



City of  
Bellevue

Item No. SS2(a)  
March 5, 2007

Post Office Box 90012 • Bellevue, Washington • 98009 9012

February 28, 2007

TO: Grant Degginger, Mayor  
Bellevue City Council Members

FROM: Mario H. Treviño, Fire Chief 

SUBJ: Debriefing of December 2006 Windstorm

The Fire Department's Emergency Preparedness Division has completed a report on the City's response during the Windstorm of December, 2006. This report has been compiled with input from all City Departments. A brief overview of this report will be provided to Council during Study Session on March 5, 2007. City representatives, along with Jim Hutchinson, Local Government and Community Relations Manager for PSE, will be in attendance to answer any questions the Council may have surrounding the actions taken during and following the windstorm on December 14, 2006.

*"The Bellevue Fire Department exists to assist the public in the protection of life and property by minimizing the impact of fire, medical emergencies, and potential disasters or uncontrolled events that affect the community and environment."*

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## **Bellevue Fire Department**

**Emergency Preparedness Division**

450 110<sup>th</sup> Ave NE, Bellevue, WA 98004

P.O. Box 90012, Bellevue, WA 98009

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# **December 2006 Severe Storm**

**(Federal Disaster 1682)**

**December 14, 2006**

## **Report to the Bellevue City Council**

For additional information, contact:

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*Information for this report was compiled with assistance from members of all city departments*

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**Executive Summary**

**Background Information**

On Thursday, December 14<sup>th</sup> and Friday, December 15<sup>th</sup>, 2006 the City of Bellevue along with most areas of the Puget Sound region experienced the most damaging windstorm in more than 100 years. The wind event closely followed a period of exceptionally heavy rainfall; Bellevue received 1.6 inches of rain between noon Thursday and midnight, with 0.5 inches falling within a one-hour period between 6 p.m. and 7 p.m. Combined with previous moisture conditions, storm water runoff caused some localized and street flooding. After the heavy rainfall, gale-force winds brought down tens of thousands of trees throughout the region and devastated large sections of the electric utility system. Electrical lines were dropped across roadways or left hanging at dangerously low levels. Bellevue received sustained winds of approximately 50 mph, with gusts approaching 70 mph. Fallen trees, flooding, and downed power lines closed numerous arterials and neighborhood streets. At times, traffic congestion made it difficult for emergency personnel, including power crews, to get to incident locations.

During the peak of the storm, an estimated 90 percent of Bellevue residents lost electrical power. Many Bellevue residents were without power for four to five days. Power failures left a majority of intersections without working traffic lights. All water reservoirs and pump stations and all wastewater pump stations also lost power. Most businesses were also without power and closed. Puget Sound Energy (PSE) reported that an unprecedented 40% of their transmission lines were damaged, and nearly half of their substations went offline.

In response to the forecasted storm, City staff in various departments met to review contingency plans and assure readiness for response. In addition to warnings provided by local media, emergency preparedness messages were posted on the City website before, during, and after the storm.

**Damage Estimate**

As provided to the Federal Emergency Management Agency (FEMA), the storm related costs incurred by the City of Bellevue for damage to public property and response and recovery efforts are currently estimated as follows:

Debris Clearance	\$1,327,590
Protective Measures	\$ 184,599
Road Systems	\$ 0
Water Control Facilities	\$ 0
Public Buildings & Equipment	\$ 121,523
Public Utilities	\$ 71,900
Parks/Other	\$ 154,935
<b>Total Public Storm Costs</b>	<b>\$1,860,547</b>

In addition to these potentially recoverable costs, 367 significant trees were lost throughout the City's park system with an estimated value of more than 1.5 million dollars.

On February 14, 2007, a Presidential Declaration was announced by the Federal Emergency Management Agency (FEMA) which will allow the City of Bellevue to seek partial reimbursement from the federal government for storm related costs.

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## **Call Volume**

During the peak of the storm and into the next day, citizen's calls to 911 overwhelmed the Communications Center. A total of 2,870 calls were answered between 4:00 p.m. December 14<sup>th</sup> and 10:00 a.m. December 15<sup>th</sup>. This is approximately seven times the normal volume.

The Utilities Department received 82 reports of flooding during the storm, including a mudslide on Coal Creek Parkway at Forest Drive, and 476 calls reporting downed trees and blocked streets in the days following the storm.

## **Storm Response Activity (by Department)**

City crews worked through the night Thursday and continued working all day Friday responding to calls for assistance with flooding, fallen trees and debris. This response activity continued for several days and was in addition to maintaining, as much as possible, response to regular business requests. Trained members of the Emergency Management Committee staffed the Emergency Operations Center (EOC) to support operations personnel in the field while Department Directors convened as the Emergency Operations Board (EOB) to address policy issues related to the City's storm response. Although City Departments had varying levels of involvement in the storm response, all departments were active in providing direct or supporting services to ensure the best possible service to Bellevue residents.

