February 5, 2021
2018-047.016

Mr. Mark Gim
Los Angeles County Public Works
900 South Fremont Avenue, 9th Floor
Alhambra, California 91803

Re: Devil's Gate Reservoir Restoration Project – Phase 1 Restoration Qualitative Monitoring Conducted on January 13, 2021

1.0 INTRODUCTION

The purpose of this letter report is to document the results of qualitative monitoring conducted for the Devil's Gate Reservoir Restoration Project (Project), located in the City of Pasadena, Los Angeles County, California. The qualitative monitoring was conducted in the planted and or seeded portions of the Phase 1 mitigation areas including DG-1, DG-1 WOUS, DG-2A, DG-2B, DG-3A, DG-3B, DG-4, DG-4B, DG-4C, and DG-5. The monitoring is being conducted in accordance with the Final Habitat Restoration Plan for the Project (HRP). Active sediment removal is still occurring within the sediment removal areas for the Project and habitat restoration is being conducted onsite around the perimeter of the sediment removal areas.

ECORP is responsible for conducting qualitative monitoring and compliance review of restoration efforts in each of the mitigation areas. ECORP is also responsible for preparing monitoring reports, which typically include the following information:

- Overall health of container plants
- Observations and recommendations related to container plant establishment
- Germination of native plant species from seed application and natural recruitment
- Level of germination of nonnative plant species
- Soil condition
- Other observations and recommendations as appropriate

Qualitative monitoring was conducted by Carley Lancaster on January 13, 2021. Field data collected during the monitoring event is provided as Attachment A. This report documents the sixth monthly qualitative monitoring visit for the Phase 1 mitigation areas.

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2.0 QUALITATIVE MONITORING IN THE PHASE 1 MITIGATION AREAS

2.1 Brief Summary of Plant Installation

During the Phase I Installation effort, which was completed on February 13, 2020, a total of 10,276 one-gallon container plants, 52 five-gallon container plants, 18 fifteen-gallon container plants, 300 acorns, and 3,000 cuttings were installed in the DG-2A, DG-2B, DG-3A, DG-3B, DG-4, DG-4B, DG-4C, and DG-5 mitigation areas. Container plants were not installed in the DG-1 or DG-1 WOUS mitigation areas, but these areas were seeded with native plant species. Table 1 lists container plant species and the numbers installed in each of the Phase 1 mitigation areas.

Table 1. Phase 1 Container Plant Species and Numbers (DG-)

Species Name	2A	2B	3A (Oak Wood-land)	3A (Mule-fat Thickets)	4 (CSS*)	4 (Mulefat-Willow**)	4B	4C	5	TOTAL
Mulefat (Baccharis salicifolia)	25	95	—	—	—	1113	135	114	64	1546
Mulefat [cuttings] (Baccharis salicifolia)	—	—	—	84	—	916	—	—	—	1000
Fremont's cottonwood (Populus fremontii)	10	38	—	33	—	479	54	45	27	686
California blackberry (Rubus ursinus)	10	38	—	33	—	619	54	45	26	825
California rose (Rosa californica)	10	38	44	33	—	725	54	45	26	975
Black willow (Salix gooddingii)	20	76	—	—	—	876	108	90	52	1222
Black willow [cuttings] (Salix gooddingii)	—	—	—	67	—	933	—	—	—	1000
Red willow (Salix laevigata)	10	38	—	33	—	439	54	45	26	645
Arroyo willow (Salix lasiolepis)	10	38	—	—	—	438	54	45	26	611
Arroyo willow [cuttings] (Salix lasiolepis)	—	—	—	33	—	967	—	—	—	1000
Black elderberry (Sambucus nigra ssp. caerulea)	5	19	—	17	—	594	27	23	13	698
California melic (Melica imperfecta)	—	—	20	—	—	—	—	—	—	20
Coast live oak (Quercus agrifolia)	—	—	174	—	—	—	—	—	—	174

