

# WATER SYSTEM DESIGN CRITERIA

1. THE DESIGN AND CONSTRUCTION OF ALL WATER SUPPLY PIPELINES AND APPURTENANCES SHALL CONFORM TO THE ADOPTED WATER MASTER PLAN AND STANDARD SPECIFICATIONS AND DETAILS FOR THE CITY OF ESCALON, STATE OF CALIFORNIA WATER WORKS STANDARDS (TITLE 22), AWWA
2. THE DESIGN, LOCATION, AND SIZE OF ALL PIPELINES AND APPURTENANCES SHALL CONFORM TO THE CITY OF ESCALON WATER SYSTEM MASTER PLAN, AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER
3. THE GRADE, CLASS, AND QUALITY OF ALL MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR THE CITY OF ESCALON
4. THE LOCATION OF ALL PIPELINES SHALL CONFORM TO CITY OF ESCALON STANDARD DETAIL G4
5. SEPARATION BETWEEN WATER AND SEWER LINES SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH. IN NO CASE SHALL WATER AND SEWER LINES BE CLOSER THAN 10' IN PARALLEL RUNS. WATER AND SEWER CONNECTIONS SHALL ALSO CONFORM TO THESE REQUIREMENTS
6. THE MINIMUM PIPELINE SIZE SHALL BE AS FOLLOWS:

ZONE	MINIMUM SIZE
RESIDENTIAL AREAS	6"
DEAD END LINES (NOT LOOPED)	8"
COMMERCIAL AREAS	10"

7. THE MAXIMUM DEAD END RUN SHALL NOT EXCEED 450 FEET; AN "END OF LINE" BLOWOFF SHALL BE INSTALLED AT THE END OF ALL DEAD END RUNS
8. THE TOTAL DESIGN FLOW SHALL BE DETERMINED BY MULTIPLYING THE AVERAGE DESIGN FLOW BY THE PEAKING FACTOR BELOW:

ZONE	UNITS PER ACRE	CAPITA PER UNIT	AVG. DESIGN FLOW	PEAKING FACTOR
R1 (RESIDENTIAL)	4	3	250 gpcd	2.5
RM (RESIDENTIAL, MEDIUM DENSITY)	15	2.5	250 gpcd	2.5
RH (RESIDENTIAL, HIGH DENSITY)	30	2.3	250 gpcd	2.5
COMMERCIAL	6,000 GAL./AC.			3.0

9. PIPELINES SHALL BE DESIGNED SO THAT THE VELOCITY DOES NOT EXCEED 5.0 fps, NOR DOES THE FLOW CAUSE A PRESSURE LOSS GREATER THAN 6 psi/1,000 FEET OF PIPELINE. THE PIPELINE NETWORK SHALL BE DESIGNED TO DELIVER THE REQUIRED FIRE FLOW STIPULATED IN CITY OF ESCALON STANDARD W2, TO TWO LOCATIONS SIMULTANEOUSLY. THE MAXIMUM ALLOWABLE FLOW IN ANY PIPE SECTION SHALL BE AS FOLLOWS:

PIPE SIZE	MAXIMUM FLOW
6"	450 gpm
8"	800 gpm
10"	1250 gpm
12"	1750 gpm
14"	2200 gpm

10. GATE VALVES SHALL BE AS FOLLOWS:
  - a. THE MAXIMUM DISTANCE BETWEEN VALVES SHALL BE 500 FEET
  - b. A MINIMUM OF 3 VALVES SHALL BE INSTALLED AT TEES
  - c. A MINIMUM OF 4 VALVES SHALL BE INSTALLED AT CROSSES
  - d. WHENEVER POSSIBLE, VALVES SHALL BE LOCATED ON THE NORTH AND WEST OUTLETS OF THE FITTING
11. ALL WATER SYSTEM MATERIALS AND EQUIPMENT SHALL CONFORM TO THE CITY OF ESCALON STANDARD SPECIFICATIONS

<b>REVISION</b>	<b>DATE</b>	<h2 style="margin: 0;">CITY OF ESCALON</h2> <h3 style="margin: 10px 0 0 0;">WATER SYSTEM DESIGN CRITERIA</h3>	<b>APPROVED BY:</b>
			 CITY ENGINEER
<b>DATE:</b>	FEB. 2003		IMPROVEMENT STANDARD NO. <b>W1</b>
<b>DRAWN BY:</b>	DBR		
<b>CHECKED BY:</b>	AJA		
<b>SCALE:</b>	NONE		

## FIRE HYDRANT CRITERIA

1. FIRE HYDRANTS USED IN THE SYSTEM SHALL BE OF 3 TYPES, AS FOLLOWS:

HYDRANT TYPE	OUTLET CONFIGURATION	MINIMUM CAPACITY
R (RESIDENTIAL)	1 ea. 2 ½" + 1 ea. 4 ½"	1,500 gpm
C (COMMERCIAL)	1 ea. 2 ½" + 1 ea. 4 ½"	2,000 gpm
I (INDUSTRIAL)	PER CITY ENGINEER'S REQ.	AS REQUIRED

2. THE SPACING BETWEEN HYDRANTS SHALL BE MEASURED USING A "HOSE LINE DISTANCE," THAT IS, THE DISTANCE A 2 ½" FIRE HOSE COULD BE LAID WITHIN THE PAVED STREET SECTION. THE TYPE AND SPACING OF HYDRANTS SHALL BE AS FOLLOWS:

ZONE	HYD. TYPE	SPACING	REQ. FLOW**
R1	R	500' C.C HLD*	1,500 gpm
R2/R3	R	400' C.C HLD*	2,500 gpm
C	C	300' C.C HLD*	3,500 gpm
I	I	PER CITY ENG.	3,500+ gpm

\*HOSE LINE DISTANCE  
\*\*GPM @ 20 psi RESIDUAL

3. FIRE HYDRANTS SHALL BE LOCATED PER CITY OF ESCALON STANDARD W20 AND AS FOLLOWS:

- a. INTERSECTIONS: AT THE NORTHWEST CORNER
- b. NORTH-SOUTH STREETS: ON THE WEST SIDE
- c. EAST-WEST STREETS: ON THE NORTH SIDE
- d. AT THE END OF CUL-DE-SACS

4. THE LOCATION, SPACING, AND TYPE OF HYDRANT SHALL BE SUBJECT TO THE APPROVALS OF THE CITY ENGINEER AND THE ESCALON FIRE DEPARTMENT

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			 CITY ENGINEER
<b>DATE:</b>	FEB. 2003	<h2 style="margin: 0;">FIRE HYDRANT CRITERIA</h2>	<b>IMPROVEMENT STANDARD NO.</b> W2
<b>DRAWN BY:</b>	DBR		
<b>CHECKED BY:</b>	AJA		
<b>SCALE:</b>	NONE		

## FIRE SERVICE CONNECTION CRITERIA

1. ALL PRIVATE FIRE SYSTEMS CONNECTED TO CITY MAINS SHALL CONFORM TO THE REQUIREMENTS OF THESE STANDARDS. PLANS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL, PRIOR TO CONSTRUCTION
2. FIRE SYSTEMS WHICH ARE CONNECTED TO UNAPPROVED WATER SOURCES, OR HAVE ON-SITE FIRE HYDRANT SYSTEMS, SHALL HAVE APPROVED BACKFLOW PREVENTION SYSTEMS, AS FOLLOWS:
  - a. FIRE SYSTEMS WHICH CONSIST OF AUTOMATIC SPRINKLER SYSTEMS INTO WHICH THE FIRE DEPARTMENT CANNOT PUMP, AND HAVE NO ON-SITE FIRE HYDRANTS, WILL NOT REQUIRE THE INSTALLATION OF A BACKFLOW PREVENTER
  - b. FIRE SYSTEMS WHICH CONSIST OF AUTOMATIC SPRINKLER SYSTEMS INTO WHICH THE FIRE DEPARTMENT CAN PUMP, AND DO NOT HAVE ANY ON-SITE FIRE HYDRANTS, WILL REQUIRE THE INSTALLATION OF A DOUBLE CHECK VALVE
  - c. FIRE SYSTEMS HAVING ANY ON-SITE HYDRANTS WILL REQUIRE THE INSTALLATION OF A DETECTOR DOUBLE CHECK VALVE
  - d. ALL ON-SITE FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF ESCALON STANDARDS
  - e. ALL FIRE PROTECTION SYSTEMS SHALL BE DISINFECTED PRIOR TO CONNECTION TO THE CITY SYSTEM

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DATE: FEB. 2003	DRAWN BY: DBR		<h2 style="margin: 0;">FIRE SERVICE CONNECTION CRITERIA</h2>
CHECKED BY: AJA	SCALE: NONE		IMPROVEMENT STANDARD NO. W3

# BACKFLOW PREVENTION CRITERIA

1. BACKFLOW PREVENTION DEVICES (BPD) SHALL CONFORM TO THE REQUIREMENTS OF THE FOUNDATION FOR CROSS CONNECTION CONTROL AND TO THE REGULATIONS RELATING TO CROSS CONNECTION CONTROL, STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES. BACKFLOW PREVENTERS SHALL BE CLASSIFIED AS FOLLOWS:

TYPE	DESIGNATION
ATMOSPHERIC VACUUM BREAKER	AVB
PRESSURE VACUUM BREAKER	PVB
DOUBLE CHECK VALVE ASSEMBLY	DCV
REDUCED PRESSURE BACKFLOW PREVENTION DEVICE	RP
AIR GAP	AG

BACKFLOW PREVENTERS SHALL BE INSTALLED ON SERVICE CONNECTIONS ACCORDING TO THE FOLLOWING TABLE:

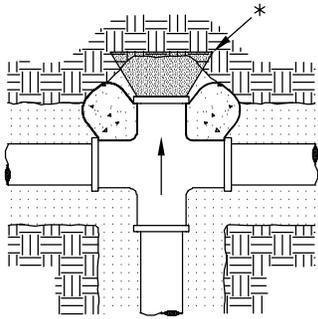
CONNECTION	BPD TYPE
AUXILIARY WATER SYSTEMS (PRIVATE WELLS CONNECTED TO THE CITY)	RP
CAR WASH SYSTEMS	RP
FIRE SYSTEMS	*
HOSPITALS, MEDICAL BUILDINGS, MORTUARIES, NURSING & CONVALESCENT HOMES, CLINICS, ETC.	RP
INDUSTRIAL PLANTS	*
IRRIGATION SYSTEMS & PREMISES HAVING SEPARATE SYSTEMS	DC
LAUNDRIES & LAUNDROMATS	RP
LAWN SPRINKLER SYSTEMS (RESIDENTIAL)	AVB or PVB
OIL & GAS STORAGE & DISTRIBUTION	RP
SCHOOLS	RP
SEWAGE & STORM DRAIN FACILITIES	RP or AG
SWIMMING POOLS	DCV

NOTE: ALL PLUMBING FIXTURES AND DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST REVISION OF THE UNIFORM PLUMBING CODE (UPC)

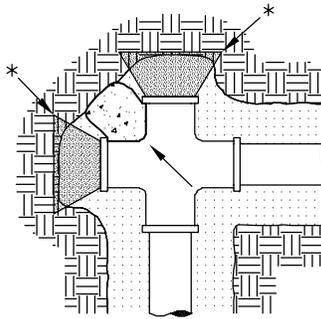
\*TO BE DETERMINED ON A CASE-BY-CASE BASIS BY THE CITY ENGINEER

3. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS PER CITY OF ESCALON STANDARD W25 AND EQUIPPED WITH FREEZE BLANKETS (SECURABLE) PER CITY ENGINEER APPROVAL
4. BACKFLOW PREVENTION DEVICES SHALL BE TESTED BY AN INDEPENDENT CERTIFIED TESTER WHO HAS CERTIFICATION PROOF ON FILE WITH THE CITY OF ESCALON PUBLIC WORKS DEPARTMENT
5. ALL BACKFLOW PREVENTION DEVICES MUST BE RP TYPE UNLESS OTHERWISE APPROVED BY THE CITY OF ESCALON PUBLIC WORKS DEPARTMENT
6. DEVICE SUPPORTS MUST BE INSTALLED ON ALL 3" AND LARGER BACKFLOW PREVENTION DEVICES

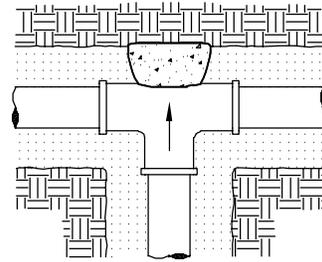
REVISION	DATE	CITY OF ESCALON	APPROVED BY:
DATE: FEB. 2003	DRAWN BY: DBR		 CITY ENGINEER
CHECKED BY: AJA	SCALE: NONE	BACKFLOW PREVENTION CRITERIA	IMPROVEMENT STANDARD NO. W4



CROSS WITH  
BLIND FLANGE

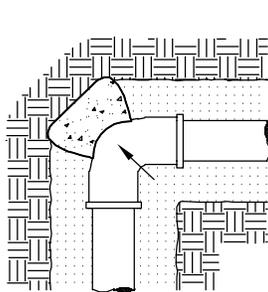


CROSS WITH  
BLIND FLANGE

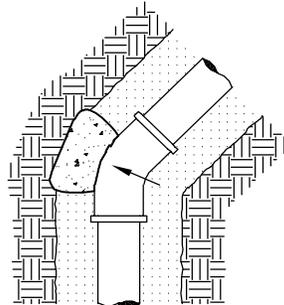


TEE OR  
DEAD ENDS

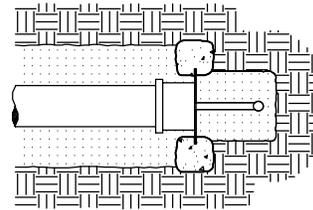
\* ALTERNATE LOCATION IF PLUGS USED



90° ELBOWS



45°, 22 1/2°, 11 1/4°  
ELBOWS



DEAD END

TYPE OF FITTING	REQUIRED TOTAL BEARING AREA, SQ-FT, BY PIPE SIZE					
	6"	8"	10"	12"	14"	16"
CROSSES, TEES, DEADENDS, PLUGS	3.8	6.6	10.8	15.3	20.7	23.8
90° ELBOWS	5.4	9.3	15.2	21.6	29.3	33.7
45° ELBOWS	2.9	5.0	8.2	11.7	15.9	18.3
22½°, 11¼° ELBOWS	1.5	2.6	4.1	5.9	8.1	9.2

NOTE: THE ABOVE BEARING AREAS ARE BASED UPON A 200 psi HYDROSTATIC TEST PRESSURE, CLASS 150 PIPE, AND 2,000 psf ALLOWABLE SOIL BEARING PRESSURE. THRUST BLOCKS SHALL BE FORMED WITH A SQUARE BEARING SURFACE.

REVISION	DATE
DATE: FEB. 2003	
DRAWN BY: DBR	
CHECKED BY: AJA	
SCALE: NONE	

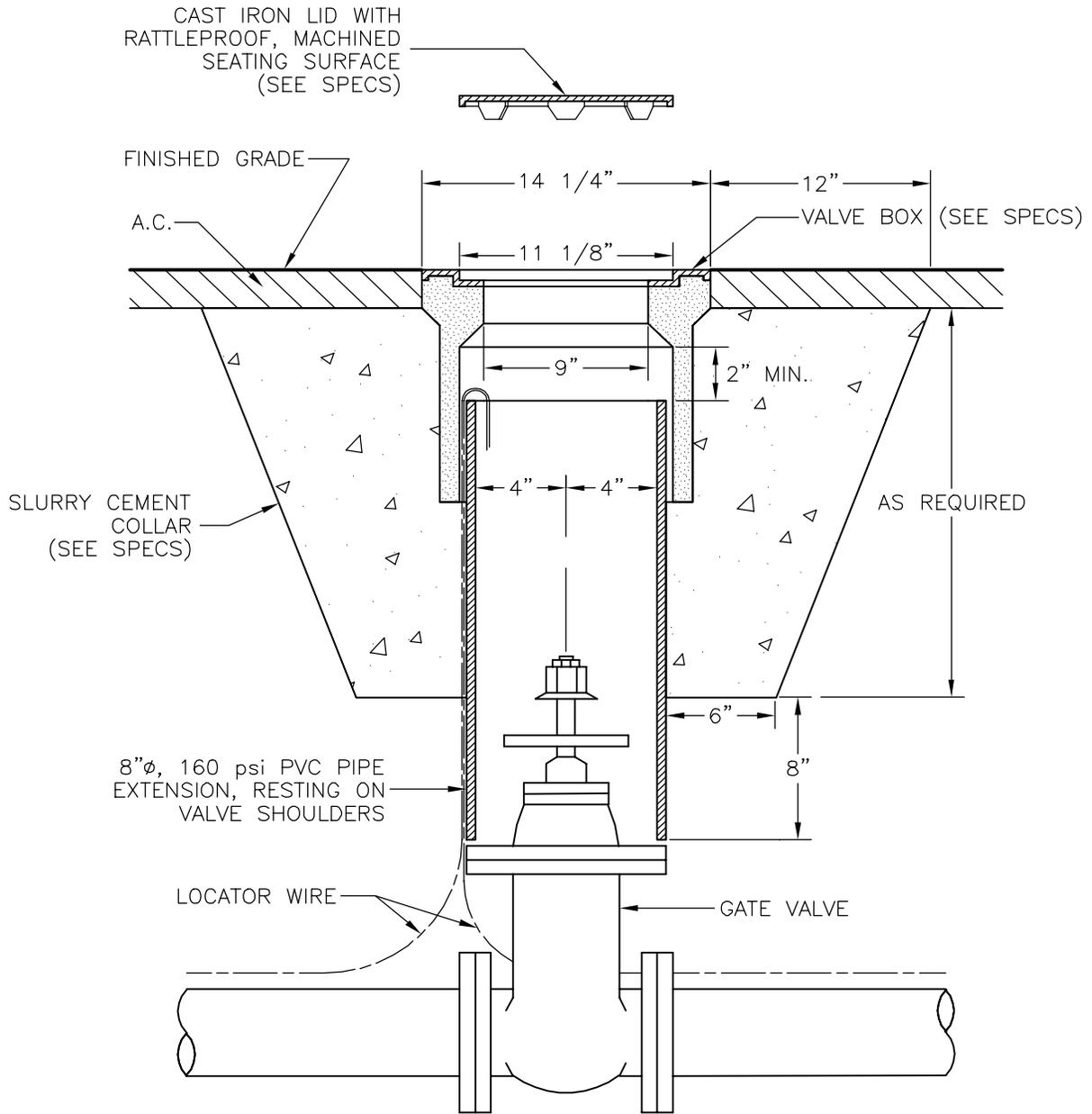
CITY OF ESCALON

THRUST BLOCK CHART

APPROVED BY:

*Doug Trilham*  
CITY ENGINEER

IMPROVEMENT  
STANDARD NO. W6



NOTES:

1. LIDS FOR FIRE HYDRANT OR FIRE SERVICE VALVES SHALL BE CLEARLY AND INDELIBLY MARKED, "FIRE"; ALL OTHERS VALVES FOR WATER SERVICES, "WATER".

