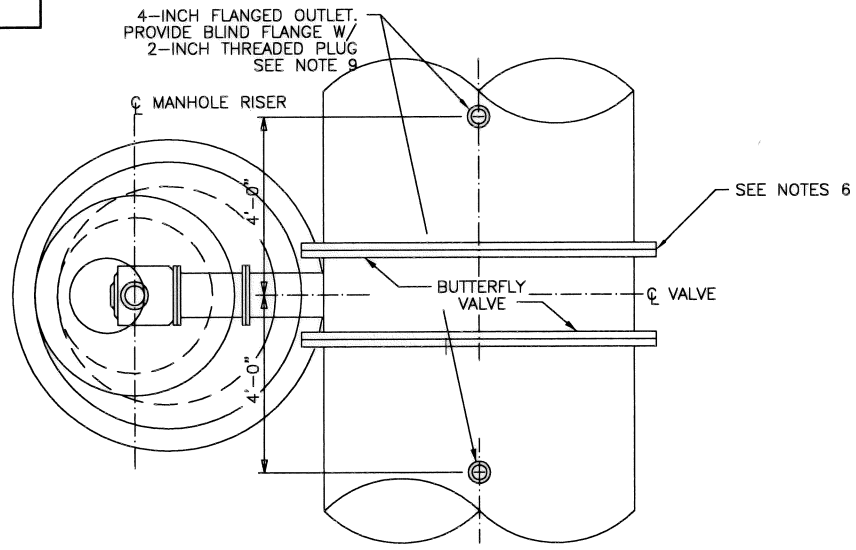
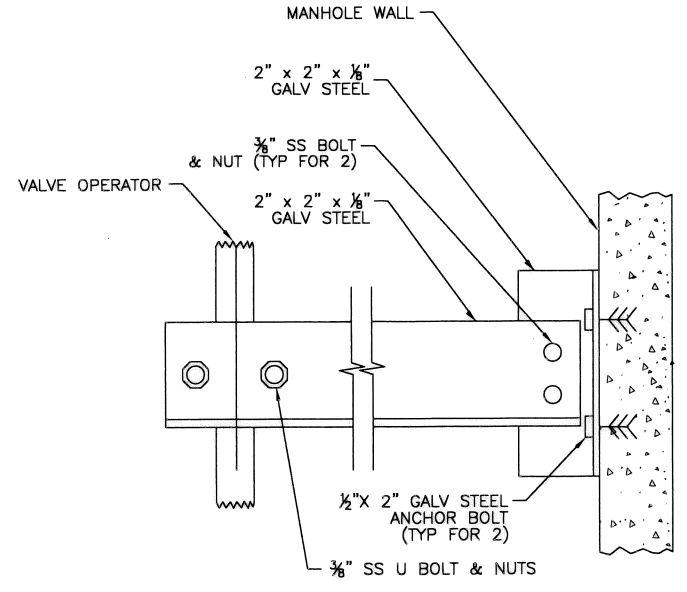


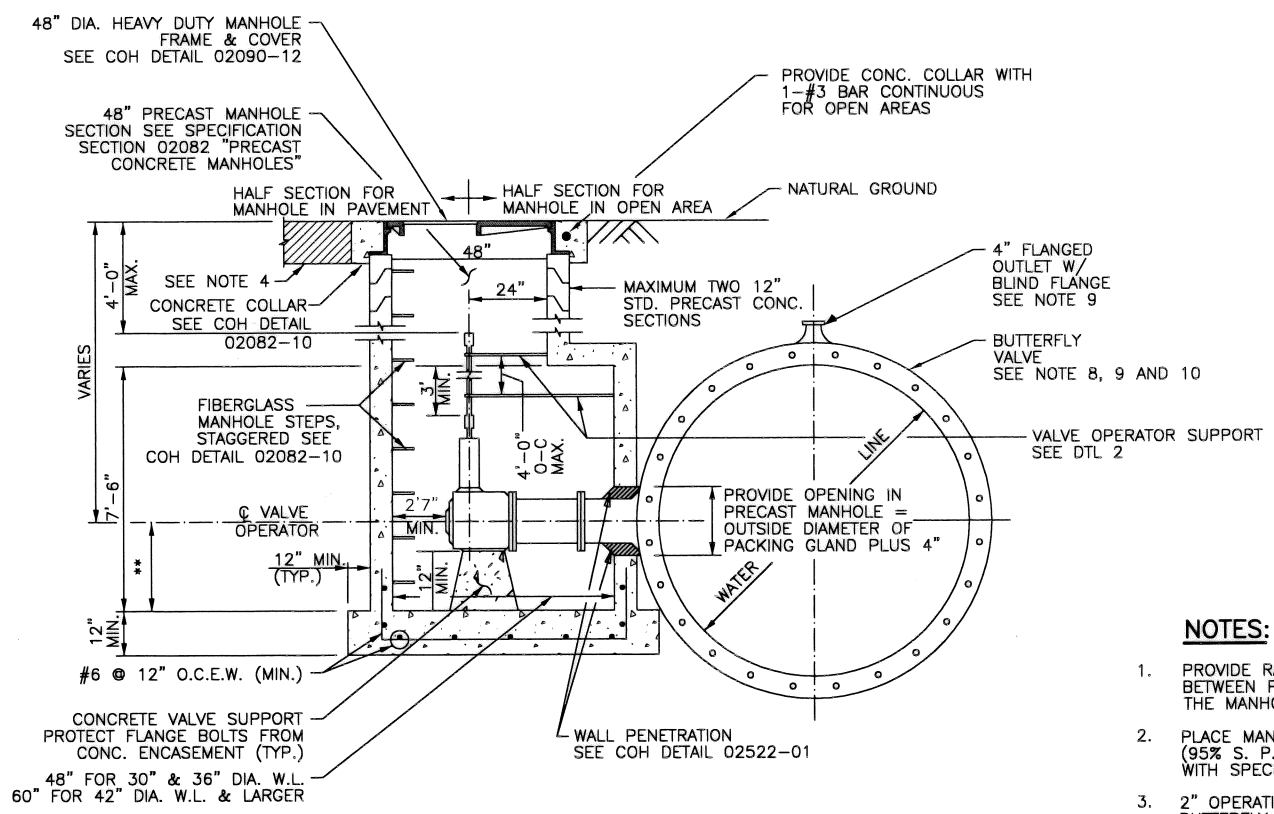
NOTE:
 SHOULD CONTRACTOR DESIRE TO USE VALVES IN A THROTTLED POSITION FOR FILLING OF LINE SEGMENTS, CONTRACTOR IS CAUTIONED TO OBSERVE RECOMMENDATIONS OF VALVE MANUFACTURER IN ORDER TO PRECLUDE DAMAGE ASSOCIATED WITH THIS MODE OF OPERATION.



