NOTES:
1. NO CHANGE IN PIPE DIRECTION OR DIAMETER SHALL OCCUR
   WITHIN 36 FEET OF THE VERTICAL BEND. BENDS, TEES, REDUCERS,
   ETC. BEYOND THE 36 FOOT LIMIT SHALL BE RESTRAINED BY
   STANDARD CONCRETE BLOCKING PER STD. DTL. W-1 & W-3.
2. CONCRETE BLOCKING SIZES BASED ON:
   - 36 FEET OF PIPE RESTRAINED EACH SIDE OF BEND.
   - THRUST BLOCK AREAS BASED ON SAFE BEARING LOAD
     OF 1,000 PSF.
   - 2,500 PSI CONCRETE
   - MINIMUM 3 FEET OF COVER.
   - PIPE THRUST BASED ON 200 PSI PRESSURE.
   - PIPE ENCASED IN POLYETHYLENE.
   - VERTICAL BLOCK SIZE BASED ON CONCRETE WEIGHT OF
     150 POUNDS PER CUBIC FOOT.
   - TRENCH CONDITIONS BASED ON TYPE 2, FLAT BOTTOM
     TRENCH WITH LIGHTLY CONSOLIDATED BACKFILL, PER
     ANSI/AWWA C550-92/5.0
   - FACTOR OF SAFETY IS 1.5.
   - SOIL FRICATIONAL RESISTANCE BASED ON COHESIVE GRANULAR
     SOIL TYPE (GC+SC). SAND, GRAVEL, CLAY MIXTURE.
3. BLOCKING DESIGN MUST BE ADJUSTED FOR
   OTHER SIZE PIPE, PRESSURES AND SOIL CONDITIONS.
4. PIPE CLAMP (STAINLESS STEEL TOLCO 4H 316SS). RODS
   (STAINLESS STEEL ALL-THREAD 316SS).
5. LINE SHALL NOT BE PRESSURIZED UNTIL ALL TRENCHING
   WITHIN 100 FEET OF VERTICAL BEND IS BACKFILL AND
   COVERED TO MINIMUM COVER OF 3 FEET OVER PIPE.
6. 90° VERTICAL BEND SHALL ONLY BE INSTALLED WHERE
   GIVEN PRIOR APPROVAL BY THE UTILITY.
7. BACKFILL TRENCH BEYOND 90° VERTICAL BLOCK WITH
   CRUSHED SURFACING TOP COURSE MATERIAL COMPACTED TO
   95% MAXIMUM DENSITY. CRUSHED BACKFILL SHALL EXTEND
   20 FEET BEYOND BLOCK OR TO FIRM BEARING TRENCH WALL.
   WHICHEVER IS LESS.
8. LEAVE BLOCK OPEN OR SHEETED 24 HOURS MINIMUM.
9. MEGA-LUG FITTINGS.

City of Bellevue
VERTICAL BLOCKING
WITH RESTRAINED JOINTS
FOR NEW LINES

JANUARY 2013
NO SCALE

NO. W-2