VILLAS AT ASPEN TRAILS

Stormwater Management Plan

(SWMP)

February 2024

Prepared for:

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EPC Project No. SP234

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1. INTRODUCTION

This Stormwater Management Plan is being submitted on the behalf of ROS Equity Holdings-Independence, LLC for a tract of land known as:

A TRACT OF LAND LOCATED IN A PORTION OF SECTION 9, IN TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF LEGACY HILL DRIVE AS PLATTED IN THE TRAILS AT ASPEN RIDGE FILING NO. 1 AS RECORDED IN EL PASO COUNTY, COLORADO; SAID POINT ALSO BEING ON THE SOUTHERLY RIGHT-OF-WAY LINE OF BRADLER ROAD AS RECORDED IN BOOK 5307 AT PAGE 1472 OF THE RECORDS OF SAID EL PASO COUNTY:

THENCE N74°20'48"E A DISTANCE OF 425.01 FEET ALONG SAID SOUTHERLY RIGHT-OF-WAY OF BRADLEY ROAD;

THENCE S15°39'12"E DEPARTING SAID RIGHT-OF-WAY LINE, A DISTANCE OF 429.98 FEET;

THENCE S74°20'48"W A DISTANCE OF 360.011 FEET TO A POINT OF CURVE TO THE RIGHT;

THENCE ON SAID CURVE, HAVING A RADIUS OF 75.00 FEET, AN ARC LENGTH OF 78.64 FEET, A DELTA ANGLE OF 60°04'25", WHOSE LONG CHORD BEARS N75°37'00"W A DISTANCE OF 75.08 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF LEGACY HILL DRIVE;

THENCE N15°39'12"W A DISTANCE OF 392.40 FEET TO THE POINT OF BEGINNING.

The purpose of this report is to outline the SWMP Plan for the Villas at Aspen Trails development located at the southeast corner of Bradley Rd and Legacy Hill Dr, El Paso County, Colorado. This report identifies Best Management Practices (BMPs) that will reduce or eliminate any possible water quality impacts.

2. GENERAL LOCATION AND DESCRIPTION

The site lies in Section 9 of Township 15 South, Range 65 West. The proposed plat is south of Bradley Road, east of Legacy Hill Dr. The site is currently zoned RM-12.

Other development in the area includes single family residential, multifamily, and commercial developments in the surrounding area.

The proposed site encompasses 4.18 acres. The topography of the site and surrounding area is typical of a high desert; short prairie grass and weeds with slopes generally ranging from 1% to 5%. The area generally drains to the south. This development is in the Jimmy Camp Creek Drainage Basin.

3. DESCRIPTION OF CONSTRUCTION

ROS Equity Holdings-Independence, LLC requests approval of site grading for 4.18 acres of property within the recently amended Waterview Sketch. The Villas at Aspen Trails proposed Land Uses consist of 41 residential lots on 4.18 acres.

The Pre-Subdivision Site Grading does not include authorization to install wet utilities. The request will be limited to over lot grading and balancing of the site prior while the final subdivision design is refined through the pending preliminary plan design, submittal, and review process.

A final plan will be submitted to approve a residential subdivision. This final plan may include requests for additional Site Grading to include installation of wet utilities after final site, lot, roadway, and stormwater designs are refined through the preliminary subdivision design and review processes. The addition of installation of wet utilities will require additional coordination with the respective utility service providers and approval by the CDPHE.

4. PHASING PLAN

Pre-subdivision site grading will be done on the entire site at one time. The contractor will manage the grading activities. Once the site is graded construction will be phased according to any internal phasing required for the subdivision. The general sequence of the related pre-subdivision site grading activities will occur according to the following anticipated sequence:

Phased BMP Implementation - Initial and Interim Phase

The initial phase shall consist of the temporary construction BMPs to minimize potential for erosion and sediment transfer while mobilizing and preparing the site for construction activities. The Contractor shall complete the anticipated initial and interim phase sequencing as follows:

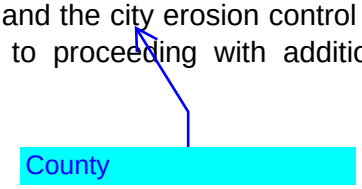
1. Install vehicle tracking control (VTC) as indicated on the GEC plans or as necessitated by field conditions.

