

DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII

MARCH 17, 2017

ADDENDUM NO. 1

TO

PLANS, BID FORM, SPECIFICATIONS, CONTRACT AND BOND

FOR

KANAKALOLOA CEMETERY IMPROVEMENTS

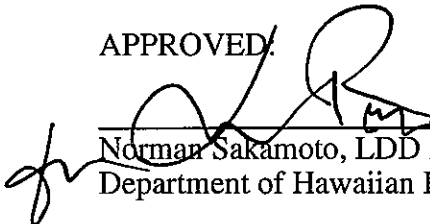
HOOLEHUA, MOLOKAI

IFB-17-HHL-012

NOTICE TO ALL PROSPECTIVE BIDDERS

This addendum is hereby made a part of the PLANS, BID FORM, SPECIFICATIONS, CONTRACT AND BOND for the KANAKALOLOA CEMETERY IMPROVEMENTS, HOOLEHUA, MOLOKAI, HAWAII, and it shall amend the said contract documents as detailed within this Addendum document.

APPROVED:



Norman Sakamoto, LDD Acting Administrator
Department of Hawaiian Home Lands

Date: March 17, 2017

Please detach, execute, and return immediately, the receipt below, to the Department of Hawaiian Home Lands, Hale Kalaniana'ole, 91-5420 Kapolei Parkway, Kapolei, Hawaii or transmit facsimile to (808) 620-9299.

Receipt of Addendum No. 1 for the KANAKALOLOA CEMETERY IMPROVEMENTS, HOOLEHUA, MOLOKAI, HAWAII, is hereby acknowledged.

Signed _____ Title _____

Firm _____ Date _____

ADDENDUM NO. 1

MARCH 17, 2017

TO

PLANS, BID FORM, SPECIFICATIONS, CONTRACT AND BOND

FOR

KANAKALOLOA CEMETERY IMPROVEMENTS

HOOLEHUA, MOLOKAI, HAWAII

IFB-17-HHL-012

ITEM NO. 1 PRE-BID SITE VISIT MINUTES AND SIGN IN SHEET

A Pre-bid conference and site visit was held at Kanakaloloa Cemetery, TMK: (2) 5-2-017:003 on March 9, 2017, the minutes and sign-in sheet is attached to **ADDENDUM NO 1 (March 17, 2017)**.

ITEM NO. 2 REVISED CIVIL DRAWINGS

Replace the following pages of the Civil Drawings with the revised pages attached to **ADDENDUM NO. 1 (March 17, 2017)**.

T001
T002
C201
C202
C203
C204
C401
C402
C403

ITEM NO. 3 REVISED DUE DATE FOR SQOO FORM SP0-021

The due date for the Standard Qualification Questionnaire for Offerors Form SPO-021 has been changed from 4:00 pm, March 17, 2017 to 2:00 pm, March 29, 2017. It can be turned in with the sealed bid.

KANAKALOLOA CEMETERY IMPROVEMENTS
HOOLEHUA, MOLOKAI
IFB-17-HHL-012

MEETING MINUTES

Pre-bid Conference and Site Visit
9:00 a.m., Thursday March 9, 2017
Kanakaloloa Cemetery
On Lihi Pali Avenue

1. **Introductions**
 - See attached sign in sheet.

2. **Purpose of Pre-Bid Conference**
 - James Richardson, DHHL, began the Pre-Bid Conference with discussion on the purpose of the meeting. Meeting is to provide potential bidders with a project overview, review procurement requirements, and allow potential bidders to obtain clarification on bid documents.
 - James Richardson, DHHL, indicated that meeting minutes of the Pre-Bid Conference would be issued to all plan holders as an Addendum.
 - Requests for clarifications and any questions shall be submitted in writing to James Richardson no later than 4:00 pm, March 17, 2017. Written response will be issued to all plan holders in the Final Addendum no later than 4:00 pm, March 21, 2017.

3. **Scope of Work**
 - The Project consists of furnishing all labor, equipment and supervision to satisfactorily construct a boundary wall, install cattle gates, paved roads, pavilion parking lot and concrete pad, and other improvements as shown on the plans and specifications of this IFB.
 - James Richardson, DHHL, requested Ryan Char, G70, to discuss the scope of work.
 - Ryan Char, G70, noted that the scope of work included new paved roadways at the cemetery site to provide an all-weather surface to reach various locations on the existing cemetery. The new roadways would be carefully located to avoid existing burial plots and headstone areas.
 - Scope of work also included pavement for a new surface parking lot, striping, signage, wheel stops, etc. and a new concrete pad for a future pavilion.

- Finally, scope included the installation of a new rock wall along the boundary of the cemetery facing Lihi Pali Ave.
- Ryan Char, G70, noted that at the previous bid opening for this project in 2016, bidders asked if concrete could be substituted for asphalt. Such a substitution should be clarified and indicated on each interest contractor's bid.
- Ryan Char, G70, also noted that several improvements shown on the bid plans were NOT to be included in this project at this time. Revised plans would be issued as Addendum 1 to the bid documents.
- Such items removed from the scope of work included the installation of a water line and hose bibbs to the pavilion and parking lot, solar light assemblies for parking lot and roadway lighting, maintenance of the cemetery fields, and a project sign to be installed along the main roadway (at the intersection of Lihi Pali Ave., and Puu Kapele Ave.
- A full description of items removed from the scope of work would be shown on the Addendum 1 Drawings.
- Ryan Char, G70, noted that the project included a grading permit (already approved by the County of Maui) and a County Work To Perform Permit (awaiting final signatures). Ryan Char noted that typically, the contractor finalizes the signatures on the WTP permit and the contractor would be required to finalize and obtain the WTP permit for this project. No building permit is required per the County of Maui.
- As a grading permit is required, the plan includes erosion control best management practices (BMPs) that must be installed.
- Archeological Monitoring during disturbance activities will be required. Refer to the project plans and specifications. Contractor is responsible for implementing the plan and conducting all work in accordance with the Archeological Monitoring Plan.
- DHHL and G70 asked if there were any questions and none were asked at the conference.

4. Procurement reminders

- DHHL continued the meeting with discussion of procurement reminders:
- This project is not tax exempt. Bid proposals must be inclusive of General Excise Tax.
- This project is subject to Chapter 104 HRS, Department of Labor and Industrial Relations (DLIR) prevailing wages and salaries.

5. Completion Schedule and Liquidated Damages

- Time to complete: 180 calendar days from Notice to Proceed (NTP).
- Liquidated damages: \$500 per calendar day
- DHHL noted that a shop drawing and submittal list shall be provided by the selected contractor by 1 week following NTP, and all shop drawings and submittals shall be sent to DHHL and the Construction Manager within 1 month of NTP. Refer to Special Condition, SC-28.
- G70 will be serving as DHHL's construction manager.

6. Questions/Answers issued by Addenda

- Written answers to questions will be provided to all plan holders via addenda; any verbal responses by the Department and Consultant shall not be binding.

Kanakaloloa Cemetery Improvements
Hoolehua, Island of Molokai, HI.
Pre-Bid Meeting & Site Visit
Thursday, March 9, 2017
IFB-17-HHL-012

	NAME	COMPANY	TITLE	PHONE	EMAIL
1	James C. Richardson	Dept. of Hawaiian Homes Lands (DHHL)	DHHL Project Engineer	(808) 620-9282	James.C.Richardson@haw.hawaii.gov
2	Richard A. Speer	Dept. of Hawaiian Homes Lands (DHHL)	DHHL Project Manager	(808) 620-9287	Richard.A.Speer@Hawaii.C
3	Edward "Halealoha" Ayau	Dept. of Hawaiian Homes Lands (DHHL)	DHHL Molokai Act. Dist. Supvr.	(808) 560-6104	e.halealoha.ayau@hawaii.c
4	Ryan M.K. Char	Group 70 International	G-70, Project Manager, PE	(808) 441-2174	ryanmchar@g70.design
5	<i>Heep Heekunee</i>	<i>TEL CON</i>	<i>General Contractor</i>	<i>(808) 553-3785</i>	<i>Puechasing@</i>
6					
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GENERAL NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED ON AVAILABLE "AS-BUILT" OF RECORD CONSTRUCTION PLANS AND ARE APPROXIMATE ONLY AND THEIR ACCURACY IS NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO THE EXCAVATION FOR THE NEW LINES. CONTRACTOR SHALL CALL "CALL BEFORE YOU DIG" AT 811 FOR UTILITY TONING. PERSONAL INJURY RESULTING FROM CONTACT WITH THE EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY
2. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL, OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS, OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY AT THEIR EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLICABLE PROVISIONS OF THE WATER QUALITY AND POLLUTION CONTROL STANDARDS CONTAINED INT HE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS THE MAUI COUNTY GRADING ORDINANCE, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.
4. ALL AZIMUTHS AND RECORD COORDINATES REFER TO GOVERNMENT SURVEY TRIANGULATION STATION "OLELEUWE".
5. ELEVATIONS SHOWN ARE BASED ON THE BENCHMARK FOUND ALONG LIHI PALI AVENUE (STA G1), AS SHOWN ON CONSTRUCTION PLANS. THE TOPOGRAPHIC SURVEY WAS PREPARED BY FUKUMOTO ENGINEERING, INC. DATED NOVEMBER 28, 2014. BENCHMARK ELEVATION = 100.00 FEET (ASSUMED BASELINE ELEVATION).
6. EXISTING GRADES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH GRADING WORK. SHOULD ANY DISCREPANCIES BE DISCOVERED IN THE EXISTING GRADES OR DIMENSIONS GIVEN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER BEFORE PROCEEDING ANY FURTHER WITH THE WORK, OTHERWISE HE WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN THE CORRECTION OF CONSTRUCTION PLACED DUE TO SUCH DISCREPANCIES.
7. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES WITHIN PROJECT LIMITS BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
8. THE CONTRACTOR SHALL REPORT ANY INCONSISTENCIES WITH THE PROPOSED PLAN TO THE STATE'S PROJECT MANAGER AND SHALL DEMOLISH, REMOVE, OR RELOCATE ALL EXISTING UTILITIES, IMPROVEMENTS, ETC. INCONSISTENT WITH THE PROPOSED PLAN AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND AT THE CONTRACTOR'S EXPENSE.
9. THE LATEST REVISIONS OF THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," SEPTEMBER 1984, THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," 2005 AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS" DATED SEPTEMBER 1986 SHALL BE INCLUDED AS PART OF THESE CONSTRUCTION PLANS. THE CONTRACTOR SHALL OBTAIN THE LATEST REVISIONS BEFORE COMMENCING CONSTRUCTION. THE FOLLOWING DETAILS SHOWN IN "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER 1984, SHALL BE APPLICABLE TO THIS PROJECT:

- R-9 CONCRETE PAVEMENT
- R-10 CONCRETE PAVEMENT JOINT DETAILS
- R-11 CONCRETE PAVEMENT JOINT DETAILS
- R-12 STREET SURVEY MONUMENT
- R-14 CENTERLINE MONUMENT
- R-19 6" CHAIN LINK FENCE
- R-21A TYPICAL DOUBLE GATE
- R-50 DRIVEWAY LAYOUTS FOR NON-CURB STREETS
- R-53 ROADWAY TYPICAL SECTIONS
- R-55 ROADWAY SWALES
- R-56 SIDEWALK DETAILS (CONCRETE)

10. THE FOLLOWING DETAILS AS SHOWN IN "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEMS CONSTRUCTION" AND "MAUI REVISIONS TO STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION," DATED 2002 SHALL BE APPLICABLE TO THIS PROJECT.

- 27R HYDRANT CONNECTION STRAIGHT RUN
- 31R HYDRANT CURB GUARD, VALVE MARKER, & REFLECTOR POST
- 104R REINFORCED CONCRETE JACKET
- 108 TYPICAL DETAIL TYPICAL THRUST BLOCK WITH STRAPS
- 122R GATE VALVE ANCHOR BLOCK FOR NONMETALLIC PIPE
- 123 TRENCH BACKFILL

N. I. C.

11. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK, WORK SHALL CEASE IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (PH: (808) 692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND MITIGATION MEASURES, IF NECESSARY. AN ARCHEOLOGICAL MONITORING PLAN (AMP) AND ARCHEOLOGICAL MONITOR WILL BE RETAINED BY THE STATE. THE MONITOR WILL HAVE AUTHORITY TO STOP WORK IF DEEMED NECESSARY.
12. PURSUANT TO CHAPTER 86 OF THE HAWAII REVISED STATUTES, ALL CONTRACTORS SHALL ENSURE THAT IN THE EVENT THAT ANY HUMAN SKELETONS REMAINS ARE DISCOVERED DURING CONSTRUCTION, THE REMAINS SHALL NOT BE MOVED AND ANY ACTIVITY IN THE IMMEDIATE AREA THAT COULD DAMAGE THE REMAINS OR THE POTENTIAL HISTORIC SITE SHALL CEASE AND THE DEPARTMENT OF LAND AND NATURAL RESOURCES' HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), THE APPROPRIATE MEDICAL EXAMINER OR CORONER, AND THE POLICE DEPARTMENT (TELEPHONE: 244-6400), SHALL BE CONTACTED. ALL LESSEES USING EXISTING DIRT ROADS TO ACCESS THEIR PROPERTY SHALL CONTINUE TO BE PROVIDED ACCESS TO THEIR PROPERTY AT ALL TIMES DURING CONSTRUCTION ACTIVITIES BY THE CONTRACTOR
13. 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 ALONG PUBLIC ROADWAYS.
14. DURING NON-WORKING HOURS, TRENCHES SHALL BE COVERED WITH NON-SKID STEEL PLATES.
15. EXISTING SITE DRAINAGE SYSTEMS SHALL BE FUNCTIONAL AT ALL TIMES, AND DRAINAGE PATTERNS SHALL BE MAINTAINED.
16. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS TO AND FROM DRIVEWAYS AND PUBLIC STREETS AT ALL TIMES.
17. PRIOR TO COMMENCING EXCAVATION, THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER.
18. EXISTING UTILITIES SHALL REMAIN IN-SERVICE AND IN PLACE. INTERRUPTION OF SERVICE SHALL BE KEPT TO A MINIMUM AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE PROJECT MANAGER.
19. THE CONTRACTOR SHALL BE 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 FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL PROVIDE AN EXCAVATION SHORING PLAN PREPARED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER COMPETENT IN SOILS AND A LICENSED STRUCTURAL ENGINEER.
20. THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED OR DISTURBED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES WALLS, FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PROPOSAL. DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE INCIDENTAL AND INCLUDED WITHIN THE AMOUNT PAID FOR UNCLASSIFIED TRENCH EXCAVATION.
21. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND LICENSES REQUIRED. THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUIRED BY THE ENGINEER OR PROJECT MANAGER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS.
22. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IN WRITING, TWO (2) WEEKS PRIOR TO THE STARTING OF PAVING OPERATIONS.
23. SMOOTH RIDING CONNECTIONS SHALL BE CONSTRUCTED AT ALL LIMITS OF RESURFACING, INCLUDING THE BEGINNING AND END OF PROJECT, CONNECTING APPROACHES, SIDE STREETS AND DRIVEWAYS AS SHOWN
24. CONTRACTOR SHALL COORDINATE PUBLIC ACCESS TO THE CEMETERY WITH DHHL AND LOCAL STAFF

DEPARTMENT OF PUBLIC WORKS NOTES

1. THE CONTRACTOR SHALL ALLOW FOUR WEEKS TO OBTAIN A GRADING PERMIT FROM THE DEVELOPMENT SERVICES ADMINISTRATION PRIOR TO COMMENCEMENT OF ANY CLEARING AND GRUBBING. A SATISFACTORY DRAINAGE AND EROSION CONTROL PLAN SHALL BE SUBMITTED IN THE EVENT THE GRUBBING AREA EXCEEDS ONE ACRE OR THE PROPOSED CUT OR FILL IS GREATER THAN 15 FEET IN HEIGHT. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL BEST MANAGEMENT PRACTICE MEASURES.
2. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC AND IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAY, 2003 EDITION WITH REVISION No. 1 INCORPORATED, DATED NOVEMBER 2004". THE CONTRACTOR SHALL PREPARE AND OBTAIN NECESSARY APPROVALS OF TRAFFIC CONTROL PLANS IF REQUIRED BY THE DEVELOPMENT SERVICES ADMINISTRATION.

DEPARTMENT OF PUBLIC WORKS NOTES (CON'T)

3. STANDARD DETAIL DRAWINGS OF THE SEPTEMBER 1984 STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS AND THE 2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
4. ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE APPLICABLE SECTIONS OF THE 2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE 1986 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AS AMENDED.
5. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
6. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.

