Finish Grade

Class I, Type A Permeable Material

Trench Backfill

Utility Pipe

Pipe Embedment

Class A Concrete For Gas Cut-Off Barrier Inside Trench At 50 Foot Intervals Or Less

Sub Soil

Width Of Trench (3' Min.)

NOT TO SCALE

CITY OF REDWOOD CITY
ENGINEERING AND TRANSPORTATION
METHANE GAS CUT-OFF BARRIER IN UTILITY TRENCH

STANDARD DETAIL

DATE: 06/23/14

SHT 1 OF 1

LF - 3
NOTE: Seal All Joints And Connections With Ramneck

Polyethylene Carrier Pipe

Polyethylene Containment Pipe

Clow Two Piece Valve Box Screw Type F-2454 With Water Cover One Per Valve

Gate Valves With Non-Rising Stems

Flanged End Assembly On Carrier And Containment Pipes Typical

SECTION A-A

Class A Concrete Thrust Block Per City of Redwood City Standard W-7

24" Manhole Vertical Sections

Standard Manhole Frame And Cover with 6 Holes And Cover Marked "WATER"

Top Of Box To Be 6" Clear Of Top Of Valve Stem

Cast Bottom Flange Of Valve Box Into Top Of Concrete Box

Flange To Be Fastened To 3/16"SS Anchor Bolts Embedded 4" Min. Into Concrete, Typical

6" Clear Typ.

Precast Reinforced Concrete Box

Keyway

Cast-In-Place Concrete Base

Rubber Gasket Typical

SECTION

CITY OF REDWOOD CITY
ENGINEERING AND TRANSPORTATION
LEAK DETECTION VAULT AT WATER VALVES AND WATER SERVICE CONNECTIONS TO MAIN

STANDARD DETAIL
LF - 4
SHT 1 OF 1
DATE: 06/23/14
City of Redwood City
Standard Detail D-7
For Water Tight Pipe Connection.

Polyethylene Flange Assembly
Flange X Plain End Fitting

PVC Pipe

Precast Reinforced Concrete Box

Polyethylene Containment Pipe

Polyethylene Carrier Pipe

4" Clear

24" Manhole
Vertical Sections

Standard Manhole Frame
And Cover With 6 Holes
And Cover Marked With
"WATER" Or "SANITARY SEWER" As Applicable.

Rubber Gasket
Flanged End Containment Pipe

Flange To Be Fastened
To 316SS Anchor Bolts
Embedded 4" Min. Into Concrete.

6"Typ
18"

SECTION

NOT TO SCALE
**Termination of Containment Pipe at Air Release Valve**

- **Polyethylene Containment Pipe**
- **Polyethylene Carrier Pipe**
- **1" Polyethylene Tubing**
- **Fixed End Seal Per Pipe Manufacturer**
- **Polyethylene Reducer Branch Per Pipe Manufacturer**

See City Of Redwood City Standard Detail W-1 For Air Release Valve Installation.

**Not To Scale**

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**CITY OF REDWOOD CITY**

**Engineering and Transportation**

**Termination of Containment Pipe at Air Release Valve**

**DATE:** 06/23/14

**STANDARD DETAIL**

**LF - 9**

**SHT 1 OF 1**
See City Of Redwood City Standard Detail W-3 and W-13 For Water Meter And Double Check Detector Backflow Prevention Assembly

- Water Meter Box
- Flange To Be Fastened To 316SS Anchor Bolts Embedded 4" Min. Into Concrete
- Containment Pipe With Flanged End
- Rubber Gasket
- Water Service Carrier Pipe
- Class A Concrete
- Maintain Carrier Pipe To Containment Pipe Clearance Through Concrete Block
- 2 - #4 Hoops
- 6" Min.

NOT TO SCALE

CITY OF REDWOOD CITY
ENGINEERING AND TRANSPORTATION
TERMINATION OF CONTAINMENT PIPE AT WATER METER BOX AND DETECTOR CHECK VALVE BOX

STANDARD DETAIL

DATE: 06/23/14
See City Of Redwood City
StandardDetail W-4
For Blow-Off Installation

Fixed End Seal At
End Of Containment Pipe
Per Pipe Manufacturer

12" Max.

2" NPT Tap For
Blow-Off Installation

Fixed End Seal At
End Of Carrier Pipe
Per Pipe Manufacturer

CITY OF REDWOOD CITY
ENGINEERING AND TRANSPORTATION
TERMINATION OF CONTAINMENT
PIPE AT BLOW-OFFS

STANDARD
DETAIL
LF - 12
SHT 1 OF 1

DATE: 06/23/14