

SECTION 5.3 PUBLIC SERVICES AND UTILITIES

(WAC 463-42-382)

This section describes the existing conditions of local public services and utilities within one mile of the proposed Cross Cascade Pipeline centerline, the relationship or impact of the project on these services and utilities, and proposed mitigation measures to lessen or eliminate identified impacts. Public services and utilities reviewed include the following:

- Fire
- Police
- Emergency Medical Services
- Schools
- Parks and Recreation Facilities
- Maintenance
- Communications
- Water
- Storm Water
- Sewer
- Solid Waste

5.3.1 EXISTING CONDITIONS

5.3.1.1 Fire

The proposed Cross Cascade Pipeline route is 231 miles long, and crosses the counties of Snohomish, King, Kittitas, Grant, Adams, and Franklin. Large sections of the route cross unpopulated or sparsely populated rural areas. Fire protection in unincorporated rural areas is provided by County Fire Protection Districts (FPDs). Municipal fire departments provide protection for the various communities along the route. Most of the county FPDs are volunteer districts with limited manpower and equipment. They generally can provide, at most, adequate fire protection to residential, commercial, and farm structures. The municipal fire departments generally possess paid full-time fire fighting professionals and larger, more sophisticated fire fighting equipment arsenals. Table 5.3-1 lists protection class ratings for fire districts and departments along the proposed route.

**TABLE 5.3-1
FIRE DISTRICTS/DEPARTMENTS IN THE PROJECT VICINITY^(a)**

County	Fire District/Department	Personnel Status^(b)	Protection Class^(c)
Snohomish	Bothell Fire Department	<u>P</u>	4/7
	Snohomish County FPD #1 - Alderwood Manor	<u>C</u>	4/7
	Snohomish County FPD #3 - Monroe	<u>C</u>	>8/9
	Snohomish County FPD #7 - Clearview	<u>C</u>	>5/7
King	North Bend Fire Department	<u>C</u>	5/7
	Snoqualmie Fire Department	<u>C</u>	6/9
	King County FPD #10 - Issaquah/Carnation	<u>C</u>	5/7
	King County FPD #27 - Fall City	<u>C</u>	6/9
	King County FPD #38 - North Bend	<u>C</u>	6/9
	King County FPD #45 - Duvall	<u>C</u>	>5/7
	King County FPD #51 - Snoqualmie Pass	<u>V</u>	8/9
Kittitas	Ellensburg Fire Department	<u>C</u>	4/7
	Kittitas Fire Department	<u>V</u>	6/9
	Kittitas County FPD #1 - Thorp	<u>V</u>	6/9
	Kittitas County FPD #2 - Ellensburg	<u>C</u>	8/9
	Kittitas County FPD #3 - Easton	<u>V</u>	8/9
	Kittitas County FPD #4 - Vantage	<u>V</u>	8/9
	Kittitas County FPD #6 - Lake Cle Elum	<u>V</u>	8/9
	Kittitas County FPD #7 - South Cle Elum	<u>V</u>	>8/9
	Kittitas County FPD #8 - Lake Kachess	<u>V</u>	9
Grant	Grant County FPD #8 - Mattawa	<u>V</u>	8/9
	Grant County FPD #10 - Royal City	<u>V</u>	8/9
	Grant County FPD #11 - East Royal Slope	<u>V</u>	9
Adams	Adams County FPD #5 - Othello	<u>C</u>	>8/9
Franklin	Pasco Fire Department	<u>P</u>	5/7
	Franklin County FPD #3 - Pasco	<u>C</u>	>7/9
	Franklin County FPD #4 - Basin City	<u>V</u>	8/9

^(a) Data from personal communications with individual department fire chiefs and from the Washington State Fire Service Directory (1993).

(b) P = All Full-Time Paid; V = All Volunteer; C = Combination of Full-Time Paid and Volunteer.
(c) As rated by the Washington Surveying and Rating Bureau (1995). Fire district protection class ratings are used to evaluate fire protection availability for insurance purposes and are assessed to all municipal and rural areas by the Washington Surveying and Rating Bureau. Ratings range from 1 to 10, with class 1 representing the highest level of fire protection and class 10 the lowest level. A class 1 rating is rarely achieved. Ratings are based on four elements: the available water supply; the logistical characteristics and makeup of the district fire department; the available communications systems; and finally the fire control/safety measures taken and ordinances in effect in the particular fire district. Adequacy of fire protection indicated by a protection class rating is dependent upon the types of areas being rated. A rating of 8 or 9 is typical for a rural area. This low rating is usually due to the fact that standard fire hydrant service, required in more urban areas, is not available, and rural volunteer fire departments do not have full-time staff or formally equipped fire stations and facilities. The situation is further aggravated by access problems and reliance on volunteers who often must travel long distances to respond to calls. These factors lead to long response times and limited fire fighting ability. A rating of 8 or above, however, does not necessarily mean that fire protection is inadequate. It indicates that according to the standards of fire protection services, set up primarily for municipalities, an area is lacking in some conventional means of fire protection. Where two classifications are listed (e.g., 6/9) the following is applied: A) For Dwelling Properties the first number applies and the second number is disregarded; B) For Other Properties, (1) The first classification listed applies to properties within 600 feet of a standard fire hydrant and within 5 road miles of a recognized fire station, and (2) The second classification applies to properties located over 600 feet from a standard fire hydrant, but not over 5 road miles from a recognized fire station; C) For All Class Rated Properties (i.e., Dwellings and Other Properties), (1) Where a single Class 9 is listed, (a) Class 9 applies to properties not over 5 road miles from a recognized fire station, and (b) Class 10 applies to all other properties, (2) If the classification of an area is not listed, Class 10 applies. The symbol > indicates the existence of an Approved Tanker Operation (Dwelling Properties only).

Due to the location of the Kittitas Terminal near the City of Kittitas, specific information concerning fire response capabilities was collected from the three fire districts in the vicinity of the terminal: Kittitas Fire Department, the Ellensburg Fire Department, and the Kittitas County Fire District No. 2. Table 5.3-2 provides a summary of the information.

**TABLE 5.3-2
FIRE DISTRICTS/DEPARTMENTS IN THE KITTITAS TERMINAL VICINITY**

	Agencies		
	Kittitas Fire Department	Ellensburg Fire Department	Kittitas County Fire District No. 2
Number of Fire Stations	1	1	10
Number of Personnel	13	16 firefighters, 15 part-paid firefighters, two chiefs, two clerical staff	3 paid firefighters, 1 paid fire chief, 1 paid secretary, 6 resident volunteer firefighters, 85 volunteer firefighters
Number of Personnel Typically On Duty or On Call	1	One 5-person shift with the supervisory staff available. Off-duty personnel and part-aid staff are available for call back.	1 paid firefighter on duty, 1 paid firefighter on-call, 2 resident volunteers, 1 fire chief (on duty 8am-5pm, M-F and on call other hours), 85 volunteer firefighters.
Average Number of Calls Per Year	10 fire calls/30 aid calls; 2 to 3 mins. response time	279 fire calls and 1477 aid calls in 1996. No real seasonal peaks.	364 calls in 1996; Seasonal peaks - spring field burns, late summer harvest grass/brush

TABLE 5.3-2 (CONTINUED)
FIRE DISTRICTS/DEPARTMENTS IN THE KITTITAS TERMINAL VICINITY

	Agencies		
	Kittitas Fire Department	Ellensburg Fire Department	Kittitas County Fire District No. 2
and Average Response Times		Average fire response time of 6 mins.	fires, winter heating, fireplaces, woodstoves; Types of calls: Vehicle EMS - 60, Other EMS - 38, Mutual Aid - 43, Structure - 30, Vehicle Fires 30, Chimney - 11, Hazmat - 5, Hay/Grass - 97, Smoke Investig. - 24, Misc. - 26.
Number Of and Pumping Capacity of Trucks	1 pump, 1000 gpm, 1979 Ford	2 Class A 1500 GPM pumpers, 1 Class A 1250 GPM pumper, 1 100 foot aerial ladder with 1500 GPM pump.	10 1000 gal tank engines, all 750 gpm; 1 tender - 3000 gal tank with pump; 1 brush truck - 600 gal. tank, pump and foam equipped, 1 brush truck - 125 gal. tank with pump; District has signed a contract for purchase of a 1997 engine, 1000 gal. tank, 1250 GPM pump with CAFS (Compressed Air Foam System, Class A)
Major Types of Equipment Available, Including Those Needed to Fight Petroleum Fires	No equipment available	No other equipment available	District has a crawler cat with a clam shell bucket. If requested to provide protection to the terminal, the Fire District would request additional equipment either by mutual aid agreement, or by renting the equipment as needed. There is no major foam-capable equipment available in Kittitas County. County is getting a start in foam support by the purchase of a new engine. The foam system as ordered is not for oil type fires, but the appropriate system can be added to the contract for extra dollars.
How Units are Dispatched and Coordinated	911/pagers; KITTCOM Central Dispatch	All units dispatched by KITTCOM, KITTCOM is county-wide dispatch	Central Dispatch for entire county. Upon request by Dist. 2 command, we can have mutual aid departments dispatch through the dispatch center. This dispatch center is used for all emergency agencies and is manned 24 hours.
Current Staff, Truck and Other Needs	Needs help with a larger station	Currently in need of a unit to replace the 1250 GPM engine due to age/condition. Do not have any petroleum fire fighting equipment at this time other than a small amount of AFFF foam.	Equipment: Dist. 2 has a need for additional foam equipment for oil fires (Class B or Class A Triple F). Staff: No needs Stations: There is a need for an additional unmanned station near the site of the proposed terminal. This station could be a Dist. 2/City of Kittitas Station. The current Kittitas station is not an adequate facility - it cannot accommodate the newer equipment. The closest District pumper is in the City of Kittitas. Kittitas has only one pumper.