CONSTRUCTION NOTES WITHIN DHHL / COUNTY RIGHTS-OF-WAY

1. LIHI PALI AVENUE IS A DHHL ROAD RIGHT-OF-WAY (R/W) WITH THE COUNTY OF MAUI DEPARTMENT OF PUBLIC WORKS HAVING JURISDICTION FOR THE ASPHALT PAVEMENT FOR MAINTENANCE.
2. CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK ON COUNTY HIGHWAYS FROM THE DEVELOPMENT SERVICES ADMINISTRATION TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC, ACCORDING TO THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS", AND TO THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORKSITES AND/OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND THE U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".
4. STANDARD DETAIL DRAWINGS AND STANDARD SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
5. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
6. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
7. ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE LATEST VERSION OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE PUBLIC WORKS CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
8. PROVIDE SMOOTH RIDING PAVEMENT TRANSITION AT TRENCH LIMITS FROM EXISTING PAVEMENT TO NEW PAVEMENT.
9. IF EXISTING UTILITIES, WHETHER OR NOT SHOWN ON PLANS, ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL AT HIS OWN EXPENSE BE REQUIRED TO REPAIR SUCH UTILITIES.
10. THE DIRECTOR OF PUBLIC WORKS AND/OR DEPARTMENT OF WATER SAFETY HAS THE RIGHT TO STOP CONSTRUCTION SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLAN OR DETRIMENTAL TO THE PUBLIC'S INTEREST.
11. 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 REQUIREMENTS OF THE GRADING ORDINANCE.
12. THE CONTRACTOR SHALL SUBMIT A TIF AND FIVE (5) COPIES OF THE "AS-BUILT" DRAWINGS TO THE PROJECT MANAGER AND TO THE COUNTY, AS REQUIRED, PRIOR TO THE FINAL APPROVAL OF THE IMPROVEMENTS.
13. IF THE CLEARANCE BETWEEN A WASTEWATER LINE AND A NEW OR EXISTING WATERLINE 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 1984, AS AMENDED.
14. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS OR 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 IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY.
15. PURSUANT TO 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 THIS MAP OR SHOWN ON THESE PLANS, UNLESS THE MAUI COUNTY COUNCIL HAS ACCEPTED ITS DEDICATION BY A RESOLUTION APPROVED BY A MAJORITY OF A COUNCIL'S MEMBERS AT A REGULAR OR SPECIAL MEETING OF THE MAUI COUNTY COUNCIL.
16. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE DEVELOPMENT SERVICES ADMINISTRATION FIVE (5) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
17. WHEELCHAIR RAMP INSPECTION/CERTIFICATION FORMS SHALL BE REQUIRED FOR ALL NEWLY CONSTRUCTED RAMPS.
18. STEEL PLATE WARNING SIGNS ARE REQUIRED FOR ALL STEEL PLATES IN THE RIGHT-OF-WAY.
19. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE OF THERMOPLASTIC MATERIAL.
20. COMPACTION REQUIREMENTS

- A. TESTING OF MATERIALS SHALL 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:

I. EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT;

II. AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;

III. AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS PER LIFT OF MATERIAL; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER PROJECT;

IV. ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AND DENSITY TESTS PER PROJECT;

V. TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.
- B. CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY AND THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.
- C. 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.

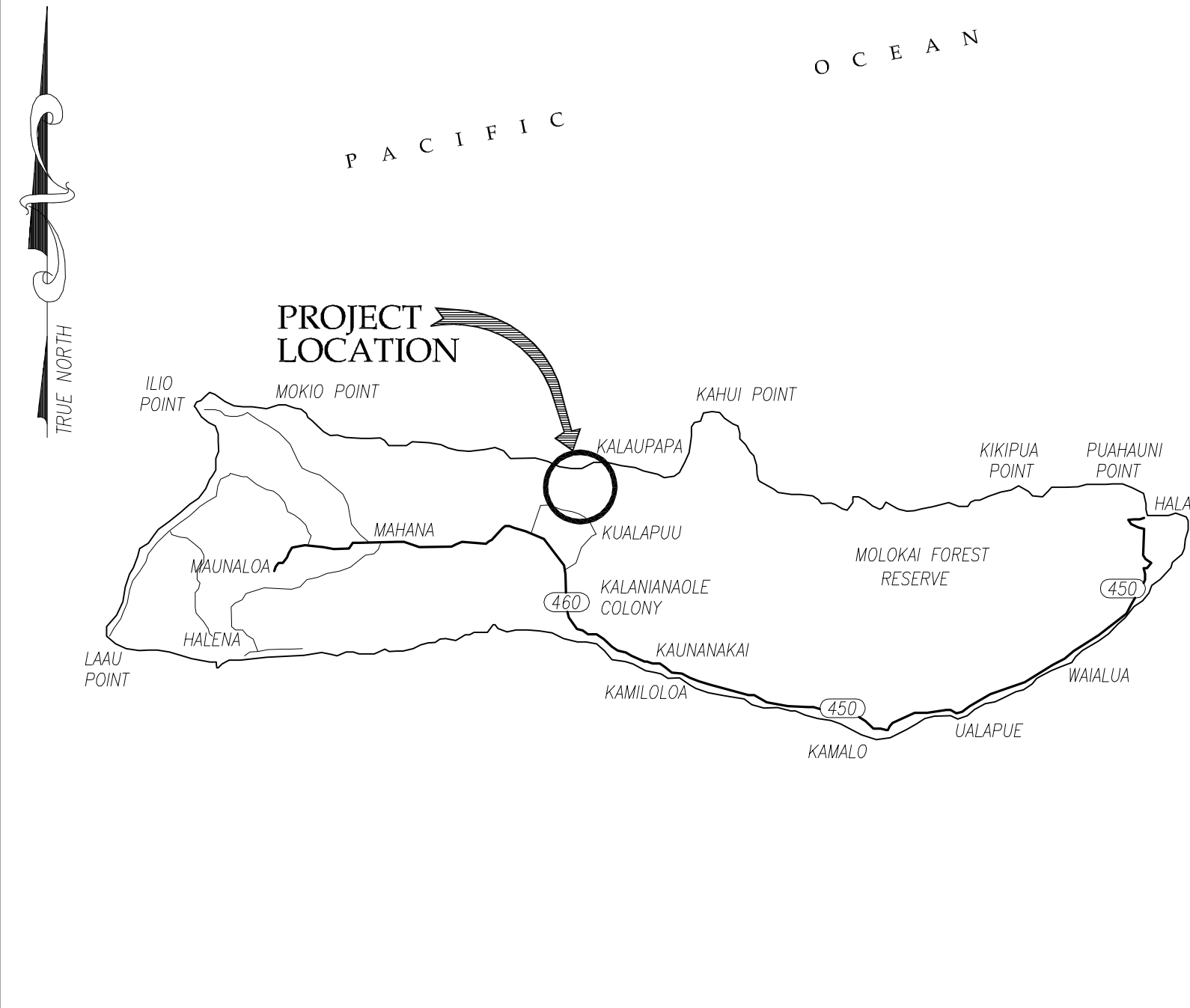
CONSTRUCTION PLANS

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 KAPOLEI PARKWAY
KAPOLEI, HI 96707

TMK: (2) 5-2-017:003
HO' OLEHUA, MOLOKA' I, HAWAII

IFB NO.: IFB-16-LDD-011

LOCATION MAP



VICINITY MAP



INDEX TO DRAWINGS

Sheet Number	Sheet Description	Sheet Title
1	T001	TITLE, INDEX TO DRAWINGS, NOTES, LOCATION AND VICINITY MAPS
2	T002	NOTES 1
3	T003	NOTES 2
4	C100	EXISTING CONDITIONS AND DEMOLITION PLAN
5	C200	GENERAL PLAN
6	C201	PLAN AND PROFILE DWY A
7	C202	PLAN AND PROFILE DWY B
8	C203	PLAN AND PROFILE LIHI PALI AVE
9	C204	PAVILION SITE, UTILITY AND GRADING PLAN
10	C300	EROSION CONTROL PLAN
11	C400	DETAILS 1
12	C401	DETAILS 2
13	C402	DETAILS 3
14	C403	TYPICAL ROADWAY SECTIONS AND DETAILS 4
15	C500	TRAFFIC CONTROL PLAN

APPROVALS REQUIRED FOR COUNTY PERMIT

CHAIRMAN, HAWAIIAN HOMES COMMISSION
STATE OF HAWAII

DIRECTOR, DEPARTMENT OF PUBLIC WORKS, COUNTY OF MAUI
(APPROVAL GRANTED FOR WORK WITHIN COUNTY JURISDICTION ONLY)

ADD 1	3/3/17	REVISED NOTES	G70
T001			
SHEET 1 OF 15 SHEETS			
FILE	POCKET	FOLDER	NO.

12-25-2015

KANAKALOLOA CEMETERY IMPROVEMENTS

GRADING NOTES

- ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROPRIATE CHAPTERS OF THE COUNTY OF MAUI CODE AND ORDINANCES, AS AMENDED, AS RELATED TO GRADING, SOIL EROSION, AND SEDIMENT CONTROL, AND THE "GEOTECHNICAL ENGINEERING CONSULTATION, KANAKALOLOA CEMETERY IMPROVEMENTS" BY GEOLABS, INC., DATED OCTOBER 22, 2015.
- NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
- THE CONTRACTOR, AT HIS/HER 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 CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".
- THE UNDERGROUND PIPES, CABLES OR DUCTINES KNOWN TO EXIST BY THE ENGINEER FROM HIS/HER SEARCH OF AVAILABLE RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
- ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.
- ALL EXPOSED AREAS SHALL BE PAVED AS SOON AS SUBGRADES HAVE BEEN ESTABLISHED. GRADING TO FINAL SUBGRADE SHALL BE CONTINUOUS, WITH PAVING TO FOLLOW.
- FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.
- THE COUNTY AND DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE COUNTY OF MAUI AND DHHL PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".
- THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AND IF APPLICABLE, THE NPDES PERMIT FOR THE PROJECT.
- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.
- TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.
- FOR BENCH MARK, SEE SHEET C100.
- FOR DHHL PROJECTS, THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF HAWAIIAN HOME LANDS AND THE COUNTY OF MAUI TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK.
- PURSUANT TO CHAPTER 6E, HRS. IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (808-692-8015).
- IF THE PROJECT WILL DISTURB ONE (1) ACRE OR MORE OF LAND, IT SHALL COMPLY WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. THE CIVIL ENGINEER SHALL BE RESPONSIBLE FOR INITIATING THE APPLICATION ON BEHALF OF THE APPLICANT/PROJECT OWNER, AND WILL ASSIST THE APPLICANT/PROJECT OWNER WITH PROCESSING AND APPROVALS OF THE PERMIT APPLICATION WITH THE STATE DEPARTMENT OF HEALTH (DOH). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL OTHER REQUIRED INFORMATION FOR APPROVAL OF THE NPDES PERMIT TO THE CONSULTANT/APPLICANT/PROJECT OWNER, AS THE CONTRACTOR IS NOT THE APPLICANT. THE CONTRACTOR SHALL THEN OBTAIN AND COMPLY WITH THE NPDES PERMIT AND ASSOCIATED REQUIREMENTS, INCLUDING ANY REQUIRED UPDATES AND REVISIONS, THROUGHOUT THE PROJECT'S CONSTRUCTION DURATION. ADDITIONALLY, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. FOR DHHL PROJECTS, THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THE NGPC TO THE COUNTY OF MAUI AND DHHL AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION.
- ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.
- NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.
- FINISH SPOT ELEVATIONS AND FINISH CONTOURS, AS SHOWN ON PLAN REPRESENTS FINISH GRADING. THE SITE WORK CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE CONTRACTOR THE LOCATION AND DEPTH OF TOPSOIL. THE FINISH SUBGRADE SHALL REFLECT THE FINISH GRADE LESS SPECIFIED TOPSOIL DEPTH.
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE MEASURES OF THE BEST MANAGEMENT PRACTICE (BMP) PLAN. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, ON WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE STATE DEPARTMENT OF HEALTH SHALL BE PAYABLE BY THE CONTRACTOR.
- THE CONTRACTOR, AT HIS EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE OF DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL REQUIREMENTS OF THE GRADING ORDINANCES.
- THE CONTRACTOR SHALL NOT DEMOLISH OR CLEAR ANY STRUCTURE, SITE OR VACANT LOT WITHOUT FIRST ASCERTAINING THE PRESENCE OR ABSENCE OF RODENTS WHICH MAY ENDANGER THE PUBLIC HEALTH BY DISPERSAL FROM SUCH PREMISES. SHOULD SUCH INSPECTION REVEAL THE PRESENCE OF SUCH RODENTS, THE CONTRACTOR SHALL ERADICATE SUCH RODENTS BEFORE DEMOLISHING OR CLEARING SAID STRUCTURE, SITE OR VACANT LOT.

GRADING NOTES (CON'T)

- THE FOLLOWING MEASURES SHALL BE TAKEN TO CONTROL DUST AND EROSION DURING THE SITE DEVELOPMENT PERIOD:
 - MINIMIZE TIME OF CONSTRUCTION.
 - RETAIN EXISTING GROUND COVER UNTIL THE LATEST DATE TO COMPLETE CONSTRUCTION.
 - CONSTRUCT REMAINING PERMANENT EROSION AND DRAINAGE CONTROL FEATURES AS EARLY AS POSSIBLE.
 - USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE CONSTRUCTION AREAS WHEN GROUND COVER IS REMOVED.
 - STATION WATER TRUCK ON-SITE DURING CONSTRUCTION PERIOD TO PROVIDE FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE CONSTRUCTION AREAS (WEEKENDS AND HOLIDAYS INCLUDED).
 - USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED FOR CONTROL OF EROSION. IMPLEMENT AND MAINTAIN THE MEASURES OF THE BMP PLAN.
 - GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
 - ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.

WATER SYSTEM NOTES (PRIVATE AND DHHL)

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF HAWAIIAN HOMELANDS (DHHL), IN WRITING, ONE (1) WEEK PRIOR TO COMMENCEMENT OF WORK.
- ALL MATERIALS USED AND METHOD OF CONSTRUCTION OF WATER SYSTEM FACILITIES SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY (DWS) STANDARDS. CONTRACTOR SHALL OBTAIN THE LATEST REVISIONS OF THE DWS STANDARD DETAILS BEFORE COMMENCING CONSTRUCTION.
- ALL WATER SYSTEM WORK SHALL BE PERFORMED BY CONTRACTORS POSSESSING VALID STATE OF HAWAII CONTRACTOR'S LICENSES, REGARDLESS OF THE VALUE OF THE WORK.
- 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.
- CONCRETE FOR REACTION BLOCKS AND ANCHOR BLOCKS SHALL BE DWS CLASS 2500.
- THE MAXIMUM DISTANCE BETWEEN VALVE NUT AND TOP OF VALVE MANHOLE COVER SHALL BE THREE (3) FEET.
- THE CONTRACTOR SHALL SUBMIT A MATERIALS LIST TO DHHL AND THE PROJECT MANAGER FOR APPROVAL PRIOR TO CONSTRUCTION.
- CONNECTION TO DHHL SYSTEM:
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL NECESSARY FITTINGS AND OTHER MATERIALS AND EQUIPMENT REQUIRED FOR THE HOOK-UP. HE 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 DHHL BEFORE EXCAVATING FOR VERIFICATION PURPOSES.
 - WHENEVER FEASIBLE, MECHANICAL JOINT FITTINGS SHALL BE USED FOR BURIED APPLICATIONS, AND FLANGED JOINT FITTINGS SHALL BE USED FOR EXPOSED APPLICATIONS.
 - AUTHORIZED DHHL PERSONNEL MAY BE REQUIRED TO MAKE THE FINAL CONNECTION TO THE EXISTING LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY DHHL FOR SAID WORK, INCLUDING THE COST OF PRESSURE TESTING AND DISINFECTION.
 - IF DHHL PROVIDES ONLY INSPECTION AND SUPERVISING OPERATORS, AND DOES NOT PROVIDE PERSONNEL FOR THE ACTUAL CONNECTION, THE CONTRACTOR SHALL PROVIDE ALL PIPEFITTERS AND LABORS TO MAKE THE CONNECTION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR FOR TRENCH EXCAVATION, BACKFILLING, CLEANING AND CHLORINATION, PAVING, AND OTHER WORK NECESSARY TO COMPLETE THE HOOK-UP, AS DIRECTED BY AND TO THE SATISFACTION OF DHHL.
- 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".
- BOLTS FOR EXPOSED FLANGED DUCTILE IRON PIPE JOINTS SHALL BE EITHER SILICON BRONZE BOLTS AND NUTS OR 316 STAINLESS STEEL BOLTING WITH THE HEAVY DUTY STAINLESS STEEL NUTS (ONLY) FURNISHED WITH TRIPAC 2000 BLUE COATING SYSTEM. ANTI-SEIZE SHALL NOT BE USED. T-BOLTS FOR DUCTILE IRON MECHANICAL JOINT (MJ) PIPE AND FITTING CONNECTIONS IN UNDERGROUND SITUATIONS SHALL BE ONE OF THE FOLLOWING SYSTEMS:
 - 316 STAINLESS STEEL T-BOLTS WITH THE HEAVY DUTY STAINLESS STEEL NUTS (ONLY) FURNISHED WITH TRIPAC 2000 BLUE COATING SYSTEM. ANTI-SEIZE SHALL NOT BE USED.
 - COR-TEN T-BOLTS AND NUTS WITH HIGH GRADE ZINC SACRIFICIAL ANODES, EQUIVALENT TO "DURATRON" SACRIFICIAL "SAC-NUT" MODULES, INSTALLED ON THE NUTS FOR ALL STANDARD COR-TEN T-BOLTS.
 - COR-TEN T-BOLTS AND NUTS BOTH FACTORY COATED WITH TRIPAC 2000 BLUE COATING SYSTEM BY "TRIPAC FASTENERS".
- 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.
- LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.
- THE CONTRACTOR SHALL PAINT AND NUMBER THE FIRE HYDRANT. NUMBERING TO BE FURNISHED BY DHHL.
- WATER MAINS AND APPURTENANCES SHALL BE SUBJECT TO HYDROSTATIC TESTING IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C600, UNDER THE "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.
- THE CONTRACTOR SHALL SUBMIT TWO SETS OF RECORD DRAWINGS VIA A CONSULTANT PRIOR TO ACCEPTANCE OF THE WATER SYSTEM. AN ELECTRONIC IMAGE FILE IN TIFF FORMAT SHALL BE PROVIDED TO THE DHHL FOR ALL PROJECTS.

