

SERVICES REPORT

**FOR
TANAKA FOUNDATION
"THE HAPPY PLACE"
DEVELOPMENT ON
ERF 2103
PLETTENBERG BAY**

**ROADS, STORMWATER,
WATER AND SEWER**

AUGUST 2021

Rev: 1

TK1349



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SERVICES REPORT FOR THE DEVELOPMENT OF ERF 2103 – PLETTENBERG BAY

1. INTRODUCTION

This report has been prepared by Tuiniqua Consulting Engineers at their Knysna office, who have been appointed by the Developer, Mr. Vogel, as the Civil Consultants for this project. The purpose of this report is to provide the necessary information on the proposed civil services within this Development and the connections to the bulk infrastructure in the area.

2. LOCATION

The property to be developed is erf 2103, Plettenberg Bay (attached as Annexure A). The property is approximately 40.4 hectare in extent. The Piesang Valley Road crosses the property as indicated on the Site Plan. Erf 4369 and erf 2104 borders the property on the eastern boundary, and erf 2133 on the western boundary.

3. TOPOGRAPHY AND ACCESS

The property is located in an existing residential township. The Piesang River cuts through the north-eastern corner of the property. A second watercourse runs across the property in an easterly direction. Access to the property will be provided from the existing municipal road i.e. Piesang Valley Road. One access will be provided to the northern portion of the erf and one access to the southern portion of the erf from Piesang Valley Road.

4. SUPPLY AUTHORITY

The supply authority for the area is Bitou Municipality, and therefore their Technical Services Department was consulted on all matters relating to the civil services. A service agreement with regard to water, sewerage, storm water management and access will be entered into with the Municipality, if required. If any increase in civil services demand is required, augmentation fees and capital contributions in this regard will be calculated and payable in accordance with Council's policy.

5. BULK SERVICES

Bitou Municipality was requested to comment on the proposed connection points for water and sewer. The connection points will be finalized between the Developer and the Municipality when detail planning is done. The developer envisages to limit their demand on the municipal networks, various strategies will be implemented to make this possible. Details of these measures will be finalized during the planning process.

5.1 WATER RETICULATION

In terms of relevant accepted guidelines, the developer will be held responsible for the construction and/or upgrading of bulk services required to service the erf. The existing pipe along Piesang Valley Road will supply erf 2103 with potable water. The proposed development will include the following:

- Animal rehabilitation centre with ten kennels
- Animal training centre / Animal day-care
- Manager's house
- Labourer's cottage

The proposed development is a bulk consumer and internal infrastructure shall remain the property and responsibility of the developer.

5.2 SEWER RETICULATION

The existing municipal bulk sewer line runs on the Northern boundary of erf 2103. A connection point is available on this line.

5.3 ROADS

There is an existing road network servicing this area, the road leading to this property is tarred and of good quality.

5.4 STORMWATER

The Piesang Valley Road crosses the property to the south of the proposed development area and drains to the south away from the development. The runoff from the road drains into a natural drainage system which will have no influence on the proposed development.

5.5 ELECTRICAL

An electrical connection is available at the entrance of the property to the Piesang Valley Road.

6. INTERNAL SERVICES

6.1 OUTLINE SCHEME

The design of the services for the development will be based on the principles contained in the Guidelines for Human Settlement Planning and Design published by the Department of Housing and to the Council's requirements for engineering services. The services will be installed according to SANS 1200 and materials will comply with ISO standards. Internal services will be located within the boundaries of the property.

6.2 WATER RETICULATION

There is an existing Municipal water main located on the northern side of Piesang Valley Road crossing the property. The existing and proposed water demand is taken from the "GUIDELINES FOR THE PROVISION OF ENGINEERING SERVICES AND AMENITIES IN RESIDENTIAL TOWNSHIP DEVELOPMENT".

	Demand kl/day
Low rise multiple dwellings (600l/day/unit) x2	1.20
Training centre 66m ² (Office 400l/100m ² floor area)	0.26
Rehabilitation centre 36m ² (Clinic 500l/100m ² floor area)	0.18
Kennel x 13 (50l/day/kennel)	0.65
TOTAL DEMAND	2.30

The annual average daily water demand for the proposed development will be 2.30kl/day.

$$\text{Average daily flow rate} = 2300 / 24 \times 60 \times 60 = 0.026\text{l/s}$$

$$\text{Peak flow rate} = 0.026 \times 2.5 = 0.065\text{l/s}$$

A 20mm Municipal connection will be sufficient for the proposed development.

6.3 SEWER RETICULATION

The calculated expected sewage flow for the proposed new development will be as follows:

Table: Sewage Discharge

	Demand kl/day
Low rise multiple dwellings (500l/day/unit) x2	1.00
Training centre 66m ² (Office 400l/100m ² floor area)	0.21
Rehabilitation centre 36m ² (Clinic 500l/100m ² floor area)	0.14
Kennel x 13 (12l/day/kennel)	0
TOTAL DEMAND	1.35

$$\text{Average daily flow rate} = 1350 / 24 \times 60 \times 60 = 0.016\text{l/s}$$

$$\text{Peak flow rate} = 0.016 \times 2.5 = 0.039\text{l/s}$$

A full waterborne sanitation system is envisaged for the proposed development. Bulk sewer drainage will be provided, by means of Class 34x110 mm diameter pipes

that gravitates to the municipal system on the northern boundary of the property.

A sewer pumpstation will be required at the toilets of the training centre, with a rising main along the access road to the gravity system on the other side of the wetland from the training centre.

