

# STANDARD CULINARY WATERLINE DETAILS

## INDEX

- CW-1 WATERLINE TRENCH
- CW-2 CONCRETE THRUST BLOCKS
- CW-3 WATERLINE LOOP
- CW-4 FIRE HYDRANT CONNECTION
- CW-5 RESIDENTIAL METER CONNECTION- 3/4 X 5/8 INCH OR 1"
- CW-6 METER VAULT 2-INCH
- CW-7 METER VAULT 4-INCH
- CW-8 METER VAULT 6-INCH
- CW-9 METER VAULT 8-INCH
- CW-10A PRESSURE REDUCING VALVE (PRV) STATION - 1 OF 2
- CW-10B PRESSURE REDUCING VALVE (PRV) STATION - 2 OF 2
- CW-11 DETECTOR CHECK VALVE
- CW-12 AIR/VACUUM RELIEF VALVE
- CW-13 2" BLOW OFF VALVE
- CW-14 SAMPLING STATION
- CW-15 CONCRETE COLLAR

**CULINARY WATERLINE  
DETAILS**

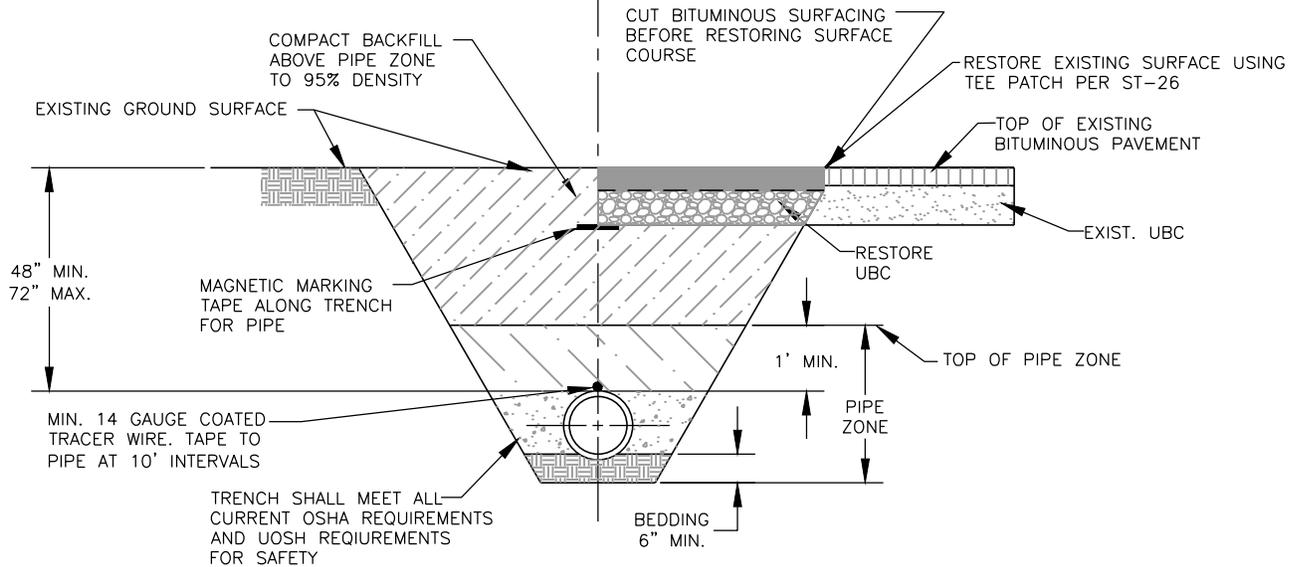
DATE: <b>JANUARY 2015</b>	REVISIONS	
DRAWING NAME: <b>CW-0</b>	REV	DATE BY
DRAWN BY: <b>ETL</b>	COMMENTS	
CHECKED: _____	APPROVED: _____	
<b>SARATOGA SPRINGS CITY</b>		
1307 N. COMMERCE DR. #200, SARATOGA SPRINGS, UT 84045 PHONE: 801-766-9793 FAX: 8017669794		



STANDARD DETAILS
WATERLINE
<b>CW-0</b>

**UNIMPROVED AREAS**

**ROADWAYS**



**CROSS-SECTION: TYPICAL TRENCH**

**NOTES:**

1. WATER LINES 12 INCHES AND LARGER SHALL BE DUCTILE IRON CLASS-51.
2. WATER LINES 10 INCHES AND SMALLER SHALL BE PVC AWWA C900 CLASS 200.
3. VALVES 12 INCHES AND LARGER SHALL BE BUTTERFLY VALVES.
4. WHENEVER POSSIBLE "HOT TAP" CONNECTIONS REQUIRED. HOT TAP VALVE TO BE SUPPORTED DURING CONNECTION. CONTRACTOR TO NOTIFY CITY 24 HOURS IN ADVANCE OF MAKING CONNECTION.

5. PIPE ZONE SHALL BE BACKFILLED WITH BEDDING MATERIAL, OR OTHER ACCEPTABLE MATERIAL.
6. TRACING WIRE TO BE BROUGHT OUTSIDE OF BOTTOM PORTION OF VALVE BOX AND INSIDE TOP TO SURFACE.
7. FURNISH AND INSTALL POLY-WRAP ON DUCTILE IRON PIPE.
8. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.

**CONSTRUCTION NOTES:**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
2. MINIMUM COVER OVER TOP OF PIPE SHALL BE 48-INCHES BELOW THE FINISHED GRADE. THIS DEPTH MAY BE INCREASED AS REQUIRED TO MISS UNDERGROUND UTILITIES, STORM DRAINS, OR OTHER OBSTRUCTIONS, OR WHERE INDICATED ON THE DRAWINGS.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE LAYING PIPE WITHIN 200 FEET OF UTILITY CROSSINGS SHOWN ON THE DRAWINGS, OR AS "BLUE-STAKED."
4. SEWER MAINS, WATER MAINS, GAS MAINS AND OTHER UTILITIES ARE SHOWN ON THE PLANS IN A GENERAL SCHEMATIC WAY ACCORDING TO INFORMATION RECEIVED FROM OTHERS AND SOMETIMES FROM FIELD MEASUREMENTS. THE ACCURACY OR COMPLETENESS OF THE LOCATIONS SHOWN IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF EXISTING SERVICE CONNECTIONS AND UTILITIES AND TAKE THE NECESSARY STEPS TO AVOID THEM.
5. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE.
6. THE CONTRACTOR MAY, AT HIS DISCRETION, USE SLOPING WALLS IN UNIMPROVED TERRAIN.

**CULINARY WATERLINE TRENCH**

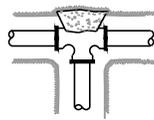
DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-1</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

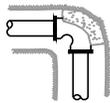
**SARATOGA SPRINGS CITY**  
 1307 N. COMMERCE DR.  
 #200, SARATOGA SPRINGS,  
 UT 84045  
 PHONE: 801-766-9793  
 FAX: 8017669794



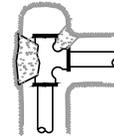
STANDARD DETAILS  
 CULINARY WATER  
**CW-1**



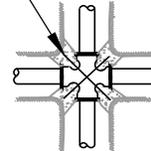
**TEE**



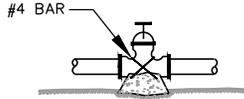
**90° ELBOW**



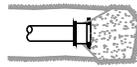
**TEE WITH CAP**



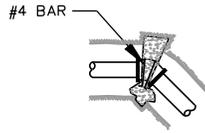
**CROSS**



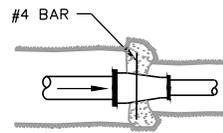
**VALVE**



**CAP OR PLUG**



**ELBOW**



**REDUCER**

**SAFE BEARING LOADS**

SOIL TYPE	SAFE BEARING LOAD (lb/ft <sup>2</sup> )
SAND	1000
SAND & GRAVEL	1500
SAND & GRAVEL CEMENTED WITH CLAY	2000
SHALE	5000

**SAFE BEARING LOAD FORMULA**

$$\frac{\text{THRUST BLOCK AREA AGAINST TRENCH WALL (SQ. FEET)}}{\text{THRUST ON FITTING}} = \frac{\text{SAFE BEARING LOAD OF SOIL}}{\text{LOAD OF SOIL}}$$

**NOTES:**

1. REINFORCING BARS SHALL BE EPOXY COATED
2. RESIDENT PROJECT ENGINEER WILL CALCULATE QUANTITIES OF CONCRETE REQ'D AND SPECIFY PLACEMENT METHODS & REQUIREMENTS; WHICH SHALL BE APPROVED BY CITY ENGINEER
3. CONCRETE SHALL BE 4000 PSI MIN.
4. POUR CONCRETE AGAINST UNDISTURBED SOIL

**THRUST ON FITTINGS**

POUNDS @ 1 POUND PER SQUARE INCH OF WATER PRESSURE*				
PIPE SIZE	TEES/PLUGS	90° BENDS	45° BENDS	22.5° BENDS
4"	18.5	26.1	14.2	7.2
6"	38	53.7	29.1	14.7
8"	65.8	93	50.4	25.5
10"	107.5	152	82.4	41.7
12"	153.1	216.4	117.2	59.4
14"	215.5	304.7	164.9	84
16"	281.5	398.1	215.4	109.8
18"	356.3	503.8	272.6	139
20"	439.8	622	336.6	171.6
24"	633.3	895.6	484.7	247.1

\*MULTIPLY THRUST BY MAXIMUM WATER PRESSURE

\*PIPE SIZES LARGER THAN 24" SHALL BE THRUST BLOCKED AS PER ENGINEER RECOMMENDATION

**THRUST BLOCK AREA AGAINST TRENCH WALL (SQ. FEET)**

ASSUMING SAND AND MAX PRESSURE OF 150 PSI SIZE MAY BE REDUCED WITH AN ENGINEERED SUBMITTAL AND AS APPROVED BY THE CITY ENGINEER				
PIPE SIZE	TEES/PLUGS	90° BENDS	45° BENDS	22.5° BENDS
4"	2.8	3.9	2.1	1.1
6"	5.7	8.1	4.4	2.2
8"	9.9	14.0	7.6	3.8
10"	16.1	22.8	12.4	6.3
12"	23.0	32.5	17.6	8.9
14"	32.3	45.7	24.7	12.6
16"	42.2	59.7	32.3	16.5
18"	53.4	75.6	40.9	20.9
20"	66.0	93.3	50.5	25.7
24"	95.0	134.3	72.7	37.1

