



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
To Appropriate Public Waters of the State of Washington

APPLICATION DATE	APPLICATION NO.
June 14, 2010	S4-35366

NAME		
Green Canyon, LLC		
ADDRESS/STREET	CITY/STATE	ZIP CODE
206 West First Street	Cle Elum, WA	98922

PUBLIC WATERS TO BE APPROPRIATED

SOURCE		
Flatwater Lake (reservoir)		
TRIBUTARY OF (IF SURFACE WATERS)		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
		42.01

QUANTITY, TYPE OF USE, PERIOD OF USE
0.125 cubic feet per second, 42.01 acre-feet per year from July 31 through April 30 for mitigation of instream flows.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
750 feet south and 1,150 feet east from the north quarter corner of Section 35, T. 20 N., R. 15 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
SE1/4NW1/4NE1/4	35	20 N.	15 E.	39	Kittitas
PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM		

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
[Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal.]

That portion of Lot 1 boundary line adjustment, recorded in Volume 31, at Page 111, more particularly described as: Beginning at the northwest corner of said Lot 1; thence south 00° 22' 57" east, 1,051.54 feet along west line of said Lot 1; thence south 85° 25' 44" east, 32.70 feet; thence south 78° 08' 28" east, 807.15 feet; thence south 72° 08' 05" east, 176.26 feet; thence south 63° 06' 57" east 14.72 feet; thence south 58° 06' 24" east, 366.87 feet; thence north 89° 35' 37" east, 517.19 feet; thence north 89° 51' 33" east, 125.06 feet; thence north 00° 25' 35" east, 675.63 feet to the northeast corner of said Lot 1; thence north 86° 41' 33" west, 125.30 feet; thence north 80° 27' 43" west, 276.02 feet; thence north 65° 39' 48" west, 345.18 feet; thence north 61° 00' 19" west, 410.49 feet; thence north 48° 31' 11" west, 334.71 feet; thence north 66° 21' 38" west, 336.47 feet; thence north 82° 35' 03" west 342.20 to the point of beginning, all within the SW¼ of Section 30, T. 20 N., R. 16 E.W.M., Kittitas County, Washington.

DESCRIPTION OF PROPOSED WORKS

Release of mitigation water to the Yakima River system will be achieved by releasing water from the lake (reservoir) and infiltrating it on-property via one or more infiltration galleries. Infiltration gallery design is not complete; however, the galleries are expected to consist of a network of buried, horizontal perforated pipes. Water will be pumped from the lake to the infiltration galleries and metered to ensure that the required mitigation quantities are released.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
July 1, 2011	July 1, 2012	December 31, 2022

PROVISIONS

Metering and Reporting

- An approved measuring device shall be installed and maintained for each of the sources authorized by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173. <http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html>
- Water use data shall be recorded weekly and maintained by the property owner for a minimum of five years. The recording period shall be November 1 to October 31. The maximum weekly rate of diversion/withdrawal and the weekly total volume shall be submitted to the Department of Ecology (Ecology) by December 1st of each calendar year. Water use data shall be submitted using Microsoft Excel or other compatible digital software.
- Water use data shall also be reported in an annual Monitoring Report (see below).

General

- Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.
- The water right holder shall file the notice of Proof of Appropriation of water (under which the permit of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. A certificate will reflect the extent of the project perfected within the limitations of the water right. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.
- This authorization shall in no way excuse the permit holder from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.
- The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.
- Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Additional Provisions

