




DF01. View east/upslope at alluvial fan with debris flow deposition zone (gray) and avalanche path.

Hazard ID #:	DF01
Hazard Type:	debris_flow
HIN:	225
Rating:	A
2012 SEIS Alignment Location:	1495
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	100-1000
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1492+00
2012 SEIS Alignment North Margin:	1498+00
Photo #:	4098, 4099, 5146



DF01. View south/down alignment at debris flow deposition zone at beach. Survey lath represents previous IRP 2006 alignment.

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DF02. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF02
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1514
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1514+00
2012 SEIS Alignment North Margin:	1514+70
Photo #:	1515, 2036, 5865




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DF02. View east/upslope up debris flow channel incised into overburden.

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DF03. View east/upslope at debris flow channel.


Hazard ID #:	DF03
Hazard Type:	debris_flow
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	1517
Frequency (yrs):	0-1
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1516+70
2012 SEIS Alignment North Margin:	1517+70
Photo #:	3893, 5148, 5865, 6256

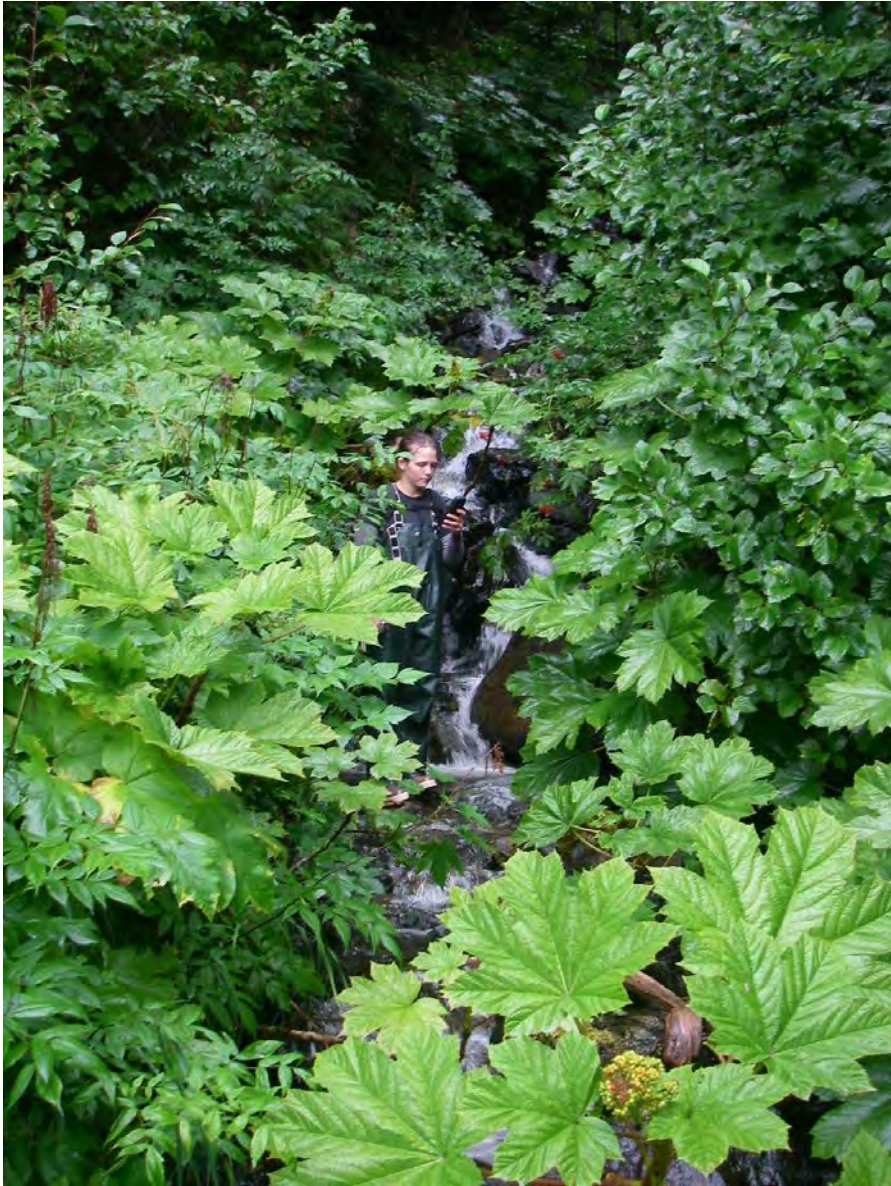


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DF03. View east/upslope at debris flow channel, deposition zone, and fan.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS	
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DF03. View east/upslope up debris flow channel.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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RS01. View east/upslope at 2001 rockslide and avalanche path.

Hazard ID #:	RS01
Hazard Type:	rock_slide
HIN:	219
Rating:	A
2012 SEIS Alignment Location:	1522
Frequency (yrs):	unknown(>25?)
Predictability:	unpredictable
Material Volume (CY):	100-1000
Clast Size (ft):	4+
Source Elev. (ft):	>1000
Centerline Slope:	open_bedrock_slope
Alignment Location:	deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	200-500
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1520+70
2012 SEIS Alignment North Margin:	1524+00
Photo #:	4123, 4124, 4126, 5148, 5865



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RS01. View east/upslope of area directly under rockslide. Some debris approaches the 2012 SEIS alignment which is located just east/upslope of the beach.




RS01. View east/upslope of 40 ft diameter boulder at bottom of rockslide and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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RS01. View east/upslope of fresh rockslide mega-boulder at southwest (downslope and down alignment) corner of rockslide and avalanche path.

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RF01. View east/upslope at rockfall hazard area.

Hazard ID #:	RF01
Hazard Type:	rockfall
HIN:	147
Rating:	C
2012 SEIS Alignment Location:	1550
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1548+00
2012 SEIS Alignment North Margin:	1553+00
Photo #:	4212, 4214, 5148

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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RF01. Basalt cliff that is the origin of rockfall hazard.

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RF02. View east/upslope at rockfall hazard area.

Hazard ID #:	RF02
Hazard Type:	rockfall
HIN:	111
Rating:	C
2012 SEIS Alignment Location:	1550
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1547+40
2012 SEIS Alignment North Margin:	1552+70
Photo #:	3049, 5149



RF02. View west/downslope at rockfall deposition.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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RF03. View east/upslope at rockfall area.



RF03. View east/upslope at rockfall area.

Hazard ID #:	RF03
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	1586
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	single_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1584+70
2012 SEIS Alignment North Margin:	1587+40
Photo #:	4259, 5873



RF04. View east/upslope at rockfall area.



RF04. Base of vertical basalt cliff creating rockfall hazard.

Hazard ID #:	RF04
Hazard Type:	rockfall
HIN:	183
Rating:	B
2012 SEIS Alignment Location:	1609
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1606+20
2012 SEIS Alignment North Margin:	1611+60
Photo #:	4245, 4246, 4247, 4249



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DF04. View east/upslope at debris flow channel, incision visible as gully.

Hazard ID #:	DF04
Hazard Type:	debris_flow
HIN:	117
Rating:	B
2012 SEIS Alignment Location:	1670
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	1000-2000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1669+40
2012 SEIS Alignment North Margin:	1671+10
Photo #:	3875




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DF04. Debris flow deposit.

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DF05. Debris flow channel visible as incised gully through trees in lower part of photo, left of center.

Hazard ID #:	DF05
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1675
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	1000-2000
Centerline Slope:	single_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1674+20
2012 SEIS Alignment North Margin:	1675+40
Photo #:	6203, 6204




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DF05. View north/up alignment along debris flow incision and levee.

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DF06. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF06
Hazard Type:	debris_flow
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	1678
Frequency (yrs):	0-1
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1677+60
2012 SEIS Alignment North Margin:	1678+80
Photo #:	3876




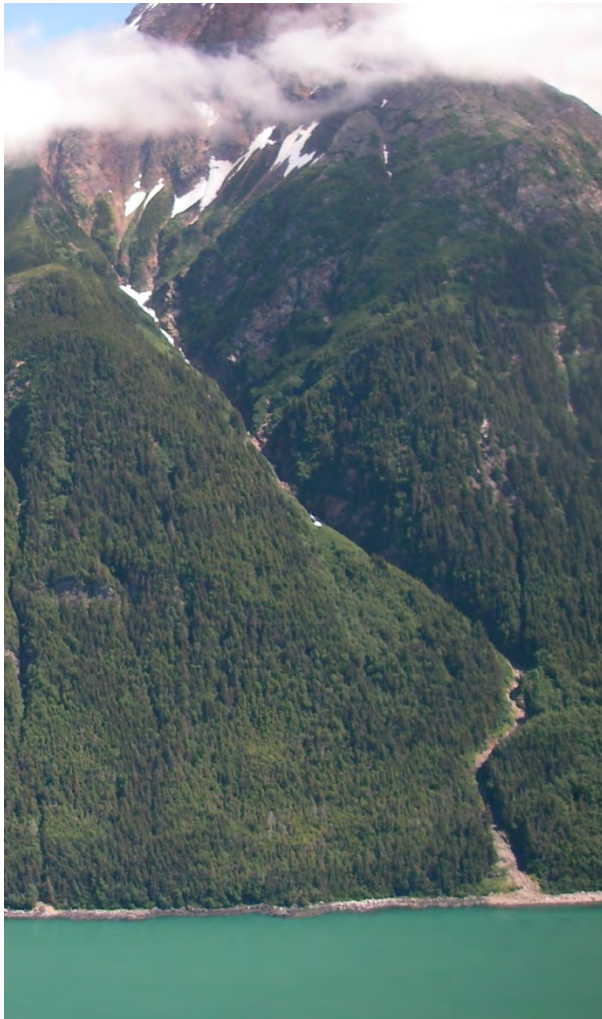
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DF06. View southeast (upslope and down alignment) across debris flow deposition zone at tide line.

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DF07. View east/upslope of debris flow channel and avalanche path.

Hazard ID #:	DF07
Hazard Type:	debris_flow
HIN:	153
Rating:	A
2012 SEIS Alignment Location:	1704
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	100-1000
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	multi_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1703+30
2012 SEIS Alignment North Margin:	1704+40
Photo #:	4366, 5155




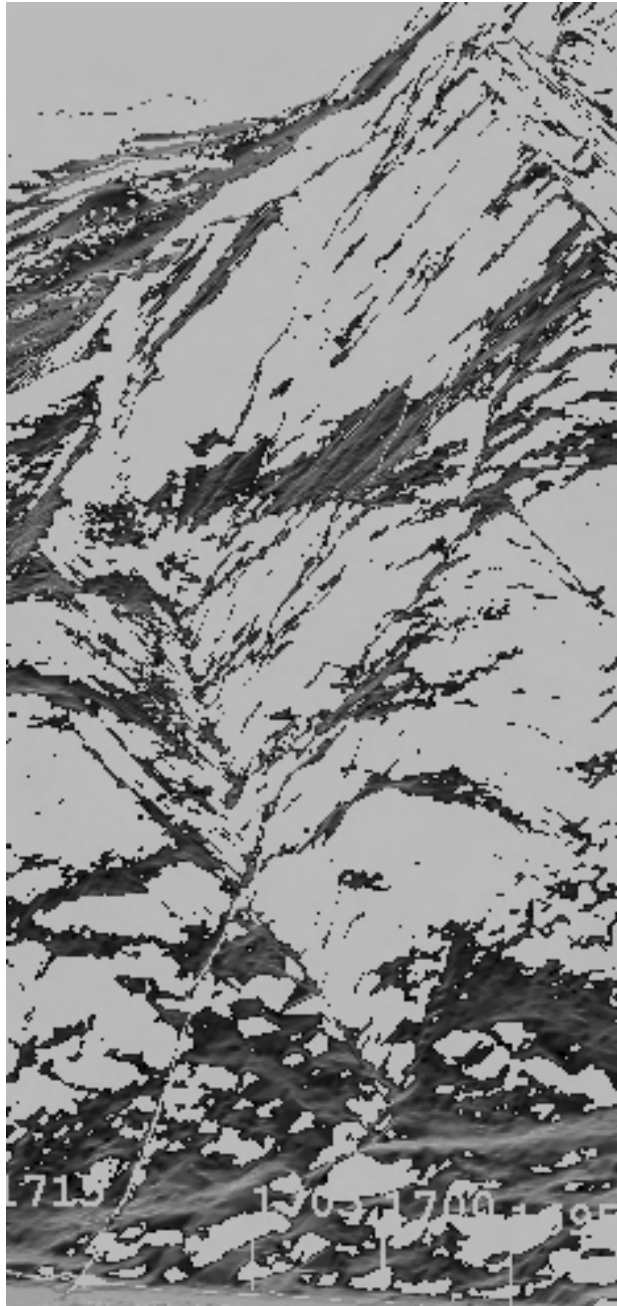
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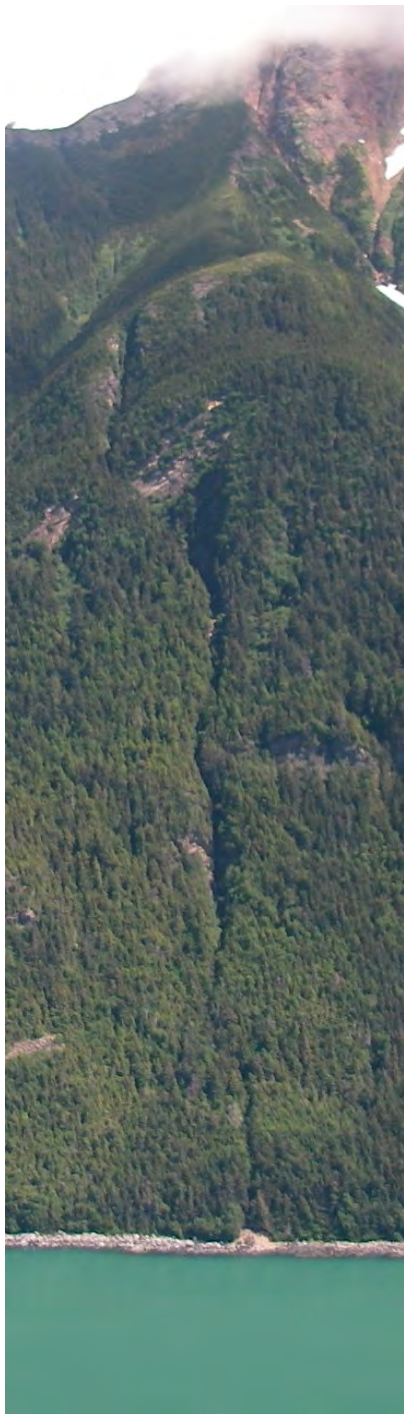
DF07. Path and terminus of debris flow channel.

