

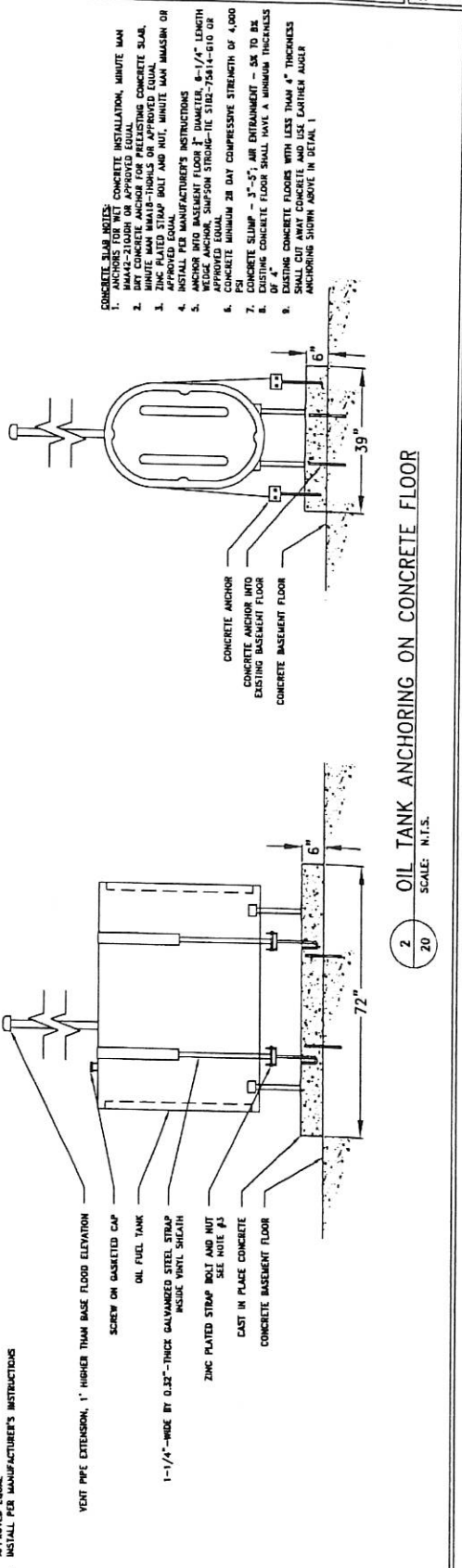
GROUND ANCHOR NOTES:

- EARTH ANCHOR CAPABILITY AND CAPACITY ARE PERTINENT TO SOIL CONDITIONS. SOIL TESTING TO BE PERFORMED PRIOR TO EARTH ANCHORING.
- SOILS TO BE ANCHORED TO:
 - SANDY SILT, SAND, SILTY SAND, SILTY CLAY, SILTY CLAY WITH SAND; COURSE GRAVEL/CORBALS; WELL-SORTED SANDS; CLAYS AND CRINALS; SOILS REQUIRE MINIMUM OF 30" ANCHOR WITH (2) 4" HELIX ANCHOR.
 - ANGER, SILTY SAND, CLAY SAND, SILTY GRAVEL, NORMAL SAND CLAY; SOILS REQUIRE MINIMUM OF 34" ANCHOR WITH (1) 6" HELIX ANCHOR.
 - TO ANCHOR INTO LOOSE DENSE SANDS; FIRM TO STIFF CLAYS AND SILTS; TO ANCHOR INTO LOOSE SANDS; SOILS REQUIRE MINIMUM OF 30" ANCHOR WITH (1) 8" HELIX ANCHOR.
 - TAKE SUPPORT LESS VARY, DEFER TO MANUFACTURER'S DESIGN.
- ANCHOR SET ON UNREINFORCED CONCRETE FOOTING PAD, 5" x 8" x 12".
- GROUND ANCHORS GALVANIZED STEEL, 1" - DIAMETER WITH HELIX ANCHOR, WHITE WASH OR APPROVED EQUAL.
- ZINC PLATED STRAP BOLT AND NUT, WHITE WASH OR APPROVED EQUAL.
- INSTALL PER MANUFACTURER'S INSTRUCTIONS.

