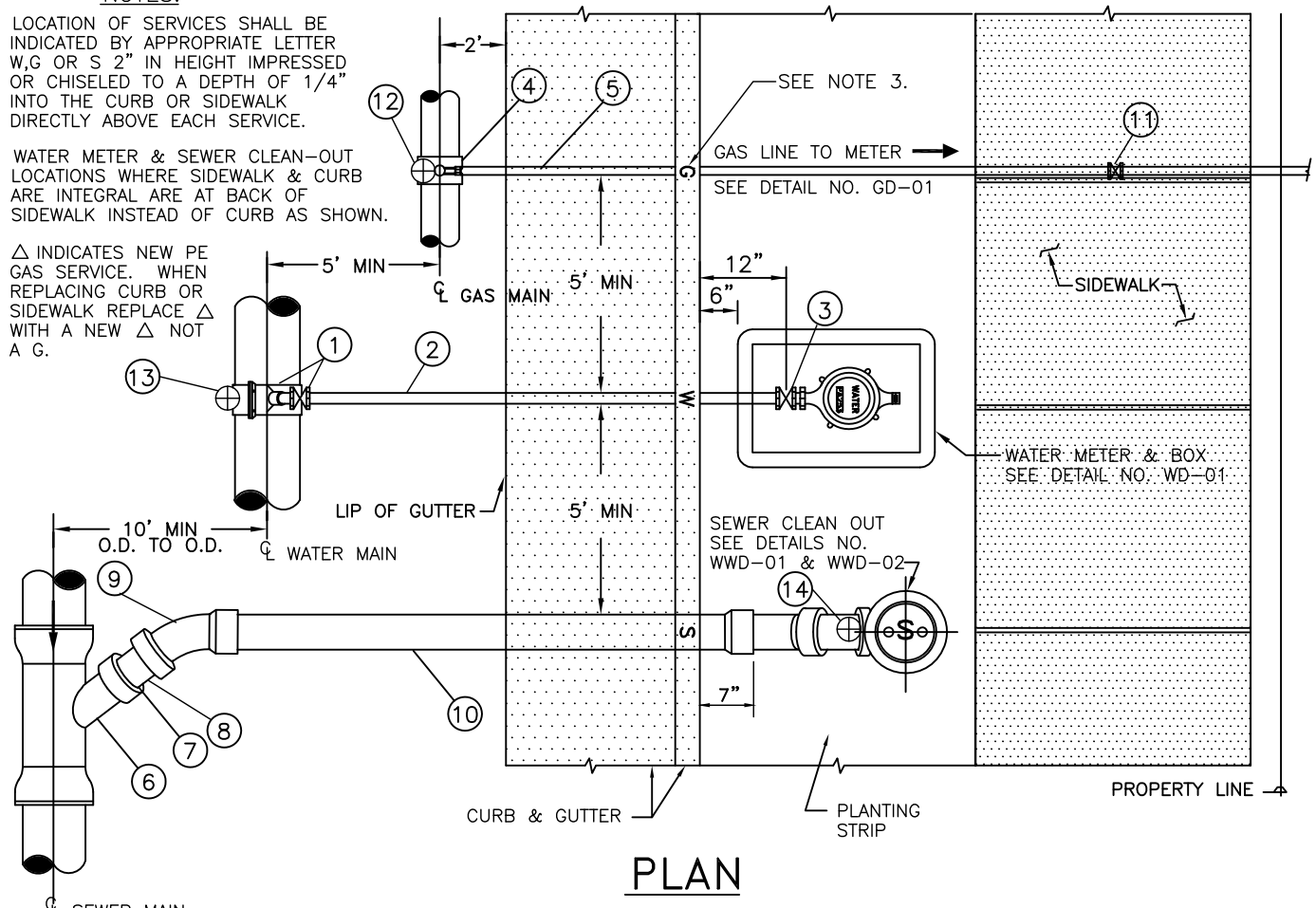
APPENDIX A.

