

ES-1 EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared for the National Aeronautics and Space Administration (NASA) to evaluate potential effects that arise as a result of the work proposed by Planetary Ventures, LLC (PV or Lessee) to address existing hazardous structural conditions at Hangar 3. Hangar 3 is located adjacent to the Moffett Federal Airfield (MFA), which is part of NASA's Ames Research Center (ARC). NASA entered into an Adaptive Reuse Lease (Lease) with PV in October 2014 for PV's use and occupancy of MFA. The MFA Lease includes Hangar 3 as well as other facilities. The Lessee has proposed demolition of Hangar 3 to remedy its unsafe condition and eliminate the unacceptable structural hazard it poses. The preparation of this EA is consistent with regulations issued by the Council on Environmental Quality (CEQ), 14 Code of Federal Regulations (CFR) Part 1216.3, Procedures for Implementing the National Environmental Policy Act (NEPA), and NASA Procedural Requirements (NPR) 8580.1A, Implementing the National Environmental Policy Act and Executive Order 12114. Preparation of this EA commenced prior to September 14, 2020. This EA has been prepared in accordance with the CEQ regulations implementing the provisions of NEPA as were codified in 1978.

ES-2 PURPOSE AND NEED

Based on the terms of the Lease, it was anticipated that Hangar 3 would be rehabilitated for use as a research and development facility. However, since the effective date of the Lease, ongoing efforts to rehabilitate Hangar 3 have proven to be ineffective. While PV has undertaken significant additional efforts to repair the damaged trusses since commencing the Lease, it was not possible to keep up with the damage progression continuously advancing throughout the structure. While a temporary internal shoring and hydraulic jacking system is in place, the building is currently unsafe for occupancy and vulnerable to further damage and collapse, especially from seismic or high wind load events.

The purpose of the Project is to remedy this unsafe condition and eliminate an unacceptable structural hazard. The need for the Project is a long-term solution that eliminates the potential for continued degradation or collapse of Hangar 3 under normal or adverse conditions, thereby protecting life and property.

ES-3 ALTERNATIVES CONSIDERED

ES-3.1.1. ALTERNATIVES ANALYZED

Proposed Action - Building Demolition

This alternative, previously referred to as Structural Hazard Remediation in the supporting studies found in the appendices, would involve the demolition of Hangar 3 and would also include removal and management of contaminated materials, equipment, and environmental media. This would remove an unsafe condition and eliminate an unacceptable structural hazard in a timely manner that would eliminate the potential for continued degradation or collapse of Hangar 3 under normal or adverse conditions, thereby protecting life and property. The Proposed Action would occur in three phases, with pre-demolition activities (Phase 1) lasting approximately 80 to 90 working days and demolition (Phase 2) lasting approximately 125 working days. Waste disposal and recycling (Phase 3) would occur concurrently with Phase 1 and Phase 2. The total duration for all phases would take approximately nine months. In Phase 1, a pre-demolition survey would be conducted to characterize non-hazardous and hazardous wastes in accordance with the framework established by applicable federal, state, and local regulations. Phase 2 activities would include removal of all above ground components, and no work would occur below the slab. A 6-foot-high temporary fence would be installed around the demolition area to control entry to the work area, and all of the work would be conducted within the fenced area. All demolition materials would either be tethered and mechanically lowered to the ground or mechanically cut and dropped to the floor. If materials are dropped to the floor, considerations would be made including limiting fall distances and considering the weight of the material being dropped to minimize impacts to the slab. Waste disposal and recycling would occur in Phase 1 with *in situ* characterization prior to demolition to assist in efforts to segregate non-hazardous from hazardous wastes or from incompatible wastes during demolition. In Phase 2, materials would be characterized after demolition but before being loaded onto trucks or trailers for transport to an approved offsite construction waste facility. Upon completion of the Proposed Action, all above ground Hangar 3 components would be removed and only the concrete slab would remain, consistent with pre-Project conditions. No land use is planned for the site after demolition.

No Action Alternative

Under the No Action Alternative, Hangar 3 would remain unoccupied, and maintenance of the temporary internal shoring and hydraulic jacking system would continue. Under this alternative, no further attempts to complete structural upgrades of Hangar 3 would be undertaken. Although PV has removed all items stored in the structure due to safety concerns, some ongoing maintenance of the extensive internal

shoring and hydraulic jacking system for the structure would be required under this alternative. Under this alternative, the structure could sustain further damage and there would be potential for collapse of portions of the hangar from an earthquake or high wind loading, which could result in a partial or full collapse of Hangar 3. Such a collapse would pose a life-safety risk to nearby personnel and damage to nearby property from flying debris.

