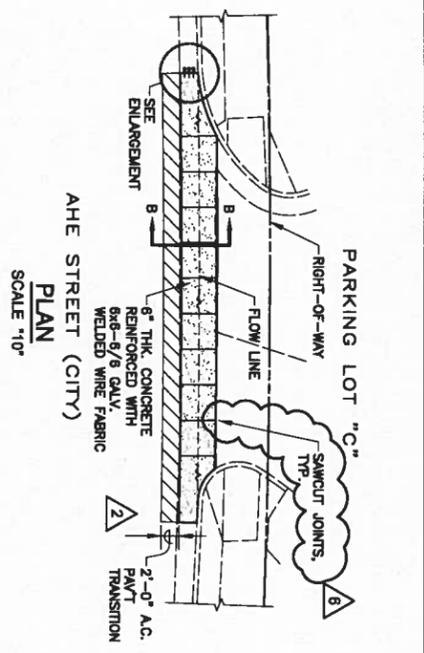
DATE: 15-01-6-108-2  
 SHEET: 13 OF 99



**CURB & GUTTER CONNECTION DETAILS**  
 SCALE 1/4"

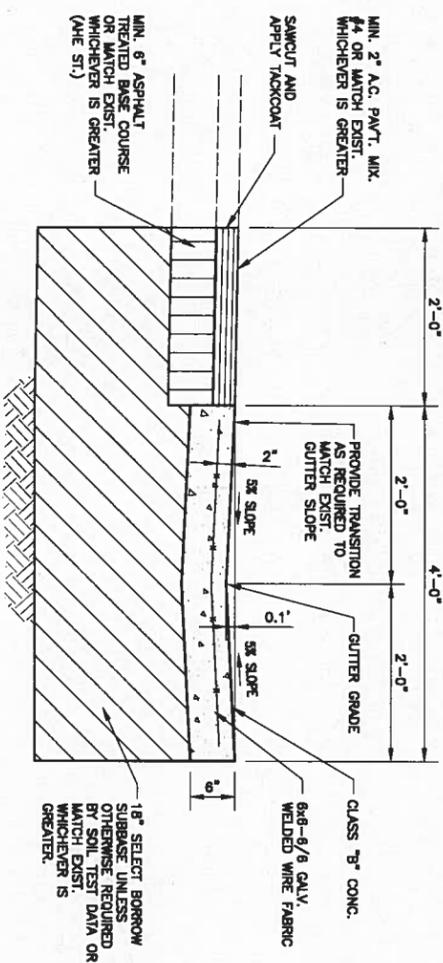


**ENLARGEMENT**  
 SCALE 1/2"



**PLAN**  
 SCALE 1/10"

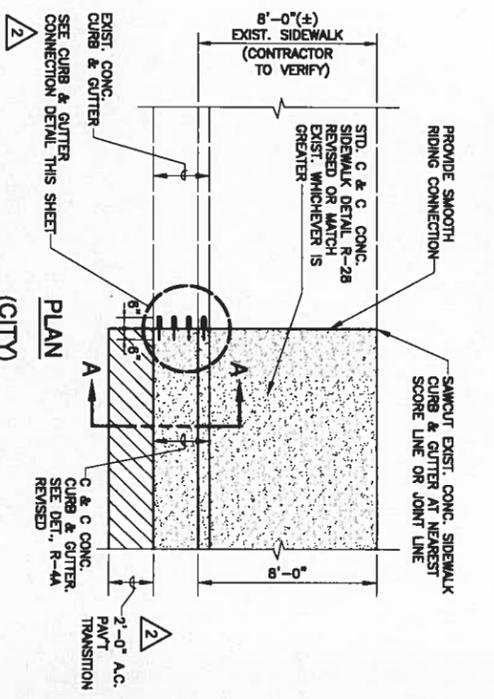
**NOTE:**  
 SAWCUT JOINTS FOR THRU GUTTER SHALL BE 4'-0" O.C. FOR DET., SEE S-2 ON DWG. C-402



**THRU GUTTER DETAILS**  
 AS SHOWN

**NOTES:**

- FOR NEW SIDEWALK, CONTRACTOR SHALL CONSTRUCT SIDEWALK JOINTS PER CITY'S ENGINEERING AND POLICY MEMORANDUM NO. CE3-1-09 (DATED APRIL 6, 2009)



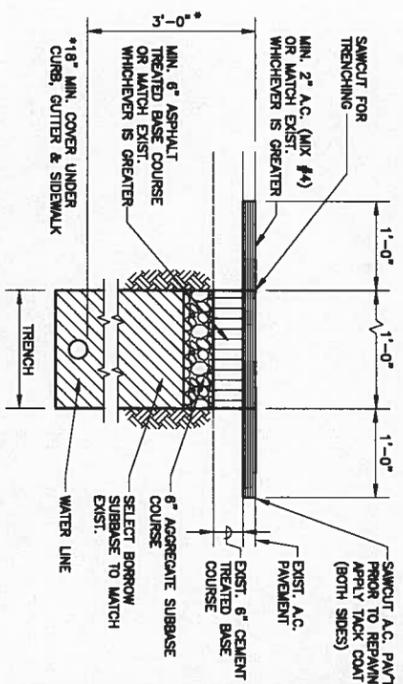
**CONNECTION TO EXISTING SIDEWALK, CURB & GUTTER**  
 SCALE 1/4"

**NOTES:**

PAVEMENT SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION IN THICKNESS AND QUALITY.

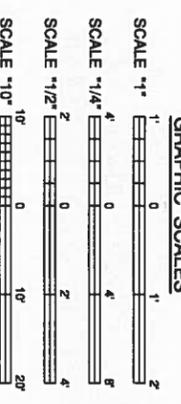
**STRIPING RESTORATION NOTES:**

CONTRACTOR SHALL PROVIDE RESTORING OF ANY EXISTING STRIPING AFFECTED BY THE PAVEMENT STRIPING TO MATCH THE EXISTING PAVEMENT STRIPING TO THE SATISFACTION OF THE CITY INSPECTORS.



**PAVEMENT RESTORATION DETAIL**  
 SCALE 1/4"

**GRAPHIC SCALES**



APPROVED BY:	DATE:
DESIGNED BY:	DATE:
CHECKED BY:	DATE:
IN CHARGE:	DATE:



NO.	DESCRIPTION	DATE	APPROVED BY
ADD-6	REVISED NOTE, ADDED CALLOUT	8/18	6/8/16
ADD-2	REV. DETAILS	7/17	5/27/16
2			

DEPARTMENT OF HUMAN SERVICES  
 HAWAII PUBLIC HOUSING AUTHORITY  
 STATE OF HAWAII

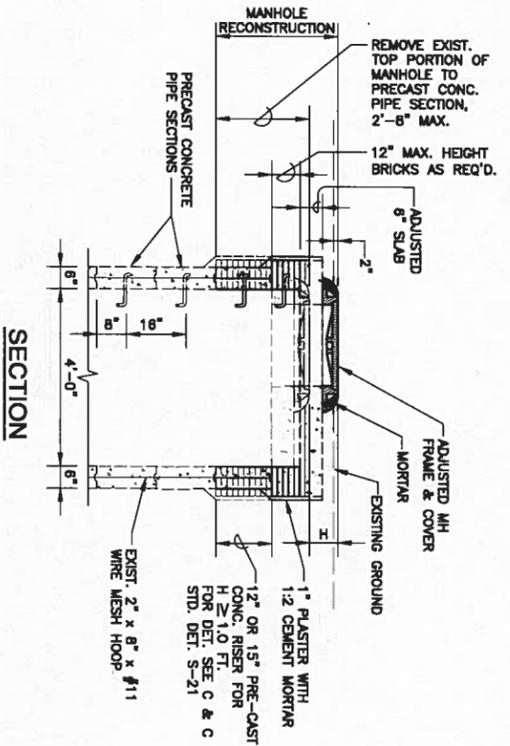
PALOLO VALLEY HOMES MODERNIZATION PHASE 3

MISCELLANEOUS DETAILS

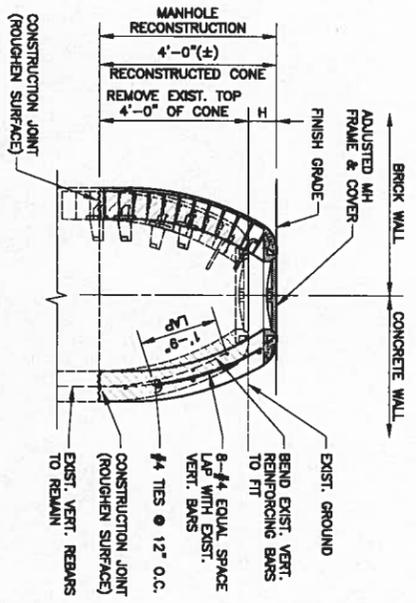
ENGINEERING CONCEPTS, INC.  
 1544 JOE NO. ROAD  
 WAIKANAEO, HI 96767  
 808-261-1500

