DRAFT PROJECT DESCRIPTION
FOR THE
COTTONWOOD SAND MINING PROJECT
JAMACHA, CA

Prepared for:

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October 2018

Table of Contents

List of Figures

List of Tables

Attachments

1.0 PROJECT INTRODUCTION

The Cottonwood Sand Mining Project (project) is proposed in the Sweetwater River Valley. The proposed project would produce 3.8-million cubic yards (5.7-million tons) of mineral resource over a 10-year period in the Jamacha Valley on land that is currently utilized as two 18-hole golf courses and is zoned for extractive use.

Areas disturbed by resource extraction will be progressively reclaimed. Reclaimed areas will be restored to an end use of open space and, in limited areas, pads suitable for future development. The combined mineral extraction and reclamation project will affect, approximately, 280 acres of land located in Jamacha Valley. Approximately, 198 acres of the 280 acres will be mined. Approximately 244 acres, including the mined area will be reclaimed by grading and/or revegetation. The remaining acreage will be subject to the removal of invasive species in heavily vegetated areas or be left its current condition. Figures for the regional location of Jamacha Valley and the vicinity of the overall project area are attached as Figure 1.1-1 and Figure 1.1-2.

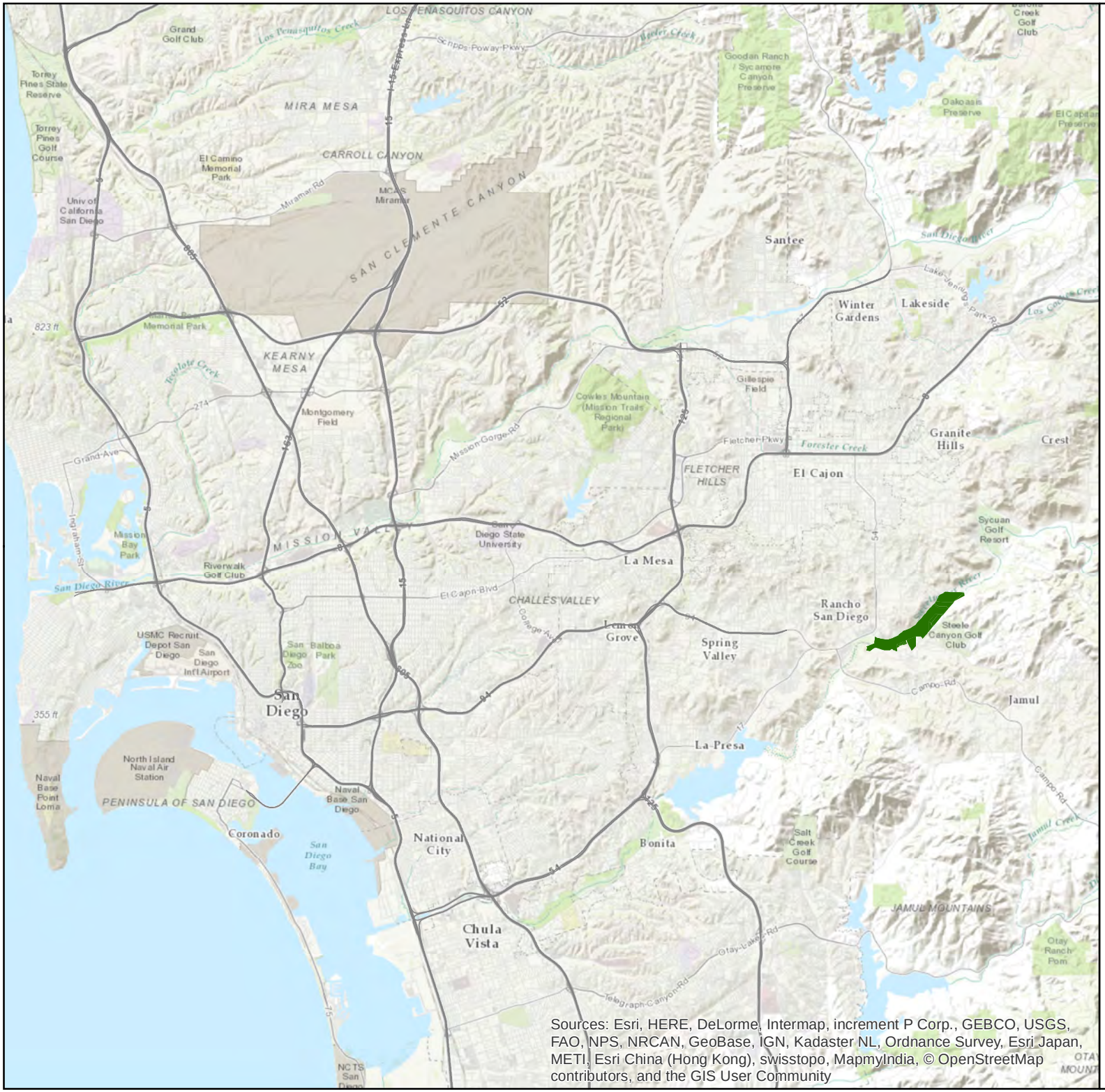
The property is currently occupied by the Cottonwood Golf Club which operates two 18-hole golf courses referred to as the Lakes course and the Ivanhoe course. Extraction activities will begin on the Lakes course west of the Steele Canyon bridge in Phase 1. Processing facilities, east of the bridge, will occupy the 1st and 18th fairways of the Lakes course. Public use of the Ivanhoe golf course, to the northeast of Steele Canyon Road, will continue during Phase 1.

At the start of Phase 2, the front nine holes (1-9) of the Ivanhoe golf course will be closed as mining begins in this area. Processing facilities for the site will remain in the same location. During Phase 2, the golf course will continue play as a 9-hole golf course on the back nine holes (10-18) until the final phase of mining begins at which time all golf related activities will end.

The project will require approval of a Major Use Permit that extends to the property boundaries for an area totaling 280 acres. Attendant to this action, a Reclamation Plan for the mining operations will need to be approved in compliance with County ordinance and the California Surface Mining and Reclamation Act of 1975 (SMARA).

Approximately 198 acres will be affected by resource extraction and backfilling. Reclamation activities, including grading, habitat improvement and revegetation will occur on the remaining acreage. Revegetation will include both golf courses, including those areas not mined. Areas disturbed by the operation will be progressively reclaimed starting in year 2 as mining proceeds to the east. Reclamation is an ongoing process that commences when mining operations have ceased within a given area and continues until all mining related disturbance is reclaimed and all equipment involved in these operations have been removed.

The project is expected to be fully completed in 12 years, i.e., mining will be ongoing for 10 years. Reclamation will commence 2 years after the start of mining and will continue over a 10-year period. As such, reclamation is expected to be concluded 2 years after the completion of mining. Post mining land use will be open space within the channel and building pads suitable for future development within specified areas.



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 1.1-1: Cottonwood Sand Mine Regional Location

Cottonwood Sand Mine Site

N
W E
S

0 1.5 3 Miles

1 in=3 miles

EnviroMINE Inc.

September 26, 2017

Figure 1-1.2: Cottonwood Sand Mine Site Vicinity

Cottonwood Project Boundary

N
W
E
S

0 1000 2000 Feet

1 in=2,000 feet

EnviroMINE Inc.

September 26th, 2017

Associated activities include an aggregate processing facility, all support structures and buildings in the form of scales, scale house module and storage containers. Setbacks will be established in accordance with the County of San Diego Grading Ordinance along Willow Glen Drive prior to commencing operations.

The MUP would authorize a maximum production limit of 570,000 tons (380,000 cubic yards) of construction grade aggregate (sand and gravel) in any calendar year. Excavated material will total 4.7-million cubic yards with approximately 3.8-million cubic yards (5.7-million tons) of construction aggregate produced. Material produced will be primarily washed concrete sand, but may also include fill sand, gravel and rock.

The project will be developed in three mining phases and a fourth (4th) phase for final reclamation. Mineral extraction will generally proceed in a southwest to northeast direction. The first phase will involve installation of access roads, creation of a pad for a processing plant east of Steele Canyon Road, installation of the plant, placement of a conveyor line running south to north and development of the extraction area west of Steele Canyon Road. As phases proceed the conveyor line will be moved to serve the areas mined in later phases. A final phase, Phase 4, will be a final reclamation, cleanup and equipment removal phase. Revegetation monitoring will continue after this final phase.

Wheeled, front-end-loaders will mine the materials to approximately one foot above the existing water table and load directly into a conveyor hopper. In areas where excavation extends below the water table, excavators would be utilized for pit excavation. The conveyor line will deliver the material directly to the processing plant, near the north-central portion of the project, where the material will be washed.

