



To: Project File

Date: May 23, 2017
Project #: 57201.10

Memorandum

From: Robert Wildey, CPESC

Re: Jay Peak Resort
2017 Water Quality Remediation Plan Update

In accordance with the terms of the 2015 Settlement Agreement, Jay Peak Resort ("Jay Peak" or "Resort") is required to identify proposed construction projects in advance of the Water Quality Remediation Plan ("WQRP") Annual Meeting and to propose sediment reduction measures or other best management practices ("BMPs") that are required if stream segments identified in the Settlement Agreement did not meet interim or attainment biocriteria targets during the previous year's monitoring. As described further below, the 2016 monitoring results trigger the need for an amendment of the WQRP. This document describes the proposed amendment components, and provides the required information for consideration and review under the ANR Procedure for Water Quality Remediation Plans (2015).

Proposed 2017 Construction

Proposed 2017 construction includes the completion of the Stateside Cottages project and construction of the Recreation Center, both of which are EB-5 Projects excluded from the conditions of the Settlement Agreement. The design and planning of the Medical Center has not advanced and is not proposed to be constructed in 2017. Jay Peak is currently evaluating the viability of a soccer field project that, if approved, would be constructed within the Jay Branch watershed, on a parcel east of the Resort near the former Inglenook Lodge. The development of this project would be supported by EB-5 funding. Pending a demonstration of compliance with the Settlement Agreement, as well as application for and issuance of all necessary permits, this project is anticipated to proceed to initial phases of construction in late 2017.

Monitoring and Compliance - Jay Branch and Tributary 9 to Jay Branch Watershed

As reported in the 2016 Water Quality Monitoring Plan ("WQMP") Annual Report, both the Jay Branch and Tributary 9 to Jay Branch were in attainment with respect to the Vermont Water Quality Standards ("VWQS") for macroinvertebrates. Although no additional Best Management Practices ("BMPs") are required within these areas, a section of North Village Road will be narrowed above the intersection with the parking area of Village units 101 to 108. This narrowing will return the roadway width to 24 feet, eliminating approximately 600 square feet of impervious area and reducing the sediment load to the Phase 1 tributary which is adjacent to this roadway. Sediment Source Tracking ("SST") and Snow Management efforts will also continue in these watersheds in 2017.

No new sediment offset projects are proposed at this time but may be required in conjunction with the soccer field project described above. The sediment offset of 2,613 pounds created by the revegetation of a segment of North Village Road remains in the offset bank for the Jay Branch watershed.



Memorandum

Monitoring and Compliance - South Mountain Branch and Tributary 3 to South Mountain Branch Watershed

As reported in the 2016 WQMP Annual Report, macroinvertebrate population metrics were below the Class B, Small High Gradient stream criteria in both South Mountain Branch and Tributary 3 to South Mountain Branch ("Tributary 3"). South Mountain Branch was not identified as a compliance reach in the Settlement Agreement because its watershed area contains lands that are outside of the control of the Resort, and is evaluated to provide context to the Tributary 3 data. Tributary 3 originates within the Resort and monitoring station SMB-T3-0.1 is a compliance reach in the Settlement Agreement. Interim targets for SMB-T3-0.1 were incorporated in the Settlement Agreement for 2014, 2015, and 2016. Although the 2014 Interim Targets were met, the 2015 Interim Targets were not met and Small-Scale BMPs were implemented in the watershed in 2016. Because 2016 is the second year that Tributary 3 did not meet the Interim Targets established by the Settlement Agreement, Medium-Scale BMPs are required to be implemented in the watershed in 2017. Per the Settlement Agreement, Medium Scale BMPs are described as consisting of culvert upgrades, streambank stabilization, stormwater basin retrofits, and buffer enhancement.

No new sediment offset projects are proposed in the South Mountain Branch watershed. The sediment offset of 42,317 pounds created by the Hell's Crossing gully repair and Angel's Wiggle water bar stabilization remain in the offset bank for this watershed.

Proposed Tributary 3 to South Mountain Branch Medium-Scale BMPs

Site plans and survey data from the 2016 monitoring effort were reviewed to identify opportunities for implementing additional BMPs in the Tributary 3 watershed. Water quality monitoring station SMB-T3-0.8 had been added in 2016 to identify the upper extent of Tributary 3 that may benefit from the deployment of new BMPs. The results from the 2016 monitoring suggest that Tributary 3 upgradient from the Stateside Lodge meets the VWQS biocriteria and that the implementation of additional BMPs on the ski trails farther upslope would not result in the water quality improvements required to meet the biocriteria at SMB-T3-0.1.

The focus area for additional BMPs was therefore identified as the portion of the watershed that drains to Tributary 3 between Stateside Lodge and Route 242. Existing impervious cover within this area includes Stateside Road, the Vehicle Maintenance Garage (north of Stateside Road), the Pole Barn / Sand Pile Area (south of Stateside Road), and the Route 242 Gravel Parking Lot. Several sediment source tracking ("SST") efforts have been previously implemented in this area and have been maintained or improved each year as required by the WQRP. As part of the adaptive management strategy, the addition of the Medium-Scale BMP in this area is proposed to further enhance these measures.