General WGW Utility Standard Details

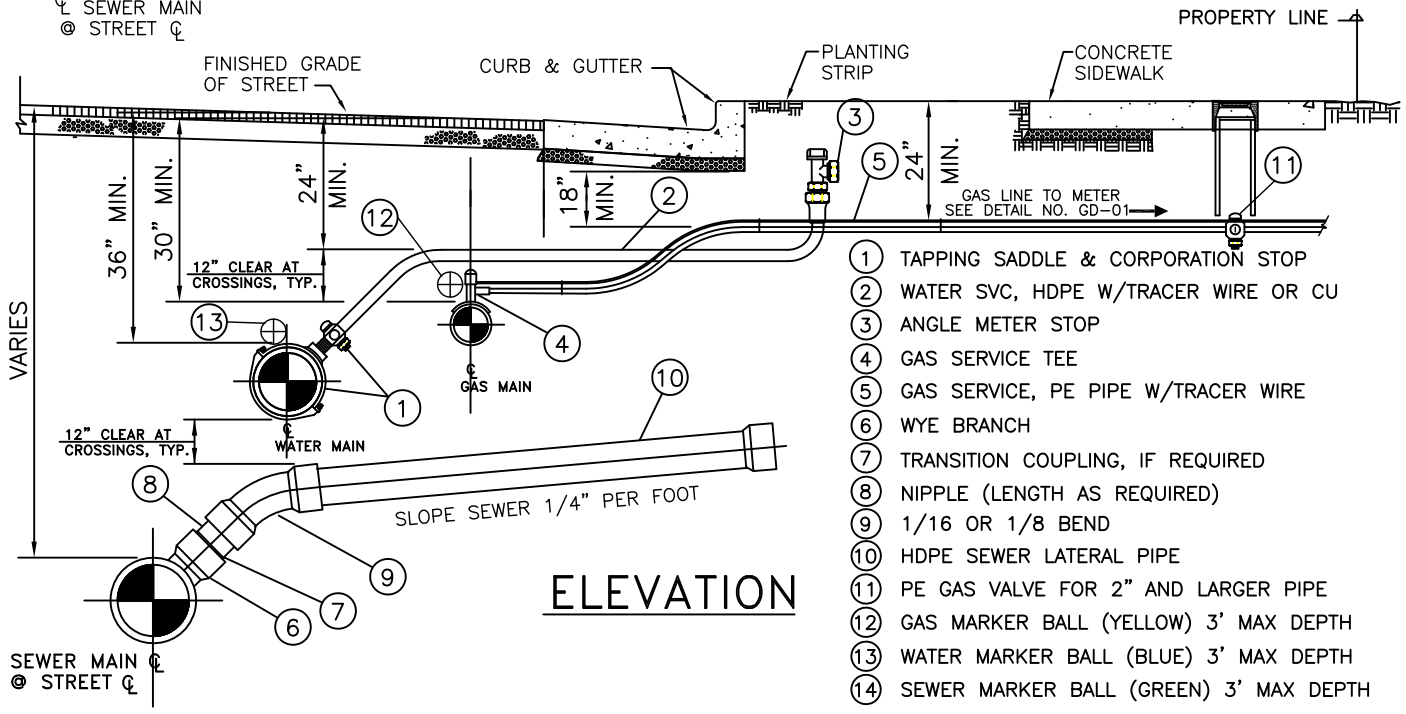
STANDARD DETAIL DESCRIPTION	STANDARD DETAIL NO.
Water, Gas, and Sewer Main and Service location	WGW-01
Trench Backfill	WGW-02
Trench Backfill for Shallow Water Mains	WGW-03
Pipe Bedding	WGW-04
Commercial Bollard Standard Detail	WGW-05
Residential Bollard Standard Detail	WGW-06
Gas and Water Valve Conc. Collar and Rebar at E. Conc. Street	WGW-07
Water – Sewer Separation Criteria	WGW-08

NOTES:

1. LOCATION OF SERVICES SHALL BE INDICATED BY APPROPRIATE LETTER W,G OR S 2" IN HEIGHT IMPRESSED OR CHISELED TO A DEPTH OF 1/4" INTO THE CURB OR SIDEWALK DIRECTLY ABOVE EACH SERVICE.
2. WATER METER & SEWER CLEAN-OUT LOCATIONS WHERE SIDEWALK & CURB ARE INTEGRAL ARE AT BACK OF SIDEWALK INSTEAD OF CURB AS SHOWN.
3. △ INDICATES NEW PE GAS SERVICE. WHEN REPLACING CURB OR SIDEWALK REPLACE △ WITH A NEW △ NOT A G.



PLAN



ELEVATION

1. TAPPING SADDLE & CORPORATION STOP
2. WATER SVC, HDPE W/TRACER WIRE OR CU
3. ANGLE METER STOP
4. GAS SERVICE TEE
5. GAS SERVICE, PE PIPE W/TRACER WIRE
6. WYE BRANCH
7. TRANSITION COUPLING, IF REQUIRED
8. NIPPLE (LENGTH AS REQUIRED)
9. 1/16 OR 1/8 BEND
10. HDPE SEWER LATERAL PIPE
11. PE GAS VALVE FOR 2" AND LARGER PIPE
12. GAS MARKER BALL (YELLOW) 3' MAX DEPTH
13. WATER MARKER BALL (BLUE) 3' MAX DEPTH
14. SEWER MARKER BALL (GREEN) 3' MAX DEPTH

