

GRADING NOTES

- 1. ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE. SHOULD A GRADING PERMIT BE REQUIRED, NO WORK SHALL COMMENCE UNTIL THE DEPARTMENT OF PUBLIC WORKS (DPW) APPROVES A GRADING PERMIT.
- 2. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE DPW SHALL BE PAYABLE BY THE CONTRACTOR.
- 3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL RULES OF THE STATE DEPARTMENT OF HEALTH, HAR 11-60.1, FUGITIVE DUST.
- 4. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 55, WATER POLLUTION CONTROL AND CHAPTER 54, WATER QUALITY STANDARDS, AND TO THE EROSION AND SEDIMENTATION CONTROL STANDARDS AND GUIDELINES OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII.
- 5. THE CONTRACTOR SHALL SOD OR PLANT ALL SLOPES AND EXPOSED AREAS IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
- 6. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYS.
- 7. THE CONTRACTOR SHALL INFORM THE DPW OF THE LOCATION OF THE DISPOSAL AND/OR BORROW SITE(S) REQUIRED FOR THIS PROJECT WHEN AN APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL AND/OR BORROW SITE(S) MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- 8. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS ANYTIME WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS. GRADING WORK ON NORMAL WORKING DAYS SHALL BE BETWEEN THE HOURS OF 7:00 A.M. TO 3:30 P.M.
- 9. ALL FILLS INCLUDING ROADWAY AND RESERVOIR EMBANKMENTS SHALL BE COMPACTED TO 90 PERCENT (90%) OF MAXIMUM DENSITY PER ASTM D-1557 TEST.
- 10. THE CONTRACTOR SHALL REMOVE ALL VEGETATION BEFORE PLACING FILLS ON NATURAL GROUND SURFACE.

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- APPROX. GRADED AREA = 1.2 ACRE
- APPROX. EXCAVATION = ~~7,068~~ CY 7,487
- APPROX. EMBANKMENT = ~~7,005~~ CY 7,710

NOTE: THE QUANTITIES GIVEN ARE APPROXIMATE ONLY AND TO BE USED FOR PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO DETERMINE THE ACTUAL QUANTITY OF WORK REQUIRED FOR THIS PROJECT.