TABLE 5.3-2 (CONTINUED)
FIRE DISTRICTS/DEPARTMENTS IN THE KITTITAS TERMINAL VICINITY

	Agencies		
	Kittitas Fire Department	Ellensburg Fire Department	Kittitas County Fire District No. 2
			Kittitas has no paid staff. All Kittitas personnel are District volunteers, trained by District 2. District 2 responds to all major fires in the City of Kittitas under a mutual aid agreement.
Anticipated Additional Staff, Truck, Equipment, and Other Needs During Project Operation	Need to update trucks/equipment need more special petroleum firefighting equipment	Anticipate addition of 3-6 personnel to department within the next 5 to 10 years. If Ellensburg were to be responsible for the control of large petroleum fires, they would have to add the required specialized equipment. Due to the location of the terminal, they would not be the primary responding agency for fires. They would definitely be in line for mutual-aid.	Does not have any petroleum fire fighting equipment in the District, or in the county, to deal with any major fire, explosions, or spills.

Sources: Hink, R., Fire Chief, Kittitas Fire Department, personal communication, May 1997; Alder, S., Fire Chief, Ellensburg Fire Department, personal communication, May 1997; Baker, S., Fire Chief, Kittitas County Fire District No. 2, personal communication, May 1997.

5.3.1.2 Police

Police protection in unincorporated rural areas along the proposed Cross Cascade Pipeline route is provided by County Sheriff Departments and the Washington State Patrol. Municipal police departments provide protection for the various communities along the route. Table 5.3-3 shows current police department staffing levels for police departments along the proposed route.

TABLE 5.3-3
POLICE DEPARTMENT STAFFING LEVELS
IN THE PROJECT VICINITY^(a)

County/City	Population	Number of Commissioned Officers	Ratio of Officers to 1,000 Population ^(b)
Snohomish County	266,149 ^(c)	166	0.62
King County	643,976 ^(c)	629	0.98

Kittitas County	11,275 ^(c)	22	1.95
Grant County	62,000 ^(c)	37	0.60
Adams County	7,435 ^(c)	16	2.15
Franklin County	42,400 ^(c)	23	0.54
Snoqualmie	1,545	7	4.53
North Bend	(Contracts with King County Public Safety Department)		
Ellensburg	12,361	19	1.54
Kittitas	944	3	3.18
Pasco	21,645	44	2.03

- (a) Data from the Washington Association of Sheriffs and Police Chiefs (1995).
- (b) The Washington State average is 1.64.
- (c) These figures include unincorporated areas and contracted incorporated areas.

Table 5.3-4 provides specific information as to the police response capabilities of the four police departments in the vicinity of the Kittitas Terminal: Kittitas Police Department, Ellensburg Police Department, Kittitas County Sheriff's Office, and the Washington State Patrol, District 6.

**TABLE 5.3-4
POLICE DEPARTMENT STAFFING LEVELS
IN THE KITTITAS TERMINAL VICINITY**

	Agencies			
	Kittitas Police Department	Ellensburg Police Department	Kittitas County Sheriff's Office	Washington State Patrol, District 6
Number of Police Stations in District	4	[No response to written request for information.]	1	Detachment Office in Ellensburg, Commercial Vehicle Enforcement Detachment in Cle Elum
Number of Staff	1 supervisory position		2	2 First Line Supervisors (sergeants); 12 Available Line Troopers; 8 commercial vehicle enforcement officers and two supervisors
Average Number of Calls Per Year and Response Time	Approx. 900 calls per year, not including traffic stops		unknown	7000 calls for service (including accidents); Average response time is 20 mins.
Number of Patrol Vehicles and Officers Per Vehicle	Dept. has one car, each deputy has their own car		18 vehicles, 1 officer per vehicle	14 patrol cars, 1 officer per car
Other Types of Equipment Available for Emergency Response	Local fire departments		SAR, HAM Radio, MAST, etc.	Commercial enforcement vehicles (6) for road blocks/traffic control
Current Staff, Vehicle, and Other Needs	Dept. has three full time officers, one patrol car		unknown	4 patrol cars and troopers to bring us up to staff
Anticipated Additional Staff, Vehicle and Other Needs During Project Construction	The Dept. would like to add another officer full time and possibly two reserves during construction. This will be a project in need of security and the Dept. does not have the manpower to cover the site 24 hours a day. We will need another fully equipped patrol vehicle to assist with the security and to enable us to communicate.		5 people, 5 vehicles	Any manpower needed for traffic control during construction would need funding.

Sources: Lael, J., Police Chief, Kittitas Police Department, personal communication, May 1997; Juvett, J., Undersheriff, Kittitas County Sheriff's Office, personal communication, May 1997; Larson, Lieutenant, Washington State Patrol, District 6, personal communication, May 1997.

5.3.1.3 Emergency Medical Services

Emergency medical services are provided in the project vicinity by primary response ambulance units and area hospitals. In most cases, ambulance units are operated through local fire departments, although there are a few private service providers along the six-county pipeline corridor. Acute care hospitals can be found in many of the cities in the vicinity of the proposed pipeline route. Nearby ambulance service providers and acute care hospitals are listed in Tables 5.3-5, 5.3-6, 5.3-7 and 5.3-8.

**TABLE 5.3-5
AMBULANCE SERVICE PROVIDERS IN THE PROJECT VICINITY^(a)**

County	Name	Agency Type	Personnel Status	Level of Care ^(b)
Snohomish	Snohomish County FPD #1 - Alderwood Manor	Fire District	<u>Paid</u>	BLS
	Snohomish County FPD #3 - Monroe	Fire District	<u>Paid</u>	ALS
	Bothell Fire Department	Municipal	<u>Paid</u>	BLS
	Shannon Ambulance	Private	<u>Paid</u>	BLS
King	King County FPD #10 - Issaquah/Carnation	Fire District	<u>Paid</u>	BLS
	King County FPD #27 - Fall City	Fire District	<u>Volunteer</u>	BLS
	King County FPD #45 - Duvall	Fire District	<u>Volunteer</u>	BLS
	King County FPD #51 - Snoqualmie Pass	Fire District	<u>Volunteer</u>	BLS
	Shepard Ambulance, Inc.	Private	<u>Paid</u>	BLS
	American Medtech	Private	<u>Paid</u>	BLS
Kittitas	Kittitas County FPD #3 - Easton	Fire District	<u>Volunteer</u>	BLS
	Cle Elum Fire Department	Public	<u>Volunteer</u>	BLS
	Ellensburg Fire Department	Municipal	<u>Volunteer</u>	ALS
	Kittitas County PHD #2	Private	<u>Paid</u>	ILS
Grant	Grant County FPD #8 - Mattawa	Fire District	<u>Volunteer</u>	BLS
	Grant County FPD #10 - Royal City	Fire District	<u>Volunteer</u>	BLS
Adams	Othello Ambulance Service	Private	<u>Volunteer</u>	BLS
Franklin	Franklin County FPD #3 - Pasco	Fire District	<u>Volunteer</u>	BLS
	Pasco Fire Department	Municipal	<u>Paid</u>	ALS

^(a) Data from the Emergency Medical Services Provider List, Washington State Department of Health (1995).

