



VAIL VALLEY MEDICAL CENTER EAST WING CONDITIONAL USE PERMIT



May 2017

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TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	OVERVIEW of VVMC and the VAIL VALLEY MEDICAL CENTER SITE SPECIFIC REDEVELOPMENT MASTER PLAN	3
III.	PROJECT SITE CONDITIONS	7
IV.	DESCRIPTION OF PROJECT	9
V.	CONFORMANCE WITH APPLICABLE REVIEW CRITERIA	30
VI.	APPENDIX	31

APPENDIX

East Wing Parking Demand Calculations
Examples of Automated Weather Observing System (AWOS)
Examples of helipad windsocks
Examples of helipad lighting
Draft Facility and Training Manual for Helipad
Draft Letter of Agreement with Helicopter Air Ambulance Providers
Development Standard Diagrams

VAIL VALLEY MEDICAL CENTER
East Wing Conditional Use Permit Application
May 2017

I. INTRODUCTION TO PROJECT

The purpose of this report is to describe the proposed re-development of the East Wing of the Vail Valley Medical Center. Information provided herein has been prepared in accordance with requirements of the Town of Vail development review process. This application has been submitted on behalf of the Vail Valley Medical Center.

The East Wing redevelopment involves the demolition of approximately 34,735 gross square feet of medical and related space and the existing east parking structure. In its place, approximately 110,225 net new square feet of new medical and related space and a new parking structure will be developed. The East Wing represents the final phase of construction in the redevelopment and expansion of VVMC as described in the Vail Valley Medical Center Site Specific Redevelopment Master Plan (VVMC MP).

This narrative provides a description of the proposed project and accompanies a comprehensive plan set prepared by Davis Partnership Architects that has been submitted as part of this Conditional Use Permit (CUP) application. In addition, re-zoning and subdivision applications associated with the project have been submitted. The re-zoning and subdivision applications address land VVMC will be acquiring via a land exchange with the Evergreen Lodge and is discussed below in Section III. Project Site Conditions.

This report includes the following sections:

- I. Introduction to Project
- II. Overview of VVMC and the VVMC MP
- III. Project Site Conditions
- IV. Description of Project
- V. Conformance with Applicable CUP Review Criteria
- VI. Appendix

The majority of the VVMC campus is currently zoned General Use (GU) and upon approval of pending re-zoning requests the entire campus will be re-zoned GU (with the exception of the Medical Professional Building which is zoned SDD). Land uses proposed for the East Wing require approval of a CUP for “Healthcare facilities” and “Heliport for emergency and/or community use” (note that the heliport use is proposed exclusively for emergency use).

Below is a diagrammatic site plan of the VVMC campus after redevelopment of the East Wing. More detailed design drawings of the East Wing are provided in the plan set.



Diagrammatic site plan of VVMC campus following completion of the VVMC/Evergreen Lodge land exchange and the East Wing redevelopment.

II. OVERVIEW of VVMC and the VAIL VALLEY MEDICAL CENTER SITE SPECIFIC REDEVELOPMENT MASTER PLAN

Since its establishment in 1965, Vail Valley Medical Center (VVMC) has grown into one of the world's most advanced mountain hospitals, providing Olympic-quality sports medicine, leading evidence-based research, modern cancer care and extensive cardiology capabilities. Today, VVMC is comprised of several healthcare campuses located throughout Eagle County and provides healthcare services to both residents and visitors of the Rocky Mountain region of Colorado. VVMC's Vail campus provides an essential service to the Vail community and the surrounding region.

While the medical care and services provided by VVMC are outstanding, the hospital's infrastructure is due for modernization. In response, VVMC initiated a comprehensive redevelopment plan in 2015. The first phase of construction involved expansion of the West Wing. The East Wing represents the final phase of these redevelopment plans, the purpose of which is to update facilities to meet the needs of modern medicine and to ensure the facility provides medical staff with the resources necessary to offer the utmost in quality health care.

Economic Impact of VVMC

VVMC has grown into a major economic driver in Vail and Eagle County, helping to diversify and balance an otherwise highly seasonal economy. With more than 850 employees, VVMC is the second largest employer in Eagle County. This consideration alone has a very significant economic impact throughout the community. As documented by two studies, VVMC and its partners who practice at the Vail Campus have a direct economic impact to Vail.

A Vail Valley Medical Center Economic Impact Analysis was completed by BBC Research and Consulting in 2009. The direct annual economic impact of VVMC-related spending in Vail was over \$5 million, which included retail and restaurant spending by employees, employee-residents, patients and their families. This report identified other notable benefits of VVMC beyond direct economic stimulation. Foremost among these benefits is that the high-quality healthcare being provided by VVMC gives Vail and Eagle County a competitive marketing advantage over other mountain communities.

In April of 2010, BBC Research and Consulting completed an Economic Impact of The Steadman Clinic and the Steadman Philippon Research Institute (SPRI) on the Town of Vail. Operations of the Clinic and Institute generate over \$25 million annually to businesses in the Town of Vail.

VVMC, the Steadman Clinic and Institute have a direct economic impact of more than \$30 million annually. This is in addition to the annual on-site economic activity at VVMC. Most of this economic activity is from the large number of "destination patients" drawn to Vail by the Steadman Clinic. In 2009 the Clinic served 10,500 patients. 4,600 of these patients involved surgeries, of which nearly 3,000 were

destination patients. On average these patients made three trips to Vail, brought 2.25 people and stayed 4 days, equating to over 80,000 visitor nights in local lodging properties. Spending on lodging, meals and retail from these visitors represent a significant portion of the Town of Vail economic activity generated by The Steadman Clinic and Institute.

It is fully expected that the redevelopment and expansion of the Vail campus will further VVMC's economic impact on the community.

Implementation of VVMC's Redevelopment and Expansion Plans

A major consideration in the design and planning of VVMC's redevelopment and expansion is to ensure that all health care and other operation of the hospital continue during construction. This was the main reason why redevelopment of VVMC started with construction of the West Wing. Development of the West Wing will create new space to allow for the consolidation and/or relocation of existing uses in the Central and East Wings. This is a critical consideration in that all existing uses in the East Wing will need to be relocated elsewhere on the campus to allow its demolition and reconstruction.

VVMC successfully maintained health care services and other operations during construction of the West Wing expansion. This effort involved a precise level of coordination given the project involved an addition to an existing building that accommodates a number of sensitive medical services, most notably patient care rooms and surgery rooms. While the East Wing will involve the construction of a new building, many logistical challenges will be involved. Foremost among these will be managing access to the hospital and parking after the removal of +/-207 parking spaces in the east structure. Plans for managing parking and access to the campus during East Wing construction are under development and will be presented during the PEC review process.

Vail Valley Medical Center Site Specific Redevelopment Master Plan

The Vail Valley Medical Center Site Specific Redevelopment Master Plan (VVMC MP) was approved by the Town of Vail in March of 2015 and provides general direction for how VVMC will redevelop in the future. It was prepared with extensive input from physicians and staff, neighbors, the community at large, review boards and Town of Vail staff. The VVMC MP addresses a multitude of operational, clinical, and technical requirements specific to the campus and identifies important neighborhood and community goals to be addressed in the redevelopment of the campus.

The VVMC MP established expectations for community-oriented improvements to be included in future expansion plans and these expectations have been a major factor in the design of the proposed East Wing. Improvements from the VVMC MP that are proposed by the East Wing are highlighted throughout this report.

Major goals of the VVMC MP that are being implemented by the East Wing include:

Land Exchange with Evergreen Lodge

A Letter of Intent between VVMC and the Evergreen Lodge has been completed and final land exchange agreements between these parties are near completion. Land to be acquired by VVMC along the South Frontage Road will allow for additional space and flexibility to accommodate the heliport building and the new entry to the campus.

Re-locate VVMC's main access to South Frontage Road

A new main access to the campus will be established at the South Frontage Road. This access will accommodate emergency vehicles, patient and employee traffic, resulting in a dramatic reduction to traffic on West Meadow Drive.

On-site Heliport

The existing off-site heliport will be relocated to an on-site location with direct connectivity to the Emergency Department.

Parking

On-site parking will be substantially increased with the re-construction of the Ease Wing parking structure.

Enclosed Loading/Delivery Facility

Loading and delivery operations will be re-located to an interior facility accessed via West Meadow Drive.

North/South Pedestrian Connection

A north/south pedestrian corridor will be established along the eastern side of the campus.

Operational Efficiencies

The VVMC MP includes a primary goal and objective for the redevelopment of VVMC to improve operational efficiencies. At the most basic level, this redevelopment and expansion to the East Wing will provide extraordinary enhancements to the operation, efficiencies and overall health care provided by VVMC.

Unforeseen Need

To create a flexible framework to accommodate future unforeseen changes.

The diagram on the following page conceptually depicts the East Wing in context with rest of the VVMC campus and some of the major community improvements as defined by the VVMC MP.

More specific descriptions of each of the improvements above are provided in Section IV. Project Description.



Conceptual plan of East Wing highlighting major features of expansion that address VVMC MP goals.

III. PROJECT SITE CONDITIONS

VVMC is located on four parcels of land that currently total 4.59 acres. With approval of the subdivision of Lot 2E-1 the total size of the VVMC site will increase to 4.82 acres (see diagram on following page). The site is bordered on the north by South Frontage Road and the Evergreen Lodge and on the south by West Meadow Drive. Residential condominiums border the site on the east and the Middle Creek corridor borders on the west.

Currently vehicular access to VVMC is provided by South Frontage Road and West Meadow Drive. This condition will change with completion of the East Wing, at which time patient, guest, emergency vehicles and employee traffic will access the campus via South Frontage Road. Site access is described in greater detail in Section IV. Project Description.

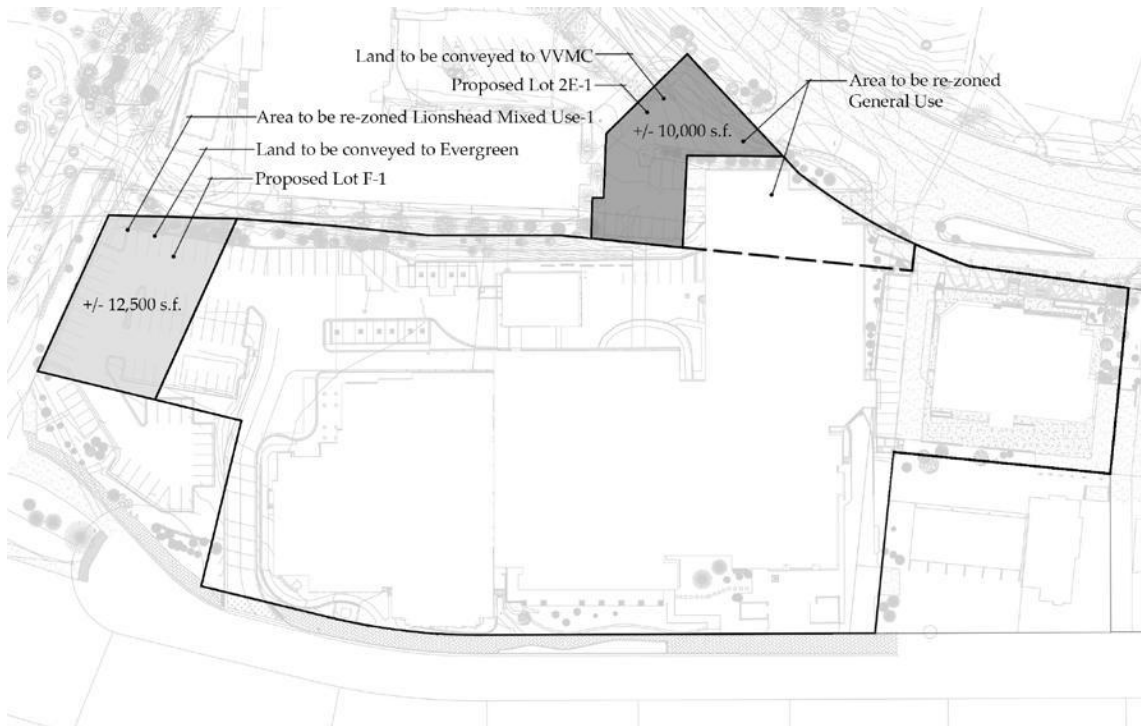
The majority of the campus is currently zoned General Use (GU). Exceptions include the Medical Professional Building (formerly known as the US Bank Building) that is zoned SDD and an approximately 10,000sf parcel that was purchased from the Evergreen Lodge in 2014. This parcel includes a portion of VVMC's existing east parking structure that is currently zoned Lionshead Mixed Use. An application to rezone this land to GU has been submitted to the Town.

Land Exchange with Evergreen Lodge

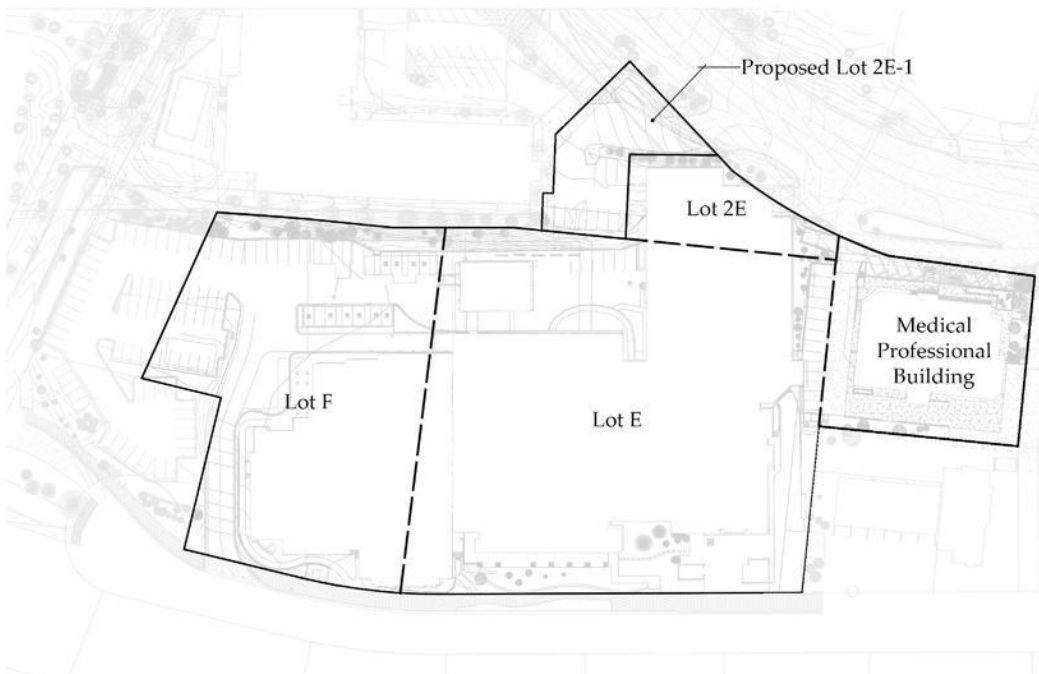
VVMC and the Evergreen Lodge have executed a Letter of Intent (LOI) for a land exchange that involves, among other things, the two parties exchanging parcels of land. The Evergreen Lodge will obtain approximately 12,500sf of land at the western end of VVMC's campus. This land is currently used for surface parking. VVMC will acquire approximately 10,000sf of land at the eastern end of the Evergreen Lodge. This additional land will be utilized by VVMC in the design of the new main entry to the campus and the new heliport building and Emergency Department.

The diagram on the following page depicts the land exchange to be completed between these two parties. Applications for the subdivision and re-zoning of these two parcels have been submitted to the Town. Land to be acquired by the Evergreen Lodge will be re-zoned to the Lionshead Mixed Use zone district and land to be acquired by VVMC will be re-zoned to General Use. It is VVMC's intention to have the subdivision and re-zoning applications reviewed prior to final approval of this CUP application.

In accordance with the definition of "site" in the Town zoning code, a site "may consist of a single lot of record, a portion of a lot of record, a combination of lots of record or portions thereof . . .". For the purposes of this CUP application, the VVMC "site" consists of the land depicted on the diagram on the following page.



The diagram above depicts the VVMC/Evergreen Lodge land exchange and subdivisions/re-zonings that have been proposed.



The diagram above depicts the 4.82 acre" site" for the VVMC CUP. The VVMC site is comprised of five separate parcels.

IV. DESCRIPTION OF PROJECT

Below is a summary of the proposed East Wing redevelopment and detailed discussion of some of the more significant elements of the project. The project's conformance with applicable CUP review criteria is found in Section V. of this report. Proposed uses in the East Wing that require approval of a CUP include:

- Healthcare facilities, and
- Heliport for emergency and/or community use

Note that the proposed heliport is exclusively for emergency use.

Overview of East Wing Redevelopment

The East Wing currently consists of +/-34,715 gross square footage of medical and related uses and 207 structured parking spaces. Medical and other uses are located in buildings that date back to the 1960's. Existing uses in the East Wing include the Steadman Phillippon Research Institute, IT, Environmental Services, meeting rooms, Imaging, Administration, Mountain Surgical Associates, In-Patient Pharmacy, and a variety of small VVMC departments (e.g. public safety, materials management, patient relations, and property management).

The redevelopment of the East Wing will involve the demolition of the existing medical building and the parking structure and the construction of approximately 344,440 square feet of new space. When considering the demolition of existing medical space, this redevelopment will result in a net increase of 110,225 square feet of medical space:

344,440	Total New Square Footage (Includes Parking Structure and Medical Uses)
<u>199,500</u>	Parking Structure Square Footage
144,940	Medical/Related Uses Square Footage
<u>34,715</u>	Existing Square Footage to be Demolished
110,225	Net New Medical/Related Use Square Footage

As described in greater detail below, 28,040 square feet of new space is designated "shell space". Three areas in the East wing have this designation. As proposed, these spaces will be constructed but not finished to the point where they can be occupied. These spaces will not be finished until such time VVMC demonstrates how parking and employee housing obligations can be satisfied. Restrictions on the use of this space will be memorialized via a separate agreement with the Town of Vail. When considering these shell spaces, the total net new square footage to be occupied upon completion of the East Wing is 82,185. For the purposes of this report it is assumed that the new square footage for the East Wing is 82,185 square feet.

Below are the major uses within the East Wing and a brief explanation of where these uses are currently located. Note that Level 1 is at the West Meadow Drive elevation and Level 3 is at the South Frontage Road elevation.

Level 1 (Meadow Drive Level)

- Internal loading dock and related operations (offices, storage, trash/recycling, etc.). The internal loading dock is a new facility.
- Central Utility Plant and associated spaces. The central utility plant is currently located in the West Wing, this is essentially a new facility.

Level 2

- Un-programmed/shell space (2,888SF).
- Vail Summit Orthopaedics. VSO is currently located in the Medical Professional Building.
- Howard Head Sports Medicine. This space will replace operations currently located in the Medical Professional Building.

Level 3 (Frontage Road Level)

- Ambulance Bay/Garage. Currently ambulance storage is in a building at the north side of the campus. The proposed facility will provide ambulance storage as well as internal patient drop-off.
- Emergency Department. The Emergency Department is currently located in the Central Wing.
- Imaging. Imaging is currently located in the existing East Wing and Central Wing.
- Vail Valley Surgical Center (VVSC). This new space is adjacent to the Surgical Center located in the Central Wing. Expansions include increased space to address exiting space deficiencies and for two new operating rooms.
- Lobby Space/Admissions/Coffee Shop/Retail Pharmacy. These functions are currently located in the West Wing.

Level 4 (Heliport Building)

- Ambulance District facilities (offices and sleep rooms). These functions are currently located in a building at the north side of the campus.
- Emergency Department space
- Mechanical equipment room
- Meeting rooms

Level 5 (Heliport Building)

- Un-programmed/shell space (12,627SF)

Level 6 (Heliport Building)

- Un-programed/shell space (12,524SF)

Floor plans included in the plan set accompanying this CUP application provide detailed information on each of the uses listed above.

Apart from the addition of two new operating rooms for VVSC, the fundamental goal of the East Wing is to provide existing VVMC departments and operations the space necessary for them to function at a high level and provide quality medical care. Currently many existing departments and operations are operating in significantly under-sized spaces. The development of the East Wing will allow these departments to “de-compress” and in doing so dramatically improve services and patient care. This is particularly true with the Emergency Department, Imaging Department, Ambulance operations, and loading and delivery operations. These and other departments will realize significant increases in space.

Design Considerations

Several considerations influenced the design of the East Wing. Many of these were a result of the VVMC MP and others were a function of VVMC’s project goals. In either case these considerations directly influenced the design solutions that are reflected in the CUP application. These included:

Organization and Relationship of Uses

The location and organization of uses is critical to the efficient operation of any health care facility and this played a major role in the design of the East Wing. Some of the major drivers in this process included locating patient admissions at the new entry to VVMC, locating imaging next to the Emergency Department, locating the Emergency Department next to the heliport and locating the ambulance facility adjacent to the South Frontage Road and next to the Emergency Department.