## **City Attorney's Office**

### **Emergency Response Role**

Under the Emergency Response Plan, the City Attorney's responsibilities include:

- Provide legal advice to City departments, the Emergency Operations Board, and the Emergency Management Committee as it pertains to disaster response and recovery.
- Review contracts for emergency work and procurement.
- Assist Emergency Preparedness Manager in preparing Proclamation of Local Emergency and other emergency ordinances and measures.
- Assist City Clerk in identification and preservation of essential department records.

### **Operational & Financial Data**

The City Attorney's Office incurred no additional departmental expenses during this storm event.

### **Response/Recovery Highlights**

The City Attorney's Office (CAO) encompasses both Legal and Risk Management. The City Attorney and Deputy City Attorney attended EOB and other meetings and consulted, along with other attorneys in the office, on legal issues arising out of the response to the storm, such as overtime issues, liability questions and contracting procedures in emergency situations. The CAO also drafted emergency declarations and other associated legislation.

Risk Management fielded many calls from the public on issues associated with liability for City trees coming down on private property, concerns with dangerous trees or City contractors not taking care of dangerous trees by the roadways, and requests for claim forms due to urban flooding or sewer back-ups. Claim forms have been sent to citizens associated with these issues.

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At the request of the Emergency Operations Center, Risk Management created a card for field workers to provide to citizens to address weather-related property damage and weather-related emergencies. The card provided citizens with direct telephone numbers of Risk Management staff which enabled field crews to concentrate on clearing roads rather than entering into long discussions with property owners.

The Risk Management Office has been working with the Finance Department and the City's broker to notify our property insurance carriers of claims regarding damage the City sustained in the windstorm, and to obtain all invoices, contracts, and payroll information to provide to our insurers as part of these claims.

### **Lessons Learned**

- More of our attorneys need to become familiar with the City's Emergency Operations Procedures.
- Additional guidelines are needed in the City's contracting policies to address emergency contracts to eliminate the need for a new legal analysis for each situation.
- Field crews need pre-printed cards to provide to residents needing contact names and numbers to report weather-related damage or emergencies.

### **City Clerk's Office**

#### **Emergency Response Role**

Under the Emergency Response Plan, the City Clerk's responsibilities include:

- Coordinate with each City department and assist in the identification of essential department records that are necessary for the resumption of normal operations.
- Provide direction to City departments regarding the preservation of essential records and assist with planning to protect or recreate records.
- Document emergency related costs, activities and relevant information in EOC while activated.
- Maintain historical records of all local emergency proclamations.

#### **Operational & Financial Data**

The City Clerk's Office incurred no additional departmental expenses during this storm event.

#### **Response/Recovery Highlights**

The City Clerk's Office was tasked with communicating updates to City Council members on a regular basis throughout the storm recovery period. This was accomplished by a combination of email and telephone to work around power issues. Staff from the City Clerk's Office attended all EOB meetings and assisted the CMO with internal and external communications.

### **Lessons Learned**

- Departments needing additional support should request help from other City departments to augment their staff.
- Use multiple technologies, as needed, to ensure that appropriate staff are notified of EOC activations.

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### **City Manager's Office**

#### **Emergency Response Role**

Under the Emergency Response Plan, the City Manager's responsibilities include:

- Provide overall direction and control of emergency operations as the City's Director of Emergency Services and Chair of the Emergency Operations Board.
- Perform the duties of the Mayor Pro Tem in his/her absence.
- Request assistance, when necessary, from King County Office of Emergency Management, Washington State Emergency Management, and the Federal Emergency Management Agency (FEMA) through the Emergency Preparedness Manager.
- Provide for emergency preparedness, mitigation, response and recovery activities to be carried out within the City.
- Appoint a Public Information Officer to coordinate preparation and dissemination of information to the public and the media.

#### **Operational & Financial Data**

The City Manager's Office incurred no additional departmental expenses during this storm event.

#### **Response/Recovery Highlights**

The City Manager's Office (CMO) began monitoring the storm situation on Thursday, December 14<sup>th</sup> and continued through Wednesday, December 27<sup>th</sup>. The primary roles of the CMO were to ensure that operating departments were coordinated in their preparation activities, to provide information to citizens and elected officials, and to provide leadership through the Emergency Operations Board.

City Manager Steve Sarkozy attended EOB meetings and made contingency plans for weekend staffing. The City Manager and Deputy City Manager continually monitored the current situation and stayed in close contact with the Mayor and Council. The CMO representative position in the EOC was established and staffed during operational hours. This representative assisted with customer service calls and identification of future sheltering locations. Most customer service calls involved PSE power outages. In all, the calls totaled about 100 customer interactions for the CMO. Power outage information was directly conveyed to PSE via email. The City Manager and Deputy City Manager also worked on a debris management plan, traffic-light issues, and a variety of other items.

