CONCRETE PAD, 4" HIGH

3" 4'8+5+105

MCC. END FOR CONDUITS BETWEEN DEMARCATION BOX AND MULTIPLE CONDUIT RUNS

GENERAL ABOVE GROUND CONDUIT RUN

INSTALL MALLEABLE SEAL-OFFS AT DEMARCATION BOX

MINIMUM SCHEDULE 80 PVC CONDUIT SIZE AS SHOWN.

WET WELL PENETRATION

NOT TO SCALE

MINIMUM PVC CONDUIT #8 TRANSFER SWITCH CONNECTION \nMINIMUM PVC CONDUIT #9 TRANSFER SWITCH CONNECTION \nMINIMUM PVC CONDUIT #10 GENERATOR RUNNING/GENERATOR FAULT \nMINIMUM PVC CONDUIT #11 GENERATOR RUNNING, GENERATOR FAULT \nMINIMUM PVC CONDUIT #12 FUEL LEVEL TRANSDUCER \nMINIMUM PVC CONDUIT #13 GENERATOR AUTO CONTROL \nMINIMUM PVC CONDUIT #14 STATION POWER \nMINIMUM PVC CONDUIT #15 GENERATOR PROGRAM \nMINIMUM PVC CONDUIT #16 GENERATOR STOP \nMINIMUM PVC CONDUIT #17 TRANSFORMER POWER \nMINIMUM PVC CONDUIT #9 GENERATOR STOP \nMINIMUM PVC CONDUIT #18 GENERATOR STOP \nMINIMUM PVC CONDUIT #19 GENERATOR STOP \nMINIMUM PVC CONDUIT #20 GENERATOR STOP \nMINIMUM PVC CONDUIT #21 GENERATOR STOP \nMINIMUM PVC CONDUIT #22 GENERATOR STOP \nMINIMUM PVC CONDUIT #23 GENERATOR STOP \nMINIMUM PVC CONDUIT #24 GENERATOR STOP

PUMP STATIONS WITHOUT STANDBY GENERATOR

ELECTRICAL EQUIPMENT RACK DETAIL

NOT TO SCALE

MINIMUM PVC CONDUIT #10 GENERATOR RUNNING/GENERATOR FAULT

CONDUIT LAYOUT DETAIL

NOT TO SCALE

MINIMUM PVC CONDUIT #14 STATION POWER

ABOVE AND UNDERGROUND ELECTRICAL RACEWAY DETAILS

PUMP STATIONS WITH STANDBY GENERATOR

GENERAL ABOVE GROUND CONDUIT RUN

SHOwing COUPLING AND CONNECTOR

MINIMUM PVC CONDUIT #18 GENERATOR STOP

NOT TO SCALE

MINIMUM PVC CONDUIT #19 GENERATOR STOP

EQUIPMENT DIMENSIONS

MINIMUM SCHEDULE 80 PVC CONDUIT SIZE AS SHOWN.

CONDUIT PENETRATION

MINIMUM PVC CONDUIT #9 GENERATOR STOP

NOT TO SCALE

MINIMUM PVC CONDUIT #10 GENERATOR RUNNING/GENERATOR FAULT

EQUIPMENT DIMENSIONS
### Bills of Material

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<tr>
<th>Description</th>
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<tr>
<td>3-Wire 3-Pole 115A Terminal Block</td>
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<td>3-Wire 3-Pole 150A Terminal Block</td>
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<td>Adjacent Jumper, 369A</td>
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<td>320A Z-Wire, 2 AWG</td>
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### Diagram

