COUNTY OF SANTA BARBARA
PLANNING AND DEVELOPMENT

TO:	County Planning Commission
FROM:	Matt Young, Planner
DATE:	June 9, 2016
RE:	Shell Guadalupe Gravel Remediation In-Lieu Proposal, Case Nos. 13RVP-00000-00119 and 14CDP-00000-00072, APNs 113-020-018, 113-020-020, and 113-020-021)

This project was initially heard by the Planning Commission on September 10, 2014. The Staff Report from this initial hearing is included as Attachment A. During the initial hearing, the Planning Commission directed staff to return on November 12, 2014 and provide the following:

1. A description of the Partial Gravel Removal Alternative.
2. A discussion of the effects of partial and complete gravel removal on dune habitat.
3. Information on the feasibility of revegetating dune habitat.
4. Information regarding the Project's potential impacts to Gordon Sand Company.

The applicant, Shell Western, Inc. (Shell) requested that the November 12, 2014 hearing be continued to allow further discussions and possible resolution with the Gordon Sand Company. Shell has been negotiating with Gordon Sand Company since this time, but no resolution has been reached. Having tried and failed to reach resolution with Gordon Sand Company, Shell is now prepared to move forward with this project. Shell has agreed to indemnify the County from any legal liability associated with the project.

In response to the Planning Commission's direction in the September 10, 2014 hearing, staff has prepared the information provided in this memo (Items 1 through 4, below). In addition to responding to the Planning Commission's direction, Staff has made minor revisions to two conditions in 14CDP-00000-00072, along with identical revisions to Mitigation Measure MM REC-1 in the Proposed Final Supplemental Environmental Impact Report (SEIR). These changes to conditions and the mitigation measure are discussed in Item No. 5 below. Staff has also made minor revisions to the Response to Comments (Appendix F of the SEIR). These changes to the SEIR are discussed in Item No. 6 below.

Staff maintains its original recommended action, with minor changes to the SEIR and conditions of approval described below:

1. Make the required findings for approval of the project specified in Attachment A to the staff report dated August 21, 2014, including California Environmental Quality Act findings.
2. Certify the Supplemental Environmental Impact Report (13EIR-00000-00005), including the proposed changes to Section 3.3.4.4, Mitigation Measure REC-1, and Appendix F "Responses to Comments" identified in the Planning

Commission memo dated June 9, 2016, and adopt the mitigation monitoring program contained in the conditions of approval.

3. Approve the project (Case Nos. 13RVP-00000-00119 and 14CDP-00000-00072), subject to the conditions included as Attachments B and C to the staff report dated August 21, 2014, including changes to conditions nos. 2 and 3 of 14CDP-00000-00072 identified in the Planning Commission memo dated June 9, 2016.

Alternatively, refer back to staff for appropriate findings and conditions if the Planning Commission takes other than the staff-recommended actions.

1. Partial Gravel Removal Alternative

The Planning Commission directed staff to provide a description of the Partial Gravel Removal Alternative. The following description of the Partial Gravel Removal Alternative is directly reproduced from the SEIR (pages 2-9 through 2-11).

The Partial Gravel Removal Alternative would involve the removal of gravel from the most visually prominent areas, as observed by recreational users of Rancho Guadalupe Dunes County Park. The purpose of this alternative is to minimize visual impacts associated with imported gravel located on the surface of the dunes, while also minimizing the amount of construction-related disturbance to vegetated areas and impacts related to trucking of gravel to a remote site. This Alternative would involve the complete removal of gravel from Site D and from the eastern portion of the Road Site. This would result in the removal of approximately 73,438 cubic yards (cy) of sand impacted by gravel. The remaining 220,314 cy of sand impacted by gravel located within the Upper Area, Site 2, and the western portion of the Road Site would be left in place. These areas have either been revegetated by dune species, or are within or adjacent to areas disturbed by the Gordon Sand Company roads or sand pit.

Permit conditions associated with 82-CP-75(cz) and 96-CDP-010 would apply, as would standard County construction best management practices (BMPs), which would reduce many of the impacts of gravel removal. As required by Permit Condition #31, the Applicant would remove all introduced materials in Site D and the western portion of the Road Site to a maximum depth of 15 feet during abandonment.