^(b) ALS = Advanced Life Support
BLS = Basic Life Support

ILS = Intermediate Life Support

**TABLE 5.3-6
AMBULANCE SERVICE PROVIDERS IN THE KITTITAS TERMINAL VICINITY**

	Agency
	Ellensburg Fire Department
Number of Ambulance Services	1 ALS ambulance service operated by Ellensburg Fire Department
Number of Staff	9 Paramedics; 7 EMT's; 2 Supervisory; 2 Support Staff; 14 Volunteer FF
Number of Personnel Typically on Duty	5 on duty; remainder on call
Average Calls and Response Time	1996 EMS Calls - 1477 (96 life threatening, 472 urgent, 529 non-urgent, 380 other) Average Response Times - Urban, 4.3 mins.; Suburban, 5.0 mins.; Rural, 13.2 mins.; Wilderness, 25.8 mins.
Number of Emergency and Rescue Vehicles	3 ambulances
Types of Equipment Available	All common hand tools including hydraulic jaws
Availability of Special Support Services	MAST helicopter from Yakima Firing Training Center; AirLift NW from Seattle
How Calls Are Received	Countywide E-911 dispatch center (KITTCOM)
Current Needs	Anticipating to add one additional ambulance in the near future
Anticipated Additional Needs During Project Operation	Unable to determine at this time

Source: Alder, S., Fire Chief, Ellensburg Fire Department, personal communication, May 1997.

TABLE 5.3-7
ACUTE CARE HOSPITALS IN THE PROJECT VICINITY^(a)

County	Name	Location	No. of Beds	Helipad
Snohomish	Providence General Medical Center	916 Pacific Avenue, Everett	475	Yes
	Stevens Memorial Hospital	21601 - 76th Avenue W., Edmonds	217	No
	Valley General Hospital	14701 - 179th SE., Monroe	72	No
King	Evergreen Hospital Medical Center	12040 NE. 128th Street, Kirkland	149	Yes
	Group Health Eastside Hospital	2700 - 152nd Avenue NE., Redmond	179	No
	Overlake Hospital Medical Center	1035 - 116th Avenue NE., Bellevue	257	No
	Snoqualmie Valley Hospital	1505 Meadowbrook Way SE., Snoqualmie	28	Yes
	Valley Medical Center	400 S. 43rd Street, Renton	303	Yes
Kittitas	Kittitas Valley Community Hospital	603 S. Chestnut, Ellensburg	50	Yes
Grant	Columbia Basin Hospital	200 Southeast Boulevard, Ephrata	58	Yes
	Quincy Valley Hospital	908 - 10th Avenue SW., Quincy	38	Yes
	Samaritan Hospital	801 E. Wheeler Road, Moses Lake	50	Yes
Adams	Othello Community Hospital	315 N. 14th Avenue, Othello	49	Yes
Franklin	Our Lady of Lourdes Health Center	520 N. 4th Avenue, Pasco	132	Yes

^(a) All hospitals in this listing have emergency rooms and provide emergency medical services.

Source: Data from the Directory of Acute Care Hospitals, Washington State Department of Health, (1995).

TABLE 5.3-8
ACUTE CARE HOSPITALS IN THE KITTITAS TERMINAL VICINITY

TABLE 5.3-8 (CONTINUED)
ACUTE CARE HOSPITALS IN THE KITTITAS TERMINAL VICINITY

	Agencies					
	Kittitas Valley Community Hospital, Ellensburg	Columbia Basin Hospital, Ephrata	Quincy Valley Hospital, Quincy	Samaritan Hospital, Moses Lake	Providence Yakima Medical Center, Yakima	Yakima Valley Memorial Hospital, Yakima
Number of Staff	1 emergency room physician in hospital 24 hours a day, 365 days a year. 26 physicians on staff. 70 nursing personnel on duty during regular business hours.	6 MD's - 4 Mid level PA - ARNP	[No response to written request for information.]	Physicians: 51 Nurses 87	Medical Staff - 200; Nurses (all shifts) - 235	318 physicians, 258 nurses
Number of Personnel Typically On Duty	Typically 135 on-duty staff members during regular hours. During off-hours there are only 3 depts. that don't have in-house personnel on-duty; imaging services, pharmacy, and housekeeping. There is one on-call person for each of these three departments with more available in an emergency.	15-25 on-duty business hours. 10 on-duty after hours. 5 on-call various capacities.		On-Duty - Approx. 107 FTE's per day over 3 shifts. On-Call - Approx. 20-25 people per day	80 RN's and techs with ancillary support staff on-call system available	Personnel on-duty: 365; on-call: 1152 (for disasters). Emergency Dept.: on duty: 2 phy., 6 nurses; on-call 11 phy., 22 nurses.
Types and Average Numbers of Services Provided	ER volumes average 650 per month over the course of the year. Higher volumes seen in the summer months. Hospital is a designated Level IV trauma facility and sees approx. 50 multi-system (seriously injured) trauma patients per year.	Primary Care /Emergency - Trauma. 200 ER pts/month 2-3 ER trauma/week		Service - 24 hours a day, 7 days a week physician staffed ER service. Avg. # pts. per year - 148 critical care patients. Percent use of ER services daily, seasonally - Unlimited capacity at current levels, i.e., 1000 visits per month.	Full service hospital; Trauma; Advanced Cardiac Care; Average daily emergency census - 85; Level III Trauma Service shared with Yakima Valley Memorial Hospital.	Types of services: full service hospital. Trauma Center Level III. 1996 trauma patients totalled 467, other patients totalled 34,744.

TABLE 5.3-8 (CONTINUED)
ACUTE CARE HOSPITALS IN THE KITTITAS TERMINAL VICINITY

	Agencies					
	Kittitas Valley Community Hospital, Ellensburg	Columbia Basin Hospital, Ephrata	Quincy Valley Hospital, Quincy	Samaritan Hospital, Moses Lake	Providence Yakima Medical Center, Yakima	Yakima Valley Memorial Hospital, Yakima
Patient Referrals	A majority of patients transferred/referred out are sent to Yakima, with the exception of multi-system trauma, which go to Seattle. Non-trauma referrals not sent to Yakima primarily go to Seattle.	Samaritan Hospital - Moses Lake, Central Washington Hospital - Wenatchee, SHMC - Spokane.		Referrals to Spokane, Wenatchee, and Seattle	Transfers to Harborview in Seattle	Providence-Yakima MC or Harborview (Seattle)
Special Support Facilities	Airlift Northwest (Seattle) is primary air ambulance service. The hospital has a helipad on-site. Serious burn patients are airlifted to Harborview in Seattle. In major disasters, airlift services from Spokane and Wenatchee would likely be used, as well as MAST (military) helicopters.	Rotary Wing - Medstar Fixed Wing - Medstar Fixed Wing - Airlift NW Burn taken to Harborview MC or SHMC in Spokane.		Special Services: Air Ambulance - Spokane; Burn Care - Harborview, Seattle; Neuro-trauma - either Spokane or Seattle	Burn treatment - Harborview, Seattle; Air Ambulance - Airlift NW, Seattle; Local Support (Yakima Firing Center) MAST Helicopter; Local advanced life support - ground transport - two ambulance services.	MAST helicopters and Air Ambulance (from Seattle). Harborview is burn center.
How Calls Are Received	KITTCOM handles 911 calls and dispatches EMS personnel.	E-911 System for Grant County and Grant County Disaster preparedness		Calls received /coordination: Through ER Manager, House Director, or Physician	City wide disaster program - Medical control facility that coordinates major catastrophic events and multiple casualty incidents	Emergency Medical System in place to call emergency facilities; follows established disaster protocols.
Current Needs	None at this time	Don't know		Current Staff: 385 people	Current staff greater than 1000	Current staff: 1152 (RN's 328, LPN's 58)
Anticipated	Anticipated additional	Don't know		Currently there are no	Would need to look at a	All staff is considered on-

TABLE 5.3-8 (CONTINUED)
ACUTE CARE HOSPITALS IN THE KITTITAS TERMINAL VICINITY

	Agencies					
	Kittitas Valley Community Hospital, Ellensburg	Columbia Basin Hospital, Ephrata	Quincy Valley Hospital, Quincy	Samaritan Hospital, Moses Lake	Providence Yakima Medical Center, Yakima	Yakima Valley Memorial Hospital, Yakima
Additional Needs During Project Operation	staff would depend on injuries. Triageing would be done by City of Ellensburg Ambulance paramedics at the scene and those paramedics would decide where the injured were sent for treatment. Victims sent to KVCH would be triaged by the emergency dept physician on duty and appropriate decisions made as to additional staff needing to be brought in. KVCH has a Disaster Plan that would be activated in the event of a large number of victims being brought to the facility.			needs for explosion/fire treatment equipment. Currently there is no additional staff anticipated. If specific equipment is thought to be needed, funding may be required.	coordinated effort with Airlift NW and local ambulances to transport large numbers of victims to Burn Center; Identify Harborview Hospital burn limit capacity and triage system for care of mass casualty victims.	call for disasters.

