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M

I. SCOPE

THIS SPECIFICATION COVERS GAS-FREEING, REMOVAL AND DISPOSAL OF UNDERGROUND TANKS.

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II. GAS FREEING & TANK REMOVAL:

TANKS MUST BE GAS-FREE IN ACCORDANCE WITH LOCAL REGULATIONS. IF LOCAL GOVERNMENTAL AGENCIES DO NOT HAVE SPECIFIC REQUIREMENTS FOR TANK REMOVAL, THE FOLLOWING SPECIFICATIONS MUST BE ADHERED TO:

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A. SAFETY PRECAUTIONS

1. ALL SOURCES OF IGNITION SHALL BE AVOIDED DURING COMMODITY REMOVAL AND EXCAVATION OF TANK.
2. SMOKING, USE OF OPEN FLAME, OR USE OF TOOLS GENERATING ELECTRIC SPARKS SHALL BE PROHIBITED IN TANK AREAS.
3. THE AREA ADJACENT TO THE EXCAVATION SHALL BE BARRICADED AGAINST THE ENTRANCE OF UNAUTHORIZED PERSONS.
4. COMMODITY, OR MIXTURE OF COMMODITY AND WATER SHALL NOT BE DRAINED INTO A STREET, GUTTER, SEWER OR TANK EXCAVATION.
5. DON'T GUESS, TEST THE ATMOSPHERE OF THE TANK FOR EXPLOSIVE RANGE WITH A "FLAMMABLE VAPOR INDICATOR" WHICH SHALL READ 0.10 (10% OF THE LOWER EXPLOSIVE LIMIT) OR LOWER.
6. CONTRACTOR SHALL FOLLOW O.S.H.A. REGULATIONS IN ALL FACETS OF THIS PROJECT.

C

B. PROCEDURE FOR TANK CLEANING PROR TO REMOVAL

1. CONTRACTOR SHALL HAVE ALL DEFINED UNDERGROUND TANKS CLEANED AND DEGASSED PRIOR TO REMOVAL USING, AT A MINIMUM, THE FOLLOWING STANDARD PROCEDURE:
 - a. ENSURE THAT THE PROCESS USED MEETS ALL AIR QUALITY AUTHORITIES AND LOCAL CODE REGULATIONS.
 - b. CONFIRM THAT ALL OF THE TANK'S PRODUCT HAS BEEN REMOVED (SCHEDULED BY UNOCAL'S REPRESENTATIVE).
 - c. EXPOSE TOP OF TANK AND ASSOCIATED UNDERGROUND PIPING. BLOW BACK AND FLUSH PRODUCT LINES INTO TANK. WARNING - AFTER ANY OPERATION INVOLVING FLOW OF AIR, WATER OR PRODUCT INTO OR OUT THE TANK WAIT A MINIMUM OF ONE MINUTE AFTER FLOW STOPPAGE BEFORE INSERTING ANY OBJECT INTO THE TANK.
 - d. ISOLATE AND DISCONNECT ELECTRICAL LINES, PRODUCT PIPING AND ASSOCIATED ATTACHMENTS. ALL VENT PIPING SHALL BE LEFT INTACT UNTIL TANK IS EXPOSED AND READY TO BE REMOVED OR INSTALL TEMPORARY VENT TO BE USED DURING CLEANING PROCESS.
 - e. CHECK THE TANK FOR AN EXPLOSIVE ATMOSPHERE UTILIZING A CALIBRATED COMBUSTIBLE GAS INDICATOR. A MINIMUM OF FOUR CHECKS SHOULD BE MADE: ONE EACH AT THE TOP AND BOTTOM OF THE LOWER EXPLOSIVE LIMITS (LEL).
 - (1) PURGING, VACUUMING AND HIGH PRESSURE WATER RINSING EQUIPMENT SHALL BE BONDED AND GROUNDED TO PROVIDE A PATHWAY FOR DISSIPATION OF ACCUMULATED STATIC CHARGES. METAL UNDERGROUND TANKS SHALL BE BONDED TO THE ABOVE DESCRIBED EQUIPMENT. WHEN WORKING WITH FIBERGLASS TANKS, THE EQUIPMENT SHALL BE GROUNDED AND BONDED, GROUNDED METAL RODS REACHING THE BOTTOM OF THE REQUIREMENTS SHALL APPLY TO BONDING AND GROUNDING DEVICES.
 - (a) BONDING AND GROUNDING DEVICES SHALL BE STRANDED WIRE NOT SMALLER THAN 8 AWG (AMERICAN WIRE GAUGE) WITH APPROPRIATE CONNECTIONS AT EACH END.
 - (b) A SECURE METAL TO METAL CONTACT SHALL BE MADE BETWEEN THE TANK AND EQUIPMENT OR THE EQUIPMENT AND GROUND.
 - (c) WHEN GROUNDING EQUIPMENT, SECURE THE END OF THE GROUNDING DEVICE THAT IS NOT ATTACHED TO THE EQUIPMENT TO AN ADEQUATE GROUND, I.E., METAL WATER PIPE, METAL DRAINAGE OR SEWER PIPE WHICH ORIGINATES OR TERMINATES IN THE SOIL. IF A GROUND AS DESCRIBED ABOVE IS NOT AVAILABLE, A METAL ROD DRIVEN INTO THE SOIL TO A DEPTH NO LESS THAN 3 FEET SHALL SERVE AS A GROUND.

- 6 7 8 9 10
2. REMOVE ALL POSSIBLE COMMODITY FROM THE TANK BY MEANS OF PUMP WITH SUCTION RESTING ON THE BOTTOM OF THE TANK.
 3. COMMODITY REMOVED SHALL BE TRANSPORTED IN AN APPROVED AND LICENSED VEHICLE OR PLACED IN CLOSED CONTAINERS. MIXTURE OF COMMODITY AND WATER OR SLUDGE SHALL BE DISPOSED OF IN AN AUTHORIZED RECYCLING FACILITY OR DUMP SITE LICENSED TO RECEIVE PETROLEUM RELATED REFUSE.
 4. PLACE IN THE TANK THROUGH THE FILL OPENING, 10 GALLONS OF WATER PER 1,000 GALLONS OF CAPACITY, AGAIN USE PUMP UNTIL SUCTION IS LOST.
 5. REPEAT STEP "3" TWICE. (TRIPLE RINSE)
 6. BEFORE EXCAVATION, THE TANK ATMOSPHERE SHALL BE RENDERED SAFE BY ONE OF THE FOLLOWING ALTERNATE METHODS:

- a. **CO2 DRY ICE METHOD:** FOR EACH 1,000 GALLONS OF TANK CAPACITY, 10 OR 15 POUNDS OF CO2 BASED ON LOCAL ORDINANCES, IN THE FORM OF DRY ICE, SHALL BE PLACED IN THE TANK THROUGH THE FILL OPENING. ALL OPENINGS IN THE TANK, EXCEPT THE VENT, SHALL THEN BE PLUGGED TIGHTLY.