Removal of gravel under this alternative would involve sifting the sand to a depth that is clear of the imported gravel. It is estimated that the majority of the gravel is within 2 to 3 feet below the surface. All the gravel from the Road Site and both shoulders would also be sifted out using a sand sifter. The sand sifter is moveable and would be located in the areas of excavation and sifting. Gravel within areas close to vegetation along the access road would be dug out using hand crews in a manner that minimizes impacts to dune vegetation. Equipment used for the gravel removal would include a flatbed work truck with a small attached hydro-crane lifting unit and a service truck with a 4 to 6 person crew. Front-end loaders with 4.5-cy buckets would be used to pick-up sand and gravel material and put it into a screen/sifter unit. Work would progress from the Site D and back along the access road toward the Gordon Sand Company facility. The screen/sifter unit would initially be set up near Site D. As work is completed in Site D, the sifter unit would be moved back along the access road to accommodate the loaders and to minimize their required hauling distances. Two 20-cy rollaway containers would be used to store gravel after processing, and would be transported via truck to Greka's Santa Maria

Asphalt Refining Facility, approximately 12 miles east of the Project Site. Based on previously completed screen tests, throughput of the system is estimated at 130 tons per hour and removal would require approximately 3 to 4 months to complete. The Partial Gravel Removal Alternative presents potential impacts to sensitive avian species.

Permit Condition #21 of 82-CP-75(cz) limits noise levels from major activities during the Least Tern breeding season which starts approximately April 1 and continues until September 15. The Guadalupe Dunes also provide breeding habitat for the western snowy plover, for which the breeding season starts approximately March 1 and continues until September 30. Gravel removal activities within Site D and the western portion of the Road Site would occur between October 1 and February 28 in order to minimize potential impacts to sensitive bird species. If weather or schedule constraints prevent restoration activities from being completed within that timeframe, a biologist would conduct regular site visits to ensure limited impacts to sensitive bird species.

2. Effects of partial and complete gravel removal on dune habitat

The Planning Commission directed staff to provide a discussion of the effects of partial and complete gravel removal on dune habitat. The following discussion addresses the potential effects of the two gravel removal alternatives on dune habitat. This discussion summarizes information presented in Section 3.3 of the SEIR.

Baseline Conditions

The existing biological conditions at the Rancho Guadalupe Dunes County Park and Project Site have changed during the time between preparation of the 1982 Final Environmental Impact Report (EIR) and the SEIR as a result of multiple factors, including the implementation of the Husky Oil Project, remediation efforts related to 82-CP-75 (cz), partial removal of the gravel pursuant to 96-CDP-010, and unforeseen ecological succession and natural processes that occurred between the 1997 attempted partial removal and the present. In particular, the 1982 Final EIR anticipated incremental but significant fragmentation of the dune ecosystem by roads, pads, and related structures. However, due in part to the partial removal of remnant gravel in 1997 as well as long-term unforeseen ecological succession, the anticipated ecosystem fragmentation did not occur. Rather, sensitive plant species have reestablished and are currently thriving in the areas affected by the remnant gravel.

Today the Project Site is almost entirely designated as Environmentally Sensitive Habitat (ESH) and includes approximately 19 acres of California Department of Fish and Wildlife (CDFW) sensitive communities, including Central Foredunes and Central Dune Scrub. Additionally, the Project Site supports at least five known California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) sensitive plant species (see Table 1 below, reproduced from SEIR page 3.3-25) as well as dune habitat for nesting western snowy plovers (federally listed as Threatened). Western snowy plovers were documented at the Project Site as recently as 2004 and continue to be documented in proximity to the Upper Area.

Table 1. Summary of Sensitive Plant Species Documented During 2010 Vegetation Surveys and Potentially Affected by the No Project Alternative

Common/ Scientific Name	California Rare Plant Rank	Occurrences			
		Site D	Road Site	Site 2	Upper Area
Crisp monardella *Monardella crispa*	1B.2[1]	171	654	173	165
Blochman's leafy daisy *Erigeron blochmaniae*	1B.2[1]	2	390	14	23
Blochman's groundsel *Senecio blochmaniae*	4.2[2]	11	41	34	61
Suffrutescent wallflower *Erysimum insulare* ssp. *suffrutescens*	4.2[2]	0	569	0	0
Dunedelion *Malacothrix incana*	4.3[3]	0	1	0	0

Notes: It is assumed based on the 2014 reconnaissance survey that sensitive plant species occur in roughly the same number as documented in the FLx 2010 survey. Blochman's leafy daisy was not documented during the 2014 reconnaissance survey; however, this is likely due to very low rainfall conditions.