Final grading will begin after mining and backfilling is complete within a given area; and as extractive operations proceed to the east. Planting of graded areas will be conducted as final landforms are established and become available for revegetation. This process will continue throughout the duration of the project.

Reclamation will consist of removing all golf course features, widening the channel of the Sweetwater River and backfilling areas along Willow Glen Drive. Native habitat will be established within the channel and slopes. Within specified areas along Willow Glen Drive, pads suitable for future development will be established. Land suitable for future development will be planted with an erosion control seed mix. All areas of the golf course will be reclaimed.

1.1 Project Goals

The goals of this Project are to:

1. Recovery of construction aggregates in a safe and efficient manner.

2. Address the need for construction-grade aggregate resources, specifically sand products, in San Diego County, and help meet the current and projected demand for construction aggregates within this market area over a 10-year period. Provide reliable, high-quality, aggregate product at a maximum

permitted production level of 380-thousand cubic yards per year and a minimum of 3.8-million cubic yards of total shipped product.

3. Widen the existing channel while maintaining the existing channel elevations and slope.

4. Backfill select extraction areas to the approximate elevation of adjacent roadways and reduce the width of the existing, mapped floodplain.

   Return extracted areas with the river's floodway to open space and revegetate with native riparian and upland species suitable for wildlife habitat.

5. Reduce the County's dependence on imported aggregates, thereby reducing product cost, vehicle miles traveled, highway maintenance requirements, and vehicle emissions.

6. Minimize and mitigate potential environmental impacts that might otherwise be created by the Project, to the extent feasible, by design and methods of operation.

2.0 Existing Conditions

2.1 Project Location

The site is situated within the Sweetwater River watershed and in the floodplain of the Sweetwater River which flows through the central part of the properties. It is located parallel to Willow Glen Drive in Jamacha, CA; an unincorporated area of San Diego County (Figure 1.1-2). The western edge of the project areas is approximately 600 feet east of the intersection of Willow Glen Drive and Jamacha Road extending approximately 1.7 miles to the east of that intersection. Steele Canyon Road connects to Willow Glen Drive approximately .75 miles east of Jamacha Road.

The entrance to the project site is 0.4 miles northeast of the intersection of Willow Glen Drive and Steele Canyon Road with an address of 3121 Willow Glen Drive, El Cajon, CA 92019. Willow Glen Drive will serve as the primary route used by the project.

2.2 Site History

Prior to the 1940s, the project site and surrounding lands of the Jamacha Valley were predominately used for commercial ranching and agriculture, most of which had ended by the 1950s. A 1953 aerial photograph of the project site indicates that the flood plain of the Sweetwater River was primarily open space and was also being mined for construction aggregates on the south side of the river and west of Steele Canyon Road. Mineral extraction uses in this area had expanded to the east side of Steele Canyon Road by the early 1960s. Other disturbed areas observed on the 1953 aerial photograph suggest surface mining may have been occurring adjacent to Willow Glen Drive on the western end of the property. It also appears that a dirt aviation landing strip may have been present.

Mining activities along Steele Canyon Road continued into the 1970s as both golf courses were developed. Construction of the golf courses began in approximately 1962 with the Lakes Course (formerly the Monte Vista Course) on the western end of the property and the Ivanhoe Course on the eastern side of the property.

Since 1964, the property has been used as a public golf course. Facilities at the golf club consist of a large parking lot, a clubhouse, practice facilities and two, 18-hole championship length golf courses. Sand extraction continued at the site through the years, which allowed the golf course to be modified with water hazards and expanded fairways.

Presently, operations at the site utilize approximately 750-acre feet of water annually for primarily irrigation. This water is obtained from a series of onsite water wells.

2.3 Surrounding Land Uses

The proposed project is set within the Jamacha Valley adjacent to the village of Jamacha and approximately 0.5 miles east of Rancho San Diego community. Existing conditions find a variety of land uses in the project vicinity. Land uses include residential, rural residential, extractive operations to the east and an adjacent golf course. Open space is present in the hills south, east and west of the site. A National Wildlife Refuge abuts the western end of the property along the river. Land use near the project site is limited by physical constraints with the presence of the Sweetwater River channel, which passes through the site in a northeast to southwest direction, and by steep terrain on the north and south.

2.4 Existing Land Entitlements

The golf course site is generally aligned along both sides of the Sweetwater River and extends for approximately two miles along Willow Glen Drive. The golf course is approved (Special Permit No. 61-090 W2M1) to occupy low lands within the Sweetwater River floodplain.

The original permit (approved January 16th, 1962) described real property for a Commercial Sport and Recreational Enterprise, consisting of and including a golf course, driving range, restaurant, bar, putting green, pro shop, swimming pool and other ancillary facilities.

Several minor modifications were made to the original permit between 1972 and 1989. Two major amendments followed in 1992 and 1994.

The first major amendment approved on October 8, 1992 (P61-090W[1]), revised the permit to include approximately 15 acres of additional area for the relocation of holes 12 and 13 of the western 18 holes (Monte Vista; currently Lakes)) and to add and delete other property as reflected on the approved plot plan; a two-story 30,000 square foot clubhouse consisting of a public lobby, pro shop, administrative offices, classrooms, restaurant dining, bar and grill, kitchen, locker rooms, and support areas; a practice range and practice greens; below ground golf cart storage area; and a 336 space parking lot and demolition of existing clubhouse.

A second modification (P60-090W²) was approved on January 19th, 1994 to add 8.2 acres on the north side of Willow Glen Drive to P60-090W¹ to use an existing residential facility as the San Diego Golf Academy. Special Use Permit P60-090W² included three major sections of modification. These were:

- Section I - Golf holes 12 and 13 were modified from the initial location and constructed as part of the Western 18 holes (Monte Vista, currently named Lakes). (MUP Modification P61-090W², Section I.)
- Section II - Clubhouse with Related Facilities and Uses and Parking was not constructed, and that portion of the permit expired. MUP Modification P61-090W², Section II. expired on October 8th, 1995.
- Section III - Instructional Facility located north of Willow Glen Drive was never constructed. An Open Space Easement was dedicated however on Parcel 518-021-0800. As a result, that portion of the permit expired. MUP Modification P61-090W², Section III. expired on January 19, 1997.

The Rancho San Diego Specific Plan was originally adopted on January 16, 1980 and has been amended several times, primarily for development purposes. The most recent amendment was approved on December 4th, 2013. There are two parcels in the southeastern corner of the Reclamation Plan boundary that are included in the Specific Plan. These parcels are 506-021-1900 (8.2 acres) and 519-011-0300 (23.8 acres) and have a zoning designation of S88, Specific Planning Area. This zoning restricts extractive uses to site preparation which allows the off-site removal of materials when it is secondary to the future use of the site. Currently, all of Parcel 506-021-1900 and approximately 13.3 acres of Parcel 519-011-0300 are used by the golf course as fairways.

2.5 Golf Club Operations

The property is occupied by the Cottonwood Golf Club (CGC) which was permitted in 1962. CGC operates two 18-hole golf courses referred to as the Lakes course and the Ivanhoe course. Golf play on the Lakes course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe course. Figure 2.2-1 presents the course layout for the Lakes Course and Figure 2.2-2 shows the layout for the Ivanhoe course.

In addition to the golf courses, there is an approximately 11,500 ft.² clubhouse with a bar and grill, an open 13,000 ft² golf cart storage yard an equipment maintenance and repair facility of approximately 2.2 acres in area and parking for approximately 320 automobiles. On course restrooms are located near the tee box on Lakes Hole #7 and on the Ivanhoe course, at the tee box for Hole #14 (Figure 2.2-3) These on-course restroom facilities are connected to septic systems.

Hours of operation are from dawn to dusk for golf, course maintenance occurs from 5:00 a.m. until 1:00 p.m., while the bar and grill are open from 10:00 am until 4:00 pm, seven days per week. There are presently 23 golf course employees for administration, maintenance and dining. These hours of operation and staffing will continue during Phase 1 of the proposed project. Staff reduction will occur at the beginning of Phase 2 when the front 9 (Holes #1 - #9) of the Ivanhoe course will be closed.

Figure 2.2-1
Cottonwood Golf Club
Lakes Course Layout

Legend

Lakes Course Layout

N
W E
S

0 500 Feet

1 in=500 feet

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Date: 7/30/2018

Figure 2.2-2
Cottonwood Golf Club
Ivanhoe Course Layout

Legend

Ivanhoe Course Layout

N
W
E
S

0 500 Feet

1 in=500 feet

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Date: 7/30/2018

Figure 2.2-3
Cottonwood Golf Club
Existing Facilities

Legend

- Maintenance Facilitiy
- Irrigation Resevoir
- Existing Ponds
- Former Ponds
- Course Restrooms
- Parking Lot
- Cottonwood Clubhouse

N
W E
S

0 750 Feet

1 in=750 feet

Aerial Source: USGS 2012

EnviroMINE Inc.