ADDITIONAL WATER SYSTEM NOTES


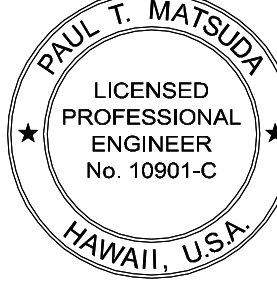
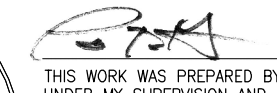
- THE CONTRACTOR SHALL CHLORINATE THE ENTIRE INSIDE SURFACE OF EACH PIPE AND FITTING WITH DISINFECTION SOLUTION OF 5 OUNCES OF SODIUM HYPOCHLORITE MIXED WITH 10 GALLONS OF WATER (FOR CONNECTION ONLY).
- WATER SERVICE LATERAL CONNECTIONS:
 - THE CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT, AND LABOR FOR CONNECTION OR RE-CONNECTION OF CONSUMER'S PIPE TO NEW SERVICE LATERAL WITH COPPER PIPING AT THE CONTRACTOR'S EXPENSE. THE SIZE OF COPPER PIPE AND FITTINGS SHALL BE DETERMINED BY DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) OR AS SPECIFIED ON PLANS. THE USE OF PLASTIC MATERIALS IS PROHIBITED.
 - ALL WATER METER INSTALLATIONS/RELOCATIONS SHALL BE COORDINATED WITH DHHL PERSONNEL. ONLY DHHL PERSONNEL IS AUTHORIZED TO REMOVE AND RELOCATE WATER METER.
 - IF CONSUMER'S PIPE IS COPPER OR PVC, USE BRONZE PACK JOINT COUPLING. IF CONSUMER'S PIPE IS ANY OTHER MATERIAL, USE APPROPRIATE DI-ELECTRIC COUPLING.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATER SERVICE TO CONSUMERS AT ALL TIMES. IF WATER SERVICE DISRUPTION IS NECESSARY, THE CONTRACTOR SHALL COORDINATE ALL DISRUPTIONS OF SERVICE WITH CONSUMERS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL DUCTILE IRON NIPPLES WHETHER OR NOT SPECIFIED ON THE CONSTRUCTION PLANS FOR COMPLETE INSTALLATION OF THE WATERLINE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FURNISH TEMPORARY CLEANOUTS WHEN NECESSARY TO TEST, FLUSH, AND CHLORINATE THE WATERLINE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CONCRETE PLUG ALL OPEN ENDS OF ABANDONED WATERLINES AT THE CONTRACTOR'S EXPENSE, WHETHER OR NOT SHOWN ON THE CONSTRUCTION PLANS.
- AFTER INSTALLATION OF THE TAPPING SLEEVE AND VALVE PRIOR TO ACTUAL TAPPING OPERATIONS, THE ASSEMBLY SHALL BE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PORTIONS OF ABANDONED WATERLINES THAT ARE EXPOSED OR WITHIN 12-INCHES OF THE GROUND SURFACE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL ADJUST TO FINISHED PAVEMENT GRADES, ALL EXISTING VALVE BOXES AND MANHOLES, INCLUDING FRAME AND COVERS FOR ALL UTILITIES (I.E., WATER, SEWER, DRAIN, ETC.) AFFECTED BY PAVEMENT RESTORATION AT THE CONTRACTOR'S EXPENSE, WHETHER SHOWN OR NOT SHOWN ON THE CONSTRUCTION PLANS.
- THE CONTRACTOR SHALL RESTORE ALL ROAD IMPROVEMENTS, DISTURBED OR DAMAGED DURING CONSTRUCTION IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORKS CONSTRUCTION," AS AMENDED, TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS. ROAD IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, PAVEMENT, PAVEMENT MARKERS, STRIPING, SPEED HUMPS.
- THE CONTRACTOR SHALL MAINTAIN FOUR FEET OF CLEARANCE WHEN TRENCHING OR EXCAVATING NEAR ANY UTILITY POLES. CONSTRUCTION EQUIPMENT SHALL MAINTAIN A TEN FOOT RADIAL CLEARANCE AROUND ANY OVERHEAD CONDUCTOR.
- THE CONTRACTOR SHALL ADEQUATELY BRACE UTILITY POLES DURING TRENCHING AND BACKFILLING OPERATIONS. AFFECTED UTILITY COMPANIES SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF WORK NEAR UTILITY POLES.
- THE PROJECT SHALL BE SUBJECT TO THE DEPARTMENT OF HAWAIIAN HOME LANDS CROSS-CONNECTION CONTROL REQUIREMENTS.
- 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 REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WATER MEASURES NECESSARY TO PROTECT THE WATER LINES SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS AND/OR MODIFYING HIS CONSTRUCTION METHOD.
- POLYGON SHAPE FOR MECHANICAL JOINT GLANDS AS DESCRIBED IN AWWA STANDARD C111 SHALL BE "STRAIGHT-SIDED" OR AN APPROVED EQUAL.
- PIPE CUSHION SHALL BE OF HIGH RESISTIVITY MATERIAL. THE CONTRACTOR SHALL SUBMIT A SOIL CERTIFICATION THAT HIGH RESISTANT CUSHION MATERIAL HAS A RESISTIVITY GREATER THAN 5,000 OHMS-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 BIPHENYLS (PCB).
- INSTALL 4 MIL THICK, NON-METALLIC, BLUE COLORED, 6-INCHES WIDE WARNING TAPE OVER CENTERLINE OF THE PIPE AND BELOW THE BASE COURSE ALONG THE ENTIRE LENGTH OF TRENCH. TAPE SHOULD BE MARKED WITH "CAUTION WATER LINE BURIED BELOW".
- POLYVINYL CHLORIDE (PVC) PIPES SHALL BE CLASS 150. ALL DUCTILE IRON VALVES AND METALLIC FITTINGS SHALL BE WRAPPED WITH TWO LAYERS OF 8 MIL POLYETHYLENE WRAP. NO BENDING OF POLYVINYL CHLORIDE PIPES SHALL BE PERMITTED. THE INSTALLATION OF PVC PIPE, ACCORDING TO THE PLANS AND SPECIFICATIONS AS BID ON BY THE CONTRACTOR, MAY REQUIRE ADDITIONAL DESIGN WORK, ADDITIONAL FITTINGS, AND SPECIAL COUPLINGS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID IN THE PROPOSAL FOR PVC PIPE. ANY ADDITIONAL DESIGN WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL POLYVINYL CHLORIDE (PVC) PIPE DEFLECTIONS SHALL BE ACCOMPLISHED ONLY BY THE USE OF SPECIAL PVC DEFLECTION COUPLINGS. DEFLECTION AROUND CURVES SHALL BE ACCOMPLISHED ONLY BY THE USE OF PVC DEFLECTION COUPLINGS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL POLYETHYLENE WRAP, 3 FEET MINIMUM AT ALL TAPS (FOR DI PIPE AND COPPER LATERAL COMBINATION ONLY, AND PLASTIC PIPE (PE TUBING) 3 FEET LONG AFTER METERS FOR ALL SERVICE LATERAL CONNECTIONS.
- ALL SECTION OF THE WATER MAIN REQUIRING REINFORCED CONCRETE JACKETING SHALL BE DUCTILE IRON PIPE CLASS 52 WITH DUCTILE IRON FITTINGS.
- BOSSED TEES REQUIRED FOR ALL LATERAL AND ARV CONNECTIONS TO PVC MAINS.
- THE CONTRACTOR SHALL INSTALL ELECTRONIC MARKERS TO ALL MAINS AND TEST THE ELECTRONIC MARKERS PRIOR TO INSTALLATION TO VERIFY PROPER OPERATION. DHHL PERSONNEL SHALL VERIFY THE NUMBER AND LOCATIONS OF PLACED ELECTRONIC MARKERS PRIOR TO FINAL PAVING OF THE PROJECT.
- ALL PVC FITTINGS SHALL CONFORM TO THE AWWA C-907. DUCTILE IRON FITTINGS SHALL BE USED FOR ALL TYPES OF FITTINGS NOT SPECIFIED IN AWWA C-907.
- REACTION BLOCK REQUIREMENTS FOR PVC FITTINGS SHALL BE THE SAME FOR DUCTILE IRON FITTINGS.
- THE USE OF HUB CLAMPS AND SET SCREWS ON PVC FITTINGS IS NOT APPROVED.
- PRIOR TO THE PVC FITTING INSTALLATION, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE DHHL, MANUFACTURER'S CERTIFICATION THAT ALL PVC FITTINGS CONFORM TO AWWA C-907.
- ALL DUCTILE IRON PIPES AND VALVES SHALL BE WRAPPED WITH TWO LAYERS OF 8 MIL POLYETHYLENE WRAP.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL EFFLUENT ASSOCIATED WITH THE CONSTRUCTION ACTIVITY AND THE DISINFECTION AND HYDROTESTING OPERATIONS TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATIONS, CHARGES, FEES, AND TAXES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL OBTAIN A NPDES PERMIT, AS NEEDED, PRIOR TO CHLORINATION. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE PROJECT MANAGER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS, 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 THE DHHL PROJECT MANAGER.
- ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL IN ACCORDANCE WITH SECTION 202.01 F OF THE DWS 2002 WATER SYSTEM STANDARD AND PAINTED WITH ASPHALTIC PAINT.
- MAINTAIN A MINIMUM OF SIX (6) INCHES CLEAR VERTICAL SEPARATION WITH EXISTING UTILITIES AT ALL CROSSINGS.
- ALL EXPOSED COPPER PIPING AND TUBING SHALL BE PAINTED PER THE TECHNICAL SPECIFICATIONS.

CHLORINATION OF WATER SYSTEM PIPELINES

- WATER MAINS AND APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. ALL PROCEDURES AND MATERIALS (LIQUID CHLORINE OR CALCIUM HYPOCHLORITE) USED FOR THE CHLORINATION OF THE PROJECT SHALL CONFORM TO AWWA REQUIREMENTS.
- PRIOR TO CHLORINATION, THE PROJECT PIPELINES SHALL BE THOROUGHLY CLEANED. CLEANING OF LINES 8" AND LARGER SHALL BE BY PIGGING USING FOAM PIGS. SMALLER LINES CAN BE FLUSHED IN ACCORDANCE WITH AWWA REQUIREMENTS IF ADEQUATE WATER SUPPLY IS PROVIDED, OTHERWISE BY PIGGING. THE CONTRACTOR SHALL SUBMIT HIS PLAN FOR PIPELINE CLEANING, INCLUDING FITTING REQUIREMENTS FOR PIGGING, FOR APPROVAL PRIOR TO PROCEEDING.
- 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.
- 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.
- 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. MEASUREMENTS FOR CHLORINE RESIDUAL TESTS SHALL BE BY A TRAINED, QUALIFIED TESTER APPROVED BY THE DIRECTOR.
- SHOULD THE RESULTS INDICATE ADEQUATE CHLORINATION, THE PROJECT SHALL BE THOROUGHLY FLUSHED AND FILLED WITH POTABLE WATER FROM THE EXISTING POTABLE WATER 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.
- FOLLOWING THE ACCEPTABLE FLUSHING OF THE HIGH CONCENTRATION CHLORINE SOLUTION, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES SHALL BE TAKEN AT LEAST 24 HOURS APART FROM REPRESENTATIVE POINTS IN THE PROJECT AND SUBJECTED TO MICROBIOLOGICAL TESTS PERFORMED BY A CERTIFIED LABORATORY APPROVED BY THE DEPARTMENT OF HEALTH. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED AND TESTED FROM EVERY 1,200 FEET OF THE NEW WATER MAIN, PLUS ONE SET FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. POSITIVE RESULTS WILL NOT BE ACCEPTABLE AND THE ENTIRE CHLORINATION PROCESS WILL BE REPEATED.
- ANALYSIS FOR RESIDUAL CHLORINE SHALL BE MADE IN ACCORDANCE WITH "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", AMERICAN PUBLIC HEALTH ASSOCIATION, CURRENT EDITION. MICROBIOLOGICAL TESTS SHALL BE MADE IN ACCORDANCE WITH "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", AMERICAN PUBLIC HEALTH ASSOCIATION, CURRENT EDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF CHLORINATED WATER TO SAFEGUARD PUBLIC HEALTH AND ENVIRONMENT IN ACCORDANCE WITH APPLICABLE STATE DEPARTMENT OF HEALTH REQUIREMENTS. A NEUTRALIZING CHEMICAL SHALL BE APPLIED TO THE WATER TO BE WASTED TO THOROUGHLY NEUTRALIZE THE CHLORINE RESIDUAL REMAINING IN THE WATER IN ACCORDANCE WITH AWWA C651-99, SECTION 4.5.2, AND APPENDIX C.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH, PRIOR TO THE START OF CONSTRUCTION FOR THE DISPOSAL OF WATER USED FOR HYDROTESTING AND CHLORINATION.
- ALL MEASUREMENTS FOR CHLORINE RESIDUAL SHALL BE ANALYZED USING E.P.A. APPROVED METHODS FOR DRINKING WATER.
- ALL MICROBIOLOGICAL TEST SHALL BE PERFORMED BY A LABORATORY APPROVED BY THE DEPARTMENT OF HEALTH, STATE OF HAWAII.
- SEE ANSI/AWWA C651-99, SECTION 4.3.6 FOR SWABBING CHLORINATION PROCEDURES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ALL OF THE FOREGOING.

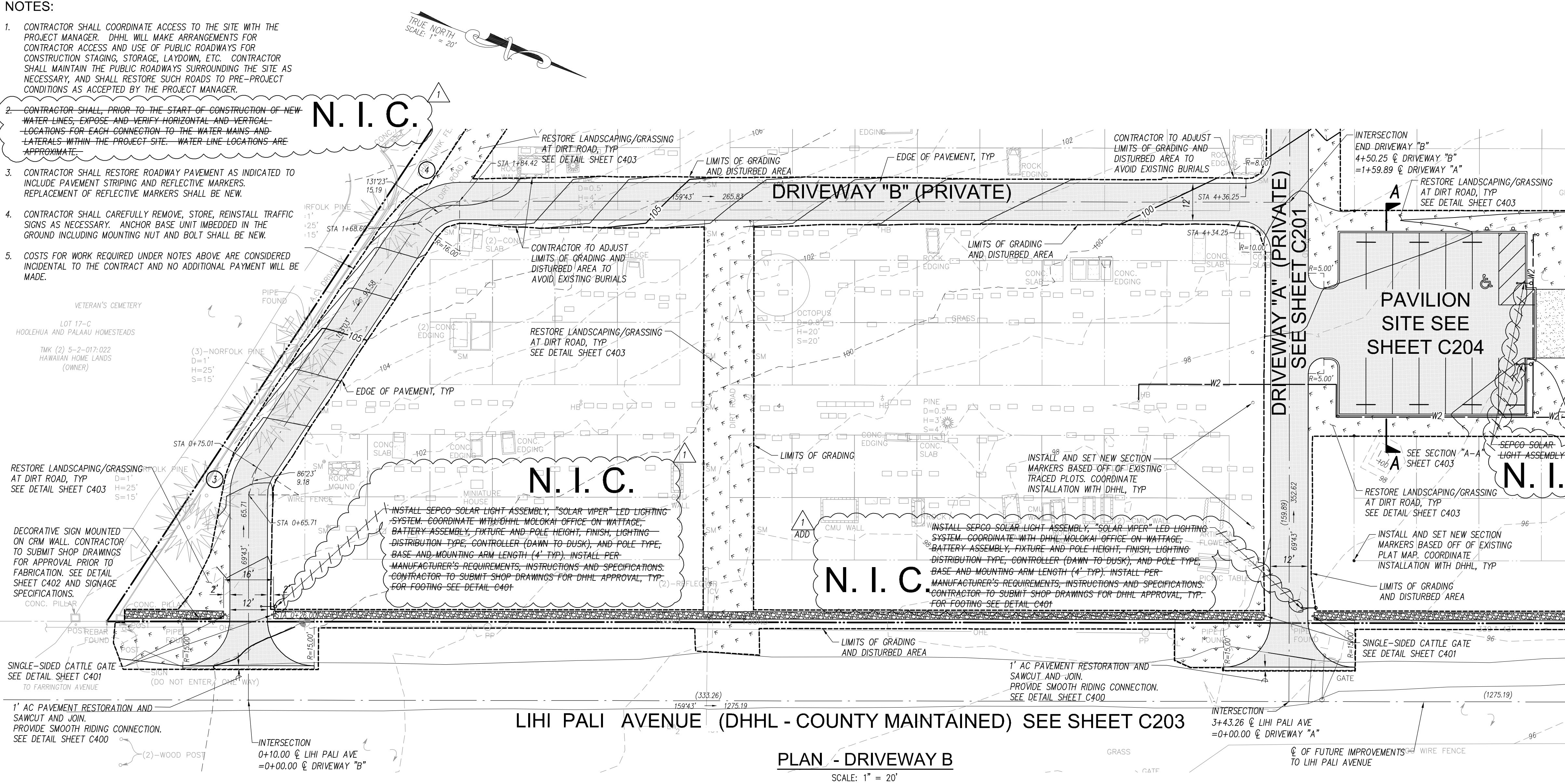
N. I. C.