**CONCRETE THRUST BLOCKS**

DATE:  
**JANUARY 2015**

DRAWING NAME:  
**CW-2**

DRAWN BY:  
**ETL**

CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA SPRINGS CITY**

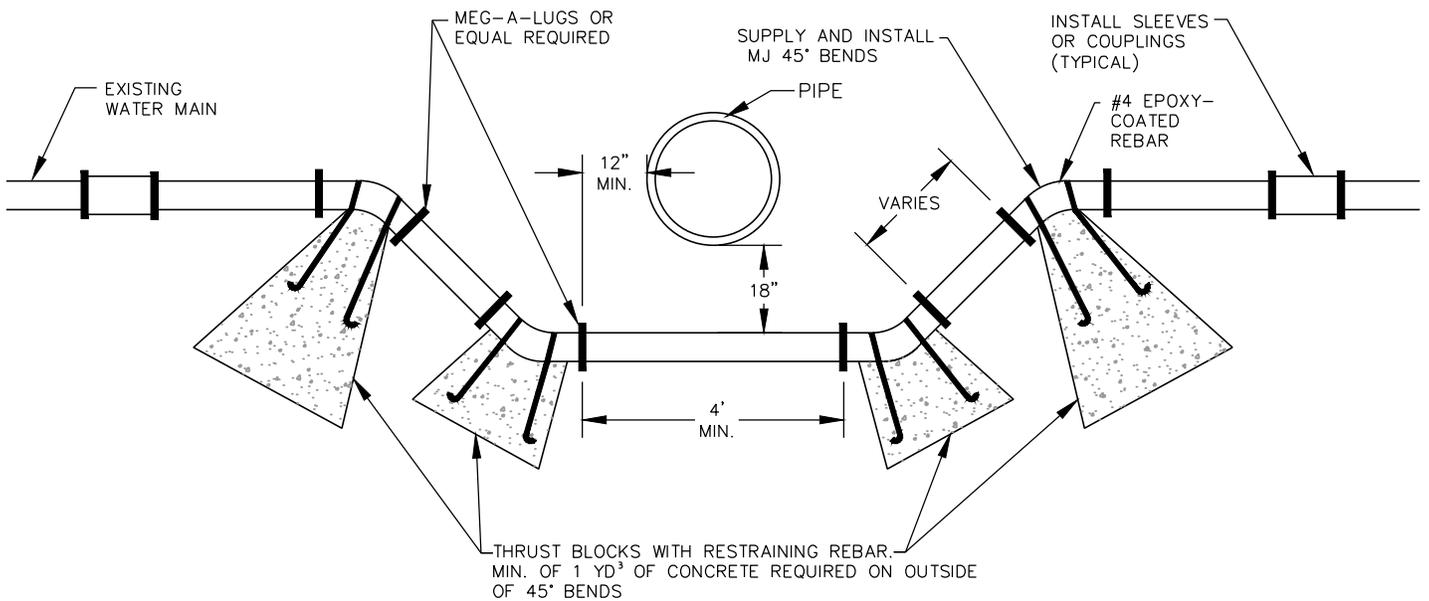
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 801-766-9794



STANDARD DETAILS

CULINARY WATER

**CW-2**



**NOTES:**

1. CITY TO BE GIVEN 72 HOUR NOTICE BEFORE LOOPING ANY WATERLINE WHEN SHUT OFF IS REQUIRED
2. A CASE OR SLEEVE IS REQUIRED WHEN CROSSING CULINARY WATER UNDER SANITARY AND STORM SEWER.
3. ENGINEER SHALL DETERMINE # AND LOCATION OF RESTRAINTS.

**CULINARY  
WATERLINE  
LOOP**

DATE: <b>JANUARY 2015</b>	
DRAWING NAME: <b>CW-3</b>	
DRAWN BY: <b>ETL</b>	
CHECKED:	APPROVED:

REVISIONS		
REV	DATE	BY

**SARATOGA  
SPRINGS CITY**

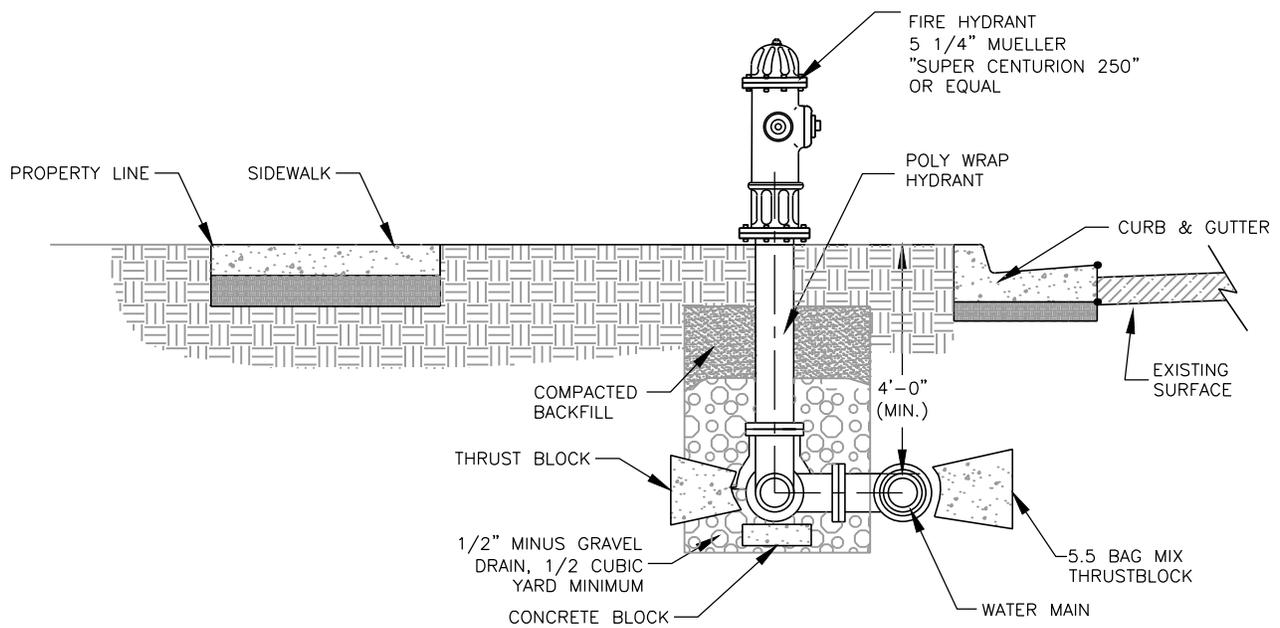
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 8017669794



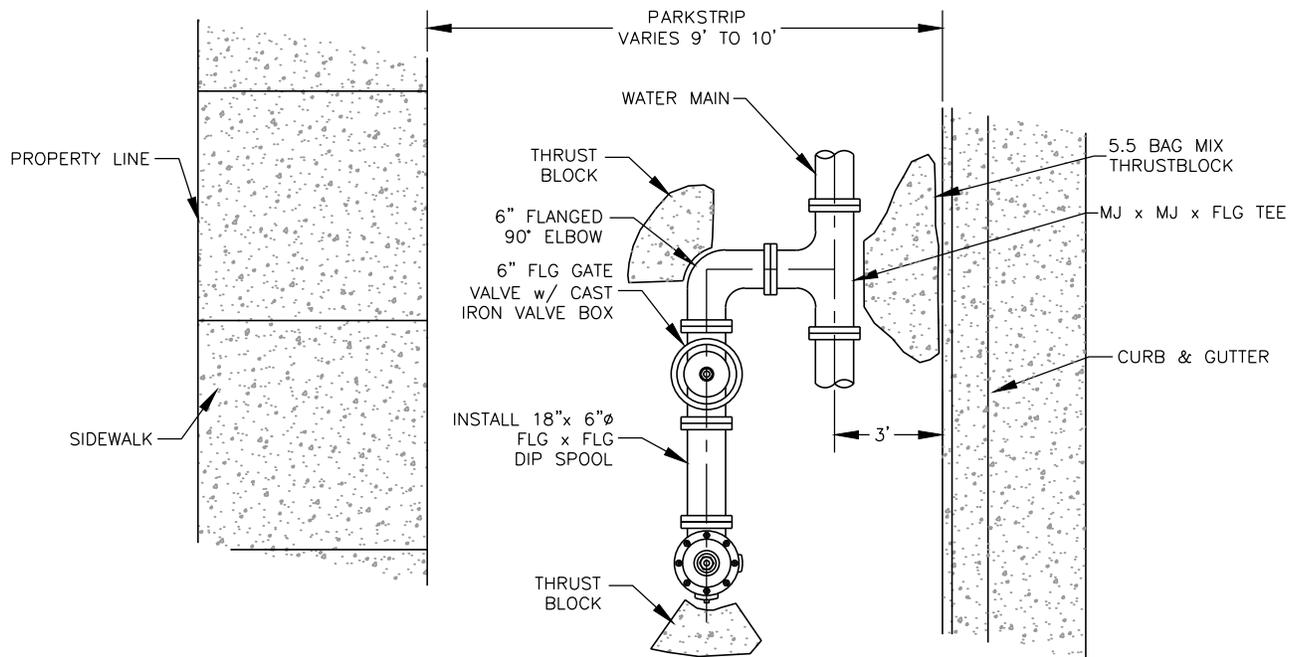
STANDARD DETAILS

CULINARY WATER

**CW-3**



**SECTION VIEW**



**PLAN VIEW**

**NOTES:**

1. HYDRANT SHALL BE "TRAFFIC" TYPE WITH A REPLACEABLE BREAK-AWAY UNIT IMMEDIATELY ABOVE GROUND.
2. HYDRANT SHALL BE CENTERED IN A CONCRETE PAD.