ISSUANCE NO. C-501  
 SHEET 15 OF 88

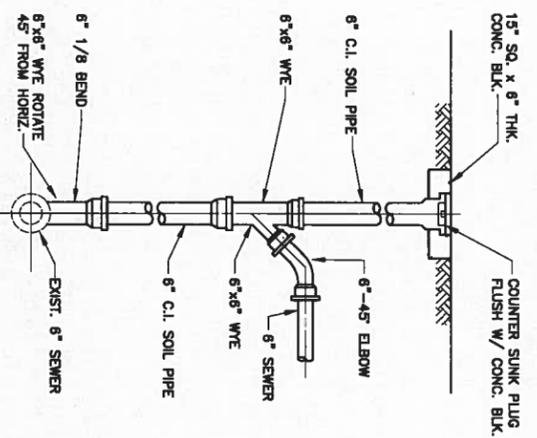




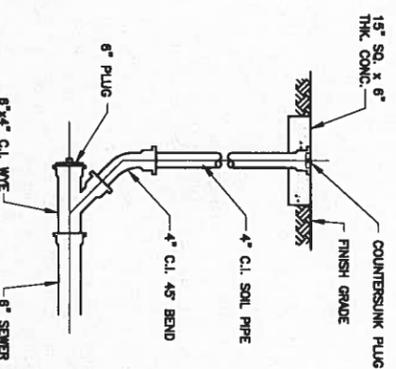
**RECONSTRUCTION OF EXIST. SEWER MANHOLE**  
 NO SCALE



**RECONSTRUCTION OF EXIST. SEWER MANHOLE - CONICAL**  
 SCALE 1/2"



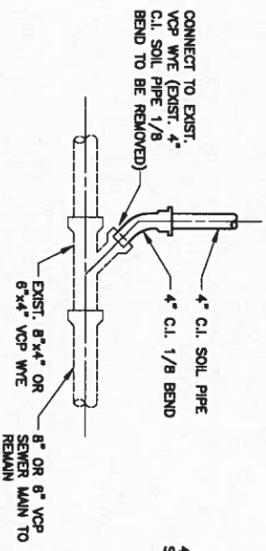
**(PRIVATE) SEWER LATERAL CONNECTION DETAIL**  
 NO SCALE



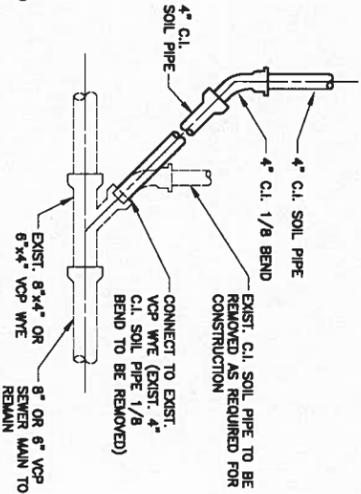
**(PRIVATE) CLEANOUT TO GRADE DETAIL**  
 NO SCALE

**NOTES:**

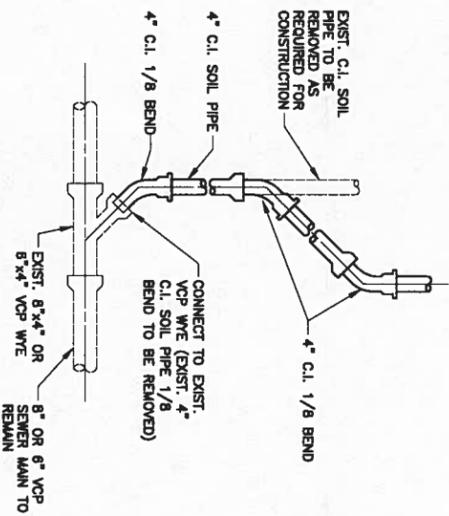
- EXIST. C.I. SOIL PIPE TO BE REMOVED AS REQUIRED FOR CONSTRUCTION.
- PROVIDE COUPLINGS AS REQUIRED.



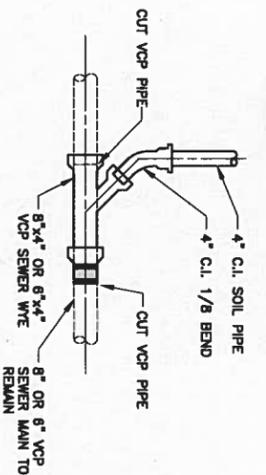
(PLAN VIEW - 1)



(PLAN VIEW - 2)



(PLAN VIEW - 3)



(PLAN VIEW - 4)

**NOTES:**

- IF FIELD CONDITIONS REQUIRE NEW CONNECTION, PLAN VIEW 1 TO 3 CANNOT BE USED.
- THE EXISTING OR PROPOSED SEWER WYE SHALL BE SUPPORTED DURING THE INSTALLATION OF THE NEW SEWER LATERAL AND BACKFILL OPERATION TO PREVENT CRACKING.

**(PRIVATE) CONNECTION TO EXIST. VCP SEWER MAIN DETAIL**  
 NO SCALE

REVISION NO.	SYMBOL	DESCRIPTION	DATE	APPROVED:
ADD-6	6	ADDED DETAIL	10/18 88/16	

APPROVED BY: *Dennis H. Sperry*

SCALE: AS INDICATED

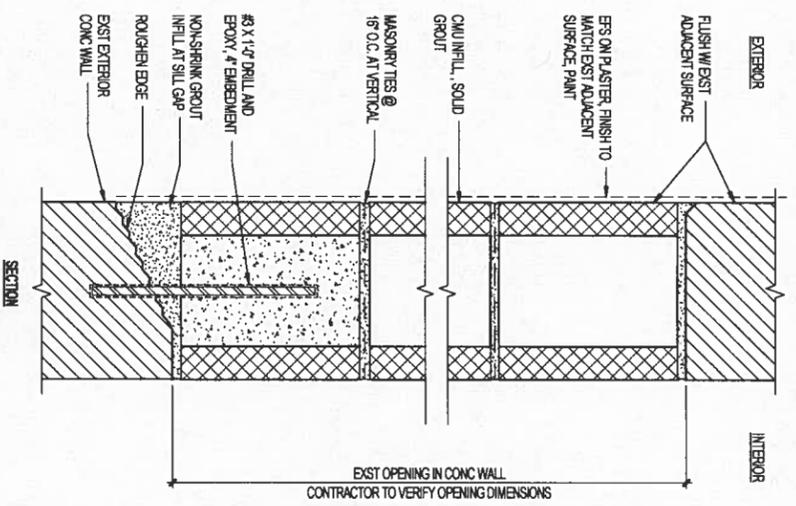
DEPARTMENT OF HUMAN SERVICES  
 HAWAII PUBLIC HOUSING AUTHORITY  
 PALOLO VALLEY HOMES MODERNIZATION PHASE 3

MISCELLANEOUS SEWER DETAILS

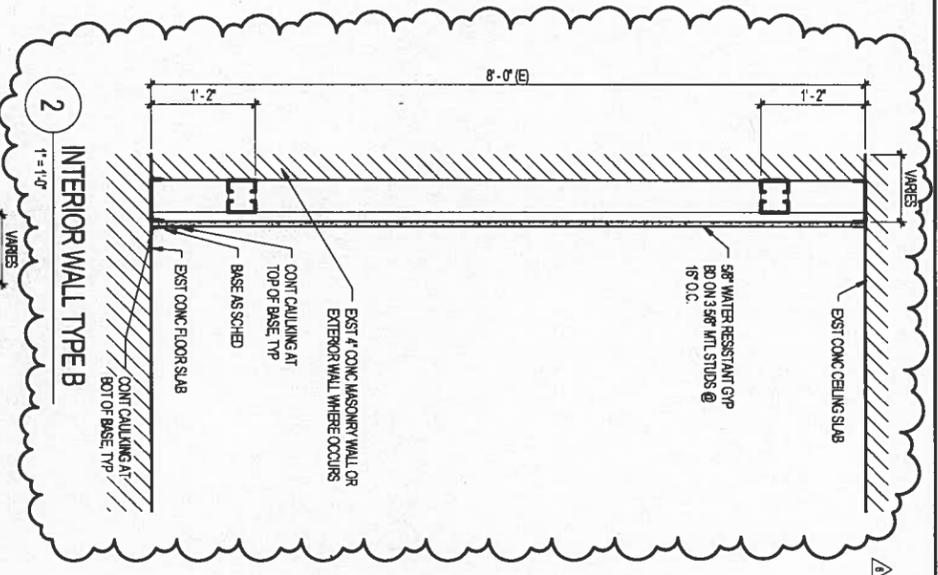
ENGINEERING CONCEPTS, INC.  
 15411 KAUAI BLVD.  
 SUITE 100  
 KAPAA, HAWAII 96746  
 PHONE: (808) 833-1082  
 FAX: (808) 833-1083  
 WWW: WWW.ECENGINEERS.COM

DATE: 05-08-18

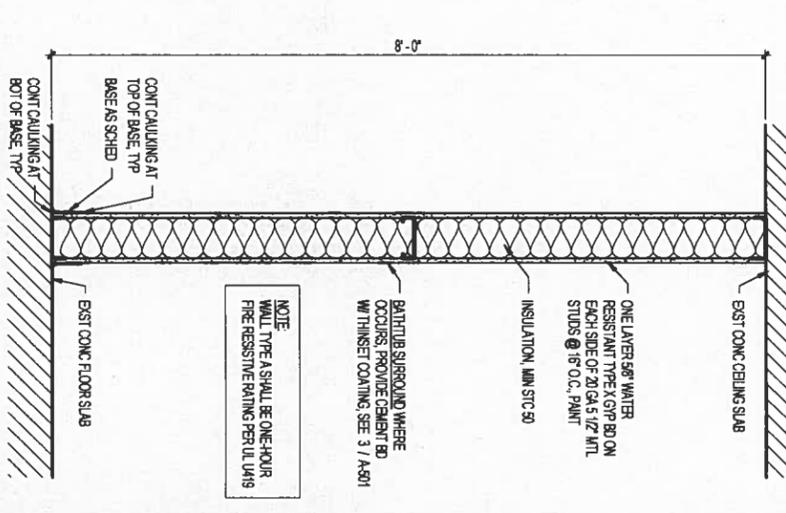
SHEET 19 OF 38



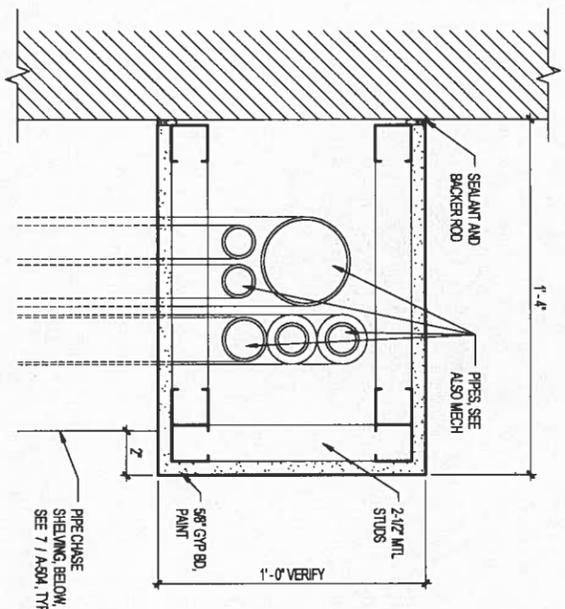
4 WINDOW INFILL SECTION  
3'-1/4"



