CITY OF OAKLAND

AGENDA REPORT

TO: Office of the City Administrator
ATTN: Dan Lindheim
FROM: Community and Economic Development Agency
DATE: December 15, 2009

RE: **A Report And An Ordinance Amending Chapter 13.08 Of The Oakland Municipal Code To Require The Installation Of Sewage Overflow Devices On Privately Maintained Sewer Laterals**

SUMMARY

At the July 7, 2009, regular meeting of the City Council, an ordinance was presented for a new regulation requiring the retrofit installation on private sewer laterals of low-cost sewage overflow devices which had the following substantive provisions:

Prior Sewage Overflow Device Ordinance			
REQUIRED INSTALLATION OF A SEWAGE OVERFLOW DEVICE	INSTALLER	HOLD HARMLESS AGREEMENT	REQUIRED INSTALLATION OF A SEWAGE BACKWATER VALVE
lateral repair or replacement and ownership change	sewer contractor or owner	in lieu of installation when ownership changed	n.a. (will be proposed in the 2010 Plumbing Code adoption ordinance)

A proposed ordinance is being presented now which has the following substantive provisions:

Proposed Sewage Overflow Device Ordinance			
REQUIRED INSTALLATION OF A SEWAGE OVERFLOW DEVICE	INSTALLER	HOLD HARMLESS AGREEMENT	REQUIRED INSTALLATION OF A SEWAGE BACKWATER VALVE
lateral repair or replacement	sewer contractor	n.a. (mandatory installation)	n.a. (will be proposed in the 2010 Plumbing Code adoption ordinance)

Requiring the retrofit installation of low-cost ($35 to $100) "pop-up" devices on clean-outs when private sewer laterals are repaired or replaced will significantly reduce the dollar amount of damage claims paid by the City (approximately $250,000 annually), facilitate the clean-up of raw sewage spills, and enhance the early detection by neighbors of sewer main backups. The devices are installed at ground level and are opened by the upward pressure of sewage and closed by gravity. They can be also installed on existing clean-outs by homeowners without a permit.

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FISCAL IMPACT

The requirement to retrofit sewer laterals with sewage overflow devices will reduce damage to private properties attributable to backflows in the City's sanitary sewer mains and, consequently, will reduce remuneration by the City to property owners for damage claims. The actual reduction in the dollar amount of payments cannot be estimated at this time.

BACKGROUND

City Sewer Main Overflows

A sanitary sewer overflow (SSO) is an unintentional release of sewage into the environment. SSOs from City sewer mains are caused by

- blockages due to pipe settlement or deterioration;
- blockages due to grease buildup, debris, and tree roots;
- inadequate capacity due to ground water seepage (Infiltration & Inflow or I&I) during inclement weather.

Most SSOs are relatively small, and maintenance crews are usually able to recover the sewage before an overflow discharges into a creek or storm drain. SSOs are typically released through manholes, but they can be released into a building if a plumbing fixture (shower, toilet, etc.) is at a lower elevation that the nearest upstream manhole cover. The City annually reimburses property owners for approximately $250,000 in SSO damage claims.

SSOs are a severe public health hazard, and regional, state, and federal regulations provide for monetary sanctions against the City for overflows. SSOs must be reported to the Regional Water Quality Control Board, the California Emergency Management Agency, and the Alameda County Department of Environmental Health and are audited by the Environmental Protection Agency. Major spills (more than 1,000 gallons) must be reported immediately, and smaller spills can be reported within thirty (30) days. Last year, Public Works crews responded to four hundred one (401) blockages, of which two-hundred five (205) resulted in reported overflows.