REVISION	DATE
DATE:	FEB. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

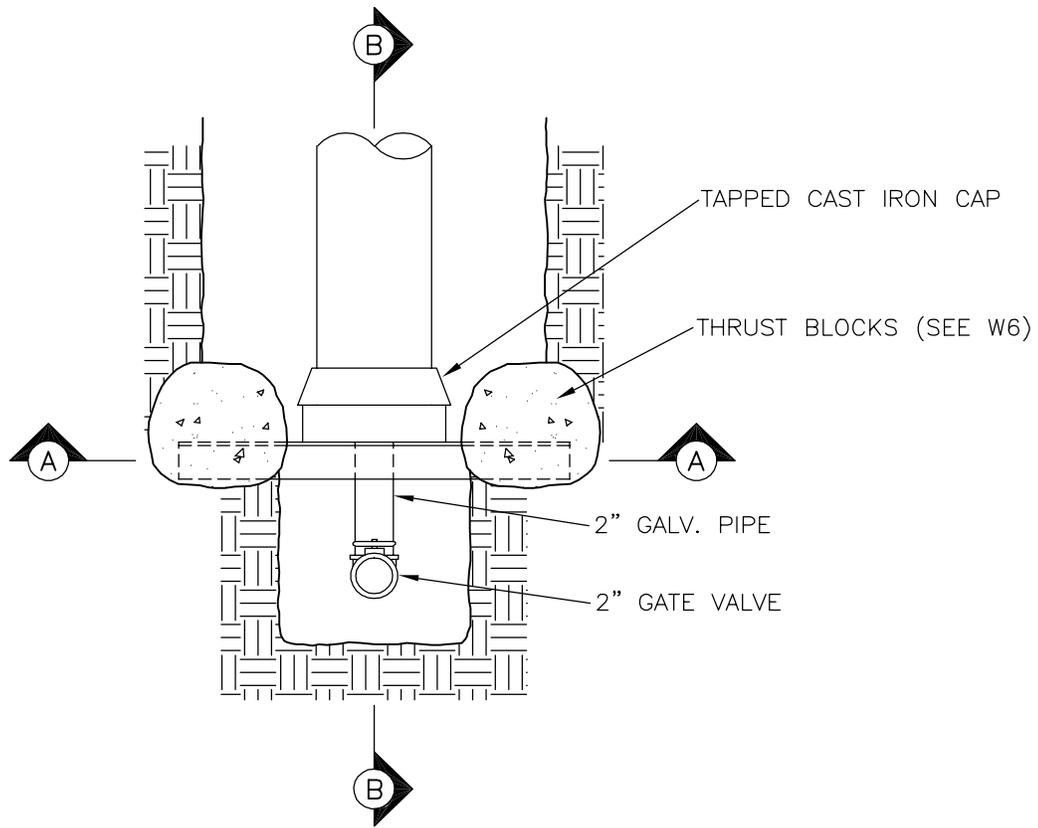
VALVE BOX DETAILS

APPROVED BY:

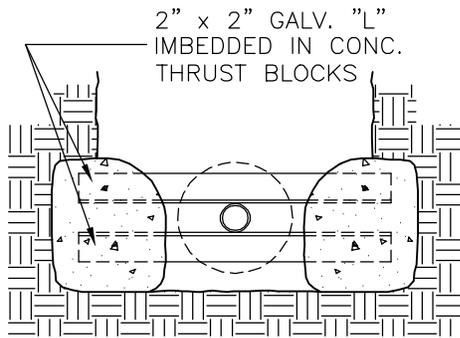
*Doug Strilham*

CITY ENGINEER

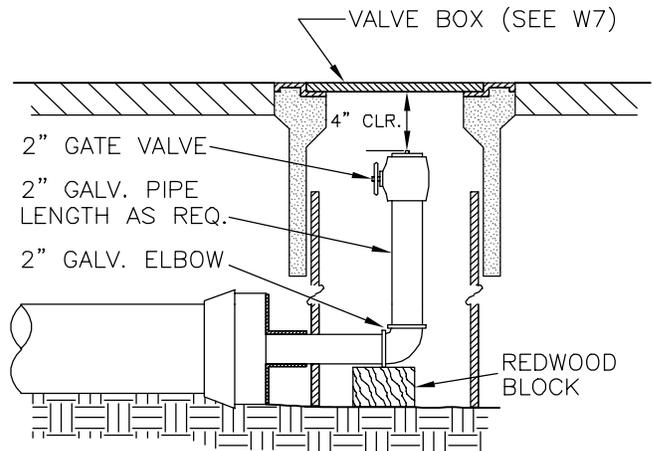
IMPROVEMENT STANDARD NO. W7



PLAN



SECTION A-A



SECTION B-B

REVISION	DATE
DATE: MAR. 2003	
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CHECKED BY: AJA	
SCALE: NONE	

CITY OF ESCALON

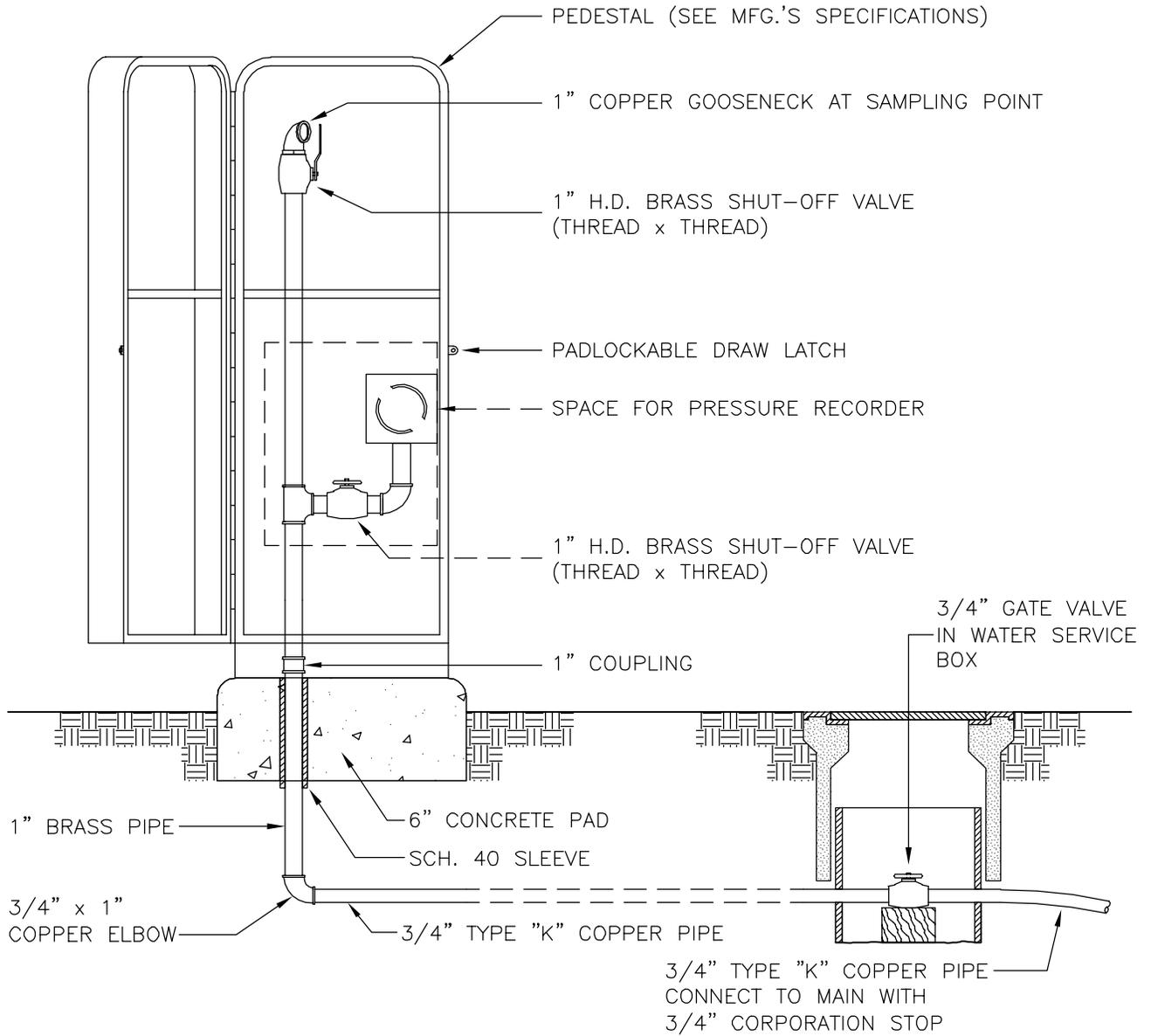
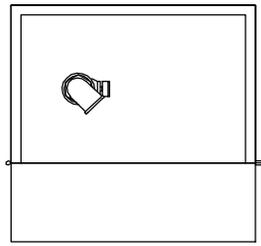
END OF LINE  
BLOW-OFF ASSEMBLY

