FISCAL SHEET TOTAL STATE PROJ. NO. **YEAR** SHEETS HAW. STP-030-1(39) 2008

GENERAL NOTES

- 1. The scope of work includes widening the existing Honoapiilani Highway from Lahainaluna Road to Aholo Road; constructing retaining walls; constructing drywells to improve road drainage; installing signage and striping; traffic control; relocating and replacing existing utilities; and compliance to environmental assessment, various permits and BMP's.
- The Contractor is reminded of the requirements of Subsection 108.01 -Subletting of Contract, which requires him to perform work amounting to not less than 30 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.
- 3. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.13 - Public Convenience and Safety; Subsection 107.21 - Contractor's Responsibility For Utility Property And Services; and Section 645 -Traffic Control.
- At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
- 5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
- 6. Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
- 7. The Contractor shall provide for free and safe access to and from all existing side streets at all times.
- All saw cutting work shall be considered incidental to structural excavation or roadway excavation.
- 9. The location of overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines and shall maintain adequate clearance when operating equipment within or under any overhead lines.
- 10. The Contractor shall obtain an excavation permit from MECO's Engineering Department located at 210 Kamehameha Avenue, two weeks prior to starting construction.
- 11. The Contractor shall be liable for any damages to Maui Electric Co.'s Facilities and shall immediately report such damages to Maui Electric Co.'s Trouble Dispatcher at 871-7777.
- 12. The Contractor shall comply with the directives of the State of Hawaii Occupational Safety And Health Law (DOSH). Any citation (fine) received by the State for noncompliance by the Contractor shall be deducted from the progress payment.

SURVEY
DRAWN
TRACED
DESIGNE
QUANTIT

13. For verifying the location of underground ductlines and for assistance in providing proper support and protection of the underground duct lines, the Contractor is to contact Maui Engineering Department at 871-2390 a minimum of 72 Hours in advance.

- 14. The Contractor shall coordinate the design and construction with all County projects within or adjacent to the construciton area.
- 15. The Contractor shall exercise extreme caution when the excavation and construction crosses or is in close proximity of underground telephone and signal cable facilities and shall maintain adequate clearance for his equipment while working close to and/or under overhead facilities. Any damages to the existing underground facilities shall be repaired and paid for by the Contractor.
- 16. For field location of Hawaiian Telcom Facilities, contact Hawaiian Telcom Outside Plant Engineering Section, a minimum of 72 hours in advance, prior to start of excavation at 242-5105.
- 17. Should field conditions and construction procedures require that utility poles be braced, the Contractor shall contact the following company for pole bracing instructions a minimum of 72 hours in advance of actual required bracing - Hawaiian Telcom - Area Construction Supervisor at 242-5105.
- 18. When trench excavation is adjacent to existing structures or facilities, the Contractor is responsible for properly sheeting and bracing the excavation and stabilizing the existing ground to render it safe and secure from possible slides, cave-ins, and settlement, and facilities with beams, struts, or underpinning to fully protect it from damage. This work shall be considered incidental to various contract items.
- 19. The Contractor shall survey and stake out the State Highway right-of-way and install all appurtenances associated with the project within the State right-of-way or construction parcels as shown in the
- 20. The term "Engineer for the Utility Companies" shall also mean his delegated Representative and/or the Utilities' Inspectors of Record.
- 21. The Contractor shall stake out all facilities for verification by the utility involved and/or affected.
- 22. The Contractor shall Give MECO forty (40) working days notice to proceed with its portion of the work.
- 23. The Contractor will immediately report damages discovered or caused by his work to :

Hawaiian Telcom

242-5105

MECO

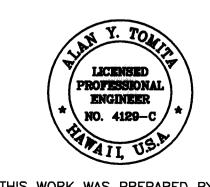
871-7777

Oceanic/Time Warner

847-4425 (ext. 838)

- 24. The Contractor is to stake out all temporary and permanent new pole locations so as not to conflict with any existing or proposed utility and obstruct any roadway sign. The Contractor shall be responsible for cost incurred by conflicting utilities.
- 25. When excavating near utility poles, the Contractor shall protect, support, secure and take all other precautions to prevent damage to or leaning of these poles. The Contractor is responsible for all costs associated to repair and/or straighten pole.

- 26. Where pedestrian walkways exist during the construction process, they shall be maintained in a safe and passable condition as per American with Disabilities Act Accessibility Guidelines (ADAAG) 4.1.1(4) and 4.3. Other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided at all times.
- 27. The Contractor is responsible for hiring State of Hawaii licensed civil, structural, environmental, and electrical engineers to provide stamped shop drawings of a traffic control plan; a NPDES plan and erosion control plan; shop drawing details of the roadway, detour road, bridge and culvert structures, temporary structures, and all other temporary or permanent improvements required to complete the work. Only upon written approval by the State, shall the Contractor proceed with accepted portions of the proposed construction work.
- 28. HDOT is in the process of executing a Utility Agreement with Maui Electric, Verizon and Oceanic/Time Warner. HDOT assumes that power poles and underground conduits will need to be relocated, along with temporary relocation required to facilitate Contractor's construction work.
- 29. Contractor shall exercise extreme caution and coordinate any relocation of overhead Fiber Optic Cable with Oceanic/Time Warner Cable company. Contact Mr. Bill Hanke at (808) 877-4425 ext. 838.
- 30. A security fence to protect the tenants from vandalism or theft shall be installed within five working days from any removal of existing fence sections. The fence shall be installed a minimum 10 feet away from the detour road edge-of-pavement.



THIS WORK WAS PREPARED BY ME

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

Honoapiilani Highway Widening Lahainaluna Road to Aholo Road <u>Project No. STP-030-1(39)</u>

Scale: None

Date: October 2008

SHEET No.

OF 5 SHEETS

GENERAL NOTES — CONTINUED

- 33. Design and construction of guardrail and guardrail end treatments shall conform to the latest edition of the AASHTO Roadside Design Guide, current National Cooperative Highway Research Program (NCHRP) 350 and HDOT requirements.
- 34. The Contractor is advised that in addition to other contractors working in the same areas, various utility companies (or their contractors) including Maui Electric Company, Hawaiian Telcom, Cable Television and Maui County Department of Wastewater Management may be performing work within the project area. The Contractor is to coordinate all work with other contractors in the area and to coordinate the design. In case of unreasonable conflict among contractors regarding access or work sites, the Engineer will make the final determination of priorities.
- 35. The Contractor shall obtain approval of lane closure hours and traffic control plans for all County streets from the Maui County, Division of Engineering.
- 36. The Contractor shall submit a Site Specific Spill Prevention Plan (SSSPP) to the County Wastewater Reclamation Division prior to submitting the Application to Perform Work Upon A State Highway Permit.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY

- The Contractor shall obtain a Permit to Perform Work Upon State Highway from the Maui District, State Highways, at 650 Palapala Drive, prior to commencement of work within the State highway right-of-way.
- Construction and restoration of all existing highway facilities within State right-of-way shall be done in accordance with all applicable sections of the 2005 Standard Specifications for Road, Bridge and Public Works Construction, and the Specifications for Installation of Miscellaneous Improvements within State Highways of the State Highway Division.
- Work may be performed only between the hours of 8:00 a.m. and 3:30 p.m.. Monday through Friday, except holidays, unless otherwise permitted by the Engineer.
- The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective facilities, and shall take necessary precautions for the protection, convenience, and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways", adopted by the Director of Transportation, and the current U.S. Federal Highway administration "Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI - Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations" and NCHRP 350.
- No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way, except at locations designated in writing and approved by the Engineer.
- The Contractor shall be required to provide adequate, safe, non-skid bridging material over any trench, including shoring, when trenching in pavement areas to handle all types of vehicular traffic.

