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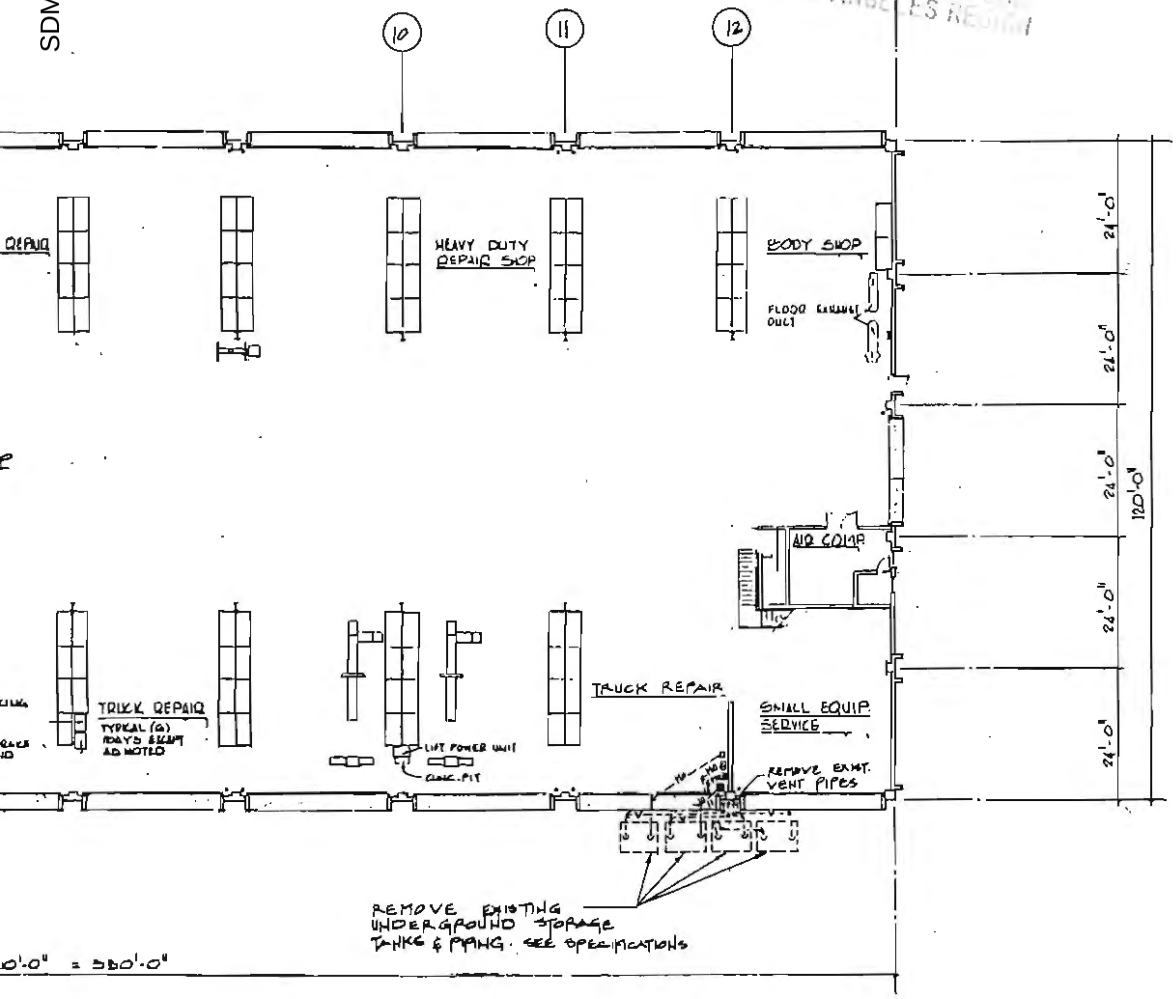
CALIFORNIA REGIONAL
QUALITY CONTROL BOARD
LOS ANGELES REGION



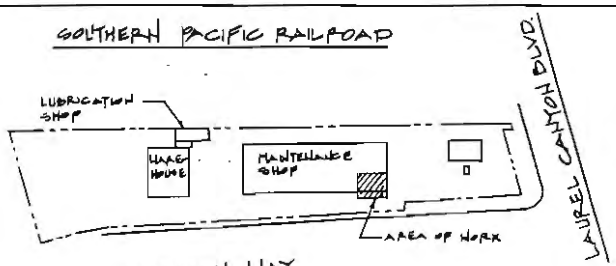
EXISTING & REMOVAL

SCOPE OF WORK:

REMOVE FOUR (4) EXISTING 550 GALLON, UNDERGROUND STORAGE TANK AND PIPING. INSTALL THREE NEW 1000 GALLON DOUBLE WALL UNDERGROUND STORAGE TANKS, PIPING AND LEAK DETECTION MONITORING SYSTEM.

LEGEND

SYMBOL	DESCRIPTION
---MO---	MOTOR OIL PIPE
---V---	VENT PIPE
---LD---	LEAK DETECTION CABLE
---HO---	HYDRAULIC OIL PIPE
—o—	PIPE RISE, PIPE DROP, SWING JOINT
TYP.	TYPICAL
MIN.	MINIMUM
EXIST., EX.	EXISTING
P.L.	PROPERTY LINE
ϕ, DIA.	DIAMETER
---WO---	WASTE OIL PIPE



CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING
ROBERT S. HORII
CITY ENGINEER

ARCHITECTURAL DIVISION
CITY HALL EAST ROOM 890
PHONE 485-5825

REGISTERED PROFESSIONAL ENGINEER
ROBERT S. HORII
Exp. 12/31/92
No. 11152
CIVIL
STATE OF CALIFORNIA

CITY ENGINEER
DEPUTY CITY ENGINEER
PRINCIPAL ARCHITECT

ARCHITECT
STRUCTURAL ENG.
BLDG. MECH. ENG.
BLDG. ELEC. ENG.

MAINTENANCE SHOP FLOOR PLAN - EXISTING & REMOVAL, KEY PLAN, LEGEND
REPLACEMENT OF UNDERGROUND STORAGE TANKS

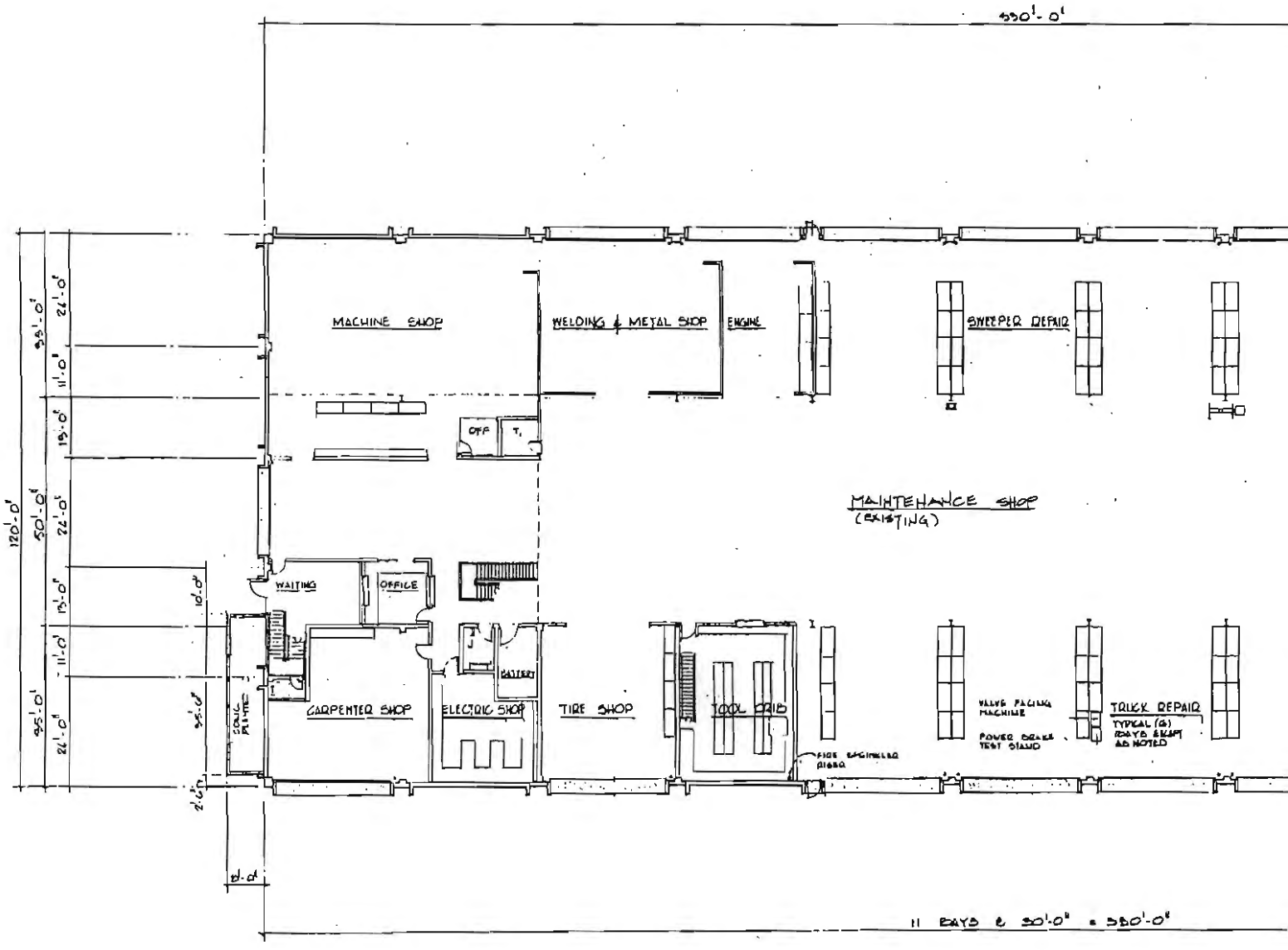
SAN FERNANDO VALLEY SHOP
12201 SHERMAN WAY, NORTH HOLLYWOOD
POOL FLEET SERVICES

INDEX NUMBER

SHEET 1 OF 7 SHEETS

BLDG. NO. 8/21

BLDG. NO. 8/21
WORK ORDER NO. E1700045
PLAN NO. 7397
DATE 6-26-90
JOB CAPTAIN J.P.
DRAWN BY S. P.
CHECKED BY APE
SHEET NO. M-1
OF 6 OF 7 SHTS
BNO. 8 104 4/88RP



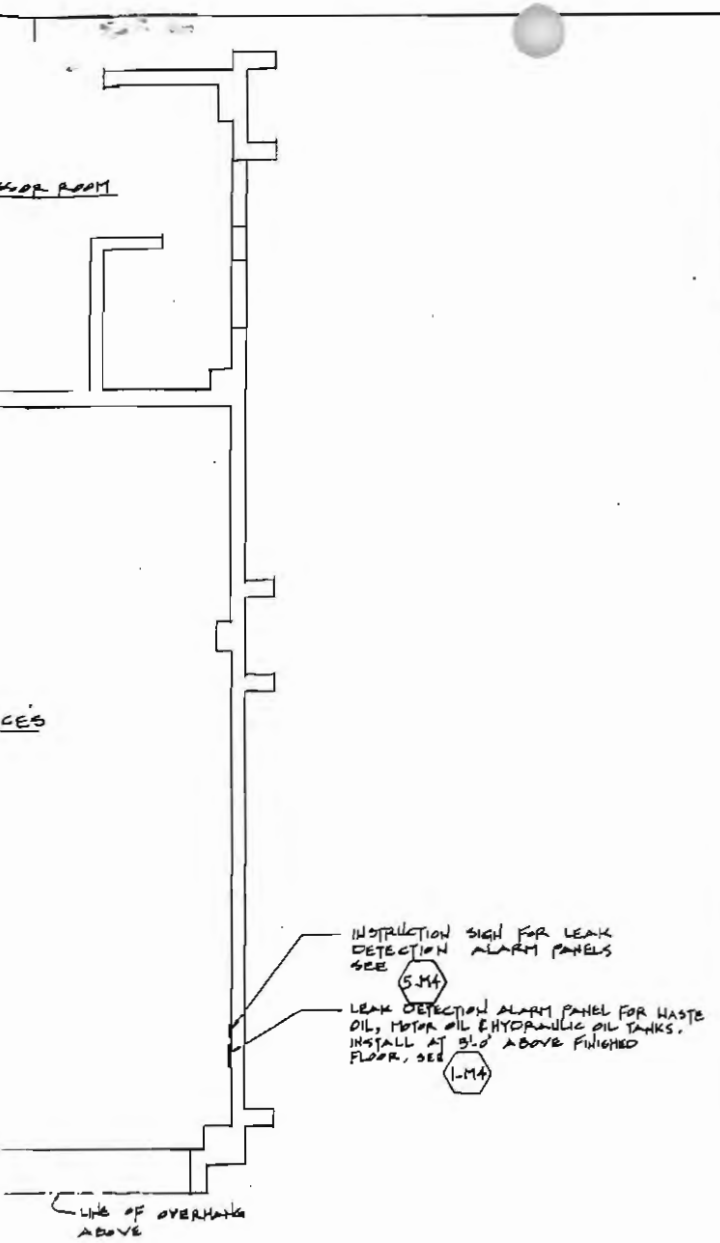
N

MAINTENANCE SHOP FLOOR PLAN - EXISTING & REMOVAL

SCALE: 1/16" = 1'-0"