- **Power Distribution Panel (Typical 240VAC - 1 Phase Shown)**
- **Standard Panel**
  - 3-Phase Transformer 480V-120/480V with 2-Pole 20-Amp Main Breaker
  - Panel, with door control: 4-Phase Transformer with 2-Pole 20-Amp Main Breaker
  - Panel, with door control: 4-Phase Transformer with 4-Pole 40-Amp Main Breaker
  - Panel outer door shall be hinged and padlockable.
  - All parts shall be aluminum or equivalent for personnel safety and equipment protection.
  - Grounding terminal shall be provided in the enclosure.
  - Enclosure is fabricated within an authorized panel shop, marine grade aluminum shall be used.
  - Enclosure fabricated from marine grade aluminum: outer door is fitted with a padlockable 3-point latch.
  - Load center shall be mounted on the exterior of the panel using type 316 stainless steel or aluminum brackets.
  - Breakers may be snap-in; determined locations with high-vibration requirements bolt in type breakers.
  - Breakers may be snap-in: determined locations bolt in type breakers.
  - Grounding terminal shall be provided in the enclosure.
  - Enclosure shall be fabricated from marine grade aluminum.
  - All parts shall be aluminum or equivalent for personnel safety and equipment protection.
  - Grounding terminal shall be provided in the enclosure.
  - Enclosure fabricated from marine grade aluminum: outer door is fitted with a padlockable 3-point latch.
  - Load center shall be mounted on the exterior of the panel using type 316 stainless steel or aluminum brackets.
  - Breakers may be snap-in: determined locations bolt in type breakers.
  - Breakers may be snap-in: determined locations bolt in type breakers.
  - GFCI and Timer shall be rigidly mounted on the exterior of the panel using type 316 stainless steel or aluminum brackets.

**DEMARCATON box and PEDESTAL**
- Demarcation box and pedestal: fabricated from 1/2" carbon steel, with white polyester powder coat finish.

**PEDESTAL**
- 2M DIN Rail, Galvanized, Sloped
- Adjacent Jumper, 310A
- Adjacent Jumper, 150A
- Adjacent Jumper, 115A
- Terminal Block, 1 Pole, 150A
- Terminal Block, 1 Pole, 115A
- Terminal Block, 1 Pole, 310A

**Standard Panel**
- Power Distribution Panel: 120/240V  - 3 Phase (Typical 240VAC - 1 Phase Shown)
- Panel outer door shall be hinged and padlockable.
- All parts shall be aluminum or equivalent for personnel safety and equipment protection.
- Grounding terminal shall be provided in the enclosure.
- Enclosure fabricated from marine grade aluminum: outer door is fitted with a padlockable 3-point latch.
- Load center shall be mounted on the exterior of the panel using type 316 stainless steel or aluminum brackets.
- Breakers may be snap-in; determined locations bolt in type breakers.
- Breakers may be snap-in: determined locations bolt in type breakers.
- GFCI and Timer shall be rigidly mounted on the exterior of the panel using type 316 stainless steel or aluminum brackets.
NOTES:
1. ACCEPTABLE MANUFACTURERS OF TOWERS ARE ROHN OR UNIVERSAL TOWERS. SEE PUMP STATION SITE DRAWINGS FOR POLE OR TOWER SPECIFICATIONS.
2. YAGI ANTENNA: MANUFACTURER: SCALA MODEL #: TY-900
3. MOUNTING POLE: MANUFACTURER: SCALA MODEL #: WPM-2
4. COAXIAL CABLE: MANUFACTURER: ANDREW MODEL #: LDF4-50A
5. COAXIAL SUPPORT HANGERS: MANUFACTURER: ANDREW MODEL #: 43211
6. COAXIAL CABLE GROUND: MANUFACTURER: TESSCO MODEL #: 41669
7. STAINLESS STEEL STRAPS: MANUFACTURER: WIRELESS SOLUTIONS MODEL #: RM-A300
8. SCADA SYSTEM WOOD POLE ALTERNATE DETAIL TO BE USED ONLY WHEN ADDITIONAL ANTENNA HEIGHT IS REQUIRED, AND APPROVED.
9. 4" PVC CAPS
10. 4"(60) ALUMINUM POST
11. TOP 4"(60) ALUMINUM SUPPORT BAR TO BE TOTAL HEIGHT TO POST TOP AT 1.5 HIGHER THAN 50" 0" TAGGED HEIGHT
12. BURY 4"(60) ALUMINUM POST IN CONCRETE AS DRAWN ON DRAWING.
13. METAL ROOF BE AT TOP WHERE CORRECT DOOR ALIGNMENT TO NORTH FOR OPENING
14. COMBINATION DOOR TO BE USED WHERE CORRECT DOOR ALIGNMENT TO NORTH FOR OPENING
15. ADDITIONAL ANTENNA HEIGHT IS REQUIRED, AND APPROVED.
16. METAL ROOF, ALL POLES WHICH ARE BURIED IN CONCRETE
17. ALL MATERIALS MUST MEET OR EXCEED JEA SPECIFICATIONS.
18. SURGE ARRESTER CONNECT TO SEE GROUNDING DETAILS SHEET.
NOT TO SCALE