Arrival Experience

A major goal in the design of VVMC’s new “front door” at the South Frontage Road was to create a safe, efficient and pleasing arrival experience for both patients and employees. The result is a vehicular circulation system that provides a drop-off area at the entry to the East Wing and a dedicated ramp for access to on-site parking on lower levels of the East Wing. Ample pedestrian space is provided adjacent to the East Wing. Upon entering the building and lobby area large expanses of glass will provide dramatic views to Vail Mountain. The sense of arrival to the East Wing will be dramatic.

Meadow Drive

As outlined in the VVMC MP, the relationship of the East Wing to West Meadow Drive is an important consideration. The design of the East Wing responds to West Meadow Drive several ways. Changes in building materials, varied setbacks from the street and building offsets are used to articulate the building, add visual interest and reduce building mass from West Meadow Drive. Rooftop mechanical screening has also been set back from the face of the building and is screened. Finally, the building has been held to three levels adjacent to West Meadow Drive and the southwest corner is just two levels. The

two-level portion of the East Wing will include a rooftop terrace that is envisioned as an active, public space that will serve to animate the street below. The proposed building massing is less than the 3-level massing prescribed by the VVMC MP.

Heliport Building

The initial design concept for the heliport building was a small, free-standing building approximately 75' in height. This height of the heliport was determined to not encumber future building heights at the Evergreen Lodge and Town Hall sites. The goal of the proposed design is to integrate the heliport building with the rest of the campus and to create a more prominent, functional building. The proposed design, while similar in height to early concepts, is much more of a "building" and less a "tower". The Emergency Department now links the heliport building with the rest of the East Wing and in doing so better defines the campus and the arrival to VVMC.

Building Massing/Architecture

The architecture and materials proposed for the East Wing have "taken cues" from the Central and West Wings. With completion of the East Wing, VVMC campus will have a unified architectural expression and a palette of materials that are consistent throughout the project. Building massing is consistent with the VVMC MP.

Shell Space

One of the goals of the VVMC MP is "to create a flexible framework to accommodate future unforeseen changes". Planning for future needs is in large part the reason VVMC is proposing to "over-build" the East Wing. The East Wing includes 28,040 square feet of shell space for which VVMC currently has no programmatic need. This space is the result of two main factors:

- Moving Imaging and the Emergency Department from Level 2 to Level 3 dramatically improved the plan for VVMC by moving the Emergency Department closer to the new ambulance facility and to the heliport. However, this change left approximately 15,000 square feet of space on Level 2 with no programming. This space is now to be utilized by Vail Summit Orthopedics and Howard Head (both re-located from the MPB) and there remains 2,888 square feet of shell space.
- While the heliport building originally included building program at Levels 3 and 4, the height of the heliport allowed the potential to create useable space on Levels 5 and 6. Creating this space on these levels also made sense from a design standpoint as it allows for a more "complete" building. There are currently no programmatic needs for this space. However, from a cost standpoint it is very cost efficient to create this shell space now and from a constructability standpoint it would be infeasible to add this space later. These two levels have a total of 25,151 square feet of space.

There are two potential uses for these shell spaces. At some point in time the north side of the Central Wing will need replacement. A key function currently located in this space

is the Lab. If or when this space is demolished the shell space on Level 2 could accommodate the Lab. VVMC currently utilizes +/-18,000 square feet of space in the neighboring Medical Professional Building (MPB). At some point this building will reach its functional life and warrant replacement. The shell space in the Heliport Building could provide space to re-locate existing uses in the MPB. With the redevelopment of the MPB comes the opportunity to create additional parking that could satisfy the parking demand from the East Wing shell space.

As outlined above, these shell spaces will not be finished until such time VVMC demonstrates how parking and employee housing obligations will be satisfied. Restrictions on the use of this space will be memorialized via a separate agreement with the Town of Vail.

Site Access and Circulation

The idea of changing VVMC's main access has been discussed for decades and establishing a new front door for VVMC on South Frontage Road is arguable the main goal of the VVMC MP. VVMC's new entry on South Frontage Road will be established the East Wing and in doing so VVMC will have a more convenient access for patients, guests and employees and will dramatically reduce traffic on West Meadow Drive.

Vehicle Access

Vehicle access will be provided by a new driveway located opposite the driveway to the Vail Town Hall. With this new entry, patient and guest traffic, employee traffic and emergency vehicles will access VVMC from South Frontage Road. A west bound left turn lane will be provided on South Frontage Road. The main vehicle loop and pedestrian areas at VVMC's new South Frontage Road entry will be snow-melted.

One access lane will be provided for entering traffic and two lanes will be provided for exiting. Arriving vehicles will be able to enter a loop drive for patient and visitor drop-off and then proceed to the below grade parking structure or exit the site. Vehicles will also be able to proceed directly down a ramp to the East Wing below-grade parking structure or the MPB. Ambulances and emergency vehicles will access the site via the main entry and exit the site directly to South Frontage Road via the ambulance garage.

The Town has long term plans to expand South Frontage Road to four lanes and to construct a round-about just west of the VVMC entry. Access points to VVMC have been designed so they can be adapted to these future road improvements.

Traffic considerations are discussed in greater detail below.

Ambulance Access

Ambulances and patient shuttles from Vail Mountain will enter the site via the main entry and then access the ambulance facility via a short spur off the main hospital entry. Ambulances will exit the facility directly onto South Frontage Road.

Medical Professional Building

After completion of the East Wing several changes will be made to the MPB. The existing access points and surface spaces on the north side of the building will be removed. This is necessary because accessing these spaces from the new VVMC entry would create complications with internal traffic flow. This area will be landscaped and a sidewalk along the south side of South Frontage Road will be constructed. Minor site modifications will also be made to the existing drive aisle at the south side of the MPB to improve sight lines and turning movements to the new parking structure entrance ramp.

Emergency Department

The new Emergency Department (ED) will include +/-9,700SF, a significant increase from the existing ED. While increased space will be a great benefit to this department, the new location for the ED is also a significant and very positive change. Located proximate to South Frontage Road, this new location will allow for convenient access for both the public and emergency vehicles. In addition, the ED will be located immediately below the new heliport, allowing for direct patient access to and from the Emergency Department to the heliport.

Ambulance Facility

The new ambulance facility includes three main functions within a total of +/-17,400sf of space:

Offices and Sleep Rooms

These Eagle County Paramedics Services uses are located on Level 4 (second level above South Frontage Road) and essentially replace the same uses located in the existing ambulance building.

Ambulance Storage

The enclosed ambulance garage will provide interior storage for Vail-based ambulances. The existing ambulance building currently accommodates three vehicles.

Patient Drop-off/Pick-up

The ambulance garage also includes interior space for patient drop-off and pick-up to the Emergency Department (located immediately adjacent to the garage). This interior facility will be a marked improvement from existing conditions.

The new location of the ambulance facility is a significant improvement from existing conditions. Currently ambulances access VVMC from West Meadow Drive. The new location immediately adjacent to South Frontage Road will address the Town's long-time goal of remove ambulances (and other emergency traffic) from Meadow Drive

Heliport

As outlined in the VVMC MP, the development of an on-site heliport is one of the goals of the Town and VVMC. The location of the proposed heliport and related building is in the same location as contemplated by the VVMC Master Plan, albeit with the pending land exchange with the Evergreen Lodge, the heliport is shifted slightly to the northwest. In addition to being consistent with the VVMC MP, this location provides an optimal relationship with the re-located Emergency Department immediately next door and the Ambulance District facilities to be located on the ground floor of the building directly below the heliport.

Whereas originally contemplated to be 60'x 60', the proposed size of the heliport landing area will be 46'x 46'. This pad size is capable of accommodating all of the current Helicopter Air Ambulance provider aircraft types being used by organizations that will service the heliport. By way of example, helicopters such as those operated by AirLife Denver, Flight For Life Colorado, St. Mary's CareFlight, North Colorado Med Evac, Classic Air Medical, Eagle Med LLC, and Memorial Star Transport can be accommodated by this pad. Currently the AS-350 and the Bell-407 helicopters are the helicopter types that most frequently service VVMC.

The proposed elevation of the pad is +/-8254 feet above sea level, or approximately +/-75' above the elevation of the top deck of the existing east parking structure. This height is consistent with the conceptual pad height indicated in the VVMC MP. This height of the pad has been coordinated with the Evergreen Lodge in order to not encumber the future redevelopment potential of their property. This height will also not impact the future development of the Town Hall site.

The location of the heliport will allow for use of the same flight paths as depicted in the VVMC MP.



VVMC proposed Approach/Departure paths for heliport.

During the review of the VVMC MP it was stated by VVMC that that the FAA's optional extended FATO (Final Approach and Takeoff area) would be incorporated into the design of the heliport flight path. Since that time, the FAA's Standards Divisions has adopted and published enhanced performance standards which allow for an alternative option to the Extended FATO which provides a higher level of safety for heliports at altitudes above 1,000' and/or heliports located on rooftops. This new FAA operational standard for FAA Inspectors, helicopter operators and heliport owners can be found in the FAA's 'Flight Standards Implementation Management System' (FSIMS) 8900.1, Vol-8, Ch-3, Sec-3 'Evaluation and Surveillance of Heliports'. Refer to the Assessment and Comparison of Increased FATO vs. Hover Out of Ground Effect Power Requirements as it Relates to Increased Heliport Altitudes, prepared by HeliExperts, found in the appendix of this report.

The primary premise of the Extended FATO concept is to allow for lower performance helicopters to operate at heliports at higher altitudes for which the helicopter may not normally be capable of operating at under standard environmental conditions. For this reason, our consultants, HeliExperts International, based on the updated FAA standards, agrees with the FAA's assessment in that an aircraft performance base standard provides a higher degree of safety than that of the Extended FATO concept for high altitude and rooftop heliports. Therefore, VVMC will adopt what its consultants and the FAA consider to be a superior standard and will require all operators to meet the new Hover Out of Ground Effect (HOGE) power standard for flight operations while conducting operations at their rooftop heliport in lieu of incorporating an extended FATO.

In that the proposed new heliport at VVMC will be a Private "Prior Permission Required" (PPR) heliport as defined by the heliport advisory circular, the FAA provides for and encourages heliport owners like VVMC to enact limitations and or restrictions on their heliport as they see fit for the public's interest and to enhance safety. Requiring HOGE power performance standards for all operations conducted at the new heliport is well within the rights of VVMC to mandate. This requirement will be integrated into all pilot briefing materials and be disseminated directly to all appropriate helicopter air medical providers. Through its interface with the primary air medical providers servicing VVMC regarding this safety enhancement, HeliExperts has received concurrence on these recommendations from the providers who have indicated that their aircraft will be operated within the requested parameters.

Based on the location and elevation of the heliport, VVMC is confident of obtaining a favorable Airspace Determination from the Federal Aviation Administration (FAA). Following this positive determination from the FAA, the VVMC design team will complete a more detailed design of the heliport, to include among other things the specific design of the pad itself, snowmelt systems, lighting, weather station, drainage, etc. These detailed design features will be reflected in building permit drawings.

The VVMC MP specifies several conditions regarding the heliport. These include:

1. Selection and installation of an on-site Automated Weather Observing System (AWOS).
While not yet designed, VVMC is including an AWOS in their detailed design plans. Examples of different types of AWOS are provided in the appendix, the conceptual location of the AWOS is depicted on floor plans in the CUP plan set. A final location for the AWOS will be defined in building permit plans for the East Wing.
2. Selection and installation of a lighted aviation approved windsock.
While not yet designed, VVMC is including this in their detailed design plans. Examples of windsocks are provided in the appendix; the conceptual location of the windsock is depicted on floor plans in the CUP plan set. A final location for the windsock will be defined in building permit plans for the East Wing.
3. Selection and installation of FAA compliant heliport perimeter lighting and obstruction lighting.
Examples of FAA compliant lighting are provided in the appendix, the location of lighting will be defined in the near future and will be included in building permit plans for the East Wing.
4. Development of pilot briefing sheets and an operational training and reference manual.
A draft Facility and Training Manual has been prepared and is included in the appendix. A final version of this document will be completed prior to the opening of the heliport.
5. Development of a heliport Emergency Action Plan in conjunction with the Vail Fire and Police Departments.
A draft of this plan has been prepared and is included as an element of the Heliport Facility and Training Manual) and is included in the appendix. A final version of this document will be completed closer to and prior to the opening of the heliport.
6. Letter of Agreement with Helicopter Air Ambulance providers that will establish operating procedures, e.g. notification of transport, airborne communications, pilot familiarization, preferred flight paths, etc. A draft of this agreement has been prepared and is included in the appendix. A final version of this agreement will be completed prior to the opening of the heliport.

Parking

One of the major goals of the VVMC MP is to address the campus' current lack of on-site parking. This is being addressed a variety of ways, foremost among them a new below grade parking structure at the East Wing. Below is a summary of existing parking resources, parking to be provided at VVMC after construction of the East Wing, East Wing parking demand and the influence of de-compressions, and the overall parking demand for VVMC.

Existing parking resources at VVMC

116	West Lot/Loading area surface parking
209	East parking structure
<u>82</u>	Medical Professional Building
407	total on-site spaces

As outlined in VVMC Master Plan Parking Analysis (completed in October of 2014), VVMC has historically provided additional parking via the purchase of parking passes in the Lionshead Parking Structure, the lease of off-site spaces and through managed parking solutions (operating employee shuttles to Gypsum, Leadville and Summit County and providing employees with ECO bus passes). Over the past few years employees who utilized alternative transportation means to VVMC via managed solutions averaged 90-95 employees.

Parking resources after East Wing Construction

Following completion of the East Wing on-site parking resources will include the following:

56	West Lot surface parking
468	East parking structure
4	Misc. spaces
<u>76</u>	Medical Professional Building
604	total on-site spaces

The reduction in West Lot spaces is due to the portion of the parking lot being conveyed to the Evergreen via the land exchange. The reduction in MPB spaces is due to the loss of surface spaces along the west side of the building.

178 valet spaces are depicted within the new structure. The vast majority of these will be located on levels P2 and P3, the two lowest levels of the structure. This amount of valet spaces is well within the Town's maximum 50% standard.

At the completion of the East Wing the net increase to VVMC's on-site parking from what exists today will be 197 new spaces.

Parking Demand from the East Wing, "Decompression" and "Right-sizing"

New parking demand for the East Wing is 89 spaces. The single largest generator of new parking demand is the addition of two new operating rooms for the Vail Valley Surgery Center. A spread sheet summarizing East Wing parking demand is found in the appendix of this report. This spread sheet addresses all major uses proposed in the East Wing, square footage changes from existing and employee generation.

As highlighted in the VVMC MP, the evolution of health care technology, changes in standards for medical facilities and the growth of services provided at VVMC have resulting in a situation where many services and functions are operating in under-sized spaces. "De-compression" is the term used to describe this condition and why the main

objective of expansions proposed by the VVMC MP is to “right-size” work spaces throughout the campus.

The 2013 Summary found that the existing square footage of nearly every department is significantly deficient. By way of example, below is a sampling of East Wing departments and their existing square footage deficiencies:

- Emergency Department - 140%
- Imaging - 78%
- VVSC Surgery - 30%
- Cardiopulmonary - 75%
- Howard Head PT/OT - 40%
- Vail Summit Ortho - 167%
- Materials Management - 87%

The square footage deficiencies in the 2013 Summary provided a benchmark, or baseline condition that was used in defining how the needs of each department could best be addressed by VVMC’s master plan expansion. The right-size square footage represents an “ideal” condition, or what could be achieved in a perfect world for meeting the space needs of VVMC.

Existing space deficiencies are significant and the results of the 2013 Summary tell a compelling story with respect to the current size of VVMC departments and other organizations that operate at the Vail campus. Specifically, that today many departments warrant significant increases necessary to “right size” departments based on today’s needs and to bring facilities up to current standards for medical space. The VVMC Master Plan is not a case of pursuing expansion simply to create a larger hospital. To the contrary, the focal point of this expansion is to bring the size and quality of existing facilities up to current medical standards. When implemented, VVMC expansion will improve a multitude of aspects related to patient care, and with only a few exceptions will not create a significant increase in business or activity, and as a result will not generate a significant amount of new employee generation.

With regard to the East Wing, while there is a significant net increase in square footage of 82,185 (exclusive of shell space), there is very little new programing. New programing is limited to two new operating rooms for the Vail Valley Surgery Center, and new and expanded space for Howard Head Sports Medicine and Vail Summit Orthopedics (both of which re-located from the MPB). Examples of major departments that will be right-sized with expanded or new square footage include:

9,899sf – new internal loading facility
6,691sf - new Central Utility Plant
9,356sf - expanded Emergency Department
5,937sf - expanded Imaging Department
10,381sf - expanded Ambulance District Operations

With each of the uses listed above the purpose of the increased square footage is to provide improved working spaces necessary to provide quality health care commensurate with today's standards. Right sizing played a major role in defining the program for VVMC's expansion and the specific improvements that are required to meet the community's healthcare needs for the present and the long-term success of VVMC.

Overall Parking Demand for VVMC

The methodology used to calculate parking requirements for VVMC involved four main factors:

- VVMC parking needs prior to the construction of the West Wing (as documented in the 2014 VVMC Master Plan Parking Analysis),
- Parking demand of the West Wing established by CUP review in 2015,
- New parking demand from the East Wing, and
- Application of the multi-use credit

782	Spaces defined by 2014 parking study using "employee based" formula
41	Required parking from CUP review of West Wing
<u>89</u>	Parking required for the East Wing
912	total spaces
<u>-205</u>	Multi-use credit (22.5%)
707	Total Campus Requirement

Managed Parking Solutions

As proposed, at the completion of the East Wing required parking for the entire VVMC campus is 707. On-site parking to be provided is 604, leaving a deficit of 103 spaces. This deficit will be addressed with the continued implementation of managed parking solutions that will include providing ECO bus passes to employees and the operation of an employee shuttles.

These creative programs are a benefit to VVMC employees and to the community in that alternative transportation means reduce the number of vehicles on Town of Vail roadways. These types of alternative programs are identified in section 12-10-20 of the Town code – "permanent program (including, but not limited to, "rideshare" programs, shuttle service, or staggered work shifts) intended to reduce parking demand that has been incorporated into the project's final approved development plan".

With proposed on-site parking and managed parking solutions VVMC is addressing the parking requirements of the project.

Loading and Delivery

Currently loading and delivery is handled by an under-sized outdoor facility. An enclosed loading facility is a goal of the VVMC MP and the proposed loading solution addresses this goal. The basic design parameters for the loading facility as outlined in the VVMC MP are to have 3-4 bays capable of accommodating turning movements within

the facility for SU-30 sized trucks, 2-3 spaces for smaller trucks and service vehicles and trash and recycling facilities. All loading activity is to occur within the enclosed facility.

VVMC commissioned a Concept Design Operational Assumptions Report prepared by Lerch Bates that evaluate existing loading operations as a basis to better understand VVMC's future loading needs and to develop design parameters for the loading facility. Loading surveys and monitoring was done and from that research future peak day dock activity was defined. This provided the basis for the design of the loading facility. The future peak day dock schedule indicates an average of 36 deliveries from 1:00AM to 4:00PM. Dwell times of delivery vehicles were also defined. Of future peak day deliveries, 20 will typically be cars or vans with the remaining being box trucks with varying lengths from 24-38 feet.

The proposed facility is designed to accommodate 3 truck bays and a trash bay. Two of these bays can accommodate a SU40 (this vehicle is larger than a SU30) sized truck and one accommodates a SU30 truck. Trash and recycling facilities are provided, as is "flex space" that can accommodate two smaller vehicles. Turning movement studies of these trucks is provided in the CUP plan set. Scheduling and coordination of trash service and larger trucks will be necessary. This effort will be handled by the on-site Dock Manager.

The VVMC MP stipulated that a management plan be prepared for the loading facility. The plan for the management of this facility includes the following elements:

Staffing

VVMC staff (the Dock Manager) will be present at the loading facility during all times the facility is open in order to coordinate all loading operations. Dock hours will be 6:00am to 6:00pm.

Scheduling

The Dock Manager will coordinate the scheduling of truck deliveries, specifically deliveries provided by larger trucks and trash service. Scheduling of deliveries will be done to ensure that space for internal turning movements is available. The Dock Manager will also coordinate with all VVMC departments on the delivery of all goods, particularly those being delivered with large trucks, and will communicate directly with vendors to schedule delivery times and to understand the length of time necessary for such deliveries.

Operations

- Truck doors to the loading facility are to remain closed at all times except for when trucks are entering or exiting the facility.
- In no circumstances shall trucks back in to or out of the Loading Facility.
- Trucks larger than SU-40 will be staged in the West Lot, when feasible such deliveries will be scheduled for after 6:00pm.
- No delivery activity outside of the enclosed facility shall be permitted.
- The Dock Manager shall communicate operational procedures, rules and regulations for the Loading Dock to all entities providing deliveries to VVMC.