- In addition to releases for mitigation (augmentation), a minimum of 6.93 ac-ft shall be released to the Yakima River every year to account for incidental precipitation onto the reservoir. If additional surface water is intercepted by the reservoir it too shall be released to the Yakima River. Incidental precipitation and other incidentally captured surface flows shall be released in a manner that benefits the Yakima River between October 1 and November 30.
- Prior to the construction and filling of the reservoir, a Reservoir Management Plan (RMP) shall be completed and approved by Ecology. It shall incorporate the engineering design details for construction of the reservoir and the infiltration system, operations and maintenance (O&M) plans, and monitoring plans – including planned metering of reservoir inflows and outflows and monitoring of reservoir stage. The RMP shall include a hydrogeologic analysis that describes: (1) the predicted timing of impacts of groundwater pumping associated with the Groundwater Permits (which rely on mitigation from the reservoir) on the Yakima River, (2) the predicted timing of impacts on the Yakima River from the infiltration and/or release of water from the reservoir, (3) the predicted effect of released/infiltrated water on the temperature of receiving water, and (4) an analysis of how the effects of pumping groundwater associated with the Groundwater Permits (which rely on mitigation from the reservoir) and the effects of infiltrating and/or releasing stored water offset one another to create no net impact on the Yakima River. As the projects are developed, the RMP will include the monthly schedule of mitigation releases to demonstrate that the project is water budget neutral with respect to flows in the Yakima River. The monthly schedule of mitigation releases will be updated on an annual basis (see Annual Monitoring Report) to reflect the level of project buildout and allocation of the available reservoir mitigation quantity.
- A Monitoring Report (MR) shall be submitted to Ecology by December 30 of every year. The MR shall describe the mitigation actions and results for the previous year (November 1 to October 31) performed under the RMP. Additionally, an annual meeting shall be coordinated to present the summary of the previous year's monitoring results, discuss whether adaptive management is required, and if any modification to the RMP are necessary. The meeting shall be held prior to January 31 each year.

FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is physically and legally available, the water use will be beneficial, and the appropriation of water as recommended will not be detrimental to existing rights or to the public interest.

Therefore, I ORDER the approval of Application No. S4-35366 subject to existing rights and the provisions specified above.

This Decision may be appealed pursuant to RCW 34.05.514(3), RCW 90.03.210(2), and Pretrial Order No. 12 entered in *State of Washington, Department of Ecology v. James Acquavella, et al.*, Yakima County Superior Court No. 77-2-01484-5 (the general adjudication of surface water rights in the Yakima River Basin). The person to whom this Decision is issued, if he or she wishes to file an appeal, must file the notice of appeal with the Yakima County Superior Court **within thirty (30) days of receipt of this Decision**. Appeals must be filed with the Superior Court Clerk's Office, Yakima County Superior Court, 128 North 2nd Street, Yakima WA 98901, RE: Yakima River Adjudication. Appeals must be served in accordance with Pretrial Order No. 12, Section III ("Appeals Procedures"). The content of the notice of appeal must conform to RCW 34.05.546. Specifically, the notice of appeal must include:

- The name and mailing address of the appellant;
- Name and address of the appellant's attorney, if any;
- The name and address of the Department of Ecology;
- The specific application number of the decision being appealed;
- A copy of the decision;
- A brief explanation of Ecology's decision;
- Identification of persons who were parties in any adjudicative proceedings that led to Ecology's decision;
- Facts that demonstrate the appellant is entitled to obtain judicial review;
- The appellant's reasons for believing that relief should be granted; and
- A request for relief, specifying the type and extent of relief requested.

The "parties of record" who must be served with copies of the notice of appeal under RCW 34.05.542(3) are limited to the applicant of the decision subject to appeal, Ecology and the Office of the Attorney General.

All others receiving notice of this Decision, who wish to file an appeal, must file the appeal with the Yakima County Superior Court within **thirty (30) days of the date the Order was mailed**. The appeal must be filed in the same manner as described above.

Signed at Yakima, Washington, this _____ day of _____ 2011.