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DF07. Bare earth LIDAR image of debris flow channel and avalanche path. Station labels represent previous IRP 2006 alignment.

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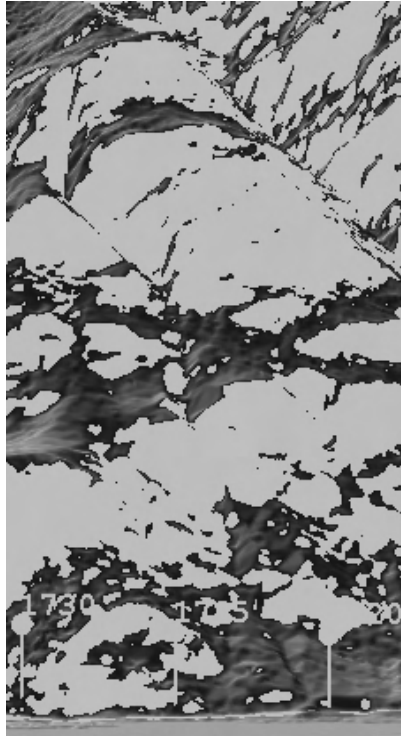
DF08. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF08
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1721
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1720+30
2012 SEIS Alignment North Margin:	1721+30
Photo #:	1126, 5156

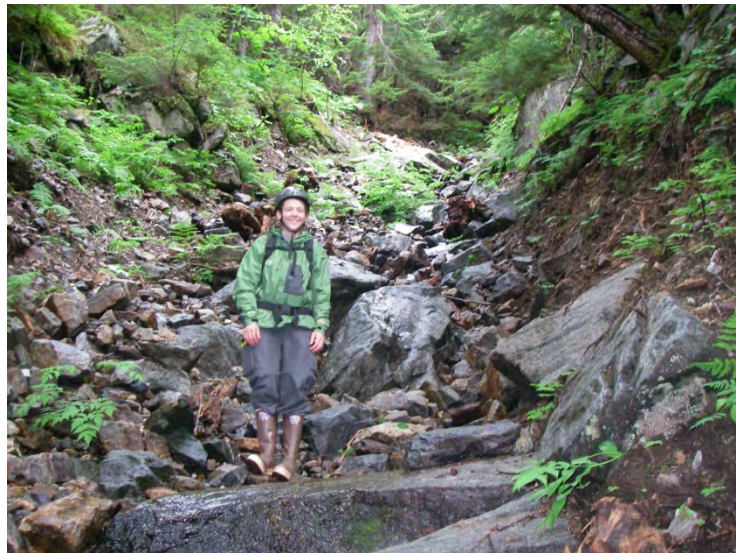


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DF08. Bare earth LIDAR image of debris flow path. Station labels represent previous IRP 2006 alignment.



DF08. View east/upslope at debris flow chute and avalanche path.

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DF08. Debris flow deposition fan and avalanche path.



RF06. View east/upslope at rockfall area.

Hazard ID #:	RF06
Hazard Type:	rockfall
HIN:	201
Rating:	A
2012 SEIS Alignment Location:	1731
Frequency (yrs):	0-1
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	500-1000
Centerline Slope:	open_bedrock_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1730+20
2012 SEIS Alignment North Margin:	1731+10
Photo #:	4674, 6206



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RF06. View east/upslope at rockfall zone.



RF06. View west/downslope at rockfall.



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DF09. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF09
Hazard Type:	debris_flow
HIN:	153
Rating:	A
2012 SEIS Alignment Location:	1734
Frequency (yrs):	unknown (1-5?)
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1732+90
2012 SEIS Alignment North Margin:	1734+90
Photo #:	3307



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DF09. View east/upslope at debris flow path and avalanche path through dense deciduous trees.



DF09. Debris flow and talus cone at base of debris flow and avalanche path.

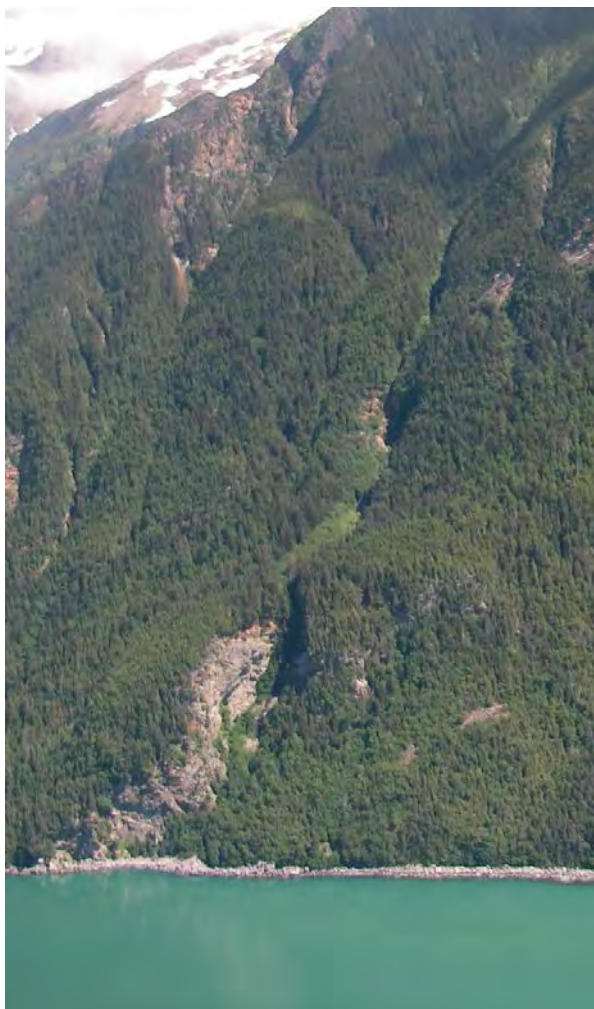


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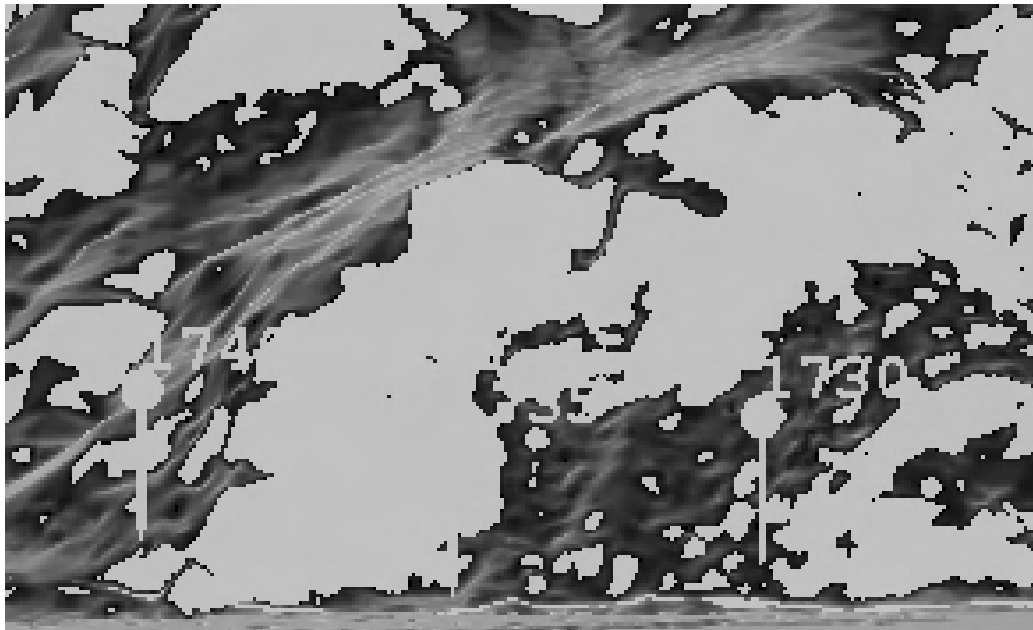


RF07. View east/upslope at rockfall hazard area.


Hazard ID #:	RF07
Hazard Type:	rockfall
HIN:	279
Rating:	A
2012 SEIS Alignment Location:	1738
Frequency (yrs):	0-1
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	4+
Source Elev. (ft):	500-1000
Centerline Slope:	open_bedrock_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	>1000
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1725+20
2012 SEIS Alignment North Margin:	1740+20
Photo #:	4674

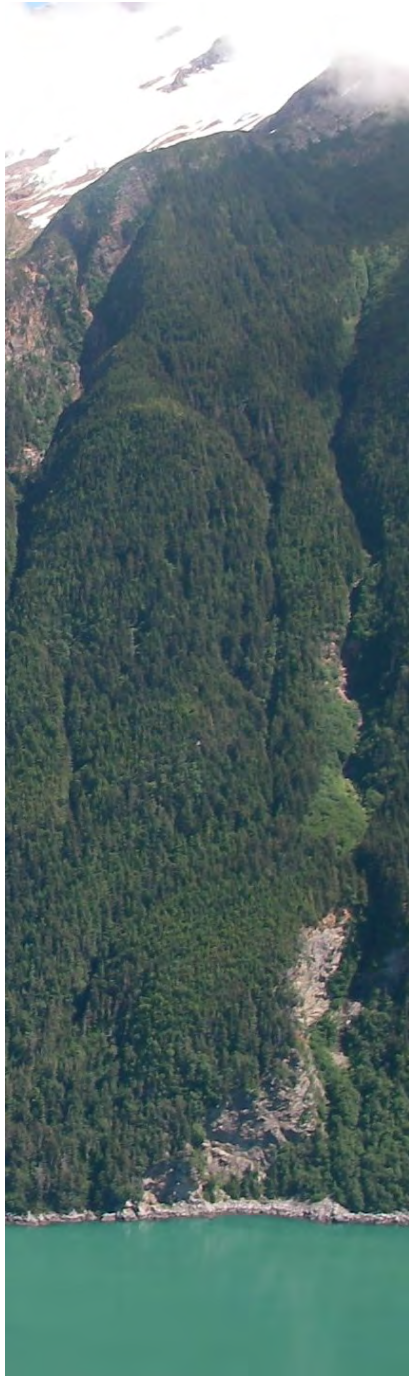


RF07. View east/upslope at 500 ft high gneiss cliffs with strong jointing and rockfall.



RF07. Bare earth LIDAR image of rockfall hazard area. Station labels represent previous IRP 2006 alignment.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF10. View east/upslope at debris flow channel.


Hazard ID #:	DF10
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1743
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	>1000
Centerline Slope:	multi_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1742+80
2012 SEIS Alignment North Margin:	1743+90
Photo #:	4745-4748



DF10. View southwest (downslope and down alignment) at multichannel debris flow deposits.



DF10. View east/upslope at debris flow terminus and deposition zone.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
	DATE	9/10/12			
	CHECK	RGD			
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DF11. View east/upslope at debris flow channel and avalanche path.


Hazard ID #:	DF11
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1748
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1747+40
2012 SEIS Alignment North Margin:	1748+50
Photo #:	4741, 4742, 5157

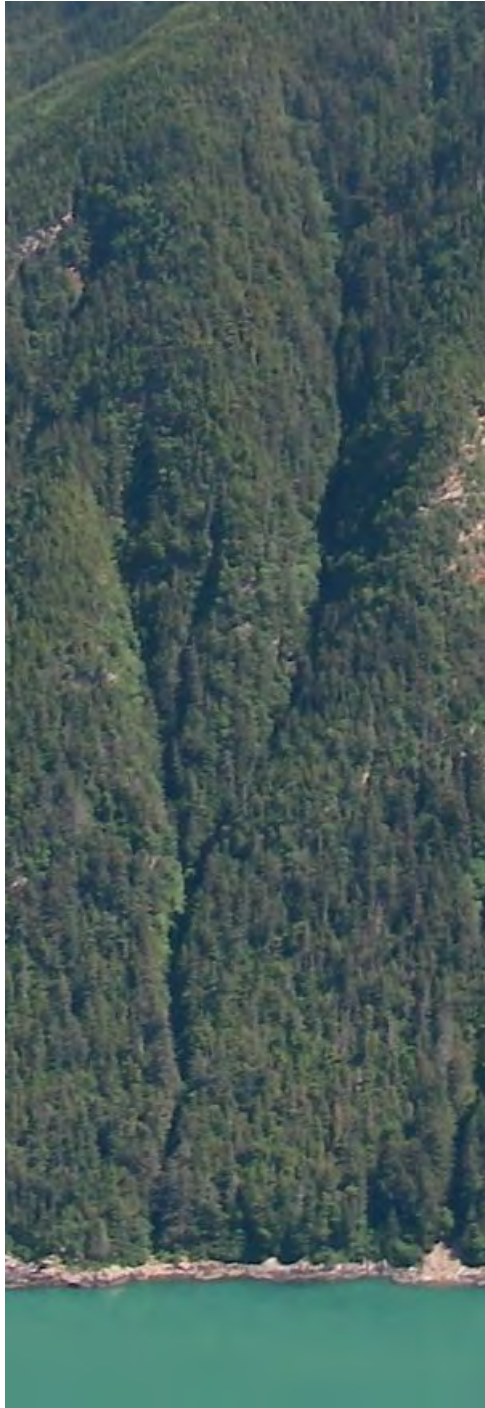


DF11. View east/upslope at debris flow deposition zone.



DF11. View east/upslope at debris flow channel and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
	DATE	9/10/12			
	CHECK	RGD			
FILE No.	GEO_HAZ_SUMM.PPT	DATE	9/24/12	HDR / 2012 SEIS JUNEAU ACCESS / AK	G-38
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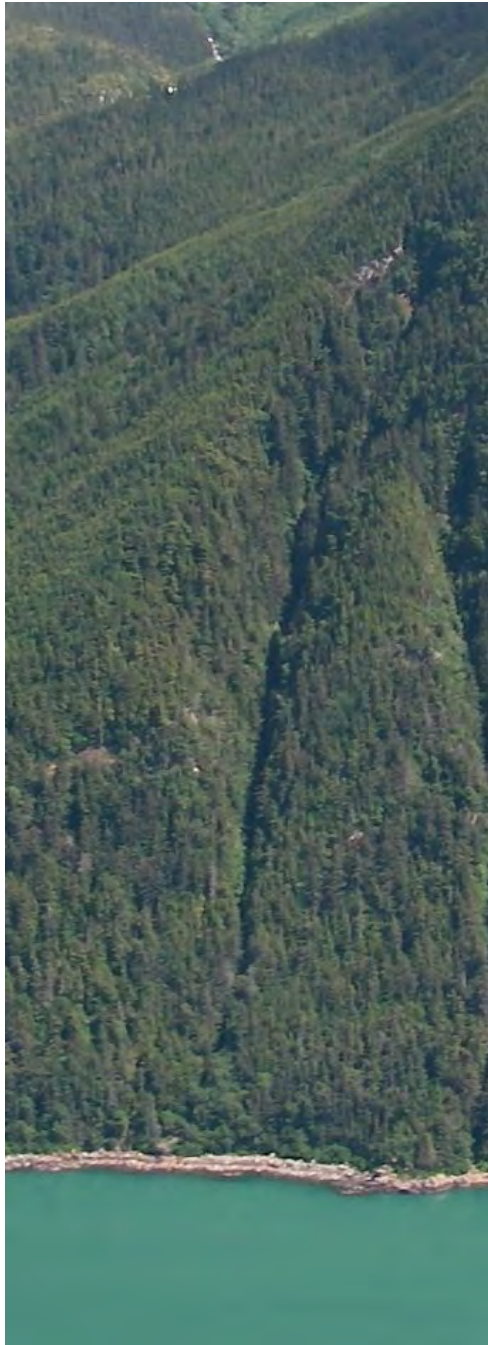
DF12. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF12
Hazard Type:	debris_flow
HIN:	111
Rating:	A
2012 SEIS Alignment Location:	1752
Frequency (yrs):	5-25
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1752+00
2012 SEIS Alignment North Margin:	1752+90
Photo #:	4738, 4739, 5157



DF12. View east/upslope at debris flow channel and avalanche path.

	CADD	ECC	GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF13. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF13
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1757
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1757+00
2012 SEIS Alignment North Margin:	1757+90
Photo #:	4736, 4737, 5157



DF13. View east/upslope at debris flow channel and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
	DATE	9/10/12			
	CHECK	RGD			
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RF08. View east/upslope at rockfall hazard.

Hazard ID #:	RF08
Hazard Type:	rockfall
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	1763
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1760+10
2012 SEIS Alignment North Margin:	1767+60
Photo #:	5039, 5040, 5041, 5157, 6209



RF08. View southwest (downslope and down alignment) at rockfall debris. Survey lath represent previous IRP 2006 alignment.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
	DATE	9/10/12	
	CHECK	RGD	
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			G-44



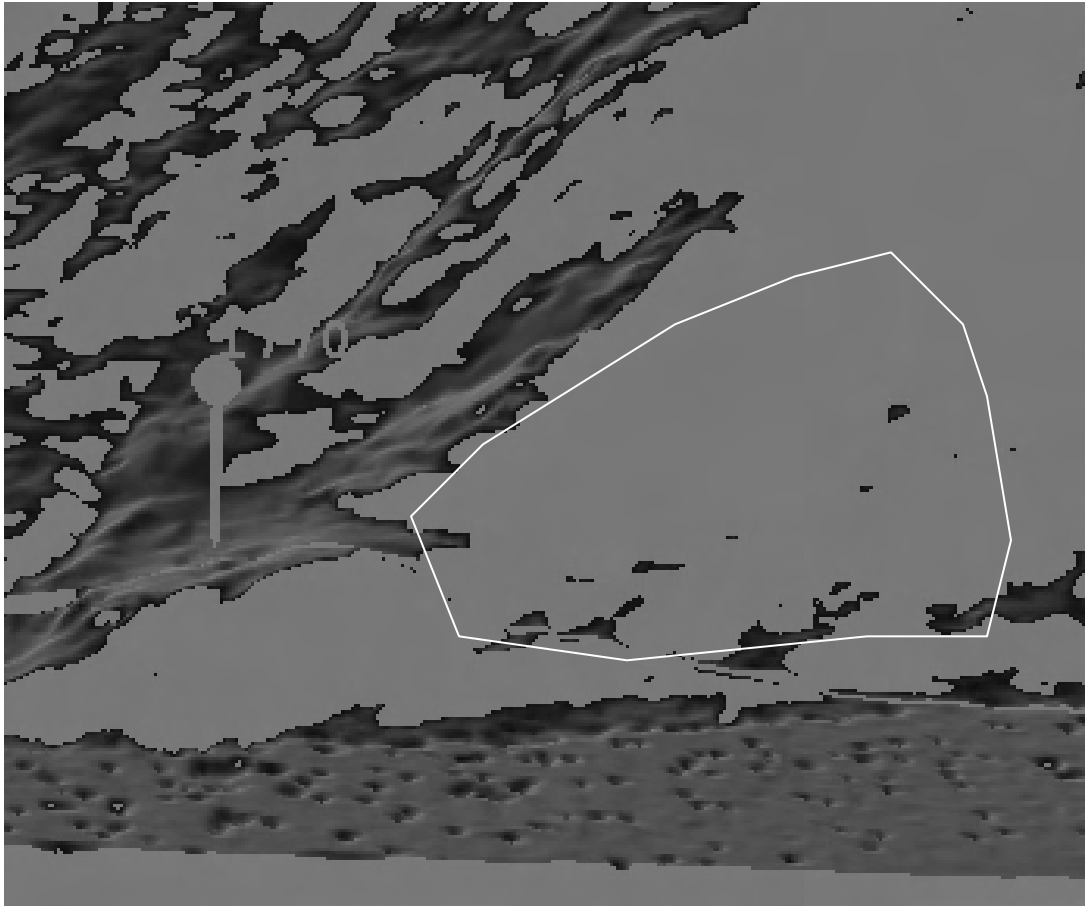
RF09. View east/upslope at area of greater frequency rockfall within rockfall area RF08.

Hazard ID #:	RF09
Hazard Type:	rockfall
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1764
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1764+10
2012 SEIS Alignment North Margin:	1764+70
Photo #:	3878




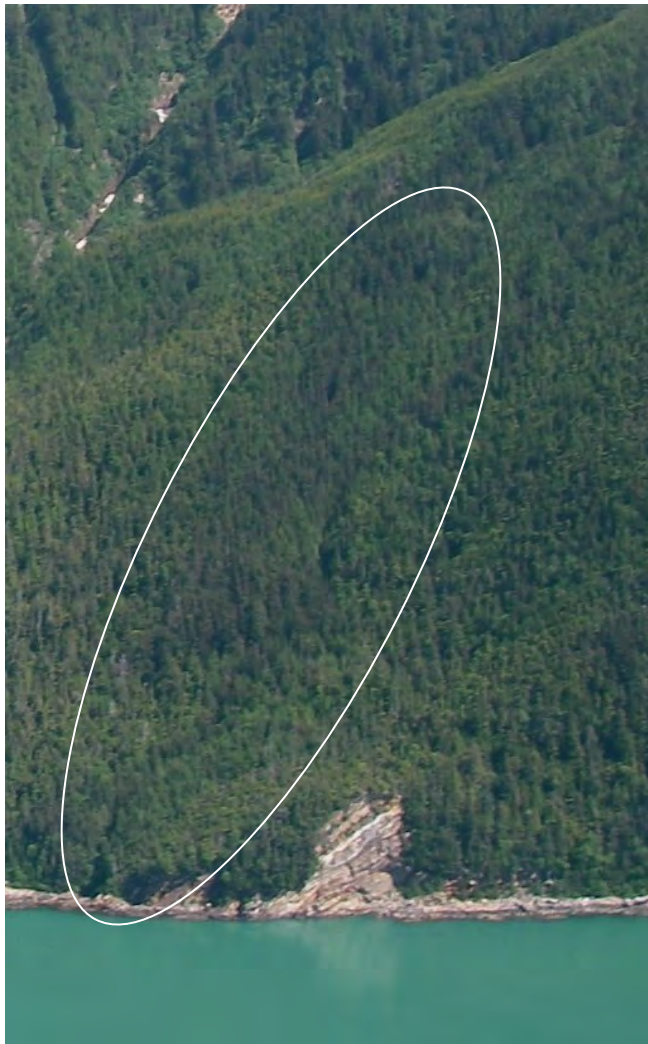
CADD	ECC
DATE	9/10/12
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RF09. Bare earth LIDAR image of rockfall hazard. Station label represents previous IRP 2006 alignment.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF14. View east/upslope at debris flow channel.

Hazard ID #:	DF14
Hazard Type:	debris_flow
HIN:	111
Rating:	A
2012 SEIS Alignment Location:	1773
Frequency (yrs):	25+
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1772+40
2012 SEIS Alignment North Margin:	1773+20
Photo #:	2093, 4714




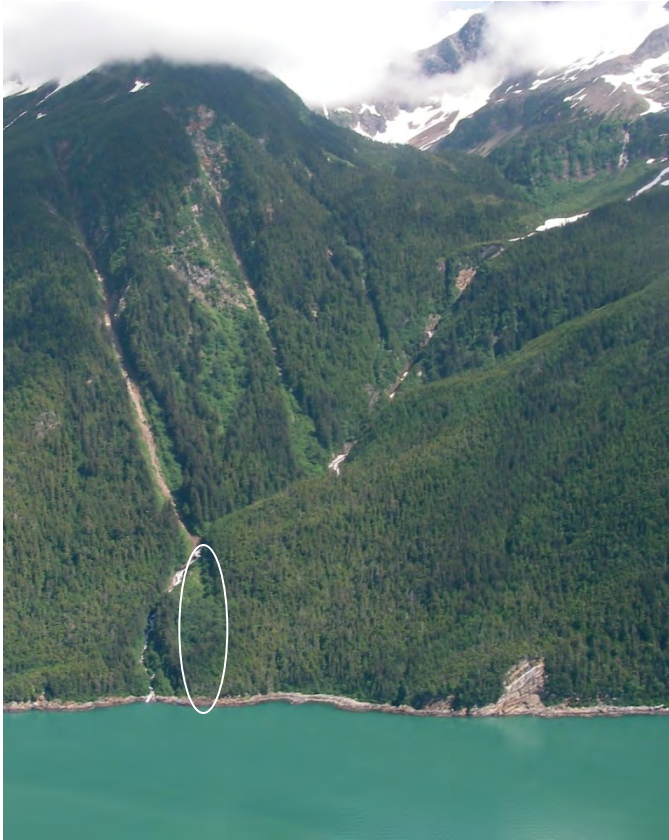
CADD	ECC
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DF14. View east/upslope at debris flow channel. Old levee walls visible on far left and right sides of photo.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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DF15. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF15
Hazard Type:	debris_flow
HIN:	189
Rating:	B
2012 SEIS Alignment Location:	1784
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	1000+
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	multi_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1783+80
2012 SEIS Alignment North Margin:	1784+50
Photo #:	3912

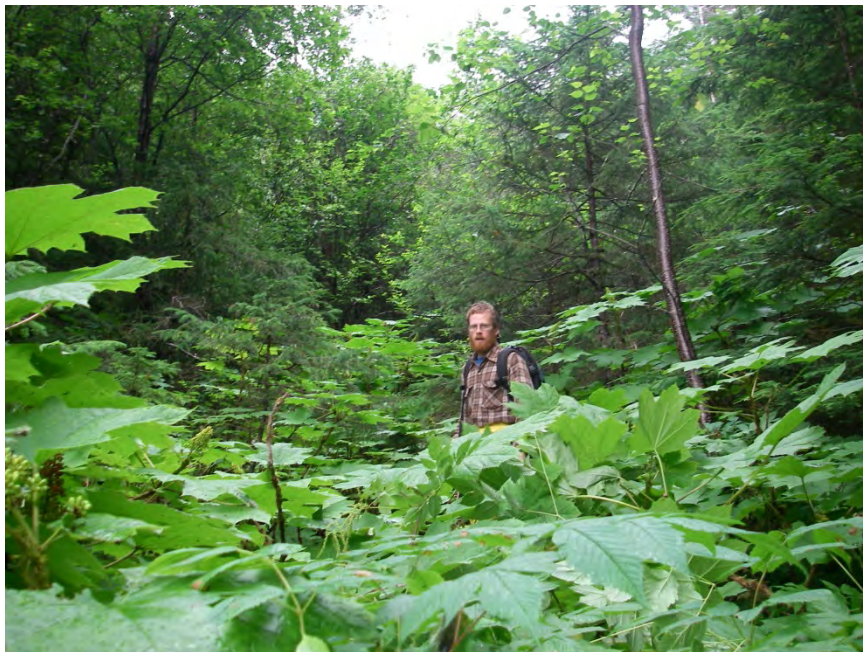


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DF15. View east/upslope at debris flow channel.



DF15. View east/upslope at abandoned/infrequently occupied debris flow path. During large events, this is believed to be an overflow channel from the adjacent, active debris flow channel to the north.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF16. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF16
Hazard Type:	debris_flow
HIN:	207
Rating:	A
2012 SEIS Alignment Location:	1786
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	1000+
Clast Size (ft):	2-3
Source Elev. (ft):	>1000
Centerline Slope:	multi_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1785+00
2012 SEIS Alignment North Margin:	1786+30
Photo #:	1141, 2091, 5158




CADD	ECC
DATE	9/10/12
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DF16. View east/upslope at tributary to debris flow channel and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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DF17. View north/up alignment at margin of old debris flow and recent debris flow.

Hazard ID #:	DF17
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	1826
Frequency (yrs):	25+
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1825+60
2012 SEIS Alignment North Margin:	1827+00
Photo #:	1186, 4012, 4015, 5159, 6232

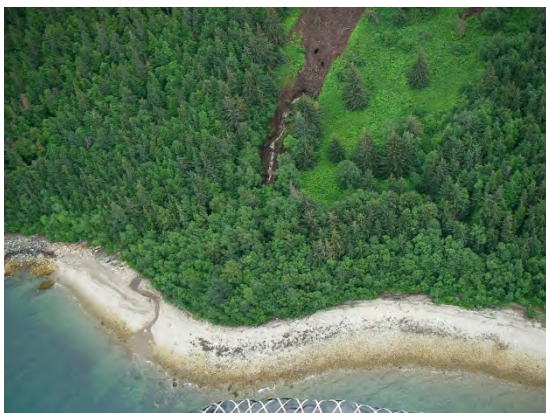


CADD	ECC
DATE	9/10/12
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DF18. Debris flow and avalanche path.




DF18. View east/upslope at debris flow.

Hazard ID #:	DF18
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1828
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1827+00
2012 SEIS Alignment North Margin:	1829+00
Photo #:	1186, 4012, 4015, 5159, 6232




DF18. View east/upslope at debris flow and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF18. View southwest (downslope and down alignment) down a major creek, debris flow fan, and recent deposits that buried small conifer trees. Fan continues across alignment.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
	DATE	9/10/12	
	CHECK	RGD	
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DF19. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF19
Hazard Type:	debris_flow
HIN:	153
Rating:	A
2012 SEIS Alignment Location:	1850
Frequency (yrs):	5-25
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1847+80
2012 SEIS Alignment North Margin:	1851+50
Photo #:	4809, 4812, 4830, 5160

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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DF19. View east/upslope from beach at debris flow and avalanche path.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
	DATE	9/10/12			
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DF20. View east/upslope at debris flow channel.

Hazard ID #:	DF20
Hazard Type:	debris_flow
HIN:	135
Rating:	B
2012 SEIS Alignment Location:	1854
Frequency (yrs):	5-25
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1854+00
2012 SEIS Alignment North Margin:	1854+70
Photo #:	1210, 5160



DF20. View east/upslope at debris channel. Stream is poorly channelized as a result of a high sediment/debris supply.

	CADD	ECC	GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS	
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RF10. View east/upslope at rockfall.

Hazard ID #:	RF10
Hazard Type:	rockfall
HIN:	111
Rating:	C
2012 SEIS Alignment Location:	1857
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	100-500
Centerline Slope:	other
Alignment Location:	below_deposition zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1856+00
2012 SEIS Alignment North Margin:	1857+00
Photo #:	4816



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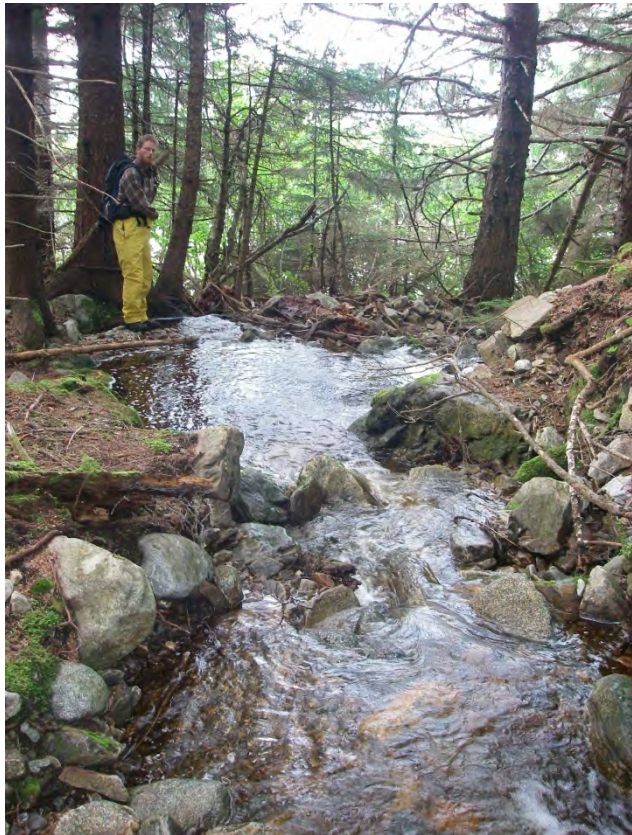
HDR / 2012 SEIS JUNEAU ACCESS / AK

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RF10. View at basalt cliffs that create the rockfall zone.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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	CHECK	RGD			
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DF21. View west/downslope at debris flow deposition zone.

Hazard ID #:	DF21
Hazard Type:	debris_flow
HIN:	123
Rating:	B
2012 SEIS Alignment Location:	1895
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1894+40
2012 SEIS Alignment North Margin:	1895+60
Photo #:	5161, 6238



DF21. View east/upslope at moderate slope old growth covering the debris flow channel.



DF21. View east/upslope at debris flow channel.



CADD	ECC
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RF12. View east/upslope at rockfall area.

Hazard ID #:	RF12
Hazard Type:	rockfall
HIN:	105
Rating:	C
2012 SEIS Alignment Location:	1917
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1916+10
2012 SEIS Alignment North Margin:	1917+30
Photo #:	5162



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RF13. View east/upslope at rockfall area.

Hazard ID #:	RF13
Hazard Type:	rockfall
HIN:	111
Rating:	C
2012 SEIS Alignment Location:	1932
Frequency (yrs):	0-1
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1931+00
2012 SEIS Alignment North Margin:	1932+00
Photo #:	5162



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Hazard ID #:	RF14
Hazard Type:	rockfall
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	1943
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	>1000
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1933+30
2012 SEIS Alignment North Margin:	1953+00
Photo #:	5163, 5909, 5910, 5911



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RF14. View east/upslope at moderate rockfall hazard below massive gneiss cliffs.



RF14. View west/downslope at fresh rockfall with 3-4 ft diameter boulders.

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Hazard ID #:	RF15
Hazard Type:	rockfall
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1947
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	other
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	1946+60
2012 SEIS Alignment North Margin:	1948+90
Photo #:	5163



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RF15. View east/upslope at rockfall area within rockfall area RF14.



RF15. View east/upslope at large cliffs, fresh rockfall scars.



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RF15. View north/up alignment across deposit of fresh 2 ft diameter rockfall.

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DF22. View east/upslope at debris flow channel and avalanche path.




DF22. View east/upslope at debris flow channel.

Hazard ID #:	DF22
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	1984
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	2000-3000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	1983+50
2012 SEIS Alignment North Margin:	1985+00
Photo #:	5047, 5164, 5914

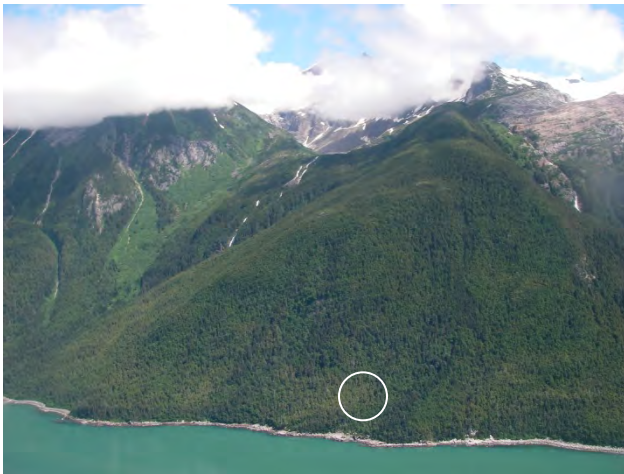


DF22. View southwest (downslope and down alignment) at debris flow fan and avalanche path.

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RF16. View east/upslope at rockfall hazard.




RF16. View east/upslope at rockfall area.

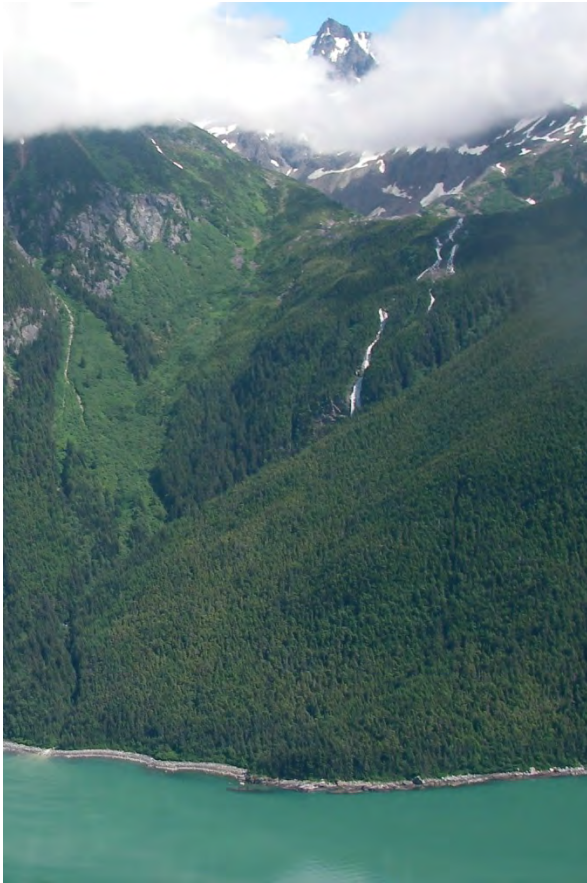
Hazard ID #:	RF16
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2014
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	deciduous_trees
Alignment Location:	below_deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2013+00
2012 SEIS Alignment North Margin:	2015+70
Photo #:	5052, 5053, 6240

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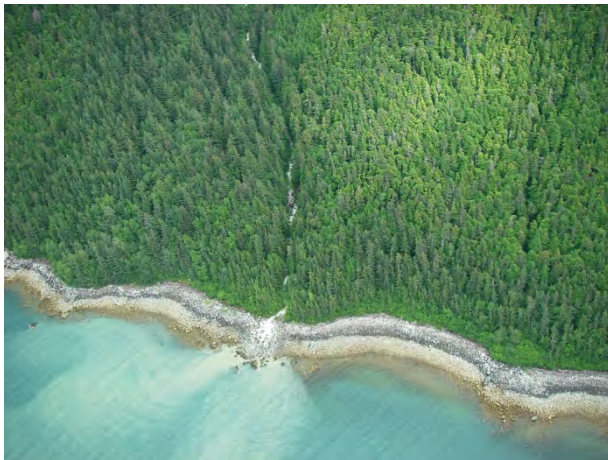


RF16. View north/up alignment across low frequency rockfall area.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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DF23. View east/upslope at debris flow channel and avalanche path.

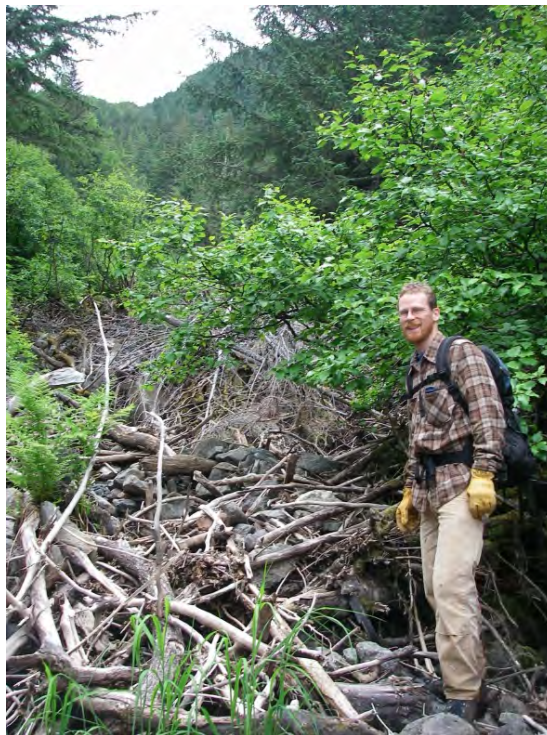


DF23. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF23
Hazard Type:	debris_flow
HIN:	117
Rating:	A
2012 SEIS Alignment Location:	2040
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	3000+
Centerline Slope:	multi_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2039+70
2012 SEIS Alignment North Margin:	2041+20
Photo #:	5057, 5166



DF23. View southwest (downslope and down alignment) into multi-channel debris flow at centerline. Secondary channel is seen to right of person.



DF23. View east/upslope at debris flow channel and avalanche path.



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DF24. View east/upslope at debris flow channel and avalanche path (circled, right) and avalanche path (with major stream, center).

Hazard ID #:	DF24
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2054
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	3000+
Centerline Slope:	multi_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2053+00
2012 SEIS Alignment North Margin:	2054+10
Photo #:	2054, 2239, 3462, 3463, 5093, 6195



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DF24. View east/upslope at debris flow channel and avalanche path (circled, right) and avalanche path (with major stream, center).



DF24. View south/ down alignment across debris flow fan. Survey lath represents previous IRP 2006 alignment.



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DF24. View north/up alignment across debris flow fan.

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DF25. View east/upslope at debris flow channel.



DF25. View east/upslope at debris flow channel.

Hazard ID #:	DF25
Hazard Type:	debris_flow
HIN:	111
Rating:	B
2012 SEIS Alignment Location:	2056
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2056+00
2012 SEIS Alignment North Margin:	2057+00
Photo #:	3462, 3463, 5093, 6195



DF26. View east/upslope at debris flow channel and avalanche path.



DF26. View east/upslope at debris flow channel and avalanche path (center).

Hazard ID #:	DF26
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2059
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2058+80
2012 SEIS Alignment North Margin:	2059+60
Photo #:	2241, 3470, 6195




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DF26. View east/upslope at debris flow channel and avalanche path.

