TOWN AND DICKEY CREEK COMMUNITY WATERSHEDS ROAD RISK ASSESSMENT

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1.0 Introduction

During the summer of 2004, a wildfire burned significant portions of the Dickey Creek and Town Creek Community Watersheds. These two watersheds are the primary sources of domestic water to the community of Lillooet, T’it’q’et First Nations (Lillooet) and other individual water licensees.

Following the fire, a number of roads were constructed or upgraded in both the Town and Dickey Creek watersheds in order to access burned areas as part of the salvage effort. Numerous studies were carried out prior to, during and following construction of these roads in order to assess potential environmental impacts. Following harvest activities, deactivation prescriptions were prepared, and most of the roads were deactivated to some degree – either fully contoured in the case of more environmentally sensitive road section, or involving various methods of stabilisation and drainage management on others.

This report presents a summary of road conditions throughout the two watersheds, and a risk assessment for those roads which are considered to be non-status (i.e. are not under road permits or other licensed activity).

1.1 Objectives

The objective of this report is to summarise the current state of road system in the Town and Dickey Creek watersheds in order to provide information on remaining environmental risks posed by roads. The intent is that this information is to be used in future access management planning strategies. The environmental risk assessment for road sections that are identified as non-status is intended to guide effort towards potential deactivation prescriptions.

1.2 Scope

This project was carried out under FIA contract 4735005. The project was completed in accordance with both the 2003/2004 FIA standards for road deactivation, landslide and gully rehabilitation projects and the 2003/2004 FIA standards for environmental maintenance projects on non-status forest roads.

2.0 Site Description

The Town Creek and Dickey Creek watersheds are located in the Chilcotin Ranges of the Coast Mountains, upslope of the Fraser Canyon, west of the town of Lillooet BC. (See Figure 1) The Dickey Creek watershed has an area of approximately 1500 ha, Town Creek is approximately 1180 ha.

2.1 Physiography and Geology

Terrain in the study area is generally steep and rugged, with soils primarily composed of silty-sand tills, overlain by colluvial materials, and rock bluffs with veneers of colluvial materials on upper slopes. The most common type of instability in this area is debris slides in thin colluvial materials that occur on steep slopes (over 70%), debris flows, and slumping (Ryder, 2001). Although slumping was not a significant issue in the study area, a concern identified was periodic debris flow activities on Dickey Creek (Forsite 2004) and potential sliding following harvest and road construction as a result of fire-caused hydrophobic soils. The study area is located near the town of Lillooet in the southern end of the Chilcotin Ranges of the Coast...
Mountains. Geology in the area is complex; the Town Creek watershed is mostly underlain by marine sedimentary and volcanic rocks of the Bridge River Complex. Dickey Creek is underlain by greenstone and greenschist metamorphic rocks of the Bridge River complex in the upper watershed with a band of serpentinite ultramafic rock of the Shulaps Ultramafic Complex in the middle of the watershed. The lower portion of Dickey Creek is underlain by mudstone, siltstone and shale fine clastic sedimentary rocks. In Town Creek the weathering of marine sedimentary and volcanic rock has produced silty sand textured deposits. The serpentinite rock in Dickey Creek also produces silty sand materials which has been associated with two areas of instability. Bedrock in these areas is weathering to a poorly consolidated clast supported rubble deposit. Clasts are angular and gravel size. The fine clastic sedimentary rock in the lower reaches of Dickey Creek is weathering to angular colluvial rubble resulting in large scree slopes downslope of rock cliffs.

2.2 Climate and Hydrology

The study area is located in the Fraser Plateau Hydrologic zone. The climate in this region is very dry with relatively low amounts of precipitation. Lillooet receives approximately 330mm of precipitation each year with approximately 10% falling as snow. Precipitation amounts will be higher in the study area due to higher elevations and a higher proportion of the precipitation will fall as snow. Similar to many areas in the southern interior the area receives infrequent intense spring and summer rainstorm events. An examination of the Rainfall Atlas and climate station data indicates that a rainfall event of around 56mm in 24 hours has a recurrence interval of 10-15 years. (Env.Canada, 2000)

2.3 History

Pre-fire History

There are a number of roads in the watersheds which were constructed prior to the wildfire. These watersheds contain both crown provincial and federal land tenures and many of the roads constructed pre-fire were done so to a standard different from that imposed under the forest act. Generally these pre-fire road systems were not producing significant amounts of sediment (IWS 2004) though some areas had been identified by the pre-fire watershed assessment as potential sediment sources that could be targeted for restoration.