Robert F. Barwin, Acting Section Manager
Water Resources Program/CRO

BACKGROUND

Project Description

Surface Water Release Application

On June 14, 2010, Green Canyon, LLC (a Sapphire Skies, LLC Company) of Cle Elum, Washington filed three applications with Washington State Department of Ecology (Ecology) for a reservoir storage project referred to as Henshaw Lake. The applications request to divert (S4-35365), store (R4-35364), and release (S4-35366) surface waters of the state. The subject of this report is the application to release water from the reservoir (secondary use permit) for mitigation of instream flows (S4-35366). The applicant requested authorization for an instantaneous diversion (Qi) of 0.2 cubic feet per second (cfs) and an annual diversionary volume (Qa) of 42.4 acre-feet per year (ac-ft/yr) from a reservoir for the beneficial use of mitigation (augmentation) to offset consumptive use impacts to Yakima River instream flows. Diversion of water into the reservoir is proposed to be offset by instream flow rights surplus to that needed to make the applicant's groundwater appropriations (described below) water budget neutral. Green Canyon's instream flow rights will be transferred to the Trust Water Right Program (TWRP) and managed under a trust water agreement between Ecology and Sapphire Skies, LLC. The applicant proposes to release water from the reservoir from August 1 to April 30 each year to make their groundwater appropriations water budget neutral during that time period. Attributes of the requested water right authorization, as published in the public notice, are summarized in Table 1.

Table 1 Summary of Application No. S4-35366

<i>Attributes</i>	<i>Proposed (as published in the Public Notice)</i>
Applicant	Green Canyon LLC
Date of Application	June 14, 2010
Instantaneous Quantity	0.2 cfs
Annual Quantity	42.4 ac-ft/yr
Source	Henshaw Lake (Reservoir)
Point of Withdrawal	SW1/4 of Section 30, T. 20 N., R. 16 E.W.M.
Purpose of Use	Mitigation of consumptive use impacts
Period of Use	July 31 through April 30
Place of Use	As described on page 1 of this Report of Examination

New Groundwater Permits

In 2010, the applicant received new groundwater permits for several planned developments in the Cle Elum area (see Table 2 for list of projects potentially relying on mitigation through releases from Henshaw Lake). The conclusions of water availability and no-impairment were determined on the basis that the new appropriations would be consumptively month-to-month water budget neutral for the irrigation season (April 1 - September 30) and non-irrigation season (October 1 – March 31). The applicant proposed to mitigate for consumptive use (CU) impacts under these appropriations through the creation and use of a water bank, referred to as the Sapphire Skies Water Exchange (SSWE).

Table 2
New Groundwater Permits That May Rely on Mitigation Releases from the Henshaw Reservoir Lake

Permit No.	Project Name	Land Owner	Lots
G4-35247	Flatwater	Green Canyon LLC	26
G4-35248	Forest Ridge	Iron Snowshoe LLC	190
G4-35273	City Heights ¹	Green Canyon LLC, Cooper Pass LLC, Highmark Resources LLC, and Northland Inc.	767
G4-35273	Meadow Ridge	Green Canyon LLC, Cooper Pass LLC, Highmark Resources LLC, and Northland Inc.	14
G4-35273	Ponderosa Pines	Green Canyon LLC, Cooper Pass LLC, Highmark Resources LLC, and Northland Inc.	12
Total			1,009

Note: ¹ Under the City of Cle Elum’s water service ordinances, the City is considering year-round water service for the City Heights project from the City of Cle Elum’s existing available water supply, and in consideration of that service under the ordinance the City will exercise G4-35273 within the irrigation season. Should this agreement be reached with the City of Cle Elum, the entire City Heights right under G4-35273 will be exercised and fully mitigated month-to-month in the irrigation season by the assignment to trust of available and surplus instream flow rights that would otherwise have been stored in Henshaw Lake Reservoir. City Heights would therefore not rely on Henshaw Lake reservoir for mitigation of consumptive use. Water right authorizations for Meadow Ridge and Ponderosa Pines under G4-35273 would still rely on Henshaw Lake reservoir for mitigation of consumptive use.