Sources: Jensen, E., Administrator, Kittitas Valley Community Hospital, personal communication, May 1997; Beach, A., Administrator, Columbia Basin Hospital, personal communication, May 1997; Baldwin, K., Administrator, Samaritan Hospital, personal communication, May 1997; Hood, B., Administrator, Providence Yakima Medical Center, personal communication, May 1997; Linneweh, R., Administrator, Yakima Valley Memorial Hospital, personal communication, May 1997.

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ACUTE CARE HOSPITALS IN THE KITTITAS TERMINAL VICINITY

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Number of Staff	1 emergency room physician in hospital 24 hours a day, 365 days a year. 26 physicians on staff. 70 nursing personnel on duty during regular business hours.	6 MD's - 4 Mid level PA - ARNP	[No response to written request for information.]	Physicians: 51 Nurses 87	Medical Staff - 200; Nurses (all shifts) - 235	318 physicians, 258 nurses
Number of Personnel Typically On Duty	Typically 135 on-duty staff members during regular hours. During off-hours there are only 3 depts. that don't have in-house personnel on-duty; imaging services, pharmacy, and housekeeping. There is one on-call person for each of these three departments with more available in an emergency.	15-25 on-duty business hours. 10 on-duty after hours. 5 on-call various capacities.		On-Duty - Approx. 107 FTE's per day over 3 shifts. On-Call - Approx. 20-25 people per day	80 RN's and techs with ancillary support staff on-call system available	Personnel on-duty: 365; on-call: 1152 (for disasters). Emergency Dept.: on duty: 2 phy., 6 nurses; on-call 11 phy., 22 nurses.
Types and Average Numbers of Services Provided	ER volumes average 650 per month over the course of the year. Higher volumes seen in the summer months. Hospital is a designated Level IV trauma facility and sees approx. 50 multi-system (seriously injured) trauma patients per year.	Primary Care /Emergency - Trauma. 200 ER pts/month 2-3 ER trauma/week		Service - 24 hours a day, 7 days a week physician staffed ER service. Avg. # pts. per year - 148 critical care patients. Percent use of ER services daily, seasonally - Unlimited capacity at current levels, i.e., 1000 visits per month.	Full service hospital; Trauma; Advanced Cardiac Care; Average daily emergency census - 85; Level III Trauma Service shared with Yakima Valley Memorial Hospital.	Types of services: full service hospital. Trauma Center Level III. 1996 trauma patients totalled 467, other patients totalled 34,744.

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Patient Referrals	A majority of patients transferred/referred out are sent to Yakima, with the exception of multi-system trauma, which go to Seattle. Non-trauma referrals not sent to Yakima primarily go to Seattle.	Samaritan Hospital - Moses Lake, Central Washington Hospital - Wenatchee, SHMC - Spokane.		Referrals to Spokane, Wenatchee, and Seattle	Transfers to Harborview in Seattle	Providence-Yakima MC or Harborview (Seattle)
Special Support Facilities	Airlift Northwest (Seattle) is primary air ambulance service. The hospital has a helipad on-site. Serious burn patients are airlifted to Harborview in Seattle. In major disasters, airlift services from Spokane and Wenatchee would likely be used, as well as MAST (military) helicopters.	Rotary Wing - Medstar Fixed Wing - Medstar Fixed Wing - Airlift NW Burn taken to Harborview MC or SHMC in Spokane.		Special Services: Air Ambulance - Spokane; Burn Care - Harborview, Seattle; Neuro-trauma - either Spokane or Seattle	Burn treatment - Harborview, Seattle; Air Ambulance - Airlift NW, Seattle; Local Support (Yakima Firing Center) MAST Helicopter; Local advanced life support - ground transport - two ambulance services.	MAST helicopters and Air Ambulance (from Seattle). Harborview is burn center.
How Calls Are Received	KITTCOM handles 911 calls and dispatches EMS personnel.	E-911 System for Grant County and Grant County Disaster preparedness		Calls received /coordination: Through ER Manager, House Director, or Physician	City wide disaster program - Medical control facility that coordinates major catastrophic events and multiple casualty incidents	Emergency Medical System in place to call emergency facilities; follows established disaster protocols.
Current Needs	None at this time	Don't know		Current Staff: 385 people	Current staff greater than 1000	Current staff: 1152 (RN's 328, LPN's 58)
Anticipated	Anticipated additional	Don't know		Currently there are no	Would need to look at a	All staff is considered on-

5.3.1.4 Schools

Information on public school districts located close to the six-county project corridor is presented in Table 5.3-9. None of the individual school buildings in these districts are located directly adjacent to the proposed project facilities. Public higher education facilities in the pipeline route vicinity include: Edmonds Community College in Snohomish County; Bellevue Community College, Lake Washington Technical College, and University of Washington (branch campus) in King County; Central Washington University in Kittitas County; Big Bend Community College in Grant County; and Columbia Basin College in Franklin County. In addition to these public schools, there are also several private elementary and secondary schools, colleges, and universities in the project vicinity. Many of these private institutions are affiliated with church or religious organizations, and most are located in the more urbanized areas along the proposed pipeline route.

**TABLE 5.3-9
SCHOOL DISTRICTS IN THE PROJECT VICINITY**

County	School District
Snohomish	Edmonds School District #15
	Monroe School District #103
	Snohomish School District #201
	Sultan School District #311
King	Lake Washington School District #414
	Northshore School District #417
	Riverview School District #407
	Snoqualmie Valley School District #410
Kittitas	Cle Elum-Roslyn School District #404
	Easton School District #28
	Ellensburg School District #401
	Kittitas School District #403
	Thorp School District #400
Grant	Royal School District #160
	Wahluke School District #73
Adams	Othello School District #147-163-55
Franklin	North Franklin School District #J51-162
	Pasco School District #1
	Star School District #54

Source: Pers. comm., E. Strozyk, Office of the Washington State Superintendent of Public Instruction, Information Resource Management, Olympia, Washington, August 1995.

5.3.1.5 Parks and Recreation Facilities

The proposed pipeline route crosses the counties of Snohomish, King, Kittitas, Grant, Adams, and Franklin. Numerous parks and recreational facilities are located adjacent to or in close proximity to the proposed pipeline route. Many of these facilities are associated with the numerous rivers, lakes, and other natural features in the six-county project corridor, and all are accessible by public roads. Usage of these parks and recreation facilities is highest during the drier summer months, especially on weekends. During this period, state park usage is significantly heavier than at other times of the year. In the colder and wetter winter months, usage levels at area parks and recreation facilities decrease substantially, and it is not uncommon for some of the more remote facilities to remain unused for several weeks. Due to the lower demand at these times, some facilities are closed to the public during the winter. Mainly due to the range of facilities provided and ease of access, the neighboring state parks are the most intensively used public recreation facilities in the project vicinity.

Public parks and recreation facilities present in the vicinity of the proposed pipeline route are listed in Table 5.3-10, and their locations are illustrated in Figure 5.3-1 a through 5.3-1f.

In addition to public facilities, there are also several semi-public and privately run recreational facilities in the vicinity of the proposed pipeline route. These facilities include campgrounds, recreational vehicle parks, golf courses (Echo Falls Country Club and Mount Si), ski resorts (Hyak, Snoqualmie Pass, and Ski Acres), school playgrounds and ballfields, museums, movie theaters, and restaurants.