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DF27. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF27
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2087
Frequency (yrs):	5-25
Predictability:	Low
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	open_soil_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2087+30
2012 SEIS Alignment North Margin:	2088+00
Photo #:	3885, 5167, 5924, 6247



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DF27. View east/upslope at debris flow channel and avalanche path.

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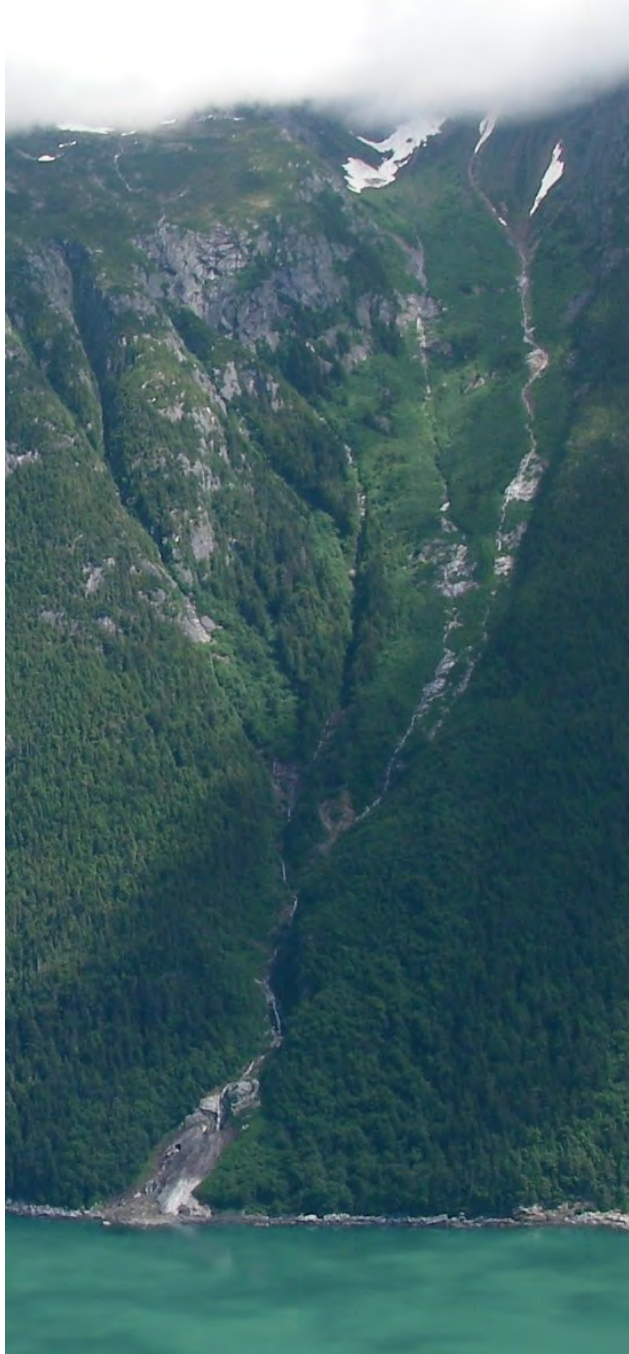


DF28. View east/upslope at debris flow channel.



DF28. View northwest (up alignment and downslope) at deposition fan of debris flow.

Hazard ID #:	DF28
Hazard Type:	debris_flow
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	2102
Frequency (yrs):	0-1
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	3-4
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2101+40
2012 SEIS Alignment North Margin:	2102+30
Photo #:	3886, 5916



DF29. View east/upslope at debris flow channel and avalanche path.


Hazard ID #:	DF29
Hazard Type:	debris_flow
HIN:	153
Rating:	A
2012 SEIS Alignment Location:	2115
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2114+10
2012 SEIS Alignment North Margin:	2116+60
Photo #:	5125, 5926, 6248



DF29. View northeast (up alignment and upslope) at debris flow deposition zone and avalanche path.



DF29. View north/up alignment across debris flow fan at base of avalanche path.

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DF30. View east/upslope at debris flow path.



DF30. Disturbed vegetation marks path of debris flow.

Hazard ID #:	DF30
Hazard Type:	debris_flow
HIN:	135
Rating:	B
2012 SEIS Alignment Location:	2122
Frequency (yrs):	5-25
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	1000-2000
Centerline Slope:	single_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2122+00
2012 SEIS Alignment North Margin:	2123+00
Photo #:	5168, 5927, 6250



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RF17. View east/upslope at rockfall hazard area.

Hazard ID #:	RF17
Hazard Type:	rockfall
HIN:	201
Rating:	A
2012 SEIS Alignment Location:	2128
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	1000-2000
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2128+00
2012 SEIS Alignment North Margin:	2128+60
Photo #:	5928, 6251



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RF17. View east/upslope at rockfall path.



RF17. View south/down alignment across rockfall with 3-5 ft diameter boulders.



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SR02. View east/upslope at soil raveling area.

Hazard ID #:	SR02
Hazard Type:	soil_raveling
HIN:	171
Rating:	B
2012 SEIS Alignment Location:	2128
Frequency (yrs):	0-1
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	<100
Centerline Slope:	single_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	<50
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2128+30
2012 SEIS Alignment North Margin:	2128+70
Photo #:	3889, 5168



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DF31. View east/upslope at debris flow path and base of avalanche path.

Hazard ID #:	DF31
Hazard Type:	debris_flow
HIN:	111
Rating:	A
2012 SEIS Alignment Location:	2140
Frequency (yrs):	5-25
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	3000+
Centerline Slope:	multi_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2139+80
2012 SEIS Alignment North Margin:	2141+10
Photo #:	5168, 5169, 5929, 5930



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RF19. View east/upslope at large rockfall area.



RF19. Fresh 6 ft diameter megaboulder and related deforestation.

Hazard ID #:	RF19
Hazard Type:	rockfall
HIN:	273
Rating:	A
2012 SEIS Alignment Location:	2144
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2141+80
2012 SEIS Alignment North Margin:	2149+60
Photo #:	1357, 3491, 3493, 3495, 3498, 5130, 5168



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RF19. View west/downslope at rockfall debris deposits.



RF19. View west/downslope at rockfall path.



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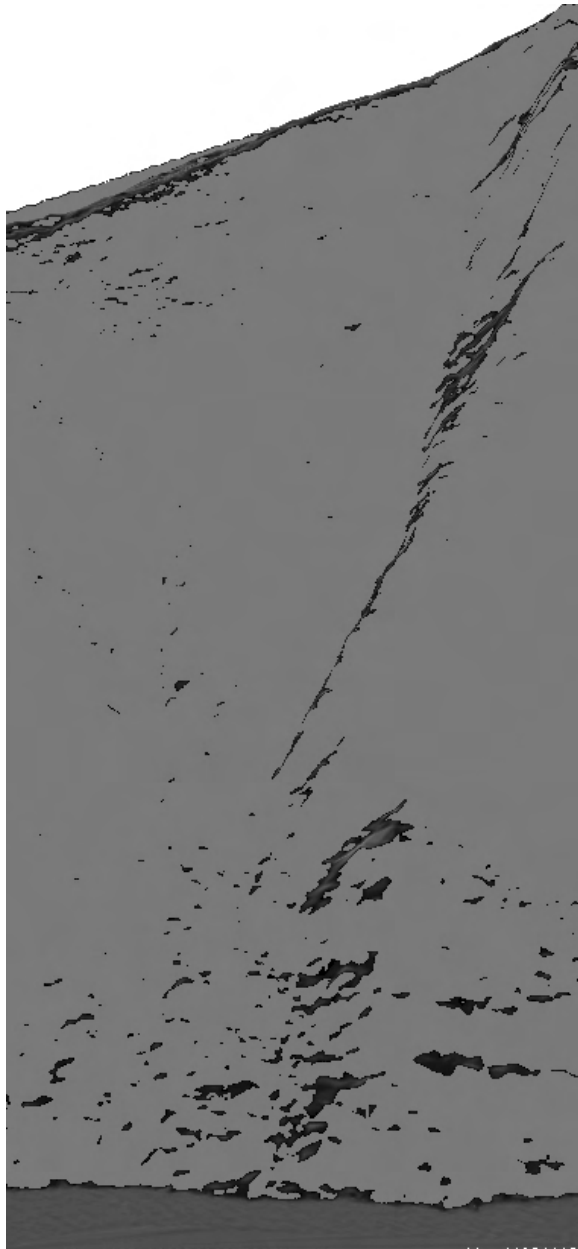
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RF20. View east/upslope at rockfall area and avalanche path.

Hazard ID #:	RF20
Hazard Type:	rockfall
HIN:	165
Rating:	A
2012 SEIS Alignment Location:	2145
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	500-1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2143+60
2012 SEIS Alignment North Margin:	2145+90
Photo #:	1357, 3491, 3493, 3495, 3498, 5130, 5131, 5168



RF20. Bare earth LIDAR image view east/upslope at rockfall hazard area. Station labels represent previous IRP 2006 alignment.

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RF21. View north/up alignment at rockfall hazard.

Hazard ID #:	RF21
Hazard Type:	rockfall
HIN:	147
Rating:	C
2012 SEIS Alignment Location:	2154
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	500-1000
Centerline Slope:	-
Alignment Location:	below_deposition _zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2153+20
2012 SEIS Alignment North Margin:	2154+30
Photo #:	6014



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LS01. View east/upslope at landslide area.

Hazard ID #:	LS01
Hazard Type:	landslide
HIN:	255
Rating:	C
2012 SEIS Alignment Location:	2205
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	-
Source Elev. (ft):	1000-2000
Centerline Slope:	-
Alignment Location:	below_deposition _zone
Impact Alignment:	no
Alignment Exposure (ft):	>500
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2202+00
2012 SEIS Alignment North Margin:	2208+00
Photo #:	5171



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DF32. View east/upslope at outlet of debris flow.


Hazard ID #:	DF32
Hazard Type:	debris_flow
HIN:	51
Rating:	B
2012 SEIS Alignment Location:	2206
Frequency (yrs):	5-25
Predictability:	high
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	500-1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2205+40
2012 SEIS Alignment North Margin:	2206+30
Photo #:	6018



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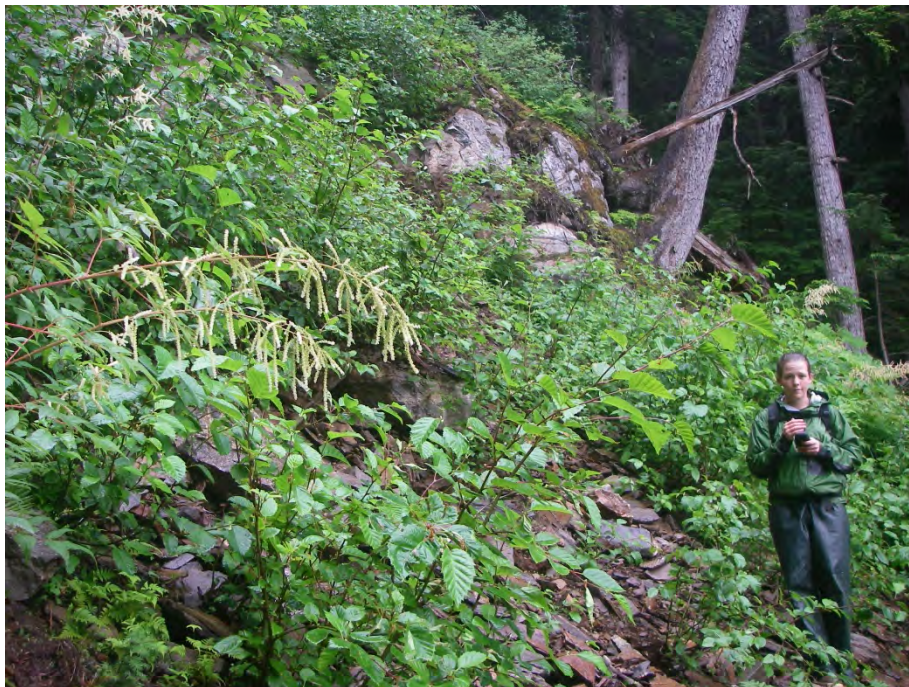
TITLE
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Hazard ID #:	LS02
Hazard Type:	translational_slide
HIN:	135
Rating:	C
2012 SEIS Alignment Location:	2219
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2218+10
2012 SEIS Alignment North Margin:	2219+20
Photo #:	5000, 5937

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LS02. View east/upslope at landslide area.



LS02. View south/down alignment at landslide and exposed bedrock.



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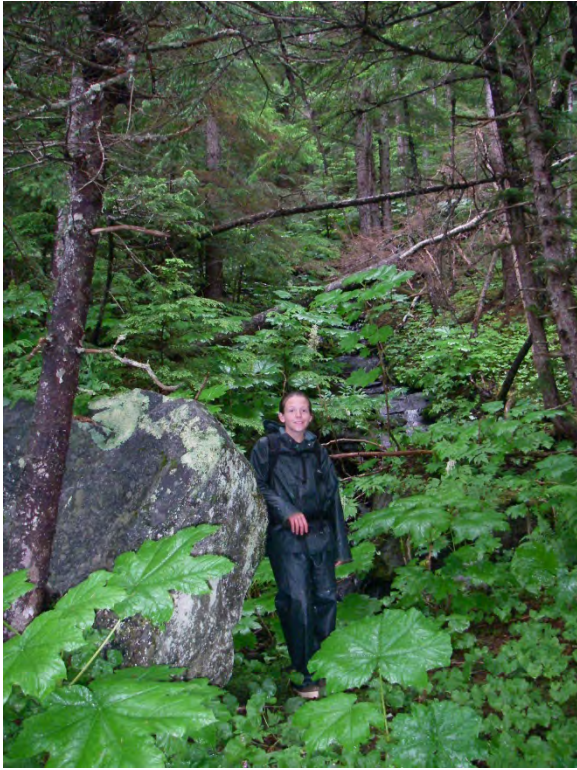
DF33. View east/upslope at debris flow channel.

Hazard ID #:	DF33
Hazard Type:	debris_flow
HIN:	183
Rating:	B
2012 SEIS Alignment Location:	2251
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	3000+
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2250+90
2012 SEIS Alignment North Margin:	2251+60
Photo #:	6023



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RF22. View east/upslope at fresh rockfall.



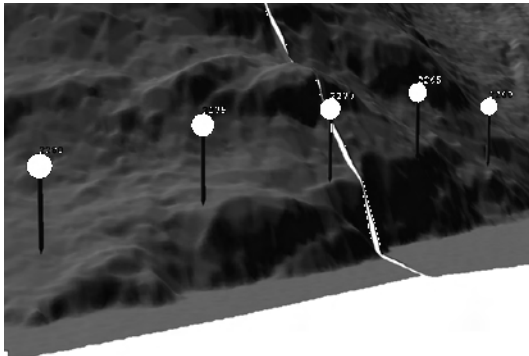
RF22. View east/upslope at rockfall path.

Hazard ID #:	RF22
Hazard Type:	rockfall
HIN:	147
Rating:	B
2012 SEIS Alignment Location:	2252
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	500-1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2252+10
2012 SEIS Alignment North Margin:	2252+70
Photo #:	5941, 6024

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RF24. View east/upslope at rockfall hazard.



RF24. Bare earth LIDAR image of rockfall hazard. Station labels represent previous IRP 2006 alignment.

Hazard ID #:	RF24
Hazard Type:	rockfall
HIN:	141
Rating:	B
2012 SEIS Alignment Location:	2260
Frequency (yrs):	unknown (1-5?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	<100
Centerline Slope:	-
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2258+50
2012 SEIS Alignment North Margin:	2260+75
Photo #:	3507



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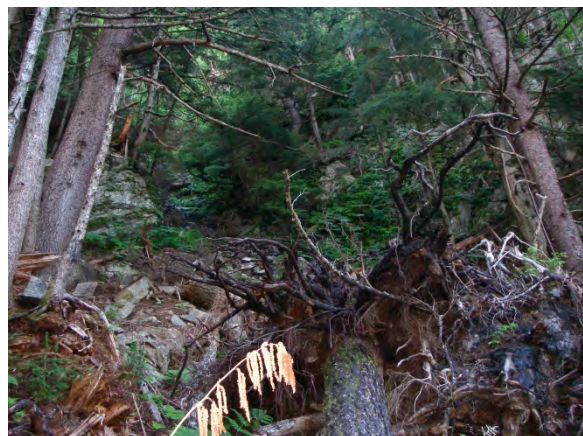


RF24. View east of rockfall hazard with fresh scarring.

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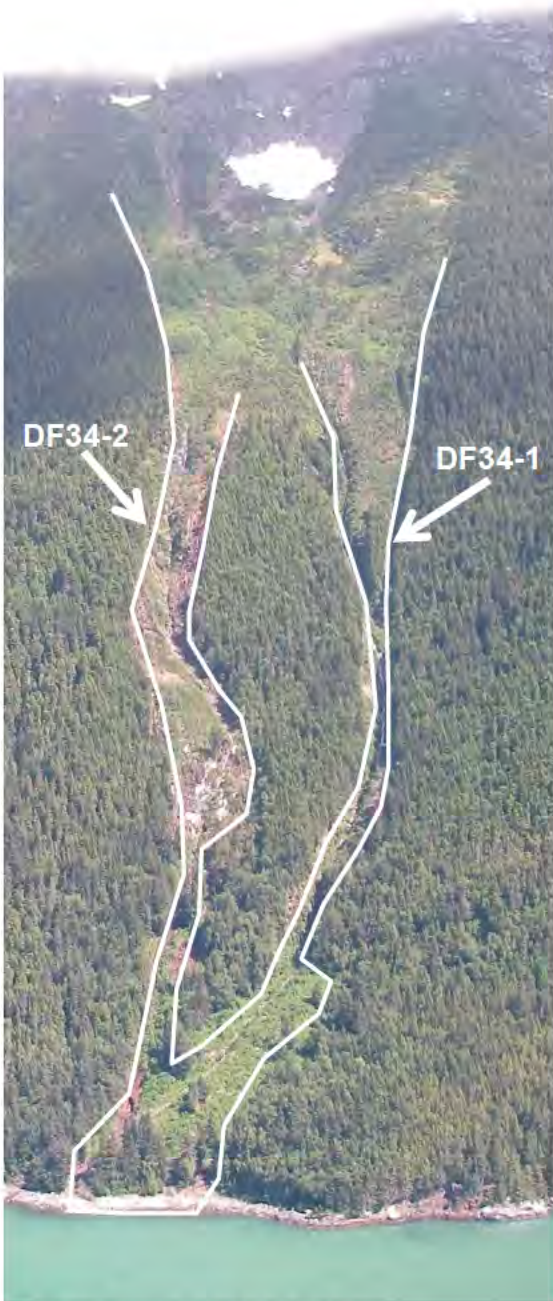


RS02. View east/upslope at rockfall hazard and rockslide.



RS02. View east/upslope at rockslide path.

Hazard ID #:	RS02
Hazard Type:	rock_slide
HIN:	63
Rating:	A
2012 SEIS Alignment Location:	2261
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2260+75
2012 SEIS Alignment North Margin:	2261+35
Photo #:	3508, 3510, 3511



DF 34-1 and DH34-1. View east/upslope at debris flow channels and avalanche paths.

Hazard ID #:	DF34-1
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2282
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2281+60
2012 SEIS Alignment North Margin:	2282+50
Photo #:	3527, 3528



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Hazard ID #:	DF34-2
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2284
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2283+50
2012 SEIS Alignment North Margin:	2284+20
Photo #:	3527, 3528



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DF34-2. View north/up alignment at debris flow channel/avalanche path.

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DF35. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF35
Hazard Type:	debris_flow
HIN:	207
Rating:	B
2012 SEIS Alignment Location:	2294
Frequency (yrs):	unknown (1-5?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	3-4
Source Elev. (ft):	3000+
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2293+30
2012 SEIS Alignment North Margin:	2294+30
Photo #:	3535



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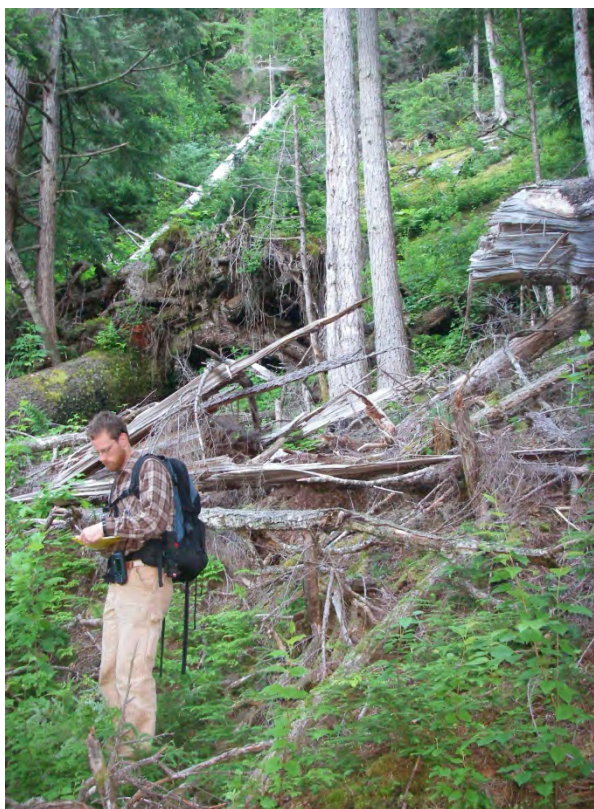
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DF35. View east/upslope of debris flow channel and avalanche path.

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LS03. View north/up alignment at landslide.

Hazard ID #:	LS03
Hazard Type:	translational_slide
HIN:	105
Rating:	B
2012 SEIS Alignment Location:	2299
Frequency (yrs):	25+
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	<100
Centerline Slope:	-
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2298+50
2012 SEIS Alignment North Margin:	2299+10
Photo #:	5269, 5946



RF26. View north/up alignment at rockfall hazard.

Hazard ID #:	RF26
Hazard Type:	rockfall
HIN:	111
Rating:	B
2012 SEIS Alignment Location:	2300
Frequency (yrs):	unknown (5-25?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	4+
Source Elev. (ft):	<100
Centerline Slope:	-
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	undisturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2299+60
2012 SEIS Alignment North Margin:	2300+70
Photo #:	3559, 3560, 5946



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RF27. View south/down alignment at rockfall hazard.

Hazard ID #:	RF27
Hazard Type:	rockfall
HIN:	219
Rating:	B
2012 SEIS Alignment Location:	2305
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	500-1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	>500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2302+70
2012 SEIS Alignment North Margin:	2307+90
Photo #:	3561

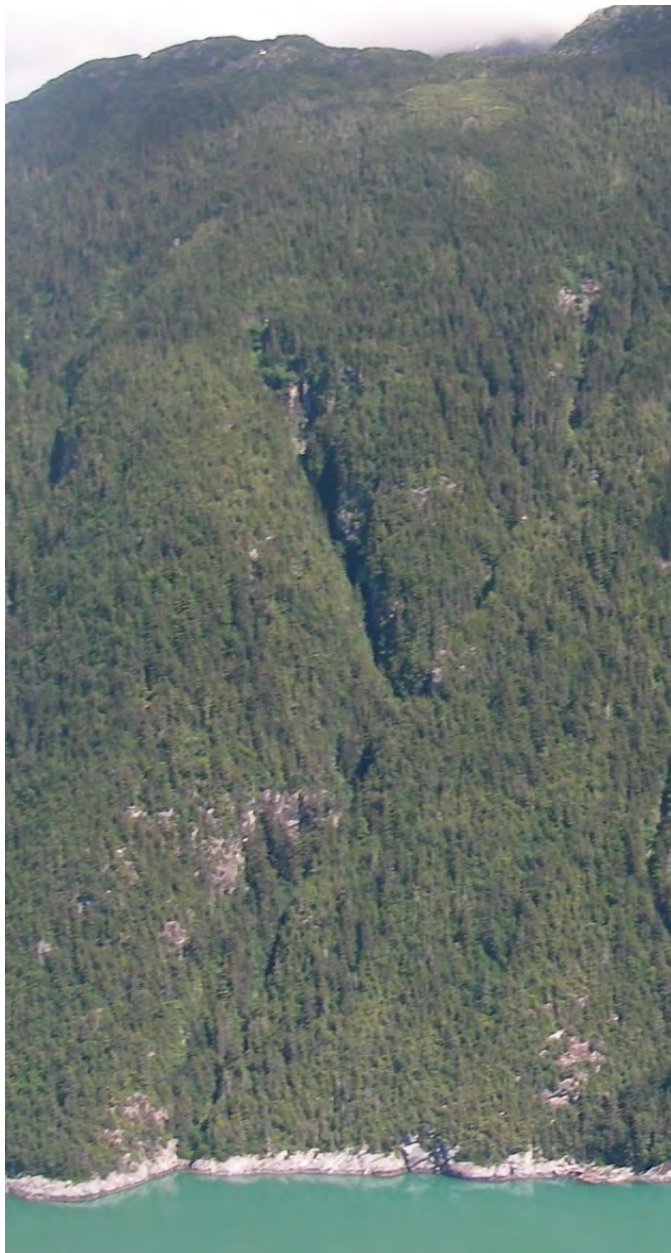


DF36. View east/upslope at debris flow channel.



DF36. View west/downslope at debris flow channel scoured to gneiss bedrock.

Hazard ID #:	DF36
Hazard Type:	debris_flow
HIN:	123
Rating:	B
2012 SEIS Alignment Location:	2311
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	1000-2000
Centerline Slope:	fan
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	<50
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2310+65
2012 SEIS Alignment North Margin:	2311+15
Photo #:	3562



DF37. View east/upslope at debris flow channel and avalanche path.

Hazard ID #:	DF37
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2321
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	1000-2000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2320+75
IRP 2006 North Margin:	2321+60
Photo #:	3564, 3565, 3566



DF37. View east/upslope at debris flow channel with extreme cliffs to south (down alignment).



DF37. View east/downslope at boulders deposited by debris flow.



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RF28. View east/downslope at rockfall hazard.

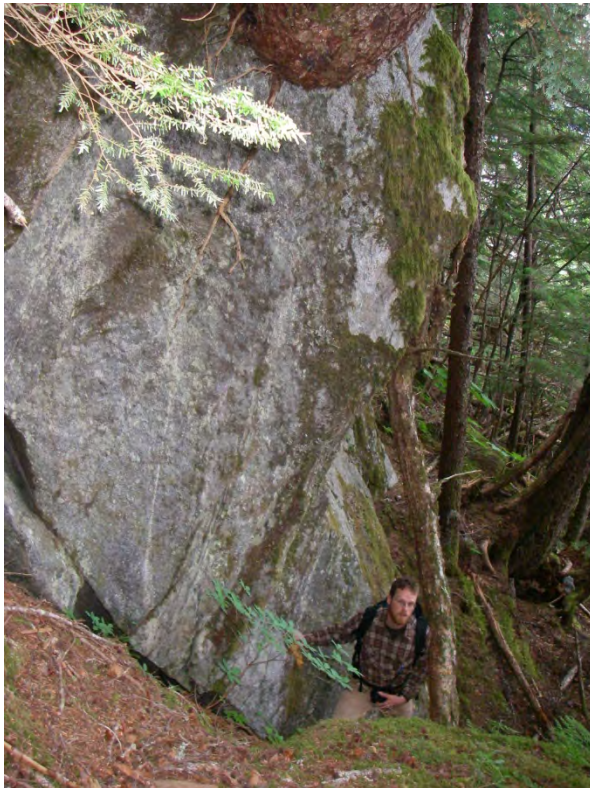


RF28. View east/downslope at rockfall hazard area.

Hazard ID #:	RF28
Hazard Type:	rockfall
HIN:	183
Rating:	A
2012 SEIS Alignment Location:	2322
Frequency (yrs):	0-1
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2321+60
2012 SEIS Alignment North Margin:	2322+25
Photo #:	3891, 5948, 6254



RF29. View northeast (up alignment and upslope) at rockfall area across 2012 SEIS alignment.



