



## Qualifications

### Highlights

Alpentech had the opportunity to design many new ski areas in three continents using a ski area suitability model. It was our passion to identify terrain for the best snow sport enjoyment. Our perspective has been that skiing **is** a life style. Our article "Dispersing skiers and riders" concluded 20 years ago that detachable lifts would eliminate waiting lines, but the attendance continued to expand often beyond terrain capacity.

Lift upgrading, has produced unprecedented trail densities. Therefore, we are often called to assist ski areas with circulation analyses leading to **complex mountain grading projects for capacity adjustments.**

While lift prices doubled twice in the last decade, trail grading remained a small budget addition during area upgrades. Unfortunately, trail capacity adjustments are often delayed without anticipating trail congestion. The following QR provides fundamental theory for measuring comfortable carrying capacity:



In reality, sound judgment for trail modification must be made on the ground.

We learnt to share Google Earth screen to obtain on site input and learnt to work remotely preparing budget proposals and thanks to LiDAR topo accuracy deliver detailed grading plans.

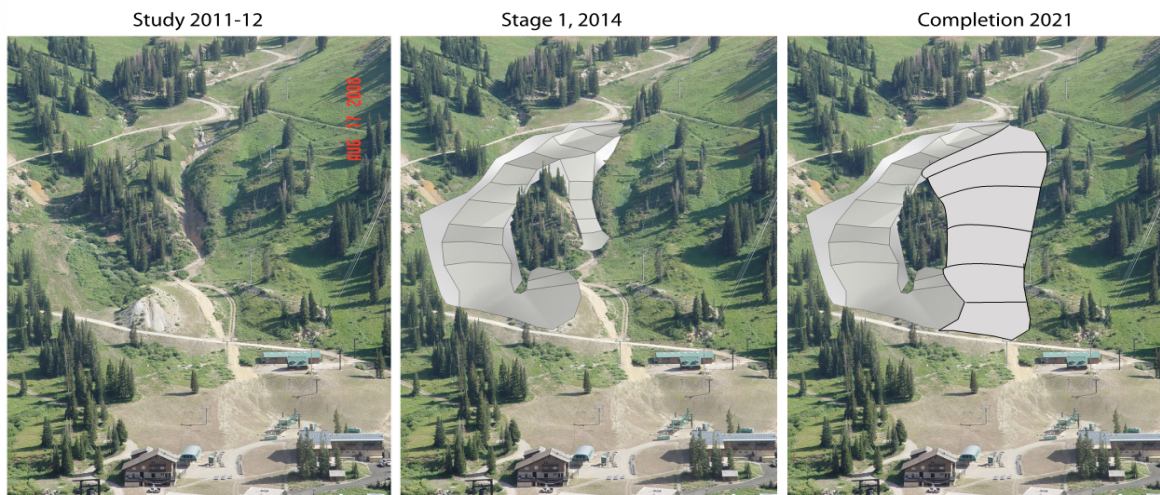
## 48th-year Qualifications

Because of the climate challenge, our involvement is tending to all season operation. We focus on multi-season mountain uses and suggest **modifications, new development and diversifying** of existing areas.

With our origin in the Swiss Alps, where summer vacationing, preceded winter sports, we are most familiar with all-season mountain resorts. Anticipating adjustment to changing markets and all season interest in mountain resorts, is common in our planning engagements. - In recognition of his work, the founder of Alpentech was induced into the Intermountain Ski Hall of Fame in 2012. - A rich history of our involvement is posted at [www.alpentech.com](http://www.alpentech.com)

Alpentech is well known for fundamental research, land suitability evaluation and looking more creatively at master planning. The scope of our involvement has focused on mountain planning and we associate with the most reputable resort consultants covering market research, architecture and landscape architecture.

Landscape integration goes hand in hand with trail creation and modification.



Engineered cuts and fills, drainage, storm water management, lift terminal area and mass grading, soil sediment and erosion control plans, parking lot design, mountain roads and trails are subjected to landscape integration.

Combining summer and winter mountain uses has become a mandatory planning objective. Aesthetics can play a key role during upgrading, therefore landscape integration is particularly important for trails and congregation areas. This is most applicable to congregation, learning and queuing space. Visitor experiences deserve particular attention and congestion has to be addressed. The scope of inquiry has new boundaries and results in more creative evaluation of development within the resort area boundary. We developed a **skill is to favorably lay out future mountain uses and integrate them in base area planning**. Respecting capacity limits will help keeping recreation pleasant. Our evaluation is provided without the overtone of equipment sales staff. - Our practice of ski area planning and engineering is founded on research and trends, using life-cycle and market assessments to evaluate sustainability.

While the bulk of smaller projects remains in the U.S., our extended experience in mountain planning, civil- and environmental engineering, landscape integration, natural resource evaluation and modeling resulted in a superior outcome abroad. A

“second generation planning approach” with new and smarter focus on all season development brought international assignments in Argentina, Canada, China, France, Korea, New Zealand, Spain and Switzerland.