SHEET INDEX	
M-1	MAINTENANCE SHOP FLOOR PLAN - EXISTING & REMOVAL, KEY PLAN, LEGEND
M-2	PARTIAL FLOOR PLAN - MAINTENANCE SHOP, DETAIL, NOTES
M-3	MOTOR OIL & HYDRAULIC OIL STORAGE TANK DETAILS, TANK SCHEDULE; NOTES
M-4	MOTOR OIL & HYDRAULIC OIL TANKS WIRING DIAGRAM, DETAILS
M-5	WASTE OIL STORAGE TANK DETAILS, TANK SCHEDULE, NOTES
M-6	WASTE OIL TANK WIRING DIAGRAM, DETAILS
E-1	ELECTRICAL WIRING DIAGRAM

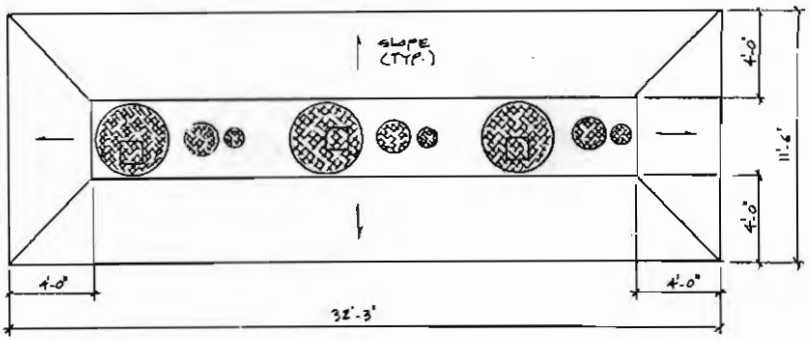
LE	
SYMBOL	
— — — MO — — —	
— — — V — — —	
— — — LP — — —	
— — — HO — — —	
—— ⊃ ——	
TYP.	
MIN.	
EXIST., EX.	
P.L.	
ϕ, DIA.	
— — — WO — — —	



NOTES:

1. BEFORE STARTING ANY WORK IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO READ, UNDERSTAND AND FOLLOW THE CONTRACT SPECIFICATIONS AS THEY APPLY TO THESE CONTRACT DRAWINGS.
2. CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ANY DAMAGE CAUSED BY NEW CONSTRUCTION.
3. UNDERGROUND PIPING SHALL BE DOUBLE WALL. PRIMARY PIPE SHALL BE 2"Φ SCHEDULE 40 CARBON STEEL WITH MACHINE APPLIED PROTECTIVE COATING FOR CORROSION PROTECTION. SECONDARY PIPE SHALL BE 4"Φ FIBERGLASS DUALOY 3000/L BY AMERON OR APPROVED EQUAL. ALL PIPING SHALL BE COMPATIBLE WITH PETROLEUM PRODUCTS AND METHANOL FUEL. SLOPE ALL PIPING MIN. 1/4" PER FT. TOWARDS TANK.
4. INSTALL NEW VENT PIPE WITH DOUBLE SWING JOINT FASTENED WITH U-BOLTS AND BRACKETS ATTACHED TO BUILDING WITH EXPANSION ANCHORS OR TOGGLE BOLTS. TERMINATE 18" ABOVE ROOF AND 12 FT. ABOVE ADJOINING GRADE LEVEL AND NOT LESS THAN 10 FT. FROM BUILDING OPENINGS. COMPLY WITH SECTION 57.31.43 LA FIRE CODE.
5. REMOVE AND DISPOSE OF EXISTING FOUR (4) UNDERGROUND STORAGE TANKS AND CONNECTED PIPING PER L.A. FIRE DEPT. REGULATIONS.
6. CONTRACTOR SHALL NOTIFY THE MAINTENANCE YARD SUPERVISOR AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION MOBILIZATION IN ORDER TO STOP DELIVERY OF FUEL TO THE JOBSITE

NOTES 7 THRU 20 NOT USED



1-M2 / M-8 CONCRETE SLAB DETAIL

SCALE: 1/4"=1'-0"

CITY OF LOS ANGELES
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ARCHITECTURAL DIVISION
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CITY ENGINEER
DEPUTY CITY ENGINEER
PRINCIPAL ARCHITECT

ARCHITECT
STRUCTURAL ENG.
BLDG. MECH. ENG.
BLDG. ELEC. ENG.

PARTIAL FLOOR PLAN - MAINTENANCE SHOP, DETAIL, NOTES
REPLACEMENT OF UNDERGROUND STORAGE TANKS

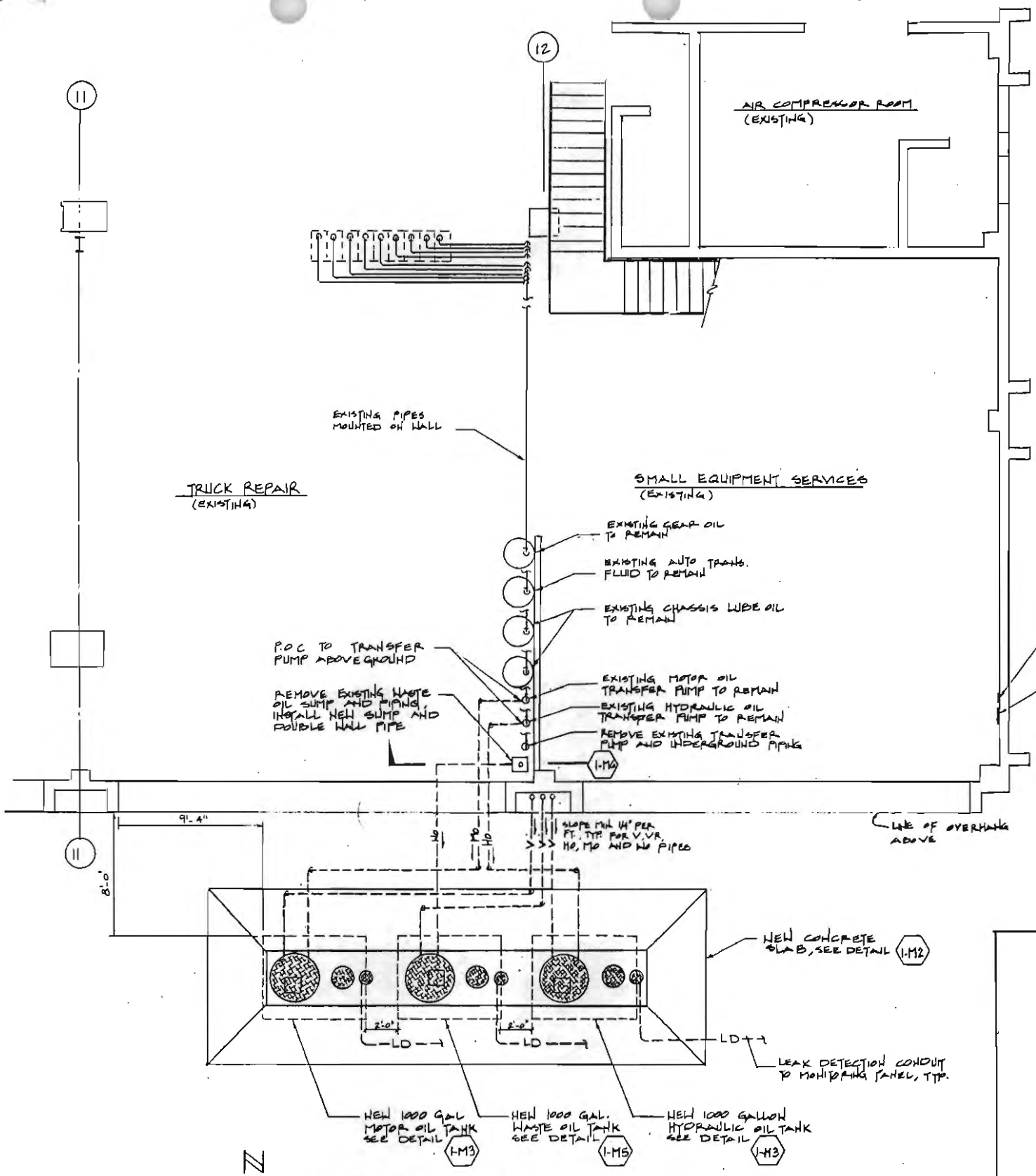
SAN FERNANDO VALLEY SHOP
12201 SHERMAN WAY, NORTH HOLLYWOOD
FOR: FLEET SERVICES

INDEX NUMBER

SHEET 2 OF 7 SHEETS

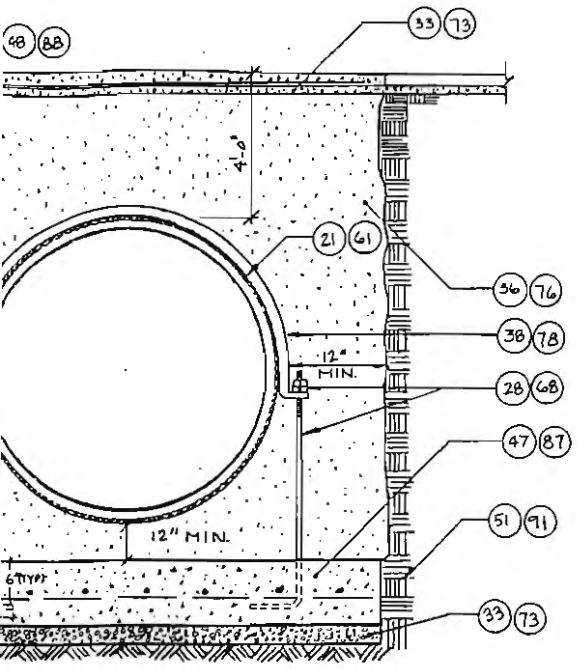
BLDG. NO. 8/21

BLDG. NO. 8/21
WORK ORDER NO. E1700045
PLAN NO. 7397
DATE 6-26-90
JOB CAPTAIN J.P.
DRAWN BY S.F.A.
CHECKED BY A.P.E.
SHEET NO. M-2
OF 7 SHTS



NEW PARTIAL FLOOR PLAN - MAINTENANCE SHOP

SCALE: 1/4" = 1'-0"



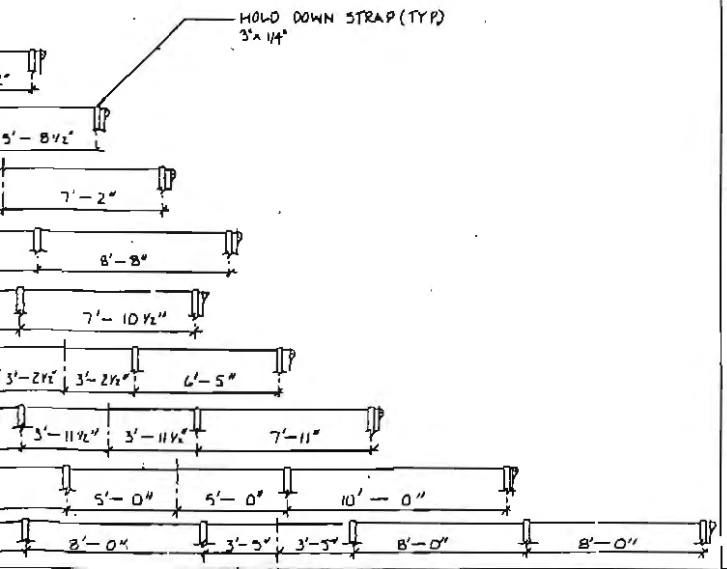
SECTION
NOT TO SCALE

TANK SCHEDULE

OUTSIDE DIAMETER	TOTAL TANK BUOYANT FORCE (LBS)	TANK WEIGHT (LBS)	NET BUOYANT FORCE (LBS)	NO. OF STANDARD HOLD DOWNS REQUIRED
4'-0"	4989	1100	3889	2
5'-5"	10,337	2200	8136	2
7'-10"	21,565	4400	17,165	2
7'-10"	31,278	5600	25,678	2
7'-10"	41,155	6800	34,355	2
7'-10"	50,620	8000	42,620	2
7'-10"	60,580	9100	51,480	3
9'-5"	78,927	11,200	67,727	3
9'-5"	97,743	13,700	84,043	4
9'-5"	117,291	15,700	101,591	4
9'-5"	145,637	21,000	124,637	4
9'-6"	194,020	25,000	163,520	6

NSIONS ARE BASED ON "JOOR MANUFACTURING" CATALOG DATA.
L DIMENSIONS OF TANKS, SEE SHOP DRAWINGS FURNISHED
UAL TANK MANUFACTURER.

DOWN ARRANGEMENT



NOTES:

(21) INSTALL NEW UNDERGROUND STORAGE TANK, JOOR MANUFACTURING "PLASTEEL COMPOSITE" DOUBLE WALL (STEEL PRIMARY AND STEEL SECONDARY WITH F.R.P. COATED ON THE OUTSIDE), OR APPROVED EQUAL. FOR TANK PHYSICAL DATA SEE M-2 UNDER "TANK SCHEDULE". FOR TANK COLLAR SIZES SEE NOTES (21) & (52). FOR OPENING ARRANGEMENT SEE DETAIL B/1-M3. SEE THE SPECIFICATIONS FOR OTHER DETAILS.