**FIRE HYDRANT CONNECTION**

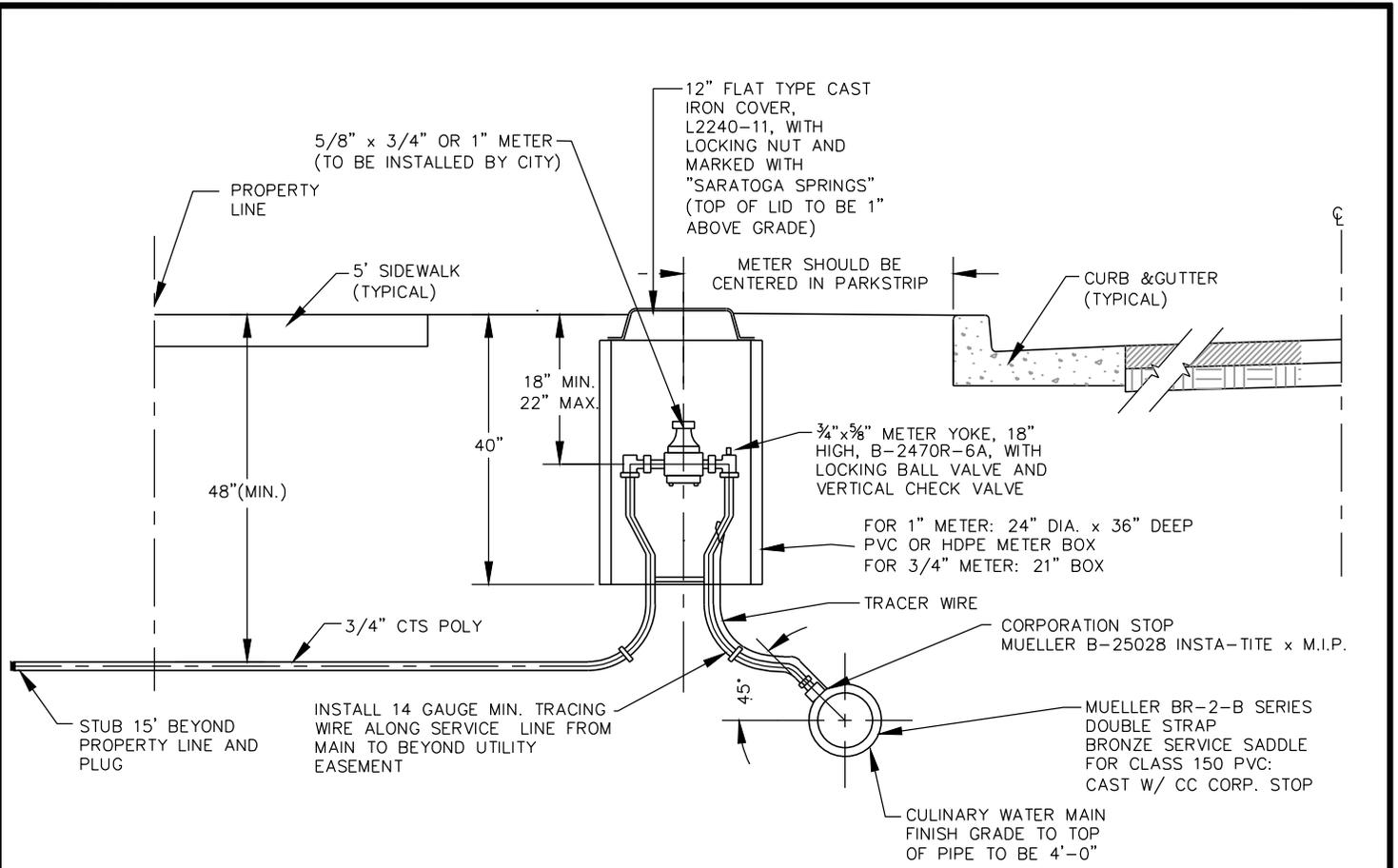
DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-4</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	COMMENTS

**SARATOGA SPRINGS CITY**  
 1307 N. COMMERCE DR.  
 #200, SARATOGA SPRINGS,  
 UT 84045  
 PHONE: 801-766-9793  
 FAX: 801-766-9794



STANDARD DETAILS  
 CULINARY WATER  
**CW-4**



**NOTES:**

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 95% WITH NO DENSITY TEST RESULT LESS THAN 92%.
3. CONTRACTOR TO SUPPLY ALL MATERIALS EXCLUDING METER
4. METER BOXES SHOULD BE PVC OR HDPE.
5. PIPE: INSTALL MINIMUM 3/4" CTS POLY PIPE (SDR-9) FROM MAIN TO METER AND FROM METER TO BUILDING. MINIMUM 1" POLYETHYLENE PIPE TO BE USED IN COMMERCIAL AREAS. INSTALL TRACING WIRE FROM MAIN LINE TO METER.
6. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, MUST BE PLACED NEAR MIDPOINT OF THE LOT, AND MUST NOT BE LOCATED IN A DRIVEWAY OR IN A SIDEWALK.
7. METER YOKE TO BE MUELLER B-2470R-6A, OR ACCEPTABLE EQUAL
9. SERVICE SADDLES SHALL BE MUELLER BR-2-B SERIES, OR EQUAL
11. METER LID TO BE 1" ABOVE LINE GRADE OF WALK/CURB
12. STAINLESS STEEL LINER INSERTS WILL BE REQUIRED INSIDE OF TUBING AT COMPRESSION FITTINGS.
13. WATER SERVICES SHALL BE STUBBED TO A POINT APPROXIMATELY 1' BEYOND UTILITY EASEMENT (PUE).
14. 1" METER INSTALLATION TO BE SIMILAR USING 1" METER, PIPE, AND FITTINGS.

**RESIDENTIAL METER CONNECTION**  
**3/4" x 5/8" OR 1"**

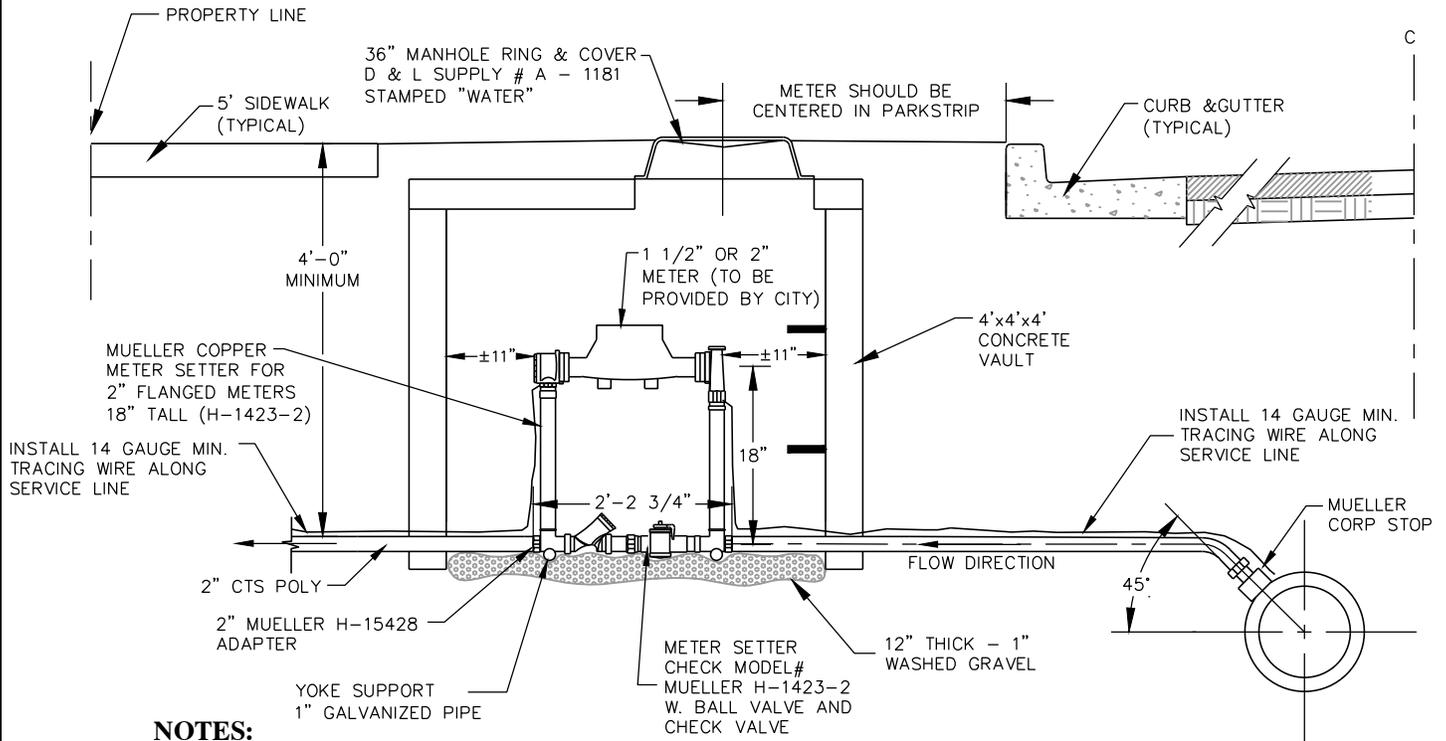
DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-5</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA SPRINGS CITY**  
 1307 N. COMMERCE DR.  
 #200, SARATOGA SPRINGS,  
 UT 84045  
 PHONE: 801-766-9793  
 FAX: 8017669794



STANDARD DETAILS  
 CULINARY WATER  
**CW-5**



**NOTES:**

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 97% WITH NO DENSITY TEST RESULT LESS THAN 95%.
3. CONTRACTOR TO SUPPLY ALL MATERIALS EXCLUDING METER.
4. METER BOXES SHALL BE A 4'x4'x4' CONCRETE VAULT.
5. PIPE: INSTALL MINIMUM 2" CTS POLY PIPE FROM MAIN TO METER AND FROM METER TO BUILDING. INSTALL TRACING WIRE FROM MAIN LINE TO METER
6. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, MUST BE PLACED NEAR THE MIDPOINT OF THE LOT, AND MUST NOT BE LOCATED IN A DRIVEWAY OR IN A SIDEWALK.
7. METER SETTER TO BE MUELLER H-1423-2, OR ACCEPTABLE EQUAL. INSTALL CORRECT SIZE METAL PIPE TO STABILIZE SETTER.
8. PIPE SPLICES SHALL BE MADE USING A COMPRESSION FITTING; MUELLER 110 COMPRESSION CONNECTION (MUELLER H-15403) W/ STAINLESS STEEL INSERTS
9. WATER SERVICES SHALL BE STUBBED TO A POINT APPROXIMATELY 1 (ONE) FOOT BEYOND UTILITY EASEMENT.
10. IN TRAFFIC AREAS, BOXES SHOULD BE ABLE TO SUPPORT H-20 LOADING. (NOTE: TYPICALLY WATER METERS ARE NOT ALLOWED IN TRAFFIC AREAS.)
11. METER LID TO BE 1" ABOVE THE LINE GRADE OF WALK/CURB.
12. 1 1/2-INCH METER INSTALLATION TO BE SIMILAR; USING 1 1/2-INCH METER, PIPE, FITTINGS AND SETTER.

