

Nevada County Airport Land Use Evaluation

PREPARED FOR NEVADA COUNTY, CALIFORNIA
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InterVISTAS

Executive Summary

Nevada County is exploring opportunities to upgrade facilities at the airport to meet demand, enhance customer service, and increase airport revenues. Most of the airport's property is fully developed to the extent practical; however, several sites remain where additional development may still be possible. In addition to the undeveloped sites at the airport, several parcels adjacent to the airport may become available in the future which could offer new opportunities to develop airport facilities if they were to be acquired.

Six sites on and around the airport were identified that have potential for development. Technical evaluations of the sites were conducted to understand their existing physical conditions and identify other constraints, including land ownership and airspace surfaces that could affect the ability to develop the sites. Results of the technical evaluations were used to establish a priority ranking of the sites to assist airport management decide the order in which to move forward with acquisition and/or development.

In addition to the technical evaluations, rough order-of-magnitude cost estimates were prepared to determine the approximate price to ready the sites for development. The estimates do not include the cost of acquiring property. The estimates indicate there is a wide range of costs due to the variability of terrain, site clearing, and earthwork needed to level the sites suitable for development. Cost estimates are included in the Appendix.

A financial analysis also evaluated the Internal Rate of Return (IRR) for terms ranging from 20 years to 50 years and annual ground rent to the Airport ranging from \$0.25 to \$1.50 / square foot. Assumptions for this analysis include financing 80% of development costs at 4.0% interest over a term equal to 50% of the lease term with revenue escalating 2.5% annually. An IRR of 7% is typically the minimum to make a development financially feasible for private investment with those opportunities becoming attractive above 12%.

Recommendations

Of the six sites, it is recommended that three sites not currently owned by Nevada County be acquired when possible. The three sites are contiguous to the airport and either already have or can provide direct access to the airfield taxiways. This would allow Nevada County to develop additional aeronautical land uses in the future if desired. Furthermore, the sites will serve as a buffer between the airport and adjacent land uses. Acquisition of the sites will help promote land use compatibility and ensure that no incompatible land uses are constructed near the airport. In one case, the privately owned land is already developed and has existing tenants (e.g. site 5). In this case, acquisition of the parcel would allow Nevada County to continue existing leases which could generate revenue to repay acquisition costs.

The sites were ranked to establish a recommended priority for action. Priority ranking was based on several factors including: the cost to prepare the sites for development, the ability to generate revenue from the sites, the likely timing the sites would become available for acquisition, the potential to acquire the sites for a reasonable price, and the general benefit to the airport among other considerations.

The recommended actions for each site are noted in the following tables. The priority of the recommended actions is shown with a number that indicates the general order in which actions are recommended.

Recommended Land Acquisition Actions				
Site	Current Ownership	Recommended Land Use	Recommended Action	Priority Rank
5	US Forest Service	Aeronautical and non-aeronautical	Acquire land and maintain existing leases	Highest (1)
3	Private	Aeronautical	Acquire only	High (2)
1	Private	Aeronautical	Acquire land and release RFP	High (3)

Table 1 Land acquisition recommendations

In addition to the potential to acquire undeveloped land adjacent to the airport, Nevada County may have an opportunity to acquire several existing hangars at the airport that are owned by private owners. It is recommended that Nevada County acquire all privately owned hangars as they become available for sale so that the County can control all aviation assets on airport property and manage them as necessary to be consistent with airport land use goals. Acquisition of the hangars should provide continuing revenues to offset the cost of acquisition over time.

Since prospective developers may prefer pad ready sites, various site preparation efforts will be needed before requests for proposals are released. Site preparation includes removing existing natural features (trees and shrubs), and earthwork to fill, excavate, and grade sites to developable elevations. A wide range of site preparation efforts could be taken to ready sites depending on the type of development desired. For example, significant earthwork would be required to import fill to raise sites to the airfield elevation that would allow aeronautical land uses. The greater the amount of earthwork, the greater the cost for site preparation.

Recommendations to develop individual sites are dependent on the costs for site preparation and the potential for immediate use of the sites to offset site preparation costs. Each site was prioritized to suggest the order for which actions should be taken by Nevada County. A summary of recommendations for each site is provided on the next page.

Site Recommendations					
Site	Use	Current Ownership	Site Preparation Cost*	Recommended Action	Priority Rank
5	Air Attack Base	US Forest Service	\$6,600	Initiate site preparation design following acquisition	Highest
2	Hangar Development	Nevada County	\$40,000	Prepare and release RFP	Highest
4	Hangar / Non-Aeronautical Development	Nevada County	\$2,000,000	Initiate site preparation design	High
3	Potential USFS / CalFire Helicopter Pads	Private	\$20,222,000	Site preparation not recommended at this time	Low
6	Solar Farm	Nevada County	\$1,786,000	Release RFP	Low
1	Vacant Lot / Protected Area / Airport Support	Private	\$0	Initiate site preparation design following acquisition	Low

Table 2 Site recommendations (costs are in 2024 dollars using prevailing wages)

The relatively low cost to prepare for aeronautical development and high IRR for Sites 2 and 5 makes these sites the highest priority. The low risk of acquiring Site 5 with an existing government tenant willing to leaseback the current facilities with no additional improvements makes it the top priority. Site 4 is desirable for development but presents significant topographical challenges. Site 3 has potential for development if the property can be acquired at little or no cost and increases in priority if the USFS is interested in leasing the site. The remaining sites present conditional opportunities assuming a compatible use by third-party developers can be identified. The most likely of these is Site 6 which could be leased or developed for a solar farm, followed by Site 1 which has limited development potential outside of protected areas.

Nevada County Airport Land Use Evaluation

Background

Nevada County Airport (GOO) is a public use general aviation airport located 50 miles northeast of Sacramento California. The airport serves a vital role in the national air transportation system by providing aviation facilities and services in the communities of Nevada City and Grass Valley. In addition, the airport serves as an important base for the California Department of Forestry and Fire Protection (CAL FIRE), which is dedicated to resource management, firefighting, and fire prevention on millions of acres of California's privately-owned wildlands.

The airport encompasses approximately 117 acres of land in the City of Grass Valley. The airport is located atop hilly terrain west of the Tahoe National Forest which presents unique challenges for developing aviation facilities that generally require flat surfaces. It is surrounded by woodlands to the north, east and west, with several rural residential properties to the north and south. The southern boundary of the airport is largely developed with light industrial land uses.

Most of the airport property is already developed for aviation purposes; however, several areas at the airport are currently vacant. One site is vacant due to the relocation of Public Works Department facilities that were once located at the airport, while other sites are vacant because of steep slopes which have hindered development. These sites could be developed for either aeronautical or non-aeronautical land uses provided the sites are cleared of natural vegetation and are properly graded for the proposed uses.

In addition to the undeveloped areas on airport property, various parcels immediately adjacent to the airport may be available for acquisition in the future, which would offer additional opportunities to expand airport facilities. It is recommended that Nevada County acquire all privately owned hangars as they become available so the County can control all aviation assets on airport property and manage them as necessary to be consistent with airport land use goals. Furthermore, Nevada County may be able to acquire several existing privately-owned hangars from owners that have informed the Airport Manager they may sell their hangars in the future.