(22) NOT USED.

(23) 4" NPT TANK FITTING (TYPICAL).

(24) LOCATE FIRE UNDERWRITERS LABEL ON TOP OF TANK. USE CLEAR FIBERGLASS COATING OVER LABEL.

(25) 1 1/2" NPT DETECTOR FITTING.

(26) INSTALL 4" LEVEL GAUGE STAND PIPE.

(27) 17"ϕ I.D. TANK COLLAR BY TANK MANUFACTURER.

(28) INSTALL 1"ϕ GALVANIZED STEEL ANCHOR BOLT WITH 10" THREAD AND DOUBLE NUTS. APPLY EPOXY RESIN COAT AFTER INSTALLATION FOR CORROSION PROTECTION.

(29) INSTALL 16"ϕ FIBERGLASS RISER. MANUFACTURED BY C.J. FIBERGLASS (213) 590-8504. SEAL SPACE BETWEEN RISER & TANK COLLAR WATERTIGHT

(30) FILL CAP FOR COAXIAL DROP TUBE.

(31) INSTALL THE REQUIRED NUMBER OF LIQUID SENSOR PER TANK, SEE 2-M4

(32) ANGLE CHECK EXTRACTOR-VALVE, EMCO NHEATON, MODEL A563-004.

(33) BASE MATERIAL SHALL BE "UNTREATED CRUSHED MISCELLANEOUS BASE" WITH CRUSHED PARTICLE SIZE OF 1 1/2" MAX., BASE LAYER SHALL HAVE 6" MIN. DEPTH.

(34) LOW VOLTAGE MONITORING CABLE TO BUILDING.

(35) TANK BOTTOM PROTECTION PAD BY TANK MANUFACTURER.

(36) CLEAN SAND, 12" MINIMUM ALL AROUND TANK.

(37) FLOAT VENT VALVE EXTRACTOR ASSEMBLY (EMCO NO. A79-004 OR EQUAL). ONE PORT FOR TANK VENT LINE. PLUG THE PORT FOR VAPOR RETURN LINE, COMPLETE WITH BALL FLOAT VALVE.

(38) INSTALL 3"x 1/4" GALVANIZED STEEL STRAPS. REFER TO HOLD DOWN ARRANGEMENT ON SHEET M-2 FOR REQUIRED NO. OF STRAPS AND SPACING. APPLY EPOXY RESIN COAT TO BOTH SIDES OF THE STRAP FOR CORROSION PROTECTION.

(39) VENT STANDPIPE CAP EMCO A584-003 TO MATE WITH EMCO EXTRACTOR WRENCHES OR EQUAL.

(40) INSTALL 2"ϕ SUCTION PIPE, EMCO A20-007.

(41) NOT USED.

(42) INSTALL VENT PIPE WITH DOUBLE SWING JOINT. MINIMUM 2" DIAMETER SIZE IN ACCORDANCE WITH NFPA #30. SLOPE MIN. 1/4" PER FT. TOWARDS TANK. REFER TO NOTE 4 ON M-2 FOR MORE DETAILS.

(43) INSTALL FUEL LEVEL GAUGE WITH 1 1/2"ϕ, COUNTER WEIGHT, AND FLOAT.

(44) INSTALL AUTOMATIC OVERFILL PREVENTION MAINTENANCE-HOLE ASSEMBLY CONSISTING OF VALVE ASSEMBLY OPW GISOP AND CONTAINMENT ASSEMBLY OPW IC-4000. ASSEMBLY SHALL INCLUDE 4" COAXIAL POP-UP TYPE DROP TUBE, OVERFILL PREVENTION VALVE, CAP AND 3 GAL. CONTAINMENT ASSEMBLY WHICH SHALL BE TRAFFIC RATED. ALL METALLIC COMPONENTS SHALL BE COATED WITH EPOXY RESIN FOR CORROSION PROTECTION. REFER TO THE SPEC FOR MORE INFORMATION, SEE DETAIL 6-M4.

(45) INSTALL 36"ϕ MAINT. HOLE WITH GASKET AND SCREWS. MAINT. HOLE COVER SHALL BE TRAFFIC RATED & WATERTIGHT. PROVIDE 12"x12" ACCESS DOOR FOR GAUGE. ACCESS DOOR SHALL BE TRAFFIC RATED & WATERTIGHT. COAT SKIRT OF MAINT. HOLE WITH EPOXY FOR CORROSION PROTECTION. CNI MANUFACTURING, MODEL 239DG-282-0 OR EQUAL. SEE 6-M4

(46) INSTALL 9" I.D. MAINTENANCE-HOLE AND COVER. CNI MODEL NO. 208-12MW OR EQUAL. MAINTENANCE-HOLE AND COVER SHALL BE TRAFFIC RATED & WATERTIGHT. APPLY EPOXY RESIN COAT TO THE SKIRT OF MAINTENANCE-HOLE FOR CORROSION PROTECTION.

(47) 12" CONCRETE BALLAST PAD, REINFORCED WITH #6 REBAR AT 12" O.C. EACH WAY. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. SEE NOTE (33) FOR BASE MATERIAL.

(48) 6" CONCRETE SLAB, REINFORCED WITH #6 REBAR AT 12" O.C. EACH WAY. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. SEE NOTE (33) FOR BASE MATERIAL.

(49) INSTALL 4" COAXIAL STANDPIPE.

(50) INSTALL 36"ϕ FIBERGLASS RISER. MANUFACTURED BY C.J. FIBERGLASS. (213) 590-8504. SEAL SPACE BETWEEN RISER & TANK COLLAR WATERTIGHT.

(51) EARTH BACKFILL.

(52) 37"ϕ I.D. TANK COLLAR BY TANK MANUFACTURER.

NOTES 53 THRU 60 NOT USED

CITY OF LOS ANGELES
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PRINCIPAL ARCHITECT
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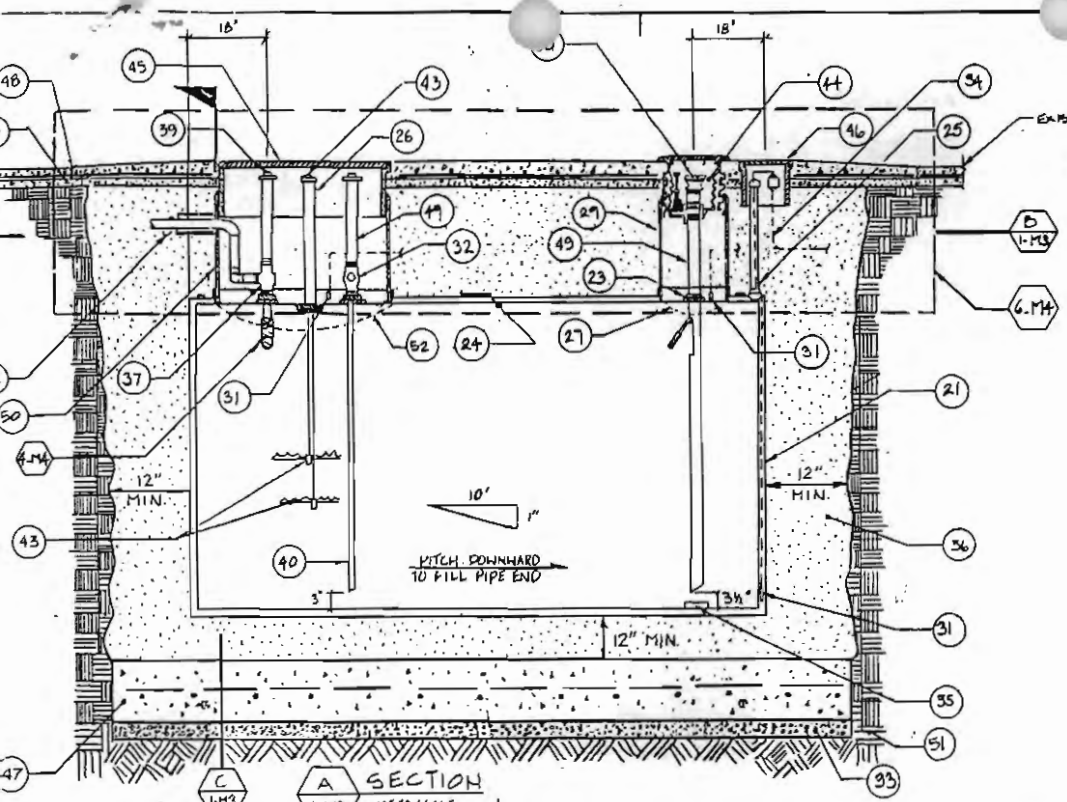
STRUCTURAL ENG
BLDG MECH'ENG
BLDG ELEC. ENG.

MOTOR OIL & HYDRAULIC OIL STORAGE TANK DETAILS
TANK SCHEDULE, NOTES
REPLACEMENT OF UNDERGROUND STORAGE TANKS
SAN FERNANDO VALLEY SHOP
12201 SHERMAN WAY, NORTH HOLLYWOOD
FOR: FLEET SERVICES

BLDG NO. 8/21
WORK ORDER NO E1700045
PLAN NO 7397
DATE 6-26-90
JOB CAPTAIN J.P.
DRAWN BY S.F.A.
CHECKED BY A.P.E.
SHEET NO. M-3
OF 6 OF 7 SHTS

INDEX NUMBER
SHEET 3 OF 7 SHEETS
BLDG. NO. 8/21



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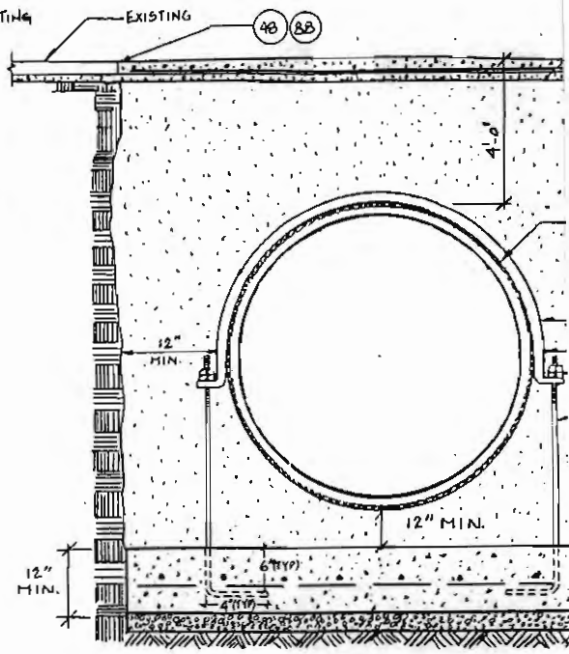
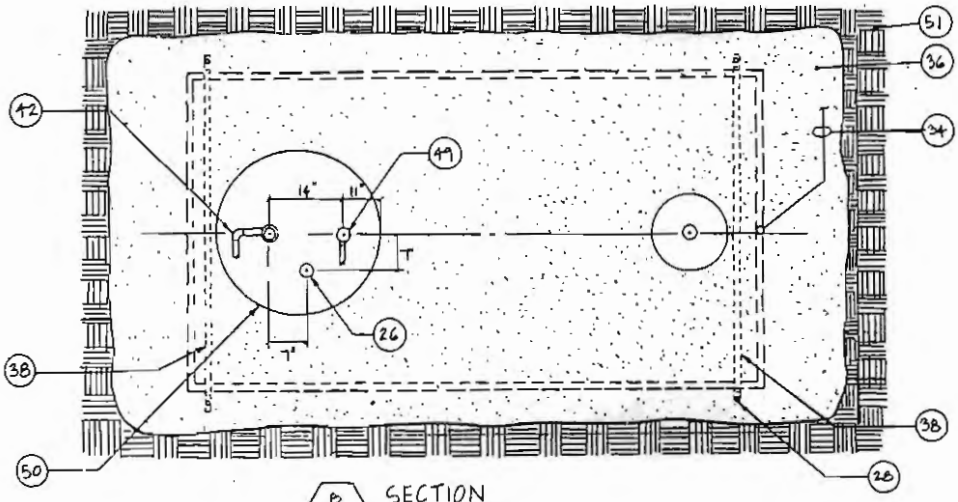