The City's Communications Director worked with staff from Police, Fire, Transportation, Utilities and Parks departments and with the EOC to coordinate citywide communications. The Communications Director also worked with the Mayor to send out several disaster-related emails to a large list of neighborhood, business, and non-profit organization contacts. Staff in the EOC participated in daily briefings; news releases and information relating to road closures, public safety, emergency shelter operations, and debris removal. This information was simultaneously posted on the city's website and sent to the media and employees.

#### **Lessons Learned**

- Citizens, while sometimes upset, seemed to appreciate having people at the City that could listen and help wherever possible.

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- CMO preparedness – we need to reevaluate our staffing around basic preparedness activities to ensure that we are fully ready to respond when needed.
- Distinction between roles of the EOC and EOB must be made clear. There was confusion at times, with the EOB stepping into operational decisions during this event when its true role is to make policy decisions.
- Need to develop more systematic communications strategies for education and outreach efforts for non-English speaking populations.
- Need to clarify citywide communications staff reporting structure to Communications Director to ensure adequate communications coverage.

### **Civic Services**

#### **Emergency Response Role**

Civic Services' responsibilities are not currently outlined under the Emergency Response Plan. The role served by the Civic Services Department includes a variety of functions to support facilities, equipment, and other departments in the City.

#### **Operational & Financial Data**

Non-exempt Civic Services staff worked a total of 82.25 overtime hours.

Overtime costs	\$ 3,272
Fuel, Supplies, and contracted labor costs	\$ 7,872
Damaged property at BSC	<u>\$ 1,248</u>
<b>Total Civic Services costs supporting the storm recovery</b>	<b>\$12,392</b>

Calls to Service First increased 24% during the storm event.

#### **Response/Recovery Highlights**

A total of 21 Civic Services staff (non-exempt & exempt) supported the windstorm response/recovery effort, this included ongoing support to the EOC. Facilities staff responded to 34 incidents including debris and water clean up, and resolved emergency power issues at multiple city locations. Service First staff assisted the public via phone, email and in person with inquiries related to power status, city services and shelter locations.

Civic Services provided support to the Fire Department by installing a temporary generator at Fire Station 1 and assisting with traffic control near downed power lines. The Parks Department was provided with generator information and shelter support. Three generators were loaned to Transportation for traffic signal operations and generator preventive maintenance was provided for the Fire Department and Utilities Department.

#### **Lessons Learned**

- Non-English speaking residents were difficult to reach with critical information.
- The American Red Cross may not be able to provide the level of assistance we expect during a widespread disaster.
- An evaluation of City Hall is needed to determine its potential use as an emergency shelter site.
- Service First can be very effective as front-line message takers.

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## **Finance**

### **Emergency Response Role**

Under the Emergency Response Plan, the Finance Department's responsibilities include:

- Assist other departments with the compilation of disaster-related financial information.
- Assist in identifying sources of disaster funds if departmental budgets are exceeded.
- Coordinate disaster-related purchases and expenditures.
- Review emergency contracts for City liability considerations.

### **Operational & Financial Data**

Overtime and storm related costs for the Finance Department totaled approximately \$5,000.

### **Response/Recovery Highlights**

The Finance Department had staff on duty at the Emergency Operations Center during the weekend of 12/16 – 12/17/2006. Approximately 35 staff hours were spent in the EOC and attending meetings the week following the event. Accounting staff and management spent an additional 76 staff hours conducting meetings to complete the Preliminary Damage Assessment Report (PDA) and formulate the cost reports for purposes of FEMA reimbursement. Staff worked a total of 31 hours of "non-compensated overtime" (exempt employees) during the storm event.

Due to the City's large dollar loss from storm damage, the Finance Department was identified as the lead department to prepare the application for disaster reimbursement funds. Finance has already completed an extensive PDA as required by the Federal Emergency Management Agency (FEMA). The Finance Department will also act as the "Applicant Agent" for the City of Bellevue to coordinate the collection of all required data, documentation, and completion of forms required to apply for disaster relief funds from the federal government.

### **Lessons Learned**

- Accurate detailed recordkeeping will prove to be essential to maximize cost recovery.
- Additional personnel from Finance should attend training to enable deployment as the Finance representative to the EOC.

## **Fire**

### **Emergency Response Role**

Under the Emergency Response Plan, the Fire Department's responsibilities include:

- Provide command and control for field operations through established Command Posts.
- Provide fire suppression services.
- Provide hazardous materials incident response and radiological monitoring.
- Provide direction and control for search and rescue activities.
- Provide light and limited heavy rescue.
- Provide emergency medical services with limited transportation to hospitals.
- Participate in initial citywide damage assessment as appropriate, including assessment of department facilities.