1. 1B.2 = Plants that are fairly endangered in California.
2. 4.2 = A watch list of plants with limited distribution and that are moderately threatened in California
3. 4.3 = A watch list of plants with limited distribution and that are not very threatened in California

Source: FLx 2010.

In dune habitats, as the dominant shrubs grow, the stabilized areas expand to create favorable conditions for the increased spread of additional plants. A thin fragile layer of mosses and lichens develops over time and delicately binds the surface sand together. This soil resists invasion by non-natives, but is easily broken up by foot, wildlife, and vehicle traffic (Holland et al. 1995). When vegetation is removed, this process is disrupted and the impact area reverts to active dunes; it may take many years for coastal dune scrub to reestablish and in some cases it may not reestablish at all.

Observations during the February 2014 site reconnaissance survey suggest that the larger-particle size gravel has helped anchor windblown seeds and assisted native vegetation establishment and expansion in the dunes. It appears that native vegetation has continued to establish and expand since the last vegetation surveys performed in 2010 (AMEC 2014; FLx 2010).

Comparison of Impacts at the Project Site

Table 2 summarizes and compares the impacts that would occur as a result of the Proposed Project and its alternatives, as analyzed in the SEIR. Further detail regarding the biological impacts of the Project and its alternatives is provided below.

Table 2. Summary of Impacts to Biological Resources from Implementation of each Alternative

Proposed Project (No Gravel Removal)	No Project (Complete Gravel Removal) Alternative	Partial Removal Alternative
• Continued presence of approximately 2,300 occurrences of CNPS ranked sensitive plant species occurring within dunes where gravel is present. • Increased biological value at the Project Site relative to that described in the 1982 EIR existing conditions. • Persistence of minor amounts on non-native vegetation. • No potential for disturbance of sensitive wildlife species.	• Impacts to approximately 19 acres of CDFW sensitive communities. • Vegetation removal within designated ESH. • Removal of common native and/or sensitive plant species, including approximately 2,300 occurrences of CNPS ranked species. • Potential introduction or spread of non-native vegetation within the Project Site associated with gravel removal. • Potential for successful implementation of restoration plan is unclear. • Potential for disturbance of sensitive wildlife during ground disturbing activity.	• Impacts to approximately 4.31 acres of CDFW sensitive communities. • Vegetation removal within designated ESH. • Removal of common native and/or sensitive plant species, including approximately 1,800 occurrences of CNPS ranked species, which are concentrated within Site D and the Road Site. • Potential introduction or spread of non-native vegetation within the Project Site associated with gravel removal. • Potential for successful implementation of restoration plan is unclear. • Potential for disturbance of sensitive wildlife during ground disturbing activity.

Biological Impacts – Proposed Project

Implementation of the Proposed Project would leave the existing gravel in place and not alter existing baseline conditions described in detail within the 2014 SEIR. The Proposed Project would result in no ground disturbing activities and therefore would have no adverse impacts to biological resources within Site D, Site 2, the Road Site, or the Upper Area. As described in the 2014 SEIR, the presence of the gravel in the dunes does not present a significant adverse impact to either dune vegetation or wildlife. Rather, the gravel appears to be beneficial for the establishment and expansion of native dune vegetation (including sensitive plant species), nesting habitat for western snowy plover, and habitat for a variety of other native wildlife species. Therefore, implementation of the Proposed Project would allow these indirect beneficial impacts to continue.

Biological Impacts – No Project Alternative (Complete Gravel Removal)

Implementation of this alternative would require removal of all existing gravel pursuant to Condition No. 31 of 82-CP-75(cz). Implementation of the No Project Alternative would require the excavation and sifting of sand to a depth of at least 2 to 3 feet and in some cases deeper (to a maximum of 15 feet) and would generally result in degradation of the sensitive dune ecosystem as described above. Specifically, the No Project Alternative would result in short-term direct adverse impacts from vegetation removal and soil disturbance to approximately 19 acres of CDFW sensitive communities including Central Foredunes and Central Dune Scrub, and at least five known sensitive plant species (refer to Table 2). Additionally, as the Project Site is located within designated ESH, these excavation activities would result in direct removal and disturbance of ESH.