N.P.D.E.S. PERMIT COMPLIANCE

- 1. THE DEPT. OF LAND AND NATURAL RESOURCES AND/OR CONSULTANT SHALL OBTAIN THE NOTICE OF GENERAL PERMIT COVERAGE (NGPC) OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FOR THE SUBJECT PROJECT FROM THE CLEAN WATER BRANCH (CWB), ENVIRONMENTAL MANAGEMENT DIVISION, STATE OF HAWAII DEPARTMENT OF HEALTH (DOH).
- 2. THE CONTRACTOR SHALL THEN COMPLY WITH AND SUBMIT TO THE DOH ALL OTHER NECESSARY CONTRACTOR SPECIFIC AND JOBSITE SPECIFIC REQUIRED INFORMATION PRIOR TO STARTING WORK ON THE JOBSITE. ANY ADDITIONAL FEES AND COSTS ASSOCIATED WITH COMPLETING THE CONTRACTOR REQUIRED INFORMATION PORTION OF THE NPDES, NOI PERMIT FORM AND SUBSEQUENT REQUIREMENTS SHALL BE PAID FOR THE CONTRACTOR.
- 3. THE CONTRACTOR SHALL COMPLY WITH CONDITIONS OF THE PERMIT AS FOLLOWS:
 - NOTIFY DOH OF THE CONSTRUCTION START DATE WITHIN SEVEN (7) CALENDAR DAYS BEFORE THE START OF CONSTRUCTION ACTIVITIES.
 - COMPLETE AND SUBMIT THE SOLID WASTE DISCLOSURE FORM FOR CONSTRUCTION SITES TO THE DOH, SOLID AND HAZARDOUS WASTE BRANCH, SOLID WASTE SECTION, AS SPECIFIED ON THE FORM AT LEAST 30 CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION ACTIVITIES. THE FORM CAN BE DOWNLOADED AT: <http://health.hawaii.gov/shwb/files/2013/06/swdiscformnov2008.pdf>.
 - IMPLEMENT THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH HAR 11-55, APPENDIX C. THE DIRECTOR OF HEALTH RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO MODIFY THE SWPPP.
 - THE CONTRACTOR SHALL SUBMIT A NEW NOI WITH FILING FEE AND OBTAIN A NEW NGPC FOR ANY REVISIONS TO THE INFORMATION SUBMITTED IN THE NOI (WITH THE EXCEPTION OF CHANGES TO CONTACT PERSON INFORMATION FOR NON-TRANSFER OF OWNERSHIP AND CHANGES TO THE SWPPP).
 - THE CONTRACTOR SHALL COMPLETE AND SUBMIT THE NOTICE OF CESSATION (NOC) WITHIN SEVEN (7) CALENDAR DAYS AFTER THE END OF THE MONTH THAT THE PROJECT WAS COMPLETED.
 - ALL NGPC COMPLIANCE SUBMITTALS, INCLUDING THE NOC SHALL BE SUBMITTED ON THE CWB COMPLIANCE SUBMITTAL FORM FOR INDIVIDUAL NPDES PERMITS AND NGPC'S. THIS FORM SHALL BE COMPLETED ON THE E-PERMITTING PORTAL LOCATED AT: <https://ehc-cloud.doh.hawaii.gov/epermit>.
- 4. UNLESS OTHERWISE SPECIFIED IN THE PLANS AND SPECIFICATIONS, ALL COSTS ASSOCIATED WITH FIELD COMPLIANCE OF THE REQUIREMENTS AND REGULATIONS OF THE GENERAL PERMIT COVERAGE SHALL BE PAID FOR BY THE CONTRACTOR. THESE COSTS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED IN, THE VARIOUS BID ITEMS OF WORK.
- 5. THE FIELD WORK MAY INCLUDE AND NOT BE LIMITED TO; EROSION CONTROL MEASURES, SILT FENCES, SILTING PONDS, SILT ROLLS, ETC., AND COMPLIANCE TO A SITE SPECIFIC BEST MANAGEMENT PRACTICES PLAN DEVELOPED AND IMPLEMENTED BY THE CONTRACTOR AND OTHER CONTROLS OR MEASURES INDICATED ON THE PLANS AND SPECIFICATIONS. THIS INCLUDES ALL PERIODIC CLEANING, MAINTENANCE OF THE FACILITIES, RECORD KEEPING, ETC. FOR THE DURATION OF THE PROJECT.