**NON-RESIDENTIAL  
METER CONNECTION  
2" OR 1 1/2"**

DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-6</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	DATE
1	10/17/2013
EL	CONCRETE BOX WITH CORP STOP

**SARATOGA  
SPRINGS CITY**

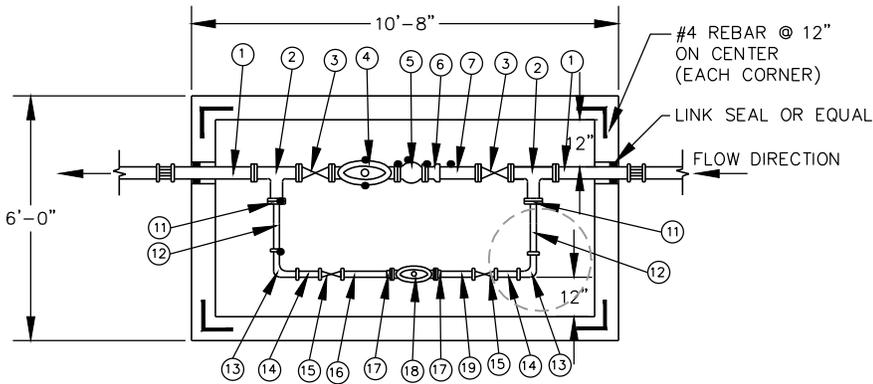
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 8017669794



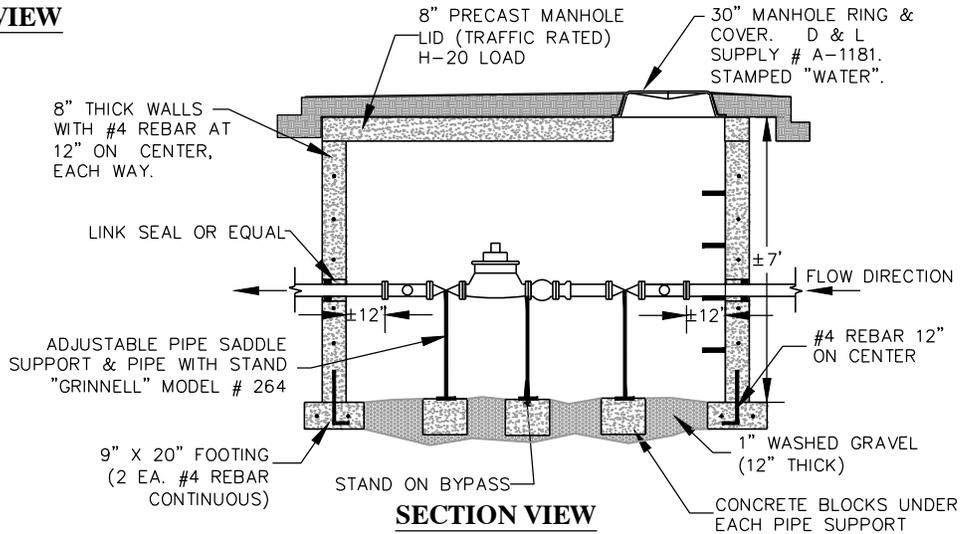
STANDARD DETAILS

CULINARY WATER

**CW-6**



**PLAN VIEW**



**SECTION VIEW**

**NOTES:**

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 97% WITH NO DENSITY TEST RESULT LESS THAN 92%.
3. ALL 4" INTERIOR FITTINGS TO BE FLANGED AND ALL 2" INTERIOR FITTINGS TO BE BRASS, SCHEDULE 40 (THREADED).
4. WATER METERS SHALL BE PROVIDED BY CITY.
5. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP AND MUST BE PLACED NEAR MIDPOINT OF THE LOT AND MUST NOT BE LOCATED IN A DRIVEWAY, OR IN A SIDEWALK.
6. CONTRACTOR SHALL SUPPLY ALL MATERIALS AND LABOR, EXCLUDING THE WATER METER.

4" PIPE SCHEDULE		
#	QTY	DESCRIPTION
1	1	FLxPE D.I. SPOOL LENGTH = ±48"
2	1	4"x4"x4" FLGD. TEE
3	1	4" FLxFL GATE VALVE (MUELLER)**
4	1	4" FLxFL METER*
5	1	FLANGED METER STRAINER
6	1	4" FLANGED COUPLING ADAPTER
7	1	FLxPE D.I. SPOOL (LENGTH AS NEEDED)
2" PIPE SCHEDULE		
#	QTY	DESCRIPTION
11	2	4" BLIND FLANGE W\2" TAP
12	2	±23" NIPPLE
13	2	2" 90° ELBOW
14	2	2"x6" NIPPLE
15	2	2" GATE VALVE (MUELLER) #2380-8**
16	1	2"x ±21.5" NIPPLE
17	2	2" SCREW-ON FLANGE
18	1	2" METER*
19	1	2" NIPPLE, LENGTH AS NEEDED

\*SUPPLIED BY CITY

\*\* GATE VALVE SHALL BE FURNISHED WITH A HANDWHEEL.

**4 INCH  
METER AND VAULT  
WITH 2" BYPASS  
FOR 4" LATERAL**

DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-7</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

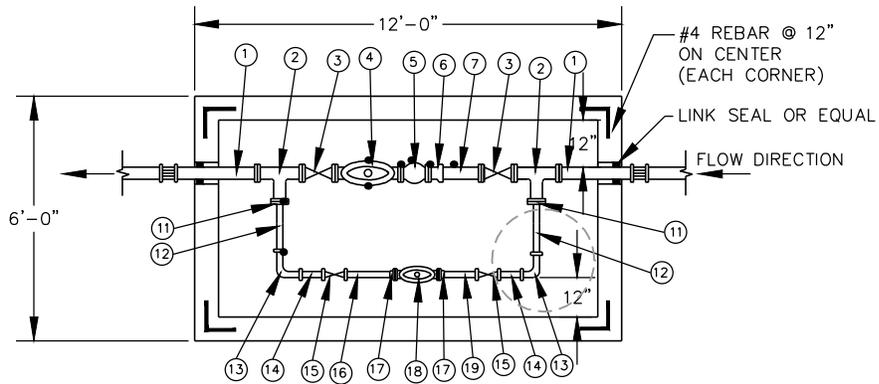
REVISIONS	
REV	COMMENTS

**SARATOGA  
SPRINGS CITY**

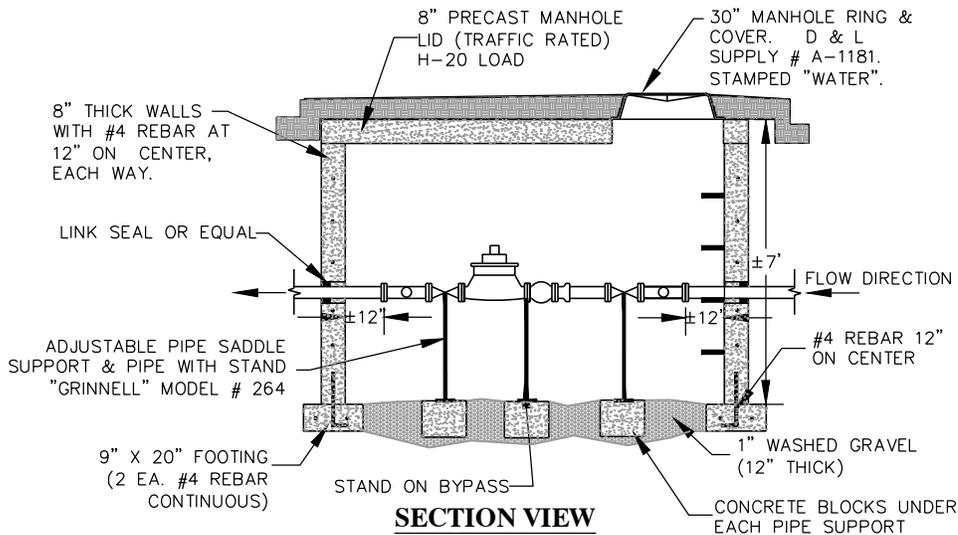
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 8017669794



STANDARD DETAILS
CULINARY WATER
<b>CW-7</b>



**PLAN VIEW**



**SECTION VIEW**

**NOTES:**

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 97% WITH NO DENSITY TEST RESULT LESS THAN 92%.
3. ALL 4" INTERIOR FITTINGS TO BE FLANGED AND ALL 2" INTERIOR FITTINGS TO BE BRASS, SCHEDULE 40 (THREADED).
4. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, MUST BE PLACED NEAR MIDPOINT OF THE LOT AND MUST NOT BE LOCATED IN A DRIVEWAY OR IN A SIDEWALK.
6. CONTRACTOR SHALL SUPPLY ALL MATERIALS AND LABOR EXCLUDING METER

6" PIPE SCHEDULE		
#	QTY	DESCRIPTION
1	1	FLXPE D.I. SPOOL LENGTH = ±48"
2	1	6"x6"x2" FLGD. TEE
3	1	6" FLxFL GATE VALVE (MUELLER)*
4	1	6" FLxFL METER**
5	1	FLANGED METER STRAINER
6	1	6" FLANGED COUPLING ADAPTER
7	1	FLXPE DI SPOOL, LENGTH AS NEEDED
2" PIPE SCHEDULE		
#	QTY	DESCRIPTION
11	2	4" BLIND FLANGE W\2" TAP
12	2	±23" NIPPLE
13	2	2" 90° ELBOW
14	2	2"x6" NIPPLE
15	2	2" GATE VALVE (MUELLER) #2380-8*
16	1	2"x ±21.5" NIPPLE
17	2	2" SCREW-ON FLANGE
18	1	METER**
19	1	2" NIPPLE (LENGTH AS NEEDED)