Examination of photos and map data predating the 2004 wildfire indicated relatively little road building and/or forest harvesting in the two watersheds. On the Town Creek side, the Town Creek Road is the only significant road visible (on airphotos) accessing the Town Creek Watershed. The terminus of this road is at the Town Creek diversion, a water diversion which shunts water from the Dickey Creek drainage over to Town Creek. The main portion of the Town Creek road is located within IR1A (T’it’q’et First Nation). Some minor spur roads and trails exist alongside of this road as well, possibly related to old selective harvesting and other activities. Forest cover mapping does not indicate historic logging on the Town Creek drainage. A fire burned portions of the lower watershed in 1950. The effects of the fire are clearly visible on the airphotos, but no indication of large-scale mass wasting following the fire were noted either on photos or in the field.

On the Dickey Creek side, pre-fire, the Ama Creek road accesses some harvesting in IR1A (a shared reserve between the Bridge River and T’it’q’et First Nations), and crosses both Dickey Creek and the Southeast Tributary. Extensive trailing was done as part of this harvesting (see photo plate 1). Forest cover mapping for the area indicates the original logging dates to 1987.

Older maps and airphotos indicate that the Town Creek and Ama Creek roads historically connected over the height of land. Currently the connection is very rough, and achieved only by ATV.
2004 Fire

The June/July 2004 wildfire burned a total area of approximately 1515 ha. This comprised approximately 51% of the Dickey Creek watershed (~718 ha) and 20% of the Town Creek watershed (~282 ha) (IWS 2004). Fire severity and tree mortality were assessed initially by Integrated Woods Services Ltd. (IWS 2004) for the portion of the burn inside the two watersheds, as well as part of the face unit located upslope of the town of Lillooet. The assessment concluded that burn severity and tree mortality was highly variable throughout the study area. Fire severity was highest in the southeast tributary of Dickey Creek - in the area salvage harvested as CP212 Block 1, and accessed by a number of new roads.

The CP212 Terrain Stability Assessment (Forsite 2004) identified a number pre-fire road segments which had been partially supported by wood in the fillslope. In the case of wood-supported road fills, the fire had partially burned out some of the wood materials supporting the fillslope, leading to potential instability and safety concerns. As well, crossing structures associated with these roads (log culvert, bridge) had been damaged by the fire.

During the course of fighting the fire, a number of guards were constructed. The fire guards consisted of a combination of existing roads, machine-built guards and hand-guards. Some of these fire guards were subsequently adapted for use as access structures for the post-fire salvage operations. Concerns regarding drainage structures and surface erosion on these guards were not immediately addressed. Sections of road located on these hastily constructed fire guards had led to compounded issues of drainage and sediment production that normally do not arise with planned roads. The terrain stability assessments completed by Forsite (Forsite 2004, Forsite 2005a) prescribed measures to minimise sediment production and slope stability concerns on some of the rehabilitated fire guards. A report by Linbir Timber Consulting (LinBir 2005) outlines the extent to which the fire guards were deactivated. For the most part this appears to have been done to satisfaction. Sections of fire guards with outstanding issues that had not yet been addressed were outlined in the Watershed Restoration Plan (Forsite 2006). As of fall 2007, however, most of these issues had been resolved.

Post-Fire Salvage 2004-2007

Following the 2004 fire, Salvage logging was undertaken by Ainsworth in conjunction with First Nations groups in the two watersheds. Salvage harvest involved construction or upgrade of a number of roads and trails, including portions of the Ama Creek Road, and the Town Creek Road. (the old Town Creek Road was split by construction of the CP212.000 (Ama) Road and is, for the purposes of this report, referred to as the Town Creek 00 Road (lower) and Town Creek Diversion Road (upper). (See Figure 1)

Terrain stability and other assessments were conducted during the course of the road building, salvage harvesting and deactivation activities. Readers may refer to the bibliography at the end of this report for details. A summary is also given in the Watershed Restoration Plan (Forsite 2006).

A number of challenges related to road prism stability and landslide hazard were anticipated during road construction in the area. Among these were problems related to drainage management on slopes with roads, including the added challenge of dealing with post-fire hydrophobic soils. As well, the fire had burned out wood fills in old roads which were proposed for re-use and upgrades, leaving them potentially unstable. Because these conditions were anticipated and planned for, the road construction generally went smoothly, with no significant environmental impacts. Specific problems encountered are listed in section 3.0 and section
4.0 below, which present a general summary for each road and a risk assessment for non-status roads respectively.