NOTES:
1. TO AMP MAXIMUM SERVICE SIZE.
2. THE CUSTOMER WILL MAINTAIN THE WARNING TAPE, CONDUIT AND CONDUCTORS SHOWN.
3. THE CUSTOMER MUST PLACE A CLEAR SIDE OF THE JEA POLE FOR THE JEA TO EXTEND UP CONDUIT TO CUSTOMER'S SERVICE, AT THE BEARING SIDE OF CONDUIT.
4. THE JEA POLE IS TO BE EXTENDED AT LEAST 10 FEET ABOVE FINISHED GRADE.
5. THE CUSTOMER MUST MAKE ALL CONNECTIONS TO CUSTOMER'S SERVICE VINE AND CONDUIT ON TOP OF CONDUIT TO CUSTOMER'S SERVICE VINE AND CONDUIT ON TOP OF CONDUIT.

COMMERCIAL SERVICE
100AMP MAXIMUM UNDERGROUND SERVICE FROM AN OVERHEAD POLE
NOT TO SCALE

COMMERCIAL SERVICE
ABOVE 100 AMPS AND MULTIMETERED UNDERGROUND SERVICE FROM AN OVERHEAD POLE
NOT TO SCALE

TABLE 4A
CONDUIT AND SERVICE BOX REQUIREMENTS FOR UNDERGROUND COMMERCIAL SERVICES FROM AN OVERHEAD POLE

<table>
<thead>
<tr>
<th>SERVICE SIZE</th>
<th>MINIMUM DISTANCE TO CUSTOMER'S SERVICE CONDUIT (IN.)</th>
</tr>
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<tbody>
<tr>
<td>200A-399A</td>
<td>36&quot; x 48&quot; x 24&quot; d manhole</td>
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<tr>
<td>400A-800A</td>
<td>36&quot; x 48&quot; x 24&quot; d manhole</td>
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<tr>
<td>901A-1400A</td>
<td>36&quot; x 48&quot; x 24&quot; d manhole</td>
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</tbody>
</table>

NOTES:
1. THE MINIMUM DISTANCE BETWEEN THE SERVICE BOX AND SERVICE POLE IS 36 IN.
2. THE CUSTOMER MUST EXTEND UP CONDUIT TO CUSTOMER'S SERVICE VINE AND CONDUIT ON TOP OF CONDUIT TO CUSTOMER'S SERVICE VINE AND CONDUIT ON TOP OF CONDUIT.
3. THE JEA WILL INSTALL THE POLE RISER AND CONDUCTOR FROM THE OVERHEAD FACILITIES TO THE CUSTOMER'S POINT OF SERVICE.
4. THE JEA WILL MAKE ALL CONNECTIONS TO THE CUSTOMER'S SERVICE VINE AT THE SERVICE BOX. ALL CONNECTIONS WILL RUN TO THE CUSTOMER'S POINT OF SERVICE.

