



**Berkeley Township**  
**MUNICIPAL UTILITIES AUTHORITY**

42 Station Road  
Bayville, NJ 08721  
(732) 237-0100  
Fax (732) 237-0638

**INSTALLATION OF WATER SERVICE LINE**

1. A HOMEOWNER MAY PERFORM HIS OWN WORK ON HIS SERVICE LINE AND INSIDE INSTALLATION. IF A HOMEOWNER DOES NOT PERFORM THE WORK HIMSELF, IT MUST BE PERFORMED BY A LICENSED PLUMBER. A HOMEOWNER SHOULD CONTACT THE BERKELEY TOWNSHIP PLUMBING INSPECTOR BETWEEN 8:30 A.M. AND 4:00 P.M. TO OBTAIN THE NECESSARY PERMIT PRIOR TO THE INSTALLATION OF THE SERVICE LINE.
2. WATER SERVICE LINES AND UNDERGROUND CONNECTIONS MUST CONFORM TO THE PLUMBING CODE.
3. WATER AND SEWER LINES MUST BE AT LEAST 12" APART.
4. THE WATER SERVICE SHALL BE A MINIMUM OF 42" DEEP AT ITS SHALLOWEST POINT.
5. AN INSPECTION BY THE BERKELEY TOWNSHIP PLUMBING INSPECTOR IS REQUIRED PRIOR TO BACK-FILLING THE TRENCH. CONTACT THE PLUMBING INSPECTOR'S OFFICE AT (732) 244-7400 BETWEEN 8:30 A.M. AND 4:00 P.M. WHEN YOU ARE READY FOR INSPECTION. TESTING WILL BE REQUIRED. A 24 HOUR NOTICE IS REQUIRED FOR INSPECTIONS. THE PURPOSE OF THE 24 HOUR NOTICE IS TO BE SURE THE LINES DON'T LEAK, WILL NOT FREEZE, AND DO NOT PINCH SHARP BENDS FOR IMPROPER JOINTS BELOW GROUND.
6. PRIOR TO REQUESTING INSPECTION BY THE PLUMBING INSPECTOR, THE HOMEOWNER MUST CONTACT THE M.U.A. TO REQUEST A TURN-ON OF THE WATER SERVICE AND INSPECTION OF THE METER INSTALLATION. THE B.T.M.U.A. IS REQUESTING THE PLUMBER TO FLUSH OUT THE SERVICE LINE PRIOR TO INSTALLING THE METER. ONCE THE LINE IS FLUSHED AND THE PROPER WATER METER, BACKFLOW PREVENTION AND VALVES ARE INSTALLED, THE HOMEOWNER OR PLUMBER MAY TURN-ON THE WATER SERVICE FOR USE. AT THIS POINT THE HOMEOWNER **MUST** CALL THE B.T.M.U.A. THE DAY THE WATER IS

TURNED ON TO SCHEDULE AN INSPECTION APPOINTMENT. IF AN INSPECTION IS NOT SCHEDULED WITHIN 24 HOURS OF THE WATER SERVICE BEING TURNED ON, THE WATER SERVICE WILL BE SHUT-OFF AND FINES MAY BE IMPOSED.

7. THE WATER METER SHOULD BE INSTALLED IN AN ACCESSIBLE LOCATION INSIDE THE DWELLING EXCLUDING THE CRAWL SPACE. THE METER MUST BE AT LEAST 8 INCHES FROM A SIDE WALL OR FLOOR. REMOTE METER READING EQUIPMENT SHOULD BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THIS EQUIPMENT MUST BE INSTALLED IN A LOCATION THAT IS ACCESSIBLE TO THE AUTHORITY'S PERSONNEL AT ALL TIMES. THE REMOTE METER READING EQUIPMENT SHALL BE LOCATED APPROXIMATELY 48 INCHES HIGH ON THE STREET SIDE OF THE BUILDING, OR ON THE SIDE OF THE BUILDING WITHIN 2 FEET OF THE STREET SIDE. THE WIRE FROM THE WATER METER TO THE TRANSMITTER SHALL BE CONTINUOUS WITHOUT SPLICING CONNECTIONS.
8. THE HOMEOWNER IS RESPONSIBLE FOR THE INSTALLATION OF THE METER MOUNTING YOKE AND METER BACKFLOW PREVENTION DEVICES. THE HOMEOWNER MAY PURCHASE THE MOUNTING YOKE FROM ANY LOCAL PLUMBING SUPPLY HOUSE.
9. THE YOKE SHOULD BE INSTALLED SO THAT THE DIAL ON THE WATER METER WILL BE IN A HORIZONTAL PLANE. A GATE VALVE ,(WITH A DRAIN, MUST BE LOCATED JUST AHEAD OF THE YOKE. A VALVE MUST ALSO BE INSTALLED AFTER THE YOKE TO PREVENT BACKFLOW AND PIPE DRAINAGE DURING METER CHANGES. INSTRUCTIONS FOR HOUSE SERVICE CONNECTIONS WILL BE GIVEN WHEN YOU PICK UP YOUR METER
10. A WATER METER SETTING DEVICE SHALL BE PROVIDED CONSISTING OF THE FOLLOWING: A SHUT-OFF VALVE BEFORE THE METER, A DUALCHECK BACKFLOW PREVENTION DEVICE AND A SHUTOFF VALVE AFTER THE CHECK VALVE. THE CHECK VALVE MUST CONFORM TO ANSI/ASSE STANDARD 1024.
11. METERS FOR INDIVIDUAL WATER CONNECTIONS UP TO 2 INCHES DIAMETER WILL BE PROVIDED BY THE AUTHORITY. ALL OTHERS WILL BE FURNISHED BY THE APPLICANT.
12. ALL NON-RESIDENTIAL BUILDINGS AND ANY RESIDENTIAL FACILITY WITH OVER 10 UNITS SHALL CONNECT TO THE WATER SYSTEM IN THE FASHION DESCRIBED BELOW.

