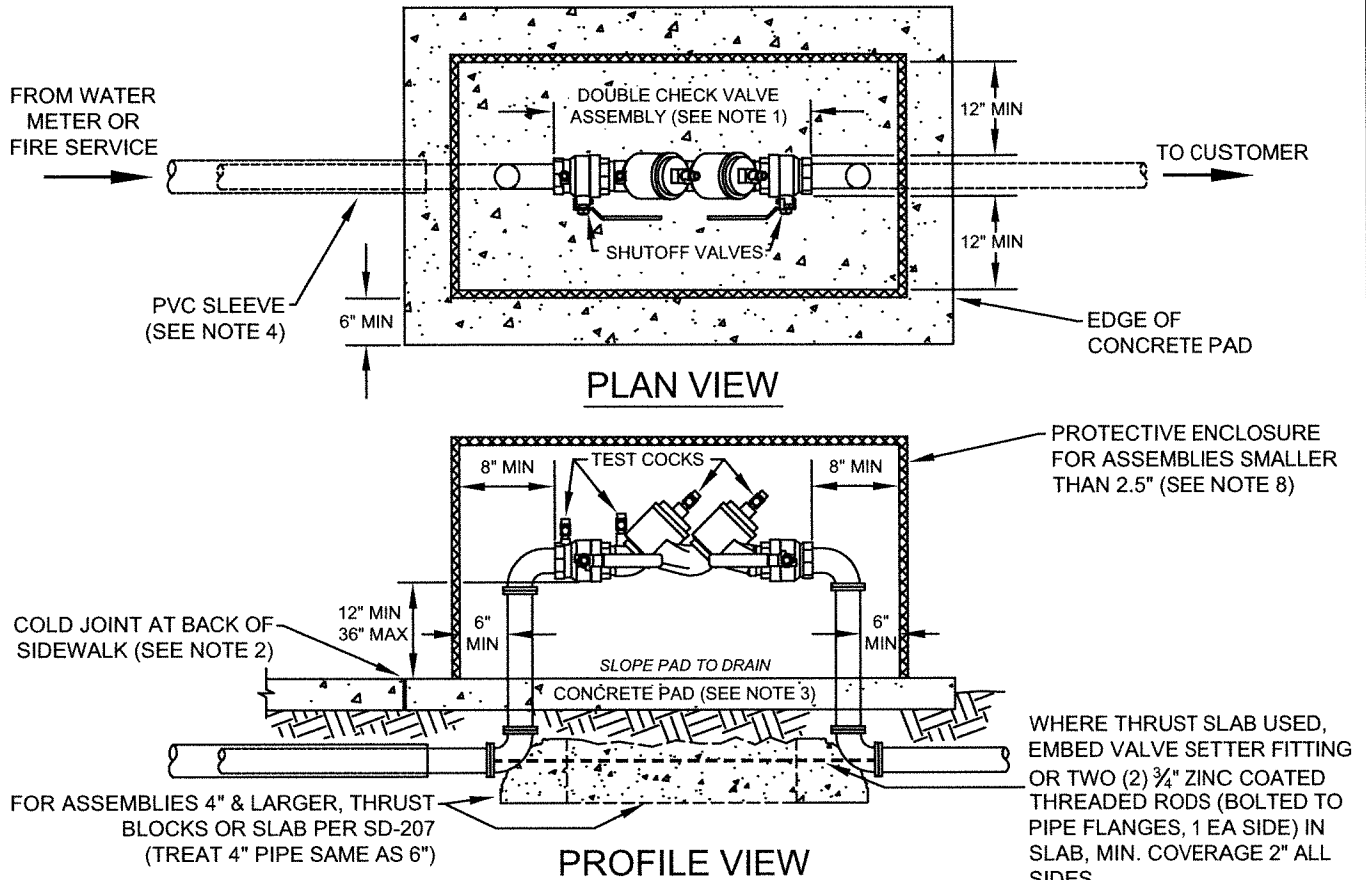


**FOR FIRE SERVICES* AND WATER SERVICES
WHERE REQUIRED BY CCR, TITLE 17, § 7604**