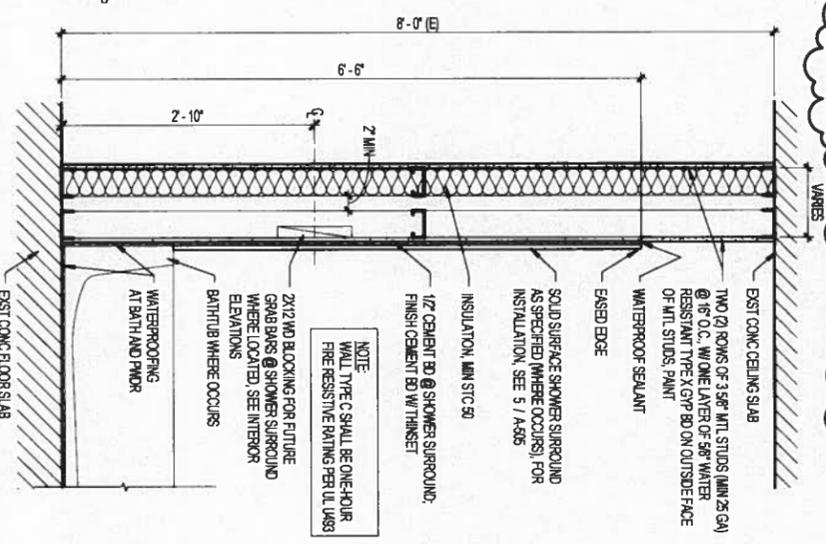
2 INTERIOR WALL TYPE B  
1'-1/4"



1 INTERIOR WALL TYPE A - 1 HR FIRE RATED  
1'-1/4"



5 FURRED GYP BD CHASE  
3'-1/4"



3 INTERIOR WALL TYPE C - 1 HR FIRE RATED  
1'-1/4"



<p>THIS WORK WAS PREPARED BY M.T. OR UNDER M.T. SUPERVISION</p> <p><i>M.T. Tolson</i> SIGNATURE</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 1</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 2</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 3</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 4</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 5</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 6</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 7</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 8</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 9</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 10</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 11</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 12</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 13</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 14</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 15</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 16</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 17</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 18</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 19</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 20</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 21</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 22</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 23</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 24</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 25</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 26</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 27</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 28</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 29</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 30</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 31</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 32</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 33</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 34</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 35</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 36</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 37</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 38</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 39</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 40</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 41</p>		<p>DATE: 05-06-16</p>	
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<p>REVISION: 43</p>		<p>DATE: 05-06-16</p>	
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<p>REVISION: 49</p>		<p>DATE: 05-06-16</p>	
<p>REVISION: 50</p>		<p>DATE: 05-06-16</p>	



DEPARTMENT OF HUMAN SERVICES  
HAWAII PUBLIC HOUSING AUTHORITY  
STATE OF HAWAII

PALOALTO VALLEY HOMES MODERNIZATION PHASE 3

**GENERAL:**

- A. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE BUILDING CODE OF THE CITY AND COUNTY OF HONOLULU (AMENDED B.C. 2006 EDITION). HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
- B. THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE HPHA ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- C. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE HPHA ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
- F. CONSTRUCTION LOADING SHALL NOT EXCEED DESIGN LIVE LOAD UNLESS SPECIAL SHORING IS PROVIDED. ALLOWABLE LOADS SHALL BE REDUCED IN AREAS WHERE THE STRUCTURE HAS NOT ATTAINED FULL DESIGN STRENGTH.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.
- H. DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.

**DESIGN CRITERIA:**

- A. ALLOWABLE FOUNDATION BEARING CAPACITIES
  - 1. DEAD LOAD + LIVE LOAD ----- 1000 PSF
- B. RETAINING WALLS
  - 1. LEVEL BACKFILL ----- PCF
  - 2. SLOPE BACKFILL 2H:1V
    - a. HORIZONTAL ----- PCF
    - a. VERTICAL ----- PCF
  - C. STAIRS AND EXITS ----- 100 PSF

**FOUNDATION:**

- A. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL INVESTIGATION BY MASA FLUJOKA AND ASSOCIATES AND REPORT DATED JANUARY 2011.
- B. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER OR SEEPAGE.
- C. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEETING, AND SHORING NECESSARY TO PRESERVE EXCAVATIONS AND EARTH BANKS.
- D. STRUCTURAL FILL SHALL CONSIST OF NON-EXPANSIVE, SELECT GRANULAR FILL MATERIAL. THE MATERIAL SHALL BE WELL GRADED FROM COARSE TO FINE WITH NO PARTICLES GREATER THAN 3 INCHES IN LARGEST DIMENSION. MATERIAL SHALL HAVE A GRV VALUE OF 20 OR HIGHER AND A SWELL POTENTIAL OF 1 PERCENT OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM D 1883. MATERIAL SHALL ALSO CONTAIN BETWEEN 10 AND 30 PERCENT PARTICLES PASSING THE NO. 200 SIEVE.

**CONCRETE:**

- A. CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318.
- B. CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK CONCRETE AND SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
  - a. FOOTINGS ----- 3,000 PSI
  - b. SLABS ON GRADE ----- 3,000 PSI
  - c. ALL OTHER CONCRETE ----- 3,000 PSI
- C. CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
- D. ALL INSERTS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE HOT-DIPPED GALVANIZED UNLESS OTHERWISE NOTED.
- E. REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- F. SEE ARCHITECTURAL DRAWINGS FOR CHAMFERS, EDGE RADIUS, DRIPS, REGLETS, FINISHES AND OTHER NON-STRUCTURAL ITEMS NOT SHOWN OR SPECIFIED ON THE STRUCTURAL DRAWINGS.
- G. NON-SHRINK GROUT SHALL BE A PREMIXED NON-METALLIC FORMULA, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 1 DAY AND

**REINFORCING STEEL:**

- A. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, GALVANIZED.
- C. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
  - a. FOOTINGS, GRADE BEAMS, ETC. CAST AGAINST EARTH ----- 3"
  - b. FOOTINGS, GRADE BEAMS, ETC. FORMED AND EXPOSED TO EARTH OR WEATHER ----- 2"
  - c. WALLS
    - 1. FACES EXPOSED TO EARTH OR WEATHER
      - #3 BARS AND SMALLER ----- 1 1/2"
      - #6 BARS AND LARGER ----- 2"
    - 2. INTERIOR FACES ----- 1"
- D. CLEAR DISTANCE BETWEEN THE SURFACE OF A BAR AND ANY SURFACE OF A MASONRY UNIT SHALL BE NOT LESS THAN 1/2 INCH, UNLESS OTHERWISE NOTED.
- E. REINFORCING STEEL SHALL BE SPLICED WHERE INDICATED ON PLANS. PROVIDE LAP SPICE LENGTH PER TYPICAL DETAILS AND SCHEDULE, UNLESS OTHERWISE NOTED.
- F. BAR BENDS AND HOOKS SHALL BE "STANDARD HOOKS" IN ACCORDANCE WITH ACI 318. G. EPOXY FOR DOWELS SHALL BE SIMPSON SET OR APPROVED EQUAL.

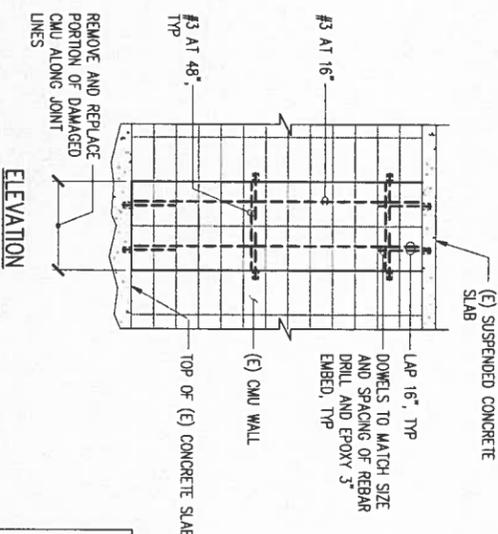
**CONCRETE MASONRY UNITS:**

- A. CONCRETE MASONRY UNITS SHALL BE TYPE II, NORMAL WEIGHT, HOLLOW LOAD-BEARING UNITS CONFORMING TO ASTM C-90 AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI.
  - B. MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270 AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI AT 28 DAYS.
  - C. GROUT SHALL CONFORM TO ASTM C476 AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
  - D. ALL CELLS AND BOND COURSES WITH REINFORCEMENT AND INSERTS SHALL BE SOLID GROUTED. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5'-4" IN HEIGHT.
  - E. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1 1/2 INCHES BELOW THE TOP OF THE UPPERMOST UNIT.
  - F. WALLS SHALL BE CONSTRUCTED IN CONVENTIONAL RUNNING BOND, UNLESS OTHERWISE NOTED.
  - G. SEE ARCHITECTURAL DRAWINGS FOR LAYING PATTERN, HEIGHT OF UNITS, SURFACE TEXTURE, AND JOINT TYPE.
  - H. OPEN-ENDED BLOCKS MAY BE SUBSTITUTED FOR STANDARD CONCRETE MASONRY UNITS.
- STRUCTURAL STEEL:**
- A. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION.
  - B. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED.
  - C. STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE B.
  - D. BOLTS SHALL CONFORM TO ASTM A307, GRADE A UNLESS OTHERWISE NOTED.
  - E. HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325, TYPE N. INSTALLATION SHALL BE ASSURED BY ANY OF THE FOLLOWING METHODS.
    - 1. TURN OF NUT METHOD
  - F. CONCRETE SCREWS SHALL BE SIMPSON TITEN HD, HILLT HUS, OR POWER WEDGE-BOLT +.
  - G. WELDS AND WELDING PROCEDURES SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1 OF THE AMERICAN WELDING SOCIETY.
  - H. WELDING SHALL BE PERFORMED BY WELDERS PREQUALIFIED FOR WELDING PROCEDURES TO BE USED.
  - I. WELDING ELECTRODES SHALL BE E70XX.
  - J. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A123.

