

TOWN PLANNING APPLICATION IN TERMS OF GEORGE  
MUNICIPALITY TACKLES REVIEW OF BY-LAWS – LAND USE  
PLANNING BY-LAW FOR GEORGE MUNICIPALITY, 2023

# OMEGA CLOSE

APPLICATION FOR PERMANENT  
DEPARTURES TO ACCOMMODATE  
A SOCIAL HOUSING SCHEME



**PREPARED BY**  
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**PREPARED FOR**  
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**SECTION 1****BACKGROUND****1.1 INTRODUCTION AND BRIEF**

Urban Dynamics South Cape (Pty) Ltd. Consulting Town and Regional Planners, were appointed by Own Haven an implementing agent / developer of Social housing developments, to prepare and submit an application for the approval of a site development plan and related permanent departures on Erf 26823, George. The Power of Attorney and application form is attached as **Annexure A and B**. It is the intention of the developer to construct a Social Housing apartment complex with ancillary land uses.

Social housing is a state subsidised rental housing option targeted at low to medium income groups (R1 850 – R22 000). The purpose of this development is to contribute to the national priority of restructuring South African society in order to address structural, economic, social and spatial dysfunctionalities. Social housing contributes to widening the range of housing options available to lower income groups.

**1.2 PROPERTY DESCRIPTION AND OWNERSHIP**

The application area is described in the title deed (refer to **Annexure C**) as follows:

PROPERTY	EXTENT (HA)	DEED OF TRANSFER	REGISTERED OWNER
Erf 26283, George	±5469m <sup>2</sup>	T30615/2020	Garden Route District Municipality

*Table 1: Property Details*

Mosdell, Pama and Cox attorneys prepared a conveyancer certificate stating that there are no title deed conditions related to the proposed application that require upliftment (refer **Annexure D**).

**1.3 EXISTING ZONING AND LAND USE**

The application area is currently vacant and zoned General Residential IV, with flats listed as the primary use, refer figure 1 below.





Figure 1: Zoning Context

NOTE: The proposed development is consistent with the primary land use category (Flats) for General Business IV. Therefore, the proposed land use should be supported as no new land uses or consent uses are being applied for, only regulatory departures to accommodate the desired density to make the proposed social housing model viable.

## 1.4 APPLICATION DETAILS

Application in terms of the Land Use Planning By-Law of George Municipality (2023) is hereby made for the following:

- i. Approval of a Site Development Plan in terms of Section 15(2)(g) to establish a social housing development on Erf 26823, George as per the regulation of Section 23 of the George Integrated Zoning Scheme By-Law, 2023.
- ii. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 5m along the Omega street boundary line.
- iii. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 4.5m along the eastern common boundary line.
- iv. To permit a reduced parking ratio in terms of Section 15(2)(b) of 0.5 bays per unit in lieu of 2 bays per unit (a notarial tie will with Erf RE/2219, George to achieve this ratio).



## SECTION 2

## EXISTING DEVELOPMENT INFORMANTS

## 2.1 LOCALITY

The application area is located in Omega Close within close proximity to George CBD as illustrated in Figure 2 below.



Figure 2: Local Context Plan

## 2.2 SURROUNDING ZONING AND LAND USE

- Surrounding Neighbourhood

The directly abutting properties are predominantly residential, offices, municipal offices, tourist accommodation and a veterinarian.







Figure 3: Land-use plan

#### ▪ Greater CBD area

The application area is located within close proximity to the CBD, which includes lifestyle amenities, municipal services, medical facilities and access to public transport.

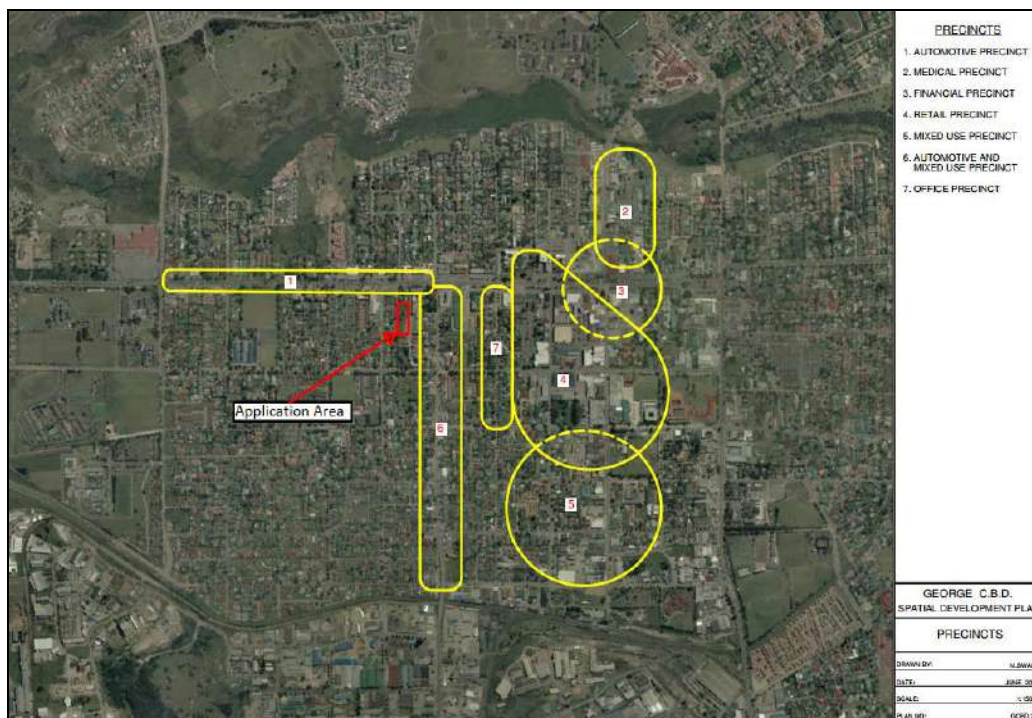


Figure 4: George CBD precinct Plan



## 2.4 OVERARCHING POLICY CONTEXT

The proposed development was assessed in terms of the current overarching National, Provincial and Local Municipal spatial and strategic policies, to determine the consistency of the land use proposal with these relevant policies. Table 2 summarises the compliance of the proposal with the relevant policies.