SURVEY
DRAWN
TRACED
DESIGNE
QUANTIT

No trench shall be opened more than 200 feet in advance of the installed and tested pipe and/or ductline. No jumps or spaces will be permitted unless approved in writing by the Engineer.

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY - CONTINUED

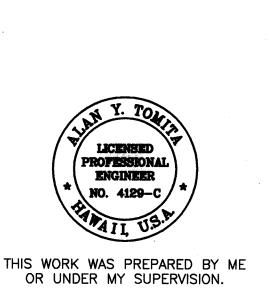
- Longitudinal drainage along the highway shall be maintained, at all times to allow free flow.
- All regulatory, guide and construction signs and barricades shall be high-intensity reflective sheeting.
- Stop work and contact the State Historic Preservation Division at (808) 243-5169 immediately should any unidentified archaeological site or remains (such as, artifacts, shells, bones, charcoal deposits, road or coral alignments, pavings or walls) been countered during construction.
- 11. The Contractor shall inform the HDOT-Maui District Office at 873-3535 at least five (5) working days prior to any lane closures or changes to lane closures.
- All signs, pavement markings, striping, etc. removed or damaged by the Contractor shall be replaced by the Contractor at no additional cost to the

NOTES FOR PUBLIC ACCESSIBILITY

- Design and construction of public access shall be in accordance with the Americans with Disability Act Accessibility Guidelines Sections 4.1-4.35 and Section 10.
- Design standards for accessibility shall conform to the applicable sections of the Americans with Disability Act Accessibility Guidelines as amended.

GENERAL DETOUR NOTES

- 1. The Contractor shall consider the temporary nature of the detour road pavement structure in the design.
- 2. Portable barriers shall be set a minimum of 2-feet from the edge stripe. Terminals of portable barriers shall be specified by the latest edition of the AASHTO Roadside Design Guide.
- 3. Inertial barrels will be allowed as end treatments for temporary barriers.
- 4. Fill slopes for the detour road shall be 2:1 (H:V) maximum. The engineer may accept steeper slopes if plans and calculations are submitted for approval by the Contractor.
- 5. All fill slopes that do not meet the clear zone requirements set forth by the latest edition of the AASHTO Roadside Design guide shall be shielded by NCHRP Report 350 and HDOT approved devices.
- 6. Design speed shall be 20 mph for the temporary detour road. Appropriate warning and regulatory signage shall be used.
- Temporary illumination shall be provided for the temporary detour road if used for nighttime work.



DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

Honoapiilani Highway Widening Lahainaluna Road to Aholo Road Project No. STP-030-1(39)

Scale: None

Date: October 2008

SHEET No.

OF 5 SHEETS

FISCAL | SHEET | TOTAL

SHEETS

PROJ. NO.

HAWAII HAW. | STP-030-1(39) | 2008

STATE

NOTES FOR CONSTRUCTION WITHIN COUNTY RIGHT-OF-WAY

- 1. The Contractor shall obtain a "Work to be performed on County Roads permit" from the Division of Land Use and Codes Administration two weeks prior to commencement of work.
- 2. Specifically referred items from the Standard Detail Drawings and Standard Specifications of the Department of Public Work shall be included as part of the construction plans.
- 3. All construction work shall conform strictly to the applicable sections of the "Hawaii Standard Specifications for Road and Bridge Construction (2005)", and "Standard Details", Sept. 1984, for Public Works Construction, of the Department of Public Works.
- 4. All existing utilities, whether or not shown on plans, if damaged during construction by the Contractor, shall be repaired at his expense.
- 5. Contractor shall provide, install and maintain all necessary signs, lights, flares, barricades, and other protection, safety and convenience of the Public according to the "Manual on Uniform Traffic Control Devices for Streets and Highways", 2003, and to the "Rules and Regulations Governing the Use of Traffic Control Devices at Works Sites on or Adjacent to Public Streets and Highways" adopted by the Highway Safety Coordinator and the U.S. Federal Highway Administration's "Manual on Uniform Traffic Control Devices for Highway Construction and Maintenance Operations", dated 2003.
- 6. The Director of Public Works and/or the Director of the Department of Water Supply has the right to stop construction should any work be found contrary to the approved construction plan or detrimental to the public's interest.
- 7. The Contractor shall schedule a pre-construction meeting with the Land Use & Codes Administration five (5) days prior to commencement of construction.
- 8. The Contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance. The work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health and the County Grading Ordinance.
- 9. The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost incurred for any necessary remedial action ordered by the Director of Public Works shall be paid by the Contractor.
- 10. Construction debris and wastes shall be deposited at an appropriate work site. The Contractor shall inform the Director of Public Works of the location of the disposal sites. The disposal site must fulfill the requirement of Grading Ordinance.
- 11. The Contractor shall submit a microfilm copy and six (6) copies of the "as-built" drawings prior to the final approval of the improvements.
- 12. If the clearance between a Wastewater line and a new or existing Water line is eighteen inches (18") or less, the Wastewater line shall be concrete—jacketed in accordance with the Standard Details of Public Works Construction dated September 1986.
- 13. All benchmarks and monuments shall be established by Hawaii licensed professional land surveyor.

SURVEY
DRAWN
TRACED
DESIGNE
QUANTIT

- 14. All grading and stockpiling shall be in accordance with Maui County Code, Title 20, Chapter 8.
- 15. Should Historic Sites such as Walls, Platform, Pavements, Mounds or remains such as Artifacts, Burials, Concentration of Shell or Charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor and/or landowner shall contact the State Historic Preservation Division (808) 243–5169, which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary.
- 16. Pursuant of Maui County Code Section 3.44.015(C). The County of Maui is not responsible for any Park, Roadway, Easement (including but not limited to Drainage, Sewer, Access, Reclaimed Water or Avigation Easement), or any other interest in Real Property shown on the Map or shown on these Plans, unless the Maui County Council has accepted its dedication by a resolution approved by a majority of Council's members at a regular or special meeting of the Maui County Council or granted exception to the Department of Hawaiian Home Lands.
- 17. Testing of materials should be conducted by an approved independent testing agency in accordance with ASTM Standard methods or as specified by the Department of Public Works, Engineering Division, as follows:
 - A. Embankment/Select borrow and subgrade materials: one (1) compaction test per 600 square yards;
 - B. Aggregate subbase course: one (1) compaction test per 400 square yards; one (1) gradation and sand equivalent test per project;
 - C. Aggregate base course: one (1) compaction test per 300 square yards; one (1) gradation and sand equivalent test per project;
 - D. Asphalt concrete pavement or asphalt treated base course; minimum of three (3) a.c. cores for thickness and density tests per paving day;
 - E. Trench backfill material: one (1) test for each 300 lineal feet of trench per lift of material.
- 18. Contractor shall submit all testing reports including results to the County's inspection agency for review and approval prior to County's acceptance of work.
- 19. The Contractor shall be required to notify the County of any testing failures and correct each failure prior to proceeding to the next phase of construction.
- 20. A minimum of two lanes shall be open to traffic at all times. The entire width of pavement, including the paved shoulders, may be utilized for traffic purposes. All lanes shall be open to traffic during the peak periods of 6:00 am to 8:30 am and 3:30 pm to 6:00 pm and during non-working hours.