TECHNICAL SPECIFICATIONS
MATERIAL SPECIFICATIONS:
SERVICE BOX:
1. PRE-CAST MOLDED CONCRETE WITH MINIMUM THICKNESS OF TWO INCHES

LOAD RATINGS:
1. LOAD RATINGS ARE IN ACCORDANCE WITH NFPA 135. STRUCTURAL CAPACITY OF工業 CONCRETE UTILITIES STRUCTURAL, LEAKAGE AND WIND UNDERGROUND COMMITTEE RECOMMENDED GUIDELINES RULE 3.14 EXCEPT 6.14 AT.

MISCELLANEOUS REQUIREMENTS:
1. HARDWARE: TWO CAPTIVE STAINLESS PENTA HEAD BOLTS FOR SECURING TOP. BOLT HEADS WILL BE FLUSH WITH TOP OF COVER.
2. BOLT HEADS SHALL BE OF 1/2" 5/8" IN. BOLTS.

ELECTRICAL NOTES:
1. ELECTRIC IDENTIFICATION: EACH TOP WILL HAVE THE WORD "ELECTRIC" PERMANENTLY MARKED INTO THE TOP.
2. HARDWARE: TWO CAPTIVE STAINLESS PENTA HEAD BOLTS FOR SECURING TOP. BOLT HEADS WILL BE FLUSH WITH TOP OF COVER.
3. IDENTIFICATION: EACH TOP WILL HAVE THE WORD "ELECTRIC" PERMANENTLY MARKED INTO THE TOP.

NOTE:
1. AS REQUIRED FOR STATION OPERATION.
NOT TO SCALE

GROUND RESISTANCE SHALL BE CERTIFIED BY AN INDEPENDENT GROUNDING SYSTEM TESTING ORGANIZATION.

D. GROUNDING CONNECTIONS SHALL ENCOMPASS 100 PERCENT OF THE GROUND CONDUCTOR AND CONDUCTOR ENDS.

5. GROUND RODS SHALL HAVE A CONICAL TAPER ON PENETRATING END. EACH GROUND ROD SHALL BE SHALT BE COPPER CLAD MIN 13MIL, COLD DRAWN CARBON STEEL MANUFACTURED IN ACCORDANCE WITH REQUIREMENTS OF IEEE 837 AND UL 467. TWO-HOLE GROUND LUGS SHALL HAVE NEMA CENTERLINE HOLE.

GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED. GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED.

10. NO CHEMICALS SHALL BE USED TO REDUCE THE RESISTANCE UNLESS APPROVED BY JEA.

9. THIS DOCUMENT MUST BE SUBMITTED AT THE TIME OF STARTUP FOR FINAL ACCEPTANCE.

7. GROUND LUGS USED WITH THE COMPRESSION PROCESS SHALL BE TYPE YGHA AS MANUFACTURED BY MAKE CABLE CONNECTIONS TO BUS BARS USING HIGH-COMPRESSION LUGS.

6. GROUND RODS SHALL BE CONNECTED BY COMPRESSION COUPLINGS, SCREW COUPLINGS WILL NOT BE ACCEPTED.

8. GROUND RODS SHALL BE DIRECTLY BURIED IN EARTH; TO WITHIN 24 TO 36 INCHES FROM BASE OF STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.

4. BARE #2/0 AWG CONNECTIONS TO GROUND RING SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED STRANDED COPPER CONDUCTOR.

3. EXTEND BARE #2/0 AWG FROM FLOW METER PANEL TO GROUND LOOP

2. EXTEND BARE #2/0 AWG FROM PONY PUMP TO GROUND LOOP

1. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

PUMP STATION GROUNDING SITE PLAN

GROUNDING SYMBOL LEGEND
- Grounding Symbol
- Grounding Symbol (Size as required by notes)
- Compression Connector
- Ground Rod and Connection
- Ground Rod
- Grounding Corner Post
- Motor Starter for SLG for Future Connections