ES-3.1.2. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

Reconstruction of Hangar 3

The possibility of fully stabilizing and rehabilitating Hangar 3 was considered. However, full rehabilitation that does not require destruction of the essential components that make Hangar 3 a valuable historic structure would not be possible since it is not feasible to replace damaged components in sequence. In order to bring the structure into prevailing seismic code regulations for safety, Hangar 3 would effectively have to be deconstructed and then reconstructed into an entirely new structure using new materials. In addition, the cost for reconstruction of the hangar would be more than 50 times higher than the Proposed Action. For these reasons, this alternative was dismissed from further study.

Partial Preservation of Hangar 3

A partial preservation of Hangar 3 was considered that would have removed the safety hazard associated with the main hangar structure while restabilizing and preserving independent features of the structure. This alternative is referred to as Alternative 2 – Partial Preservation in the supporting studies found in the appendices. Under this alternative, the two sets of concrete towers and box beam structures (at the northern and southern ends) would be retained, and the entire main hangar structure would be demolished. Appendix A, KPFF Memos, provides memorandums that address the feasibility of retaining portions of Hangar 3. Under this alternative, both sets of hangar doors, machinery, and existing tracks would be removed with the demolition of the main hangar structure. Demolition activities related to this alternative would include the three phases discussed in the Proposed Action. This alternative would also include an additional Phase 4 for activities required for abatement and stabilization of the remaining Hangar 3 elements. These activities would include: 1) box beam rehabilitation, shoring, and strengthening; 2) concrete door tower rehabilitation and strengthening; and 3) foundation strengthening. The total duration for all phases would take approximately 21 months.

The costs associated with the partial preservation of Hangar 3 was determined to be considerably higher than the Proposed Action. This alternative would also effectively reduce Hangar 3 to two smaller structures, which would relate in form to each other, but would, as a result, contrast with the overall visual character of Hangar 2. Therefore, this alternative was dismissed from further study.

ES-4 SUMMARY OF POTENTIAL EFFECTS

This EA considered the following ten resource areas to provide a context for understanding the potential environmental effects of the Proposed Action and alternatives: air quality; biological resources; cultural resources; greenhouse gases and climate change; hazards, safety, and waste management; noise and vibration; transportation and circulation; utilities; visual resources; and water resources.

The environmental consequences associated with the Proposed Action and No Action Alternative were analyzed. Table ES-1 presents a summary of the resources considered and the potential impacts on those resources.