Direct short-term impacts to sensitive wildlife, including impacts to nesting and foraging behavior of avian species from gravel removal under the No Project Alternative, could also be associated with the disturbance and removal of dune vegetation, during and immediately following gravel removal operations. Lastly, ground disturbing activities occurring under the No Project Alternative would create opportunities for the introduction and/or spread of non-native species within the Project Site. This could occur due to the seeds of invasive species being brought to the Project Site from other areas by trucks or equipment that is not properly washed. Invasive species can out-compete native species for water and space on-site, and also indirectly affect adjacent vegetative communities resulting from "edge effects," which could occur along the edges of the gravel removal locations.

While the original applicant (Husky Oil Company) submitted a dune restoration program and revegetation plan to the County per mitigation requirements described in the 1982 Final EIR, and the plan included salvage and transplant of native species prior to sand sifting activities, it is unclear if this plan would be able to restore the Project Site to the conditions of the current existing setting. (See Item 3 below, which discusses the potential for success of dune restoration projects.)

Biological Impacts – Partial Removal Alternative

Implementation of the Partial Gravel Removal Alternative would involve the removal of gravel from the most visually prominent areas, as observed by recreational users of Rancho Guadalupe Dunes County Park. This would result in the excavation and sifting of sand within Site D and the western portion of the Road Site to a depth of at least 2 to 3 feet, and deeper in some cases. Accordingly, biological impacts of the Partial Removal Alternative would be similar to those of the No Project Alternative, but to a lesser extent and affecting a smaller area. Namely, the biological impacts of the Partial Removal Alternative would be restricted to Site D and the Road Site, while the No Project Alternative would affect these two sites as well as Site 2 and the Upper Area.

Similar to the No Project Alternative, implementation of the Partial Removal Alternative would result in direct short-term adverse impacts to ESH due to removal of vegetation throughout Site D and the western portion of the Road Site. However, these impacts would be reduced relative to the No Project Alternative, as approximately 14.31 fewer acres of dune habitat would be disturbed. As with the No Project Alternative, direct short-term impacts to sensitive wildlife from gravel removal under the Partial Gravel Removal Alternative would be associated with the disturbance and removal of dune vegetation, including CDFW sensitive communities, during and immediately following gravel removal operations. While the Partial Gravel Removal Alternative would reduce these impacts relative to the No Project Alternative, removal of gravel at Site D and the western portion of the Road Site could result in a reduction of habitat quality, particularly for nesting western snowy plovers, which have been known to occur within the Project Site as recently as 2004, and within Rancho Guadalupe Dunes County Park as recently as 2016.

Table 3. Disturbed Area (in acres) Under Each Alternative

Site Area	No Project Alternative (Complete Gravel Removal)	Partial Removal Alternative	Difference Between No Project and Partial Removal Alternatives
Site D	3.42	3.42	0
Site 2	4.59	0	-4.59
Road Site	2.42	0.89	-1.53
Upper Area	8.49	0	-8.49
Total	**18.92**	**4.31**	**-14.61**

As described in Table 3, implementation of the Partial Gravel Removal Alternative would result in direct short-term adverse impacts to approximately 4.31 acres of CDFW sensitive communities as Site D. The western portion of the Road Site would be denuded of vegetation, which include two CDFW sensitive natural communities, Central Foredunes and Central Dune Scrub (CDFW 2014), and at least five known sensitive plant species (FLx 2010; AECOM 2010). Table 4 summarizes the counts of the individual species within the Project Site that would be impacted by the implementation of the Partial Removal Alternative as well as No Project Alternative.

Table 4. Comparison of Sensitive Plant Species Removal under the No Project Alternative and Partial Removal Alternative

Common/ Scientific Name	California Rare Plant Rank	No Project Alternative (Complete Gravel Removal)	Partial Removal Alternative*
Crisp monardella *Monardella crispa*	1B.2	1,163	825
Blochman's leafy daisy *Erigeron blochmaniae*	1B.2	429	392
Blochman's groundsel *Senecio blochmaniae*	4.2	147	52
Suffrutescent wallflower *Erysimum insulare* ssp. *suffrutescens*	4.2	569	569
Dunedelion *Malacothrix incana*	4.3	1	1
	Total	**2,309**	**1,839**

* This estimate includes all of the sensitive species documented at Site D and the Road Site; however, as partial removal within the Road Site would only occur on the margin of the site, gravel removal may be able to avoid some of these occurrences. However, all of the sensitive species occurrences within Site D would be removed.