*SEE SD-204 FOR ADDITIONAL REQUIREMENTS ON FIRE SERVICES 3" AND LARGER

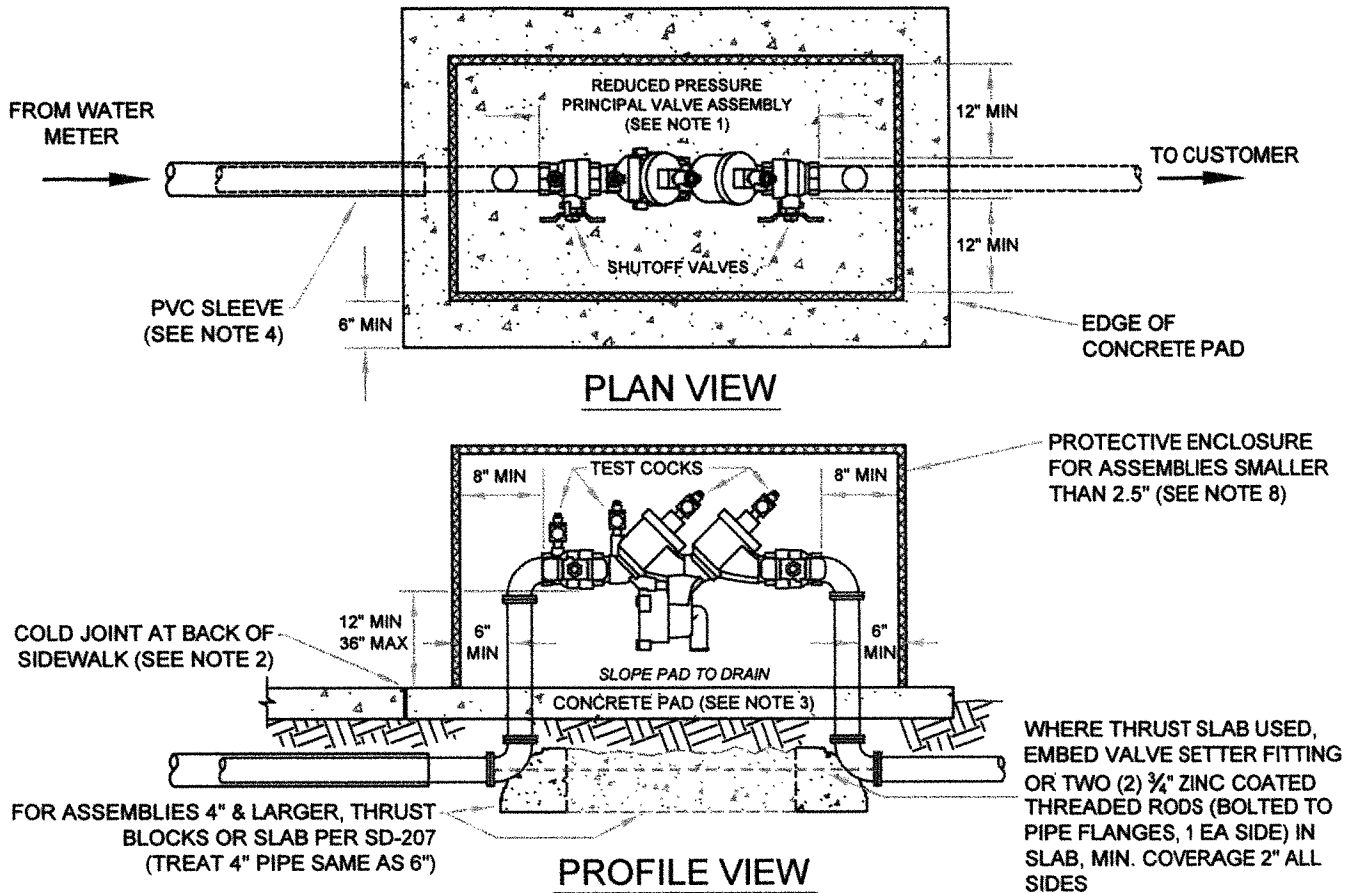


NOTES:

1. ALLOWED BACKFLOW ASSEMBLIES AND THEIR ORIENTATIONS SHALL BE LIMITED TO THOSE SPECIFIED ON THE "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES," BY THE UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, 2010 OR LATEST REVISION.
2. THE BACKFLOW DEVICE SHALL BE LOCATED: (A) A MAXIMUM OF 5' FROM BACK OF SIDEWALK (TYP.); (B) WHERE SCREENING IS REQUIRED, A MAXIMUM OF 30" FROM BACK OF SIDEWALK; OR (C) AT A LOCATION DETERMINED BY THE WATER DISTRIBUTION CROSS CONNECTION PERSONNEL IN THE FIELD.
3. CONCRETE PAD SHALL BE CLASS B CONCRETE, 4" MINIMUM THICKNESS, REINFORCED WITH WELDED WIRE MESH.
4. WHERE SERVICE LINES SMALLER THAN 4" PASS UNDER A SIDEWALK, THEY SHALL BE INSTALLED IN A PVC CASING/SLEEVE AT LEAST 1" LARGER THAN THE SERVICE LINE AND EXTENDS AT LEAST 6" BEYOND THE EDGES OF THE SIDEWALK.
5. METAL PIPES EXPOSED TO SOIL OR CONCRETE SHALL BE COATED WITH 3M SCOTCHWRAP PIPE PRIMER AND WRAPPED WITH 3M SCOTCHWRAP NO. 51 BLACK PVC TAPE (¾" OVERLAP).
6. THE PORTION OF THE TRENCH FROM THE BACK OF THE METER TO THE DEVICE SHALL BE EXPOSED AND CHARGED WITH WATER UNTIL CROSS-CONNECTION PERSONNEL HAVE INSPECTED AND SIGNED OFF PRIOR TO FINAL INSPECTION.
7. THE TESTING SIDE OF THE DEVICE SHALL HAVE A MINIMUM 24" OF CLEARANCE FROM OBSTRUCTIONS (NON-TRIMMABLE LANDSCAPING, BUILDINGS, UTILITIES, ETC.). MULTIPLE BACKFLOW DEVICES SHALL BE SEPARATED BY A MINIMUM OF 18".
8. BACKFLOW ASSEMBLIES SMALLER THAN 2.5" SHALL BE COVERED WITH AN INSULATION BLANKET, MIN R-13, GREEN, WEATHERGUARD OR EQUAL AND PROTECTED BY A LOCKABLE WIRE CAGE ENCLOSURE FASTENED TO THE PAD. THE ENCLOSURE SHALL BE HINGED, POWDER COATED GREEN AND SECURED WITH A DOUBLE-LOCKED GALVANIZED CHAIN SUCH THAT EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY.
9. BACKFLOW ASSEMBLIES 2.5" AND LARGER SHALL BE SECURED BY A DOUBLE-LOCKED, GALVANIZED, STRAIGHT LINK CHAIN THAT LOCKS THE VALVE HANDWHEELS IN THE OPEN POSITION AND EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY. IN AREAS PRONE TO VANDALISM, CITY MAY ADDITIONALLY REQUIRE A LOCKABLE PROTECTIVE ENCLOSURE (SEE NOTE 8).
10. BOLLARDS MAY BE REQUIRED BY CITY TO PROVIDE ADDITIONAL PROTECTION (SEE SD-223 FOR BOLLARD DETAIL).
11. BACKFLOW ASSEMBLIES INSTALLED ON POTABLE WATER SERVICES SHALL BE LEAD FREE.
12. BACKFLOW ASSEMBLIES SHALL BE AT LEAST THE SIZE OF THE WATER METER OR THE WATER SUPPLY LINE ON THE PROPERTY SIZE OF THE METER, WHICHEVER IS LARGER.
13. WHERE ONE OR MORE BACKFLOWS ARE INSTALLED ON A SINGLE PREMISE, EACH SHALL BE PERMANENTLY IDENTIFIED (I.E. ADDRESS /UNIT #) FOLLOWED BY A LETTER D (FOR DOMESTIC SERVICE) I (FOR IRRIGATION SERVICE) F (FOR FIRE SERVICE) WITH BRASS TAG ATTACHED TO THE BACKFLOW DEVICE.
14. A COMPLETE CITY OF HAYWARD BACKFLOW TEST TAG MUST BE ATTACHED TO THE DEVICE UPON FINAL INSPECTION BY CITY OF HAYWARD BUILDING INSPECTION PERSONNEL. ALL STANDARD DETAIL CONDITIONS ARE TO BE MET PRIOR TO THIS INSPECTION.