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

- **Public Notice**
Green Canyon LLC (a subsidiary of Sapphire Skies, LLC) of Cle Elum, Washington submitted an application for a Surface Water Permit on June 14, 2010. The application was accepted on June 15, 2010 and assigned the identifier No. S4-35366. Public Notice on this application published in the Kittitas County Daily Record on July 16, 2010, and July 23, 2010. The Department of Ecology's Central Regional Office received no protests during the 30-day period.
- **State Environmental Policy Act (SEPA)**
The proposed surface water diversion of 0.2 cfs is categorically exempt under SEPA WAC 197-11-305 and WAC 197-11-800(4). Although the requested surface water diversion is exempt under SEPA, the overall reservoir storage project is not. On November 19, 2009, Kittitas County (SEPA lead agency) issued a Mitigated Determination of Non-Significance for the Henshaw Lake 26- Lot Performance Based Cluster Plat (P-07-44). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. Kittitas County determined that certain mitigation measures or conditions were necessary in order to issue a Determination of Non-Significance. Those conditions related to: water and septic, land use and recreation, cultural resources and historic preservation, air, transportation, noise, lights and aesthetics, plants and wildlife, and utilities and services. No appeals were filed.
- **Water Resources Statutes and Case Law**
Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws specifically governing the water right permitting process are primarily RCW 90.03.250 through 90.03.340 and RCW 90.44.060. RCW 90.42.100 authorizes Ecology to use the Trust Water Right Program for water banking purposes within the Yakima River Basin.

INVESTIGATION

In considering this application, the investigation included, but was not limited to, research and/or review of:

- The State Water Code
- Existing water rights on file for Sapphire Skies
- Records of other water rights in the vicinity
- Notes from site visit on September 8, 2009
- Correspondence from the applicant's consultant
- Topographic and local area maps
- The Washington Irrigation Guide (WIG)
- Climate data for Cle Elum area
- Projected water balance for Henshaw Lake
- Flatwater Lake Mitigation Storage and Release Plan, dated December 12, 2010

Site Visit

Kurt Walker of the Department of Ecology, observed the subject property on September 8, 2009, during a routine site visit related to application for change CS4-00365CTCLsb5 G4-35247 (Henshaw). The applicant's consultant, Joe Morrice of Aspect Consulting, and Bernard Henshaw (property owner at that time) were also present.

Determination of Release Quantities

Mitigation releases from the reservoir requested under this permit include:

- 1) the mitigation releases required to offset instream flow CU mitigation deficits in the SSWE; and,
- 2) releases required by Reservoir Permit R4-35364P to account for capture of incidental precipitation by the planned lake.

The following sections present the total annual release quantities and peak release rates from the reservoir used to determine maximum quantities required under this application. These quantities reflect full build out of all projects relying on the SSWE. During the initial years of project development as properties are being built out, much lower mitigation release quantities will be required. Reservoir Permit R4-35364P requires a monthly schedule of releases from the reservoir to be provided to Ecology prior to initial filling of the reservoir. It must thereafter be updated annually to reflect mitigation requirements based on then-current build out plans.

Mitigation Releases

The annual mitigation releases to offset instream flow CU mitigation deficits in the SSWE will depend on the level of project build out and the source of supply for City Heights. If City Heights is self supplied, total annual mitigation releases at full build out of all projects would be 35.08 ac-ft to offset impacts (instream flow deficits) from August through April. Releases would average about 3.14 ac-ft per month from October through April, with larger releases of 7.71 and 5.48 ac-ft to offset deficits in August and September, respectively. Assuming continuous release of water, the highest rate of release will be 0.125 cfs to offset August deficits.

If City Heights instead receives year-round supply from the City of Cle Elum then the City Heights water right G4-35273 would be fully mitigated by instream flow rights (CU credits) available instream from the SSWE, there may no longer be August and September mitigation (instream flow right) deficit, and total annual mitigation releases from the lake could be reduced to 7.02 ac-ft to offset impacts (instream flow deficits) from October through April, or about 1 ac-ft per month. Assuming continuous release of water, the monthly releases correspond to an instantaneous release rate of 0.017 cfs.

Evaporative Losses

In order to maintain the lake level, net evaporative losses from the lake surface (evaporation minus precipitation) will need to be replaced during refilling of the reservoir. As shown on Table 5, on average precipitation falling on the 12.5 acre footprint of the reservoir is 23.59 ac-ft/yr and evaporation from the reservoir surface is calculated to be 31.55 ac-ft/yr, resulting in an average net annual evaporative loss of 7.96 ac-ft/yr.