- Hours of operation for the Loading Facility shall be determined by the Dock Manager.

Distribution of Goods and Materials

The Dock Manager will coordinate with VVMC Departments to ensure the timely delivery of goods and materials to departments throughout the campus. As necessary, Dock Manager shall coordinate deliveries via the Loading Facility to the MPB.

Site Access and Circulation

The idea of changing VVMC's main access has been discussed for decades and establishing a new front door for VVMC on South Frontage Road is arguable the main goal of the VVMC MP. VVMC's new entry on South Frontage Road will be implemented with construction of the East Wing and in doing so VVMC will have a more convenient access for patients, guests and employees and will also drastically reduce traffic on West Meadow Drive.

Vehicle Access

Vehicle access will be provided by a new driveway into the campus that is located opposite the driveway to the Vail Town Hall. With this new entry, patient and guest traffic, employee traffic and emergency vehicles will access VVMC from South Frontage Road. A westbound left turn lane will be provided on South Frontage Road. The main vehicle loop and pedestrian areas at VVMC's new South Frontage Road entry will be snow-melted.

One access lane will be provided for entering traffic and two lanes will be provided for exiting. Arriving vehicles will be able to enter a loop drive for patient and visitor drop-off and then proceed to the below grade parking structure or exit the site. Vehicles will also be able to proceed directly down a ramp to the East Wing below-grade parking structure or the Medical Professional Building.

The Town has long term plans to expand South Frontage Road to four lanes and to construct a round-about just west of the VVMC entry. Access points to VVMC have been designed to allow for these road improvements to be implemented.

Traffic considerations are discussed in greater detail below.

Ambulance Access

Ambulances and patient shuttles from Vail Mountain will enter the site via the main entry and then access the ambulance facility via a short spur off the main hospital entry. Ambulances will exit the facility directly onto South Frontage Road.

Medical Professional Building

After completion of the East Wing a number of changes will be made to the MPB. The existing access points and surface spaces on the north side of the building will be removed. This is necessary because accessing these spaces from the new VVMC entry

would create complications with internal traffic flow. This area will be landscaped and a sidewalk along the south side of South Frontage Road will be constructed. Minor site modifications will also be made to the existing drive aisle at the south side of the MPB in order to improve sight lines and turning movements to the new parking structure entrance ramp.

Traffic

Currently traffic flow to VVMC is split between access points at West Meadow Drive and at South Frontage Road. The development of the East Wing and VVMC's new front door at South Frontage Road will shift of patient/guest, employee and emergency vehicle traffic from West Meadow Drive to South Frontage Road. This change will implement a long-term goal of the Town's to reduce traffic on West Meadow Drive. While this change will greatly benefit the pedestrian experience on West Meadow Drive, the change will mean virtually all VVMC traffic will now be accessing the campus via the new South Frontage Road entry.

The VVMC MP addressed traffic and the South Frontage Road from two perspectives – a long term roundabout solution and an interim solution (prior to roundabout).

The long-term roundabout solution included several assumptions, key among them were:

- Long term improvements to South Frontage Road to include a two-lane roundabout (located just west of VVMC) and a four-lane cross section.
- Access to VVMC (and the Evergreen and Town Hall) to be right in/right out only after the roundabout is constructed.
- Access to VVMC's west lot parking and the new East Wing parking structure to be via new main access at South Frontage Road.

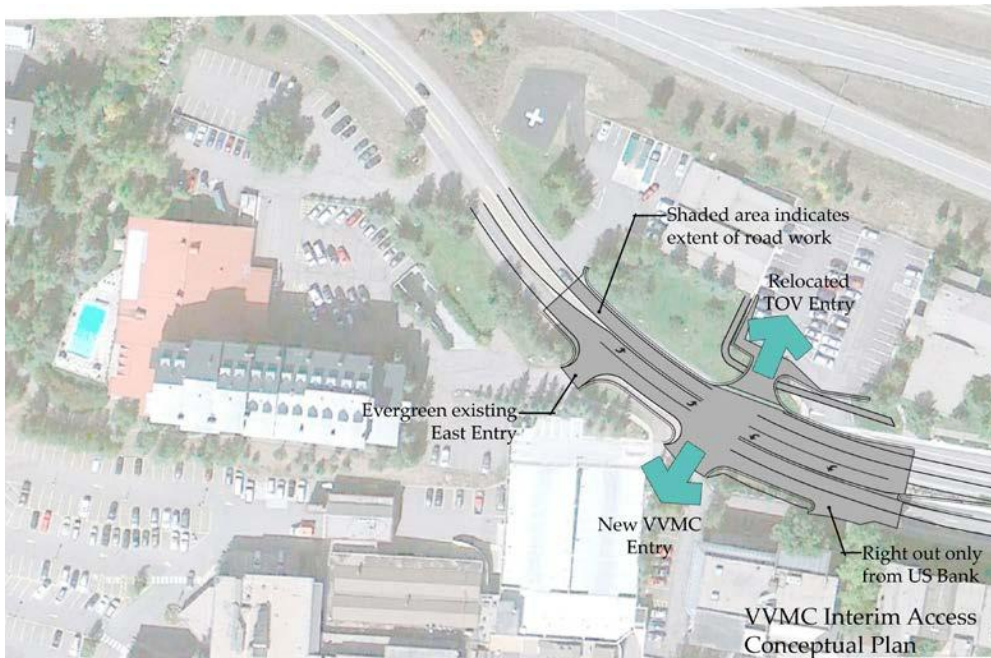
Based on analysis by Turnkey Consulting, Inc. (VVMC's consultant) and Felsburg Holt Ullevig (TOV consultant), the estimated long term levels of service on South Frontage Road and at each of the three adjacent properties will be well within the Town's service standards. This can be attributed to elimination of left turn movements at the access points.

The roundabout is a long-term roadway improvement planned by the Town. VVMC was considered to most likely be the first the three surrounding properties to redevelopment and as a part of the VVMC MP effort, interim traffic conditions were evaluated. This was referred to as the "first and alone" scenario. This evaluation assumed the following:

- Estimates of development levels contemplated for East Wing (at that time).
- Access to VVMC's west lot parking and the new East Wing parking structure to be via new main access at South Frontage Road.
- Access to VVMC to include full turning movements (left in/left out, right in/right out).
- No changes to lanes on South Frontage Road.

- Interim access improvements necessary to facilitate access to VVMC (i.e. median improvements to South Frontage Road for west bound left turns into VVMC, realignment of VVMC and TOV driveways).

This evaluation concluded that with interim improvements, turning movements into and out of VVMC will be acceptable.



This diagram from the VVMC MP depicts interim access conditions at South Frontage Road.

The VVMC MP indicated that an updated traffic impact study will be necessary as an element of CUP plans for the East Wing. A variety of traffic impact study updates have been completed since adoption of the VVMC MP. A recent update has been completed that builds upon previous East Wing studies and reflects the square footage and parking spaces proposed for the East Wing. Assumptions and key conclusions of the updated traffic impact study include the following:

- Analysis of the East Wing and VVMC traffic conditions includes South Frontage Road background traffic counts from peak winter/holiday conditions, as such conclusions represent a “worse case” scenario.
- South Frontage Road through traffic will perform at acceptable levels.
- Right turn movements into and out of VVMC are basically unconstrained.
- West bound left turns into VVMC will perform at acceptable levels.
- Left turns out of VVMC onto South Frontage road will initially perform at an acceptable level. Growth in background traffic will result in Level of Service E and F by 2035 and 2040.

While delays to westbound left turn out of VVMC will be apparent in next 15-20 years, it is important to note that the volumes (number of vehicles making this turn) are not high because most outbound traffic departs VVMC to the east. This is evident by queue distances remain constant over time as wait times increase (note that models used to prepare these Level of Service studies only need one vehicle to create an LOS “F” conditions). In summary, this westbound left turn movement out of VVMC is expected to be typical of turning movements from many private drives onto the town’s road system during peak traffic conditions.

It is also important to note that in the event delays necessary to make a westbound left turn become too onerous, a contingency measure is that exiting vehicles could leave VVMC eastbound and reverse direction at the Main Vail Roundabout.

The updated traffic impact study has been provided under separate cover.

Employee Housing

As prescribed by the Development Agreement between VVMC and the Town of Vail, during the West Wing review process employee generation for the West Wing was determined along with an estimate of employee generation anticipated from the East Wing. Estimates for East Wing were made based on assumptions regarding the future development of the East Wing. Prior to issuance of a building permit for the West Wing, VVMC provided a cash-in-lieu payment to satisfy their employee housing obligation for both the West and East Wings.

VVMC is currently in the process of re-calculating employee generation for uses proposed for the East Wing. These new calculations will then be compared to estimates provided in 2015 and submitted to Town Staff for review. Employee housing considerations will be addressed prior to PEC’s final review of this CUP application.

Oxygen farm and Mobile Imaging Truck

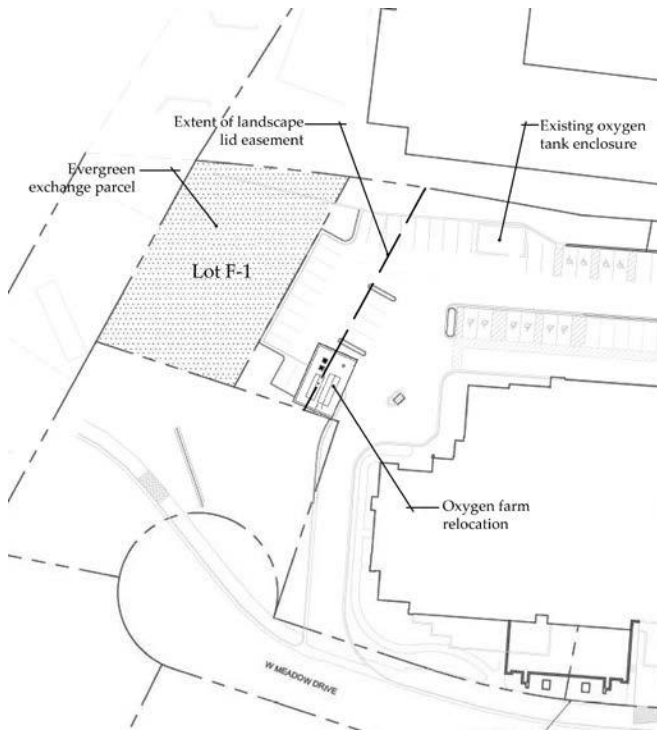
Oxygen Farm

The oxygen farm (or tank) that serves VVMC is currently located immediately south of the East Wing along West Meadow Drive. The farm will be relocated to allow for construction of the East Wing. The new location for the farm is just north of the West Wing, at the northern side of the surface parking lot. This location was reviewed and approved as an element of the CUP for the West Wing. Application for this facility has been submitted to the town independent of the East Wing CUP application.

Following the land exchange and during construction of the future Evergreen Lodge redevelopment, areas necessary for oxygen deliver truck maneuvering will be impacted. This will be addressed one of three ways - smaller delivery trucks that require less maneuvering space will be used to service VVMC; portable oxygen trucks will be brought on-site during phases of Evergreen construction that will limit truck maneuvering

space; or the oxygen farm will be re-located to a location west of the West Wing next to Lot 10. As a side note, re-location of the oxygen farm would remove encumbrances to the development of future expansion at the north side of the VVMC campus.

An element of this CUP application is to re-locate the oxygen from its location at the north side of the campus to the location depicted below. Final determination on if or when the oxygen farm is re-located (or if during Evergreen construction alternative oxygen delivery means are deemed the preferred solution) will be made in the future.



Mobile Imaging Truck

Approximately twice each year a mobile imaging truck services VVMC (typically to provide imaging capabilities when on-site equipment is being serviced or replaced). The mobile imaging truck is a large semi that currently operates at a location immediately west of the ambulance building. This location is problematic for two reasons – the size of the imaging truck requires a large area for maneuvering (that will be reduced with the Evergreen Land exchange) and the location of the imaging truck is a hindrance to future VVMC expansions on the north side of the campus. For these reasons the location for the mobile imaging truck is proposed to be moved to immediately east of the East Wing along West Meadow Drive. The location for the mobile imaging truck is depicted on the CUP plan set. The north/south pedestrian corridor in this area is 20' in width, providing sufficient room for the truck while maintaining space for pedestrian flow during the limited times each year the truck will be on site.

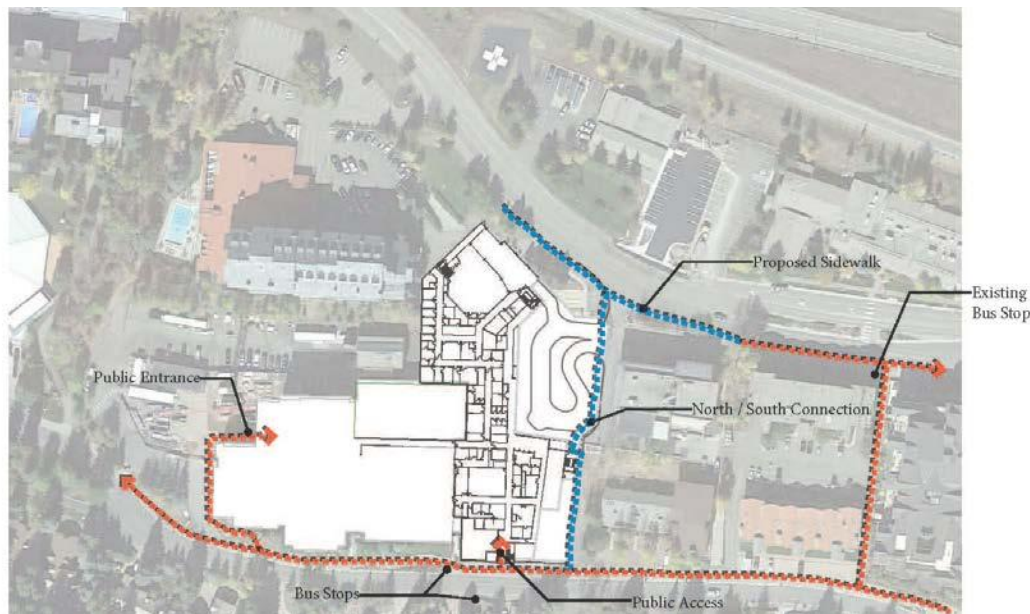
North/South pedestrian connection

The VVMC MP identifies as a desired improvement a north/south pedestrian connection, preferably one that is ADA compliant, at the eastern end of the campus. A pedestrian connection is generally depicted on the circulation plan below. Refer to the CUP plan set for specific information on this connection.

There is a great deal of activity that must be accommodated at VVMC's new entry off South Frontage Road. This includes ambulance access to the new ambulance bay, vehicle drop-off at the entry to the hospital, vehicular access to the below grade parking structure and pedestrian movement between the main campus and the Medical Professional Building. Accommodating these activities, dealing with grade changes, and providing a safe north/south pedestrian route have influenced the location and design of the north/south pedestrian connection.

The north/south pedestrian connection is located at the east end of VVMC property and includes a sidewalk along the east side of the main vehicular drop-off and a wider pedestrian corridor along the southern end of the East Wing where the connection links to West Meadow Drive. In between these two sections is a stairwell that will allow pedestrians to travel through the site. The stairs are necessary due to grade changes and to have a pedestrian route that avoids vehicular traffic on the vehicle ramp that serves both parking structures (to the new East Wing Structure and the Medical Professional Building).

Due to site and grade constraints (there is +/-24' of grade change between South Frontage Road and West Meadow Drive), this connection is not ADA compliant. During normal hospital hours elevators proximate to the lobby will be available to transport pedestrians between Levels 1 and 3.



The diagram above depicts the proposed north/south pedestrian connection on the east site of VVMC.

Sign Program

A comprehensive sign program for VVMC is currently under development. Due to the size of the site, the complexity of the campus and unique sign parameters for medical facilities, it is very likely that this sign plan will include requests for variances to the Town's sign code. This sign program will be submitted in the coming weeks.

Development standards

As per the General Use zone district, all site development standards are to be established by the PEC. Diagrams and calculations of development/zoning standards are found in the appendix of this report. These calculations have been prepared for the entire VVMC campus and address:

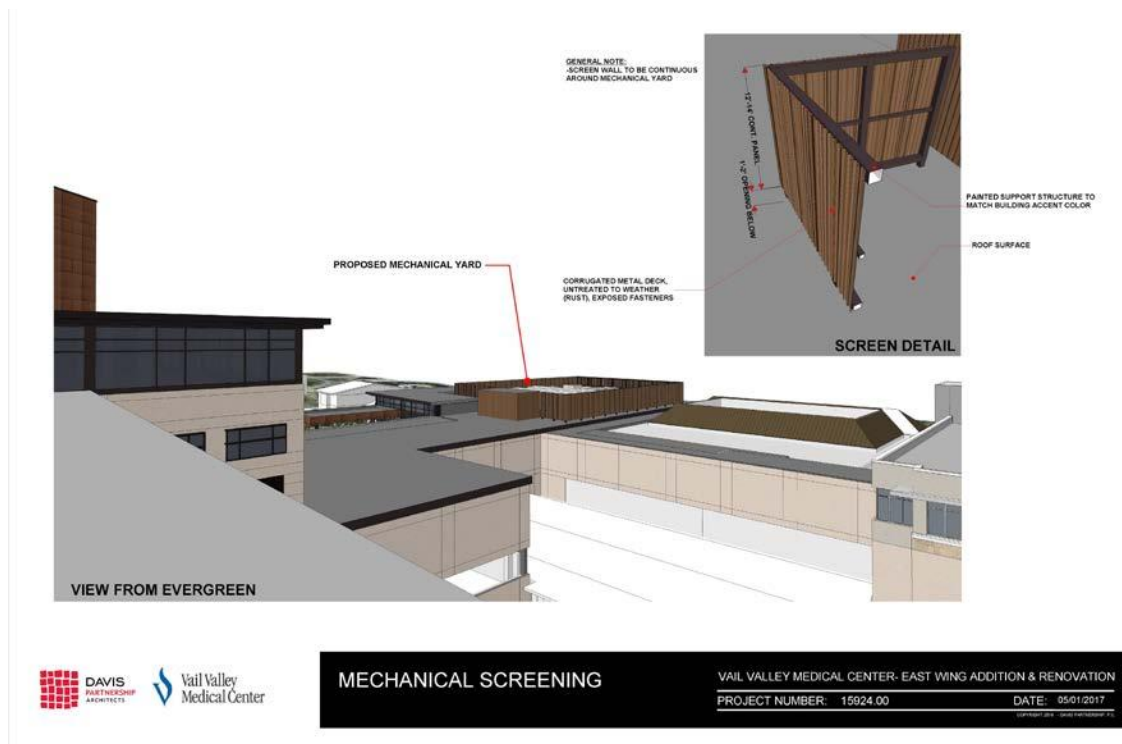
- lot area/site dimensions,
- setbacks,
- site coverage,
- landscape area

Note that parking considerations are addressed elsewhere in this report.

Rooftop mechanical

The CUP plan set includes a roof plan with preliminary information on rooftop mechanical equipment and the location of elements proposed to visually screen these features. Mechanical equipment for the heliport building will be enclosed within Level 4 of this building. Mechanical equipment will also be located atop Level 3 on the south side of the East Wing. The diagram below provides a conceptual indication of how Level 3 equipment will be screened. To minimize the visual impact of equipment from West Meadow Drive, rooftop mechanical equipment is set back +/-15' from the south edge of the East Wing.

Rooftop equipment needs will evolve as the building design progresses. Final design of rooftop mechanical and screening features will likely be determined during the Design Review Process.



V. CONFORMANCE WITH APPLICABLE REVIEW CRITERIA

Explanations for how the proposed East Wing expansion conforms to CUP review criteria will be provided in an updated CUP submittal to be provided prior to formal review by the PEC.

NOTE – responses to how the proposed East Wing conforms with CUP criteria will be provided following coordination with town staff and prior to PEC review.

- (1) Describe the precise nature of the proposed use and measures proposed to make the use compatible with other properties in the vicinity.

Response

- (2) The relationship and impact of the use on development objectives of the Town.

Response

- (3) The effect of the use on light and air, distribution of population, transportation facilities, utilities, schools, parks and recreation facilities, and other public facilities and public facility needs.

Response

- (4) The effect upon traffic, with particular reference to congestion, automotive and pedestrian safety and convenience, traffic flow and control, access, maneuverability, and removal of snow from the streets and parking area.

Response

- (5) The effect upon the character of the area in which the proposed use is to be located, including the scale and bulk of the proposed use in relation to surrounding uses.