Source: FLx 2010.

Lastly, similar to the No Project Alternative, vehicles brought to the Project Site from other areas could introduce new non-native species by seed dispersal if they are not properly washed. However, as Project-related ground disturbing activity would be limited to Site D and the western portion of the Road Site (totaling 4.31 acres), opportunities for the introduction and/or spread of non-native species would be reduced, because the disturbed area under the Partial Gravel Removal Alternative would be reduced by approximately 75 percent relative to the No Project Alternative.

As with the No Project Alternative, it is unclear if the dune restoration program and revegetation plan originally submitted by Husky Oil per mitigation requirements described in the 1982 Final EIR would restore the Project Site to the conditions of the current existing setting.

3. Feasibility of Revegetating Coastal Dune Habitat

The Planning Commission directed staff to analyze the feasibility of revegetating dune habitat at the September 10, 2014 hearing. The following text is hereby added to the first paragraph of SEIR Section 3.3.4.4 in response to the Planning Commission's questions and direction.

Coastal Dune Habitat Revegatation

The No Project Alternative would require revegetation of coastal dune habitat disturbed by gravel removal,. The following narrative summarizes a number of the general challenges associated with restoration of Southern California coastal dune systems. It also describes challenges specific to revegetation of the Project Site following gravel removal under the No Project or Partial Gravel Removal Alternatives. The analysis relies on examples of coastal dune restoration projects in Humboldt, Monterey, San Luis Obispo, Santa Barbara, and Ventura counties, including nearby restoration sites located at the Guadalupe-Nipomo Dunes National Wildlife Refuge, Vandenberg Air Force Base, Jalama Beach County Park, Coal Oil Point Reserve, University of California Santa Barbara, and Carpinteria State Beach.

Common Restoration Objectives

The ecology of dune habitats is complex, making the restoration of "original conditions" difficult to attain, even within a considerable (e.g., 10-year) time frame. The coastal dune community has a highly dynamic structure and function. A common goal in dune restoration is to restore key natural physical and biological functions that would allow the development of self-sustaining natural communities over time. This is typically accomplished through the re-establishment of native plant species, the control or eradication of non-native plant species that interfere with the restoration and development of natural ecosystems, and management of natural erosional and depositional processes to facilitate the formation and preservation of dune topography and the colonization and spread of dune vegetation. Other common goals typically include avoiding impacts to existing sensitive plant populations and creating or improving habitat for native wildlife.

Challenges with Successful Coastal Dune Restoration

Site Stablization

The most important physical challenge associated with successful coastal dune restoration is the highly dynamic and ephemeral nature of dune topography (i.e., the continuous shifting of dune sand due to the forces of wind and water). Once vegetaton is removed, dunes typically revert to unstable conditions, regardless of their stage of development at the time of disturbance. Vegetation is critical to dune formation and stabilization. For this reason, dune restoration usually begins with the establishment of native plants. Maintenance is required until a self-sustaining system is developed.

The Project Site is subject to prevailing northwesterly winds, which shape the local dune topography. Coastal dune scrub is present in the northeastern portion of Site D, the southern and eastern portions of Site 2, along the northern and southern edges of the Road Site, and in the southeastern portion of the Upper Area. Where existing coastal dune scrub is present, the perennial vegetation slows the velocity of the prevailing wind

and minimizes water loss.[1] Additionally, the scrub vegetation forms an interlocking root system that helps to stabilize the sand. The underlying soils contain more organic matter and nitrogen-fixing bacteria, retain more water, are more fertile, and have a lower salt content than the soils of active/shifting dunes. As the dominant shrubs grow, the stabilized areas can expand to create favorable conditions for the recruitment of additional plants.

Under the No Project and to a lesser extent, the Partial Gravel Removal Alternatives, existing vegetation would be removed and the affected areas would revert to active dunes. Successful restoration after sand excavation, gravel removal, and soil backfill would require substantial efforts over a considerable time frame to prepare and stabilize the affected areas. Site stabilization methods that reduce wind velocity near the ground and trap and retain windblown sand are critical to the establishment and spread of restoration plantings.