TANK SHALL NOT BE REMOVED FROM THE GROUND FOR 16 HOURS OR OVERNIGHT, THUS ALLOWING TIME FOR THE DRY ICE TO VAPORIZE. EXCAVATION MAY PROCEED DURING THIS PERIOD BUT NOT REMOVAL. THEREAFTER, THE TANKS SHALL BE REMOVED IN ACCORDANCE WITH INSTRUCTIONS IN PARAGRAPH II-B-6.

CAUTION: SKIN CONTACT WITH DRY ICE MAY PRODUCE BURNS. THIS METHOD SHOULD NOT BE USED IF TANK IS TO BE ENTERED FOR ANY REASON, AS THE TANK ATMOSPHERE WILL BE OXYGEN DEFICIENT.

- b. **CO2 GAS CYLINDER METHOD:** (USE SIPHON CYLINDERS) FOR EACH 1,000 GALLONS OF TANK CAPACITY, 10 OR 15 POUNDS OF CO2 COMPRESSED GAS PER LOCAL ORDINANCES (DETERMINED BY NET CONTENT WEIGHT OF CYLINDER) SHALL BE DISCHARGED BY MEANS OF A HOSE TO THE BOTTOM OF THE TANK WITH THE CYLINDER CONTROL VALVE OPENED AS WIDE AS POSSIBLE WITHOUT CAUSING FREE END OF HOSE TO WHIP. DO NOT USE CO2 EXTINGUISHERS.

CAUTION: A GROUNDED DISCHARGING DEVICE MUST BE USED TO DISSIPATE STATIC ELECTRIC CHARGES. THIS METHOD SHOULD NOT BE USED IF THE TANK IS TO BE ENTERED FOR ANY REASON.

AFTER COMPLETING THE DISCHARGE OF CO2 AND WEIGHING CYLINDERS TO BE CERTAIN THE SPECIFIED WEIGHT OF GAS HAS BEEN DISCHARGED, ALL TANK OPENINGS SHALL BE TIGHTLY PLUGGED AND TANK REMOVED IN ACCORDANCE WITH INSTRUCTIONS IN PARAGRAPH II-B-6.

- c. **DEGASSING METHOD:** ONLY LOCAL AGENCY APPROVED DEGASSING EQUIPMENT SHALL BE USED. THIS EQUIPMENT IS THREADED ON TO THE FUEL TANKS. THE TANKS ARE TRIPLE RINSED IN CONJUNCTION WITH DEGASSING. DEGASSING CONTINUES UNTIL A 5% LOWER EXPLOSIVE LIMIT IS ACHIEVED. A NON-SPARKING PNEUMATIC CHISEL SHALL BE USED TO CUT A WINDOW IN THE TANKS FOR INSPECTION AS REQUIRED. PROCEED, IF NEEDED, WITH ADDITIONAL CLEANING, PUMPING, & DEGASSING UNTIL A 0% LOWER EXPLOSIVE LIMIT IS OBSERVED. WHEN REQUIRED, A STATE CERTIFIED MARINE CHEMIST SHALL INSPECT AND CERTIFY THE TANKS AS VAPOR FREE AND SAFE FOR ANY TYPE OF DESTRUCTION.

- d. **AIR BLOWER METHOD:** USING AIR MOTOR DRIVEN FAN OR LARGE COMPRESSOR BOTTOM OF THE TANK BY MEANS OF PIPE OR HOSE THROUGH THE FILL OPENINGS AND ALLOW IT TO ESCAPE THROUGH ANOTHER OPENING. IT IS IMPERATIVE THAT THE AIR DIFFUSING PIPE BE PROPERLY BONDED TO PREVENT THE DISCHARGE OF A SPARK. CONTINUE CIRCULATION OF THE AIR UNTIL THE ATMOSPHERE WITHIN THE TANK TESTED WITH A "FLAMMABLE VAPOR INDICATOR" WILL READ 0.10 (10% OF THE LOWER EXPLOSIVE LIMIT) OR LOWER.

PLUG ALL OPENINGS TIGHTLY AND REMOVE THAT TANK IN ACCORDANCE WITH INSTRUCTION IN PARAGRAPH II-B-6. RETEST THE ATMOSPHERE WITHIN THE TANK JUST BEFORE REMOVAL FROM EXCAVATION.

- e. **STEAM CLEANING:** STEAM CLEANING IS AN APPROVED METHOD TO RENDER AN UNDERGROUND TANK SAFE WHEN PERFORMED BY AN EXPERIENCED/LICENSED CONTRACTOR. SPECIAL STEPS SHOULD BE TAKEN TO PREVENT THE BUILD UP OF STATIC CHARGES ON ANY OF THE EQUIPMENT AND AVOID ANY POSSIBILITY OF SPARKING WHEN GAINING ACCESS INTO THE TANK TO CLEAN IT.

7. BEFORE REMOVING THE TANK FROM THE EXCAVATION, RAISE THE END OPPOSITE TANK OPENINGS TO DRAIN REMAINING LIQUID TO THE OTHER END. REMOVE THE PLUG FROM FILL OPENINGS AND WITH A GOOD WATER HOSE STREAM THOROUGHLY FLUSH THE ENTIRE INTERIOR TO WASH DOWN REMAINING COMMODITY, SLUDGE AND LOOSE MATERIAL.

THIS CONTAINMENT SHALL BE REMOVED BY PUMP WITH SUCTION RESTING AT LOW POINT OF TANK. REMOVE TANK FROM EXCAVATED AREA AND RETEST THE TANK ATMOSPHERE TO MAKE CERTAIN THE READINGS DO NOT EXCEED 0.10. IF READING GREATER THAN 0.10 IS OBSERVED, INTRODUCE ADDITIONAL DRY ICE AS INDICATED IN PARAGRAPH II-B-5.A. LOAD THE TANK AND TRANSPORT TO DESTINATION.

D. DISPOSAL PRECAUTIONS

IF THE STEEL IS TO BE SOLD FOR SCRAP AND POSSIBLE REMELTING IN THE MANUFACTURE OF NEW STEEL, ALL INTERIOR SURFACE OF ANY PLATES WHICH HAVE BEEN IN CONTACT WITH SLUDGE SHOULD BE SANDBLASTED OR WIRE BRUSHED TO BARE METAL.