LEGEND & ABBREVIATIONS

New Pavement/Reconstruction	LEGENL) & ABBREVIATIONS —		77
Rew Powement/reconstruction Bull Base Line Rest Management Practice Bull B			ARV	Air Release Valve
Transitional Cold Planing Areas SMP Best Management Practice Bottom of Bank Cament Masonry Unit Cement Rubble CMU Control Line CIF Chain Link Fence CIR Clearance Concrete CIR Clearance Concrete CONC Concrete Control Point Contr		New Pavement/Reconstruction	B	
Resurtacing Limits CMU Masonry Unit Cement Rubble Existing Electrical Line CRM Masonry Unit Cement Rubble Existing Joint Pole CLF Chain Link Fence Per Existing Power Pole CNR Character Per Existing Power Pole CNR Character Per Existing Electric Manhole CNR Character Per Existing Telectric Manhole CNR Character Per Existing Telectric Manhole CNR Character Per Existing Telectric Manhole Depth I New Telephone Line DET Detail I New Telephone Line DET Detail I New Telephone Pole Dir Drain Inlet Per Existing Telephone Manhole Dir Drain Inlet Per Existing Telephone Manhole ENB Enbankment Existing Telephone Manhole ENB Enbankment Existing Water Line ENC Excovation Existing Water Manhole ENB Enbankment Existing Water Manhole ENB Enbankment Existing Water Manhole ENB Enthankment Existing Water Valve Box Lo.G. Limits of Grading WW New Water Valve Box Lo.G. Limits of Grading WW New Water Valve Box Lo.G. Limits of Grading WW New Water Valve Box Lo.G. Limits of Grading WW New Water Air Valve P.C. Polyvinyi Chloride		Transitional Cold Planina Areas		
Mosuracing Limits		•		
Existing Electrical Line Existing Joint Pole Existing Joint Pole Existing Flower Pole CONC Concrete Cond Existing Electric Manhole Existing Electric Manhole CONC Concrete Cond Concrete Concre		Resurfacing Limits		
E New Electrical Line Existing Joint Pole CLF Chain Link Fence	e	- Fxistina Flectrical Line	CRM	
Existing Joint Pole Proprietating Power Pole Proprietating Power Pole Proprietation		<u> </u>	φ	
Swell Existing Electric Manhole C.P. Control Point ************************************	٥.	·		Chain Link Fence
Swell Existing Electric Manhole C.P. Control Point ************************************	jp O		CLR	Clearance
PEMH Adjusted Elec. Mith Frame/Cover PEMH New Electric Manhole PET Detail Peristing Telephone Line PET Detail Prain Inlet Prain Inle	_	•	CONC	Concrete
Put New Electric Manhole DET Detail Existing Telephone Line DET Detail The New Telephone Line DB Drain Inlet Existing Telephone Pole DI Drain Inlet DWG Drawing Existing Telephone Manhole E.P. Edge of Favement That Adjusted Tele. MH Frame/Cover E.S. Edge of Shoulder That New Telephone Manhole EMB. Embankment Existing Water Line EXC. Excavation Existing Water Manhole EXIST Existing WMH Adjusted Water IHH Frame/Cover FM Forcemain New Water Manhole HWY Highway Existing Water Valve Box Lo.G. Limits of Grading WWV New Water Valve Box Lo.G. Limits of Grading WWV New Water Valve Box MECo Moui Electric Company WW New Water Air Valve PC. Polyvinyl Chloride AV Adjusted Water Air Valve PC. Point of Curvature AV Adjusted Water Neter PVC Polyvinyl Chloride Existing Water Meter PI. Point of Intersection WW Now Water Meter PI. Point of Intersection WW Retaining Structure WW Right-of-Way Swh Sandard WW Right-of-Way NEW Piphway Lighting Standard WW Righting Standard WW Righting Standard WW Retaining Wall and Noise Barrier New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail WW Noise Wall WW Noise Wall	emh	•	C.P.	Control Point
Existing Telephone Line I		Adjusted Elec. MH Frame/Cover	D.O.T.	Department of Transportation
Existing Telephone Line I	° EMH	New Electric Manhole	D	Depth
*** Existing Telephone Pole DI Drain Inlet DWG Drowing Eps. Edge of Pavement Edge of Pavement English Existing Telephone Manhole Eps. Edge of Pavement Ess. Edge of Shoulder EMB. Embankment EXC. Excavation EXIST Existing Water Line EXC. Excavation EXIST Existing Water Manhole EXIST Existing Water Manhole Existing Water Manhole Existing Water Manhole Height H	—— t——	Existing Telephone Line	DET	Detail
of the Existing Telephone Pole DI Drain Intel Drawing Drawing E.P. Drawing Drawing Edge of Pavement **TMH Adjusted Tele. MH Frame/Cover E.S. Edge of Shoulder **TMH New Telephone Manhole EMB. Embankment ************************************		New Telephone Line		Diameter
**Common	° to	,		
TMH Adjusted Tele. MH Frame/Cover TMH New Telephone Manhole EMB. Embankment EMB. Embankment EMB. Embankment EMB. Embankment EXC. Excavation EXIST Existing WMH Adjusted Water Manhole WMH New Water Manhole WMH New Water Manhole WMH New Water Manhole WMH New Water Valve Box WM Adjusted Water Valve Box WM New Water Valve Box WM New Water Valve Box MECO Multiplication Company Not to Scale AV Adjusted Water Air Valve AV New Water Air Valve AV New Water Air Valve PVC Polyvinyl Chloride AV New Water Air Valve PVC Polyvinyl Chloride PV	,	,		9
TMH New Telephone Manhole EXC. Excavation Court Existing Water Line EXC. Excavation Court Existing Water Manhole EXIST Existing Court Muth Adjusted Water MH Frame/Cover Court Muth New Water Manhole HWY Highway Existing Water Valve Box Lc Length of Curve		,		3
Existing Water Line Existing Water Manhole WMMH Adjusted Water MH Frame/Cover WMMH New Water Manhole Existing Water Valve Box Existing Water Valve Box WW Adjusted Water Valve Box Existing Water Valve Box MECO WW New Water Valve Box Existing Water Valve N.T.S. Not to Scale AV Adjusted Water Air Valve AV New Water Air Valve AV New Water Air Valve Existing Water Meter WW Adjusted Water Meter WW Adjusted Water Meter WW Adjusted Water Meter WW Adjusted Water Meter WW New Water Meter WW Refaining Woulment REF Reference Retaining Retaining Water New Retaining Wall and Noise Barrier New Noise Wall WW Crash Barrel		•		9
** Wash Adjusted Water Manhole ** EXIST ** Existing ** Wash Adjusted Water MH Frame/Cover** ** Wash New Water Manhole ** HWY Highway ** Lo. G. Limits of Grading ** Wash Water Valve Box ** Lo.G. Limits of Grading ** New Water Valve Box ** MECO ** Moui Electric Company ** Not to Scale ** AV Adjusted Water Air Valve ** N.T.S. Not to Scale ** AV Adjusted Water Air Valve ** PVC ** Polyvinyl Chloride ** P.C. Point of Curvature ** P.I. Point of Intersection ** P.I. Point of Intersection ** P.I. Point of Tangency ** Property Line ** Valve ** P.I. Point of Tangency ** Property Line ** Valve ** P.I. Point of Tangency ** Property Line ** Valve ** P.I. Point of Tangency ** Property Line ** Valve ** P.I. Point of Tangency ** Property Line ** Valve ** Valve ** Property Line ** Valve ** Property Line ** Valve ** Valve ** Property Line ** Valve ** Valv	/MH			
• WMH Adjusted Water MH Frame/Cover FM Forcemain • WMH New Water Manhole H Height • WM Existing Water Valve Box Lc Length of Curve • W Adjusted Water Valve Box L.O.G. Limits of Grading • W New Water Valve Box MECo Maui Electric Company • W New Water Air Valve PVC Polyvinyl Chloride • AV Adjusted Water Air Valve P.C. Point of Curvature • AV New Water Air Valve P.C. Point of Intersection • AV New Water Meter P.I. Point of Intersection • AV New Water Meter P.I. Point of Tangency • W Property Line Property Line • W Value Mater Meter QIY Quantity • Existing Fire Hydrant REF Reference • UBs New Underdrain RCU Reinforced Concrete Jacket • MON. Adjusted Monument R.S. Retaining Structure • MON. New Monument SMH Sewer Manhole • Kristing Highway Lighting Standard ST		3		
MMH New Water Manhole MMH New Water Manhole LC Length of Curve Log. Limits of Grading Mali Electric Company Mol Curvature Poliviny Chloride Poliv	° wmh	Existing Water Manhole		9
OWNH New Water Manhole HWY Highway Own Existing Water Valve Box Lo.G. Limits of Grading Own New Water Valve Box MECo Maui Electric Company Own Existing Water Air Valve N.T.S. Not to Scale Own Adjusted Water Air Valve PVC Polyvinyl Chloride Own Adjusted Water Air Valve P.C. Point of Curvature Own Existing Water Meter P.I. Point of Intersection WW Adjusted Water Meter P.T. Point of Tangency W Property Line Quantity W New Water Meter QIY Quantity W Existing Fire Hydrant REF Reference UDB New Underdrain RCJ Reinforced Concrete Jacket MON. Adjusted Monument R.S. Retaining MON. Adjusted Monument R.S. Retaining Structure MON. New Monument SMH Sewer Manhole New Highway Lighting Standard STA Standard New Retaining Wall and Noise Barrier SE Superelev	→ WMH	Adjusted Water MH Frame/Cover		
Existing Water Valve Box WY Adjusted Water Valve Box WW New Water Valve Box Existing Water Air Valve WY Adjusted Water Air Valve Adjusted Water Air Valve Aljusted Water Meter Existing Water Meter WY Adjusted Monument WY Adjusted Monument WY Refaining Structure WY Right—of—Way Sewer Manhole SHT Sheet Sheet Sheet Sheet Sheet New Highway Lighting Standard WA Station STA Station STA Station New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail WY Noise Wall WY Noise Wall WY Typical		New Water Manhole		9