Airport management has requested an evaluation be conducted to determine the feasibility of developing various sites for either aeronautical or non-aeronautical land uses to meet demand and increase airport revenues. A total of six sites were identified as having potential for development. To prepare sites for development, they will require varying degrees of construction to remove trees and stumps, excavate existing ground, import fill dirt, and grade existing ground. In addition, FAA airspace surfaces present additional limitations to development. Due to the unique characteristics of each site, they are discussed separately in the report.

Site #1



Figure 1 - Site #1

Site Identification: Site #1 is legally described as Parcel 1 of Parcel Map Book 11, Page 227, also known as Assessor's Parcel Number 006-380-043.

Ownership: This site is not owned by Nevada County and acquisition would be required to use the land.

Site Description: The site is comprised of 1.26 acres of undeveloped land containing sparse trees and shrubs. The site is bounded on the north by an unimproved road (Grass Valley Avenue), on the west by an undeveloped private road (MacBoyle Drive), and on the south and east by private property owners.

Site Topography: Site topography across the property is relatively flat with grades averaging approximately 2.5%, which is flat enough for vehicles, but may need to be raised to a maximum of 2% in areas where ADA compliance needs to be considered. The site slopes from northeast to southwest with elevations along the east property line ranging between 3,015' MSL and 3,017' MSL and sloping downward to the southwest to an elevation of about 3,009' MSL. On the north edge of the property, site elevations slope from north to south with a high elevation of about 3019' MSL and sloping downward to 3011' MSL on the south edge. The site requires minimal earthwork to become developable and could suit many land uses.

Zoning: Site #1 is currently zoned "Light Industrial (M1)" combined with "Site Performance (SP)" requirements (M1-SP). This zoning district allows areas for the production, repairing, distribution, and warehousing of goods and equipment, along with supporting businesses.

Public Access: Vehicular access to the site is feasible, however would be limited because the portion of Grass Valley Avenue that connects to the site traverses the runway protection zone (RPZ) for Runway 7. The location of the road in the RPZ would restrict public access to the site and limit the heights of vehicles that use it. The County Assessor's Parcel Map indicates that a proposed 30' right-of-way may exist on the south property line which could provide an alternate access to the site. This potential access requires additional research to determine whether site accessibility would be available across other properties.

Airspace Evaluation: A portion of the site is located within the Runway 7 Threshold Siting Surface (TSS), Part 77 Approach Surface, Transitional Surface, and RPZ. The location of the site within and below these surfaces will limit the heights of potential buildings, while being located within the RPZ will limit most development. Although adjacent properties are also located within these FAA airspace surfaces and the RPZ, further development within the RPZ will likely be strongly discouraged by the FAA.

Utilities: The site is not currently served by utilities. Water and electrical utilities are assumed to be located along Grass Valley Ave. and can be extended to this parcel or utilities may be able to be extended from the neighboring properties, depending on the existing capacity and the future demand from this site.

Airfield Access: The site does not have taxiway access to the airfield and developing such access is impractical. Therefore, potential land uses would be limited to non-aeronautical land uses.

Development Potential: A large portion of the site is impacted by airspace surfaces and the RPZ which limits the development potential of the northern half of the site. The southern portion of the site is not constrained by these features and therefore has greater development potential for small low-profile structures such as mobile trailers, shops, warehouses, and small buildings. The vehicle access to the airfield provides reasonable utility for airport support facilities such as open storage, maintenance shops, equipment storage and other similar uses. Relocating some existing airport facilities to this location could free up existing land to be used for aeronautical purposes such as hangars and tie-downs which would add to airport revenues.

Because of the lack of public access, developing the site for non-aeronautical uses will be more difficult, unless the proposed 30' right-of-way shown on the County Assessor Plat Map is determined to be viable. This should be researched further to better understand the full development potential of the site.

Site Preparation Costs: Site preparation is not required to acquire this property. Several trees and shrubs are currently present that would need to be removed to make the entire site useable

for airport purposes. The cost to remove existing trees and shrubs at Site #1 is estimated to be \$11,000. This cost could be avoided if the site were to be leased and developed by a third party. In addition to tree removal, site grading and utility extensions will be required to accommodate future development. These site preparation costs should be transferred to a third party developer as part of their lease and project costs.

A secondary cost estimate was prepared to determine the cost to extend utilities, grade, and provide road access to make the entire site pad ready for third party development. This cost is estimated at \$573,000 and shown as Site #1A in the cost estimate.

Financial Analysis: Acquisition of the private parcel is estimated around \$415,800 at \$330,000 per acre with \$11,000 in site preparation costs for tree/shrub removal and an additional \$573,000 required to extend utilities, grade, and provide road access for aeronautical or non-aeronautical use. Leasing the property for third-party development could yield up to \$26,000 in Year 1 cash flow for a 7% IRR at \$1.50 / sq ft over a 40-year term with positive cash flow above \$0.50 / sq ft at 45-years if a compatible use can be found despite the significant airspace restrictions.

Recommendations: Acquisition of Site #1 is recommended since it is immediately adjacent to the airport property boundary and would serve as a buffer between adjacent property and would help prevent development of incompatible land uses. The site could be used by either Nevada County for airport needs or a request for proposal could be prepared to determine interest by third parties for non-aeronautical purposes.

Site #2



Figure 2 - Site #2

Site Identification: Site #2 is legally described as a portion of Lot 6 of the Loma Rica Industrial Park, also known as Assessor's Parcel Number 006-380-052.

Ownership: The site is currently owned by Nevada County. Ownership of Lot 6 is split between the Nevada County Airport and the Nevada County Public Works Department.

Site Description: Site #2 is an irregularly shaped parcel comprised of 10.73 acres, of which about 6.27 acres is partially developed on the north end with an FBO hangar and two corporate hangars, aircraft parking apron, and an access taxiway. The southern portion of the site is disturbed land that encompasses approximately 4.46 acres which was previously developed for Nevada County Public Works Department maintenance facilities. The maintenance facilities have since been removed and the land is mostly vacant and readily developable. The site contains several trees and shrubs that would need to be removed to make the entire site useable.

Site Topography: Site topography slopes across the property with elevations varying between 3,053' to 3,080 MSL. Site elevations rise on both the east and west ends of the property with a high elevation on the east end being 3,072' MSL and the elevation on the west end being 3,062' MSL. Site elevations vary from north to south between 3,055' and 3,067' MSL. The area south of the taxilane that connects Taxiway A to the FBO ramp requires only minimal earthwork to make it suitable for aeronautical use. However, the longitudinal slope of this taxilane (greater than 5%) exceeds FAA design standards and the side slope leading up to Taxiway A may not meet Safety Area or Object Free Area standards. Both of these items may restrict the size of aircraft that can use it. Bringing the entire area up to airport elevation would be extremely costly and would

require the use of retaining walls along the southern edge to maximize development area while protecting Loma Rica Drive.

Zoning: Site #2 is currently zoned “Public (P) combined with Site Performance requirements (P-SP). The P District provides for areas occupied by Federal, State and local government agencies, or by a private entity under contract, agreement or franchise with a governmental agency *if the use is a service or function normally provided by the agency* entering into a contract or agreement or issuing a franchise. The land use classification suggests that potential land uses need to be *a service, or function normally provided by the agency entering into a contract*. This requirement may limit possible land uses to aeronautical uses. It should be noted that rezoning the parcel may be feasible if desired.