WATERLINE NOTES

- 1. ALL WORK SHALL BE DONE ACCORDING TO THE "WATER SYSTEM STANDARDS", STATE OF HAWAII, DATED 2002, AS AMENDED.
 - 2. THE CONTRACTOR SHALL INFORM THE DEPARTMENT OF LAND AND NATURAL RESOURCES (DLNR) ENGINEER 72 HOURS PRIOR TO THE BEGINNING OF ANY WATERLINE WORK AND TWO WEEKS PRIOR TO ANY CONNECTION, SHUTOFF OR RELOCATION WORK.
 - 3. THE CONTRACTOR SHALL PAY FOR ALL WORK AND MATERIALS.
 - 4. ALL EXISTING WATERLINES, WATERLINE APPURTENANCES AND OTHER UTILITY LOCATIONS SHOWN ON THE PLANS ARE OBTAINED FROM LATEST RELIABLE SOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL UTILITIES IN THE FIELD AND SHALL BEAR ALL COST FOR DAMAGES DONE UNTO THEM DURING THE CONTRACT PERIOD. EXCAVATION ALONG OR NEAR WATER SERVICE LATERALS SHALL BE DONE BY HAND.
 - 5. ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, BACKFILL, ROAD REPAIR, TRAFFIC CONTROL, ETC. AND SHALL PROVIDE ALL EQUIPMENT NECESSARY TO COMPLETE THE CONNECTION.
 - 6. WHERE WATER SHUTOFF OF MORE THAN 3-DAYS BECOMES NECESSARY, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE A TEMPORARY BY-PASS LINE.
 - 7. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 8- FEET FOR ROAD RIGHT-OF-WAYS OF 50- FEET OR LESS, MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINE AND OTHER UTILITIES SHALL BE 12-INCHES PROVIDED THE OTHER UTILITY IS CONCRETE JACKETED AND 18-INCHES IF NO CONCRETE JACKETS ARE USED. IN ALL APPLICABLE INSTANCES THE WATERLINES SHALL BE AT A GRADE HIGHER THAN OTHER UTILITIES. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINE AND OTHER UTILITIES SHALL BE 10-FEET FOR ROAD RIGHT-OF-WAYS OF MORE THAN 50-FEET.
 - 8. THE WATERLINE SHALL BE TESTED AT A MINIMUM OF 225 P.S.I. OR ONE AND A HALF TIMES THE STATIC PRESSURE AT THE LOW POINT, WHICHEVER IS GREATER.
 - 9. EXISTING WATERLINES, VALVES, FITTINGS AND APPURTENANCES NOT DESIGNATED "REMOVE AND SALVAGE" SHALL BE ABANDONED IN PLACE. ALL EXPOSED VALVE BOXES, VALVES, PIPES AND APPURTENANCES SHALL BE REMOVED AND DISPOSED OF PROPERLY.
 - 10. WHEN COMPACTION TESTS ARE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE DLNR WITH PROCTOR RESULTS OF MATERIALS TO BE USED FOR THAT PORTION OF WORK REQUIRING COMPACTION. THESE RESULTS SHALL BE CERTIFIED AND SHALL BE FURNISHED TO DLNR ONE WEEK PRIOR TO COMMENCEMENT OF WORK. COST FOR COMPACTION TESTS SHALL BE INCIDENTAL TO PIPELINE INSTALLATION.
 - 11. ALL NEW INSTALLED WATERLINES SHALL HAVE A BLUE METALLIC WARNING TAPE LABELED "WATERLINE" PLACED DIRECTLY OVER THE COMPACTED CUSHION MATERIAL. SEE TYPICAL TRENCH DETAIL.
 - 12. CONSTRUCTION PROJECTS REQUIRING TEMPORARY WATER SERVICE FROM DWS SHALL BE METERED AND PAID FOR BY THE CONTRACTOR.
 - 13. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND CERTIFY THE RECORD DRAWINGS (AS-BUILT DRAWINGS) AS TO ACCURACY AND AS-BUILT CONDITION, AND THEN A LICENSED ENGINEER SHALL CERTIFY THE DRAWINGS AS SUBMITTED BY THE CONTRACTOR. THE CONTRACTOR SHALL THEN SUBMIT THE RECORD DRAWINGS AND AS-BUILT TRACINGS TO THE DLNR.
 - 14. COPPER PIPE AND FITTINGS SHALL CONFORM TO DWS WATER SYSTEM STANDARDS, SECTION 208.01-COPPER TUBING.
- NOTE: WHERE APPLICABLE IN THESE NOTES, REFERENCE TO THE DWS SHALL ALSO MEAN THE DEPARTMENT OF LAND AND NATURAL RESOURCES (DLNR) AND DIVISION OF FORESTRY AND WILDLIFE (DOFAW).

SOLID WASTE NOTES

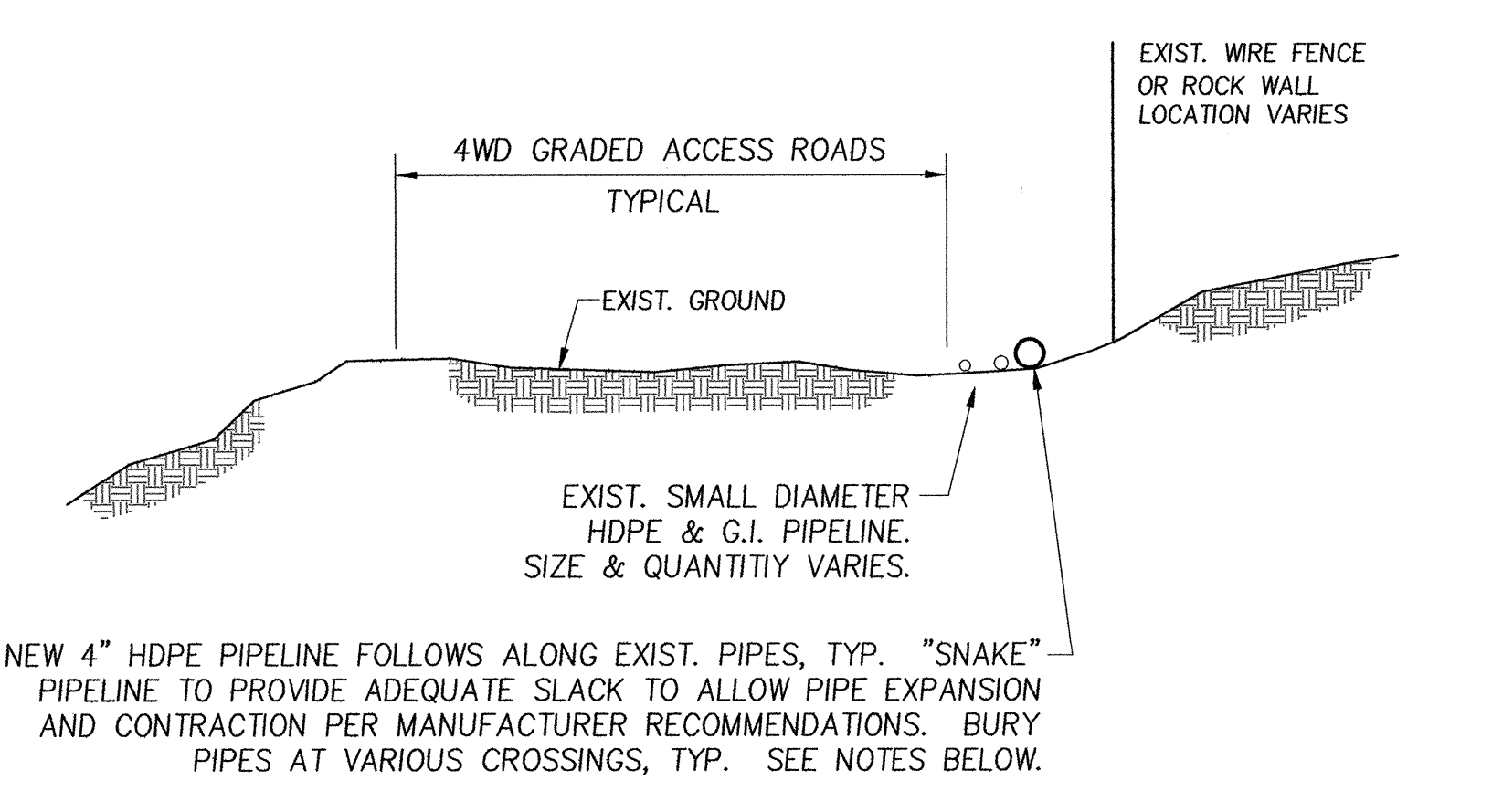
- 1. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER HANDLING, STORAGE AND/OR DISPOSAL OF ALL WASTE GENERATED BY THIS CONSTRUCTION INCLUDING GRUBBING AND EXCESS EXCAVATED MATERIAL. ANY MATERIAL BROUGHT TO THE COUNTY LANDFILLS WILL BE SUBJECTED TO THE INSTITUTED TIPPING FEE SYSTEM WITH NO EXCEPTIONS OR EXEMPTIONS.
 - 2. ALL WASTES GENERATED BY CONSTRUCTION, INCLUDING GRUBBING, DEMOLITION AND EXCESS EXCAVATION MATERIAL MAY BE BROUGHT TO THE WEST HAWAII OR THE HILO LANDFILL. THE CONTRACTOR SHALL CHECK WITH THE SOLID WASTE DIVISION FOR DISCLOSURE OF THE CURRENT LANDFILL TIPPING FEE AND CONSIDERATION OF THAT FEE SHALL BE INCLUDED IN THE CONTRACTOR'S BID SUM.
 - 3. CONSTRUCTION, DEMOLITION, AND GRUBBING MATERIAL SHALL NOT BE DEPOSITED AT ANY OF THE COUNTY OF HAWAII TRANSFER STATIONS, BUT SHALL BE TRANSPORTED FOR DISPOSAL TO EITHER THE WEST HAWAII OR HILO LANDFILL.
 - 4. ASBESTOS MATERIAL MUST BE SEPARATED OUT, DOUBLE BAGGED AND LANDFILLED IN ACCORDANCE WITH REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, COUNTY OF HAWAII. INFORMATION MAY BE OBTAINED BY CALLING THE DEPARTMENT AT 808-961-8339 BETWEEN 7:00 AM AND 4:00 P.M. MONDAY THROUGH FRIDAY.
- NEW REQUIREMENTS EFFECTIVE MARCH 1, 2016.**
- 5. THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, SOLID WASTE DIVISION WILL REQUIRE A "NOTICE OF AUTHORIZATION" (NOA) FOR EACH LOAD OF CONSTRUCTION AND DEMOLITION DEBRIS OR GRADING AND GRUBBING MATERIAL BEING DISPOSED OF AT THE EAST OR WEST HAWAII SANITARY LANDFILL. THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN THIS NOA FROM THE SOLID WASTE DIVISION.
 - 6. IF REQUIRED TO OBTAIN THE NOA, THE CONTRACTOR SHALL PREPARE A SOLID WASTE DEMOLITION PLAN/REPORT TO THE SATISFACTION OF THE SOLID WASTE DIVISION, TO DECLARE APPROXIMATE QUANTITIES OF WASTE GENERATED FROM THE PROJECT THAT WILL BE SENT TO THE COUNTY LANDFILL OR BE RECYCLED OR REUSED AND NOT DIRECTED TO THE LANDFILL.