1	04/27/17	HGM	 CITY OF HAYWARD PUBLIC WORKS DEPT.	STANDARD DOUBLE CHECK VALVE ASSEMBLIES	DWG. NO.
					SD-201
REV	DATE	BY	DRW BY: RS DATE: 11/30/12 CHKD BY: AA SCALE: NTS APPD. BY: APPROVED:	FILED	SHT.
			CITY ENGINEER DIR. PUBLIC WORKS		1 OF 1

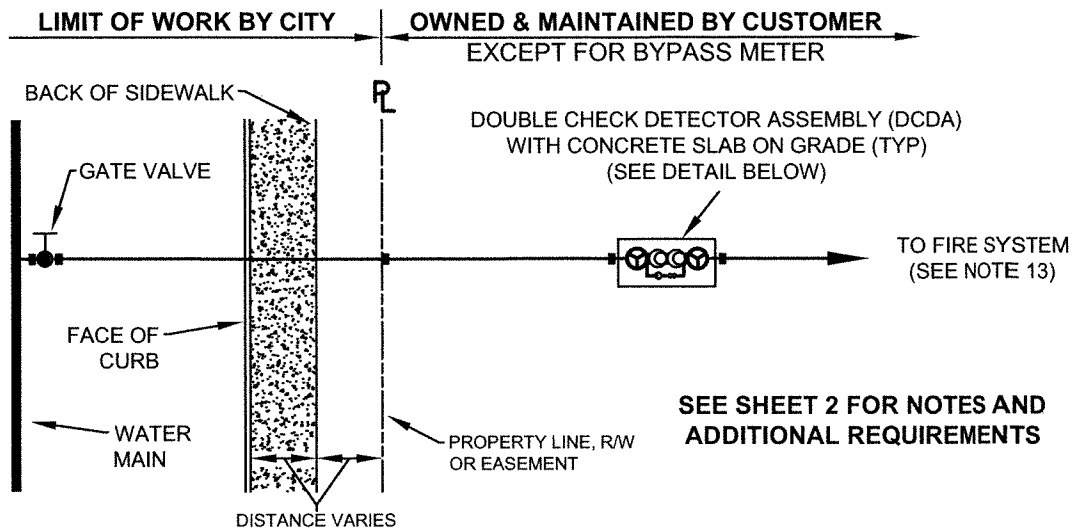
**FOR IRRIGATION AND WATER SERVICES
WHERE REQUIRED BY CCR, TITLE 17, § 7604**



NOTES:

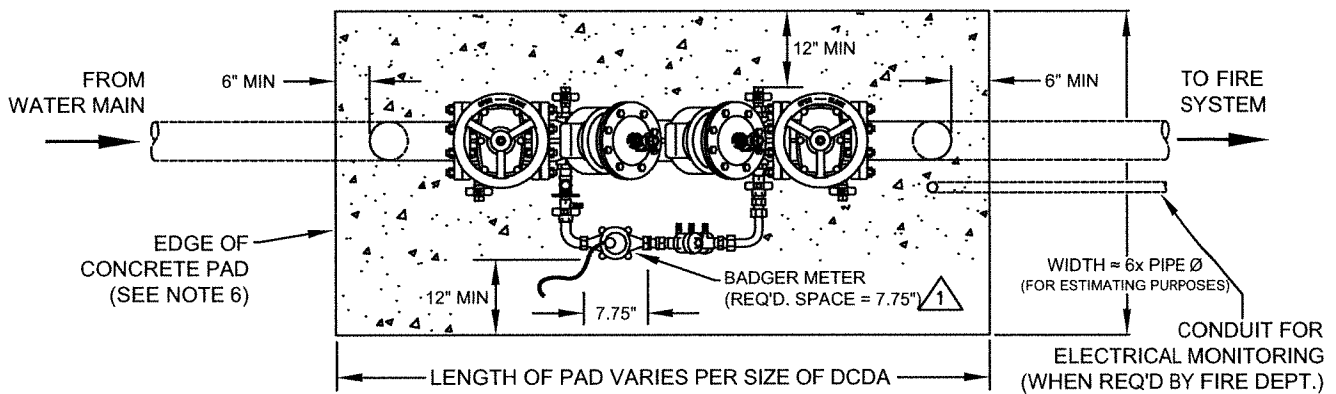
1. ALLOWED BACKFLOW ASSEMBLIES AND THEIR ORIENTATIONS SHALL BE LIMITED TO THOSE SPECIFIED ON THE "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES," BY THE UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, 2010 OR LATEST REVISION.
2. THE BACKFLOW DEVICE SHALL BE LOCATED: (A) A MAXIMUM OF 5' FROM BACK OF SIDEWALK (TYP.); (B) WHERE SCREENING IS REQUIRED, A MAXIMUM OF 30' FROM BACK OF SIDEWALK; OR (C) AT A LOCATION DETERMINED BY THE WATER DISTRIBUTION CROSS CONNECTION PERSONNEL IN THE FIELD.
3. CONCRETE PAD SHALL BE CLASS B CONCRETE, 4" MINIMUM THICKNESS, REINFORCED WITH WELDED WIRE MESH.
4. WHERE SERVICE LINES SMALLER THAN 4" PASS UNDER A SIDEWALK, THEY SHALL BE INSTALLED IN A PVC CASING/SLEEVE AT LEAST 1" LARGER THAN THE SERVICE LINE AND EXTENDS AT LEAST 6" BEYOND THE EDGES OF THE SIDEWALK.
5. METAL PIPES EXPOSED TO SOIL OR CONCRETE SHALL BE COATED WITH 3M SCOTCHWRAP PIPE PRIMER AND WRAPPED WITH 3M SCOTCHWRAP NO. 51 BLACK PVC TAPE (1/2" OVERLAP).
6. THE PORTION OF THE TRENCH FROM THE BACK OF THE METER TO THE DEVICE SHALL BE EXPOSED AND CHARGED WITH WATER UNTIL CROSS-CONNECTION PERSONNEL HAVE INSPECTED AND SIGNED OFF PRIOR TO FINAL INSPECTION.
7. THE TESTING SIDE OF THE DEVICE SHALL HAVE A MINIMUM 24" OF CLEARANCE FROM OBSTRUCTIONS (NON-TRIMMABLE LANDSCAPING, BUILDINGS, UTILITIES, ETC.). MULTIPLE BACKFLOW DEVICES SHALL BE SEPARATED BY A MINIMUM OF 18".
8. BACKFLOW ASSEMBLIES SMALLER THAN 2.5" SHALL BE COVERED WITH AN INSULATION BLANKET, MIN R-13, GREEN, WEATHERGUARD OR EQUAL AND PROTECTED BY A LOCKABLE WIRE CAGE ENCLOSURE FASTENED TO THE PAD. THE ENCLOSURE SHALL BE HINGED, POWDER COATED GREEN AND SECURED WITH A DOUBLE-LOCKED GALVANIZED CHAIN SUCH THAT EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY.
9. BACKFLOW ASSEMBLIES 2.5" AND LARGER SHALL BE SECURED BY A DOUBLE-LOCKED, GALVANIZED, STRAIGHT LINK CHAIN THAT LOCKS THE VALVE HANDWHEELS IN THE OPEN POSITION AND EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY. IN AREAS PRONE TO VANDALISM, CITY MAY ADDITIONALLY REQUIRE A LOCKABLE PROTECTIVE ENCLOSURE (SEE NOTE 8).
10. BOLLARDS MAY BE REQUIRED BY CITY TO PROVIDE ADDITIONAL PROTECTION (SEE SD-223 FOR BOLLARD DETAIL).
11. BACKFLOW ASSEMBLIES INSTALLED ON POTABLE WATER SERVICES SHALL BE LEAD FREE.
12. BACKFLOW ASSEMBLIES SHALL BE AT LEAST THE SIZE OF THE WATER METER OR THE WATER SUPPLY LINE ON THE PROPERTY SIZE OF THE METER, WHICHEVER IS LARGER.
13. WHERE ONE OR MORE BACKFLOWS ARE INSTALLED ON A SINGLE PREMISE, EACH SHALL BE PERMANENTLY IDENTIFIED (I.E. ADDRESS /UNIT #) FOLLOWED BY A LETTER D (FOR DOMESTIC SERVICE) I (FOR IRRIGATION SERVICE) F (FOR FIRE SERVICE) WITH BRASS TAG ATTACHED TO THE BACKFLOW DEVICE.
14. A COMPLETE CITY OF HAYWARD BACKFLOW TEST TAG MUST BE ATTACHED TO THE DEVICE UPON FINAL INSPECTION BY CITY OF HAYWARD BUILDING INSPECTION PERSONNEL. ALL STANDARD DETAIL CONDITIONS ARE TO BE MET PRIOR TO THIS INSPECTION.