1 TANK ANCHORING WITH EARTHEN FLOOR
SCALE: N.T.S.

CONCRETE SLAB NOTES:

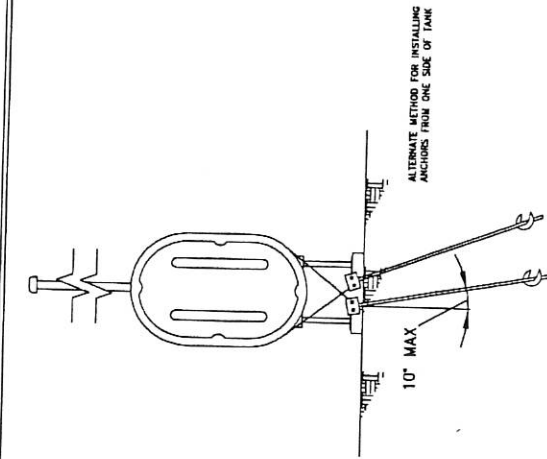
- ANCHORS FOR CONCRETE INSTALLATION, WHITE WASH OR APPROVED EQUAL.
- SET CONCRETE ANCHOR FOR PRECASTING CONCRETE SLAB, WHITE WASH OR APPROVED EQUAL.
- ZINC PLATED STRAP BOLT AND NUT, WHITE WASH OR APPROVED EQUAL.
- INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- ANCHOR INTO BASEMENT FLOOR, 3" DIAMETER, 6-1/4" LENGTH.
- CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- CONCRETE SLUMP - 3"-5"; AIR ENTRAINMENT - 5% TO BE CONFIRMED.
- EXISTING CONCRETE FLOOR SHALL HAVE A MINIMUM THICKNESS OF 4".
- EXISTING CONCRETE FLOORS WITH LESS THAN 4" THICKNESS SHALL CUT AWAY CONCRETE AND USE EARTHEN ANCHOR ANCHORING SHOWN ABOVE IN DETAIL 1.



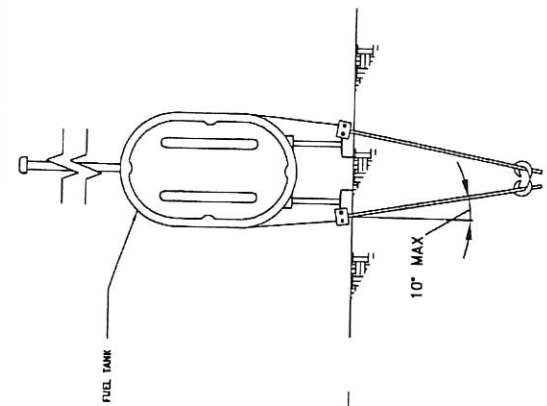
2 OIL TANK ANCHORING ON CONCRETE FLOOR
SCALE: N.T.S.

CONCRETE SLAB NOTES:

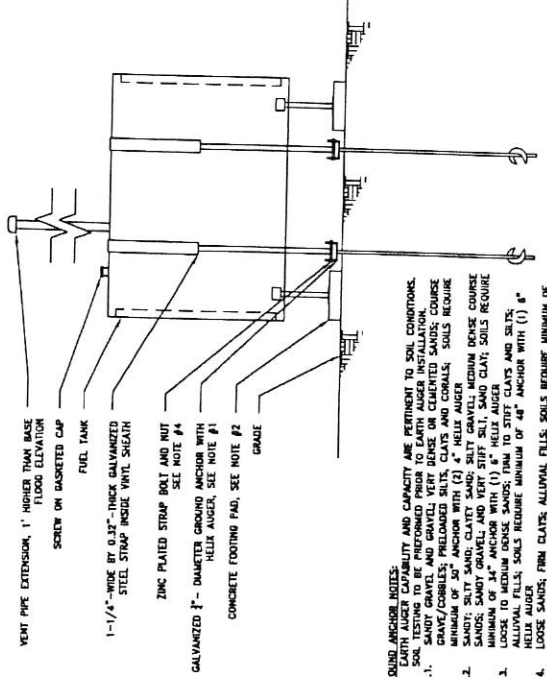
- ANCHORS FOR CONCRETE INSTALLATION, WHITE WASH OR APPROVED EQUAL.
- SET CONCRETE ANCHOR FOR PRECASTING CONCRETE SLAB, WHITE WASH OR APPROVED EQUAL.
- ZINC PLATED STRAP BOLT AND NUT, WHITE WASH OR APPROVED EQUAL.
- INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- ANCHOR INTO BASEMENT FLOOR, 3" DIAMETER, 6-1/4" LENGTH.
- CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- CONCRETE SLUMP - 3"-5"; AIR ENTRAINMENT - 5% TO BE CONFIRMED.
- EXISTING CONCRETE FLOOR SHALL HAVE A MINIMUM THICKNESS OF 4".
- EXISTING CONCRETE FLOORS WITH LESS THAN 4" THICKNESS SHALL CUT AWAY CONCRETE AND USE EARTHEN ANCHOR ANCHORING SHOWN ABOVE IN DETAIL 1.