1
ADD

 GROUP 70 INTERNATIONAL CIVIL ENGINEERING 925 bethel street, fifth floor honolulu, hi 96813-4398 808.523.5866 www.group70int.com					
Exp: 4/30/16					
					
LICENSED PROFESSIONAL ENGINEER No. 10901-C HAWAII, U.S.A.		THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. (OBSERVATION OF CONSTRUCTION AS DEFINED IN SECTION 16-115-2 OF THE STATE OF HAWAII, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS, AND LANDSCAPE ARCHITECTS. 8/29/94).			
				670	BY
DESCRIPTION					
REVISED NOTES					
3/3/17					
DATE					
REVISION					
ENGINEER: RC		CHECKED BY: PM			
DRAWN BY: CM		PROJECT #: 214027-01			
KANAKALOLOA CEMETERY IMPROVEMENTS					
TMK: (2) 5-2-017-003 HOOLEHUA, MOLOKAI, HAWAII IFB NO.: IFB-16-LDD-011					
NOTES 1					
APPROVED BY:					
T002					
SHEET 2		OF 15		SHEETS	
FILE	POCKET	FOLDER	NO.		

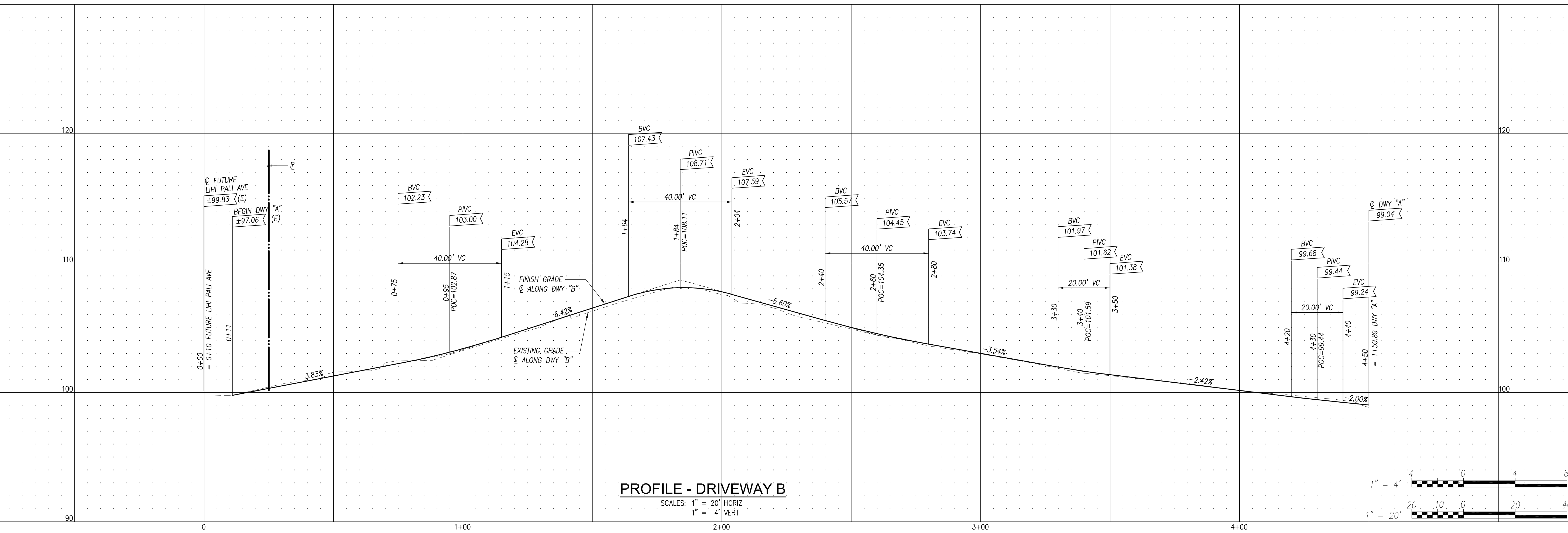
NOTES:

- CONTRACTOR SHALL COORDINATE ACCESS TO THE SITE WITH THE PROJECT MANAGER. DHHL WILL MAKE ARRANGEMENTS FOR CONTRACTOR ACCESS AND USE OF PUBLIC ROADWAYS FOR CONSTRUCTION STAGING, STORAGE, LAYDOWN, ETC. CONTRACTOR SHALL MAINTAIN THE PUBLIC ROADWAYS SURROUNDING THE SITE AS NECESSARY, AND SHALL RESTORE SUCH ROADS TO PRE-PROJECT CONDITIONS AS ACCEPTED BY THE PROJECT MANAGER.
- CONTRACTOR SHALL, PRIOR TO THE START OF CONSTRUCTION OF NEW WATER LINES, EXPOSE AND VERIFY HORIZONTAL AND VERTICAL LOCATIONS FOR EACH CONNECTION TO THE WATER MAINS AND LATERALS WITHIN THE PROJECT SITE. WATER LINE LOCATIONS ARE APPROXIMATE.
- CONTRACTOR SHALL RESTORE ROADWAY PAVEMENT AS INDICATED TO INCLUDE PAVEMENT STRIPING AND REFLECTIVE MARKERS. REPLACEMENT OF REFLECTIVE MARKERS SHALL BE NEW.
- CONTRACTOR SHALL CAREFULLY REMOVE, STORE, REINSTALL TRAFFIC SIGNS AS NECESSARY. ANCHOR BASE UNIT IMBEDDED IN THE GROUND INCLUDING MOUNTING NUT AND BOLT SHALL BE NEW.
- COSTS FOR WORK REQUIRED UNDER NOTES ABOVE ARE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL PAYMENT WILL BE MADE.



CURVE TABLE						
CURVE NO	Δ	A/2	R	T	C	Lc
3	33°20'00"	16°40'00"	16.00'	4.79	9.18'	9.31'
4	56°40'00"	28°20'00"	16.00'	8.63	15.19'	15.82'

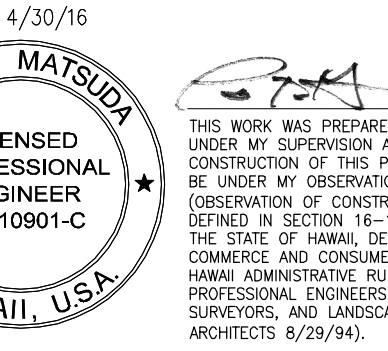
LEGEND	
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	CRM ROCK WALL SEE DETAIL SHEET C403
	LANDSCAPE RESTORATION SEE DETAIL SHEET C403
	AC PAVEMENT SEE DETAIL SHEET C400
	SAWCUT AND JOIN
	CENTERLINE
	BURIAL PLOT
	LIMITS OF GRADING AND DISTURBED AREA
	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	FINISHED MAJOR CONTOURS



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REVISION	DATE	DESCRIPTION	BY	APPROVED
1	3/3/17	REVISED NOTES AND CALCULOTS	CM	RC

ENGINEER: RC
CHECKED BY: PM
DRAWN BY: CM
PROJECT #: 214027-01

KANAKALOLOA CEMETERY
IMPROVEMENTS

TMK: (2) 5-2-017-003
HOOLEHUA, MOLOKAI, HAWAII
IFB NO.: IFB-16-LDD-011

PLAN AND PROFILE
DRIVEWAY B

APPROVED BY:

C202

SHEET 7 OF 15 SHEETS

FILE POCKET FOLDER NO.

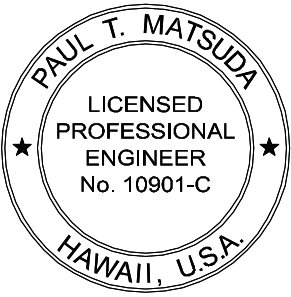


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Exp: 4/30/16



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REVISION	DATE	DESCRIPTION	BY	APPROD.
ADD 1	3/3/17	REMOVED PAVEMENT BID ADDITIVE	G70	

ENGINEER: RC
DRAWN BY: CM
CHECKED BY: PM
PROJECT #: 214027-01

KANAKALOLOA CEMETERY IMPROVEMENTS

TMK: (2) 5-2-017:003
HOOLEHUA, MOLOKAI, HAWAII
IFB NO.: IFB-16-LDD-011

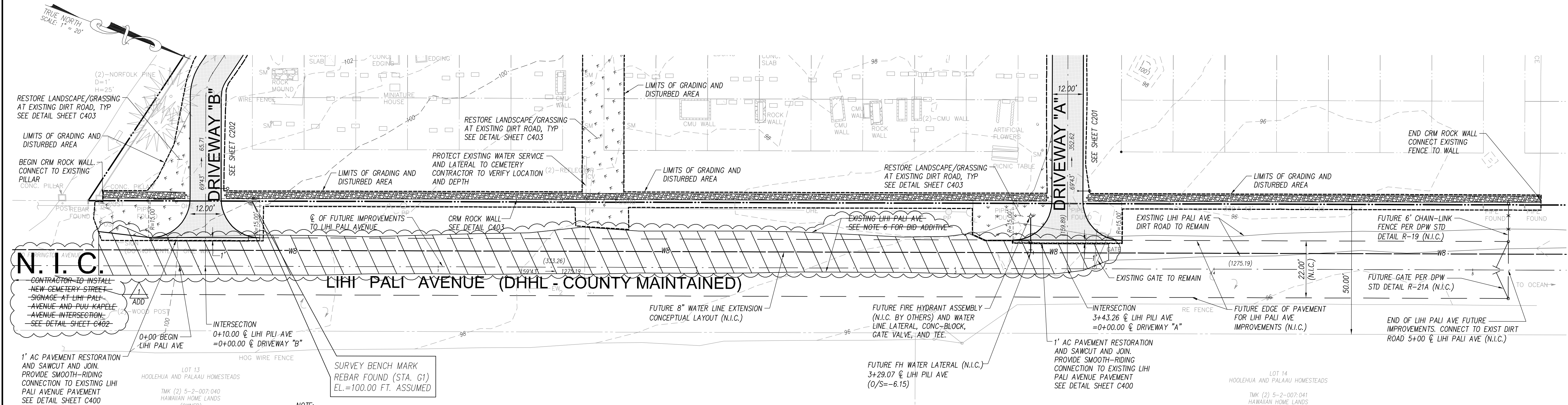
PLAN AND PROFILE LIHI PALI AVENUE

APPROVED BY:

C203

SHEET 8 OF 15 SHEETS

FILE POCKET FOLDER NO.



NOTES:

- CONTRACTOR SHALL COORDINATE ACCESS TO THE SITE WITH THE PROJECT MANAGER. DHHL WILL MAKE ARRANGEMENTS FOR CONTRACTOR ACCESS AND USE OF PUBLIC ROADWAYS FOR CONSTRUCTION STAGING, STORAGE, LAYDOWN, ETC. CONTRACTOR SHALL MAINTAIN THE PUBLIC ROADWAYS SURROUNDING THE SITE AS NECESSARY, AND SHALL RESTORE SUCH ROADS TO PRE-PROJECT CONDITIONS AS ACCEPTED BY THE PROJECT MANAGER.
- CONTRACTOR SHALL, PRIOR TO THE START OF CONSTRUCTION OF NEW WATER LINES, EXPOSE AND VERIFY HORIZONTAL AND VERTICAL LOCATIONS FOR EACH CONNECTION TO THE WATER MAINS AND LATERALS WITHIN THE PROJECT SITE. WATER LINE LOCATIONS ARE APPROXIMATE.
- CONTRACTOR SHALL RESTORE ROADWAY PAVEMENT AS INDICATED TO INCLUDE PAVEMENT STRIPING AND REFLECTIVE MARKERS. REPLACEMENT OF REFLECTIVE MARKERS SHALL BE NEW.
- CONTRACTOR SHALL CAREFULLY REMOVE, STORE, REINSTALL TRAFFIC SIGNS AS NECESSARY. ANCHOR BASE UNIT IMBEDDED IN THE GROUND INCLUDING MOUNTING NUT AND BOLT SHALL BE NEW.
- COSTS FOR WORK REQUIRED UNDER NOTES ABOVE ARE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL PAYMENT WILL BE MADE.
- BID ADDITIVE ITEM INCLUDES REPAVING LIHI PALI AVENUE FRONTING THE PROJECT SITE, CONSISTING OF A GRIND AND OVERLAY OF THE EXISTING PAVEMENT OF A MINIMUM OF 2 INCHES, WITH AN ESTIMATED AREA OF 5,800 S.F.

N. I. C.

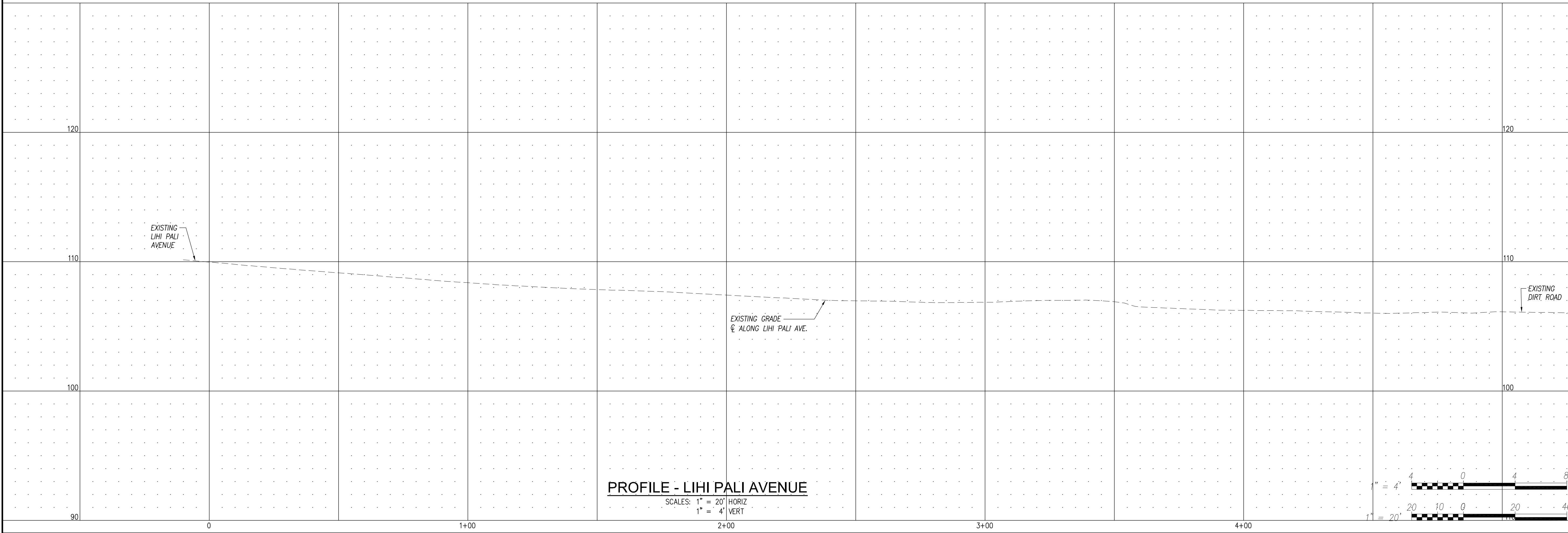
PLAN - LIHI PALI AVENUE

SCALE: 1" = 20'

LEGEND

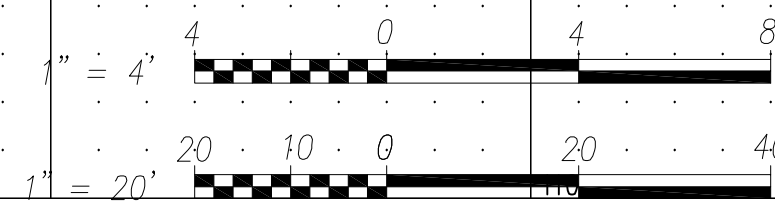
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CRM ROCK WALL
SEE DETAIL SHEET C403
- LANDSCAPE RESTORATION
SEE DETAIL SHEET C403
- AC PAVEMENT SEE
DETAIL SHEET C400
- PAVEMENT BID ADDITIVE
SEE NOTE 6
- CENTERLINE
- BURIAL PLOT
- FUTURE ROAD LIMITS (N.I.C.)
- LIMITS OF GRADING AND
DISTURBED AREA
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- SAWCUT AND JOIN