2. Install silt fence (SF) or temporary swale (TSW) as shown on the GEC plans or as necessitated by field conditions.

3. Install sediment basin (SB) as shown on the GEC plans or as necessitated by field conditions.

4. Install rough cut street control (RC) as shown on the GEC plans or as necessitated by field conditions.

5. Upon completion of the initial BMP installation the operator shall schedule a pre-construction meeting with the owner and the city erosion control inspector to confirm BMPs installed are adequate prior to proceeding with additional land disturbing activities.



Phased BMP Implementation - Final Phase

The final phase shall consist of the temporary construction BMPs to minimize potential for erosion and sediment transfer during construction of the proposed sites and associated limited site improvements. The Contractor shall complete the anticipated final phase sequencing as follows:

1. Confirm existing BMPs from the initial phases, which are to be maintained throughout construction, are in working order and compliant with applicable regulations.

2. Repair and/or replace any existing BMPs which are deemed inadequate.

3. Temporarily stabilize (TS) all areas of the site which will remain inactive for a period greater than 30 days. Temporary stabilization shall be implemented within 14 days of disturbance.

4. Complete required grading operations necessary for construction of the proposed sites and associated site improvements.

5. Complete fine grading and proceed with temporary stabilization (TS) and permanent stabilization (PS) practices in accordance with approved plans.

6. Achieve permanent stabilization in accordance with the El Paso County (EPC) and owner requirements.

7. Remove remaining BMPs once permanent stabilization (PS) has been achieved. Repair and stabilize areas disturbed through BMP removal.

8. Notify the EPC of the intent to file the notice of inactivation and receive EPC field acceptance prior to proceeding with filing the notice of inactivation with the EPC.

9. Proceed with filing the notice of inactivation with the EPC.

10. Provide the owner with a copy of all stormwater documentation (permits, inspection reports, logs, etc.). Upon completion of project, file the notice of inactivation.

5. DESCRIPTION OF DRAINAGE CONVEYANCE

The site drains to the south; the drainage captured by the property is conveyed to a Type R inlet in a low point in Frontline Dr. This inlet joins a drainage system that discharges toward the Jimmy Camp Creek Drainage Basin. Stormwater facilities to be constructed with the early grading permit will consist of a permanent detention pond. Storm sewer facilities will be installed throughout the site and in the streets with future final plat approvals; these will eventually replace the swales and sedimentation basins to convey storm water runoff to the permanent detention facilities.

6. ESTIMATES OF EXCAVATION

Project area is 4.25 acres per other documents

The subject site is approximately 4.18 acres with an area of disturbance totaling +/-4.20 acres.

Over site grading will be limited to the construction of the primary street sections and sloping the site toward the detention basin to meet minimum design requirements. As the lots are developed by private builder's disturbance will be for building foundations, landscaping, roadways, and sidewalks. The earthwork volumes are as follows:

CUT 5,825 CY

FILL 4,252 CY (Adjusted for shrinkage)

NET 1,573 CY (Cut)

All volumes assume 2,269 CY of topsoil either useable on site or imported.

7. CONSTRUCTION SCHEDULE

	Estimated Start	Estimated End
• Clearing and grubbing	Summer, 2024	Summer, 2024
• Rough grading for lots and roads	Summer, 2024	Fall, 2024
• Utility Installation	Not applicable	Not applicable
• Final grading, curb and gutter and paving	Not applicable	Not applicable
• Final Stabilization		Fall, 2024

8. VEGETATION

The existing Site is currently undeveloped consisting of on-site native vegetation; short prairie grass and weeds with slopes ranging from 5% to 15%. The estimated vegetative coverage is about 60% and unvegetated (40%), determined by observation from site visit. The sites surrounding this land are currently at varying stages of development.

9. SOILS

The site is composed of several different soil types. From the NRCS report, the site falls into the following soil types:

8 - Blakeland loamy sand (1-3%) – Type A Soil

31 - Fort Collins Loam (3-8%) – Type B Soil

56 - Nelson Tassel fine sandy loam (3-18%) – Nelson Type B, Tassel Type D Soil

86 - Stoneham sandy loam (3-8%) – Type B Soil

108 - Wiley silt loam (3-9%) – Type B Soil

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Estimated Runoff Coefficients

Average Prior to Construction	C5=0.08 and C100=0.35
Average After Buildout	C5=0.55 and C100=0.69

Potential for soil erosion during construction is minimal. The grading and erosion control plan includes measures to reduce this potential. Where the majority of the property drains to will be constructed to capture any sediment. The pond discharges to an existing storm drainage system south of the property.