ALTERNATE METHOD FOR INSTALLING ANCHORS FROM ONE SIDE OF TANK

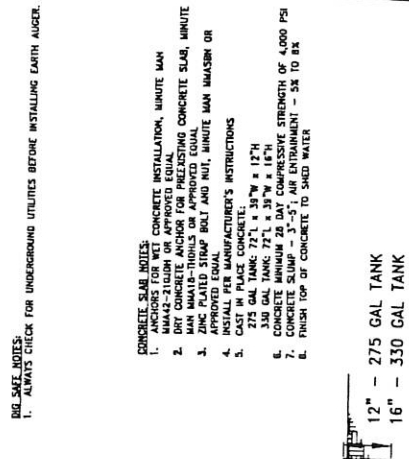


1 TANK ANCHORING WITH EARTH AUGER
SCALE: N.T.S.

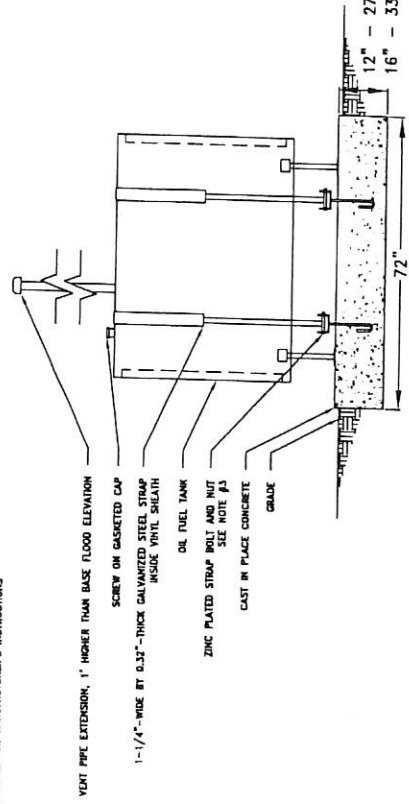


- GROUND ANCHOR NOTES:**
1. SOIL TESTING TO BE PERFORMED TO DETERMINE SOIL CONDITIONS. SANDY GRAVEL AND GRAVEL VERY DENSE OR CLAYED SANDS, COARSE GRAVE/COBBLES, PRELOADED SILTS, CLAYS AND CORALS, SILTS REQUIRE MINIMUM OF 3" ANCHOR WITH (2) 4" HELIX AUGER SANDS, SANDY GRAVEL AND VERY STIFF SILTS REQUIRE MINIMUM OF 3" ANCHOR WITH (1) 6" HELIX AUGER LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS REQUIRE MINIMUM OF 4" ANCHOR WITH (1) 6" HELIX AUGER LOOSE SANDS, FIRM CLAYS, ALLUVIAL FILLS, SILTS REQUIRE MINIMUM OF 6" ANCHOR WITH (1) 6" HELIX AUGER
 2. TANK SUPPORT LEGS VARY, DEPENDING ON MANUFACTURER'S DESIGN. EACH LEG TO BE UNREINFORCED CONCRETE FOOTING PAD 3" x 6" x 12".
 3. GROUND ANCHORS TO BE 1/2" DIAMETER GALVANIZED STEEL 1/2" - DIAMETER WITH HELIX AUGER.
 4. ZINC PLATED STRAP BOLT AND NUT, WHITE MAN MANUSM OR APPROVED EQUAL.
 5. INSTALL PER MANUFACTURER'S INSTRUCTIONS

