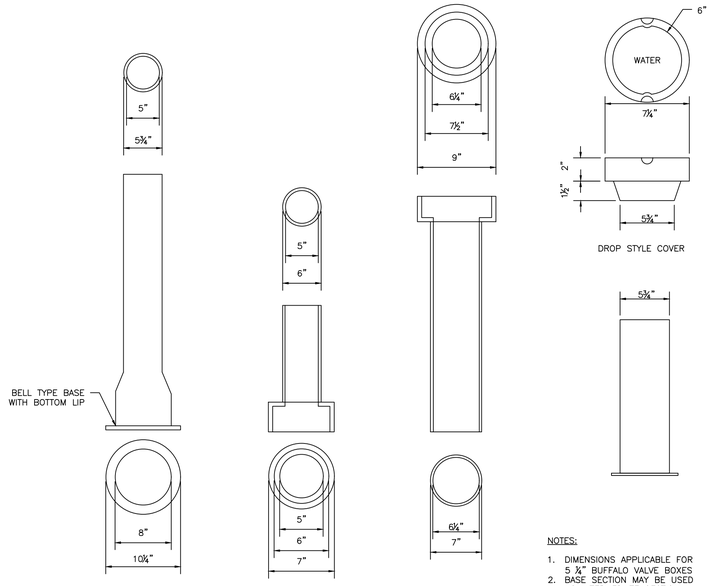
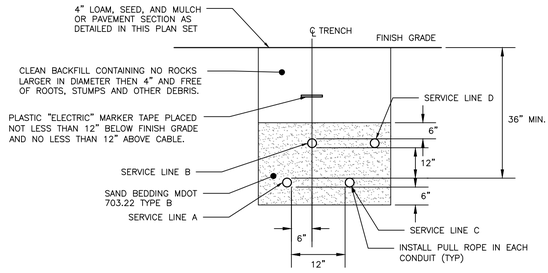


BASE SECTION NO. 645 | INTERMEDIATE SECTION NO.58 | TOP SECTION NO.56

NOTES:

1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION

VALVE BOX & COVER
NOT TO SCALE



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2–5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2–4"	SCHEDULE 40 PVC	COMMUNICATION	–
C	2–4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2–4"	SCHEDULE 40 PVC	CABLE	–

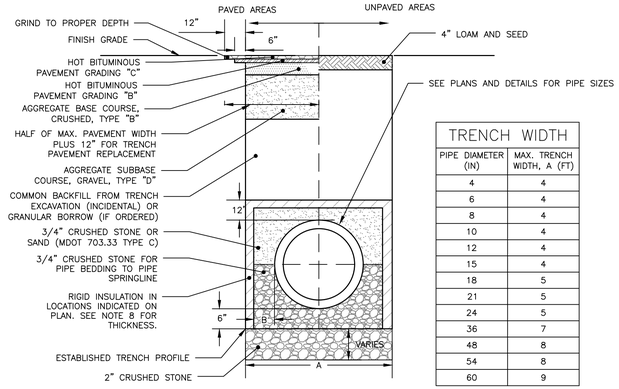
NOTES:

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

UTILITY TRENCH:
PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE

DESIGN NOTES:

1. ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II–2.
3. BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF. SD) SHALL BE ORIENTED UP.
5. ALL STORM DRAINS SHALL BE PVC SDR 35 MIN PS–46 RATING OR OR IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL , SECTION 2 – SANITARY SEWER AND STORM DRAIN – PART 2.5.2
6. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
7. THIS DETAIL SHALL BE APPLIED ONLY TO PIPE TRENCHES WITHIN OF THE CITY OF PORTLAND R.O.W.
8. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
9. DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.
10. DIMENSION B SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION B SHALL BE AT LEAST 9".
11. DIMENSION A IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION A SHALL BE BASED ON PIPE DIAMETER D, AS SET FORTH IN THE TABLE BELOW.

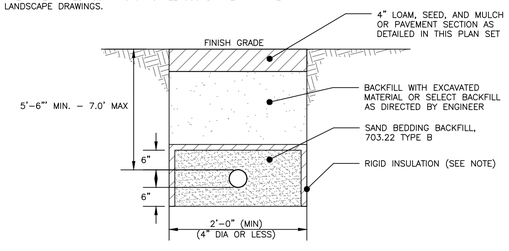


TRENCH WIDTH	
PIPE DIAMETER (IN)	MAX. TRENCH WIDTH, A (FT)
4	4
6	4
8	4
10	4
12	4
15	4
18	5
21	5
24	5
36	7
48	8
54	8
60	9

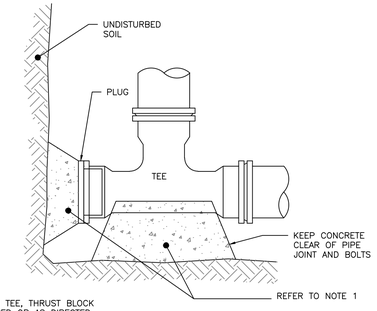
CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL WITHIN RIGHT–OF–WAY
NOT TO SCALE

NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'–6" OF COVER IS POSSIBLE ADD 1 INCH OF "BLUE DOW" RIGID INSULATION FOR EVERY 12" LESS COVER.
3. ALL PROPOSED TREES PLANTED LESS THAN 10 FEET FROM THE WATER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE WATER PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.