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**Operational & Financial Data**

The Suppression and Rescue Division experienced a significant increase in demand for services for five (5) continuous days before returning to normal. Personnel were called-in Thursday through Saturday to staff additional response units. 911 call volume is detailed below:

	Avg Day	Wed 12/13	Thurs 12/14	Fri 12/15	Sat 12/16	Sun 12/17
EMS	40	34	75	75	68	53
Fire	10	17	63	84	79	44
Hazmat	1	2	3	5	4	1
Storm	0	19	190	40	10	4
<b>Total</b>	<b>51</b>	<b>72</b>	<b>331</b>	<b>204</b>	<b>161</b>	<b>102</b>

**RESPONSE AND RECOVERY COSTS:**

- Overtime and emergency vehicle operating costs \$ 47,600
- Removal debris and trees 15,000
- Emergency repair and rental replacement of emergency generators 12,000
- Repair damaged fences, vehicles and fire station roofs (fallen trees) 38,150
- Total Costs \$100,750**

**Response/Recovery Highlights**

Fire Chief Mario Treviño attended all Emergency Operations Board meetings and along with other senior staff, provided planning and overall direction for the Fire Department’s response. The Emergency Medical Services Division assisted King County’s efforts to establish an eastside medical shelter while teams of Fire Prevention officers responded to citizen welfare checks. Administrative staff answered non-emergency, business phone lines on Friday and Saturday to assist citizens in need of information when a call to 911 wasn’t appropriate.

The Fire Command Center was staffed by the Operations Deputy Chief and Battalion Chiefs the night of the storm and through the following day. Resource Emergency protocols were utilized to prioritize calls and maximize use of available resources. In addition to regular emergency medical calls, the majority of calls were for flooding, fallen trees on structures and vehicles, reported fires, and downed live electrical lines. On many emergency responses, crews were required to use chain saws to clear trees to gain access to incidents. In addition to responses to requests for service from citizens via calling 911, during the five days of increased demand, Fire Department personnel responded to 215 “unofficial” welfare checks. These welfare checks included: cutting trees blocking driveways, vehicles, and homes; safety assessments; and Red Cross referrals.

There were two structure fires in Bellevue on December 16<sup>th</sup>, neither resulted in injuries to citizens or fire department personnel. The Fire Department also committed several resources via our automatic aid/mutual aid agreements, to Eastside Fire and Rescue on 12/15 to combat a structure fire.

The Emergency Preparedness Manager staffed the EOC throughout the night of the storm until it was fully activated Friday morning, December 15<sup>th</sup>. The Emergency Preparedness Division provided management of the EOC. During the height of the storm response, over 40 city staff were working in the EOC to maximize service delivery to the citizens of Bellevue. The EOC also worked with a host of public and private agencies to enhance response and recovery efforts.

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**Lessons Learned**

- A high wind response policy will be considered – when to house crews safely and respond to emergencies only.
- “Resource Emergency” operation procedures should be reviewed and practiced by Captains who may need to fill-in for a Battalion Chief.
- Emergency station generators should be modified to easily plug into a rental unit.
- Station generator maintenance plan should be upgraded.
- Additional public education needs to occur regarding carbon monoxide hazards.
- Additional emergency preparedness education needs to occur for the non-English speaking population.
- Identify and train back up staff to serve in the EOC during protracted events.

**Human Resources**

**Emergency Response Role**

Under the Emergency Response Plan, the Human Resources Department’s responsibilities include:

- Develop plans for employee notification and support during disaster activities.
- Assist in the development of plans for emergency feeding and shelter for City staff during disaster activities.
- Develop procedures and coordinate the registration of temporary emergency workers and volunteers on behalf of the Emergency Preparedness Division.

**Operational & Financial Data**

Employee volunteers worked a total of 94 hours at the Highland Center Shelter. The total value of hours worked by volunteer employees at that shelter was \$2,732. Overtime compensation paid to non-exempt employees totaled \$954.

Employee volunteers worked a total of 724 hours at the North Bellevue Community Center Shelter. The total value of hours worked by volunteer employees at that shelter was \$22,824. Overtime compensation paid to non-exempt employees totaled \$5,232.

**Response/Recovery Highlights**

The priority task for Human Resources personnel during this event was organizing and scheduling staff for shelter management. This was an involved process requiring recruitment of employee volunteers, setting shift schedules, and verifying appropriate staffing levels for each shelter. A total of 126 emergency shelter shifts required staffing. These shifts were covered by approximately 97 employees, from all eleven departments. Twenty-one employees worked more than one shift. Three City Council members also volunteered at emergency shelters.

Beginning the morning of December 15<sup>th</sup>, the Human Resources position in the EOC was staffed.

**Lessons Learned**

- Staffing shelters for extended periods will require additional planning.
- Shelter volunteers must be trained and pass background checks prior to any event.