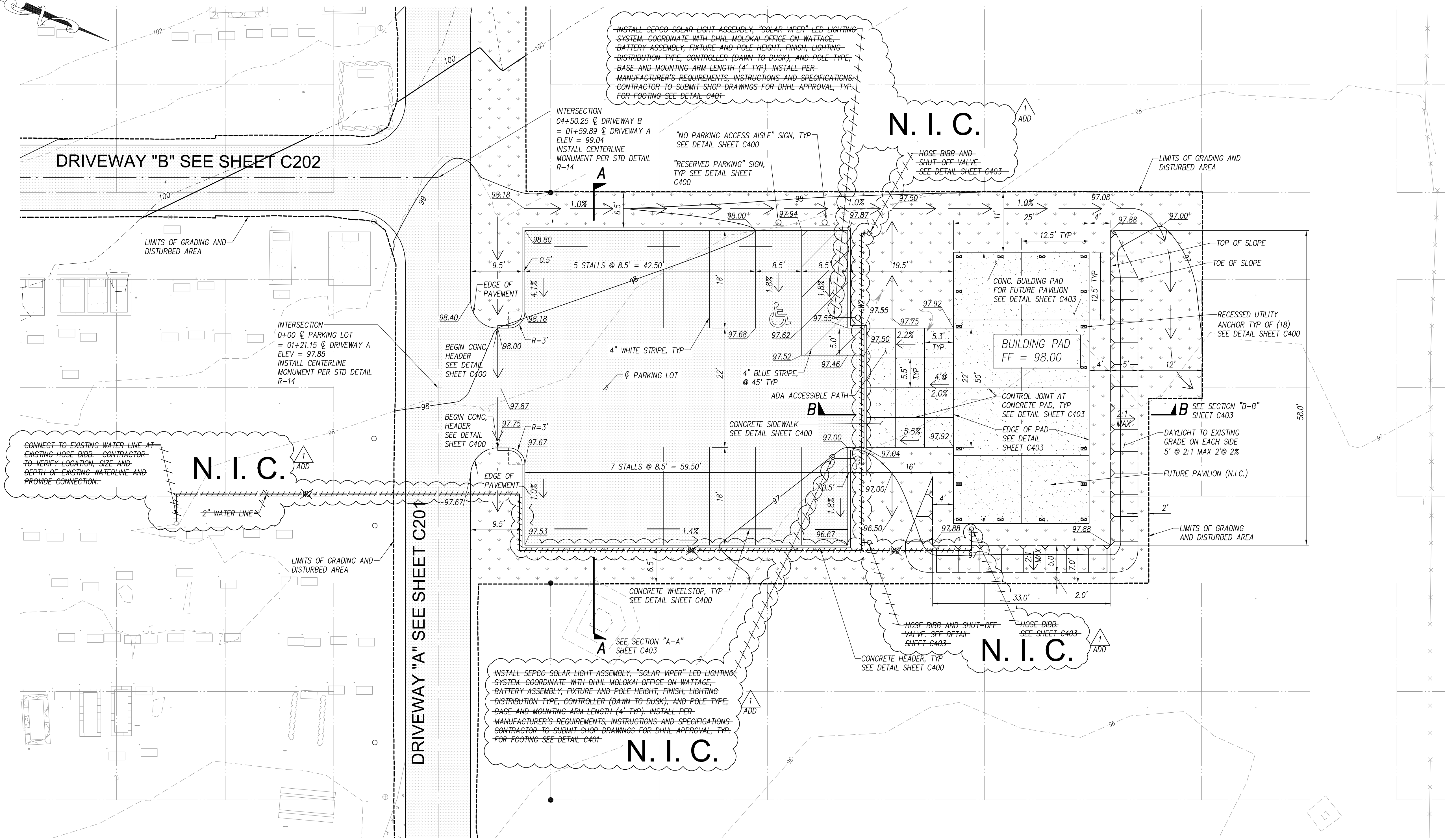
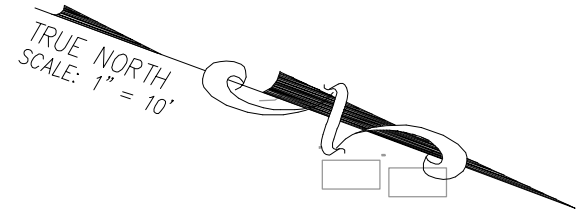
N. I. C.



PROFILE - LIHI PALI AVENUE

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





NOTES:

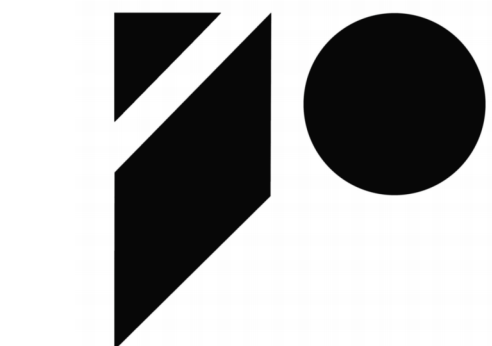
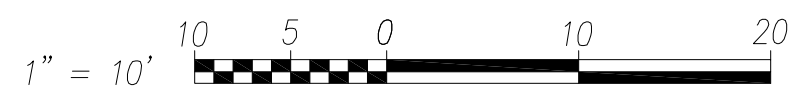
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PAVILION SITE UTILITY AND GRADING PLAN

SCALE: 1" = 10'

LEGEND

	PROPERTY LINE		BURIAL PLOT
	ADJACENT PROPERTY LINE		LIMITS OF GRADING AND DISTURBED AREA
	CRM ROCK WALL SEE DETAIL SHEET C403		EXISTING MAJOR CONTOURS
	LANDSCAPE RESTORATION SEE DETAIL SHEET C403		EXISTING MINOR CONTOURS
	AC PAVEMENT SEE DETAIL SHEET C400		FINISHED MAJOR CONTOURS
	CONCRETE		TOP OF SLOPE
	SAWCUT AND JOINT		TOE OF SLOPE
	CENTERLINE		

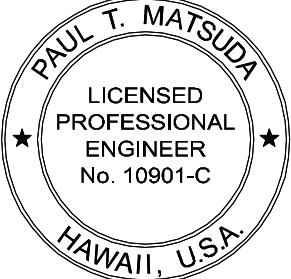


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Exp: 4/30/16



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REVISION	DATE	DESCRIPTION	BY	APPROD.
ADD	3/3/17	REMOVED SOLAR LIGHT CALLOUTS AND 2" WATER	G70	

ENGINEER: RC
DRAWN BY: CM
CHECKED BY: PM
PROJECT #: 214027-01

KANAKALOLOA CEMETERY
IMPROVEMENTS

TMK: (2) 5-2-017-003
HOOLEHUA, MOLOKAI, HAWAII
IFB NO.: IFB-16-LDD-011

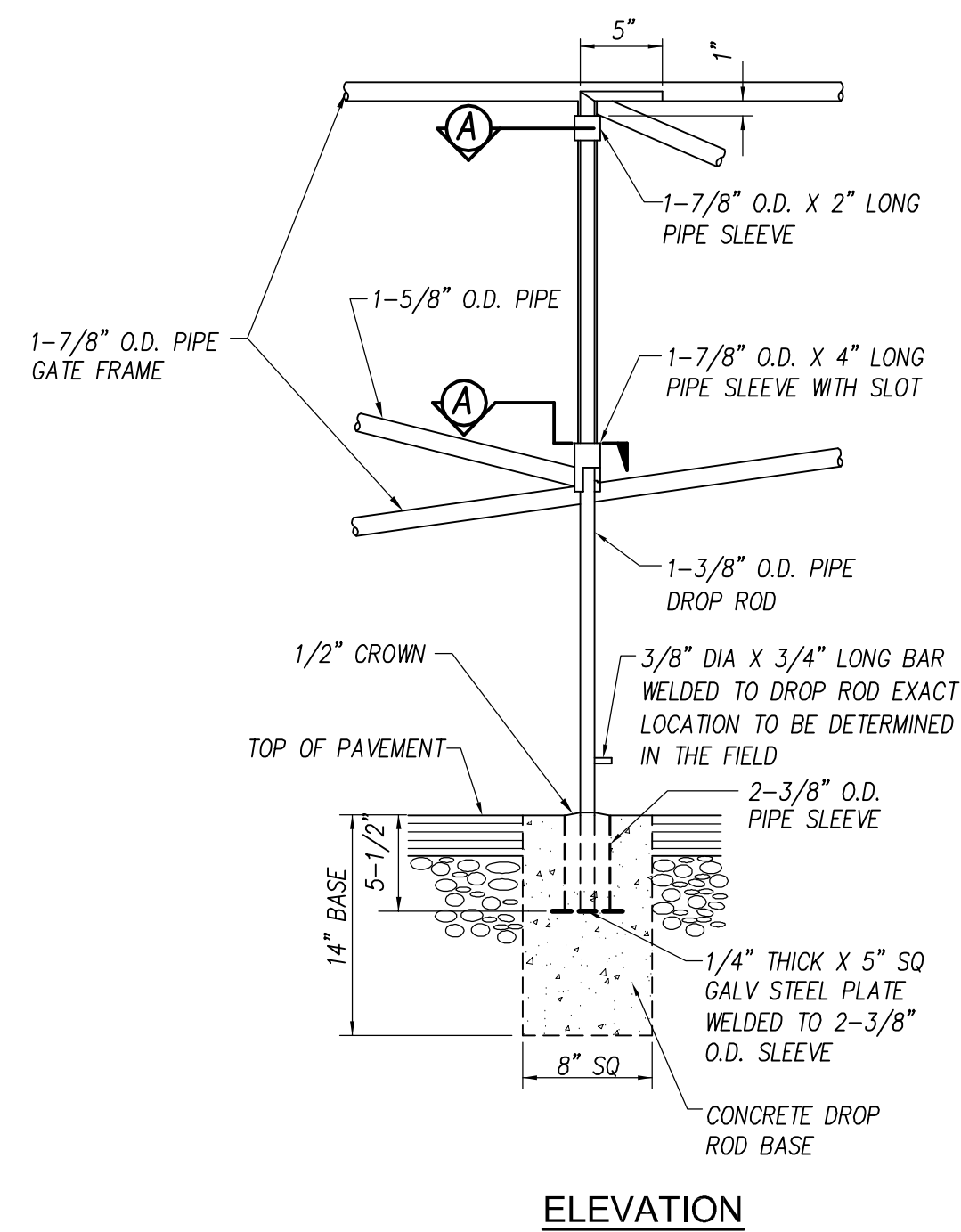
PAVILION SITE, UTILITY
AND GRADING PLAN

APPROVED BY:

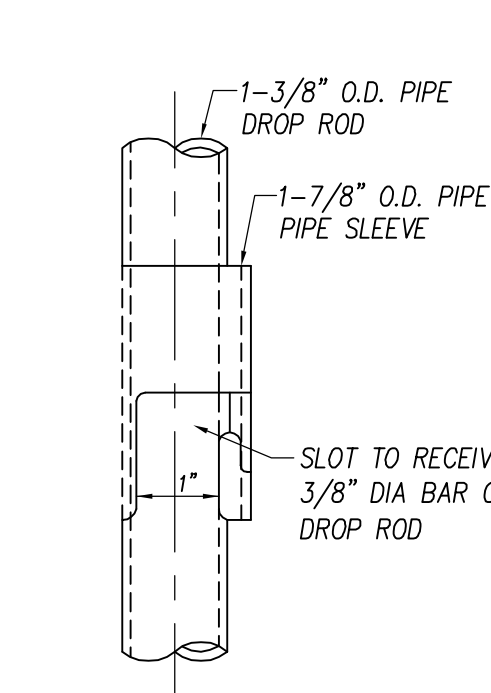
C204

SHEET 9 OF 15 SHEETS

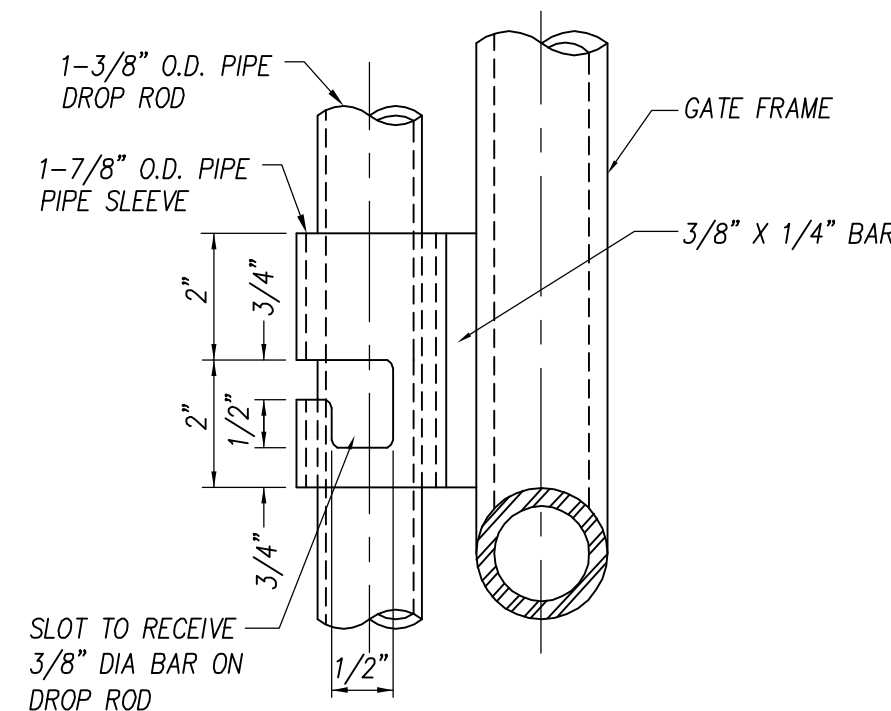
FILE POCKET FOLDER NO.