	BY	DATE
DRAWN	J.J.	9/92
CHECKED	R.E.	10/10
REVIEWED	RE	11/10

WATER, GAS & WASTEWATER MAIN LOCATIONS AND SERVICE CONNECTIONS STANDARD DETAIL

CITY OF PALO ALTO, CALIFORNIA

APPROVED:
JANUARY, 31 2013

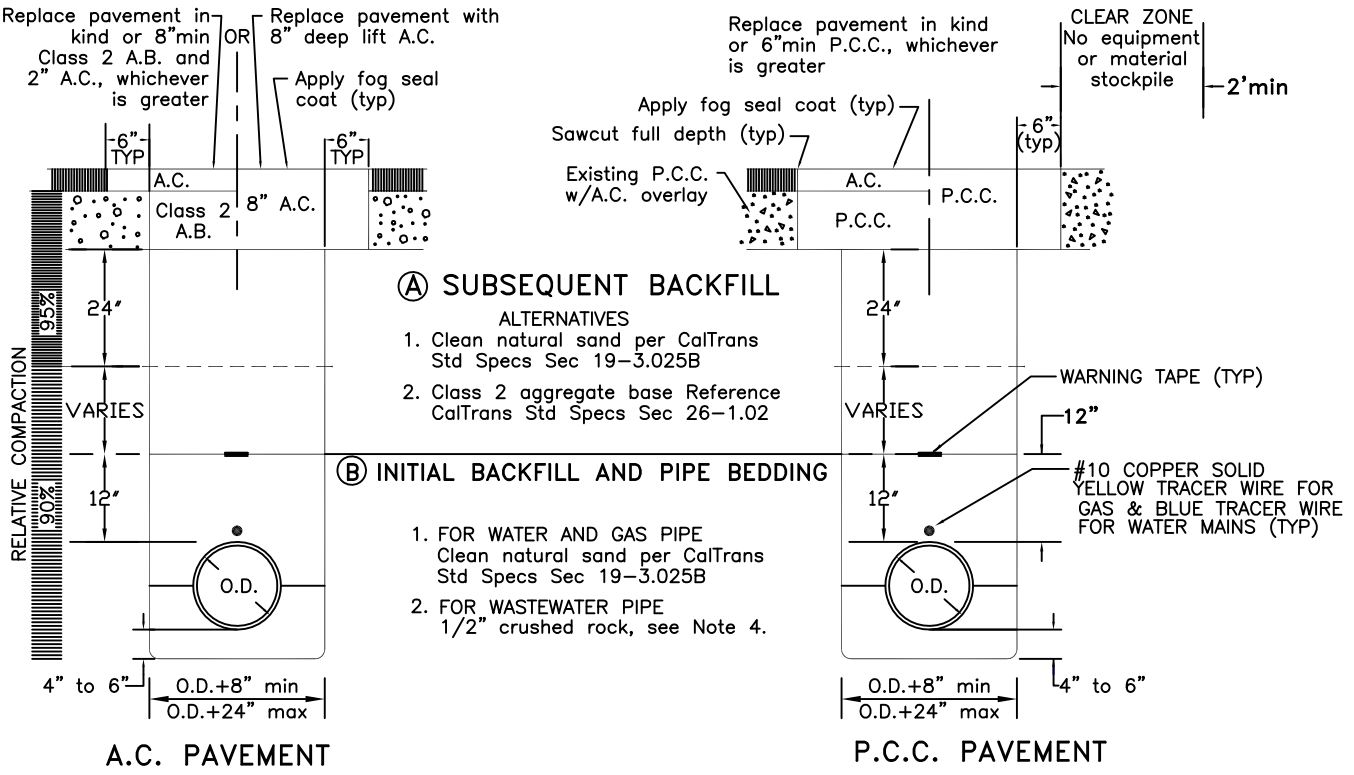
Edward Wu 52944
EDWARD WU R.E. NO.
WGW ENGINEERING MANAGER

REVISION:
JAN 31, 2013

SCALE:
NONE

DWG. NO.
STD. WGW-01

APPENDIX A

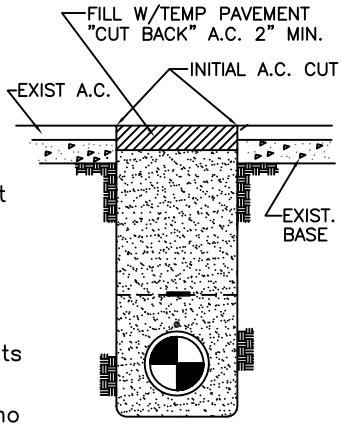


A.C. PAVEMENT

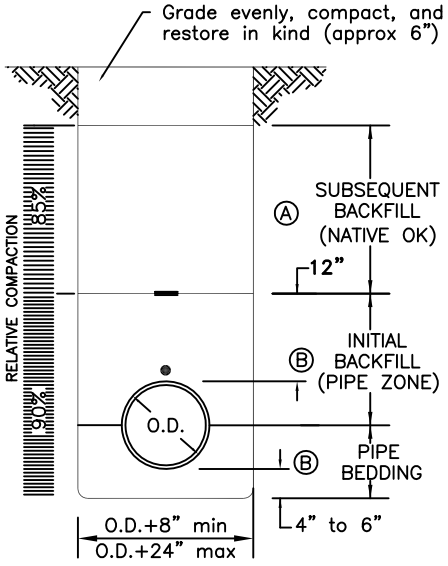
P.C.C. PAVEMENT

JETTING NOTES

1. **IMPROVED AREAS**
   a. INITIAL BACKFILL – jetting of sand OK
   b. SUBSEQUENT BACKFILL – jetting of sand subject to approval of City Engineer, except for top 2 ft, which must be mechanically compacted
2. **UNIMPROVED AREAS:** jetting of sand OK
3. **WHEN JETTING IS PERMITTED:**
   a. Excess water shall be collected at low points and removed by pumping
   b. Sand to be jetted shall be placed in lifts no thicker than 4 ft
   c. Jetting shall be performed at intervals along the trench not to exceed 6 ft