**TABLE 5.3-10
PUBLIC PARKS AND RECREATIONAL FACILITIES IN
THE VICINITY OF THE PROJECT^(a)**

Figure 5.3-1a through 5.3-1f Reference Number	Name	Facilities	Ownership
1	North Creek Sportsfields	Multipurpose sports fields, trailhead, restrooms	City of Bothell
2	Maltby Regional Park	Soccer fields, baseball fields, concessions, playground, restrooms	City of Monroe
3	Echo Lake Access	Shoreline access, restricted boat launch	Washington Department of Fish and Wildlife
4	Devil's Lake Access	Shoreline access, restricted boat launch, fishing	Washington Department of Fish and Wildlife
5	Lord Hill Park	Scenic viewpoints, trails	Snohomish County

**TABLE 5.3- 10 (CONTINUED)
PUBLIC PARKS AND RECREATIONAL FACILITIES IN
THE VICINITY OF THE PROJECT^(a)**

Figure 5.3-1a through 5.3-1f Reference Number	Name	Facilities	Ownership
6	Snoqualmie River Access	Shoreline access, restricted boat launch, fishing	Washington Department of Fish and Wildlife
7	Lake Fontal Access	Shoreline access, fishing	Washington Department of Fish and Wildlife
8	Lake Hannan Access	Shoreline access, fishing	Washington Department of Fish and Wildlife
9	Lake Margaret Access	Shoreline access, restricted boat launch, fishing	Washington Department of Fish and Wildlife
10	Snoqualmie Valley Wildlife Area (Stillwater Unit)	Hunting	Washington Department of Fish and Wildlife
11	Langlois Lake Access	Shoreline access, restricted boat launch, fishing	Washington Department of Fish and Wildlife
12	Fall City Community Park	Baseball field, picnic tables, horse arena	King County
13	Railroad Square	Interpretive displays, benches, gazebo, kiosk	City of Snoqualmie
14	Railroad Avenue Parkway	Open space, green belt	City of Snoqualmie
15	Sandy Cove Park	Shoreline access, nature trail	City of Snoqualmie
16	River View Park	Shoreline access, picnic tables, playground equipment, restrooms	City of Snoqualmie
17	Snoqualmie Centennial Trail	Black-topped trail from downtown Snoqualmie to Puget Power's Snoqualmie Falls Park	City of Snoqualmie
18	Kimball Creek Nature Trail	Shoreline access, nature trail	City of Snoqualmie
19	Meadowbrook Farm	Currently undeveloped, open space	City of Snoqualmie and City of North Bend
20	Cedar Falls Trail	Non-motorized trail on old railroad right-of-way	King County
21	Snoqualmie Valley Trail	Non-motorized trail on old railroad right-of-way	King County
22	Preston-Snoqualmie Trail	Non-motorized trail on old railroad right-of-way	King County
23	E.J. Roberts Park	Playgrounds, tennis courts, basketball court, horseshoe pit, trails, restrooms	City of North Bend
24	Gardiner-Weeks Memorial Park	Snoqualmie Valley Historical Museum, Mt. Si Senior Center, North Bend Chamber of	City of North Bend

TABLE 5.3- 10 (CONTINUED)
PUBLIC PARKS AND RECREATIONAL FACILITIES IN
THE VICINITY OF THE PROJECT^(a)

Figure 5.3-1a through 5.3-1f Reference Number	Name	Facilities	Ownership
		Commerce, picnic tables, walking paths	
25	William Henry Taylor Park	North Bend railroad depot for Puget Sound and Snoqualmie Valley Historical Railway, ticket office, meeting rooms, restrooms	City of North Bend
26	North Bend Athletic Complex	Softball/baseball fields, youth baseball field, concession building, restrooms	City of North Bend
27	Torguson Property	currently vacant	City of North Bend
28	Mount Si Preservation Area	Natural resource conservation area, hiking trails, restrooms	Washington Department of Natural Resources
29	Three Forks Park	Shoreline access, passive recreation	King County
30	Si View Park	youth baseball fields, unimproved soccer fields, tennis courts, playground, swimming pool, gymnasium, classrooms, picnic tables, restrooms	King County
31	Twin Falls State Park	Trails, restrooms	Washington Parks and Recreation Commission
32	Iron Horse State Park and John Wayne Pioneer Trail	Trail on old railroad right-of-way from near Cedar River to Idaho border, restrooms at some trailheads	Washington Parks and Recreation Commission
33	Olallie State Park	Trails, picnic tables, shoreline access, fishing, restrooms	Washington Parks and Recreation Commission
34	Tinkham Campground	Camping, picnic tables, shoreline access, restrooms	United States Forest Service
35	Asahel Curtis	Trails, picnic tables	United States Forest Service
36	Denny Creek Campground	Camping, picnic tables, shoreline access, restrooms	United States Forest Service
37	Pacific Crest National Scenic Trail	Washington portion of Cascade Mountain Range hiking trail from Mexico to Canada	United States Forest Service
38	Keechelus Lake Access	Shoreline access, non-restricted boat launch, fishing	United States Bureau of Reclamation/United States Forest Service ^(b)
39	Crystal Springs Campground	Camping, picnic tables, shoreline access, restrooms	United States Forest Service
40	Lake Easton State Park	Camping, picnic tables, shoreline access, non-restricted boat launch, swimming, fishing, trails, winter sports, restrooms	Washington Parks and Recreation Commission
41	Lavender Lake Access	Shoreline access, restricted boat launch	Washington Department of Fish

TABLE 5.3- 10 (CONTINUED)
PUBLIC PARKS AND RECREATIONAL FACILITIES IN
THE VICINITY OF THE PROJECT^(a)

Figure 5.3-1a through 5.3-1f Reference Number	Name	Facilities	Ownership
			and Wildlife
42	L.T. Murray Wildlife Area	Hunting	Washington Department of Fish and Wildlife
43	Yakima River Access	Shoreline access, restricted boat launch, fishing	Washington Department of Fish and Wildlife
44	Olmstead Place State Park	Early homestead site, interpretive center and museum	Washington Parks and Recreation Commission
45	Quilomene Wildlife Area	Hunting	Washington Department of Fish and Wildlife
46	Ginkgo Petrified Forest State Park	Interpretive center, camping, picnic tables, shoreline access, non-restricted boat launch, swimming, fishing, trails, restrooms	Washington Parks and Recreation Commission
47	Wanapum Dam Tour Center	Columbia River historical interpretive center	Grant County PUD
48	Columbia River Access	Shoreline access, non-restricted boat launch	Washington Department of Fish and Wildlife
49	Nunnally Lake Access	Shoreline access, fishing	Washington Department of Fish and Wildlife
50	Crab Creek Wildlife Area	Hunting	Washington Department of Fish and Wildlife
51	Lower Crab Creek Access	Shoreline access, restricted boat launch	Washington Department of Fish and Wildlife
52	Columbia National Wildlife Refuge	23,000 acres of channeled scablands of Columbia River Basin, wintering area for over 100,000 waterfowl, scenic viewpoints, fishing, hunting	United States Fish and Wildlife Service
53	Wahluke Wildlife Area	Hunting	Washington Department of Fish and Wildlife
54	Basin City Memorial Park	Picnic tables, playground equipment, horse arena	Franklin County
55	Mesa Lake Access	Shoreline access, restricted boat launch, camping, fishing, hunting	Washington Department of Fish and Wildlife
56	Clark Pond Access	Shoreline access, restricted boat launch, camping, fishing, hunting	Washington Department of Fish and Wildlife
57	Sacajawea State Park	Interpretive center, picnic tables, shoreline access, non-restricted boat launch, swimming, fishing, restrooms	Washington Parks and Recreation Commission

- (a) Data obtained from DeLorme Mapping Company, 1992; Washington State Parks and Recreation Commission, 1995; Comprehensive Park & Recreation Plan, Snohomish County, 1993; King County Parks Department, 1995; Franklin County Comprehensive Parks Plan, 1992.
- (b) Some facilities are owned by one agency and managed by another, this is indicated by the convention *ownership agency/management agency*.

FIGURE 5.3-1a - PARKS AND RECREATION FACILITIES

FIGURE 5.3-1b - PARKS AND RECREATION FACILITIES

FIGURE 5.3-1c - PARKS AND RECREATION FACILITIES

FIGURE 5.3-1d - PARKS AND RECREATION FACILITIES

FIGURE 5.3-1e - PARKS AND RECREATION FACILITIES

FIGURE 5.3-1f - PARKS AND RECREATION FACILITIES

5.3.1.6 Maintenance

Maintenance can be defined as the costs, in money and manpower, required for the upkeep of public facilities, to ensure that these facilities will continue serving the public into the future. Facilities such as roads, sidewalks, water and sewer mains, bicycle paths, and park benches, all come under the umbrella of public facilities that would require periodic maintenance. Specific information on operation and maintenance of public facilities in the vicinity of the proposed Cross Cascade Pipeline route is contained in other sub-sections of this Section (Section 5.3.1 Existing Conditions).

The proposed Cross Cascade Pipeline corridor crosses the jurisdiction of six counties and three cities. The route also crosses portions of federal and state owned lands. Various local, state, and federal governmental agencies implement a variety of methods to manage their maintenance needs. Typically, these agencies have, as part of their regular operations, maintenance programs for the public facilities for which they are responsible. These programs provide for regular inspection of public facilities in general, and maintenance, repair, and improvement as-needed.

5.3.1.7 Communications

Telephone and telecommunication services are available to residents along the proposed Cross Cascade Pipeline corridor from several service providers. The corridor crosses the service areas of the following local telephone service providers: GTE Northwest, US West Communications, PTI Communications, Inland Telephone Company, and Ellensburg Telephone Company. Through modern interconnected communications networks, long distance telephone and other telecommunication services are available from up to 275 separate service providers in the six-county project corridor. Among these companies, AT&T Communications, Sprint Communications, and MCI Telecommunications have the largest customer base and the largest installed network of underground lines and above ground service facilities.