C 1-M3 / C 1-M5 SECTION
NOT TO SCALE

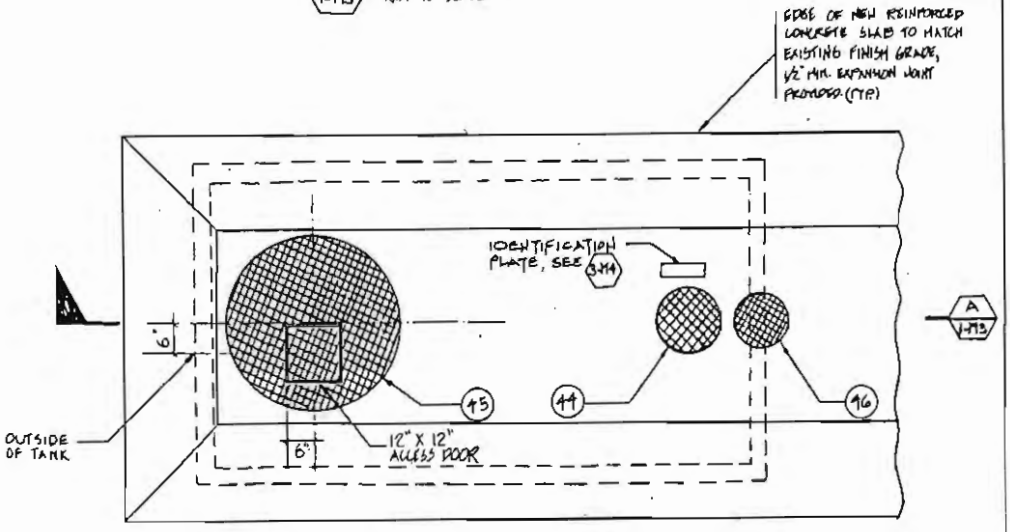


B 1-M3 SECTION
NOT TO SCALE

TANK SCHEDULE

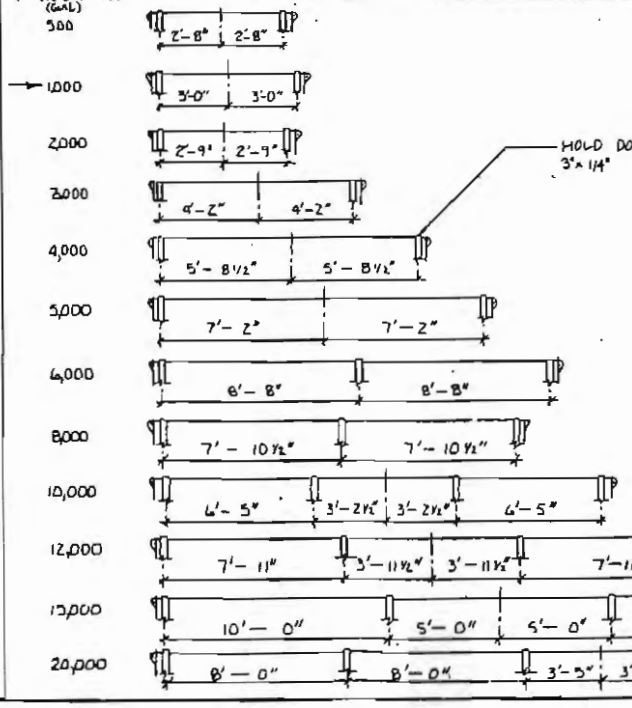
CAPACITY (GAL)	OUTER TANK LENGTH	OUTSIDE DIAMETER	TOTAL TANK BUOYANT FORCE (LBS)	TANK WEIGHT (LBS)
500	6'-1"	4'-0"	4989	1100
1000	6'-8"	5'-5"	10,337	2200
2000	6'-3"	7'-10"	21,565	4400
3000	9'-2"	7'-10"	31,278	5600
4000	12'-1"	7'-10"	41,155	6800
5000	15'-0"	7'-10"	50,620	8000
6000	18'-0"	7'-10"	60,580	9100
8000	16'-5"	9'-5"	78,927	11,200
10,000	20'-5"	9'-5"	97,743	13,700
12,000	24'-5"	9'-5"	117,291	15,700
15,000	30'-7"	9'-5"	145,637	21,000
20,000	39'-6"	9'-6"	194,020	25,000

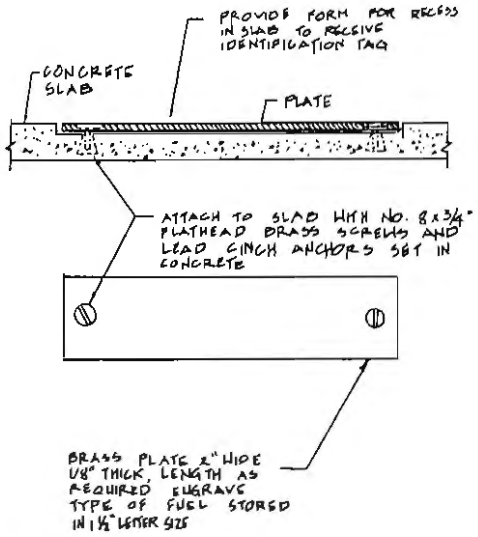
TANK DIMENSIONS ARE BASED ON "JOOR MANUFAC
FOR ACTUAL DIMENSIONS OF TANKS, SEE SHOP D
BY THE ACTUAL TANK MANUFACTURER.



1-M3 / M-2 MOTOR OIL STORAGE TANK (SIMILAR ARRANGEMENT FOR HYDRAULIC OIL TANK)
NOT TO SCALE

HOLD DOWN ARRANGEMENT



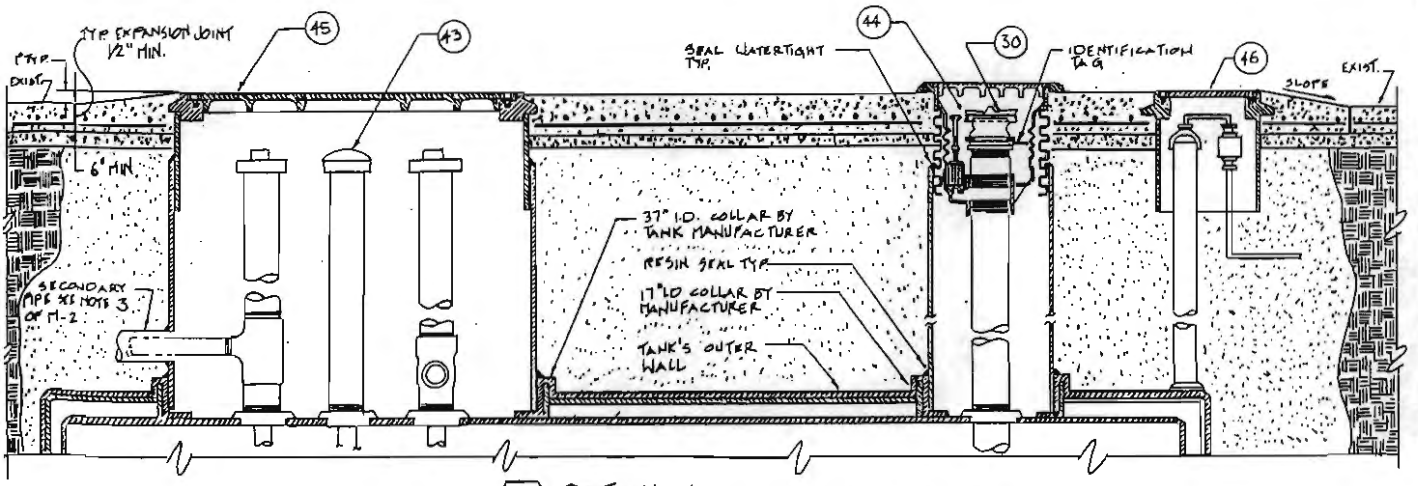


3-M4 / M-3 — 3-M4 / M-3 IDENTIFICATION PLATE
NOT TO SCALE

IMPORTANT
NOTIFY: _____
AT: _____
IN CASE OF ALARM

SIZE: 10" HEIGHT X 14" LENGTH
MATERIAL: 1/16" THICK FIBERGLASS REINFORCED PLASTIC (FRP). SQUARE CORNERS WITH GROMMETED HOLES.
LETTERING: TOP LINE: 2" HEIGHT. REMAINDER: 1 1/2" HEIGHT, EMBEDDED IN F.R.P.
COLORS: WHITE GRAPHICS ON RED BACKGROUND.
LOCATION: ADJACENT TO LEAK DETECTION CONTROL PANEL MECHANICALLY FASTENED TO THE WALL.

5-M4 / M-2 SIGN DETAIL
NOT TO SCALE



6-M4 / M-3 DETAIL (MOTOR OIL & HYDRAULIC OIL TANKS)
NOT TO SCALE

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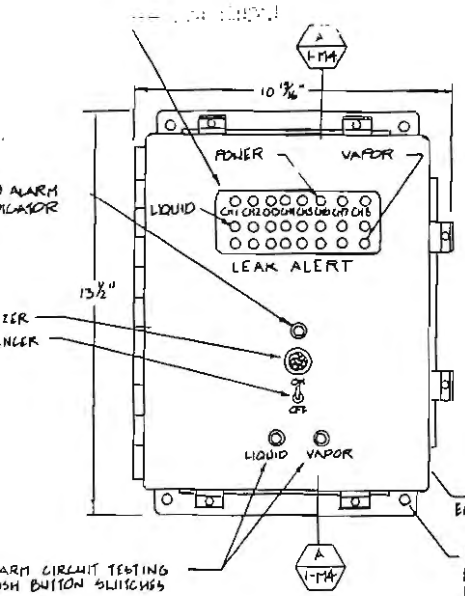
MOTOR OIL & HYDRAULIC OIL TANKS PIPING DIAGRAM DETAILS
REPLACEMENT OF UNDERGROUND STORAGE TANKS
SAN FERNANDO VALLEY SHOP
12201 SHERMAN WAY, NORTH HOLLYWOOD
FOR: FLEET SERVICES

BLDG. NO. 8/21
WORK ORDER NO. E100045
PLAN NO. 7397
DATE 6-26-90
JOB CAPTAIN J.P.
DRAWN BY S.F.A.
CHECKED BY A.P.E.
SHEET NO. M-4

SHEET 4 OF 7 SHEETS
INDEX NUMBER
BLDG. NO. 8/21



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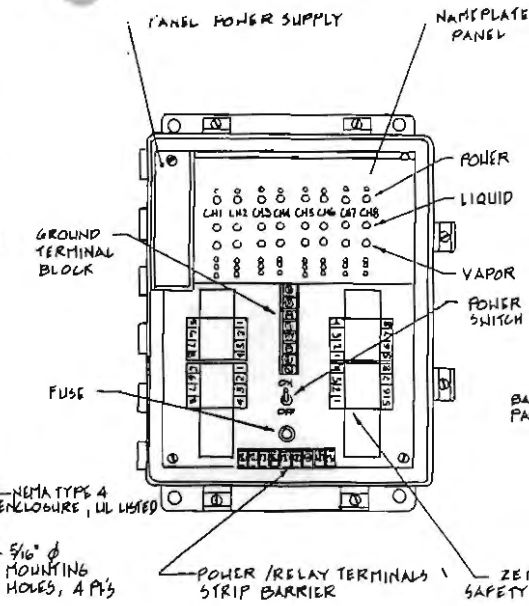
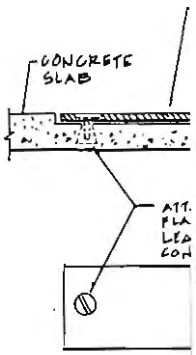


VIEW W/COVER REMOVED
NOT TO SCALE

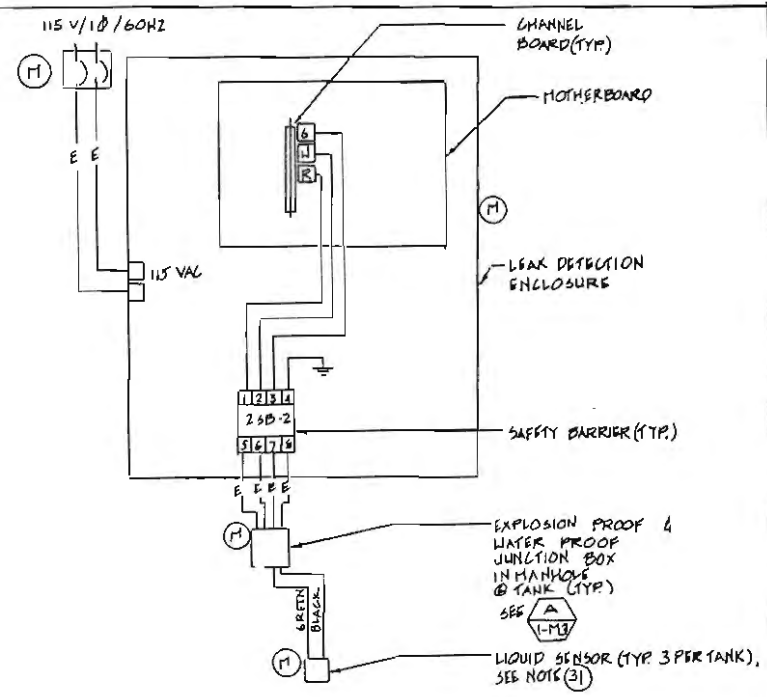
A 1-M4 SECTION
NOT TO SCALE

1-M4 M-2 LEAK DETECTION PANEL DETAIL
NOT TO SCALE



BRASS PLATE 1/8" THICK, LEN REQUIRED EL TYPE OF FU IN 1 1/2" LETTER SIZE

3-M4 M-3 3-M4 M-3 IDENTIFICATI
NOT TO SCALE



(M) EQUIPMENT FURNISHED & INSTALLED BY GENERAL CONTRACTOR

E EXTERNAL AND INTERNAL ELECTRICAL WIRING AND TERMINATION BY QUALIFIED AND LICENSED ELECTRICIAN.