\* GATE VALVE SHALL BE FURNISHED WITH A HANDWHEEL.  
 \*\* SUPPLIED BY CITY

**6 INCH  
 METER AND VAULT  
 WITH 2" BYPASS  
 FOR 6" LATERALS**

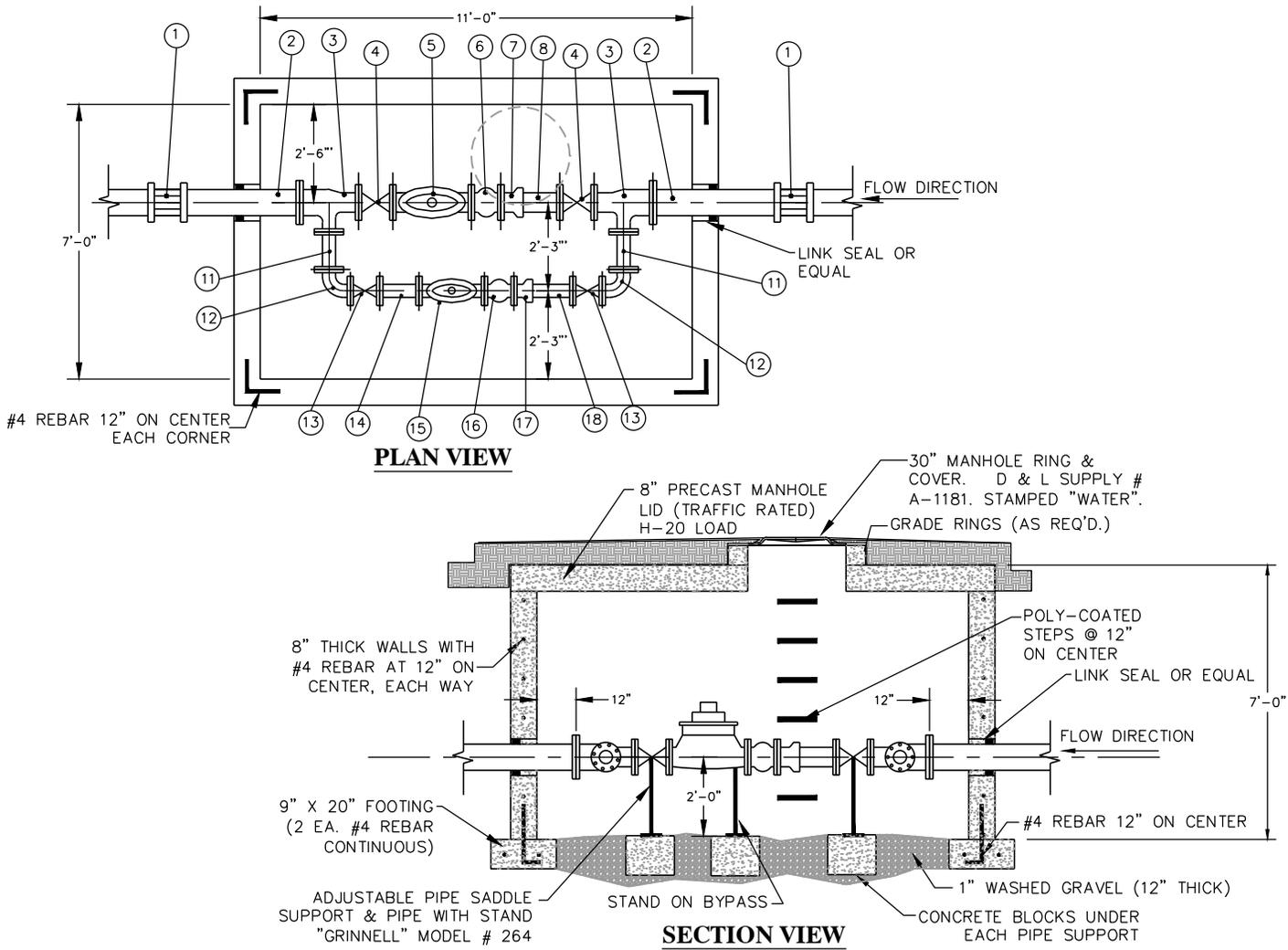
DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-8</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA  
 SPRINGS CITY**  
 1307 N. COMMERCE DR.  
 #200, SARATOGA SPRINGS,  
 UT 84045  
 PHONE: 801-766-9793  
 FAX: 8017669794



STANDARD DETAILS  
 CULINARY WATER  
**CW-8**



8" & 6" PIPE SCHEDULE		
#	QTY	DESCRIPTION
1	2	8" MECHANICAL COUPLINGS
2	2	8" FLxPE D.I. SPOOL (LENGTH AS NEEDED)
3	2	8"x6"x4" FLxFLxFL TEE
4	2	6" FLxFL GATE VALVE (MUELLER)*
5	1	6" FLxFL METER**
6	1	6" FLANGED METER STRAINER
7	1	6" FLANGED COUPLING ADAPTER
8	1	6" FLxPE D.I. SPOOL (LENGTH AS NEEDED)

4" PIPE SCHEDULE		
#	QTY	DESCRIPTION
11	2	4" FLxFL D.I. SPOOL (LG = ±11.5")
12	2	4" FLxFL 90° BEND
13	2	4" GATE VALVE (MUELLER)*
14	1	4" FLxFL D.I. SPOOL (LG = ±12")
15	1	4" METER**
16	1	4" FLxFL METER STRAINER
17	1	4" FLANGED COUPLING ADAPTER
18	1	4" FLxPE D.I. SPOOL (LENGTH AS NEEDED)

\* GATE VALVE SHALL BE FURNISHED WITH A HANDWHEEL.  
 \*\* SUPPLIED BY CITY

**NOTES:**

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 97% WITH NO DENSITY TEST RESULT LESS THAN 92%.
3. ALL INTERIOR FITTINGS TO BE FLANGED, UNLESS OTHERWISE INDICATED.
4. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, MUST BE PLACED NEAR MIDPOINT OF THE LOT AND MUST NOT BE LOCATED IN A DRIVEWAY OR IN A SIDEWALK.
6. CONTRACTOR SHALL SUPPLY ALL MATERIALS AND LABOR EXCLUDING METER

**6 INCH  
 METER AND VAULT  
 WITH 4" BYPASS  
 FOR 8" LATERALS**

DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-9</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

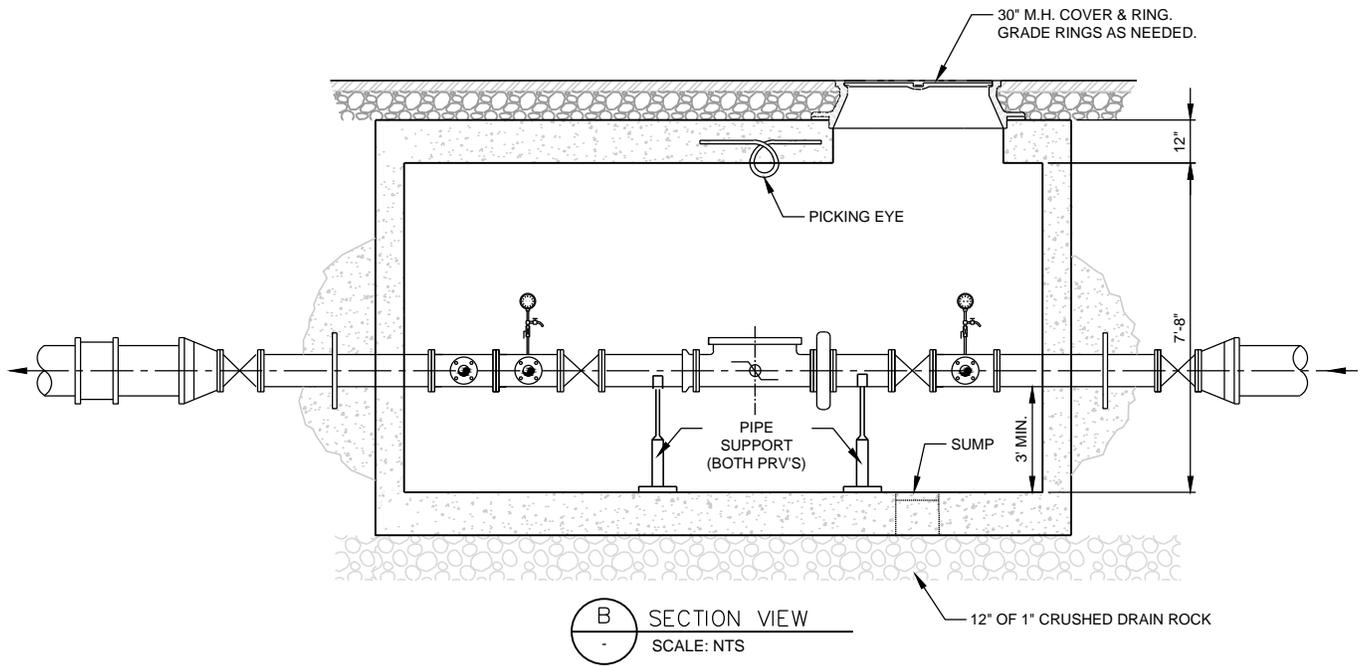
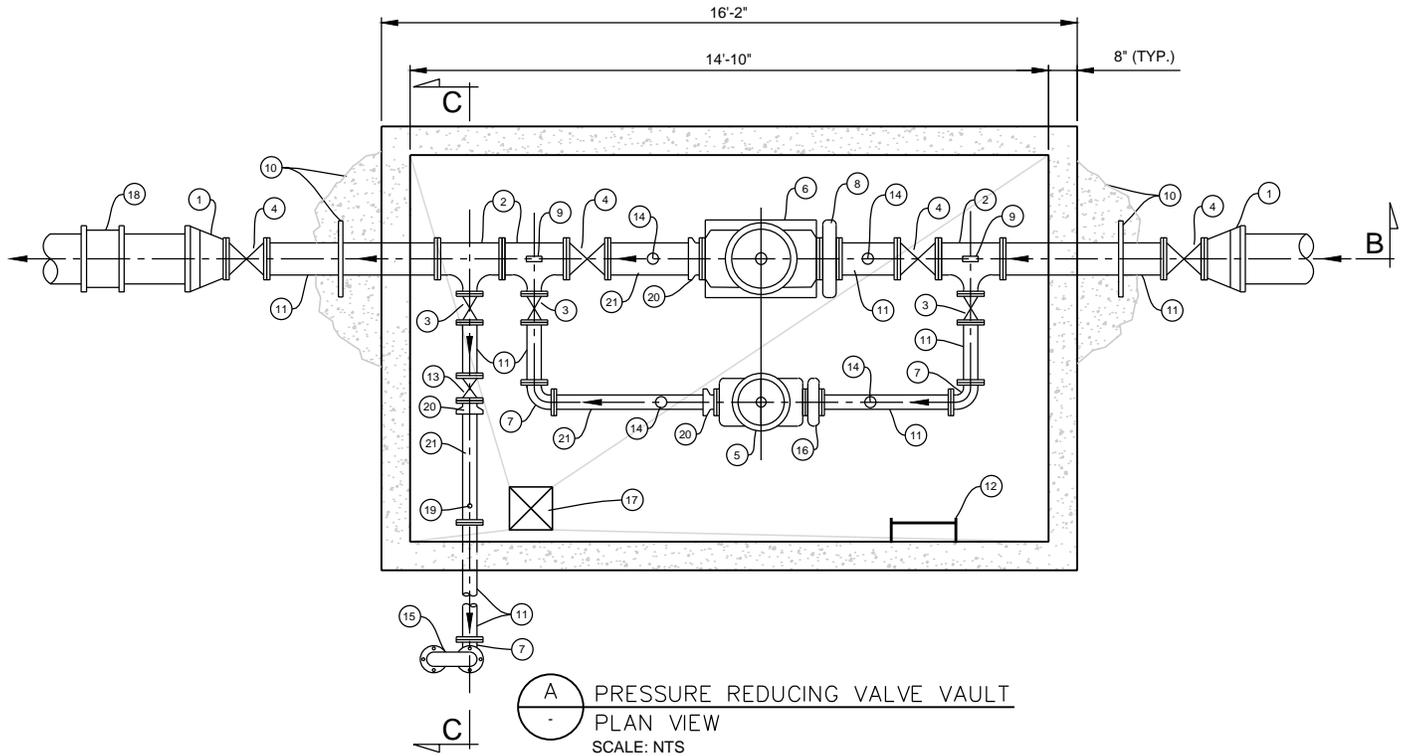
REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA  
 SPRINGS CITY**