**SPECIAL INSPECTION:**

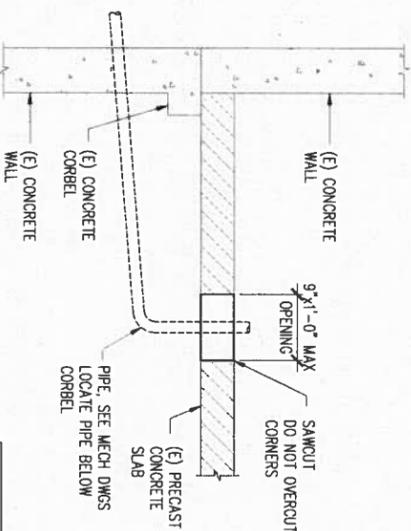
- A. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK AS REQUIRED BY THE BUILDING CODE OF THE CITY AND COUNTY OF HONOLULU, BE MADE AT THE APPROPRIATE TIME. THE CONTRACTOR SHALL GIVE TIMELY NOTICE OF WHEN AND WHERE INSPECTIONS ARE TO BE MADE AND PROVIDE ACCESS FOR THE INSPECTOR. THE CONTRACTOR SHALL CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE HPHA AND PAY FOR RE-INSPECTION.
- B. THE FOLLOWING STRUCTURAL WORK REQUIRES SPECIAL INSPECTION:
  - a. CONCRETE
  - b. REINFORCING STEEL
  - c. STRUCTURAL MASONRY
  - d. STRUCTURAL WELDING

**1 TYPICAL CMU REPAIR DETAIL**  
NOT TO SCALE



- NOTES:**
1. CMU TO MATCH SIZE OF (E) CMU.
  2. SOLID GROUT NEW CMU CELLS.
  3. GROUT CELLS TO RECEIVE DOWELS IF THEY ARE UNGROUTED

**2 TYPICAL SLAB OPENING DETAIL**  
NOT TO SCALE

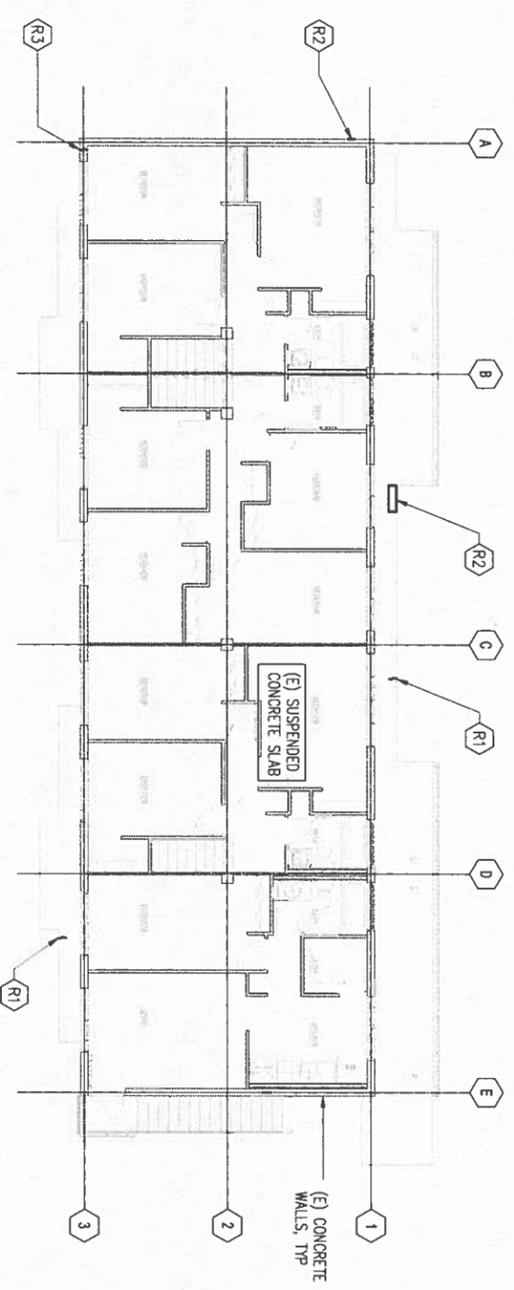


- NOTES:**
1. LOCATE (E) REINFORCING PRIOR TO CUTTING OPENINGS.
  2. NO MORE THAN (2) REINFORCING BARS MAY BE CUT.
  3. COAT ENDS OF REINFORCING THAT IS CUT WITH ZINC RICH PRIMER.

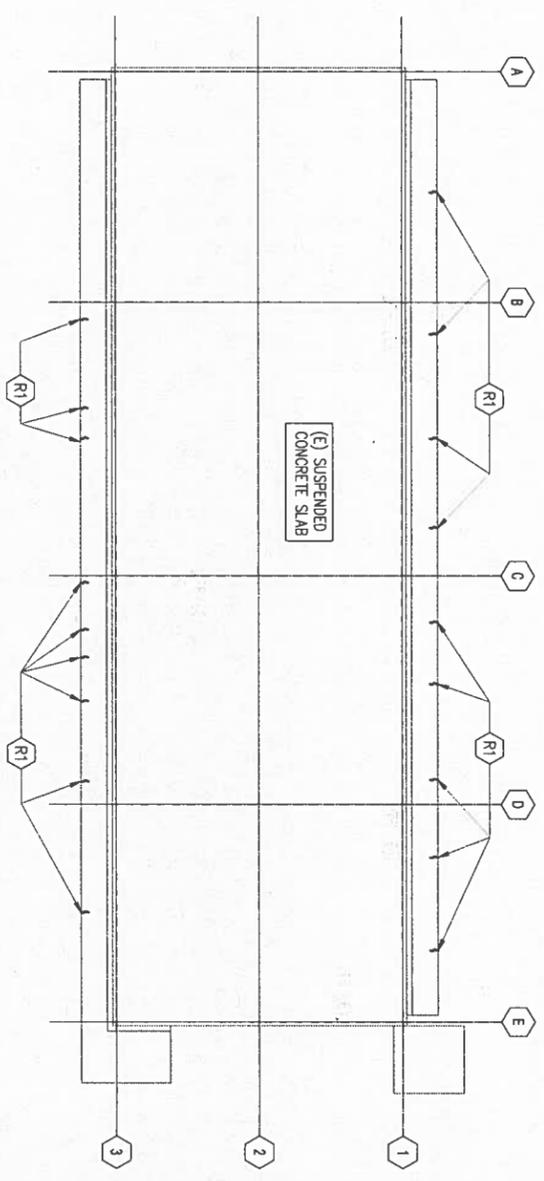
REVISION NO.	SYMBOL	DESCRIPTION	DATE	BY	CHECKED	DATE	SCALE
ADD-6	6	ADD DETAIL	12 of 18	DB-09-16			

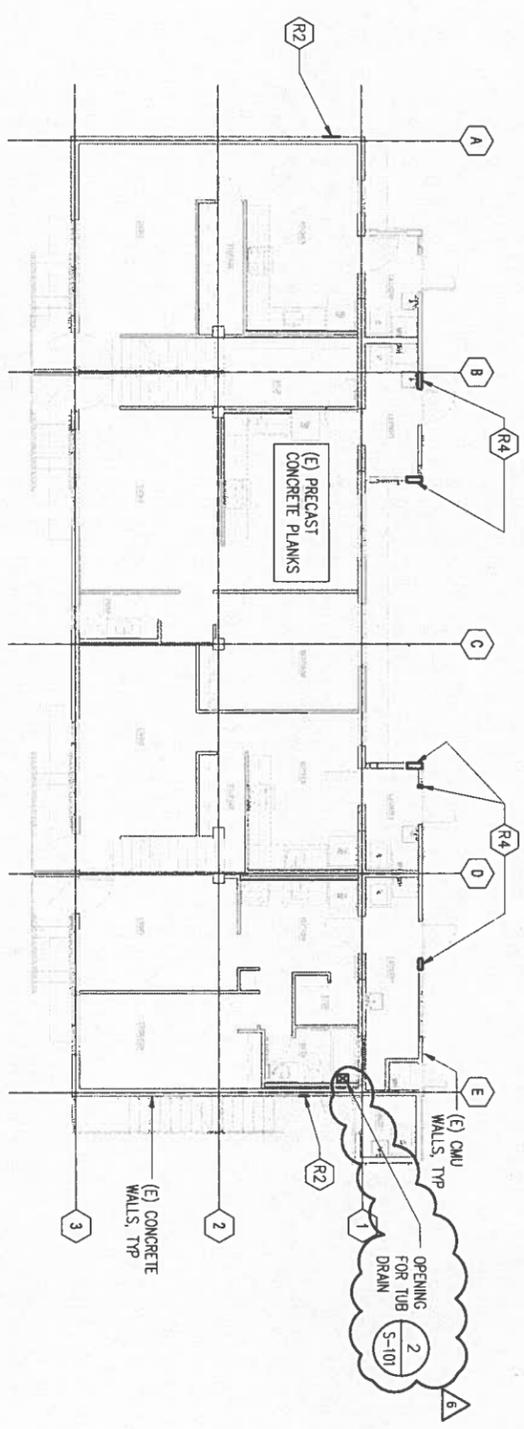
HAWAII PUBLIC HOUSING AUTHORITY DEPARTMENT OF HUMAN SERVICES STATE OF HAWAII		PALOLO VALLEY HOMES MODERNIZATION PHASE 3	
GENERAL NOTES AND TYPICAL DETAILS			
DUU HAWAII, INC. DESIGNED BY: JIM KH DRAWN BY: JIM KH CADD: KH	HPHL JOB NO.: 15-016-108-Z	SHEET NO.: S-101	DATE: 05-06-16
SCALE: AS NOTED	SHEET: 55	OF: 98	SHEETS:



2 BUILDING 11 SECOND FLOOR FRAMING PLAN  
S-202 SCALE: 1/8" = 1'-0"



3 BUILDING 11 ROOF FRAMING PLAN  
S-202 SCALE: 1/8" = 1'-0"



1 BUILDING 11 FOUNDATION PLAN  
S-202 SCALE: 1/8" = 1'-0"



**LEGEND:**

- (E) INDICATES EXISTING ITEM
- (R1) INDICATES REPAIR MARK, SEE Y/S-102
- INDICATES CONCRETE WALL
- INDICATES CMU WALL

REVISION NO.	DATE	DESCRIPTION
ADD-6	06-09-16	ADD OPENING
6		

**HAWAII PUBLIC HOUSING AUTHORITY**  
DEPARTMENT OF HUMAN SERVICES  
STATE OF HAWAII

**PALOLO VALLEY HOMES MODERNIZATION PHASE 3**

**FOUNDATION, SECOND FLOOR AND ROOF FRAMING PLANS**

DATE OF THE ISSUE: 6/8/2016  
DRAWN BY: JIM  
CHECKED BY: KH  
APPROVED BY: KH

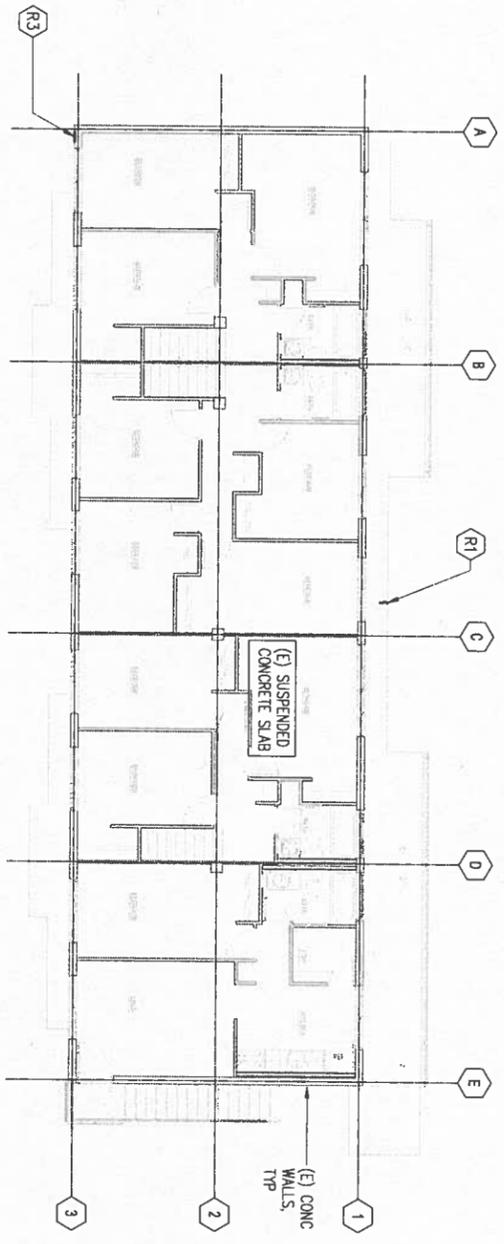
SCALE: AS NOTED

DESIGNED BY: JIM  
DRAWN BY: JIM  
CHECKED BY: KH  
APPROVED BY: KH

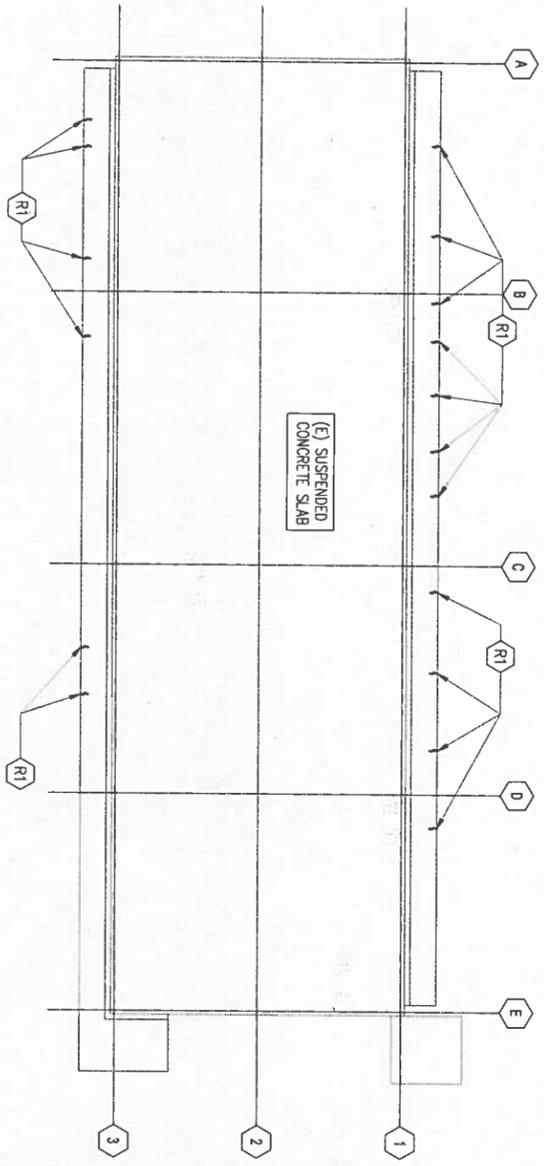
ISSUED BY: JIM  
DATE: 05-06-16

PROJECT NO. S-202  
SHEET 59 OF 98 SHEETS

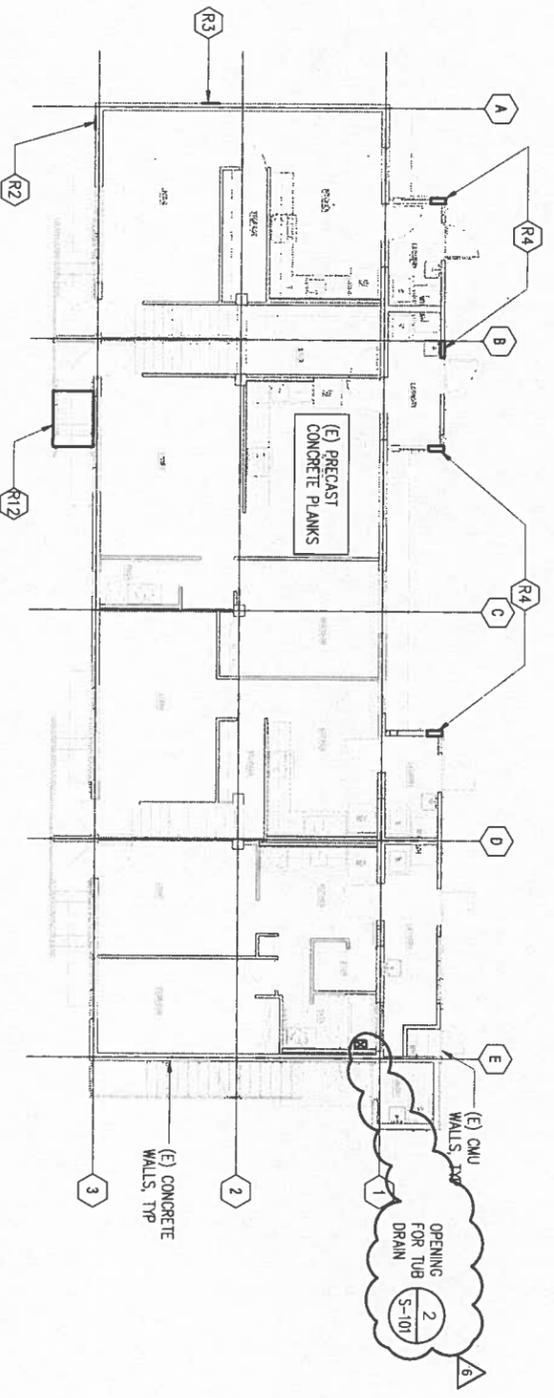
DATE: 05-06-16



2 BUILDING 12 SECOND FLOOR FRAMING PLAN  
S-203 SCALE: 1/8" = 1'-0"



3 BUILDING 12 ROOF FRAMING PLAN  
S-203 SCALE: 1/8" = 1'-0"



1 BUILDING 12 FOUNDATION PLAN  
S-203 SCALE: 1/8" = 1'-0"



**LEGEND:**

- (E) INDICATES EXISTING ITEM
- (R1) INDICATES REPAIR MARK. SEE 1/S-102
- INDICATES CONCRETE WALL.
- INDICATES CMU WALL.