Alpentech has been recognized with awards for design excellence that is well integrated in the natural environment. Larger mountain work is anchored in terrain modeling, hydrology and weighing of environmental parameters. Effective presentation of projects today relies on Google Earth, allowing 3D viewing. Optimal land use is often anchored in Geographic Information Systems (GIS) and is condensed in comprehensive mountain development plans allowing to verify impacts and avoid pitfalls and thereby rendering master plans reliable and defensible.

While specializing on the mountainside, we are also familiar with all aspects of base area and circulation and utility planning. Precision trail and track design for summer venues is of growing interest and can be best met with our technical interface with suppliers of slides, rides, coasters, zip lines, etc.

Better balancing seasonal mountain activities promises a more sustainable resort master plan. We maintain cost effective methods of analysis and rely on field verification. We focus on using the advantage of the natural condition for recreation and living spaces. We help to interpret and meticulously map and study these conditions, in order to justify the footprint of proposed actions. Graphic interpretation of factors affecting land use decisions via modeling is a special service that led to our trademarked smartmap programs.

We are familiar with stream, wetland and other regulations and hillside ordinances to prepare specific permit applications and master plans that implement sustainability.

### Scope of Services

Since mountain planning consists of many aspects of professional analysis, Alpentech has been asked to contribute items listed below, or has provided complete Mountain Master Plans. At each step of the way, we have provided unique and flexible services to the mountain recreation industry, at a fair cost, such as:

- all-season trail layout and design
- avalanche studies
- climate analysis
- comfortable capacity evaluation
- expert witness
- GPS surveys (sub-meter level)
- grading plans
- illustrations and mapping
- legal descriptions
- parking lot design
- reconnaissance studies
- ski trail capacity evaluation
- soil sediment/ erosion control plans
- snowmaking studies
- stream alteration permitting
- site and subdivision planning
- storm water management
- summer slide and ride layout
- terrain modeling (3D graphics)
- third party analyses
- wetland creation
- zoning proposals

Knowledge-based resorts and agencies have hired us to create:



## 48th-year Qualifications

- **Alternative transport system studies:** Thanks to Alpentech founder's roots in the Switzerland, we have engaged in interesting mountain transportation comparisons with rail/ aerial lift/ bus and automobile transportation in mountains. Revision of energy efficiency and sustainability concepts, can significantly reduce carbon footprint and water quality management.
- **Base Site Plans:** adapting resorts to the "Plan Neige" and efficient pedestrian movement concepts are helpful for congregation area layout. Ingress/ egress circulation, parking, drainage, grading, etc. depend on it.
- **Mountain Master Plans:** Lift and trail capacity, terrain parks, avalanche control, adventure access, summer and winter utilization, etc. require routine reviews. Invariably, Alpentech involvement resulted in substantial increase of use and revenue and has brought recognition and design awards.
- **Multi-season Plans:** Gravity parks, terrain parks, bike trails, climbing walls, summer slides/ carts, high ropes, artificial skiing surfaces, become options to consider. Alpentech has participated in layout and planning of the first all season Snowflex ski facility as a part of a recreation development plan near a U.S. University.
- **Resort activity and adventure mapping:** Alpentech has 35 years of special map and poster production experience. The most successful example is the Bryce Canyon hiking map with over 40,000 copies sold. The Wasatch Touring map series, which illustrate hiking, mountain biking, climbing, and winter backcountry touring, are in 2<sup>nd</sup> and 3<sup>rd</sup> printing. Two new touring maps for the Oquirrh and Stansbury Mountains Southern Wasatch are currently in production to ease the congestion of the Central Wasatch.
- **International Comparisons of Opportunity spectrum**



Since January 1, 2015, Alpentech GmbH operates a Swiss Branch Office focusing on comparative analysis and International Business. - The Alpentech Welcome Center, is available for small focus groups to learn from the Swiss how to approach sustainable development and adapt plans for the long term. Selected European Alpine resorts are offered to provide effective comparative analysis per interest group

**Staff and Associates**



**Beat vonAllmen, [beat@alpentech.net](mailto:beat@alpentech.net)**

P.E., President, Mountain Planning Engineer,

**GENERAL**

Beat (Bayot) incorporated Alpentech in 1978 to improve the experience of summer and winter vacationing in the mountains. Having grown up in Mürren, a car free Swiss resort, and working for aerial tramway firms, he became a hands-on specialist in mountain transportation systems. Building on his background, he continued professional education particularly relating to design of ski resorts. Searching for better, more comprehensive mountain use has awarded him recognition in recreation planning. This special interest, coupled with studies in mechanical, civil and environmental engineering give Beat a leading edge in mountain facility layout by combining his field advantage with advanced computer modeling. Fluent also in French and German, he has written numerous articles on subjects related to mountain development. He pioneered suitability and hazard modeling since 1981, trademarked as "smartmaps" first applied in France. In 2003 Beat has been awarded the Golden Award of the Intermountain Ski Area Association. 2012, he was inducted in the prestigious Intermountain Ski Hall of Fame. 2014, he contributed a mountain railway proposal for Little Cottonwood Canyon. 2015, he registered Alpentech GmbH, in Switzerland to operate vacation homes in Mürren and consult internationally outside the US.