10. POTENTIAL POLLUTANTS

During construction, the largest possible source of non-stormwater pollution will be during equipment refueling operations. Refueling of construction equipment will be completed in a designated area established by the contractor. The contractor shall be responsible for any spill cleanup while refueling, in accordance with applicable local, county and state regulations. The contractor will also be responsible for cleanup of any off-site vehicle tracking on paved roads. Tracking control will be provided at the entrances to the site. No other source of pollution such as vehicle washing, chemical storage or waste disposal is anticipated. No batch plants will be onsite. Any onsite facilities that could be identified as a source of pollutants will follow preventive measures found in the Material Handling and Spill Prevention section below.

A list of all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the site are as follows:

1. Disturbed and stored soils

2. Vehicle tracking of sediments

3. Loading and unloading operations

4. Outdoor storage activities

5. Vehicle and equipment maintenance and fueling

6. Significant dust or particulate generating processes

7. Routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, oils, etc.

8. Non-industrial waste sources such as worker trash and portable toilets.

All construction waste will be removed along with contaminated soil and disposed of offsite at the end of the construction period. Construction debris will also be removed from the site as it is accumulated and disposed of properly offsite. It is expected that the use of vehicle tracking controls at the construction entrance will negate the need for offsite street sweeping activities. After construction any pollutants will be captured in the detention pond; specifically in the fore bays and will be dealt with as part of regular maintenance by the owners of Villas at Aspen Trails.

Indicate what will happen if debris does get onto streets

11. MATERIAL HANDLING AND SPILL PREVENTION

The most probable source of non-stormwater pollution is refueling and daily maintenance operations. If mobile fuel trucks are used to service equipment, absorbent materials and containers for the storage of used absorbent material will be close by. If a fuel tank is left on site, berms will be built around the tank to capture any spilled fuel. Again, absorbent materials and their containers will be on hand.

If storage of chemicals on site is required, the contractor shall be responsible for the construction of berms around the storage to capture any spilled material. Again, absorbent materials and their containers will be on hand

12. RECEIVING WATERS

The site is located within the Jimmy Camp Creek basin. Per the project's preliminary drainage report (November 2022, Kimley-Horn and Associates, LLC.) off-site basins sheet flow onto the site from the east and west. The offsite flow is within the same basin: the Jimmy Camp Creek Basin.

13. DISCHARGE

There are no anticipated non-stormwater components of the discharge. The receiving waters for this discharge are Jimmy Camp Creek which drains to Fountain Creek and ultimately the Arkansas River.

The site is mostly vacant land and has no springs, streams wetlands or any other surface waters on or crossing the site.

14. GRADING AND EROSION CONTROL PLAN

A map is provided with this SWMP application that details the site, limits of construction and erosion control measures. This map will be used by the contractor to track installation, maintenance and removal of BMP's during construction; including any field changes that are required during construction.

15. BEST MANAGEMENT PRACTICES

Construction operations including grading, hauling of soil, drainage, and final stabilization shall implement erosion and sediment control measures as described below and in the Phasing section found above. Additional measures shall be implemented as appropriate.

Structural BMP's:
SF/TSW - Silt fences or temporary swales will be installed prior to any grading occurring on the site and will be installed in the areas shown on the provided map.

VC - Vehicle tracking control will be provided at the entrances to the site on Bradley Road.

SB –Sediment Basin will be graded to rough grade of final detention pond and then converted appropriately when site is further developed.

Nonstructural BMP's:
Non-structure practices to control erosion and sedimentation will include reseeding of ground cover in disturbed areas according to the grading and erosion control plan. Seeding of bank slopes and mulching along steep embankments will be performed as required. Seeding of disturbed areas will be mitigated until growth has reached 70% of pre-disturbed levels: 0.6% x 0.7% = 42%

Other BMP's:
There are several best management practices that can be employed to prevent or mitigate the source of pollutants and contamination of stormwater runoff. Some of these are:

- All dumpsters and receptacles shall be equipped with functional lids to prevent rain and snow from entering.
- Storage containers, drums and bags shall be stored away from direct traffic routes to prevent accidental spills.
- Empty drums shall be covered to prevent collection of precipitation.
- Containers shall be stored on pallets or other dunnage to prevent corrosion of containers, which can result when containers come in contact with moisture on the ground.
- Regularly scheduled removal of construction trash and debris.