TEMPORARY RESTORATION

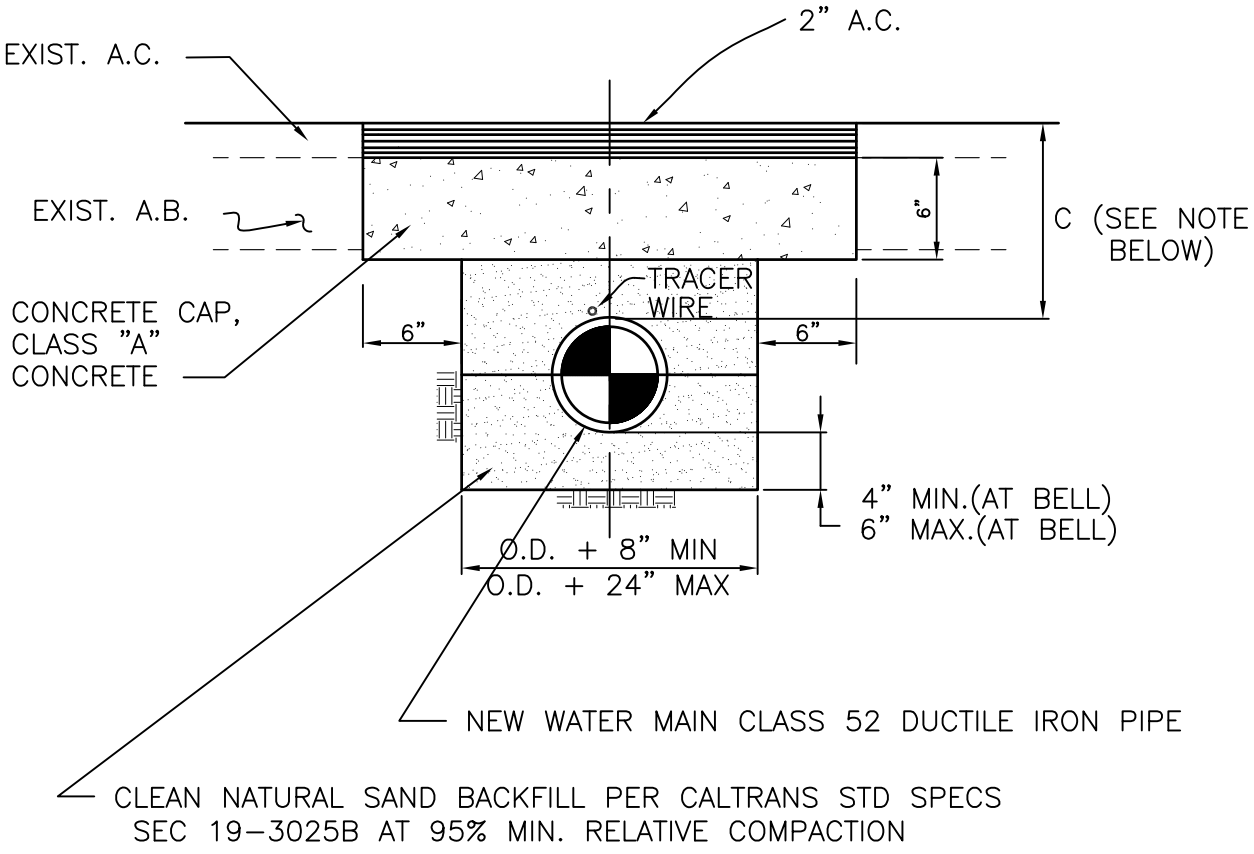


UNIMPROVED AREA

NOTES:

1. FINAL TRENCH RESTORATION SHALL BE COMPLETED WITHIN 10 WORKING DAYS FROM THE LAST DAY PIPE HAS BEEN INSTALLED ON ANY PARTICULAR CONTINUOUS SECTION.
2. IF TRENCH IS LOCATED 3 FEET OR LESS FROM EDGE OF PAVEMENT, SURFACE COURSE PAVEMENT SHALL BE REMOVED AND REPLACED FROM TRENCH TO EDGE OF PAVEMENT.
3. TRENCH WIDTH TO BE INCREASED WHEN SHORING IS USED.
4. IF WATER IS PRESENT, WRAP GEOTEXTILE FABRIC, MIRIFI 600X OR EQUAL. OVERLAP 12" ON TOP OF PIPE AND 24". AT ENDS. IF DIRECTED BY CITY, CONSTRUCT DAM TO PREVENT WATER FLOWING ALONG THE TRENCH.

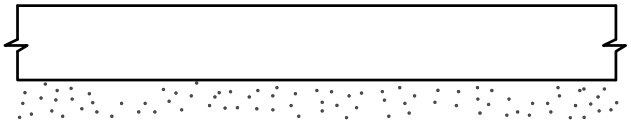
	BY	DATE			
DRAWN	E.L.	5/92	TRENCH BACKFILL STANDARD DETAIL	APPROVED: JANUARY, 31 2013	SCALE: NONE
CHECKED	R.E.	3/98		Edward Wu 52944 EDWARD WU R.E. NO. WGW ENGINEERING MANAGER	DWG. NO. STD. WGW-02
REVIEWED	RE	1/10	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A



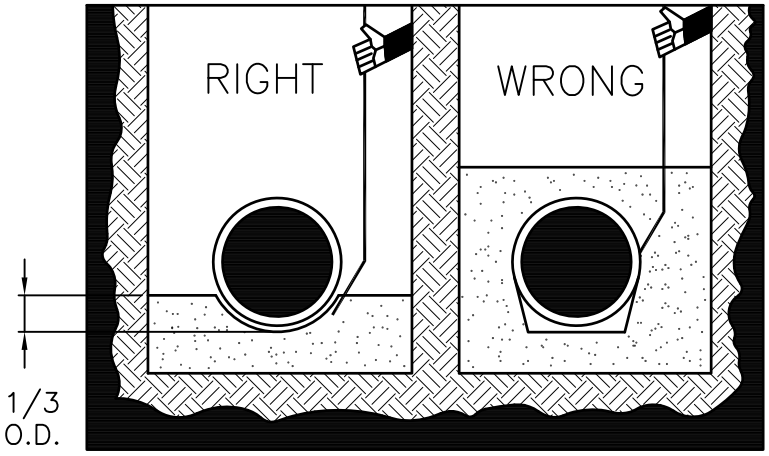
NOTE:

THIS DETAIL APPLIES WHERE DIMENSION "C" IS LESS THAN 3 FEET.

