

## CHAPTER TWO: PROJECT DESCRIPTION

### 2.1 INTRODUCTION

River Bend Citrus, near Addo in the Sundays River Valley Municipality, is an established citrus farm, which has been in operation in the area for a number of years. The entire River Bend Citrus operation has recently been acquired by San Miguel Fruit SA (Pty) Ltd, who propose to expand the existing citrus cultivation operation on the farm, in a phased manner over a period of four years, to establish an additional 300 ha of orchards for international export. The proposed agricultural expansion will take place over three undeveloped farm portions which currently form part of the existing River Bend Citrus farm, namely:

- Remainder of Farm 82 Wolve Kop (~908 ha),
- Portion 1 of Farm 77 Wellshaven (~22ha), and
- Portion 3 of Farm 77 Honeyvale (~128ha).

The three adjoining properties measure approximately 1 058 hectares in combined extent and this assessment process will focus on 500 ha for the expansion of agricultural activities. These portions of the affected erven are currently used as rangeland for stock and game farming. Map 2.1 below shows the boundaries of the affected properties as well as the area proposed for the extension of citrus cultivation. The affected properties are currently zoned for agriculture and will not require rezoning.

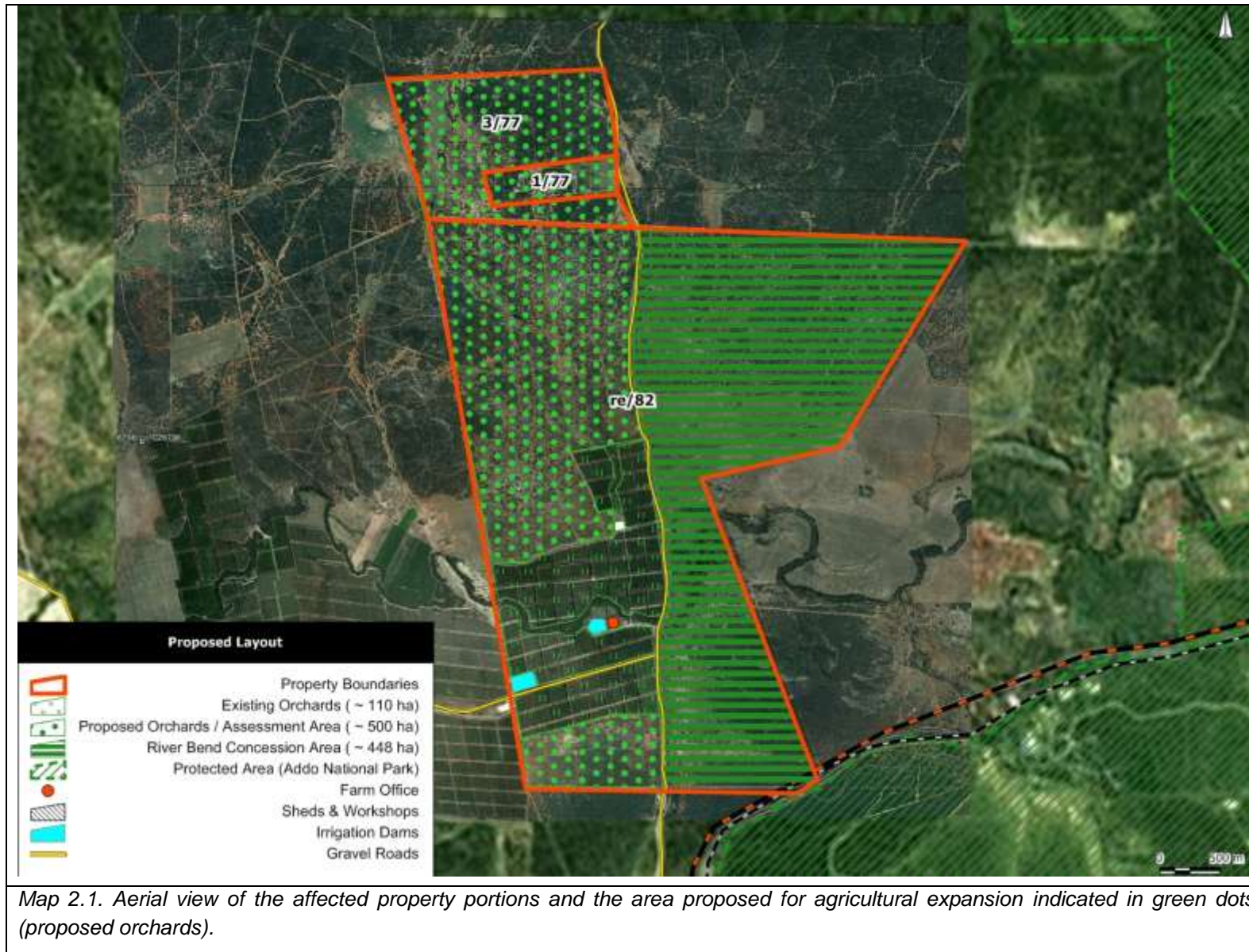
#### *River Bend Concession Area (eastern portion of Re/82)*