E. BACKFILL OPERATIONS

1. CLEAR EXCAVATION OF ALL LOOSE SOIL BEFORE PROCEEDING WITH BACKFILL.
2. TANK EXCAVATION SHALL BE BACKFILLED WITH NON-EXPANSIVE MATERIAL. CLEAN WASHED SAND OR PEA GRAVEL ARE APPROVED BACKFILL MATERIALS. IF SAND IS USED, CAUTION MUST BE TAKEN TO ASSURE THAT PROPER COMPACTION IS OBTAINED BENEATH SAND WITH WATER TO FILL VOIDS BENEATH THE TANKS.
3. IF TANKS ARE RELOCATED AND/OR FORMER LOCATION ABANDONED, FILL MUST BE PLACED IN LEVEL LOOSE LAYERS ABOUT SIX INCHES IN THICKNESS, MOISTENED NEAR OPTIMUM MOISTURE AND PROPERLY COMPACTED. SUCCEEDING LAYERS OF FILL SHALL BE SIMILARLY PLACED AND COMPACTED DURING THE PLACEMENT OF BACKFILL. THE UPPER PORTION OF THE EXCAVATION'S SIDEWALLS SHALL BE BROKEN DOWN (BENCHED) TO PROVIDE A TRANSITION BETWEEN THE COMPACTED FILL AND ADJOINING GROUND.
4. IF ASPHALT PAVEMENT IS NOT TO BE REPLACED, THE EXCAVATED AREA SHALL BE SMOOTHLY GRADED TO PROVIDE A CLEAN EVEN SURFACE. ALL EXCESS MATERIALS SHALL BE REMOVED AND THE AREA SHALL BE LEFT IN A BROOM CLEAN CONDITION.
5. IF ASPHALT PAVEMENT IS TO BE REPLACED, BACKFILL SHALL BE PLACED AND COMPACTED TO SUB-GRADE ELEVATION AFTER WHICH PAVING SECTION SHALL BE INSTALLED PROVIDING A NEAT AND SMOOTH TRANSITION WITH EXISTING PAVEMENT SURFACES AND AREA SHALL BE PROPERLY BROOM CLEANED.
6. CONTRACTOR SHALL FURNISH CERTIFIED COMPACTION REPORT FROM THE SOILS LABORATORY ACKNOWLEDGING THAT A MINIMUM OF 95% OF MAXIMUM DENSITY HAS BEEN OBTAINED. COPIES OF THE COMPACTION REPORT SHALL ALSO BE FORWARDED TO THE PROPER BUILDING DEPARTMENT IN ADDITION TO THE (2) COPIES TO THE OWNER.

IV. PROCEDURE FOR CONTRACTOR WORK**A. REMOVAL OF UNDERGROUND STORAGE TANKS**

1. OBTAIN AND PAY FOR FIRE DEPARTMENT PERMIT UNLESS SPECIFIED BY OTHERS.
2. OBTAIN AND PAY FOR ALL OTHER NECESSARY PERMITS AND LICENSES THAT MAY BE REQUIRED TO PERFORM THIS WORK.
3. NOTIFY FIRE DEPARTMENT AND/OR ANY OTHER GOVERNMENTAL INSPECTORS HAVING JURISDICTION SUFFICIENTLY IN ADVANCE OF PROCEEDING WITH TANK ABANDONMENT TO OBTAIN PROPER CLEARANCE TO PROCEED WITH WORK AND ARRANGE FOR REQUIRED INSPECTIONS.
4. SAW CUT ASPHALT PAVEMENT IF NECESSARY TO MINIMIZE AMOUNT OF ASPHALT REMOVED TO ACCOMMODATE TANK REMOVAL. IF LOT IS TO BE COMPLETELY STRIPPED OR ASPHALT PAVEMENT, DISREGARD SAW CUTTING REQUIREMENT.
5. BREAK OUT AND REMOVE ASPHALT PAVEMENT, CONCRETE SLABS, ETC. AND DISPOSE OF IN A LAWFUL MANNER IN AN APPROVED DISPOSAL AREA.
7. COMPLETELY PUMP OUT ALL PETROLEUM PRODUCTS THAT MAY REMAIN IN THE TANKS AND DISPOSE OF IN AN APPROVED MANNER, WHICH WILL INVOLVE DISCHARGING THE PETROLEUM PRODUCTS INTO APPROVED VESSELS AND TRANSPORTING THEM FROM THE PREMISES IN AN APPROVED AND LICENSED VEHICLE TO TRANSPORT PETROLEUM PRODUCTS. THE PRODUCTS CAN EITHER BE SALVAGED AND DISCHARGED INTO STORAGE TANKS OR DISPOSED OF IN AN APPROVED DISPOSAL AREA LICENSED TO RECEIVE PETROLEUM RELATED REFUSE.
8. ALLOW CONTENTS IN PIPING TO DRAIN INTO TANKS BEFORE DISCONNECTING DRAINING CONTENTS INTO TANK EXCAVATION OR SURROUNDING SOIL IS UNACCEPTABLE. IMMEDIATELY CAP ALL UNUSED OPENINGS.
9. DRAIN ALL PRODUCT FOR DISPENSERS INTO AN APPROVED CONTAINER BEFORE REMOVING DISPENSERS FROM PUMP ISLAND.
10. REFER TO REMOVAL AND DISPOSAL PROCEDURE STEPS 3, 4, & 5.
11. COMPLETE BALANCE OF EXCAVATION NECESSARY TO REMOVE THE TANKS.
12. RECORD TANK NUMBERS AND FURNISH TO FIRE DEPARTMENT INSPECTOR.
13. AFTER APPROVAL OF FIRE INSPECTOR HAS BEEN OBTAINED, COMPLETE REMOVAL OF UNDERGROUND TANKS. TANKS SHALL BE REMOVED WITH A CRANE ONLY. CRANE SHOULD BE ADEQUATELY SIZED TO ACCOMMODATE TANK SIZES SPECIFIED ON THE GENERAL ARRANGEMENT DRAWING & WEIGHTS GIVEN IN DRAWING J-1 & J-5.
14. HAUL TANKS AWAY FROM PREMISES IMMEDIATELY AFTER TANK REMOVAL FROM EXCAVATED AREA.
15. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UNOCAL REPRESENTATIVE IN THE EVENT THAT SOIL CONTAMINATION IS ENCOUNTERED IN THE EXCAVATED AREA.