GENERAL NOTES

- 1. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," SEPTEMBER 1986 AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.
- 2. EXCEPT FOR THE PORTION OF THE DOFAW GROUND AND FACILITIES AFFECTED BY THE CONTRACT, THE FACILITIES SHALL BE IN USE BY THE PUBLIC. THE CONTRACTOR SHALL PROVIDE FULL COOPERATION WITH THE DOFAW TO EFFECTIVELY MAINTAIN SUCH USE OF THE FACILITIES.
- 3. CONTRACTOR TO PROTECT ALL EXISTING STRUCTURES TO REMAIN. ALL DAMAGES SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE STATE.
- 4. UNLESS OTHERWISE NOTED, ALL EXISTING PAVEMENT, UTILITY LINES, AND OTHER IMPROVEMENTS DAMAGED OR UNDERMINED AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO MATCH EXISTING CONDITIONS.
- 5. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.
- 6. DEBRIS GENERATED SHALL BE DISPOSED OF "OFF-SITE" BY THE CONTRACTOR AT HIS EXPENSE.
- 7. ALL EXISTING IMPROVEMENTS, WHETHER SHOWN ON THE PLANS OR NOT, BUT WILL BE IN THE WAY OF NEW CONSTRUCTION, SHALL BE REMOVED AND/OR RELOCATED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
- 8. THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF THE CONSTRUCTION ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
- 9. THE CONTRACTOR SHALL TONE THE AREA PRIOR TO ANY REMOVAL, GRADING, OR EXCAVATION WORK.
- 10. THE WORK REQUIRED TO COMPLETE THE PROJECT BUT NOT ITEMIZED SPECIFICALLY IN THE PROPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS IN THE PROPOSAL.
- 11. THE PARK SHALL REMAIN OPEN DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL INSTALL ADEQUATE TEMPORARY BARRICADES AND WARNING SIGNS TO PROTECT THE PUBLIC DURING THE CONSTRUCTION PERIOD. PROVIDE AND MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION PERIOD.
- 12. THE CONTRACTOR SHALL VISIT THE JOBSITE PRIOR TO SUBMITTING HIS BID TO FAMILIARIZE HIMSELF WITH THE ACTUAL CONDITIONS AND LOCATIONS OF ALL EXISTING UTILITIES, BUILDINGS, FACILITIES AND FEATURES OF THE WORK AREA.
- 13. THE CONTRACTOR SHALL RE-PLANT ALL EXISTING GRASS, TREES, PLANTS AND/OR SHRUBS AFFECTED BY HIS WORK AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REPLACE TOPSOIL AND GRASSING AFFECTED BY HIS WORK.
- 14. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY AGENCIES WHICH MAY BE AFFECTED BY THIS PROJECT AND SHALL NOTIFY THEM IN ADVANCE OF ANY TRENCHING WORK.
- 15. ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE. SHOULD A GRADING PERMIT BE REQUIRED, NO WORK SHALL COMMENCE UNTIL THE COUNTY OF HAWAII, DEPT. OF PUBLIC WORKS APPROVES A GRADING PERMIT.
- 16. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS DEPOSITED IN EXISTING DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE DEPT OF LAND & NATURAL RESOURCES SHALL BE PAYABLE BY THE CONTRACTOR.
- 17. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL RULES OF THE STATE DEPARTMENT OF HEALTH.
- 18. COMPACTION FOR ALL WORK INCLUDING: RESERVOIR CUT & FILL, RESERVOIR EMBANKMENT, ROADWAY REPAIRS, AND WATERLINE CROSSING WITHIN ROADS SHALL BE COMPACTED TO 90 PERCENT (90%) OF MAXIMUM DENSITY PER ASTM D-1557 TEST.
- 19. ALL FILL SHALL BE LAID IN ONE (1) FOOT LOOSE LIFTS, WATERED AND COMPACTED BEFORE THE NEXT ONE FOOT LIFT IS PLACED.
- 20. THE CONTRACTOR SHALL PRIME AND PAINT ALL NEW SURFACES EXPOSED TO VIEW AND ANY EXISTING SURFACES EXPOSED TO VIEW AND ANY EXISTING SURFACES DAMAGED, REPAIRED AND/OR EXPOSED TO REMOVAL WORK, TO MATCH EXISTING ADJACENT SURFACE UNLESS NOTED OTHERWISE TO BE HIGHLIGHTED WITH "OPTIC-YELLOW" COLOR.

