

three eighths inch = one foot
one eighth inch = one foot
one quarter inch = one foot
three quarters inch = one foot
one half inch = one foot
one inch = one foot
one and one half inches = one foot
two inches = one foot
three inches = one foot
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eighty seven inches = one foot
eighty eight inches = one foot
eighty nine inches = one foot
ninety inches = one foot
ninety one inches = one foot
ninety two inches = one foot
ninety three inches = one foot
ninety four inches = one foot
ninety five inches = one foot
ninety six inches = one foot
ninety seven inches = one foot
ninety eight inches = one foot
ninety nine inches = one foot
one hundred inches = one foot

RACEWAY NOTES:

- CUT HOLES THROUGH CONCRETE AND MASONRY IN NEW AND EXISTING STRUCTURES WITH A DIAMOND CORE DRILL OR CONCRETE SAW. PNEUMATIC HAMMERS, IMPACT ELECTRIC, HAND, OR MANUAL HAMMER-TYPE DRILLS ARE NOT ALLOWED, EXCEPT WHERE PERMITTED BY THE COTR AS REQUIRED BY LIMITED WORKING SPACE.
- ESSENTIAL (EMERGENCY) RACEWAY SYSTEMS SHALL BE ENTIRELY INDEPENDENT OF OTHER RACEWAY SYSTEMS, EXCEPT WHERE SHOWN ON DRAWINGS.
- INSTALL CONDUIT IN COMPLETE MECHANICALLY AND ELECTRICALLY CONTINUOUS RUNS BEFORE PULLING CABLES OR WIRES. WHERE SPLIT DUCT CONDUIT IS EMPLOYED, RACEWAY SHALL BE FULLY MADE UP, INCLUDING HANGERS & SUPPORTS, AND BEND RADIUS VERIFIED PRIOR TO DISASSEMBLY AS NEEDED FOR ACCESS TO INSTALL CABLES.
- INDEPENDENTLY SUPPORT CONDUIT AT 8' ON CENTERS. DO NOT USE OTHER SUPPORTS, I.E., SUSPENDED CEILINGS, SUSPENDED CEILING SUPPORTING MEMBERS, LIGHTING FIXTURES, CONDUITS, MECHANICAL PIPING, OR MECHANICAL DUCTS, TO SUPPORT CONDUIT SUPPORTS.
- SUPPORT WITHIN 12" OF CHANGES OF DIRECTION, AND WITHIN 12" OF EACH ENCLOSURE TO WHICH CONNECTED.
- CLOSE ENDS OF EMPTY CONDUIT WITH PLUGS OR CAPS AT THE ROUGH-IN STAGE UNTIL WIRES ARE PULLED IN, TO PREVENT ENTRY OF DEBRIS.
- SECURE CONDUITS TO CABINETS, JUNCTION BOXES, PULL-BOXES, AND OUTLET BOXES WITH BONDING TYPE LOCKNUTS. FOR RIGID AND IMC CONDUIT INSTALLATIONS, PROVIDE A LOCKNUT ON THE INSIDE OF THE ENCLOSURE, MADE UP WRENCH TIGHT. DO NOT MAKE CONDUIT CONNECTIONS TO JUNCTION BOX COVERS.
- CONDUIT BODIES SHALL ONLY BE USED FOR CHANGES IN DIRECTION, AND SHALL NOT CONTAIN SPLICES.
- CONDUIT FOR CONDUCTORS ABOVE 600 V: SCH 40 PVC WITHIN RED DYE CONCRETE DUCT BANK; UNLESS OTHERWISE SHOWN, USE RIGID STEEL CONDUIT WITHIN 5' OF THE EXTERIOR AND BELOW CONCRETE BUILDING SLABS IN CONTACT WITH SOIL, GRAVEL, OR VAPOR BARRIERS. CONDUIT SHALL BE HALF-LAPPED WITH 10 MIL W/TAPE BEFORE INSTALLATION. AFTER INSTALLATION, COMPLETELY RECOAT OR RETAPE ANY DAMAGED AREAS OF COATING.
- CONDUIT FOR CONDUCTORS 600 V AND BELOW: RIGID STEEL, IMC, OR EMT WITH COMPRESSION COUPLINGS. MIXING DIFFERENT TYPES OF CONDUITS INDISCRIMINATELY IN THE SYSTEM IS PROHIBITED.
- ALIGN AND RUN CONDUIT PARALLEL OR PERPENDICULAR TO THE BUILDING LINES.
- PAINT ALL EXPOSED CONDUITS CONTAINING CABLES RATED OVER 600 V SAFETY ORANGE.
- CABLE SPLICES OR TAPS SHALL BE ENCLOSED IN SPLICE BOX, WIRING TROUGH, OR EQUAL ENCLOSURE TO PROVIDE PHYSICAL SEPARATION FROM NORMAL POWER IN COMMON VAULTS.