Approximately 448 ha of the study area, located east of the Zuurberg road, forms part of the River Bend Concession area. Based on the concession agreement this portion of Re/82 located east of the Zuurberg road is managed as part of Addo Elephant National Park. However the land has not been formally subdivided or transferred to SANParks' ownership, and is currently still zoned for agriculture. Based on the concession agreement the portion of Re/82 (east of the Zuurberg road) is to be transferred to SANParks at the end of the initial 50 year concession period. This agreement excludes the citrus farming area; defined in the agreement as the portion of Re/82 located west of the Zuurberg road, including the area known as Small Camp, which was never intended for incorporation as part of the National Park.

#### *Area Proposed for Development*

The portion of the study site west of the Zuurberg road (western portion of Re/82; 1/77; & 3/77) represents approximately 610 ha of land, of which approximately 110 ha is currently under citrus production, with the balance (500 ha) undeveloped. The assessment will focus on the remaining 500 ha of undeveloped land west of the Zuurberg road, for the establishment of an additional 300 ha of citrus orchards, in a phased manner over a period of four years. Map 2.1 below indicates the area east of the Zuurberg Road (green horizontal lines) which form part of the River Bend Concession area; the area west of the Zuurberg Road, currently under cultivation (green vertical lines) and the area proposed for additional cultivation (green dots).

The final layout for the project will be determined by the outcome of the specialist assessments, including technical and biophysical input.



Map 2.1. Aerial view of the affected property portions and the area proposed for agricultural expansion indicated in green dots (proposed orchards).

## 2.2 PROJECT BACKGROUND AND OVERVIEW

River Bend Citrus is an existing farming operation with approximately 270 hectares of land currently under cultivation. The study area is located adjacent to existing agriculture and agricultural infrastructure (irrigation, storage sheds, workshops, offices, ablution facilities).



Photo 2.1. Entrance River Bend Citrus Farm.



Photo 2.2. Existing River Bend Citrus Farm Offices.

San Miguel is Argentina's largest lemon producer and early in 2011 acquired the River Bend Citrus farming operation with a view to expanding and diversifying the existing citrus operation on River Bend for the international market. The purchase of the River Bend operation is part of San Miguel's strategy to become a leading citrus business player in the Southern Hemisphere. While San Miguel is currently known for its lemon exports it is proposing to diversify the crops on the River Bend Citrus Farm to export oranges, naartjies and clementines.

The project can be divided into the following stages and phases:

- Preconstruction
- Construction
  - Phase 1 – 2013/14
  - Phase 2 – 2014/15
  - Phase 3 – 2015/16
- Operation

It is important to note that a preparation phase (preconstruction and construction) phase of approximately 3 to 5 years is required prior to harvesting for export. This period varies dependent on the variety of the crop being produced.