Public Access: Vehicular access to the site is possible from two roads that border the site including: Nevada City Avenue on the east and Loma Rica Drive on the south. The site has ample public road access which makes the site appealing for a variety of land uses that require connection to public roads. Nevada County Assessor Plats show a third road, Airport Road, on the north however that road does not exist, and that portion of the parcel is developed as a taxiway which provides access to FBO Ramp 5.

Airspace Evaluation: The site is outside of all airspace surfaces that could potentially limit the height of buildings.

Utilities: Water and power services should already exist on this site from the buildings that are/were located here. Drainage may be a concern on this property if the entire site is paved as apron space for future hangar buildings. There is an existing outfall at the southwest corner of the property, but it may not be able to handle the additional runoff without overtopping Loma Rica Dr. Therefore, a detention basin may be required to control the runoff exiting the airport property. This detention basin can also assist with water quality since runoff from apron pavements often contains petroleum products and other pollutants from maintaining aircraft. Specific utility modifications will need to be determined during the design process once a specific development proposal is identified.

Airfield Access: The northern portion of the site is developed with an FBO hangar, FBO Ramp 5, two corporate hangars and an access taxilanes that connects to Taxiway A. The site also has excellent access to FBO Ramp 5, which could provide a connection to airfield taxiways provided access across the FBO lease area is possible. The existing lease with the FBO will need to be reviewed to determine whether passage across the site is allowed. If access is not immediately permitted, the lease could be re-negotiated as necessary to expand the lease boundary and allow access to the taxiway and airfield.

Development Potential: Because of the excellent access to both public roads and the FBO ramp, several options exist for leasing and developing the property for either aeronautical or non-aeronautical uses. However, given the zoning designation and the role of the airport, there are several reasons the site is suited better for aeronautical development. First, the current zoning designation requires that land uses be *a service or function normally provided by the agency*. Therefore, if non-aeronautical uses were desired, it may be necessary to rezone the parcel to M1 to allow Light Industrial uses.

More importantly, the airport has received several calls from pilots inquiring about the availability of hangars for lease, indicating strong hangar demand. Given the primary role of the Airport is to serve the national air transportation system, the guiding principle for recommended land uses should be to serve the aviation community. Significant prior investment in the airport has been made by both Nevada County and the FAA. If the southern portion of the parcel is acquired by the Airport, it is likely that significant pressure would exist to use the land for aeronautical purposes to address hangar demand. Given the potential for access to the airfield, preference for aeronautical land uses should be given.

The site could be developed for additional FBO hangars, individual corporate hangars, T-hangars or a combination of all three. Optimal use of the property would be one that provides the greatest benefit to the largest number of prospective tenants. It is assumed that lease rates would be the same for all aviation uses, and therefore the financial return to the airport would be the same for any aeronautical use. Development of the site could be accomplished through a request for proposal which would encourage third party investment and development, or the site could be developed by the Airport. Third party development would minimize management responsibilities for airport staff, whereas airport development of the site would provide greater control of the site.

Site Preparation Costs: The estimated cost to remove existing trees and shrubs and grade Site #2 for development is approximately \$40,000. This would make roughly 4.4 acres of land available for aviation development. This cost could be avoided if the site were to be leased and developed by a third party, thereby transferring the cost to that project. Costs of specific utility modifications would be included in the project costs once specific development is determined.

A secondary cost estimate was prepared to determine the additional cost to demolish the remaining building and asphalt to make the entire site pad ready for third party development if it were to be undertaken by Nevada County. This would increase the cost by about \$230,000 and is shown as Site #2A in the cost estimate. It is noted that these site preparation costs could also be transferred to a future tenant and made part of their project.

Financial Analysis: Site preparation costs are estimated at \$40,000 for tree/shrub removal and grading with another \$230,000 required to demolish existing structures to make the site 'pad ready'. This initial investment is recovered under all term and rent scenarios ranging from Year 1 cashflow of approximately \$49,000 generating \$1.2 M at \$0.25 / sq ft over a 20-year term (13% IRR) to Year 1 cashflow of nearly \$300,000 generating \$28.0 M at \$1.50 / sq ft over a 50-year term (107% IRR).

The Airport funding development of 87,000 sq ft in aeronautical facilities to maximize the highest and best use would require approximately \$11.2 M to build a 55,000 sq ft hangar for aeronautical businesses, two 7,000 sq ft and four 4,500 sq ft box hangars. This development would be cash flow positive with hangar rents over \$0.25 / sq ft monthly at a 40-year term with Year 1 cashflow up to \$735,000 on \$1.50 / sq ft monthly hangar rent for 50 years (29% IRR). An acceptable return is achieved with a 7% IRR at \$0.75 / sq ft monthly hangar rent over a 45-year term with positive cashflow beginning in Year 10. While the facility development has the potential to provide a healthy return, it also involves substantially more risk than preparing the site for third-party development. The funding to develop these facilities could be better invested in preparing other sites for additional development.

Recommendation: The evaluation suggests that Site #2 is readily developable considering the existing topography, land ownership, availability of utilities, cost to develop, and benefit to the airport. Site # 2 would yield the largest area of land that would be immediately useable thereby generating the largest revenue potential. The site would also provide the greatest aviation related benefits. To determine aeronautical interest in the site, a request for proposal should be prepared to determine the next steps. It is recommended that Nevada County lease this site for development by third parties. This will minimize the upfront capital costs required by Nevada County to develop aeronautical facilities and would also avoid ongoing maintenance and management costs.

Site #3



Figure 3 - Site #3

Site Identification: Site #3 is legally described as a Portion of the North 1/2 of the North 1/2 of Section 30 Township 16 North, Range 9 East, also known as Assessor's Parcel Number 006-380-068.

Ownership: Site #3 is currently not owned by Nevada County. Acquisition of the site would be necessary to be useful to the Airport.

Site Description: The site is a long irregularly shaped parcel that runs east and west and is adjacent to the northern airport property boundary. The site is comprised of 45 acres of undeveloped land which is heavily vegetated.

Site Topography: Site topography is complex with an irregular surface across the property that generally slopes from southeast to northwest. Based on the topo survey data from the ALP, the site slopes relatively mildly from south to north from approximately 3,115' to 3,080' and then slopes steeply from 3,080' to about 2,990'. Elevation differences throughout the site vary as much as 90 feet, whereas slopes can be as steep as 38 percent. The large elevation differences and steep slopes result in significant portions of the parcel being undevelopable. The east side of the parcel has the least variability in elevations and therefore has the greatest potential for development.

The high point of the site is approximately 55' higher in elevation than the runway and adjacent taxilane. Site topography on the east end of the parcel could be manipulated to suit development, however a mass grading study of the site would be necessary to better understand

the full potential for development. A mass grading study should be performed before actions are taken to acquire the site.

Zoning: Site #3 is currently zoned “Light Industrial (M1)” combined with “Site Performance (SP)” requirements (M1-SP). This zoning district provides areas for the production, repairing, distribution, and warehousing of goods and equipment, along with supporting businesses.