Date: 7/31/2018

The equipment facility is located on the Ivanhoe golf course between Hole #7 and #8. Equipment maintained in this location includes all the tractors, mowers and other landscaping equipment necessary to maintain the courses in a playable condition. Two above ground fuel storage tanks for the equipment are in this area. All landscaping supplies are also stored in this area. There are two garage repair structures (3,440 ft² and 3,800 ft²) and an office (375 ft²) located within the maintenance area. Covered parking bays are also provided on the north and southwest perimeter of the yard for equipment.

Parking occurs in two connected parking lots, an upper lot and a lower lot. These parking lots are north of the clubhouse and adjacent to Willow Glen Drive. The upper lot is the largest (1.6 acres) with designated parking spaces for approximately 200 vehicles while the lower lot has space for approximately 120 vehicles (0.75 acres). At minimum, 150 of 320 existing parking spaces will be reserved for golf operations. A summary of the golf course and mine facilities is presented in Table 1.

Table 1. Golf Course and Mine Facilities

Golf Course and Mine Facilities			
Use	**Area**	**Number of Structures**	**Removal Phase**
Golf Facilities			
Clubhouse	0.75 acres	1	Phase 3
Maintenance	2.2 acres	3	Phase 3[1]
Cart Storage	0.3 acres	1	Phase 3
Driving Range	old fairway	8 tees	Phase 2[2]
Golf Parking	1.0 acre	147 spaces w range	Phase 3[3]
Lakes Course Restroom	190 sq. ft.	1	Phase 1
Ivanhoe Course Restroom	190 sq. ft.	1	Phase 3
Lakes - Cart Bridges	varies	3	Phase 1
Ivanhoe - Cart Bridges	varies	4	Phase 2 & 3[4]
Mine Facilities			
Processing Plant Area	8 acres w ponds, loading and parking	1	Phase 4
Loadout Area	1.9 of 8 acres	1	Phase 4
Mine Parking	0.15 of 8 acres	15 spaces	End of Project

[1]Maintenance facility will be relocated to the clubhouse area as Phase 2 begins.
[2]Current driving range will be relocated or closed in Phase 1.
[3]Golf course parking will not be needed after Phase 2 is complete.
[4]One bridge will be removed during Phase 2. The other 3 bridges will be removed as they are no longer needed.

2.6 Mineral Classification

The property was previously classified by the California Geological Survey (CGS) as a combination of MRZ-3 and MRZ-4 with a small section of MRZ-2 land located on the northeast end of the property. In 2017, CGS released Special Report 240 *Update of*

Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in The Western San Diego County Production-Consumption Region, California which reclassified the property from MRZ-3 and MRZ-4 to MRZ-2. This reclassification action was based on an aggregate resource evaluation report (TerraMins, 2006) provided to CGS in 2016 by the property owner. A classification of MRZ-2 indicates that the area is underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.

3.0 COTTONWOOD SAND MINE

3.1 Project Scope

The Project proposes to mine sand suitable for Portland Cement Concrete (PCC)use over an extended period within designated phases. Reclamation of the mined lands will follow as soon as mining operations are completed in a specific area. Reclamation procedures will be phased with mining operations and will be initiated immediately after the conclusion of resource extraction and backfilling to design elevations.

The maximum level of aggregate production is anticipated to be 550-thousand tons per year (MTPY). This level of production will be realized after 1 year of site development. Actual production levels and project life will depend on market demand but will not exceed the maximum permitted production level.

The project is expected to continue for 12 years. This will include 10 years of extraction and reclamation of previous phases. Reclamation of previously disturbed areas is anticipated to begin in year 2. Vegetation monitoring will continue for a minimum of 5 years and until performance standards are met provided that, during the last two years, there has been no human intervention; including, irrigation, fertilization, or weeding.

3.2 Project Reserves

The site is designed to yield approximately 5.7-million tons, or 3.8-million cubic yards, of sand and gravel product. The volume of material to be excavated will be approximately 4.8-million cubic yards to account for silts, clays and organic material present in the extracted material. This material will be used as backfill or incorporated into the surface material used for revegetation.

Following extraction in some areas, a portion of the site will be backfilled to establish pads suitable for future development. Backfill is expected to be a combination of overburden, imported inert fill and wash fines produced at the wash plant.

Backfill would be imported as mine phases develop and space becomes available to accept the material. Wash fines would be returned to the backfill areas utilizing a low-profile haul truck. Imported backfill during Phase 1would be brought onto the site using an access point south of the existing intersection of Muirfield Drive and Willow Glen Drive. Upon completion of the backfilling, spreading and compaction effort, this new access point would be left in place for future use.

3.3 Project Property

Legal Description

The project is located within portions of Sections 9, 10, and 16, Township 15 South, Range 1 East of the El Cajon Mountain, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle, San Bernardino Base and Meridian, County of San Diego, California at approximately 32°52' 38.53" N latitude -116° 52' 50.00 W longitude.

Assessor Parcel Numbers, Ownership and Zoning

The Project is located on twenty-two separate Assessors Parcels (APNs) as presented in following table and on Figure 3.3-1. Portions of the property will not be mined although those areas may be disturbed as part of the reclamation effort for the property. Table 1 also presents the total acreage and zoning for each parcel.

Table 2. Assessor's Parcels

APN	TOTAL ACRES (approx.)	Disturbed by Extraction & Revegetation (approx.)	OWNER	ZONING[1]	LAND USE DESIGNATION[2]
506-021-1900	8.20	6.11	Cottonwood Cajon ES, LLC	S88	OS-R
506-020-5200	4.01	0.30	Cottonwood Cajon ES, LLC	S80	OS-R
518-012-1300	2.97	2.97	Cottonwood Cajon ES, LLC	S90	OS-R
518-012-1400	46.61	46.61	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0500	2.30	2.30	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0600	5.58	5.58	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0700	2.59	2.59	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0800	0.69	0.69	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1000	7.16	7.16	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1200	6.88	6.88	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1300	10.20	9.63	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1500	4.04	4.04	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-2100	56.71	56.71	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-2200	19.43	18.66	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-1500	33.72	33.72	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-1700	14.59	12.47	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-2000	19.22	17	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-2100	1.10	1.10	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3300	1.76	1.14	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3400	7.17	0.81	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3700	1.06	0	Cottonwood Cajon ES, LLC	S90	OS-R
519-011-0300	23.80	7.1	Cottonwood Cajon ES, LLC	S88	OS-R
Totals:	**279.79**	**243.57**			

[1]S90 - Holding Area; S88 - Specific Planning Area; S80 - Open Space.
[2]General Plan Land Use Designation is OS-R - Open Space – Recreation.

