The City of Burlingame

PUBLIC WORKS DEPARTMENT
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CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997
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July 31, 2003

City of Burlingame
Backwater Protection Ordinance 1710
Property Transfer Certification- Suspended Until Further Notice

The City of Burlingame's Ordinance 1710, effective June 18, 2003, has confirmed that the property owner is responsible to ensure that owner's real property has sewer backwater protection. Due to ordinance implementation concerns expressed regarding sales, the requirement for inspections and certifications for property transfers only will be suspended until further notice.

This notice and other relevant Ordinance information may be viewed on the City of Burlingame's Web site at www.burlingame.org. Copies of this information may also be obtained in City Hall at the Engineering office.

George Bagdon
Director of Public Works

Press Release
City of Burlingame
June 11, 2003

Sewer Backwater Protection Ordinance Effective June 18, 2003

A recently adopted Sewer Backwater Protection Ordinance requires that prior to sale of properties, owners must have a their sewer system reviewed by a professional to determine if backwater protection is required, and if so, that it is operating properly. If devices are required, they must be installed prior to completing the sale. A backwater device is necessary when private plumbing fixtures have been installed below the level of the public sewer overflow point or even below the level of the sewer main itself. These situations have led to needless damage to properties, expense to the public and increase in risk to public health. The ordinance also requires certification for the installation of any new sewer fixture and for all major remodels and new structures. Property owners are responsible for the installation and continued maintenance of these devices. Many other cities in the Bay Area, including Hillsborough and San Carlos are adopting similar ordinances. The new Ordinance may be viewed on the City of Burlingame's Web site at www.burlingame.org. Copies of the ordinance and certification information may also be obtained in City Hall at the Engineering office.

For more information, press may contact either Syed Murtuza, City Engineer or Frank Erbacher, Assistant Director of Public Works at 650-558-7230.

City of Burlingame
Backwater Protection Ordinance

Ordinance 1710- May 19, 2003 -Effective June 18, 2003, Revised September 16, 2003

Description and Information on Process

Revised September 17, 2003

NOTE: The Backwater Protection Ordinance has **NO** relationship to the requirements for the sewer lateral testing required under BMC Section 15.12.110.

REASONS FOR THIS ORDINANCE

Past developments of real property have installed plumbing fixtures below the level of the next upstream manhole/flushing inlet on the public sewer, or even below the level of the sewer main itself. Rather than a sewer blockage causing a back-up in the sewer main to overflow at this manhole/flushing inlet as the system was intended to provide, the back-up instead seeks the lower point at the private sewer drainage system. These situations have led to needless damage to real property, needless expense to the public, and needless increase in risk to public health. All property owners should ensure that their property is properly protected from possible sewer back-ups by installing drainage ejection devices or backwater valves and backwater relief devices, removing unnecessary drainage fixtures, and ensuring that their property insurance provides adequate coverage for such a possibility. This ordinance confirms the city's authority to require the property owner to install of such backwater valves and relief devices and be responsible for their maintenance; and further requires the filing of information regarding fixture levels in connection with additions of drainage fixtures and for all new structures or remodels classified as new structures, so as to determine whether a valve, ejector, or relief device is required under the Municipal Code.

ORDINANCE HIGHLIGHTS

This Ordinance amended BMC Chapter 18.12 to require;

1- Construction Adding Drainage Fixtures- To obtain a permit that requires any additional drainage fixtures, a **licensed professional** will be required to review ALL of the structures plumbing fixtures. Previous certification information may be confirmed and used by the professional for this review. The review is to determine whether an inadequate height differential (less than one foot) exists between property's sewage fixtures and the City sewer main over flow point which is the next upstream manhole or flushing inlet. If an inadequate height differential exists, a **Draft** of the required **"Written Certificate"** is prepared and the permit issued must show the backwater protection needed as described in Section 18.12.080 or permanently remove the drainage unit fixture or fixtures that are too low. If backwater protection is NOT required the written Certification must be completed, signed and filed with the Building Department and with the Engineering Department BEFORE a permit is issued.

   If it is determined that any backwater protection devices are required to be constructed, before the permit is finaled, the signed "**Written Certification** from a **licensed**

professional" is required to be filed with the Building Department and with the Engineering Department stating that all protective devices are in place and are certified fully operable.

2- New Construction or Remodels Classified as "New"-. The "**Written Certification** from a licensed professional" procedure is as described above. Any backwater protection devices needed must be either "sewage ejector or sewage pump".

3- City Noticing of Potential or Actual Backwater Flow Problems- The City may send notices to owners and occupants when such conditions indicate a concern. A "Certification" form will be sent with the notice. The owner is responsible for correcting these conditions if they exist. Installations or changes will require both the Certification and Building Permits. Property Owner to Install and Maintain Protection- Confirms that it is the owners responsibility for this protection.

INFORMATION

To help with this new ordinance implementation any current public information available from this ordinance on an address will be available and accessible to the public. Copies of all Notices that have been sent to owners under this ordinance and all completed Certifications will be available for viewing by interested buyers, builders, Realtors and to staff responding to sewer overflows that maybe the owners responsibility.

To view this information, to receive informational packets with sample certification, forms and submittals; and to secure a blank Certification form, blank site plan forms as well as a City sewer system area map copy for submittal on a specific address, please visit the Public Works Engineering counter at City Hall, 501 Primrose Road, Burlingame (650-558-7230). Hours are 8 AM to 5 PM Monday though Friday excepting holidays.

The intent will be that ALL ordinance related address data, forms and all the above information will be available via links from the City's WEB page at www.burlingame.org.

Definitions and Details

1- "Inadequate height differential" exists on the property when drainage fixture flood rim elevation is less than "One Foot" above the next upstream manhole or flushing inlet. If a backwater valve is installed a sewage "Relief Valve" with an overflow outlet is required to protect these fixtures from other drainage from other fixtures on the property.