City Sewer Main Rehabilitation

In the past nineteen (19) years, the City has rehabilitated approximately thirty-five percent (35%) of its sanitary sewer system to reduce blockages and I&I. A significant volume of ground water, however, continues to flow into Oakland's sewer mains due partially to deteriorated private sewer laterals. Both blockages and I&I continue to cause backflows into buildings which do not have Sewage Backwater Valves (SBV) or "one-way" flow valves, also known as Backflow Prevention Devices (BPD). The majority of private laterals were installed in Oakland before the Uniform Plumbing Code required the installation of SBVs for new construction (circa 1970).

Currently, there are no federal, state, or regional regulations or Oakland Municipal Code (OMC) requirements to install SBVs retroactively in buildings.

Clean Water Act

The East Bay Municipal Utility District (EBMUD) is expected to adopt a mandatory sewer lateral inspection regulation within the next two (2) years which will require owners to provide a certification as a condition of sale of their property that:

- The sewer lateral pipe and joints are in good condition or that the sewer lateral has been repaired or replaced.
- An SBV is installed (existing or retrofitted) in the sewer lateral if the building's floor has a plumbing fixture at a lower elevation than the upstream manhole (primary sewage overflow point).

The anticipated EBMUD certification regulation is in response to a new requirement by the Environmental Protection Agency. Mandatory inspection of aging sewer laterals will contribute to the reduction of I&I throughout the City.

Sewage Backwater Valve (SBV) and Sewage Overflow Device (SOD)

A sewer lateral is typically a four to six inch (4" to 6") diameter buried pipe that connects a building's plumbing to the City's sewer main. An SBV is installed directly in a sewer lateral when a plumbing fixture is below the upstream manhole cover. An SBV prevents a sewer main from back-flowing into a building. SBVs can require an expensive retrofit of a building's interior plumbing to isolate upstairs fixtures from overflowing into the downstairs fixtures ("short-circuit"). An SOD ("pop-up" device) is installed on top of a sewer lateral clean-out but does not prevent sewage back-flow into a building. SODs allow sewage to overflow at ground-level and in many cases can protect a building from SSOs and from "short-circuits".

The California Plumbing Code has required the installation of SBVs for new construction since 1970 when a plumbing fixture is installed on a building story that is lower than the next upstream manhole cover of the City's sewer system. There are no requirements in the OMC or the Plumbing Code to install an SBV retroactively if a building were constructed before 1970.

The permit fee for replacing a sewer lateral is $405 and excavating in the street is $433. The approximate cost to replace a house lateral is approximately $85 per lineal foot when all work is on private property. When the replacement extends into the street, the additional cost is approximately $5,000. Retrofitting an interior plumbing system for an SBV ("short-circuit" relief) can cost approximately $4,000.

COMPARISONS	SBV		SOD	
	plastic	brass	plastic	brass
Purchase cost	$75 ±	$300 ±	$35 ±	$100 ±
Permit required for installation	Yes		No	
Contractor required for installation	Yes		No	
Excavation required for installation	Yes		No	
Interior plumbing "short-circuit" potential	Yes		No	
Interior damage from sewer main backups prevented	Yes		Potentially	

Sanitary Sewer Overflow (SSO) Statistics

Annually,

- The Public Works Agency responds to approximately four hundred (400) complaints of sewer blockages and cleans approximately two hundred (200) sewage overflows.
- The City Attorney's Office processes approximately twenty (20) damage claims due to sewage backflows into buildings (dry and wet weather).
- The City Council approves approximately $250,000 in remuneration to property owners for damages caused by blockages in the City's sewer system.

KEY ISSUES AND IMPACTS

Sewage Overflow Devices (SOD)

SODs are installed at ground level in place of the cap on top of a clean-out riser for sewer laterals. They are opened by the hydraulic pressure of rising sewage and closed by gravity or spring tension. The device itself is relatively inexpensive and can be installed without professional experience or a permit on an existing clean-out riser.

The Public Works Agency would determine which SODs on the market are best suited for preventing rats from entering the sewer lateral. One such SOD has been required by Central Contra Costa Consolidated Sanitary District for new-home construction for more than twenty-five (25) years.