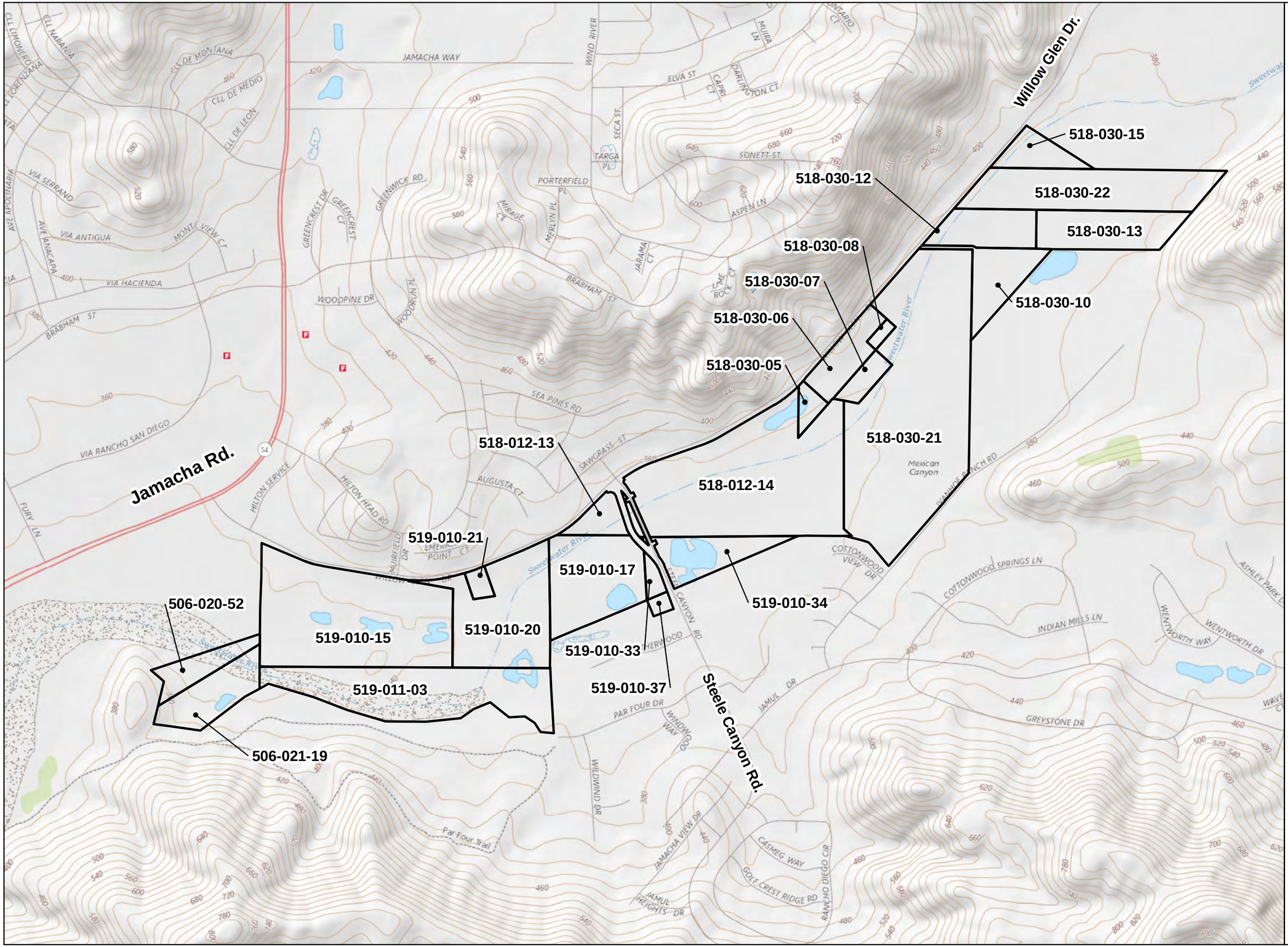


Figure 3.3-1: Assessor's Parcel Map and Ownership

APN #: XXX-XXX-XX

N
W E
S

0 400 800 Feet

EnviroMINE Inc.

November, 2017

The Rancho San Diego Specific Plan (SP 79-005) was originally approved in 1980 and has been amended several times since; most recently on December 4, 2013. There are two parcels in the southeastern corner of the Reclamation Plan boundary that are included in the Specific Plan. These parcels are 506-021-1900 (8.2 acres) and 519-011-0300 (23.8 acres). Both parcels are zoned as S88, Specific Planning Area. Current zoning restricts extractive uses to site preparation which allows the off-site removal of materials when it is secondary to the future use of the site.

The primary reasons for including the two parcels in the project boundary are to improve the channel, increase the area of native, riparian vegetation footprint and to construct community trails. This part of the channel is currently a choke point for water as it exits the property and the existing vegetation is dominated by invasive plant species. Expanding the channel at this location and revegetating the area would improve drainage and replace weeds with more desired species. Work in this area, including the planting of native species, would be completed in the first phase of the project. The end use for both parcels would be open space and, possibly, a habitat mitigation bank. There is no plan to mine the existing channel on these parcels.

To improve the channel and expand the riparian vegetation in this area, material must be removed from approximately 8.2 acres of the 32 acres included in the two parcels. Although the extracted material would be sold, the volume of sand that would be recovered in this small area does not make the cost of filing an amendment to the specific plan, or pursuing a second major use permit, worthwhile. As indicated, the primary goals for these two parcels are to enhance the channel, improve habitat and construct community trails; all of which are compatible with the Specific Plan. Another benefit to completing this work is that the portions of the parcels not mined, but used by the golf course, would be reclaimed and revegetated to a more natural condition.

3.4 Project Operations and Facilities

The project will extract, process, and market aggregate using conventional earth moving and processing equipment. Resources extracted and processed at the site are suitable for construction uses and will be transported to customers in San Diego County. Batch plants and/or rock crushing are not proposed for the project.

Facilities anticipated for use at the site will include a processing plant to wash and stockpile finished products, two storage containers for tools, weigh scales and modular scale house. This equipment will all be located near the center of the project area, adjacent to Willow Glen Drive and west of the existing parking lot. Initial site development activity will involve the establishment of the processing plant.

The project will also import inert fill to be used as backfill in areas parallel to channel. Landscaped earthen berms will be placed on the southern and northern edges of the process area to screen the equipment and loading area from public view. A conveyor line will also be installed on the site to move mined material from the excavation areas to the processing area.

Over-the-road trucks will access the plant area via the western entrance of the existing golf course parking lot. Site preparation activities will include the excavation of a ramp from the west end of the parking lot to the processing pad.

The Site Plan and Mine Phasing are presented as Figure 3.4-1.

Hours of Operation

Sand excavation and processing will only occur Monday through Friday, between the hours of 7:00 a.m. and 5:00 p.m. These specific activities will not occur after the hours stated or on weekends. Trucking operations during the week will operate from 4:00 am to 6:30 am and from 9:30 am to 3:00 pm to avoid peak traffic periods in the area. No material sales will occur on weekends.

Access

Site access for the project will require modification of the existing driveways and parking lot located on Willow Glen Drive next to the clubhouse. Since golf activities will continue during the first two phases of the mineral extraction project, the parking lots and driveways at the clubhouse will be divided. The western entrance and parking area will be limited to use by the mining and processing operations, while the eastern driveway and parking areas will be limited to golf activity.

A new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) will be necessary as the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road will not allow most large trucks or heavy equipment to pass beneath the bridge. The clearance height beneath the bridge is approximately 11 feet.

Current access from Willow Glen Drive to the western portion of the property is provided by a small driveway at the northwestern corner of the property. During the initial stages of the project, this access point may be used, briefly, for equipment delivery. However, a more substantial access point for this area of the project will be constructed at the intersection of Willow Glen Drive and Muirfield Drive. The new access point will be used to allow over-the-road haul trucks to deliver backfill and for service vehicles during Phase 1 operations.

Other access points on the property exist south of the river, however, these points will continue to be used for golf course maintenance staff while the golf course is operating.

Operational Setbacks

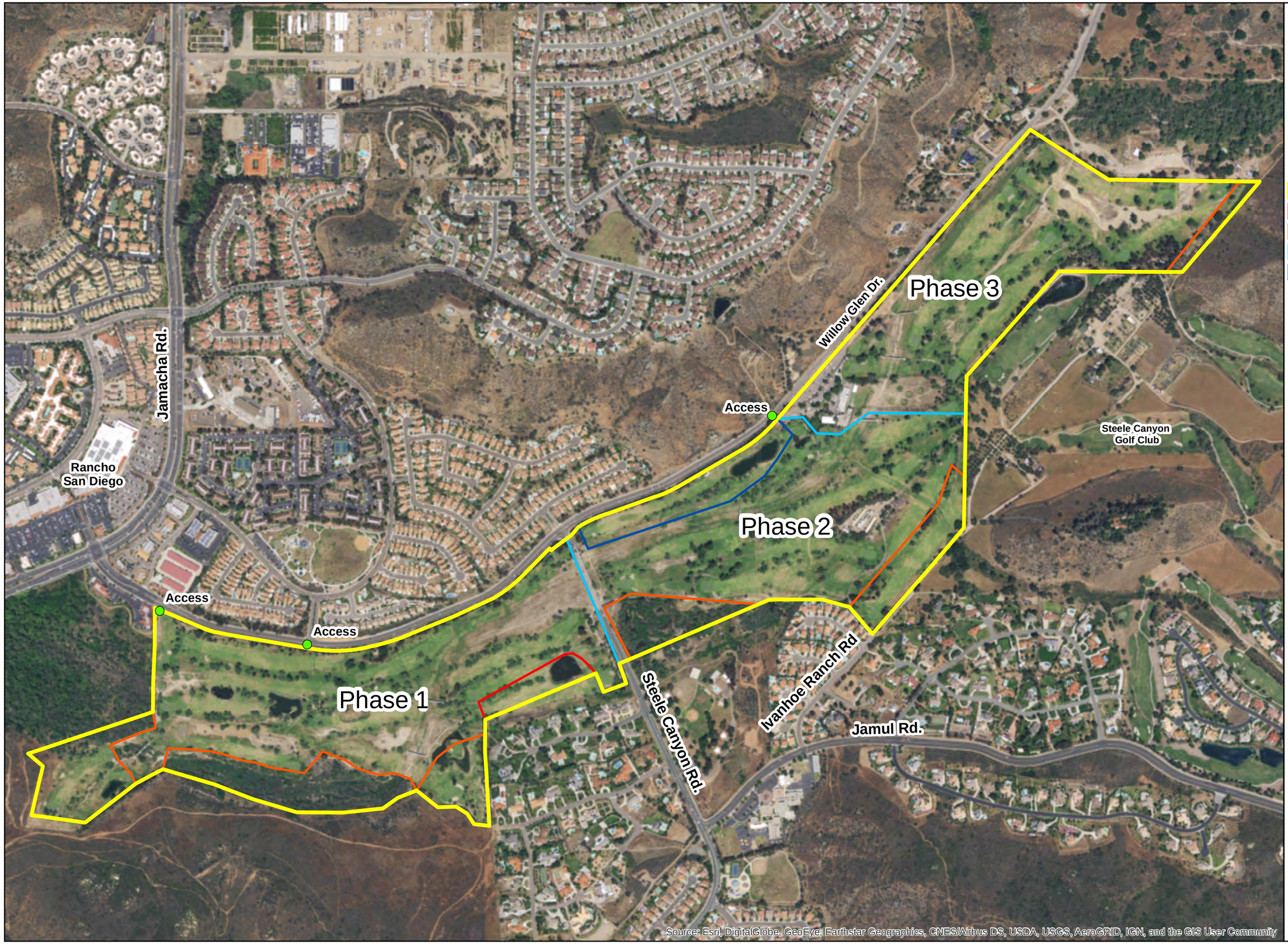
Setbacks for sensitive areas, such as residential properties and riparian habitat will be established in accordance with the County of San Diego Grading Ordinance.