- The contractor will be responsible for any re-excavation of sediment and debris that collects in the basin depression required to ensure that the basin meets the design grades following construction. The storm lines shall also be cleaned and free of sediment once the site becomes stabilized.

- Portable toilets will be located a minimum of 10ft from stormwater inlets and 50ft from state waters. They will be secured at all four corners to prevent overturning and cleaned on a weekly basis. They will be inspected daily for spills

The contractor is certainly not limited to these good housekeeping measures and may implement further controls as prudence and good judgement deem necessary. This project does not rely on control measures owned or operated by another entity. The contractor is responsible for supplying the required BMPs.

16. FINAL STABILIZATION AND LONG-TERM STORM WATER MANAGEMENT

Permanent stabilization will be achieved by seeding of disturbed areas. The silt fence installed on site will not be removed until the site is stabilized, and the entire site is established with vegetation growth of 70% of pre-disturbed levels: 0.6 x 0.7 = 42%. Please reference the GEC plan standard notes for seeding of disturbed areas. Areas requiring seeding to provide stabilization to disturbed areas shall use the seed mix set forth in Chapter 14, Volume 1 of the Drainage Criteria Manual.

The site is subject to the NPDES permit program for both construction and post-construction activities. The owner shall obtain all pertinent permits required by controlling agencies including the El Paso County Health Department and the Colorado Department of Public Health & Environment

The proposed Private Full Spectrum Extended Detention Basin will be designed with an outlet structure that is fitted with an orifice plate and restrictor plate to release the WQCV in at least a 40-hour drain time period and the EURV in a 72 hour drain time period per the MANUAL. Calculations are available in the Final Drainage Report.

will be provided with

Overall, 0.352 acre-feet of WQCV is required. The total area contributing to the Extended Detention Basin consists of 3.80 acres (49.4% imperviousness).

Prior to final construction the Private Full Spectrum Extended Detention Basin will be rough graded and used as a sediment basin for the site.

17. INSPECTIONS

The permit holder shall be responsible for implementation, inspection, and maintenance of all BMP's throughout the construction process to ensure functionality and conformance with all applicable permits and jurisdictional regulations. The produced inspection logs must be signed by the QSM and be available on-site. The SWMP should be viewed as a "living document" that is continuously being reviewed and modified as a part of the overall process of evaluating and managing SW quality issues at the site. The QSM shall amend the SWMP when there is a change in design, construction, O&M of the site which would require the implementation of new

or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity or when BMPs are no longer necessary and are removed.

A thorough inspection of the storm water management system shall be performed every 14 days as well as after any rain or snowmelt event that causes surface erosion:

- Erosion of channels and side slopes shall be repaired.
- Silt fences shall be cleaned whenever sediment has reached a depth of 6" at the fence, and broken wooden parts or torn fabric shall be repaired or replaced.
- Any accumulated trash or debris shall be removed from the site.

An Inspection and Maintenance Log follows this Storm Water Management Plan.

18. SWMP REVISIONS

Revisions to the SWMP will occur from time to time as construction proceeds. The contractor shall be responsible for revisions to the plan to include the following:

1. Changes to the plan will be tracked by marking changes on the plan with date and note of the responsible party requesting/requiring the change.
2. Dates and responsible party for addition or removal of BMP's will be noted on the plan.
3. If there are any changes the contractor deems to be a significant modification of the approved GEC plan he must contact the owner prior to proceeding.
4. The SWMP will be kept on site and up to date at all times.

INSPECTION AND MAINTENANCE LOG

STORMWATER MANAGEMENT PLAN

INSPECTION AND MAINTENANCE LOG

(Record inspections, items found maintenance and corrective actions taken. Also record any training received by Contractor personnel with regard to erosion control, materials handling and any inspections by outside agencies)

DATE	ITEM	SIGNATURE OF PERSON MAKING ENTRY

APPENDIX A – VICINITY MAP / SITE MAP

APPENDIX B– Grading and Erosion Control (GEC) Plan

Provide GEC plan set

APPENDIX C– EROSION AND STORMWATER QUALITY CONTROL PERMIT