POLICY DIRECTIVE	COMPLIANCE WITH OVERARCHING SPATIAL & ECONOMIC OBJECTIVES	COMPLIANCE WITH SITE SPECIFIC SPATIAL DESIGNATION
National Development Plan (November 2011)	✓	N/A
Strategic Provincial Plan: Western Cape Strategic Objectives (2012)	✓	N/A
Provincial Spatial Development Framework (2009)	✓	✓
George Municipal Spatial Development Framework 2023/27	✓	✓
Urban Design Guidelines for High Density, Social and Affordable Housing July 2023	✓	✓

Table 2: Policy Context Summary

The compliance of the proposed development within the relevant policies is outlined in the following sections.

### 2.4.1. George Municipal Spatial Development Framework 2023/27

The proposed development is consistent with the George Municipal Spatial Development Framework specific Policy Guidelines and alignment principles:

- D1: PG a: All Market Segments to be catered for:  
*"v. Private initiative delivers rental accommodation at various affordability levels. Social housing provision, within the restructuring zone, targets priority sites (Crocodile farm, Road Camp) and the GRDM Omega Close development, as a first delivery phase, to yield an approximate 1000 social housing rental units (qualifying income in the upper and lower bands vary from R 1850 to R22 000)." – MSDF 2023, p. 136*
- D6: PG a: Integrated Human Settlement Projects  
*"d. Initiate social rental housing projects, inclusive of mixed use at the street scale, on public land in the George CBD identified in the George Restructuring Strategy. The Croc Farm site, the Road Camp site and the Omega Close projects are identified as priority for implementation." – MSDF 2023, p. 138*





As depicted in Figure 5, the Central Business District (CBD) has been designated as a restructuring zone, alongside the residential densification periphery. Densification zones are primarily concentrated in close proximity to public transportation routes, with a density of 80 units per hectare (u/ha) or higher within 150 meters, 60 u/ha within 151 to 350 meters, and 45 u/ha within 351 to 500 meters.

The CBD, as a whole is considered a residential densification area. Mixed use which included large office blocks and retail uses to be contained in the CBD core.

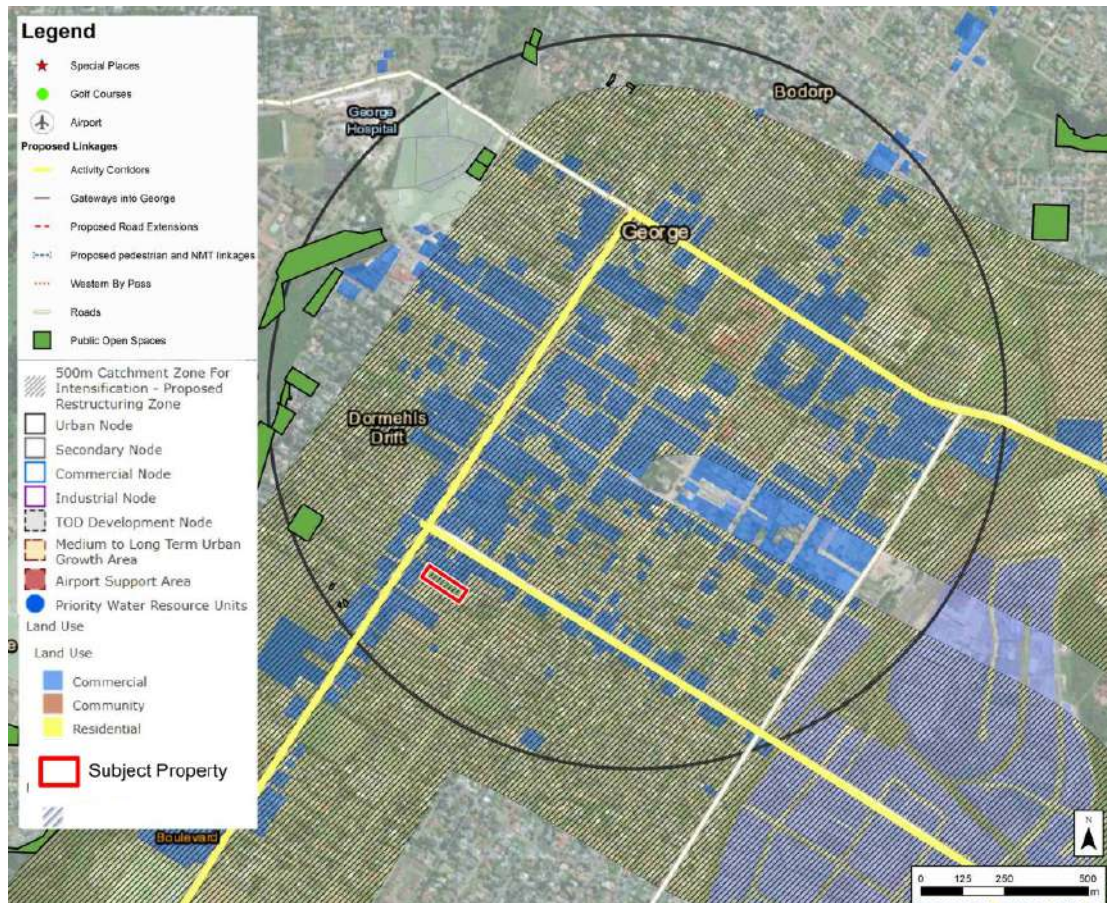


Figure 5: George Municipal Spatial Development Framework 2023/27

**Implication for the proposed development:** The subject property directly abuts the commercial node of the CBD and is therefore optimally located in terms of the municipality's residential densification strategy for higher density residential development.