Vegetation

Existing vegetation on the golf course, including trees, was developed as landscaping and for fairway definition. This vegetation will be removed as excavation proceeds.

Figure 3.4-1

Figure 3.4-1: Cottonwood Site Plan and Mine Phasing



- Cottonwood Project Boundary
- Mined Prior to 1966
- No Mining Areas
- Cottonwood Phasing Lines
- Proposed Plant Location

Previously Mined Lands creates a Natural Set Back

N
W E
S

0 350 700 Feet

1 in=700 feet

EnviroMINE Inc.

October 25, 2017

Certain areas on the southern edges of the golf courses are heavily vegetated with a mixture of native and noxious plant species. These areas will be incorporated into the reclamation plan by modifying the topography, removing invasive species and replacing with native vegetation. Some geologic material will need to be removed to accomplish this goal. All areas of the existing golf course, including those areas that are not mined, will be revegetated as part of the project.

Existing landscape vegetation along Willow Glen Drive will be maintained during the project to provide a visual barrier of the operation by the public.

Topsoil and Overburden Removal
The end use for the property is proposed to be open space within the revised channel and pads suitable for future development within limited areas of the site. Topsoil on the site is very sandy and similar to the subsurface material. Approximately 4 inches of topsoil will be stripped from the surface and placed in low berms or windrows around the plant, roads and the top of extraction areas. When possible, topsoil will be stripped from the surface and directly re-applied to areas that have reached final grade to avoid storing soil. Wash fines developed from the process will be used as backfill or mixed with any salvaged topsoil as final cover and incorporated in the surface prior to planting.

Blasting
There will be no blasting associated with the project.

Mining Operations
Phased mineral extraction and reclamation will occur over an approximate 244-acre area within the 279.8-acre property. The maximum excavation depth is estimated to be 25 to 35 feet with an average depth of 30 feet below the existing land surface outside the channel.

Mining operations consist of excavating materials with two front-end loaders and a tracked excavator. This equipment transfer material directly to a hopper connected to the conveyor line which will move material to the plant for screening and washing. The excavator will be used to extract material that cannot be reached by the loaders or dozer and for cleaning out settling ponds when needed. Washed fines will be loaded onto a low-profile haul truck by the excavator and returned to backfill areas on the site.

Operations will commence at the western limit of the excavation area and proceed in a northeasterly fashion in future phases.

Extractive operations are anticipated to continue for 10 years with reclamation of previously disturbed areas starting in year 2 and progressing to the east as mining advances. Following the completion of mining in Phase 3, reclamation will commence in this area and continue for another 2 years. As a result, mining and reclamation are expected to continue for 12 years.

Mine Phases
The Project will be developed in three, continuous phases and begin with the placement of the processing plant and the conveyor line from the plant to the western

portion of the property. Temporary power lines and the processing plant equipment will also be installed.

The processing pad will be located north of the river channel and west of the existing golf course parking lot. Existing landscape vegetation will remain in place along Willow Glen Drive.

A conveyor line will be installed to transport materials to the plant from the excavation areas. In Phase 1, this conveyor line will initially run parallel with Willow Glen drive and cross beneath Steele Canyon Road near the northern edge of the bridge that crosses the Sweetwater River. The loading bin can be moved in near proximity to the extraction areas as mining continues. The ability to move the loading bin reduces heavy equipment requirements.

The conveyor line will be re-located into Phase 2 and, subsequently, Phase 3 operations as mining activity is concluded in preceding phases. In Phase 2 and Phase 3, the conveyor line will utilize existing golf cart river crossings to transport materials across the river channel.

As resource extraction is completed in an area, backfilling of specific areas with imported materials and wash fines will begin. It is anticipated that on-highway trucks returning to the site will deliver backfill material and then be loaded with product on the outbound trip. Areas future development pads will be backfilled to an elevation that is above the floodway of the Sweetwater River. Backfill material will be spread and compacted by a dozer. Final backfill elevations for the future building pads shall be comparable to adjacent, public roadways and the areas graded to a gently sloped plain that drains to the Sweetwater river.

Phase 1

The first phase (Phase 1) will include site development for the construction of the access road, processing area pad, screening berms and installation of the conveyor line and processing plant. Following initial site development activities, extractive operations will commence in the area west of Steele Canyon Road.

Initial extractive operations will involve removal of all materials from the surface to approximately 25 to 35 feet below ground surface (bgs) with a combination of front end loaders and an excavator. Each piece of excavation equipment will work in separate areas. This equipment will move material directly to the conveyor. Approximately, 85 acres will be included in Phase 1.

Wash fines produced from the processing plant will be gathered in three settling ponds that are 300 ft. long x 50 ft. wide x 10 ft. deep and located near the plant. When ponds are cleaned, these wash fines will be sold as a soil amendment or returned to excavation areas that have been completed to be used as backfill, along with imported fill, or incorporated into the surface. Wash fines will be returned to the backfill areas by an off-road, low profile haul truck. Clean water will be recycled through the process. Make up water will be provided by onsite groundwater wells.

Reclamation of the Phase 1 area will begin as the final land forms are established. Reclamation will include establishment of all final slopes, incorporation of any

accumulated wash fines and topsoil, revegetation of the channel using native species common to riparian habitat, and establishment of pads suitable for future development, weed control, and monitoring.

Phase 2
Phase 2 will continue the identical extraction process in a west to east direction on an area of approximately 57 acres east of the Steele Canyon Road bridge. This phase is anticipated to last approximately 3 years. Excavation of the materials will continue in the west and proceed eastward in the same fashion as utilized in Phase 1. The maximum depth of the excavation is expected to be approximately 30 to 40 feet below ground surface outside the channel.

Reclamation of the Phase 2 area will begin as the final land forms are established. Reclamation will include establishment of all final slopes, incorporation of any accumulated wash fines and topsoil, revegetation of the channel using native species common to riparian habitat, and establishment of pads suitable for future development,

Phase 3
The excavation process in Phase 3 is a repeat of Phase 2 on approximately 56 acres of the valley, east of the Phase 2 area. Phase 3 is anticipated to last about 4 years and will employ the same procedure as the two previous phases. Upon conclusion of Phase 2, the conveyor line will be relocated to run from the plant eastward.

Reclamation of the Phase 3 area will begin as the final land forms are established. Reclamation will include establishment of all final slopes, incorporation of any accumulated wash fines and topsoil, revegetation of the channel using native species common to riparian habitat, and establishment of pads suitable for future development.

Phase 4
Phase 4 will consist of excavation of materials beneath plant, backfilling plant area, final reclamation efforts, cleanup and equipment removal. Revegetation monitoring will continue after this final phase. Mine Phase acreages and the estimated duration of each phase are summarized in Table 2.0.

