

Resort Design & Recreation Planning



ecosign

MOUNTAIN RESORT PLANNERS

"In January of 2009, Wanda Commercial Planning & Research Institute selected Ecosign Mountain Resort Planners Ltd. of Whistler, British Columbia, Canada, to prepare a master plan for a world class, four-season, international resort in the northeast corner of Jilin Province, P.R.C. During the entire planning effort, Ecosign displayed a high level of professionalism in working with Wanda and with all of the sub-consultants involved with the project.

Wanda strongly recommends Ecosign for planning and resort design, on-site inspection and consultation, follow-up consulting services and excellent customer service. We plan on using Ecosign for our future four-season resort planning efforts and look forward to the next opportunity of working with the Ecosign team."

**Yuan Wang, President of the Cultural Tourism Branch
Wanda Commercial Planning & Research Institute**



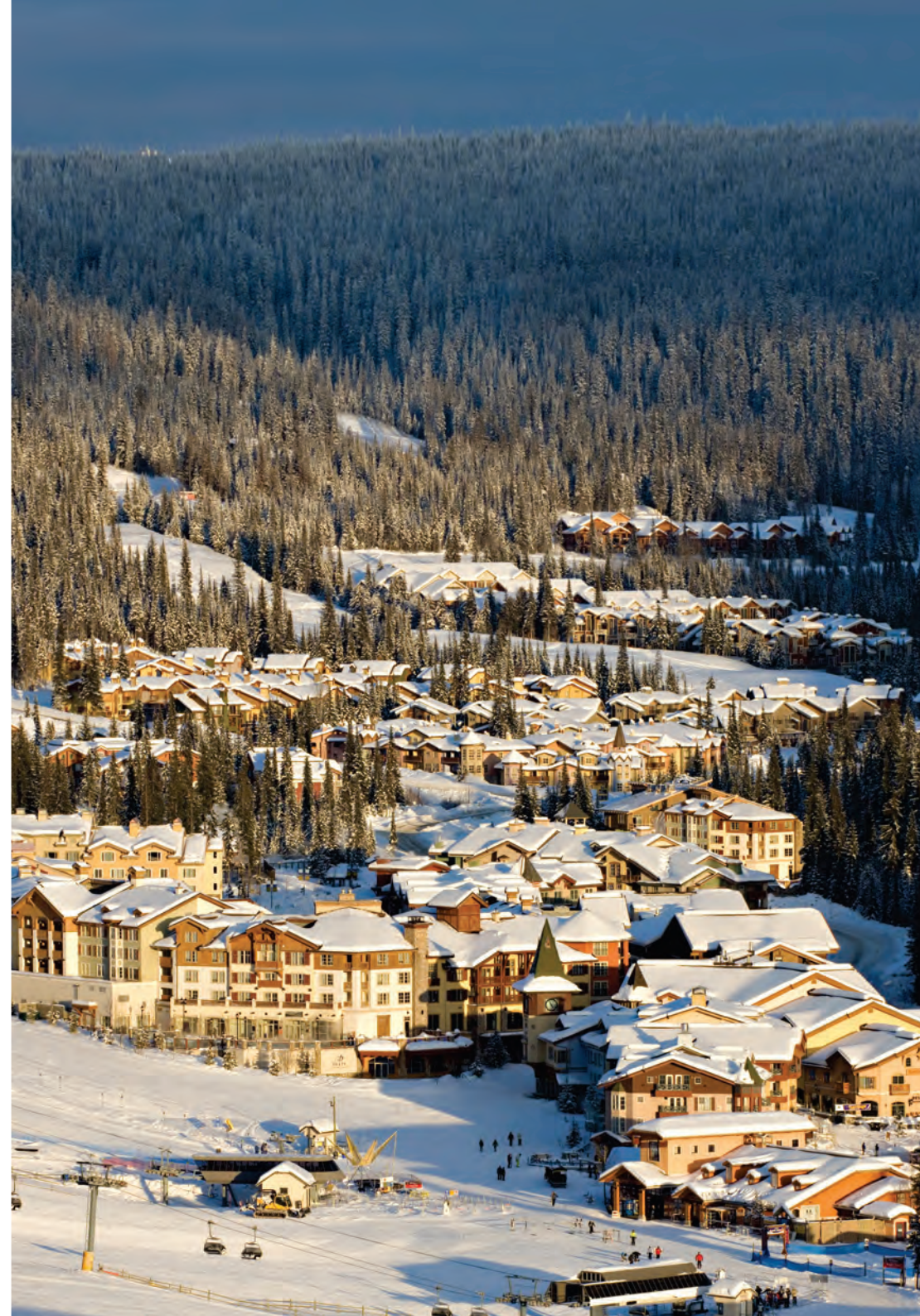
Introduction

Ecosign (Ecological Design) Mountain Resort Planners is the world's most experienced mountain resort planning firm. Since 1975, Ecosign has established itself as a leader in the design of successful, award winning and profitable mountain resorts completing over 500 resort development projects in 45 countries spanning 6 continents. Ecosign's extensive expertise includes the design of competition venues for 6 Olympic Winter Games and several Alpine World Ski Championships.

Ecosign also designs the recreational facilities which complement four-season mountain resort developments including: golf courses and practice fairways, multi-season skiing/hiking/biking trail systems, swimming pools, tennis courts and equestrian centres. The planning of residential housing and landscape design are natural extensions of Ecosign's resort planning and design expertise.

This document focuses on our resort, real estate and four season recreation planning services.

- ***Resort Village Design***
- ***Real Estate Design***
- ***Four Season Recreation Planning***
- ***Aerial Sightseeing and Urban People Mover Lifts***