Although SODs are not designed to prevent sewage from back-flowing into a building, they can be very effective for preventing damage. When the installed elevation of an SOD is lower than the plumbing fixture, sewage will overflow through the SOD and into the yard. The cost/ benefit value for SODs is high because they:

- do not cause a "short-circuit" for interior plumbing;
- will protect many buildings which do not have an SBV;
- are relatively inexpensive to purchase and easy to install without a permit, provided an existing clean-out riser is in place;
- will significantly reduce property damage claims associated with sewer main backflows;
- will compliment the anticipated EBMUD requirement to install SBVs by providing supplemental protection for the interior plumbing from "short-circuiting".

Municipal Code Amendments

The proposed amendments to Oakland Municipal Code Chapter 13.08 would add a definition for SOD and would mandate the installation of SODs when a sewer lateral is repaired or replaced.

California Environmental Quality Act (CEQA)

The installation of SODs is categorically exempted by CEQA. The amount of sewage which will be discharged through an SOD is miniscule, and surrounding vegetation will serve to contain the discharge and serve as a biofilter until the primary components have been removed from the dispersal area. The primary point of discharge (manhole covers) will be unaffected by SODs, but overflows will be detected earlier, and the amount of sewage discharged into the environment will be reduced. SODs are a minor alteration which will not expand the use or capacity of the existing sanitary sewer system but will reduce the volume of sewage which overflows inside buildings and into the environment.

SUSTAINABLE OPPORTUNITIES

Economic

The reduction of sanitary sewer backflows into buildings will enhance property values and decrease the City's payment of property damage claims.

Environmental

The reduction of sanitary sewer backflows into buildings and associated health hazards will decrease.

Social Equity

The reduction of sanitary sewer overflow volumes will benefit all Oakland residents.

DISABILITY AND SENIOR CITIZEN ACCESS

There is no direct impact or benefit to seniors or citizens with disabilities.

RECOMMENDATION AND RATIONALE

Staff recommends that the Committee accept this report and forward the proposed ordinance to the City Council for consideration.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the City Council adopt the proposed ordinance amending Municipal Code Chapter 13.08 to require the installation of Sewage Overflow Devices when private sewer laterals are repaired or replaced.

Respectfully submitted,

WALTER S. COHEN, Director
Community and Economic Development Agency

Prepared by:

Raymond M. Derania
Building Official and City Engineer
Building Services Division

APPROVED AND FORWARDED TO
THE PUBLIC WORKS COMMITTEE

Office of the City Administrator

Item : _____
Public Works Committee
December 15, 2009

Introduced by

Councilmember

DRAFT

Approved for Form and Legality

City Attorney

FILED
OFFICE OF THE CITY CLERK
OAKLAND
2009 DEC -3 PM 6:18

OAKLAND CITY COUNCIL

ORDINANCE NO. _____ C.M.S.

AN ORDINANCE AMENDING CHAPTER 13.08 OF THE OAKLAND MUNICIPAL CODE TO REQUIRE THE INSTALLATION OF SEWAGE OVERFLOW DEVICES ON PRIVATELY MAINTAINED SEWER LATERALS

WHEREAS, the City of Oakland annually experiences blockages in its sanitary sewer mains which are maintained by the Public Works Agency; and

WHEREAS, these sewage blockages occasionally result in sewage overflows into adjoining privately owned buildings; and

WHEREAS, these sewage backflows annually result in extensive damage to private property and significant remuneration by the City, exceeding $21,000 per month, to compensate owners for cleaning their premises and repairing and replacing interior building finishes, furnishings, and personal possessions; and

WHEREAS, the Municipal Code of the City of Oakland, the California Plumbing Code, the California Health and Safety Code, and the federal Clean Water Act do not currently require the retroactive installation of sewage backwater valves, also known as backflow prevention devices, which are designed to prevent sewer main backflows into buildings, in privately maintained sanitary sewer piping (laterals); and