Table 3. Mine Phase Acreages

Mining Phase	Area Affected by Mining Operations (acres)*	Mining Duration (years)	Mining Initiation Date (est.)	Mining Completion Date (est.)	Reclamation Completion Date (est.)
1	81	3	2020	2022	2025
2	57	3	2023	2026	2028
3	56	4	2027	2031	2032
Total	198	10**	-	-	Note***-

*rounded to nearest acre
**Phases will have concurrent mining and reclamation operations
*** Total acres to be reclaimed and revegetated, including non-mine areas, is approximately 244

The final landform will be a relatively flat plain that gently slopes downward from east to west. Reclaimed upland areas will be similar in elevation to Willow Glen Drive or other public roads adjacent to the property on the south. A widened river channel will bisect the length of the site. Banks of the river channel will slope up to the plain surface at a 3H:1V ratio or shallower. The elevation difference between the bottom of the river channel and the top of the slope may be up to 25 feet. The reclaimed river channel is expected to average approximately 250 to 300 feet in width. In some areas, benches may be constructed on the face of the river banks to accommodate vegetation types and/or recreational trails. (Figure 3.4-2)

Mobile Equipment

Equipment used on the site will be used for extraction and reclamation. Specialized equipment for seeding (such as hydroseeding trucks) will be contracted. This specialized type of equipment will be on the site for very short periods during each year throughout the project. Table 3. presents the mobile equipment to be employed on the Project:

Table 4. Project Mobile Equipment

Onsite Mobile Equipment – Extraction and Reclamation				
No.	**Make**	**Type/Model**	**Purpose**	**Usage**
2	Cat	Loader – 988K	Mineral Excavation above water table.	100%
1	Cat	Loader – 988K	Highway truck loading	80%
1	Cat	Loader – 966M-BR	Highway truck loading - backup	20%
1	Freightliner	Water Truck M2106	General dust suppression	75%
1	Cat	Excavator –349F	Mineral extraction -pond cleanout	80%
1	Cat	Dozer – D8T	Rough grading, leveling, ripping	80%
1	Cat	Haul Truck 740EJ	Onsite transportation of material	40%
1	Cat	Skid Steer Loader-246D	Variety cleanup - reclamation	50%
1	Ford	Pick Up	Transportation for site supervisors, QC	20 miles/day

Plant Operations

The Cottonwood Mine plant site will consist of aggregate processing and washing facilities, three settling ponds, loadout area and all support structures and buildings (e.g., scale, office kiosk and office trailer) as presented on Figure 3.4-3. No blasting or rock crushing will occur on site. A small portable processing plant will be utilized during the initial development stage of the project and will be replaced by a larger plant in a fixed location once the pad area, access road, conveyor line and the main pit are developed.

Shielded night lighting may be installed around the processing plant for security purposes. Lighting will be designed to minimize glare and reflection onto neighboring areas. Generally, pole-mounted sodium, metal halide, fluorescent or LED lighting will be employed. Such lighting minimizes energy use, and in combination with cut-offs, reduces light pollution.

Operations shall comply with the San Diego County Noise Ordinance 9962.

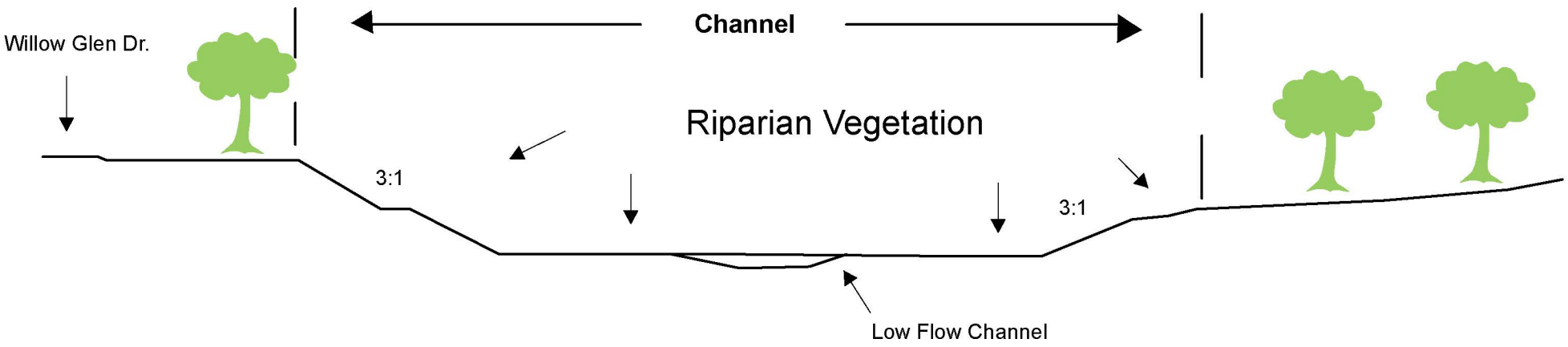


Figure 3.4-2: Typical Slope Grading Detail

Figure 3.4-3
Processing Area Layout

Legend

- Storage Containers
- Conveyor
- Muck Pond
- Settling Ponds
- WCS
- 3/8"
- Truck Scale
- Loadout
- Scale House

N
W E
S

0 500 Feet

1 in=500 feet

EnviroMINE Inc.

Date: 8/28/2018

Aggregate Processing Plant

The plant will screen and wash raw material into marketable PCC grade construction aggregate material; washed concrete sand, asphalt sand, pipe bedding and some gravel. No crushing is required to process the materials extracted from the site. Water would be provided by existing groundwater wells on the property. Processed aggregates would be separated into different sizes and stored in large stockpiles (up to 30 feet in height) near the plant. Customer trucks would be loaded with finished products from stockpiles by a front-end-loader and transported off-site.

Pole line-power to the plant will be installed in one of the first steps of the project startup and connected to existing power lines on, or adjacent to, the project site. Grading will begin on the pad site and settling ponds constructed. After the processing pad, conveyor line and the access road are in place, a screen deck plant capable of processing 400 tons/hour of raw material will be installed. Extraction of raw material will begin at that time.

The screen deck is a mechanical screening device, that is used to take granulated ore material and separate it into multiple grades by particle size. A screening machine consists of a drive that induces vibration, a screen media that causes particle separation, and a deck which holds the screen media and the drive. This drive is used to cause the vibration that moves material down the screen media. As material becomes too fine to separate by a screen, the material is moved to a fine material screw, or sand screw. These fine material washers utilize a water bath and inclined augers to separate the clay from the fine and very fine sands that are used in mortar and plaster. Clay materials are then piped to the first in a series of settling ponds where clays settle.

All equipment will be properly permitted in accordance with San Diego County APCD requirements. Components of the plant and the conveyors are presented in Table 5.

Table 5. Plant and Conveyor Equipment

No.	Type	Attachments	Size/Length	Horsepower (hp)
1	Feed Hopper - Skid Mounted	42” X 25' Belt Feeder	9' X 14'	25
5	Groundline Conveyor	NA	36” X 825'	50
1	Groundline Conveyor	NA	36” X 375'	30
1	Groundline Conveyor	NA	36” X 200'	25
1	Truss Frame Conveyor	Pit Portable Conveyor, Power Travel, Hopper, Discharge Hopper, Walkway	36” X 130'	40
1	Triple Deck Screen w Blade Mill Support	Urethane Media, Spray Manifold, Dual Motor Drive, Discharge Chutes, Rolling Box, Under Hopper, Walkway on Four Sides, Stairway	8' X 20'	50
1	Blade Mill	NA	44” x 20”	100
2	Fine Material Washer	NA	44” X 32'	50

Table 5. Plant and Conveyor Equipment – continued:				
1	Radial Stacker	Power Travel, Power Raise, Pivot, Hopper	36" X 80'	25
1	Radial Stacker	Power Travel, Manual Raise, Hopper	36" X 100'	30
1	Operations Control Room	Motor Control Center, Push Button Console, Motor Starters, In Plant Cable/Wiring, Air Conditioned	NA	NA

Office and Equipment Maintenance
The mobile modular unit used for the scale booth will be combined to serve the site's administrative needs. Required on-site documents will be housed in this unit. Storage of tools or small equipment will be in metal cargo containers also located at the plant site.

Extraction Waste
All material extracted from the site, not designated as saleable product, will be utilized as backfill to construct the final land form. No tailings or waste piles will remain following conclusion of extractive operations. Domestic refuse shall be collected in trash bins and removed by a licensed, refuse disposal company. Equipment will be maintained on-site and all used oils, fuels and solvents collected in accordance with the Department of Toxic Substances Control regulations and removed from the site by an approved hauler for materials recycling.

Operational Water
A water truck will be used for dust suppression on all operating areas. This includes material stockpiles and unpaved areas within the mining area, the processing plant, and access road. Other water requirements include surface watering of outgoing loads and water for the processing equipment.

Water usage depends on production volume. Production volume will vary year-to-year with market demand; however, the project's estimated water usage assumes the maximum annual production of 570,000 tons. Water usage is estimated at 100 acre-feet annually for this production rate. A single water truck will be required to control dust. Water required to suppress dust from the mining operations is estimated to require 35 acre-feet of water per year. Irrigation of the landscaped earthen berm near the entrance and as supplemental water on revegetated areas is also estimated to utilize approximately 45 acre-feet per year. Total water consumption for the project is estimated at 180 acre-feet per year. Water for processing, dust control and irrigation will be supplied by onsite groundwater wells.