**Dickey Creek**

In the Dickey Creek drainage, salvage operations included reconstruction of the Ama Creek road as the primary access to CP212. See map (Figure 1). An extensive road system of about 15km of road was constructed or upgraded from existing roads. The bulk of these roads are located on crown land, where they are identified as Ainsworth held road permits. Two recommendations made in the watershed assessment (IWS 2004) were to replace the bridge on Dickey Creek, and the log-box culvert on the Southeast Tributary, which was completed as noted in the inspection report by Forsite (2005b)

**Town Creek**

In the Town Creek drainage, the existing Town Creek road was upgraded, and some new road sections added on the north side of Town Creek. The road is mostly under the Ainsworth R06128 permit, except where it crosses IR1A. The total length of roads in Town Creek watershed including salvage road construction post-fire is about 12km.

The terrain stability assessments prepared for CP 212 and IR1A covered terrain stability issues and a soil erosion hazard assessment for the roads associated with the salvage operations. Recommendations were provided to minimise the likelihood of initiation landslides and sediment delivery to streams. Subsequently, two site inspections (Forsite 2005b, 2005c) were carried out to ensure that the road construction conformed to the recommendations made - most were carried out to satisfaction.

### 2.3.4 Post-Salvage Road Deactivation

Deactivation prescriptions were prepared by Forsite in November of 2005 (Forsite 2005c) for both CP212 and IR1A. These were generally for temporary deactivation to minimise impacts during spring freshet in 2006, with prescriptions for permanent deactivation for roads no longer required for timber harvesting. In-block roads were permanently deactivated as per the silviculture prescription. At the time of writing of this report, road deactivation had been completed for all CP212 related roads, with some remaining deactivation to be done on roads in IR1A. (see section 3.0 below). Permanent deactivation on all the IR land has not yet been undertaken, as harvesting and other activities were still taking place in 2007. In the fall / winter of 2005, temporary deactivation (waterbars) was completed in accordance with the deactivation prescriptions provided by Forsite (Forsite 2005c) to mitigate the effects of spring runoff.

**Fire Guard Deactivation**

Fire guards were rehabilitated in the fall of 2004. The November 2005 Report titled “Fire Suppression Rehabilitation Spring 2005 Follow-Up Report” (Mireau 2005) outlines the status of rehabilitation of the fire guards following the works undertaken in the fall of 2004. The report concluded that generally the fire guards were rehabilitated satisfactorily, with a few sites still requiring site inspections and minor works. Post deactivation inspections concluded that where the fire guards were subsequently adapted as roads, deactivation was completed.
3.0 Current Status of Roads

3.1 Dickey Creek

Following the completion of harvest activities in 2006, deactivation was carried out (2006-2007) to various levels, as outlined on a per-road basis below.

Ama Creek Road

The Ama Creek road was used as the access to CP212 from the Bridge River side (north). A new bridge was installed at the Dickey Creek crossing, and a new log box culvert was installed at the crossing of the southeast tributary after the original structures were irreparably damaged following the 2004 fire. These structures remain in place. Currently, the Ama Creek road has been seasonally deactivated, and remains open and passable by truck.

IR Road 1

The IR Road 1 road into block IR-2 is an extension of an older road/trail at the end of the Ama Creek road. The road switches up on a steep slope to a switchback with significant fill material spoiled at the switchback (see Figure 1). The sidecast materials were noted on several field visits to be unstable and partially failing. (see Photo Plate 2) Large tension and settlement cracks were present. Material had failed down into the draw, but did not appear to impact the stream channel below.

This road has undergone seasonal deactivation, and some of the steep fill materials has been removed. Permanent deactivation as per the deactivation prescriptions (Forsite 2005c) has not been completed to date. (Bill Poppy, pers com)

The upper portion of the IR1 Road through block IR2 has been seasonally deactivated. The prescriptions for deactivation on this road include partial pullback of potentially unstable road fill materials and landings, as well as restoration of natural drainage patterns. The terrain assessment for this block (Forsite 2005a) indicated a high hazard for the last ~1km of this road. Implementation of restoration as prescribed in this block is therefore important.

212.000

The 212.000 Road is the main access road in the Dickey Creek drainage. This road was constructed primarily on moderately steep gradient slopes, using conventional cut and fill to ¾ bench techniques. Extra cross drain structures were installed because of expected elevated runoff due to the effects of hydrophobic soils after the fire. Two areas of instability were identified at 2+855-3+018 and 3+191-3+434, where rotational slumping, older translational slides and soil creep were noted.