• wv Adjusted Water Valve Box L.O.G. Limits of Grading • wv New Water Valve Box MECo Maui Electric Company • au Existing Water Air Valve N.T.S. Not to Scale • AV Adjusted Water Air Valve P.C. Polyvinyl Chloride • AV New Water Air Valve P.C. Point of Curvature • AV New Water Meter P.I. Point of Intersection • W P.T. Point of Tangency Property Line • W P.T. Point of Tangency Property Line • W New Water Meter QTY Quantity • W New Water Meter QTY Quantity • Existing Fire Hydrant REF Reference • WD8 New Underdrain RCJ Retaining • WO8 New Underdrain R.S. Retaining • MON. Adjusted Monument R.S. Retaining • MON. New Monument R.W Sight-of-Way • MON. New Highway Lighting Standard STA Standard • New Retaining Wall and Noise Barrier SE S		Existing Water Valve Box		
○ WV New Water Valve Box MECo Maui Electric Company ○ W Existing Water Air Valve N.T.S. Not to Scale ○ AV Adjusted Water Air Valve PVC Polyvinyl Chloride ○ AV New Water Air Valve P.C. Point of Curvature ○ AV New Water Meter P.I. Point of Intersection ○ WV Adjusted Water Meter P.T. Point of Tangency ○ WV P.T. Point of Tangency ○ P.T. Property Line ○ QIY Quantity ○ Reference REF Reference RCJ Reinforced Concrete Jacket ○ R.S. Retaining Structure ○ MON. New Hi		•		
Existing Water Air Valve All Adjusted Water Air Valve All New Water Air Valve All New Water Air Valve Existing Water Meter What Adjusted Water Meter What New Water Meter What Adjusted Water Meter What New Underdrain Existing Fire Hydrant Existing Monument Mon. Adjusted Monument Mon. Adjusted Monument Existing Traffic Sign Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel Not to Scale PVC Polyvinyl Chloride Point of Curvature P.I. Point of Intersection Point of Intersection Point of Lurvature P.I. Point of Intersection Pall Reference Reference Reference REG Retaining Retaining Structure R/W Right-of-Way Some Manhole SHT Sheet Sheet Strandard The Station Top of Bank Top of Slab Typ Typical				
♠ AV Adjusted Water Air Valve PVC Polyvinyl Chloride ♠ AV New Water Air Valve P.C. Point of Curvature ♠ W Existing Water Meter P.I. Point of Intersection ♠ W Adjusted Water Meter Property Line ♠ W New Water Meter QTY Quantity ♠ Existing Fire Hydrant REF Reference ♠ New Underdrain RCJ Reinforced Concrete Jacket ♠ New Underdrain RTG Retaining ♠ New Underdrain R.S. Retaining Structure ♠ MON. Adjusted Monument R.S. Retaining Structure ♠ MON. New Monument SMH Sewer Manhole ♠ Existing Traffic Sign SHT Sheet ♠ Existing Highway Lighting Standard STD Standard ♠ New Highway Lighting Standard STA Station ♠ New Retaining Wall and Noise Barrier SE Superelevation ♠ New Retaining Wall and Guardrail T.B. Top of Bank ♠ New Crash Barrel TYP Typical				
New Water Air Valve New Water Air Valve New Water Air Valve New Existing Water Meter New New Water Meter New New Water Meter New Underdrain New Underdrain New Monument New Monument New Monument New Monument New Monument New Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Noise Wall New Crash Barrel New Crash Barrel New Crash Barrel New Crash Barrel New Index Air Valve P.C. Point of Curvature Point of Intersection Park Point of Intersection Property Line Point of Intersection Property Line Point of Intersection Property Line Point of Intersection Park Point of Intersection Property Line Point of Intersection Park Property Line Point of Intersection Park Point of Intersection Park Property Line Property Line Point of Intersection Park Property Line Property Line Property Line Property Line Park Property Line Property Line Park Property Line Park Property Line Park Park Property Line Park Park Property Line Park Park Park Park Park Park Park Park		o		
Existing Water Meter WW Adjusted Water Meter WW New Water Meter Existing Fire Hydrant Existing Fire Hydrant MON. Adjusted Monument MON. Adjusted Monument Existing Traffic Sign Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel P.I. Point of Intersection REF Reference REF Reference REF Reference REF Reference Redianing Resianing Resianing Resianing Resianing Structure R/W Right-of-Way Sewer Manhole STA Station Standard STA Station Structure SE Superelevation I.B. Top of Bank I.S. Top of Slab IYP Iypical	· ·			
Existing Water Meter W Adjusted Water Meter W New Water Meter Existing Fire Hydrant Existing Fire Hydrant REF Reference UDa New Underdrain Existing Monument MON. Adjusted Monument MON. Adjusted Monument Existing Traffic Sign Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel P.T. Point of Tangency Property Line Quantity Reference Reference Retaining Retaining Retaining Retaining Structure R/W Right-of-Way SMH Sewer Manhole SHT Sheet Standard STA Station	OAV			
■W Adjusted Water Meter Property Line ■W New Water Meter QTY Quantity ■ Existing Fire Hydrant REF Reference UD8 New Underdrain RCJ Reinforced Concrete Jacket ■ MON. Existing Monument RTG Retaining Retaining ■ MON. New Monument R/W Right—of—Way ■ MON. New Monument SMH Sewer Manhole ■ Existing Traffic Sign SHT Sheet ■ Existing Highway Lighting Standard STD Standard ■ New Highway Lighting Standard STA Station ■ New Retaining Wall and Noise Barrier SE Superelevation ■ New Retaining Wall and Guardrail T/S Top of Bank ■ New Noise Wall T/S Top of Slab ■ New Crash Barrel TYP Typical	\square wm	Existing Water Meter		
■W New Water Meter QTY Quantity □ R Existing Fire Hydrant REF Reference UD ₈ New Underdrain RCJ Reinforced Concrete Jacket □ MON. Existing Monument RTG Retaining □ MON. Adjusted Monument R/W Right—of—Way □ MON. New Monument SMH Sewer Manhole □ Existing Traffic Sign SHT Sheet □ Existing Highway Lighting Standard STD Standard □ New Highway Lighting Standard STA Station □ New Retaining Wall and Noise Barrier ST Street □ New Retaining Wall and Guardrail T/S Top of Bank □ New Noise Wall T/S Top of Slab □ New Crash Barrel TYP Typical	^{2}WV	Adjusted Water Meter		o ,
Existing Fire Hydrant When the proof of the	- wv	New Water Meter		
UD ₈ New Underdrain RCJ Reinforced Concrete Jacket □ MON. Existing Monument RTG Retaining □ MON. Adjusted Monument R/W Right – of – Way □ MON. New Monument SMH Sewer Manhole □ Existing Traffic Sign SHT Sheet □ Existing Highway Lighting Standard STD Standard □ New Highway Lighting Standard STA Station □ New Retaining Wall and Noise Barrier ST Street □ New Retaining Wall and Guardrail T.B. Top of Bank □ New Noise Wall T/S Top of Slab ■ New Crash Barrel TYP Typical		Existing Fire Hydrant		,
© MON. Adjusted Monument MON. New Monument Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel RTG Retaining Retaining Structure R/W Right−of−Way SMH Sewer Manhole SHT Sheet ST Standard STA Station ST Street SE Superelevation T.B. Top of Bank T/S Top of Slab TYP Typical	UDQ	3		
MON. Adjusted Monument MON. New Monument Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel R.S. Retaining Structure R/W Right−of−Way SMH Sewer Manhole SHT Sheet ST Standard STA Station ST Street SE Superelevation T.B. Top of Bank T/S Top of Slab TYP Typical	©			
MON. New Monument Existing Traffic Sign SHT Sheet			R.S.	9
MON. New Monument Existing Traffic Sign	MON.		R/W	•
Existing Traffic Sign Existing Highway Lighting Standard New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Noise Wall New Crash Barrel SHT Sheet Standard STA Station ST Street SE Superelevation T.B. Top of Bank T/S Top of Slab TYP Typical	MON.		,	,
New Highway Lighting Standard New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Noise Wall New Crash Barrel New Highway Lighting Standard STA Station Street SE Superelevation T.B. Top of Bank T/S Top of Slab TYP Typical	þ	Existing Traffic Sign	SHT	
New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel SI Street SE Superelevation T.B. Top of Bank T/S Top of Slab Yell Typical	\mathcal{L}	Existing Highway Lighting Standard	STD	Standard
New Retaining Wall and Noise Barrier New Retaining Wall and Guardrail New Noise Wall New Crash Barrel SI Street SE Superelevation T.B. Top of Bank T/S Top of Slab TYP Typical		New Highway Lighting Standard	STA	Station
New Retaining Wall and Guardrail New Noise Wall New Noise Wall New Crash Barrel New Retaining Wall and Guardrail SE Top of Bank T/S Top of Slab TYP Typical	#SGOPOPOSIEM		ST	
New Netaming wall and Guardial T.B. Top of Bank T/S Top of Slab New Crash Barrel TYP Typical			SE	
New Noise Wall T/S Top of Slab New Crash Barrel TYP Typical			T.B.	•
● New Crash Barrel TYP Typical	AND FLIXOUSEULTS	New Noise Wall	T/S	,
▲ Settlement Gage V.C. Vertical Curve	⊛	New Crash Barrel	,	,
— OOLIOHOH DAAO		Settlement Gage	V.C.	Vertical Curve

