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**Post-logging issues found in Clackamas River Ranger District Timber Sales,
2016-2017**

Mag 180: When Bark visited this unit in November of 2017, there were no water bars on the rebuilt 4640-011 temporary road into the unit, resulting in [water running for long distances](#) down the roadbed, [carrying sediment](#). Several areas within this unit directly adjacent to this road contain seeps, streams and ponds. According to the Grove EA, this road was slated for “Decommission - Entrance Management,” however no such action had yet been taken other than a large log placed at the beginning of the 4640-011 road at the 4640.

From the Grove EA:

“G2. Erosion control measures would be implemented to prevent off-site movement of disturbed or exposed soil associated with road and landing construction and use (including cutbanks, fills, ditches, etc.) on road segments that have the potential to directly or indirectly deliver sediment to any stream channel. Erosion control measures include silt fences, straw bales, matting, mulch, slash, water bars, grass seed [or other products], etc. This work would occur prior to the wet season. National Core BMP Technical Guide – Veg 2, Veg 3, Veg 4, Veg 5 and Veg 6.”

According to the Grove EA, activities associated with 4640-011 included “Clearing, Blade & Shape, Danger Tree Felling, Hardened French Drain, 12 Water Bars”. We visited this site with the Forest Service in 2015 and clarified with them that the French Drain was to be installed on the rebuilt portion of the road that interrupted a seep. We did not observe any French drain in 2017, or any other drainage feature for that matter, on this portion of the road.

From the Grove EA:

“D2. Emphasize the reuse of existing road alignments rather than the construction of new roads where appropriate. Where stream crossings are needed on existing alignments, they would be designed to minimize impacts to listed fish using techniques such as French drains, log fords and temporary culverts that would be used and removed the same season. National Core BMP Technical Guide - Plan 3, AqEco 2, Road 1, Road 5, Road 7, Veg 3.”

Mag Unit 184: In December of 2017, Bark found that there were significant areas of flowing and standing water which were not included in the buffered riparian areas or mapped (in Mag contract maps) no-cut area in the western half of the unit. These low-lying areas were both flowing into and [out of this exclusion area](#), and had been [run over by tractor skidders](#). According to the Grove EA maps, a Riparian Reserve overlaps these wet areas which were cut, so it is unclear why they were not included in a buffer zone.

From Grove EA:

“A1. Streams within the project area would be protected with buffers. Stream buffers are measured using slope distance from the edge of active channel (streambanks) on both sides of the stream. Within these buffers, tree felling or yarding would not occur (with the exceptions for danger trees, approved skyline corridors and down wood enhancement projects described in B1).”

“A2. In certain instances, the buffer widths in A1 may be expanded, as directed by the District Ranger, based on recommendations by the unit fisheries biologist, hydrologist or geologist. Adjustments include unstable areas and areas with high water table such as wetlands, or seasonally saturated soils. National Core BMP Technical Guide – Plan 3 and Veg 3.”

“C9. Skid trails would not be constructed through areas with a high water table, or be located in areas that would channel water onto unstable headwall areas, or located down swale bottoms. National Core BMP Technical Guide - Plan 3, Veg 2, Veg 3, and Veg 4.”

We noted that there were [virtually no trees left standing](#) between the excluded no-cut area within the unit and the riparian buffer to the west. We do not believe it to be consistent with the desired condition of Riparian Reserves to remove nearly 100% of the trees over several acres in an area directly adjacent to two streams.

Mag Unit 186: In December of 2017, Bark found that FSR 4640-130, which accesses Unit 186 had not closed to the public, post-project implementation. [Instead, the original metal barricade had simply been placed to the side of the road](#), allowing full access to the unit and the adjacent pond. In 2015, we observed a [similar situation to this in the Bass Timber Sale](#), where a temporarily used system road was not properly closed for the winter as the contract specified. There was no boulder placement or waterbars installed on the 4640-130 as stated in the Grove EA. Furthermore, the gate to 4640 was still open on December 20th, 2017, meaning that despite the official winter closure of the 4640, the -130 spur was still accessible from the main 46 route through the end of the year.

From the Grove EA re 4640-130:

“Brushing, Blade & Shape, 3 Water Bars, Danger Tree Felling, reinforce closer with boulders”. EA at 28.

“Maintenance Level 1, Stormproof, place boulders to augment closure”. EA at 30.