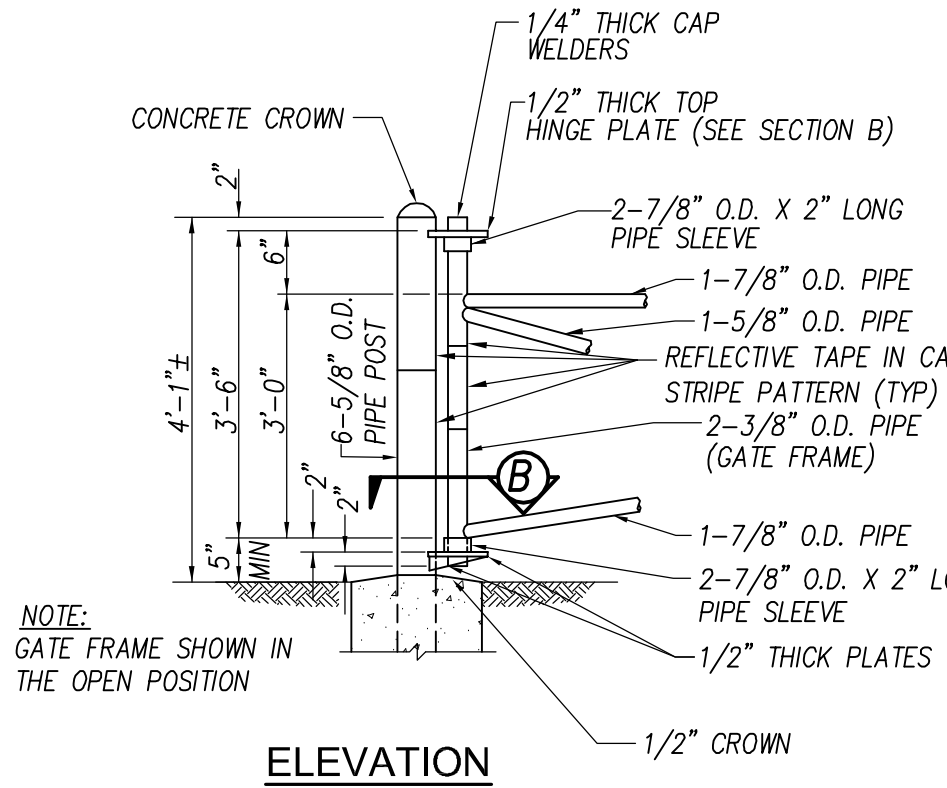
ELEVATION



FRONT ELEVATION

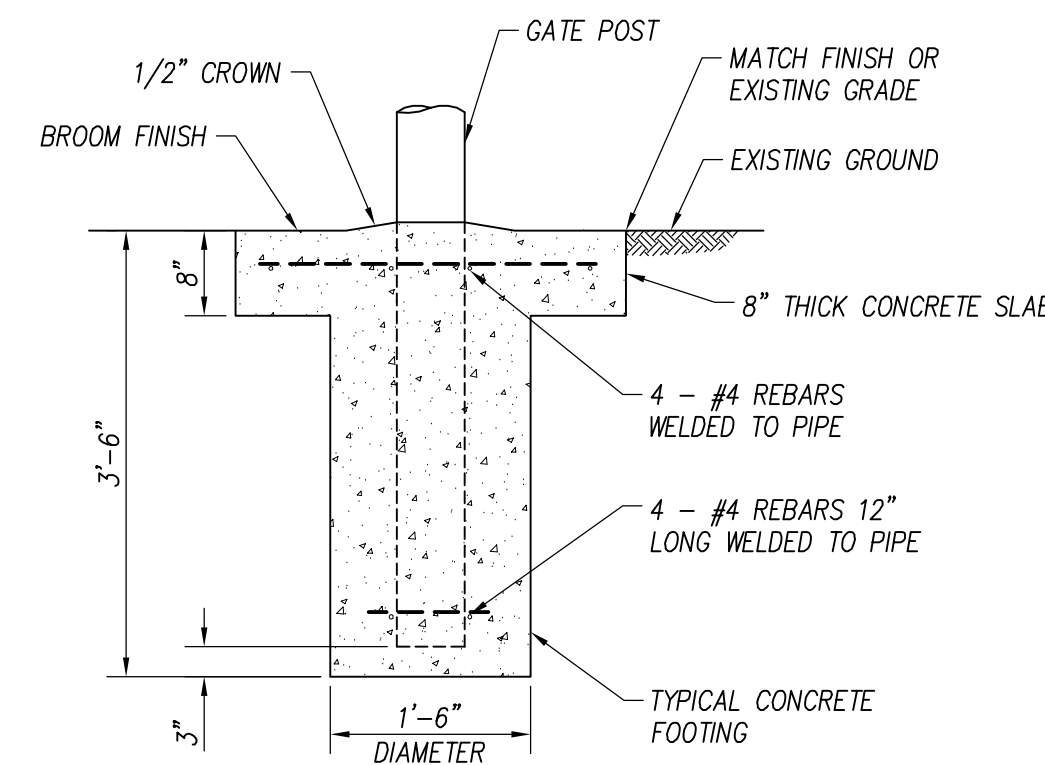


SIDE ELEVATION

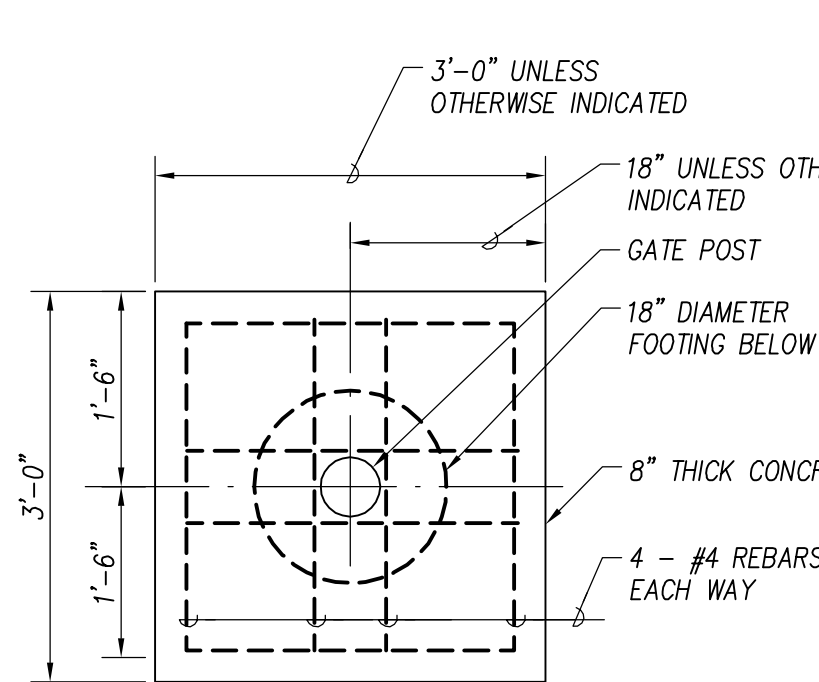


ELEVATION

GATE HINGE DETAILS
NOT TO SCALE

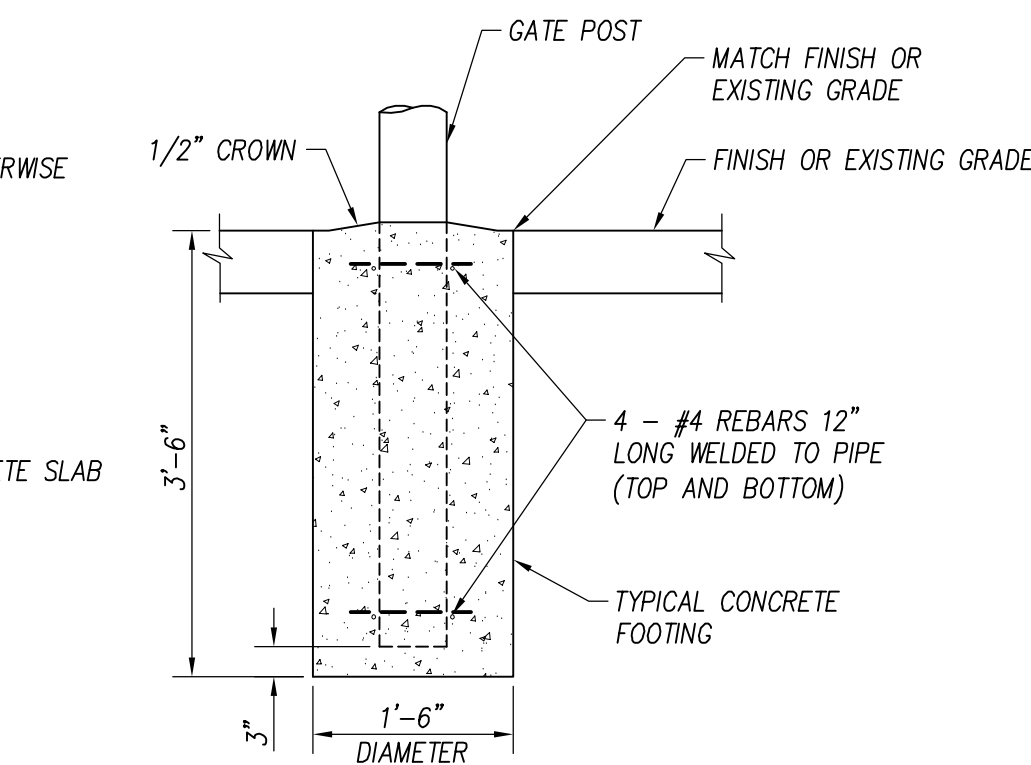


SECTION



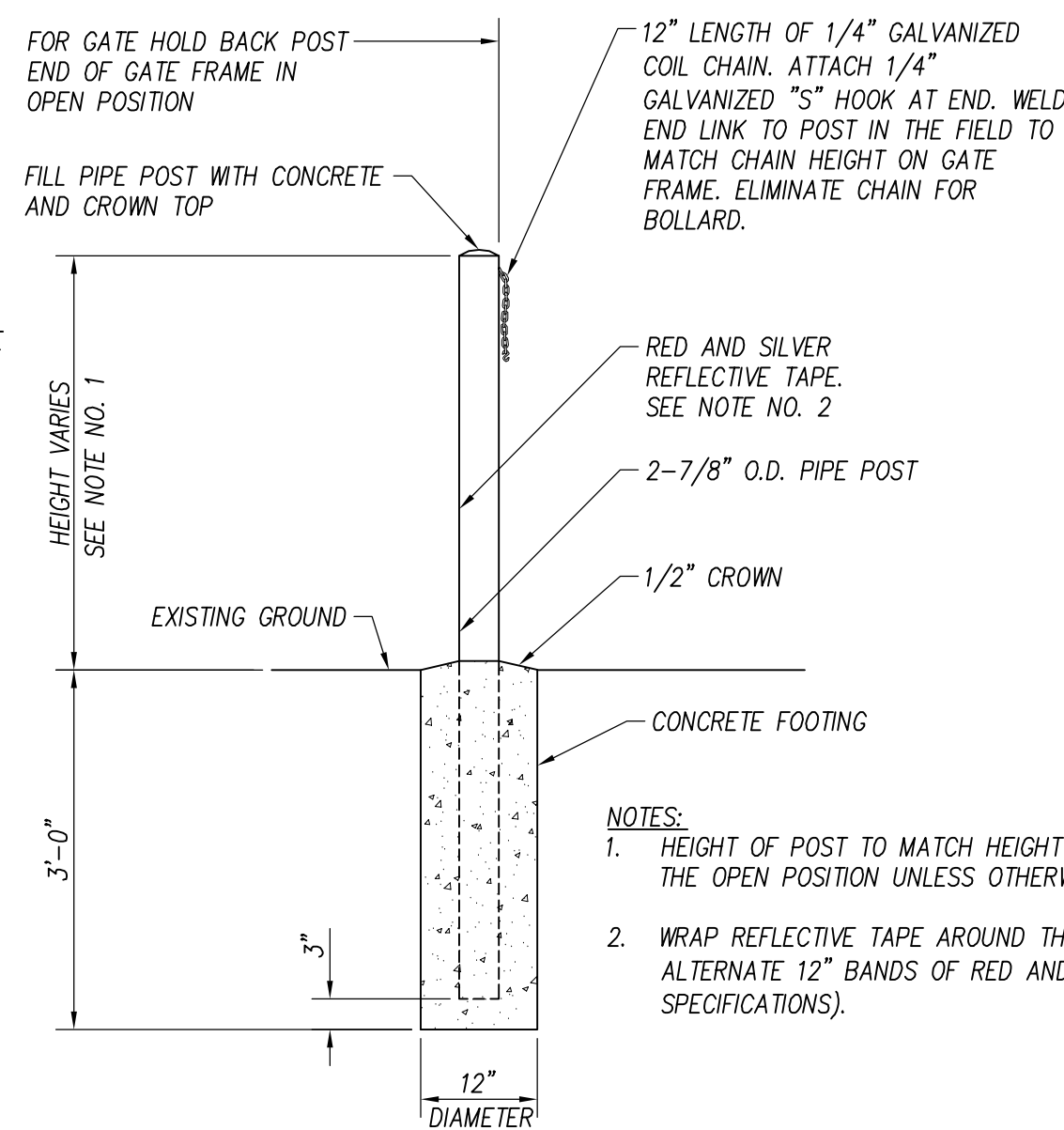
PLAN

TYPICAL GATE POST FOOTING
NOT TO SCALE



SECTION
(IN CONCRETE SLABS AND PAVEMENTS)

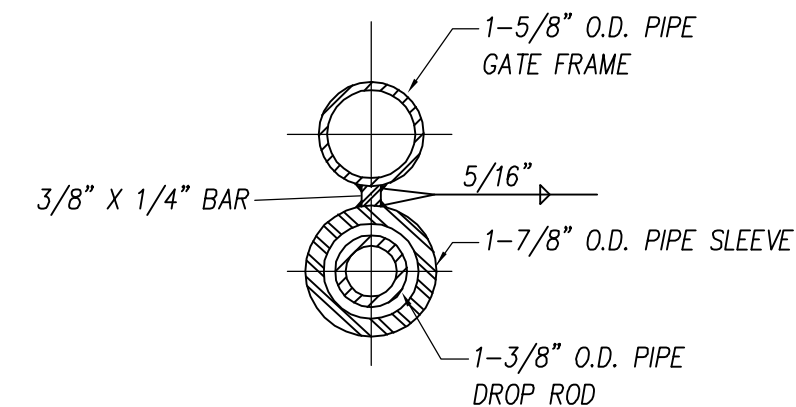
SINGLE -SIDED CATTLE GATE DETAILS (PRIVATE)
NOT TO SCALE



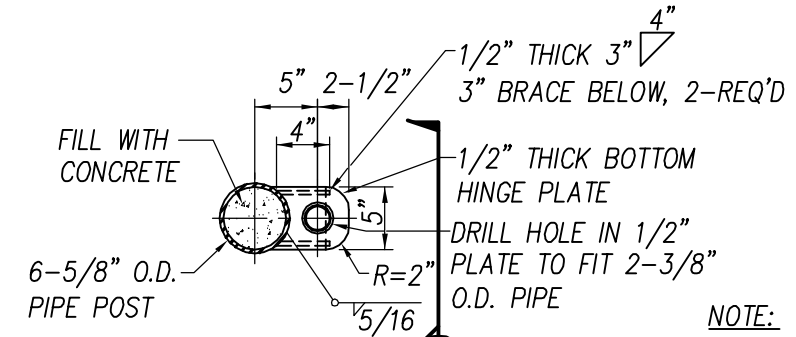
TYPICAL GATE HOLD BACK POST/BOLLARD
NOT TO SCALE

GENERAL NOTES:

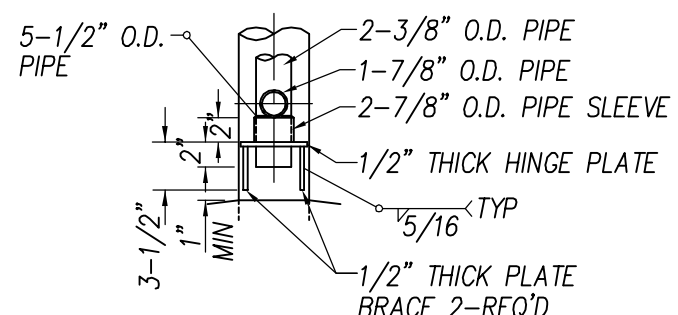
- ALL PIPES SHALL BE SCHEDULE 40, ASTM A53 GALVANIZED STEEL. ALL WELDS SHALL BE GROUND SMOOTH, AND COATED WITH GALVALOY OR EQUAL.
- WRAP REFLECTIVE TAPE AROUND THE ENTIRE NEW PIPE FRAME GATES AND POSTS (EXCEPT AT WELDED CONNECTIONS). ALTERNATE 12" BANDS OF RED AND SILVER TAPE (SEE SPECIFICATIONS).
- ADJUST DIMENSIONS TO MAKE GATE FRAME CLEAR PATH OF SWING (MIN 5" CLEARANCE).
- PROVIDE 2 PADLOCKS. PADLOCKS SHALL BE KEYED ALIKE. LOCKS SHALL BE MASTER KEYED TO DHHL SYSTEM UNLESS OTHERWISE INDICATED.
- HAND EXCAVATE FOR POST FOOTINGS NEAR EXISTING UNDERGROUND UTILITIES.
- PROVIDE 2 DROP ROD BASES FOR EACH SIDE, OPEN AND CLOSED POSITIONS.