Table 1. Phase 1 Container Plant Species and Numbers (DG-)										
Species Name	**2A**	**2B**	**3A (Oak Wood-land)**	**3A (Mule-fat Thickets)**	**4 (CSS*)**	**4 (Mulefat-Willow**)**	**4B**	**4C**	**5**	**TOTAL**
Coast live oak [acorns] (*Quercus agrifolia*)	25	—	275	—	—	—	—	—	—	300
California gooseberry (*Ribes californicum*)	—	—	50	—	—	—	—	—	—	50
Mugwort (*Artemisia douglasiana*)	—	—	—	33	—	617	54	45	26	775
Wrinkled rush (*Juncus rugulosus*)	—	—	—	—	—	200	—	—	—	200
Basket rush (*Juncus textilis*)	—	—	—	—	—	100	—	—	—	100
California Sagebrush (*Artemisia californica*)	10	38	—	—	306	—	—	—	—	354
Coyote brush (*Baccharis pilularis*)	10	38	—	33		504	54	45	26	710
California brittlebush (*Encelia californica*)	—	—	—	—	102	—	—	—	—	102
California buckwheat (*Eriogonum fasciculatum*)	—	—	—	—	306	—	—	—	—	306
Menzies goldenbush (*Isocoma menziesii*)	—	—	—	—	41	—	—	—	—	41
Deerweed (*Acmispon glaber*)	—	—	—	—	102	—	—	—	—	102
Laurel sumac (*Malosma laurina*)	—	—	—	—	61	—	—	—	—	61
Coastal prickly pear (*Opuntia littoralis*)	—	—	—	—	41	—	—	—	—	41
Black sage (*Salvia mellifera*)	—	—	—	—	102	—	—	—	—	102
TOTAL	**145**	**456**	**563**	**399**	**1061**	**9520**	**648**	**542**	**312**	**13646**

*CSS = California Sagebrush – California Buckwheat Scrub
**Mulefat-Willow = Mulefat Thickets and Black Willow Thickets

All plants were installed according to the methods described in Section 4.11 of the HRP. Planting holes for all container plants, except oak trees, were dug to a width twice the size of the root ball and to a depth slightly deeper than the depth of the root ball so that the root crown was one inch below grade following installation. Oak trees were planted with the root crown 0.5 to one inch above grade following installation. Prior to installation, all plants were thoroughly watered in their containers and the soil in planting holes was wetted with at least one gallon of water. Planting holes were backfilled with native soil and irrigation

basins, approximately two feet in width, were formed around the base of each plant. Rocks greater than two inches in diameter were removed to the extent possible from the backfill soil. All container plants were irrigated with at least one gallon of water immediately following installation and basin creation.

2.2 Qualitative Monitoring Methods

Qualitative monitoring occurs monthly following the 120-day Plant Establishment Period (PEP) for the remainder of Year 1 (8 months). Following Year 1, qualitative monitoring will occur quarterly during Years 2 and 3 and twice per year during Years 4 through 10. The purpose of the qualitative monitoring is to assess container plant health and vigor and monitor the success of the mitigation areas.

During the January 13, 2021 visit, all Phase 1 mitigation areas were walked, the health and vigor of container plants were documented, germination from seeding and natural recruitment was noted, and the irrigation lines were inspected for functionality. In addition, the level of nonnative and invasive weed cover was estimated for each of the Phase 1 mitigation areas.

2.3 Qualitative Monitoring Results

2.3.1 DG-1 & DG-1 WOUS

Container plants were not installed in the DG-1 or DG-1 WOUS mitigation areas, but these areas were seeded with native plant species. Native plant growth was noted throughout the DG-1 and DG-1 WOUS mitigation areas, likely both from natural recruitment and from seeding; however, germination was observed to be very minimal in the majority of these mitigation areas. Portions of DG-1 WOUS were noted as being scoured during the wet season and had minimal plant growth. Most native annuals were noted as being dead for the season. Native plants such as mulefat (*Baccharis salicifolia*), California buckwheat (*Eriogonum fasciculatum*), common sand aster (*Corethrogyne filaginifolia*), and scale broom (*Lepidospartum squamatum*) were observed sprouting in the DG-1 and DG-1 WOUS mitigation areas. In addition, dodder (*Cuscuta sp.*) was observed growing on some of the shrubs in this mitigation area, which could lead to future decline of these shrubs; however, the dodder was noted as being mostly dead for the season. Photos 1 through 4 in Attachment B document the mitigation area during the monitoring visit.

Nonnative weed cover in DG-1 and DG-1 WOUS was estimated at approximately <1 percent, if the dead annual weeds are excluded, which is approximately the same level of weed cover that was observed during the previous qualitative monitoring event. Nonnative species observed in DG-1 and DG-1 WOUS included black mustard (*Brassica nigra*), red brome (*Bromus madritensis ssp. rubens*), cheatgrass (*Bromus tectorum*), tocalote (*Centaurea melitensis*), and Mediterranean grass (*Schismus barbatus*); however, most individuals were observed to be dead for the season.