BY	DATE	TRENCH BACKFILL FOR SHALLOW WATER MAINS STANDARD DETAIL	APPROVED: JANUARY, 31 2013	SCALE: NONE
DRAWN EL	5/92		Edward Wu 52944 EDWARD WU R.E. NO. WGW ENGINEERING MANAGER	DWG. NO. STD. WGW-03
CHECKED CB	5/92			
REVIEWED RE	10/10	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A

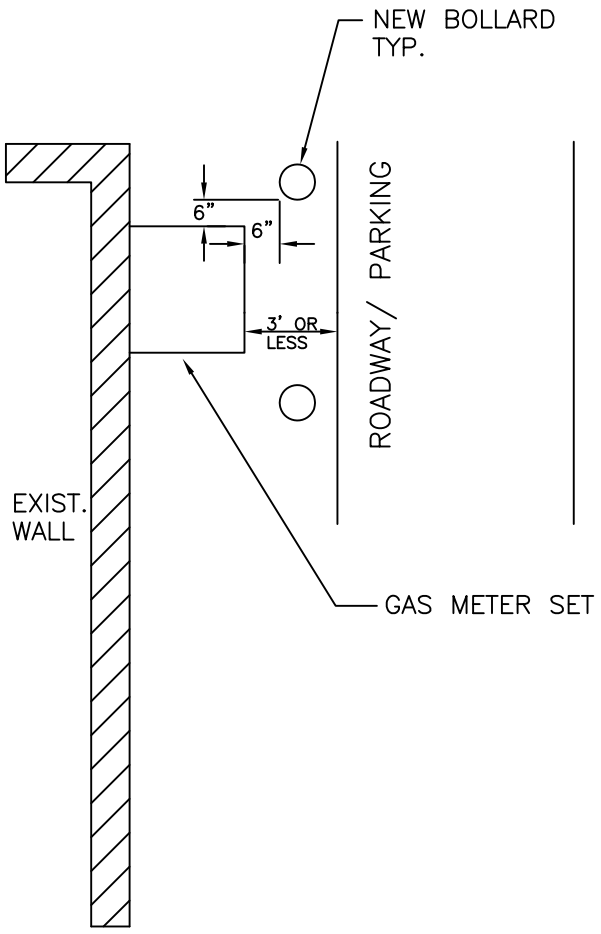


PROVIDE UNIFORM AND CONTINUOUS SUPPORT OF PIPE FOR ALL CLASSES OF BEDDING.

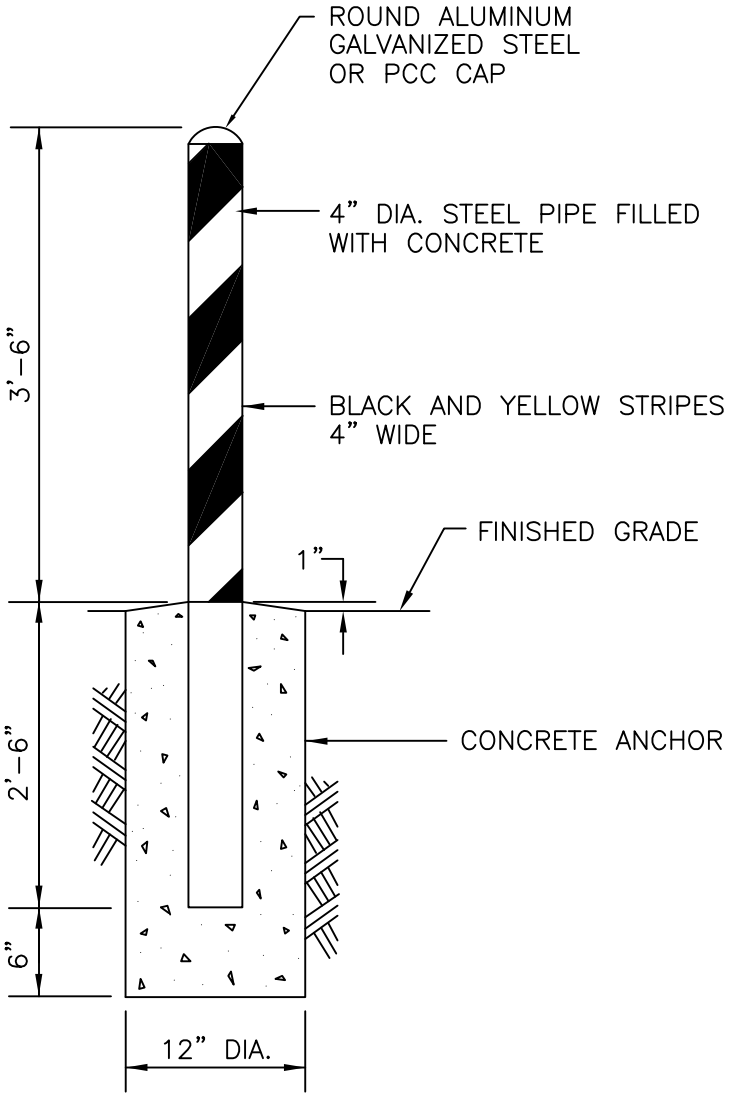


PLACE BACKFILL TO SPRINGLINE AND SHOVEL SLICE TO FORM DENSE COMPACTED HAUNCH SUPPORT TO 1/3 THE OUTSIDE DIAMETER OF THE PIPE.