There are a number of techniques that have proven effective in stabilizing coastal dunes and promoting establishment of native vegetation. These include sand fences (or fence checkerboards), sterile rice straw (bales, checkerboards, blankets, single tufts), mats and netting. The creation of small dune hillocks and other topographic features parallel to existing dunes may further encourage sand retention. Successful implementation of these techniques requires precise installation, frequent monitoring, and regular maintenance to ensure success. High winds or intense precipitation events may compromise site stability during the plant establishment phase. Blow-outs and rapid sand migration may bury planted material, requiring replacement planting.

Planting and Irrigation

Once sand stabilization measures are in place, site-specific native dune plant species are introduced from local stock. Most habitat restoration projects use temporary irrigation systems to supplement rainfall for newly installed plants. Successful maintenance of irrigation systems in dune restoration areas is problematic. Generally, systems that employ overhead sprinklers are not recommended since the irrigation water is carried and diffused by the wind away from target plants. Overhead irrigation may also encourage germination of non-native species. Drip emitters are preferred for most habitat restoration projects. Both overhead sprinkler heads and drip emitters are prone to becoming clogged and/or buried by windblown sand when used in coastal dune systems. For this reason, supplemental irrigation systems are typically not used in dune restoration. This makes the establishment of plants more difficult since germination and growth are dependent on natural sources of water (e.g., rainfall, fogdrip). Hand watering is also generally not recommended since the required foot and/or vehicle traffic increases soil destabilization and vegetation mortality in the restoration area.

Dune restoration typically involves broadcasting seed, installing salvaged plants, spreading salvaged topsoil that previously supported native plants, and/or installing nursery-grown container stock during periods of favorable soil moisture conditions. Broadcasting collected seed is the quickest, least labor-intensive, and least costly method. Although there have been many successful dune revegetation projects that have

[1] It is likely that existing remnant gravel at the Project Site has played some role in stablizing the existing dune system allowing for the establishment of sensitive plant species beyond the levels observed at the Project Site in the 1980s.

employed broadcast seeding, success rates can be highly variable. If not applied correctly, seeds may be carried away by prevailing winds. The severe growing conditions inherent to dune habitats present unique obstacles to plant establishment. Dune plants are subject to high levels of stress. Athough adapted to natural forces of wind erosion, they must survive sand blasting and scouring; burial; desiccation from high ground temperatures, wind, and salt spray; and limited water and nutrients. The frequency of strong wind events and abrasive shifting substrates can be significant enough to severely limit the potential for plant community development. Common herbivores within the Guadalupe-Nipomo Dunes Complex may also contribute to plant mortality in restoration areas. Due to all of these factors, dune revegetation efforts are challenging and success rates are unpredictable.

Non-Native and Invasive Species

A key component to any successful habitat restoration project is the control of non-native plants (i.e., weeds), especially highly invasive species. The ecological value of coastal California dunes has been severely imperiled by the rapid spread of invasive species, often planted to stabilize dunes for development and recreation. Weed species are often first to colonize disturbed areas; the erosional and depositional forces and the high level and frequency of disturbance on the dunes makes them particularly vulnerable to invasion. Many weed species have a competitive advantage over local native species and can often permanently prevent a disturbed area from returning to its pre-disturbed state. Many of these species spread rapidly in dune systems both vegetatively and through windblown seed dispersal. These species can also out-compete native rare species, and reduce habitat quality for wildlife.

A number of weeds are currently present at the Project Site, including some with a California Invasive Plant Council (Cal-IPC) rating of “High”. These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure, and their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment.

Weed species diversity and cover may increase on-site from the inadvertent introduction and dispersal of weeds during gravel removal and subsequent restoration activities. If gravel removal and site restoration activities are implemented under the No Project Alternative or the Partial Gravel Removal Alternative, comprehensive methods to minimize weed introduction and spread must be employed and an aggressive weed control program would be required. However, even these measures would not eliminate the potential for the spread of invasive species at the Project Site.

All weed control techniques have disadvantages, and weed control efforts in coastal dunes present unique challenges. Most restoration weed control programs employ a combination of chemical and manual treatment methods (i.e., applications of herbicide and hand-pulling or using hand tools). Although expensive, mechanical removal (e.g., bulldozer, excavator) is sometimes used where invasive weeds are prolific and native species are mostly absent. Mechanical and manual weed removal can be problematic in the dunes since any soil disturbance may lead to dune instability and increased sand transport. Careful hand removal of weeds may be required in areas where special-status plant species are abundant, but hand-pulled weeds may shed seeds onto the newly disturbed soil below and may actually result in increased competition with native species over the long-term.