Deactivation of the 212.000 Road was carried out, with some sections of full rehabilitation and recountoring of the road prism completed. Cross drain culverts were removed, and cross ditched put in place. Very large cross ditches were constructed, limiting vehicular access. Deactivation was completed in 2007. A post deactivation inspection done by Forsite followed. Results from this inspection conclude that most of the work was done to satisfaction (Forsite 2007). Two remaining areas with issues were identified. Deactivation stations 68-70 required partial pullback, and some settlement due to a plugged culvert in that area required that
the culvert be removed as per prescription. As of the time of writing of this report, this area and the remainder of the 212.000 Road had been deactivated as per prescription. (B. Poppy pers. com. 2008) A final follow-up inspection report is pending.

212.080 / 212.090

These roads are spurs off the 212.000 Road, and are located on steep gradient side slopes. These were constructed using mostly full bench cut and endhaul. Deactivation called for removal of culverts and cross ditching. Deactivation was completed in 2007.

Spur roads 212.010 / 212.020 / 212.030 / 212.040 / 212.050 / 212.060

These short spur roads in the Dickey Creek drainage (all branch off of the 212.000 Road) were all proposed as temporary access structures, and were fully deactivated (recontoured) following harvest. No remaining stability concerns were noted during the post-deactivation follow up.

212.400 / 212.410

The 400 road branches off the Ama Creek road, and is partially located within IR1A, Where it is referred to as an IR Road. This road was built partially on an old trail, which had wood supported fills that had burned out during the fire. There was judged to be a moderate hazard of landslides during the initial terrain investigation. Following construction, which was conventional cut and fill, several problem sites were identified just after the stream crossing (bush side). Sandy materials had contributed both to filling in of culvert sumps and unstable fillslopes. Following harvest, the upper portion of the road, including the short 410 spur, was fully recontoured. The lower portion was deactivated in 2007, and the crossing on the stream near the junction (Photo plate 3) was fully recontoured.

3.2 Town Creek

212.200

The 212.200 Road is located in the Town Creek Watershed. This road has it’s POC on the Town Creek Road. The Town Creek road on the town side of this junction was used during harvest, and is under Ainsworth obligations. The Town Creek road north of this junction was not used during harvest activities, and remains unimproved. The 200 road switches up from the POC across a broad ridge to the face north of the upper portion of Town Creek. Side slopes are generally moderate to moderately steep. The road was constructed primarily using cut and fill techniques, with sidecasting and some endhauling of excessive cut materials.

The last few hundred meters of the road were fully rehabilitated, with deactivation along the main road done in 2007. Deactivation prescriptions called for partial pullback of steep fills and loosely spoiled sidecast waste, as well as removal of culverts and installation of cross ditches. Post deactivation inspection found that this road had been deactivated according to the prescription, and no remaining issues were noted.

Because of the level of deactivation, vehicle access is now restricted to the lower portion of this road, as indicated in Figure 1.
212.300 / IR Road 3

The 212.300 road branches off the 200 Road in Town Creek, and wraps around to the face unit between Town and Dickey Creek. Within IR1A the road is referred to as the IR 3 Road. Near the end of the road, it follows an old bladed trail. This road is located on generally moderate to moderately steep terrain, portions of it mapped as potentially unstable on Terrain Stability Mapping. Full bench construction was recommended in the TSA report (Forsite 2004) for the section 0+243-0+710. Deactivation, completed in 2007 involved installing cross ditches and sloping back landing fills. Deactivation was completed satisfactorily, no further action is required.

4.0 Risk Assessment: Non-status Roads

Within the Town and Dickey Creek watersheds, only two sections of road were identified as ‘non-status’; the Town Creek 00 Road, and the Town Creek Diversion Road. These two roads were at one time connected and referred to simply as “the Town Creek Road”. Now, however, the road has been fragmented by the construction of the CP212 access roads, leaving two portions of this road. These are referred to separately in this report as the Town Creek 00 Road (lower) and the Town Creek Diversion Road (upper).

4.1 Town Creek 00 Road

Description

This 2.8km section of road predates the current development and recent fire history in the area. This road was constructed more than 20 years ago. The road is located almost entirely within the bounds of IR1A. Part of this road was used as a fire guard during the 2004 fire. The lower portion of this road was incorporated into Ainsworth’s CP212 permit as the 212.200 Road. The upper portion of the road was not affected by the salvage harvesting activities, and remains intact as an ATV trail.