APPROVED BY:

*Doug Trilham*  
CITY ENGINEER

IMPROVEMENT  
STANDARD NO. W8

PLAN VIEW



NOTE:

1. ECLIPSE NO. 88WC OR EQUIVALENT TO CITY ENGINEER'S APPROVAL

REVISION	DATE
DATE:	MAR. 2003
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CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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WATER SAMPLING STATION

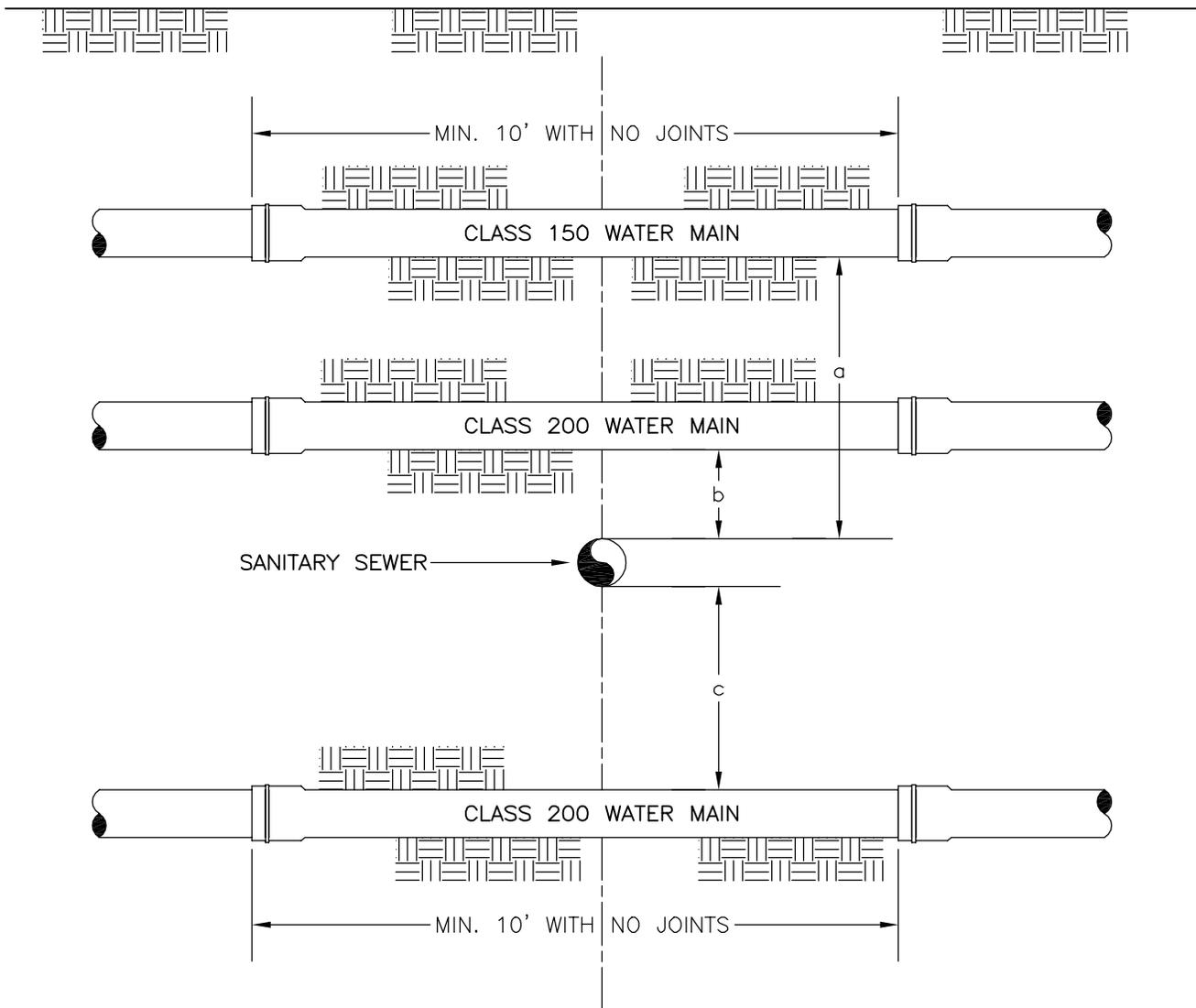
APPROVED BY:

*Doug Strilham*

CITY ENGINEER

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IMPROVEMENT STANDARD NO. W9



NOTES:

1. CLASS 150 WATER MAIN MAY BE USED WHEN SEPARATION (a) EXCEEDS 24"
2. CLASS 200 WATER MAIN SHALL BE USED WHEN SEPARATION (b) IS LESS THAN 24". THE MINIMUM SEPARATION (b) SHALL BE 6"
3. CLASS 200 WATER MAIN SHALL BE USED WHERE WATER LINE CROSSES UNDER SEWER. THE MINIMUM SEPARATION (c) SHALL BE 12"
4. SEPARATION SHALL CONFORM TO THE REQUIREMENTS OF THE STATE DEPARTMENT OF HEALTH

REVISION	DATE
DATE:	APR. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

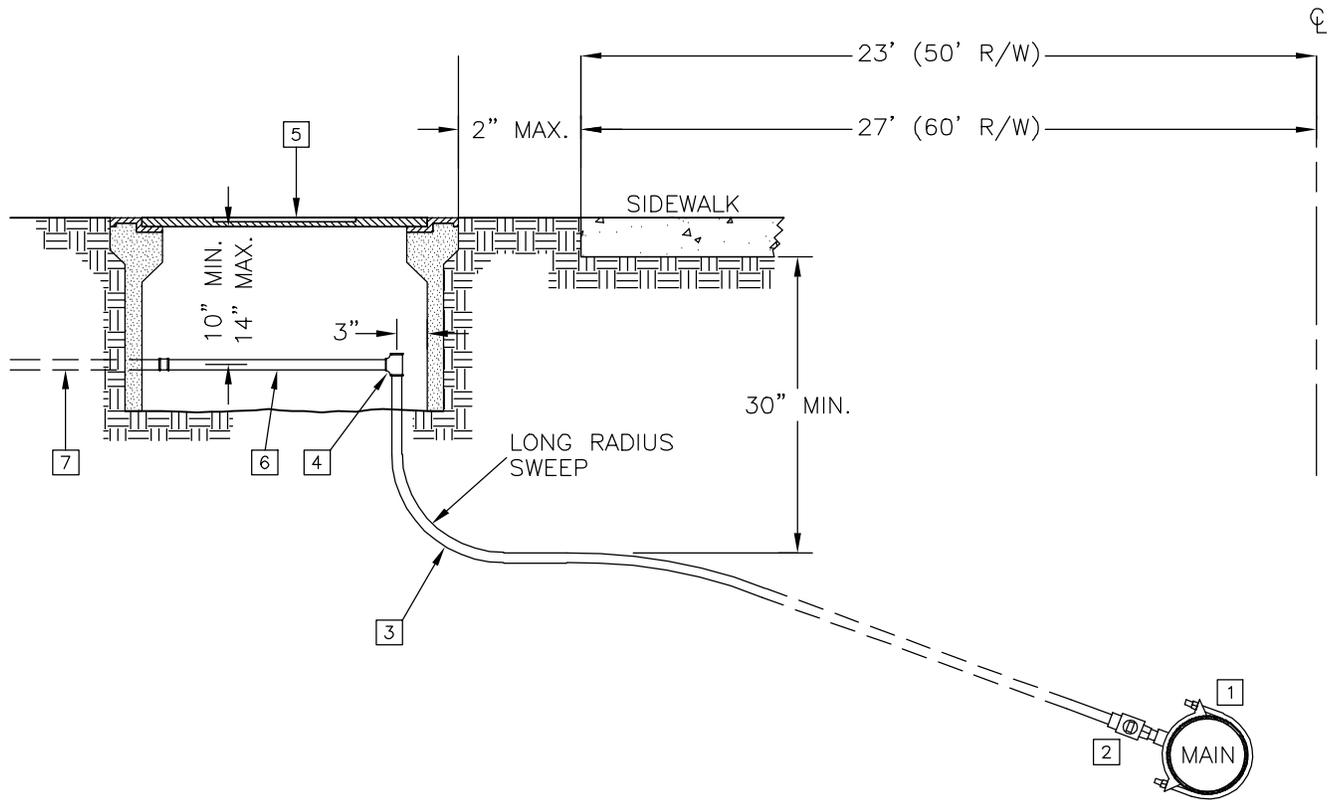
WATERLINE – SEWERLINE  
CROSSING SEPARATION