FED. ROAD DIST. NO.

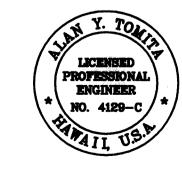
STATE

PROJ. NO.

HAWAII HAW. | STP-030-1(39) | 2008

FISCAL SHEET TOTAL

SHEETS



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Clany Somt

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

<u>Honoapiilani Highway Widening</u> <u>Lahainaluna Road to Aholo Road</u> <u>Project No. STP-030-1(39)</u>

Scale: None

Date: October 2008

SHEET No. 3 OF 5 SHEETS

5

MAUI ELECTRIC COMPANY NOTES

1. LOCATION OF MECO FACILITIES

The location of MECO overhead and underground facilities shown on the plans are existing records with varying degrees of accuracy are not guaranteed as shown. The Contractor shall verify in the field, the locations of the facilities and shall exercise proper care in excavating and working in the area. Wherever connections of new utilities to existing utilities and utility crossings are shown, the Contractor shall expose the existing lines at the proposed connections and crossings to verify the depths prior to excavation for the new lines. The Contractor shall be responsible for any damages to MECO's facilities whether shown or not shown on the plans.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

The Contractor shall comply with the State of Hawaii's Occupational Safety and Health Laws and Regulations, including without limitation, those related to working on or near exposed or energized electrical lines and equipment.

3. EXCAVATION PERMIT

The Contractor shall obtain an excavation permit from MECO's Engineering Division (871-2390) located at 820 Ward Avenue, 4th Floor, (2) weeks prior to starting construction. Please refer to our request number at that time.

4. CAUTION!!! ELECTRICAL HAZARD!!!

Existing MECO overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with MECO. Only MECO personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. The Contractor shall work cautiously at all times to avoid accidents and damage to existing MECO facilities, which can result in electrocution.

5. OVERHEAD LINES

State laws requires that a worker and the longest object he or she may use cannot come closer than a minimum radial clearance of 10 feet when working close to or under any overhead lines rated 50KV and below. For each additional 1KV above 50KV, an additional 0.4 inch shall be added to the 10-foot clearance requirement. The preceding information on line clearance is provided as a convenience and it is the Contractor's responsibility to be informed of and comply with any revisions or amendments to the law.

Should the Contractor anticipate that his work will result in the need to encroach within the minimum required clearance at any time, the Contractor shall notify MECO at least four (4) weeks prior to the planned encroachment so that, if feasible, the necessary protections (e.g. re-location, de-energize, or blanket MECO lines) can be put in place. MECO's cost of safeguarding its line will be charged to the Contractor.

Contact MECO's Engineering Department at 871–2390 for assistance in identifying and safeguarding overhead powerlines. Refer to Section X of MECO's Electric Service installation Manual for additional guidelines when working around MECO's facilities. A copy may be obtained from MECO's Customer Installations Department.

6. POLE BRACING

A minimum clearance of 10 feet must be maintained when excavating around utility poles and/or their anchor system to prevent weakening or pole support failure. Should work require excavating within 10 feet of a pole and/or its anchor system, the Contractor shall protect, support, secure and take all other precautions to prevent damage to or leaning of these poles. The Contractor is responsible for all associated costs to brace, repair, or straighten poles. All means of structural support for poles proposed by the Contractors shall first be reviewed by MECO before implementation. For pole bracing instructions, the Contractor shall call the MECO Engineering Department at 871–2390, a minimum of two (2) weeks in advance.