Often the preferred and most successful weed control method used is the application of herbicide. However, effective herbicide application in coastal dune systems can be challenging due to persistent winds. Extreme caution must be used to avoid herbicide overspray onto non-target native plants, especially newly germinated or planted individuals, as well as onto any special-status plant or wildlife species that may be present in the work area. A crew of certified herbicide applicators with experience in dune habitat would be required to effectively treat weeds while preserving desired native plants and wildlife, especially special-status species.

Site Access

Since dune habitat is extremely susceptible to soil disturbance, basic access for required restoration project installation, maintenance, and monitoring activities may be problematic and would necessitate diligent training and coordination of all project personnel (including any employees of Gordon Sand who would be working in the area). Although dune plants have adapted to harsh environmental growing conditions, they cannot withstand foot and vehicular traffic which crushes plant shoots and roots. Pedestrian and vehicle/equipment traffic typically results in plant mortality and a subsequent decrease in dune stability, as well as the potential introduction and dispersal of weeds. As noted above, while invasive species currently occur in relatively low densities on-site, vegetation community composition could shift to favor invasive species which are more tolerant of disturbance and can out-compete native species. In addition, dune soil compaction often results in decreased water infiltration, leading to erosion from rain and increased damage during droughts.

All on-site restoration activities, including but not limited to survey work, site stabilization, seed collection, seed broadcast and planting activities, and weed control and other maintenance may result in soil and vegetation disturbances. Unauthorized trampling of the site during the restoration period must also be tightly controlled; in order to avoid soil and vegetation disturbance, it is likely that signage and exclusionary fencing around the perimeter of the project area would be required to restrict workers as well as the public from entry.

Impacts to Existing Special Status Species

Additionally, activities required for the basic implementation of the restoration project may negatively impact special-status species known to occur at the project site, including rare plant species and western snowy plover. The preparation of species-targeted plans may be required to avoid and/or minimize impacts to special-status species, and environmental monitoring for the duration of the restoration project would be critical to ensure that impacts to special-status species are avoided or minimized. Western snowy plovers have been documented nesting at the project site, and plover monitoring would be required prior to and during restoration activities. Access to certain areas may be restricted if survey results indicate that plovers are utilizing the site. This would also encumber basic restoration project activities. The plover breeding season coincides with the active growth period of most weed species in the dunes. Restricted access into plover exclusion areas may impede weed control treatments, as well as general restoration project maintenance and monitoring activities in those areas. Overall, restoration project setbacks related to access restrictions and site disturbances may extend the life of the project, resulting in additional maintenance and monitoring costs.

Conclusions – Feasibility of Coastal Dune Habitat Restoration

As described above, there are significant challenges to successful coastal dune restoration in general and particularly at the Project Site. This is not to say that a successful project cannot be completed, but restoration at the site will require a substantial effort in planning, implementation, and long-term maintenance and monitoring. Based on the analysis presented in Section 3.3.4.3, retaining the existing gravel in place would not result in any adverse impacts to biological resources. The presence of the gravel in the dunes does not present a significant adverse impact to either dune vegetation or wildlife; rather, the gravel appears to provide beneficial effects related to establishment and expansion of native dune vegetation (including sensitive plant species), nesting habitat for western snowy plover, and habitat for a variety of other native wildlife species. Based on the analysis that retaining gravel on-site would not result in any adverse impacts to biological resources, and in light of the inherent challenges and difficulties associated with dune restoration at the site, the Proposed Project is the preferred alternative in terms of reducing or avoiding impacts to biological resources.

4. Potential Effects on Gordon Sand Company

Gordon Sand Company has asserted that if the gravel is allowed to remain in place, Gordon Sand Company would then assume responsibility for gravel cleanup, and that the mining operation's Reclamation Plan does not allow disposal of rock materials in to the sand pit. As noted in staff's responses to comments in the Proposed Final SEIR, Gordon Sand Company would not be responsible for the reclamation of remnant gravel retained under the Proposed Project, and disposal of rock materials from the Gordon Sand clay road is explicitly allowed. This is clearly stated in Condition 1(d) of the Conditions of Approval for the Gordon Sand Final Reclamation Plan (1993): "…clay, silt, or rock materials removed from the access road and processing plant during reclamation would be placed into the sand pit for disposal." Therefore, Gordon Sand Company would not be burdened by separating any remnant gravel that now overlaps with the clay access road, for which the company is responsible. In addition, the majority of the gravel is located elsewhere on the site; only a minor portion of the gravel overlaps with the clay access road.