BY	DATE			
DRAWN RF	5/92	PIPE BEDDING STANDARD DETAIL	APPROVED: JANUARY, 31 2013	SCALE: NONE
CHECKED EW	6/92		Edward Wu 52944 R.E. NO. EDWARD WU WGW ENGINEERING MANAGER	DWG. NO. STD. WGW-04
REVIEWED RC	6/92	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A



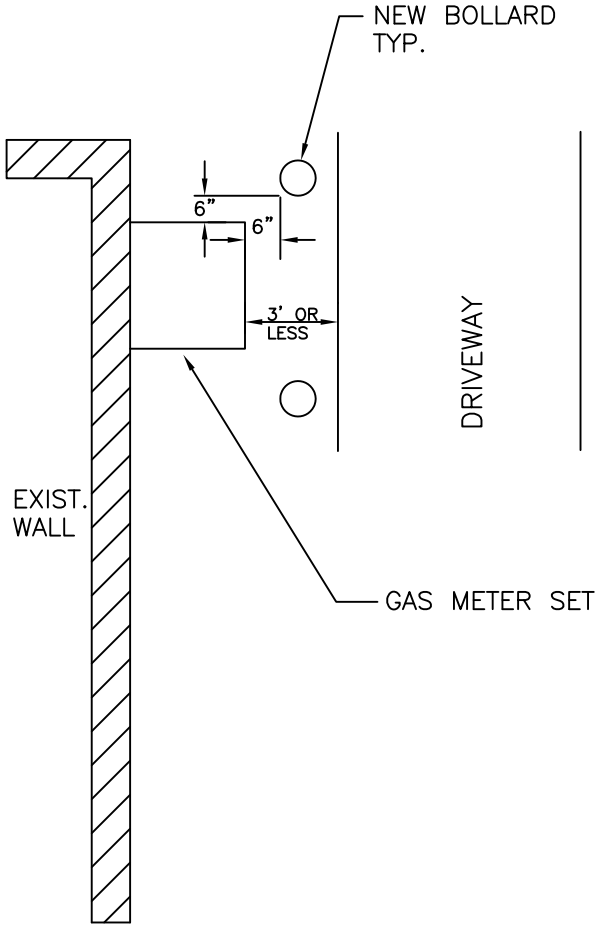
PLAN



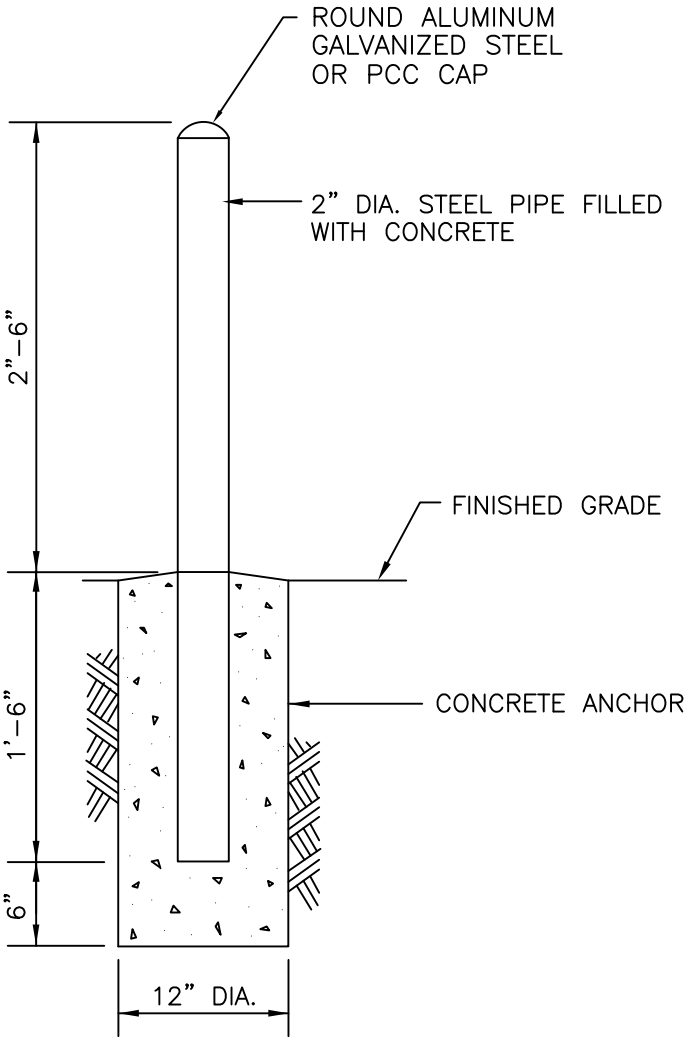
PROFILE

ANY GAS METER OR BACKFLOW DEVICE WITHIN THREE (3) FEET OF POTENTIAL VEHICULAR ACCESS SHALL BE PROTECTED BY EITHER COMMERCIAL OR RESIDENTIAL BOLLARDS DEPENDING ON APPLICATION.