Average precipitation data are from the Washington Irrigation Guide (WIG) Appendix A. Evaporation was estimated using the ASCE Penman-Monteith method and the formula by Allen and Robison (2007) as follows:

$$ET_{\text{lake}} = ETr \times 0.6$$

Where ET_{lake} is the evaporation from the lake surface; ETr is the alfalfa reference crop evapotranspiration derived using the ASCE Penman-Monteith method and local climate data; and 0.6 is a “crop” coefficient applicable to relatively shallow reservoirs and ponds.

Mitigation release quantities reflect current needs assuming full build out of all projects relying on mitigation from the SSWE, but may be reduced if additional instream flow rights are transferred to or made available in the SSWE.

Additional Releases Required by Reservoir Permit R4-35364P

In addition to the new groundwater appropriations, the reservoir itself will need to be operated to be water budget neutral. This can be accomplished by releasing the portion of incidental precipitation which falls on the proposed reservoir that, absent the reservoir, would have otherwise contributed to streamflow. Joe Morrice of Aspect Consulting provided an analysis of the pre-reservoir water budget for the Henshaw Lake property. Mr. Morrice concludes that prior to construction of the reservoir, on average 16.00 inches (or 16.67 ac-ft over the 12.5 acre footprint of the reservoir) of precipitation would be consumed by evapotranspiration (ET) and 6.65 inches, or 6.93 ac-ft would contribute to instream flow. Based on this evaluation, for the reservoir to be water budget neutral, a minimum of 6.93 ac-ft must be released every year to account for interception of incidental precipitation that would have otherwise reached the Yakima River. Release of 6.93 ac-ft of water (in addition to any other mitigation releases) to ensure that the reservoir is water budget neutral will occur between October 1 and November 30 each year. Release of 6.93 ac-ft over this 61 day period equates to a continuous release rate of 0.057 cfs. Additionally, if other incidental surface water is captured by the reservoir, it too must be released.

In summary, combined releases from the reservoir to mitigate for new groundwater appropriations and to ensure the reservoir itself is water budget neutral would be up to a total of 42.01 ac-ft, assuming full build out of all projects and that the City Heights project (G4-35273) is self supplied. If City Heights is self supplied, the maximum monthly release would occur in August, when 7.71 ac-ft (0.125 cfs over 31 days) would be released to offset CU deficits in the SSWE. If City Heights is supplied by the City of Cle Elum, the maximum releases would occur from October through November, when a total of 8.97 ac-ft (0.074 cfs over 61 days) would be released to offset CU deficits in the SSWE and to account for interception of incidental precipitation that would have otherwise reached the Yakima River.

Water Availability and Impairment Considerations

Water would be diverted from the Yakima River between May 1 and July 29. Water diverted under surface water right application S4-35365 and stored under reservoir permit application R4-35364 serve as the source of water for the subject application. On May 10, 1905, the United States withdrew/reserved all unappropriated surface waters of the Yakima River Basin. The applicant has offered mitigation in the form of pre-1905 priority instream flow rights from the SSWE to offset the new diversions/appropriations, including application S4-35365 to fill and refill the reservoir. The Yakima River reaches benefiting from the SSWE instream flow rights are located at or upstream of the new proposed point of diversion. Additionally, the reservoir is intended to be water budget neutral (see Release Quantities Section above). As a result, the new diversions and uses will be water budget neutral with respect to TWSA, and are not expected to have any impact to other mainstem Yakima River water right holders.

Public Interest Considerations

When investigating a water right application, Ecology is required to consider whether the change is detrimental to the public interests. Ecology must consider how the change will affect an array of factors such as wildlife habitat, recreation, water quality, and human health. The environmental amenities and values associated with the area were taken into account during the consideration of this application.

Consideration of Protests and Comments

No protests or comments were received during the 30-day comment period following publication of the public notice.