RF20. View west/downslope at rockfall hazard.

Hazard ID #:	RF29
Hazard Type:	rockfall
HIN:	99
Rating:	B
2012 SEIS Alignment Location:	2328
Frequency (yrs):	25+
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	<100
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2327+30
2012 SEIS Alignment North Margin:	2328+50
Photo #:	6140



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RF30. View east/upslope at rockfall hazard.



RF30. View west/downslope at rockfall hazard.

Hazard ID #:	RF30
Hazard Type:	rockfall
HIN:	135
Rating:	B
2012 SEIS Alignment Location:	2332
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	4+
Source Elev. (ft):	500-1000
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2331+00
2012 SEIS Alignment North Margin:	2332+20
Photo #:	6142, 6143



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RF31. View east/upslope at rockfall hazard and avalanche path.

Hazard ID #:	RF31
Hazard Type:	rockfall
HIN:	177
Rating:	A
2012 SEIS Alignment Location:	2334
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	<50
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2334+40
2012 SEIS Alignment North Margin:	2334+90
Photo #:	6144, 6145



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G-122



RF31. View south/down alignment at rockfall with freshly gouged trees.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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DF38. View east/upslope at debris flow channel and avalanche path.


Hazard ID #:	DF38
Hazard Type:	debris_flow
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	2338
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	2000-3000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2337+80
2012 SEIS Alignment North Margin:	2338+60
Photo #:	6146



DF38. View west/downslope at debris flow channel.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS
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Hazard ID #:	RF36
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2462
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2461+50
2012 SEIS Alignment North Margin:	2462+20
Photo #:	3609, 5960



Golder Associates

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TITLE

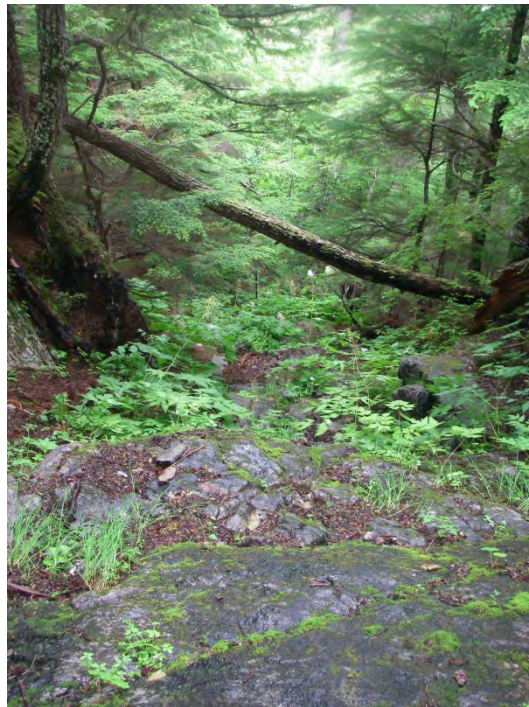
**GEOLOGIC HAZARD SUMMARY
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G-126



RF36. View east/upslope at rockfall hazard.



RF36. View west/downslope at rockfall chute.



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LS05. View east/upslope at landslide.



LS05. View west/downslope at landslide.

Hazard ID #:	LS05
Hazard Type:	translational_slide
HIN:	111
Rating:	C
2012 SEIS Alignment Location:	2466
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2465+00
2012 SEIS Alignment North Margin:	2466+50
Photo #:	3615, 5961, 6077



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DF40. View east/upslope at debris flow channel.



DF40. View west/upslope at debris flow channel.

Hazard ID #:	DF40
Hazard Type:	debris_flow
HIN:	135
Rating:	B
2012 SEIS Alignment Location:	2467
Frequency (yrs):	5-25
Predictability:	low
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	>1000
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2466+65
2012 SEIS Alignment North Margin:	2467+45
Photo #:	3616, 5180, 5961



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Hazard ID #:	DF41
Hazard Type:	debris_flow
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2468
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	10-100
Clast Size (ft):	0-1
Source Elev. (ft):	3000+
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2468+15
2012 SEIS Alignment North Margin:	2468+75
Photo #:	3616



DF41. View east/upslope at debris flow channel.



DF41. View east/upslope at debris flow chute with active stream.



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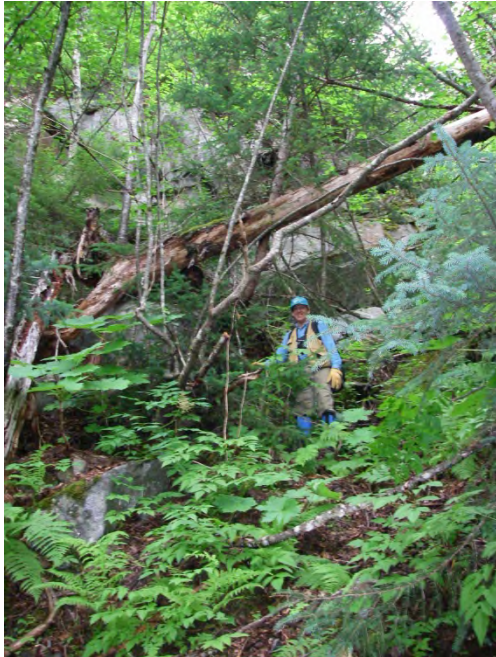
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RF37. View east/upslope at rockfall area.

Hazard ID #:	RF37
Hazard Type:	rockfall
HIN:	69
Rating:	B
2012 SEIS Alignment Location:	2476
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2474+00
2012 SEIS Alignment North Margin:	2477+90
Photo #:	3637, 5181, 5962



RF37. View east/upslope at rockfall hazard.

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RF38. View south/down alignment at typical talus field within rockfall hazard.

Hazard ID #:	RF38
Hazard Type:	rockfall
HIN:	33
Rating:	B
2012 SEIS Alignment Location:	2481
Frequency (yrs):	5-25
Predictability:	high
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	single_channel
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2480+90
2012 SEIS Alignment North Margin:	2481+80
Photo #:	6092



RF39. View south/down alignment at rockfall hazard.



RF39. View east/upslope at rockfall.

Hazard ID #:	RF39
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2488
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	other
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2488+00
2012 SEIS Alignment North Margin:	2489+00
Photo #:	6083, 6084



RF39 & RF40. View east/upslope at rockfall hazards RF39 (right) and RF40 (left).



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RF40. View west/upslope at rockfall hazard.

Hazard ID #:	RF40
Hazard Type:	rockfall
HIN:	147
Rating:	B
2012 SEIS Alignment Location:	2494
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	3-4
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2491+60
2012 SEIS Alignment North Margin:	2496+20
Photo #:	5182, 5964, 6085



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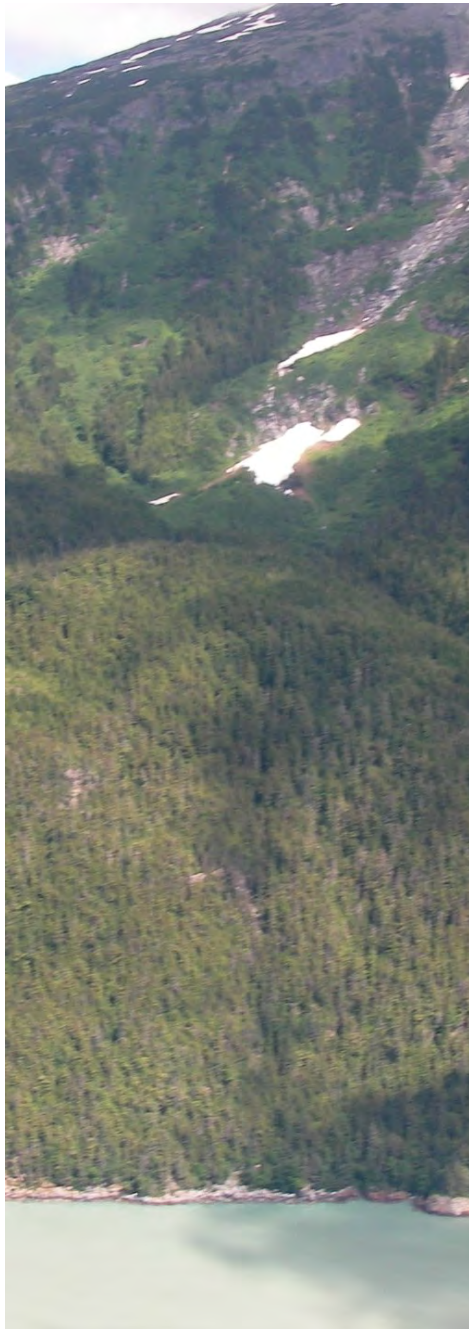
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RF40. View south/down alignment at rockfall hazard.

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DF42. View east/upslope at debris flow channel.


Hazard ID #:	DF42
Hazard Type:	debris_flow
HIN:	117
Rating:	B
2012 SEIS Alignment Location:	2498
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elev. (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2498+10
2012 SEIS Alignment North Margin:	2498+90
Photo #:	6086




DF42. View east/upslope at debris flow channel.



DF42. View west/downslope at debris flow channel.

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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Hazard ID #:	RF41
Hazard Type:	rockfall
HIN:	93
Rating:	C
2012 SEIS Alignment Location:	2505
Frequency (yrs):	1-5
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	500-1000
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2502+50
2012 SEIS Alignment North Margin:	2507+20
Photo #:	5965, 6094, 6095

	CADD	ECC	TITLE GEOLOGIC HAZARD SUMMARY ARRANGED BY 2012 SEIS STATIONING LYNN CANAL HIGHWAY PHASE 2 2012 SEIS ALIGNMENT HAZARD REVISIONS		
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RF41. View east/upslope at rockfall hazard.



RF41. View south/down alignment at rockfall stopped by a spruce tree.



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RF42. View east/upslope at rockfall hazard.



RF42. View east/upslope at rockfall hazard.

Hazard ID #:	RF42
Hazard Type:	rockfall
HIN:	111
Rating:	B
2012 SEIS Alignment Location:	2507
Frequency (yrs):	unknown (5-25?)
Predictability:	moderate
Material Volume (CY):	<10
Clast Size (ft):	0-1
Source Elev. (ft):	100-500
Centerline Slope:	deciduous_trees
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2502+50
2012 SEIS Alignment North Margin:	2512+40
Photo #:	6094, 6095

Hazard ID #:	HR03
Hazard Type:	hazard_rocks
HIN:	105
Rating:	C
2012 SEIS Alignment Location:	2525
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	-
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2524+45
2012 SEIS Alignment North Margin:	2525+10
Photo #:	5311, 5312



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HR03. View east/upslope at hazard rock.

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Hazard ID #:	HR04
Hazard Type:	hazard_rocks
HIN:	105
Rating:	C
2012 SEIS Alignment Location:	2533
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	-
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2533+00
2012 SEIS Alignment North Margin:	2533+70
Photo #:	5318



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HR04. View south/down alignment at hazard rock.

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RF43 & RF44. View east/upslope at rockfall areas RF43 (right) and RF44 (left).



RF43. View south/down alignment at rockfall hazard, recently deposited boulder embedded into 2 ft diameter birch tree.

Hazard ID #:	RF43
Hazard Type:	rockfall
HIN:	129
Rating:	A
2012 SEIS Alignment Location:	2536
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2535+20
IRP 2006 North Margin:	2537+20
Photo #:	3648, 5969



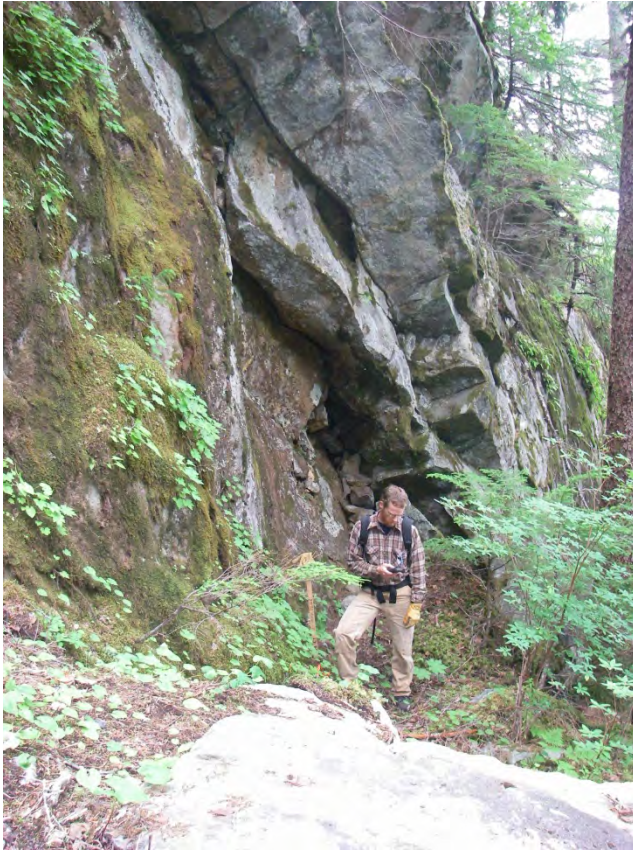
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RF44. View south/down alignment at rockfall hazard.