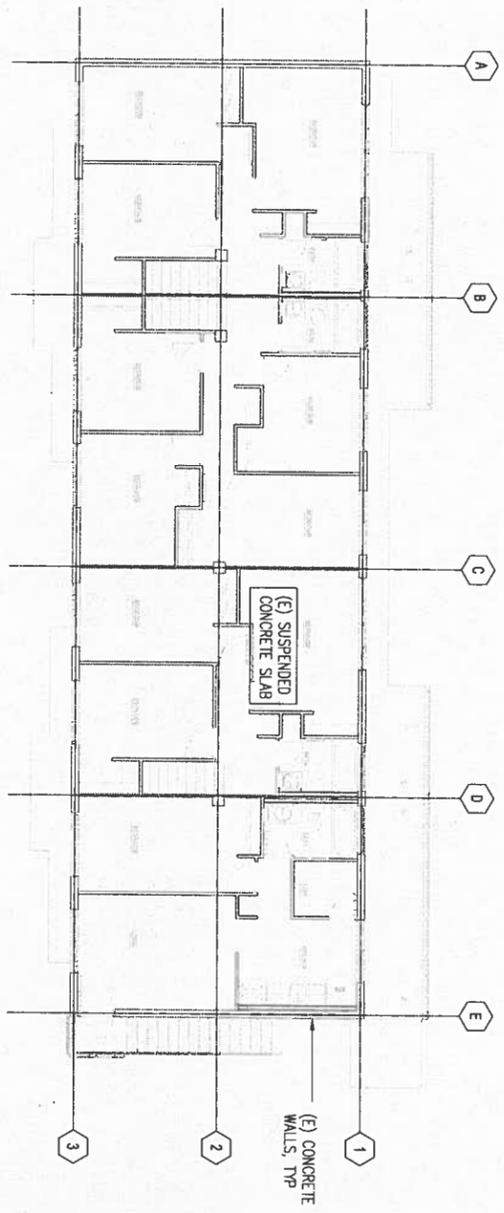
REVISION NO.	SYMBOL	DESCRIPTION	DATE	APPROVED BY
ADD-6	△	ADD OPENING	14 of 06-09-16	
	△		18	



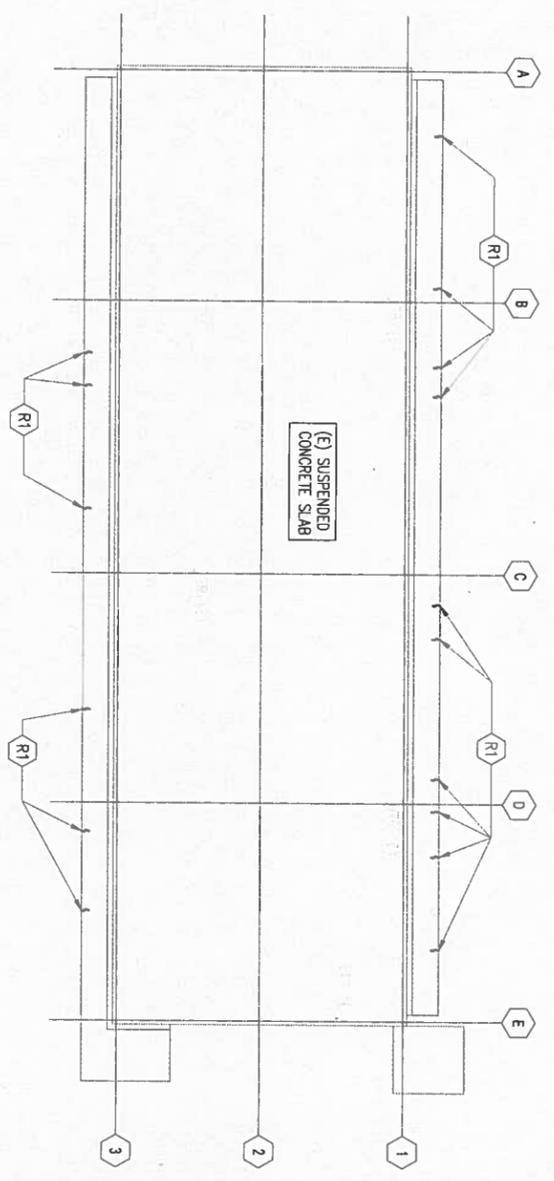
EXPIRES DATE OF THE LICENSE 4/30/2018  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

FOUNDATION, SECOND FLOOR AND ROOF FRAMING PLANS		DATE	05-06-16
DESIGNED BY: JH	CHECKED BY: KH	DATE	15-016-108-2
DRAWN BY: CAD0	APPROVED BY: KH		
SCALE: AS NOTED			

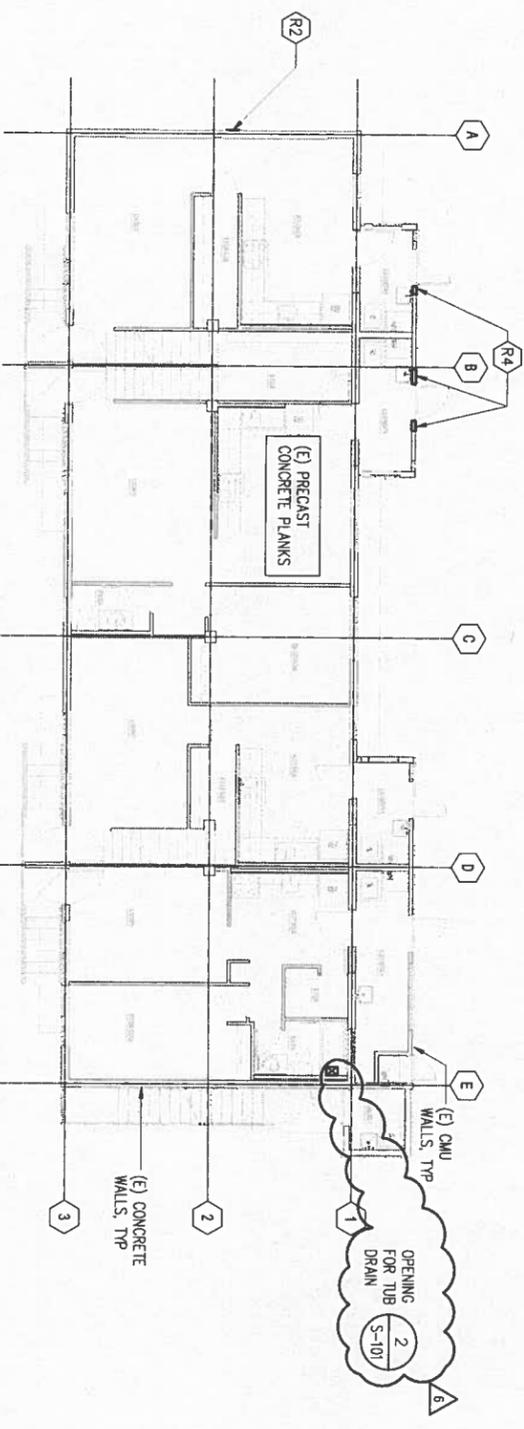
2 BUILDING 13 SECOND FLOOR FRAMING PLAN  
SCALE: 1/8" = 1'-0"