- ***Regional and Tourism Planning***
- ***Land Use and Preliminary Golf Course Routing***
- ***Summer, Beach and Lakeside Resorts.***



Team



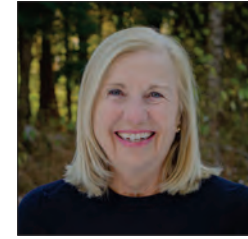
*Paul
Mathews*
Chairman/CEO



*Eric
Callender*
Vice President



*Emily
Amirault*
Principal,
Senior Resort
Designer



*Linda
Mathews*
Graphics Coordinator/
Analyst



*Ryley
Thiessen*
President



*Dave
Felius*
Senior Mountain
Planner



*Adam
Schroyen*
Principal,
Senior Resort
Designer



*Josh
Stabler*
AutoCAD/Resort
Planning Technician



*Don
Murray*
Senior
Vice President



*Jill
Almond*
Development
Manager



*Peter
O'Loughlin*
Resort Technician/
3D Specialist



*Bernard
Messeguer*
AutoCAD/
GIS Technician



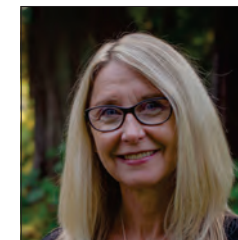
*Nathan
Smalley*
Mountain
Planner



*Shelagh
Thiessen*
Resort Planner/
Technician



*Paula
Palmer*
Senior AutoCAD
System Administrator



*Adele
Ferguson*
Accountant



*Sue
Stearns*
Executive Assistant
to the Senior Vice
President / Marketing



*Karen
Phillips*
Executive Administrative
Assistant

Ecosign Worldwide Resort Projects



LIST OF SELECTED PROJECTS

NORTH AMERICA

CANADA

BC

Fernie Alpine Resort
Kicking Horse Resort
Mount Washington
Panorama Resort
Revelstoke
Sun Peaks Resort
Vancouver Olympics 2010
Whistler Blackcomb
Whistler Nordic Centre

Alberta

Lake Louise
Marmot Basin
Nakiska Olympics 1988
Sunshine Village

Ontario

Blue Mountain Resorts
Mount St. Louis Moonstone

Quebec

Le Massif
Mont Cascades
Mont Saint Sauveur
Mont Sutton
Mont Tremblant

USA

California

Big Bear - Snow Summit
Boreal
Heavenly Resort
Mammoth Mountain
Northstar at Tahoe
Snow Summit
Squaw Valley

Colorado

Breckenridge
Copper Mountain
Keystone

Steamboat Resort

Telluride
Winter Park

Idaho

Bogus Basin
Schweitzer
Sun Valley

Montana

Big Mountain

Oregon

Mt. Bachelor
Mt. Hood Meadows

Utah

Alta
Canyons Resort
Solitude
Snowbasin Olympics 2002

Vermont

Stratton Resort

Wyoming

Grand Targhee

Washington

Mission Ridge



WESTERN EUROPE

Austria

Schröcken
Serfaus
Silvretta Nova
Sölden
St. Anton
St. Anton 2001 Championships
Zell am See