Eight groundwater wells on the property currently provide irrigation water for the golf courses on the property. These wells will be used to provide water for the operation. Existing use of groundwater by the golf courses has been estimated to be approximately 702 acre-feet per year based on pump ratings and irrigation schedules. Mine operations will significantly reduce this groundwater use. Wells not to be used by the property owner after mining and reclamation are complete will be properly abandoned in accordance with County requirements and standards.

Storm Water and Erosion Control
The site will contain de-siltation basins that prevent sediment from leaving the site while allowing water to pass through to pre-existing drainage features. Mining and reclamation grading will direct the runoff from the disturbed area towards these basins.

Erosion control measures will be implemented in accordance with the following criteria:

Class 1: No soil loss or erosion; topsoil layer intact; well-dispersed accumulation of litter from past year's growth plus smaller amounts of older litter.

NO ACTION NECESSARY

Class 2: Soil movement slight and difficult to recognize; small deposits of soil in form of fans or cones at end of small gullies or fills, or as accumulations back of plant crowns or behind litter; litter not well dispersed or no accumulation from past year's growth.

ACTION: Monitor to see if any further deterioration and action is required.

Class 3: Soil movement or loss more noticeable; topsoil loss evident, with some plants on pedestals or in hummocks; rill marks evident, poorly dispersed litter and bare spots not protected by litter.

ACTION: Any rills or gullies exceeding 8 square inches in cross sectional area and more than 10 linear feet located on finished slopes shall be arrested using straw mulch and hay bales

Class 4: Soil movement and loss readily recognizable; topsoil remnants with vertical sides and exposed plant roots; roots frequently exposed; litter in relatively small amounts and washed into erosion protected patches.

ACTION: Replant via hydroseeding or spread seed and cover with straw mulch. Re-grade, compact with equipment and install silt fences if necessary

Additional Facilities
The project will include the following facilities in the processing area near the the processing plant:

1. Portable restroom

2. Two metal cargo containers for storage.

3. One 70-foot truck scale and modular mobile for scale booth and administrative functions

Site Security and Safety
Public health and safety will be protected in accordance with local, state and federal standards. During the project lifetime, public access will be controlled by fencing on

the perimeter of the property and gates on the access roads within the Project boundaries. These gates will be locked during non-operating hours. In addition, appropriate signage will be posted around the perimeter of the pit and project boundary adjacent to undeveloped lands. MHSA and Cal-OSHA rules, regulations, and standards will be employed to protect both the public and on-site employees.

3.5 Utilities

Sewage Disposal
The Project will utilize portable restroom(s). The portable restroom(s) will be serviced at appropriate intervals by contract vendors. These portable restrooms will be placed in work areas to provide for the project staff an moved as needed.

Drinking Water
Bottled drinking water for the mine staff will be provided by a private vendor.

Power
The Project requires electrical power, which will be provided by San Diego Gas & Electric through an overhead transmission line that enter the site from the north. The project will utilize temporary power poles for the plant location and conveyor system.

3.6 Public Roads

Public roads to be utilized for the site include Willow Glen Drive, Jamacha Road, State Route 54 and State Route 94.

3.7 Traffic

Project traffic is separated into two categories: heavy vehicle traffic and light vehicle traffic. Onsite heavy vehicle traffic would include an off-road haul truck, front-end-loaders, dozers and other earth-moving equipment; and supply trucks, service trucks and on-highway trucks carrying loads of construction aggregate, fuel, parts, etc. on public roads. Heavy vehicle traffic also refers to over-the-road vehicles as listed below:

- Incoming trucks and outgoing loads of finished product.
- Supply and service trucks (fuel, parts, etc.)

Light vehicle traffic includes light vehicles used by the 9 mining employees and visitors such as cars, pick-up trucks and small service vehicles.

The project will produce approximately 570,000 tons in the first year and continue this production level throughout the life of the operation depending on market conditions. Production levels on the project will not exceed 570,000 tons per year.

Access will be provided for all vehicle traffic through the on-site access roads connecting with Willow Glen Drive. The two-lane, access road will be a minimum 28 feet in width.

Estimated traffic counts for the project are based on production of 570,000 tons per year as it is divided into various trip generation classes:

Table 6. Daily Traffic Trips

Daily Truck Trips					
End Product	% of Total	Quantity	t/load	One-way trips/day	Round Trips
Aggregate	100	570,000 tons	25	88	170
	Total	570,000 tons		88	170
Other Daily Traffic Trips					
Light Vehicle Trips				14	28
Vendor Trips[1]				4	8

[1]Vendor trips include fuel, supplies, service companies, etc.

4.0 COTTONWOOD SAND MINE RECLAMATION PLAN

The Surface Mining and Reclamation Act of 1975 (SMARA) and San Diego County Code require approval of reclamation plan for all surface mining operations. Reclamation plans are developed to identify reclamation measures and establish performance standards for reclamation adequacy of mined lands. These measures include protection of wildlife habitat, revegetation, re-contouring and erosion control, elimination or reduction of residual public health and safety hazards and minimization of environmental impacts. A reclamation plan also addresses subsequent uses of the property and identifies schedules for reclamation activities.

The reclamation plan for this project features conditions which will make portions of the land suitable for one of two post mining uses: riparian habitat/open space and land suitable for future development under separate entitlement.

4.1 Reclamation Phasing

Although the project is short term, reclamation will occur concurrently with the extraction activities. As the project progresses, cut slopes will be brought to final grade and revegetated beginning at the western boundary and moving eastward throughout the site. Following completion of mining activity in any given area, reclamation will commence.

Backfilling and rough grading will be continuous as mining progresses. The river channel will be continuously developed as resource extraction progresses to the west. Final grading will occur as areas become available for this activity. Wash fines will be blended with topsoil and utilized as a top dressing. As final land form areas are prepared for seeding, temporary above-ground irrigation will be installed prior to planting and seeding. Seeding and planting will occur between November and February time to take advantage of the natural precipitation season for Southern California. This planting period may be extended due to the use of irrigation.

At the end of the extraction operations in Phase 3, about 25 acres of disturbed land will need to be backfilled and graded and as most of the land disturbed by the

operation will have already reached final grade. Revegetation will follow on the remaining graded area.

4.2 Revegetation

Revegetation of disturbed areas of the site will be completed as final graded surfaces are achieved. The reclamation plan for the riparian corridor is intended to stabilize the post-extraction landform and establish a productive native vegetative cover. For areas suitable for post-mining development, the revegetation plan is intended to stabilize the surface and control erosion until future development occurs.

Reclamation of the site will include: (1) removal of all manmade structures; (2) grading to achieve final landforms; and (3) revegetation and monitoring. Taken together, these activities will achieve the goals of the reclamation plan and leave the site suitable for subsequent land uses. Plant species used will be capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer, and will include species representative of natural habitat. Biological studies are in progress and final seed mixes will be developed based on the biologist recommendations. For the purposes of this project description example planting palettes and seed mixes are presented in Tables 7A through 7C.

Example Revegetation Seed Mixes & Container Plants

Table 7A. Southern Willow Scrub Plant Palette

Species	Common Name	% Cover	Quantity	Container Size	Plant Density (ft. on center
Anemopsis californica	yerba mansa	5	810	1 gallon	5
Baccharis salicifolia	mule fat	10	827	1 gallon	7
Leymus condensatus	giant wild rye	5	413	1 gallon	7
Platanus racemosa	Western sycamore	5	13	1 gallon	40
Populus fremonti ssp.	Western cottonwood	10	101	1 gallon	20
Salix gooddingii	black willow	10	405	1 gallon	10
Salix lasiolepis	arroyo willow	60	3,798	1 gallon	8
Total:		**122.5**	**7,907**		

Reference: S&S Seeds, Carpinteria, CA. Jepson Manual: Higher Plants of California. 1993

Table 7B. Mule Fat Scrub Seed Mix

Species	Common Name	% Cover	Quantity	Container Size	Plant Density (ft. on center
Anemopsis californica	yerba mansa	5	122	1 gallon	5
Baccharis salicifolia	mule fat	90	2,197	1 gallon	5
Leymus condensatus	giant wild rye	5	62	1 gallon	7
Vitis girdiana	wild grape	5	122	1 gallon	5
Total:		**105**	**2,504**		

Table 7C. Coastal Sage Scrub Seed Mix

Species	Common Name	Density (lbs./acre)	Purity/Germination %	Lbs.
Baccharis pilularis	coyote brush	2.0	90/80	5.4
Bromus carinatus	California brome	20.0	95/80	54.0
Encelia californica	California encelia	1.0	40/60	2.7
Lotus scoparius var. scoparius	deerweed	3.0	90/60	8.1
Rhus integrifolia	lemonade berry	8.0	90/80	21.6
Salvia apiana	white sage	2.0	70/50	5.4
Trifolium tridentatum	tomcat clover	8.0	90/80	21.6
Vulpia microstachys	pacific fescue	8.0	90/80	21.6
	Total:			**145.8**

All reclaimed areas will be reseeded by means of hydroseeding, planting of potted seedlings and hand sowing. Application rates shown in Tables 6A through 6C reflect a minimum amount of each plant species that will be used in the mix.
Each seed mix will be utilized in a specific area of the reclaimed topography. The upper bench will be planted to native trees and shrubs and the Coastal Sage Scrub seed mix will be planted on 3h:1v slope areas. Riparian type trees will be planted on the pit floor along the channel and will transition to Southern Willow Scrub and Mule Fat Scrub between the channel and side slopes. It is expected that some intermixing of these species will occur along the edges of each area.