Public Access: According to the County Assessor’s Plat, the site does not have any established road right-of-way that would allow vehicular access to the site. The site is surrounded by private owners on the north, east and west boundaries and the airport on the south. Vehicular access to the site would most likely be available from airport owned property on the south although it might be possible to engineer a new road from the north and negotiate access with other property owners.

Airspace Evaluation: The parcel is outside of the Part 77 Primary Surface but portions of the site penetrate the Part 77 Transitional Surface. At existing grades, the Part 77 Transitional Surface restricts the placement and heights of buildings and aircraft, whereas any additional development would further penetrate Part 77 surfaces. This will likely impede potential development of the site. If elevations at the site could be manipulated to be similar to those of the adjacent taxilane, the site might be suitable for aircraft tiedowns, small hangars, or helicopter pads.

Utilities: Existing water and power are available along the eastern border of this parcel but would need to be extended to suit development. There is also an existing drainage channel and detention basin between the runway and the northern fence line and adjacent to the segmented circle. Sewer, gas, and communications are not readily accessible and would need to be extended to the site. The nearest utilities are located along the eastern edge of the site. Water and power service would need to be extended approximately 300 feet.

Airfield Access: The site has excellent potential for airfield access since the southern edge of the site is adjacent to an existing taxilane already developed on airport property.

Development Potential: The existing topography and densely forested features of the site make it undevelopable without significant preliminary site preparation efforts. Existing trees will need to be removed, and the site will need to be leveled to make it useable for aeronautical purposes. Site preparation will require tree removal, stump clearing, importing a significant amount of fill material, and site grading. Tree removal will be required over approximately 19 acres of the entire 45 acre site to clear enough area to import fill to properly grade the site. The remaining portions of the site have such extremely steep slopes that development is not feasible. Of the 19

acres that would be cleared, approximately 6.6 acres will be needed for embankment around the perimeter leaving about 12.4 acres of level land for development. Locating a potential borrow source for fill material could be a challenge. The fill material most likely will have to be environmentally cleared prior to any earth moving, which could cause significant delays. A preliminary grading study was performed to determine the extent of the site that could be made suitable for development.

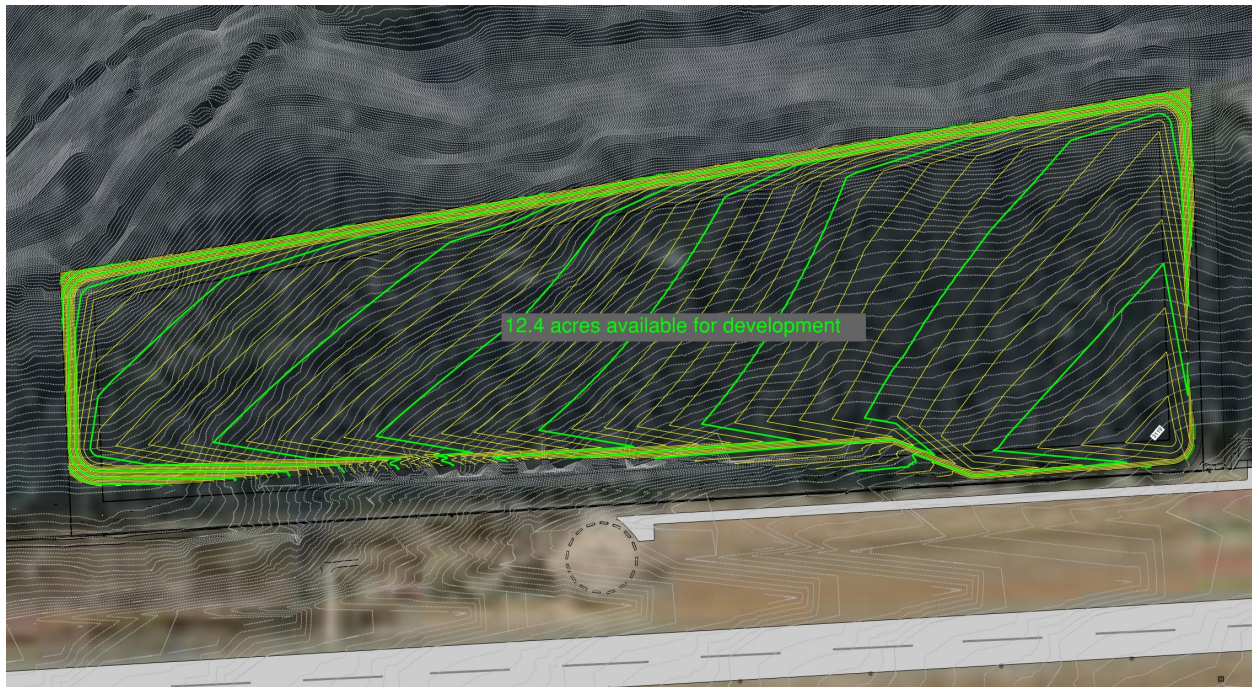


Figure 4 - Proposed grading plan Site #3

Tree harvesting by a local lumber mill is a viable option to offset the cost of site preparation. After trees are felled, removal could be negotiated with a local mill, whereby removal and transportation costs are offset by the value of the trees. To facilitate this program, Nevada County could release a request for proposal to solicit interest in harvesting the trees in cooperation with CAL FIRE and US Forest Service.

If the site were developed for helicopter operations, the segmented circle and wind-cone may need to be relocated for safety. The terrain between the runway and the new development may also need to be stabilized as a dust control measure to prevent FOD from being blown onto the runway.

Since a dedicated public right of way to the site does not currently exist, the site would be limited to aeronautical land uses unless Nevada County were to create vehicular access through airport property.

Site Preparation Costs: The cost to prepare Site #3 for development is estimated at \$20,222,000 if 19 acres of the site were to be prepared, yielding about 12.4 acres of useable land. If the site were to be utilized by the USFS and CAL FIRE this cost could be recouped through long-term land leases, Emergency Land Use Agreements, tie-down fees, and Use Permits.

Due to the immense cost of modifying the entire site at any one time, it is suggested that improvements be phased in over several years as demand occurs. This will reduce initial development costs and provide value in small increments until the site is fully developed. It is important to understand that development should only be pursued in response to specific demand from a prospective tenant, where cost sharing can be part of the negotiations. The estimated cost to improve the entire 19 acres averages about \$1,631,000 per acre. By phasing development of the entire site based on demand, the cost to improve the site in phases will be more reasonable and manageable. All cost estimates are based on known conditions. Future design efforts specific to proposed development will permit Nevada County to maximize the use while minimizing the cost based on the specific site design and tenant requirements.

Financial Analysis: Under the above assumptions, the project would not break even unless yielding \$1.25 / sq ft over 40 years. At best, the project could yield a 3% IRR over 50 years at \$1.50 / sq ft with positive cashflow in Year 11. A phased development preparing a smaller site for helicopter parking may reduce site costs, making the project financially viable. If site development costs can be kept below \$350,000 / acre, the project could achieve an acceptable 7% IRR at \$0.75 / sq ft over a 25-year term with Year 1 cashflow of approximately \$80,000 and be cash flow positive at \$0.25 / sq ft over 40 years.