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## **Information Technology**

### **Emergency Response Role**

Under the Emergency Response Plan, Information Technology Department responsibilities include:

- Provide City departments with guidance and direction for the protection of computer hardware, software, data and City telephone systems.
- Coordinate the recovery operations of the City's computer and telephone systems following disaster situations.
- Provide telecommunications and computer support to the Emergency Operations Center.
- Provide liaison for coordination with telephone service providers for the re-establishment of telephone service to the City government.

### **Operational & Financial Data**

Information Technology personnel worked a total of 27 hours of overtime during the storm event at a cost of \$946.

### **Response/Recovery Highlights**

The windstorm was a relatively minor event for ITD as far as impacts to supported systems. ITD provided EOC representation as well as technical support for several days after the storm. Staff worked 12 hour rotating shifts including several overnight shifts.

Data centers in City Hall and at the BSC remained functional during and after the storm. The power infrastructure at both sites including UPS (Uninterrupted Power Supply) and Generator systems performed exceptionally well.

Due to service coverage outages in the Cingular network, many of the City's Treos (smartphones with e-mail and calendar capabilities) were not fully functional. ITD acquired and set up 12 new Verizon Treo's for key staff who needed immediate cell phone capability to coordinate response activities.

ITD technicians monitored City remote sites to ensure that those with generator power were up and running (communicating) properly. For those sites where power was lost and no UPS or generator power was available, equipment was monitored to ensure that when power did come up systems ran properly. In a few cases, ITD technicians were dispatched to remote locations to reset equipment where power was lost and then came back up.

### **Lessons Learned**

- Evaluate undergrounding the aerial fiber connecting BSC and City Hall to ensure critical systems remain functional during emergency events.
- Require all future support contracts (e.g. Cingular) have adequate Service Level Agreement language to ensure reliable communications.

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**Parks**

**Emergency Response Role**

Under the Emergency Response Plan, Parks Department responsibilities include:

- Develop plans for and coordinate the utilization of City facilities for temporary emergency shelters.
- Coordinate the use of City parks for staging areas for disaster operations, mass care and temporary housing.
- Provide support to Transportation and Utilities in debris removal, traffic control, road closures and protection of property.
- Develop plans and provide limited temporary shelter for "special needs" individuals.
- Develop plans and coordinate volunteer groups to assist "special needs" individuals in their homes.
- Provide initial damage assessment, emergency repairs and reconstruction for general City facilities.
- Develop emergency and evacuation plans for general City facilities.

**Operational & Financial Data**

In cooperation with the American Red Cross, the City of Bellevue sheltered 200 citizens overnight between December 15th and December 21st and provided more than 1,355 meals during that time period. Working alongside City Council members, 125 City of Bellevue employees volunteered to work at least one shift in emergency shelters. In all, over 1,082 extra hours were worked over and above regular work shifts.

The following is the most current storm response and recovery costs for the Bellevue Parks System:

Property Damage	\$ 145,500
Debris Removal	\$ 334,294
Dangerous Tree Removal	\$ 62,500
Shelter Costs	\$ 31,277
Parks Department Overtime	\$ 3,000
367 Trees Lost to Windstorm	\$1,500,000

**Response/Recovery Highlights**

Parks Department personnel provided several essential services during the windstorm event. One half of available Resource Management staff assisted the Utilities Department with clearing trees from streets. Parks staff supported emergency shelter set-up, operations and materials deliveries. Safety inspections of parks and buildings were conducted to ensure public safety and the Parks position in the EOC was staffed.

The Parks Department Command Center was activated at 5:30 a.m. The center operated on generator power for seven days. Command Center phones were down for three days, but 800 MHz radios worked well for communications.

Emergency shelter locations were determined in part by availability of electrical power although emergency generator power worked flawlessly at the North Bellevue Community Center. Parks Department Personnel, with the assistance of employee volunteers, worked with the American

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Red Cross to establish and operate shelters at North Bellevue Community Center, Bellevue High School, and Highland Center. A special-needs shelter was also operated by King County Department of Health at Bellevue Community College.

**Lessons Learned**

- Staffing shelters proved to be a challenge and would certainly become an issue in a more extended incident.
- Keeping radio batteries charged and purchasing additional batteries and radios for back up will be essential for future occurrences.
- Sandwich board signs should be developed in cooperation with the ARC to announce shelter information.
- A plan is needed to include more staff from all City Departments in long term sheltering operations.
- A plan to install permanent, dedicated generators at other community centers should be developed.