- VENT PIPE EXTENSION, 1" HIGHER THAN BASE FLOOD ELEVATION
SCREW ON GASKETED CAP
FUEL TANK
1-1/4" - WIDE BY 0.31" - THICK GALVANIZED STEEL STRAP INSIDE VINYL SHEATH
ZINC PLATED STRAP BOLT AND NUT
SEE NOTE #4
GALVANIZED 1/2" - DIAMETER GROUND ANCHOR WITH HELIX AUGER, SEE NOTE #1
CONCRETE FOOTING PAD, SEE NOTE #2
GRADE



2 TANK ANCHORING ON CONCRETE SLAB
SCALE: N.T.S.



- VENT PIPE EXTENSION, 1" HIGHER THAN BASE FLOOD ELEVATION
SCREW ON GASKETED CAP
1-1/4" - WIDE BY 0.31" - THICK GALVANIZED STEEL STRAP INSIDE VINYL SHEATH
OIL FUEL TANK
ZINC PLATED STRAP BOLT AND NUT
SEE NOTE #3
CAST IN PLACE CONCRETE
GRADE

DIG SLEEVE NOTES:

1. ALWAYS CHECK FOR UNDERGROUND UTILITIES BEFORE INSTALLING EARTH AUGER.

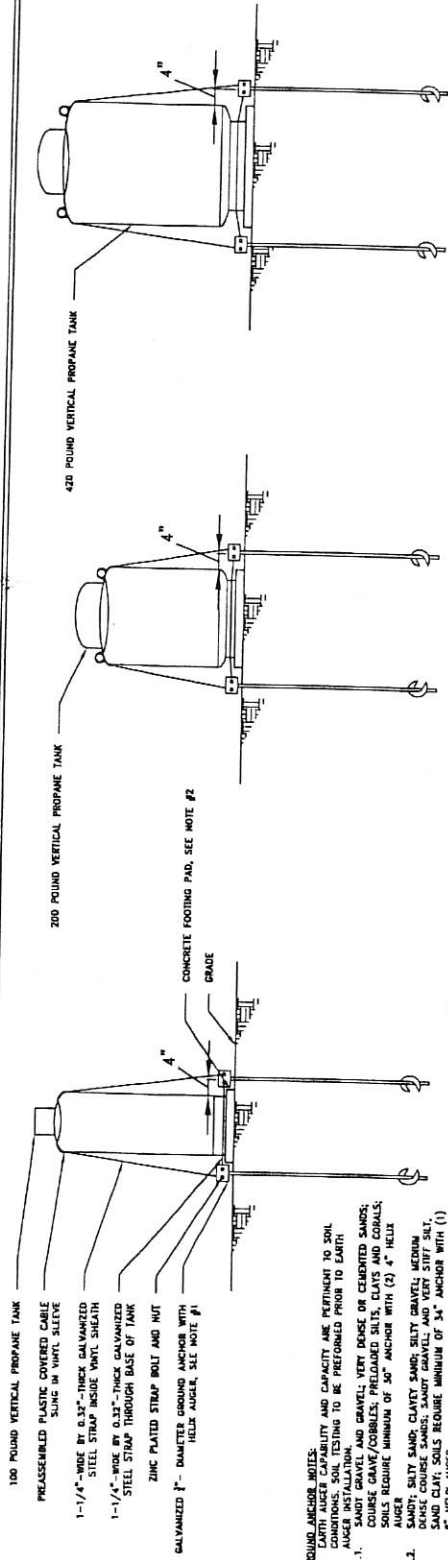
- CONCRETE SLAB NOTES:**
1. MANUSM FOR WET CONCRETE INSTALLATION, WHITE MAN MANUSM FOR DRY CONCRETE.
 2. DRY CONCRETE ANCHOR FOR PRECASTING CONCRETE SLAB, MINUTE MAN MANUSM-TITONOLS OR APPROVED EQUAL.
 3. ZINC PLATED STRAP BOLT AND NUT, WHITE MAN MANUSM OR APPROVED EQUAL.
 4. INSTALL PER MANUFACTURER'S INSTRUCTIONS
 5. 275 GAL TANK: 7/8" x 3/4" x 17"
 6. 330 GAL TANK: 1" x 3/4" x 17"
 7. CONCRETE MINIMUM STRENGTH OF 4000 PSI
 8. CONCRETE SLUMP - 3"-5", AIR ENTRAINMENT - 3% TO 5%
 9. FINISH TOP OF CONCRETE TO SHED WATER