Recommendation: The complex terrain and significant amount of earthwork required to prepare Site #3 for development suggests that the immediate development potential for the site is low. However, CAL FIRE and the US Forest Service have expressed interest in expanding their emergency response program to add helicopter operations in the future. To accommodate their anticipated change in mission, CAL FIRE and the US Forest Service have identified Site #3 as a prime location to base proposed helicopter operations. They have expressed interest in leasing Site #3 from Nevada County should the airport acquire the property. Consequently, acquisition of Site #3 is a necessary pre-requisite to support their plans. Therefore, it is recommended that Site #3 be acquired to support CAL FIRE and the US Forest Service mission. Acquisition of Site #3 is related to the plan to acquire Site #5 which is owned by the US Forest Service.

Site #3 is immediately adjacent to the airport property boundary and would serve as a buffer between the adjacent property and the airport, limiting the type of development that could occur on the property and minimize the development of incompatible land uses. Property acquisition would also preserve the site for future aeronautical development should funding be identified.

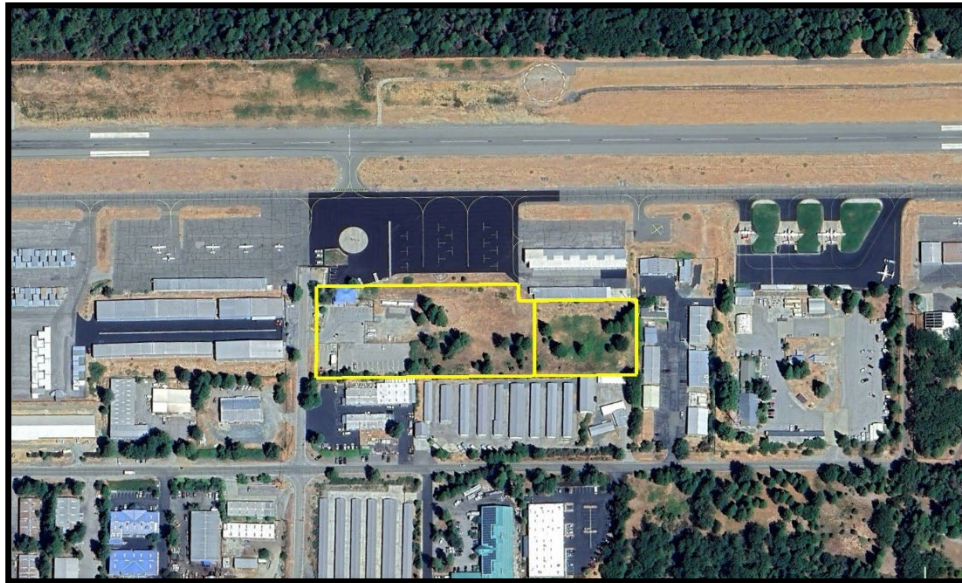
Site #4

Figure 5 - Site #4

Site Identification: Site #4 is composed of two separate parcels, the parcel legally described as Lot 3B of Loma Rick Industrial Park, also known as the eastern half of Assessor's Parcel Number 006-380-064 (3.15 acres), and the parcel legally described as Lot C, which is a portion of Lot 2 Loma Rica Industrial Park, also known as Assessor's Parcel Number 006-380-033 (1.3 acres).

Ownership: The two parcels are currently owned by Nevada County.

Site Description: The total area of both parcels is about 4.45, however only 3.5 acres of the site is currently undeveloped. The undeveloped area contains sparse trees and shrubs that will need to be removed before development could occur. The site is bounded on the north side by airport owned land developed with aircraft tie-downs and t-hangars, by private property owners on the south, airport owned property to the west, and a private property owner to the east.

Site Topography: Site topography slopes approximately 11 percent from north to south across the parcel with high elevations varying between 3,109' MSL and 3,106' MSL along the north property line and sloping downward to the southern site boundary line with elevations ranging between 3,080' MSL and 3,074' MSL. The total elevation difference at the site is about 30' from north to south. The topography varies between the east and west sides with a high elevation of about 3,100' MSL on the east side and an elevation of about 3,090' MSL on the west side.

Zoning: Site #4 is currently zoned "Public (P) combined with Site Performance requirements (P-SP). The P District provides for areas occupied by Federal, State and local government agencies, or by a private entity under contract, agreement or franchise with a governmental agency if the

use is a service or function normally provided by the agency entering into a contract or agreement or issuing a franchise. The land use classification suggests that potential land uses need to be *a service, or function normally provided by the agency entering into a contract*. This requirement may limit possible land uses to aeronautical uses. Rezoning the parcel may be feasible if desired.

Public Access: Vehicular access to the site is feasible through airport owned land on the west. The site is also accessible from the north for aeronautical activities. The significant variations in elevations will limit the types of development on the site. Site topography could be manipulated to suit various land uses; however, a mass grading study of the site is recommended to understand how grades could be modified to suit various land uses.

Airspace Evaluation: The site is outside of any airspace surface that would limit the type of development that could occur on the site. The site is below the Part 77 Transitional Surface and building heights would need to be planned to prevent penetration of this surface.

Utilities: Utilities are accessible from adjacent sites and require short extensions to serve the site.

Airfield Access: The site is accessible from the north for aeronautical land uses.

Development Potential: Development opportunities for the site are constrained by existing site topography. Because this site borders properties that are 20-30' below the adjacent apron, it is likely cost prohibitive to bring in fill material to make it usable for aeronautical purposes. It would require approximately 43,000 cy of fill material and the use of retaining walls to connect to adjacent aprons and taxiway and account for the elevation differences at the south, west and east borders. For helicopters to land and depart from this area, a hover-taxi route would need to be identified from the runway to site, or a dedicated heliport would need to be constructed, which could be feasible. Heliport approach and departure surfaces have a slope of 8:1 for a distance of 4,000' in the direction of takeoff and landing, which normally parallels the runway direction. The existing structures to the east and west of this parcel appear to be well below these surfaces, depending on where the heliport would be placed within the parcel. Although aeronautical uses for helicopters on the site may be possible, surrounding buildings may impact approach and departure surfaces whereas helicopter noise and rotor wash issues could pose concerns for adjacent property owners. An airspace design for helipads should be conducted to confirm whether helipads would be feasible or even recommended.

Non-aeronautical land uses seem to be more realistic for this parcel. Preparing the site for non-aeronautical use will still require some significant cuts to level out the area and tie into the access to the west. Approximately 31,000 cy of earthwork would be needed to cut, fill, and grade the site. Retaining walls will most likely be required to hold fill in place depending on the site design.

Portions of the site at lower elevations could be graded to create relatively flat pads that could be developed for non-aeronautical land uses such as offices, warehouses, shops, storage units and other light industrial uses. A conceptual grading plan was developed that indicates approximately 2 acres of the site would be available for development. The remaining portions of the site will be required for embankment and retaining walls.