#### 2.4.2. Urban Design Guidelines Social and Affordable Housing July 2023

The Urban Design Guidelines for High Density, Social and Affordable Housing, July 2023 includes a series of design objectives and policies to inform the form of development, to encourage appropriate development response to specific urban environs and context, and generally to improve the quality of urban place making. The proposed development was evaluated in terms of the relevant objectives and policies, as follows:



- The development proposal thoroughly demonstrates how it fits into and contributes positively to its surrounding context, respecting existing built form.
- Pedestrian accesses are provided at ground level, while pedestrian walkways and sidewalks are respected and improved by using appropriate materials to encourage pedestrian movement.
- The locality of the application area promotes the use of non-motorised transport.
- The development provides an excellent response to local informants in terms of providing high intensity development in close proximity to the George CBD,
- The proposed development includes public amenities such as parks, play areas communal gathering facilities and restrooms.

This report must be read within the context of the larger regulatory frameworks and the principles within the policy document. It is useful to note that the policy document references images and design proposals produced by Jakupa Urban Designers. The design responses in this instance, is born out of principles of:

- **Safety and security:** Over and above the various technological and management models, Jakupa planned for the establishment of a safe environment, and adopted a perimeter block model that allows for oversight and an intimate relationship to an active street that demonstrates safety through design principles.
- **Integration:** The urban design proposal is a response to the immediate context in scale, form and function. At a higher level, the location of the site makes room for lower income families in a well-located area close to George's CBD.
- **Inclusive and Adaptive:** The very nature of the development rationale is inclusivity and is reflected in the values of the design rationale and the intent in creating inclusive communities. The design approach was to consider the street as a public space that establishes amenity for pedestrians where none exists. This includes making provision for universal access systems and accommodation both inside and immediately adjacent to the development.
- **Sense of Place:** In the context of this being a development for rental stock, the design is aimed at creating a sense of place through the form and architectural language as well as making provision for placemaking initiative within the development. These include active courtyards for a variety of age groups including soft and hard play areas for boys and girls and vegetable gardens for the elderly.
- **Balance:** The design proposition has been the result of measuring what is possible within the financial constraints, the technical limitations (predominantly engineering limitations) and the management model used by the client. A process of negotiating trade-offs between these competing interests has resulted in the design proposed within this report.





- **People oriented:** The design is aimed at promoting people friendly spaces. Where cars share space with pedestrians, such as the parking court, overlays were added to the design that allows flexibility in its use. Similarly, the development has been arranged around a series of courtyards that generates layers of privacy from the street to the front door.

#### **2.4.4. Conclusion: Policy context**

As indicated above, the proposed development responds positively to the objectives, strategies and other provisions of the relevant strategic municipal policies and guidelines, and in our considered opinion is an excellent policy compliant proposal that will contribute most positively to urban place making in the immediate urban environs.

### **2.5 ENVIRONMENTAL CONTEXT**

The proposed development is located on a fully disturbed/developed site, within the context of a fully developed urban environment. The proposed development will have no impact on environmental, natural or biodiversity resources. On this basis, no environmental assessment and approvals are required in terms of the National Environmental Management Act (1998).

### **2.6 HERITAGE CONTEXT**

The proposed development is located on a portion of land larger than 5000m<sup>2</sup>. Application will therefore be made in terms of Section 38 of the National Heritage Resources Act 25 of 1999. An application was submitted to Heritage Western Cape and the outcome of the application will be submitted upon receipt.

### **2.7 CONCLUSION – CONTEXTUAL ASSESSMENT**

Following the afore-mentioned assessment of broad contextual informants, it can be concluded that within the context, the application site is characterised by a number of positive informants:

- Excellent opportunity for a well-integrated social housing development;
- Excellent locality relative to surrounding amenities, public transport routes, tourism attractions and commercial development/employment opportunities;
- Located within close proximity of designated highly accessible transport routes.

It can therefore be concluded that the proposal is a sound contextual fit and should be supported in this regard. From a contextual perspective, there are no constraints to the proposed development.



## SECTION 3

## ENGINEERING SERVICES

The Civil Services report was compiled by Nadeson Consulting Services (refer **Annexure F**).

### 3.1 SEWER RETICULATION

#### 3.1.1 Existing Sewer Infrastructure

An existing 160mm diameter sewer reticulation is located in Omega Close and drain along the eastern boundary within the site.

#### 3.1.2 Estimated Sewer Flows

The peak wet weather flow (PWWF) for the proposed development amounts to approximately 1.26 l/s. The derivation of this value is given below.

Estimated peak foul sewer flows the anticipated sewerage flows generated from the development would amount to approximately 80% of the domestic water demand, which excludes the use of grey water schemes.

The estimated peak foul sewer flows is estimated at approximately 80% of the water demand and allows for 30% stormwater infiltration as indicated below:

Land use	No of Units	Area (m <sup>2</sup> )/GLA	Unit Discharge		Dry Weather flow (l/day)	Dry Weather flow (l/s)	Wet Weather Flow (l/s)	Peak Wet Weather flow (l/s)
Residential	166		(l/Unit/d)	280	46 480.00	0.54	0.70	1.26
<b>Total</b>					<b>46 480.00</b>	<b>0.54</b>	<b>0.70</b>	<b>1.26</b>

Sewer Factor	80%	
Peak (redbook Table K.4)	1.80	Used Fig C,1 in the Red Book
Infiltration	30%	

Table 3: Peak sewer demand for the development.

The proposed discharge (per dwelling category), used in estimation of the total sewer flows is in line with the "Red Book". The Peak factor used to determine the instantaneous peak flow anticipated in the internal sewer reticulation is in accordance with Figure C1 of the same publication.

#### 3.1.3 Proposed Sewer drainage

The sewer drainage design for the proposed development is to connect to the existing 160mm diameter sewer pipeline along the eastern boundary of the site. A new manhole is proposed on the new connection point. A services servitude will need to be registered for the sewer draining along the eastern boundary of the site.