WHEREAS, a requirement to retroactively install sewage backwater valves would typically require extensive modification of the interior plumbing of a building to separate the discharge of sewer piping serving the upper and lower stories into the sewer lateral ("short-circuiting"); and

WHEREAS, said retroactive installation of sewage backwater valves would be a costly and disruptive requirement for property owners; and

WHEREAS, sewage overflow devices, which are installed on the exterior risers of sewer laterals and are activated by the hydraulic pressure of rising sewage, are a proven technology and an inexpensive mechanism to mitigate the risk from sewage backflows and reduce the dollar amount of property damage by allowing sewage to flow onto the ground rather than into buildings; and

WHEREAS, the installation and maintenance of sewage overflow devices will help protect public health, the environment, and private property from the effects of sewage backflows through earlier detection and more manageable containment and clean-up; and

WHEREAS, requiring owners to install sewage overflow devices when they repair or replace sewer laterals will add minimally to the cost of the repair work; and

WHEREAS, it is in the best interests of the City and public health and safety to establish regulations which require property owners to install and maintain approved sewage overflow devices; and

WHEREAS, in the event of sewage blockages in a sanitary sewer main, the limited flow area of sewage overflow devices in the "open" position limit the quantity of sewage overflow to negligible amounts which usually would be absorbed through the ground surface; and

WHEREAS, the primary point of discharge of overflowing sewage from the City's sanitary sewer system will continue to be maintenance access lids (manhole covers), and the installation of sewage overflow devices on privately maintained sewer laterals is a minor alteration without an expansion of use or capacity which will enhance earlier detection of sewer main overflows and more rapid clean-up of discharges and the effective containment and remediation of associated health hazards; and

WHEREAS, the native vegetation and landscaping, which typically surround cleanout risers, serve to contain overflowing sewage within in the immediate vicinity and detain its migration over the ground surface and retard its introduction into piping and channels discharging into San Francisco Bay and provide an effective and proven bio-filtering mechanism for ameliorating its health hazards; and

WHEREAS, the requirements of the California Environmental Quality Act (CEQA) of 1970, the Guidelines as prescribed by the Secretary for Resources, and the provisions of the Statement of Objectives Criteria and Procedures for Implementation of the California Environmental Quality Act have been satisfied and in accordance with Sections 15061(b)(3), 15301 (Existing Facilities), 15302 (Replacement or Reconstruction), and 15308 (Actions by Regulatory Agencies for Protection of the Environment) of the California Code of Regulations this project is exempt from the provisions of the California Environmental Quality Act; now, therefore

THE COUNCIL OF THE CITY OF OAKLAND DOES ORDAIN AS FOLLOWS:

SECTION 1. Recitals

The Council of the City of Oakland finds and determines that foregoing recitals are true and correct and hereby adopts and incorporates them into this Ordinance.

SECTION 2. Annotation

The Oakland Municipal Code is hereby amended to add, delete, or modify sections as set forth below. Section numbers and titles are indicated in **bold** type; additions are indicated by underscoring type; and deletions are indicated by ~~strike through~~ type. Portions of the regulations not cited or not shown in underscoring or strike - through type are not changed.

SECTION 3. Amendments

Chapter 13.08 of the Municipal Code of the City of Oakland, entitled Sewer Lateral Regulations, shall be amended as follows:

13.08.020 Definitions.

The following words and phrases, wherever used in this chapter, shall be construed as defined in this section unless otherwise required by the context. The singular shall be taken to mean the plural and the plural shall mean the singular when required by the context of this Chapter. The following definitions will not necessarily apply to other ~~portions~~ chapters of th~~is~~e Municipal Code:

"Building Sewer" means that particular sanitary sewer which lies between a point two feet from the building or structure it serves, to and including its connection with the sewer system or other point of discharge and which carries sewage and liquid wastes from public or private premises to a public or private sewer system, individual sewage disposal system or other point of discharge or point of disposal.