2- "Property Owner" in addition to installing backwater protection when required pursuant to Title 18, is required to ensure that the required backwater protection is fully operable in the building sewer or sewers serving the property owner's real property. Property owners are responsible for ensuring that backwater protection is properly maintained and functioning at all times. Backwater protection is subject to inspection by the City at any reasonable time, and failure to properly install and maintain this protection may result in suspension of sewer service.

3- "Backwater Protection" means a backwater valve, sewage ejector or pump system, a

relief valve or a combination of two or more of these devices that is approved by the Building Official and intended to prevent sewage from back flowing into a structure.

4- A "Relief Valve" is an approved device permanently installed on a building sewer in such manner as to allow sewage back flow to be relieved outside the building before reaching within 6 inches of the rim of the lowest drainage fixture.

5- "Licensed Professional" is a person authorized under California law to render an applicable certification to the property owner and the city regarding a specific question under this ordinance.

6- For purposes of the subject ordinance, the **Flood Rim Elevation (FRE)** is defined as the point where liquid would be expected to flow out of the fixture or a combination of fixtures if the discharge pipe was capped or blocked. Example of common building fixtures **FRE's**:
--For sinks, lavatories, urinals, or toilets, the **FRE** is the top edge of the bowl;
--For a stall shower, the **FRE** is the top edge of the shower curb,
--For a bath tub, the **FRE** is the top edge of the tub,
--For a washing machine discharge pipe the **FRE** is the top opening of the stand pipe, and
--For a floor drain, the **FRE** is the lowest point of the drain opening.
--Commercial or custom fixtures may require determination by the licensed professional to define its **FRE.** A note should be included in the certification to show how this point was determined.
--City's Sewer System FRE
Manholes and flushing inlets within the City's sewer system are the common point for overflow and are often installed at an angle matching the surrounding surface or roadway profile. The **FRE** on these structures shall be the lowest point on the structure's rim. (The rim is the fixed collar that holds the removable lid or cover.) A lateral cleanout grate, or a sewer structure that has a cover bolted or secured in place in such manner as to impede liquids from easily discharging shall not be considered the next uphill structure under this ordinance.

CERTIFICATION PROCESS

The Licensed Professional selected by the owner shall:

1- Gather Certificate Forms and Information

– Secure an informational packets with examples of the certification process and examples of various backwater protection possibilities.
– Read and understand the requirements of Ordinance #1710
– Secure a Certification Form from Public Works, Engineering
– Secure the Site Plan Forms from Public Works, Engineering
– Secure the City Sewer System map for the area of the subject address from Public Works, Engineering

2- Inspect the Property and Adjacent City Sewer System Facilities

– Indicate the subject property on the City Sewer System Map copy.
– Using the City Sewer System Map as well as whatever testing device is necessary determine the sewer main to which the property is connected, confirm the location and existence of the next upstream sewer Manhole (MH) or Flushing Inlet (Shown as Lamp Hole-LH on System Map). Testing involving access to the City mains requires a Public Work's permit .
– Inspect the property and surrounding area to determine the differential elevation between the flood rim of the lowest fixture in the building compared to the elevation of the City's upstream manhole or flushing inlet to determine if backwater protection is required.
– Locate and note any existing backwater protection devices currently being used. Insure that these backwater protection devices and relief valve overflows are fully operational.
- Secure Building Permit and install any new backwater protection devices as needed to meet this ordinance. All new work shall conform to requirements of the Building Department. A **draft** certificate for the structure shall be completed by the licensed professional showing the needed protection for permitted installation. The final Certificate shall be signed by the professional **after** all work is completed and all devices are confirmed as being fully operational. The Building Permit CANNOT be signed off until this is done.

3- Submit Certification:

– Use the City Sewer System Map and City Site Plan Forms (all sized 11"x17") to clearly indicate the information as required by the Certificate form.

– Complete and sign the Certificate; attaching the City Sewer System map, site plan and any other information or worksheets, if appropriate.

– Re-certification, as required by this ordinance, may be done using information from an Existing Certification certificate. This information must be confirmed by the inspection of the licensed professional as being correct and that all required protection devices are operating properly.

– Submit to the City a signed original of all forms and attachments. Distribute copies of the certificate package as indicated on the last page of the Certificate form. All copies must be complete with all attachments.

ORDINANCE NO. 1710

ORDINANCE OF THE CITY OF BURLINGAME ADOPTING ADDITIONAL REQUIREMENTS FOR INSTALLATION OF BACKWATER PROTECTION ON SANITARY SEWER DRAINAGE SYSTEMS AND FOR CERTIFICATION OF RELATIONSHIP OF DRAINAGE FIXTURES TO SEWER MAIN

The City Council of the City of Burlingame ordains as follows:

Section 1. (a) Past developments of real property have installed plumbing fixtures below the level of the next upstream manhole on the public sewer, or even below the level of the sewer main itself. Rather than a sewer blockage causing a back-up in the sewer main as the system was intended to provide, the back-up instead seeks the lower point at the private sewer lateral. These situations have led to needless damage to real property, needless expense to the public, and needless increase in risk to public health. All property owners should ensure that their property is properly protected from possible sewer back-ups by installing drainage ejection devices or backwater valves and backwater relief devices, removing unnecessary drainage fixtures, and ensuring that their property insurance provides adequate coverage for such a possibility. This ordinance is intended to confirm the city's authority to require the installation of such backwater valves and relief devices and their maintenance and to further require the filing of information regarding fixture levels in connection with additions of drainage fixtures and each property transfer as designated, so as to determine whether a valve, ejector, or relief device is required under the Municipal Code.

(b) This ordinance also amends Chapter 18.12 to require a sewage relief valve between a backwater valve and the structure served by the drainage system and further requires use of an ejector or pump system when low-lying fixtures are to be used in new construction or major remodels. A definition of "sewage relief valve" is added. These amendments are required by the location of the City of Burlingame between the Santa Cruz Mountains foothills and San Francisco Bay, with a number of substantial creeks flowing through highly developed residential and industrial areas. It is surrounded by large areas of open space maintained in natural condition, as

well as having a significant natural canyon in the center of the residential area. The foothill areas have a variety of soil formations with steep canyons and heavy precipitation. Much of the City has a high water table. The City operates its own sanitary sewer system and water quality control plant and is subject to State and Federal laws regarding both point and non-point discharges. Citizens will be better able to obtain reasonably priced insurance for their homes and businesses. It is vital to the well-being of both the City and its surrounding area that the City take reasonable steps to protect the creeks, the Bay, and its citizens from unnecessary sewage spills and contamination.