Table ES- 1 Summary of Environmental Impacts

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|----------------------|---|--|
| Air Quality | <p>Construction exhaust emissions would be generated from construction equipment, demolition activities, on-site workers' commutes and hauling of demolition material. Emissions would be below the Federal <i>de minimis</i> and Bay Area Air Quality Management District (BAAQMD) thresholds for all criteria pollutants and would be therefore less than significant.</p> <p>Fugitive dust would be generated from demolition activities. A water truck would apply water to exposed areas or those that could generate dust during demolition activities. The Proposed Action would wet any asbestos containing material (ACM) prior to demolition. As a result, these effects would be less than significant.</p> <p>Construction of the Proposed Action would not result in a health risk from exposure to diesel particulate matter (DPM).</p> <p>Impacts to air quality would be less than significant.</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. The condition of Hangar 3 would continue to deteriorate.</p> <p>In the event of a structural failure, air quality impacts would be temporary but would be uncontrolled compared to the Proposed Action. Subsequent clean-up would require haul trucks, and construction equipment, similar to those needed for the Proposed Action, which would emit criteria air pollutants and DPM. Quantification of the emissions is not possible because it is speculative to determine the extent of an unplanned collapse.</p> <p>Clean-up would not result in a health risk from exposure to DPM.</p> |
| Biological Resources | <p>The Proposed Action could result in potential impacts to nesting/overwintering burrowing owls, nesting and roosting common (i.e., non-special-status) species of birds, and roosting common species of bats. The Proposed Action would not result in impacts to wetlands, aquatic habitats, riparian habitats, or other sensitive habitats; threatened or endangered species or their habitats; special-status plants; trees; or wildlife movement corridors.</p> <p>The Proposed Action would implement Mitigation Measures BIO-1A through BIO-3D (14 measures) to</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, potential impacts would be uncontrolled and would result in greater direct and immediate impacts to wildlife in the vicinity of the Project site as mitigation measures identified for the Proposed Action would not be implemented. Therefore, wildlife impacts could be significant as the No Action Alternative could result in the loss of bird eggs or nestlings, the</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|---------------|--|--|
| | <p>minimize potential impacts to burrowing owls, nesting and roosting birds, and roosting bats. Because the Proposed Action would not result in effects that are substantial (i.e., resulting in a measurable decline in regional populations) or that could be permanent in their effect on population or subpopulation survival without active management, the impacts would be less than significant.</p> <p><u>Mitigation Measures:</u></p> <ul style="list-style-type: none"> ● BIO-1A. Burrowing Owl Pre-activity Survey of Project Access Route ● BIO-1B. Burrowing Owl Pre-activity Survey of Project Site ● BIO-1C. Materials Monitoring and Relocation ● BIO-1D. Materials Storage ● BIO-2A. Avoidance of Bird Nesting Season ● BIO-2B. Pre-Activity Surveys for Nesting Birds ● BIO-2C. Non-Disturbance Buffers around Active Bird Nests ● BIO-2D. Nesting Bird Deterrence ● BIO-2E. Pre-Activity Surveys for Roosting Birds ● BIO-2F. Passive Relocation of Roosting Birds ● BIO-3A. Exclude Bats Prior to Disturbance ● BIO-3B: Conduct Pre-Activity Surveys for Roosting Bats ● BIO-3C. Avoid Disturbance of Maternity Roosts ● BIO-3D. Eviction of Roosting Bats | <p>death or injury of a roosting burrowing owl (if present in debris or materials near the hangar), and the injury or mortality of bats within a roost site in Hangar 3, therefore, violating the MBTA and/or CFGC or potentially affecting the regional population of burrowing owls.</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|--------------------|--|--|
| Cultural Resources | <p>The Proposed Action would result in the demolition of Hangar 3, which is both individually listed as a historic structure in the National Register of Historic Places (NRHP) and as a contributor to the NRHP-listed Naval Air Station (NAS) Sunnyvale Historic District. The demolition of Hangar 3 would also disrupt the visual qualities and historic character within the District as a whole. This would impact the historic setting of the District and the individual contributors, particularly on the eastside of the airfield, which includes Hangar 2, Building 055, the East Aircraft Parking Apron, other contributing airfield infrastructure (runways and taxiways), operations and support buildings, and the munitions magazines and historic handling facilities. Thus, the Proposed Action would have an adverse effect on historic resources, as defined by 36 CFR 800(a)(1), Protection of Historic Properties.</p> <p>However, the NAS Sunnyvale Historic District and its remaining various contributors would retain sufficient, albeit diminished, historic integrity following the completion of the Proposed Action and would continue to qualify for listing on the NRHP. Additionally, the adverse effects resulting from the Proposed Action would be addressed and resolved through the execution and implementation of a Memorandum of Agreement (MOA) with the State Historic Preservation Officer (SHPO) and other parties.</p> <p>There are no ground disturbing activities located within the identified area of heightened prehistoric-era or historic-era archaeological sensitivity or areas with</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, direct and indirect impacts to Hangar 3, the NAS Sunnyvale Historic District, and the other contributors to the NAS Sunnyvale Historic District in the vicinity could occur from the collapse of Hangar 3. Under the No Action Alternative, there would not be a Section 106 process or resulting MOA to address and resolve adverse effects to historic properties. Therefore, the No Action Alternative could result in a significant impact to cultural resources.</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|---------------------------------------|--|---|
| | <p>known sites. In the event that ground disturbing activities were required and archaeological materials were discovered, all work would be halted, the NASA Cultural Resources Manager would be notified, and the appropriate steps outlined in the Integrated Cultural Resources Management Plan Standard Operating Procedure 8: Inadvertent Discovery would be implemented.</p> <p>As a result, impacts on cultural resources under NEPA would be less than significant.</p> | |
| Greenhouse Gases and Climate Change | <p>Demolition of Hangar 3 would result in the emissions of greenhouse gases (GHG) generated from construction equipment, demolition activities, and on-site workers' commutes. The accumulation of GHGs within the atmosphere leads to global climate change.</p> <p>The GHG emissions generated by the Proposed Action would occur over a short-duration of time and would not exceed the Federal Mandatory Reporting Threshold. Therefore, impacts would result in a less than significant contribution to the significant cumulative impact to global climate change.</p> | <p>Under the No Action Alternative there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, demolition, waste removal, and recycling activities like the Proposed Action would be required. GHG emissions would be generated from construction activities and would be comparable to the Proposed Action. Therefore, the No Action Alternative would have a less than significant contribution to the significant cumulative impact to global climate change.</p> |