Andorra

Grandvilara

Finland

Ruka
Pyha

France

Alpe d'Huez
Courchevel
Porte Puymorens
Val Thorens

Italy

Courmayeur
Foppolo
Livigno
Sexten

Norway

Geilo
Hemsedal
Nørfjell
Tryvann Skisenter
Trysil
Tyin
Voss Fjellandsby

Spain

Granada 2015 Universiade
Sierra Nevada
Sierra Nevada 1996 Championships
Cerler Castanesa
Astun
Aragon Ski Circus
La Quinta el Real Golf
Sweden
Kläppen I Sälen

Switzerland

Andermatt
Anzere
Arosa
Crans-Montana
Davos
Gstaad
Jungfrau - Grindelwald
Laax Crap Sogn Gion
Lenzerheide
Moleson sur Gruyeres
Savognin
Verbier
Zermatt

EASTERN EUROPE

Georgia

Bakuriani
Gudauri
Mestia

Kazakhstan

Chimbulak
Kok Zhailau

Kosovo

Brezovica

Montenegro

Mt. Komovi

Russia

Kamchatka Region
Krasnaya Polyana
Lake Baikal
Rosa Khutor
Sheregesh
Sochi Olympics 2014
Spasskaya Guba

Serbia

Stara Planina
Kopaonik

Ukraine

Bukovel
Odessa Golf Resort

ASIA

China

2022 Beijing Olympic Winter Games
Adventure Mountain
Bai Qing Zhai
Beida Lake Asian Winter Games
Beidahu Sky Mountain Resort
Changbaishan Crowne Plaza Hot
Springs Hotel
Deer Valley Jun Yue Tan
Duolemeidi Resort
Genting Secret Garden
Huo Shan International Resort
Nalati Resort
Nuibeishan
Tan Gou
Thaiwoo Four Season Resort
Wanda Changbaishan Resort
Yabuli Sun Mountain
Xiling Mountain (Chengdu)

Japan

Fukushima

Minowa
Alts Bandai

Hokkaido

Hanazono Resort
Niseko Higashiyama
Tomamu

Iwate

Appi Kogen

Nagano

Shiga Kogen
Yanaba
Karuizawa

Niigata

Gala Yuzawa
Yuzawa Kogen
Joetsu Kokusai

Yamagata

Mount Zao
Zao Kogen

South Korea

2018 Yeongpyong Winter Olympics
Bokwang Phoenix Park
Dahwa
Konjiam Resort
Hyundai Sungwoo Resort
Yeongpyong Resort

OCEANIA

Australia

Kosciusko National Park
Mt. Buller
Mt. Hotham
Fall's Creek

New Zealand

The Remarkables
Mount Cardrona

SOUTH AMERICA

Argentina

Las Lenas
Rio Villegas
Chapelco

Chile

Corralco
Valle Nevado

AFRICA

Morocco

Oukaïmeden

MIDDLE EAST

Lebanon

Sanine Zenith

Turkey

Koroglu Mountain Resort
Erzurum
Palendoken

UAE

Jabel Hafeet Glacier

Resort Village Design

Since 1975, Ecosign has established a track record of designing and promoting pedestrian-oriented mountain resort villages that highlight and capture the surrounding natural beauty of the resort. Ecosign possesses the creative design skills and development expertise to guide village development from concept to reality. Ecosign has all the necessary tools required to illustrate and develop the clients' vision every step of the way.

Ecosign also designs the recreational facilities complementing four-season mountain resort developments, including golf courses and practice fairways, multi-season skiing/hiking/biking trail systems, swimming pools, tennis courts and equestrian centres. The planning of residential housing and landscape design are natural extensions of Ecosign's resort planning and design expertise.



Mont Tremblant, Quebec



Ruka, Finland



Sierra Nevada, Spain



Changbaishan, China



Resort Village Design / Sun Peaks Resort, B.C. Canada



Since 1992, Ecosign has acted as the prime consultant and project planner for the transformation of the Tod Mountain Ski Area into Sun Peaks Resort, a four season resort community with approximately 900 residents and 8,000 tourist beds. Over CDN \$400 million has been invested by the resort and private developers to expand the ski area onto 3 mountains, construct an 18 hole championship golf course and build over 1,600 new dwelling units. During this period annual skier visits have increased significantly from just over 69,000 in 1992/93 to 461,000 in 2022/23.

Ecosign has guided every step of development at Sun Peaks, starting with the initial Resort Master Plan in 1992, followed by a detailed Village Plan and then moving on to detailed design and construction supervision of numerous projects over the past 30 years.