Hazard ID #:	RF44
Hazard Type:	rockfall
HIN:	147
Rating:	B
2012 SEIS Alignment Location:	2540
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2538+40
2012 SEIS Alignment North Margin:	2540+70
Photo #:	1565, 5326, 5327



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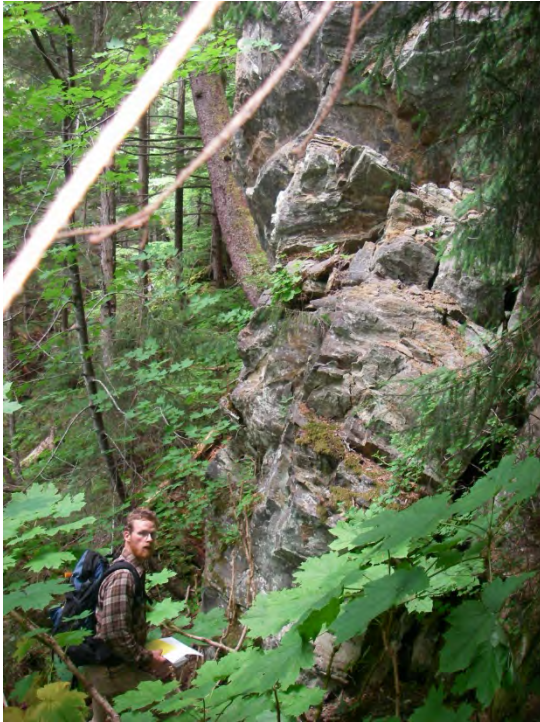
RF45. View west/downslope at rockfall with fresh rockfall stopped by spruce trees.

Hazard ID #:	RF45
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2544
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	1-2
Source Elev. (ft):	100-500
Centerline Slope:	-
Alignment Location:	below_deposition _zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	-
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2543+00
2012 SEIS Alignment North Margin:	2545+00
Photo #:	6098, 6099



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RF46. View north/up alignment at rockfall hazard cliffs.



RF46. View northwest (up alignment and downslope) at rockfall hazard area.

Hazard ID #:	RF46
Hazard Type:	rockfall
HIN:	111
Rating:	B
2012 SEIS Alignment Location:	2556
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elev. (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2555+50
2012 SEIS Alignment North Margin:	2557+10
Photo #:	5338, 5339



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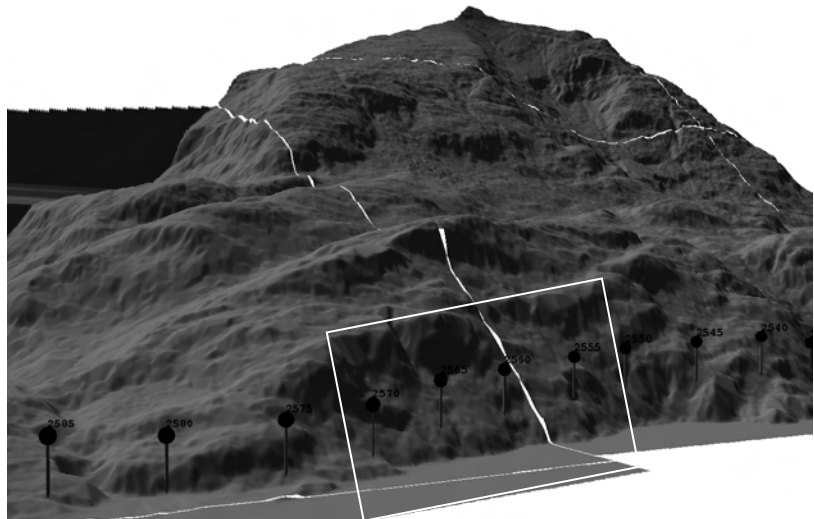
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Regional photo, view east/upslope, at hazards listed below. Local photos and details for individual hazards follow.

- RF47
- LS06
- HR05
- RF49
- RF50
- RF51
- LS07
- DF43
- RF52



LIDAR bare earth image highlighting the regional photo above. Station labels represent previous IRP 2006 alignment.

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Hazard ID #:	RF47
Hazard Type:	rockfall
HIN:	183
Rating:	B
2012 SEIS Alignment Location:	2561
Frequency (yrs):	5-25
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition _zone
Impact Alignment:	no
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2558+50
2012 SEIS Alignment North Margin:	2565+00
Photo #:	3660



RF47. View east/upslope at rockfall hazard area.



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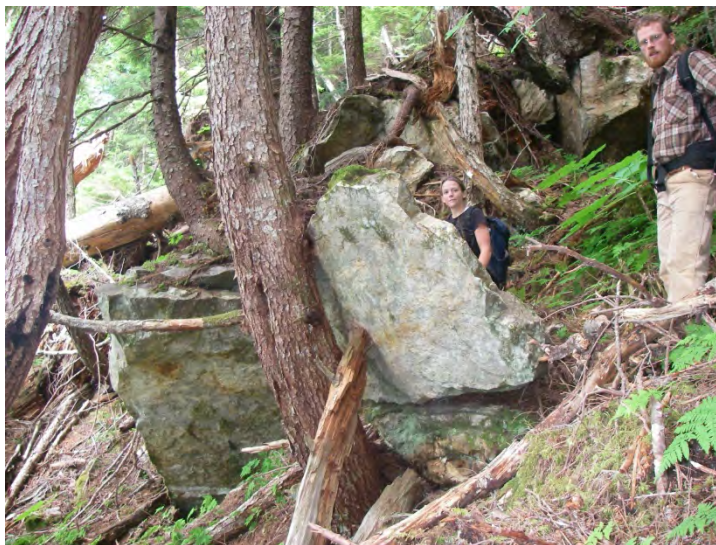
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RF47. View east/upslope at rockfall.



RF47. View north/up alignment at rockfall stopped by tree trunk.



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LS06. View east/upslope at landslide area (green patch of disturbed vegetation in upper right photo).

Hazard ID #:	LS06
Hazard Type:	landslide
HIN:	183
Rating:	C
2012 SEIS Alignment Location:	2562
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	-
Source Elevation (ft):	>1000
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2561+60
2012 SEIS Alignment North Margin:	2562+80
Photo #:	5185, 5341, 5342



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Hazard ID #:	HR05
Hazard Type:	hazard_rocks
HIN:	105
Rating:	C
2012 SEIS Alignment Location:	2562
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition _zone
Impact Alignment:	yes
Alignment Exposure (ft):	50-200
Vegetation:	-
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2562+20
2012 SEIS Alignment North Margin:	2562+80
Photo #:	5362, 5363




HR05. View east/upslope at hazard rock location.

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HR05. View east/upslope at hazard rock. Survey lath represents previous IRP 2006 alignment.

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RF49. View east/upslope at rockfall hazard below cliffs.

Hazard ID #:	RF49
Hazard Type:	rockfall
HIN:	201
Rating:	C
2012 SEIS Alignment Location:	2566
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2565+00
2012 SEIS Alignment North Margin:	2571+00
Photo #:	3661, 3662, 3664

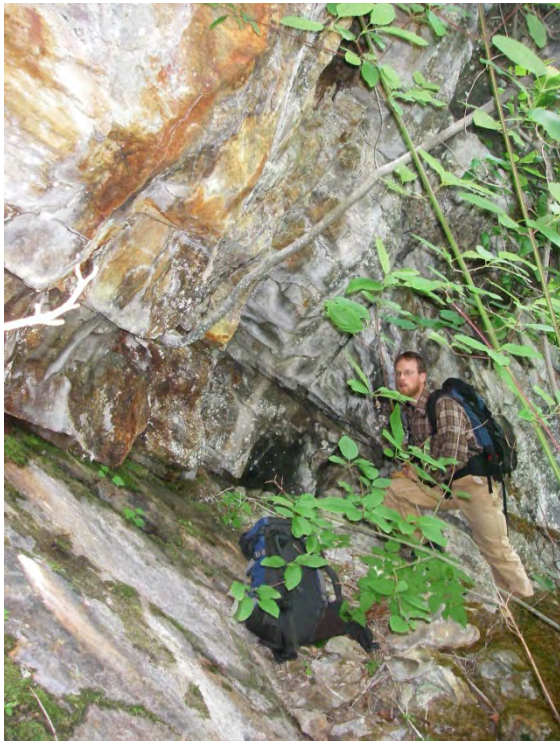


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RF49. View east/upslope at the north half of rockfall area.



RF49. View south/down alignment across rockfall hazard.



RF49. View north/up alignment across rockfall hazard.




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Hazard ID #:	RF50
Hazard Type:	rockfall
HIN:	129
Rating:	B
2012 SEIS Alignment Location:	2567
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_ zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2566+70
2012 SEIS Alignment North Margin:	2567+30
Photo #:	3661, 3662, 3664


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RF50. View east/upslope at rockfall area.



RF50. View north/up alignment at margin of rockfall hazard.

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Hazard ID #:	RF51
Hazard Type:	rockfall
HIN:	201
Rating:	B
2012 SEIS Alignment Location:	2568
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elevation (ft):	>1000
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2568+00
2012 SEIS Alignment North Margin:	2569+20
Photo #:	3661, 3662, 3664

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RF51. View east/upslope at rockfall hazard.



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RF51. View north/up alignment across steep face of rockfall hazard.



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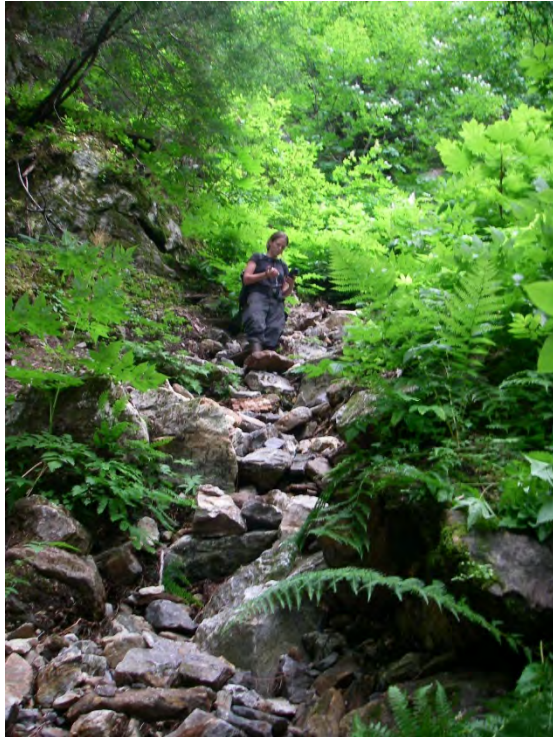
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LS07. View east/upslope at landslide.

Hazard ID #:	LS07
Hazard Type:	landslide
HIN:	183
Rating:	C
2012 SEIS Alignment Location:	2571
Frequency (yrs):	unknown (>25?)
Predictability:	unpredictable
Material Volume (CY):	10-100
Clast Size (ft):	-
Source Elevation (ft):	>1000
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	disturbed
Deciduous Trees:	no
2012 SEIS Alignment South Margin:	2571+00
2012 SEIS Alignment North Margin:	2572+00
Photo #:	5024

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DF43. View north/upslope at debris flow channel.

Hazard ID #:	DF43
Hazard Type:	debris_flow
HIN:	117
Rating:	A
2012 SEIS Alignment Location:	2573
Frequency (yrs):	5-25
Predictability:	moderate
Material Volume (CY):	10-100
Clast Size (ft):	1-2
Source Elevation (ft):	>1000
Centerline Slope:	single_channel
Alignment Location:	below_deposition_zone
Impact Alignment:	no
Alignment Exposure (ft):	50-200
Vegetation:	denuded
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2572+50
2012 SEIS Alignment North Margin:	2573+50
Photo #:	5356



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DF43. View east/upslope at debris flow channel.

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Hazard ID #:	RF52
Hazard Type:	rockfall
HIN:	123
Rating:	B
2012 SEIS Alignment Location:	2574
Frequency (yrs):	1-5
Predictability:	high
Material Volume (CY):	<10
Clast Size (ft):	4+
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	path
Impact Alignment:	yes
Alignment Exposure (ft):	500+
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2573+80
2012 SEIS Alignment North Margin:	2578+80
Photo #:	6105, 6106



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RF52. View east/upslope at rockfall hazard.



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RF52. View south/down alignment at recent rockfall.

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RF52. View east/upslope at source for rockfall hazard. Slope-parallel joints promote planar failure.

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RF53. View east/upslope at rockfall hazard outlined in photo. Hazard characteristics based on RF49 characteristics.

Hazard ID #:	RF53
Hazard Type:	rockfall
HIN:	147
Rating:	C
2012 SEIS Alignment Location:	2575
Frequency (yrs):	1-5
Predictability:	unpredictable
Material Volume (CY):	<10
Clast Size (ft):	2-3
Source Elevation (ft):	100-500
Centerline Slope:	open_soil_slope
Alignment Location:	below_deposition_zone
Impact Alignment:	-
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	-
2012 SEIS Alignment South Margin:	2572+90
2012 SEIS Alignment North Margin:	2577+00
Photo #:	-



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Hazard ID #:	RF54
Hazard Type:	rockfall
HIN:	147
Rating:	A
2012 SEIS Alignment Location:	2629
Frequency (yrs):	25+
Predictability:	unpredictable
Material Volume (CY):	100-1000
Clast Size (ft):	4+
Source Elevation (ft):	100-500
Centerline Slope:	fan
Alignment Location:	deposition_zone
Impact Alignment:	yes
Alignment Exposure (ft):	200-500
Vegetation:	disturbed
Deciduous Trees:	yes
2012 SEIS Alignment South Margin:	2627+40
2012 SEIS Alignment North Margin:	2631+00
Photo #:	3683, 3684



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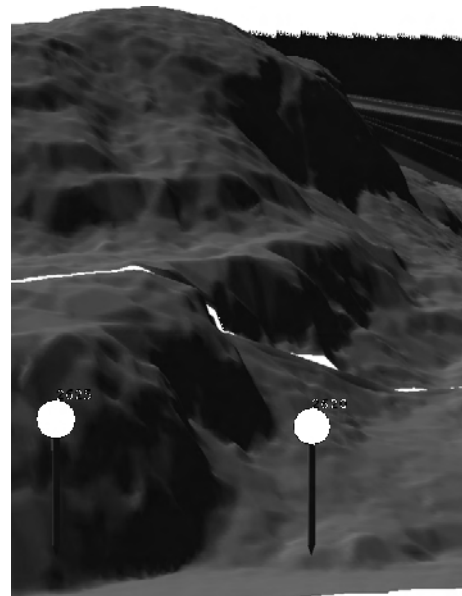
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RF54. View east/upslope at rockfall hazard.



RF54. Bare earth LIDAR image of local topography surrounding rockfall hazard. Station labels represent previous IRP 2006 alignment.



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