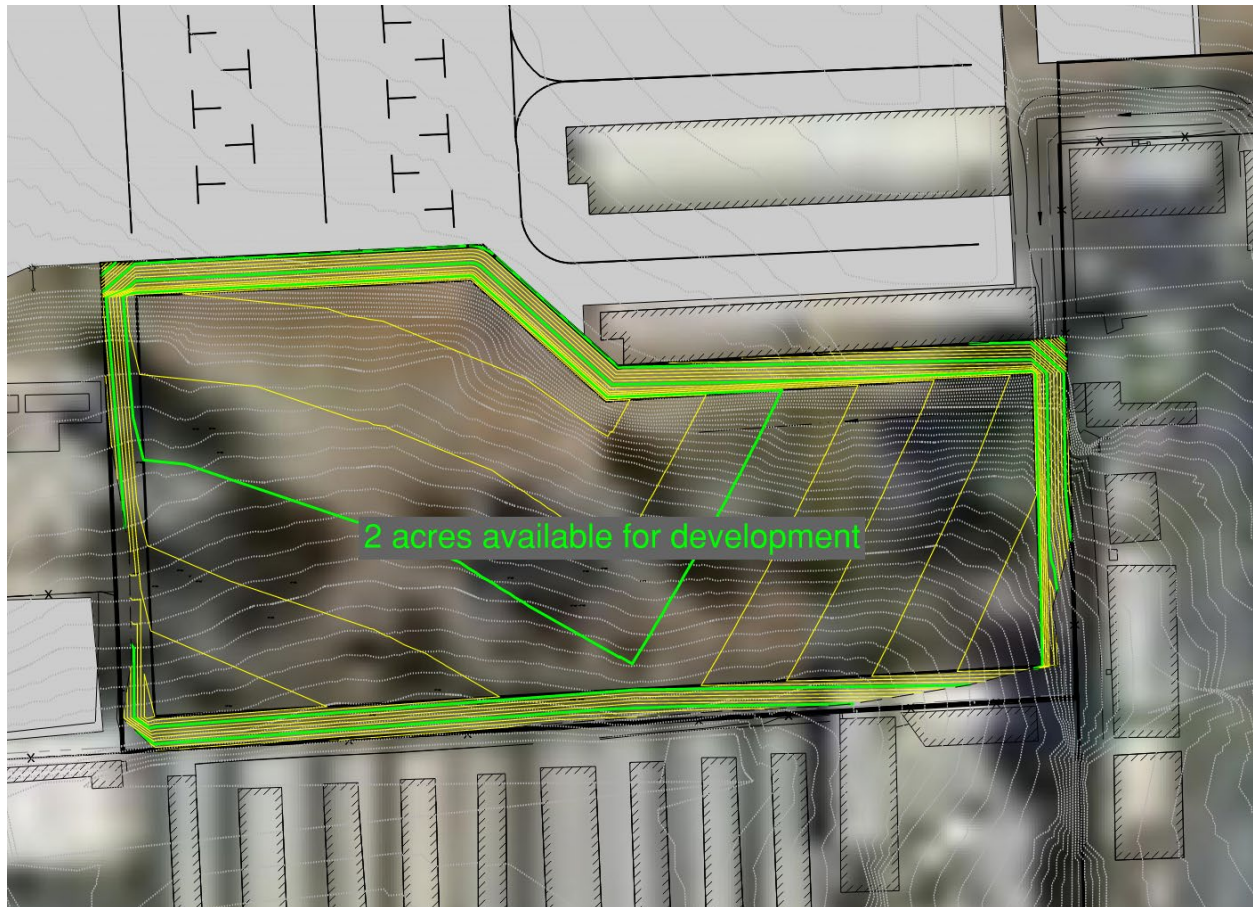


Figure 6 - Proposed grading plan Site #4

Site Preparation Costs: The estimated cost to prepare Site #4 for development is approximately \$2,000,000. This would yield approximately 2 acres of useable land for non-aeronautical uses.

Financial Analysis: The site is cash flow positive at \$1.00 / sq ft over a 30-year term, generating up to \$32,000 in Year 1 cashflow at \$1.50 / sq ft over a 50-year term (6% IRR).

Recommendation: The complex terrain and significant earthwork required to prepare Site #4 for development suggests that aeronautical uses may not be preferred, whereas non-aeronautical land uses may be more feasible. A heliport/pad study is recommended if aeronautical uses (e.g. helicopters) are preferred. A site preparation design is recommended to determine the specific actions needed to prepare the site for development prior to releasing a request for proposal.

Site #5

Figure 7 - Site #5

Site Identification: Site #5 is legally described as Lot 1 of the Loma Rica Industrial Park, also known as Assessor's Parcel Number 006-380-011.

Ownership: Site #5 is privately owned by the US Forest Service. California Department of Forestry and Fire Protection (CAL FIRE) uses the site through a Memorandum of Understanding (MOU) with USFS. The USFS is open to discussions with Nevada County regarding the potential sale of this site, should it align with the agency's goals for expansion.

Site Description: The site is comprised of 7.27 acres of developed land that includes aircraft parking apron, taxilanes, multiple buildings, vehicle parking, and supporting infrastructure. Small portions of the parcel are undeveloped but surrounded by other buildings and related development. Aeronautical land uses are concentrated on the northern end of the parcel which is adjacent to Taxiway A whereas non-aeronautical land uses are focused on the southern portion of the parcel which is adjacent to Loma Rica Drive.

Zoning: Site #5 is currently zoned "Light Industrial (M1)" combined with "Site Performance (SP)" requirements (M1-SP). This zoning district provides areas for the production, repairing, distribution, and warehousing of goods and equipment, along with supporting businesses.

Public Access: Vehicular access to the site is readily available from Loma Rica Drive on the south.

Site Topography: Site topography generally slopes from northeast to southwest across the property with higher elevations along the north property line ranging between 3,124' and 3,138'.

MSL and sloping downward to the southwest to elevations ranging between 3,102' MSL to 3,127' MSL at the south property line. The topography along the northern portion of the site is relatively flat and at the airport elevation which readily accommodates aeronautical land uses. The site has a grade break of about ten percent between the northern and southern portions of the property and then continues to slope southward toward Loma Rica Drive. The site has numerous buildings, and paved vehicle parking lots which complicates the ability to manipulate site topography without their removal. The southern area is ready for any non-aeronautical use, but would require approximately 39,000cy of fill if it were to be brought up to the airport elevation for aeronautical use.

Airspace Evaluation: The site is outside of any airspace surface that would limit the type of development that could occur on the site. The site is below the Part 77 Transitional Surface and building heights would need to be planned to prevent penetration of this surface.

Utilities: The site is already served by numerous utilities.

Airfield Access: The site is immediately contiguous to Taxiway A, providing ideal airfield access.

Development Potential: The site is already developed with aircraft parking aprons and taxi-lanes along the northern portion of the parcel, while various structures and pavement exist to the south. The site has excellent development potential for both aeronautical and non-aeronautical land uses. Aeronautical land uses are proposed to be concentrated along the northern portion of the property where grades are already at the airfield elevation and access to the airfield is already available. Additional non-aeronautical land uses could be developed on the southern portion of the property where the property has a steep slope, and existing non-aeronautical development already exists.