2.3.2 DG-2A

The overall health of the container plants in DG-2A was noted as being good. Only minimal stress was observed, and the majority of the remaining container plants are becoming well established. Approximately 10 percent of all container plants were showing varied levels of stress, which is the same percentage of plants that were showing stress during the previous qualitative monitoring event. Stress

may be occurring as a result of 1) herbivory by rabbits or other wildlife or 2) competition from nonnative and invasive weeds. There were no additional container plants noted as being missing or dead. Formal mortality counts were taken for DG-2A during the quantitative monitoring and will be included in the annual reporting. The willow species (*Salix sp*.) and Fremont's cottonwoods (*Populus fremontii*) in the mitigation areas were showing signs of seasonal dieback. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of plants in the DG-2A mitigation area appears to have been completed successfully. The current issues identified during the monitoring visit are not expected to have an effect on the continued growth of the plants in the mitigation area. Photos 5 through 7 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-2A mitigation area, likely both from natural recruitment and from seeding. Native plants such as mugwort (*Artemisia douglasiana*), mulefat, cobweb thistle (*Cirsium occidentale*), tall flatsedge (*Cyperus eragrostis*), telegraph weed (*Heterotheca grandiflora*), caterpillar phacelia (*Phacelia cicutaria*), ladies' tobacco (*Pseudognaphalium californicum*), and stinging nettle (*Urtica dioica*) were observed sprouting in the DG-2A mitigation area.

Nonnative weed cover in DG-2A was estimated at approximately 10 to 15 percent, which is approximately 5 percent more than the level of weed cover that was observed during the previous qualitative monitoring event. Nonnative species observed in DG-2A included black mustard, poison hemlock (*Conium maculatum*), perennial pepperweed (*Lepidium latifolium*), and white horehound (*Marrubium vulgare*). While nonnative annuals were observed to be mostly dead, new germination of nonnative weeds was also observed.

2.3.3 DG-2B

The overall health of the container plants in DG-2B was noted as being good. Approximately 10 percent of all container plants were showing varied levels of stress, which is the same percentage of plants that were showing stress during the previous qualitative monitoring event. Stress was likely due to the same reasons as those described for DG-2A. In addition, insect galls were observed on several of the willow species. Formal mortality counts were taken for DG-2B during the quantitative monitoring and will be included in the annual reporting. Similar to DG-2A, the willow species and Fremont's cottonwoods were showing signs of seasonal dieback. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of the plants in the DG-2B mitigation area appears to have been successfully completed. The current issues identified during the monitoring visit are not expected to have an effect on the continued growth of plants in the mitigation area. Photos 8 through 10 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-2B mitigation area, likely both from natural recruitment and from seeding. Native plants such as mugwort, mulefat, telegraph weed, and stinging nettle were observed sprouting in the DG-2B mitigation area. In addition, dodder was observed growing on some of the shrub and tree species in this mitigation area which could lead to future decline of these shrubs; however, the dodder was observed to be mostly dead for the season.

Nonnative weed cover in DG-2B was estimated at approximately 10 percent, if the dead annual weeds are excluded, which is approximately 5 percent more than what was observed during the previous qualitative

monitoring event. Nonnative species observed in DG-2B included black mustard, poison hemlock, white horehound, perennial pepperweed, Russian thistle (*Salsola tragus*), and black nightshade (*Solanum nigrum*); however, most black mustard individuals were observed to be dead for the season.