7. UNDERGROUND LINES

The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. MECO's existing electrical cables are energized and will remain energized during construction. Only MECO personnel are to break into existing MECO facilities, handle these cables, and erect temporary guards to protect these cables from damage. The cost of MECO's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. For verification of underground lines, the Contractor shall call MECO's Engineering Department at 871–2390 a minimum of 72 hours in advance. For assistance in providing proper support and protection of these lines, the Contractor shall call MECO's Engineering Department at 871–2390, a minimum of two (2) weeks in advance.

8. EXCAVATIONS

When trench excavation is adjacent to or beneath MECO's existing structures or facilities, the Contractor is responsible for:

- a) Sheeting and bracing the excavation and stabilizing the existing ground to render it safe and secure and to prevent possible slides, cave—ins, and settlements.
- b) Properly supporting existing structures or facilities with beams, struts, or under-pinnings to fully protect it from damage.
- c) Backfilling with proper backfill material including special thermal backfill where existing (refer to Engineering Department for thermal backfill specifications).

9. RELOCATION OF MECO FACILITIES

Any work required to relocate or modify MECO facilities shall be done by MECO, or by the Contractor under MECO's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for MECO's work, which may include, but not to be limited to, excavation and backfill, permits and traffic control, barricading, and restoration of pavement, sidewalk and other facilities. All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be born by the Contractor.

10. CONFLICTS

Any design or relocation of MECO's facilities not shown on the plans may be cause for lengthy delays. The Contractor acknowledges that MECO is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of MECO's electrical facilities in the field, regardless of whether the Contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, MECO should be notified immediately upon discovery or identification of such conflict.

11. DAMAGE TO MECO FACILITIES

The Contractor shall be responsible for the protection of all MECO surface and subsurface utilities and shall be responsible for any damages to MECO's facilities as a result of his operations. The Contractor shall immediately report such damages to MECO's Trouble Dispatcher at 871–7777. Repair work shall be done by MECO or by the Contractor under MECO's Supervision. Costs for damages to MECO facilities shall be borne by the Contractor.

APPROVED:	
MAUI ELECTRIC COMPANY	DATE

FED. ROAD
DIST. NO.STATEPROJ. NO.FISCAL
YEARSHEET
NO.TOTAL
SHEETSHAWAIIHAW.STP-030-1(39)20086194

12. MECO STAND-BY PERSONNEL

The Contractor may request MECO to provide an inspector to stand—by during construction near MECO's facilities. The cost of such inspection will be charged to the Contractor. The Contractor shall call the MECO Engineering Department at 871—2390, a minimum of five working days in advance to arrange for MECO stand—by personnel.

13. CLEARANCES

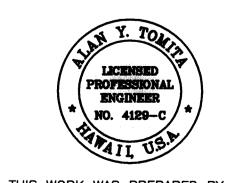
The following clearances shall be maintained between MECO's ductline and all adjacent structures (charted and uncharted) in the trench:

STRUCTURE TYPE	MINIMUM CLEARANCE (INCHES)
Water Lines, parallel	36
Water Lines, crossing	12 (A)
Sewer Lines, parallel	36 (B)
Sewer Lines, crossing	24 (C)
Drain Lines, parallel	12
Drain Lines, crossing	6 (D)
Electrical and Gas Lines, parallel	12
Electrical and Gas Lines, crossing	12
Telephone Lines, parallel	6 (D)
Telephone Lines, crossing	6 (D)
Chevron Oil Lines, parallel	36
Chevron Oil Lines, crossing	48 below oil line (E)

- A. The minimum vertical clearances to water lines crossing electrical ductlines can be reduced to 6 inches if the electrical ductline structure is smaller than 16 inches, is concrete encased, and is below the water line.
- . A minimum horizontal clearance of 36 inches is required between new handholes and existing sewer laterals.
- The minimum horizontal clearances to sewer pipes crossing electrical ductlines can be reduced to 12 inches if the sewer pipe is jacketed in concrete.
- D. The minimum clearances shall be increased to 12 inches if the electrical ductline is direct buried.
- E. The minimum vertical clearances to oil lines crossing electrical ductlines can be reduced to 24 inches below oil lines if the crossings are encased in 6 inches of concrete.
- F. The Contractor shall notify the Construction Manager & MECO of any heat sources (power cable duct bank, streamline, etc.) encountered that are not properly identified on the drawing

14. INDEMNITY

The Contractor shall indemnify, defend and hold harmless MECO from and against all losses, damages, claims, and actions including but not limited to reasonable attorney's fees and costs based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by the Contractor or anyone acting under its direction or control or on behalf; provided Contractor's indemnity shall not be applicable to any liability based upon the sole negligence of MECO.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

alony Scrut

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

Honoapiilani Highway Widening

<u>Lahainaluna Road to Aholo Road</u> <u>Project No. STP-030-1(39)</u>

SHEET No. 4 OF 5 SHEETS

Date: October 2008

MAUI ELECTRIC COMPANY NOTES-CONT.

15. SCHEDULE

Contractor shall furnish his construction schedule at least sixty working days prior to starting work on MECO facilities. Contractor shall give MECO, in writing, forty (40) working days notice to proceed with MECO's portion of work.

16. AUTHORITY

All construction, restoration work and inspection shall be subject to whichever governmental agency has authority over the work.

17. SPECIFICATION

Construction of MECO's underground facilities shall be constructed in accordance with the latest revisions of MECO Specifications CS7001, CS7003, CS7202, CS9301, and CS9401 and applicable MECO standards. CONSTRUCTION Contractor shall furnish all labor, materials, equipment, and services to properly perform and fully complete all work shown on the contract, drawings, and specifications. All materials shall be new and manufactured in the United States of America. All manhole, handhole, and ductline installations shall be inspected and approved by MECO prior to excavation and prior to placing concrete. Contractor shall notify MECO's Engineering Department at 871-2390 at least 48 hours prior to placing concrete.

18. STAKEOUT

The Contractor shall stakeout all proposed MECO facilities within the project area so as to not conflict with any utility (existing or proposed) and any proposed construction or improvement work for verification by MECO before proceeding with MECO work.

19. DUCTLINES

All ductlines installations shall be PVC schedule 40 encased in concrete, unless otherwise noted. All completed ductlines shall be mandrel tested by the Contractor in the presence of MECO's inspector using MECO's standard prac- tice. The Contractor shall install a 1/8" polyolefin pull line in all completed ductlines after mandrel testing is complete.

20. JOINT POLE REMOVAL

The last joint pole occupant off the poles shall remove the poles.

SETTLEMENT MONITORING NOTES

- 1. Install settlement gages at the locations shown on Roadway Plan & Profile Sheets and construct per Typical Settlement Gage Detail shown in Misc. Details. The settlement gages shall be embedded a minimum of 12 inches below the original ground or the excavated ground surface, as appropriate, before the placement of fill. See Settlement Gages Specifications for additional requirements.
- 2. After placement of settlement gages, place and compact fill materials to raise the existing ground to the finish grades.
- 3. A settlement waiting period of approximately 4 to 6 weeks shall be observed to monitor the settlement due to placeent of fill. The actual duration of settlement waiting period shall be based on measured settlement rates.
- 4. After completion of the settlement waiting period, removal of existing fills or placement and compaction of additional fills may be required to bring the site to the finish grades shown on the grading plan.

No additional compensation shall be made for the removal, import or placement of the existing fills or additional fills.