1307 N. COMMERCE DR.  
 #200, SARATOGA SPRINGS,  
 UT 84045  
 PHONE: 801-766-9793  
 FAX: 8017669794



STANDARD DETAILS  
 CULINARY WATER  
**CW-9**



**PRESSURE REDUCING  
VALVE STATION**

DATE:  
**JANUARY 2015**

DRAWING NAME:  
**CW-10A**

DRAWN BY:  
**CJG**

CHECKED: APPROVED:

REVISIONS	
REV	COMMENTS

**SARATOGA  
SPRINGS CITY**

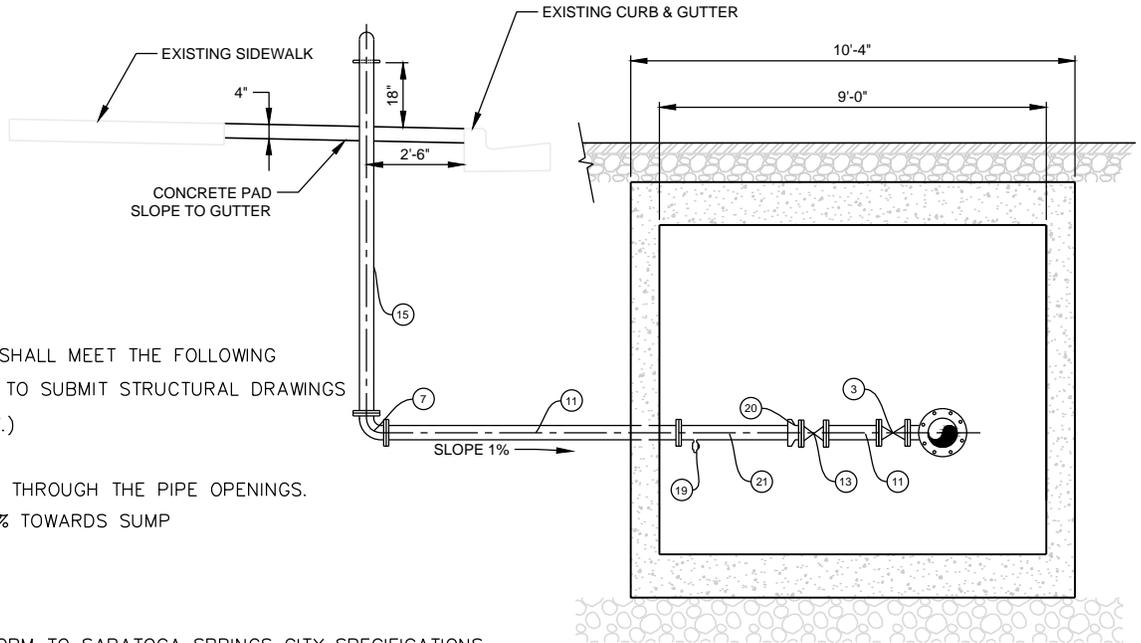
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 8017669794



STANDARD DETAILS

CULINARY WATER

**CW-10A**



**CONCRETE VAULT NOTES:**

PRECAST BOX AS SHOWN, SHALL MEET THE FOLLOWING CONDITIONS. (CONTRACTOR TO SUBMIT STRUCTURAL DRAWINGS FOR CAST IN PLACE VAULT.)

1. H-20 LOADING
2. NO HORIZONTAL JOINTS THROUGH THE PIPE OPENINGS.
3. FLOOR SHALL SLOPE 2% TOWARDS SUMP

**GENERAL NOTES:**

1. ALL WORK SHALL CONFORM TO SARATOGA SPRINGS CITY SPECIFICATIONS
2. SHOP DRAWINGS SHALL BE SUBMITTED TO SARATOGA SPRINGS CITY ENGINEER FOR APPROVAL PRIOR TO SHIPMENT
3. THE PRV ASSEMBLY DETAIL SHALL BE VERIFIED PER MANUFACTURE RECOMMENDATIONS
4. ALL VALVES SHALL HAVE 150 LB FLG'S, DUCTILE IRON BODY, BRONZE INTERNAL TRIM, EPOXY COATED, AND STAINLESS STEEL TUBES AND FITTINGS
5. PROVIDE DESIGN SUBMITTAL FOR WATERMAIN SIZES ABOVE 12"
6. PROVIDE BOLLARDS OR OTHER PROTECTION IF AND AS DIRECTED BY CITY INSPECTOR.
7. INSTALL AIR-VACUUM RELIEF VALVES WHERE REQUIRED AND AS DIRECTED.

SECTION VIEW  
SCALE: NTS

PIPE SCHEDULE FOR 10" AND 12" WATERMAINS	
#	DESCRIPTION
1.	12" X 10" MJ x FL REDUCER (NOT USED ON 10" MAINS)
2.	10" X 6" FL TEE
3.	6" FL GATE VALVE WITH HANDWHEEL
4.	10" FL GATE VALVE WITH HANDWHEEL
5.	6" CLA-VAL PRV
6.	10" CLA-VAL PRV
7.	6" 90 DEGREE FL ELBOW
8.	10" FL STRAINER
9.	4" LIQUID FILLED PRESSURE GAUGE UP TO 250 PSI W/ 3/4" BALL VALVE & HOSE BIB (NON-THREADED)
10.	THRUST RESTRAINT W/ WELDED SEEP RING & THRUST BLOCK
11.	FL SPOOL
12.	POLYPROPYLENE M.H. STEPS @ 12" O.C.
13.	6" CLA-VAL PRESSURE RELIEF VALVE (MODEL 50G-01B, SEE NOTE 4) ON LOW PRESSURE SIDE
14.	PIPE SUPPORT
15.	FL STAND PIPE W/ FL GOOSE NECK POINTING DOWNWARD. THE OPEN END OF GOOSE NECK SHALL BE 18" ABOVE GRADE AND PROVIDED WITH A SCREEN (#14 MESH NON-CORRODIBLE).
16.	6" FL STRAINER
17.	12" X 12" RECESSED SUMP WITH REMOVABLE ALUM. GRATE
18.	MJ COUPLING OR MECHANIC COUPLING
19.	3/4" B 25008 MUELLER CORP ON BOTTOM OF SPOOL
20.	FL COUPLING ADAPTER
21.	FL X PE D.I. PIPE

PIPE SCHEDULE FOR 6" AND 8" WATERMAINS	
#	DESCRIPTION
1.	8" X 6" MJ x FL REDUCER (NOT USED ON 6" MAINS)
2.	6" X 3" FL TEE
3.	3" FL GATE VALVE WITH HANDWHEEL
4.	6" FL GATE VALVE WITH HANDWHEEL
5.	3" CLA-VAL PRV
6.	6" CLA-VAL PRV
7.	3" 90 DEGREE FL ELBOW
8.	6" FL STRAINER
9.	4" LIQUID FILLED PRESSURE GAUGE UP TO 250 PSI W/ 3/4" BALL VALVE & HOSE BIB (NON-THREADED)
10.	THRUST RESTRAINT W/ WELDED SEEP RING & THRUST BLOCK
11.	FL SPOOL
12.	POLYPROPYLENE M.H. STEPS @ 12" O.C.
13.	3" CLA-VAL PRESSURE RELIEF VALVE (MODEL 50G-01B, SEE NOTE 4) ON LOW PRESSURE SIDE
14.	PIPE SUPPORT
15.	FL STAND PIPE W/ FL GOOSE NECK POINTING DOWNWARD. THE OPEN END OF GOOSE NECK SHALL BE 18" ABOVE GRADE AND PROVIDED WITH A SCREEN (#14 MESH NON-CORRODIBLE).
16.	3" FL STRAINER
17.	12" X 12" RECESSED SUMP WITH REMOVABLE GRATE
18.	MJ OR MECHANICAL COUPLING
19.	3/4" B 25008 MUELLER CORP ON BOTTOM OF SPOOL
20.	FL COUPLING ADAPTER
21.	FL X PE D.I. PIPE