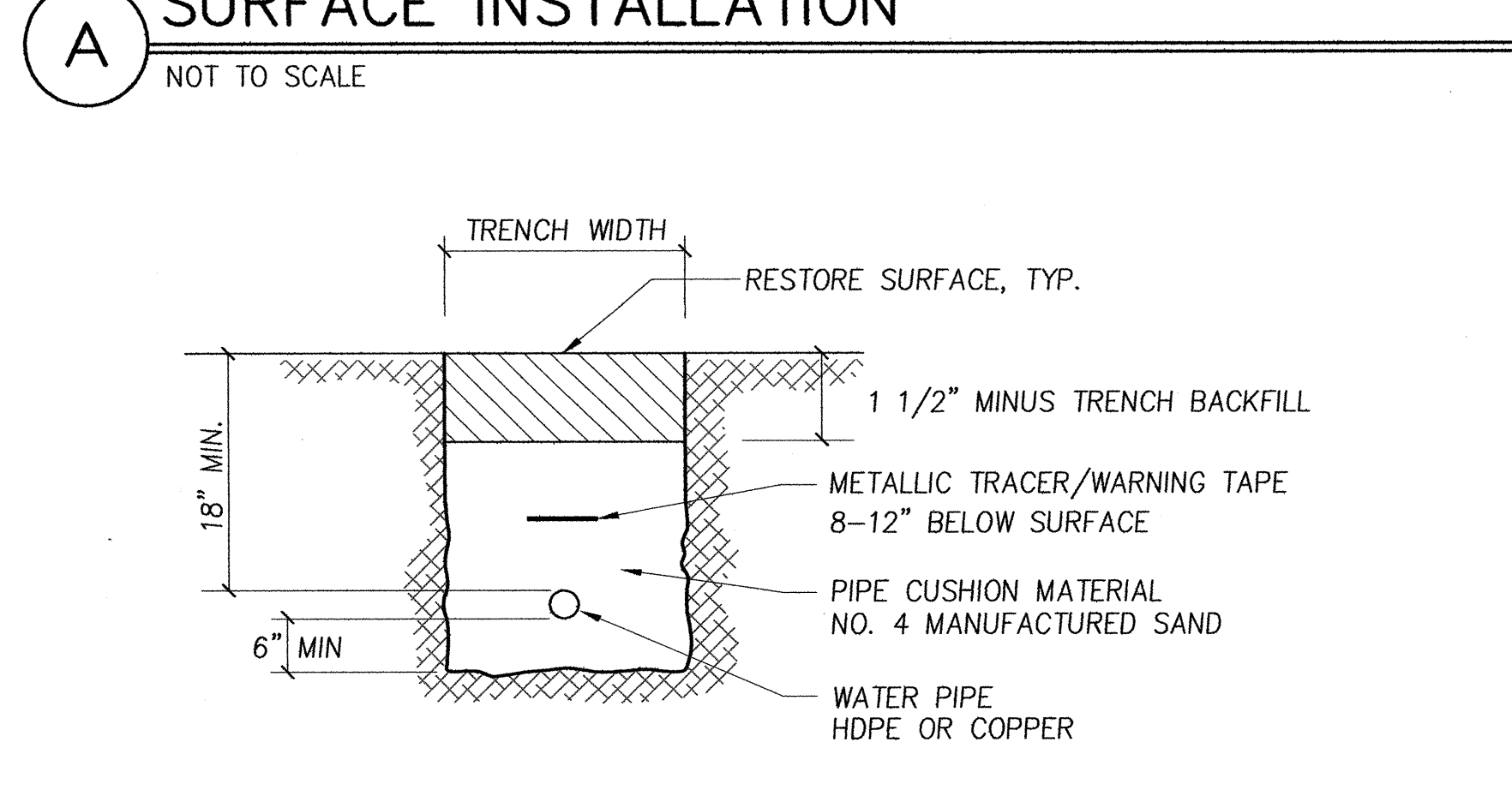
HIGH DENSITY POLYETHYLENE (HDPE) PIPE

- 1. HDPE PIPE SHALL CONFORM TO DWS WATER SYSTEM STANDARDS SECTION 208.03-PLASTIC TUBING, AS APPLICABLE, AND PROJECT SPECIFICATIONS SECTION 02620 - HIGH DENSITY POLYETHYLENE PIPE.
- 2. HDPE PIPE SHALL BE IPS, DR-9, 250 PSI.
- 3. FITTINGS SHALL BE HDPE IPS DR-9 OR COMPRESSION TYPE BRASS WITH STAINLESS STEEL STIFFENERS, OR APPROVED EQUAL.
- 4. HDPE PIPE FIELD JOINTS SHALL BE THERMAL BUTT HEAT FUSION UNLESS OTHERWISE NOTED.
- 5. WARNING TAPE SHALL BE METALLIC DETECTABLE UNDERGROUND WARNING TAPE. TAPE SHALL CONSIST OF A SOLID ALUMINUM FOIL CORE, 35 GAGE MINIMUM, ENCASED ON BOTH SIDES WITH PLASTIC HAVING A MINIMUM OVERALL THICKNESS OF 5 MILS, BE 3 INCHES WIDE, HAVE BLACK LETTERING ON BLUE COLOR CODED BACKGROUND WHICH CONFORMS TO APWA UNIFORM COLOR CODE SPECIFICATIONS.
- 6. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING TAPE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS TO ENSURE ELECTRICAL CONTINUITY AND DETECTABILITY.