This road was constructed pre-code, using simple cut and fill techniques. It is possible that some woody debris was incorporated into the road prism, which may have partially burned out during the 2004 fire; however no specific sites where this has led to instability were noted. The road is generally narrow, and road prism materials are relatively free draining.

The road crosses a section of terrain mapped as TSC IV (potentially unstable). As shown in Figure 2, there is a wet area in the broad draw where extensive post-fire, surface runoff was noted. The road switches up through the draw which, although an area of accumulation, has no stream channel present. The road has very low hydrologic connectivity to streams in the area downslope.

Results

Given the mostly very dry conditions in the area, it is unlikely that the Town Creek 00 road will naturally revegetate for a considerable time period. It is likely that the road will continue to be used as an ATV trail to access the Dickey Creek drainage from the Town Creek side – further reducing the likelihood of natural vegetation.

However, in terms of stability; no significant road prism stability issues, or other stability concerns which may
lead to landslides were noted on this road. Although road surface runoff was noted to be a significant concern on the lower (Ainsworth permit) portion of the road, with the primary concern being the delivery of fine materials along the road surface and ditchline and subsequent input of fines directly into Town Creek crossing, the upper (non-status) portion of the Town Creek 00 Road is producing only minor road surface runoff, with no direct connectivity with streams.

There is an estimated low likelihood\(^1\) of a landslide occurrence from the Town Creek 00 Road. This low rating is based on:

(i) Well drained sandy soils
(ii) The road is a narrow, ditchless and not concentrating significant runoff
(iii) No indicators of existing or incipient instability were noted.

A landslide initiating on this road would likely be limited to small (<100m\(^3\)) slide that would run out immediately downslope. Resources that could potentially be impacted by such a slide are timber and soils resources immediately downslope. The partial risk to these resources is moderate.

There is a very low likelihood of delivery of mobilised fine materials to a stream channel and/or downslope to the Town Creek water supply.

**Recommendations**

- No geotechnical recommendations to reduce the landslide hazard on the Town Creek 00 Road are required.

### 4.2 Town Creek Diversion Road

This ~3km section of road accesses the point of diversion at the top of Dickey Creek, which diverts water into the Town Creek Drainage. Another 700m section associated with this road is identified as non status and is located as shown in Figure 1, wrapping around a promontory at the height of land between the two watersheds.

The Town Creek Diversion Road is located at, or very close to the height of land, running from the POT of the 212.000 Road towards the northwest, to the upper watershed of Dickey Creek. The road was constructed at least 20 years ago, and predates modern road construction standards or regulations. There was observed to be some woody debris in the road prism, which had been burnt out / partially burned out following the fire. As well, field observation immediately post-fire revealed the presence of some hydrophobic soils along this road – however, no significant issues resulting post-fire have been noted. Because of some steep gradient sections on this road, there is also significant evidence of erosion due to road surface runoff. Rutting and runoff on the road is shown in Photo Plate 4. However, this minor rutting has not caused any significant larger scale issues.

The first portion of this road is located on terrain classified as TSC IV – or potentially unstable veneers of till and/or colluvium. The road past the end of the 212.000 road is located in a ridgetop position upslope of potentially unstable terrain, consisting of steep veneers of till and colluvium. The second portion of the road is located on terrain classified as TSC V, or ‘unstable’. This area is also classified as colluvial and till veneers on steep slopes, and is indicted as an area of initiation of bedrock slumping. It is highly unlikely that the presence of the road across this TSHC V area can have any significant effect on bedrock stability – the Town Creek

\(^1\) This partial risk assessment is based on the assumption that the road will remain in place as is indefinitely – i.e. The time interval is >50 years.
diversion pipe has directed water into an open channel across this terrain for many years, with no noted instability resulting.

The distal end of the road is located on moderate gradients side slopes, and contours around to the height of land between the drainages, following the Town Creek diversion pipe. There is a large bare feature, likely an old landslide located upslope of the water diversion pipe intake. This slide was noted on airphotos, and not visited in the field. The slide is about 150m long, by 100m wide, and is a broad unvegetated draw. No signs of recent landslide deposition were noted downslope, and this could be a feature undergoing long term erosion. The age and formative process behind this feature is not known, but it likely predates the diversion pipe, and is unlikely to have any significant impact on stability with respect to the Town Creek Diversion Road.