Resort Master Plan 1994



18 Hole Golf Course



Ski In Ski Out Village



Pedestrian Streets



Resort Village Design / Ruka, Finland



Ruka Ski Center, Finland's largest ski resort based upon visitation, is located 800 km north of Helsinki. As an established destination resort, Ruka offers numerous summer and winter activities to its guests. Ecosign was engaged in 2002 to provide expertise on ongoing visitor circulation problems as well as improve the overall quality of the resort through expanding alpine skiing, accommodation and base area facilities. The Master Plan incorporated a development capacity analysis for the land around the base area of the ski slopes to find the optimum location for base area development zones. Two high-density development areas were proposed, each with their own village concept, as well as a day skier base. After several years of planning and construction, the main portions of the pedestrian village at Lansi-Ruka were completed in 2010. This village now offers more than 1,000 visitor beds, 15 restaurants, 10 shops and 360 underground parking spaces in a compact pedestrian zone at the base of the slopes. The new village proved to be very popular as skier visits at Ruka Ski Center have grown from 274,000 in 1999/2000 to 473,000 in 2022/2023.



Ecosign completed the planning work for the second village base at Ita Ruka. Our scope of work included an expansion of the existing beginner ski terrain at Ita Ruka and a detailed design for new accommodation and other tourist facilities.



Ita Ruka Village View



Lansi Village



Ruka Village



Village Illustrative Plan



Resort Village Design / Gudauri, Georgia



Gudauri is located a 1.5 to 2 hour drive by car north from the capitol Tbilisi, a city of 1.5 million people. The resort was originally developed in Soviet times and was intended for competition training. Ecosign was originally commissioned in 2010 to create an “Immediate Action Plan” for the resort in order to improve the existing facilities and create a new, modern slope-side ski village.

Following Ecosign’s design work, the “New Gudauri” resort base was constructed and included a new access road, beginner ski lift, tubing park, parking lots and two buildings were constructed during the fall of 2011 and summer of 2012, along with the new high-speed ten-passenger gondola. Business levels increased substantially in the 2012/13 season due to these improvements. Phase 1 New Gudauri Village completed in 2015 and construction commenced on three new buildings in 2018. Since the implementation of the first phase of the master plan in 2011, Gudauri has seen an incredible increase in the number of skier visits and summer sightseeing visits and is perhaps one of the fastest growing ski resorts in Europe and quite possibly the world.



Overall Site Master Plan



3D North View



3D East View



Street View



Resort Village Design / Changbaishan Resort, Jilin Province, China

In 2010, Ecosign completed a comprehensive Ski Area, Resort Village, Real Estate and Overall Land Use Master Plan for Wanda Commercial Properties Co. Ltd., for their project in the north-eastern portion of the Province of Jilin near Changbaishan Mountain.

Phase One of the project included six flagship hotels made up of 4 and 5 star accommodations. Phase 2 consisted of the development of 2,000 pillows of 3 star accommodation. The layout and design of the hotels form the footprint for a pedestrian village with commercial outlets located on the ground floor and accommodation on the floors above. The village also includes a traditional Chinese family spa, a 1,000-seat performing arts theater, an interpretive museum, a man-made lake with a feature lakeside restaurant, and the golf course clubhouse. The study area also includes a Jack Nicklaus Championship 18-hole golf course and two Robert Trent Jones Championship 18-hole golf courses. Other recreational activities include a zip line, snow tubing slopes, alpine coaster, mountain biking, horseback riding, water recreation, art and music festivals and an indoor water park/spa. The resort opened for operation in July 2012. It was a privilege to work with Wanda to develop such a high quality world class resort in just 32 months of construction at a cost of USD \$3.2 billion.



Conceptual Grading Plan



Commercial Space Use Plan



Village View 3D



Mountain View 3D

Resort Village Design / Thaiwoo Resort, Hebei Province, China

In 2010, Ecosign was commissioned by the Raissun Investment Company to complete a comprehensive Detailed Master Plan for Raissun's Thaiwoo Resort located 16 kilometers east of the City of Chongli in Hebei Province. The 4 Phased Resort Master Plan build-out includes ski area development with a capacity of 33,235 skiers utilizing 46 ski lifts and 436 hectares of ski trails. The Resort Development includes two resort villages with a combined total of 48,161 commercial beds and residential accommodation with 33,231 beds.