APPROVED BY:

*Doug Trilham*

CITY ENGINEER

IMPROVEMENT  
STANDARD NO. W10



LEGEND:

- 1 SERVICE SADDLE
- 2 CORPORATION STOP
- 3 SERVICE PIPE
- 4 ANGLE STOP
- 5 METER BOX (METER TO BE INSTALLED BY CITY)
- 6 METER IDLER
- 7 CUSTOMER SERVICE PIPE

SEE STANDARD SPECIFICATIONS

REVISION	DATE
DATE:	APR. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

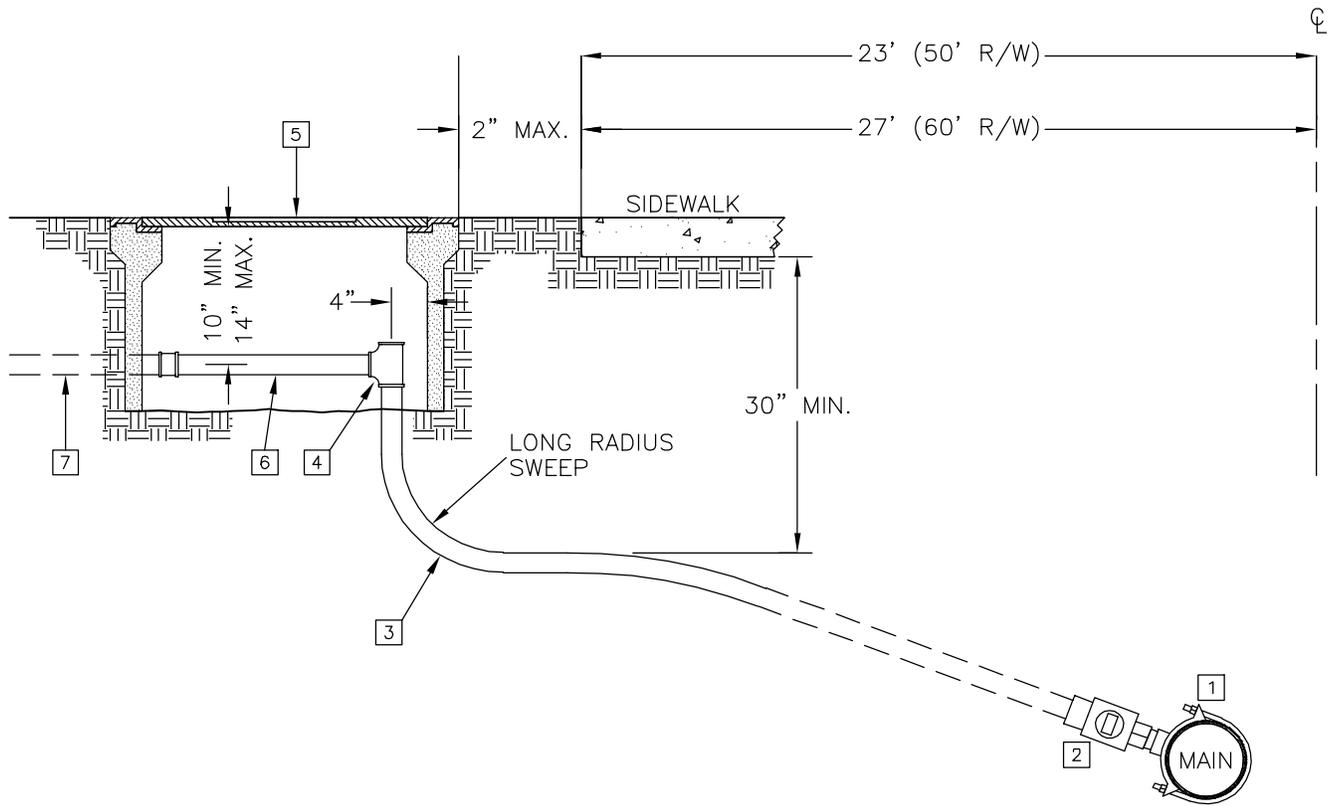
# CITY OF ESCALON

## 1" SINGLE WATER SERVICE CONNECTION

APPROVED BY:

*Doug Strilham*  
CITY ENGINEER

IMPROVEMENT STANDARD NO. W13



LEGEND:

- 1 SERVICE SADDLE
- 2 CORPORATION STOP
- 3 SERVICE PIPE
- 4 ANGLE STOP
- 5 METER BOX (METER TO BE INSTALLED BY CITY)
- 6 METER IDLER
- 7 CUSTOMER SERVICE PIPE

SEE STANDARD SPECIFICATIONS

REVISION	DATE
DATE: APR. 2003	
DRAWN BY: DBR	
CHECKED BY: AJA	
SCALE: NONE	

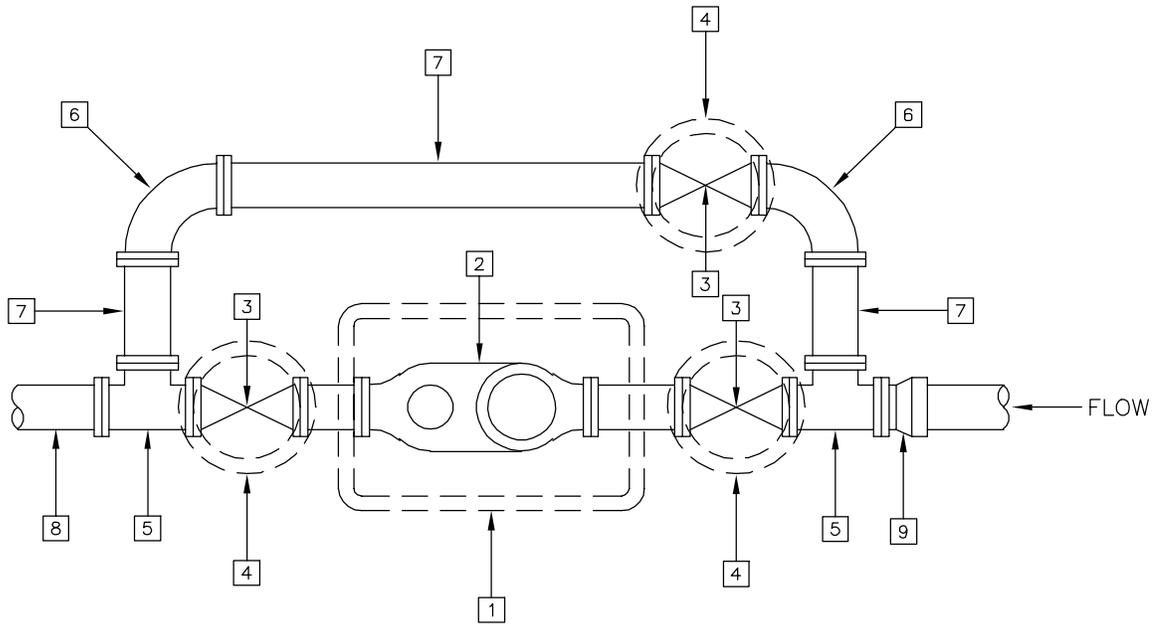
CITY OF ESCALON

1 1/2" & 2" SINGLE WATER SERVICE CONNECTION

APPROVED BY:

*Doug Strickland*  
CITY ENGINEER

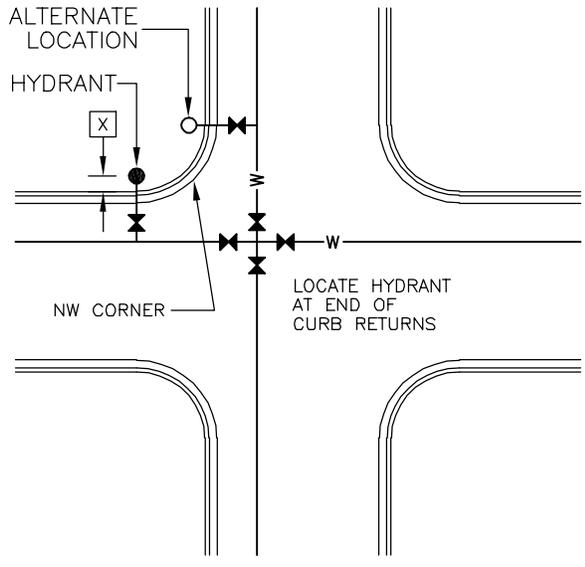
IMPROVEMENT STANDARD NO. W14



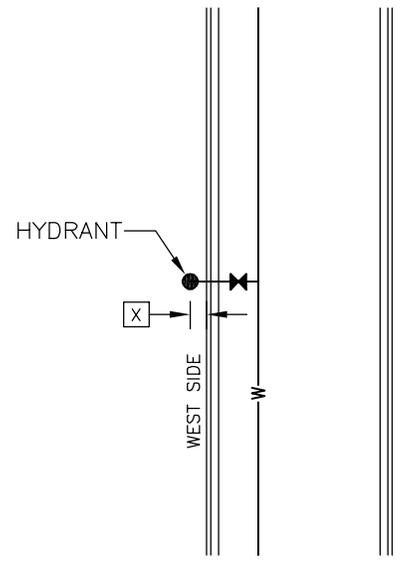
NOTES:

- 1 METER BOX
  - 2 METER
  - 3 GATE VALVE
  - 4 VALVE BOX (SEE CITY OF ESCALON STANDARD W7)
  - 5 FLANGED TEE
  - 6 FLANGED ELL
  - 7 C.I. SPOOL
  - 8 CUSTOMER'S SERVICE PIPE AND ADAPTERS (AS REQUIRED)
  - 9 HUB x FLANGE ADAPTER
10. 3" AND LARGER SERVICE CONNECTIONS SHALL CONFORM TO THE ABOVE DETAIL, AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION
11. IN CERTAIN CASES, BACKFLOW PREVENTERS WILL BE REQUIRED ON THE CUSTOMER'S SIDE OF 3" AND LARGER METERS (SEE CITY OF ESCALON STANDARDS W3 AND W4)
12. MINIMUM COVER SHALL BE 30"

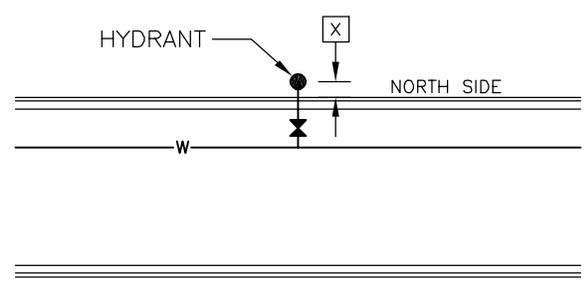
REVISION	DATE	<h1 style="margin: 0;">CITY OF ESCALON</h1>	APPROVED BY:
DATE: APR. 2003			 CITY ENGINEER
DRAWN BY: DBR		<h2 style="margin: 0;">3" AND LARGER WATER SERVICE CONNECTIONS</h2>	IMPROVEMENT STANDARD NO. W15
CHECKED BY: AJA			
SCALE: NONE			



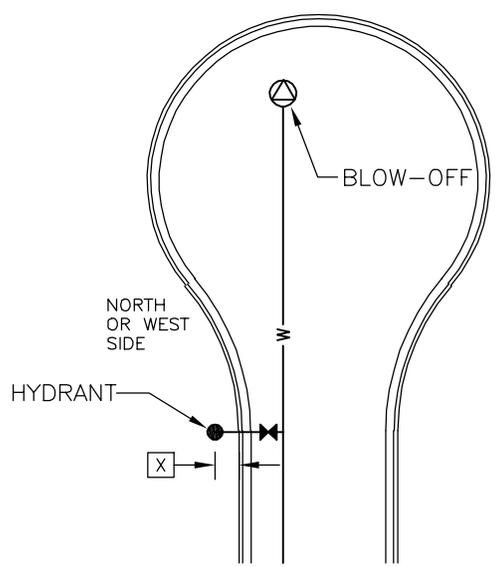
INTERSECTING STREETS



NORTH-SOUTH STREETS



EAST-WEST STREETS



CUL-DE-SACS



NOTES:

- RESIDENTIAL AREAS: 1.5' BEHIND SIDEWALK
- COMMERCIAL AREAS: 1.5' BEHIND BACK OF CURB
- 1. SEE CITY OF ESCALON STANDARD W2 FOR HYDRANT SPACING
- 2. HYDRANTS SHALL BE LOCATED ON THE NORTH OR WEST SIDE OF STREETS WHENEVER POSSIBLE

REVISION	DATE
DATE: APR. 2003	
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CHECKED BY: AJA	
SCALE: NONE	

CITY OF ESCALON

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FIRE HYDRANT LOCATIONS

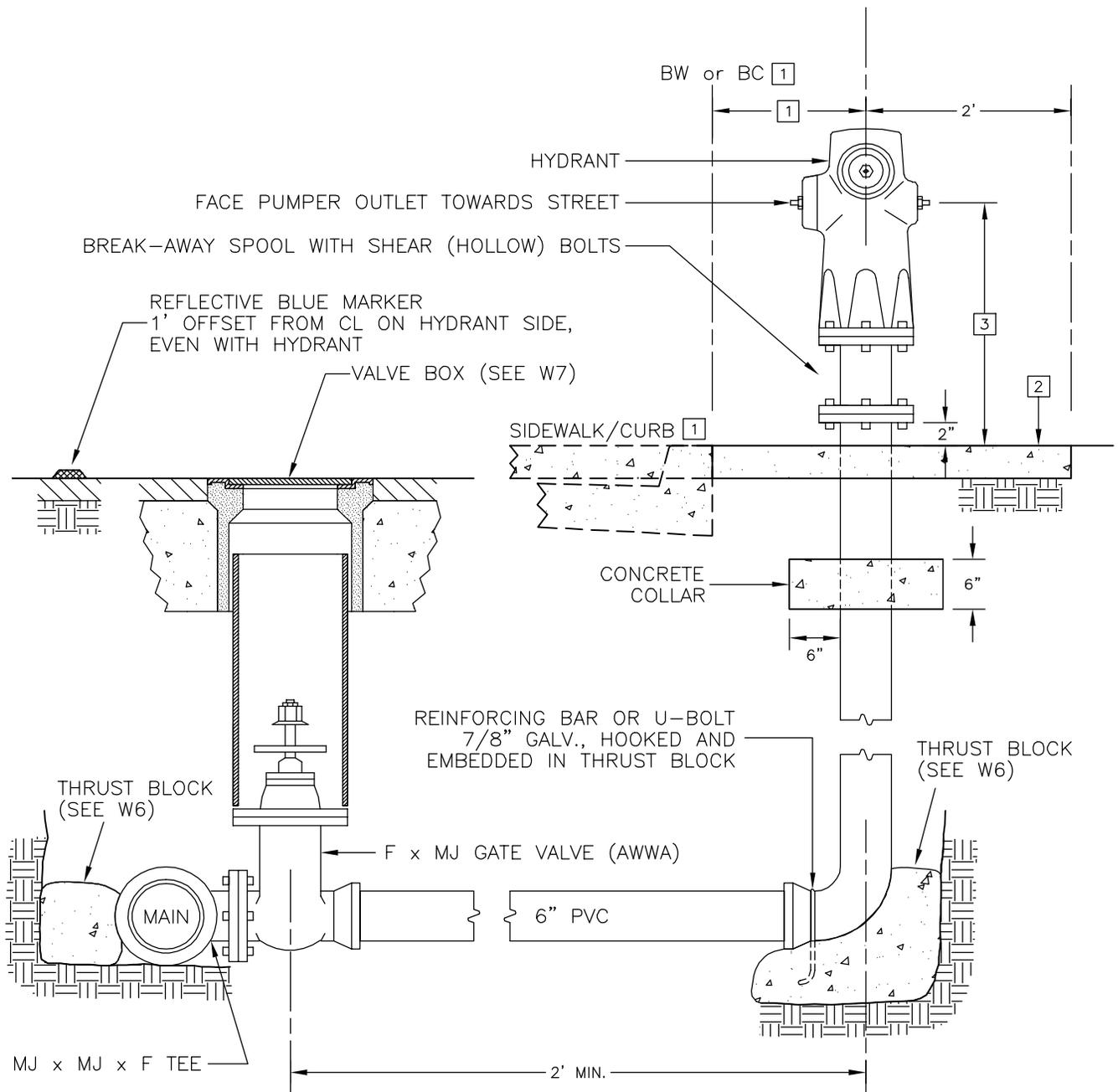
APPROVED BY:

*Doug Trilham*

CITY ENGINEER

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IMPROVEMENT STANDARD NO. W20



NOTES:

- [1] 1'-6" BEHIND BACK OF SIDEWALK IN RESIDENTIAL AREAS  
 1'-6" BEHIND BACK OF CURB IN RESIDENTIAL AREAS WITH SEPARATED SIDEWALKS  
 1'-6" BEHIND BACK OF CURB IN COMMERCIAL AREAS (SEE CITY OF ESCALON STANDARD W20)
- [2] 4" THICK, 4' WIDE CONCRETE PAD EXTENDING FROM BACK OF WALK (OR BACK OF CURB) TO 2' BEHIND HYDRANT CENTER
- [3] 20" MINIMUM, 26" MAXIMUM