5.3.1.8 Water

Potable water is available to residents living in the vicinity of the proposed Cross Cascade Pipeline corridor from a variety of sources which include municipal water departments, public utility districts, public water districts, community water associations, individual well systems, and private water companies. Many of these agencies have their own water supply sources and distribution networks. However, several of these agencies have only distribution networks, and buy water wholesale from other water supply purveyors.

Major public water supply providers in areas crossed by the proposed pipeline corridor include the following: Alderwood Water District and Cross Valley Water District in Snohomish County; Carnation Water Department, King County Water District #127, Snoqualmie Water Department, North Bend Water Department, and Sallal Water Association in King County; Kittitas County Water Districts #3 and #5, and

Kittitas Water Department in Kittitas County; Beverly Water District, Royal City Water Department, Royal Water District, and Port of Royal Slope in Grant County; Othello Water Department in Adams County; and Pasco Water Department in Franklin County.

Water for agricultural purposes is available in the vicinity of the proposed pipeline corridor from public agencies, such as irrigation districts, and from private well systems. Irrigation water is distributed via closed pipelines or open canals. Major irrigation water supply providers in areas crossed by the corridor include the following: Cascade Irrigation District and Kittitas Reclamation District in Kittitas County; East Columbia Basin Irrigation District in Adams County; South Columbia Basin Irrigation District, Smith Canyon Irrigation District, and Franklin County Irrigation District #1 in Franklin County.

Further detailed discussions of water and water supply issues can be found in Section 2.5 Water Supply System, and Section 3.3 Water.

5.3.1.9 Storm Water

In urbanized portions of the proposed Cross Cascade Pipeline route, storm water is handled by storm sewer systems, or onsite collection and dissipation systems. In lesser developed areas, storm water handling facilities are usually limited to grassy swales along roadways, and in some instances retention or detention ponds. Large portions of the proposed pipeline route traverse undeveloped and/or sparsely populated areas with no formal storm water handling facilities.

Further detailed discussions of storm water issues can be found in Section 2.10 Surface Water Runoff.

5.3.1.10 Sewer

In urbanized portions of the proposed route, sewage and wastewater treatment and disposal is handled by underground sanitary sewer systems and sewage treatment facilities. Sewage and wastewater treatment plants near to the corridor are located in the following communities: Snoqualmie and North Bend in King County; Hyak, Cle Elum, and Kittitas in Kittitas County; Wanapum Village and Royal City in Grant County; and Pasco in Franklin County. In lesser developed rural and agricultural areas, sewage treatment and disposal is handled on site with septic tanks and associated drainfields. Large portions of the proposed pipeline route traverse undeveloped and unpopulated areas with no centralized sewage treatment and disposal facilities.

Additional discussions of wastewater issues can be found in Section 2.7 Characteristics of Water Discharge Systems, and Section 2.8 Wastewater Treatment.

5.3.1.11 Solid Waste

Solid waste collection services are available to residents living in urbanized portions near the route from a mix of county, municipal, and private agencies. Many communities contract with private haulers to provide their residents with garbage collection and recycling services. Solid waste is typically hauled to large regional landfills operated at the county level, although there are also smaller municipal and private transfer stations and landfills. Major landfills near to the proposed pipeline route include the following: Snohomish Regional Landfill, north of Clearview in Snohomish County; Cedar Hills Regional Landfill, south of North Bend in King County; Ryegrass Landfill, west of Vantage in Kittitas County; Ephrata Landfill, south of Ephrata in Grant County; Bruce Landfill, east of Othello in Adams County; and New Waste Inc. Landfill, east of Pasco in Franklin County. Much of the lesser developed rural and agricultural portions of the proposed pipeline route are outside of the coverage area of solid waste collection service providers. Residents of these areas either transport their refuse to established solid waste transfer stations, or burn it on site.

5.3.2 IMPACTS

This section describes the expected impact of the Cross Cascade Pipeline project on local public services and utilities. As described in Section 2.12 Construction and Operation Activities, the pipeline construction workforce would be split into three construction spreads. Spread 1 would construct the western portion of the alignment, Spread 2 would construct the central mountainous portion, and Spread 3 would construct the eastern portion. The construction workforce peak for each spread would be as follows: 375 workers for Spread 1, 161 workers for Spread 2, and 375 workers for Spread 3. Approximately 70 percent of the pipeline construction workers (713 workers total for three spreads) would come from outside the State. Because the majority of the pipeline construction activities would last approximately 13 months, few of the out-of-state pipeline workers would be expected to bring families with them. With favorable weather, the expected duration of pipeline construction at any one location along the route is no more than 10 days.

The completed project would employ four workers stationed at the Kittitas Terminal. Efforts will be made to hire local individuals to staff the facility as much as practicable, thus reducing the potential effect on the local population.

As no extensive demand on any public service or utility is anticipated, and a traffic control plan will be implemented, the overall impact to most public services and utilities is expected to be minor and short-term.

Temporary impacts to recreation facilities during construction are expected. In this analysis, impacts were determined through a detailed review of the proposed action against existing conditions, and a subjective assessment based on professional experience with other similar projects.

5.3.2.1 Fire

During project construction, the influx of out-of-area construction workers into neighboring communities, and the construction activities themselves may result in a minor and temporary increase in the demand placed on the staff of local fire departments and fire protection districts. Due to the short-term nature of the construction activities at any one location along the proposed route (10 days or less) and the small number of fire incidents which might occur during the construction phase of the project, the impact on local fire protection providers is not expected to be significant. Traffic controls and detours associated with construction activities in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may alter access routing for fire fighting vehicles. However, the Traffic Control Plan, as described in Section 5.2 Transportation, will include consideration of emergency vehicle needs. In addition, coordination with local fire departments and protection districts will occur before and during the construction phase. Stringent construction health and safety measures will be enforced to reduce the potential for accidents, particularly during the welding phase. Contingency plans will be developed to guide activities in the event of a fire emergency. The impact of construction on local fire departments and protection districts is therefore not anticipated to be significant.

During operation, the pipeline will be buried in a clearly marked right-of-way. The Kittitas Terminal will have a fire detection and suppression system. These factors, coupled with the relatively small number of employees that would staff the facility (four employees), will minimize additional demands placed on local fire protection providers.

As shown on Table 5.3-2, the three fire departments in the vicinity of the Kittitas Terminal are not currently equipped to respond to a major petroleum fire. OPL will have adequate fire detection and suppression equipment on site at the Terminal to respond to a limited facility fire or storage tank fire. OPL will only expect responding fire personnel to establish a safety perimeter around that facility and manage access and evacuation if necessary until terminal staff arrive.

OPL personnel will arrive quickly following notification of such an emergency. OPL will coordinate with the responding emergency service and advise and assist during the emergency. Mutual aid agreements will provide equipment, materials, and training for local fire departments or emergency responders. Should any single event tax the suppression system beyond its capabilities or beyond the capabilities of OPL or other local resources, OPL will have immediately access to professional fire fighting firms located in California or Texas who would have the resources and expertise to manage a large tank/facility fire. This is the same backup resource for fire suppression that is available to refineries and fuel storage facilities, and provides personnel, foam, and other equipment in large quantities within three hours.

5.3.2.2 Police

During project construction, the influx of out-of-area construction workers into neighboring communities, and the construction activities themselves may result in a minor and temporary increase in the demand

placed on local police departments. Due to the short-term nature of the construction activities at any one location along the proposed route (10 days or less), this impact is not expected to be significant. Traffic controls and detours associated with construction activities in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may alter access routing for police vehicles. However, the Traffic Control Plan, as described in Section 5.2 Transportation, will include consideration of emergency vehicle needs. In addition, coordination with local police departments will occur before and during the construction phase. Local police departments will be kept abreast of construction progress, and contingency plans will be developed to guide activities in the event of an emergency. The impact of construction on local police departments is therefore not anticipated to be significant.

During operation, the pipeline will be buried in a clearly marked right-of-way. The Kittitas Terminal will have a security system. These factors, coupled with the relatively small number of employees that would staff the facility (four employees), will minimize additional demands placed on local police departments.

Table 5.3-4 provides a summary of the police response capabilities for the four police departments in the vicinity of the Kittitas Terminal. OPL will provide on-site security during construction and operation of the Kittitas Terminal, and is not intending to rely on the Kittitas Police Department to provide 24 hour-a-day coverage. OPL is in the process of negotiating a services agreement with the City of Kittitas, and this agreement will determine the services that will be provided and the funding mechanisms. It is anticipated that the Kittitas Police Department would provide response to criminal activities should they occur at the site.