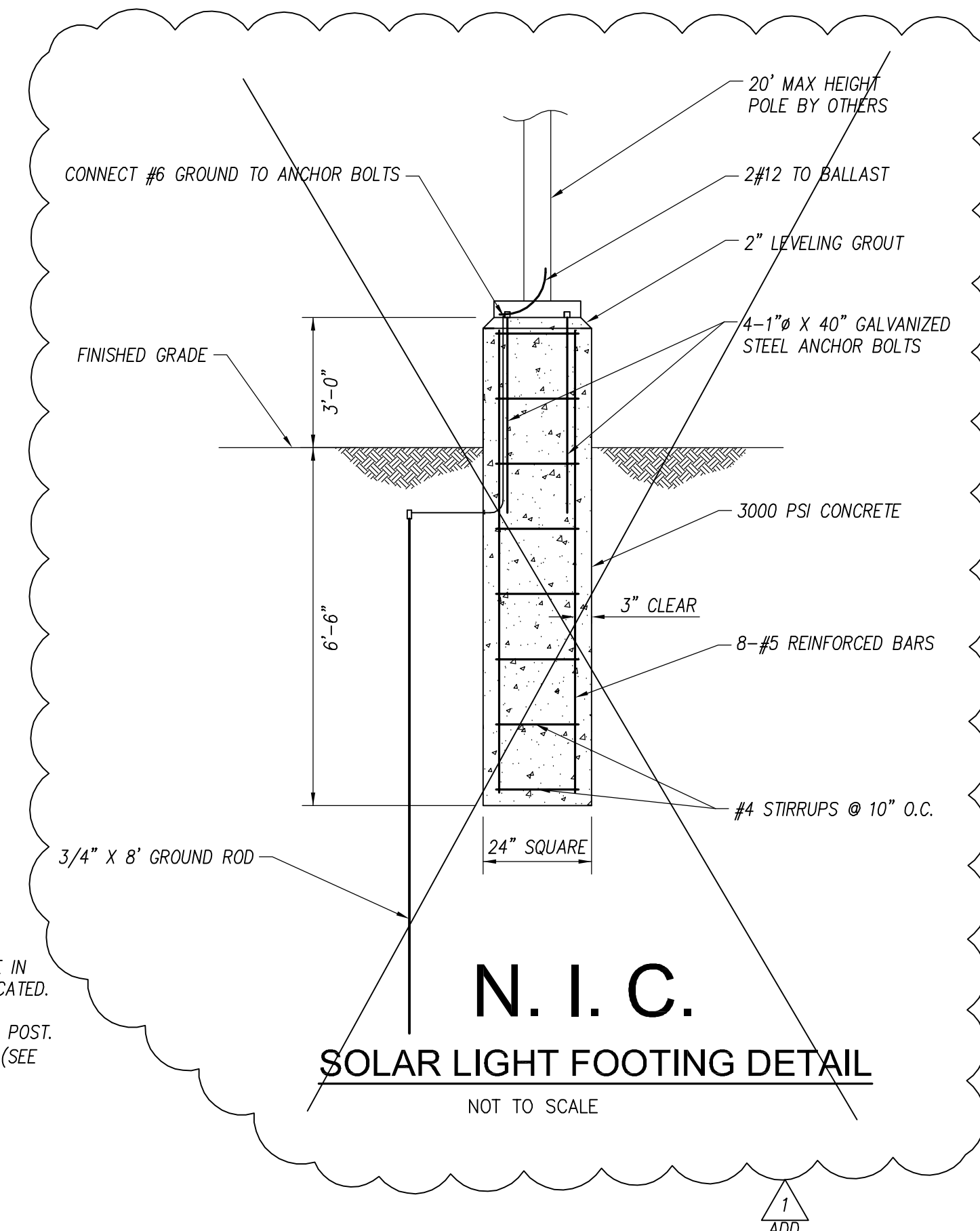
SECTION-A



SECTION-B



SECTION-C

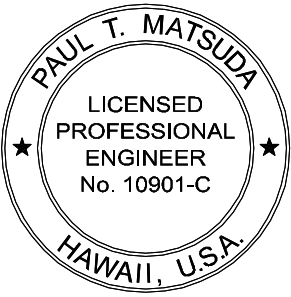


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Exp: 4/30/16



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REVISION	DATE	DESCRIPTION	BY	APP'D.
ADDED	3/3/17	REMOVED DETAIL	G70	

ENGINEER: RC
DRAWN BY: JW
CHECKED BY: PM
PROJECT #: 214027-01

KANAKALOLOA CEMETERY
IMPROVEMENTS

TMK: (2) 5-2-017:003
HOOLEHUA, MOLOKAI, HAWAII
IFB NO.: IFB-16-LDD-011

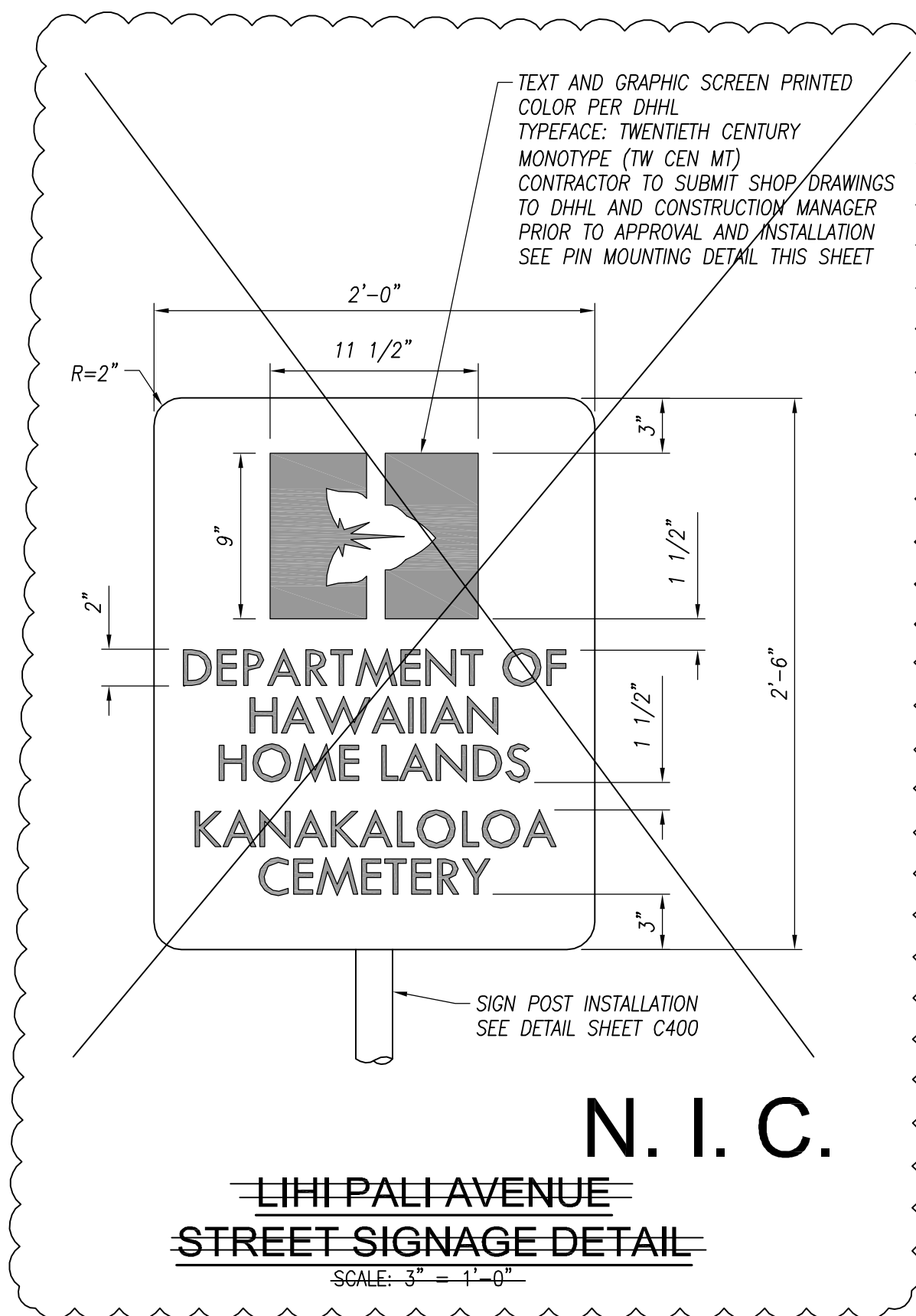
DETAILS 2

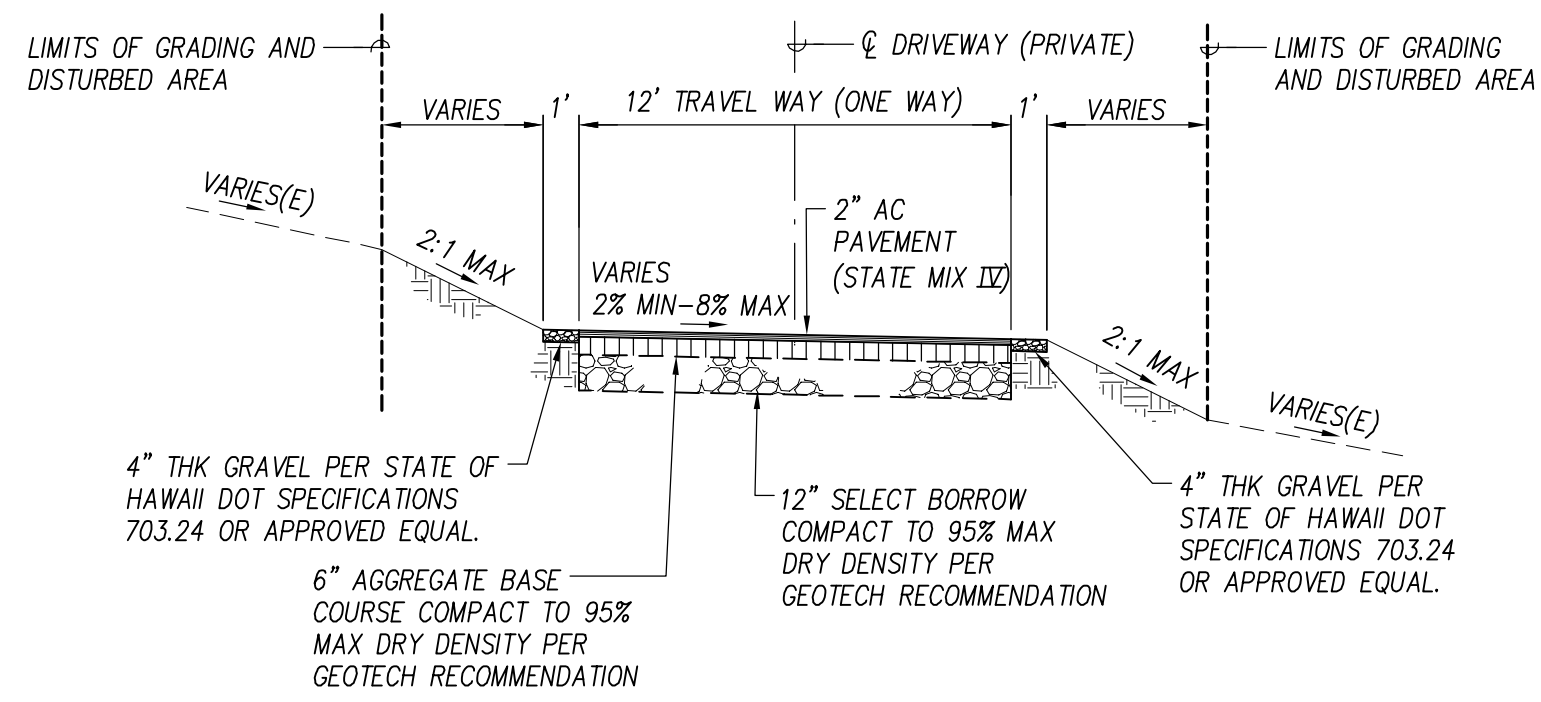
APPROVED BY:

C401

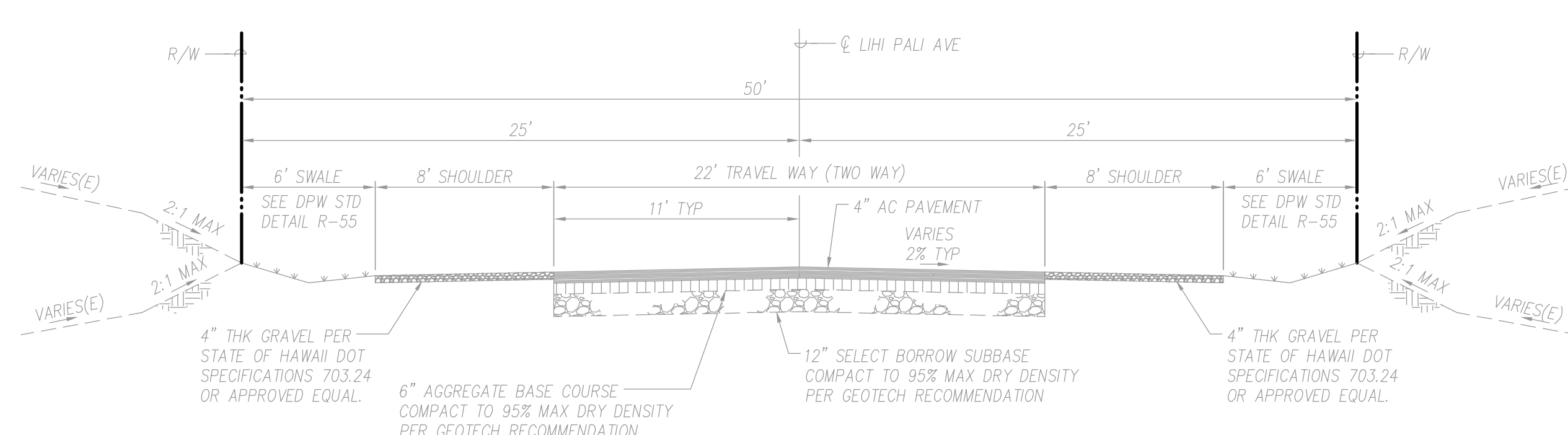
SHEET 12 OF 15 SHEETS

FILE POCKET FOLDER NO.

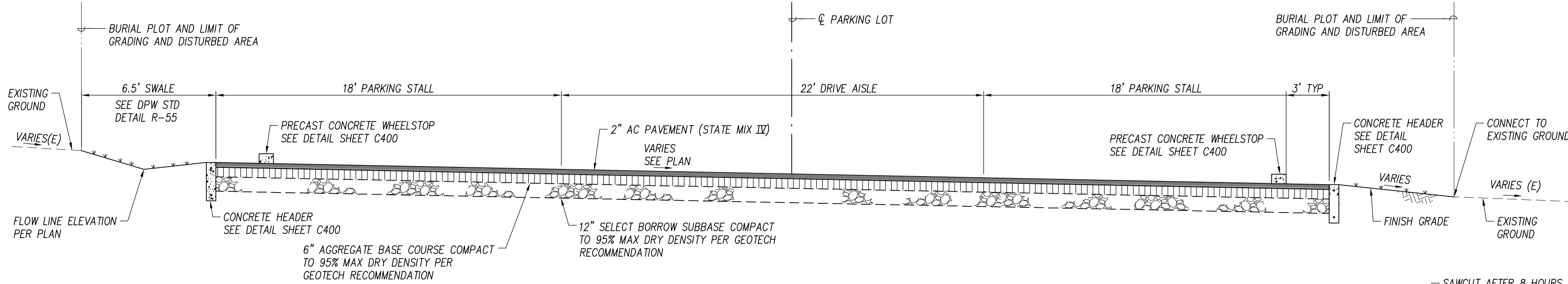




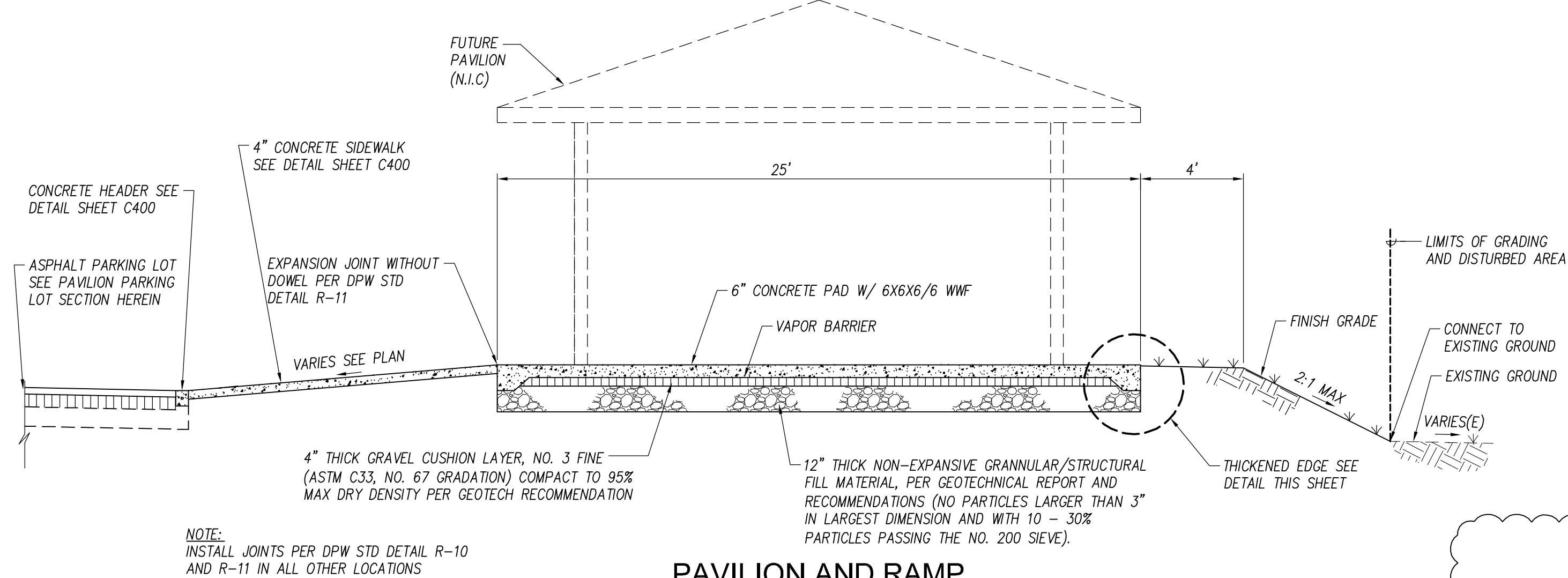
DRIVEWAY "A" & "B"
NOT TO SCALE



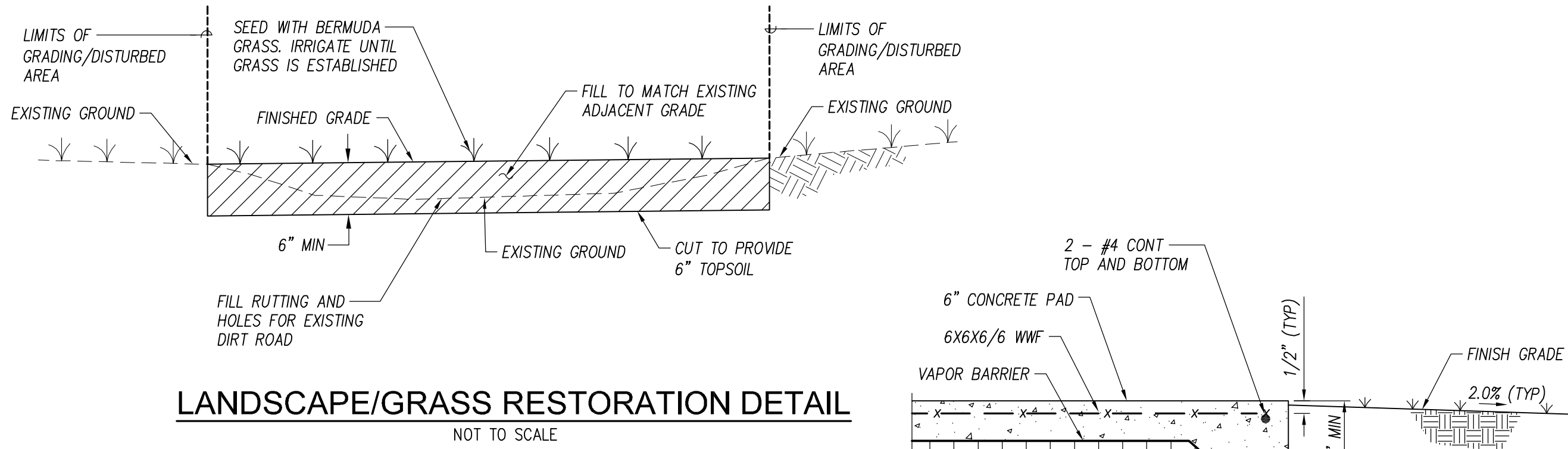
FUTURE LIHI PALI AVENUE (FOR REFERENCE ONLY N.I.C.)
NOT TO SCALE



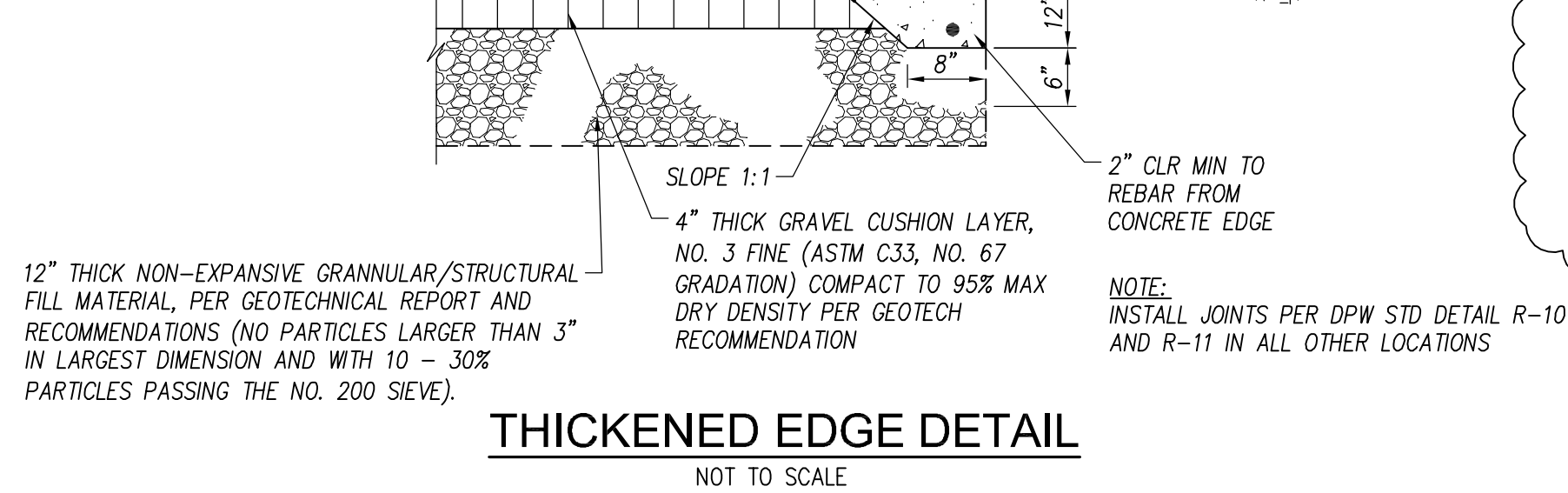
PAVILION PARKING LOT
SECTION "A-A"
NOT TO SCALE