DRIVEN INTO THE SOIL TO A DEPTH NO LESS THAN 18 INCHES. THESE SHALL
SERVE AS A GROUND.

(d) THE BONDING AND GROUNDING DEVICE SHALL BE CONNECTED TO THE FOLLOWING EQUIPMENT AS DESCRIBED:

- i) PURGING EQUIPMENT - CONNECT THE DEVICE TO THE APPLIANCE WHERE THE AIR IS DISCHARGED, I.E. AT THE VENTURI CONE.
- ii) VACUUMING EQUIPMENT - THE DEVICE SHALL BE CONNECTED TO THE EQUIPMENT WHERE THE LIQUID IS BEING DISCHARGED, I.E. THE VACUUM TRUCK.
- iii) HIGH PRESSURE WATER RINSING EQUIPMENT - THE DEVICE SHALL BE CONNECTED TO THE APPLIANCE WHERE THE WATER IS BEING DISCHARGED, I.E. THE WAND OR NOZZLE.

(e) IF NON-METALLIC PURGING, VACUUMING OR HIGH PRESSURE WATER RINSING EQUIPMENT, SUCH AS PVC PIPE, IS USED THEN AN 8 AWG WIRE MUST RUN INSIDE THE ENTIRE LENGTH OF THE NON-METALLIC EQUIPMENT AND THIS WIRE MUST BE BONDED TO TANK AND ASSOCIATED EQUIPMENT.

(2) THE USE OF CARBON DIOXIDE (DRY ICE) TO PURGE VAPORS IN TANK CAN BE EMPLOYED AS AN ALTERNATIVE TO THE USE OF A MECHANICAL DEVICE UNLESS PROHIBITED BY LOCAL CODES. THE MINIMUM OF 15 LBS. PER 1000 GALLON TANK SIZE IS REQUIRED.

(3) ONE MINUTE OR LONGER AFTER STOPPING ANY PURGING, VACUUMING OR HIGH PRESSURE WATER RINSING OPERATION CHECK THE TANK FOR AN EXPLOSIVE ATMOSPHERE AT THE TOP AND BOTTOM OF BOTH ENDS OF THE TANK. IF ALL READINGS ARE LESS THAN 10 PERCENT OF THE LOWER EXPLOSIVE LIMIT WHEN THE TANK CAN BE CONSIDERED PURGED OF FLAMMABLE VAPORS.

A VACUUM TRUCK SHALL BE USED TO REMOVE THE CLEANING SOLUTION AND RESIDUE FROM THE TANK.

HIGH PRESSURE WATER RINSE THE TANK INTERIOR USING A MINIMUM OF 2,000 PSI AND DETERGENT (IF NECESSARY). LOOSE SCALE, SLUDGE AND RINSE WATER SHALL BE REMOVED BY THE VACUUM TRUCK. WHEN THE SLUDGE AND OTHER DEBRIS HAS BEEN REMOVED AND THE READINGS ARE LESS THAN 10 PERCENT OF THE LOWER EXPLOSIVE LIMIT, THE WASHING MAY CEASE. (MINIMUM OF 3 WASH CYCLES).

ALL TANK IDENTIFICATION SHALL REMAIN ON THE TANK. DO NOT REMOVE THE UNDERWRITERS LABORATORY TAG OR ANY OTHER IDENTIFICATION FROM THE TANK.

REMOVE THE CLEANSED TANK FROM THE EXCAVATION. LOAD AND SECURE THE TANK ON AN APPROPRIATE TRANSPORTING VEHICLE INSURING PROPER DOCUMENTATION IS COMPLETED AND REMOVE TANK FROM THE PREMISES.

7. BEFORE REMOVING THE TANK FROM THE EXCAVATION, RAISE THE END OPPOSITE TANK OPENINGS TO DRAIN REMAINING LIQUID TO THE OTHER END. REMOVE THE PLUG FROM FILL OPENINGS AND WITH A GOOD WATER HOSE STREAM THOROUGHLY FLUSH THE ENTIRE INTERIOR TO WASH DOWN REMAINING COMMODITY, SLUDGE AND LOOSE MATERIAL.

THIS CONTAINMENT SHALL BE REMOVED BY PUMP WITH SUCTION RESTING AT LOW POINT OF TANK. REMOVE TANK FROM EXCAVATED AREA AND RETEST THE TANK ATMOSPHERE TO MAKE CERTAIN THE READINGS DO NOT EXCEED 0.10. IF READING GREATER THAN 0.10 IS OBSERVED, INTRODUCE ADDITIONAL DRY ICE AS INDICATED IN PARAGRAPH II-B-5.A. LOAD THE TANK AND TRANSPORT TO DESTINATION.

III. TANK DISPOSAL

A. STORAGE OF USED TANKS

THE LOCATION SELECTED FOR STORING SURPLUS TANKS SHALL BE AS ISOLATED AS POSSIBLE IN AN AREA NOT ACCESSIBLE TO THE PUBLIC.

IF TANK IS TO BE REINSTALLED WITHIN 10 DAYS AFTER EXCAVATION AND THE FLUSHING HAD BEEN OMITTED, THE TANK SHALL BE PLACED WITH OPENINGS UP AND PLUGGED, ON 6" X 6" WOODEN BLOCKS AND CHOCKED TO PREVENT MOVEMENT. ONE PLUG SHOULD HAVE A 1/8 INCH VENT HOLE TO PREVENT EXCESSIVE PRESSURE BUILD-UP DUE TO TEMPERATURE CHANGE.

B. SALE OR TRANSFER

THE FOLLOWING INSTRUCTIONS SHALL APPLY TO SALE IN USABLE CONDITION, SALE AS JUNK, TRANSFER TO OTHER OPERATING DEPARTMENT, OR CONTRACT REMOVAL AND DISPOSAL OF ANY TANK, VESSEL OR CONTAINER.

1. WRITTEN NOTIFICATION SHALL BE GIVEN ON TRANSFERRING DOCUMENT, INVOICE, BILL OF SALE, REMOVAL, CONTRACT, ETC., OF ANY SUCH TANK, VESSEL OR CONTAINER AS FOLLOWS:





SURPLUS TANKS ARE SOLD OR OTHERWISE DISPOSED OF WITH THE UNDERSTANDING THAT:

- a. TANK MAY CONTAIN AN EXPLOSIVE MIXTURE OF PETROLEUM VAPORS.
- b. TANK HAS OR MAY HAVE CONTAINED LEADED GASOLINE. A TANK WHICH HAS CONTAINED LEADED GASOLINE MAY BE CONTAMINATED WITH TETRAETHYL LEAD TO AN EXTENT THAT IT CANNOT BE CLEANED SUFFICIENTLY TO PERMIT SAFE STORAGE OF EDIBLE OR POTABLE COMMODITIES.