CONCRETE ANCHOR
CAST IN PLACE CONCRETE
GRADE

12" - 275 GAL TANK
16" - 330 GAL TANK

12" - 275 GAL TANK
16" - 330 GAL TANK

2 TANK ANCHORING ON CONCRETE SLAB
SCALE: N.T.S.

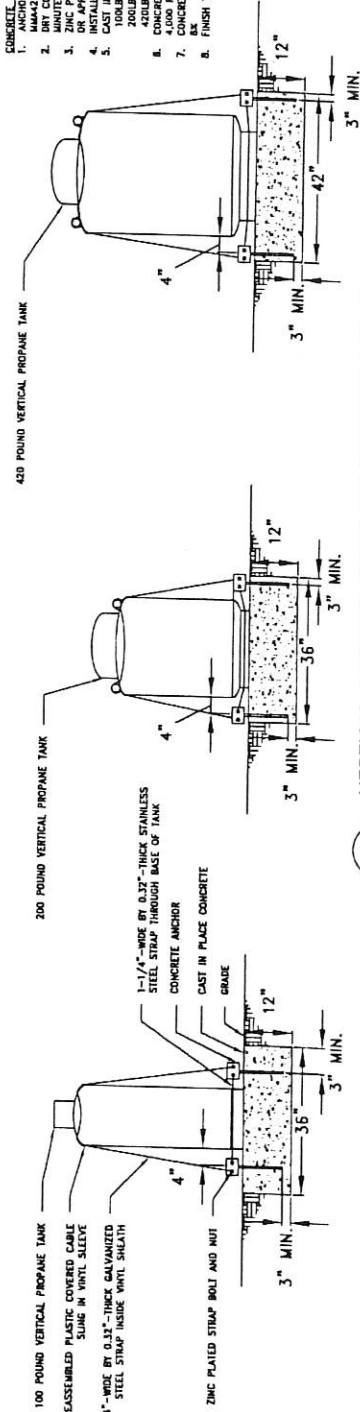


1 VERTICAL PROPANE TANK WITH EARTH AUGER
SCALE: N.T.S.

- GROUND ANCHOR NOTES:**
- ANCHOR CAPACITY AND CAPACITY ARE PERTINENT TO SOIL CONDITIONS. SOIL TESTING TO BE PERFORMED PRIOR TO EARTH ANCHOR INSTALLATION.
 - SANDY GRAVEL AND GRAVEL VERY DENSE OR CEMENTED SANDS; LOOSE GRAVE/CORBLES; PRELOADED SILTS, CLAYS AND COBALLS; SOILS REQUIRE MINIMUM OF 36" ANCHOR WITH (2) 4" HELIX AUGER
 - SANDY, SILTY SANDS; CLAYEY SANDS; SILTY GRAVEL; MEDIUM DENSE COARSE SANDS; SANDY GRAVEL; AND VERY STIFF SILT, CLAY; SOILS REQUIRE MINIMUM OF 36" ANCHOR WITH (1) 4" HELIX AUGER
 - LOOSE TO MEDIUM DENSE SANDS; FIRM TO STEE CLAYS AND SILTS; ALLUVIAL FILLS; SOILS REQUIRE MINIMUM OF 48" ANCHOR WITH (1) 8" HELIX AUGER
 - SOILS WITH FINE CLAYS; ALLUVIAL FILLS; SOILS REQUIRE MINIMUM OF 60" ANCHOR WITH (1) 8" HELIX AUGER
 - TANK FOOTING SUPPORTS VARY, DEPENDING ON MANUFACTURER'S DESIGN. EACH TANK TO BE SET ON UNREINFORCED CONCRETE FOOTING PAD. 100LB TANK: 2'x16"x18", 200LB TANK: 2'x18"x24", 420LB TANK: 2'x20"x30"
 - ZINC PLATED STRAP BOLT AND NUT, MINUTE MAN W/MSM OR APPROVED EQUAL
 - RETAIL PER MANUFACTURER'S INSTRUCTIONS