Response

VI. APPENDIX

East Wing Parking Demand Calculations

Examples of Automated Weather Observing System (AWOS)

Examples of heliport windsocks

Examples of heliport lighting

Draft Facility and Training Manual for Heliport

Draft Letter of Agreement with Helicopter Air Ambulance Providers

Development Standard Diagrams

VVMC PARKING ANALYSIS			
CUP East Wing Expansion			
5/1/2017			
Methodology	Existing parking demand using employee based formula from 2014 Parking Report + West Wing as per PEC review + East Wing + multi-use credit		
	Pre-East Wing Parking Conditions		Related Considerations/Follow up/
Parking	Use	Comments	Questions
782	baseline for entire campus, pre-WW construction, using emp based formula, from 2014 parking report	Assumed 569 employees, 58 beds, 155 exam rooms (does not include multi-use credit, that is factored below)	58 bed count reduced to 54 beds during WW review (see below)
41	new requirement from WW (this parking demand was approved by Town)	Total demand for WW included deduction of 8 spaces for reduced size of CMM and 4 spaces for removal of 4 patient beds	
	East Wing Uses/level 1		
0	Loading Dock	No new employees necessary for staffing loading dock.	Uses/spaces associated with Dock are all support spaces, no new employee generation
0	Central Utility Plant	No new employees necessary for staffing CUP.	
5	Operations staff	Technically not officed on this level, assuming 5 additional employees for security, housekeeping, maintenance, etc	
	East Wing Uses/level 2		
30	Vail Summit Ortho	New VSO space is 7015gsf with 12 exam rooms. 10 clinic employees as per census (typical M-F scenario). Added 4 employees for 4 research offices. Added 4 additional for cushion (employee growth). Note - existing space in MPB is 3750 (3306 clinic, 444 research)	VSO is relocating from MPB. Allocating parking for new use allows for re-purposing of existing space with no new parking demand.
20	Howard Head	3128 gsf of space in EW. Existing HH space in MPB is 2,370sf. Assume 9 employees and 11 treatment beds.	HH is relocating from MPB. Allocating parking for new use allows for re-purposing of existing space with no new parking demand.
0	Shell Space	2,882SF. This space to be left as shell space until use is proposed/parking and emp housing addressed.	
0	Volunteer office/gift shop storage, patient services, patient access coordinator, switchboard, etc.,	All existing uses/de-compression space.	
	East Wing Uses/level 3		
0	ED	De-compression, no employee increase from existing. New ED space is 9,417SF (this includes 757SF on Level 4). Existing ED space is +/-5,503SF. to staff.	
0	Imaging	De-compression, no employee increase from existing. Proposed space is 5,937sf (this includes 119SF on Level 4). Existing space is +/-4,561.	
0	Gift Shop and Pharmacy	De-compression, no employee increase from existing. Proposed space is 1,609SF.	Gift shop is staffed by volunteers.
2	Coffee shop	New use. Proposal is for 572 SF.	Lobby seating is primarily for general lobby seating, not exclusive to coffee shop.
32	VVSC - Two new OR's	16 employees per OR (from Employee Generation Study done in 2015 for west wing)	
0	Admissions/public support space	De-compression, no increase to employees from existing. Total SF devoted to "public support" is 2,078SF.	
0	Ambulance Garage	De-compression, no employee increase from existing. 7,067sf proposed for garage and patient drop-off. Replaces existing +/-2400sf garage space.	Expanded space will internalize uses/activities that currently occur outside.
	East Wing Uses/level 4		
0	Ambulance offices/sleep quarters	De-compression, no employee increase from existing. Proposed 3,314sf. Existing office space is +/-2400sf.	
0	Emergency Department	ED Sf on Level 4 (1,235SF) is addressed above.	
0	Imaging	Imaging SF on Level 4 (119SF) is addressed above.	
0	Meeting space	2,115SF of meeting room space is for internal/staff use. Replaces 1,876 sf in EW that will be demo'ed.	
0	Mechanical space	3,183SF of mechanical space.	
	East Wing Uses/Level 5		
0	Shell Space	12,524SF. This space to be left as shell space until use is proposed/parking and emp housing addressed.	

	East Wing Uses/Level 6		
0	Shell Space	12,627 SF. This space to be left as shell space until use is proposed/parking and emp housing addressed.	
SUMMARY			
912	Total Gross Parking Spaces		
707	mulit use credit (22.5%)		
	On-site spaces proposed - 469 garage/52 surface/76		
602	MPB		
103	spaces to be addressed via managed parking solutions		



Belfort AWOS Overview

For

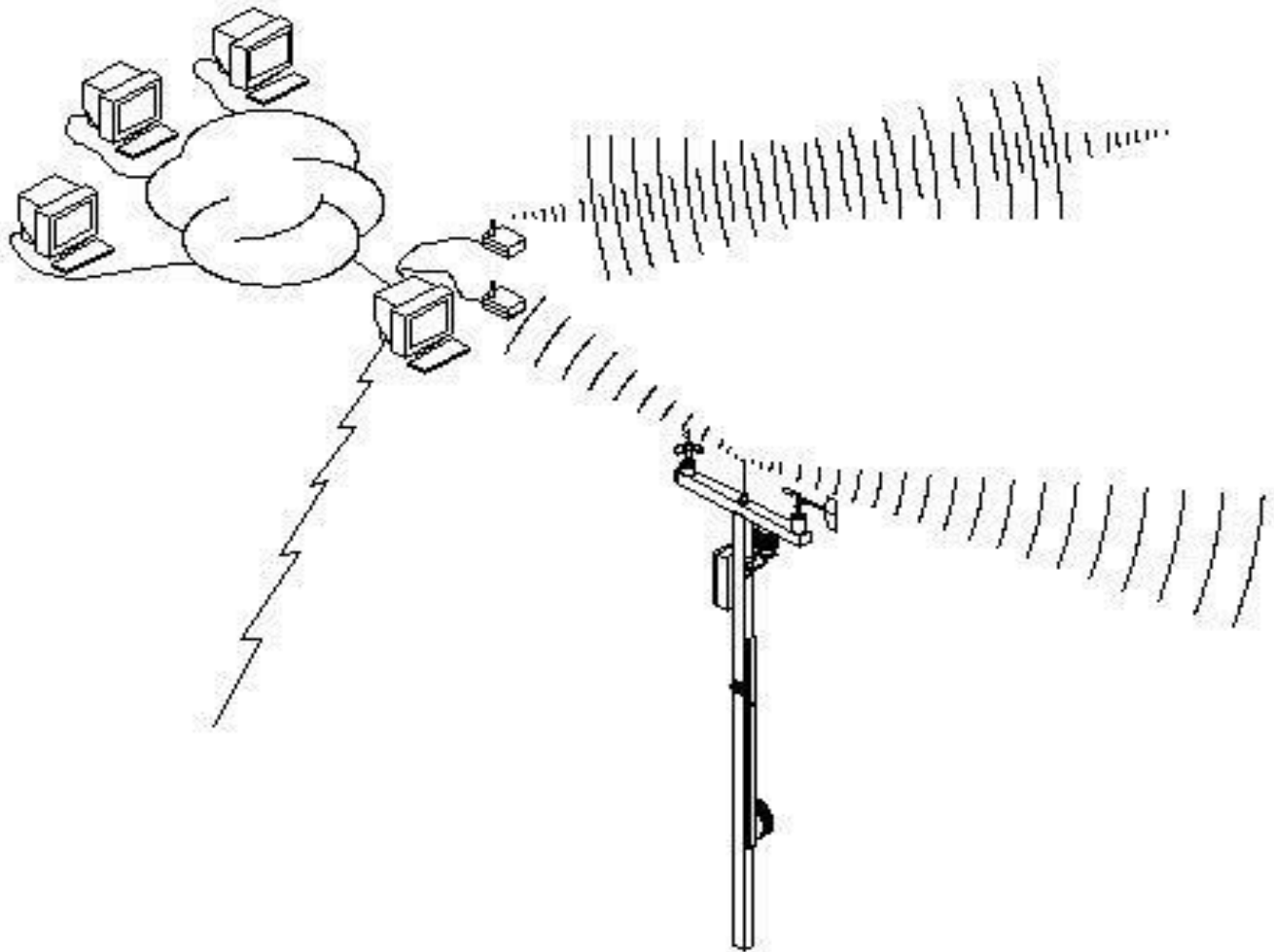
HeliExperts International LLC

November 2016

Vail Valley Medical Center

Heliport Project

Belfort AWOS System Data Distribution Options





New Capability – Belfort AWOS Web Cam









WC807

LED & Incandescent Primary Wind Cone NON-FRANGIBLE

Compliance with Standards

FAA: L-807 & L-807(L) AC 150/5345-27 (Current Edition) and the FAA Engineering Brief No. 67. ETL Certified.

Uses

FAA L-807, L-807(L)	Provides visual surface wind direction and velocity information to pilots in flight or on the ground at airports and heliports
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Features

- Available externally lighted, internally lighted, or unlighted
- LED or halogen lamps
- All LED models feature:
 - 50,000 to 100,000 hour lamp life, virtually maintenance free
 - Multiple lamp circuits for improved reliability
 - 80-90% less power consumption than halogen lamps
 - A long-life LED obstruction light
 - Integral power adapter on series circuit models
- An incandescent L-810 obstruction light is included on halogen-lighted models
- Size 1 (18" dia. x 8' long) or Size 2 (36" dia. x 12' long) wind socks
- The pole is center-hinged with 4" diameter steel on the bottom and 3" diameter steel on the top
- A center-mounted braked winch allows 1-person maintenance.
- The four anchor bolts are a one-piece welded assembly, ready to drop in the ground
- The aluminum basket is welded, one piece, with pre-installed bearings
- Raincaps protect the bearings from weather
- The nylon sock is treated for rot, mildew, and water repellency
- Powder coat painted international orange
- Made in the USA and ETL Certified by Hali-Brite, Inc., Crosby, MN.

Operation

The operation of the wind cone is entirely dependent on the direction and relative velocity of the surface wind. Movement of the wind through the open throat of the cage and into the sock causes the tail to inflate. The tail of the inflated sock indicates true wind direction for velocities as low as three knots through a 360° circle about the vertical shaft.



External LED Light



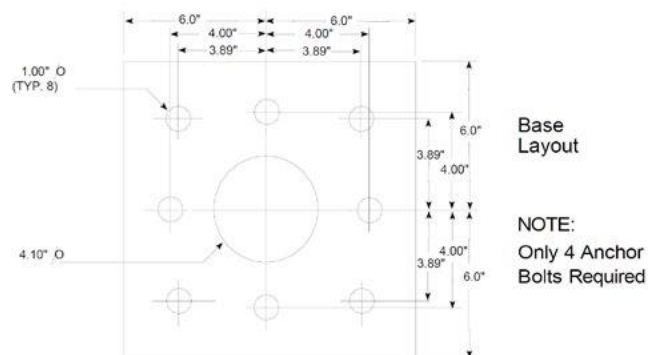
Internal LED Light



External Halogen Light



Internal Halogen Light



Wind Cone Selection Chart

Product Number	See Notes	FAA Size	FAA Style	Power Source	Lamp Type	Fixture VA ^{1,5}	Fixture Watts ^{1,5}	Weight (lb)	Replacement Lamp
L807-S1-UN-NON-ON-N		1	II Unlighted	None	None	0	0	187	None
L807-S1-EX-120-ON-5		1	I-A External	108-132 VAC	LED	15	14	198	9200-0032
L807-S1-EX-230-ON-5	2	1	I-A External	207-253 VAC	LED	15	14	198	9200-0044
L807-S1-EX-66A-ON-5	4	1	I-A External	2.8-6.6 AMP	LED	28	26	197	9200-0034
L807-S1-IN-120-ON-5		1	I-B Internal	108-132 VAC	LED	32	19	200	9200-0038
L807-S1-EX-120-ON-N		1	I-A External	108-132 VAC	Halogen	191	191	196	3400-0122
L807-S1-IN-120-ON-N	2	1	I-B Internal	108-132 VAC	Halogen	316	316	198	3400-0100Regent
L807-S1-EX-12-ON-5		1	I-A External	11.5-13 VDC	LED	6	6	197	9200-0033
L807-S1-IN-12-ON-5	2	1	I-B Internal	11.5-13 VDC	LED	6	6	197	9200-0041
L807-S1-IN-66A-ON-5	4	1	I-B Internal	2.8-6.6 AMP	LED	41	37	198	9200-0039
L807-S2-UN-NON-ON-N		2	II Unlighted	None	None	0	0	199	None
L807-S2-IN-120-ON-5		2	I-B Internal	108-132 VAC	LED	60	32	212	9200-0040
L807-S2-EX-120-ON-5		2	I-A External	108-132 VAC	LED	22	21	210	9200-0035
L807-S2-EX-230-ON-5	2	2	I-A External	207-253 VAC	LED	22	21	210	9200-0043
L807-S2-EX-66A-ON-5	4	2	I-A External	2.8-6.6 AMP	LED	28	26	209	9200-0037
L807-S2-EX-120-ON-N		2	I-A External	108-132 VAC	Halogen	191	191	208	3400-0122
L807-S2-IN-120-ON-N		2	I-B Internal	108-132 VAC	Halogen	516	516	210	3400-0100Regent
L807-S2-EX-12-ON-5		2	I-A External	11.5-13 VDC	LED	10	10	210	9200-0036
L807-S2-IN-12-ON-5	2	2	I-B Internal	11.5-13 VDC	LED	10	10	210	9200-0042
L807-S2-IN-66A-ON-3	3	2	I-B Internal	2.8-6.6 AMP	LED	57	53	210	9200-0031
L807-S1-IN-230-ON-5		1	I-B Internal	198-256 VAC	LED	40	21	200	9200-0045
L807-S2-IN-230-ON-5		2	I-B Internal	198-256 VAC	LED	76	36	212	9200-0046

Notes

1. Power consumption specifications include the L-810 obstruction light
2. This FAA Style is not ETL certified
3. Requires 200 watt L-830 transformer, sold separately
4. Requires 100 watt L-830 transformer, sold separately
5. Isolation transformer VA loss not included

FAA Wind Cone Classifications

Size 1:	8 foot
Size 2:	12 foot
Style I-A:	Externally Lighted
Style I-B:	Internally Lighted
Style II:	Unlighted

Spare Components

Description	Part No.
Wind Sock, Size 1 (18" dia. x 8' long, orange)	7400-0000-1
Wind Sock, Size 2 (36" dia. x 12' long, orange)	7400-0002
Lamp, 120V Incandescent Obstruction Light	3400-116TS120
Lamp, 120V Halogen, External	3400-0122
Lamp, 120V Halogen, Internal	3400-0100Re-gent

Product specifications may be subject to change, and specifications listed here are not binding. Confirm current specifications at time of order.

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Fig. 1



Heliport Low Intensity Omnidirectional Inset Light

Type FTO

ADB
Airfield Solutions

Compliance with Standards

ICAO: Annex 14, Volume II, paragraph 5.3.6 to 5.3.8

NATO: STANAG 3652

Various national standards

Fig. 2



Uses

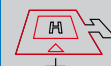
Touchdown zone and lift off area perimeter (TLOF)

Final approach and take off area (FATO)

Aiming point

Features

- Part of a comprehensive range of inset lights covering all heliport lighting requirements.
- Designed and built with simplicity and ease of maintenance in mind.
- Lightweight, sturdy, low-energy and environment friendly lighting fitting (no cadmium plating).
- Double water barriers seal all possible moisture ingress paths.
- Extensive use of aluminium alloys reduces fitting weight and eases handling in the field.
- Low temperature light.
- Hardened glass lens, clear or through coloured.
- Low protrusion above ground (10 mm) reduces vibrations induced in the lighting fitting, thereby increasing lifetime, particularly of the lamp.
- Absence of negative slope in front of the lens guarantees optimal light output under worst weather conditions.
- Available for series (6,6A) and parallel supply (230V AC).
- Long life halogen lamps. Over 1000 hours at full intensity.
- Lens mechanically clamped to light cover through moulded, replaceable seals. Lens replacement by maintenance personnel is fast and easy and does not require any sealing compound or resin.
- No optical adjustment required after replacement of lamp, lens or reflector.
- Plug for air pressure-testing of fitting after overhaul.
- Smooth outer surface of light cover.
- Dedicated rings available to fit mounting bases and seating rings to other standards.
- Specific tools have been developed to ease installation and subsequent maintenance. Details available on request.



Construction (Fig. 3)

1. High tensile strength screw with washer (2)
2. Aluminium alloy cover
3. Lens, clear or through coloured depending on the application
4. Labyrinth gasket
5. Lens gasket protection
6. Lens clamping ring
7. Optical assembly
8. Die cast aluminium alloy inner cover
9. Seal between light and base
10. Pressure relief and test plug
11. FAA L-823 2-pole plug moulded on heat resistant wires
12. Wire clamp with grommets
13. Terminal block
14. Film disc cutout (optional)
15. Prefocus halogen lamp - 6,6 A
16. "O" ring seal between cover and inner cover

Finish

Corrosion proof aluminium alloy cover, inner cover and optical assembly.

Electrical Supply

Series supply

6.6A through a series transformer (catalogue leaflet A.06.112).

Two or more fittings may be series-connected and fed from one series transformer making use of optional film disc or electronic cutouts.

Parallel supply

230V AC through a step - down transformer, mounted in a dedicated extension of the shallow base.

Photometric Performances

Series supply

Lamp:

- One 65W - 6.6A - Pk30d prefocus halogen lamp - 1000h rated life at full intensity, for white light distribution
- One 48W - cold mirror prefocus halogen lamp - 1500h rated life at full intensity, for green light distribution
- Also available with 45W - Pk30d lamp, for white light distribution

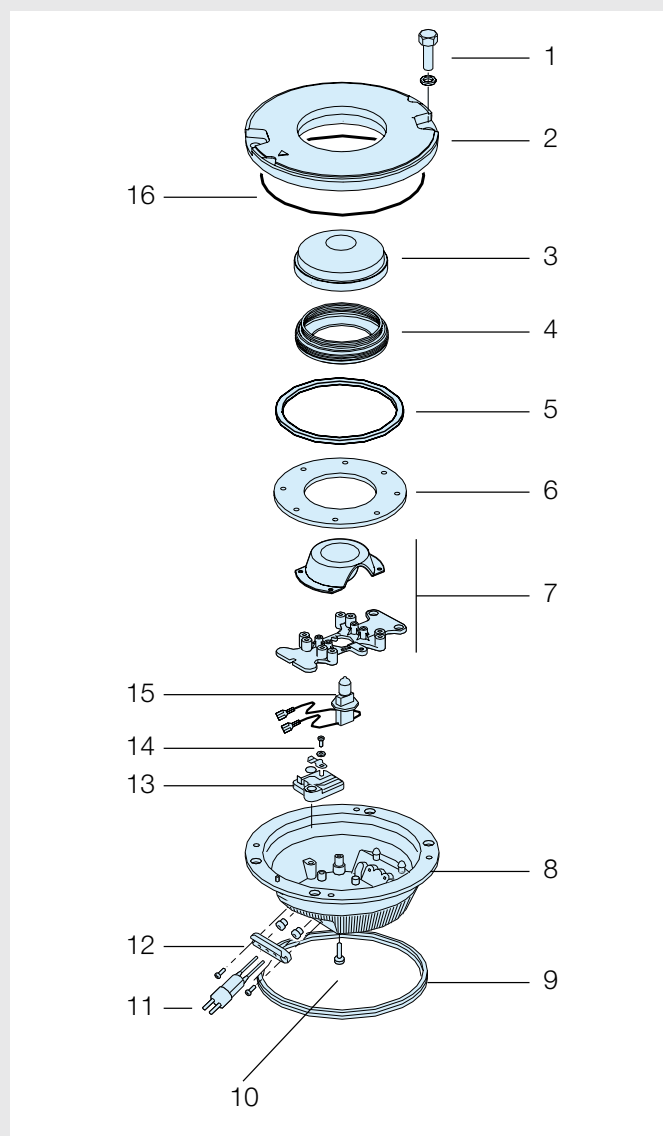


Fig. 3

FTO-vertical distribution
white light

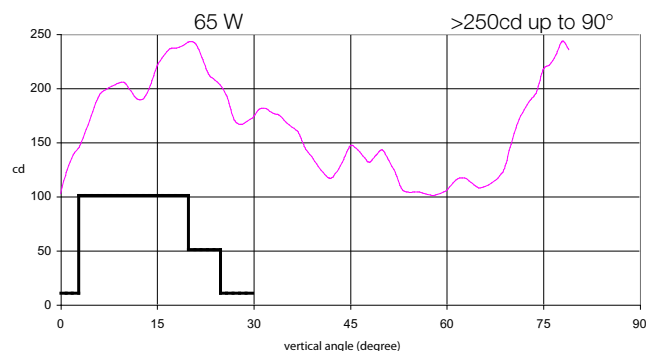


Fig. 4

FTO-vertical distribution
green light

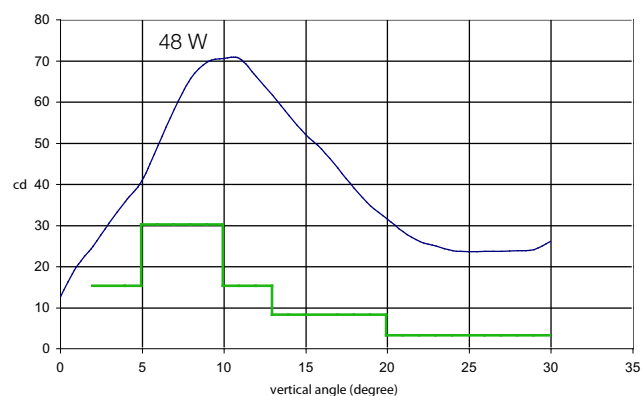
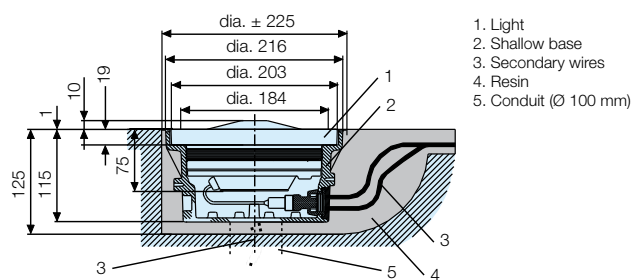


Fig. 5

Installation and Outline Dimension (in mm)



Installation on a 8" dia. HPI shallow base

Fig. 6

Packing Data

Power supply	Mounted on a shallow base	Weight (with lamp)		Cardboard box dimensions (mm)
		Net	Gross	
Series supply	no	2.7	2.9	210 x 210 x 100
	yes	5.5	5.7	230 x 230 x 150
Parallel supply	yes	5.5	5.7	230 x 230 x ...