### ***Preconstruction***

The fruit proposed to be produced on the site is for international export. In order to meet the requirements of export stock, seed (block seed) is required to be booked and purchased from a certified agency, the Citrus Foundation. This is booked approximately two years in advance in order to secure the seed, as well as a financial deposit.

The seed is provided to a certified nursery for a two year grow-out period, during which the seeds are germinated and the seedlings grown to sapling stage. Meticulous coordination is required between the Citrus Foundation for the purchase of the seed, the nursery for grow-out, and the citrus producer, in order to meet contractual obligations for harvesting and export of the crop. This is an on-going process, which is carefully timed and coordinated to allow the phased development of the site to take place seamlessly over the four year development timeframe proposed by San Miguel.

The preconstruction phase for securing the block seed and growing of the saplings occurs in parallel to site preparation which is outlined below.

### **Construction**

A period of ideally 12 months is required for site preparation. Site preparation entails the following:

- clearing of indigenous vegetation
- landscaping and levelling the site for citrus orchards
- establishment of unpaved internal roads
- installation of water reticulation and irrigation infrastructure
- construction of a balancing dam
- planting of citrus orchards and establishment of windbreaks

Site preparation needs to be completed to coincide with the planting of the crop, which occurs annually in the last quarter of the year between December and January. San Miguel Fruits SA proposes a three phased crop planting period towards the end of each year, as follows:

- Phase 1 – 2013/14, approximately 120 hectares
- Phase 2 – 2014/15, approximately 120 hectares
- Phase 3 – 2015/16, approximately 100 hectares

The capital investment prior to the harvesting and exporting of the crop is estimated to be approximately R68 million. This can be broken down to approximately R75 000 per ha for the value of the land and approximately R125 000 per ha for site preparation (bush clearing, infrastructure development, irrigation infrastructure etc).

### **Operation**

Once suitably prepared the site is proposed to be used for the cultivation of various citrus varieties for international export. Project activities during the operational phases of the project will entail:

- Equipment required for the new operations will be stored in the storage sheds associated with the existing operations.
- Water for the development will be supplied from the Sundays River Water Users Association's canals which will be reticulated via the balancing dam.
- It is estimated 325 additional seasonal and 25 permanent employment opportunities will be created by the project.

It is proposed that existing infrastructure at the farm be used to provide technical and logistical support to the expanded farming operation.

The following section of the report provides more detailed information on the various project activities.

### 2.2.1 Vegetation clearing and landscaping

The portions of the site to be developed will be determined through consultation with various project specialists (soil suitability, ecological sensitivity, technical). Once the potentially developable areas and No-Go areas have been determined the site layout will be finalised, and the site surveyed. It is anticipated vegetation clearing will commence in a phased manner, with the aid of both mechanised plant equipment and by hand. Once vegetation has been removed from the development footprints, these areas will be landscaped to provide for the establishment of roads and orchards; and to facilitate stormwater management.

### 2.2.2 Roads and access

The study site can be accessed directly off the R335 gravel road, as well as from existing service roads currently serving the developed southern portion of the site. Therefore an access road is not required to reach the proposed site. However a number of new internal service roads (vehicle tracks) will be needed to provide reliable access to the orchards and farming infrastructure. It is anticipated the main internal roads will be provided with a gravel wearing course, while the vehicle tracks amongst the individual orchards will remain unpaved. All internal roads will be designed and constructed to accommodate stormwater runoff, e.g. avoid steep gradients, stormwater cut-off / diversion berms, and judicious use of erosion protection.



Photo 2.3. Internal access road within the existing citrus orchards.



Photo 2.4. Citrus orchards with Beefwood tree windbreaks.

### 2.2.3 Orchards

In order to maximise the agricultural production potential of the property, the applicant intends to maximise the coverage of citrus orchards on suitable portions of the property. Areas currently under consideration for the establishment of the additional orchards include the land to the north of the existing orchards, as well as a small portion in the south of the study area. The final size, layout and configuration of the cultivated lands will be determined based on the following:

- Soil suitability analysis by a recognised soil specialist
- Technical requirements (runoff and stormwater management, accessibility, slope, existing infrastructure).
- Irrigation infrastructure and efficiency

- Biophysical constraints (e.g. ecological corridors, drainage lines, sensitive areas, species of special concern).