THE CONTRACTOR SHALL ALSO MAKE NECESSARY ALLOWANCES FOR PIPE QUANTITIES TO ALLOW FOR LAYING HDPE PIPE ALONG THE IRREGULAR TERRAIN.

TYPICAL PIPELINE SECTION SURFACE INSTALLATION



- 1. PIPELINE SHALL BE INSTALLED IN TRENCH AT ALL VEHICLE CROSSINGS, FENCE CROSSINGS, GATE CROSSINGS, AND FIRE BREAK LINES, TYP.
- 2. CONTRACTOR SHALL USE CARE TO NOT DAMAGE ANY WIRE FENCING WHEN TRENCHING BELOW THE FENCELINE AND SHALL RESTORE SURFACE TO EXISTING GRADES.
- 3. CONTRACTOR SHALL NOT CROSS THROUGH OR DAMAGE ANY ROCK WALLS AND SHALL USE CARE WHEN WORKING NEAR EXISTING ROCK WALLS.

TYPICAL TRENCH SECTION AT ROAD CROSSINGS



1		ADDENDUM 3 - REVISED QUANTITY	6/2/16	GC/DL
REVISION NO.	SYM.	DESCRIPTION	SHT/OF	DATE
				APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION				
PUU WAAWAA STRUCTURE IMPROVEMENTS AND DAM COMPLIANCE				
LEGEND MISC. CONSTRUCTION NOTES				
DESIGNED: JK1		SUBMITTED:		
DRAWN: JK1		DATE: MAY 6, 2016		
CHECKED: JK1		SCALE: As Noted		
APPROVED:		DRAWING NO.		
NABA ENGINEERING, INC.		MAY - 6 2016		
1E1 15015		DATE		
		CHIEF ENGINEER		

JOB NO. **500CH15A** SHEET NO. 4 OF 38 SHEETS