6.4 INTERNAL ROADS

The proposed development will have one vehicular access from Piesang Valley Road. The proposed access is located at the existing gate, currently providing access to the northern portion of the property. Ample parking will be provided on site to accommodate the various activities, as indicated on the Site Plan.

6.5 INTERNAL STORMWATER

Storm water will not be concentrated and will be discharged into the natural watercourse on site. A culvert will be provided where the internal road crosses the watercourse in the centre of the property, to provide access to the remaining section of the development. All structures are positioned well outside the 20m wetland buffer zones, as indicated on the Site Plan.

6.6 WASTE MANAGEMENT

Disposal of waste shall be done via normal municipal domestic waste collection.

ANNEXURE A

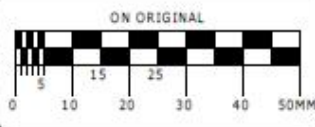
Locality Plan



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No	Date	Details	Chd	Appd
Revisions				

CLIENT:
TANAKA FOUNDATION



Prepared by	Checked by	Reviewed by
TM	SM	SM

Project: **SERVICES REPORT ERF 2013**

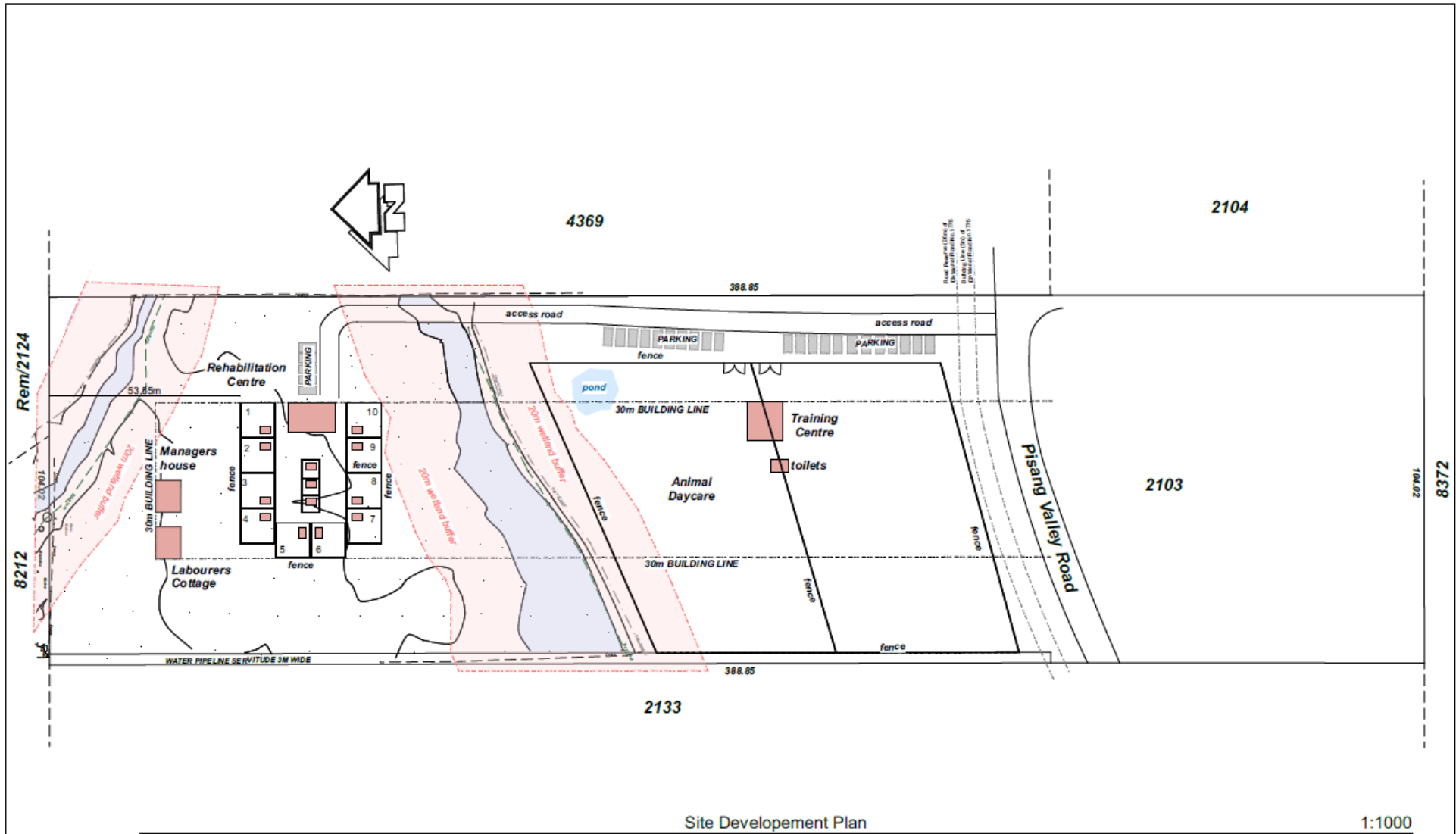
Detail: **LOCALITY PLAN**

Scale:	Date:
N.T.S.	04/08/2021

Project No. **TK 1349** Dwg. No. **/ SP / R1**

ANNEXURE B

Site Plan



ERF 2103, Pisang Valley, Plettenberg Bay
 DEVELOPMENT PROPOSAL FOR
 TANAKA FOUNDATION
 "THE HAPPY PLACE"

paper size: A3