2-M4 M-2 TYP LEAK DETECTION PANEL WIRING DIAGRAM (TWO CHANNEL SHOWN)
NOT TO SCALE

LEAK DETECTION SYSTEM OPERATION

UNIVERSAL SENSORS AND DEVICES LEAK ALERT SYSTEM IS DESIGNED SPECIFICALLY FOR CONTINUOUS UNDERGROUND LIQUID STORAGE TANK LEAK DETECTION APPLICATIONS. THE SYSTEM USES TWO TYPES OF SENSING PROBES: (1) A THERMAL ELEMENT CAPABLE OF DETECTING THE PRESENCE OF ANY LIQUID AND (2) A METAL OXIDE SEMICONDUCTOR (MOS) SENSOR THAT RECOGNIZES THE PRESENCE OF MOST COMBUSTIBLE AND ORGANIC VAPORS.

EACH LEAK ALERT SYSTEM INCLUDES AN ELECTRONIC ALARM CONTROL PANEL ENCLOSURE, AND ONE OR MORE REMOTE LIQUID / VAPOR SENSORS.

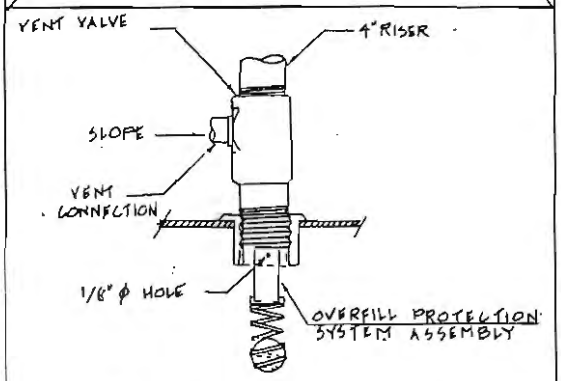
THE LIQUID SENSOR WILL DETECT MOST LIQUIDS (WATER, FUEL, ETC.), AND AN LED ALARM INDICATOR ON THE FACE OF THE ALARM PANEL WILL BE ENERGIZED. IF THE LIQUID IS A FUEL, THE VAPOR SENSOR WILL ALSO DETECT ITS PRESENCE AND ENERGIZE THE VAPOR LED INDICATOR. ONLY ONE INPUT CHANNEL IS USED FOR EACH TANK TO DETECT THE PRESENCE OF VAPOR OR LIQUID.

FOR WASTE OIL APPLICATION, ONLY THE LIQUID PROBE SHALL BE INSTALLED AND WIRED TO THE COMMON LEAK DETECTION PANEL.

LEAK DETECTION SYSTEM TESTING PROCEDURE

MOUNTED ON ALARM PANEL ENCLOSURE COVER ARE ONE RED COLOR MASTER ALARM INDICATOR, ONE BUZZER AND ITS SILENCE SWITCH, ONE LIQUID ALARM TEST SWITCH, AND ONE VAPOR ALARM TEST SWITCH. THE MASTER VISUAL AND AUDIBLE ALARMS CAN BE TRIGGERED WITH ANY ALARM SIGNAL GENERATED FROM ANY OF THE SENSING CHANNELS. THE SOURCE OF ALARM CAN BE IDENTIFIED WITH THE INDIVIDUAL CHANNEL LED INDICATORS. THE LIQUID AND VAPOR TEST SWITCHES ARE TO BE USED FOR FUNCTIONAL TESTING OF THE ACTIVE LIQUID AND VAPOR CHANNELS.

©MIT

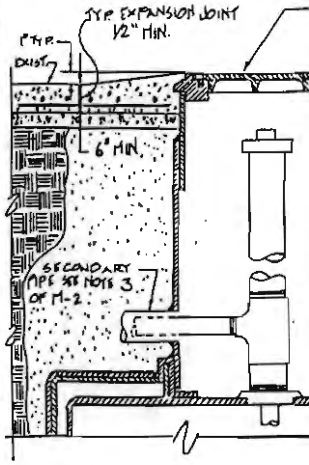


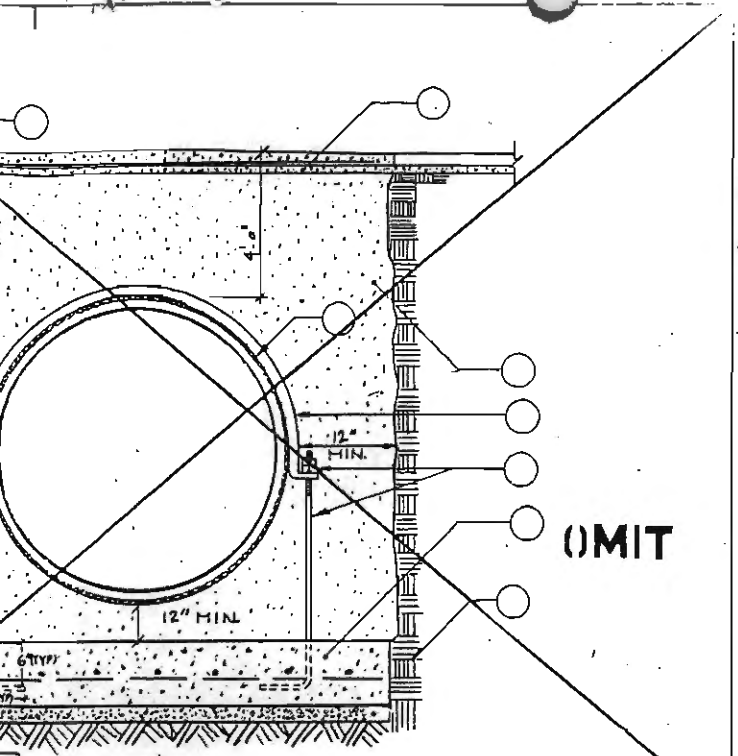
4-M4 M-3 4-M4 M-5 FLOAT VENT VALVE EXTRACTOR ASSEMBLY
NOT TO SCALE

IMP
NOTIFY: _
AT: _
IN CAS

SIZE: 10" HEIGH
MATERIAL: 1/16" THIC PLASTIC (F WITH GRO
LETTERING: TOP LINE HEIGHT, E
COLORS: WHITE GR
LOCATION: ADJACENT MECHANIC

5-M4 M-2





OMIT

SECTION
NOT TO SCALE

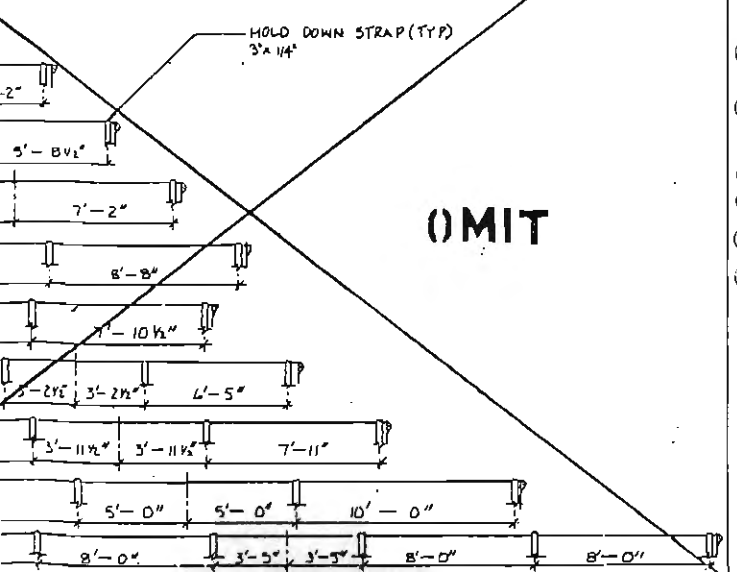
TANK SCHEDULE

OUTSIDE DIAMETER	TOTAL TANK BUOYANT FORCE (LBS)	TANK WEIGHT (LBS)	NET BUOYANT FORCE (LBS)	NO. OF STANDARD HOLD DOWNS REQUIRED
4'-0"	4989	1100	3889	2
5'-5"	10,337	2200	8136	2
7'-10"	21,565	4400	17,165	2
7'-10"	31,278	5600	25,678	2
7'-10"	41,155	6800	34,355	2
7'-10"	50,620	8000	42,620	2
7'-10"	60,580	9100	51,480	3
9'-5"	78,927	11,200	67,727	3
9'-5"	97,743	13,700	84,043	4
9'-5"	117,291	15,700	101,591	4
9'-5"	145,637	21,000	124,637	4
9'-6"	194,020	25,000	163,520	6

ENSIONS ARE BASED ON "JOOR MANUFACTURING" CATALOG DATA.
AL DIMENSIONS OF TANKS, SEE SHOP DRAWINGS FURNISHED
CTUAL TANK MANUFACTURER.

OMIT

D DOWN ARRANGEMENT



OMIT

(61) INSTALL NEW UNDERGROUND STORAGE TANK, JOOR MANUFACTURING "PLASTEEL CUSTOM-SITE" DOUBLE WALL (STEEL PRIMARY AND STEEL SECONDARY WITH F.R.P. COATED ON THE OUTSIDE), OR APPROVED EQUAL. FOR TANK PHYSICAL DATA SEE M-2 UNDER "TANK SCHEDULE" FOR TANK COLLAR SIZES SEE NOTES (67) & (92). FOR OPENING ARRANGEMENT SEE DETAIL (B / 1-M5). SEE THE SPECIFICATIONS FOR OTHER DETAILS.

(62) NOT USED

(63) 4" NPT TANK FITTING (TYPICAL).

(64) LOCATE FIRE UNDERWRITERS LABEL ON TOP OF TANK. USE CLEAR FIBERGLASS COATING OVER LABEL.

(65) 1½" NPT DETECTOR FITTING.

(66) INSTALL 4" LEVEL GAUGE STAND PIPE.

(67) 17'ϕ I.D. TANK COLLAR BY TANK MANUFACTURER.

(68) INSTALL 1" DIAMETER GALVANIZED STEEL ANCHOR BOLT WITH 10" THREAD LENGTH AND DOUBLE NUTS. APPLY EPOXY RESIN COAT AFTER INSTALLATION FOR CORROSION PROTECTION.

(69) INSTALL 16'ϕ FIBERGLASS RISER. MANUFACTURED BY C.J. FIBERGLASS (213) 590-8504. SEAL SPACE BETWEEN RISER & TANK COLLAR WATERTIGHT

(70) FILL CAP FOR COAXIAL DROP TUBE.

(71) INSTALL THE REQUIRED NUMBER OF LIQUID SENSOR PER TANK, SEE (2-M4)

(72) NOT USED

(73) BASE MATERIAL SHALL BE "UNTREATED CRUSHED MISCELLANEOUS BASE," WITH CRUSHED PARTICLE SIZE OF 1½" MAX., BASE LAYER SHALL HAVE 6" MIN. DEPTH.

(74) LOW VOLTAGE MONITORING CABLE TO BUILDING.

(75) TANK BOTTOM PROTECTION PAD BY TANK MANUFACTURER.

(76) CLEAN SAND, 12" MINIMUM ALL AROUND TANK.

(77) FLOAT VENT VALVE EXTRACTOR ASSEMBLY (EMCO NO. A79-004 OR EQUAL). ONE PORT FOR TANK VENT LINE. PLUG THE PORT FOR VAPOR RETURN LINE, COMPLETE WITH BALL FLOAT VALVE.

(78) INSTALL 3"x ¼" GALVANIZED STEEL STRAPS. REFER TO HOLD DOWN ARRANGEMENT ON SHEET M-2 FOR REQUIRED NO. OF STRAPS AND SPACING. APPLY EPOXY RESIN COAT TO BOTH SIDES OF THE STRAP FOR CORROSION PROTECTION.

(79) VENT STANDPIPE CAP EMCO A584-003 TO MATE WITH EMCO EXTRACTOR WRENCHES OR EQUAL.

(80) NOT USED

(81) NOT USED

(82) INSTALL VENT PIPE WITH DOUBLE SWING JOINT. MINIMUM 2" DIAMETER SIZE IN ACCORDANCE WITH NFPA #30 SLOPE MIN. 1/4" PER FT. TOWARDS TANK. REFER TO NOTE 4 ON M-2 FOR MORE DETAILS.

(83) INSTALL FUEL LEVEL GAUGE WITH TAPE, COUNTER WEIGHT, AND FLOAT.

(84) INSTALL MAINTENANCE-HOLE ASSEMBLY OPW 1C-4000. MAINTENANCE-HOLE AND COVER SHALL BE TRAFFIC RATED. ALL METALLIC COMPONENTS SHALL BE COATED WITH EPOXY RESIN FOR CORROSION PROTECTION. REFER TO THE SPEC FOR MORE INFORMATION, SEE DETAIL (3-M6).

(85) INSTALL 36"ϕ MAINT-HOLE WITH GASKET AND SCREWS. MAINT-HOLE & COVER SHALL BE TRAFFIC RATED & WATERTIGHT. PROVIDE 12"x12" ACCESS DOOR FOR GAUGE. ACCESS DOOR SHALL BE TRAFFIC RATED & WATERTIGHT. COAT SKIRT OF MAINT-HOLE WITH EPOXY FOR CORROSION PROTECTION. CHI MANUFACTURING, MODEL 239DGL-282-0 OR EQUAL. SEE (3-M6)

(86) INSTALL 9" I.D. MAINTENANCE-HOLE AND COVER. CHI MODEL NO. 208-12MW OR EQUAL. MAINTENANCE-HOLE AND COVER SHALL BE TRAFFIC RATED AND WATERTIGHT. APPLY EPOXY RESIN COAT TO THE SKIRT OF MAINTENANCE-HOLE FOR CORROSION PROTECTION.