Section 2. A new section 15.10.029 is added as follows:

Section 15.10.029 Installation of Backwater Protection.

(a) *Definitions.*

(1) "Backwater protection" means a backwater valve, ejector or pump system, or relief valve or a combination of two or more of these devices that is approved by the building official and intended to prevent sewage from backflowing into a structure.

(2) "Drainage unit fixture" means a drainage unit fixture listed in table 7-3 of the 1998 California Plumbing Code.

(3) "Inadequate height differential" means that the flood level rim of a drainage unit fixture on a property's sanitary sewage drainage system is less than one foot above the next upstream manhole or flushing inlet cover on the sanitary sewer main serving the fixture's drainage piping.

(4) "Licensed professional" means a person authorized under California law to render an applicable certification to the property owner and the city regarding a specific question under this section.

(b) *Ongoing responsibility.* In addition to installing backwater protection when required pursuant to title 18, a property owner shall ensure that backwater protection is installed and fully operable in the building sewer or sewers serving the property owner's real property whenever an inadequate height differential situation exists on the property.

(c) *Addition of drainage unit fixture.* Whenever any drainage fixture unit is to be added to real property, the property owner shall obtain and file with the building official at the time of application for a building permit for the fixture unit a written certification by a licensed professional determining whether an inadequate height differential situation exists on the real property. If such a situation exists, the property owner shall provide the backwater protection described in section 18.12.080 or permanently remove the drainage unit fixture or fixtures that have an inadequate height differential before completion of installation of the additional drainage unit fixture.

(d) *Transfer of property.* Whenever real property is to be transferred to or vested in any other person or entity, the property owner shall obtain and file with the building official a written certification by a licensed professional determining whether an inadequate height differential situation exists on the real property. If an inadequate height differential exists, the property owner shall provide the backwater protection described in section 18.12.080 or permanently remove the drainage unit fixture or fixtures that have an inadequate height differential before transferring the property or vesting title in another person or entity.

(1) This subsection (d) does not apply to transfers of title that are not subject to or are exempt from the payment of real property transfer taxes pursuant to chapter 4.24.

(e) *Proof of previous installation.* Instead of providing certification pursuant to subsections (c) or (d) as applicable, a property owner may file a certification from a licensed professional demonstrating that backwater protection as approved by the building official has been installed on the property's sewage drainage system and is fully operable. This certification is subject to inspection confirmation by the city.

(f) *Maintenance.* Property owners are responsible for ensuring that backwater protection is properly maintained and functioning at all times. Backwater protection is subject to inspection by the city at any reasonable time, and failure to properly install and maintain this protection may result in suspension of sewer service.

(g) *Compliance with titles 15 and 18.* Any installation of backwater protection or

modification to any sewer shall be performed and inspected under the requirements of titles 15 and 18 of this code and established city procedures.

Section 3. A new Section 18.12.023 is added to read as follows:

18.12.023 Section 221.0 amended – Add definition – Sewer relief valve.

Section 221.0 is amended by adding a definition in alphabetical order to read as follows:

Sewage relief valve – An approved device permanently installed on a building sewer in such manner as to allow sewage backflow to relieve to grade outside the building.

Section 4. Section 18.12.080 is amended to read as follows:

18.12.080 Section 710.1 amended-Drainage piping below main sewer level.

Section 710.1 is amended to read as follows:

710.1 Drainage piping serving fixture(s) which have flood level rim(s) less than twelve inches (12") above the elevation of the next upstream manhole and/or flushing inlet cover at the public sewer system serving such drainage piping shall be protected from backflow of sewage as follows:

710.1.1. In new buildings and in buildings modified to the extent described in Burlingame Municipal Code section 18.07.020, these fixtures shall discharge by means of a sewage ejector or pump in accordance with Section 710.2.

710.1.2. In existing buildings, protection from backflow shall be by means of a backwater valve approved by the building official supplemented by an approved sewer relief valve installed with its outlet at least six inches (6") below the flood level rim of the lowest installed drainage unit fixture. Fixtures above that elevation shall not discharge through the backwater valve without prior written approval of the building official. As an alternative, the system may be protected by installation of an approved sewage ejector or pump.

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Section 5. This ordinance shall be published as required by law. Section 2 shall take effect thirty days after its adoption. Sections 3 and 4 shall take effect thirty days after adoption, or upon filing with the California Building Standards Commission, whichever occurs later.

Mayor

I, DORIS MORTENSEN, Deputy City Clerk of the City of Burlingame, do hereby certify that the foregoing ordinance was introduced at a regular meeting of the City Council held on the 5th day of May, 2003, and adopted thereafter at a regular meeting of the City Council held on the 19th day of May, 2003, by the following vote:

AYES: COUNCILMEMBERS: BAYLOCK, COFFEY, GALLIGAN, JANNEY, O'MAHONY

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

City Clerk

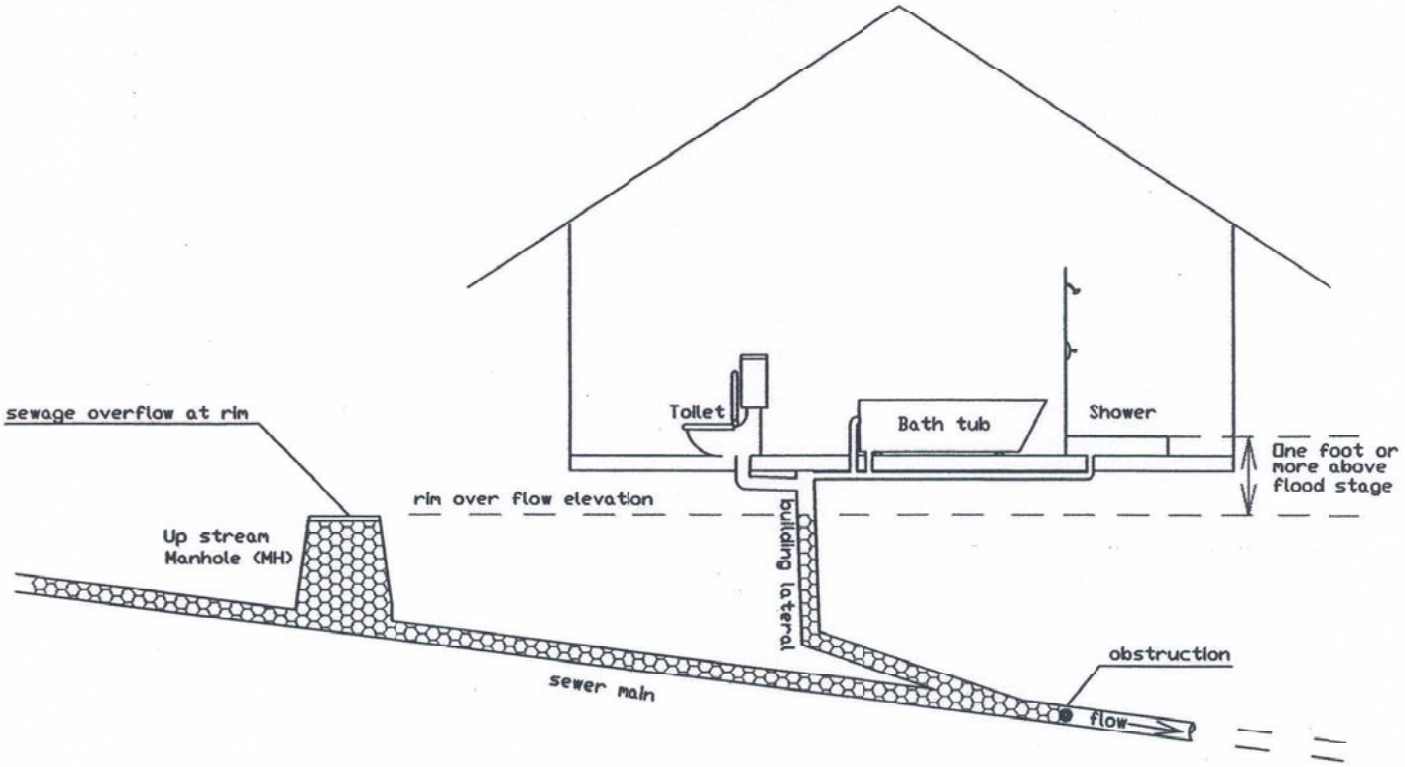
S:\Ordinances\ord1710.ord.wpd

Backwater Protection Ordinance

Examples of Various Sewer Conditions

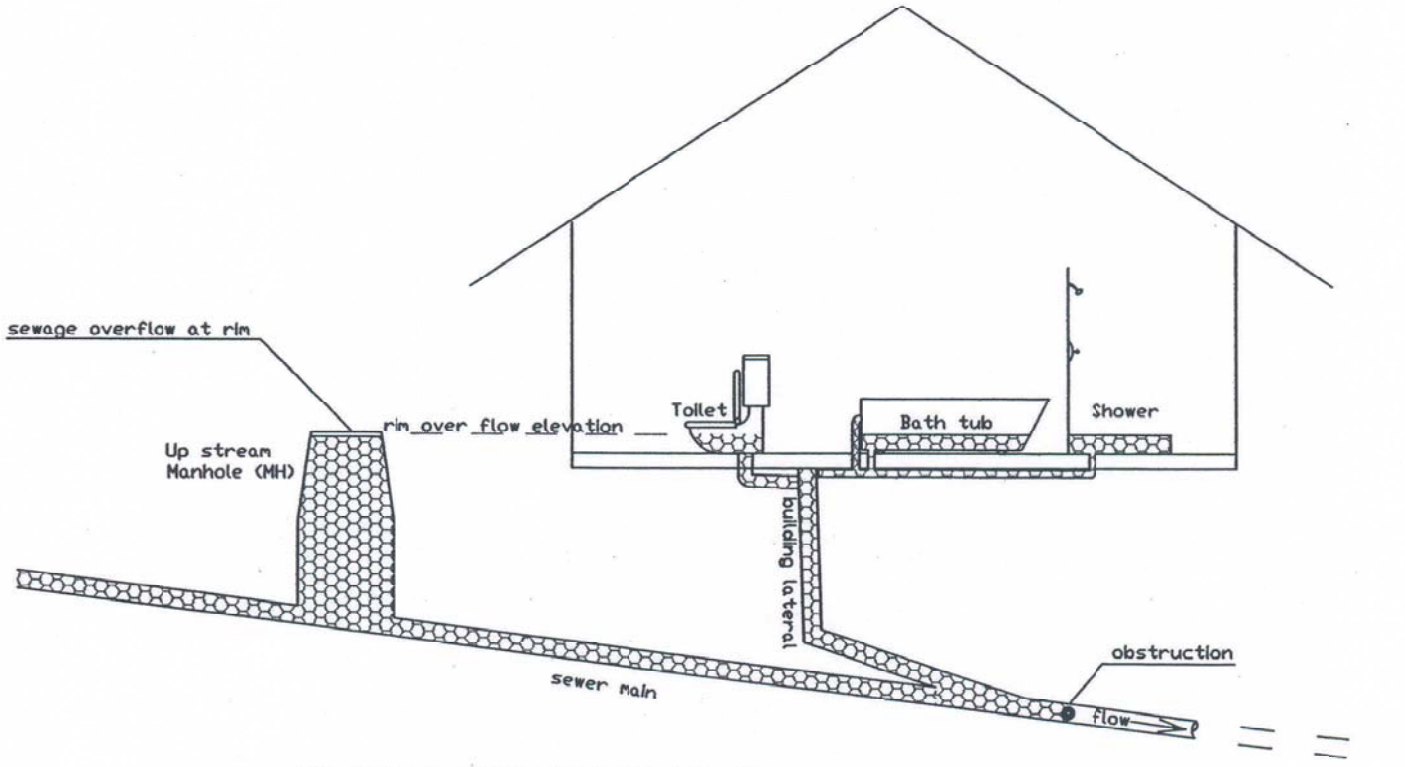
July 3, 2003

S:\A Public Works Directory\Sewer\Back Flow Prevention\INFORMATIONAL PACKET Cover and Insert Shts 3.wpd