The proposed sewer reticulation is reflected below:



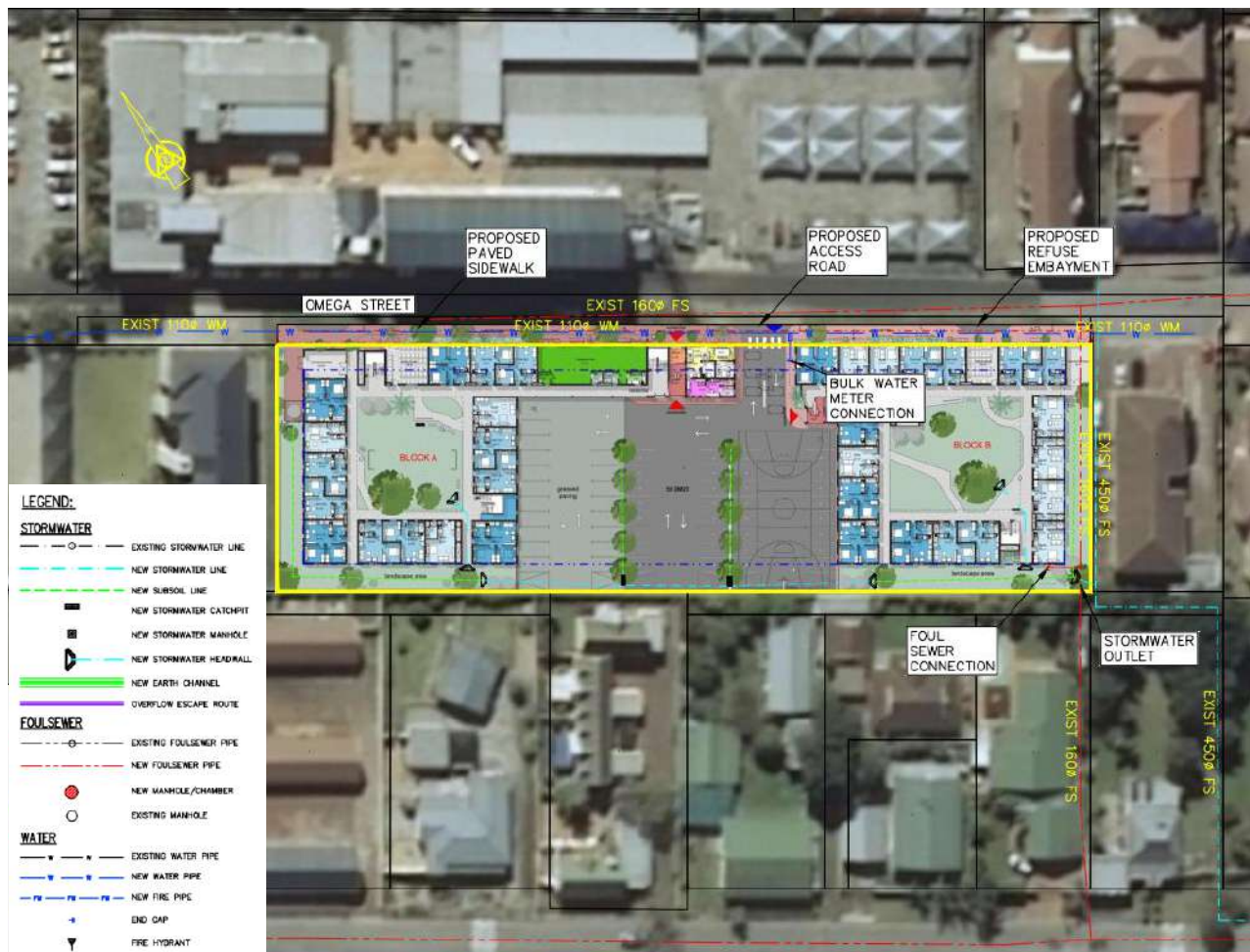


Figure 6: Services Layout

The internal networks, including pipe gradients, manholes, pipelines and erf connections will be designed according to George Municipality design standards.

### 3.2 WATER RETICULATION

### 3.2.1 Existing Water Infrastructure

Existing 110mm diameter water network is located in Omega Street which connects to the main water supply in York Street.

### 3.2.2 Estimated Water Demand

An instantaneous peak flow (peak AADD) for the proposed development amounts to approximately 1.34 l/s. The derivation of this value is given below.



Land use	No of Leaners	Area (m <sup>2</sup> )/GLA	AADD		AADD (l/d)	AADD (l/s)	Peak AADD (l/s)
Residential	166		(l/Unit/d)	350	58 100.00	0.67	1.34
<b>Total</b>					<b>58 100.00</b>	<b>0.67</b>	<b>1.34</b>

Peak factor (red book Table J.9) 2.0

Table 4: Peak water demand for the development.

The proposed demand used above was aligned with the recommended range specified in the "Guidelines for Human Settlement Planning and Design" (Red Book). The peak factor was in accordance with Table J.9 of the same publication.

The development will likely be considered as a high-risk fire risk category. Hence, a minimum fire flow requirement of 25 l/s at a 15m residual pressure head is applicable.

### 3.2.3 Proposed Water Reticulation

A new water connection is proposed from the existing 110mm diameter water reticulation in York Street. A new bulk water meter to be constructed in the sidewalk adjacent to the main entrance road to the development.

The existing water pressure for fire supply is low in the area and the proposal would entail the construction of storage tanks with booster pumps to provide the required pressure to the development.

### 3.2.4 Alternative Water Sources

A possible wellpoint will be considered for the development and requires further investigation.

Rainwater harvesting will also be utilised as a secondary system for landscape irrigation.

## 3.3 STORMWATER MANAGEMENT

### 3.3.1 Stormwater Drainage Plan

The basic requirements of the stormwater drainage plan will need to ensure the following:

- Stormwater runoff from the development into the adjacent areas should be adequately controlled to prevent downstream flooding.
- Subsurface drainage paths should not be significantly restricted by the development of the site. Any groundwater recharge area within the site should not be significantly altered.

Noting the above, Stormwater drainage flow must be managed in terms of the Sustainable Urban Drainage Systems (SUDS) and Stormwater Best Management



Practices (BMP's) criteria. This will assist with the stormwater management and cleansing of the water in terms of TSS and phosphate removal.

Stormwater runoff for the development will generally be managed on a catchment-wide basis and will take into account the surrounding built and natural environment. Stormwater infrastructure proposed for the sites will comprise both overland flow and underground piped systems.