5.3.2.3 Emergency Medical Services

During project construction, the influx of out-of-area construction workers into neighboring communities, and the construction activities themselves may result in a minor and temporary increase in the demand placed on local emergency medical service providers and local hospitals. The 13 month construction phase will expend approximately 700,000 individual worker hours of labor. Based on Department of Labor and Industries data for similar pipeline construction projects, an expenditure of this many worker hours is expected to generate approximately 130 claims. (A claim is defined as a request for medical treatment and/or benefits.) Averaged over the 13 month construction period, this calculates to 10 claims per month over the six county project area. Due to the dispersed and mobile nature of the construction activities, this impact is not expected to be significant.

Traffic controls and detours associated with construction activities in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may alter access routing for ambulances and other emergency vehicles. However, the Traffic Control Plan, as described in Section 5.2 Transportation, will include consideration of emergency vehicle needs. Coordination with local service providers will occur before and during construction to ensure access routes remain clear during the construction process. In addition,

stringent construction health and safety measures will be enforced to reduce the potential for accidents. The impact of construction on local emergency medical service providers and local hospitals is therefore not anticipated to be significant.

Employment projections for the operational phase of the project indicate that approximately 20,000 individual worker hours will be expended annually for operations at the Kittitas Terminal and maintenance along the pipeline route. Based on Labor and Industries data for similar industries, this annual labor expenditure is expected to generate 1 claim per year.

During operation, the pipeline will be buried in a clearly marked right-of-way. The Kittitas Terminal will have an integrated security and fire detection and suppression system. These factors, will combine to minimize the demand placed on local emergency medical service providers.

Further detailed discussion of impacts to emergency services in the event of a product release, a fire, or an explosion, can be found in Section 4.1 Environmental Health and Section 7.2 Emergency Plans.

5.3.2.4 Schools

Due to short duration and mobile nature of the construction activities, few if any of the out-of-area construction workers are expected to be accompanied by families. School enrollments are therefore not expected to be affected by the influx of out-of-area construction workers into nearby communities. Students and staff at schools near the proposed right-of-way may experience disturbances to their daily routines due to noise and dust generated by construction. Due to the short-term nature of the construction activities at any one section of the proposed route, this impact is not expected to be significant. Traffic controls and detours associated with construction activities in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may cause access problems for school buses. However, as mentioned above, the Traffic Control Plan (see Section 5.2 Transportation), will also include consideration of school buses, and the impact of construction on these vehicles is not anticipated to be significant.

During operation, four employees would staff the Kittitas Terminal and approximately six other employees would be added to the Olympic Pipe Line (OPL) operation and pipeline maintenance. Area schools have sufficient capacity to accommodate this small increase in population and subsequent potential increase in enrollment. Other operational and maintenance activities at the booster stations, Kittitas Terminal, Renton Control Center, and on the pipeline right-of-way will be localized to these facilities, and are not expected to have an effect on local schools and educational facilities.

5.3.2.5 Parks and Recreational Facilities

Direct Impacts

During route planning for the Cross Cascade Pipeline, attempts were made to route the pipeline along existing utility and road corridors, and to avoid areas with sensitive land uses, including parks and recreation areas. Approximately 165 miles of the proposed pipeline will be installed within or adjacent to existing utility or road rights-of-way, and approximately 66 miles will be constructed in new right-of-way. The proposed pipeline route avoids most of the public recreation facilities listed on Table 5.3-10, therefore pipeline construction will not have a direct negative impact on most of the recreation facilities along the route.

Recreation facilities that will be directly impacted by construction are Cedar Falls Trail, and Iron Horse State Park.

Cedar Falls Trail is a multi-use trail located on an abandoned railroad right-of-way which has been leased to King County. The trail is located east of Snoqualmie, and approximately 1.5 miles of the 18-mile trail lie within the current city limits. Planned as a multi-purpose corridor, this trail will eventually connect lower Snoqualmie Valley trails and the cross-state John Wayne Trail. The proposed pipeline route intersects with this trail east of Snoqualmie.

Iron Horse State Park is a linear park comprised of the railroad grade and right-of-way of the now defunct Chicago, Milwaukee, St. Paul, and Pacific Railroad. The park spans from a point near the Cedar River, southwest of North Bend, east to the Idaho border, and varies in width from 100 to 500'. The main feature of the park is the railroad grade, located the center of the former right-of-way, which is used as a non-motorized hiking trail. The trail itself is also referred to as the John Wayne Pioneer Trail, the Iron Horse Trail, or the Milwaukee Trail. The proposed pipeline crosses and/or parallels the railroad grade in several locations along the proposed route.

Figure 5.3-1 shows the proposed pipeline route in relation to the location of Cedar Falls Trail, and Iron Horse State Park.

During the construction phase, portions of Cedar Falls Trail, and portions of Iron Horse State Park may have to be temporarily closed or trails re-routed around the active construction area. In other areas, trail users may also be delayed by construction on the trail rights-of-way for short periods for time. OPL will work with King County (Cedar Falls Trail), and Washington State Parks and Recreation Commission (John Wayne Trail) to minimize the construction-related disruption of these facilities. Impacts to the two facilities will last only until the pipeline is buried and surface soil conditions returned to their original state.

No other direct impacts to public recreational facilities along the pipeline route are anticipated during the construction phase.

In addition to the direct impacts on public recreation facilities discussed above, two privately-owned public

golf courses will also be directly impacted by construction. The Echo Falls Country Club, an 18-hole golf course and training facility located east of the community of Maltby, and the Mount Si Golf Course and Driving Range, an 18-hole golf course located in eastern Snoqualmie, are both crossed by the pipeline route. Coordination with the owners of these facilities will occur prior to the commencement of construction activities.

During operation, right-of-way maintenance activities in the vicinity of Cedar Falls Trail, Pacific Crest National Scenic Trail, and Iron Horse State Park will be coordinated with the appropriate jurisdictional agency (King County, U.S. Forest Service, and Washington State Parks) to minimize disruption of these facilities.

Indirect Impacts

It is expected that about 70 percent of the pipeline construction workforce (713 workers out of a total of 911 workers for all three spreads) will be from outside of the local area. Most of the pipeline workers are expected to be out-of-state workers, because many of the skills required for pipeline construction are not available in Washington State labor pools. Because pipeline construction would be mobile and would last a total of about 10 months, few if any workers from outside of the local area are expected to bring families to the job site.

During the peak months of pipeline construction, the 911 construction workers would be dispersed out in three construction spreads at various locations along the 231-mile-long construction corridor. Out-of-area workers are expected to (1) seek temporary housing in the general vicinity of their job sites, and (2) use trailers, campers, and other forms of temporary mobile housing at recreation facilities throughout the area.

Assuming that at least part of the construction will take place during the summer, out-of-area workers may compete with recreational users of park and recreational facilities at a time when Washington parks and recreation facilities frequently operate near or above capacity. However, due to the linear nature of the project, construction workers building the pipeline would be dispersed across the 6-county project area. This will serve to spread the increased temporary housing demand over a wide area. Based on this assumption, in conjunction with the relatively low number of out-of-area workers that would seek temporary housing, the short duration of the construction phase, and the large number of temporary housing options (both camping facilities and motels/hotels) within the acceptable commute area, the construction worker influx impact on local recreation facilities is not expected to be significant.

During construction, there will be temporary and localized increases in noise, dust, and construction-related traffic, including detours associated with pipeline installation across roadways. These conditions may temporarily decrease the quality of the recreational experience at the recreation facilities crossed by the proposed pipeline. As mentioned above, Cedar Falls Trail, Pacific Crest National Scenic Trail, Iron Horse

State Park, and a privately-run golf course will be crossed by the pipeline and will experience the greatest indirect impact. In addition, other parks and recreation facilities in the vicinity of the active construction areas will also be indirectly impacted by noise, dust, and traffic. Other recreation facilities close to the pipeline construction area (within 0.25 mile), but not actually crossed by the proposed right-of-way include the following: Devil's Lake Access, Meadowbrook Farm, E.J. Roberts Park, North Bend Athletic Complex, Three Forks Park, Twin Falls State Park, Olallie State Park, Tinkham Campground, Asahel Curtis, Keechelus Lake Access, L.T. Murray Wildlife Area, Crab Creek Wildlife Area, and Columbia National Wildlife Refuge. Due to the short-term and mobile nature of the pipeline construction activities, the impacts on these latter facilities associated with nearby pipeline construction is expected to be minor and short-term. Further discussion on noise, dust, and traffic impacts can be found in the following sections: Section 4.1 Environmental Health, Section 3.2 Air, and Section 5.2 Transportation.