**Planning and Community Development**

**Emergency Response Role**

Under the Emergency Response Plan, Planning and Community Development’s responsibilities include:

- Coordinate and compile initial damage assessment and safety evaluation of essential citywide facilities.
- Determine building safety and recommend evacuation as appropriate.
- Provide expertise and recommendation for reconstruction, demolition and structural mitigation during recovery period.
- Provide streamlined permit process for disaster recovery efforts.
- Provide field communications support through existing communications equipment when requested.
- Provide support to the Fire Department in the safety evaluation of structures during rescue operations.

**Operational & Financial Data**

Repair permitting began the week of Monday, December 18, and permits were offered free of charge other than a \$4.50 mandatory State fee. 59 repair permits have been issued, which equates to approximately \$34,000 of waived fees.

By January 3, the following number of assessments had been completed:

Damage Assessment Requests:	73
Buildings Posted Green (Minor Damage):	22
Buildings Posted Yellow (Minor to Major):	36
Buildings Posted Red (Major/Danger):	5
Misc. Inspection Requests:	9

PCD’s total overtime expenditures for non-exempt staff responding to the windstorm were \$1,067.



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### **Response/Recovery Highlights**

The Police Department priorities during the windstorm were life safety, incident stabilization and property preservation. The officers and professional staff worked long hours to ensure our community remained safe under these extreme weather conditions. The Police position in the EOC was staffed throughout the event. It is noteworthy that there were no fatalities associated with the storm; crime directly associated with the storm was minimal; and there were no serious collisions resulting from the storm.

Police conducted emphasis patrol in areas without power, conducted welfare checks, and handed out safety information to non-English speaking residents. Officers on patrol located downed power lines and stood by until the lines could be barricaded. When downed trees or damaged structures were found, officers reported the information to the EOC. Officers assisted the American Red Cross by identifying schools with power for possible shelter sites. Security was provided at opened shelters and gasoline stations. Officers provided traffic control at gasoline stations, busy intersections, and at a mudslide on Coal Creek Parkway at Forest Drive for over five hours.

### **Lessons Learned**

- Staff should be directed to fuel their personal and city vehicles prior to any storm.
- Community education is needed to treat dark traffic signals as all-way stops.
- The community should be directed to stay home during an event of this magnitude so emergency vehicles, PSE, fuel trucks, etc. can respond.

## **Transportation**

### **Emergency Response Role**

Under the Emergency Response Plan, the Transportation Department's responsibilities include:

- Provide damage assessment and emergency repairs for transportation facilities restoration (signals and streetlights).
- Provide assessment of transportation routes, identify alternate routes and provide temporary traffic control measures/devices and operational control of traffic signals.
- Provide support to citywide evacuation planning and assist in evacuation efforts as appropriate.
- Provide engineering and architectural services for transportation facility infrastructure (roads, bridges, retaining walls, sidewalks) including expertise and recommendations for reconstruction, demolition and mitigation during recovery period.
- Coordinate with private utilities the restoration of private utilities to critical and essential facilities.

### **Operational & Financial Data**

Due to the widespread power outages within Bellevue, the traffic signal system was particularly hard hit. At one point, only 33 of 177 signalized intersections in Bellevue were operational (80% of Bellevue's traffic signals were without power at one point).

Tracking of field assessments in our Command Center continued throughout the weekend and resulted in approximately 180 logged incidents.

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275 overtime hours were worked specific to the event at a cost of \$14,000. This does not take into account the numerous hours where staff was redirected to event activities instead of their normal work duties.

### **Response/Recovery Highlights**

Transportation responded to the event in the early morning hours of December 15th both in terms of office and field personnel. At the peak of the event on December 15th, 36 office personnel and 22 field personnel from Transportation were working this event. Our main role during the first few days of the event was to determine the integrity of the transportation system, develop an action plan to respond to system integrity issues, and implementation of that action plan in priority order.

Activation of the Transportation Command Center occurred at 7:30 a.m. on December 15th. Assessing the extent of damaged trees that compromised the roadway network was begun early. This included both trees that had fallen and physically blocked the road as well as identifying trees that were potential safety hazards to motorists and pedestrians. This assessment was done starting with the arterial system and working through to the neighborhood streets.

A map based system was used to document the extent of damage to the transportation system and included information from Transportation's field crews, Utilities Streets division, other city departments and private citizen calls.

Due to the extent of tree damage, three private contractors, currently under contract for CIP projects, were used to assist with clearing of trees from the transportation system. This included only those trees that were not tangled in power lines.

To provide for efficient traffic flow through some critical intersections, 10 generators were purchased to provide power to operate the traffic signals. Security personnel were hired through the nighttime hours to ensure the security of generators used to operate traffic signals. Even one week after the windstorm event, a few intersections were still being operated on generator power.