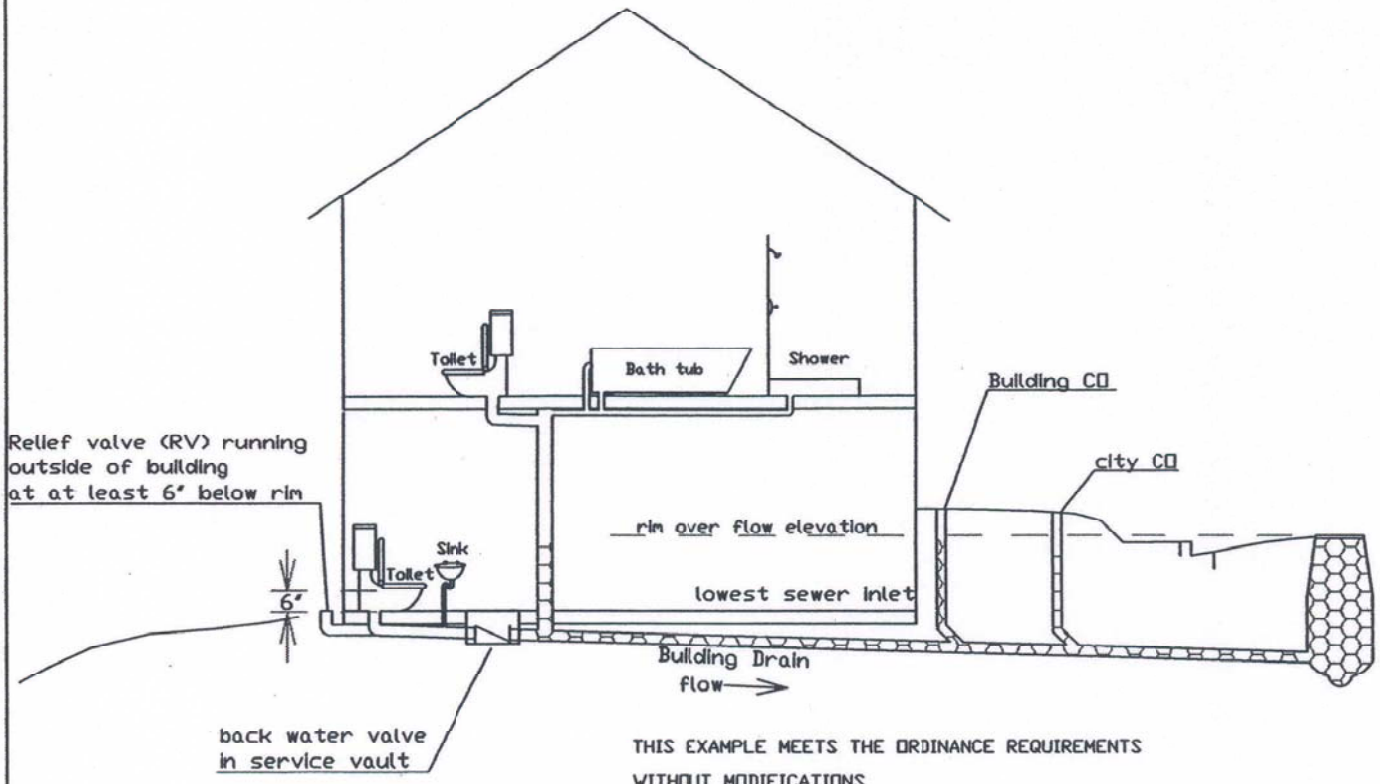
THIS EXAMPLE MEETS THE ORDINANCE REQUIREMENTS
WITHOUT MODIFICATIONS

This example applies to EXISTING STRUCTURES ONLY.
For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.