“D8. Temporary roads and landings on temporary roads that are used by the operator would be subsoiled to a depth of at least 18 inches or decompacted to a depth of at least 18 inches with a loader or excavator. Cross-drains or water bars would be installed every 150 feet, or more frequently where slopes exceed 5%. Actual placement distances may vary with topography to ensure proper drainage. Temporary culverts would be removed. Available logging slash, logs or root wads would be placed across the road and landing surface. Where slash, logs or root wads

are not available in sufficient quantities, bare soils would be seeded and mulched. Post-harvest motorized access to temporary roads would be prevented by construction of a berm (minimum height of 4 feet). National Core BMP Technical Guide – Road 5, Road 6, Veg 2 and Veg 3.”

Mag Unit 210: Road 4640-027 accessing this unit was observed by Bark in April 2017 as containing water pooling, and [water running down road for 202 feet](#). There were 3 water bars (with 50 feet between) installed at the front of the road (which was decompacted for 175 feet), and two additional water bars towards the terminus (past the water on road). More images of water running down road and gully erosion [here](#) and [here](#).

From the Grove EA:

“G2. Erosion control measures would be implemented to prevent off-site movement of disturbed or exposed soil associated with road and landing construction and use (including cutbanks, fills, ditches, etc.) on road segments that have the potential to directly or indirectly deliver sediment to any stream channel. Erosion control measures include silt fences, straw bales, matting, mulch, slash, water bars, grass seed [or other products], etc. This work would occur prior to the wet season. National Core BMP Technical Guide – Veg 2, Veg 3, Veg 4, Veg 5 and Veg 6.”

Mag Unit 212

Bark noted in October of 2016 that [an wet area was excluded from the no-cut buffer](#) surrounding the mapped stream in this unit, resulting in ground disturbance over the wet area contributing to the buffered stream. We observed water flowing into the buffered area from above this marked buffer. The plant community in this un-buffered area indicated the presence of consistent water (several western red cedars present). According to the Grove EA maps, the Riparian Reserve overlaps this wet area which was cut, so it is unclear why it was not included in a buffer zone.

From the Grove EA:

“A1. Streams within the project area would be protected with buffers. Stream buffers are measured using slope distance from the edge of active channel (streambanks) on both sides of the stream. Within these buffers, tree felling or yarding would not occur (with the exceptions for danger trees, approved skyline corridors and down wood enhancement projects described in B1).”

“A2. In certain instances, the buffer widths in A1 may be expanded, as directed by the District Ranger, based on recommendations by the unit fisheries biologist, hydrologist or geologist. Adjustments include unstable areas and areas with high water table such as wetlands, or seasonally saturated soils. National Core BMP Technical Guide – Plan 3 and Veg 3.”

In Unit 212 just north of 4640-150 and southwest of the aforementioned stream, Bark noted extensive [water movement down a skid trail](#) which was presumably built on an [existing wet area](#). The trail carried water and sediment down to a [culvert which crossed the 4640-150](#), and then past a landing and towards another stream on the other side.

From the Grove EA

“C9. Skid trails would not be constructed through areas with a high water table, or be located in areas that would channel water onto unstable headwall areas, or located down swale bottoms. National Core BMP Technical Guide - Plan 3, Veg 2, Veg 3, and Veg 4.”

“G3. Erosion control measures would be implemented to prevent off-site movement of disturbed soils from logging, fuel treatments, road rehabilitation and other uses not described in G2. Areas of soil displacement on steep slopes resulting from yarding systems would be treated to prevent rill and gully erosion and possible sediment delivery to stream courses. Where appropriate, erosion control treatment on bare soils may include water bar placement, hillslope contouring, creating small ditches or diversions to redirect surface water movement, scattering slash on disturbed soils, placement of mulch, and application of approved seed. Mulch may be used on slopes greater than 20%. Effective ground cover would be installed prior to October 1 of each year. The coverage of effective ground cover would be sufficient to prevent off-site movement of soils as guided by Forest Plan standard and guideline FW-025 and by Forest Service Handbook 2509 (R6 supplement). National Core BMP Technical Guide – Veg 2, Veg 3, Veg 4, Veg 5 and Veg 6.”

Mag Unit 216: The 4645-135 road accessing this unit is slated in the Grove EA for “Decommission - Entrance Management”. In November of 2017, Bark found this road to be bermed and decompacted for the first ~175 feet. However, the [culvert under this road](#) (which ran under decompacted area) was still in place. In addition, directly at the end of the decompacted portion of this road, an enormous amount of water ran straight across the road (approximately two-foot-wide channel) [where it crossed a watercourse](#). It is not clear to us whether the ending of the decompaction was strategically placed at this crossing or not. This water crossing is also being met by water running perpendicular to it, on the road itself. This water has begun to carve into the road and direct road fill and sediment off the road itself.

From the Grove EA:

“I12. Excavations to remove stream culverts would be matched to the approximate bed elevation and bank-full stream width of the existing streambed. Cuts would match natural bank slopes.”

Mag Unit 224: In November of 2017, Bark found that the [temporary road in this unit had not been blocked or decompacted, nor had any erosion control applied](#). The road ended at a landing that had not been rehabilitated. Instead, it contained a [deck of logs laid side-by-side](#), presumably to deal with deep mud. Ruts from operating in deep mud surrounded this highly compacted landing.

From Grove EA:

“D8. Temporary roads and landings on temporary roads that are used by the operator would be subsoiled to a depth of at least 18 inches or decompacted to a depth of at least 18 inches with a loader or excavator. Cross-drains or water bars would be installed every 150 feet, or more frequently where slopes exceed 5%. Actual placement distances may vary with topography to ensure proper drainage. Temporary culverts would be removed. Available logging slash, logs or root wads would be placed across the road and landing surface. Where slash, logs or root wads are not available in sufficient quantities, bare soils would be seeded and mulched. Post-harvest

motorized access to temporary roads would be prevented by construction of a berm (minimum height of 4 feet). National Core BMP Technical Guide – Road 5, Road 6, Veg 2 and Veg 3.”

“G2. Erosion control measures would be implemented to prevent off-site movement of disturbed or exposed soil associated with road and landing construction and use (including cutbanks, fills, ditches, etc.) on road segments that have the potential to directly or indirectly deliver sediment to any stream channel. Erosion control measures include silt fences, straw bales, matting, mulch, slash, water bars, grass seed [or other products], etc. This work would occur prior to the wet season. National Core BMP Technical Guide – Veg 2, Veg 3, Veg 4, Veg 5 and Veg 6.”

“E7. Close and waterbar native surfaced roads prior to the wet season and between operating seasons to prevent use and reduce erosion. National Core BMP Technical Guide –Road 1, Road 4, Road 6, Veg 2, and Veg 3.”

FSR 4640-150, accessing Mag Units 206, 212, and 214: In October 2016, Bark found that a [log loader was leaking oil](#), which was travelling down the roadbed and [running off the road](#) into the unit. When we visited the site a few days later, this vehicle had been taken offsite.

From the Grove EA:

“K1. Spill Prevention - All vehicles and machinery would be free of petroleum leaks. Any leaks that occur would be immediately repaired. Power equipment would be refueled at least 150 feet from water bodies to prevent direct delivery of contaminants into a water body. If local site conditions do not allow for a 150-foot setback, then refueling would be as far away as possible from the water body. For all immobile equipment, absorbent pads would be used. All petroleum products being transported or stored would be in approved containers meeting Occupational Safety and Health Administration standards and Oregon Department of Transportation. All vehicles hauling more than 300 gallons of fuel would have an approved communication system with which to report accidental spills. Any contaminated soil, vegetation or debris must be removed from National Forest System lands and disposed of in accordance with state laws. National Core BMP Technical Guide – Road 10.”

Even though the wet season had already begun, there was no erosion control measures installed on the 4640-150, and the road was not closed. Because of this, water was running down the road in several places and [running off the road into no-cut areas with riparian vegetation](#).

From the Grove EA:

“G2. Erosion control measures would be implemented to prevent off-site movement of disturbed or exposed soil associated with road and landing construction and use (including cutbanks, fills, ditches, etc.) on road segments that have the potential to directly or indirectly deliver sediment to any stream channel. Erosion control measures include silt fences, straw bales, matting, mulch, slash, water bars, grass seed [or other products], etc. This work would occur prior to the wet season. National Core BMP Technical Guide – Veg 2, Veg 3, Veg 4, Veg 5 and Veg 6.”

Drum Units 64 and 66: In May of 2017, after two seasons of logging had occurred in these units, there were no waterbars or other erosion control installed on the eastern

temporary road into Units 64 and 66. This resulted in [water running down the road](#) and [pooling in some areas](#).

From the Jazz EA:

“4E4: Implement erosion control measures to prevent offsite movement of disturbed or exposed soil associated with road renovation and reconstruction (including cutbanks, fills, ditches, etc.) on road segments that have the potential to directly or indirectly deliver sediment to any stream channel. Erosion control measures include silt fences, straw bales, matting, mulch, slash, water bars, grass seed [or other products], etc. This work would occur prior to the wet season. National Core BMP Technical Guide –AqEco 2, Road 3, Road 4, Veg 2, and Veg 3.”

“After use, temporary roads are bermed at the entrance, water barred, decompacted and roughened as needed with the jaws of a loader or excavator, exposed mineral soil is covered with slash or other ground cover, and debris such as rootwads, slash, logs or boulders are placed near the entrance and along the first portion of the road.” EA at 23

From Drum Contract:

Over wintering: Spur roads and/or landings will normally be constructed, used, and obliterated in the same operating season. If it is not possible to do this, due to fire season or similar reason, road will be out-sloped, water-barred, have the entrance effectively blocked; and the entire road will be seeded, mulched, and fertilized in accordance with K-G.6.0#, prior to end of Normal Operating Season, or as designated by the Forest Service.

Obliteration: Roadbed and/or landing will first be subsoiled using a winged subsoiler if so required by contract K-G.6.0#. If subsoiling is not required, scarification may be done with log loader or other Forest Service approved method. After, or during scarification process, fill material will be returned to cut slope, and all excavated soil returned to original locations as much as feasible. Original land profiles will be reestablished to the maximum extent possible. All stumps, slash, and vegetative debris from construction will be returned to the obliterated road and/or landing surface. Special attention will be given road entrances to prevent any further use of road. Extra debris, imported stumps, earth berm and/or slash piles as approved by Forest Service, will be used to effectively prevent any future use of road. Following obliteration, all areas of exposed soil not effectively covered with slash and debris, will be seeded, fertilized, and mulched as required by K-G.6.0#.

Where this road crossed a stream within Unit 66, there was a [French drain-style culvert that was still in place](#) well after the operating season was complete.

From the Jazz EA:

“5F. Temporary roads - temporary roads and landings on temporary roads would be subsoiled to a depth of at least 18 inches or scarified with a loader or excavator. Cross-drains or waterbars would be installed every 150 feet, or more frequently if slopes exceed 5%. Actual placement distances may vary with topography to ensure proper drainage. Available slash, logs or root wads would be placed across the road or landing surface. Post-harvest motorized access to temporary roads would be prevented by construction of a berm.” EA at 38. 4D2. Where stream crossings are needed on existing alignments, they would be designed to minimize impacts to listed fish using techniques such as French drains, log fords and temporary culverts that would be used and removed the same season. EA at 34.”

Drum Unit 70: According to the FS, “Approximately 0.5 mile would be reconstructed as a temporary road on this alignment to access unit 70 and decommissioned again after project implementation.” EA at 25. After bringing up to the FS that the culvert on this road had not been ripped out before the 2016 wet season, we were pleased to find in 2017 that it had been removed. However, other than scattered decompaction cratering

for the first few hundred feet of the road, there has not been decommissioning of this road as stated in the EA. By the time the road actually meets the unit, the only actions taken were installation of scattered water bars and [small trees laid across the road](#). This is after the entire road was decommissioned just before the planning of the Jazz project.

From the Jazz EA:

“I3. Where decompaction is prescribed, 50-75% of the road surface would be de-compacted through the sub-grade and native vegetation could be placed on road surface no more than one layer deep. The road surface would be decompacted to a minimum depth of 18 inches. If native soil material is greater than 18 inches deep the road surface would be decompacted to that depth.”

From the Drum contract:

Over wintering: Spur roads and/or landings will normally be constructed, used, and obliterated in the same operating season. If it is not possible to do this, due to fire season or similar reason, road will be out-sloped, water-barred, have the entrance effectively blocked; and the entire road will be seeded, mulched, and fertilized in accordance with K-G.6.0#, prior to end of Normal Operating Season, or as designated by the Forest Service.

Obliteration: Roadbed and/or landing will first be subsoiled using a winged subsoiler if so required by contract K-G.6.0#. If subsoiling is not required, scarification may be done with log loader or other Forest Service approved method. After, or during scarification process, fill material will be returned to cut slope, and all excavated soil returned to original locations as much as feasible. Original land profiles will be reestablished to the maximum extent possible. All stumps, slash, and vegetative debris from construction will be returned to the obliterated road and/or landing surface. Special attention will be given road entrances to prevent any further use of road. Extra debris, imported stumps, earth berm and/or slash piles as approved by Forest Service, will be used to effectively prevent any future use of road. Following obliteration, all areas of exposed soil not effectively covered with slash and debris, will be seeded, fertilized, and mulched as required by K-G.6.0#.