(87) 12" CONCRETE BALLAST PAD, REINFORCED WITH #6 REBAR AT 12" O.C. EACH WAY. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. SEE NOTE (73) FOR BASE MATERIAL.

(88) 6" CONCRETE SLAB, REINFORCED WITH #6 REBAR AT 12" O.C. EACH WAY. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. SEE NOTE (73) FOR BASE MATERIAL.

(89) INSTALL 4" COAXIAL STANDPIPE.

(90) INSTALL 36'ϕ FIBERGLASS RISER. MANUFACTURED BY C.J. FIBERGLASS. (213) 590-8504. SEAL SPACE BETWEEN RISER & TANK COLLAR WATERTIGHT.

(91) EARTH BACKFILL.

(92) 37'ϕ I.D. TANK COLLAR BY TANK MANUFACTURER.

NOTES 93 THRU 500 NOT USED

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ROBERT S. HORII CITY ENGINEER
ARCHITECTURAL DIVISION
CITY HALL EAST ROOM 890 PHONE 485-5825

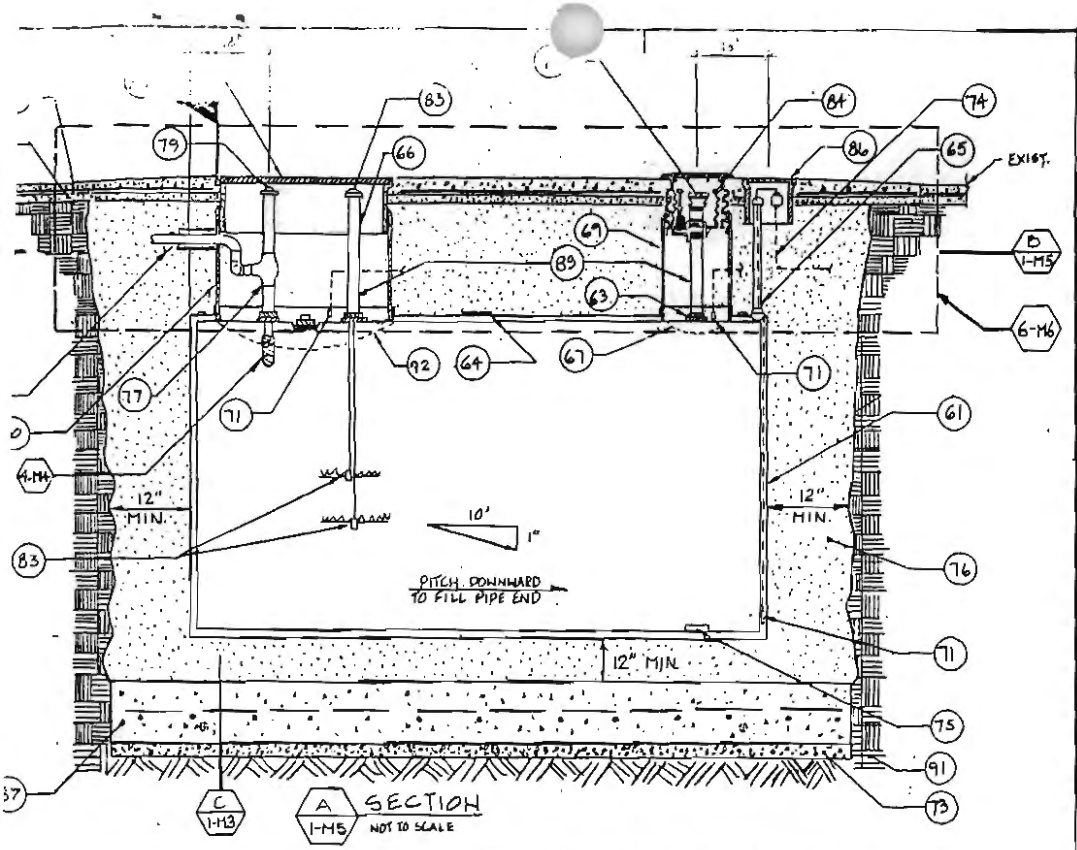
CITY ENGINEER
DEPUTY CITY ENGINEER
PRINCIPAL ARCHITECT
ARCHITECT
STRUCTURAL ENG.
BLDG. MECH. ENG.
BLDG. ELEC. ENG.

WASTE OIL STORAGE TANK DETAIL, TANK SCHEDULE, NOTES
REPLACEMENT OF UNDERGROUND STORAGE TANKS
SAN FERNANDO VALLEY SHOP
12201 SHERMAN WAY, NORTH HOLLYWOOD
FOR: FLEET SERVICES

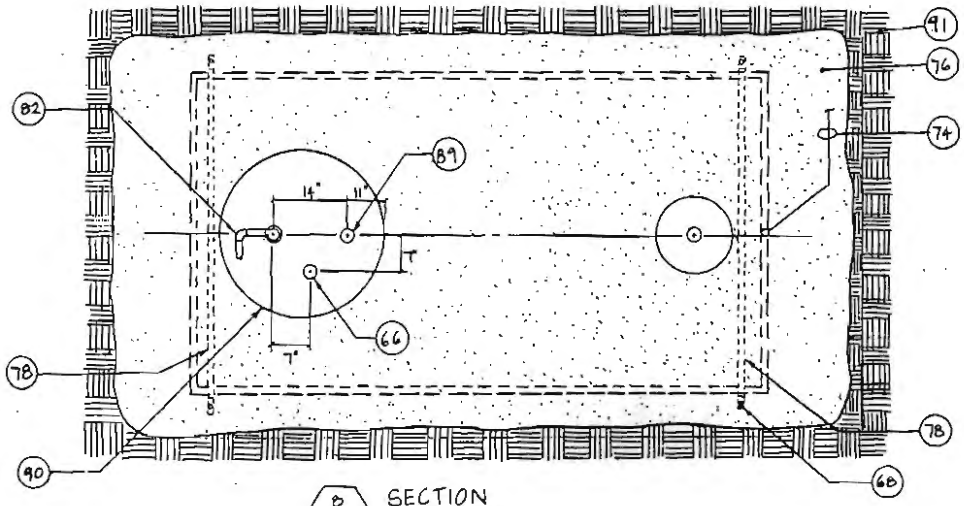
INDEX NUMBER
SHEET 5 OF 7 SHEETS

BLDG. NO. 8/21
WORK ORDER NO. EM00045
PLAN NO. 7397
DATE 6-26-90
JOB CAPTAIN J.P.
DRAWN BY S.F.A.
CHECKED BY J.P.E
SHEET NO. M-5
OF 6 OF 7 SHEETS

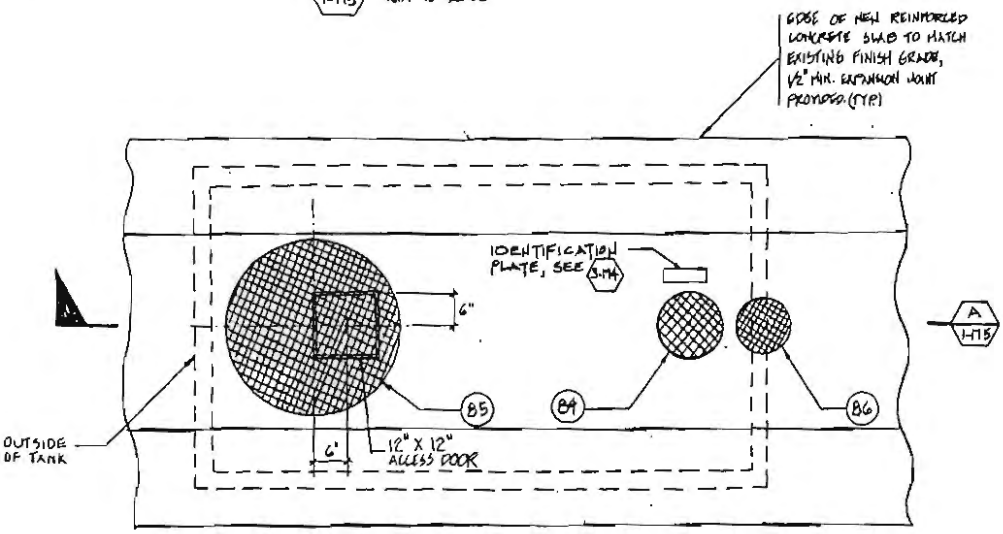
BLDG. NO. 8/21



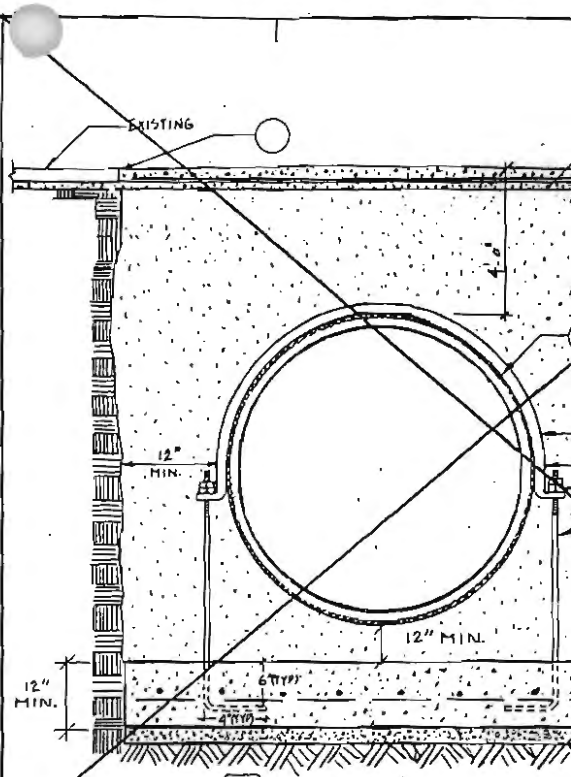
A 1-M5 SECTION NOT TO SCALE



B 1-M5 SECTION NOT TO SCALE



1-M5 / H-2 UNDERGROUND WASTE OIL STORAGE TANK
NOT TO SCALE — TYPICAL CONNECTIONS



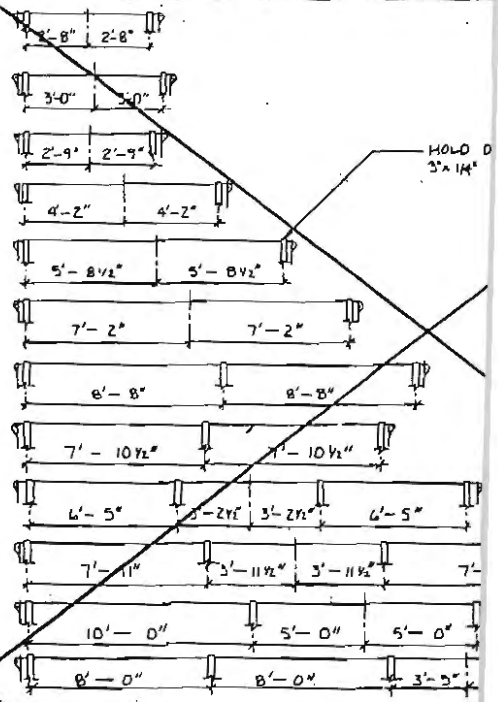
SECTION NOT TO SCALE

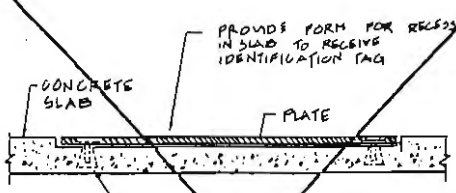
TANK SCHEDULE

CAPACITY (GAL)	OUTER TANK LENGTH	OUTSIDE DIAMETER	TOTAL TANK BUOYANT FORCE (LBS)	TANK WEIGHT (LBS)
500	6'-1"	4'-0"	4989	1100
1000	6'-8"	5'-5"	10,337	2200
2000	6'-3"	7'-10"	21,565	4400
3000	9'-2"	7'-10"	31,278	5600
4000	12'-1"	7'-10"	41,155	6800
5000	15'-0"	7'-10"	50,620	8000
6000	18'-0"	7'-10"	60,580	9100
8000	16'-5"	9'-5"	78,927	11,200
10,000	20'-5"	9'-5"	97,743	13,700
12,000	24'-5"	9'-5"	117,291	15,700
15,000	30'-7"	9'-5"	145,637	21,000
20,000	37'-6"	9'-6"	194,020	25,000

TANK DIMENSIONS ARE BASED ON "JOOR MANUFA
FOR ACTUAL DIMENSIONS OF TANKS, SEE SHOP
BY THE ACTUAL TANK MANUFACTURER.

HOLD DOWN ARRANGEMENT





ATTACH TO SLAB WITH NO. 8 x 3/4" FLATHEAD BRASS SCREWS AND LEAD SINGH ANCHORS SET IN CONCRETE

OMIT

BRASS PLATE 2" WIDE 1/8" THICK, LENGTH AS REQUIRED ENGRAVE TYPE OF FUEL STORED IN 1 1/2" LETTER SIZE

8-M6 / M-5 IDENTIFICATION PLATE
NOT TO SCALE

IMPORTANT
NOTIFY: _____
AT: _____
IN CASE OF ALARM

SIZE: 10" HEIGHT X 14" LENGTH

MATERIAL: 1/16" THICK FIBERGLASS REINFORCED PLASTIC (GRP). SQUARE CORNERS WITH GROMMETED HOLES.