BY	DATE			
DRAWN J.J.	8/92	COMMERCIAL BOLLARD STANDARD DETAIL	APPROVED: JANUARY, 31 2013	SCALE: NONE
CHECKED J.J.	9/92		EDWARD WU 52944 R.E. NO. WGW ENGINEERING MANAGER	DWG. NO. STD. WGW-05
REVIEWED RE	12/10	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A



PLAN



PROFILE

ANY GAS METER OR BACKFLOW DEVICE WITHIN THREE (3) FEET OF POTENTIAL VEHICULAR ACCESS SHALL BE PROTECTED BY EITHER COMMERCIAL OR RESIDENTIAL BOLLARDS DEPENDING ON APPLICATION.

	BY	DATE
DRAWN	R.E.	3/98
CHECKED	R.E.	3/98
REVIEWED	R.E.	12/09

RESIDENTIAL BOLLARD STANDARD DETAIL

CITY OF PALO ALTO, CALIFORNIA

APPROVED:
JANUARY, 31 2013

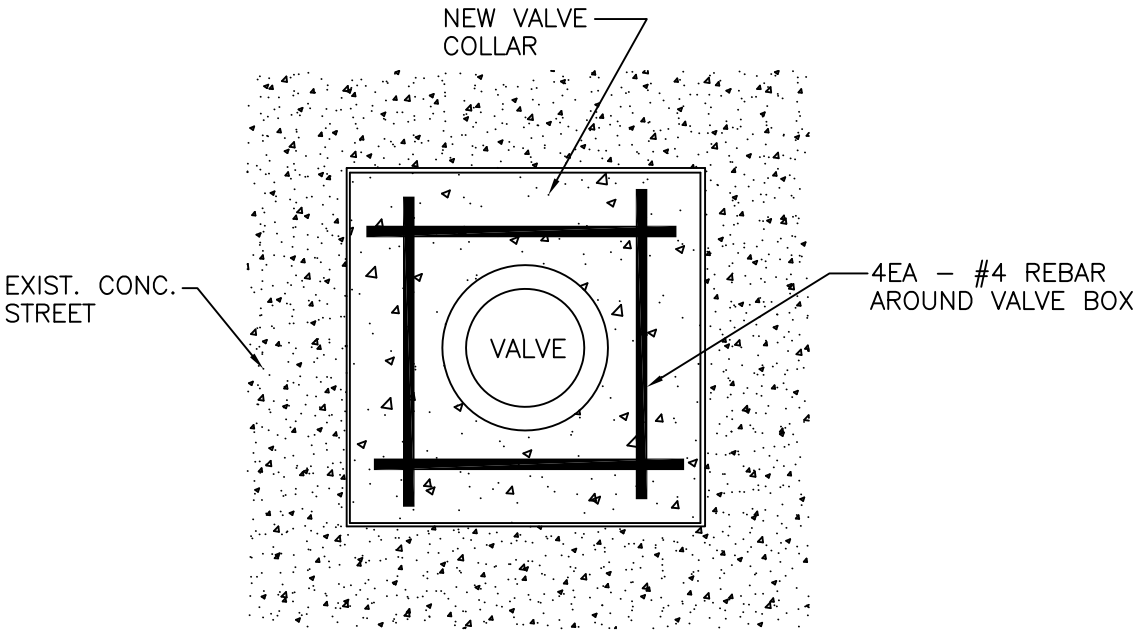
EDWARD WU 52944 R.E. NO.
WGW ENGINEERING MANAGER