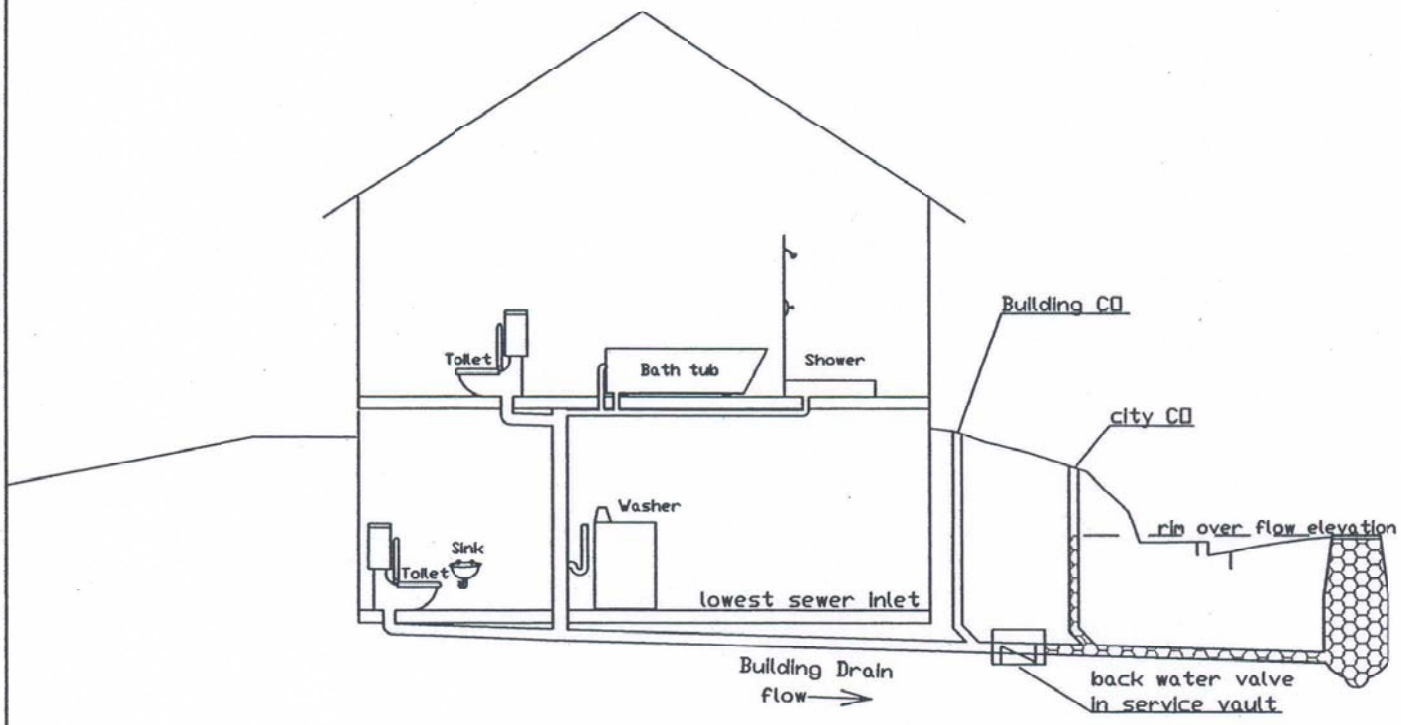
THIS EXAMPLE REQUIRES MODIFICATION TO MEET
THE ORDINANCE REQUIREMENTS

This example applies to EXISTING STRUCTURES ONLY.
For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.



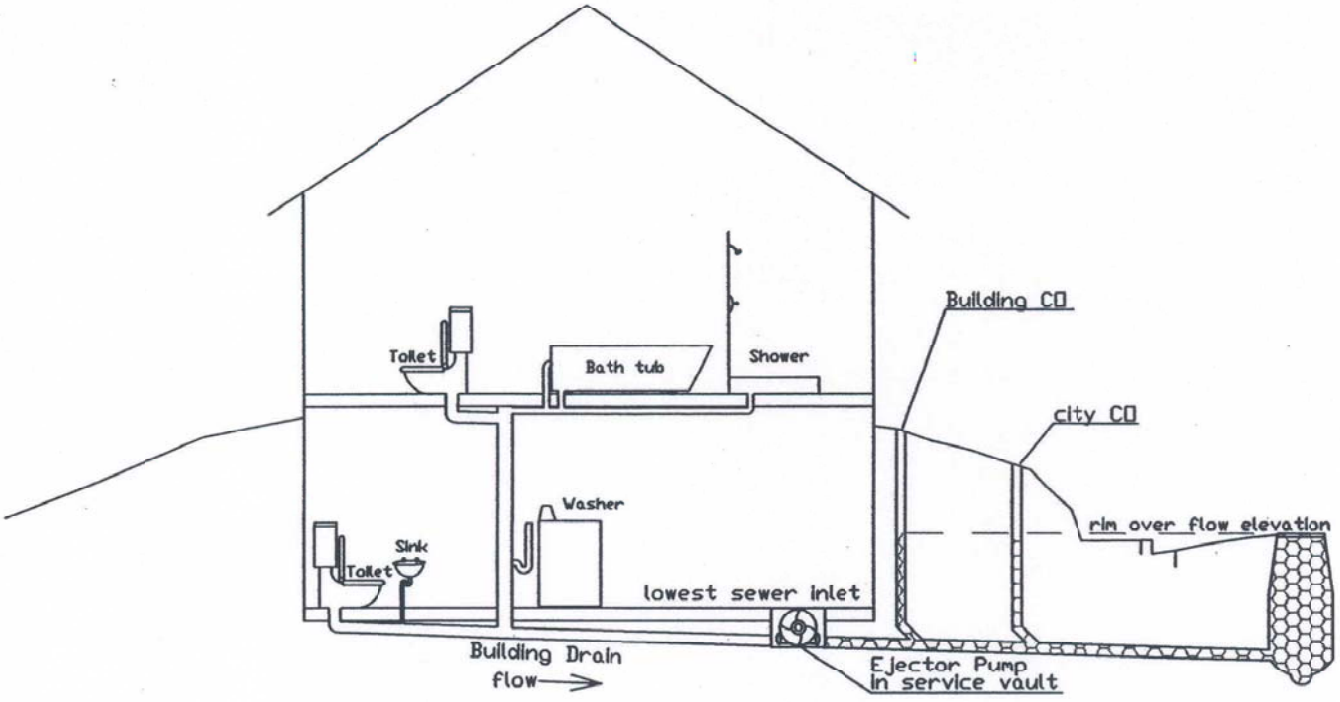
THIS EXAMPLE MEETS THE ORDINANCE REQUIREMENTS WITHOUT MODIFICATIONS

This example applies to EXISTING STRUCTURES ONLY. For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.