Gordon Sand Company has stated that the presence of remnant gravel affects its sand processing operations, requiring installation of specialized equipment to remove gravel and cobbles from mine feed stock prior to processing. The historical and continuing impacts of the gravel on Gordon Sand Company operations are the subject of ongoing negotiations between Gordon Sand Company and Shell, and may ultimately be resolved through the court system. Shell has agreed to indemnify the County from any legal liability associated with allowing the gravel to remain in place.

More detailed responses to comments from Gordon Sand Company and others are included in Attachment A to this memorandum.

5. Recommended Changes to Conditions and Mitigation Measures

Staff recommends the Planning Commission adopt as part of your motion minor changes to Condition No. 2 (Mitigation Measure MM REC-1 from the SEIR) and Condition No. 3 (Property Acquisition Timing) of 14CDP-00000-00072. The revisions proposed by staff provide the County with additional options in acquiring property or interest in property.

The revised conditions would also allow a qualified non-profit to acquire the property interest rather than direct acquisition by the County. These changes do not alter the efficacy of mitigation for the project's potentially significant Aesthetic/Visual and Recreation impacts. Staff has also made identical revisions to Mitigation Measure MM-REC1 in the Proposed Final SEIR.

The revised conditions read as follows:

> **2. Special MM REC-1:** ~~Monetary Contribution (In-Lieu Fee)~~ **In-Lieu Property Acquisition**.
> Shell Exploration and Production, Inc. (Applicant) shall provide an in-lieu fee to the County for the purpose of mitigating the recreational impact of the Proposed Project (18.9 acres footprint) through the acquisition~~purchase~~ of property by the County, another public agency, or a qualified non-profit entity for public recreational or open space purposes at a ratio of not less than 3:1 (56.7 acres). Such property acquisition may include the following:
>
> - acquisition of property in fee title
> - acquisition of an easement which allows for public access
> - acquisition of easements for public trails
>
> ~~The mitigation ratio could potentially be greater based on property availability and quality.~~ This property would be designated and preserved for recreational and open space use. The optimal property would be located within the north coastal region of the County, in the vicinity of the Project Site, characterized by similar dune habitat and substantial scenic value, and be suitable for ~~passive~~ recreational or open space uses by the public. In addition to offsetting recreational impacts, this in-lieu fee would result in additional indirect benefits to aesthetics, geological resources, and biological resources.
> TIMING: The Applicant shall provide the in-lieu fee to the County to ~~purchase~~ fund acquisition of land for public recreational purposes at a ratio of not less than 3:1 prior to issuance of a Coastal Development Permit (14CDH-00000-00072).
>
> **3. Property Acquisition.** Prior to issuance of a Land Use Permit effectuating the Coastal Development Permit (14CDP-00000-00072), the County of Santa Barbara, another public agency, or a qualified non-profit entity shall enter into a contract to acquire ~~in fee title~~a property interest ~~acreage~~ sufficient to meet the requirements of mitigation measure MM REC-1.

Staff recommends identical revisions to Mitigation Measure MM REC-1 in the proposed Final EIR.

6. Change in Responses to Comments

In order to clarify reference to the Gordon Sand Reclamation Plan conditions of approval, staff made minor revisions to Appendix F, "Responses to Comments," of the Proposed Final SEIR. The revised text, located on pages F-10, -12, -13, -17, -20, and -21, reads as follows:

As stated in ~~Item~~ Condition 1(d) of the Conditions of Approval for ~~within~~the Gordon Sand Final Reclamation Plan (1993) "clay, silt, or *rock* materials removed from the access road and processing plant during reclamation would be placed into the sand pit for disposal."

The complete text of Appendix F "Responses to Comments," with these minor revisions is included as Attachment A to this Memo.

Attachments

Attachment A: Staff Report dated September 10, 2014
Attachment B: Proposed Final SEIR Appendix F, "Responses to Comments"