As a member of the Swiss National Ski Team, Beat listed in the first 15 FIS list and has won several international events. During the 1964 Olympic Winter Games at Innsbruck, he placed 14<sup>th</sup> in Giant Slalom. In 2022 Snowbird honored his participation as the Snowbird head coach 50 years ago. He keeps enjoying the famous Utah powder with his spouse after bringing up two ski racing daughters with 4 racing grand kids. – This comprehensive experience is the backbone of our sustainable mountain development planning and engineering.

**EDUCATION**

- MS Civil Engineering -- University of Utah, Salt Lake City, 12/1973
- MS Mechanical Engineering -- University of Vermont, Burlington, 6/1971
- Design Engineer (HTL-Maschinenbau) -- State College, Biel, Switzerland, 1968
- Draftsman Diploma (Maschinen) -- vonRoll AG / Gewerbe Schule, Bern, CH 1964
- Swiss Army -- Alpine Corps training, mountain infantry corporal, 1962/63
- Business Administration Diploma -- Nobs & Co. / K.V., Thun, Switzerland, 1961

**REGISTRATION + HONORS**

- Professional Engineer: P.E. Utah (4838) 22-156074-2202, Utah Tramway Engineer
- 2012 Intermountain Ski Hall of Fame
- 1990 National Ski Area Design Award – First Place

**RELATED EXPERIENCE**



## 48th-year Qualifications

Project Manager: vonAllmen & Partners, Alpentech Inc/ GmbH, since 1971  
Correspondent: International Tramway Review, Vienna, A, since 1982 and  
Motor im Schnee, Stein Verlag, Baden-Baden, Germany 1989-1992  
National Avalanche School: Reno, NV, 1975  
Associate -- Enteleki (Resort Architects), Salt Lake City, UT, 1972-73  
Mountain Planning Assistant: Greater Park City Company, 1972  
Tram Erection Crew: Snowbird, Utah 1971  
Tooling Design: Hirschman Corp., Roslyn Heights, NY, 1968-70  
Technical Design: vonRoll Bern, Switzerland; ropeway drafting/ design apprentice  
1962-66  
Business administration training -- Nobs & Co., Thun, Switzerland, 1958-61

### AFFILIATIONS

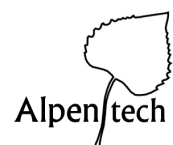
ASCE: American Society of Civil Engineers, current. Urban Planning and  
Development  
Division -- Recreation Planning Committee; Chairman 1988/89  
NSAA: National Ski Areas Association, current.

### SELECTED PUBLICATIONS AND PRESENTATIONS

"Trail Capacity Adjustment" in development; "Planners with a Vision" Si-magazine;  
"How to measure trail capacity" OITAF-NACS 7<sup>th</sup> and 8<sup>th</sup> Symposiums; "Dispersing  
Skiers and Riders" Si-magazine; "Grindelwald: modernity vs. history"; "Linking Salt Lake  
City with six mountain resorts" (cog-railway option) International Conference, Urban  
Transportation Division of ASCE; "L'analyse des sites par precedes informatiques";  
"Pulse Lifts: A contrarian choice"; "Impacts of Detachables"; "Modernisieren im  
Westen (Big Mountain, MT, Kellogg, Sun Valley, ID and Solitude UT)"; "Keystone  
Gondola, made in USA"; A consultant's view of master planning, Forest Service,  
Brighton, Utah; "Digital Wind Models Applied to Ski Area Planning and Operation";  
"Avalanche Control from Afar"; On ski area carrying capacity, Innsbruck; "Lift  
Alignment Techniques"; "On computer generated maps"; "Aligning with Lasers"  
(solar bending of tubular towers); "Skiing resource evaluation by computers"; "The  
Heritage Mountain Funicular"; "Snowbird Skier Circulation"; "Sliding Control of Ski  
Garments"; "Skiing Dynamics"; "Access to Mountain Recreation"; "How to measure  
and rectify ski area crowding"; Mountain Recreation: Energy vs. Mobility, ASCE;  
"Chair Lift Erection by Helicopter"; "Unzweckmässige Bekleidung: als Unfallgefahr beim  
Skilaufen"; "Die Textilbremse auf Schnee".

**Stephen Putnam**, [steve@alpentech.net](mailto:steve@alpentech.net)

Mountain Planner



## GENERAL

A seasoned planner and engineer, Steve draws upon his many experiences of having skied, worked, and played throughout the world. This global perspective, coupled with a sensitivity toward the local feel and culture, results in projects that are both sustainable and economical. His analytical and detailed approach, enable Steve to focus on lift layout and trail design that maximizes efficiency while minimizing both the impact to the environment and the cost of project implementation. His planning experience also includes his role as the town planner for Charlotte, Vermont.

Steve has two girls with his wife Phoebe. He has been involved with the Snowbird Sports education foundation coaching elite ski racers during the winter months since 2000 and enjoys traveling the world to windsurf and kite and spends as much time at his place in Hood River, Oregon as possible. His other activities include biking, sailing, soccer, mountaineering, and paddle boarding.

## EDUCATION

Steve has a Civil Engineering degree from the University of Utah, and a BA in environmental economics from Middlebury College in Vermont.

## EXPERIENCE

Steve has been involved with ski area and mountain planning since 2005, having worked both with Alpentech and SE group, and independently with resorts throughout the United States. In addition to his planning skills, Steve is trained as a civil engineer and has ski lift design and engineering experience. While working on his civil engineering degree he was involved with the winter alpine engineering group that specialized in natural hazard mitigation (avalanches) for departments of transportation in the intermountain area. During his tenure at Skytrac he has been responsible for the planning, surveying, and layout of aerial ski lifts. - His area of expertise is in Ski Area Planning and Design, Base Mapping and Analysis, Terrain Grading, Trail Design, Terrain capacity and circulation, Lift Layout and Design as well as Surveying and Field layout.

### **Representative Projects**

Bear Valley Lift Replacement Design, California

Berkshire East Ski Resort- Trail Design and Layout, Lift alignment design

Chengde, China. Resort Master Plan for a new world-class destination resort, including preparation of Master Development Plan, site visits, and field layout

Luneng Mountain Master Plan – Phase Two, China

Schweitzer Resort Master Plan, Idaho

Squaw Valley USA/Alpine Meadows lift alignment and ski run development planning, California

Snowbird Ski Resort- Mountain Planning



**Nicolas Bianchi**, [nicolas@alpentech.net](mailto:nicolas@alpentech.net)  
Mountain Planner - Design engineer

## GENERAL

As a technical director of Plagne Bellecôte's French ski school at La Plagne, Nicolas manage a team of 35 ski instructors. During the last years, he applied his passion of the sport as a coach of the ski instructors and instructing clients. His has studied civil engineering in France and the U.S. successfully combining theory with practice to create a safe and pleasant ski experience. Besides this fundamental skill for laying out a good ski area, he also became aware of problems that need to be corrected as the slopes have exceeded capacity and mixing skiers, boarders and instructors. Mountain circulation is a challenge at the largest ski complex of La Plagne and he has tested solutions for managing traffic. Tanks to his focused experience he is prepared for designing new ski resorts and upgrading existing areas to improve the client experience. During his creative work, he can fall back on a unique professional background. Nicolas has acquired skills, using advanced CAD, GIS and other software, allowing effective presentations, which are required to communicate development plans for proposed layout and improvements to trails and venues. He is able to quantify grading and makes summaries and projections. With the efforts made in France to bring summer guests to the ski resorts comparative evaluation of summer facilities is helpful in diversifying rides and play areas. He is interested to diversify the summer experience by integrating new venues into comprehensive mountain plans.

From his mountain knowledge and his attraction to new technologies, Nicolas brings technical proficiencies, creativity, originality and autonomy. His youth, dynamism and motivation, heightened by his ability of rapid integration create an important value for our clients.

## EDUCATION

Master degree "Trades of the Mountain", Aix Marseille University, France – 2015-17

President of Student Body 2015-16

3-yr. degree in management "Trades of the Mountain", Aix Marseille University – 2015

4-mo. Intensive English studies, Intrax, San Francisco, U.S. - 2014

3-yr. degree in design, CAD and advanced software, Montpellier University – 2013

2-yr degree in civil engineering, at the Joseph Fourier University, Grenoble – 2010-12

ENSA French Ski instructor certificate, ski and snowboard, Chamonix, since 2010

## PROFESSIONAL EXPERIENCE

Independent work. 2D and 3D design assignments from Alpentech since June 2018





## 48th-year Qualifications

Internship and contract as project engineer – MDP CONSULTING (touristic mountain design) – Feb.-Dec. 2017

Internship in architect office specialized in mountain area – ATM – Summer 2014

Internship draftsman – DIANEIGE (touristic mountain design) – 5/2012-10/2013

Ski Instructor at La Plagne, France, Winters 2013/14...2021/22

Technical director ESF Plagne Bellecôte– La Plagne, France – Winter 22/23



### **Gary Peck**

Forestry Consultant, Mountain Planning Assistant

#### GENERAL

Layout of new ski trails with the practical understanding of a professional logging background can make a difference as Gary Peck has proven while working with Alpentech over the years. Gary helped to create over 400 acres of new trails in Montana, Washington and British Columbia. More recently, he assisted in layout of hundreds of acres of new ski trails and mountain roads and cat tracks in China, some of which were not built. - Gary Peck delivers ski area specific Forest and Vegetation Management plans knowing logging practice, timber value, fire, esthetics, and recreational enjoyment all at the same time. Gary's forestry expertise is particularly valuable to prepare mountain management plans aimed at forest health and lower fire hazard that positively influence ski area sustainability. His dedication to apply high environmental standards for logging and his love for ski trail layout combine to create an unusual asset for Alpentech. Gary has been working with Alpentech for over 25 years in new trail creation and fitting mountain roads. His company is involved with select cutting for forest health as well as tree skiing. His favorite place to ski is Bridger Bowl, that he has helped to manicure for the best powder skiing.

#### EDUCATION

Certified Forest Service Cruiser - 1980 and 1983

BS Forestry - University of Massachusetts, Amherst, MA - 1979

Graduate - Andover High School, Andover, MA -1973

#### RELATED EXPERIENCE

Forestry Consultant—Owner, 1992 to present

Forester--Plum Creek Timber Co. 1985-1992

Forest Technician--Gallatin and Targhee National Forests 1980...1985



ALPENTECH PROJECTS (**current**)

DESTINATION RESORTS ENGAGEMENTS

1985 ...	<b>Alta</b> Ski Area, mountain planning/engineering, Alta Ski Area, UT
2017 ...	<b>Revelstoke</b> Mountain Resort mountain plan update, Vancouver B.C.
2017	<b>Silk Road Resort</b> , mountain plan, Ping Xi Liang Village, Urumqi, China
2021 ...	Moosehead Mountain Resort, Big Squaw Mt, Greenville Jct. ME
1987-2018	Snowbasin Ski Area, mountain planning-engineering, Sinclair Oil, UT
1976-2016	Solitude Ski Resort, mountain planning, engineering, Salt Lake City, UT
2008-15	Nordic Valley, Resort Expansion Plan, with DGA, Paris, UT
1971-14	Snowbird Corporation, mountain planning-engineering, Snowbird, UT
2005-09	Valle de Las Leñas, mountain development plan, w/ HMA, Argentina
2006/07	Chapelco, mountain development plan, resort company, Argentina
1987-07	Sun Valley Company, mountain plan, engineering, Sun Valley, ID
2005/06	Apex Mountain Resort, mountain plan, engineering, Penticton, B.C.
2004/05	Silver Mountain, Kellogg, mountain plan, engineering, ID
2001-02	The Colony at Whitepine Canyon, mountain/ RR transit planning, UT
1989-98	Big Sky, Ski & Summer Resort, mountain plan, engineering, Boyne USA
1997/98	Schilthornbahn AG, Interlaken, ski trail grading study, Switzerland
1995/96	Wolf Mountain (now Vail), mountain planning-engineering, Park City
1995/96	Northstar at Tahoe, mountain planning, Truckee, CA
1993-96.	Ski Moonlight, mountain planning-engineering, Big Sky, MT
1993-96	Brundage Mountain Company, planning-engineering, McCall, ID
1992-94	Aspen Highlands, mountain expansion planning-engineering, CO
1984/93/97	Park City Ski Area and Park City Alpine Slide, UT
1983	Crystal Mountain/Brian Head, planning-engineering, Cedar City, UT
1981/83	Ski lift Interconnect, Utah Ski Association, S.L.C., UT
1982	Val Thorens, French Government, Challes-les-Eaux, France
1981	Snowbasin/Trappers Loop Ltd., mountain plan, w/ Seibert, UT
1980	Squaw Valley, mountain plan, CA
1976	Solynieve, Spain; mountain plan, w/ Kiley/Walker, Charlotte, VT
1971/72	Bald Mountain, planning-engineering, Greater Park City Co., UT

DAY SKI AREAS ENGAGEMENTS

1987...	<b>Nordic Valley</b> , mountain planning/engineering, various owners
1987...	<b>Brighton Resort</b> , mountain planning/engineering, Boyne USA Resorts
2017...	<b>Pebble Creek Ski Area</b> – Parking, upgrading plans, Pocatello, ID
2009...	<b>Magic Mountain</b> , ski area master plan update, Twin Falls, ID
1988-2020	Pomerelle Ski Area, Anderson Family, Albion, ID
2015-17	Wujin, ski area expansion - TTiss Global Outdoor Sports Group, China
2012-14	SnowKing Mountain Resort, all season expansion plan, Jackson, WY
1998-2014	Belleayre Mountain, New York State Department of Conservation, NY
1991-2014	Soldier Mountain, mountain planning-engineering, Fairfield, ID
1996-2009	Crystal Mountain Resort, mountain planning-engineering, WA
2007/08	Erner Galen Reconnaissance, Mühlebach, VS, Switzerland
2004-06	Ausblick, Inc., ski area vertical expansion, Hartland, WI
2004-05	Enviroserve Associates, LLC, Powder Mountain, UT
2002-05	Snow Haven, Idaho, City of Grangeville, D
2001-05	Montana Snowbowl, mountain planning-engineering, Missoula, MT
1995	Las Vegas Ski and Snowboard Resort expansion, Lee Canyon, NV



## 48th-year Qualifications

1993-98	Pebble Creek Ski Area, Pocatello, expansion plan, ID
1993	Intermountain Region U.S.F.S., Lee Canyon Capacity Analysis
1993	Canyon, ski area assessment, ID
1992/93	SnoBowl, City of Elko, new layout and design NV
1991	Evanston Parks & Recreation Department, Evanston, WY
1989-1991	Six ski areas in Ontario, work with D.R. Matthews Assoc., Canada
1988/89	Crystal Mountain, ski area assessment, Meeks Assoc., WA
1988/89	Ski Wolf Laurel, Inc. ski area assessment, NC
1984/85	Showdown Ski Area, ski area assessment, Neihart, MT
1984/85	Mount Lemon, Tucson, NM
1983/84	Red Lodge Mountain, Red Lodge, MT
1983/84	Slide Mountain, Mount Rose, NV
1982	Fairbanks Area, Department of Natural Resources, AK
1980/81	Nordic Valley Ski Area, Skiing Associates, Eden, UT
1980/81	Parkwest Ski Area, Snyderville, UT

## NEW RESORT PROJECTS

2018...	<b>Balang Mountain</b> , ski resort concept plan, Sichuan, China
2004-2021	Loafer Mountain, master planning 10'000-acres, 5100', JM Land
1998-2017	Wasatch Peaks (Gaily) Ranch master plan (12'000-ac. 4600'), UT
2017/18	Longguan, Chicheng County Ski Area Design Contest, Beijing, China
2016/17	LaoHuGou - TTiss Global Outdoor Sports Group Ltd. Urumqi China
2015/17	Shanxi Taihang Shan master plan, engineering, w/ HMA, TTiss, China
2013-15	Un-disclosed area resort project, Patey, Salt Lake City, UT
2011-14	Sunrise Mountain Ranch, hydro power mountain design, Patey, UT
2010-12	Lantian Lake master plan, Chongqing, Jiulongpo Dist., w/ HMA, China
2010	Guangling 603 Ski Project master plan, Mr. Gu, w/ HMA, Shanxi, China
2010	Chongli, smartmap, Beijing Raissun Investment Co., w/ HMA, China
2010	Pingquan mountain reconnaissance, w/ Dunn+Kiley, Hebei, China
2009-10	Alta Railway engineering feasibility, Envision Utah, Salt Lake City, UT
2009-10	Independence Resort, research, mountain planning-engineering, UT
2007-10	Black Bear Resort, 5000-acre resort planning-engineering, Paris, ID
2006-09	Las Leñas, high-alt. ski development plan, VLL, w/ HMA, Argentina
2009	Qiaoshan ski area project review, undisclosed, Hebei, China,
2008/09	Huatian Zhangbei, Xiannadu master plan, w/ Dunn+Kiley, Hebei, CN
2006-08	Liberty University, Mountain Recreation Master Plan, Lynchburg, VA
2005-09	Blue Diamond, ski resort/ Forest Service land trade, Ely, NV
2007	Timberland Reconnaissance, 15,000 acre skiable reconnaissance, OR
2006/07	Grandeur Peak, 10'000-acre study and critique, Bountiful City, UT
2006	Dong Ling Shan, mountain plan critique, I-STAR, Hebei, China
2006	The Canyons Ski Area Analysis, Paul Hastings Attorneys, New York, UT
2005	Bear Mountain, resort planning/ engineering, w/ Design Workshop, ID
2004-05	Malan's Basin, study Ogden side of Snowbasin, Chris Peterson, UT
2004	Jumbo-Farnham, Jumbo Project Critique, Lev/ vonAllmen, Canada
2001-03	K38 Project, 2 sites, mountain recreation planning, Bountiful City, UT
2000	Ski Lava Project, ski area plan, Randy Seed, Lava Hot Springs, ID
2000.	Dyer Mountain-Lake Almanor, ski area master plan, Peter Hicks, CA
2000.	Oak Valley, reconnaissance, Jim Bass, South Korea
1990-94/99	Jumbo Glacier Resort, grandiose study, Oberto Oberti, B.C., Canada
1999	Ling San Mtn. resort layout, Brighton Co., Richard Bass, China
1997/98	Kohap/ Sabuk Proposal, Korea, master plan w/ EDAW, San Francisco
1996-97	Hyosung Group, 20 mountain resort feasibility study, South Korea



## 48th-year Qualifications

1995-97	Yellowstone Mountain Club, ski area layout, Big Sky Lumber, MT
1996	Brohm Ridge critique for B.C. Lands, w/ Goldner Assoc., Canada
1995-96	Hyosung, ski resort master plan w/ Zehren Associates, South Korea
1995	Kae-Ta, Resort ski resort proposal w/ EDAW, South Korea
1994/95	Alpine Land Co., Steamboat, mountain planning, CO
1994/95	Velocity Peak, Silverton, mountain planning-engineering, CO
1992-94	Granite Peak/Slab Butte, reconnaissance study, Brundage Mtn., ID
1992/93	SnoBowl, Community Ski Area, planning-engineering, Elko, NV
1991-93	Trans-Wasatch Company (Telemark Park), engineering, Park City, UT
1991/92	Lolo Peak Economic Research Com., mountain plan, Missoula, MT
1991	Cayoosh Reconnaissance, NGR Resort Consultants, study, B.C.
1988/89	Hatcher Pass, for AK-DNR, master plan, w/ LDN, Anchorage, AK
1988	Cold Stream Project, preliminary ski area master plan, Truckee, CA
1987,93/94	The Ridge Corp., ski area master plan, Coolfont, Berkeley Springs, WV
1986/87	Independence, ski area master plan, Wickersham, Anchorage, AK
1986	Razis, smartmap, ski area layout, Michel Guerrin, St. Ismier, France
1985/86	College Mountain master planning, Ski Roundtop, Inc., PA
1984	Sedgwick Peak, master plan, Ski Lava, Inc., Lava Springs, ID
1984/85	East Fork, preliminary master plan, Pagosa Springs, CO
1984/85	Priest Lake, preliminary master plan, CWS Consultants, CA
1981	Park City - Silver Mountain Funicular study proposal, Park City, UT
1975-78	Bear Lake West, ski area master planning-engineering, Fish Haven, ID
1977	Wasatch Mountain State Park, Midway ski area project, S.L.C. UT
1977	Ruby's, mountain planning, Elko Fair and Recreation Board, Elko, NV
1.	7-Peaks (Heritage) Mountain Resort, planning-engineering, Provo, UT
1975/76	Galena, master planning, Jim Luescher (Redfield Lease), Reno, NV
1974/75	Tent Mountain, master planning, Land McCulloch, Elko, NV
1972/73	LaSal 4-Corners Regional Commission, development study, Moab, UT
1972/73	Big Wood, ski hill study, Mr. Bob Kress, Sun Valley, ID

## UPHILL FACILITY PROJECTS

1971-01	Lift Surveys: for Garaventa-CTEC, Doppelmayr and Resorts
1997-99	Kicking Horse ski area planning, lift surveys, Pheidias, B.C., Canada
1996	Crystal Mountain Gondola/Aerial Tramway, Crystal Mountain, WA
1995-96	Our Lady of the Rockies, aerial tramway, Butte, MT
1994/95	Morning Star Tow, Hank Rothwell, Park City, Utah
1990	Maui Tramway Reconnaissance, Boyne USA Inc.,
88.	Seven Peaks Funicular (Heritage Mountain), Provo, Utah
1988	Silver Mountain Gondola, City of Kellogg, Idaho
1987	Santa Cruz Metro. Transit District; Tom McGean, Washington D.C.
1986	Grizzly Gulch Transportation Co., Salt Lake City, Utah
1985/99	Mount Ogden Tramway, local developers, Ogden, Utah
1984	Ruby Gondola, Grant Gerber/Ken Jones, Lamoille, Nevada
1981	Arrowhead Funicular at Vail, CO, for Voest Alpine, New York
1981	Vasquez at Winterpark Funiculars, CO, for Voest Alpine, New York
1981	Silver Mountain Funicular, J.J. Johnson & Associates, Park City, Utah

## UPHILL FACILITY PROJECTS

### PROFESIONAL ENGINEERS (Active Utah State Certification)

Brighton:	CREST EXPRESS, project engineer, Crest detachable lift
Snowbasin:	BECKER and PORCUPINE, project engineer, 2 fixed grip lifts