Raissun Investment opened the first phase of the resort in December of 2015 which includes a ski area with a capacity of 4,800 skiers at one time, a 2-section, 8-passenger gondola, high speed detachable chairlifts, and a comprehensive beginner ski center with 9 moving carpet lifts, terrain park, snow tubing and family adventure zone. The village consists of a variety of public 3, 4 and 5 Star Hotels and a mix of public and private residential units. The Phase 1 village contains a total of 2,200 pillows of public overnight accommodation and 600 private residential pillows which are all located within comfortable walking distance to the ski lifts, recreational activities and commercial center. The village pedestrian street is anchored by the main snow front gondola plaza, the family adventure zone, and by the main village plaza complete with an ice skating rink, summer water play fountain and outdoor patios for entertainment, dining and people watching.



Village Street



3D Massing Plan



Resort Village Grading and Drainage Plan

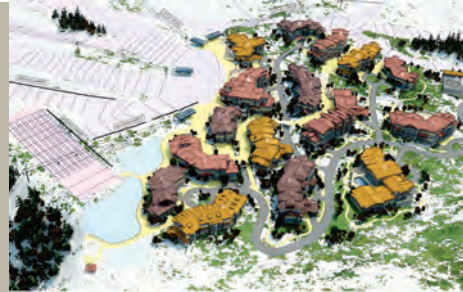


Village Commercial Space Use Plan

*Resort Village Design /
Kok Zhailau, Kazakhstan*



3D View 1



3D View 2



Village Commercial Plan



Village Schematic & Grading Plan

Geilo, Norway



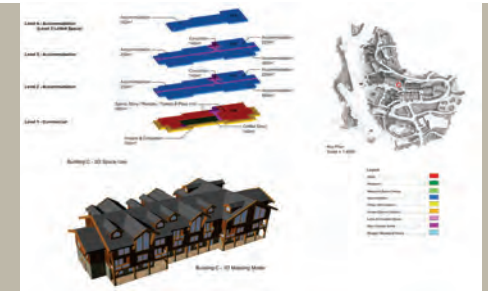
Base Area Master Plan



Village 3D View



Underground Parking Plan

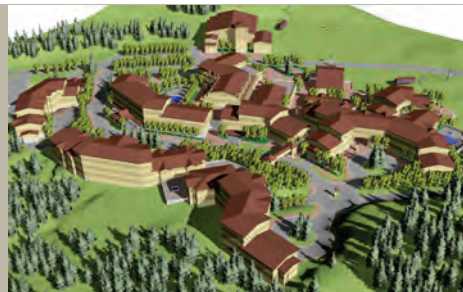


Building Use Per Floor

Mammoth Mountain, California USA



Illustrative Plan View



Village Massing Study



Space Use Plan



Village View



Real Estate Planning & Design

Ecosign is an expert in preparing conceptual site plans for real estate development on challenging sites. We work on a variety of real estate projects ranging from resort ski-in/ski-out and golf-in/golf-out parcels, residential neighbourhoods and university housing, to lakeside or ocean front projects. While architects specialize in the design of individual buildings, our role is the integration of the buildings into the natural environment, minimizing the amount of unsightly grading needed to achieve vehicular access while optimizing the views and pedestrian connections to the surrounding landscape. Our design process involves a detailed analysis of the site. Taking into account views, solar exposure, topography and the surrounding trail network, we will plan the orientation and massing of the buildings and amenities on the site and produce a detailed site plan showing building footprints, conceptual landscaping treatment, pedestrian routes, vehicle access and site grading. Our goal is to design the most liveable and attractive homes, while meeting the client's development objectives. Our work is done in a collaborative and iterative process with the client and their architect until an optimum design is reached.



Sun Peaks Resort, B.C. Canada



Trail's Edge - From Vision



Trail's Edge - To Reality



Golf Course Townhouse Design



Stone's Throw 3D View



Four Season Recreation Planning

Planning for four-season recreation activities has come to the forefront of mountain resort design throughout the world in recent years. Increasingly, mountain resorts that had focused solely on winter recreation are now planning and developing other recreation facilities that will attract guests throughout the year. Similarly, there is a growing trend in new mountain resort developments where alpine skiing is not the dominant attraction and rather the resort offers a variety of four-season activities and facilities. Planning for year-round use of a mountain resort's winter recreation infrastructure can contribute significantly to annual revenues and increase the return on investment.