**PRESSURE REDUCING VALVE STATION**

DATE: **JANUARY 2015**

DRAWING NAME: **CW-10B**

DRAWN BY: **ETL**

CHECKED: \_\_\_\_\_ APPROVED: \_\_\_\_\_

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA SPRINGS CITY**

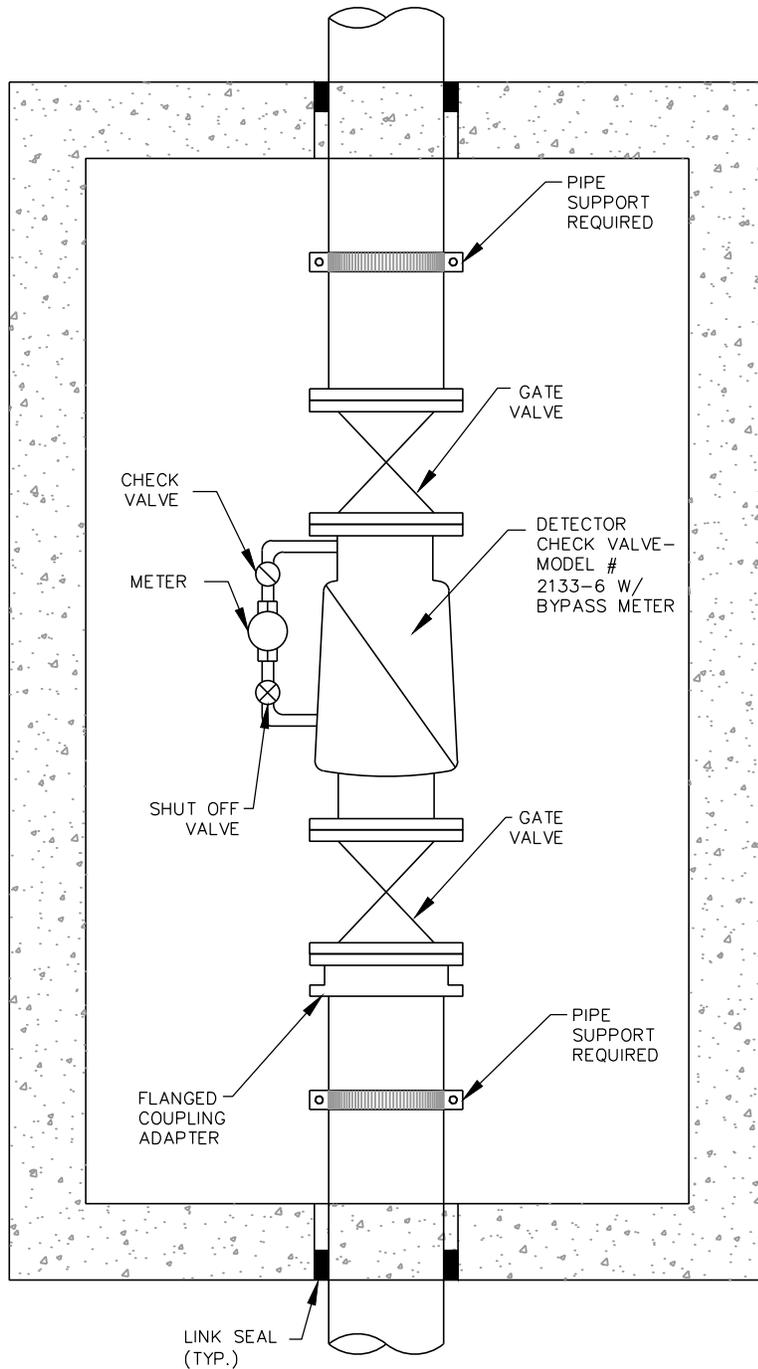
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 801-7669794



STANDARD DETAILS

CULINARY WATER

**CW-10B**



# DETECTOR CHECK VALVE

DATE: <b>JANUARY 2015</b>
DRAWING NAME: <b>CW-11</b>
DRAWN BY: <b>ETL</b>
CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA  
SPRINGS CITY**

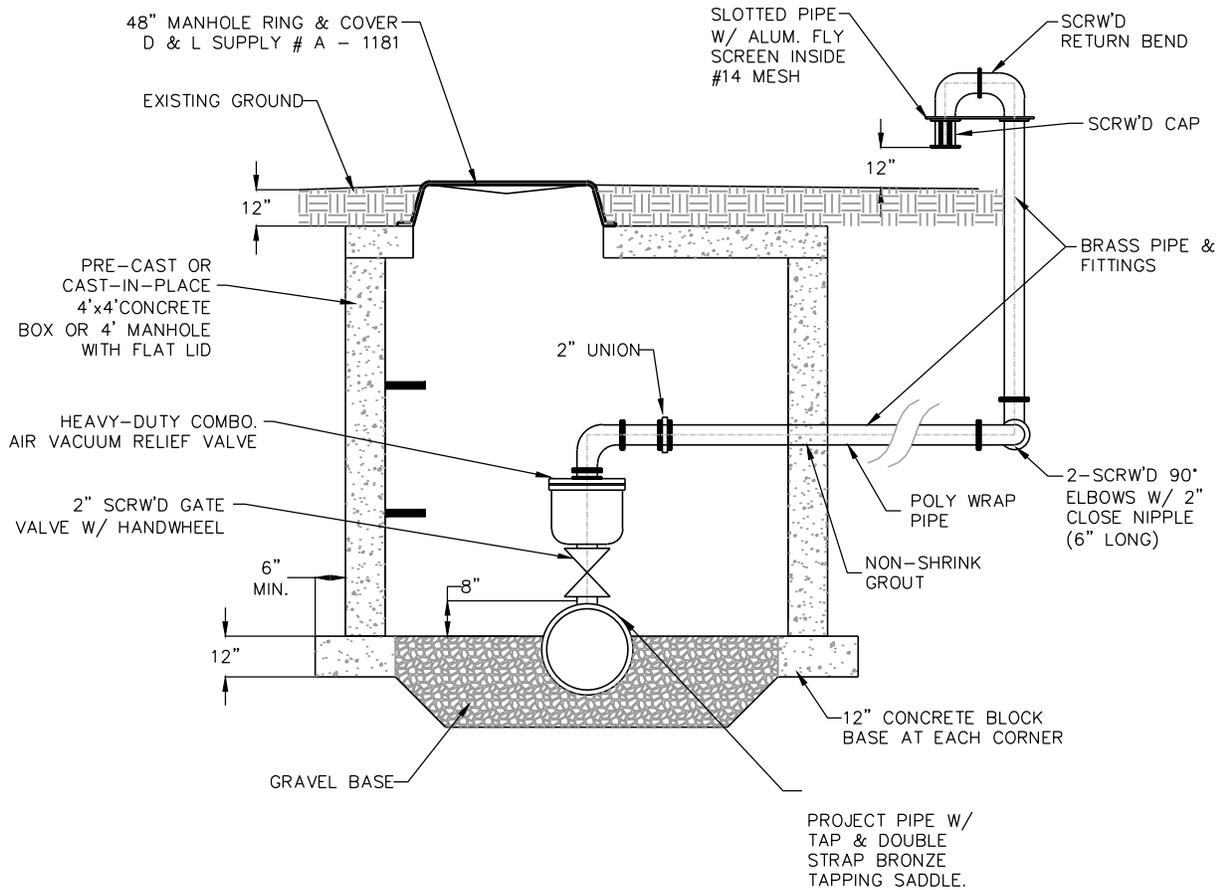
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 8017669794



STANDARD DETAILS

CULINARY WATER

**CW-11**



**NOTE:**

1. SIZE OF AIR-VACUUM RELIEF VALVE & PIPING SHALL BE AS DETERMINED BY PROJECT ENGINEER; AND APPROVED BY CITY ENGINEER.
2. LOCATE RISER IN LANDSCAPED AREA BEHIND CURB & GUTTER OR APPROX. 2 FT. FROM R/W LINE, AS DIRECTED BY CITY ENGINEER.
3. PROVIDE BOLLARDS OR OTHER PROTECTION FOR RISER IF AND AS DIRECTED BY CITY INSPECTOR.

**AIR VACUUM  
RELIEF VALVE**

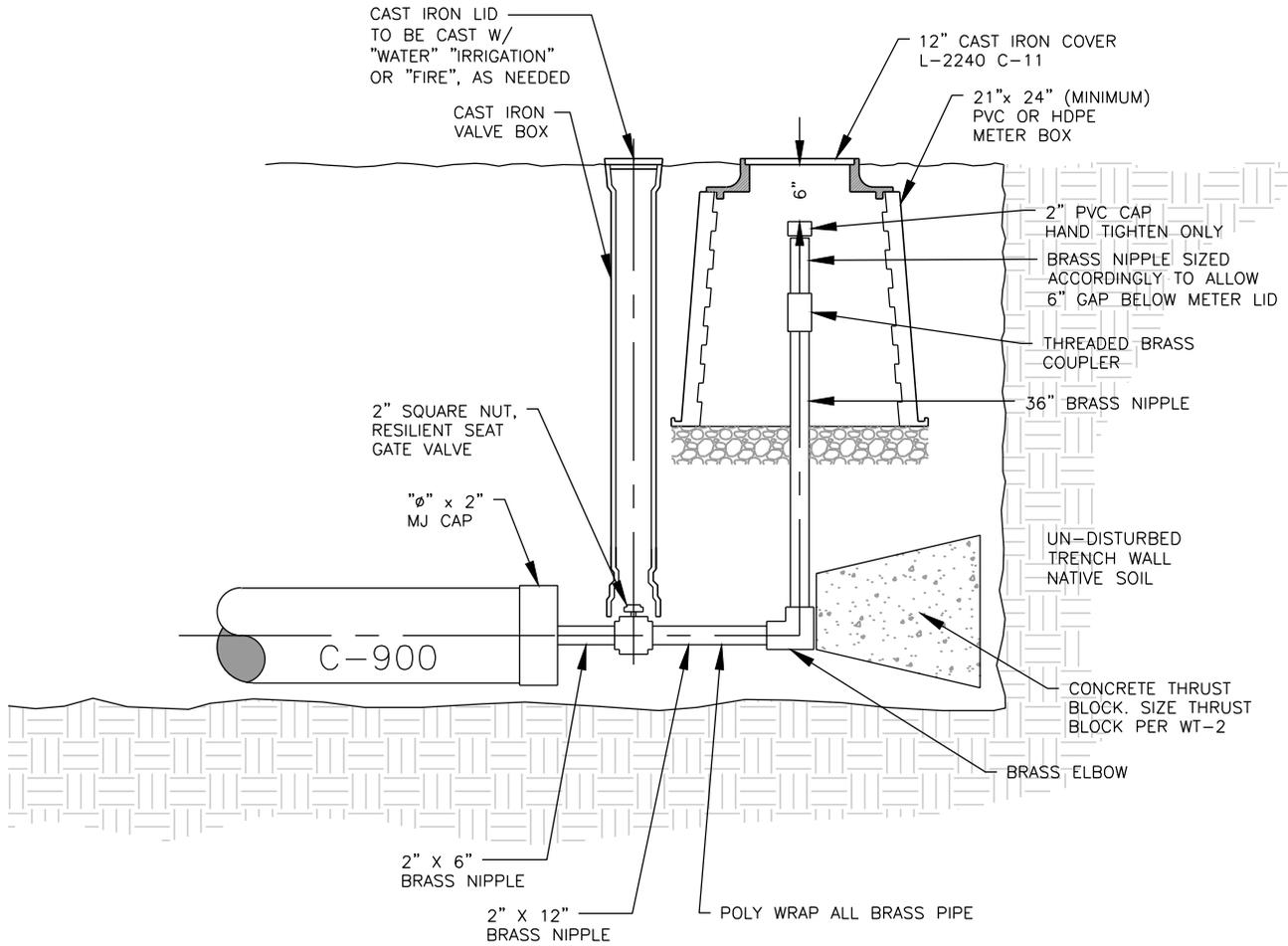
DATE: <b>JANUARY 2015</b>		REVISIONS	
DRAWING NAME: <b>CW-12</b>		REV	DATE
DRAWN BY: <b>ETL</b>		BY	COMMENTS
CHECKED: _____		APPROVED: _____	
		<b>SARATOGA SPRINGS CITY</b>	
		1307 N. COMMERCE DR. #200, SARATOGA SPRINGS, UT 84045 PHONE: 801-766-9793 FAX: 801-766-9794	