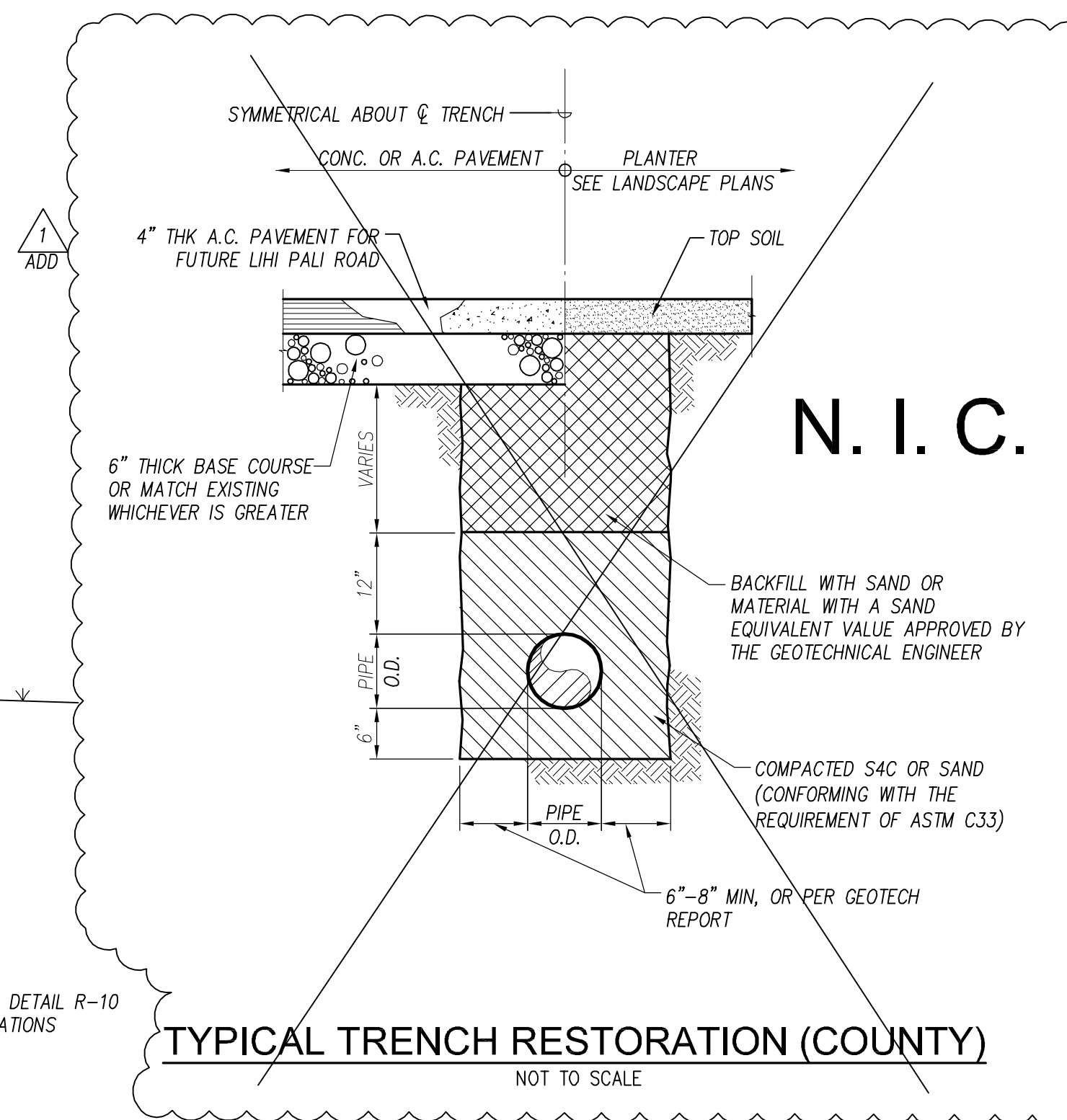
PAVILION AND RAMP
SECTION "B-B"
NOT TO SCALE



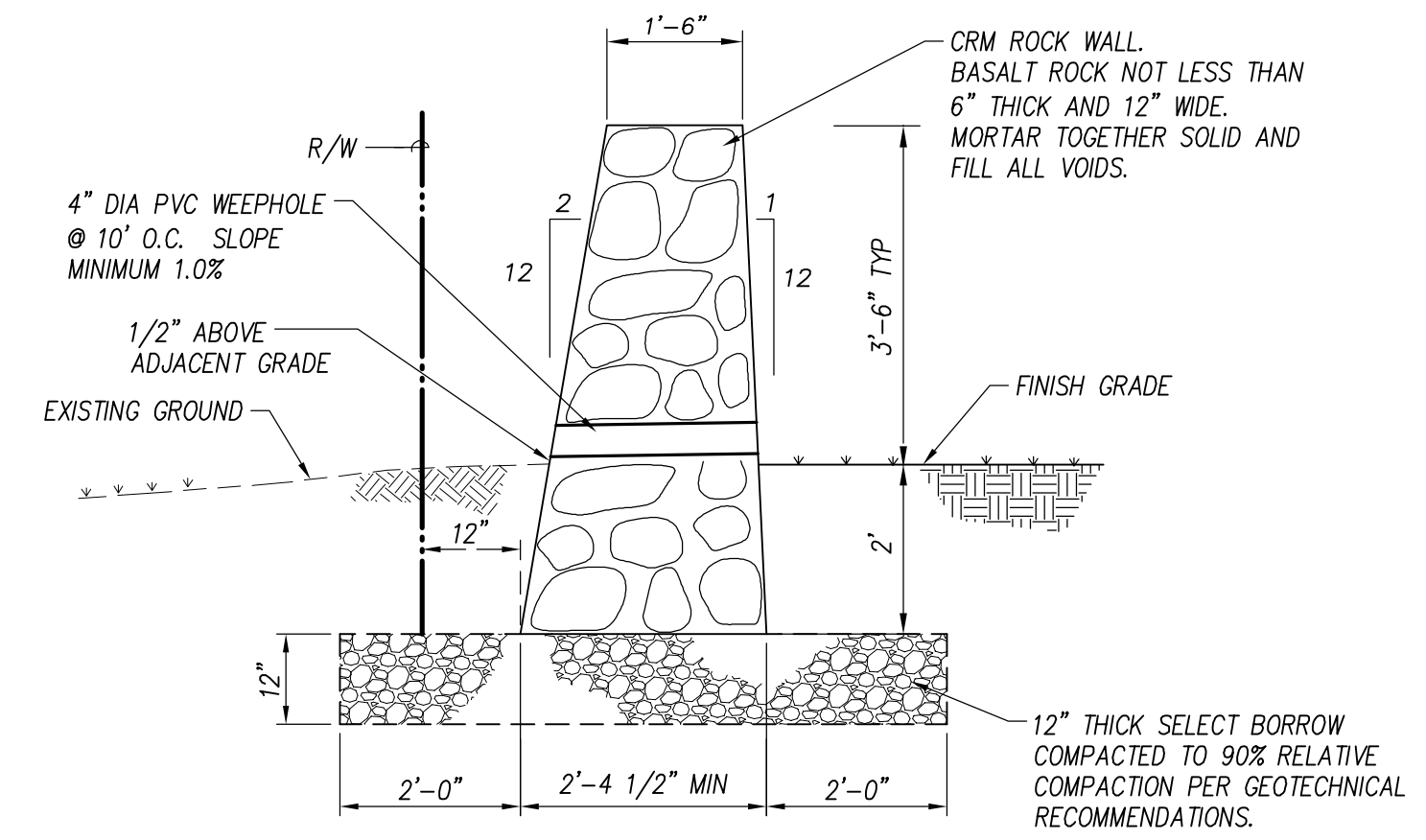
LANDSCAPE/GRASS RESTORATION DETAIL
NOT TO SCALE



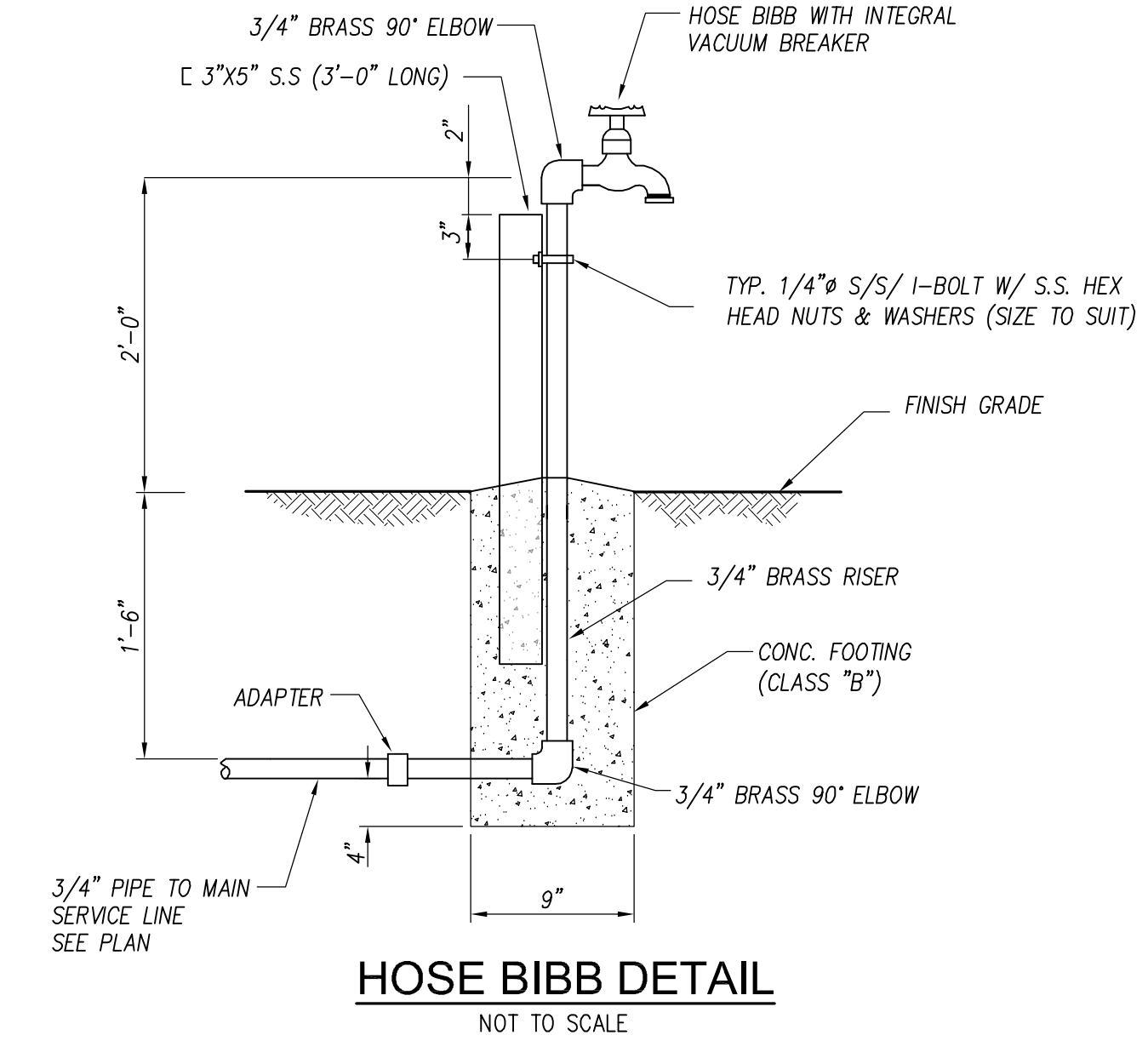
THICKENED EDGE DETAIL
NOT TO SCALE



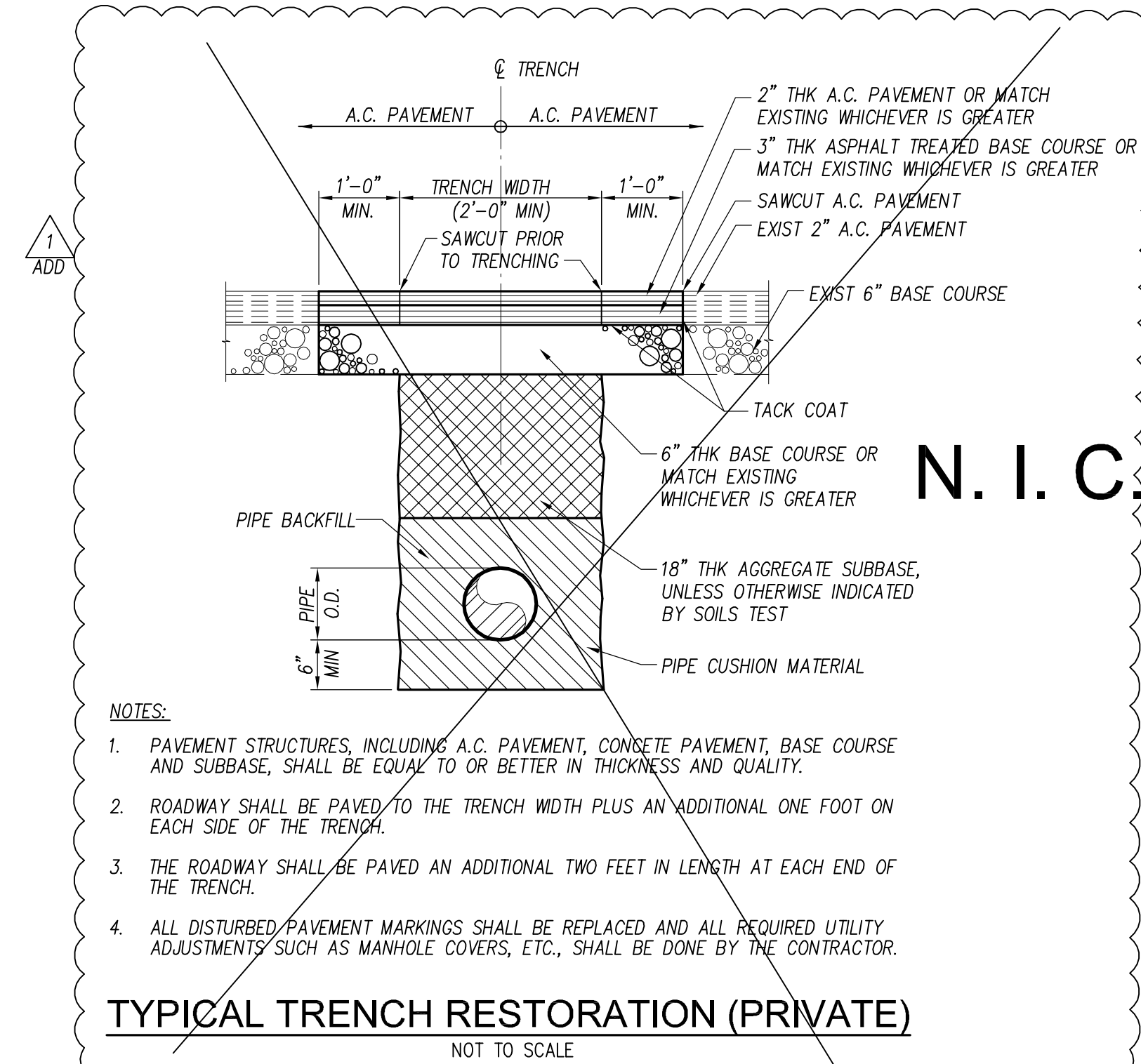
TYPICAL TRENCH RESTORATION (COUNTY)
NOT TO SCALE



CRM ROCK WALL DETAIL
NOT TO SCALE



HOSE BIBB DETAIL
NOT TO SCALE



TYPICAL TRENCH RESTORATION (PRIVATE)
NOT TO SCALE

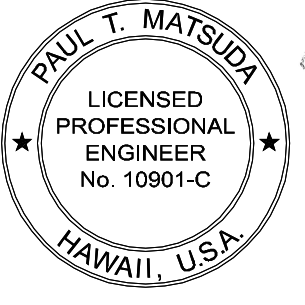


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NO.	REVISION	DATE	DESCRIPTION	BY	APPROD.
1	ADD	3/13/17	REMOVED DETAILS	G70	

ENGINEER: RC
DRAWN BY: JW
CHECKED BY: PM
PROJECT #: 214027-01

KANAKALOLOA CEMETERY
IMPROVEMENTS

TMK: (2) 5-2-017-003
HOOLEHUA, MOLOKAI, HAWAII
IFB NO.: IFB-16-LDD-011

TYPICAL ROADWAY
SECTIONS AND
DETAILS 4

APPROVED BY:

C403

SHEET 14 OF 15 SHEETS

FILE POCKET FOLDER NO.