Minor storm events will be catered for in the buried pipe networks. The network will be sized to accommodate a 2 year flood recurrence interval. In this scheme no hard surface will be allowed to flood, such as walkways or roads.

For Major storm events, the road networks together with the underground stormwater pipes will be designed to accommodate a 50 and 100 year flood recurrence interval. Further to this, excess runoff from a major storm event, which will be conveyed within the roadway, will not exceed a depth of 150mm above the highest point. Under such conditions, inconvenience to visitors is acceptable but access by emergency vehicles should not be completely hindered.

### **3.3.2 Existing Stormwater Infrastructure**

Based on existing GIS information received, a 375mm diameter stormwater reticulation drain along the eastern boundary of the site and appears to run in the neighbouring erf towards Laing street. An existing 300mm diameter pipe inlet on the site drain to the 450mm diameter reticulation.

The site is relatively flat but there is sufficient open area within the site development plan to accommodate and delay additional stormwater runoff during high storm events.

### **3.3.3 Proposed Stormwater Infrastructure**

The stormwater proposal included in the services report for the site, entails draining stormwater to grassed swales which will be interconnected throughout the site. The swales will eventually drain to the existing 300mm diameter connection on the South-East corner of the site. The intention would be that the swales attenuate on site as far as possible before draining to municipal infrastructure. The space available is limited to incorporate a stormwater detention pond so storage is proposed within the landscape areas. The parking area is proposed to drain to grassed channel and between the bays with catchpits at drainage points downstream of the channels.

Rainwater harvesting is proposed for the development to reduce stormwater drainage from the site and utilise water for irrigation.

The proposed development consist of additional hard and landscaped surfaces with a parking area and play courts. The additional flow is to attenuate in the proposed



detention pond and the overflow discharge drain to municipal infrastructure during peak storm events. A summary of the results are indicated in Table 6.

STORM EVENT (24 hr duration)	PRE- DEVELOPMENT PEAK FLOW  (m <sup>3</sup> /s)	POST- DEVELOPMENT PEAK FLOW  (m <sup>3</sup> /s)
2 Year Return Interval	0.009	0.051
5 Year Return Interval	0.014	0.077
10 Year Return Interval	0.019	0.103
50 Year Return Interval	0.033	0.134
100 Year Return Interval	0.042	0.225

Table 5: Summary of Computations

It is recommended that as far as possible the post-development runoff meets predevelopment runoff. This will ensure that all existing stormwater infrastructure is adequate for the new development and no further bulk stormwater infrastructure upgrades is required. In order to achieve this the engineer should ensure that sustainable drainage methods are implement within the site by conveying stormwater runoff into landscaped/grassed areas where possible.

### 3.4 SOLID WASTE MANAGEMENT

The disposal of solid waste will be accommodated in a refuse room along Omega Close and removed by the George Municipality. Domestic waste will be collected on a weekly basis at roadsides in wheelie-bins by self-compacting refuse vehicles in Omega Close.

### 3.5 ELECTRICITY

Clinkscapes Maughan-Brown have prepared an input with regards to electricity supply (refer **Annexure G**).

#### 3.5.1 Demand

The Supply Authority for the area is George Municipality, and therefore their Electricity Department was consulted on matters related to the electrical services.

It was confirmed that the the peak kVA demand of the Development has been estimated at 166 units x 8,05kVA x 0.3 d.f. = 400kVA after diversity maximum demand.



This is a provisional calculation and will be finalized after all the network load particulars have been concluded.

The following objectives will be set to reduce consumption:

- Comply with SANS 10400.
- Energy efficient light fittings, air conditioning, water heating installations, etc.
- Use of LPG gas instead of electrical appliances for cooking where economically feasible.
- Use of energy efficient appliances.
- Installation of Photo Voltaic (PV), if it can be economically justified.

It is expected that with the implementation of these measures, consumption could be reduced significantly.

### **3.5.2 Available capacity**

The Municipality has indicated that they have no objections to supplying this development and would prefer it be provided at bulk MV (Medium Voltage – 11kV) and be a bulk metered connection. The internal network downstream from the 11kV Bulk MV kWh meter will remain the property and maintenance of the Developer.

### **3.5.3 Connection point / supply**

The Point of Connection would be to cut a new 3-way 11kV Ring Main Unit (RMU) into an existing MV underground cable ring feed supplying the existing municipal substation “ST-EDEN MUN (630kVA)”. A Bulk MV Metering Unit will further be installed downstream from the latter RMU, which will include the Bulk MV kWh consumption meter for the development. The meter shall be 4 quadrant, 4 wire and programmed as such.

The load terminals of this Bulk MV kWh meter will become the Point of Supply for the Development. The MV and LV reticulation network downstream from the Point of Supply is considered to be the Internal Network and will on completion become the responsibility of the Developer for their ownership and operation.

### **3.5.4 External Network**

The External Network is considered to be the network between the Point of Connection and the Point of Supply as defined above, which is to be taken over by the Municipality on completion for their ownership and operation.

All drawings and specifications of the External Network must comply with the Municipality's technical requirements and must be submitted to them for official approval before construction can commence.

Construction will be undertaken by an accredited Electrical Contractor to be prior approved by the Municipality.





### 3.5.5 Internal Network

The Developer will have to enter into a supply agreement with the Municipality and will be responsible for operating and maintaining the internal network downstream of the said meter.

The Developer shall appoint and maintain an appointment of a responsible person as defined in the General Machinery Regulations of the OHS Act to take responsibility of the installation and operation thereof downstream of the meter.

The Developer will be responsible for metering each individual residential unit's consumption, sending out accounts, debt collection, etc. The services of a metering agent could be employed to assist in this regard and using prepayment metering.

All cables and electrical equipment outside the erf will be installed in servitudes, road reserves and open spaces and will be always accessible to the Municipality.

It is noted that no Small Scale Embedded Generator (SSEG) or renewable energy plant shall be installed without prior Municipal approval, and in the case of approval a competent person shall be appointed in terms of GMR(2).