Ecosign's four-season recreation planning process includes an evaluation of each site to identify the recreation opportunities specific to the resort's brand, the owner's vision and the resort's market focus. The physical capacity of the terrain is analyzed to identify and assess the potential for clusters and networks of four-season recreational activities.

Ecosign then prepares a Four Season Recreation Master Plan with overlays for the winter and summer seasons. We can also provide conceptual design for the recreational amenities proposed such as mountain bike parks, trail networks, golf course routing plans, water play areas, spas etc.





Horse-drawn Sleigh Trail 马拉雪橇

Horse-drawn Sleigh Trail 马拉雪橇

Kids Activity Shuttle 儿童穿梭巴士的游乐区

Ice Bar 冰酒吧

Ice Sculptures 冰雕

Firepit and seating area 篝火及室外座椅

Kids Snowmobile Track 儿童雪地摩托道

Dog Sled 狗拉雪橇道

Snowshoe Trail 雪上远足

Snowshoe Trail 雪上远足

Snow Tubing 轮胎滑雪区

Tobogganing Hill 冰车小山

Snow Play 玩雪

Beginner Ski Area 初学者滑雪区

Cross Country (XC) Trail 越野滑雪道和距离

Ice Skating 滑冰

DEER VALLEY



Contours: 1 Meter Date: 01/2014



Four Season Recreation Planning / Xiling Snow Mountain Resort, China

The Xiling Snow Mountain Resort is located approximately 95 kilometers west of the City of Chengdu in Dayi County of Sichuan Province in Central China. Ecosign was contracted in 2013 to prepare a Resort Area Master Plan for the area including a comprehensive Summer Recreation Plan. The Master Plan concept involved the expansion of the guest parking and service facilities in the base area, increasing the lift capacity from the parking area up to the recreational activities and accommodation, expansion of the ski area, and infilling the existing Plateau 2 with a variety of indoor and outdoor recreational activities.

The Resort concept also included the development of a new pedestrian oriented village with commercial facilities, public overnight accommodation, public gathering areas and green space. A wide range of four season recreational activities have been designed in the Master Plan to provide year round interest for a variety of user groups such as adventurers and thrill seekers, nature lovers, sports enthusiasts, and guests focused on health and wellness. Overnight guests at the Resort will find an abundance of accommodation types ranging from camping and Glamping, to 4-star hotels which cater to children, parents, grandparents and families alike.



Plateau 2 3D Resort Concept



Plateau 2 3D Resort Concept



Conceptual Recreation Plan



Family Adventure Zone



Four Season Recreation Planning / Soda Springs, California USA



The Soda Springs Resort area is located 1 mile off the Interstate 80 on State Highway 40 just west of Truckee, California. Soda Springs is a popular snow play and family adventure destination for guests mainly from the Sacramento basin, San Francisco Bay area and northern California. For many of the guests, this is their first experience skiing and snowboarding, snow tubing or just playing in the snow. The Master Plan included an analysis of the existing ski area, snow tubing and family snow play zone, as well as a detailed Master Plan for the expansion of the ski area, skier service and guest facilities, snow tubing lanes and the creation of a whole new family snow play area called “Planet Kids”.

Ecosign identified a large zone in the meadow that was a perfect location for a children's learn to ski center, adult relaxing and viewing area, adult and children snow tubing lanes, mini Z snowmobile course and children's adventure zone which included activities such as bounce castles, igloos and ice village, tubing saucers and carousels, and a themed restaurant for children. At buildout of the resort, the Master Plan included a pulse cabriolet aerial lift connection from the existing skier service lodge and parking with an intermediate stop in a different recreation zone before reaching Planet Kids adventure zone and the expanded ski terrain to the west. Planet Kids has successfully been operating for over 5 years now.



3D Overall Resort



Planet Kids Meadow Phase 3



3D Base Area Phase 3



Base Area Illustrative Phase 3



Aerial Sightseeing & People Mover Lifts

Sightseeing lifts provide an opportunity for the general public to access scenic mountain terrain, while Urban Aerial People Mover lifts can help to mitigate transportation congestion in urban centers. The aerial cableway has an extremely low environmental footprint compared to more traditional methods of transport. Their small footprint on the ground below makes them an ideal solution for spanning environmentally sensitive areas, as well as narrow urban streets, corridors and right-of-ways.

Ecosign can evaluate the technical and economic feasibility of aerial sightseeing and people mover lift systems and then develop a master plan concept for their installation. Our extensive experience with aerial cableway and lift system technology aids us in the selection of the optimal alignment and equipment configuration. The design of pedestrian friendly terminal stations at either end of the lift and the selection of complementary activities are the key to a successful sightseeing and urban people mover operation.