3 BUILDING 13 ROOF FRAMING PLAN  
SCALE: 1/8" = 1'-0"



1 BUILDING 13 FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"



**LEGEND:**

- (E) INDICATES EXISTING ITEM
- (RT) INDICATES REPAIR MARK, SEE 1/S-102
- INDICATES CONCRETE WALL
- INDICATES CMU WALL

REVISION NO.	SYMBOL	DESCRIPTION	DATE	APPROVED BY
ADD-6	5	ADD OPENING	15 of 06-09-16	



**HAWAII PUBLIC HOUSING AUTHORITY**  
DEPARTMENT OF HUMAN SERVICES  
STATE OF HAWAII

**PALOALO VALLEY HOMES MODERNIZATION PHASE 3**

**FOUNDATION, SECOND FLOOR AND ROOF FRAMING PLANS**

DATE OF ISSUE: 05-06-16

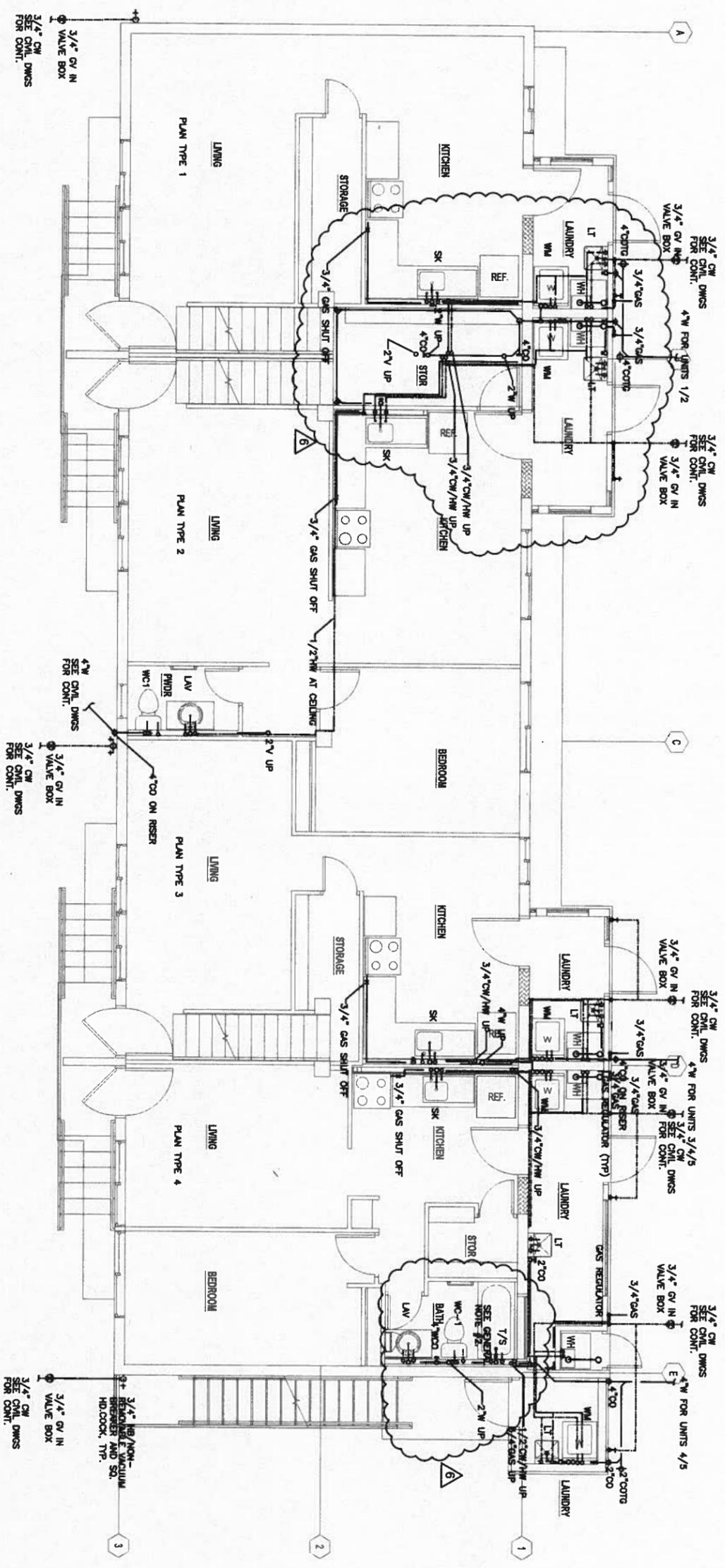
PROJECT NO.: S-204

DESIGNED BY: KHI  
CHECKED BY: KHI  
DRAWN BY: KHI  
APPROVED BY: KHI

SCALE: AS NOTED

SHEET 61 OF 98

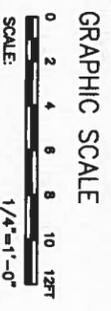




TYPE A 1ST FLOOR PLUMBING PLAN  
SCALE: 1/4"=1'-0"

- DEMOLITION NOTES:**
1. REFER TO ARCHITECTURAL DRAWINGS FOR PLUMBING DEMOLITION PLANS.
  2. REMOVE ALL EXISTING PLUMBING FIXTURES, WATER HEATERS AND PIPING SERVING FIXTURES/HEATERS.
  3. REMOVE ALL EXISTING WASTE/WATER/GAS PIPING UP TO 5' OF EXTERIOR WALL.
  4. REMOVE ALL EXISTING VENT THRU ROOFS. TEMPORARILY COVER VTR OPENING.

- GENERAL NOTES:**
1. WASHING MACHINE APPLIANCE IS NOT PART OF THIS CONTRACT. ONLY ROUGH-IN PIPING IS INCLUDED.
  2. NOTE: CONTRACTOR TO VERIFY LOCATION OF STRUCTURAL REBARS IN CONCRETE SLAB FOR INSTALLATION OF 1/5 TRAP. SEE STRUCTURAL DRAWINGS FOR SLAB PENETRATION DETAILS.



NO.	DATE	DESCRIPTION	BY	CHKD	REVISIONS
ADDEN 6	6/16	REVISED PLUMBING PLAN	18	6/9/16	



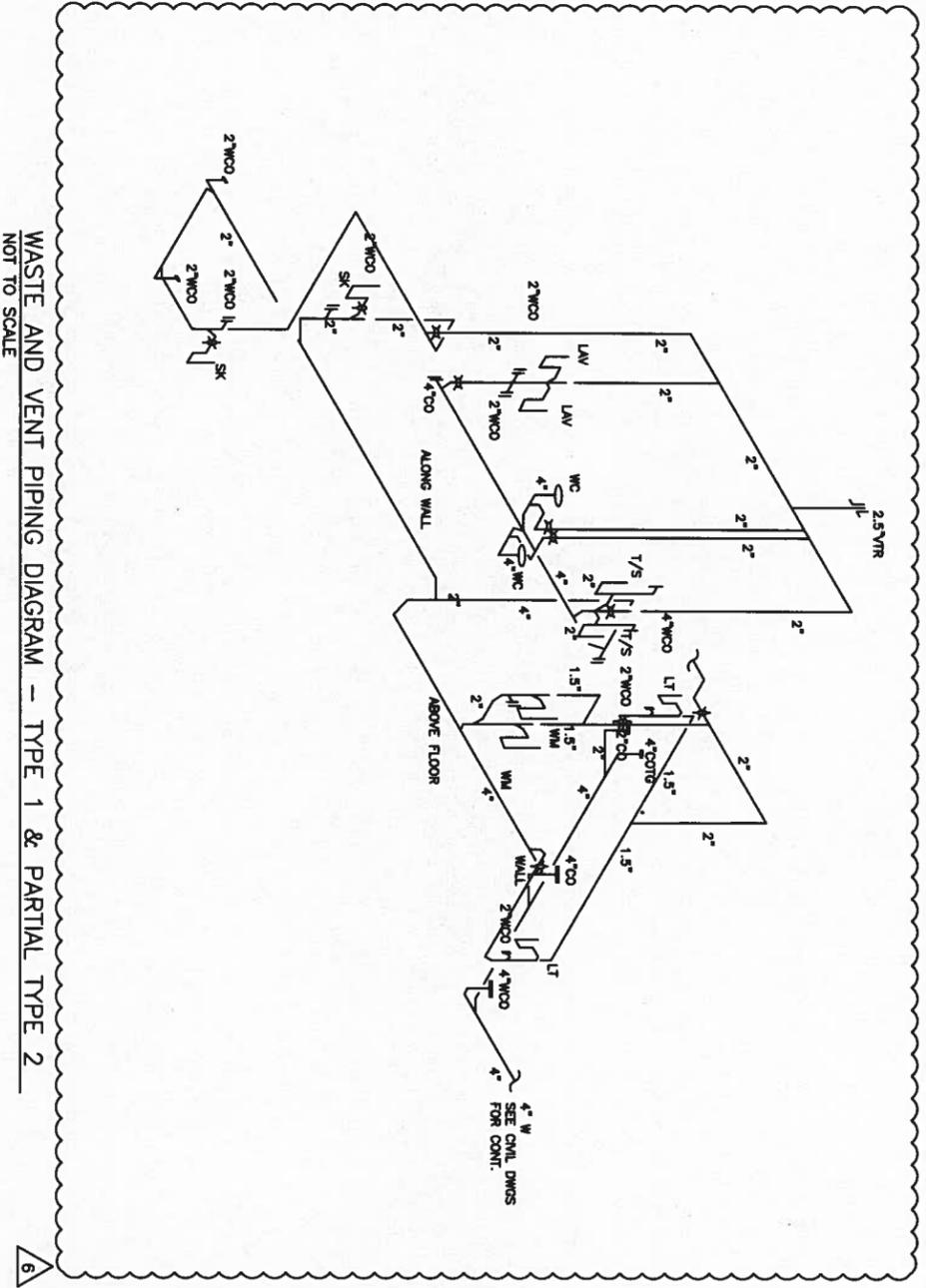
EXPRESS: APRIL 30, 2018  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

HAWAII PUBLIC HOUSING AUTHORITY  
DEPARTMENT OF PLANNING SERVICES  
OFFICE OF PLANNING

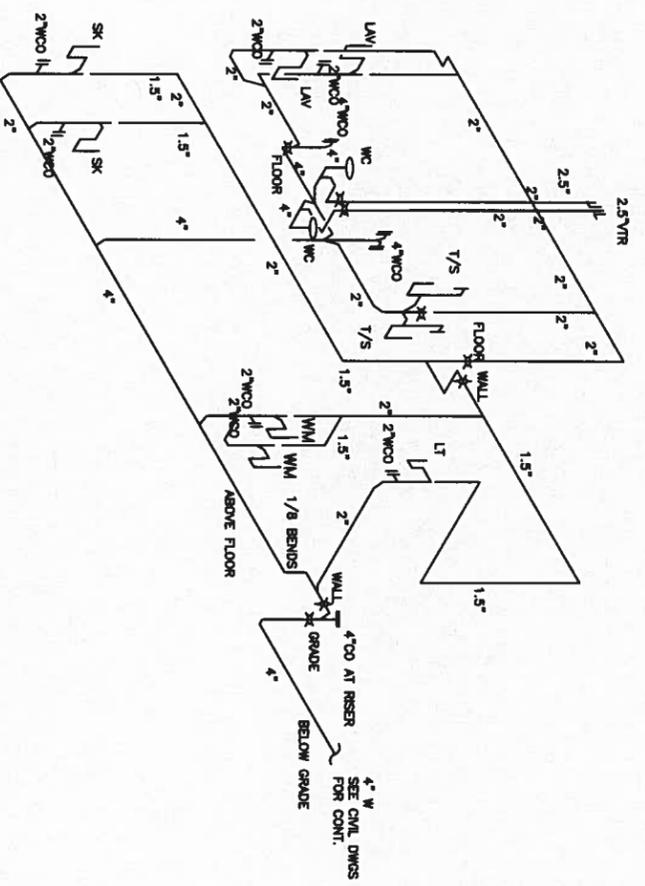
PAILOLO VALLEY HOMES MODERNIZATION PHASE 3

TYPE A 1ST FLOOR PLUMBING PLAN

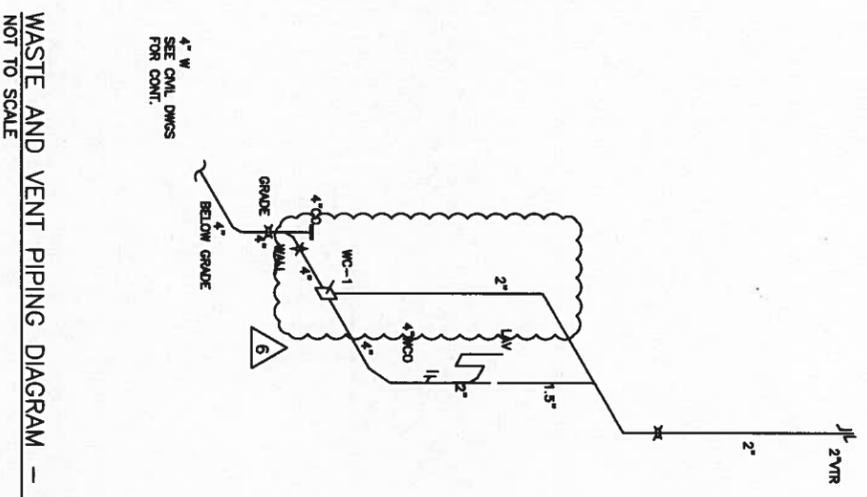
DATE	05-06-16
PROJECT NO.	15-016-108-2
ISSUE NO.	M-101
SCALE	AS INDICATED



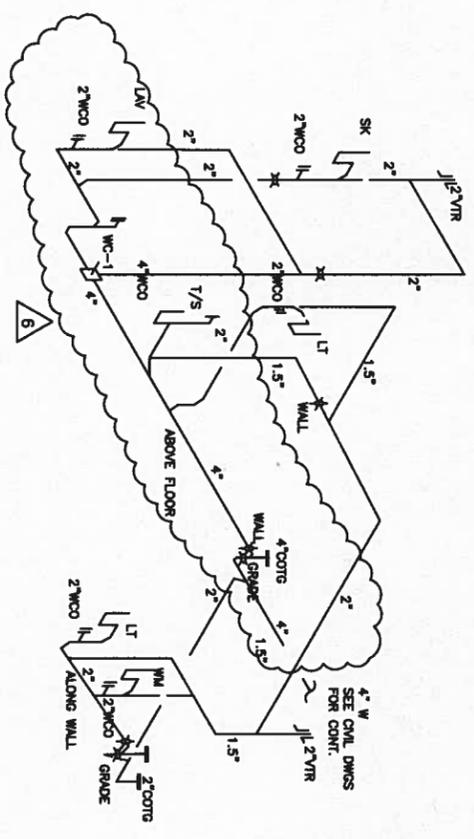
WASTE AND VENT PIPING DIAGRAM - TYPE 1 & PARTIAL TYPE 2  
NOT TO SCALE



WASTE AND VENT PIPING DIAGRAM - PARTIAL TYPE 3/4/5  
NOT TO SCALE

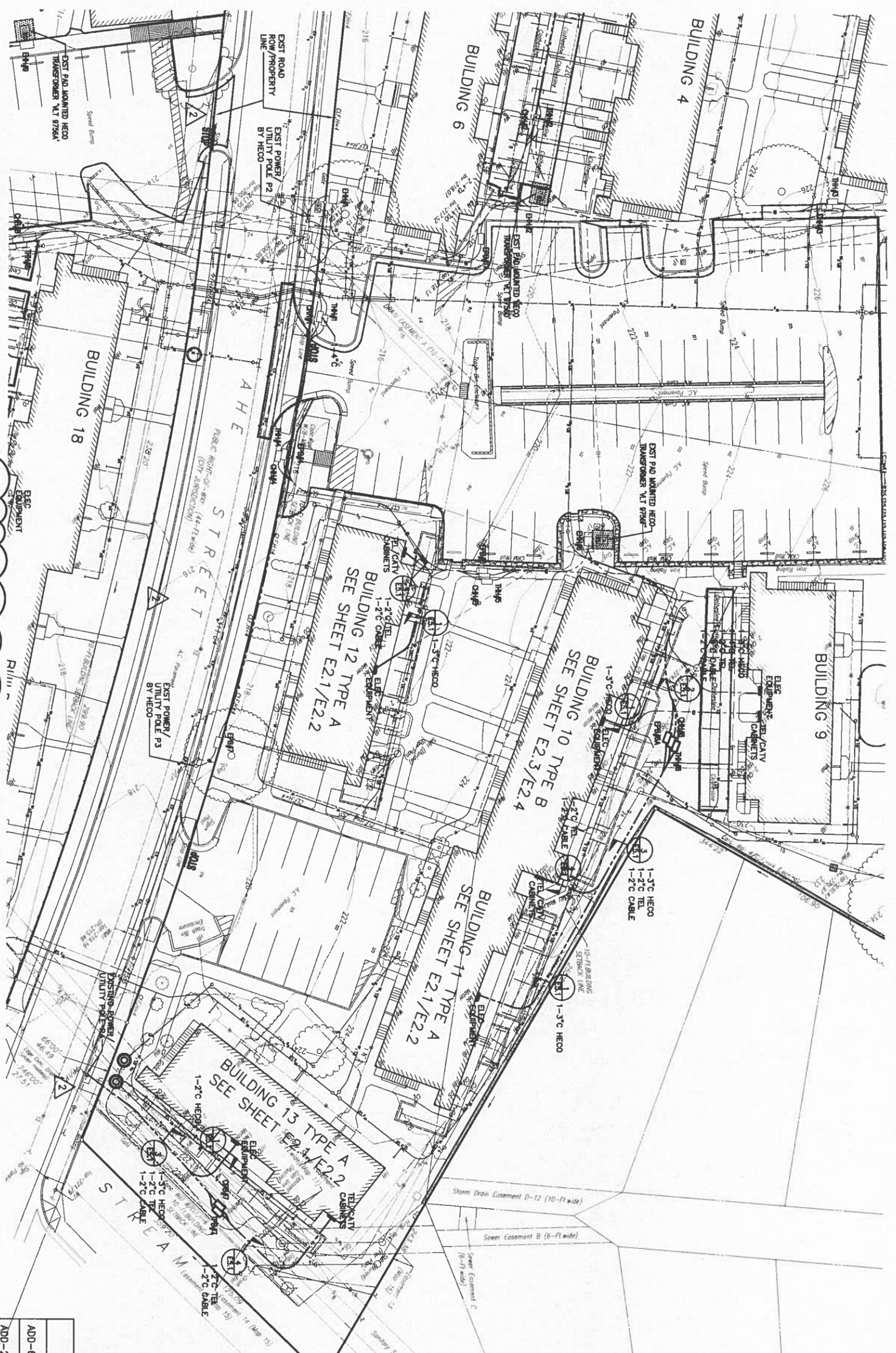


WASTE AND VENT PIPING DIAGRAM - PARTIAL TYPE 2  
NOT TO SCALE



WASTE AND VENT PIPING DIAGRAM - PARTIAL TYPE 4 & 5  
NOT TO SCALE

		THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. DATE: _____	
PROJECT NO. <b>ADDN 6</b>	REVISION <b>6</b>	DATE <b>6/9/18</b>	DRAWN BY <b>CSM</b>
PROJECT NAME <b>HAWAII PUBLIC HOUSING AUTHORITY          DEPARTMENT OF PLANNING SERVICES          STATE OF HAWAII</b>		SHEET NO. <b>M-103</b>	
PROJECT ADDRESS <b>PAOLO VALLEY HOMES MODERNIZATION PHASE 3</b>		DATE <b>05-06-16</b>	
TYPE A WASTE AND VENT PIPING DIAGRAMS		SCALE AS INDICATED	



**1 PARTIAL SITE ELECTRICAL PLAN**  
 E1.1  
 SCALE: 1" = 20'-0"

- NOTES:**
1. DO NOT LOCATE PULLBOXES OR HANDHOLES IN EASEMENTS.
  2. MINIMIZE CONDUIT ROUTING WITHIN EASEMENTS.
  3. VERIFY AND COORDINATE ELECTRICAL/COMMUNICATION SERVICE REQUIREMENTS WITH HECO, HTOO AND OCEANIC.

- SEWER NOTES**
1. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL SEWER SYSTEM AND NEAREST ELECTRICAL DUCTILES, PULLBOXES AND HANDHOLES PARALLELING THE SEWER SYSTEM AT NO COST TO THE CITY. MAINTAIN 6'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL SEWER SYSTEM AND ELECTRICAL SEWER LATERALS.
  2. AT THE ELECTRICAL DUCTILE SEWER CROSSINGS, ADJUST ALL ELECTRICAL DUCTILE ELEVATIONS TO MAINTAIN 2" VERTICAL CLEAR SEPARATION ABOVE ALL SEWER LINES. IF LESS THAN 2" CLEAR ABOVE THE SEWER LINE, RE-JACK THE SEWER LINE PER CITY STANDARD DETAIL S-5-3 AT NO COST TO THE CITY.
  3. IF THE ELECTRICAL DUCTILE CROSSES UNDER THE SEWER LINE, PROVIDE A RC BEAM ON THE SEWER LINE PER CITY STANDARD DETAIL D-22 AT NO COST TO THE CITY.



APPROVED BY: \_\_\_\_\_  
 Chief, Civil Engineering Branch, DPP  
 Date \_\_\_\_\_

ADD-6	6	ADDED NOTE	REV. 18	6/9/16	
ADD-2	2	REROUTE ELEC LINE	REV. 16	5/27/16	

**DAVID A. BEARD**  
 LICENSED PROFESSIONAL ENGINEER  
 NO. 13884-4  
 STATE OF HAWAII

DATE: 04/23/2016

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

**HAWAII PUBLIC HOUSING AUTHORITY**  
 DEPARTMENT OF HUMAN SERVICES  
 STATE OF HAWAII

**PALOALO VALLEY HOMES MODERNIZATION PHASE 3**

**PARTIAL SITE ELECTRICAL PLAN**

HWAA/AR/OMVA AND ASSOCIATES, INC.  
 LICENSED ENR. NO. 60  
 LICENSED ENR. NO. 60

HWAA JOB NO. 15-016-108-2  
 SHEET 70 OF 78

DATE: 05-08-16