## 3.6 SUMMARY AND CONCLUSION

There is sufficient capacity to accommodate the proposed development from a civil services perspective. The electrical supply will require upgrades to accommodate the number of units.



**SECTION 4****TRANSPORT****4.1 TRANSPORT BACKGROUND**

Engineering Advice & Services (Pty) Ltd was appointed by Own Haven Housing Association during April 2023 to prepare a traffic statement to motivate for a departure from the stipulated parking requirements for a proposed social housing development on Erf 26823, George (Refer **Annexure E**).

The aforementioned traffic statement serves as an addendum to the previous Traffic Impact Assessment of Erf 26823, Omega Close, George, for a social housing development prepared by Delta Built Environment Consultants (Pty) Ltd.

The development proposed by Own Haven provides for a total of 166 units comprising 56 1-bed units, 63 2-bed units and 47 studio apartments.

Within chapter 4 of this report, the focus will be predominantly on motivating a reduction of the permissible parking ratio, based on case studies of social housing developments throughout the Western Cape. It should also be noted that the 0.5 bays parking ratio was calculated based on a notarial tie agreement between Erf 26823, George and Re/2219, George (refer **Annexure A**).

Based on Social housing qualification criteria, the likelihood of car ownership for people living in this development is considered to be very low. The premise for the attainment of a low parking ratio, is therefore based on the socio-economic profile of the beneficiary community together with the proximity and availability of public transport.



## 4.2 ACCESS

As described in the Traffic Impact Assessment of Erf 26823, Omega Close, George, access to the site will be provided directly from Omega Close as indicated in figure 7.



Figure 7: Proposed access from Omega Close

The service flow rates at access-controlled entrances in vehicles per hour from Table 30 of Technical Methods for Highways (TMH) 16 Volume 2- South African Traffic Impact and Site Assessment Standards and Requirements Manual, are indicated in Table 6 below.

Service flow rates (veh/h) for different control types		
	Control type	Service flow (vph)
	Swipe magnetic card	480
	Remote controlled gates	450
	Ticket dispenser: Automatic	390 -450
	Ticket dispenser: Push button	220 - 360
	Pin number operated gates	150
	Pay fee on entry	120
	Cell-phone operated gates (gate opens when a call is received)	100
	Manual recording, Visitor completes form	80
	Intercom operated gates (visitor contacts resident by intercom)	50

Table 6: Access Control Service Flow Rates

The number of entry lanes and the number of vehicles queuing in each lane are calculated after determining a Traffic Ratio over all entry lanes using the following formula:

$$\text{Traffic ratio} = \frac{\text{Total Volume / PHF}}{\text{Service flow rate}} \cdot 100$$

The number of lanes and queue length is then determined from Table 7 below (Source: Table 31 in TM16 Vol 2).



95 <sup>th</sup> Percentile queue length (vehicles per channel) at controlled accesses						
Storage (Vehs)	Traffic ratio (Percentage) for different Numbers of Channels					
N <sub>Que</sub>	1 Channel	2 Channel	3 Channel	4 Channel	5 Channel	6 Channel
1	23	58	97	140	188	235
2	39	94	155	220	292	363
3	49	115	186	261	341	421
4	56	128	205	283	367	449
5	61	137	216	297	382	466
6	65	143	224	306	392	476
7	68	147	229	312	399	484
8	70	151	233	317	403	489
9	71	153	236	321	407	493
10	73	155	239	324	410	496

Table 7: Access Control Queue Lengths

It is expected that up to 45 vehicles will enter the development during the PM peak hour (highest entering peak).

Given a peak hour volume of 45 vehicles entering the residential complex the traffic ratios for each control type are indicated in Table 8 overleaf.

Peak Hour Trips - IN	45	Traffic ratio	Q-Length Veh	Lanes Required	Q-Length (m)
Access Control Options	Flow (Vph)				
Swipe Magnetic card	480	23	1	1	6.5
Remote controlled gates	450	23	1	1	6.5
Pin number operated gates	150	39	2	1	13
Cell-phone operated gates (gate opens when a call is received)	100	56	1	2	6.5
Manual Recording (Visitor Completes form)	80	65	2	2	13
Intercom Operated Gates (Visitor contacts resident by Intercom)	50	115	3	2	19.5

Table 8: Access Control Queue Lengths for erf 26823, George

Remote controlled access will be implemented including facial recognition software. As such, given the low peak hour entering volume, access gates would be configured with one entering lane and the security gate set back at least 6.5 m from the road edge.

**Implications:** The proposed development access have sufficient capacity and is adequately setback from the street to accommodate the traffic generated as a result of the proposed development.

## 4.3 TRIP GENERATION AND DISTRIBUTION

### 4.3.1. Proposed Own Haven Development

TMH17 provides for a reduction in peak hour vehicle trips for various land use types based on a range of factors, namely car-ownership (-30% Low and 50% Very Low), location



along a public transport route (-15%) and whether part of a mixed-use development (-15%).

Given that tenants that would be accommodated in the Social Housing complex form part of the low-income category and need to comply with strict admission criteria, it is argued that car-ownership is generally low. This situation will be discussed further later in this report when considering parking demand. As such, an adjustment factor of -30% has been applied for low car ownership.

The admission criteria for social housing developments is:

- Household income between R1 850 – R22 000;
- Applicants should be 21 years or older;
- Clean credit record (affordability);
- South African citizen or permanent resident;
- Married or single, with or without dependents;
- Competent to contract; and
- Able to pay the required monthly rental.

In addition, as the planned development is located along a designated public transport route, a further -15% adjustment will be applied. This results in a total adjustment of -40.5%.

#### 4.3.2. Residential Development – Apartments & Flats (Daily Trip Generation Rates and Parameters - Category 220):

Given that the proposed development comprises of 166 residential units, this results in a total of 108 peak hour trips as indicated in Table 9 below. Table 9 indicates trips prior to Section 220 reduction rates applied.