Valemount, B.C. Canada



Village Gondola Base



Proposed Gondola Alignment

Huo-Shan, An Hui Province, China



River Village Sightseeing Lift



Lakeside Sightseeing Lift

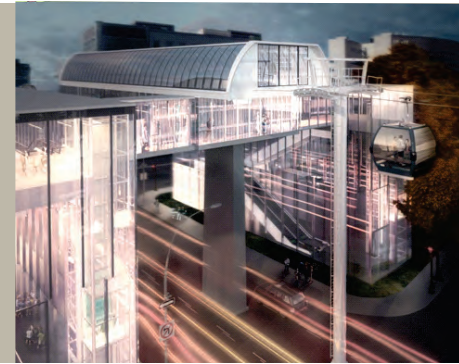
Mont Royal Gondola Study, Montreal, Quebec Canada



Route Options



Palais des Congres
Bottom Station 1 Render



Aerial Terminal Render



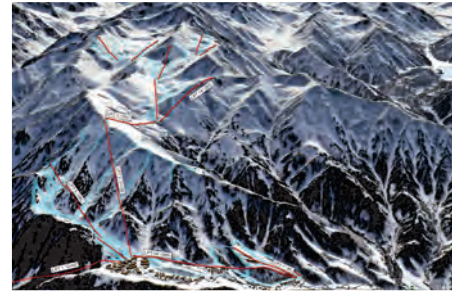
Gondola Terminal Options



Regional Tourism Planning

Ecosign has been retained by several governments worldwide to assess vast regions of countries searching for areas that are suitable for potential mountain resort development. The study areas have included entire countries and mountain ranges up to 22,200 square kilometers in size. The preliminary phase is a Technical Assessment of the study area's physiographic and climatic conditions utilizing satellite data. The next phase includes defining the approximate size and locations of the various preferred resort development zones. The resorts can be developed by public or private organizations, or a combination of both and development can be phased over a long period of time. Once the feasibility of the resort is confirmed and proper funding is in place, more detailed plans are created for the specific resort location.