Results

This road has been in place for a number of years (>20) without any apparent instability. There are no culverts or ditches present on this road. The road is located generally at, or very close to the height of land between Dickey Creek and Town Creek. This reduces the potential for hazards that might be associated with drainage interception and diversion. There is some road surface runoff on the steeper sections of the road, however it appears that road surface runoff is not present in sufficient quantities to lead to instability downslope.

There is an estimated low likelihood of a landslide occurrence from the Town Creek Diversion Road. This low rating is based on:

(i) Well drained sandy soils
(ii) The road is a narrow, ditchless and not concentrating significant runoff.
(iii) Irregular and bedrock controlled topography.

A landslide initiating on this road would likely be limited to small (<100m³) slide that would run out immediately downslope. Resources that could potentially be impacted by such a slide are timber and soils resources immediately downslope. The partial risk to these resources is moderate.

There is a low likelihood of delivery of mobilised fine materials to Town Creek, located downslope.

Recommendations

- No geotechnical recommendations to reduce the landslide risk on the Town Creek Diversion Road are required.

5.0 Conclusions and Recommendations

5.1 Conclusions

The hazard associated with the non-status roads in the Town and Dickey Creek watersheds is judged to be low, and no further action other than continued monitoring and inspection is required.

For all other roads, generally the deactivation, where carried out in the Town and Dickey Creek watersheds has been found to be adequate. Some areas still require deactivation, which must be completed as soon as
possible, and follow up inspection is needed in these areas.

## 5.2 Recommendations

The following is a summary of outstanding issues on roads in the study area. Note that this is an incomplete list, and is based on review of existing reports, previous site visits and limited information on non-status roads gathered during the course of field investigations for this report.

### Dickey Creek

- Road sections that have been deactivated, have been done as per prescription and require no further works.

- Some deactivation work is still outstanding on IR Road 2 and associated trails. Works should be done as soon as is feasible, and should be followed up by a post-deactivation inspection – preferably before machinery is demobilised.

- Plan for continued inspections of the CP212 road system in the future, to ensure deactivation completed is sufficient and is functioning as intended. A review of the efficacy of the deactivation carried out to date should be done in 2008-2009, possibly in conjunction with the final inspection of the deactivation of the IR 2 Road.

### Town Creek

- Deactivation work has been completed, and was generally done as per prescription. No remaining issues were noted.

- No further action is required on the non-status roads, however ongoing monitoring recommended in conjunction with the rest of the watershed (as per WRP report)

- Continued monitoring of the Town Creek Road (Ainsworth section) at and immediately to the woods side of the Town Creek crossing. This is a sensitive area with respect to sediment production and delivery to the Town Creek water intake.

- Ongoing monitoring of roads in the watershed – annual follow up inspections of processes in the watershed should be carried out to ensure that deactivation is meeting its intent.
6.0 Closure

We trust that this report satisfies your present requirements. Should you have any questions or comments, please contact our office at your convenience.

Sincerely,

Forsite Consultants Ltd.

Prepared by: 

[Signature]

Peter Weisinger M.Sc. GIT
Project Geoscientist

Reviewed By

[Signature]

Rod Williams, P.Geo
Project Geoscientist
7.0 References


Forsite Consultants Ltd. 2005a, “Town and Dickey Creek Fire Salvage - IR1A Blocks 1, 2, 4, and 5, IR Roads 1, 2, 3, and 7 Proposed Town and Ama Creek Road Upgrades” prepared for Ainsworth Lumber Company Ltd.

Forsite Consultants Ltd. 2005b, “Road Construction Inspection” prepared for Ainsworth Lumber Company Ltd.

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Forsite Consultants Ltd. 2006, “Restoration Plan; Town and Dickey Creek Community Watersheds” prepared for Ainsworth Lumber Company Ltd.

Forsite Consultants Ltd. 2007, email to Bill Poppy; “Dickey Creek Deactivation” prepared for Ainsworth Lumber Company Ltd.


Integrated Woods Services Ltd. (IWS). December 1, 2004 *A Watershed Assessment of Town and Dickey Creek Community Watersheds after the 2004 Wildfire* Integrated Woods Services Ltd prepared for Ainsworth Lumber Company Ltd.


Poppy, Bill (Ainsworth Lumber Company), personal communication (March 2008) regarding 2007 deactivation in Town and Dickey Creek watersheds.

Figure 1 - Dickey Creek: Trails located downslope of Block IR2 Diversion Road (2005 post fire)
Figure 2 – Unstable fills on IR 2 Road (2007 Photo)

Figure 3 – Deactivated crossing on 212.400 Road

Figure 4 - Town Creek Diversion Road (2005 post fire)