COMPONENT	AM		PM	
	TRIPS IN	TRIPS OUT	TRIPS IN	TRIPS OUT
Split (%)	25	75	70	30
Peak hour trips	27	81	76	32
<b>Total Generated Trips</b>	<b>108</b>		<b>108</b>	

Table 9: Trip Generation Own Haven Development Proposal – 166 Residential Units

#### 4.3.3. Summary of Generated Trips

Table 10 summarises the generated peak hour trips for the 166 units after Section 220 reduction rates have been applied.

COMPONENT	PRIMARY TRIPS			
	AM		PM	
	IN	OUT	IN	OUT
<b>Apartments &amp; Flats (220)</b>	16	48	45	19
<b>Total Adjusted Peak Hour Trips</b>	<b>16</b>	<b>48</b>	<b>45</b>	<b>19</b>

Table 10: Peak Hour Trip Generation Summary



#### 4.3.4. Additional Generated Trips

The total additional peak hour trips generated by the planned 166-unit development were determined as indicated in Table 11 below.

COMPONENT	PRIMARY TRIPS			
	AM		PM	
	IN	OUT	IN	OUT
64 Unit Development	11	32	30	13
166 Unit Development	16	48	45	19
<b>Additional Peak Hour Trips</b>	<b>5</b>	<b>16</b>	<b>15</b>	<b>6</b>

Table 11: Additional Peak Hour trips Summary

**Implications:** The proposed development of 166 units will not generate a large amount of trips, as there is a low probability of car ownership for tenants that qualify for the Social Housing rental market.

#### 4.3.5. Trip Distribution

The additional peak hour trips calculated above were then assigned to the network in the same manner as in the Delta TIA.

The additional generated trips are indicated on Figure 1 overleaf. The additional generated traffic volumes added to the 2025 background and latent traffic volumes are indicated on Figure 8.

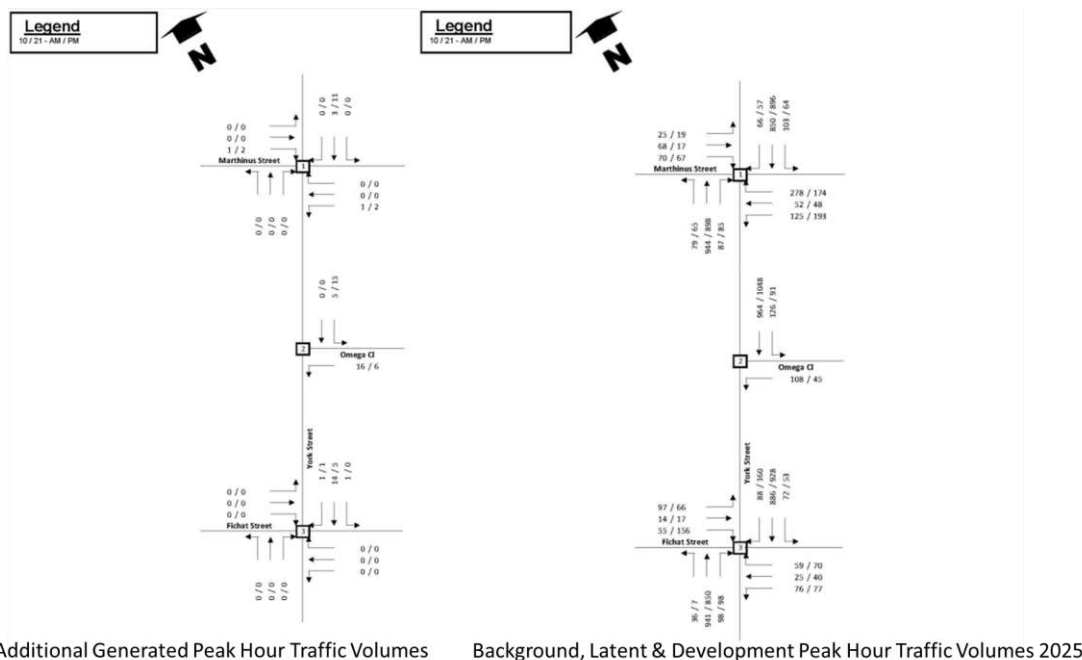


Figure 8: 2025 background and latent traffic volumes



#### 4.4 CAPACITY ANALYSIS – EXISTING SITUATION

Level of Service (LOS) is defined as the operating condition that may occur at an intersection when it accommodates various traffic volumes. LOS is a qualitative measure of the effect of speed, travel time, traffic interruptions, freedom to manoeuvre, safety, driving comfort and convenience, and operating costs. LOS D is considered an acceptable design standard (LOS C for SANRAL). The LOS applicable to intersections under various control conditions, as defined in the Highway Capacity Manual are indicated in Table 12 below.

Level of Service	Control delay per vehicle in seconds (d) (Including geometric delay)		LOS Colour Rating
	Signals and Roundabouts	Stop Signs and Yield Signs	
A	$d \leq 10$	$d \leq 10$	Excellent
B	$10 < d \leq 20$	$10 < d \leq 15$	Very Good
C	$20 < d \leq 35$	$15 < d \leq 25$	Good
D	$35 < d \leq 55$	$25 < d \leq 35$	Acceptable
E	$55 < d \leq 80$	$35 < d \leq 50$	Poor
F	$80 < d$	$50 < d$	Very Poor

Table 12: Level of Service definitions for Vehicles (Highway Capacity Manual method)

##### 4.4.2. 2025 Development Horizon – 166 Units (Own Haven Traffic Statement)

Table 13 below indicates the results of the capacity analysis after the additional peak hour trips were added to traffic volumes at the affected intersections.

The capacity analysis was undertaken using the SIDRA Network Intersection capacity analysis method but applying the Highway Capacity Manual gap acceptance criteria for unsignalised intersections where applicable.

Note that the analysis was conducted for isolated intersections as the number of accesses between intersections would impact on results should a network analysis be conducted.

The detailed SIDRA output sheets attached as part of the TIS refer **Annexure E**. As can be seen from the results no major capacity problems are experienced as a result of the additional development trips.

However, in an effort to minimise the deterioration of LOS to E during the PM peak hour at the Fichat Street junction, further analysis was conducted with an amended phasing arrangement, namely adjusting the leading right-turn phase on York Street to a lagging right turn as indicated below.