Installation

Series supply

The 8" or 12" shallow base is sealed by means of resin. Correct positioning and alignment are obtained with a jig with sighting telescope. Wires between the light and the series transformer are installed in sawcuts in the pavement filled with resin. Alternatively, the wires can be run into a conduit ending into the bottom of the base. Mounting on existing or new larger diameter bases is possible by means of dedicated adaptor rings.

Parallel supply

The FTO is delivered mounted on a 8" shallow base (Fig. 6). The 8" base is sealed by means of resin. Correct positioning and alignment are obtained with a jig with sighting telescope. The power supply cable is installed in sawcuts in the pavement filled with resin.

For detailed information, please refer to the mounting instructions supplied with the FTO.

ADB's technical team is at disposal of users and contractors to provide guidance and advice in order to help solving any particular installation problem.

Ordering Code

FTO 3 045 O C 1 S

Type
FTO _____

Beam
Omnidirectional = 3 _____

Lamp power
1 x 45W = 045
1 x 48W = 048 (TLOF)
1 x 65W = 065

Beam width
Omnidirectional = O _____

Beam colour
Clear Aiming point = C
Yellow = Y
Green for TLOF = G

Mounting
Without base = 0 (*)
With 8" shallow base = 1

Power supply
Series 6.6A = S
Parallel 230V AC = P (**)

Special requirements to be specified in full text = S

Options: Film disc cutout (in fitting)

Special executions adapted to specific National Standards available.
Details available on request

* only for series supply

** always supplied with shallow base and transformer

Suggested Specification

The low intensity omnidirectional inset light shall comply with all requirements of ICAO Annex 14 Vol. II for heliport lights, paragraph 5.3.6 to 5.3.8. The electrical supply shall be either a 6.6A series circuit or a parallel 230V AC source via a build-in stepdown transformer. Depending on the application the lamp shall be either a 45W or 65W - 6.6 A Pk30d prefocus halogen lamp or a 48W cold mirror prefocus halogen lamp with an expected life of more than 1000 hours at full intensity. The lens shall be user-replaceable without need to apply sealing compound. When required the lens shall be through coloured. No separate colour filter shall be used. The projection above ground level shall not exceed 10 mm. The absence of a negative slope in front of the lens shall guarantee an optimal light output even in the worst weather conditions.

The top part of the light shall be made from forged aluminum alloy. Watertightness shall be ensured through double waterbarriers. Grommets shall be used for the entry of the wires inside the inner cover to allow for easy replacement of accidentally damaged wires. All components shall be corrosion proof without using environment aggressive protective coatings. The light shall resist all stresses imposed by rollover and static loads of present day helicopters without damage to the light or helicopter or vehicle tires. The lighting fixture shall suit for mounting on a 8"dia shallow base or on larger diameter shallow or deep bases via adaptor rings.

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EHP-L

LED Elevated Heliport Perimeter Light



Compliance with Standards

FAA: Designed according to AC 150/5390-2 Heliport Design. L-861T AC 150/5345-46 (Current Edition) and the FAA Engineering Brief No. 67. ETL Certified (L-861T).

Uses

EHP is intended for use as a heliport perimeter light. The green and yellow omnidirectional light is used to define the perimeter of the area the helicopter requires for touchdown and lift-off (TLOF).

- Yellow EHPs are typically used on military applications
- Green EHPs are typically used for new civil applications
- Blue EHPs can be used for lead-in taxiway applications

Features

- Overall height installed is less than 8 inches, complying with AC 150/5390-2C requirements for raised perimeter lights
- Average individual LED life of 50,000 hours (minimum)
- 95-264 VAC, 50/60 Hz power supply minimizes installation costs by reducing required cable run wire size. Light output stays constant regardless of input voltage range.
- EHP with arctic option (U.S. Patent 7192155 B2) uses a thermostatically controlled heater to prevent ice and snow buildup from obscuring light output. Melts ice similar to traditional incandescent fixtures.
- Thermostatically controlled heater cycles on and off when temperature drops below freezing, reducing overall energy consumption
- For voltage-driven applications, the EHP with a thermostatically controlled arctic option is 2.6 times more efficient in warm weather operations and 1.5 times more efficient than a typical 54 W(VA) fixture in cold weather operations
- More than 500,000 ADB elevated LED fixtures are in use around the USA
- Direct replacement for incandescent fixtures
- Fixture uses aluminum casting, stainless steel hardware, and is protected with aviation yellow powder coat finish
- All parts are corrosion-resistant
- Rugged, low-profile design reduces the potential for damage in the FATO perimeter
- For additional features common to all of ADB's elevated LED fixtures, see data sheet 3043.

Operating Conditions

Temperature: -40 °F to +131 °F (-40 °C to +55 °C)

Humidity: 0 to 100%

Wind: Withstands wind velocities up to 300 mph (480 kph)

Ordering Code

LED Color

G = Green¹

Y = Yellow¹

B = Blue

Power

1 = Voltage Driven, 95-264 VAC, 50/60 Hz¹

2 = 50/60 Hz, Current Driven, 2.8-6.6 A

Overall Height

1 = 8 inches with junction box, no coupling¹

2 = 16 inches with junction box, 1.5-inch coupling¹

3 = 24 inches with junction box, 1.5-inch coupling¹

4 = 8 inches w/out j-box, with 1.5-inch coupling

5 = 8 inches w/out j-box, with 2-inch coupling

6 = 16 inches w/out j-box, with 1.5-inch coupling

7 = 24 inches w/out j-box, with 1.5-inch coupling

8 = 16 inches w/out j-box, with 2-inch coupling

9 = 24 inches w/out j-box, with 2-inch coupling

A = 12 inch OAH w/out j-box, with 1.5-inch coupling

B = 12 inch OAH w/out j-box, with 2-inch coupling

Arctic Option

0 = Without arctic option

1 = With arctic option²

Notes

¹ Not ETL Certified

² When powered by a parallel circuit, heater is designed for use at only 120 VAC, ±10%, 50/60 Hz.

EHP- 0

Electrical Supply

Current Driven	
W/out Heater	With Heater
2.8-6.6 A, 50/60 Hz, 12 VA max.	2.8-6.6 A, 50/60 Hz, 27 VA max.
Voltage Driven	
W/out Heater	With Heater
95 VAC (min.) - 264 VAC (max.), 50/60 Hz, 10 W (21 VA) max.	120 VAC, ±10%, 50/60 Hz, 25 W (36 VA) max.

Installation Options

Stake mounting

A 2 x 2 x 30 inch (5.08 x 5.08 x 76.2 cm) galvanized steel angle stake assembly is sold separately (Part No. 44B0348). The EHP frangible coupling screws directly into a 1.5-inch threaded hub assembly making the fixture mechanically and electrically frangible.

Base plate

A 12-inch base plate with a 1.5-inch threaded hub assembly is sold separately (Part No. 1935). A plastic base plate with 2-inch hub is also available. The base plate mounts on a 12-inch L-867 base can (Also sold separately. Call ADB for details).

Conduit elbow

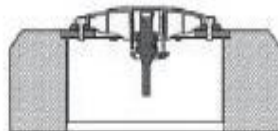
A conduit elbow with a 2-inch hub assembly is pre-cast or poured in the excavation, ready to receive the fixture at ground level. (Part No. 1409.00.020).

Junction box

A junction box ready for direct mounting or burial in concrete can be provided. Contact ADB for details.



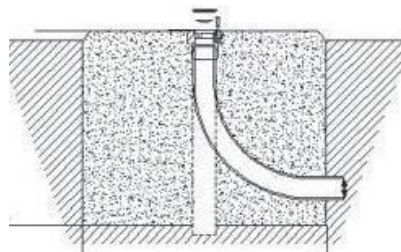
Stake Mount



Base Plate



Conduit Elbow



Conduit Elbow

Spare Components

Refer to the manual to order spare parts.

Packaging

Assembled Fixtures	Carton Dimensions		Indiv. Weight*
	Individual	12 Per Box	
8-inch OAH	6.5 x 6.5 x 20.5 in	16.5 x 21 x 20.5 in	2.75 lb
	16.5 x 16.5 x 52 cm	41.9 x 53.3 x 52 cm	1.25 kg
16-inch OAH	6.5 x 6.5 x 20.5 in	16.5 x 21 x 20.5 in	2.75 lb
	16.5 x 16.5 x 52 cm	41.9 x 53.3 x 52 cm	1.25 kg
24-inch OAH	6.5 x 6.5 x 31 in	16.5 x 21 x 33.5 in	4 lb
	16.5 x 16.5 x 79 cm	41.9 x 53.3 x 85 cm	1.81 kg

* Weight based on unpacked EHP with arctic option

Energy Cost Savings

LED Fixture Load	Incan./Tungsten Halogen Load	Energy Savings
Current Driven, Without/Inactive Heater¹		
12 VA	54 VA	4.5 times
Current Driven, without Heater Active¹		
27 VA	54 VA	2.2 times
Voltage Driven, Without/Inactive Heater¹		
21 VA	54 VA	2.6 times
Voltage Driven, without Heater Active		
36 VA	54 VA	1.5 times

¹ Fixture load does not include isolation transformer load

Heliport Facility and Training Manual

DRAFT Vail Valley Medical Center Heliport

181 West Meadow Drive
Vail, Colorado 81657

December 5, 2016



Developed & Distributed By:



HELIEXPERTS INTERNATIONAL LLC
Formerly Raymond A. Syms & Associates



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TABLE OF CONTENTS

Section	Description	Page
1	Application	1
	Facility Information	4
	Aeronautical Map Overlay	5
	Heliport Airspace Overlay	6
	Heliport Site Overlay	7
2	Responsibilities and Guidelines	8
	• Administration	8
	• Medical Staff	9
	• Security Staff	9
	• Maintenance Staff	11
3	Safety and Training Program	13
	• Application	13
	• Basic Information: The Helicopter	13
	• Hazards of Rotating Blades	14
	• Personnel Around Helicopters	15
	• Noise Hazards	16
	• Downwash Hazards	16
	• Heliport General Safety List	17
4	Emergency Procedures & Notification Sheet	18
5	Emergency Grid Map	20
7	Heliport Emergency Planning and Training	21
8	Pilot Briefing Sheet	24

APPLICATION

This Heliport Facility and Training Manual is designed for the heliport owner and designated users. This manual covers the minimum standards that should be addressed with respect to facility administrative management, security and maintenance oversight, flight operations, safety and training.

This manual is designed to be used for the initial training of all personnel whose job description includes any activity involving work conducted on or around the heliport. Prior to participating in any helicopter operations all personnel should participate in the training outlined in this manual. Subsequently this manual and its outlined training is designed to facilitate annual recurrent training requirements set forth in NFPA-418, Chapter 10.2.

This manual provides the necessary background information and required reading for the property owner, his representative(s) and property management team to be competent and conversant in safe heliport operations. Everyone directly or indirectly involved with these functions should be provided the opportunity to review this manual, to include the sections on safety, general operating rules, along with professionally administered hands-on training for individuals whose duties include responsibilities at or around the heliport.

PILOT BRIEFING SHEET & FACILITY INFORMATION PACKET

Section 8 on page 25 contains a Pilot Briefing Sheet which has been specially designed for dissemination to flight operations personnel. Anyone at the facility dealing with the heliport and flight operations should refer to and be familiar with the facility information included on pages 1 through 7. The aforementioned Pilot Briefing Sheet should be made available to any and all helicopter operators who may have a foreseeable need or requirement to land at this facility.

EMERGENCY PROCEDURES & NOTIFICATION SHEET

An Emergency Action Plan and Notification checklist can be found on pages 17 and 18. This checklist is to be utilized in the case of any helicopter incident or accident. The heliport owner should post this checklist conspicuously for use on-site to include maintaining a copy at security. Pre-accident planning and training should be practiced on an annual basis to ensure all personnel are properly trained. This is in addition to the Heliport Emergency Procedures section which details specific training procedures and interfaces with the local emergency management representatives.

CAMPUS EMERGENCY/SECURITY GRID MAP

On page 19 is an Area Emergency/Security Grid Map with street labels as recommended by NFPA-418 Annex B.1.4.5. In the event of an incident or accident this map can be used to describe the exact location of an emergency occurring near the heliport site. Copies of this map should be posted in the heliport waiting area where security personnel are stationed during flight operation as well as supplied to the local Fire Station(s).

PPR (PRIOR PERMISSION REQUIRED):

Vail Valley Medical Center (VVMC) policy requires a Letter of Agreement for any helicopters to land at their heliports. This can be accomplished through direct contact with the heliport manager xxxxxx xxxxxxxx, at (xxx) xxx-xxxx who will refer requesters to the proper personnel.

For those helicopter operators where written permission is in place, Hospital Security along with in-house medical contacts will be notified of any helicopter transport as soon as it has been scheduled. VVMC will act as the coordinator for all helicopter and heliport operations. Specific notice is required for each operation. All standard operators will have reviewed this material and have a specific written agreement for use of the VVMC Heliport. Pilot acknowledgement of reading and agreeing to follow the prescribed procedures contained within this briefing material is required.

FLIGHT PATHS:

Recommended heliport Approach/Departure paths are depicted on enclosed aerial photo inserts.

Approach/Departure Paths:

- **280° / 100°**
Is a curved approach/departure path oriented along the I-70 Interstate corridor to the East of VVMC and supports a standard approach departure angle of 8-12° and greater, and is free of obstacles within the 8:1 App/Dep floor as of the printing of this manual and is suitable for day, night and NVG operations.
- **060° / 240°**
Is a curved approach/departure path oriented along the I-70 Interstate corridor to the west of VVMC and supports a standard approach departure angle of 8-12° and greater, and is free of obstacles within the 8:1 App/Dep floor as of the printing of this manual and is suitable for day, night and NVG operations.

Low altitude overflight of the Vail Valley residential areas to the south of the I-70 Interstate corridor beyond the recommended approach departure paths should be avoid whenever possible. Pilot discretion and safety of operations dictate the best course of action for all potential situations.

SIZES AND LIMITATIONS:

The “Design” helicopter for the VVMC heliport is the AgustaWestland AW-139.

Key Heliport Dimensions Area as Follows:

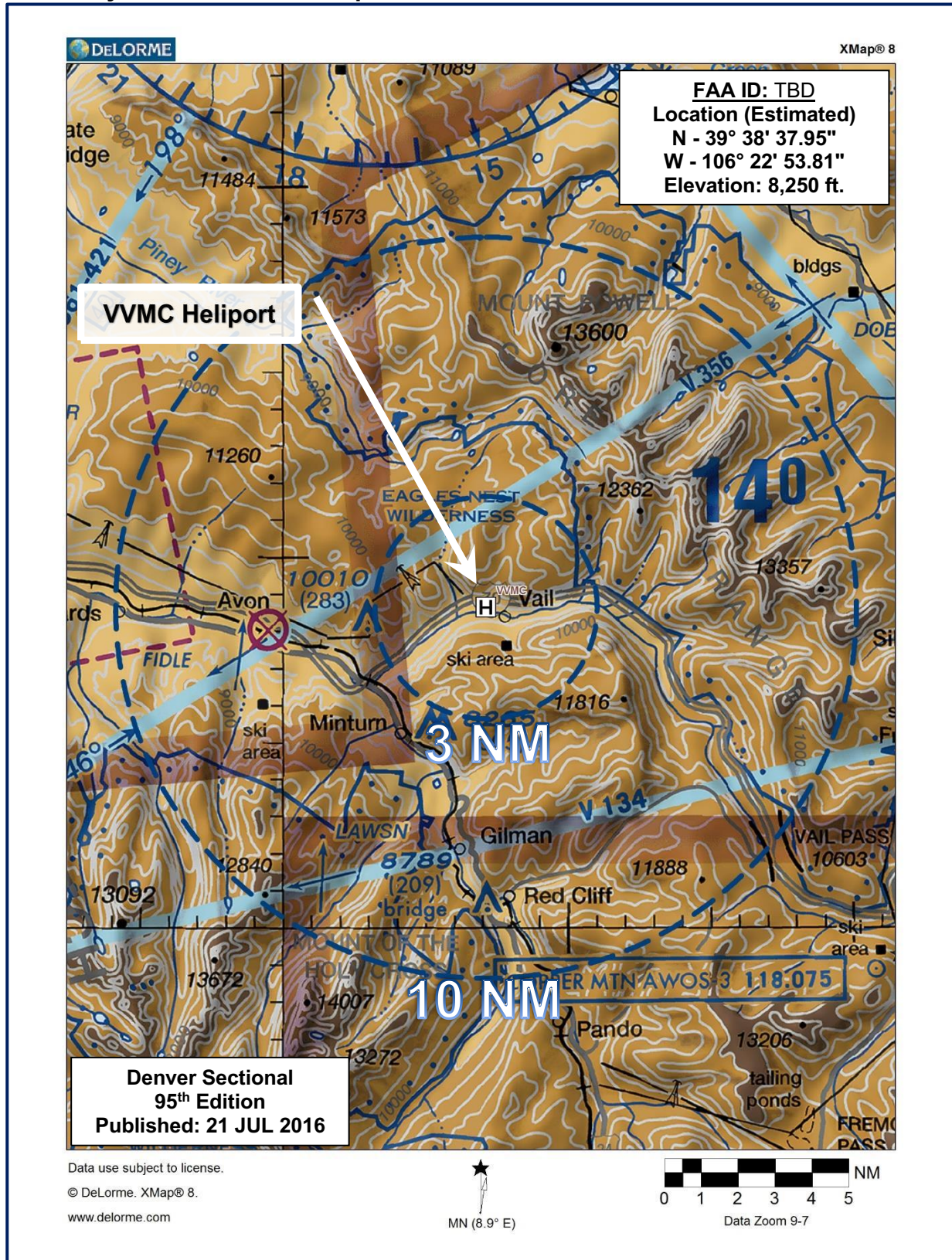
- TLOF (Touchdown and Liftoff Area): 46' X 46'
- FATO (Final Approach and Takeoff Area): 85' X 85'
- FATO Safety Area: 115' X 115'
- TLOF Max Gross Weight Capacity: 15,000 lbs.