The orchards will also require the establishment of suitable windbreaks. In order to provide optimum yields and quality, citrus crops need to be protected from environmental extremes, including wind. Damage as a result of wind exposure may include reduced growth rates, reduced yields, root damage, bark damage, distorted shape, loss of fruit, as well as lesions and scarring of leaves and fruit (Australian Citrus Growers Inc. 2006). It is an accepted practice to establish exotic Silky Oaks (*Grevillia robusta*) as wind-breaks in the citrus orchards in the Sundays River valley; however Beefwood (*Casuarina* sp.) and Yellowwood (*Podocarpus* sp.) trees are also used. The applicant is considering a number of tree species as potential candidates for use as windbreaks in the new orchards.

#### 2.2.4 Irrigation Reservoir / Balancing Dam

The existing orchards are irrigated with water from the Lower Sundays River Water Users Association (SRWUA) supply system. It is proposed that the additional orchards are also irrigated with water from the LSRWUA. Water will be extracted from the canal, under agreement with the SRWUA. Individual farmers are permitted to extract water from the canal only at certain allocated pumping / release times according to a predetermined schedule. Between the allocated pumping / release times, the holder of water entitlements does not have access to the canal water. Therefore, since water is not continually available from the canal, the orchards cannot be irrigated directly from the canal.

In order to secure a reliable supply of irrigation water between release times, supply and demand needs to be balanced by storing irrigation water on site. This will be achieved by storing water in a balancing dam. The final volume and position of the dam will be determined in consultation with the project specialists in the EIA phase of the assessment. However it is anticipated that the balancing dam will be located in the elevated northern portion of the site; and will have a storage volume of approximately 40 000m<sup>3</sup>.



Photo 2.5. One of the existing irrigation dams on River Bend Citrus Farm.



Photo 2.6. Pumping infrastructure at an existing dam (pump-house & transformer).

### 2.2.5 Irrigation Infrastructure

Irrigation water from the balancing dam will be reticulated within the orchards via a network of irrigation pipes and valves. Water will be discharged from the dam to the cultivated lands via underground pvc pipes with diameters ranging from 50 mm to 150 mm. Water delivery to crop plants will be achieved with the aid of aboveground polypropylene pipes providing drip irrigation.

### 2.2.6 Water Use Entitlements

San Miguel Fruit SA, is currently entitled to 380 ha (= 3 420 000 m<sup>3</sup>) of irrigation water from the system annually. This entitles the applicant to 900 mm of irrigation water per hectare per year; or when expressed as volume; 9 000 m<sup>3</sup> per hectare per year, i.e. a total volume of 3 420 000m<sup>3</sup> per year.

Based on the type of citrus cultivation (type of irrigation & cultivar selection) practiced on the River Bend Citrus farm, it is estimated that the orchards will require approximately 5 625 m<sup>3</sup> of water per ha per year. Based on the above water requirements and the water entitlements currently held by the applicant, the available irrigation water is sufficient for the irrigation of 608 ha of citrus orchards. Taking into consideration the ~ 271.2 ha of existing orchards currently being maintained on the River Bend Citrus farms, the remaining water use entitlements are sufficient for the irrigation of an additional 336.8 ha of orchards on the farm.



Photo 2.7. The existing storage sheds and workshops on the farm.