"Common Private Sewer" means any privately owned and maintained sewer which serves as the disposal point for two or more building sewers. A common private sewer is either a sanitary sewer or a storm water sewer, but it cannot be used as a combination of both.

"Inflow/ Infiltration Correction Program" (also called "I/I correction program" and "infiltration/inflow correction program") means those particular projects being designed, or designed and being constructed, constructed or proposed to be constructed by the city of Oakland and/or its agents for the purpose of complying with the requirements of that certain order issued by the California Regional Water Quality Control Board and being Order No. 84-67 and any other state, federal, or local legislation related thereto.

"Lower Building Sewer Lateral" means all that portion of the building sewer lateral which lies within a public right-of-way or lies within an easement granted for the purpose of constructing or maintaining a sanitary sewer or some such other similar purpose.

"Manhole" means an underground structure large enough to be physically entered by a person for the purpose of inspecting and maintaining a sewer or a portion thereof.

"New Sewer Connection" means a connection to a public sewer or common private sewer which has not previously existed. This does not include reconnection, repair, or replacement of an existing sewer lateral either at the same or at a different location. An existing sewer lateral which would be going to a higher use (such as an increased number of dwelling units) would be subject to an increased sewer service charge and/or sewer connection fee for the increase in use.

"Point of Discharge" (also called "discharge point") means that point at which the materials conveyed by a sewer leave a specific section or length of sewer (by design or inadvertently).

"Point of Disposal" (also called "disposal point") means the point at which any material conveyed by a sewer enters any facility for treatment or processing or otherwise leaves the sewer system by design.

"Point of Origin" means that particular point on a building sewer which lies closest to the building or other structure which it serves.

"Project" means any portion of work including, but not limited to, the repair, construction and/or replacement of parts of the sewer system subject to the inflow/infiltration correction program which are accomplished under a specific project number issued by the ~~Office of Public Works~~ City.

"Sanitary Sewer" means any public or private sewer designed and/or constructed for the purpose of conveying sewage or other liquid waste from a building sewer to or toward a point of disposal or discharge.

"Sewage" means ~~water carrying waste~~ all liquid effluent, including any suspended solids therein, which is conveyed from ~~residences, commercial and industrial establishments~~ all types of premises through a sewer ~~or any combination of such wastes, but excluding storm water when conveyed in a separate storm~~ system, for treatment and/ or disposal, excepting flow from natural drainage and rainfall.

"Sewer" means any pipe conduit or channel, being either open or closed, the purpose of which is to convey sewage, liquid waste, other liquids or water from a collection point to or toward discharge point.

"Sewer Main" means (also commonly called "main sewer") means any public sewer or portion thereof which conveys sewage between the point of discharge of a building sewer and the point of disposal of said public sewer.

"Sewage Overflow Device" means an approved plumbing fitting that is installed at the top of an exterior cleanout riser for a sanitary sewer lateral and is activated by the hydraulic pressure of sewage and allows back flowing sewage to discharge over the ground surface and prevents the intrusion of rodents and other vector into the sewer piping system.

"Sewer System" means either the entire network or a portion of that network of sewers under the jurisdiction of the City and all the appurtenances thereto. This shall include both conveyances for sanitary flow and storm water and other liquid waste flows.

"Shall/ Will" means a determinative directive, which includes the ordinary accepted meaning of the word "must".

"Storm Sewer" means (also commonly called "storm drain" or "storm water conduit") means any public or private sewer designed and/or constructed for the purpose of conveying rainwater or other waters deposited by natural causes, but not including sewage and wastewater.

"Upper Building Sewer Lateral" means all that portion of the building sewer as herein above defined which lies within the privately owned property abutting a public right-of-way or easement.