Tuba Unit 154: In May of 2017, Bark found that the [most western of the three temporary roads](#) built into this unit was not de-compacted, or properly blocked to restrict access. There was a small pile of logs at the entrance of the road, and two small water bars. While the eastern temporary road was blocked and covered in slash, the [central road of the three built into the unit contained no rehabilitation, erosion control, or closure](#).

From Jazz EA:

“D8. Temporary roads and landings on temporary roads that are used by the operator would be subsoiled to a depth of at least 18 inches or decompacted to a depth of at least 18 inches with a loader or excavator. Cross-drains or water bars would be installed every 150 feet, or more frequently where slopes exceed 5%. Actual placement distances may vary with topography to ensure proper drainage. Temporary culverts would be removed. Available logging slash, logs or root wads would be placed across the road and landing surface. Where slash, logs or root wads are not available in sufficient quantities, bare soils would be seeded and mulched. Post-harvest motorized access to temporary roads would be prevented by construction of a berm (minimum height of 4 feet). National Core BMP Technical Guide – Road 5, Road 6, Veg 2 and Veg 3.”

“After use, temporary roads are bermed at the entrance, water barred, decompacted and roughened as needed with the jaws of a loader or excavator, exposed mineral soil is covered with slash or other ground cover, and debris such as rootwads, slash, logs or boulders are placed near the entrance and along the first portion of the road.” EA at 23

Huckleberry Enhancement units off FSR 42 at Summit Lake Campground

In November of 2017, Bark observed [extensive damage to 4661-141](#), which made it difficult to access the campground and the forest beyond the campground. This damage, resulting from log haul, included compaction and erosion leading to [high amounts of water pooling, displaced soil, and mud](#). The Forest Service was notified of this damage and had already suspended operations based on the road condition.

From the Huckleberry Enhancement EA:

“All temporary roads used would be restored and revegetated directly following completion of harvest operations to help reduce compaction, increase infiltration rates, minimize surface erosion and re-establish natural drainage patterns.” EA at 97

Hot Unit 348: When Bark visited this unit in 2015, we found that a buffered stream channel feeding a [wet meadow](#) adjacent to the unit had been [run over by a tractor skidder](#), presumably in order to access a portion of the unit on the other side of the meadow. The ground disturbance that occurred within this buffer appeared to have cut off connectivity between this channel and the meadow itself.

From 2007 Thinning EA:

“3.2.4 Other Riparian Reserves – There are some small seeps and wet areas that are too small to show on maps. Riparian features that are not perennial or intermittent streams such as seeps, springs, ponds or wetlands would be protected by the establishment of protection buffers that incorporate the riparian vegetation.”

Quarry Unit 100: Four years after project implementation, the [temporary road into this unit](#) is still not closed or rehabilitated. Because of this, there has been continuous motorized use of this road over the years, resulting in garbage and noxious weed presence.

From 2007 Thinning EA:

“7.6 Temporary roads would normally be constructed, used and obliterated in the same operating season. If this is not possible, due to fire season restrictions or other unforeseen delays, the road would be winterized prior to the end of the normal operating season by out-sloping, water-barring, effectively blocking the entrance, seeding, mulching and fertilizing.”

Wall Unit 19: When we visited this unit with the Forest Service for a CSP scouting trip in 2016, we noted that the temporary road accessing the unit had [never been closed or rehabilitated in any way](#). No erosion control, blocking of access, revegetation, or decompaction had occurred, and the route had clearly been used by motorized vehicles several times.

From the Upper Clackamas Thinning EA:

“7.6 Temporary roads would normally be constructed, used and obliterated in the same operating season. If this is not possible, due to fire season restrictions or other unforeseen delays, the road would be winterized prior to the end of the normal operating season by out-sloping, water-barring, effectively blocking the entrance, seeding, mulching and fertilizing.”

Conclusion

Bark has submitted these observations and tied them to our corresponding interpretations of relevant contract, EA, and other agency language. We do not have access to all relevant contract documents, so these connections were made to the best of our ability with the information we have at our disposal.

Some of the issues stated above could clearly be resolved by direct follow-up on the ground, and some would not. However, we hope that these observations can further aid the agency when drafting Project Design Criteria, contract language, and building in administrative roles in future projects with the goal of preventing ecological damage.

We would appreciate any constructive feedback you might have about this document, including which of these issues we raised will require follow-up in the field. If issues we brought up do not deserve follow-up, we'd like to know that too, to get a better sense of how the agency views these impacts.

Please contact me if you have any further questions,



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