| Hazards, Safety, and Waste Management | <p>Demolition of Hangar 3 would result in potential exposure of other MFA users to lead-based paint (LBP), ACM, and polychlorinated biphenyls (PCB) in the vicinity of the Project site. All construction activities would comply with Avoidance and Minimization Measure (AMM)-1: Environmental Issues Management Plan</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, the No Action Alternative could result in the uncontrolled release and exposure</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|---------------------|--|---|
| | <p>(EIMP), to ensure demolition would not expose personnel to site contaminants or release additional contaminants into the environment.</p> <p>To minimize hazards from falls, scaffolding would be installed as per Occupational Safety and Health Administration (OSHA) standards that include provisions such as, but not limited to fall protection, guardrail height, training, and inspection.</p> <p>Implementation of the Proposed Action would create short-term impacts with regard to hazardous wastes during mobilization, demolition, and demobilization activities. All activities would be in compliance with applicable regulations, AMM-1: EIMP, and the site-specific health and safety plan. Moreover, there is adequate capacity at the landfills for any demolition waste.</p> <p>By implementing appropriate plans and complying with applicable regulations, impacts related to worker safety or the exposure to hazardous materials would be less than significant.</p> | <p>of MFA users to hazardous materials, including those containing asbestos, lead, or PCB. The No Action Alternative would not include hazardous material abatement activities described under the Proposed Action. As such, the No Action Alternative could potentially release hazardous materials into the environment causing greater risk to human health and the environment compared to the Proposed Action, resulting in a potentially significant impact. Clean up following structural collapse would be required to follow all applicable federal, state, and local regulations pertaining to the clean-up, abatement, and transport of hazardous materials.</p> |
| Noise and Vibration | <p>Two types of short-term noise impacts could occur during demolition in the Proposed Action: traffic-related noise from demolition crew, equipment, and materials; and noise generated during demolition from building removal. Noise modeling indicates that impacts of demolition activity to sensitive receptors would be negligible, and the Proposed Action would not result in any operational noise as no use is proposed post-demolition. Modeling also indicates that vibration generated from demolition equipment would not be expected to cause damage to existing nearby buildings.</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In an event of a structural failure, there may be instantaneous loud noise from the structural collapse that may be higher than the acceptable noise levels defined in the General Plans for the City of Mountain View and the City of Sunnyvale. In addition, depending on the level of emergency response required, there could be nighttime and</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|---------------------------------------|---|--|
| | <p>Demolition noise levels would be expected to be well below impact thresholds. Additionally, the Proposed Action would implement the protection measures noted in AMM-2: Noise and Vibration, to further reduce temporary construction noise and vibration impacts on adjacent sensitive receptors. Therefore, noise and vibration impacts on sensitive receptors would be less than significant.</p> | <p>weekend activity noise generated that is not contemplated under the Project. However, these noise impacts would not be considered significant since they would be temporary and short-term. Noise levels from worker and truck trips would be expected to be similar to the Proposed Action and thus would not be significant. However, sudden collapse could have an adverse impact on surrounding structures; if vibration levels were to exceed 0.25 in/sec PPV then damage to nearby structures could result.</p> |
| <p>Transportation and Circulation</p> | <p>The traffic impact analysis found that the surrounding study intersections would operate at level of service (LOS) D or better during the AM and PM peak hours under background conditions. Addition of the peak hour Proposed Action traffic to the study intersections would have a negligible impact on the intersections and would not result in a significant impact at the study intersections. The effects of the Proposed Action on the transportation system would be temporary since the Proposed Action would not generate new operational trips once construction was complete. No offsite improvements at study intersections would be needed under the Proposed Action. Additionally, the Proposed Action would implement AMM-3: Construction Traffic Control Plan, to ensure construction traffic does not block access for other area users and coordination occurs with other construction activities during the same construction period.</p> <p>Since the Proposed Action would not result in a substantial increase in traffic generation or increase in</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, there would be temporary construction traffic for remediation and clean-up activities that would be expected to result in similar LOS at the study intersections as the Proposed Action. As a result, impacts related to temporary construction traffic would be less than significant.</p> |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|------------------|--|---|
| | the use of connecting street systems, the impact would be less than significant. | |
| Utilities | The Proposed Action would not result in any new utility infrastructure. Active utility infrastructure connected to Hangar 3 would be identified and disabled before initiating any site work. Underground utility lines would not be impacted as no subsurface activity would occur. All existing service connections would be capped or otherwise disabled. Above-ground water lines serving Hangar 3 would be drained, terminated, and capped at the connection to the service line where it goes below ground. All underground NASA communication infrastructure and vaults would be protected during demolition of Hangar 3. Therefore, the Proposed Action would not disrupt or accidentally damage existing utility lines and the impact would be less than significant. | Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, impacts to utilities could be potentially significant as utility connections to Hangar 3 would not be capped or disconnected systematically and thus structural failure could result in the inadvertent loss of service or damage to critical infrastructure such as water lines connecting to Hangar 3 and NASA telecommunication lines that lie underneath the Hangar 3 concrete slab. Additionally, disruption or damage to utility infrastructure could impact service to other MFA users, including the CAANG facility, resulting in a potentially significant impact. |
| Visual Resources | Permanent changes to the existing visual landscape would result from the demolition of Hangar 3. Hangar 3 is a prominent feature in views toward MFA from nearby locations, reinforced by the presence of Hangar 2. As a pair, these structures are highly recognizable visual and historic features in the local and regional landscape. Therefore, the removal of Hangar 3 would be noticeable by viewers familiar with the area. However, such visual changes would not be substantial, as Hangar 2 would provide a similar but new focal point in public views and would maintain the overall visual character of the Project | Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of structural failure, potential damage to Hangar 3 would be uncontrolled and thus could affect other nearby structures, including Hangar 2. However, it would be speculative to determine the extent of an unplanned collapse and the potential damage to other structures. In the absence of Hangar 3, Hangar 2 would be the |