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SCALE: NONE	

CITY OF ESCALON

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FIRE HYDRANT ASSEMBLY

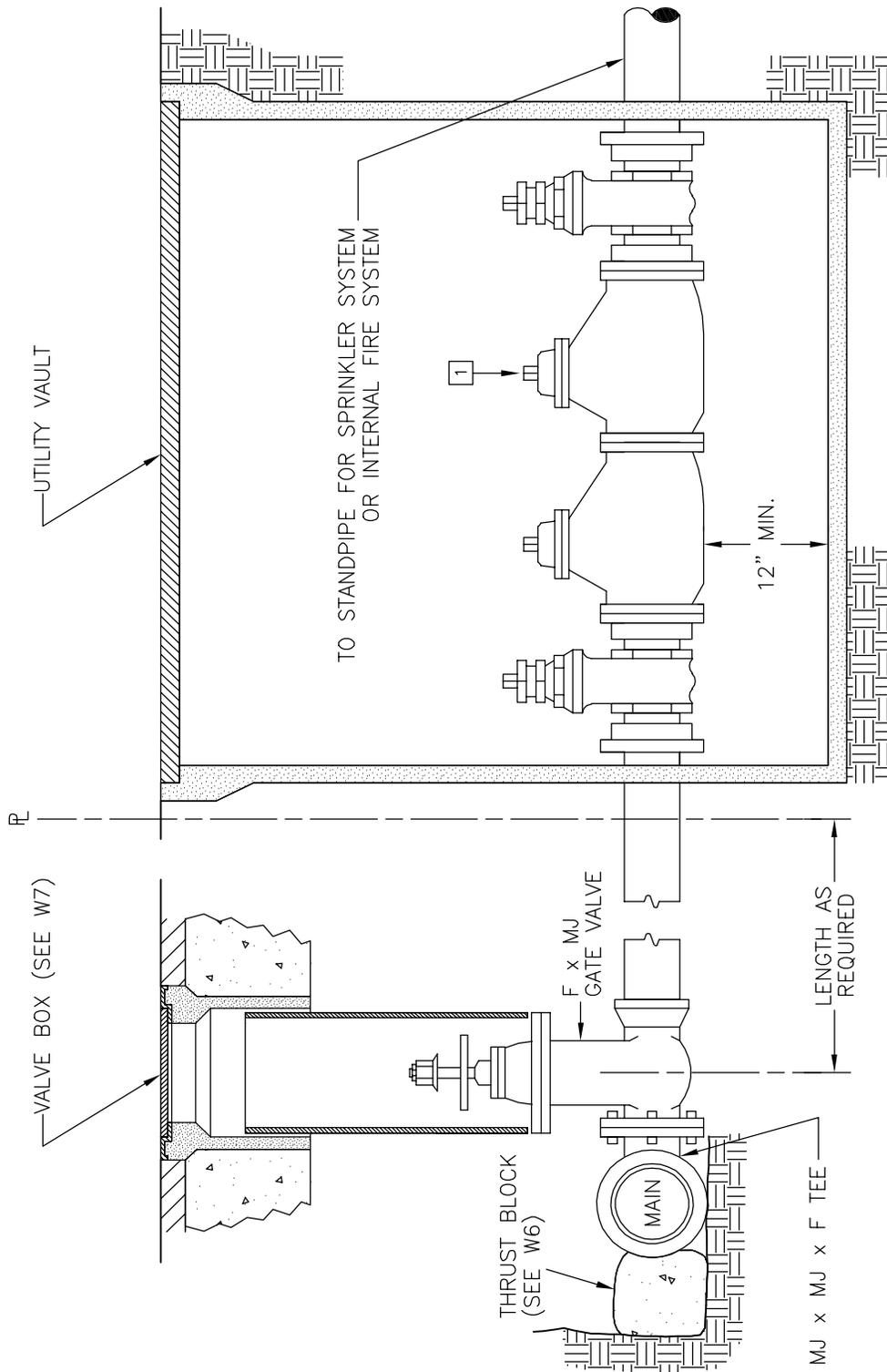
APPROVED BY:

*Doug Gritham*

CITY ENGINEER

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IMPROVEMENT STANDARD NO. **W21**



NOTE:  
 [1] CHECK VALVE SHALL BE INSTALLED WHEN REQUIRED (SEE CITY OF ESCALON STANDARD W3)

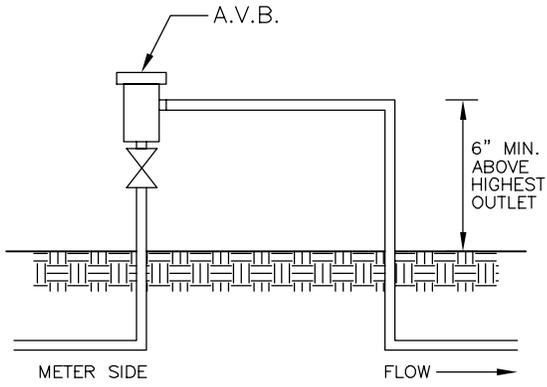
REVISION	DATE
DATE: APR. 2003	
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CHECKED BY: AJA	
SCALE: NONE	

CITY OF ESCALON

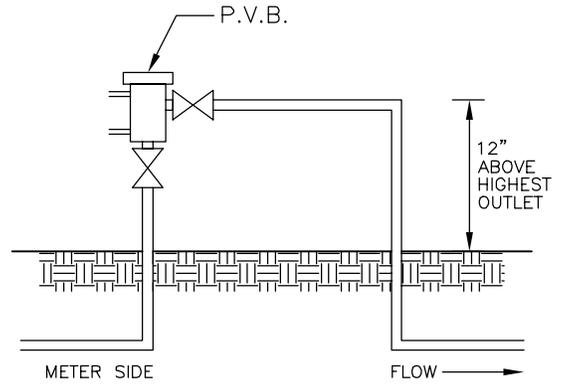
FIRE SERVICE CONNECTION  
 DETAIL

APPROVED BY:  
*Doug Strilham*  
 CITY ENGINEER

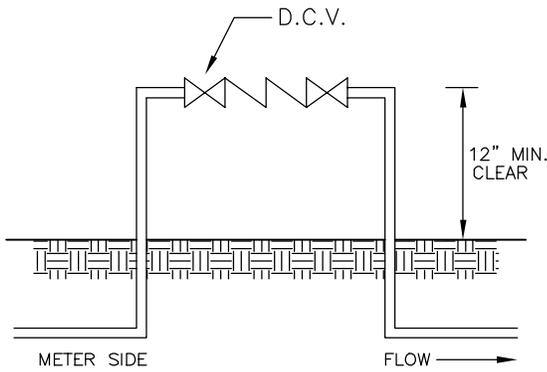
IMPROVEMENT STANDARD NO. W22



ATMOSPHERIC VACUUM BREAKER

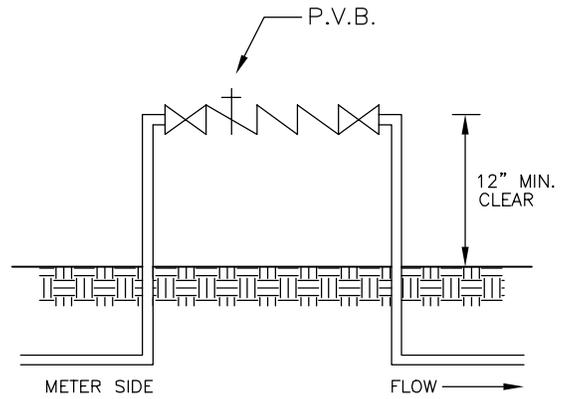


PRESSURE VACUUM BREAKER



\*MAY BE INSTALLED UNDERGROUND; REQUIRED CLEARANCES MUST BE PROVIDED

DOUBLE CHECK VALVE



\*MAY BE INSTALLED UNDERGROUND; REQUIRED CLEARANCES MUST BE PROVIDED

REDUCED PRESSURE B.P.D.

REVISION	DATE
DATE:	APR. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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BACKFLOW PREVENTER  
ASSEMBLY DETAILS

APPROVED BY:

*Doug Strilham*  
CITY ENGINEER

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IMPROVEMENT STANDARD NO. W25

## 1. ATMOSPHERIC VACUUM BREAKERS (AVB)

MANUFACTURER:	MODEL:	SIZE:
CHAMPION BRASS COMPANY	162	3/4" THROUGH 2"
	262	3/4" THROUGH 2"
	362	3/4" THROUGH 2"
CHICAGO FAUCET	892	1/2"
	893	3/8"
CONSOLIDATED BRASS	83-103	1/2"
	83-104	3/4"
	83-105	1"
FEBCO	710A	1/4", 3/8", 1" THROUGH 2"
	710G	1" THROUGH 2"
	715A	1/2", 3/4"
	715G	1/2", 3/4"
ITT LAWLER	VB-SERIES	1/4" THROUGH 3"
RAIN BIRD MANUFACTURING CO.	AVB SERIES	3/4" THROUGH 3"
	APAS	3/4"
	PAS	3/4"
	UPAS	3/4"
SLOAN	V-350-A	1/2", 3/4"
	V-360-A	1/4" THROUGH 3/4"
	V-370-A	1/4" THROUGH 3/4"
STRAHMAN	HS	3/4" VERT. AND HORIZ.
TEMPSTAT	VB-10	1/2", 3/4"
TORO	AVB	3/4", 1"
WATER SAVER	L-100	3/8"
	L-101	1/2"
WATTS	NLF-9	3/8"
	288A	1/4" THROUGH 2"
	S8	1/2"