STANDARD DETAILS

CULINARY WATER

**CW-12**



## 2 INCH BLOW-OFF VALVE

DATE:  
**JANUARY 2015**

DRAWING NAME:  
**CW-13**

DRAWN BY:  
**ETL**

CHECKED: APPROVED:

### REVISIONS

REV	DATE	BY	COMMENTS

**SARATOGA  
SPRINGS CITY**

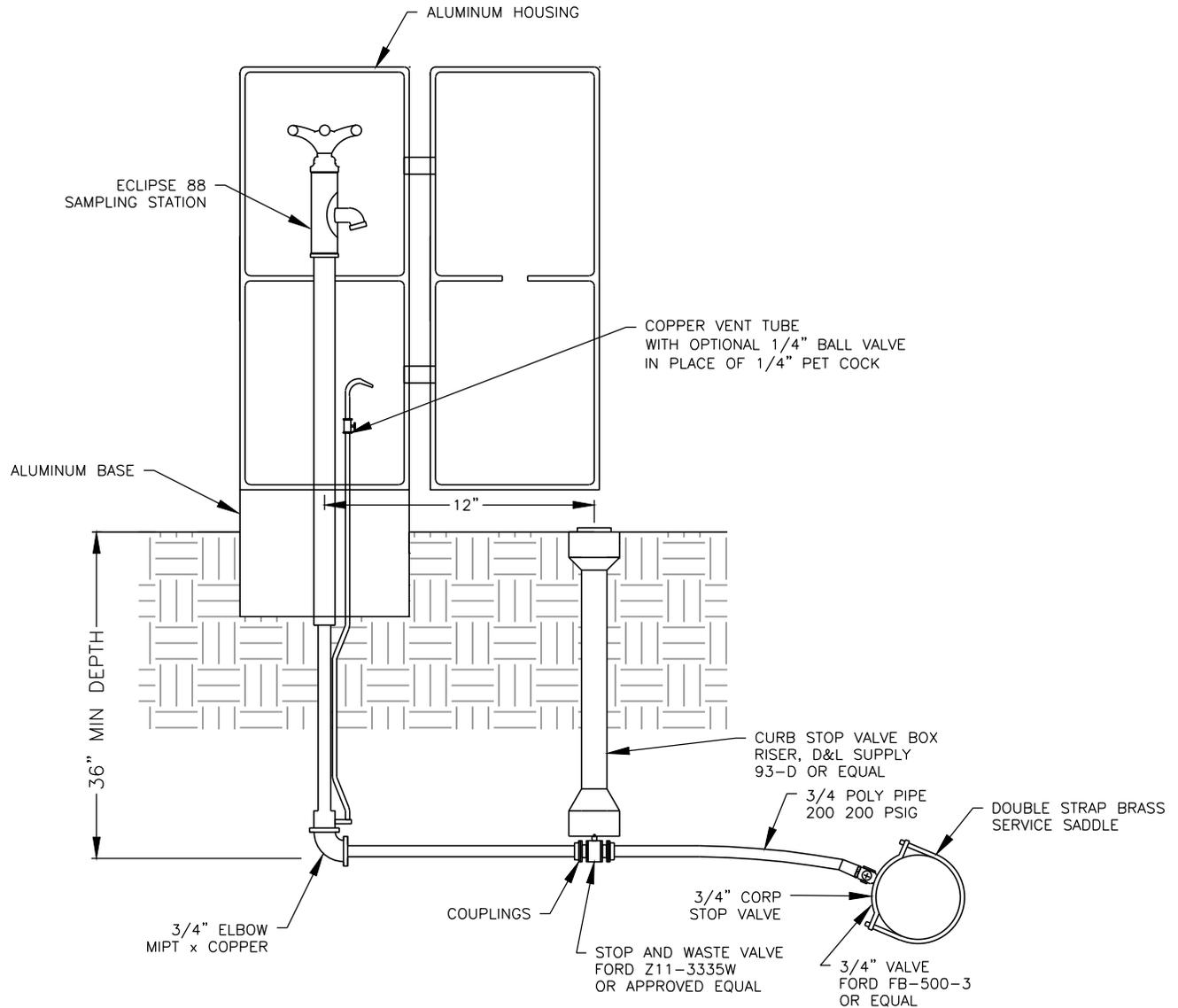
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 801-766-9794



STANDARD DETAILS

CULINARY WATER

**CW-13**



NOTES:

1. ONE SAMPLING STATION REQUIRED IN EACH RESIDENTIAL DEVELOPMENT AND A MINIMUM OF ONE SAMPLING STATION PER 100 LOTS.
2. SAMPLE STATIONS TO BE LOCATED ON A LOT LINE, BEHIND SIDEWALK.
3. PRIOR TO BACKFILLING AROUND THE ASSEMBLY, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
4. PROVIDE BRASS FITTINGS AND NIPPLES IF NOT SPECIFIED OTHERWISE.

**SAMPLING STATION**

DATE:  
**JANUARY 2015**

DRAWING NAME:  
**CW-14**

DRAWN BY:  
**ETL**

CHECKED: APPROVED:

REVISIONS	
REV	DATE BY COMMENTS

**SARATOGA  
SPRINGS CITY**

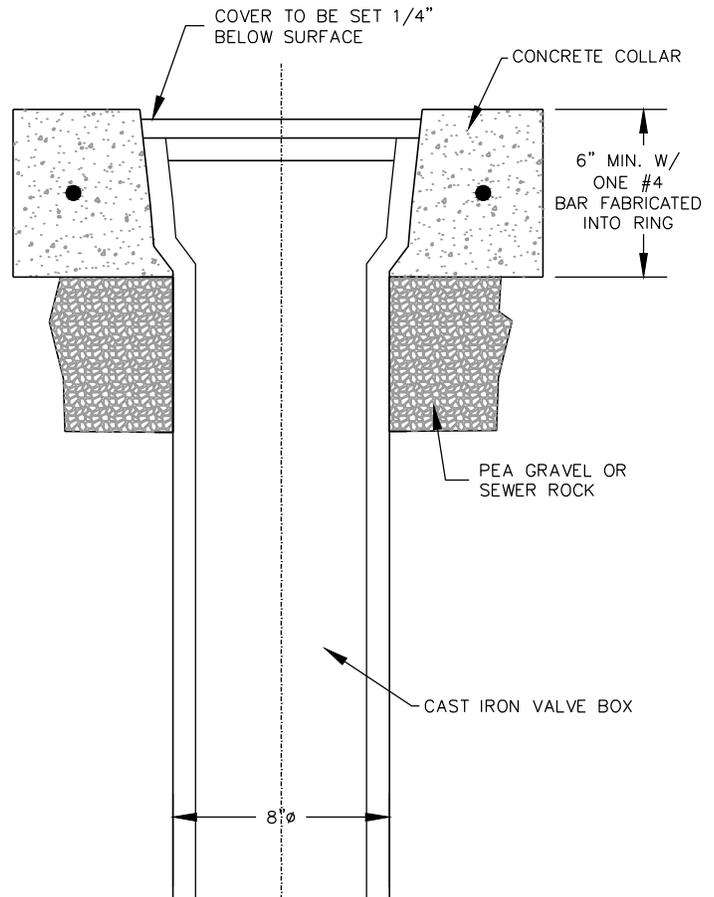
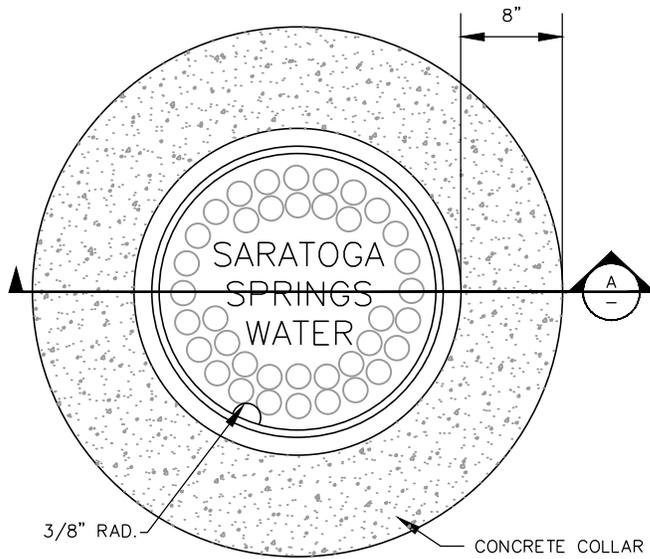
1307 N. COMMERCE DR.  
#200, SARATOGA SPRINGS,  
UT 84045  
PHONE: 801-766-9793  
FAX: 801-766-9794



STANDARD DETAILS

CULINARY WATER

**CW-14**



**NOTES:**

1. ALL WORK SHALL CONFORM TO APWA STANDARDS UNLESS OTHERWISE APPROVED BY CITY ENGINEER

**CONCRETE COLLAR**

DATE: <b>JANUARY 2015</b>		REVISIONS	
DRAWING NAME: <b>CW-15</b>		REV	COMMENTS
DRAWN BY: <b>ETL</b>			
CHECKED:	APPROVED:	<b>SARATOGA SPRINGS CITY</b> 1307 N. COMMERCE DR. #200, SARATOGA SPRINGS, UT 84045 PHONE: 801-756-9793 FAX: 801-769794	



STANDARD DETAILS

STREET STANDARDS

**CW-15**