### 2.2.7 Chemical Storage and Use

It is anticipated that the agricultural expansion will require the storage and use of additional agricultural chemicals such as fertilisers, herbicides and pesticides. The additional chemicals required for the expanded operations will be stored at the existing storage area for the River Bend Citrus farm. The storage and use of these substances will be in line with existing legislation<sup>1</sup> governing these practices. The existing storage facility (shed) provides for the secure storage and handling of agricultural chemicals, and complies with the requirements of various sustainable farming accreditations to which the company adheres. All Waste Management, Sanitation & Hygiene, Materials Storage & Handling, as well as Environmental practices at the farm need to comply with the environmental standards of these organisations. The total volume of chemicals to

<sup>1</sup> [(e.g. Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act No. 36 of 1947), Plant Improvement Act (Act No. 53 of 1973), Agricultural Product Standard Act (Act No. 119 of 1990), Agricultural Pests Act (Act No. 36 of 1983), Conservation of Agricultural Resources Act (Act 43 of 1983)]

be stored on site will be determined in consultation with the technical specialists during the EIA process.

## 2.3 PROJECT SCHEDULE

As outlined in section 2.2 above a preconstruction and construction period of approximately five years is required, prior to harvesting the crop. San Miguel Fruits SA proposes a three phased crop planting process towards the end of each year, as follows:

- Phase 1 – 2013/14, approximately 120 hectares
- Phase 2 – 2014/15, approximately 120 hectares
- Phase 3 – 2015/16, approximately 100 hectares

Prior to the receipt of an environmental authorisation, should one be granted, seed block is secured at least two years in advance and is still required to undergo a grow-out period of two years dependent on the variety of the crop. In parallel to the grow-out period is a 12 month site preparation time which needs to coincide with the seasonal planting of the crop, for harvesting.

While the required capital investment prior to harvesting or exporting is around R68 million, the annual turnover thereafter is estimated to be approximately R65 million once the orchards reach the maturity age of 5 to 6 years old.

The following table provides a preliminary overview of the proposed project schedule and an indication of the anticipated approvals process.

Table 2.1 Proposed project schedule

ACTIVITY	ESTIMATED TIMING
Initiate Environmental Impact Assessment (EIA) Process	February 2012
I&AP review of Draft Scoping Report	April 2012 (30 days)
Submit Final Scoping Report and Plan of Study for EIA to DEDEAT for Approval	End May 2012 (60 days)
Review of Draft EIA	September 2012 (30 days)
Submit Final EIA to DEDEAT for Approval	October 2012 (60 days)
Final Approval for EIA	February 2013
Detailed Planning and Design Phase complete (to include relevant permit & licence applications)	6 months from date of Environmental Authorisation
Site Preparation	12 Months
Phased Construction and Operational Activities	<ul style="list-style-type: none"> <li>• Phase 1 – 2013/14, approximately 120 hectares</li> <li>• Phase 2 – 2014/15, approximately 120 hectares</li> <li>• Phase 3 – 2015/16, approximately 100 hectares</li> </ul>

## 2.4 CAPITAL INVESTMENT AND EMPLOYMENT GENERATION

The total capital value for the project is estimated to be R68 million. The table below provides an overview of the anticipated direct and indirect employment opportunities that will be created during the construction and operational phases of the project.



Table 2.2: Estimated employment opportunities during the construction and operational phase of the project.

	<b>Direct Employment</b>	<b>Indirect Employment</b>	<b>Seasonal Employment</b>
<b>Construction Phase</b>	<b>25 p/a over a two year period</b>	<b>35</b>	<b>-</b>
<b>Operational Phase</b>	<b>25</b>	<b>10</b>	<b>325</b>

The average monthly wage for seasonal employment opportunities (a period of 8 months) is approximately R2000 per month, thus an additional income into the local market of R5.2 million annually. The average wage for the additional direct employment opportunities is approximately R2500 per month, thus an additional income into the local market of R0.75 million.

## 2.5 CONCLUDING REMARKS

Alternatives are discussed further in Chapter Five of this report. The specialist reports forming part of the EIA phase of the assessment should include:

- A specialist soil suitability assessment to determine the suitability of the site for crop production
- Confirmation from the Sundays River Water Users Association regarding water supply for increased crop production
- Technical input regarding the dam size and capacity including layout for irrigation infrastructure
- Input regarding stormwater and surface water runoff management.
- Biophysical and wetland specialist assessments to inform the proposed layout for the project.