REVISION:
JAN 31, 2013

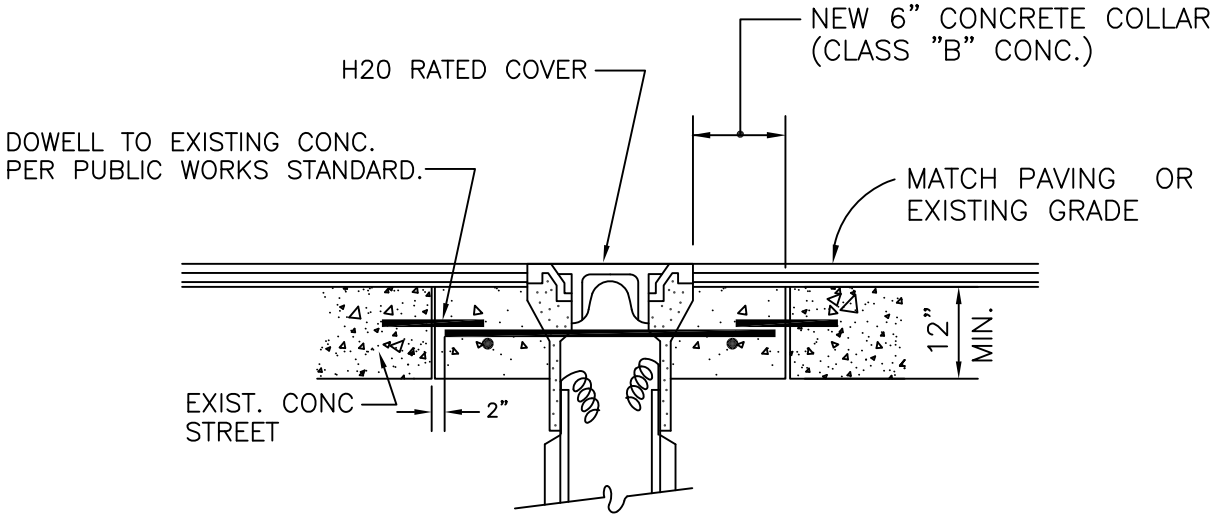
SCALE: NONE

DWG. NO. STD. WGW-06

APPENDIX A

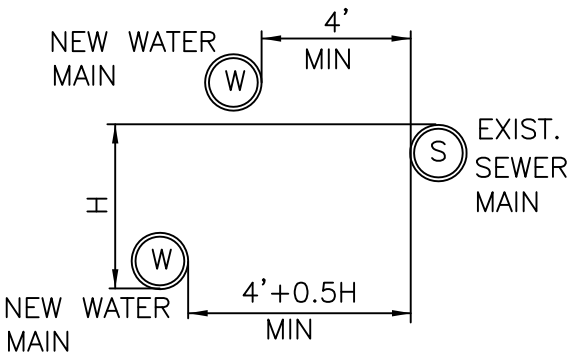


PLAN

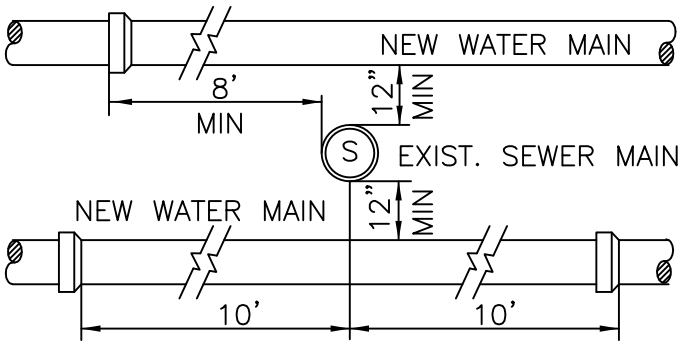


PROFILE

	BY	DATE			
DRAWN	R.E.	12/04	GAS AND WATER VALVE CONC. COLLAR AND STEEL REBAR AT EXISTING CONC. STREET	APPROVED: JANUARY, 31 2013	SCALE: NONE
CHECKED	R.E.	12/04		Edward Wu 52944 EDWARD WU R.E. NO. WGW ENGINEERING MANAGER	DWG. NO. STD. WGW–07
REVIEWED	R.E.	12/09	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A

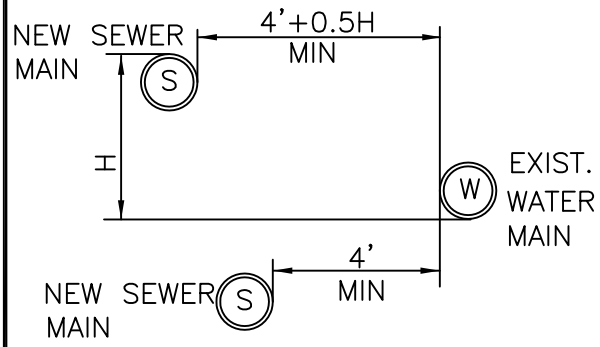


PARALLEL

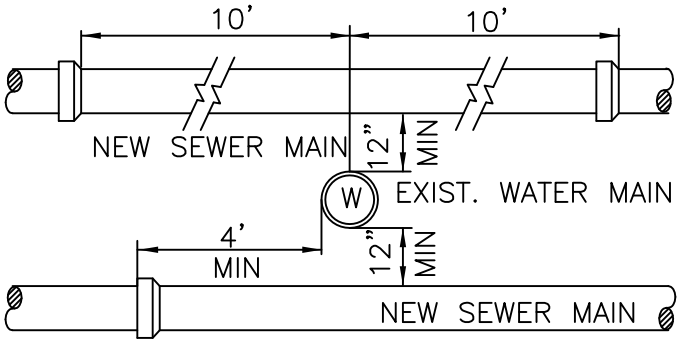


CROSSING

NEW WATER MAIN



PARALLEL



CROSSING

NEW SEWER MAIN

NOTES:

1. NEW WATER MAIN SHALL BE 4710 HDPE PER SECTION 2660.
2. NEW SEWER MAIN SHALL BE HDPE PER SECTION 2735.
3. AT WATER & SEWER MAINS CROSSINGS, A CONTINUOUS SECTION OF PIPE SHALL BE CENTERED OVER THE PIPE BEING CROSSED (NO JOINTS AT CROSSING).
4. SEPARATION DISTANCES COMPLIES WITH SECTION 64630(E)(2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.
5. CROSSING ALIGNMENT: IF VERTICAL SEPARATION IS BETWEEN 4" TO 12", REVIEW AND APPROVAL IS REQUIRED BY THE WGW ENGINEERING DEPARTMENT. VERTICAL SEPERATION LESS THAN 4" IS PROHIBITED.
6. PARALLEL ALIGNMENT: IF HORIZONTAL SEPARATION IS BETWEEN 1' TO 4', (OR CALCULATED MIN. 4'+0.5H, AS APPLICABLE), REVIEW AND APPROVAL IS REQUIRED BY THE WGW ENGINEERING DEPARTMENT. HORIZONTAL SEPERATION LESS THAN 1' IS PROHIBITED.

BY	DATE			
DRAWN B.C.	12/04	WATER – SEWER SEPARATION CRITERIA STANDARD DETAIL	APPROVED: JANUARY, 31 2013	SCALE: NONE
CHECKED RA/EW	12/04		52944 R.E. NO. EDWARD WU WGW ENGINEERING MANAGER	DWG. NO. STD. WGW–08
REVIEWED R.E.	12/09	CITY OF PALO ALTO, CALIFORNIA	REVISION: JAN 31, 2013	APPENDIX A