WASTEWATER NOTES

- All wastewater lines and appurtenances shall conform to Standard Details for Public Works Construction, dated September 1984, of the Department of Public Works, County of Maui.
- All sewerline and appurtenances shall follow the design standards of the Wastewater Reclamation Division, City and County of Honolulu, Volumes 1 & 2, dated July 1993 and July 1984 respectively, unless otherwise noted.
- Before construction commences, the Contractor shall schedule and document a pre-construction meeting with all agencies having utilities affected by the
- The Department of Environmental Management, Wastewater Reclamation Division, has the right to stop construction, should any work be found contrary to the approved plans and specifications, or detrimental to the public interest.
- All existing wastewater lines, whether or not shown on the plans, if damaged during construction, shall be repaired by the Contractor and the Contractor shall pay all expenses.
- Should the Contractor excavate beyond the trench pay-width, as specified in the Standard Details for Public Works Construction, dated September 1984, and such action results in a greater load to the pipe, the Contractor shall provide, at the Contractor's expense, a higher class of bedding material that will withstand the added load.
- Where the clearance between a wastewater line and a new or existing utility line is eighteen (18) inches or less, the wastewater line shall be concrete jacketed in accordance with the Standard Details of Public Works Construction, dated September 1984.
- All backfill for wastewater trenches shall be compacted in one (1) foot lifts to a minimum of 95% of its maximum density.
- Where construction is to be done in phases or increments, each phase or increment shall be approved by Wastewater Reclamation Division before the next phase or increment is started.
- All wastewater mains shall pass a mandrel test as a condition of acceptance 30 days after completion and backfill. the mandrel diameter shall be 95% more of the inside diameter of the pipe being tested. a certification letter from the Contractor, signed by the DSA inspector, will be forwarded to the Wastewater Reclamation Division.
- "As-built" drawings shall be submitted as a condition for the final acceptance of the project. if main transmission lines will be dedicated to the County, the Contractor shall submit an AutoCAD Release 14 drawing file to the Wastewater Reclamation Division.
- All existing wastewater lines which are owner by the County of Maui shall be inspected by Closed Circuit Television (CCTV) in strict accordance with Department of Public Works CCTV policy, effective date November 1, 1996. Any damage shown to existing wastewater lines due to construction shall be repaired to the satisfaction of the County of Maui.
- Any connection made under the water table will require CCTV at high tide to determine water tightness in accordance with Department of Public Works CCTV policy, effective November 15, 1996. Final acceptance of the system shall be contingent upon the passing of all requirements of this policy.

WASTEWATER NOTES CONTINUED

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(39)	2008	7	194

For any construction in the immediate vicinity of existing sewer lines involving subsurface work (construction of retaining wall footings, driving guardrail posts etc.) the Contractor shall submit for review and approval a Site Specific Spill Prevention Plan (SSSPP) to the Department of Environmental Management, Wastewater Reclamation Division detailing the steps that will be taken to prevent disturbance of the line and the steps that will be taken if the line is indeed damaged.

HIGHWAY LIGHTING NOTES

- 1. The Contractor shall notify Maui Electric Company (MECO), at 808.871.2385 72 hours in advance before commencing installation of temporary highway lighting system.
- 2. All luminaires shall be high pressure sodium type with wattage and I.E.S. type light distribution as shown on the approved plans.
- 3. The Contractor shall have one set of approved plans at job site at all times during the construction work and record all changes occur on construction of Highway Lighting System.
- The Contractor to stencil date of installation at the bottom of photocell. One (1) photocell only is required as indicated on plan.
- 5. Final acceptance and inspection will be undertaken only after all work has been completed.
- 6. The Contractor shall measure and record ground resistance at each standard and submit recorded ground resistance to Traffic Section, and Maui District Maintenance Section, Department of Transportation, State Highway. The Contractor's electrical engineer shall certify all electrical tests, including but not limited to: Continuity Test and the Ground Rod Resistant Test prior to submission to the District Engineer.
- Construction work shall be scheduled in such a manner that street lighting is provided during all hours of darkness either with new or existing luminaires or a combination thereof temporary connections shall be made to accomplish this end. The continuity of series street lighting circuits shall be maintained until the existing series street lighting fixtures are ready for removal.
- The Contractor shall at his expense keep the project and surrounding area free from dust nuisance and shall be responsible for cleaning and removal of all silt and debris generated by the excavation work and deposited and accumulated within downstream waterways, ditches, drain pipes and on public roadways. Any citations (fines) received by the State for the Contractor's non-compliance of any Department of Health regulations shall be deducted from the progress payment.

NO. 4129—C

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APPROVED:

MAUI ELECTRIC COMPANY

DATE

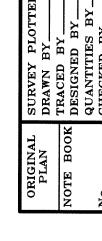
DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

GENERAL NOTES & LEGEND

Honoapiilani Highway Widening Lahainaluna Road to Aholo Road <u>Project No. STP-030-1(39)</u>

Date: October 2008

SHEET No. 5



OF 5 SHEETS

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

- The Contractor is reminded of the requirements of Section 209-Water Pollution and Erosion Control, in the "Hawaii Standard Specifications for Road, Bridge and Public Works Construction(2005)." Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment.
- 2. The Contractor shall follow the guidelines in the "Best Management Practices Manual for Construction Sites in Honolulu", dated November 2000 in developing, installing and maintaining the Best Management Practices (BMP) for the project.
- 3. The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
- 4. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
- 5. For project that requires an NPDES Permit from the Department of Health, install a rain gauge prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall, and have an opening of at least one-inch in diameter. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site specific best management practices are in-place.

B. WASTE DISPOSAL:

- Waste Materials: All waste materials shall be collected and stored in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied a minimum of twice per week or as often as is deemed necessary. No construction waste materials shall be buried onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.
- 2. <u>Hazardous Waste:</u> All hazardous waste materials shall be disposed of in the manner specified by local or State regulations or by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.
- Sanitary Waste: All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.
- EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:
- All control measures shall be inspected at least once each week and following any rainfall event of 0.5 inches or greater.
- 2. All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- Built-up sediment shall be removed from silt fence when it has reached one-third the height of the fence.
- 4. Silt screen or fence shall be inspected for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground.
- Temporary and permanent seeding and planting shall be inspected for bare spots, washouts and healthy growth.
- 6. A maintenance inspection report shall be made promptly after each inspection by the Contractor.

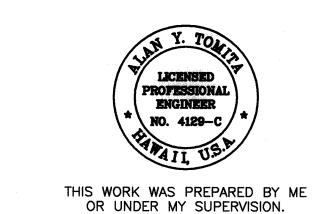
- 7. The Contractor shall select a minimum of three (3) personnel who shall be responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working
- D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:
- Materials Pollution Prevention Plan
- a. Applicable materials or substances listed below are expected to be present on-site during construction. Other materials and substances not listed below shall be added to the inventory.

Fertilizers Cleaning Solvents Petroleum Based Products Metal Studs Paints (enamel and latex) Detergents Wood Masonry Block Concrete

- b. Material Management Practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. An effort shall be made to store only enough product as is required to do the job.
- c. All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- d. Products shall be kept in their original containers with the original manufacturer's label.
- e. Substances shall not be mixed with one another unless recommended by the manufacturer.
- f. Whenever possible, a product shall be used up completely before disposing of the
- g. Manufacturer's recommendations for proper use and disposal shall be followed.
- h. The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials on-site.
- i. Areas where the Contractor intends to conduct fueling equipment cleaning, and maintenance activities will be clearly identified in the Best Management Plan.
- For all areas where hazardous materials will be used or stored, the Contractor shall provide a secondary containment system.
- 2. Hazardous Material Pollution Prevention Plan
- a. Products shall be kept in original containers unless they are not resealable.
- b. Original labels and material safety data sheets (MSDS) shall be retained.
- c. Surplus products shall be disposed of according to manufacturers' instructions or local and State recommended methods.
- 3. On-site and Off-site Product Specific Plan
- a. The following product specific practices shall be followed on-site:
- 1) Petroleum Based Products: All on-site vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used on-site shall be applied according to the manufacturer's recommendation.
- 2) <u>Fertilizers</u>: Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to storm water. Storage shall be in a covered shed. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.
- 3) <u>Paints</u>: All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the highway drainage system but shall be properly disposed of according to manufacturers' instructions or State and local regulations.