## 2. COMBINATION ATMOSPHERIC VACUUM BREAKERS (AVB)

MANUFACTURER:	MODEL:	SIZE:
CHAMPION BRASS COMPANY	466 SERIES	3/4", 1"
	566PR	3/4"
RAIN BIRD MANUFACTURING CO.	ECV	3/4", 1"
	MCV	3/4", 1"
	ASV	3/4", 1"
RAIN JET	ASV	3/4", 1"
RICHDEL	706	3/4"
	709	1"
	711	3/4"
	713	1"

## 3. HOSE BIBB ATMOSPHERIC VACUUM BREAKERS (AVB)

MANUFACTURER:	MODEL:	SIZE:
CHAMPION BRASS COMPANY	HVB-111	3/4" HOSE BIBB
FEBCO	730 SERIES	3/4" HOSE BIBB
NIDEL	34H	3/4" HOSE BIBB
RAIN BIRD MANUFACTURING CO.	HVB 8A	3/4" HOSE BIBB
WATTS	8 SERIES	3/4" HOSE BIBB

PAGE 1 OF 2

REVISION	DATE	<h1>CITY OF ESCALON</h1>	APPROVED BY:
			 CITY ENGINEER
DATE:	APR. 2003	<h2>APPROVED BACKFLOW PREVENTION DEVICE LIST</h2>	IMPROVEMENT STANDARD NO. W26
DRAWN BY:	DBR		
CHECKED BY:	AJA		
SCALE:	NONE		

#### 4. PRESSURE VACUUM BREAKERS (PVB)

MANUFACTURER:	MODEL:	SIZE:
CLA VALVE CO.	27	2 1/2" THROUGH 10"
FEBCO	765 745	1/2" THROUGH 2" 3/4", 1"
RAIN BIRD MANUFACTURING CO.	PVB SERIES	3/4" THROUGH 2"
TORO MANUFACTURING CO.	PVB	3/4", 1"
WATTS	800	3/4" THROUGH 2"
WILKINS REGULATOR CO. (NEPTUNE & SMR)	720A	1/2" THROUGH 2"

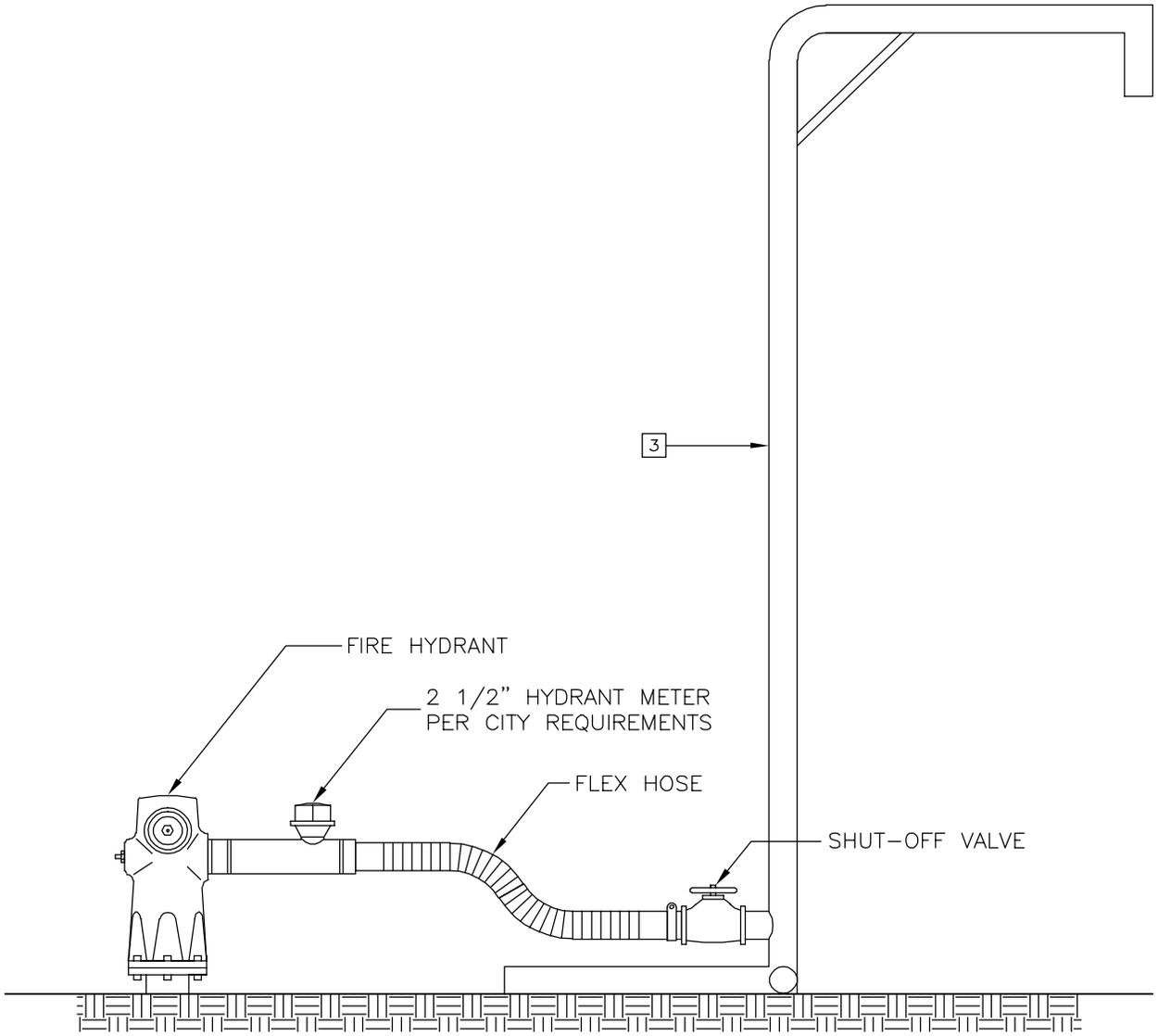
#### 5. DOUBLE CHECK VALVE ASSEMBLIES (DCV)

MANUFACTURER:	MODEL:	SIZE:
BEECO	FDC	3/4" THROUGH 2"
CLA VALVE CO.	D2	2" THROUGH 10" 3/4" THROUGH 1 1/2"
FEBCO	805 805Y 805Y	3/4" THROUGH 4" 3/4" THROUGH 2 1/2" 3" THROUGH 10"
HERSEY (BEECO)	2 E-1	3" THROUGH 10" 4", 6"
KENNEDY (GRINNELL)	1373	4" THROUGH 10"
ORION (TORO)	80-0070 9-2930 BDC	1 1/2" 2" 3/4", 1", 3", 4"
RAIN BIRD MANUFACTURING CO.	DCA SERIES	2 1/2" THROUGH 10"
VIKING	A-1	4" THROUGH 10"
WATTS	D 709	3/4" THROUGH 10"
WILKINS REGULATOR CO. (NEPTUNE)	550	3/4" THROUGH 6"

#### 6. REDUCED PRESSURE PRINCIPLE ASSEMBLIES (RP)

MANUFACTURER:	MODEL:	SIZE:
CLA VALVE CO.	RP-1 RP-2	2" THROUGH 10" 3/4" THROUGH 1 1/2"
FEBCO	825 825Y	1 1/2" THROUGH 10" 3/4" THROUGH 2"
HERSEY (BEECO)	FRP-2 6CM BRONZE	3/4" THROUGH 2" 2 1/2" THROUGH 6"
ORION (TORO)	80-0069 9-2929 BRP	1 1/2" 2" 3/4", 1", 3", 4"
RAIN BIRD MANUFACTURING CO.	RPA SERIES	3/4" THROUGH 10"
WATTS	909 909HW	3/4" THROUGH 10" 3/4" THROUGH 2"
WILKINS REGULATOR CO. (NEPTUNE)	575	3/4" THROUGH 6"

REVISION	DATE	<h1>CITY OF ESCALON</h1>	APPROVED BY:
DATE: APR. 2003			 CITY ENGINEER
DRAWN BY: DBR		<h2>APPROVED BACKFLOW PREVENTION DEVICE LIST</h2>	IMPROVEMENT STANDARD NO. W26
CHECKED BY: AJA			
SCALE: NONE			



NOTES:

1. LOCATE CONNECTION AS REQUIRED BY THE DIRECTOR OF PUBLIC WORKS
  2. USE ONLY HYDRANT WRENCH TO OPERATE HYDRANT. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO HYDRANT
3. CONTRACTOR'S AIR GAP RISER

REVISION	DATE
DATE:	APR. 2003
DRAWN BY:	DBR
CHECKED BY:	AJA
SCALE:	NONE

CITY OF ESCALON

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CONSTRUCTION WATER CONNECTION

APPROVED BY:

*Doug Strickland*

CITY ENGINEER

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IMPROVEMENT STANDARD NO. W27