Hydroseeding is the hydraulic application of a homogeneous slurry mixture consisting of water, seed mix, cellulose fiber and a binding agent such as “M” Binder. Fertilizer can be added if the soil analysis shows the need for addition of amendments; however, native plant communities do not tend to benefit from the use of fertilizer and can result in excessive weed infestations. As such, the use of fertilizer is not anticipated.

The hydroseed mixture shall consist of the following materials:

- 2,000 lbs/acre cellulose fiber
- 140 lbs/acre “M” Binder (gluing agent)
- 200 lbs/acre Milogranite (fertilizer if required)
- Seed mix as listed

Hydroseeding application shall be performed only at times when winds are relatively calm between November and February. These months are selected to take advantage of the natural wet season of Southern California.

Irrigation
Supplemental irrigation of reclaimed lands may be used during the first two years after planting to augment natural precipitation. Watering will only occur to assist in initial establishment and/or in long periods of extended dryness. Irrigation will not be used continuously after seeding. Irrigation will be completed using sprinklers and will adhere to San Diego County Ordinances. Irrigationwater will be provided by existing wells osite.

4.3 Monitoring

After seeding and before release of the financial assurance, all revegetated areas must meet performance standards. The most meaningful performance standards for erosion control and visual mitigation are based on vegetative cover and species-richness. At a minimum, two years after completion of revegetation for a specific area, the effort will be evaluated to determine if performance standards have been met. Once these performance standards are achieved in an area, that area will be eligible for consideration as SMARA closure.

The following minimum revegetation standards must be achieved:

Performance Standards*

Vegetative Cover (m: meters)	Species Composition / Species Richness	Percent Cover	Density
Seed Mix	Target Goal: 100% of the most prevalent species shall be native species 12 randomly placed 50-meter by 1-meter transects.	Target Goal: 50% cover (all native species combined) 12 randomly placed 50-meter by 1-meter transects.	N/A
Container Stock	Target Goal: 5 tree species 12 randomly placed 50-meter by 1-meter transects.	N/A	Target Goal: 30 total trees per acre (80% survival) 12 randomly placed 50-meter by 1-meter transects.

*Performance Standards may be modified based on mitigation requirements.

Monitoring shall continue annually until performance standards are met provided that, during the last two years, there has been no human intervention, including, for example, irrigation, fertilization, or weeding. The performance standards listed above may be re-evaluated in the future. Therefore, it is possible that minor adjustments will be made to the proposed performance standards.

4.4 Test Plots

A minimum of two revegetation test plots will be established on the site as reclamation commences. These test plots will be placed in areas based on the project biologist's recommendations. The project biologist will also develop an evaluation plan that will be implemented after the test plots are planted.

4.5 Weed Control and Maintenance

Weed eradication will be used to limit and control invasive noxious weeds such as those species listed in Table 8.

Table 8. Weed Species of Concern

Common Name	Scientific Name
Giant Reed, Arundo	*Arundo donax*
Mustard	*Brassica sp.*
Ripgut Brome	*Bromus diandrus*
Cheat Grass, Downy Brome	*Bromus tectorum*
Pampas Grass	*Cortaderia spp.*
Eucalyptus	*Eucalyptus spp.*
Pepperweed	*Lepidium latifolium*
Tree Tobacco	*Nicotiana glauca*
Castor Bean	*Ricinus communis*
Russian Thistle, Tumbleweed	*Salsola tragus*
Tamarisk, Salt Cedar	*Tamarix spp.*

Weed control and maintenance on the site will continue during the operation and the reclamation process. Maintenance of the revegetation areas shall consist of reseeding unsuccessful revegetation efforts. If revegetation efforts are not successful within four years following the initial seeding, seeded areas will be reevaluated to determine the measures necessary to improve revegetation success. If necessary, these areas will be reseeded with methods modified, as needed. Prior to reseeding, the revegetation specialist shall evaluate previous revegetation practices and test plot results to identify cultural methods to benefit the overall revegetation effort.

Weed control is necessary to reduce or eliminate the occurrence of undesirable non-native species of plants that may invade the site where mining activities have removed the native plant cover and where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site after the completion of mining.

The occurrence of weeds on the site shall be monitored by quarterly visual inspection. The goal is to prevent weeds from becoming established and depositing seeds in areas to be revegetated in the future. If inspections reveal that weeds have become, or are becoming, established on the site then removal will be initiated.

Weed removal will be accomplished through manual, mechanical or chemical methods depending on the specific circumstances. Smaller plants (brome grasses, pepper weed) that cover more area may be sprayed, scraped with a tractor, or chopped by hand, depending up on the size of the area of infestation and the number of desired native plants in proximity or mixed with the weeds.

5.0 FINANCIAL ASSURANCE

The operator will, pursuant to SMARA and County Code, post a financial assurance payable to the County and the State Department of Conservation in an amount sufficient to cover the cost of reclaiming disturbed portions of the site. The financial assurances will be reviewed and updated annually.

6.0 REQUIRED APPROVALS, PERMITS, AND REVIEW

The discretionary agency actions for the Project are as follows:

1. San Diego County: Major Use Permit
2. San Diego County: Reclamation Plan
3. U.S. Army Corps of Engineers: Section 404 Clean Water Act Permit
4. California Department of Fish and Wildlife: 1602/1603 Stream or Lake Alteration Agreement
5. San Diego Regional Water Resources Board: Waste Discharge Order and 401 Water Quality Certificate
6. San Diego County Air Pollution Control District: Emissions Discharge Permit

7.0 PROJECT SUMMARY

A summary of pertinent details for the Project is presented in Table 9 as follows:

Table 9. Project Summary

General Site Information	
Applicant	Cottonwood Mine
Project Proponent	New West Investment, Inc.
Property Owner (s)	Cottonwood Cajon ES, LLC
Project APN's	506-021-1900, 506-020-5200, 518-012-1300, 518-012-1400, 518-030-0500, 518-030-0600, 518-030-0700, 518-030-0800, 518-030-1000, 518-030-1200, 518-030-1300, 518-030-1500, 518-030-2100, 518-030-2200, 519-010-1500, 519-010-1700, 519-010-2000, 519-010-2100, 519-010-3300, 519-010-3400, 519-011-3700, 519-011-0300
Surface Elevation	3334’ to 378’ AMSL
General Plan Designation	Open Space (Recreational)
Zoning	S80 - Open Space; S88 - Specific Planning Area; S90 - Holding Area
Williamson Act Contract	No
MRZ Designation	MRZ- 2 (CGS Special Report 240, 2017)
Current Land Use	Golf Courses - Recreational
Major Use Permit Boundary	279.8 acres
Reclamation Plan Boundary	279.8 acres
Mining	
Mining Area	Estimated 198 acres within the existing golf course footprint
Setback Limit	10 feet, 100 feet from residential
Maximum Mining Depth	295 feet AMSL (approximately 35' below existing ground surface)
Approx. Groundwater Elevation (range)	Approximately, 316 (west end) to 341 feet (east end) AMSL.
Mining Slopes	3H:1V (horizontal:vertical) maximum
Type of Minerals	Alluvium
Maximum Total Production	3.8-million cu.yds. (5.7-million tons)
Maximum Annual Production	570-thousand tons
Commencement of Mining	Within 1 Year After Permit Approval
Duration of Project	12 years (10 years of extraction and reclamation with 2 years for final reclamation after cessation of extraction)
Mining Permit Expiration	December 31, 2032
Reclamation	
Revegetated Area	Approximately 244 acres
Duration of Reclamation	Continuous starting in year 2 and extending 2 Years after cessation of mining.
Completion of Reclamation	2032 estimated
Post Mining Land-Uses	Open space, land suitable for development under separate entitlement and recreational trails.