1	04/27/17	HGM	 CITY OF HAYWARD PUBLIC WORKS DEPT.	STANDARD - REDUCED PRESSURE PRINCIPAL BACKFLOW PREVEN- TION ASSEMBLIES	DWG. NO. SD-202	
					DRW BY: RS DATE: 11/30/12	FILED
					CHKD BY: AA SCALE: NTS	
					APPD. BY: APPROVED:	
REV	DATE	BY	CITY ENGINEER	DIR. PUBLIC WORKS	SHT. 1 OF 1	



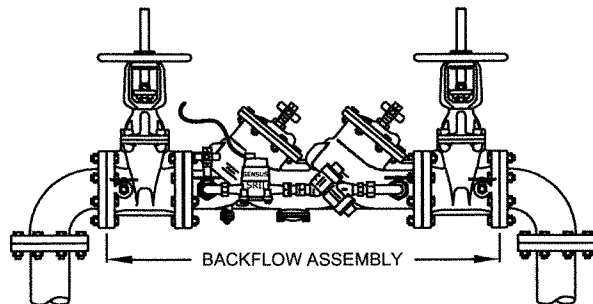
CITY RESPONSIBILITY ENDS AT THE PROPERTY LINE (R), RIGHT-OF-WAY (R/W) OR EASEMENT, AS APPLICABLE TO THE LOCATION OF THE FIRE SERVICE, WITH THE EXCEPTION OF ANNUAL TESTING. CUSTOMER OWNS AND SHALL MAINTAIN ALL THE COMPONENTS OF THE FIRE SYSTEM WITHIN THE PROPERTY LINES (INCLUDING BUT NOT LIMITED TO, DCDA, PIV, FDC, CAGE, BOLLARDS, CHAINS, LOCKS, ETC.), WITH THE EXCEPTION OF THE CITY'S BYPASS METER.

FIRE SERVICE SCHEMATIC

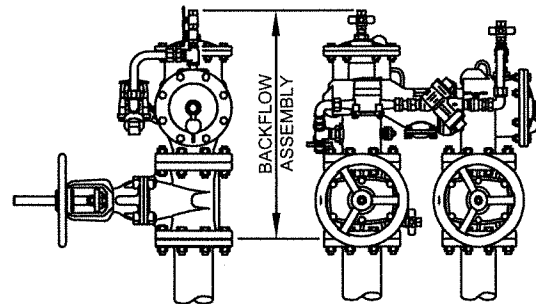


SEE SD-201 FOR ADDITIONAL REQUIREMENTS

DCDA DETAIL, PLAN VIEW



TYPICAL DCDA
PROFILE VIEW



CONFIGURABLE DCDA
PROFILE VIEWS

1	04/26/17	HGM	CITY OF HAYWARD PUBLIC WORKS DEPT.	
				DRW BY: RS DATE: 10/29/2010 CHKD BY: JH/AA SCALE: NTS APPD. BY: APPROVED:
REV	DATE	BY		
				CITY ENGINEER DIR. PUBLIC WORKS