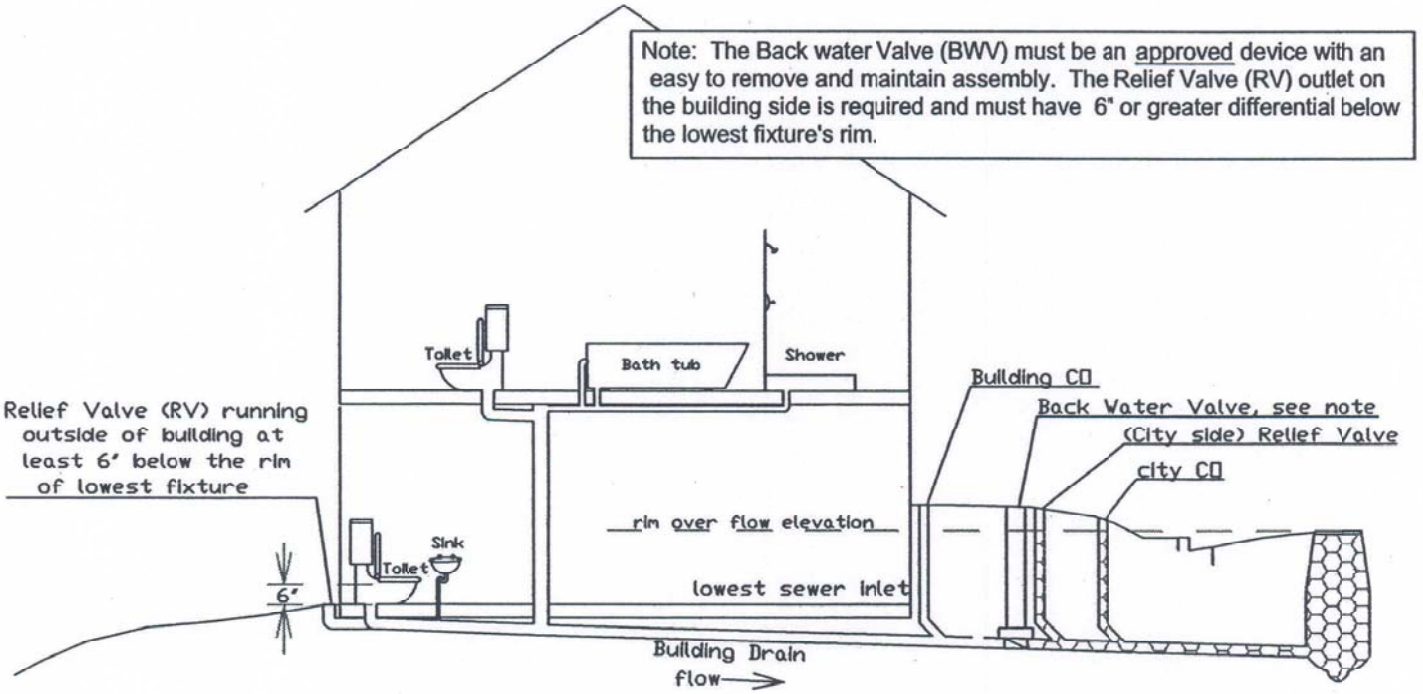


THIS EXAMPLE WILL NOT MEET THE ORDINANCE REQUIREMENTS BECAUSE THERE IS NO WAY TO RELIEVE ON-SITE DISCHARGE (NO GRAVITY RELIEF VALVE (RV) CAN BE INSTALLED HERE)

This example applies to EXISTING STRUCTURES ONLY. For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.



THIS EXAMPLE MEETS THE ORDINANCE REQUIREMENTS BECAUSE THE
THE PUMP WILL KEEP OUT SEWAGE ON THE CITY SIDE WHILE PUMPING
ON-SITE DISCHARGE



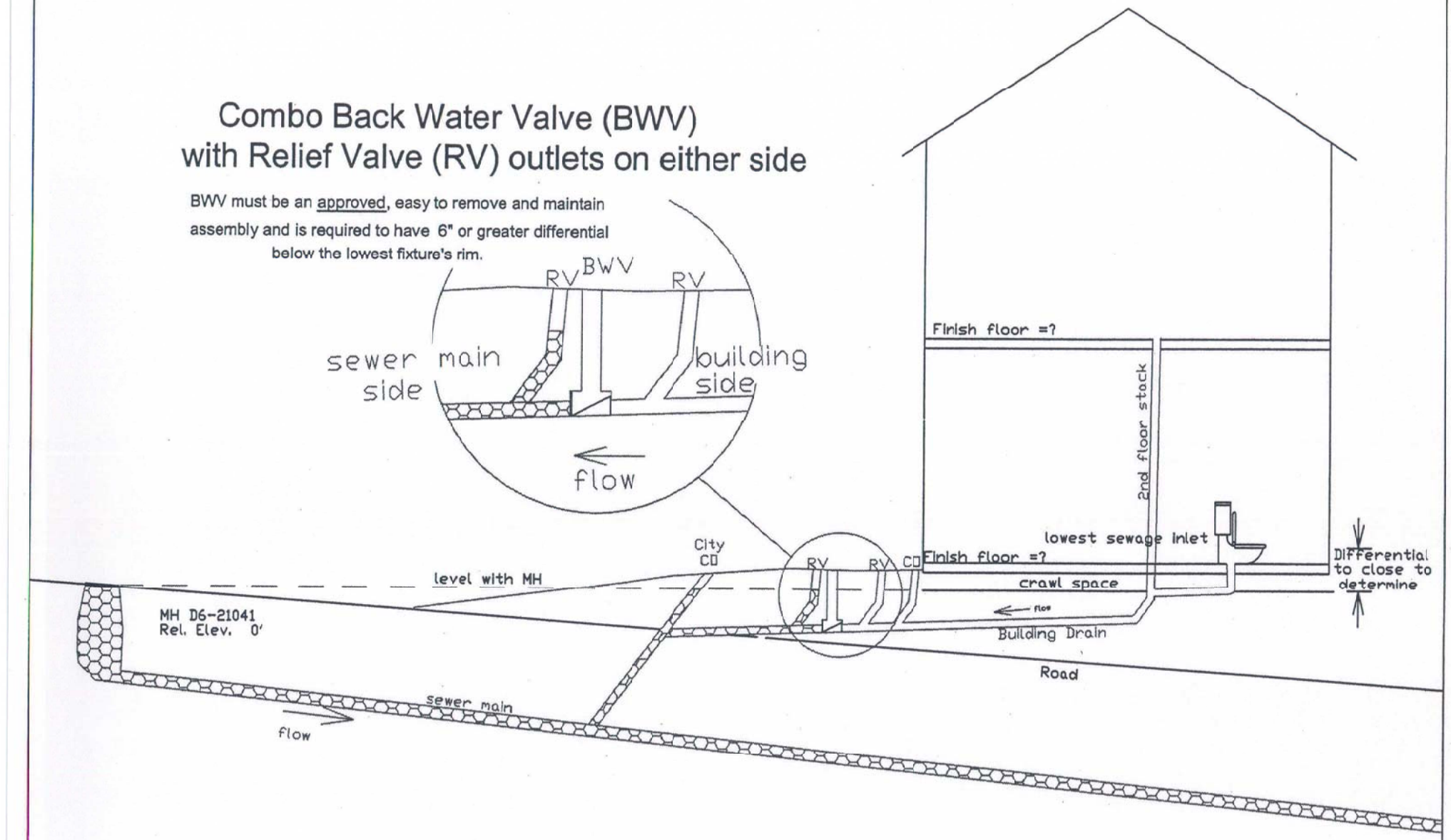
THIS EXAMPLE MEETS THE ORDINANCE REQUIREMENTS.