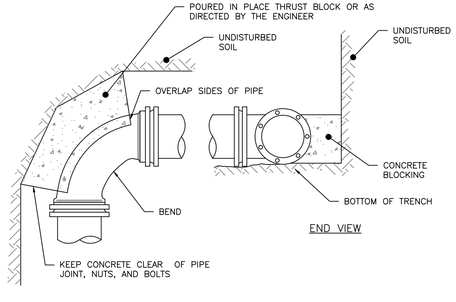


WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE



NOTES:
1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED OR AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

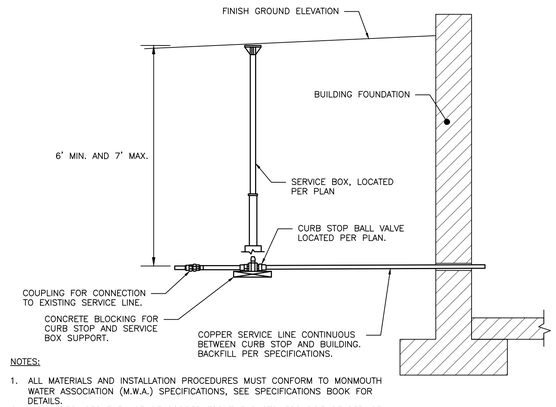
END SECTION



END VIEW

TOP VIEW

THRUST BLOCKING: REGULAR BEND
NOT TO SCALE



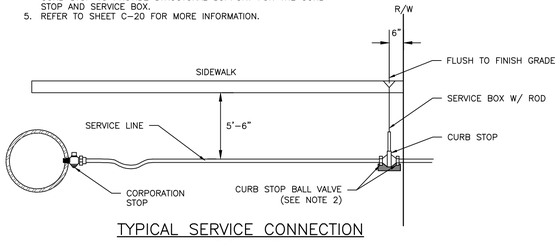
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST CONFORM TO MONMOUTH WATER ASSOCIATION (M.W.A.) SPECIFICATIONS, SEE SPECIFICATIONS BOOK FOR DETAILS.
2. M.W.A. REQUIRES THE USE OF COPPER FOR THE CUSTOMERS SIDE OF SERVICE.
3. CUSTOMERS PORTION OF SERVICE LINE IS THAT PORTION FROM THE PROPERTY LINE INTO THE BUILDING, IN THIS INSTANCE THE CUSTOMER IS ALSO RESPONSIBLE FOR THE INSTALLATION OF THE CURB STOP BALL VALVE.
4. FOR THE INTERIOR BUILDING PLUMBING REFER TO THE PLUMPING PLAN BY MECHANICAL SYSTEMS ENGINEERS.

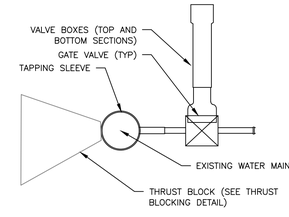
SERVICE INSTALLATION DETAIL
NOT TO SCALE

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE CITY OF PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.
5. REFER TO SHEET C–20 FOR MORE INFORMATION.

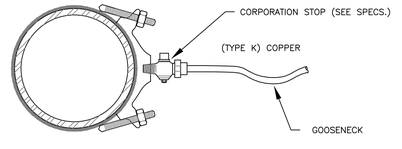


TYPICAL SERVICE CONNECTION
NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE
NOT TO SCALE



SERVICE SADDLE: 1–1/2" AND 2" C.C. THREAD
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
CITY APP.	WHS	10/31/17

DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME: 40 O'BRION STREET RESIDENTIAL INFILL

CLIENT: 215 FORESIDE ROAD, LLC.
215 FORESIDE ROAD FALMOUTH, MAINE 04105

ACORN ENGINEERING, INC.
ENGINEERING
158 DANFORTH ST. PORTLAND, MAINE 04102
(207) 775–2655

FILE:	1070_CIVIL
JN:	1070
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE — WILLIAM H. SAWYER III — 10-31-17 — REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-42