ED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(39)	2008	8	194

- 4) Concrete Trucks: Concrete trucks shall be allowed to wash out or drum wash water only at a designated site. Water shall not be discharged in the highway drainage system or waters of the United States. The Contractor shall contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. The Contractor shall clean disposal site as required or as requested by the Owner's representative.
- b. Off-site Vehicle Tracking: A stabilized construction entrance shall be provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance shall be cleaned daily or as required to remove any excess mud, cold planed materials, dirt or rock tracked from the site. Dump trucks hauling material from the construction site shall be covered with a tarpaulin.
- 4. Spill Control Plan
- a. A spill prevention plan shall be posted to include measures to prevent and clean up each
- b. The Contractor shall be the spill prevention and cleanup coordinator. The Contractor shall designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel shall be posted in the material storage area and in the office trailer on-site.
- c. Manufacturers' recommended methods for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.
- d. Materials and equipment necessary for spill cleanup shall be kept in the material storage area on-site.
- e. All spills shall be cleaned up immediately after discovery.
- f. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- g. Spills of toxic hazardous material shall be reported to the appropriate State or local government agency, regardless of the size.
- E. PERMIT REQUIREMENTS:
- 1. The Contractor shall submit to the Engineer four (4) sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.04 of the specifications.
- 2. The Contractor shall be responsible to comply with NGPC from the Department of Health, Clean Water Branch.
- 3. The Contractor shall comply with all applicable State, County, and Federal Permit conditions. Permits may include but are not limited to the following:
 - a. NPDES NOI Form—C
 - b. NPDES NOI Form-F
 - c. Special Management Area Use
 - d. Other permits as required.



Many Earnt

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION WATER POLLUTION AND EROSION CONTROL NOTES Honoapiilani Highway Widening Lahainaluna Road to Aholo Road <u>Project No. STP-030-1(39)</u>

Scale: None

Date: October 2008

SHEET No.

OF 1 SHEETS

FED. ROAD DIST. NO. STATE PROJ. NO. FISCAL YEAR NO. SHEETS HAWAII HAW. STP-030-1(39) 2008 9 194

WATER SYSTEM NOTES

- 1. The contractor shall notify the Department of Water Supply (DWS), in writing, one (1) week prior to commencement of work.
- 2. All materials used and methods of construction of water system facilities shall be in accordance with the latest revisions of DWS Standards. Contractor shall obtain the latest revisions of the DWS Standard Details before commencing construction.
- 3. The exact depth and location of existing waterlines, service laterals and other utilities are not known. It shall be the Contractor's responsibility to locate same prior to trenching for the new waterline. The cost of lowering, relocating or adjusting existing waterlines, service laterals and other utilities shall be considered incidental to the cost of the new waterline, unless noted otherwise, and will not be paid for separately.
- 4. Concrete for reacion blocks and anchor blocks shall be DWS Class 2500.
- 5. The maximum distance between valve nut and top of manhole cover shall be three (3) feet.
- 6. The contractor shall submit a materials list to DWS for approval prior to construction.
- 7. The contractor shall paint and number the fire hydrant. Numbering to be furnished by DWS.
- 8. For 316 stainless steel bolting, heavy duty stainless steel nuts shall be furnished with TRIPAC 2000 BLUE COATING SYSTEM. Anti-seize shall not be used.
- 9. Lubricate hydrant nozzle threads with non-toxic grease.
- 10. Connection to DWS System:
 - A. The contractor shall verify the exact location, depth, type, and condition of the existing line before ordering materials for the hook—up. He shall, however, check with DWS before excavating for verification purposes. He shall be responsible for furnishing all necessary fittings and other materials required for the hook—up.
 - B. Whenever feasible, Mechanical Joint Fittings shall be used for buried applications, and Flanged Joint Fittings shall be used for exposed applications.
 - C. Authorized DWS personnel will make the final connection to the existing line. The contractor shall be responsible for all costs incurred by DWS for said work, including the cost of pressure testing.
 - D. The contractor shall be responsible for furnishing all material, equipment and labor for chlorination, trench excavation, backfilling, paving, and other work necessary to complete the hook—up, as directed by and to the satisfaction of DWS.
- 11. The developer shall submit a cost list along with an affidavit for the water system prior to acceptance.
- 12. The contractor shall submit two sets of record drawings via a consultant prior to the acceptance of the water system. An electronic image file in TIF format shall be provided to the DWS for all projects.

- 13. Minimum cover over water main, 6" diameter or larger, shall be 3'-0".

 Minimum cover for 4" diameter shall be 2'-6". Minimum cover for diameters less than 4" shall be 1'-6".
- 14. All buried metals shall be wrapped with Poly-Wrap. For all buried installations of Ductile Iron pipe and fittings, Poly-Wrap is required except within concrete jackets.
- 15. Water mains and appurtenances shall be subject to hydrostatic testing in accordance with the latest revision of AWWA C600, under "Hydrostatic Testing" section, to a pressure of at least 1.5 times the working pressure. Unless otherwise stated in the construction documents or limited by the pressure rating of equipment, the pressure test and leakage test shall be performed at 225 pounds per square inch pressure.
- 16. Contractor to verify the location of existing waterlines in coordination with DWS.
- 17. If three (3) foot clearances cannot be met, then the Contractor shall notify the DOT & DWS Project Engineers immediately.

CHLORINATION OF WATER SYSTEMS

- 1. Liquid chlorine or calcium hypochlorite, conforming to AWWA Standards shall be used for the chlorination of the project.
- 2. Prior to chlorination, the project shall be thoroughly flushed.
- 3. The interior surfaces of the project shall be exposed to the chlorinating solution for a minimum of 24 hours and the chlorine residual shall not be less than 10 ppm after such time.
- 4. Should calcium hypochlorite be used, no solid and/or undissolved portion of the compound shall be introduced into any section of the project to be chlorinated.
- 5. At the end of the 24 hour disinfection period, representative samples shall be taken and analyzed to assure a chlorine residual of at least 10 ppm.
- 6. Should the results indicate adequate chlorination, the project shall be thoroughly flushed and filled with water from the existing system and again tested for chlorine residual. The flushing shall be considered adequate if the test results indicate that the water in the project has a comparable chlorine residual as the water in the existing system.
- 7. Following the acceptable flushing of the project, two (2) consecutive sets of acceptable samples, taken at least 24 hours apart, from representative points in the project shall be taken and subjected to microbiological tests. At least one (1) set of samples shall be collected from every 1,200 feet of the new water main, plus one from the end of the line and at least one (1) set from each branch. Positive results will not be acceptable and the process will be repeated.
- 8. Analysis for residual chlorine shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 20th Edition.
- 9. Microbiological tests shall be made in accordance with "Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 20th Edition.
- 10. All measurements for chlorine residual and microbiological tests shall be performed by a labratory approved by the Director.
- 11. The Developer/Contractor shall be responsible for all costs associated with all of the foregoing.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

alony Sont

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER SYSTEM NOTES

Honoapiilani Highway Widening
Lahainaluna Road to Aholo Road
Project No. STP-030-1(39)

Scale: None

Date: October 2008

SHEET No. 1

OF 1 SHEETS