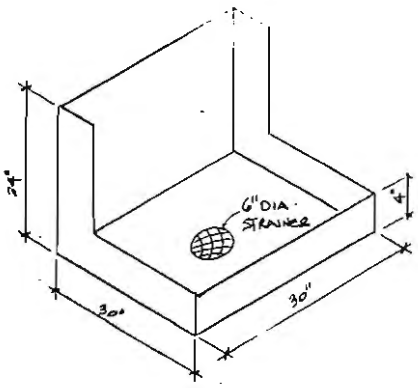
LETTERING: TOP LINE: 2" HEIGHT. REMAINDER: 1 1/2" HEIGHT, EMBEDDED IN F.R.P.

COLORS: WHITE GRAPHICS ON RED BACKGROUND

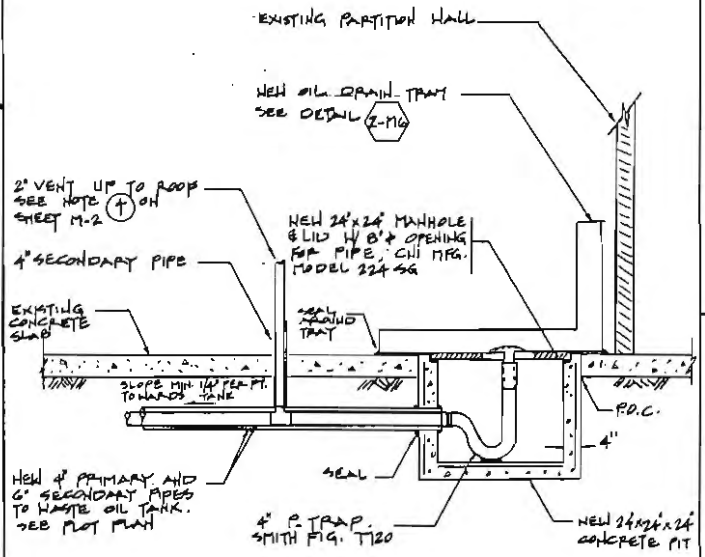
LOCATION: ADJACENT TO LEAK DETECTION CONTROL PANEL MECHANICALLY FASTENED TO THE WALL.

5-M6 / M-1 SIGN DETAILS
NOT TO SCALE

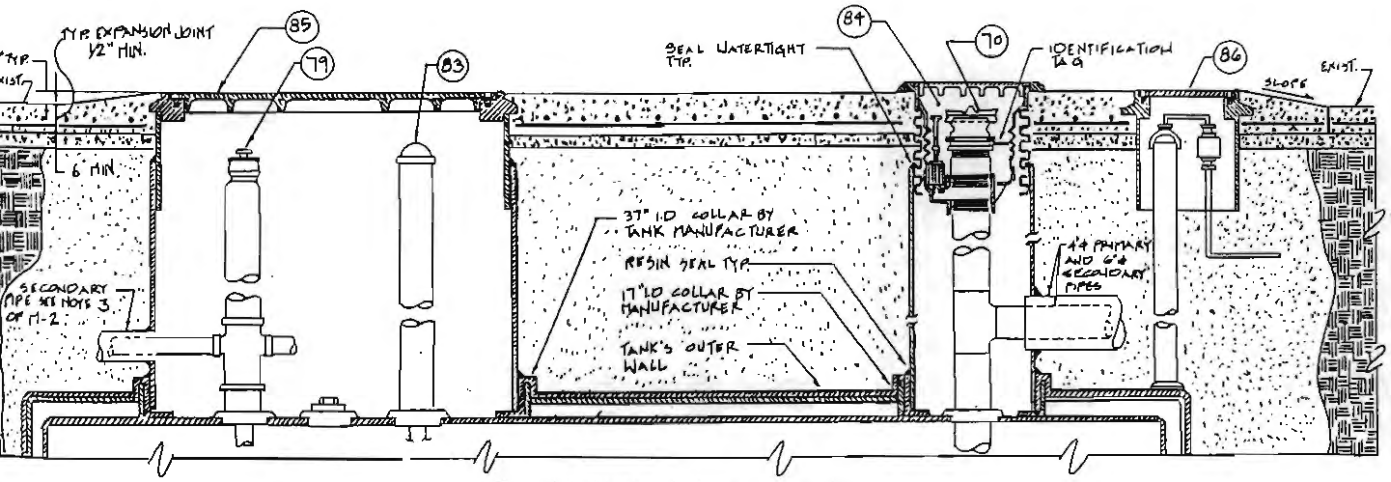
OMIT



2-M6 / M-6 DETAIL - WASTE OIL TRAY
SCALE: NONE



1-M6 / M-2 SECTION
SCALE: NONE



3-M6 / M-5 DETAIL (WASTE OIL TANK)
NOT TO SCALE

CITY OF LOS ANGELES
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ROBERT S. HORII CITY ENGINEER
ARCHITECTURAL DIVISION
CITY HALL EAST ROOM 890 PHONE 485-5825

CITY ENGINEER
DEPUTY CITY ENGINEER
PRINCIPAL ARCHITECT

ARCHITECT
STRUCTURAL ENG
BLDG. MECH ENG
BLDG. ELECT ENG

WASTE OIL TANK WIRING DIAGRAM, DETAIL
REPLACEMENT OF UNDER-GROUND STORAGE TANKS
SAN FERNANDO VALLEY SHOP
1220 SHERMAN WAY, NORTH HOLLYWOOD
FOR: FLEET SERVICES

SHEET 6 OF 7 SHEETS

INDEX NUMBER

BLDG. NO. 8/21

BLDG. NO. 8/21

WORK ORDER NO. E1700045

PLAN NO. 7397

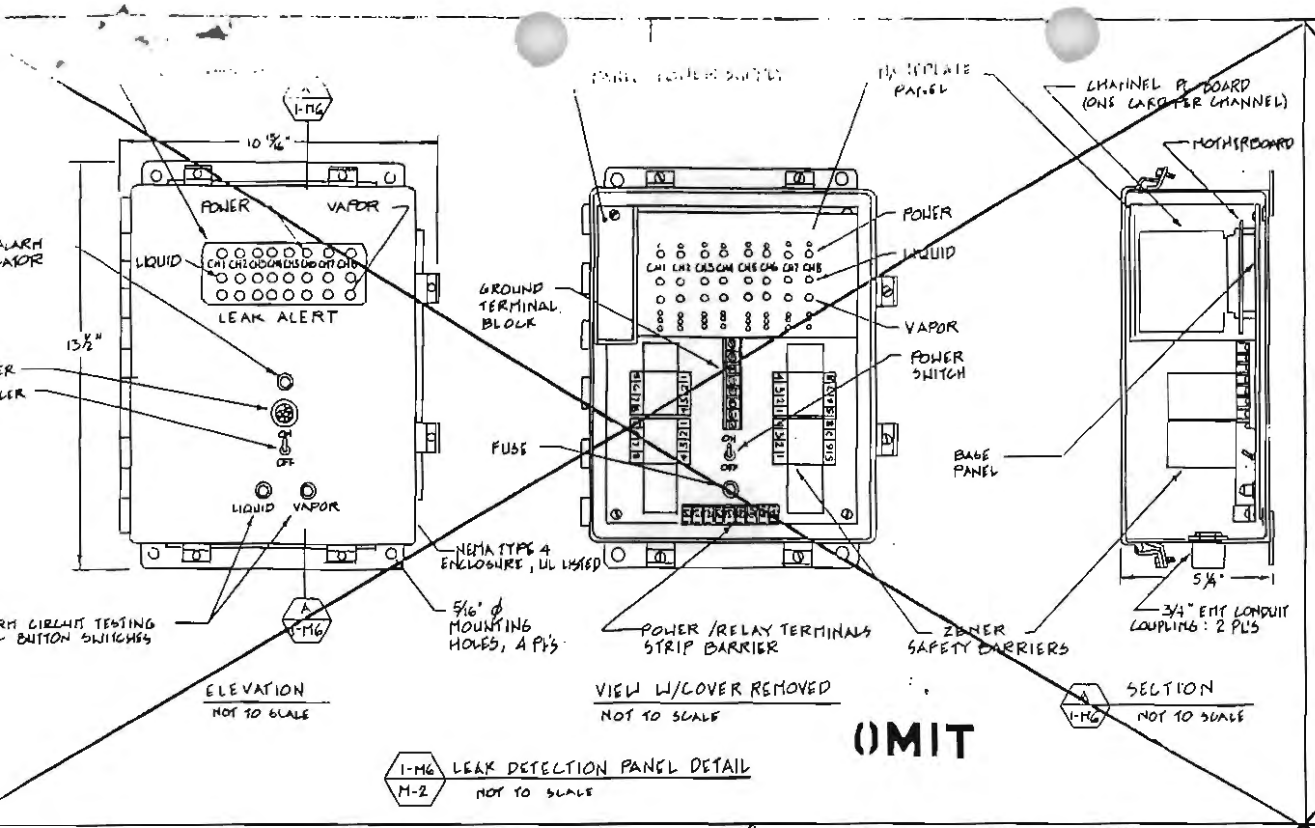
DATE 6-26-90

JOB CAPTAIN J.P.

DRAWN BY S.F.A.

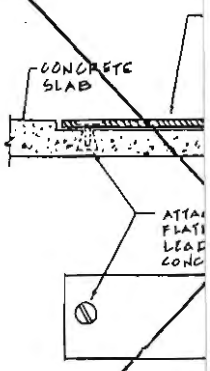
CHECKED BY A.P.E.

SHEET NO. M-6



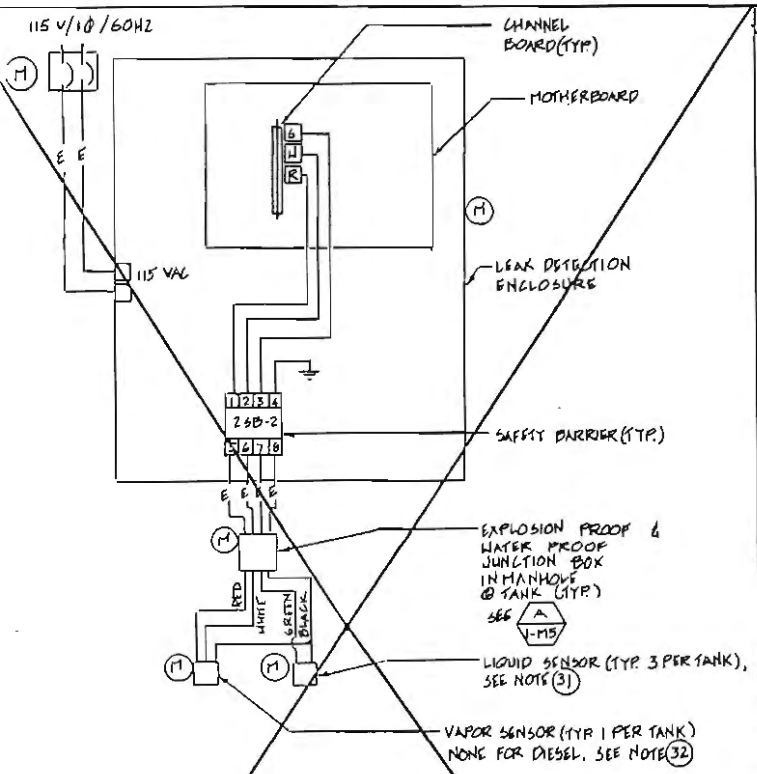
OMIT

1-M6 / M-2 LEAK DETECTION PANEL DETAIL
NOT TO SCALE



BRASS PLATE 1/16" THICK, LENG REQUIRED ENG TYPE OF FUEL IN 1 1/2" LETTER SIZE

B-M6 / M-5 IDENTIFICATION
NOT TO SCALE



M EQUIPMENT FURNISHED & INSTALLED BY GENERAL CONTRACTOR

E EXTERNAL AND INTERNAL ELECTRICAL WIRING AND TERMINATION BY QUALIFIED AND LICENSED ELECTRICIAN.

OMIT

2-M6 / M-2 TYP LEAK DETECTION PANEL WIRING DIAGRAM (TWO CHANNEL SHOWN)
NOT TO SCALE

LEAK DETECTION SYSTEM OPERATION

UNIVERSAL SENSORS AND DEVICES LEAK ALERT SYSTEM IS DESIGNED SPECIFICALLY FOR CONTINUOUS UNDERGROUND LIQUID STORAGE TANK LEAK DETECTION APPLICATIONS. THE SYSTEM USES TWO TYPES OF SENSING PROBES: (1) A THERMAL ELEMENT CAPABLE OF DETECTING THE PRESENCE OF ANY LIQUID AND (2) A METAL OXIDE SEMICONDUCTOR (MOS) SENSOR THAT RECOGNIZES THE PRESENCE OF MOST COMBUSTIBLE AND ORGANIC VAPORS.

EACH LEAK ALERT SYSTEM INCLUDES AN ELECTRONIC ALARM CONTROL PANEL ENCLOSURE, AND ONE OR MORE REMOTE LIQUID/VAPOR SENSORS.