GROUNDING NOTES:
PREVIOUSLY A COMPLETE ELECTRICAL GROUNDING SYSTEM WITH A MEASURED GROUND RESISTANCE OF 5 OHMS OR LESS.
GROUNDING COMPONENTS AND MATERIALS SHALL BE NEW AND UNCONDITIONAL.
MISLIGNED GROUND CONDUCTORS SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONDUCTORS TO THE MISLIGNED GROUND CONDUCTORS SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONDUCTORS. NOTIFICATIONS TO THE MISLIGNED GROUND CONDUCTORS SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONDUCTORS. NOTIFICATIONS TO THE MISLIGNED GROUND CONDUCTORS SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONDUCTORS. NOTIFICATIONS TO THE MISLIGNED GROUND CONDUCTORS SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONDUCTORS.

MISPLACEMENT: MINIMUM SIZE FOR MISLIGNED GROUND CONDUCTORS. MISLIGNED MATRIX OF ADDITIONALLY GROUND RODS, MISLIGNED APPLICATION SHALL BE 6/14 AWG.

MINIMUM REQUIREMENTS:
A. GROUND LOOP CONNECTION SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED COPPER GROUNDING CONDUCTOR.
C. GROUNDING ELECTRODES THAT PENETRATE INGROUND GROUNDING ELECTRODES SHALL PENETRATE AT A MINIMUM OF 3' (36"), EXCEPT IN DRY, CHLORINATED, GALVANIC MATERIALS OR MATERIALS WHERE A GROUND RESISTANCE OF 5 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MAY BE REQUIRED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN TO A DEPTH OF 60 FEET OR DEEPER FOR GROUNDING.
D. GROUNDING SYSTEM HARDWARE SHALL BE DIRECTED AT THE POINT WHERE OVERHEAD POWER LINES

G. GROUNDING CONNECTIONS SHALL INCLUDE 18 INCHES OF EARTH COVER BETWEEN THE TOP OF CONDUCTOR AND THE FOUNDATION OR SLAB.

H. GROUND RODS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES FROM THE FOUNDATION OR SLAB.

I. GROUND RODS THAT PENETRATE THROUGH EXPOSED SLABS OR WET WELL WALL, SHALL DO SO THROUGH A 3/4" x 12" (MIN), SCHED 40 PVC SLEEVE. WITH GROUND WIRE CENTERED IN SLEEVE, FILL TOP OF SLEEVE WITH APPROVED SEALANT TO A DEPTH AT LEAST 3 TIMES THE OUTSIDE DIAMETER OF THE SLEEVE.

J. BARE GROUND CONDUCTORS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES FROM THE FOUNDATION OR SLAB.


L. GROUNDING ELECTRODES THAT PENETRATE INGROUND GROUNDING ELECTRODES SHALL PENETRATE AT A MINIMUM OF 3' (36"), EXCEPT IN DRY, CHLORINATED, GALVANIC MATERIALS OR MATERIALS WHERE A GROUND RESISTANCE OF 5 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MAY BE REQUIRED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN TO A DEPTH OF 60 FEET OR DEEPER FOR GROUNDING.

M. GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED COPPER.

N. BARE GROUND WIRES CONNECTED TO GROUNDING STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.

O. GROUNDING SYMBOL LEGEND
- Grounding Symbol
- Grounding Symbol (Size as required by notes)
- Compression Connector
- Ground Rod and Connection
- Ground Rod
- Grounding Corner Post
- Motor Starter for SLG for Future Connections

P. BARE #10 AWG FROM LIGHT WET WELL GROUND LOOP

Q. BARE #4 AWG FROM POLE MOUNTED LUMINARIE

R. BARE #2/0 AWG FROM LIGHT POLE MOUNTED LUMINARIE

S. BARE #2/0 AWG FROM PONY PUMP TO GROUND LOOP

T. BARE #2/0 AWG FROM Manual Transfers Switch TO GROUND LOOP

U. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

V. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

W. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

X. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

Y. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

Z. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

AA. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP

BB. EXTEND BARE #2/0 AWG FROM PUMP PANEL (AS REQUIRED) TO GROUND LOOP