2.3.4 DG-3A

The overall health of the container plants in DG-3A was noted as being good. Approximately 10 percent of the container plants in the Coast Live Oak Woodland portions of DG-3A were noted as showing varied levels of stress, which is five percent less than the percentage of container plants that were showing stress during the previous qualitative monitoring event; however, six more coast live oak containers were observed to be dead or in a condition unlikely to survive. Approximately 5 to 10 percent of the container plants in the Mulefat Thickets portions of DG-3A were noted as showing varied levels of stress, which is approximately the same number of container plants that were showing stress during the previous qualitative monitoring event. Formal mortality counts were taken for DG-3A during the quantitative monitoring and will be included in the annual reporting. The types of stress the plants were exhibiting are the same as those described for the plants in DG-2A. However, erosion is also a problem in some areas of DG-3A. Some of the planting basins were observed to have minor erosion and should be repaired. In addition, the heavy water and debris flows noted during previous monitoring visits have contributed to plant mortality and stress in this mitigation area. Similar to DG-2A, the container planted willow species and Fremont's cottonwoods were exhibiting seasonal dieback; however, the planted willow and mulefat cuttings were observed to be sprouting vigorously. During the monitoring visit, the planted coast live oak (*Quercus agrifolia*) acorns were inspected for survivorship and health. Approximately 20 germinated coast live oak acorns appear to still be present in DG-3A. The majority of the germinated acorns appear to be in good health; however, several appeared to be showing signs of drought stress. The installation of the plants in the DG-3A mitigation area appears to have been completed successfully. The current issues noted during the monitoring are not expected to have a negative effect on the continued growth of the plants in the mitigation area. Photos 11 through 15 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-3A mitigation area, likely both from natural recruitment and from seeding. Native plants such as annual bursage (*Ambrosia acanthicarpa*), mugwort, mulefat, cobweb thistle (*Cirsium occidentale*), tall flatsedge, jimsonweed (*Datura wrightii*), beardless wild rye (*Elymus triticoides*), California poppy (*Eschscholzia californica*), stinging nettle, and rough cocklebur (*Xanthium strumarium*) were observed sprouting in the DG-3A mitigation area.

Nonnative weed cover in DG-3A was estimated at approximately 5 to 10 percent, if the dead annual weeds are excluded, which is the same percent of nonnative cover that was observed during the previous qualitative monitoring event. Nonnative species observed in DG-3A included black mustard, poison hemlock, perennial pepperweed, sweet alyssum (*Lobularia maritima*), tree tobacco (*Nicotiana glauca*), wild radish (*Raphanus sativus*), and castor bean (*Ricinus communis*).

2.3.5 DG-4

The overall health of the container plants in mitigation area DG-4 was noted as being good. Approximately 10 to 15 percent of container plants in the coastal sage scrub portions of DG-4 were showing varied levels of stress which is the same as the percentage of plants showing stress during the previous qualitative monitoring event. Approximately 10 to 15 percent of container plants in the riparian portions of DG-4 were showing varied levels of stress, which is five percent less than the percentage of container plants that were showing stress during the previous qualitative monitoring visit. The stress appears to be mostly due to the same reasons described in DG-2A. Many plants that appeared to be stressed during previous qualitative monitoring events, due to high temperatures and drought stress, appeared to be recovering. In addition, the 300-foot buffer around a least Bell's vireo (*Vireo bellii pusillus*) nest that affected middle portions of DG-4 has been removed; however, weed proliferation in this area prior to buffer removal likely contributed to plant stress and mortality. For most portions of DG-4, only a negligible number of container plants were noted as being missing or dead. Formal mortality counts were taken for DG-4 during the quantitative monitoring and will be included in the annual reporting. The container planted willow species and Fremont's cottonwood were showing signs of seasonal dieback; however, the planted willow and mulefat cuttings were also observed to be sprouting vigorously. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of plants in the DG-4 mitigation area appears to have been completed successfully and the issues noted during the monitoring are not expected to have an impact on the continued growth of the plants. Photos 16 through 19 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-4 mitigation area, likely both from natural recruitment and from seeding. Native plants such as California sagebrush (*Artemisia californica*), mugwort, mulefat, tall flatsedge, California buckwheat, California poppy, jimsonweed, telegraph weed, ladies' tobacco, and stinging nettle were observed sprouting in the DG-4 mitigation area.

Nonnative weed cover in DG-4 was estimated at approximately 10 to 15 percent for most areas, which is approximately 5 to 10 percent more than what was observed during the previous qualitative monitoring event. It should be noted that portions of DG-4 that are adjacent to weed infested portions of Phase 2 (i.e., DG-4A) were observed to have new germination of perennial pepperweed. Nonnative species observed in DG-4 included black mustard, poison hemlock, perennial pepperweed, and white horehound. Nonnative weed cover, especially perennial pepperweed, is a significant problem in portions of the DG-4 mitigation area. Because perennial pepperweed can produce dense colonies through seed germination and underground rhizomes (rhizomatous roots), removal of this species without the use of systemic herbicide is very difficult.