### **Lessons Learned**

- Downloading of pictures onto a shared drive helped those who could not get out into the field see the extent of the damage.
- Mapping/log sheets and forms need to be revised to be more user-friendly given the pace of information coming into our Command Center.
- Department SOPs need to be updated.
- Training to set up the Department's 7<sup>th</sup> floor Command Center needs to occur and resources need to be ordered (white boards, wall maps, communication equipment, etc.)
- A better communications tool is needed to ensure a scheduled flow of staff are available to work the event.
- Some field staff did not have adequate communication equipment.
- Roles and responsibilities during emergency events need to be better defined between Streets and Transportation.
- Consider purchase of additional generators to operate traffic signals.

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**Utilities**

**Emergency Response Role**

Under the Emergency Response Plan, the Utilities Department's responsibilities include:

- Provide damage assessment, debris removal, emergency protective measures, emergency and temporary repairs and/or construction for water, wastewater, streets, and surface water infrastructure.
- Provide debris clearance in the right of way and coordinate citywide debris and solid waste pickup with the department's solid waste disposal contractor.
- Provide light and heavy equipment and supplies.
- Perform or contract for major recovery work as appropriate.
- Coordinate and prioritize public utility restoration.
- Provide engineering services for water, wastewater, and surface water infrastructure.
- Provide field communications support through existing communications equipment.
- Provide damage assessment and emergency repairs for City-owned vehicles and field communications equipment.
- Provide expertise and recommendation for reconstruction, demolition, and mitigation during recovery period.

**Operational & Financial Data**

Personnel responded to over 476 customer reports of down trees, street blockages and localized flooding. This is in addition to issues unreported but discovered by crews in the field.

Utilities costs for response and recovery from the wind storm include 3,721 regular hours of labor (not FEMA eligible) and 4,008 hours of overtime labor (FEMA eligible), fuel, supplies and repairs to damaged systems and facilities. Costs to date project as follows:

Debris Removal (FEMA Eligible, inc. OT labor):	\$151,500
Damage Prevention & Mitigation (FEMA Eligible, inc. OT labor):	\$181,079
Utilities System Damage Repairs (FEMA Eligible, inc. OT labor):	\$41,500
Regular Staff Labor (Not FEMA Eligible):	\$72,000
Pacific Topsoils Residential Contract (FEMA Eligible):	\$32,000
<u>Pacific Topsoils Debris Disposal Contract (FEMA Eligible):</u>	<u>\$34,500</u>
<b>TOTAL PROJECTED COST:</b>	<b>\$512,579</b>

\* Note: the \$580,000 contract with Davey Tree Service for debris clearing and transport to Bannerwood Park is not included in these costs (FEMA eligible). This was managed by the Transportation Department.

**Response/Recovery Highlights**

Storm Drainage crews conducted field recon of areas prone to flooding on December 13<sup>th</sup> and 14<sup>th</sup> to ensure catch basins were not clogged. Utilities Command and Dispatch Centers were prepared at the BSC prior to the storm. 12-hour crew shifts were scheduled 24/7 for Streets & Storm Drainage for response to expected flooding and street blockages beginning December 14<sup>th</sup>. Standby and staff availability were established and verified for Water & Wastewater crews for anticipated power outages. Vehicles and equipment were fueled, prepared and loaded;

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facilities and supplies were checked. Emergency Preparedness was notified of Utilities preparations and readiness and provided contacts in case the EOC was activated. EOB and EOC representatives were also notified.

All reported street blockages, including the mudslide blocking Coal Creek Parkway, were cleared and opened within 8 hrs of notification except where downed wires were involved. Private property owners were assisted with dangerous trees. Crews also provided barricades to intersections for Police & Transportation upon request.

Utilities personnel maintained 100% uninterrupted water and wastewater system operations and services despite loss of power to all water reservoirs and water and wastewater pump stations. Only 6 of 48 water and 13 of 45 wastewater sites were back on power by December 18<sup>th</sup>. Power to all stations was not restored until December 23<sup>rd</sup>. This required rotating crews to water reservoirs and pump stations for manual, on-site operations to maintain service and rotation of mobile emergency generators which required regular refueling. Emergency back-up batteries for telemetry systems were also continually rotated and re-charged. In addition, the Hilltop and Trails End communities were assisted with emergency water supply interconnections.

Fleet distributed fuel for several City generators, fuel was also supplied to Overlake Hospital. Generator repairs were made to generators at Fire Stations 1 and 3, a private assisted living center, a water system generator at Horizon View 3, and a wastewater system generator on West Lake Sammamish Parkway.

### **Lessons Learned**

- Traffic impacts to response operations can be crippling – Police escorts for diesel fuel deliveries were crucial to maintaining water and wastewater services.
- Teaming of Water & Wastewater personnel in fueling trucks and performing battery maintenance increased efficiency.
- More cross-training between Water & Wastewater staff for emergency operations could provide for greater flexibility and improve response effectiveness.
- Standards for fixed and mobile emergency generators should be established city-wide to increase flexibility and effectiveness of response.