HANGAR 3 BUILDING DEMOLITION ENVIRONMENTAL ASSESSMENT

| Resource Area | Potential Impacts from the Proposed Action | Potential Impacts from the No Action Alternative |
|------------------------|---|---|
| | <p>area. Additionally, as shown in the close-in views from Key Observation Point (KOP) 1 and KOP 2, the removal of Hangar 3 would allow for greater visibility of the Project area and the surrounding hillsides and mountain range. With the demolition of Hangar 3, the vividness would be reduced with the elimination of a repeating form. Hangar 2 would become the sole dominant feature in public views and would retain the elements that contribute to the overall visual character. As such, impacts on the existing visual character and the scenic quality of public views would be less than significant.</p> | <p>sole dominant feature in public views and would retain the elements that contribute to the overall visual character that is evident in existing views toward this portion of MFA. Thus, visual impacts from the No Action Alternative would be less than significant.</p> |
| <p>Water Resources</p> | <p>Under the Proposed Action, construction activities would include abatement, demolition, and waste disposal. All construction activities would be above-ground, and no site grading or site disturbance would occur. Water generated from dust suppression and watering of ACM prior to demolition would be collected and treated, as necessary. All water discharged from demolition activities would be collected in covered and secured Baker tanks and tested prior to being transported offsite or discharged to the sanitary sewer.</p> <p>To minimize potential impacts associated with runoff and sedimentation, the construction contractor would implement a sitewide Stormwater Pollution Prevention Plan (SWPPP) in accordance with AMM-1: EIMP.</p> <p>Ongoing groundwater monitoring would not be disturbed at MFA. There would be no excavation associated with the Proposed Action; therefore, no groundwater would be expected to be encountered, and dewatering would not be needed. As such, significant impacts to groundwater would not occur. Under this alternative, potential impacts to water resources would be minimized</p> | <p>Under the No Action Alternative, there would be no disturbance to the existing environment associated with pre-demolition, demolition, and waste removal and recycling. In the event of a structural failure, existing lead, asbestos, PCB, and other contaminants from building materials within Hangar 3 could be released into the environment, including surface waters, because no abatement of hazardous materials (lead/asbestos/PCB) would be conducted prior to cleanup. Therefore, the No Action Alternative could degrade downstream water quality through the release of hazardous and other contaminants into surface waters and result in a potentially significant impact to water resources.</p> |