C. JUNKING

MAY BE HAULED TO AN ESTABLISHED PUBLIC DUMP OR JUNK PILE PROVIDED THEY ARE MUTILATED TO AN UNRECLAIMABLE EXTENT TO PREVENT RETRIEVAL FOR ANY PURPOSE. CONTRACTOR SHALL PROVIDE UNOCAL REPRESENTATIVE WITH TANK DISPOSAL MANIFEST.

12. RECORD TANK NUMBERS AND FURNISH TO FIRE DEPARTMENT INSPECTOR.
13. AFTER APPROVAL OF FIRE INSPECTOR HAS BEEN OBTAINED, COMPLETE REMOVAL OF UNDERGROUND TANKS. TANKS SHALL BE REMOVED WITH A CRANE ONLY. CRANE SHOULD BE ADEQUATELY SIZED TO ACCOMMODATE TANK SIZES SPECIFIED ON THE GENERAL ARRANGEMENT DRAWING & WEIGHTS GIVEN IN DRAWING J-1 & J-5.
14. HAUL TANKS AWAY FROM PREMISES IMMEDIATELY AFTER TANK REMOVAL FROM EXCAVATED AREA.
15. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UNOCAL REPRESENTATIVE IN THE EVENT THAT SOIL CONTAMINATION IS ENCOUNTERED IN THE EXCAVATED AREA.

MARK	DATE	REVISIONS	INITIAL
UNDERGROUND FUEL TANK REMOVAL AND DISPOSAL SPECS.			
S.S. NO. 7176 7850 AMADOR VALLEY BOULEVARD DUBLIN, CALIFORNIA			
UNOCAL  Unocal Refining & Marketing Division			
 ROBERT H. LEE & ASSOCIATES, INC. ARCHITECTURE ENGINEERING ENVIRONMENTAL SERVICES 1137 NORTH McDOWELL BOULEVARD PETALUMA CA. 94954 (707) 765-1660 JOHN W. JOHNSON, ARCHITECT JAMES H. RAY, CIVIL ENGINEER			
	RHL REVIEW	INITIAL	DATE
	PRELIMINARY	JTL	2/14/94
	PLANNING		
	STEEL BID		
	BLDG PERMIT	Ch	8/24/94
	GENERAL BID	Ch	9/16/94
	PERMIT REV'S		
	CONSTRUCTION		
	Do not use drawing for construction unless initiated		DATE: 18FEB94 DR. BY:  APPR.:  RHL # 1406.30 SHEET J-0

REGIONAL STREET

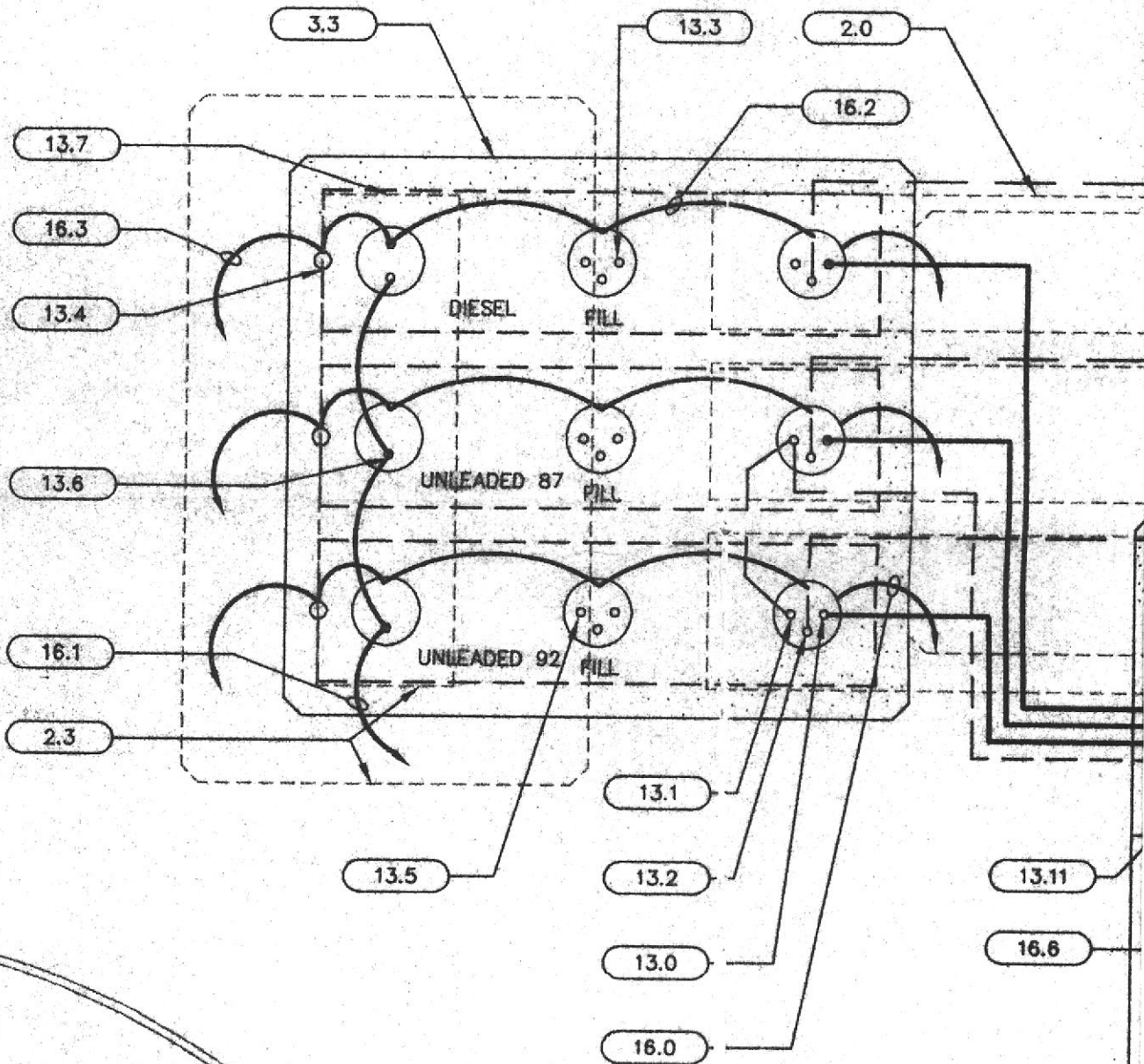
(E) APPROACH

(E) SIDEWALK

$L=69.35'$, $R=470.00'$, $\Delta=8^{\circ}27'27''$

(E) APPROACH

P.L. $S7^{\circ}43'02''E$, $L=52.86'$



$R=40'-0"$, $L=60.05'$, $\Delta=86^{\circ}00'55''$

(E) APPROACH

P.L. N80° 39' 36"W, L=185.00'