Kok Zhailau, Kazakhstan

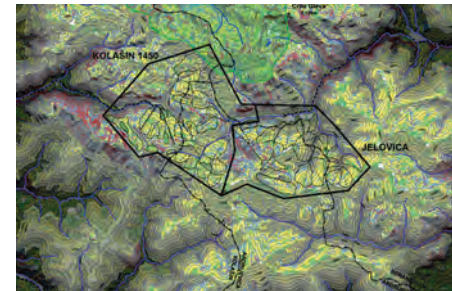


3D Resort Illustrative

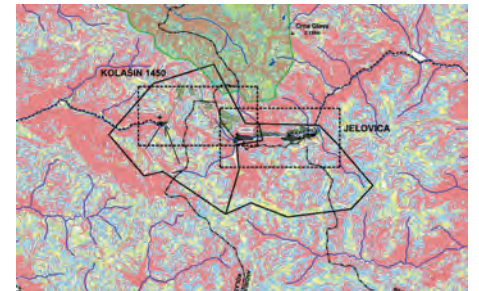


Development Suitability

Mt. Komovi, Montenegro. Resort Feasibility & Master Plan

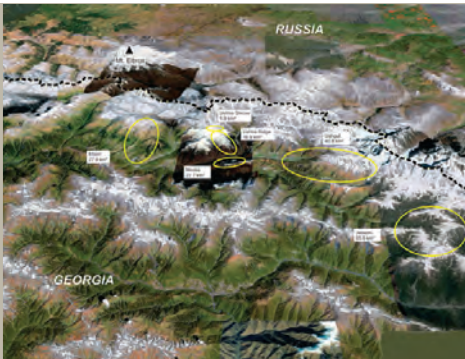


Resort Suitability Analysis

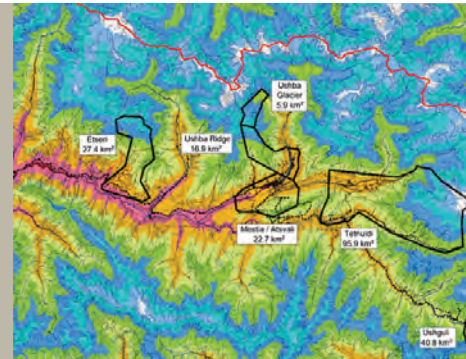


Slope Analysis

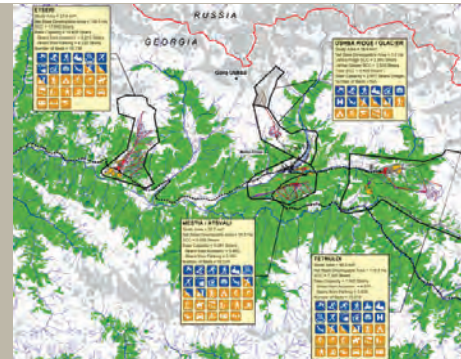
Mestia, Georgia. Resort Feasibility & Master Plan



Area Locations



Elevation Analysis



Potential Resort Location



Land Use Plan



Preliminary Golf Course Routing

Ecosign has extensive experience in resort land use planning where golf is the key recreational activity and also when it is an amenity to help the resort sell real estate and attract year round guests. After completing a technical analysis of the site (topography, views, watercourses, soil characteristics, solar exposure, environmental) to assess its suitability, we work with the client to determine the type of golf course that will best complement the resort's other amenities and target markets.

We then design a preliminary course routing plan that optimizes the scenic characteristics of the site, minimizes expensive earthwork and maximizes the potential for golf-in/golf-out real estate. The layout of the golf course is integrated into the other amenities of the resort; clubhouse facilities are located near the resort village so they may be multi-purposed. The resort's pedestrian trail network flanks the golf course edge and the course can also be designed so that the winter cross-country trail network can optimize this large open space. Once the preliminary routing is agreed upon and the vehicular access and real estate parcels are established, Ecosign works with an International golf course architect to prepare the detailed design.

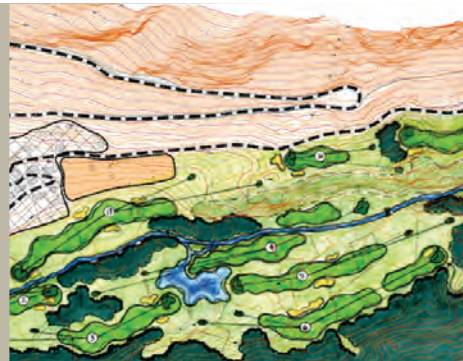


Niseko Higashiyama, Japan



Illustrative Plan

Porte Puymorens, France



3D Illustrative

Spasskaya Guba, Russia



Resort Village & Golf Routing

Odessa, Ukraine



Resort & Real Estate Village Schematic



Summer, Beach & Lakeside Resorts

Whether the water is in the form of an ocean, a lake, a river or a stream, it is typically a resort's most prized amenity. Development along a waterfront must be carefully designed to protect the natural riparian environment, maintain public access along the shoreline or stream bank, and respect the potential for flooding, while still optimizing the best resort development opportunities near the water.

Ecosign's design process begins with a technical site analysis, followed by the creation of several pedestrian oriented, resort master plan concept alternatives. After consultation with our client and stakeholders, a preferred concept is established and then final detailed resort and real estate master planning is undertaken. Our scientific methodology and approach has translated into high quality waterfront resort and real projects that are well balanced and integrated into the natural environment.

Spasskaya Guba, Russia



Lakeside Resort



Lakeside Resort Illustrative

Odessa Seaside Resort, Ukraine



Illustrative Plan View



3D Village View

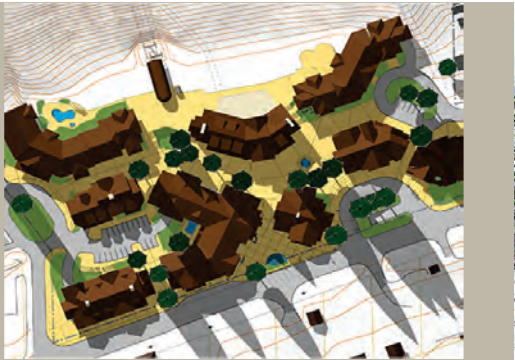
Homewood, California USA



Lakeside Resort 3D Massing



Lakeside Village Illustrative Plan



Resort Village Solar Analysis



Main Street Perspective Sketch



ECOSIGN MOUNTAIN RESORT PLANNERS LTD. 8073 Timber Lane P.O. Box 63 Whistler, B.C. Canada V0N 1B0
Tel: 1.604.932.5976 Email: info@ecosign.com Web: www.ecosign.com