13. DOMESTIC SERVICES: THE WATER SERVICES SHALL BE OF ADEQUATE SIZE, METERED AND A REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION DEVICE INSTALLED AFTER THE METER. THE SERVICE SHALL INCLUDE ALL OF THE APPARATUS LISTED UNDER THE RESIDENTIAL SERVICE CONNECTIONS SIZED ACCORDINGLY.

THE BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED ABOVE GRADE AND BE ACCESSIBLE FOR TESTING ON A YEARLY BASIS AT THE OWNER'S EXPENSE AND PROVIDED WITH MEANS FOR DRAIN.

THE AUTHORITY WILL SUPPLY THE METER. THE PROPERTY OWNER WILL SUPPLY THE BACKFLOW PREVENTION DEVICE AND APPARATUS. ALL METER SETTING DEVICES AND CHECK VALVES WILL BE PRE-APPROVED BY THE B.T.M.U.A.

14. SERVICE CHARGES SHALL START ON THE DATE THE WATER METER IS SECURED. ALL NEW CHARGES SHALL BE PRO-RATED.

15. PLUMBERS SHOULD NOT USE "PIPE DOPE" IN MAKING CONNECTIONS. IF A PLUMBER USES "PIPE DOPE" AND THAT USE RESULTS IN REPLACING THE METER, THE HOMEOWNERS WILL HAVE TO PAY FOR THE COST OF A NEW METER AND THE COST TO INSTALL A NEW METER.

16. IN ALL CASES, THE WATER METER MUST BE SECURED BY THE AUTHORITY AND THE AUTHORITY SHALL TURN ON THE SERVICE FOR FINAL INSPECTION. IF THESE STEPS ARE NOT PERFORMED BY THE AUTHORITY, SERVICE CHARGES SHALL START ON THE DATE THE WATER METER WAS PICKED UP.

17. IT IS THE HOMEOWNER'S RESPONSIBILITY TO SAFEGUARD THE AUTHORITY'S PROPERTY AGAINST ALL HARM AND DAMAGES. IF DAMAGES RESULT IN REPLACING THE METER, THE HOMEOWNER WILL HAVE TO PAY FOR THE COST OF A NEW METER AND THE COST TO INSTALL A NEW METER.

18. THERE IS A 1" COOPER TUBE SIZE COMPRESSION FITTING AT THE CURB STOP FOR YOU OR YOUR PLUMBER TO CONNECT TO.

19. HOT WATER HEATERS SHOULD BE DRAINED AND FLUSHED. SOMETIMES IT WILL BE NECESSARY TO DISINFECT YOUR HOT WATER HEATER AND PIPES TO ELIMINATE AND PREVENT ODORS. ENCLOSED, PLEASE FIND INFORMATION SHEETS TO ASSIST YOU WITH THIS IF ODORS SHOULD DEVELOP.
20. PLUMBERS OR HOMEOWNERS WILL BE REQUIRED TO INSTALL A CC4 BOX OVER THE WATER SERVICE SHUT OFF VALVE AT THE PROPERTY LINE.
21. THE CC4 BOX NEEDS TO BE IN PLACE FOR FINAL INSPECTION BY THE B.T.M.U.A. INSPECTOR.