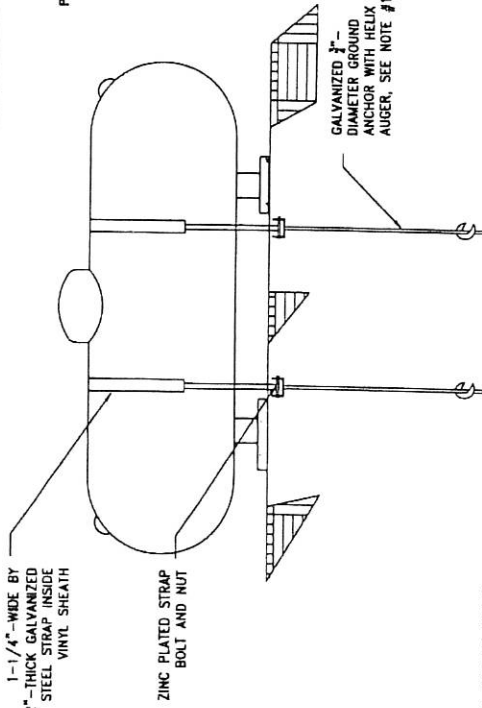
DIG SITE NOTES:
1. ALWAYS CHECK FOR UNDERGROUND UTILITIES BEFORE INSTALLING EARTH AUGER.

- CONCRETE SLAB NOTES:**
- MINIMUM 4" THICK CONCRETE INSTALLATION, MINUTE MAN W/MSM-2 TYPICAL OR APPROVED EQUAL
 - DRY CONCRETE ANCHOR FOR PRECASTING CONCRETE SLAB, MINUTE MAN W/MSM-2 TYPICAL OR APPROVED EQUAL
 - MINUTE MAN W/MSM-2 TYPICAL OR APPROVED EQUAL
 - OR APPROVED EQUAL
 - INSTALL PER MANUFACTURER'S INSTRUCTIONS
 - CAST IN PLACE CONCRETE
 - 100LB TANK: 36" x 36" x 12"
 - 200LB TANK: 42" x 42" x 12"
 - 420LB TANK: 42" x 42" x 12"
 - CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
 - CONCRETE SLUMP - 3"-5"; AIR ENTRAINMENT - 5% TO 8%
 - FINISH TOP OF CONCRETE TO SHED WATER

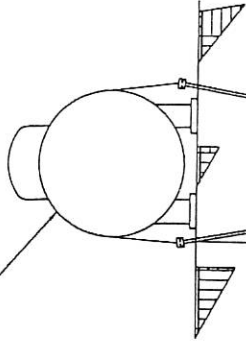


2 VERTICAL PROPANE TANK ON CONCRETE SLAB
SCALE: N.T.S.

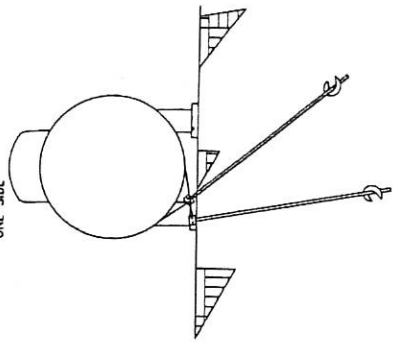
1-1/4" - WIDE BY
0.32" - THICK GALVANIZED
STEEL STRAP INSIDE
VINYL SHEATH



PROpane TANK



ALTERNATE METHOD OF
INSTALLING ANCHORS FROM
ONE SIDE



GROUND ANCHOR NOTES:

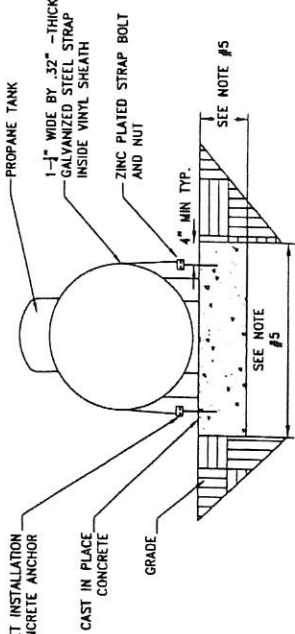
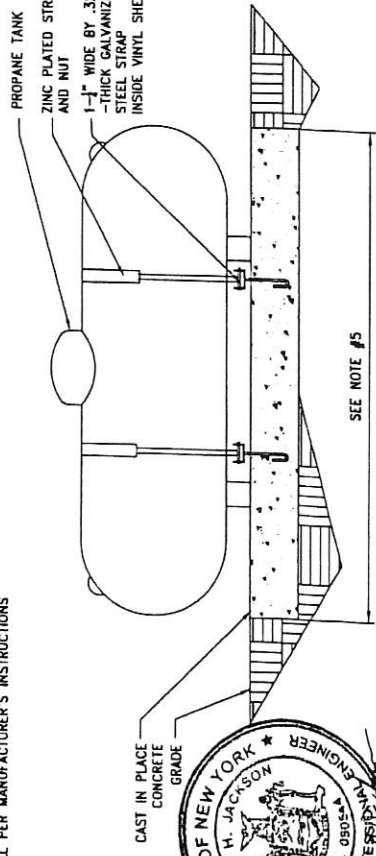
1. EARTH AUGER CAPABILITY AND CAPACITY ARE PERTINENT TO SOIL CONDITIONS. SOIL TESTING TO BE PERFORMED PRIOR TO EARTH AUGER INSTALLATION.
 - 1.1. SANDY GRAVEL AND GRAVEL; VERY DENSE OR CEMENTED SANDS; COURSE GRAVE/COBBLES; PRELOADED SILTS; CLAYS AND CORALS; SOILS REQUIRE MINIMUM OF 30" ANCHOR WITH (2) 4" HELIX AUGER
 - 1.2. SANDY; SILTY SAND; CLAYEY SAND; SILTY GRAVEL; MEDIUM DENSE SANDS; SANDY AUGER; VERY STIFF SILT, SAND CLAY; SOILS REQUIRE MINIMUM OF 34" ANCHOR WITH (2) 6" HELIX AUGER
 - 1.3. LOOSE TO MEDIUM DENSE SANDS; FIRM TO STIFF CLAYS AND SILTS; ALLUVIAL FILLS; SOILS REQUIRE MINIMUM OF 48" ANCHOR WITH (2) 6" HELIX AUGER
 - 1.4. LOOSE SANDS; FIRM CLAYS; ALLUVIAL FILLS; SOILS REQUIRE MINIMUM OF 60" ANCHOR WITH (2) 6" HELIX AUGER
2. TANK FOOTING SUPPORTS VARY, DEPENDING ON MANUFACTURER'S DESIGN. EACH TANK TO BE SET ON NON-REINFORCED CONCRETE FOOTING PAD OR POLYMER FOOTERS.
3. GROUND ANCHORS GALVANIZED STEEL 3/4" - DIAMETER WITH HELIX AUGER, MINUTE MAN OR APPROVED EQUAL
4. ZINC PLATED STRAP BOLT AND NUT, MINUTE MAN M4ASBN OR APPROVED EQUAL
5. INSTALL PER MANUFACTURER'S INSTRUCTIONS

HORIZONTAL PROPANE TANK WITH EARTH AUGER

SCALE: N.T.S.

1 40

- CONCRETE SLAB NOTES:**
1. ANCHORS FOR WET CONCRETE INSTALLATION, MINUTE MAN M4A42-210.0DH - 6"
 2. DRY CONCRETE ANCHOR FOR PREEXISTING CONCRETE SLAB, MINUTE MAN M4A 18-TDHLS
 3. ZINC PLATED STRAP AND BOLT AND NUT, MINUTE MAN M4ASBN
 4. INSTALL PER MANUFACTURER'S INSTRUCTIONS
 5. CAST IN PLACE CONCRETE
 - 5.1. 500 GAL TANK 45"W X 120"L X 12"H
 - 5.2. 1000 GAL TANK 48"W X 192"L X 12"H
 6. CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
 7. CONCRETE SLUMP - 3"-5"; AIR ENTRAINMENT - 5% TO 8%
 8. FINISH TOP OF CONCRETE TO SHED WATER



2 40

HORIZONTAL PROPANE TANK ON CONCRETE SLAB

SCALE: N.T.S.

CAST IN PLACE
CONCRETE
GRADE



SEE NOTE #5

SEE NOTE #5

SEE NOTE #5

CATSKILL WATERSHED CORPORATION
RESIDENTIAL FUEL STORAGE TANKS
ANCHORING DETAILS

PROPANE TANK
ANCHORING
500 GAL
1000 GAL