There are no permitted stormwater management systems in this area other than the rock-lined swale and the "Hotel 3" (i.e., Stateside Lodge) basin that were constructed in conjunction with the redevelopment of the Stateside



Memorandum

Lodge in 2014. The culvert that carries Tributary 3 beneath Stateside Road is a 6-foot diameter corrugated metal pipe culvert beneath 8 to 10 feet of fill; the replacement of this structure with an appropriately-sized culvert and associated stream restoration would be a major undertaking, which is beyond the scope of a medium-scale BMP. As a result, the proposed BMPs consists of several elements that, in combination, are anticipated to result in the necessary water quality improvements.

Route 242 Parking Lot Swale

Although the Route 242 gravel parking lot has been the subject of previous improvement efforts under the SST component of the WQRP (#3011), additional opportunities have been found to be present for managing sediment from this area. The swale along the north and west sides of the parking lot has been maintained in the past by reshaping after winter operations are complete and by removing accumulated sediment as needed. It is proposed to be enhanced by the addition of a turf-reinforcing mat ("TRM") geotextile that can be vegetated and will minimize channel erosion. Check dams will also be added to provide additional settling and sediment retention capabilities for snow melt and stormwater runoff prior to discharge to Tributary 3.

Stateside Road Paving

Although the lower portion of Stateside Road between Route 242 and the Pole Barn / Sand Pile Area was paved in 2015, the segment of Stateside Road between the sand pile and the Stateside Lodge has remained unpaved. It is not practicable to pave the entire road surface through this area because snow grooming equipment must traverse the road while crossing between the ski trails south of Stateside Road and the Maintenance Garage north of Stateside Road. Groomers used at the Resort are tracked vehicles with ice spikes and metal grouser bars that would quickly damage and destroy the roadway surface while traversing the paved road. For this reason, the proposed BMPs include paving the remaining segment of Stateside Road east of the sand pile that does not need to be traversed by grooming equipment.

Pole Barn / Sand Pile Settling Pond

A previously-constructed SST (#3013) involved the installation of a rock-lined swale and creation of a settling pond adjacent to the Pole Barn / Sand Pile Area. This settling pond will be enlarged to provide additional settling and sediment retention. The waste block retaining wall around the sand pile will be shifted south to provide additional room for the settling pond and rip rap swale to be expanded.

Stateside Road Swale

A portion of Stateside Road between the lower paved segment and the Pole Barn / Sand Pile Area driveway has a vegetated shoulder but does not include a ditch or drainage swale. Stormwater runoff from this driveway area and Stateside Road may flow over the bank of Tributary 3 without treatment. As an enhancement to a previously-identified SST in this area (#3014), approximately 150 feet of guardrail at the top of the bank will be removed and shifted to the south, allowing for the construction of a rock-lined swale that will connect to the existing swale that starts farther east



Memorandum

along the same side of Stateside Road. Additional settling and sediment retention will be improved by installing rock check dams in both sections of swale. Shifting the guard rail will reduce the amount of untreated impervious area by approximately 900 square feet.

Pole Barn / Sand Pile Area Driveway and Jet Triple Lift Access Road Intersection Improvements

The intersection of the Pole Barn / Sand Pile Area Driveway and the Jet Triple Lift Access Road with Stateside Road has been identified as being an area of existing impervious cover that could be reduced while still allowing adequate room for vehicle turning and tracking of the grooming equipment. In addition to the narrowing that will occur as a result of the guardrail relocation described above, concrete barriers will be installed south of Stateside Road to help define the intersection and reduce the amount of impervious area by approximately 500 square feet.

Proposed 2017 Monitoring

In accordance with the terms of the 2015 WQRP and the Settlement Agreement, monitoring of streams at the Resort will continue in 2017. This monitoring will include the same parameters and locations that were evaluated in 2016, including base flow water quality sampling, event flow water quality sampling, substrate analysis, supplemental turbidity monitoring, and biomonitoring. Winter melt water quality monitoring for the year was previously conducted on April 3 and April 13, 2017. Sediment Source Tracking efforts will continue in 2017, to evaluate the status of previously-identified sources of sediment as well as the potential identification of additional measures that may be required.

Summary

This 2017 WQRP update identifies the required Medium Scale BMPs that will be implemented within the South Mountain Branch watershed, as required by the terms of the Settlement Agreement. If approved, these improvements will be constructed in 2017 with the goal of minimizing the sediment load contained in stormwater runoff and meltwater.

JAY PEAK RESORT PROPOSED SOUTH MOUNTAIN BRANCH BMP'S, 2017
MAY 12, 2017

Field Book:

Project Reference:

