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April 10, 2007

Bridger Canyon Planning and Zoning Commission
Gallatin County Planning Department, Room 208
311 West Main Street
Bozeman, MT 59715

Dear Commissioners,

I am a fairly recent resident of Bridger Canyon, though I plan to be here for a long time. I moved here for its natural beauty. I work at home, so I could have chosen any number of beautiful places in Montana. I chose Bridger Canyon in part because its zoning guarantees that growth will be predictable and high quality, so it will stay beautiful. I joined the board of BCPOA because I think our close-knit Canyon can work well together to create a good future.

When I first heard about the proposed Base Area development, I was cautiously enthusiastic. The architecture was attractive and the developers appeared to have the best of intentions. However, the PUD application is quite different from the modest vision. I can't help feeling that it is simply out of proportion to everything else in the Canyon.

Regulations that are relaxed any time profits lure are not fair. Our zoning is as much a part of our property rights as it is a restriction of our rights. To bend our regulations to enable this development sets a poor precedent for the district. If the developers cannot design a profitable project around our planning documents, we should set aside the project, not the regulations, and preserve the option for the future. There is only one base area, and one chance to do it right.

BCPOA volunteers have invested hundreds of hours evaluating the PUD application, in the hope of helping BCP to bring it into compliance with our regulations. So far we have not been successful. Our objections are not difficult to understand or to comply with. It is not fair or practical to expect Canyon residents or the BCPOA to design an alternative design for this project; that is what developers are paid for.

I have personally spent many hours studying the technical details of traffic, land use, the scale of the project, and its benefits to the community, which you will find summarized in four attachments to this letter. The most important technical finding is that the Traffic Impact Study is overly optimistic, yet fails to show traffic mitigation benefits. The most important finding to me personally is that the benefits of the project to our community are largely illusory.

While I am not a traffic engineer or land use planner, I have a PhD in System Dynamics from MIT, and build and evaluate mathematical models for a living. I have worked for the FAA on transport policy, the DOE on energy and research policy, at the top levels of Fortune 500 companies on strategic issues, and with international groups on sustainable development. I recently received the most prestigious award in my field for a paper on the economics of climate change. Therefore I feel that I am more than qualified to critique the application.

I am convinced that an attractive project could be designed to meet our regulations, and that this is not it. I stand with my colleagues on the BCPOA board, and with every resident I have met, in opposing this development, until it demonstrates compelling benefits and adequately mitigates the impacts of the unique density available.

Sincerely,

Tom Fiddaman

Bridger Mountain Village Traffic Impacts

Tom Fiddaman, BCPOA, April 10, 2007

Summary

Mitigation of traffic congestion, to permit Bridger Bowl to expand within the limited capacity of our two-lane highway, is one of the fundamental goals of the Base Area Plan. Without traffic reduction there is no justification for providing increased density. With this in mind, several BCPOA members, including myself, reviewed Abelin Traffic Services' (ATS) *Bridger Canyon Partners Base Area Development Plan Traffic Impact Study* (TIS).

What we found was cause for concern. Three issues are particularly troubling:

- The study shows an increase in traffic, not a decrease, from the development.
- It appears that the study neglects to include the doubling in ski traffic expected from Bridger Bowl terrain expansion, or considers it only via a 4% background growth trend
- It is difficult from the documentation to establish the source of figures, and in particular there appears to be no capacity or LOS calculation for the two-lane highway corridor.

BCPOA retained Bob Marvin of Marvin and Associates, Billings, to provide a brief technical assessment of the study. That review, attached, found that, while the trip generation assumptions and technical execution of the study appear to be reasonable, it is difficult to determine the actual assignment of volume to the 86 corridor. More importantly, the study lacks capacity calculations for the two-lane highway. His calculations indicate that the level of service (LOS) will fall from C (existing) to D (2012), using assumptions similar to the ATS TIS. (In the Bridger Bowl EIS, LOS falls to E at full build, with roughly doubled traffic).

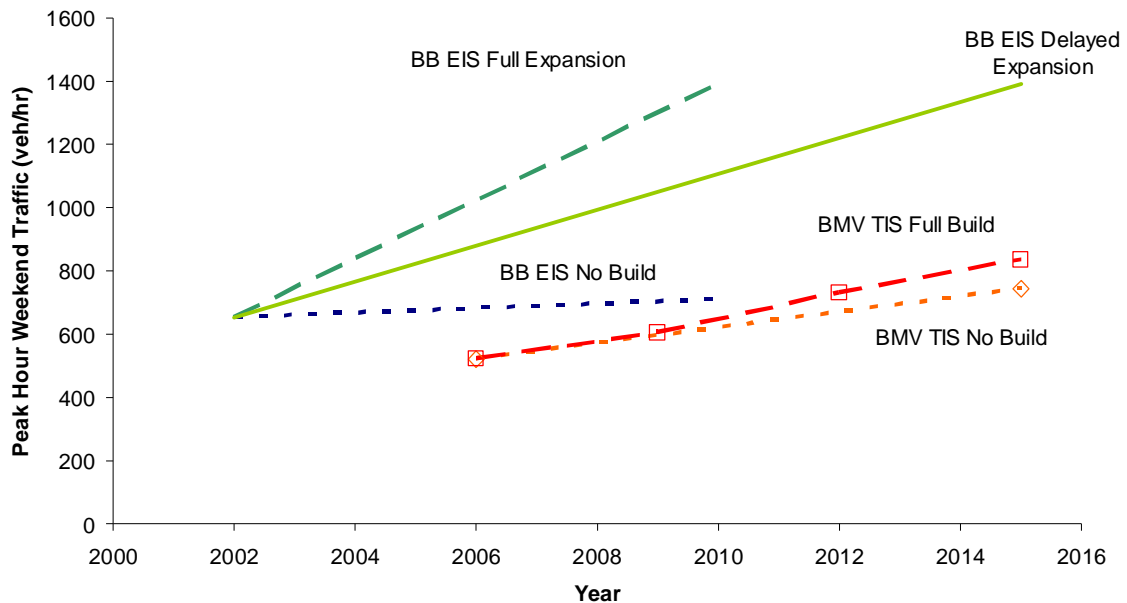
It is important to recognize that reduction of peak-hour skier traffic is not without tradeoffs. Depending on the nature of accommodations and availability of amenities, overnight accommodations may only shift trips – reducing peak traffic, but increasing average daily traffic. Outside of the ski season, the development will unambiguously increase traffic. This means that noise, air pollution, collisions, wildlife kills, and other impacts related to total traffic will worsen, even if the development does provide peak-hour relief.

Using the conservative assumption of the TIS, that all development trips are new, both peak and total traffic worsen with the development of Bridger Mountain Village. Statements to the effect that, “the peak-hour directional split of traffic in the canyon will become more balanced” or, “the construction of the proposed development will improve traffic conditions along Bridger Canyon Road”¹ are purely aspirational and entirely unsubstantiated in the TIS.

Given the ambiguous effect of the development on peak hour traffic, the negative effects of the unambiguous increase in total traffic, and the fact that there are other options for mitigating Bridger Bowl’s traffic (e.g. buses), we find no benefit to the community from the proposed development’s impact on traffic.

Traffic Impact Study Results

The TIS presents summary tables for trip generation and intersection LOS, but it is somewhat difficult to determine the actual traffic volumes used in the study. For this, we mined the Traffic Model results in Appendix B of the TIS to compile a table of through traffic volumes at the Kelly Canyon intersection; this is a reasonable approximation of the MP8 traffic volume used in the Bridger Bowl EIS because there is little turn activity at that point. The results are rather striking:



The three upper trajectories, beginning in 2002, show the traffic projections from the Bridger Bowl EIS. 2010 no-build peak-hour flow is 708 vehicles per hour; with full expansion of Bridger Bowl, traffic nearly doubles to 1390 vph, commensurate with the increase in skiers. The two lower trajectories show build vs. no-build results from the ATS TIS for winter weekend mornings.

Three features stand out:

- Traffic flow increases 10% from the development. The increase is greater at other times (13% weekend PM, 16% weekday PM, 22% weekday AM).
- Baseline 2006 traffic flow is about 25% lower than that in the Bridger Bowl EIS. The reason for this is unknown; the TIS states that data collected by MDT and ATS is consistent with the EIS figure, or roughly 700 vph. As a result it appears that intersection flows are understated, and LOS is optimistic.²
- The 4% background traffic growth rate applied in the TIS greatly understates the potential increase in traffic from Bridger Bowl’s permitted expansion. At the

study’s 4%/year growth, it would take 17 years for traffic to double, implying completion of Bridger’s expansion in 2024. It is clear that, even with delays of the EIS plan, skier traffic could double more quickly.

- The time horizon of the TIS is short – too short to reflect the full consequences of Bridger Bowl expansion, and far too short to capture the long run effects on the Canyon. Bridger Mountain Village will be with us for a long time, and the study should reflect this. For the record, this comment also applies to the Bridger Bowl EIS.

Given that the TIS appears both to understate baseline traffic flows and to dramatically understate the upside growth potential of Bridger Bowl, it seems likely that its intersection LOS calculations are overly optimistic.

Table 1. Model Results from Appendix B, ATS TIS

Scenario	Year	Day	Season	Time of Day	Through Volume at Kelly Canyon (vph)			
					NE	SW	2-way	split
Existing	2006	Weekday	Winter	AM	207	121	328	63%
				PM	98	307	405	76%
No Build	2015	Weekday	Winter	AM	294	172	466	63%
				PM	139	436	575	76%
Phase 1	2009	Weekday		AM	247	142	389	63%
				PM	122	360	482	75%
Phase 2	2012	Weekday		AM	311	173	484	64%
				PM	163	442	605	73%
Phase 3	2015	Weekday		AM	360	198	558	65%
				PM	193	507	700	72%
Existing	2006	Weekend	Winter	AM	454	69	523	87%
				PM	92	398	490	81%
No Build	2015	Weekend	Winter	AM	645	98	743	87%
				PM	131	565	696	81%
Phase 1	2009	Weekend		AM	523	83	606	86%
				PM	116	463	579	80%
Phase 2	2012	Weekend		AM	625	107	732	85%
				PM	157	559	716	78%
Phase 3	2015	Weekend		AM	710	124	834	85%
				PM	186	637	823	77%

Road capacity

A fundamental goal of the Base Area Plan is to “Allow the expansion of recreational facilities to their ultimate capacity without exceeding vehicular capacity of the two-lane road.” However, the TIS never examines what that capacity is, or whether it is exceeded. The Marvin & Assoc. review concludes,

One thing that was missing from the analysis was the two-lane highway capacity calculations for Highway 86. This would appear to be a critical issue considering that current design hour volumes for weekend ski days are approximately 35% of the AADT. Having performed impact studies for several ski areas in Montana, I know that this is a critical issue and I fully expected to see a very detailed summary of capacity variations

along the corridor. I was also surprised to see that the Bridger Bowl EIS did not contain highway capacity calculations for the corridor either.

In order to determine if this would have been a critical issue, I completed HCS Two-lane Highway Capacity calculations for existing and year 2012 traffic volumes. Existing design hour volumes are 700 vph and calculated 2012 volumes used in the capacity analysis were 1,000 vph. The MDT documented peak pm hour directional split for this traffic was 24%/76% and MDT's records indicated that trucks traffic is approximately 6%. Without the benefit of other documented data, assumptions were made to complete the analysis (attached). It was determined that the existing level of service (LOS) would be "C" and that the year 2012 traffic conditions would result in LOS "D" on the highway corridor.

Thus it appears that, even neglecting full expansion of Bridger Bowl, the TIS contention that, "Currently Bridger Canyon Road is operating well under peak design conditions" is not accurate at peak hours now. Modest growth will take the highway to level of service D, and if peak flows reach levels projected in the Bridger Bowl EIS (1390 vph), to LOS E.³ The EIS states in Ch. 4.13:

It is anticipated that the selection of Alternatives 2-4 would produce peak hour traffic volumes along BCR that the road system may be unable to adequately support. From 8:30-9:30 am and 4:00-5:00 pm, the road would potentially have an unacceptable level of traffic. However, throughout the remainder of the day, BCR could accommodate projected traffic as a result of the implementation of one of the action alternatives. The increased traffic volume would strain the ability of Gallatin County to adequately maintain the road at acceptable conditions. As a result, vehicle accidents would be expected to increase proportionally to the growth in traffic volume.⁴

If the development actually increases peak traffic, as its model results currently show, and increases total traffic, which is nearly certain, this will have a critical negative effect on the Canyon.

Trip Generation

Whether Bridger Mountain Village increases or decreases peak winter traffic hinges primarily on whether users of the overnight accommodations and residences are new, or displace existing users who now stay in Bozeman and commute to ski. Whether users are new or displace existing users in turn depends on several factors, including:

- a) whether Bridger Bowl is constrained by lift capacity, parking capacity, snow, or other factors
- b) the nature of overnight accommodations: permissible duration of stay, size, parking
- c) availability and relative attractiveness of accommodations in Bozeman
- d) availability and convenience of transport from Bozeman
- e) the existing balance between local and long distance skiers

Other considerations likely apply as well.

The TIS assumes, conservatively, that all users are new, hence the increased traffic in its results. However, it asserts in the conclusion that, "the trip pattern of the proposed development will help balance the directional traffic within the canyon and allow the roadway to carry more daily traffic with better operations than without the development."

This conclusion rests on the assumption that development users will displace some existing trips, which is contrary to the model assumptions and neither quantified nor demonstrated with comparable data from other sites.

We believe that it is essential to quantify these effects in order to demonstrate benefits, if they exist. Hope is not an adequate justification for this project. While it is not practical for us to build a trip generation model in this review, it is worth considering the criteria that could contribute to greater displacement of existing traffic, and hence ease peak hour congestion.

Referring to the list above, it seems plausible to assume that, all else equal,

- a) When Bridger Bowl is constrained by parking or lift capacity, BMV trips are more likely to displace existing trips, as BMV users will have more ready access to the mountain.
- b) Shorter stays and smaller units are likely to favor displacement, because users are likely to be there to ski, rather than to pursue other recreation. Also, large units have little equivalent in the Bozeman hotel market, and thus are likely to attract a new user population.
- c) More attractive units are likely to favor displacement, because they will out-compete off-mountain alternatives.
- d) Ready availability of alternative transport (e.g. buses) reduces displacement, because there are fewer passenger vehicle trips to begin with
- e) The higher the share of locals in the skier mix, the less potential for displacement, as locals are not likely to pay to stay on the mountain when they can stay at home for free

Of course, all else is not equal, and some of these effects are complex – size, for example, can have multiple conflicting effects that are difficult to sort out verbally, requiring a formal model.

If we apply some of these principles to dwelling types in the proposed development, it is evident that not all are created equal. Using the trip generation figures in the TIS, a recreational home creates about .3 PM peak hour trip ends and 3 total trip ends. If there are 4 occupants skiing 2 days a week, the peak trips are equivalent to slightly more than one skier commuting per day. However, it's unlikely that the rec home is displacing trips from Bozeman homes or hotels. Even if 25% of rec home skiers are displacing Bozeman skiers (which seems implausibly high), there is no net improvement in peak trips, and there are more than twice as many total trips.

For comparison, an overnight accommodation generates .4 peak trip ends and 6 total trip ends. If there are 2 occupants skiing 5 days a week, and 2/3 displace Bozeman trips, each unit displaces .5 peak trips (a 50% reduction), but triples total trips. Thus it appears to be possible to mitigate peak traffic, but only if the characteristics of the accommodation are appropriate, and only at the expense of total traffic. Accommodations that resemble recreational homes (favoring low skier utilization and appealing to new users) could easily fail to provide benefits.

As noted by the MDT in its brief review, the trip generation rates used in the TIS do not appear to include any nonresidential trips (i.e. Bozeman residents going to the restaurant). Similarly, the availability of amenities to keep visitors on the mountain is clearly critical, but not considered in the analysis.

The 40% capture rate for trips remaining in the base area is adjusted downward from Big Mountain in Whitefish (which has 60% capture), but a quick check of the Big Mountain web site indicates that there are far more amenities there - 9 restaurants, golf, snowmobiling, horseback riding, etc. 40% may not be conservative, especially since commercial amenities at Bridger Mountain Village won't be built in the first phase.

The background traffic growth rate assumed (4%/yr) is slightly higher than recent population growth at 3.5% but is not necessarily a conservative assumption. Given that growth has accelerated in Gallatin county in recent years, it's not implausible that future growth could be much more rapid. Rapid growth could easily occur in Jackson Creek, Bracket Creek and the Shields Valley, for example. Even slow growth in areas outside the Canyon could cause rapid growth in travel on 86, due to the small baseline traffic and residential population of Bridger Canyon.

Other Concerns

Most of the units in Phase 1 are at least 800 yards from the existing base area, and the recreational homes are much further. It seems reasonable to assume that some of these users will at times be tempted to drive to the base, increasing Bridger Bowl's parking problems. Even with construction of the second base area, these units will remain 500 yards from a lift.

BCPOA did not evaluate the internal circulation of the proposed project, but we note that the proposed road system creates several new stream and wetland crossings and, in Phase 1, fully or partially encircles several important riparian habitats.

The study mentions that there is no need for a left-turn deceleration lane at the south entry point, because there is little oncoming traffic, but the north entry to the base area will *create* more oncoming traffic, so it's not clear that this is a reasonable conclusion.

The shift in traffic from peak morning and afternoon hours to off-peak hours could have adverse impacts on wildlife, due to increased travel during hours that animals are active near roads.

¹ ATS TIS, pages 19-20

² ATS TIS, section VI., page 6, and Table 1, page 2. For example, table 4.13-1 of the BB EIS lists 2010 peak flow at 708 vph at milepost 8, while the ATS TIS model results in Appendix B projecting 606 vph at Kelly Canyon in 2009 with Phase 1 built. The difference could be a matter of definition, though this seems unlikely. The Marvin & Assoc. review points out that volumes used in the study are difficult to attribute.

³ BB EIS, Table 4.13-5

⁴ BB EIS, Chapter 4, page 90

The Benefits of Bridger Mountain Village?

Tom Fiddaman, BCPOA, April 10, 2007 (With assistance of Deb Stratford)

Bridger Canyon Partners recently mailed residents of Bridger Canyon and members of the Bridger Bowl Association a brochure and letters describing the benefits of the proposed Bridger Mountain Village development in the Bridger Bowl Base Area. The brochure mentions benefits including lodging, food and beverage service, an ice skating rink, pool, spa, retail shops, restaurants, services, central check in, and a public chairlift tied to Bridger Bowl. In addition, the letters mention public Nordic, alpine, and biking trails.

BCP's development practices are claimed to include benefits as well:

- Construct a state of the art waste treatment facility that will eliminate the need for septic systems
- Donate land and construct a fire sub-station for BCRFD
- Full support of Bridger Bowl Ski Area
- Restrictions on the size of single family homes
- Cluster layouts to preserve open space
- Help support a public transportation system on mountain and to/from Bozeman
- Restrictions on the size of single family homes
- Community recycling program
- Planting of native trees and plants
- Construction of energy efficient buildings
- Enforce restrictive covenants and architectural guidelines
- Limit use of landscape irrigation
- Encourage use by community groups and local non-profits
- Use bio-swales to treat stormwater run-off
- Bury existing and future utility lines
- Provide affordable on-mountain employee housing
- Establish connections to and through surrounding land with Bridger Bowl, Bohart Ranch, Gallatin Valley Land Trust, and the US Forest Service
- New US Forest Service back country trail head access and related parking
- Continue to battle noxious weeds on site and aggressively follow plan submitted to Gallatin County Noxious Weed Office

The PUD Master Plan lists more benefits, largely similar to the above (pages 13-16).

The base area zoning provides extraordinary density through the planned unit development (PUD) process. This density is available not as a matter of right, but only upon demonstration of significant benefit to the community. Therefore it is fair to ask, how real are these benefits to the Bridger Canyon community? Upon examination, many of the stated benefits of the project turn out to be illusory – many benefit only the residents of the development, or serve merely to mitigate its potential environmental degradation, or are speculative in nature. What's left is a rather short list – a poor trade for more than doubling the number of residences and overnight accommodations in the Canyon.

The Bridger Canyon Zoning District – first of its kind in Montana - was created by residents to preserve the rural character and pristine environment of Bridger Canyon. Certainly Bridger Canyon residents are concerned about the greater good for Gallatin County, and in particular the health of Bridger Bowl, but to approve a project that benefits the county without also benefiting residents of the zoning district would mock the very intent of creating zoning districts by petition. The Base Area Development must provide compelling benefits to Bridger Canyon residents, not require them to “take one for the team.”

Missing Benefits

The most conspicuous benefit is the one that is missing from the plan – traffic mitigation. The basic concept of providing overnight accommodations in the base area to mitigate traffic may or may not be sound. However, the Bridger Mountain Village Traffic Impact Study does not provide evidence of traffic mitigation. Its simulation results indicate increases in 2015 peak-hour traffic flows of between 10% and 22%.

Benefits that merely mitigate impacts of development

Construct a state of the art waste treatment facility that will eliminate the need for septic systems	Need is driven purely by the development.
Donate land and construct a fire sub-station for BCRFD	Could shorten response time for a few upper canyon residents, if adequately equipped (currently no agreement has been reached). However, the development adds 527 recreational homes and overnight accommodations, more than double the number of homes in the canyon, without significantly augmenting the volunteer base. Thus the existing volunteers will have to serve twice as many calls; volunteer burnout will be more likely.
Cluster layouts to preserve open space	The development appears quite dispersed, particularly in Phase 1, which distributes roughly 80 structures around meadows, creeks, and wetlands.
Restrictions on the size of single family homes	Need is driven purely by the development; actual restrictions are ambiguous, particularly for later phases.
Planting of native trees and plants	Need is driven purely by the development; merely mitigates development in meadows and aspen groves.
Enforce restrictive covenants and architectural guidelines	Covenants and architectural guidelines do not follow BCP’s own wildlife study

	recommendations.
Limit use of landscape irrigation	Need is driven purely by the development.
Use bio-swales to treat stormwater run-off	Need is driven purely by the development, with potential to draw natural watershed away from existing streams and wetlands.
Bury existing and future utility lines	Need is driven purely by the development.
Continue to battle noxious weeds on site and aggressively follow plan submitted to Gallatin County Noxious Weed Office	Required by law regardless of development

Benefits that accrue primarily to residents of the development

lodging, food and beverage service, an ice skating rink, pool, spa, retail shops, restaurants, services, central check in	Phase 1 is inclusive of a food & beverage service within the lodge; other amenities are in subsequent phases, if they occur
public chairlift tied to Bridger Bowl	Available to the public, but impractical to use, due to lack of parking at the base area, located a great distance from the existing base
Nordic, alpine, and biking trails	Already available from Bridger Bowl, Bohart Ranch and existing Forest Service access
Community recycling program	Commitment to make this available to Canyon residents is unclear.
Construction of energy efficient buildings	Will fireplaces be restricted to avoid doubling the existing air quality issues under inversion conditions?

Speculative benefits

Establish connections to and through surrounding land with Bridger Bowl, Bohart Ranch, Gallatin Valley Land Trust, and the US Forest Service	The connections are established by moving through the development; some of the connections already exist, others may not occur
Provide affordable on-mountain employee housing	Not in Phase 1 or 2
Full support of Bridger Bowl Ski Area	Not a concrete statement.

Real benefits

New US Forest Service back country trail head access and related parking	Already available, though quality may improve.
Help support a public transportation system on	This will occur with or without the

The Benefits of Bridger Mountain Village?

mountain and to/from Bozeman	development.
Encourage use by community groups and local non-profits	No concrete commitments back this up, and there are no modest or group-lodging accommodations planned.

Bridger Mountain Village by the Numbers

Tom Fiddaman, BCPOA, April 10, 2007

0.7%	share of area in the Bridger Canyon Zoning District that lies within the proposed project ¹
388	approximate number of homes now in existence in Bridger Canyon ²
527	number of recreational homes and overnight accommodations proposed for Bridger Mountain Village ³
9	number of residences available as a matter of right in the underlying zoning ⁴
80	approximate number of cabins, homes, and other structures clustered around wetlands and creeks in Phase 1 ⁵
76.9%	current excess sediment load, above the natural yield of Maynard Creek ⁶
14	approximate number of structures now in existence in the Base Area, not including ski lifts ⁷
470,000	peak gallons per day of water use ⁸
68%	peak water use, as a share of total precipitation on Bridger Canyon Partners' property ⁹
143,000	gallons per day of sewage to be treated and discharged into an absorption field ¹⁰
650	feet from the absorption field to Bridger Creek ¹¹
523	existing peak hour traffic on Bridger Canyon Road near Kelly Canyon ¹²
743	projected 2015 no-build peak hour traffic ¹³
10% to 22%	projected increase in traffic from BMV ¹⁴
1390	traffic expected with Bridger Bowl terrain expansion ¹⁵
\$30,000,000	approximate retail value of Base Area recreational home lots, for which density rights were allocated as an incentive to support beneficial development ¹⁶
22%	share of dwellings for which adequate information is provided to evaluate the project ¹⁷
320,140	square feet of land covered by buildings in Phase 1 ¹⁸
9.46	acres of road in Phase 1 ¹⁹

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- ¹ BCP PUD Application Master Plan, page 3, <http://www.bcpoa.net/base/pud/Master%20Plan.pdf>
- ² At end of 2006, from Gallatin County GIS Dept. via Bruce Jodar, BCPOA zoning chair. Recent Gallatin County GIS data lists 313 residential structures in the district, 41 farmsteads, and 10 condos; http://www.gallatin.mt.gov/public_documents/gallatincomt_gis/Data%20Download%20Page . Data from Montana NRIS lists 376 parcels improved as dwellings; <http://nris.mt.gov/nsdi/cadastral/> .
- ³ BCP PUD Application Master Plan, page 29
- ⁴ Most of Bridger Canyon is zoned 1 in 40 acres; 1 in 20 is available via PUD outside the Base Area, upon demonstration of significant community benefit
- ⁵ Estimated from Map 1C, BMV Phase 1 CUP application, <http://www.bcpoa.net/base/pud/CUP%201C%20mosaic.jpg>
- ⁶ Bridger Bowl EIS, Chapter 4, page 5, http://www.fs.fed.us/r1/gallatin/?page=projects/bridger_bowl
- ⁷ Estimated using Gallatin County GIS data in DDTI AccuGlobe, and Google Earth
- ⁸ BMV PUD Community Water System study, page 5, <http://www.bcpoa.net/base/pud/WaterSystem.pdf>
- ⁹ Based on 27 inches/year at the mouth of Maynard Creek, Bridger Bowl EIS, Section 3.3, http://www.fs.fed.us/r1/gallatin/?page=projects/bridger_bowl
- ¹⁰ BMV PUD Community Wastewater System study, page 3, <http://www.bcpoa.net/base/pud/WasteWaterSystem.pdf>
- ¹¹ Approximate distance measured in DDTI AccuGlobe using BMV PUD Master Plan Map 1A, georeferenced using HyperCube and MapWindow GIS, <http://www.bcpoa.net/base/pud/MP%201A%20mosaic.jpg>
- ¹² Two-way weekend peak hour, extracted from simulation results in Appendix B, BCP Base Area Development Traffic Impact Study, <http://www.bcpoa.net/base/pud/Traffic%20Study.pdf>
- ¹³ Ibid
- ¹⁴ Ibid
- ¹⁵ Bridger Bowl EIS, Section 4.13, Table 4.13-4, http://www.fs.fed.us/r1/gallatin/?page=projects/bridger_bowl
- ¹⁶ Estimated using current listing price of a nearby Ross Peak Ranch lot, \$395,000, multiplied by 75 recreational home lots applied for
- ¹⁷ The Phase 1 CUP specifies lots, footprints, and other details needed to characterize the development; such information is not available for subsequent phases in the PUD master plan
- ¹⁸ BMV Phase 1 PUD Open Space Calculation, page 3, <http://www.bcpoa.net/base/pud/OpenSpace.pdf>
- ¹⁹ BMV Phase 1 PUD Open Space Calculation, page 4

Land Use in Bridger Mountain Village

Tom Fiddaman, BCPOA, April 10, 2007

When I first read about Bridger Mountain Village, I was pleased to hear that it would cluster dwellings to minimize impact on the land. But when I saw the Master Plan maps, I was puzzled – the development seemed to occupy most of the landscape. Residents who viewed the maps at community meetings reacted similarly. Yet calculations indicated that it was 80% open space. Minor quibbles over the appropriate definition of open space in the regulations do not change the outcome much.ⁱ However, further inspection reveals that some of the open space is not so open – over 40% consists of narrow areas adjacent to structures, encroaches on setbacks, is designated for future use, or otherwise impacted.

BCP's open space calculation for Phase 1 is illustrative:

Total area	122.5 acres
Roads	9.5 acres
Structures, parking, and other area	12.5 acres
Open space	100.5 acres

The open space can be decomposed further:ⁱⁱ

Open space	100.5 acres
Recreational home lots (less home and driveway footprint included above)	17.5 acres
Designated areas for overnight accommodations (less building and parking footprint)	11.8 acres (of which about 4 acres encroaches on meadows and streams)
Designated area for future employee housing	2.2 acres
Fire station site	.8 acres
Narrow strip isolated by Maynard Creek road	.7 acres
Lodge site (less lodge footprint), designated Potential Future B-2	1.9 acres
Potential Future B-2 (at jct. High Travers and BB Road)	.6 acres
Future Parking (near lodge)	.7 acres
Designated drainfield, less WWTP, water, and wastewater structures	4.9 acres
Designated parking and services, less service building and miscellaneous uses	1.7 acres
Unfragmented, usable, common open space	57.7 acres

Of the remainder, about 40 acres is a contiguous area of wetlands and stream corridors. This is probably a reasonable assessment of how the open space looks to a moose, who will avoid areas densely populated with cabins, road crossings, and other improvements.

It is troubling that at least several acres of land designated as potential future employee housing, B-2, or service and parking is included in the calculation of open space.

The Base Area Plan maps give a rather different picture. Map 8, Suggested Land Use, concentrates overnight use in four areas: just south of the existing Bridger base, on the bench spanning the Simkins, Lachenmair and Blesco properties, at the top of the meadow in Crosscut Ranch, and to the north across the FDC property, where a second base might be located.ⁱⁱⁱ Except for small commercial and residential areas, the remainder of the base area's suggested use is "recreation." The Base Area Plan defines the appropriate use of such areas to include, "ski trails, hiking, horseback trails, etc."

In the area where Phase 1 and the Base Area Plan overlap, Map 8 designates about 42 acres for development. The Phase 1 plan occupies 48 acres, with a much more fragmented distribution and more numerous roads. The principal differences are the presence of home lots in areas designated by the plan for recreation, encroachment of overnight accommodations on stream corridors and the lower meadow, and home lots in annexed areas at the boundaries.

A consequence of the considerable dispersion of Phase 1 is that skier access to lifts is difficult. The lodge is about 800 yards from the existing base, and 500 yards from the proposed second base, if it is built. Even if a shuttle serves the lodge, many of the cabins and recreational homes are still 500 to more than 1000 yards from that point. It seems likely that driving to the existing Bridger base will tempt at least some visitors.

The potential visual and space impact of phase 1 is also striking when one considers the number of structures to be created (roughly 80):



Compare the area covered by Phase 1 above with the Grand Targhee base area (maps are within 1% of the same scale):



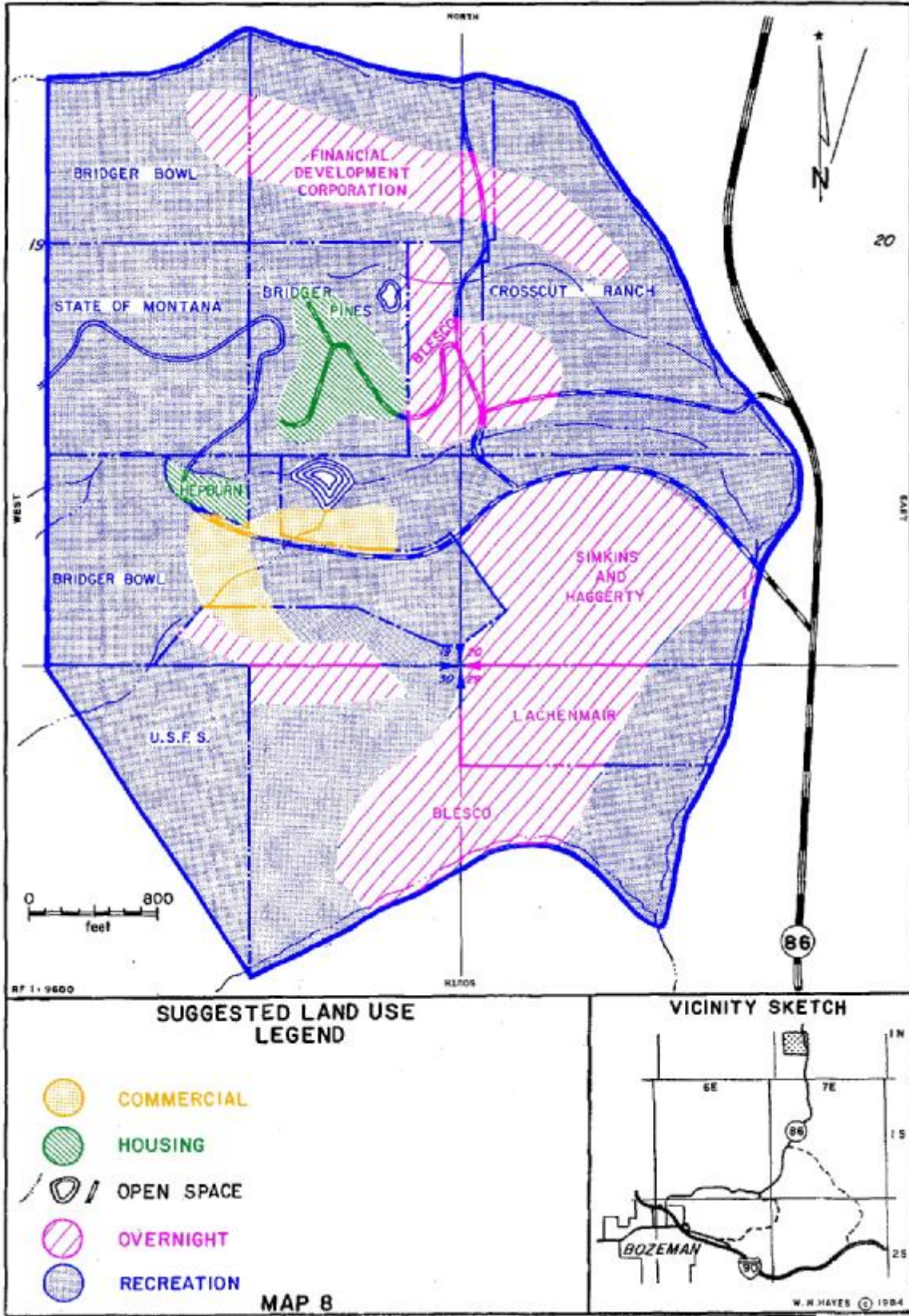
At the Grand Targhee base there are 94 slopeside rooms in three structures, with underground parking. The total footprint of the overnight accommodations is far less – perhaps one eighth that of Phase 1. The resort nevertheless supports restaurants, a grocery, and laundry services to keep people on the mountain. Clearly it is possible to do better than BMV’s first phase.

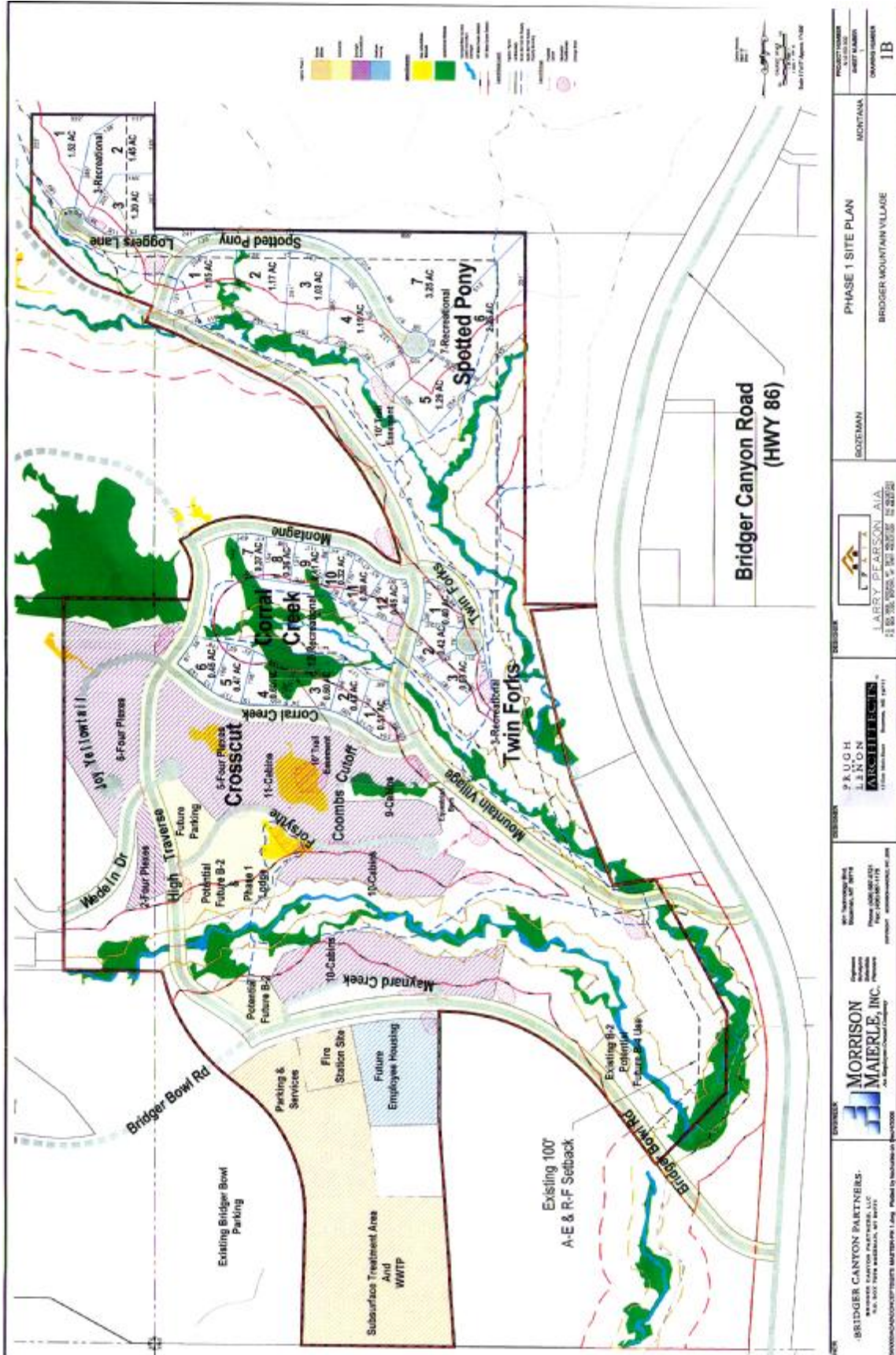
It is more difficult to evaluate subsequent phases of the project, because limited information is provided regarding the actual nature and footprint of accommodations and home sites. Given the phasing of the PUD application, and the allocation of full overnight rights to Phase 1, half reserve rights to Phase 2, and only reserve rights to Phase 3, it seems quite possible that a variety of conditions – including insufficient water and sewer capacity – could lead to a project with many homes and overnight accommodations dispersed far from lifts, without ever building high density, low footprint accommodations in proximity to lifts, as contemplated in the Base Area Plan. This would fail to provide significant community benefits, particularly traffic mitigation.

ⁱ For example garages up to 500sf are discussed as accessory uses in the Staff Report (pg. 36), along with several other structures that do not appear to be included in BCP’s calculation.

ⁱⁱ These are approximate calculations, generated by scanning maps from the PUD application, georeferencing with HyperCube and MapWindow GIS, and analyzing in DDTI AccuGlobe. Measurements for known areas correspond with BCP figures, but measurements would be more accurate if performed with original shapefiles.

ⁱⁱⁱ On Base Area Plan Map 7, the second base is located at roughly 6400 ft elevation, while in BCP’s Master Plan it is located at roughly 6025 feet, 100 feet lower than the existing Bridger base area. The higher location may be a better choice, given that climate change is likely to measurably affect snowpack within the lifetime of the infrastructure.





Land Use in Bridger Mountain Village