### 48th-year Qualifications

Snowbird:	GAD-1, LITTLE CLOUD, MID-GAD, project engineer, 3 fixed grip lifts	
Rail Roads:	2 Layouts Alta RR+Tunnel / Access to Colony at White Pine Canyon	
Funiculars:	1 Seven Peaks Resort project engineer, Heritage Mountain, UT	
Jig-Backs:	2 Big Sky-Lone Peak, and Butte, MT	
Gondolas:	6 Seven Peaks Resort, UT; Galena, NV; Crystal, UT, (2 sections)	
<b>Lift Surveys</b>	<b>As Built Utah State Certifications</b>	
<b>Jig-backs:</b>	Big Sky-Lone Pk. options, MT,	2 Snowbasin, E and W, UT
	1 Crystal Mt. WA	1 Lady of the Rockies, Butte, MT
Chair Lifts:	4 Big Sky/ Yellowstone Club MT	2 Soldier Mountain
	6 Brighton-Snake Creek, UT	7 Snowbird, UT
	8 Heritage Mountain, UT	6 Snowbasin, UT
	5 Galena, NV	5 Solitude, UT
	2 Park City, UT	2 Moonlight Basin, MT
	2 Crystal Mountain, WA	2 The Canyons, UT
	2 Pebble Creek, ID	1 ea. Nordic Valley, UT; Snow King,
	1 Pomerelle, ID	Lassen, CA; and Crystal Mtn., UT
	Handle Tows: 8	Conveyors: 12

### SNOW AVALANCHE RELATED ASSIGMENTS

2019...	Avalanche Reports for new residences, Town of Alta
2018	Stephen Tenney Residence, Hellgate, Alta, (w/SLI, Davos)
2007	AltaBird Approach, Josh Linker, Salt Lake City, Utah (w/Schaerer)
2006-08	Wendy+Todd Mitchell, Davis Horn, Inc. Aspen, CO (w/Schaerer)
2006	Lot 1, Little Cloud Subdivision, Deposition, Aspen, CO
2005	Avalanche-free Highway Rerouting Design, U-210, Alta, UT
2003-06	Lot 20, City of Aspen, Lyle Reeder, Aspen, CO (w/Lev and Schaerer)
2001-07	Seven Sites in Pitkin County, Davis Horne, Aspen, CO (w/Lev)
2003-06	Little Cloud Subdivision, Tomas E. Lewis, Aspen, CO (w/ Schaerer)
1992-95	Avalanche Evaluation of Highland Bowl, Aspen, CO (w/Lev)

### GRAVITY PARK LAYOUT AND DESIGN

2016...	Sports Academy, Shanxi Taihang Shan, aerial focus, TTiss, China
2009	Wolf Mountain Resort, Utah, Mountain Coaster survey
2006-09	Liberty University, 5000-ac. mountain recreation plan, Lynchburg, VA
2007	Mountain Coaster, survey and technical assistance, Nordic Valley, Utah
2007	Snowflex, Alpine Slide site location, Liberty University, Lynchburg VA
1999-2007	Thrill Sleds Trail layout: Mtn. Creek, NJ, Big Mountain, MT, Northstar, NV
2004/5	Alpine Slide, preliminary layout, survey, Snowbird, Utah
1986.	Boreal CA, Alpine Slide layout and design assistance
1998	Bike Trail project, Bonneville RC&D Council, Salt Lake City, UT
1977-82/2000	Park City Alpine Slide layout and design, John Price and Powdr Corp.
1992	Breckenridge, CO, Alpine Slide dual track re-design
1976	Parks Planning: Northampton County Park Board, Evanston, PA

### OTHER (map making, other consulting)

1996...	<b>Wasatch Touring and Uinta Backcountry Map Series</b> , upgrading
1997...	<b>Bryce Canyon N.P.</b> , Bryce Canyon History Association, revision/reprints
Ongoing	<b>Oquirrh and Stansbury</b> are Map creation and upgrading



## 48th-year Qualifications

2022...	<b>Residence site plan</b> , Sport Kultur Project, Snowbird Bypass Road, UT
2006...	<b>3 Chalet planning, construction and up-keep</b> , Mürren, Switzerland
2009/10	Wasatch Canyons Master Plan, Technical Advisory, Envision Utah
2007-09	AltaBird, layout, design, permitting. Subdivision, Sandy, Utah,
2005-07	Legal Counsel to ski areas regarding skier accidents
2006	Deposition, Bryn Asselstine vs. Boyne USA, Inc.
200-09.	Northstar Subdivision, road upgrading master plan, Park City, Utah,
2008-09	Bob Bonar, civil engineering and site plans, Snowbird, Utah
2005-07	Snowbird Townhouses, civil and site plans, Snowbird, Utah
2005	Granite Builders, LLC, Sundown 23 Townhouses, Powder Mtn. UT
2003	Several Mountain Residential site grading and road plans, Utah
1984	Pine Inn Associates (inclined elevator), Deer Valley, Utah
1981-04	Ski Area Statistic of Utah, Utah Ski Association, Salt Lake City, UT
2000	Bonneville Shoreline Trail Committee, alignment option report
1986-98	Sorel Boot "EXO" new skiing device; Kaufman Footwear, Ontario
1995	CRCA, Centennial Parks Project, Salt Lake City
1986	Allen Avalanche Reconnaissance, Transamerica Insurance Co.
1984-87	Digital Terrain Modeling: Farwell, SE and Group Delta
1976, 79	Legal Council: sliding and collision of fallen skiers

## References

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