Upon completion, the pipeline will be buried in a clearly marked right-of-way, and surface soil conditions restored. Regular operation and maintenance of the pipeline is not expected to affect access to or use of nearby parks and recreation facilities.

5.3.2.6 Maintenance

Construction of the Cross Cascade pipeline and associated pumping and distribution facilities is not expected to create any additional maintenance needs for public facilities. During construction, trucks will use public roads to access the proposed right-of-way. Construction traffic is not expected to damage the local road system. If such damage occurs, OPL will either repair the damage or provide funds to the Public Works Department having jurisdiction to repair the damage. In addition, there are no plans for equipment laydown or worker parking areas that would be in need of public agency restoration or revegetation upon completion of construction along the pipeline right-of-way. All laydown, staging, and parking areas will be restored or revegetated at project expense as necessary upon construction completion.

During operation, tanker truck traffic on the Interstate-90 interchange at Kittitas will increase due to the presence of the Kittitas Terminal. This traffic is not expected to have an adverse effect on the interchange structures.

5.3.2.7 Communications

During project planning, the location of all overhead and buried communications lines and facilities in the proposed right-of-way vicinity will be determined. Construction methodology and activities will be planned and coordinated with communication service providers to avoid damage to existing lines and facilities. Contingency plans will also be established to guide activities in the event of damage to existing lines and facilities. Construction-related impacts to existing communications lines and facilities are therefore expected to be minimal.

Operational activities at the booster stations, Kittitas Terminal, and on the pipeline right-of-way will be localized to these facilities, and are not expected to have an effect on local communications service providers. Maintenance activities at project facilities located near communications lines will be coordinated with individual service providers to prevent damage to existing communications facilities.

5.3.2.8 Water

During project planning, the location of all buried water lines and irrigation canals and facilities in the proposed right-of-way vicinity will be determined. Construction methodology and activities will be planned and coordinated with water supply service providers to avoid damage to existing lines and facilities. Contingency plans will also be established to guide activities in the event of water contamination or damage to existing lines and facilities. Construction-related impacts to existing water supply lines, canals, and facilities are therefore expected to be minimal.

During construction approximately 1.5 million gallons of water will be used for hydrostatic testing of the pipeline and 4.2 million gallons for testing the tanks at the Kittitas Terminal. This water will be obtained from the Snoqualmie River, City of North Bend, Cascade Irrigation Canal, and the Wahluke Branch Canal. (See Section 2.5 Water Supply for a description of the water amounts needed and the available sources.) Hydrostatic test water will be routed through the pipeline and reused as much as practicable to reduce the total water demand for this process. Prior to discharge, hydrostatic test water will be analyzed and discharged into temporary sediment traps. Hydrostatic test water will then be released at a low enough rate to minimize impacts to the receiving water body. (See Section 2.7 Characteristics of Aquatic Discharge Systems for a description of the testing and discharge methods for hydrostatic test water.) Test water will be discharged at the Stampede Pump Station site, Kittitas Terminal site, and at the Pasco terminus. Due to the relatively low volume of water required, this process is not expected to have a significant effect on local availability of potable or irrigation water.

Operational activities at the pump stations, Kittitas Terminal, and on the pipeline right-of-way will be localized to these facilities, and are not expected to have an effect on local water supply providers. Project-related potable water needs will be limited to that required for domestic consumption at the Kittitas Terminal, Thrasher Station and North Bend Station. The connections at Thrasher will consist of a water tap to the existing municipal system and a septic system. The connections at North Bend will consist of an existing well and a septic system, or a connection to the North Bend sanitary sewer system, which is approximately 1,500' away. There are no municipal system connections available at the Stampede, Beverly-Burke, and Othello sites at the present time. Because these facilities will be constructed at some future date, detailed plans will be developed and submitted to EFSEC for approval when OPL determines that the additional stations are required. Due to the small number of employees that would staff this facility (four total), the volume of water required for operation is not expected to have an adverse effect on

the local water supply service provider. Maintenance activities at project facilities located near water lines and irrigation canals will be coordinated with individual service providers to prevent water contamination or damage to existing water supply facilities.

Further detailed discussions of water and water supply issues can be found in Section 2.5 Water Supply System, and Section 3.3 Water.

5.3.2.9 Storm Water

During construction, site alteration and earth movement and compaction will heighten the potential for increased storm water runoff, erosion, and sedimentation. This potential will be of notable importance at the pipeline crossings of natural and artificial drainages. Erosion and sedimentation potential will be reduced by the implementation of Department of Ecology, Best Management Practices (BMPs). Implementation of construction methodologies to reduce storm water runoff (including BMPs) are expected to reduce runoff volumes to levels which can be adequately handled by installed facilities.

During operation, increased impervious surface area is not expected to have a significant effect on the existing storm water flow patterns of the project area.

Further detailed discussions of storm water issues can be found in Section 2.10 Surface Water Runoff and Section 2.8 Wastewater Treatment.

5.3.2.10 Sewer

During project planning, the location of all buried sewer lines, septic systems, and facilities in the proposed right-of-way vicinity will be determined. Construction methodology and activities will be planned and coordinated with local sewer utilities to avoid damage to existing lines and facilities. Contingency plans will also be established to guide activities in the event of damage to existing lines and facilities. Construction-related impacts to existing sewer lines, septic systems, and facilities are therefore expected to be minimal.

Operational activities at the pump stations, Kittitas Terminal, and on the pipeline right-of-way will be localized to these facilities, and are not expected to have an effect on existing sewage treatment and disposal systems. Project-related sewer needs will be mainly limited to that generated by operations at the Kittitas Terminal. Sewage generated by the terminal will be disposed of in the sewage treatment plant in Kittitas. Current projections indicate the anticipated sewage flow volume from the terminal will be approximately 1 gallon per minute (Varela & Associates, 1996). The Kittitas sewage treatment plant has adequate capacity to accommodate this additional demand (Varela & Associates, 1996). The pump stations will be unmanned, automated facilities. These stations may, however, have lavatory facilities for

workers performing periodic maintenance. The two western Washington stations (Thrasher and North Bend) may be connected to an existing sewer system if an on-site septic system is unfeasible. If these stations are connected to an existing sewer system, the anticipated sewage flow volume would be lower than that of an average single family residence. The three eastern Washington stations (Stampede, Beverly-Burke, and Othello) are each located in an area that would permit an on-site septic system. Any additional sewage or wastewater generated by the pump stations during periodic maintenance, will be collected and disposed of in an approved disposal facility. Maintenance activities at project facilities located near underground sewer lines and facilities will be coordinated with local sewer utilities to prevent damage to these facilities.

5.3.2.11 Solid Waste

During construction and operation, OPL will contract with a solid waste collection contractor for removal of solid waste generated on site. The volume of solid waste generated is not expected to be large for either construction or operation.

During construction, solid waste will be comprised mainly of spent construction materials. Brush and other vegetation cleared from the right-of-way will either be burned or chipped on site, or hauled off site to an approved disposal facility. Soil removed during trenching operations will be used for backfilling the pipeline, for erosion control, and landscaping. Merchantable timber will be sold off. No hazardous waste will be generated by the construction activities.

5.3.3 MITIGATION MEASURES

As described above, the overall impact to most public services and utilities is expected to be minor and short-term. Mitigative measures for project-related impacts are described below:

- Construction activities will be coordinated with local police and fire departments, and emergency medical service providers to ensure access to all locations along the pipeline route in the case of an emergency.
- Stringent construction health and safety measures will be enforced to reduce the potential for accidents, particularly during the welding phase.
- To help mitigate loss of access and other traffic related impacts, adequate traffic control and signage, indicating closures and alternate routes, will be provided.
- Construction vehicle trips in and out of the immediate construction zone will be coordinated and scheduled away from "rush-hour" periods, to minimize general traffic disruption.
- Noise and dust problems generated by construction will be mitigated through the use of properly muffled construction equipment, and by the use of approved dust control

methods.

- During construction, precautions will be used to ensure that excavations do not damage underground utilities.
- During construction, all attempts will be made to keep impacts to recreation facilities to a minimum. Through-access on recreation trails will be maintained as much as practicable.
- During operation, the pipeline will be buried in a clearly marked right-of-way to reduce the chance of accidental third party damage.
- The Kittitas Terminal will have a fire detection and suppression system. OPL will only expect responding fire personnel to establish a safety perimeter around that facility and manage access and evacuation if necessary until terminal staff arrive.
- OPL will enter into local agreements with the vicinity fire departments for training, additional response materials, or other needs to perform this limited function.
- The Kittitas Terminal will have a security system.

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