(E) 280 GALL WASTE OIL TANK TO BE REMOVED GAS FREE & BACKFILL TO GROUND

SEE SHEET A-2 FOR SNACK SHOP REMODEL

13.9

13.10

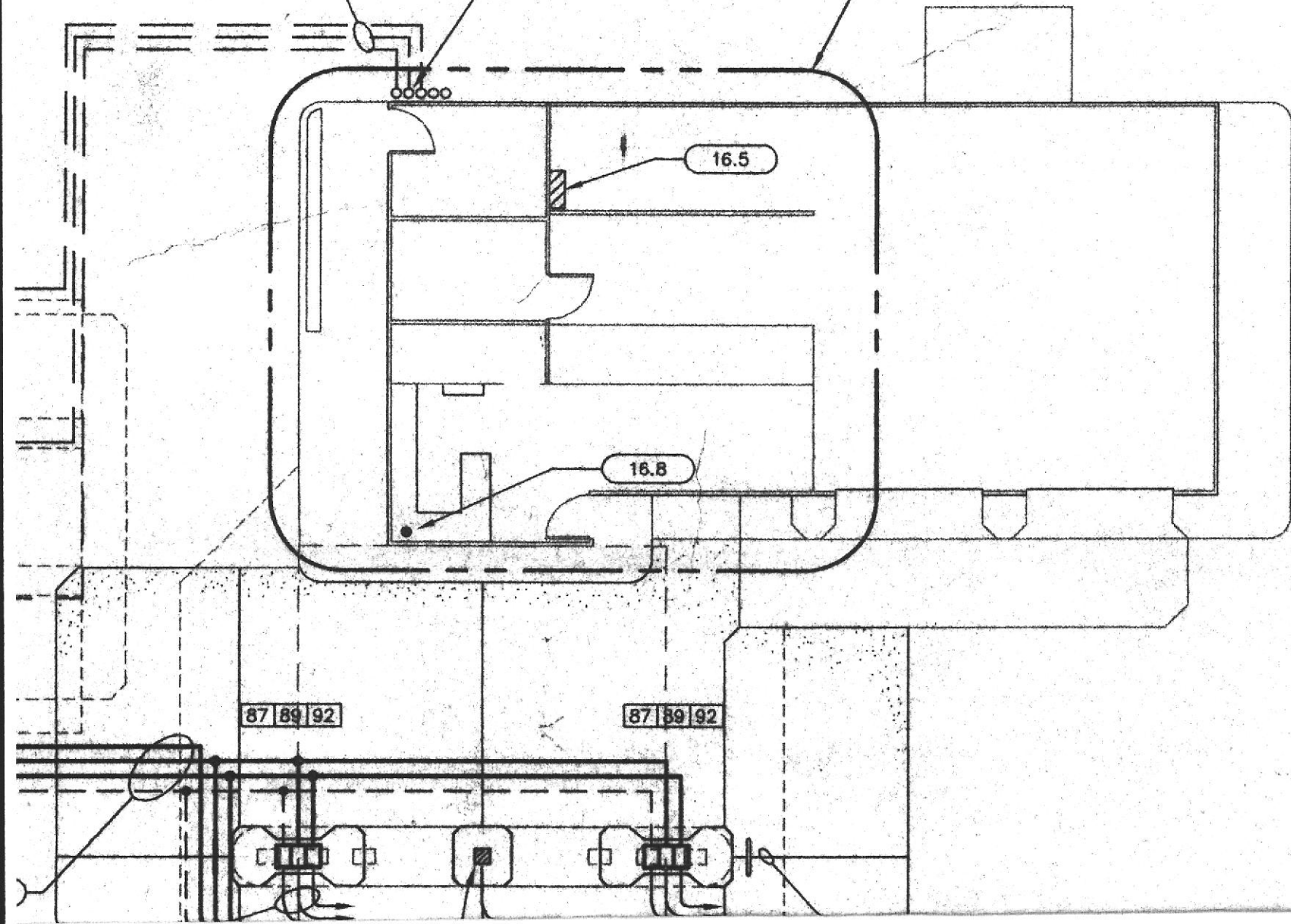
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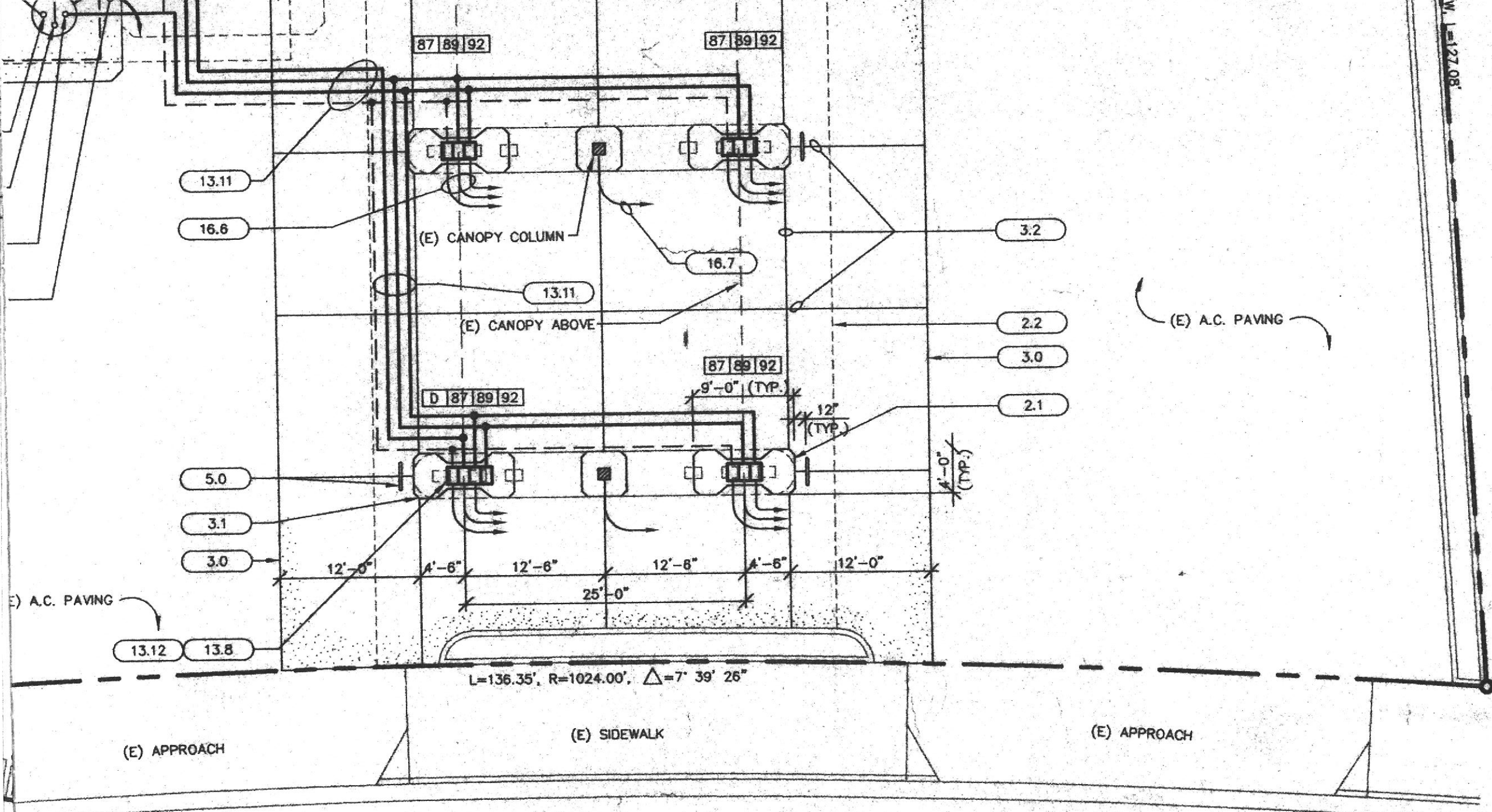
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P.L. N3° 38' 56"W, L=127.08'