MAINTAINED BY BTMUA

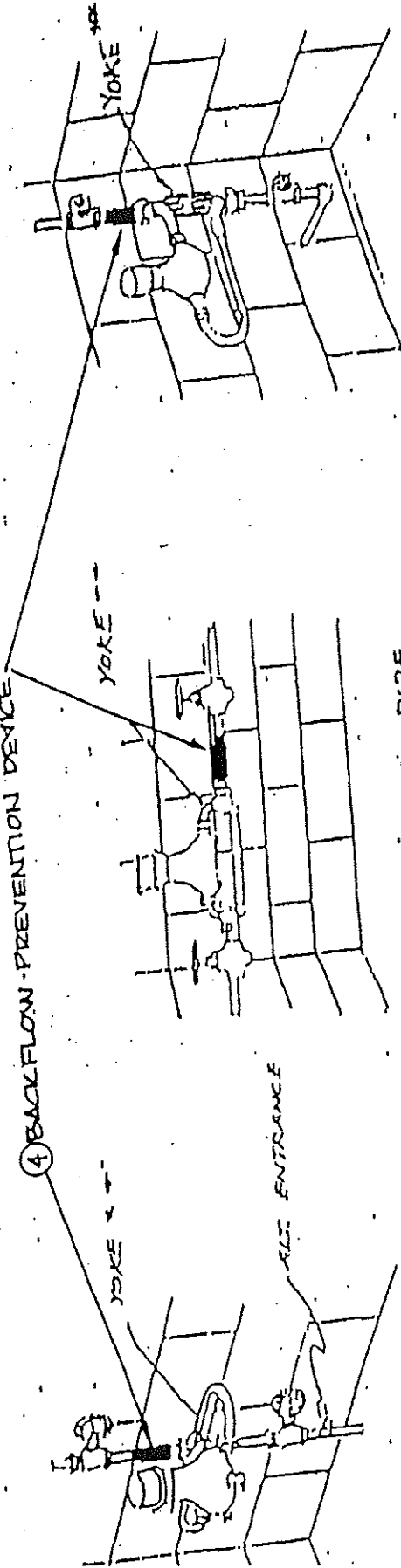
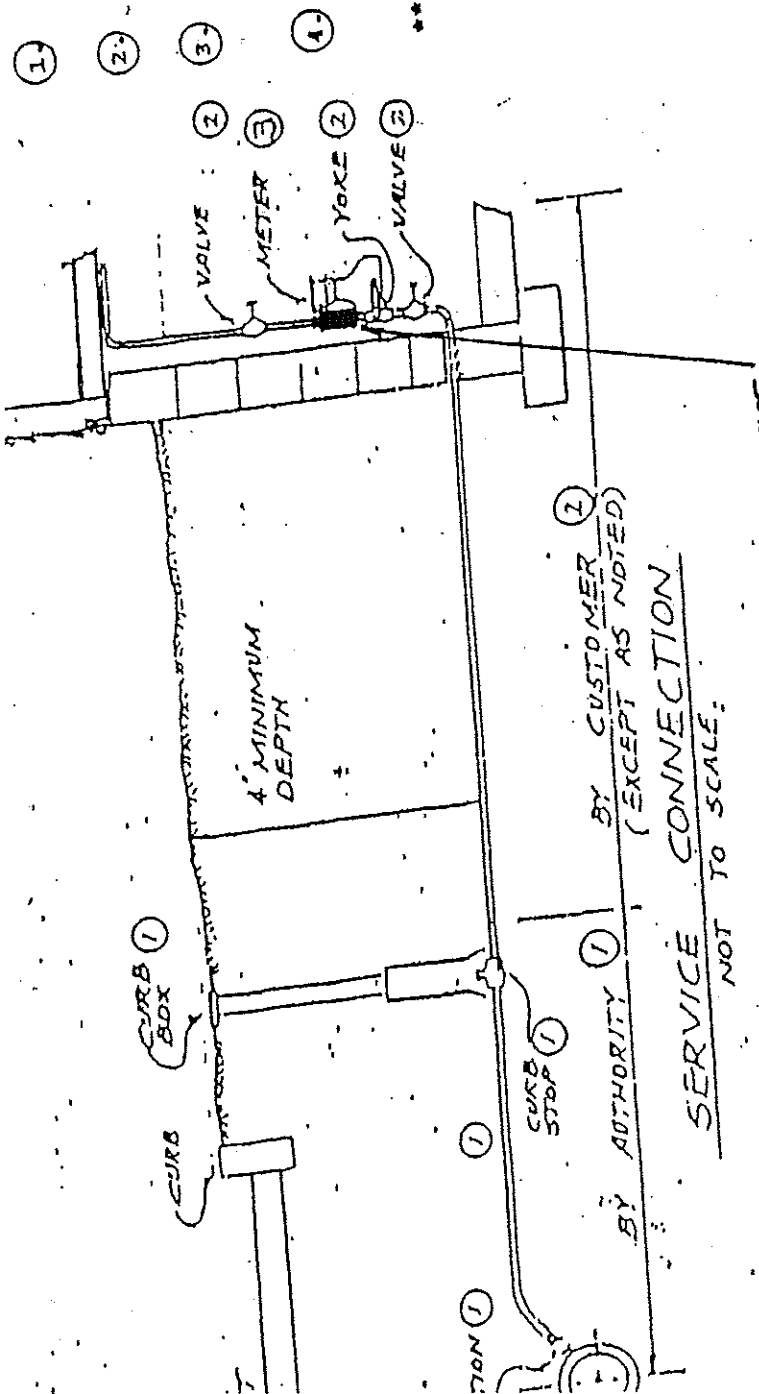
MATERIAL PURCHASED AND  
INSTALLED BY CUSTOMER.