FACILITY INFORMATION

FAA Identifier	-To Be Determined-
Facility Name	Vail Valley Medical Center Heliport
Address	181 West Meadow Drive Vail, Colorado 81657
Latitude/Longitude <i>(estimated GPS)</i>	N - 39° 38' 37.95" / W - 106° 22' 53.81" N - 39° 38.633' / W - 106° 22.897' N - 39.643876° / W - 106.381615°
Heliport Elevation <i>(estimated)</i>	8,250 ft. / 2,514 m (MSL) // 75' / 23m (AGL)
Preferred App/Dep Paths	280° / 100° <i>(curved)</i> 060° / 240° <i>(curved)</i>
Magnetic Variation	9.02° E
Size:	TLOF: 46' X 46' FATO: 85' X 85' FATO Safety Area: 115' X 115'
Max Gross Weight	15,000 lbs.
Lighting	Perimeter
Wind Indicator	Yes / Lighted
AWOS	xxx.xxx
Radio Frequency	xxx.xxx
Hours of Operations	Day & Night / VFR Only
Type Operations	Private Use PPR <i>(Prior Permission Required)</i>
On Site Manager	XXXXXX XXXXXXXX
• Phone (office)	(xxx) xxx-xxxx
• Phone (cell)	(xxx) xxx-xxxx
Security	(xxx) xxx-xxxx
Maintenance	(xxx) xxx-xxxx

AERONAUTICAL MAP OVERLAY

Vail Valley Medical Center Heliport



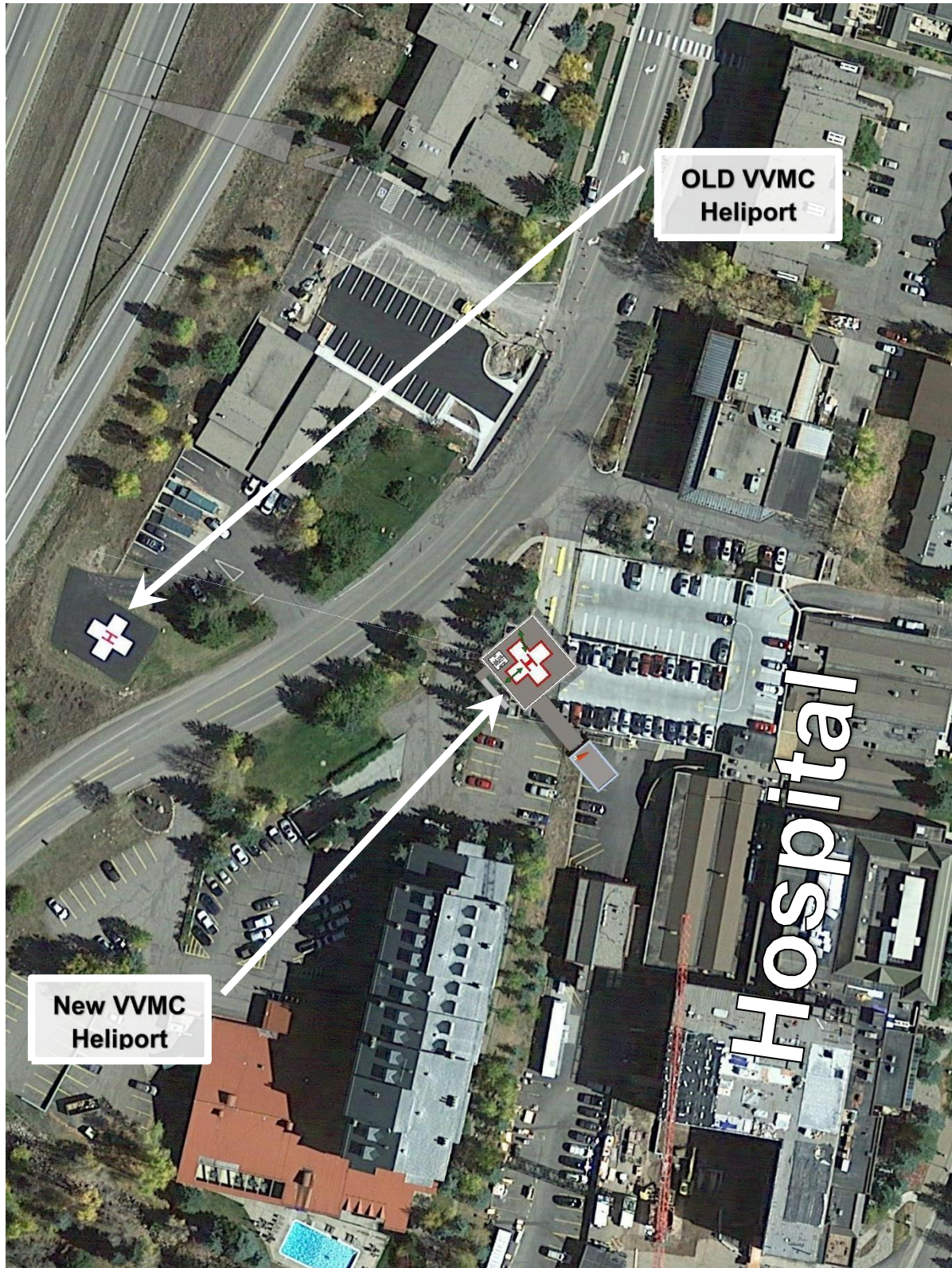
HELIPORT AIRSPACE OVERLAY

Vail Valley Medical Center Heliport



HELIPORT & BUILDING AREA

Vail Valley Medical Center Heliport



Responsibilities and Guidelines

Four separate departments are involved to one degree or another with helicopter operations:

- Hospital Administration
- Hospital Medical Staff
- Security Staff
- Ground Maintenance Staff

Each department head is responsible for the safe and proper conduct of his or her staff members who, as part of their job functions, are exposed to operating helicopters at the heliport.

HOSPITAL ADMINISTRATION

The VVMC Facility Manager is charged with the overall operational responsibility of the landing area and will review and authorize requests for the use of the facility. All transport requests should go through the on-staff Emergency Room Department Head to ensure all parties have been notified of any pending transports.

Safety requests should always receive the highest priority. Requests to operate the heliport for operations directly related to the specific site mission should receive the next priority. All accommodating operations that are not directly associated with patient transport (e.g., training, education and/or public relations events) must be reviewed and approved by senior management personnel.

VVMC administration, legal, safety and risk management departments will coordinate for permission of all Helicopter Air Medical Transport agencies to assure the operator has the appropriate certifications, insurances as well as has named "Vail Valley Medical Center", its management and design team as "Additionally Named Insured" on the appropriate insurance policies. VVMC facilities manager will assure that all helicopter air ambulance operators have copies of the appropriate VVMC policies and a copy of the most up to date Pilot Briefing Information Sheet.

Hospital administration has designated the VVMC Emergency Department (ED) responsible for informing VVMC's security of the details governing any authorized patient transports or helicopter landings. The expected date and time of landing, anticipated ground time (if any), type of patient to include patient destination and contact with the aviation organization involved are the minimum requirements that should be addressed and communicated. Any special needs, such as specialty patient requirements i.e. Stemi,

Neonate, Balloon Pump..., multiple patients, bariatric patient, multiple aircraft and extended ground times should be handled on a case-by-case basis.

The hospital administration has designated the Facilities Director to be the lead in all matters dealing with the FAA and other agencies as it pertains to their heliport and flight operations at their facility. The Director of Safety and Director of Facilities will be familiar with all pertinent information regarding the FAA Airport Master Record (FAA Form 5010) and the need for keeping that information up to date. It is noted that FAA regulations require a minimum of 90 days' notice for any construction, alteration, activation, deactivation, or changes in status at any heliport. There are also additional notification requirements for any aviation hazards which may occur on or around the heliport.

HOSPITAL MEDICAL STAFF

Patient Transport:

The department requesting or initiating a request for the helicopter will contact the VVMC ED to inform them of the transport request. The ED will notify VVMC security of the pending helicopter patient transport. Medical staff may be requested to assist with patient movement to the helicopter.

Additional information that should be passed along to the ED and Security Department as soon as possible in regards to any transport is: patient type i.e. Neonate, Stemi, Burn, Trauma..., need for additional lifting help, if any, number of patients, multiple aircraft and what transport program is being utilized.

HOSPITAL SECURITY STAFF

In addition to those specific items identified in the Heliport General Safety section, the following list identifies specific general responsibilities for security personnel.

1. Each shift of the security personnel should include a visual inspection of the heliport to ensure that there are no unauthorized personnel, snow, ice, or debris on the heliport that may affect safe operations. If possible, immediate removal of any unwanted personnel, or correction of any deficiencies, should be performed. If such action cannot be accomplished, the heliport should be taken out of service and secured until the situation can be rectified. Regional helicopter air ambulance dispatch centers along with the hospital ED will also need to be notified immediately.
2. Check all lights and lighting systems daily. Lights that are not functioning should be reported immediately to the facilities maintenance department in charge of repairing such items. Any other safety discrepancy should also be corrected. Flight operations personnel should be notified immediately of any discrepancy.
3. A security person shall be present for all operations, e.g. landing, takeoff and loading.

4. Onsite security personnel shall be trained in the proper operation of the heliport foam fire suppression system and available portable fire-fighting equipment.
5. Onsite security personnel shall also be fully trained in the activation of the facilities Emergency Action Plan.
6. Onsite security personnel shall be fully trained in the location and use of all pertinent fire alarms.
7. All security personnel should wear hearing and eye protection during all helicopter flight operations which they are exposed to as directed by OSHA standards.
8. At a minimum, 10 minutes prior to the scheduled arrival of any helicopter, onsite security personnel will go to the heliport and conduct a pre-check to verify safe and operational conditions exist. Security personnel will then await radio or telephone contact regarding the incoming helicopter.
9. When the helicopter is in sight or can be heard, onsite security personnel will reaffirm that the rooftop heliport is secure and clear.
10. Onsite security personnel shall ensure that no one approaches the aircraft while the rotor blades are in motion, unless clearly and specifically authorized by the pilot or crew on the helicopter. DO NOT APPROACH the helicopter unless specifically instructed to do so by the pilot and only if properly equipped with hearing and eye protection and trained to do so in the manner instructed by the flight operations program being utilized.
11. Onsite security personnel shall ensure that bystanders and any personnel not connected directly with the helicopter operation and the patient transport are kept clear of the heliport and at a safe distance.
12. Onsite security personnel may be asked to assist flight crew or staff members during patient transport.

Safety Equipment List

The following equipment is to be stored in the heliport designated area at all times and readily available for onsite operations:

1. Hearing Protection (*required within 100' of running helicopter*)
2. Safety Glasses (*required within 100' of running helicopter*)
3. Portable Fire Extinguisher
4. Radio or cell phone for direct communications with helicopter or flight department

HOSPITAL MAINTENANCE STAFF

VVMC maintenance personnel are not ordinarily associated with the operation of the helicopter during normal flight operations. However, the facility maintenance team's responsibilities are significant and contribute to the overall safe and efficient use of the heliport. Beyond the knowledge of those items identified in the Heliport General Safety guidelines, maintenance team members are responsible for the following:

1. Maintain the heliport, the lighting system, fire extinguisher and the surrounding area in a clean and orderly manner. Removal of snow, ice, and any other debris from the area of the heliport will be the responsibility of maintenance in coordination with security and hospital administration.
2. Repaint heliport markings when they become faded or worn and difficult to see and identify.
3. Replacement of the windsock fabric before it becomes worn and tattered and no longer functional and replacement of the windsock lights as needed.
4. Perform, at a minimum, a weekly check of all lights and lighting systems when onsite. Lights that are not functioning should be replaced or repaired immediately. Any other safety discrepancy should also be corrected. Flight operations personnel should be notified immediately of any discrepancy. Coordination with VVMC security department should occur during normal daily operations for any additional maintenance requirements.
5. Notify VVMC administration, security personnel and regional helicopter air ambulance flight operations immediately if the heliport is not fully functional for any reason. One of the regional helicopter air ambulance flight operations can assist in making the determination on how a discrepancy may affect their operations at the heliport and suggest the most appropriate course of action. This may entail operational restrictions be imposed until corrective action can be taken. For example, if there were a problem with the heliport lighting a restriction of daytime only operations may be appropriate.

SNOW AND ICE REMOVAL

Areas located in northern latitudes where an appreciable amount of snow can be expected during the winter months need to develop strategic snow removal processes and procedures for their heliport. A functional approach that will provide for easy removal and disposal of accumulated snow so as not to create a hazard around the heliport and prevent potential white out conditions and slip and fall hazards is critical to long term safety.

The heliport itself should be cleared of snow and ice whenever possible prior to helicopter operations being conducted.

To remove ice from heliports and access ramps you should NEVER use Rock Salt. Rock Salt is an extremely corrosive material in nature and can cause significant damage to a helicopters metallic structure. Rock Salt can, under the right conditions, become a serious safety hazard by becoming blown debris by a helicopters rotor wash reaching an appreciable velocity that can cause serious injury to staff or bystanders.

A good low cost alternative to Rock Salt for ice and snow melt purposes is a chemical known as “Urea”. Urea, or carbamide, is an organic compound that is synthesized from natural gas. The primary use for urea is as a macronutrient ingredient in fertilizers where it provides a ready source of nitrogen.

There are other commercial snow and ice melt products specifically designed for aircraft applications such as potassium acetate, sodium formate and glycol to name a few that may also be used. However, some of these products can be expensive and a thorough understanding of local EPA regulations is important. Prior to using any commercial products for removing snow and ice it is highly recommended that the helicopter’s manufacture criteria be referred to for any potential compatibility issues that may exist.

A long-term solution for snow and ice removal at heliports may be the incorporation of a snow melt system. This is something that is much easier to accomplish during the initial design phase of a heliport. Snow melt systems generally use either electrical heating elements imbedded in the concrete or heated glycol which is pumped through piping imbedded into the heliport itself.

For additional wintertime safety strategies and recommendations refer to FAA Advisory Circular AC 150/520-30C, Airport Winter Safety and Operations.

SAFETY AND TRAINING PROGRAM

APPLICATION

The purpose of the safety and training program is to familiarize all personnel with the hazards associated with heliport flight operations and helicopter transport. It also provides maintenance personnel with standard operating procedures for the ongoing upkeep and maintenance of the heliport.

This manual and its information is designed to supplement all Flight Operations Departments that may operate at this facility as well as create standard operating procedures for the onsite heliport. Any helicopter specific hands on training should be conducted with the appropriate helicopter transport personnel. Any conflict arising between existing protocols and this manual should be resolved immediately between administrative staff and the appropriate representative from the helicopter flight program.

Each member of the building support team, including authorized heliport manager(s), should be intimately familiar with the contents of this section of the Heliport Facility Manual. Following a reasonable time for review and study, the supervisor of each support service team will personally evaluate each team members capability with respect to the hazards associated with working around operating helicopters and the responsibility to perform his or her duties in a safe and professional manner.

NO ONE shall be allowed on or around the heliport during flight operations, unless they have been specifically trained by a qualified person. The training, testing and authorization of individuals may be administered and controlled by instituting a documented and written training checklist for both initial and annual recurrent training purposes. *(This process is highly recommended)*

BASIC INFORMATION: THE HELICOPTER

While each helicopter has its own distinct design and characteristics, the mechanics of control are basically the same. The single-rotor helicopter produces lift by rotating airfoils (rotor blades) at speeds of 350 to 500 revolutions per minute (rpm). These rotor blades are driven by an engine(s) through a transmission. While an airplane requires forward airspeed to produce lift over its wings, the helicopter need only rotate its blades to achieve the same results.

To produce lift, the pilot merely raises the ***collective pitch control*** located on the left side of the pilot seat. This effectively changes the pitch angle of all rotor blades collectively, thereby increasing or decreasing the resultant lift. As the rotor blades revolve, they form a disc, called the rotor disc. The cyclic stick that is located in front of the pilot's seat controls the rotor disc tilt for directional control. To move the helicopter forward, the cyclic stick is moved forward, tilting the rotor disc only a few degrees down

in front. The resulting thrust pushes the helicopter forward. Movement of the cyclic control either laterally left or right or in the rearward direction results in a similar action, as the helicopter will then move in the desired direction. In forward flight, the cyclic stick controls forward speed, direction of flight, and, in coordination with the collective control, altitude.

The **anti-torque rotor**, also known as the **tail rotor**, counteracts and controls the torque created by the main rotor. Without a tail rotor, the body of the helicopter would normally spin at a hover (with direction varying by helicopter model), reacting to the rotation of the main rotor blades. The tail rotor also provides heading control for turning while at a hover or in flight. Hovering turns are made as the pilot changes the pitch of the tail rotor blades by using the **tail rotor pedals**, located on the cockpit floor just in front of the pilot's seat.

HAZARDS OF ROTATING BLADES

There exists a definite hazard for blade contact to those not familiar with the procedures required for safe operations around a helicopter whose rotor blades are turning. The main rotor blades on certain types of helicopters can droop to below four feet above ground level when the aircraft is being started or stopped, i.e. slow moving blades. Being familiar with the various makes and models of helicopters that will ultimately utilize your facility and the required main and tail rotor clearances they require will improve overall operational safety.

Due to their high rotational rate the turning tail rotor blades of a helicopter can be invisible to the naked eye and should command great respect. Some tail rotor systems are only a foot or so above the ground and average about five feet in diameter. Extreme caution should be exercised when walking around an operating helicopter and personnel should NEVER walk toward the tail end of the helicopter or approach a running helicopter from the rear. Passing behind a running helicopter is extremely dangerous as the tail rotor extends beyond the end of the aircraft and the rotating blades are not easily visible.

NEVER pass behind an operating helicopter! Always approach the helicopter in full view of the pilot and only after receiving his or her permission to do so. The tail rotor cannot be seen from the cockpit and is not generally lighted; as a result, it is even more difficult if not impossible to see at night.

There are some specific models of helicopters that you may encounter that are only safe to approach and depart from the sides, not directly from the front of the helicopter. Knowing these differences is crucial to maintaining a safe working environment at the heliport.

PERSONNEL AROUND HELICOPTERS

There should be a designated area clear of the helicopter landing and takeoff area where personnel assisting in the flight operation can safely wait for the helicopter to land or takeoff. This area should be identified with some type of signage and or visual markings on the pavement and should be included in both initial and annual recurrent training. As a general rule of thumb a safe distance for individuals near the heliport to remain clear is at least 200' from the Touchdown and Liftoff (TLOF) area.

It must be made clear to all personnel connected with the program that no one, other than those properly briefed and trained, may approach an operating aircraft. Responsibility for this lies with the administration and is a basic requirement for helicopter safety. A strong commitment to safety must be made to protect everyone from the hazards of the rotating main and tail rotor blades.

Who may approach the helicopter?

1. Authorized and trained personnel only.
2. Only the necessary number of individuals to accomplish the required task.

When to approach the helicopter?

1. Only approach the helicopter after:
 - a. The helicopter has touched down and;
 - b. The engine speed has been reduced to idle and;
 - c. When a pilot or another crew member has exited the helicopter and;
 - d. When a visible and clear signal has been given from the pilot to approach.

How to approach the helicopter?

1. Approach from front, preferably from the 10 and 2 O'clock position or the sides as appropriate for the helicopter make and model being used.
2. Remain visible to the pilot at all times.
3. Do not run, always walk.
4. **Never** approach from or depart towards the tail of the aircraft.
5. The airspeed probe of the helicopter is generally a bare metal pointed tube with a hole in the center of it located at the front of the helicopter. They can be hot if the anti-ice heater for that probe has been activated. It is highly recommended not touch the airspeed probe at any time.

NOISE HAZARDS

Helicopter engines, blades and transmissions produce a great deal of high frequency sound; therefore, continual close-in exposure can impair and damage hearing. Personnel in and around an operating helicopter should be provided and use appropriate hearing protection as spelled out by OSHA criteria.

CAUTION helicopter noise can make verbal communication very difficult around the helicopter and this can lead to miscommunication and confusion. The typical high noise area is generally restricted to within 50' of the helicopter at ground idle but will be greater when aircraft are at full throttle, at a hover, taking off or landing.

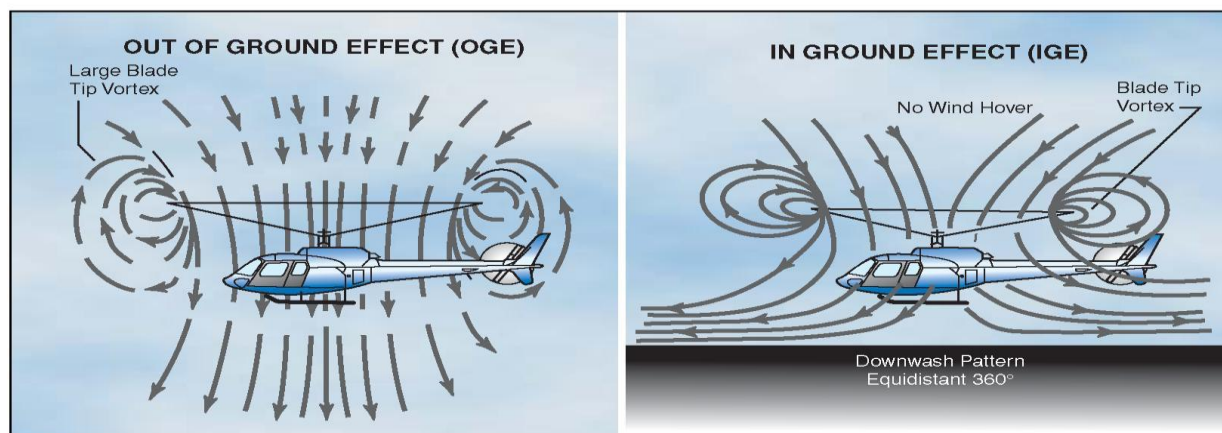
Members of the general public should never be within this area when the helicopter is running.

Helicopter noise may cause disorientation and severe distraction to those not familiar with helicopters. Main rotor, tail rotor and engine noise, in addition to the engine exhaust, can distract personnel. Always use caution.

DOWNWASH HAZARDS

Helicopters can generate a significant amount of air flow during normal operations. From the perspective of ground safety, we are most concerned with the wind generated by the helicopters during hovering operations or slow flight, e.g. landing and takeoff. The figures below illustrate a typical helicopters downwash AKA "Rotor-Wash".