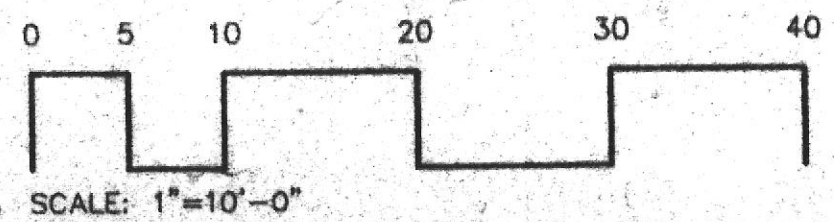


2		13		14		15		16		17	
GENERAL NOTES				DRAWING INDEX							
SCALE								G:\DIV\UN\BLK\DRWINDX2			
<p>1. ALL PIPING AND ELECTRICAL RUNS ARE SHOWN SCHEMATICALLY. THE BEST ROUTE SHOULD BE DETERMINED IN THE FIELD AND INSTALLED ACCORDING TO NATIONAL, STATE, AND LOCAL CODE REQUIREMENTS.</p> <p>2. CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS ARE IN HAND PRIOR TO BEGINNING OF JOB, WHETHER APPLIED FOR BY THE CONTRACTOR OR NOT.</p> <p>3. CONTRACTOR TO PERFORM TANK AND LINE TESTS AS REQUIRED BY LOCAL JURISDICTIONS AFTER LAYING FINISH GRADE OR CONCRETE SLABS ON TANKS AND PETROLEUM TRENCHES. CONTACT HEALTH DEPARTMENT AND FIRE DEPARTMENT APPLICABLE AND UNOCAL REPRESENTATIVE, FORTY-EIGHT (48) HOURS PRIOR TO TEST.</p> <p>4. ONLY NUMBERED NOTES CALLED OUT ON THE SITE PLAN ARE APPLICABLE.</p> <p>5. ROBERT H. LEE & ASSOCIATES SHALL NOT BE RESPONSIBLE OR CHARGE OVER THE ACTS OR OMISSIONS, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING THE WORK ON THE PROJECT.</p>				DWG. NO.		DESCRIPTION					
				A-1		SITE PLAN					
				A-1.1		GENERAL SPECIFICATIONS AND CONDITIONS					
				A-1.2		YARD AND BUILDING DETAILS					
				A-2		FLOOR PLAN/REFLECTED CEILING PLAN					
				A-2.1		ADA RESTROOM SHEET					
				A-3		HVAC PLAN					
				J-0		U.G. FUEL TANK REMOVAL AND DISPOSAL SPECS.					
				J-0.1		DBL. WALL U.G. STORAGE TANKS INSTALLATION AND SPECS.					
				J-0.2		GENERAL SPECIFICATIONS, PIPING AND TESTING					
				J-0.3		SPEC. AND EQUIPMENT LIST DBL. WALL STEEL TANKS					
				J-1		SECONDARY CONTAINMENT SUMP W/ DBL. WALL PRODUCT PIPING					
				J-1.1		U.G. DBL. WALL STEEL TANK SUMP DETAILS AND TANK CONNECTIONS					
				J-2		DBL. WALL PRODUCT PIPING AND VAPOR RETURN PIPING					
				J-3		CONCRETE TANK SLAB PLAN SECTIONS AND DETAILS					
				J-20.3		DBL. WALL PIPING SPECS. AND DETAILS					
PLAN NOTES											
SCALE		G:\DIV\UN\BLK\DIVNOTE1									
DIVISION 2 DEMOLITION											
2.0				GAS FREE AND REMOVE (3) EXISTING 10,000 GALLON SINGLE WALL STEEL TANKS AND CONCRETE TANK SLAB. BACKFILL AND COMPACT 95%. INSTALL (N) AC PAVING PER UNOCAL SPECIFICATIONS WHERE REQUIRED.							
2.1				REMOVE (E) DISPENSER ISLANDS, DISPENSERS AND CRASH HOOPS.							
2.2				REMOVE EXISTING CONCRETE DRIVE SLAB							
2.3				GAS FREE AND REMOVE (1) 10,000 GALLON SINGLE WALL STEEL DIESEL TANK AND CONCRETE TANK SLAB WHERE REQUIRED. BACKFILL AND COMPACT TO 95%. INSTALL (N) A.C. PAVING PER UNOCAL SPECIFICATIONS WHERE REQUIRED.							
DIVISION 3 CONCRETE											
3.0				SAWCUT AND REMOVE (E) A.C. PAVING, INSTALL (N) 6" REINFORCED CONCRETE DRIVE SLAB W/#4 BARS AT 18" O.C. EACH WAY. SEE DETAIL D13 A-2							
3.1				INSTALL CONCRETE DISPENSER ISLAND W/ STEEL ISLAND FORM W/ 1/2" FLEX-CELL EXPANSION JOINT AROUND ISLAND (TYP. OF 4).							
3.2				CONTROL JOINT. SEE DETAIL A13 A-2							
3.3				INSTALL (N) 6" THICK REINFORCED CONCRETE TANK SLAB. SEE SHEET J-3.							
DIVISION 5 METALS											
5.0				INSTALL NEW CRASH HOOP (TYP. OF 4).							