METER SUPPLIED BY THE  
AUTHORITY, INSTALLED BY  
THE CUSTOMER.

BACKFLOW PREVENTION  
DEVICE PURCHASED AND  
INSTALLED BY CUSTOMER.

CONSULT YOUR PLUMBER OR  
SUPPLIER FOR TYPE OF YOKI  
REQUIRED FOR THE TYPE OF  
PIPE YOU INTEND TO USE.

WATER SERVICE MUST BE  
INSTALLED IN ACCORDANCE  
WITH ALL STATE AND LOCAL  
CODES. CONSULT YOUR  
PLUMBING INSPECTOR FOR  
REQUIREMENTS.



CORNER TYPE

HORIZONTAL PIPE

METER SETTINGS  
NOT TO SCALE

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

KA 1041

**Note:** If you anticipate future connection to Automatic Meter Reading, you may want to make the TouchRead Register installation compatible with connection to a Meter Interface Unit. For future compatibility, observe the color coding when making wire connections: black wire to terminal "B," red wire to terminal "R" and green wire to terminal "G." In either installation, make certain there is no bare wire-to-wire contact.

4. Replace the cover, turning clockwise to lock in place.
5. Coil and secure excess cable to the body of the meter or service line in a presentable manner.
6. Use the Visual Reader (Model 3096) to verify the register reading and identification number by touching the TouchPad, which should be wall-mounted by this time. The reading that appears first on the Reader's screen should correspond to the meter's odometer reading. Depress the reading button to view the eight-digit register I.D. number. Record the reading and I.D. number for the proper customer location (address) along with the meter's serial number.
7. After you have successfully read the meter from the TouchPad and thus verified correct installation, seal wire the register top through the seal wires holes provided in the terminal cover. At the TouchPad, fold the hinged screw covers into place and seal wire to secure.

## TROUBLESHOOTING

The following can be used as a guideline.

*If the display shows "E-1" for meter reading and "E-2" for I.D. number:*

1. Check to see if all connections are secure at the terminals on the register and on the back of the TouchPad (make certain that bare wires are not touching each other at the terminals).

2. Check to see if there is a broken or shorted wire between the register and the TouchPad. Check the staples to make sure they have not cut into the cable and shorted the wires.
  - a. Disconnect the wires from the installed register terminals and connect to another test register. If a reading cannot be obtained through the TouchPad, the problem most likely is in the cable.
 

**Special Note:** However, as an additional check, a different TouchPad should be utilized in an attempt to secure a reading before time is spent on checking the cable. ECRWP wires are potted and cannot be disconnected from the terminals.
  - b. Following the above procedure will verify a broken or shorted cable, a faulty ECR Register or a faulty TouchPad. (Since the critical components are electronic and tested prior to shipment, it is unlikely that a faulty register or TouchPad will be found.)

*If the display shows "E-1" for meter reading and "E-2" for I.D. number:*

1. Take another test reading after a quantity of water has been run through the meter (200 gal./30 cu. ft. or more preferred).
  - a. Proper reading - system is satisfactory.
  - b. If the display still shows "E-1" for register reading - replace register or meter assembly.
  - c. If the register reading is correct, but the display shows "E-2" for the I.D. number, replace the register or meter assembly.
  - d. If no response shows on the display, the visual reader's battery must be charged.

# Installation Instructions

## TouchRead® Electronic Communications Register (ECR)

## TouchRead® Electronic Communications Register / Weatherproof (ECR/WP) with Remote Touchpad Module

### IMPORTANT

For ease of installation, follow these step-by-step instructions. Be sure that the meter is the right size and the register is in the desired units of measurement. Install the Water Meter in the line as prescribed by local code and in the proper direction as indicated by the arrow on the meter.