**STANDARD
FIRE SERVICE
3" AND LARGER**

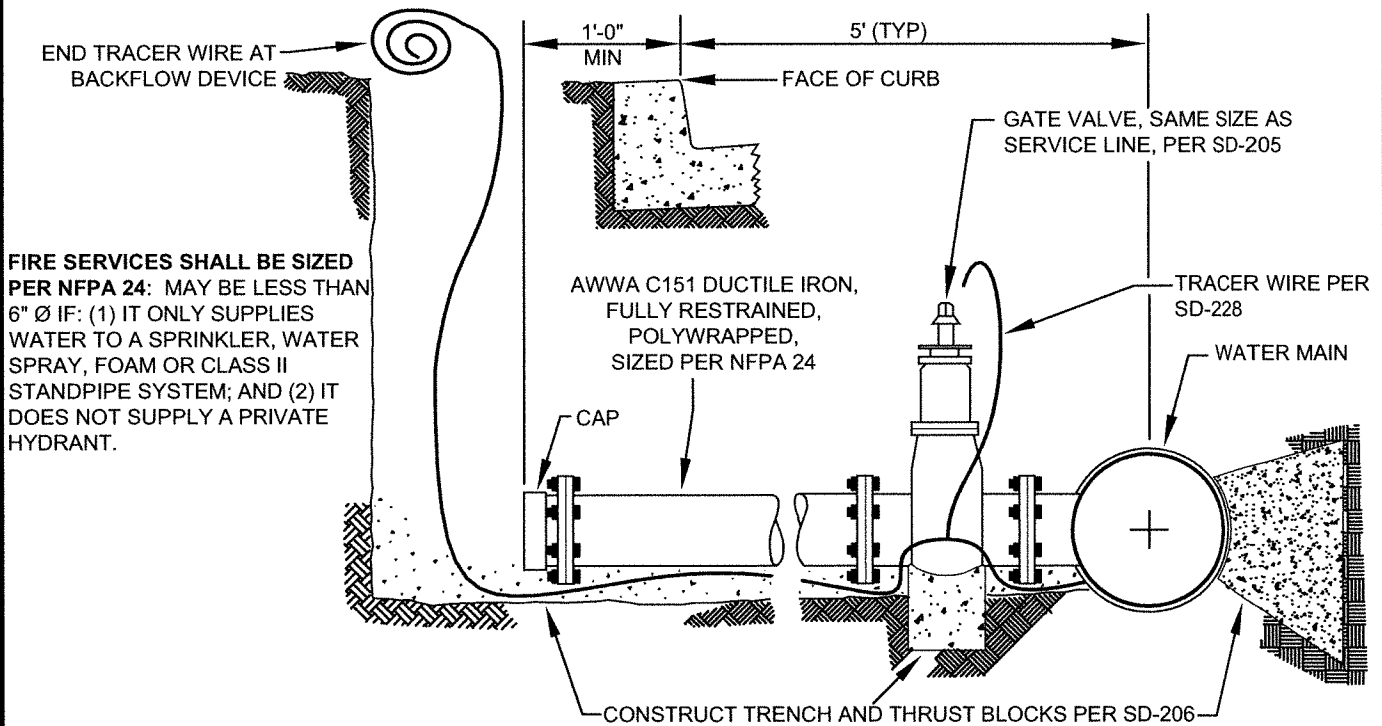
DWG. NO.
SD-204

FILED

SHT. **1** OF **2**

NOTES:

1. BACKFLOW ASSEMBLIES SHALL BE FACTORY ASSEMBLED, WITH BADGER METER THAT READS IN 100CF. FOR THOSE SPECIFIED ON THE "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES," BY THE UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, 2010 OR LATEST REVISION. △1
2. FIRE SERVICES MAY BE INSTALLED BY A CONTRACTOR AS PART OF A WATER MAIN THAT THE CONTRACTOR IS CONSTRUCTING AFTER CITY HAS APPROVED PLANS DETAILING THE PROPOSED WATER MAIN AND FIRE SERVICES.
3. ALL PLANS DETAILING FIRE SERVICES SHALL BE APPROVED BY CITY PRIOR TO INSTALLATION.
4. ALL FIRE SERVICES TO BE CONNECTED TO EXISTING LIVE WATER MAINS AND ALL BYPASS/TRIM METERS SHALL BE INSTALLED BY DEVELOPER. △1
5. THE BACKFLOW DEVICE SHALL BE LOCATED: (A) A MAXIMUM OF 5' FROM BACK OF SIDEWALK (TYP); (B) WHERE SCREENING IS REQUIRED, A MAXIMUM OF 30" FROM BACK OF SIDEWALK; OR (C) AT A LOCATION DETERMINED BY THE WATER DISTRIBUTION CROSS CONNECTION PERSONNEL IN THE FIELD.
6. CONCRETE PAD SHALL BE CLASS B CONCRETE, 4" MINIMUM THICKNESS, REINFORCED WITH WELDED WIRE MESH.
7. THE PORTION OF THE TRENCH FROM THE BACK OF THE METER TO THE DEVICE SHALL BE EXPOSED AND CHARGED WITH WATER UNTIL CROSS-CONNECTION PERSONNEL HAVE INSPECTED AND SIGNED OFF PRIOR TO FINAL INSPECTION. △1
8. THE TESTING SIDE OF THE DEVICE SHALL HAVE A MINIMUM 24" OF CLEARANCE FROM OBSTRUCTIONS (NON-TRIMMABLE LANDSCAPING, BUILDINGS, UTILITIES, ETC.). MULTIPLE BACKFLOW DEVICES SHALL BE SEPARATED BY A MINIMUM OF 18".
9. DCDA's SHALL BE SECURED BY A DOUBLE-LOCKED, GALVANIZED, STRAIGHT LINK CHAIN THAT LOCKS THE VALVE HAND-WHEELS OPEN, SUCH THAT EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY. IN AREAS PRONE TO VANDALISM, A LOCKABLE PROTECTIVE ENCLOSURE MAY ALSO BE REQUIRED BY CITY (SEE SD-201).
10. THE BYPASS ASSEMBLY, INCLUDING THE METER, SHALL BE COVERED WITH AN INSULATION BLANKET, MIN R-13.
11. BOLLARDS MAY BE REQUIRED BY CITY FOR ADDITIONAL PROTECTION (SEE SD-223 FOR BOLLARD DETAIL).
12. TOUCHREAD SENSOR OF BYPASS METER SHALL BE MOUNTED TO AND THROUGH THE SIDE OF THE PROTECTIVE ENCLOSURE OR, IF NO ENCLOSURE, ATTACHED TO THE DCDA, AS DETERMINED BY THE WATER DISTRIBUTION PERSONNEL IN THE FIELD. TOUCHREAD SENSOR WIRE SHALL BE NEATLY SECURED TO THE DCDA.
13. POST INDICATOR VALVE (PIV) AND FIRE DEPARTMENT CONNECTION (FDC) SHALL BE CONNECTED TO THE FIRE SYSTEM DOWNSTREAM OF THE DCDA, PER THE FIRE DEPARTMENT'S REQUIREMENTS.
14. INTERIOR INSTALLATIONS OF BACKFLOW DEVICES WILL ONLY BE CONSIDERED ON A CASE-BY-CASE BASIS AND WHEN SPACE LIMITATIONS PREVENT USE OF AN ABOVE GRADE DEVICE. △1



FIRE SERVICES SHALL BE SIZED PER NFPA 24: MAY BE LESS THAN 6" Ø IF: (1) IT ONLY SUPPLIES WATER TO A SPRINKLER, WATER SPRAY, FOAM OR CLASS II STANDPIPE SYSTEM; AND (2) IT DOES NOT SUPPLY A PRIVATE HYDRANT.

FIRE SERVICE CONSTRUCTION DETAIL

△1	04/27/17	HGM	 CITY OF HAYWARD PUBLIC WORKS DEPT.	STANDARD FIRE SERVICE 3" AND LARGER	DWG. NO. SD-204
			DRW BY: RS DATE: 10/29/2010 CHKD BY: JH/AA SCALE: NTS APPD. BY: APPROVED:		FILED
REV	DATE	BY	CITY ENGINEER	DIR. PUBLIC WORKS	SHT. 2 OF 2