The velocity of the rotor wash of a helicopter is dependent on its disc loading. As a general rule, larger heavier helicopters have higher disc loadings and therefore will develop higher downwash velocity. For example an S-76 (one of the larger helicopters in EMS service) has a horizontal velocity of about 40 MPH some 40' from the center of the rotor. This downwash can extend some distance, up to 3-4 rotor diameters away from the helicopter. Locations within this area of influence should be inventoried and kept clear of loose debris, persons and sensitive property during all operations.



HELIPORT GENERAL SAFETY

The following guidelines are applicable to all staff members:

1. No unauthorized personnel are to be on the heliport any time the heliport is active. Only designated and trained personnel should be around the heliport.
2. No one is allowed on the heliport while the rotor blades are in motion unless directed by and specifically authorized by the pilot.
3. Never approach the helicopter until signaled by the pilot or other flight crew member.
4. At no time is anyone permitted near the tail of the aircraft. Certain helicopters also have hazards to the front of the helicopter. Be familiar with the different procedures needed for the type of aircraft utilizing your heliport.*
5. Always approach the aircraft in full view of the pilot.*
6. No smoking is permitted on the heliport or within 50' of the helicopter itself.
7. No running is permitted on or in the vicinity of the heliport.
8. No, hats, bed sheets, loose articles, trash, or other objects and debris that could be blown by or ingested by the helicopter should be allowed on the heliport.*
9. Do not throw anything toward or from the aircraft.*
10. Only properly trained and qualified personnel should be allowed to assist with the boarding of passengers from a running helicopter.*
11. Do not lift anything higher than eye level when near the helicopter.*
12. No equipment is to be under the rotor disc of the helicopter at any time.*
13. During night operations, care should be taken that any lights, floodlights, flashbulbs, etc. be pointed away from the aircraft while it is landing or taking off.
14. Helicopters should never be left unattended at the heliport. There should always be a crewmember or security staff member at the helicopter at all times. Helicopters by their very nature are subject to the curious.
15. Be familiar with emergency action plans that include provisions for a helicopter mishap on or in the vicinity of the heliport. Be knowledgeable of, and able to perform, assigned duties.

(*) denotes items where the procedures for a helicopter parked with the blades stopped do not pose the same need for extreme caution.

VAIL VALLEY MEDICAL CENTER

EMERGENCY ACTION PLAN

PROCEDURES & NOTIFICATIONS **IN THE EVENT OF AN ACCIDENT!**

- 1. *Communications:*** The heliport security person on duty will contact the appropriate public emergency agencies (i.e., fire or police department) by dialing **911** and advise them of the exact emergency, where it is located, what assistance is needed, and if there are any injuries. If assistance is needed other than on the heliport, refer to the Area Map with labels posted in the heliport document cabinet for appropriate area and street names. The authorized helipad manager is required to carry a radio at all times and a hard line telephone is located in the main building office which also serves as the Helistop office. If there are injuries to any persons, the security person will assist in a manner consistent with the situation and capabilities of that person and training received.
- 2. *Fires:*** The authorized helipad security person will attempt to control any small fires with the portable fire extinguishers and assist in the safe evacuation of any crew, passengers or other personnel. This also applies to fires not associated with the helicopter or heliport.
- 3. *Follow-up:*** Property management will then coordinate follow-up efforts with the following public safety agencies as needed:

Vail Police Department:

(xxx) xxx-xxxx

Vail Fire Department:

(xxx) xxx-xxxx

NOTE: Use 911 for urgent communications

- 4. *Aviation Notifications:*** After the situation is under control, if the accident involves substantial damage to the aircraft or personal injury, notify the following:

FAA Flight Standards District Office:
Denver FSDO

(800) 847-3808

National Transportation Safety Board (NTSB):
24-hour Response Operations Center (ROC)

(844) 373-9922

HELIPORT Emergency Action Plan - Cont.

5. **Reporting:** If there is doubt about the need to report the accident, call any of the above agencies with a brief description of the circumstances to determine whether or not a formal report is required.
6. **Crash Site:** In the event of a serious aircraft accident, property management or their designee will ensure the crash site is preserved until the NTSB or its authorized representative takes custody of the wreckage and establishes control of the site. The following items are standard NTSB protocols that should be followed.
7. **Establish a Perimeter**
 - Protect property
 - Prevent the disturbance of wreckage and debris except to preserve life, rescue the injured, or protect the wreckage from further damage
 - Protect and preserve ground scars and marks made by the aircraft
 - Admit Public Safety Personnel access to the wreckage to the extent necessary to preserve life, and/or stabilize HAZMAT
 - Maintain a record of personnel who enter the accident site
8. **Prior to NTSB Arrival on Scene, Restrict Access only to Authorized Personnel**
 - FAA
 - Police/Fire/EMS
 - Medical Examiner/Coroner
 - Other Emergency Services Agencies

NOTE: While the formal notification to the NTSB by the *operator* of the aircraft is required under NTSB 830-4, some state regulations require the licensees or their agents to report ALL aircraft accidents/incidents on or near their facility to the local police and the State Aeronautics Authority.

MEDICAL EMERGENCIES – If the emergency does not involve the helicopter; follow the normal building management procedures for addressing the medical emergency.

DANGEROUS GOODS – These materials are not anticipated to be on the heliport. In the event they are on the heliport; please contact the Security Department.

NATURAL DISASTERS & SECURITY ISSUES – Reference building management's published formal or informal policy and procedures.

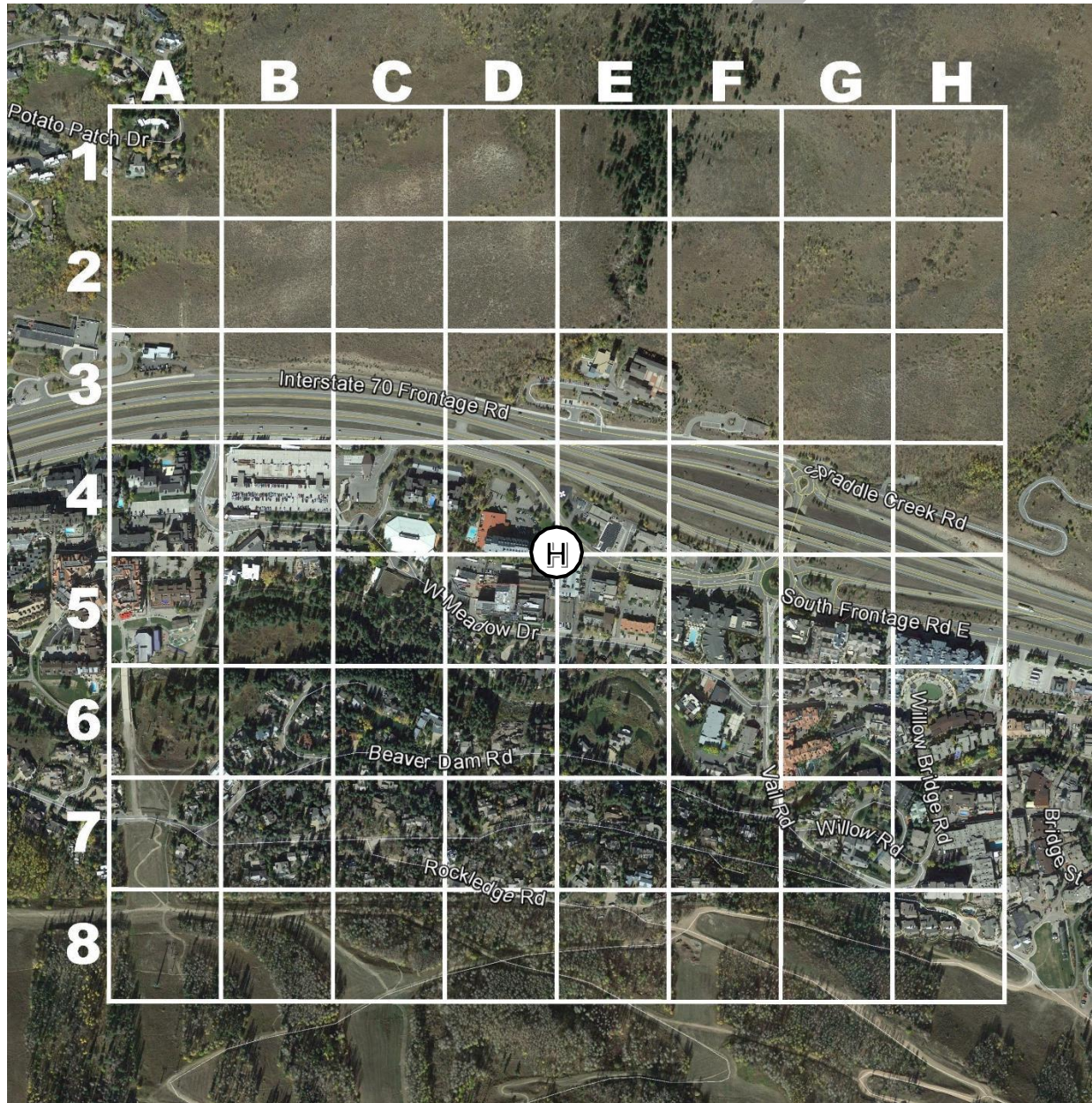
**NOTE: The Fire and Police Department are the leads in the event of an emergency and in charge of the scene upon arrival.*

VAIL VALLEY MEDICAL CENTER EMERGENCY GRID MAP

IAW NFPA-418

(To be posted at Heliport & at local first responders' stations)

Grid squares are 500' X 500', total grid is 4,000' X 4,000'



HELIPORT EMERGENCY PLANNING AND TRAINING

SECTION I/A/W NFPA 418

Items not already covered in this manual will be jointly developed with Philadelphia 76ers Camden Training Facility administration, fire safety professionals and local public safety agencies and included as either supplements or additions to this manual.

Some of these already exist in the system and need only to be incorporated or referenced. Examples include medical emergencies, fires and natural disasters.

Appropriate details concerning emergency planning and interface with first responders can only be developed as a result of a one on one team effort.

NFPA-418 / Annex B Heliport Emergency Planning and Training for Safety Personnel

This annex is not a part of the requirements of this NFPA document but is included for informational purposes.

B.1 General.

If safety personnel are provided at a heliport, the heliport operator should provide initial and recurrent training aimed at providing the safety personnel with the knowledge and skills necessary to deal effectively with an emergency at the heliport.

B.1.1 The training should address, at least, the following subjects:

1. Operation of the heliport
2. Safety procedures around helicopters during ground operations
3. Communication systems at the heliport
4. Heliport emergency plan

B.1.2 Heliport emergency planning is the process of preparing a heliport to cope with an emergency that takes place at the heliport or in its vicinity. The following are examples of heliport emergencies:

1. Aircraft emergencies, such as crashes on or off the heliport
2. Medical emergencies
3. Dangerous goods occurrences
4. Fires
5. Natural disasters

B.1.3 The purpose of heliport emergency planning is to minimize the impact of an emergency by saving lives and maintaining aircraft operations.

B.1.4 The heliport emergency plan sets out the procedures for coordinating the response of heliport agencies or services (e.g., air traffic services unit, fire-fighting services, heliport administration, medical and ambulance services, aircraft operators, security services, and police) and the response of agencies in the surrounding community (fire departments, police, medical and ambulance services, hospitals, military, and harbor patrol or Coast Guard) that could be of assistance in responding to the emergency.

B.1.4.1 A heliport emergency response plan should be established at a heliport.

B.1.4.2 The plan should identify agencies that, in the opinion of the heliport operator, could be of assistance in responding to an emergency at the heliport or in its vicinity.

B.1.4.3 The plan should specify the procedures for at least the following emergencies:

1. Aircraft crash or other accident within the heliport perimeter
2. Aircraft crash outside the heliport perimeter
3. Trauma injury to personnel
4. Medical emergencies

B.1.4.4 Where an approach/departure path at a heliport is located over water, the plan should identify which agency is responsible for coordinating rescue in the event of an aircraft ditching and indicate how to contact that agency.

B.1.4.5 The plan should include, at a minimum, the following information:

1. Types of emergencies planned for
2. How to initiate the plan for each emergency specified
3. Names of agencies on and off the heliport to contact for each type of emergency, with telephone numbers or other contact information
4. Role of each agency responding to each type of emergency
5. List of pertinent and available on-heliport services with telephone numbers or other contact information
6. Copies of any agreements with other agencies for mutual aid and the provision of emergency services
7. Grid map of the heliport and its immediate vicinity
8. Use of any of the following equipment, if that equipment is provided at the heliport:
 - a. Portable extinguishers
 - b. Fire hoses, nozzles, and other similar appliances
 - c. Extinguishing agents

B.1.4.6 A heliport operator should consult all agencies identified in the plan about their role in the plan.

B.1.4.7 The plan should be reviewed and the information in it updated yearly by the heliport operator.

B.1.4.8 A test of the emergency response plan should be carried out at least once every 3 years at a heliport that provides a scheduled service for the transport of passengers.

B.1.4.9 At a rooftop heliport, at least one person who has received the training described in this annex should be available during aircraft operations.

DRAFT

Vail, Co		Vail Valley Medical Center	
FAA Identifier	-TBD-	GPS ID	local
Sectional Chart	Denver	Heliport Use	Private (PPR)

LOCATION			
Lat/Long	39° 38' 37.95" N	106° 22' 53.81" W	
(estimated)	39° 38.633' N	106° 22.897' W	
(NAD 83)	39.643876° N	106.381615° W	
Address	181 West Meadow Dr., Vail, CO 81657		
Description:	VVMC is located on the northwest side of Vail south of I-70. VVMC heliport is a rooftop heliport on the east tower.		

SIZE & WEIGHT LIMITS					
TLOF	46' x 46'	FATO	85' x 85'	MGW	15,000 lbs.

SITE INFORMATION						
Ground		Elevated	X	Surface Type	Concrete	
Elev.	8,250 ft.	Variation	9° W	Nrst Wx / KEGE	135.575	
Preferred App/Dep Path			280° / 100°		060° / 240°	
Windsock	Yes	Fenced Site	Yes	Security	Yes	
Fire Suppression		Yes	(type)	Foam System		

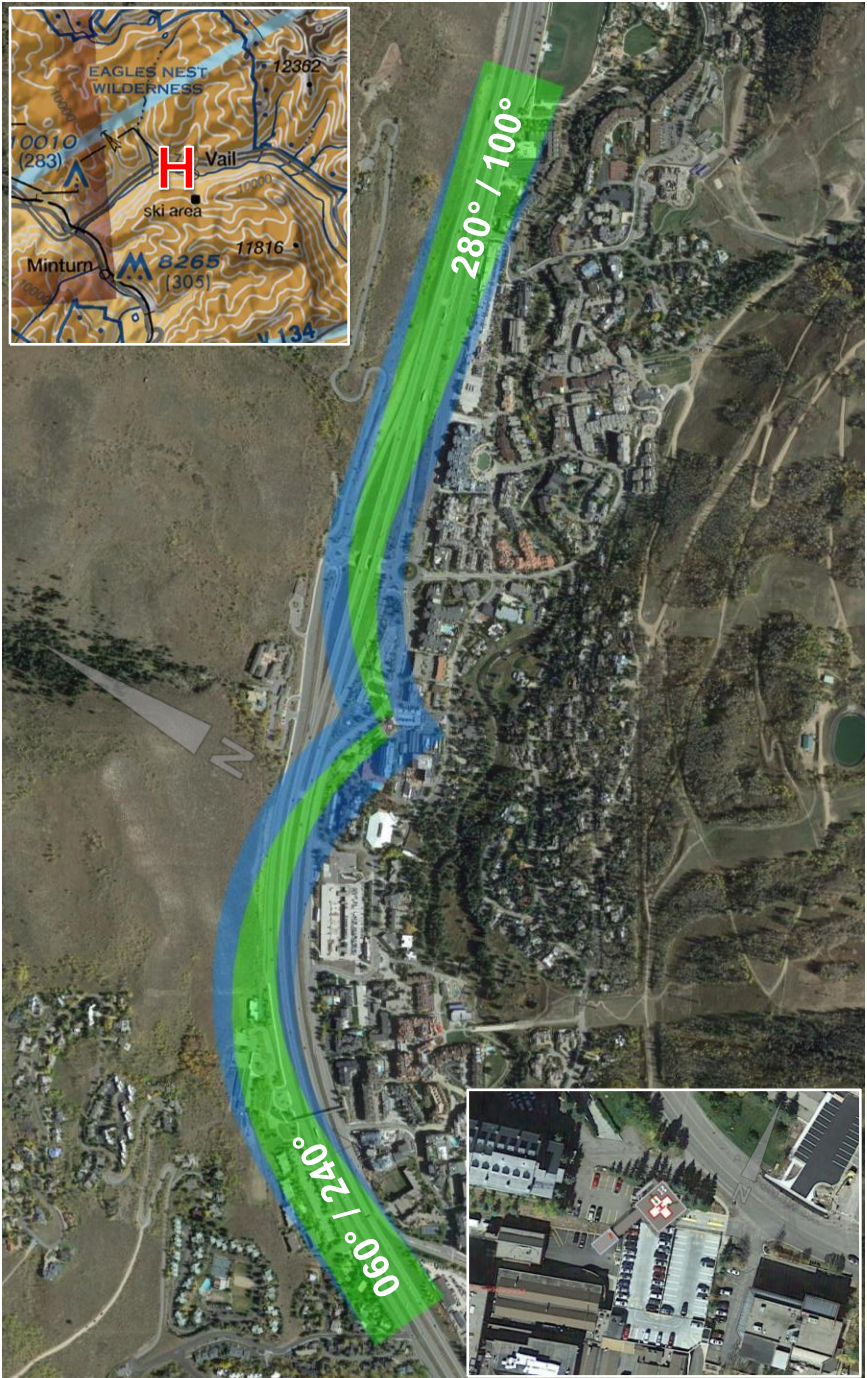
LIGHTING							
Windsock	X	Perimeter	X	Lead-in		Flood	X
Beacon	X	Glide Slope		PCL			

COMMUNICATIONS									
VHF	X	UHF		Simplex	X	Duplex		800Mhz	
Transmit	123.025 Multicom					Receive	123.025 Multicom		
PL	na	DPL	na	PL	na	DPL	na		

OBSTRUCTIONS	
1)	2)
3)	4)
5)	6)

ADMINISTRATIVE			
Manager:	Mr. xxxx xxxxxxxx	Email:	xxx_xxxxxx@xxxxx.com
Office:	(xxx) xxx-xxxx	Cell:	(xxx) xxx-xxxx
Security:	(xxx) xxx-xxxx		

NOTES: Heliport is "Private", prior permission to land is required.



**LANDING AGREEMENT
FOR
HELICOPTER OPERATIONS**

By and Among

<Helicopter Operators Name Goes Here>,

And

<Entity having ownership & liability of heliport>

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

DATE: xx/xx/xxxx

LANDING AGREEMENT FOR HELICOPTER SERVICES

This Agreement is made and entered into on this ___ day of XX/XX/.XXXX, to be effective as of the X day of XX/XXXX, by and among (HELICOPTER VENDOR) an (state) not-for-profit / for profit corporation ("DBA"), (Aircraft vendor Name), a FAA Part 135 Certificate Holder ("DBA") and together with (HELICOPTER VENDOR) "PROVIDER", and THE XXXXXXXXXX HELIPORT OWNER, an (state) not-for-profit / for profit corporation. (PROVIDER and OWNER are sometimes referred to in this Agreement individually as a "Party" and collectively as the "Parties.")

RECITALS

- A. WHEREAS, PROVIDER is engaged in the business of providing helicopter services;
- B. WHEREAS, HELIPORT OWNER is engaged in the business of operating a heliport;
- C. WHEREAS, HELIPORT OWNER has established certain policies, procedures, criteria and requirements that helicopter providers must comply with at all times in order to be eligible to land on the helipad situated on their property at (Address here, City, State) (the "Helipad") as part of HELIPORT OWNERS helicopter transport program (the "Program");
- D. WHEREAS, in order to qualify to land on the Helipad, PROVIDER is entering into this Agreement;

NOW, THEREFORE, in consideration of the foregoing, and in consideration of the mutual covenants and obligations set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

1. BASIC TERMS AND CONDITIONS

1.1. **GENERAL CRITERIA FOR HELICOPTER PROGRAM.** PROVIDER

acknowledges and agrees that the following are HELIPORT OWNERS general criteria for a HELICOPTER Program transport of a passengers to HELIPORT and agrees to comply fully with such criteria at all times:

- (a) Helicopter transport may be conducted only by those vendors who have been prescreened and authorized by the HELIPORT OWNER.
- (b) The Helipad will be used only by the HELIPORT OWNER and those additional entities it designates.
- (d) The Helipad is able to accommodate only one aircraft at a time for landing or take-off. If the occasion arises where two helicopters request approach to the Helipad and the first cannot land and take off before the arrival of the second and there is not an acceptable parking location available, the second requesting helicopter will be required to orbit until the pad is clear or locate to an approved alternative landing site.
- (e) HELIPORT OWNER believes that it can best insure the safety its customers, clients and staff by permitting pilots to base their aviation decisions solely on criteria that implicate flight safety (such as current and forecast weather patterns and phenomenon to include but not limited to; visibility, ceiling height and winds, as well as route of travel, etc
- (f) A PROVIDER's decision on the feasibility of transport due to weather or safety concerns will be final. However, if helicopter transport is denied due to weather or safety concerns that appear to have dissipated; parties may make one subsequent request to PROVIDER, assuming transport by other means has not yet been accomplished.