## **Overall Lessons Learned**

### **PUBLIC INFORMATION ISSUES**

- Continued work is needed to improve communication with non-English speaking residents and with community and faith-based groups which serve diverse populations.
- The emergency communications plan should include multiple mechanisms to reach the community when electrical power is out.

### **INFRASTRUCTURE AND EQUIPMENT ISSUES**

- Consider installation of permanent, dedicated generators at all community centers.
- Strategically review deployment and operation of generators to City facilities.
- Review fuel capacity and needs relative to City and critical community facilities' vehicle and generator needs.

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**OPERATIONAL ISSUES**

- Utilize Service First staff as front-line message takers and to relay answers back to citizens.
- Continue working with King County on response to vulnerable populations project.
- Continue to deploy portable generators to major intersections to power traffic signals.
- Review possibility of PCD inspecting residential and business care facilities to ensure there are working generators.
- Evaluate earlier EOC activation prior to forecasted events to conduct planning and preparation efforts.
- Consider the need to establish and operate a Joint Information Center with other jurisdictions when responding to a regional event/emergency.

**Policy Issues**

- Develop policy on City staff working at shelters and how that affects their normal/emergency work shift and compensation.
- Prepare list of non-essential personnel from each department who can be reassigned to critical roles such as shelter staff – set policy for reassignment during emergencies.
- Explore potential for expanding emergency fuel and generator capacity via enhanced mutual aid agreements with the School District, Overlake Hospital, etc.
- Should nursing homes be on our list for assistance when they are on emergency power? If they run out of power because a generator runs out of fuel, it has a ripple-effect on the entire public health system.
- Consider providing childcare services for staff called in for emergency events.
- Should critical facilities such as gasoline stations and grocery stores be required to have emergency generators?
- Should a tree trimming/removal program be instituted to protect power lines?
- Consider policy to identify intersections where generators should be used to operate traffic signals.
- Consider policy requiring undergrounding of specific electrical lines.
- Consider additional funding to expand delivery of emergency preparedness training such as SPAN (Strengthening Preparedness Among Neighbors) and CERT (Community Emergency Response Teams).

**Next Steps**

**ONGOING EFFORTS TO ASSIST CITIZEN RECOVERY**

- City storm recovery activities continue to be prominently featured on the City's website and news releases developed and distributed to media:
  - city debris removal efforts
  - expedited permit process for homeowners
  - home repair program
- "It's Your City" newsletter will feature a series of stories on storm recovery activities.
- "It's Your City" (the Television show) will run a story on the City's storm response in February.

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- BTV Public Service message was developed to announce the Home Repair Program.

### **PUBLIC EDUCATION AND PREPAREDNESS**

- Continue to educate the community on ways to prepare for at least three days without government assistance.
- Basic preparedness training will continue to be offered through the Emergency Preparedness Division:
  - Strengthening Preparedness Among Neighbors (SPAN) presentation was conducted 2/7/2007 at City Hall. A second session is scheduled for 3/14/2007.
  - Basic Preparedness event is scheduled for 2/28/2007 at Crossroads Mall.
- Emergency Preparedness page on City website will continue to provide preparedness information and resources.

### **CITY STAFF EDUCATION AND PREPAREDNESS**

- Identify and train staff who need additional Incident Command System training.
- Identify and train additional back-up personnel to function in EOC for extended events.
- Continue to provide staff preparedness training/information to ensure that employees are ready to respond when needed and employees families and homes are prepared.
- Direct staff to fuel their personal and city vehicles prior to any storm related event.

### **REPORTS/REVIEWS**

- City Council debrief
- Emergency Management Committee debrief and critique
- Leadership Team debrief and critique
- Puget Sound Energy and Overlake Hospital debrief
- FEMA Preliminary Damage Assessment Report
- Comprehensive written report to the City Council

### **PUGET SOUND ENERGY ISSUES**

PSE has launched an effort to independently review their performance during the storm and take lessons learned to improve their performance during the next storm event. PSE expects this review process to take several months. As a part of this effort, City of Bellevue staff attended a storm debrief meeting chaired by Fire Chief Mario Treviño. The meeting included Deputy City Manager Brad Miyake, several department directors, Dr. Steve Marshall from Overlake Hospital, and several representatives from PSE. A host of functions from communications and training to operating procedures and system investment planning were reviewed during the meeting. PSE has committed to modifying procedures and/or making necessary investments in infrastructure if the results of the review show that these changes or investments are merited.

- Explore possibility with PSE to create a map that updates power outages
- Explore feasibility of PSE using their Automatic Meter Reading system (AMR) to provide better outage information.
- Develop critical city facilities list for rapid assessment after emergencies and notification to PSE for priority power restoration – as needed.
- Explore cost and feasibility of moving specific electrical lines from the current overhead configuration to underground.
- Review options for providing electrical supply redundancy to critical facilities.