13.08.120

The size, extent, construction, installation, operation, use, maintenance, and abandonment of building sewers, ~~and~~ common private sewers, two-way and standard cleanout fittings and exterior risers, sewage overflow devices, and the connections thereto shall be in accordance with the provisions of this chapter and shall be the responsibility of the owner of the property served or servable by the sewer system. All devices shall be maintained and repaired by the property owner and provide for their uninterrupted function and purpose for which they were designed.

13.08.410 Two-way cleanout fitting, exterior riser, and sewage overflow devices required - Rehabilitation of building sewers or portion(s) thereof.

Whenever an existing building sewer or common private sewer with existing connection to any building, structure or premises which has its point of discharge within the public right-of-way is wholly or partially rehabilitated, an approved two-way cleanout fitting, exterior riser, and sewage overflow device shall be constructed in the vicinity of the right-of-way or sewer easement boundary line adjacent to the property from where the building sewer originates.

Partial rehabilitation under this section shall mean the rehabilitation either of the upper or lower sewer lateral, as said upper and lower sewer laterals are defined under Section 13.08.020. Partial rehabilitation shall also mean the rehabilitation of any portion(s) of the building sewer, combined length of which exceeds ten feet.

13.08.520 Requirement for standard cleanout fitting, exterior riser, and sewage overflow device adjacent to building – inflow/ infiltration correction program.

When the repair/ replacement of any portion of an upper building sewer lateral is necessary pursuant to the findings of testing required by Section 13.08.510, an ~~standard~~ approved standard cleanout fitting, exterior riser, and sewage overflow device shall be ~~inserted~~ installed ~~into~~ the upper building sewer lateral in the vicinity of the building drain.

The ~~exact~~ location of the cleanout riser ~~is subject to the approval~~ shall be approved by the Director of Public Works or his or her duly authorized representative. This section ~~does~~ shall not apply to any building sewer or private common sanitary sewer which conveys ~~waste~~ sewage by means of a pressurized line.

13.08.522 Installation and maintenance of sewage overflow devices

Sewage overflow devices shall be installed at an elevation and subsequently adjusted to an elevation that protects the building for which it is installed from back flowing sewage. Sewage overflow devices shall be readily accessible for maintenance by the property owner.

SECTION 4. Applicability

A. Construction and Severability

Should any article, section, subsection, sentence, clause, or phrase of this ordinance or exhibit be held to be invalid or unconstitutional, the offending portion shall be severed and shall not affect the validity of remaining portions which shall remain in full force and effect.

B. Authority

This ordinance is enacted by the Council of the City of Oakland pursuant to the police powers accorded to the City by and through section 106 of the Charter of the City of Oakland and Article XI of the Constitution of the State of California.

C. Effective Date

Upon final adoption by sufficient affirmative votes of the Council of the City of Oakland or by approval of a reconsideration by said Council, this ordinance shall be effective as provided in section 216 of the Charter of the City of Oakland.

IN COUNCIL, OAKLAND, CALIFORNIA, _____, 2010

PASSED BY THE FOLLOWING VOTE:

AYES - BROOKS, DE LA FUENTE, KAPLAN, KERNIGHAN, NADEL, QUAN, REID, AND PRESIDENT BRUNNER

NOES -

ABSENT -

ABSTENTION -

ATTEST: _____
LATONDA SIMMONS
City Clerk and Clerk of the Council
of the City of Oakland, California

DATE OF ATTESTATION _____

NOTICE AND DIGEST

AN ORDINANCE AMENDING CHAPTER 13.08 OF THE OAKLAND MUNICIPAL CODE TO REQUIRE THE INSTALLATION OF SEWAGE OVERFLOW DEVICES ON PRIVATELY MAINTAINED SEWER LATERALS

This ordinance would amend Chapter 13.08 of the Oakland Municipal Code to require the installation of sewage overflow devices on clean-out risers when a property owner replaces or repairs the sewer lateral. Enactment of the proposed amendment would significantly reduce the annual damage caused by sewage backflows from City maintained sewer mains into buildings.