2.3.6 DG-4B

The overall health of the container plants in mitigation area DG-4B was noted as being good and this mitigation area is becoming well established. Approximately 5 to 10 percent of all container plants were noted as showing varied levels of stress, which is approximately the same percentage of plants that were showing stress during the previous qualitative monitoring visit. The types of stress the plants were exhibiting are the same as those described for the plants in DG-2A. A negligible number of container

plants were noted as being missing or dead. Formal mortality counts were taken for DG-4B during the quantitative monitoring and will be included in the annual reporting. Similar to DG-4, the container planted willow species and Fremont's cottonwoods were showing signs of seasonal dieback. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of plants in the DG-4B mitigation area appears to have been completed successfully and the issues noted during the monitoring are not expected to have an impact on the continued growth of the plants. Photos 20 and 21 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-4B mitigation area, likely both from natural recruitment and from seeding. Native plants such as California sagebrush, mugwort, mulefat, cobweb thistle, tall flatsedge, California poppy, and stinging nettle were observed sprouting in the DG-4B mitigation area.

Nonnative weed cover in DG-4B was estimated to be approximately 5 percent, which is the same percentage of nonnative cover that was observed during the previous qualitative monitoring event. Most nonnative annuals were observed to be dead for the season; however, some new germination was observed. Nonnative species observed in DG-4B included black mustard, poison hemlock, white horehound, and perennial pepperweed.

2.3.7 DG-4C

The overall health of the container plants in mitigation area DG-4C was noted as being good. Approximately 10 percent of all container plants were noted as showing varied levels of stress, which is approximately 5 percent less than the percentage of plants that were showing stress during the previous qualitative monitoring event. The types of stress the plants were exhibiting are the same as those described for the plants in DG-2A. A negligible number of container plants were noted as being missing or dead. Formal mortality counts were taken for DG-4C during the quantitative monitoring and will be included in the annual reporting. Similar to DG-4, the container planted willow species and Fremont's cottonwood were showing signs of seasonal dieback. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of plants in the DG-4C mitigation area appears to have been completed successfully and the issues noted during the monitoring are not expected to have an impact on the continued growth of the plants. Photos 22 and 23 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-4C mitigation area, likely both from natural recruitment and from seeding. Native plants such as mugwort, mulefat, California poppy, telegraph weed, caterpillar phacelia, and stinging nettle were observed sprouting in the DG-4C mitigation area.

Nonnative weed cover in DG-4C was estimated at approximately 5 to 10 percent, which is approximately 5 percent higher than the level of nonnative cover that was observed during the previous qualitative monitoring event. Nonnative species observed in DG-4C included black mustard, poison hemlock, perennial pepperweed, and white horehound.

2.3.8 DG-5

The overall health of the container plants in the DG-5 mitigation area was noted as being good. Approximately 10 to 15 percent of all container plants were noted as showing varied levels of stress, which is approximately five percent less than the percentage of plants that were showing stress during the previous qualitative monitoring event. While the 300-foot buffer around a least Bell's vireo nest that affected all of DG-5 has been removed, weed proliferation in this area prior to buffer removal likely contributed to plant stress and mortality. Gopher herbivory is also a significant problem in DG-5 and accounts for the majority of the missing container plants. In addition, gopher activity has increased the level of basin degradation and many basins need repair. Formal mortality counts were taken for DG-5 during the quantitative monitoring and will be included in the annual reporting. Similar to DG-4, the container planted willow species and Fremont's cottonwoods were showing signs of seasonal dieback. Some of the planting basins were observed to have minor erosion and should be repaired. The installation of plants in the DG-5 mitigation area appears to have been completed successfully and the issues noted during the monitoring are not expected to have a negative impact on the continued growth of the plants. Photos 24 and 25 in Attachment B document the mitigation area during the monitoring visit.

Native plant growth was noted throughout the DG-5 mitigation area, likely both from natural recruitment and from seeding. Native plants such as mugwort, mulefat, California poppy, and stinging nettle were observed sprouting in the DG-5 mitigation area.

Nonnative weed cover in DG-5 was estimated at approximately 5 to 10 percent, which is the same percent of nonnative weed cover that was observed during the previous qualitative monitoring event. Nonnative species observed in DG-5 included wild oat (*Avena fatua*), black mustard, poison hemlock, common barley (*Hordeum vulgare*), perennial pepperweed, and white horehound.

3.0 RECOMMENDATIONS

3.1 Container Plant Replacement

Container Plants that were noted as being dead during both the qualitative and quantitative monitoring events should be replaced during Phase 2 of planting activities. This should occur during the fall/winter of 2020/2021. Replacement of dead container plants will help to increase native cover and help the restoration sites move toward achieving their success criteria.