### RECOMMENDED TOOLS AND MATERIALS

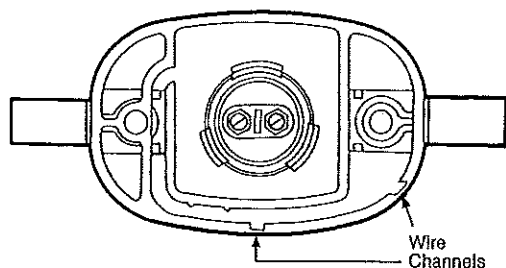
- Three conductor, 22 gauge, solid conductor vinyl-covered cable is supplied by Sensus for distances up to 100 feet.
- The register comes with a three-conductor, 22 gauge cable preattached and sealed (potted) at the factory. All three conductors are connected to individual terminals on the register; all would be active when used for Automatic Meter Reading (AMR) service. The conductors are solid copper wires with color-coded insulation, encapsulated in a solid-fill vinyl jacket. The cable must not be subjected to sharp bends or creases.
- Electric drill and bit (1/4")
- Screwdriver
- Wire Stripper
- Stapler with 3/8" non-corrosive staples (electrical non-interference wire type)
- #10 flat-head or oval countersunk head wood screws at least one inch long
- Plastic anchor plugs for masonry wall installations
- Lead seals and seal wire
- Visual Reader for system test and I.D. check TouchPad and Cables Installation

### INSTALLATION INSTRUCTIONS

#### TouchPad and Cables Installation

1. Select the TouchPad location on the wall. Drill a 1/4" diameter cable entry hole in a location convenient to the TouchPad. (The hole should be located behind the TouchPad for maximum protection and to discourage tampering.)
2. For ease of reading operation, the TouchPad should be mounted approximately 48" above ground level. Use the TouchPad as a template to locate the mounting holes.
3. If the drilled cable hole is not located directly behind the TouchPad, it will be necessary to break-out one of the thin side wall panels to gain access to the wire channel. See Illustration 1.

Illustration 1



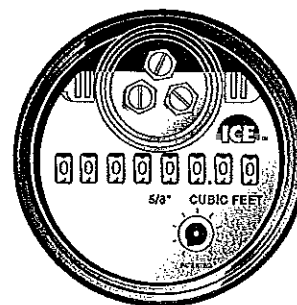
TOUCHPAD BACK VIEW

4. Feed the remote cable through the hole in the wall and extend the cable to the meter. The cable is supplied on a spool and should be cut to length at the site. Leave several inches of excess cable at the TouchPad and two (2) feet or more at the meter for ease of handling.
  5. Attach the cable to the TouchPad as follows:
    - a. Tie a single overhand knot in the cable, 2-1/2" from the end.
    - b. Prepare the cable end by cutting off 1-1/2" of the outer jacket.
    - c. Strip 3/4" of insulation from the two conductors.
    - d. Bend a loop in each bare wire and fasten the cable to the terminal screws. (It isn't necessary to observe polarity or color coding when using 2-conductor wire; however, make certain that there is no bare wire-to-wire contact.)
    - e. To improve moisture and strain resistance when conditions will NOT allow the hole for the cable to be covered by the TouchPad, be sure to push the cable into the underside channel until no unjacketed cable protrudes.
  6. Feed any excess wire that will not fit in the cavity behind the TouchPad back into the hole, and caulk up the hole.
  7. Mount the TouchPad by using the proper wood screws, and anchor plugs, if necessary.
  8. Staple the cable to floor joists or beams. CAUTION-STAPLES MUST NOT CUT OR DEFORM THE CABLE INSULATION.
- Note:** If installing ECR/WP, proceed to Step B5.

#### Connection to the ECR Register

1. Prepare the cable for installation at the meter:
  - a. Remove approximately 1-1/2" of the outer jacket.
  - b. Strip 3/4" of insulation from the two connectors.
  - c. Bend a loop in each bare wire.
2. Remove the terminal cover on the meter register by rotating the cover counterclockwise.
3. Beneath the cover, three terminals are visible, labeled "R," "B," and "G" (Illustration 2). If three-conductor cable is used, connect the same color wires as were connected to the TouchPad's terminals to the register terminals "R" and "B." If two-conductor cable is being used, make a connection to the register terminals "R" and "B" (it isn't necessary to observe polarity or color coding for 2 conductor cable). However, using the green register terminal for two-wire connection may cause damage to the register.

Illustration 2



TOP VIEW (Terminal Cover Removed)