W.L. 127.08



AMADOR VALLEY ROAD



DIVISION 13 SPECIAL CONSTRUCTION-PETROLEUM

- 13.0 SUBMERGED PUMP
- 13.1 DISPENSER VAPOR RETURN.
- 13.2 TANK VENT.
- 13.3 TRUCK VAPOR RETURN.
- 13.4 ANNULAR SPACE MONITORING PORT.
- 13.5 TANK FILL.
- 13.6 TANK GAUGE (FUTURE).
- 13.7 INSTALL (3) (N) 12,000 GALLON DOUBLE WALL STEEL UNDERGROUND STORAGE TANK. SEE PETROLEUM DRAWINGS J-1 AND J-1.1.
NOTE: ADDITIONAL TANK BURIAL DEPTH MAY BE REQUIRED TO OBTAIN 1/4" SLOPE IN PETROLEUM PIPING.
- 13.8 INSTALL DISPENSER, DISPENSER SPILL PAN AND FLEXIBLE CONNECTORS PER MANUFACTURER'S INSTRUCTIONS. CONNECT TO PRODUCT AND VAPOR RECOVERY PIPING. (TYP OF 4)
- 13.9 2"Ø FIBERGLASS VENT LINE FROM NEW TANK TO EXISTING VENT RISERS. SLOPE 1/4" PER 1'-0" TOWARDS TANK. EACH TANK MUST BE INDIVIDUALLY VENTED.
- 13.10 EXISTING 2"Ø GALVANIZED VENT RISERS. REPLACE ONLY IF EXISTING VENT RISERS CANNOT BE REUSED.
- 13.11 2"Ø FIBERGLASS DOUBLE WALL PRODUCT LINES AND 3" VAPOR RECOVERY LINES. SLOPE 1/4" PER 1'-0" TOWARDS TANKS.
- 13.12 INSTALL HIGH HOSE RETRACTOR ASSEMBLY AND HOSES PER MANUFACTURER'S INSTRUCTIONS. (TYP. OF 4).

DIVISION 16 ELECTRICAL

ELECTRICAL NOTE

ALL UNDERGROUND CONDUIT SHALL BE:

- A. ROUTED IN NON-HAZARDOUS AREAS ONLY, OR
- B. SEALED IN ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C. ARTICLES 501.5 AND 514.

ANY PORTION OF ELECTRICAL WIRING OR EQUIPMENT WHICH IS BELOW THE SURFACE OF A CLASS 1 LOCATION (AS DEFINED IN N.E.C. TABLE 514-2) SHALL BE CONSIDERED TO BE IN A CLASS 1, DIVISION 1 LOCATION, WHICH SHALL EXTEND TO THE POINT OF EMERGENCE ABOVE GRADE.

ALL UNDERGROUND CONDUITS (INCLUDING SPARE CONDUITS) ENTERING THE BUILDING TO BE PROVIDED WITH SEAL-OFFS, AND SHALL BE LABELED WITH METAL TAG AS TO ORIGIN. ALL YARD CONDUITS ALSO TO BE PROVIDED WITH SEAL-OFFS AT POINTS OF ORIGIN AS WELL AS POINTS OF TERMINATION.

CONDUIT MUST BE INSPECTED BY GOVERNING AGENCY PRIOR TO BACKFILL.

- 16.0 1" Ø CONDUIT FROM ELECTRICAL PANEL TO SUBMERGED PUMP. ONE DEDICATED CONDUIT FOR EACH PUMP.
- 16.1 LOOP 1" Ø CONDUIT FOR TANK GAUGE. RUN TO MONITOR PANEL
- 16.2 LOOP 1"Ø CONDUIT BETWEEN SUMP J-BOXES.
- 16.3 LOOP 1"Ø CONDUIT BETWEEN ANNULAR SPACE AND SUMPS. RUN CONDUIT TO ALARM PANEL. (TYP OF 3)
- 16.4 NOT USED
- 16.5 MOUNT VEEDER ROOT "TLS-350" MONITORING SYSTEM PANEL ADJACENT TO THE EXISTING ELECTRICAL PANEL
- 16.6 RUN (2) NEW 3/4" CONDUITS AND (1) NEW 1" CONDUIT FROM EACH DISPENSER TO CASHIER AREA WIRING GUTTER.
- 16.7 RUN (1) NEW 3/4" CONDUIT FROM COLUMN. RUN CONDUIT OVERHEAD TO OTHER CANOPY COLUMN. STUB UP CONDUIT AND LABEL "FOR FUTURE USE".
- 16.8 ALL YARD CONDUITS TO ENTER BUILDING BELOW GRADE TO WIRING GUTTER IN CASHIER AREA. CONDUIT TO RUN OVERHEAD IN BUILDING, CONCEAL AS MUCH AS POSSIBLE.

MARK	DATE	REVISIONS
▲	10/3/94	REMOVE WASTE OIL TANK
	9/2/94	REVISED PER UNOCAL

SITE PLAN

S.S. NO. 7176
7850 AMADOR VALLEY BOULEVARD
DUBLIN, CALIFORNIA

UNOCAL
Unocal Refining & Marketing Division



ROBERT H. LEE & ASSOCIATES, INC.
ARCHITECTURE ENGINEERING ENVIRONMENTAL SERVICE
1337 HOWE AVENUE SUITE 211 SACRAMENTO CA. 95825 (916) 646-
BRIAN F. ZITA, ARCHITECT JAMES H. RAY, CIVIL ENGINEER

RHL REVIEW	INITIAL	DATE	DATE: 06/01/94
PRELIMINARY			DR. BY:
PLANNING			APPR.:
STEEL BID			RHL # 1406
BLDG PERMIT			SHEET
GENERAL BID	<i>[Signature]</i>	9-6-94	A-
PERMIT REV'S			
CONSTRUCTION			
Do not use drawing for construction unless initiated			