Container plant loss was most problematic in areas prone to erosion, areas with higher levels of herbivory, and areas within the least Bell's vireo nest buffer where nonnative weed proliferation occurred during the active nesting period in the spring of 2020. Special attention should be taken to replace the container plants that were lost in the lest Bell's vireo nest buffer to enhance the habitat in this area.

3.2 Nonnative Plant Control

Nonnative weed cover ranged from approximately <1 percent to 15 percent in the various mitigation areas and most nonnative annuals were observed to be dead for the season; however, some new germination was observed. Regular maintenance and removal of nonnative weeds is of the highest

priority for all of the mitigation areas to reduce competition between native and nonnative plants. In addition, eucalyptus stumps that are starting to re-sprout should be trimmed back frequently. A focus should be placed on removing the weeds and nonnatives from the basins of each of the container plants and cuttings. Outside of the nesting bird season, a focus should also be made to remove nonnative weeds in areas where least Bell's vireos are likely to nest during the breeding season (i.e. in the vicinity of the least Bell's vireo nest that was active in 2020). Nonnative plants and weeds that have gone to seed should be bagged and removed from the mitigation area. Without the use of herbicides, control of the nonnatives will be extremely difficult so the frequency and level of effort will need to be increased to provide control until the native plants and seedlings have a chance to grow and outcompete the nonnatives. In particular, it is important to maintain long-term perennial pepperweed management to reduce competition and allow for native plants to germinate. In addition, dodder should be removed from container plants in the mitigation areas. Although many species of dodder are native, this parasitic plant can be harmful to younger shrubs and trees that are not yet established and can even cause mortality.

3.3 Irrigation

The irrigation system was inspected for functionality and appeared to be properly installed. The soil around the container plants was inspected and was found to be saturated for the container plants on the east side of the reservoir. Irrigation for portions of the west side of the reservoir was temporarily suspended due to grading and re-contouring of the mitigation areas; however, hand watering has been occurring in these areas and use of the irrigation system is anticipated to resume shortly. Irrigation was not actively occurring during the monitoring visit; however, the soil for most container plants was found to be moist below the surface. Some of the emitters were observed to be outside of the container plant basins, likely due to erosion, water flow, and/or public interference. Twice weekly watering events should be conducted for the container plants unless adequate rainfall occurs. After watering, the container plant basins should have at least 0.5 inch of saturation depth. Continual maintenance of the irrigation system should be conducted to ensure all plants are evenly watered and the tube emitters are placed at the base of the container plants. Watering of the seeded only areas is not recommended.

3.4 Herbivory

Rabbit herbivory of container plants was observed in the Phase 1 mitigation areas. California rose, California buckwheat, and basket rush (*Juncus textilis*) appeared to be the most affected by herbivory. In addition, gopher herbivory of container plants was observed in DG-5. Minor herbivory generally will not kill the plants, but continued monitoring should be conducted during future visits to determine the level of the herbivory isn't such that plants are dying. If browsing by rabbits or other animals begins to worsen, caging around affected and/or favored container plants may be warranted. In addition, below grade gopher traps should be installed at DG-5 to remove the gophers from this area.

3.5 Erosion

Minor erosion to planting basins was observed throughout the Phase 1 mitigation areas, likely from recent storm events. In addition, severe erosion in DG-3A near Altadena Drain was observed. Recent rainfall has

created a channel that flows to the south of Altadena Drain before connecting to the reservoir where severe berm erosion has occurred. Erosion to the upper slope in DG-3A was also observed. Due to the steepness of the slope in the Coast Live Oak Woodland portion of the DG-3A mitigation area, erosion will likely continue to be somewhat of an issue in this area; however, jute nettings are currently in place on the slope and will help to lessen the severity of erosion issues. As native cover increases in this area, erosion issues should lessen. The severity of the erosion should continue to be monitored in all planted areas and if warranted, erosion Best Management Practices (BMPs) should be installed in appropriate areas. This may only require the installation of straw wattles at select sites to prevent existing rills from becoming larger. However, until more native perennial plants become established in these areas, there is the potential that intense rainfall may create additional erosion problems.

If you have any questions about the information presented in this letter, please contact me at CLancaster@ecorpconsulting.com or (714) 648-0630.

Sincerely,

Carley Lancaster
Staff Biologist

ATTACHMENT A

Field Notes

ATTACHMENT B

Photo Documentation