MEDIUM VOLTAGE CABLE INSTALLATION NOTES:

- CABLES SHALL BE PULLED INTO DUCTS WITH EQUIPMENT DESIGNED FOR THIS PURPOSE, INCLUDING POWER-DRIVEN WINCHES, CABLE-FEEDING FLEXIBLE TUBE GUIDES, CABLE GRIPS, PULLING EYES, AND LUBRICANTS. A SUFFICIENT NUMBER OF TRAINING PERSONNEL AND EQUIPMENT SHALL BE EMPLOYED TO ENSURE THE CAREFUL AND PROPER INSTALLATION OF THE CABLE.
- CABLE REELS SHALL BE SET UP AT THE SIDE OF THE MANHOLE OPENING AND ABOVE THE DUCT OR HATCH LEVEL, ALLOWING CABLES TO ENTER THROUGH THE OPENING WITHOUT REVERSE BENDING. FLEXIBLE TUBE GUIDES SHALL BE INSTALLED THROUGH THE OPENING IN A MANNER THAT WILL PREVENT CABLES FROM RUBBING ON THE EDGES OF ANY STRUCTURAL MEMBER.
- CABLE SHALL BE UNREELLED FROM THE TOP OF THE REEL. PAY-OUT SHALL BE CAREFULLY CONTROLLED. CABLES TO BE PULLED SHALL BE ATTACHED THROUGH A SWIVEL TO THE MAIN PULLING WIRE BY MEANS OF A SUITABLE CABLE GRIP AND PULLING EYE.
- CABLE MAXIMUM PULL LENGTH, MAXIMUM PULLING TENSION, AND MINIMUM BEND RADIUS SHALL CONFORM WITH THE RECOMMENDATIONS OF THE CABLE MANUFACTURER. DO NOT BEND CABLE TIGHTER THAN MINIMUM BEND RADIUS AT ANY TIME BEFORE, DURING, OR AFTER INSTALLATION.
- SEAL THE CABLE ENDS PRIOR TO PULLING TO PREVENT THE ENTRY OF MOISTURE OR LUBRICANT.
- USE SUITABLE LUBRICATING COMPOUNDS ON THE CABLES TO PREVENT PULLING DAMAGE. PROVIDE COMPOUNDS THAT ARE NOT INJURIOUS TO THE CABLE JACKET AND DO NOT HARDEN OR BECOME ADHESIVE. DO NOT BEND CABLE TIGHTER THAN MINIMUM BEND RADIUS AT ANY TIME BEFORE, DURING, OR AFTER INSTALLATION.
- CABLES SHALL BE LIBERALLY COATED WITH A SUITABLE LUBRICANT AS THEY ENTER THE TUBE GUIDE OR DUCT. ROLLERS, SHEAVES, OR TUBE GUIDES AROUND WHICH THE CABLE IS PULLED SHALL CONFORM TO THE MINIMUM BENDING RADIUS OF THE CABLE.
- CABLES SHALL BE PULLED INTO DUCTS AT A REASONABLE SPEED. CABLE PULLING USING A VEHICLE SHALL NOT BE PERMITTED. PULLING OPERATIONS SHALL BE STOPPED IMMEDIATELY AT ANY INDICATION OF BINDING OR OBSTRUCTION, AND SHALL NOT BE RESUMED UNTIL THE POTENTIAL FOR DAMAGE TO THE CABLE IS CORRECTED. SUFFICIENT SLACK SHALL BE PROVIDED FOR FREE MOVEMENT OF CABLE DUE TO EXPANSION OR CONTRACTION.
- CABLES CUT IN THE FIELD SHALL HAVE THE CUT ENDS IMMEDIATELY SEALED TO PREVENT ENTRANCE OF MOISTURE.
- CONTRACTOR PROVIDE A STATEMENT THAT EACH TERMINATION WAS COMPLETELY INSTALLED IN A SINGLE CONTINUOUS WORK PERIOD BY A SINGLE QUALIFIED WORKER WITHOUT ANY OVERNIGHT INTERRUPTION.
- SOLDER BLOCK THROUGHOUT STRANDED GROUNDING WIRES THAT MIGHT PENETRATE THE TERMINATING MATERIALS.
- USE MIRRORS TO OBSERVE THE INSTALLATION OF MATERIALS ON THE BACKSIDES OF THE TERMINATIONS.
- EMPLOYEES WHO INSTALL TERMINATIONS AND TEST THE CABLES SHALL HAVE NOT FEWER THAN FIVE YEARS OF EXPERIENCE SPLICING AND TERMINATING CABLES EQUIVALENT TO THOSE BEING TERMINATED, INCLUDING EXPERIENCE WITH THE MATERIALS IN THE KITS.
- COVER ALL CABLE SEGMENTS EXPOSED IN MANHOLES AND PULL-BOXES WITH FIREPROOFING TAPE.
- CABLE SPLICES SHALL BE WATERPROOF, ACCESSIBLE, PROPERLY BONDED, AND MECHANICALLY SECURED. USE 200A DEADBREAK LOCKING SPLICES OR EQUAL.



KEY PLAN

SCALE: NTS

5 MH 31 VAULT DETAIL

E-102 SCALE: 1/4" = 1'-0"