PLAN

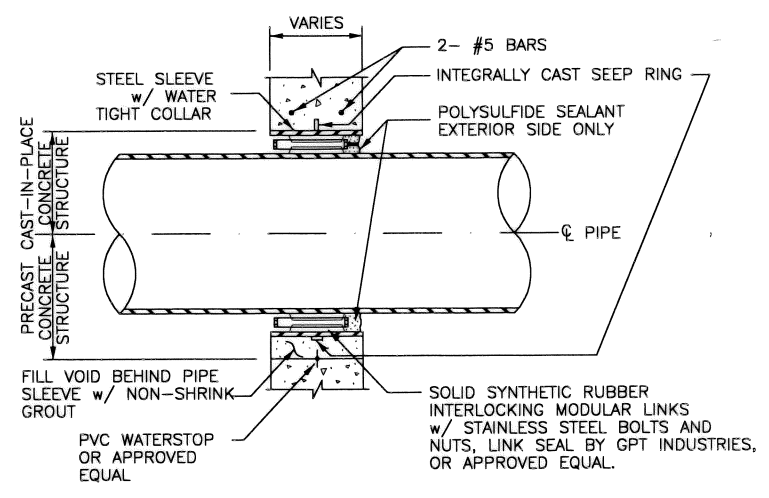


2 VALVE OPERATOR SUPPORT



ELEVATION

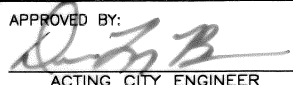
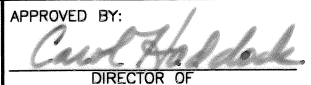
1 BUTTERFLY VALVE AND OPERATOR MANHOLE DETAIL
 (FOR WATER LINES 30-INCHES TO 96-INCH IN DIAMETER)



3 TYPICAL WALL PENETRATION DETAIL

NOTES:

1. PROVIDE RAMNEK OR APPROVED EQUAL BETWEEN PRECAST SEGMENTS OF THE MANHOLE.
2. PLACE MANHOLE ON NEW COMPACTED (95% S. P. D.) BOTTOM IN ACCORDANCE WITH SPECIFICATION 02316.
3. 2" OPERATING NUT ON LARGE DIAMETER BUTTERFLY VALVES SHALL TURN CLOCKWISE TO OPEN VALVE. ABOVE-GROUND AND PLANT VALVES SHALL OPEN COUNTERCLOCKWISE.
4. FOR PAVEMENT REPAIR, SEE COH DETAILS 02902-01 & 02902-02.
5. FOR MANHOLES DEEPER THAN 20 FEET, PROVIDE SAFETY CLIMBING RAIL (SAF-T-CRIMB OR EQUAL)
6. FOR JOINT BONDING DETAILS AT BUTTERFLY VALVES SEE COH DETAIL 15640-02.
7. ADJUST MANHOLE AND MANHOLE OPENING TO ALIGN WITH VALVE OPERATOR NUT FOR EASE OF OPERATION
8. FOR VALVES GREATER THAN OR EQUAL TO 24-INCH DIAMETER, BACKFILL USING CONTROLLED LOW STRENGTH MATERIAL (CLSM, 100 P.S.I. MIN.) EXTENDING FROM THE VALVE CENTERLINE TO 7- FEET UPSTREAM AND DOWNSTREAM OF THE VALVE CENTERLINE FROM THE BOTTOM OF THE TRENCH TO 12-INCH MIN. ABOVE THE TOP OF PIPE. PROVIDE BUOYANCY CONTROL.
9. ADJUST FLANGED OUTLET LOCATION TO 9- FEET FROM VALVE CENTER LINE FOR VALVES GREATER THAN OR EQUAL TO 54-INCH DIAMETER.
10. USE ENCAPSULATED BOLTS AND POLYETHYLENE WRAP AS A BOND BREAKER BETWEEN PIPE, VALVE AND CLSM. ENSURE CLSM IS PROPERLY FILLED IN PIPE HAUNCHES. FOUR CLSM IN LIFTS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STANDARD LDWL BUTTERFLY VALVE AND OPERATOR MANHOLE DETAILS (NOT TO SCALE)	
APPROVED BY:  ACTING CITY ENGINEER	APPROVED BY:  DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: MAR-20-2018	DWG NO: 02522-01