EXAMPLE: SEWER CONNECTION WITH BACK WATER PROTECTION

This example applies to EXISTING STRUCTURES ONLY.
For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.

Combo Back Water Valve (BWV) with Relief Valve (RV) outlets on either side

BWV must be an approved, easy to remove and maintain assembly and is required to have 6" or greater differential below the lowest fixture's rim.



This example meets the ordinance requirements.

Sewage backup

EXAMPLE: SEWER CONNECTION WITH BACK WATER PROTECTION

This example applies to EXISTING STRUCTURES ONLY. For new construction or remodels classified as "NEW", back water protection may only be accomplished using a "sewage ejector or sewage pump". A "Written Certification from a licensed professional" is still required for new construction. Contact the Building Department at 650.558.7260, if you have an questions.

S:\\A PUPLIC WORKS\SEWER\BACKFLOW REVISED JULY 2, 2003

EXAMPLE 1

Step 1: A licensed professional shall complete the form below and certify whether sewer backwater protection is required.

Provide the elevations, to the nearest one inch (1") or tenth of a foot (0.1') of the following. A licensed professional must complete, sign and certify the elevations.

	Elevation	Describe Location/ Manhole Number	Method(s) Used
1. Property Flood Rim Elevation of Lowest Fixture (Existing or proposed)	101.9-ft	Toilet on 1st floor	Laser Leveler
2. Upstream Manhole (Cover)	100-ft	[enter manhole # from City Map]	City Map & sewer cleanout located in front
3. Elevation Difference	1.9-ft		

SEWER BACKWATER PROTECTION CERTIFICATION

Address of Certification: 40 Niner Way, Burlingame CA

I, Dan Jones, Burlingame Plumbing
(Professional's Name, Company Name)

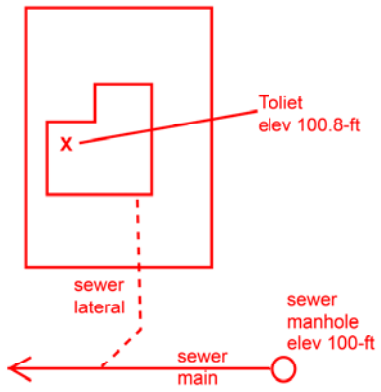
(License: 0533X2 , Type: C-36)

hereby certify that I have surveyed, inspected and certify that **all** drainage fixtures, existing and/or new, within the structure(s) have flood level rim elevations of **at least one foot (1') above** the upstream manhole cover.

Professional's Signature: _____

Certification Date: 4/4/16

Sketch - showing property line, footprint of structure(s) and lowest fixture, sewer lateral, City main and upstream manhole



Complete below when fixture(s) have flood rim elevation less than one foot above upstream manhole

SEWER BACKWATER PROTECTION CERTIFICATION

Address of Certification: _____

I _____
(Professional's Name, Company Name)

(License: _____ , Type: _____)

hereby certify that I have surveyed, inspected and certify that there are drainage fixtures within the structure(s) with flood rim elevations **less than one foot (1') above** the upstream manhole cover. All required backwater valves or sewer ejectors together with all required building sewer relief valve(s) shall be installed per the latest California Plumbing Code, and that these devices will be fully operable.

Professional's Signature: _____

Certification Date: _____

Sketch - showing property line, footprint of structure(s) and lowest fixture, sewer lateral, City main and upstream manhole

EXAMPLE 2

Step 1: A licensed professional shall complete the form below and certify whether sewer backwater protection is required.

Provide the elevations, to the nearest one inch (1") or tenth of a foot (0.1') of the following. A licensed professional must complete, sign and certify the elevations.

	Elevation	Describe Location/ Manhole Number	Method(s) Used
1. Property Flood Rim Elevation of Lowest Fixture (Existing or proposed)	**100.8-ft**	Shower drain on 1st floor	Laser Leveler
2. Upstream Manhole (Cover)	**100-ft**	[enter manhole # from City Map]	City Map & sewer cleanout located in front
3. Elevation Difference	**0.8-ft**		

SEWER BACKWATER PROTECTION CERTIFICATION

Address of Certification: _____

I, _____
(Professional's Name, Company Name)

(License:_____

hereby certify that I have surve
existing and/or new, within the
least one foot (1') above the u

If flood rim elevation is less than 1-ft above upstream manhole, complete section below.

Professional's Signature: _____

Certification Date: _____

Sketch - showing property line, footprint of structure(s) and lowest fixture, sewer lateral, City main and upstream manhole

Complete below when fixture(s) have flood rim elevation less than one foot above upstream manhole

SEWER BACKWATER PROTECTION CERTIFICATION

Address of Certification: 225 Main Street, Burlingame CA

I Alan Johnson, Burlingame Plumbing
(Professional's Name, Company Name)

(License: 0533X1 , Type: C-36)

hereby certify that I have surveyed, inspected and certify that there are drainage fixtures within the structure(s) with flood rim elevations **less than one foot (1') above** the upstream manhole cover. All required backwater valves or sewer ejectors together with all required building sewer relief valve(s) shall be installed per the latest California Plumbing Code, and that these devices will be fully operable.

Professional's Signature: _____

Certification Date: 4/4/16

Sketch - showing property line, footprint of structure(s) and lowest fixture, sewer lateral, City main and upstream manhole