The USFS is open to discussions with Nevada County regarding the potential sale of this site, should it align with the agency's goals for expansion. Regardless of the potential sale of the property, the USFS and CAL FIRE have stated they intend to remain at the site to continue growing their emergency response capacity. Both agencies prefer the site due to its highly effective location for aerial firefighting and because the Interagency Emergency Command Dispatch Center is also located at this site. The proposed changes would involve leasing Site #5 in the future and developing additional helicopter parking sites at Site #3. Facilities at Site #5 would continue to be used for USFS and CAL FIRE operations, and additional interagency facilities would be developed in the future as their mission matures.

Site #5 could be developed for additional hangars if desired in the long term, although this is an alternate plan only if the USFS and CAL FIRE ever vacate the site. It would be possible to raise the

southern portion of the site to the airfield elevation, although this would require removal of existing buildings and asphalt and importing about 39,000 CY of imported fill. This is not recommended as it would require the removal of existing buildings that are used by the USFS and CAL FIRE as part of their operation.

Site Preparation Costs: Site #5 is currently fully developed, and no site preparation costs are required to continue using the site in its current manner. However, additional improvements could be made to enhance the utility of the site if desired. Existing trees and shrubs could be removed, and the site could be cleared and grubbed at the north end to make about 1.5 acres of land available for storage or other non-aeronautical uses. The cost for these site improvements would be approximately \$6,600.

Since this site is already developed with light industrial buildings, it is proposed that the existing buildings remain in place until they reach the end of their useful life. The existing facilities would continue to be used by CAL FIRE and U.S. Forest Service as part of their emergency service base.

A secondary cost estimate was prepared to determine the additional cost to remove existing development and raise the entire site to the airfield elevation to allow development of additional hangars if it were desired by Nevada County. This would increase improvement costs by \$3,351,000 and is shown as Site #5A in the cost estimate. This is not recommended as the existing buildings are being used and provide value.

Financial Analysis: At an acquisition cost of \$2.4M, the site is cash flow positive at \$0.25 / sq ft over 40 years with a Year 1 cashflow up to \$365,000 at \$1.50 / sq ft over 50 years (18% IRR). An acceptable return of 7% IRR is achieved at \$0.75 / sq ft over a 30-year term with a Year 1 cashflow of \$243,000. The cost to remove vegetation and grade 1.5 acres of undeveloped land on this site is estimated at \$6,600 with another \$3,351,000 required to demolish existing structures if the Airport desired to pursue a redevelopment of the entire site. However, this options would only yield a maximum IRR of 7% after the additional investment.

Recommendation: Site #5 is proposed for acquisition when it becomes available since it is already developed with existing aeronautical and non-aeronautical land uses that generate revenue. The revenue produced from the existing land uses will likely continue and would help offset acquisition costs over time. The site can accommodate additional non-aeronautical development on the southern portion that would further support CAL FIRE and U.S. Forest Service operations thereby generating additional revenue. The northern portion of the site can be expanded slightly for additional aeronautical uses if desired.

If the property were to be acquired, any additional development would contribute further to the revenue that is already being generated by the site. CAL FIRE and the US Forest Service have already expressed a need for additional facilities which could then be developed and leased back to them, further increasing airport revenues. Demolition of existing buildings, above ground storage tanks and other facilities over time could open this entire site to potential development. The existing pavement, both on the aeronautical and non-aeronautical sides may need to be removed to accommodate new development, but the cost of removing and replacing any pavement would be a part of the cost of future development if it were to occur.

Site #6

Figure 8 - Site #6

Site Identification: Site #6 is identified as the eastern portion of the parcel legally described as a Portion of the North ½ Section 29, Township 16 North, Range 9 East, also known as Assessor's Parcel Number 006-401-003.

Ownership: The site is owned by Nevada County and is part of the primary airport property.

Site Description: Site #6 is an irregularly shaped piece of land encompassing about 14 acres located on the eastern end of a larger 51.46-acre parcel. The site is bounded on the north and east by multiple private property owners, on the west by Cascade Canal, and on the south by Uba Reservoir. The site is undeveloped and is approximately 80% vegetated with trees and shrubs.

Zoning: Site #6 is currently zoned "Public (P) combined with Site Performance requirements (P-SP). The P District provides for areas occupied by Federal, State and local government agencies, or by a private entity under contract, agreement or franchise with a governmental agency if the use is a service or function normally provided by the agency entering into a contract or agreement or issuing a franchise. The land use classification suggests that potential land uses need to be *a service, or function normally provided by the agency entering into a contract.*

Public Access: Vehicular access to the site is possible from the south via the Airport Access Road, although access on this road would need to be restricted to airport vehicles because the road traverses the Runway 25 runway protection zone (RPZ). Alternate access to the site is possible from the east via Lee Lane which could make the site accessible for non-aeronautical development.

Site Topography: A preliminary grading analysis was performed and determined that the site slopes dramatically from north to south, varying between 3,200' to 3,180'. Therefore, the site would need to be leveled to accommodate any development. Ideally, the earthwork would be balanced on this site to reduce the amount of excavated material hauled off or fill material imported. Choosing an elevation roughly in the middle (approximately 3,190'), would place the developable area approximately 33' above the Runway 25 end. With an approach slope of 20:1, potential structures could be from 35' tall on the west end to about 90' tall on the east end.

Airspace Evaluation: A portion of the site is located within the Runway 25 Threshold Siting Surface (TSS), Part 77 Approach Surface, and Departure Surface. The location of the site below these surfaces will limit the heights of potential buildings and expose potential development to aircraft overflight noise.

Utilities: The site is not currently served by utilities, although there may be existing utilities that could be extended from the treatment plant to the south or from Lee Lane to the east.

Airfield Access: The site does not have airfield access and developing such access is impractical. Therefore, potential land uses are limited to non-aeronautical land uses.

Development Potential: The site is directly below the approach and departure surfaces of Runway 7-25 which will limit the height of potential structures. Site access will most likely be restricted to airport vehicles and result in potential noise impacts. Land uses should be limited to uses that are not sensitive to noise.

The site is not readily developable without preliminary site preparation to clear trees and shrubs, and grade the site. Existing site topography limits the development potential of the entire site and will require site grading to increase the area available for development. A proposed grading plan was prepared that would balance the amount of cut and fill required at the site. Approximately 6.5 acres of the site will need to be cleared and graded making about 5 acres of the site suitable for development and requiring 1.5 acres of the site for embankment. All cut and fill material would remain on site.

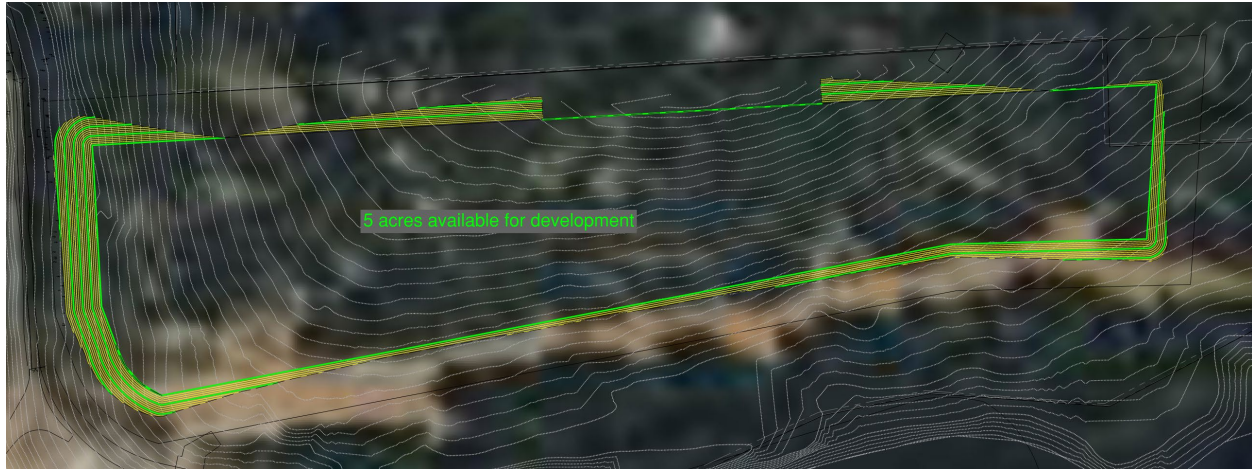


Figure 9 - Proposed grading plan Site #6

Previous proposals to develop the area for a solar farm have been considered, and may be feasible, provided a glare analysis is performed to ensure it will not create a safety issue for pilots. If a solar farm is not feasible, many other light industrial land uses would be acceptable.

Site Preparation Costs: The estimated cost to prepare Site #6 for development is approximately \$1,786,000. This would yield about 5 acres of usable land.

Financial Analysis: This investment could be cash flow positive at \$0.25 / sq ft over a 40-year term with an acceptable return of 7% IRR achieved at \$0.75 / sq ft over a 35-year term with approximately \$54,000 in Year 1 cashflow.

Recommendation: Site #6 has significant development potential since it is vacant and already owned by the County. The site could be used by either Nevada County for airport needs or a request for proposal could be released to determine interest by third parties to lease the land for non-aeronautical uses. Before expending any County/Airport funds on site preparation design and construction, it is recommended that a request for proposals be prepared and released to determine the level of interest by third parties to lease and develop the site. This would help ensure that site development actions are consistent with the needs of a third party developer.



Appendix: Cost Estimates



ENGINEER'S OPINION OF PROBABLE PROJECT COST

NEVADA COUNTY AIRPORT
GRASS VALLEY, CA
REVENUE SUSTAINABILITY AND FUTURE DEVELOPMENT PLAN

AX3001001

1/7/2025

SITE #1

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	0.5	\$10,000.00	\$4,800
2	CLEARING & GRUBBING	ACRE	1.5	\$3,000.00	\$4,500
	SUBTOTAL CONSTRUCTION COST				\$9,000
	CONTINGENCY (20%)				\$2,000
TOTAL PROJECT COST					\$11,000

SITE #1A

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	EARTHWORK (IMPORT MATERIAL)	CY	4,700	\$50.00	\$235,000
2	ROAD ACCESS (12' WIDE PAVED)	LF	500	\$135.00	\$67,500
3	WATER SERVICE (4" DIAMETER)	LF	500	\$250.00	\$125,000
4	POWER SERVICE	LF	500	\$100.00	\$50,000
	SUBTOTAL CONSTRUCTION COST				\$477,500
	CONTINGENCY (20%)				\$95,500
TOTAL PROJECT COST					\$573,000

SITE #2

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	1.0	\$10,000.00	\$10,000
2	CLEARING & GRUBBING	ACRE	5.0	\$3,000.00	\$15,000
	SUBTOTAL CONSTRUCTION COST				\$30,000
	CONTINGENCY (20%)				\$10,000
TOTAL PROJECT COST					\$40,000

SITE #2A

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	DEMOLITION (EXISTING ASPHALT)	SY	3,000	\$25.00	\$75,000
2	DEMOLITION (EXISTING STRUCTURES)	SF	5,500	\$20.00	\$110,000
	SUBTOTAL CONSTRUCTION COST				\$190,000
	CONTINGENCY (20%)				\$40,000
TOTAL PROJECT COST					\$230,000



ENGINEER'S OPINION OF PROBABLE PROJECT COST

NEVADA COUNTY AIRPORT
GRASS VALLEY, CA
REVENUE SUSTAINABILITY AND FUTURE DEVELOPMENT PLAN

AX3001001

1/7/2025

SITE #3

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	19	\$10,000.00	\$190,000
2	CLEARING & GRUBBING	ACRE	19	\$3,000.00	\$57,000
3	EARTHWORK	CY	330,000	\$50.00	\$16,500,000
4	WATER SERVICE (4" DIAMETER)	LF	300	\$250.00	\$75,000
5	POWER SERVICE	LF	300	\$100.00	\$30,000
SUBTOTAL CONSTRUCTION COST					\$16,852,000
CONTINGENCY (20%)					\$3,370,000
TOTAL PROJECT COST					\$20,222,000

SITE #4

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	1	\$10,000.00	\$5,000
2	CLEARING & GRUBBING	ACRE	3.5	\$2,000.00	\$7,000
3	EARTHWORK (EXPORT MATERIAL)	CY	31,000	\$50.00	\$1,550,000
4	WATER SERVICE (4" DIAMETER)	LF	300	\$250.00	\$75,000
5	POWER SERVICE	LF	300	\$100.00	\$30,000
SUBTOTAL CONSTRUCTION COST					\$1,667,000
CONTINGENCY (20%)					\$333,000
TOTAL PROJECT COST					\$2,000,000



ENGINEER'S OPINION OF PROBABLE PROJECT COST

NEVADA COUNTY AIRPORT
GRASS VALLEY, CA
REVENUE SUSTAINABILITY AND FUTURE DEVELOPMENT PLAN

AX3001001

1/7/2025

SITE #5

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	0.25	\$10,000.00	\$2,500
2	CLEARING & GRUBBING	ACRE	1.50	\$2,000.00	\$3,000
	SUBTOTAL CONSTRUCTION COST				\$5,500
	CONTINGENCY (20%)				\$1,100
TOTAL PROJECT COST					\$6,600

SITE #5A

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	EARTHWORK (IMPORT MATERIAL)	CY	39,000	\$50.00	\$1,950,000
2	DEMOLITION (EXISTING NON-AERONAUTICAL ASPHALT)	SY	10,700	\$25.00	\$267,500
3	DEMOLITION (EXISTING STRUCTURES)	SF	25,000	\$20.00	\$500,000
4	RETAINING WALL (5' HIGH)	LF	500	\$150.00	\$75,000
	SUBTOTAL CONSTRUCTION COST				\$2,792,500
	CONTINGENCY (20%)				\$558,500
TOTAL PROJECT COST					\$3,351,000

SITE #6

ITEM NO.	WORK ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	TREE REMOVAL	ACRE	6.50	\$10,000.00	\$65,000
2	CLEARING & GRUBBING	ACRE	6.50	\$2,000.00	\$13,000
3	EARTHWORK	CY	27,000	\$50.00	\$1,350,000
4	POWER SERVICE	LF	600	\$100.00	\$60,000
	SUBTOTAL CONSTRUCTION COST				\$1,488,000
	CONTINGENCY (20%)				\$298,000
TOTAL PROJECT COST					\$1,786,000