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

1.2. **RELATIONSHIP OF THE PARTIES.** The relationship of the Parties is that of independent contractors. Nothing in this Agreement is intended or will be construed as creating any kind of partnership, joint venture, or agency relationship between the Parties. Neither PROVIDER nor its employees, agents or subcontractors, if any, will in any way be deemed to be employees, agents or subcontractors of HELIPORT OWNER. Likewise, neither HELIPORT OWNER nor its employees, agents or subcontractors, if any, will be deemed to be employees, agents or subcontractors of PROVIDER. Nothing in this Agreement or otherwise will be construed to imply that PROVIDER is an exclusive provider or preferred provider of helicopter services for the Program.

1.3. **TERM.** Subject to the termination provisions contained herein in Section 1.4, this Agreement will be in effect commencing XX/XX/XXXX and continuing indefinitely (the "Term").

1.4. **TERMINATION.** Either Party may terminate this Agreement upon thirty (30) days written notice to the other Party, without cause and without penalty. In the event of such termination, PROVIDER will forfeit all rights to land on the Helipad. In addition, at any time during the Term of this Agreement, HELIPORT OWNER may, in its sole discretion, terminate this Agreement, without penalty, upon oral notice, followed by prompt written notice, if HELIPORT OWNER deems that PROVIDER has not complied with the terms and conditions of this Agreement or any of HELIPORT OWNER applicable policies and procedures or if HELIPORT OWNER deems it to be in the best interest or safety of its customers, clients, staff or neighbors, and any right PROVIDER has or may claim to have to land on the Helipad will cease immediately upon such oral notice.

1.5. **BILLING AND CHARGES FOR HELICOPTER SERVICES.** Other than in the case of a Helicopter Emergency Medical Services (HEMS) transports, PROVIDER will seek

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

payment for all services relating to the transport of passengers by directly billing and collecting from the clients and other persons for whose benefit such services are provided under this Agreement.

2. PROVIDER'S OBLIGATIONS AND RESPONSIBILITIES

In order to be eligible to land at the Helipad, PROVIDER must comply at all times with each of the following provisions:

2.1. **AIRCRAFT.** PROVIDER may utilize only helicopters that meet the following minimum equipment requirements:

- (b) PROVIDER must operate under Part 135 registration for all flights in or out of the Helipad and compliance with respect to equipment, training, FAA weather restrictions, qualifications of personnel and maintenance of aircraft.
- (c) PROVIDER must comply with operators' approved operations specifications and manufactures operational limitations for specific helicopter make and model.

2.2 **PILOTS AND MECHANICS.** PROVIDER will provide pilots and mechanics to staff its program that are in compliance with PROVIDER standards and the regulations of the U.S. Federal Aviation Administration ("FAA"). Each pilot will be factory trained or equivalent in helicopter transport and will demonstrate developed proficiency (day and night) in the applicable aircraft. Each pilot will maintain currency in the aircraft and possess, at a minimum, an FAA commercial license for aircraft type. In addition to all FAA-mandated training and currency requirements, no pilot may utilize the Helipad unless and until that pilot has completed the following training and education requirements:

- (a) Completion of HELIPORT OWNERS online training program (once the program is available and HELIPORT OWNER has notified PROVIDER of its availability);

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

- (b) Review of the online policies and the online training program (once available) within the preceding three hundred sixty (360) days; and
- (c) Any other requirement subsequently established by HELIPORT OWNER and communicated in writing to PROVIDER.

PROVIDER will provide FAA-licensed airframe and power plant mechanics as necessary for the safe and efficient maintenance of its aircraft. Each mechanic will have appropriate maintenance experience and factory training or its equivalent on the make and model of the aircraft.

2.3. **MISSION READINESS.** PROVIDER agrees to keep its aircraft in a state of mission readiness. Mission readiness will mean that the aircraft and pilot will be available 24 hours per day, 7 days per week, to respond to all flight requests, subject to the regulations of the FAA, weather conditions, unforeseeable difficulties, or maintenance procedures or problems. PROVIDER will maintain its aircraft in accordance with its regular high maintenance standards, FAA requirements, and PROVIDER's FAA-approved inspection program. PROVIDER will perform scheduled, unscheduled and routine daily maintenance on the aircraft as expeditiously as possible and maintain documentation of performance of such activities. PROVIDER will perform or cause to be performed, whenever deemed necessary by PROVIDER and as may be required by the FAA or other governmental authority having jurisdiction over the operation of the aircraft: (a) all major overhaul on the aircraft; and (b) all engine overhaul, inspection and maintenance service.

2.4. **ENVIRONMENTAL LIMITATIONS AND TRANSPORT PROCEDURES.**

PROVIDER must comply at all times with the environmental limitations and transport procedures established by HELIPORT OWNER, when arriving and departing the Helipad. Such environmental limitations and transport procedures may be changed, from time to time, by

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

HELIPORT OWNER through written notice to PROVIDER. Until written notice of a change, the following environmental limitations and transport procedures apply to the Helipad:

- (a) Pilots must utilize nearest certified automated weather observation system to obtain pertinent information prior to arrival at and departure from HELIPORT, and must diligently monitor weather during approach and departure.
- (b) No flights to or from the Helipad may be conducted if wind velocity at the heliport exceeds xxxxxxxx (XX) knots.
- (c) No flights to or from the Helipad may be conducted if the gust spread at the heliport exceeds xxxxxxxx (XX) knots.
- (d) Flights to or from the Helipad may be conducted only when FAA weather minimums prevail.
- (e) All flights to or from the Helipad must be conducted under the appropriate FAA Part 91 or 135 certificate for corporate or for hire operations.
- (f) For safety reasons, loading or unloading of passengers on the Helipad while helicopter rotor blades are rotating will be done at flight idle or with the engine off and the rotor blades at a full stop.
- (g) PROVIDER's communication center must notify the HELIPORT OWNER communication center of the estimated time of the helicopter's arrival at least ten (10) minutes in advance of estimated arrival at HELIPORT.
- (h) At times there are requests for filming or photographing a landing/takeoff or for tours of the Helipad. HELIPORT OWNER staff will make all decisions regarding such requests and will coordinate these requests with PROVIDER. If such request is granted, a member of the HELIPORT OWNER Security will escort any third party.

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

- (i) HELIPORT OWNER Helipad Disaster Plan, which will be attached as part of HELIPORT OWNERS online training program, will be followed in the event of a fire or other emergency on the Helipad.
- (j) PROVIDER will make its personnel available to attend HELIPORT OWNERS Helipad Review Committee upon reasonable notice and will provide data and information reasonably requested by such Committee.

2.5. **PROVIDER'S OPERATIONAL CONTROL.** Subject to the provision of Section 2.4, at all times PROVIDER will have operational control of the aviation aspects of a flight and will have sole and exclusive authority over initiating, conducting or terminating each flight of all aircraft. All requests for flights will be subject to and conducted in accordance with PROVIDER's operational procedures. The pilot operating an aircraft will be in command of the aircraft at all times. No flight will commence until and unless the pilot is satisfied, at his sole discretion, that the aircraft is mechanically sound, the aircraft is properly loaded, the weather, Helipad, airport and any other conditions necessary for safe flight are acceptable. The pilot, in his sole discretion, may unilaterally make any changes prior to, or while in flight, to accommodate changes in weather, air traffic, FAA directive, mechanical problems or other matters affecting the safety of the flight. Notwithstanding the foregoing, HELIPORT OWNER may, at its sole discretion, suspend operations and flight activity at the Helipad, when in its opinion a significant safety risk exists, including but not limited to, interruption of fire protection or spill control systems and/or hazardous material spills. HELIPORT OWNER may close the Helipad and/or suspend operations, as necessary and appropriate, to perform maintenance and repair of the Helipad. During such periods, all flight activity will be transferred to an alternate landing site.

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

2.6. **PROGRAM DIRECTION.** PROVIDER will designate one person to oversee the operation of, and be the point of contact for HELIPORT OWNER, for all matters relating to PROVIDER's responsibilities as stated in this Agreement.

2.7. **CERTIFICATIONS.** PROVIDER must maintain FAA Part 135 approval, and PROVIDER must comply with any applicable (state) Department of Transportation or local covenants pertaining to helicopter operations. HELIPORT OWNER encourages PROVIDER to maintain the following additional certifications or memberships:

- (a) National Business Aviation Association (NBAA);
- (b) International Standards for Business Aircraft Operations (IS-BAO); and
- (c) (state/regional) Association of helicopter services chapter membership.

2.9. **SAFETY MANAGEMENT SYSTEM & RISK ASSESSMENT PROGRAM.** PROVIDER must utilize a formalized safety management system and risk assessment tool that identifies potential hazards and creates objective criteria to measure the risk of transport, as provided in FAA InFO 07015 and otherwise known as a Risk Assessment Program, and must provide to HELIPORT OWNER written evidence of such Program annually. HELIPORT OWNER encourages PROVIDER to establish and operate a Safety Management System, as contemplated by FAA AC 120-92. PROVIDER should provide to HELIPORT OWNER written evidence of any Safety Management System it establishes.

2.10. **HELIPORT OWNER POLICIES AND PROCEDURES.** HELIPORT OWNER has adopted the policies and procedures applicable to its transport program that are outlined in this Agreement and will be attached to its online training program. From time to time, HELIPORT OWNER may, at its discretion, amend or revise such existing policies and procedures or develop and implement new policies and procedures as necessary and appropriate to facilitate

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

the safe, environmentally sound and efficient operation and maintenance of the Helipad and shall provide PROVIDER with advance notice of any such amendments or revisions. If requested, PROVIDER will cooperate with and assist HELIPORT OWNER in the amendment, revision, development or implementation of such policies and procedures. PROVIDER hereby covenants and agrees to comply at all times with HELIPORT OWNER'S policies and procedures regarding the transport Program.

3. **INSURANCE**

3.1. **PROVIDER INSURANCE REQUIREMENTS.** PROVIDER will, during the Term, maintain the following minimum insurance coverage:

- (a) All risk ground and flight aircraft hull insurance.
- (b) Aircraft Liability coverage providing liability insurance for property damage, personal injuries to passengers, staff, clients, defense, and third-party liability protection of at least \$50,000,000.00 per occurrence, with no sublimits for property damage or third-party liability, and no passenger sublimits below \$2,000,000.00.
- (c) Comprehensive general liability and excess liability insurance (either in a single policy or a combination of primary insurance or self-insurance and excess or umbrella insurance) in amounts of not less than \$10,000,000 combined.
- (d) Workers' compensation insurance for its employees in accordance with applicable Illinois requirements and standards.
- (e) Other
 - (1) **Additional Insured Status**: HELIPORT OWNER (along with its affiliates, officers, directors, trustees, agents, volunteers and employees) shall be named

HELIEXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

as additional insureds under PROVIDER's Aircraft Liability coverage and its comprehensive general liability and excess policies.

(2) **Insurance Certificate**: PROVIDER shall furnish to HELIPORT OWNER insurance certificates that clearly identify all insurance coverages.

(3) **Notice of Cancellation**: No insurance coverage shall be suspended, voided, canceled or reduced in coverage in limits except after thirty (30) days' prior written notice to HELIPORT OWNER.

3.2. **HELIPORT OWNER INSURANCE REQUIREMENTS**. HELIPORT OWNER will, during the Term, maintain the following minimum insurance coverage:

- (a) Heliport Premises Liability (either in a single policy or a combination of primary and excess or umbrella insurance) in amounts of not less than \$xx,xxx,xxx.
- (b) Comprehensive general liability insurance (either in a single policy or a combination of primary and excess or umbrella insurance) in amounts of not less than \$xx,xxx,xxx.
- (c) Workers' compensation insurance for its employees in accordance with applicable state requirements and standards.
- (d) Other

(1) **Additional Insured Status**: PROVIDER (along with its affiliates, officers, directors, trustees, agents, volunteers and employees) shall be named as additional insureds under HELIPORT OWNERS primary Heliport Premises Liability insurance policy in the amount of \$xx million.

(2) **Insurance Certificate**: HELIPORT OWNER shall furnish to PROVIDER insurance certificates that clearly identify all insurance coverages.

HELIEXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

(3) **Notice of Cancellation**: No insurance coverage shall be suspended, voided, canceled or reduced in coverage in limits except after thirty (30) days' prior written notice to PROVIDER.

4. **GENERAL CONDITIONS**

4.1. **REPRESENTATIONS, WARRANTIES AND COVENANTS.** The Party indicated below hereby represents, warrants and covenants as follows:

- (a) PROVIDER will comply with all FAA regulations pertaining to helicopter operations and, in that connection, PROVIDER represents that each aircraft, pilot and mechanic is properly licensed and certified and meets or exceeds minimum requirements as set forth in the applicable FAA regulations.
- (b) PROVIDER will obtain, and will maintain and keep in force, all consents, licenses, permits, approvals and authorization of federal, state and local governmental authorities which may be required to execute, deliver and perform its obligations under this Agreement and to provide helicopter services.
- (c) (Vendor Provider) is a not-for-profit / for profit corporation, duly organized, validly existing, and in good standing under the laws of the State of xxxxxxx and has the power and authority to execute, deliver and perform its obligations under this Agreement. (Part 135 Vendor) is a corporation duly organized, validly existing, and in good standing under the laws of the State of xxxxxxx and has the power and authority to execute, deliver and perform its obligations under this Agreement.
- (d) HELIPORT OWNER is a for-profit corporation, duly organized, validly existing, and in good standing under the laws of the State of xxxxxxx, and has the power

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

and authority to execute, deliver and perform its obligations under this Agreement.

- (e) The execution, delivery and performance of PROVIDER of this Agreement have been authorized by all necessary corporate action on the part of PROVIDER.
- (f) The execution, delivery and performance of HELIPORT OWNER of this Agreement have been authorized by all necessary corporate action on the part of HELIPORT OWNER.

4.2. **THIRD PARTY BENEFICIARIES.** Nothing in this Agreement, expressed or implied, is intended to confer on any person other than the Parties hereto or their respective successors and permitted assigns, any rights, remedies, obligations or liabilities under or by reason of this Agreement.

4.3. **ASSIGNMENT.** Neither Party will assign this Agreement, in whole or in part, without the prior written consent of the other.

4.4. **ENTIRE AGREEMENT.** This Agreement represents the entire Agreement between the Parties, all other prior agreements being merged herein, and this Agreement will not be modified except in writing signed by the Party against whom such modification is sought to be enforced.

4.5. **GOVERNING LAW.** This Agreement will be governed by and construed in accordance with the laws of the State of xxxxxxxx.

4.6. **NOTICE.** Any notices, demand or communication required or permitted to be given hereunder will be deemed effectively given when personally delivered, when actually received by guaranteed overnight delivery service, or five (5) business days after being

HELIXPERTS LANDING AREA AGREEMENT DRAFT EXAMPLE

deposited in the United States mail, with postage prepaid thereon, sent certified or registered mail, return receipt requested, and in all such cases addressed as follows:

If to Heliport Owner XXXXXXXXXX Heliport of (City)
From XX/XX/XX: Attn: Chief Nurse Executive
 Address 1
 Address 2
 City, State Zip

With a copy to: XXXXXXXXXXXX Heliport of (City)
 Attn: General Counsel
 Address 1
 Address 2
 City, State Zip

If to PROVIDER: Vendor
 Attn: Operations Director
 Address 1
 Address 2
 City, State Zip

IN WITNESS HEREOF, the Parties, through their respective undersigned authorized officers, have duly executed this Agreement as of the day and year first written above.

Helicopter Vendor

THE XXXXXXXXXXXXXXXXXXXX Heliport
To be known as of XX/XX/XXXX as the XXXXX
Helipad of (City)

By: _____
Its: _____

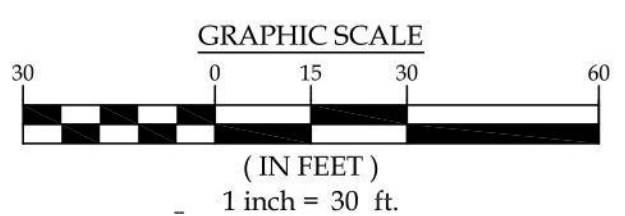
By: _____

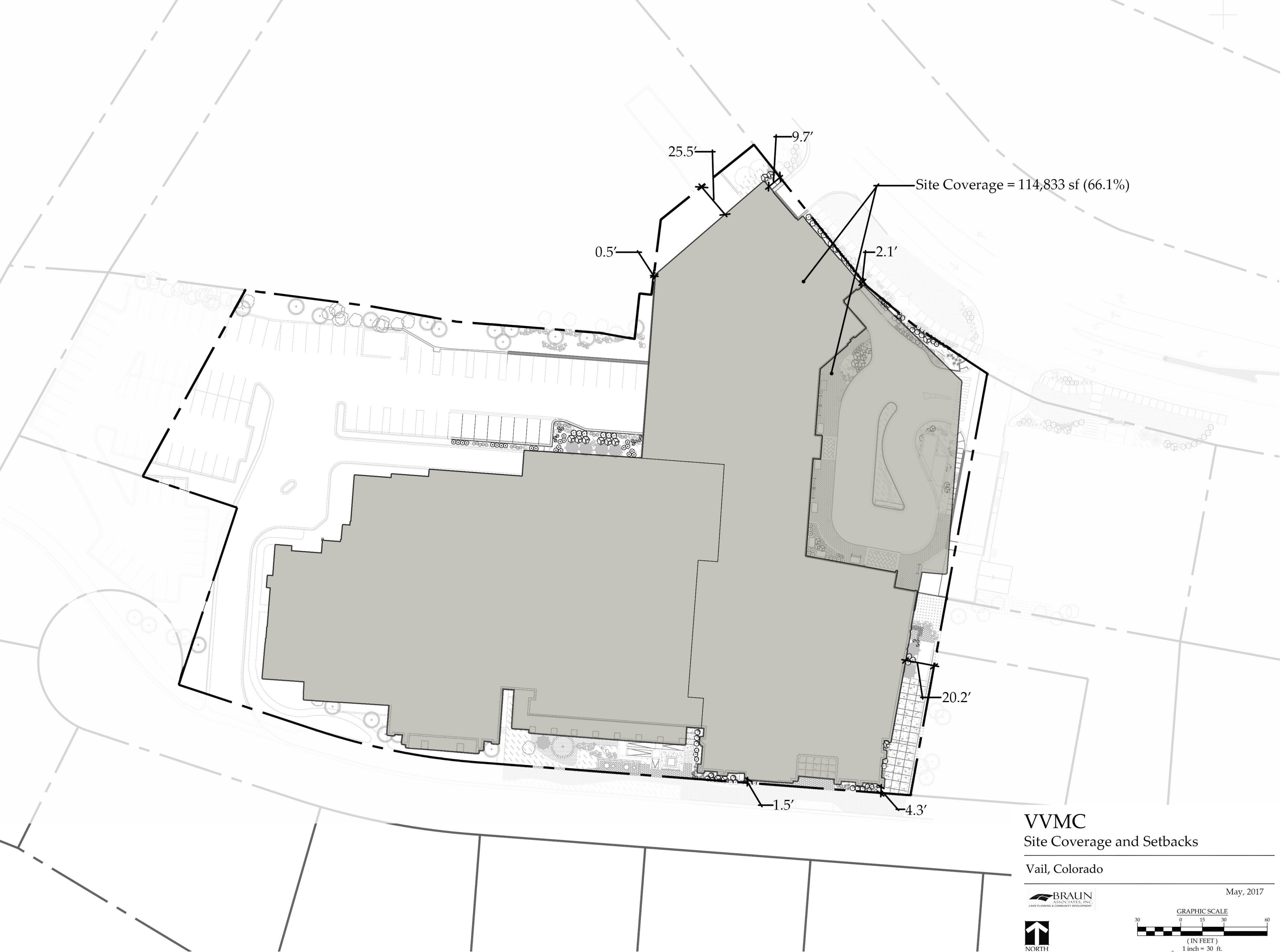


VVMC
Landscape Coverage
Vail, Colorado

 BRAUN
ASSOCIATES, INC.
LAND PLANNING & COMMUNITY DEVELOPMENT

May, 2017





VVMC
Site Coverage and Setbacks
Vail, Colorado