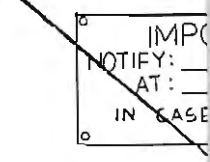
THE LIQUID SENSOR WILL DETECT MOST LIQUIDS (WATER, FUEL, ETC.), AND AN LED ALARM INDICATOR ON THE FACE OF THE ALARM PANEL WILL BE ENERGIZED. IF THE LIQUID IS A FUEL, THE VAPOR SENSOR WILL ALSO DETECT ITS PRESENCE AND ENERGIZE THE VAPOR LED INDICATOR. ONLY ONE INPUT CHANNEL IS USED FOR EACH TANK TO DETECT THE PRESENCE OF VAPOR OR LIQUID.

FOR WASTE OIL APPLICATION, ONLY THE LIQUID PROBE SHALL BE INSTALLED AND WIRED TO THE COMMON LEAK DETECTION PANEL.

LEAK DETECTION SYSTEM TESTING PROCEDURE

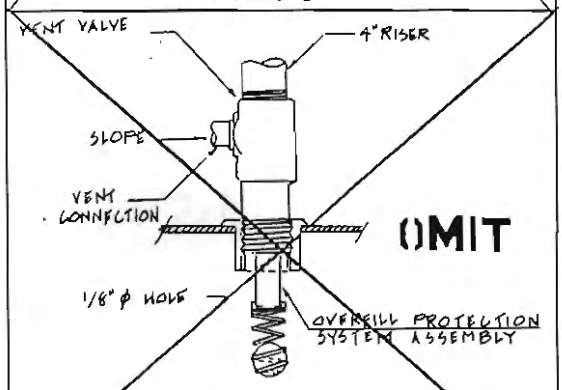
MOUNTED ON ALARM PANEL ENCLOSURE COVER ARE ONE RED COLOR MASTER ALARM INDICATOR, ONE BUZZER AND ITS SILENCE SWITCH, ONE LIQUID ALARM TEST SWITCH, AND ONE VAPOR ALARM TEST SWITCH. THE MASTER VISUAL AND AUDIBLE ALARMS CAN BE TRIGGERED WITH ANY ALARM SIGNAL GENERATED FROM ANY OF THE SENSING CHANNELS. THE SOURCE OF ALARM CAN BE IDENTIFIED WITH THE INDIVIDUAL CHANNEL LED INDICATORS. THE LIQUID AND VAPOR TEST SWITCHES ARE TO BE USED FOR FUNCTIONAL TESTING OF THE ACTIVE LIQUID AND VAPOR CHANNELS.

OMIT



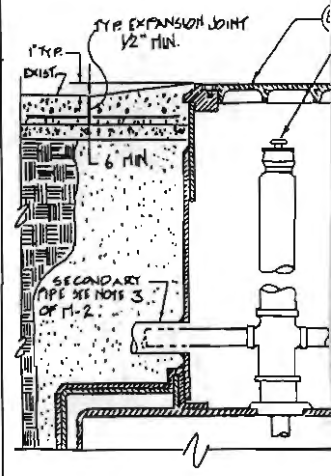
SIZE: 10" HEIGHT
MATERIAL: 1/16" THICK PLASTIC LEF WITH GROM
LETTERING: TOP LINE: HEIGHT, EME
COLORS: WHITE GRA
LOCATION: ADJACENT MECHANICAL

5-M6 / M-1 S



OMIT

7-M6 / M-5 FLOAT VENT VALVE EXTRACTOR ASSEMBLY
NOT TO SCALE



FOR, AND OIL TANK)

R OIL TANK
IL TANK FOR HYDRAULIC OIL TANK)

PANEL D
CKT #42

RESSOR ROOM

RVICES

3/4"C, 3#12

REMOTE ALARM BOX
SEE DETAIL 2-E1

- 1"C, 18#14

(501) ALL ELECTRICAL WIRING TO BE IN CONDUIT. ALL UNDERGROUND CONDUITS SHALL BE MIN. 18 INCHES BELOW THE SURFACE OF THE CONCRETE.

(502) CONDUITS IN HAZARDOUS AREA SHALL BE THREADED RIGID METAL CONDUIT. ALL BOXES, FITTINGS, AND JOINTS SHALL BE THREADED FOR CONECTION TO CONDUIT AND SHALL BE EXPLOSION PROOF. THREADED JOINTS SHALL BE AT LEAST FIVE THREAD FULLY ENGAGED

(503) LEAK DETECTION SYSTEM SHALL BE CLASS I GROUP C AND D APPLICATIONS. IT SHALL BE UL. LISTED AND LOS ANGELES FIRE DEPARTMENT APPROVED.

120/208V, 3Ø 4WIRE

PANEL "D" SCHEDULE

CIRC NO.	OUTLETS LTS	REC	OTH	VA A	B	C	CIR BKR POLE	TRIP	DESCRIPTION
1			38'	1080			1	20	REC. BENCHES COL. 12 SO.
2			20'	900					9 SE
3			28'		1800				11 SO.
4			18'		720				8 SW
5			48'			1800			10 SO
6			28'			900			8 SE
7			28'	900					7 SW
8			13'	540					REC BENCHES E WALL NO.
9		6			1080				REC COL. 8, 10, 12 SO.
10			48'		1800				REC BENCHES COL 11 NO
11		4				720			REC. COL 9, 11 SO
12			48'			1800			REC BENCHES COL 11 NO
13			24'	900					10 NE
14				900					9 NW
15					900				10 NW
16					900				8 NE
17						900			9 NE
18			24'			900			REC BENCHES COL 8 NW
19		6		1680					REC COL 8, 9, 10 NO.
20		XHB		1125					MRC GRINDER RM 113
21		4	0		724				MRC COL 11, 12 NO.
22			XHA		850				LIQUID RIVET RM 113
23			XHA			670			VALVE FACING
24			XHB						POWER TEST RM 113
25	9			1620					LTS RM 215 & 118
26	10			1800					LTS RM 117 & 215
27		4			1390				REC RM 117, 118, 216
28			1		180				T.S RM 216
29									SPARE
30			XHA			1125			SF-8 RM 210
31			12	900					RADIANT HTRS NORTH
32									SPARE
33			16		900				RADIANT HTR'S
34									SPARE
35									SPARE
36									SPARE
37									
38									
39									
40									
41									SPARE
* 42						240	1	15	UNDER GROUND TANKS ALARM
				11745	11249	9724			

BUS SIZE 225A
TOTAL WATTS 32593 AMPS 90.5 FEEDER 4#4/0

PARTS LIST

NO.	QU.	DESCRIPTON
1	9	LIQUID SENSOR, UNIVERSAL SENSOR, INC. (USD)
2	1	LEAK ALERT, LA08, USD.
3	1	Remote ALARM BOX, RADIO, USD.
4	1	CARD, LALS-2D FOR ITEM 2
5	7	CARD, LALS-1P FOR ITEM 2
6	6	EYS SEALING FITTING, EP, CH EYS (1, 2 or 3)
7	6	UNION, EP, CH # UNY (1, 2 or 3)
8	3	EP JB, APPLETON # GUBB (11A, 22A or 33A)

plan check # T-6351 on 10-14-90 NB

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
ROBERT S. HORII CITY ENGINEER
ARCHITECTURAL DIVISION
CITY HALL EAST ROOM 840 PHONE 485-5825

CITY ENGINEER
DEPUTY CITY ENGINEER
PRINCIPAL ARCHITECT
ARCHITECT
STRUCTURAL ENG
BLDG MECH ENG

ELECTRICAL WIRING DIGRAM
REPLACEMENT OF UNDER GROUND STORAGE OIL TANKS
SAN FERNANDO VALLEY SHOP
1200 SHERMAN WAY, NORTH HOLLYWOOD
FORI FLEET SERVICE

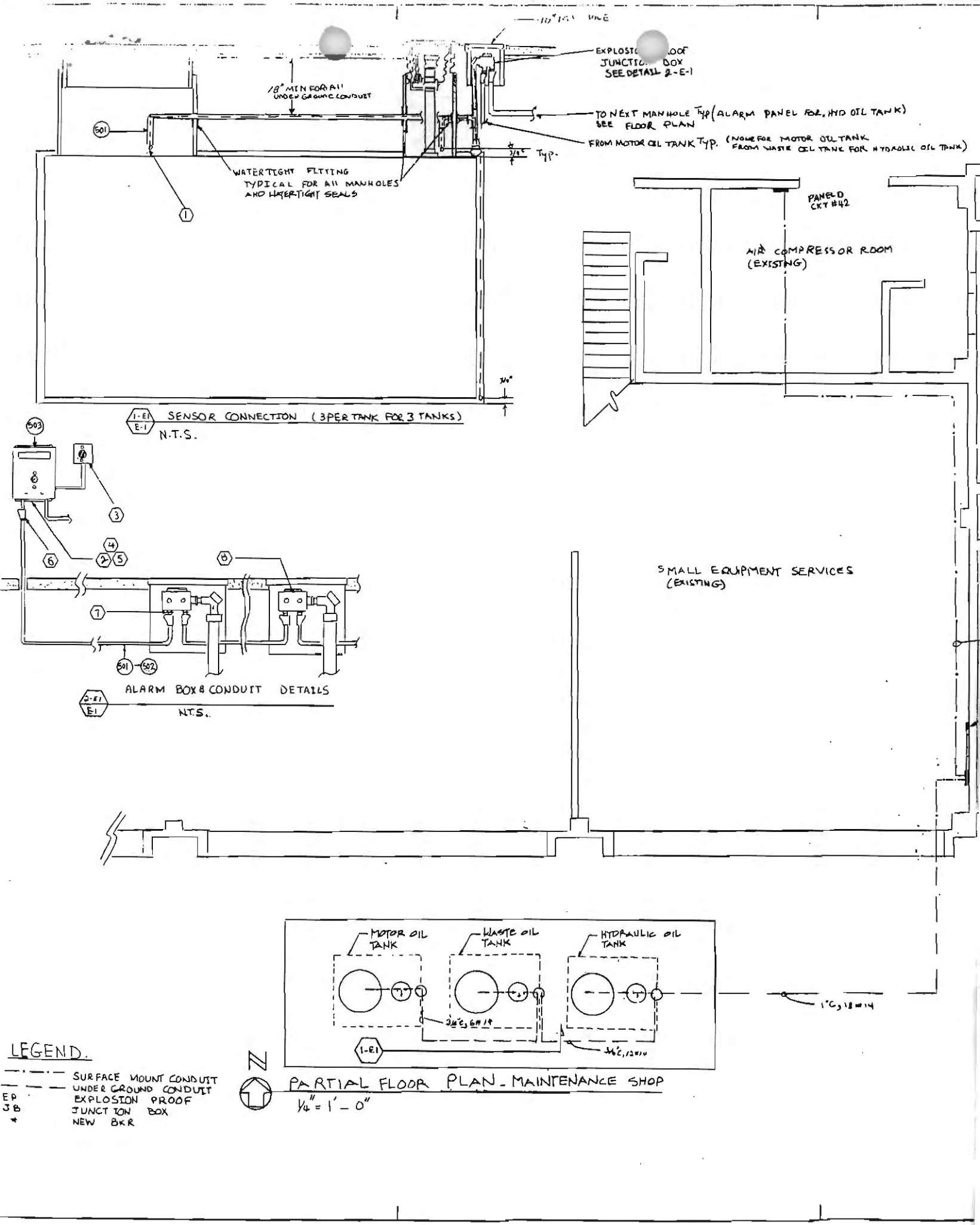
INDEX NUMBER

SHEET 7 OF 7 SHEETS

BLDG NO 8/21
WORK ORDER NO E1700045
PLAN NO 7397
DATE 9-24-90
JOB CAPTAIN J. P.
DRAWN BY N.B.
CHECKED BY EN
SHEET NO E-1
OF 1 OF 7 SHTS

BLDG. NO. 8/21

ENG. 8.104 4/88RF


EXPLOSION PROOF JUNCTION BOX SEE DETAIL 2-E-1
18" MIN FOR ALL UNDER GROUND CONDUIT
TO NEXT MANHOLE Typ (ALARM PANEL FOR HYD OIL TANK) SEE FLOOR PLAN
FROM MOTOR OIL TANK Typ. (NONE FOR MOTOR OIL TANK FROM WASTE OIL TANK FOR HYDRAULIC OIL TANK)
Typ.
WATERTIGHT FITTING TYPICAL FOR ALL MANHOLES AND WATERTIGHT SEALS
501
1
PANEL D CKT #42
AIR COMPRESSOR ROOM (EXISTING)
1-E1 E-1 SENSOR CONNECTION (3 PER TANK FOR 3 TANKS)
N.T.S.
503
3
4
5
6
2
8
7
501
502
2-E1 E1 ALARM BOX & CONDUIT DETAILS
N.T.S.
SMALL EQUIPMENT SERVICES (EXISTING)
MOTOR OIL TANK
WASTE OIL TANK
HYDRAULIC OIL TANK
1-E1
N
PARTIAL FLOOR PLAN - MAINTENANCE SHOP
1/4" = 1' - 0"
LEGEND.
SURFACE MOUNT CONDUIT
UNDER GROUND CONDUIT
EP EXPLOSION PROOF
JB JUNCTION BOX
NEW BKR