Intersection	Delay (s)		V/C		Critical LOS *	
	AM	PM	AM	PM	AM	PM
York Street / Omega Close	1.5	0.9	0.296	0.308	*A	*A
York Street / Nelson Mandela Bvd	24.7	18.9	0.615	0.464	C	B
York Street / Fitchat Street Current phasing	27.7	59.3	0.917	>1.000	C	E
Amended phasing	-	43.0	-	0.970	-	D

\* - SIDRA Intersection Network (6) does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the Highway Capacity Manual (Table 12 above). Source: Delta Built Environment Consultants.

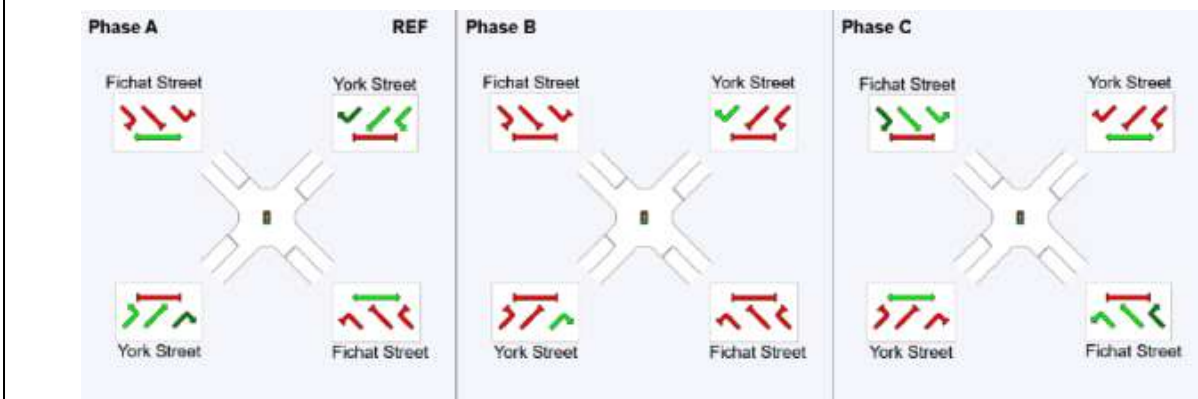
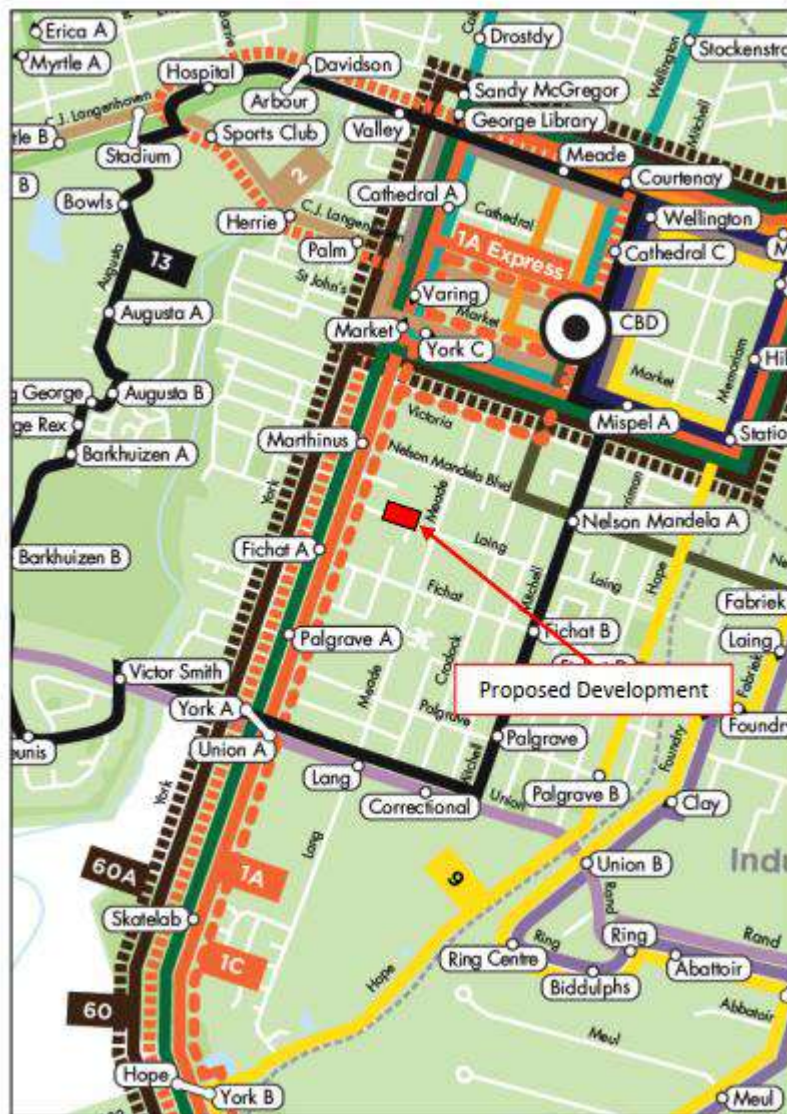


Table 13: Results of Intersection Capacity Analysis: 2025 Development Horizon, 166 units

## 4.5 PUBLIC TRANSPORT OPERATIONS

Based on data supplied by Go George, 4 George Integrated Public Transport Network (GIPTN) routes are currently servicing York Street between Hope Street to the south and Market Street to the north.





Source: [www.gogearge.org.za](http://www.gogearge.org.za)

Figure 9: Extract of Go George Route Map

The access to the development is planned approximately 140 m from York Street. The nearest bus-stop in the southbound direction is located approximately 50m north of Omega Close – thus a distance of 190m from the development access gate. The nearest northbound direction stop is approximately 200m north of Omega Close, thus 340m from the development access.

Another northbound direction stop is located 330m south of Omega Close near Fitchat Street thus 470m from the development access.

Figure 10 overleaf indicates the location of bus stops along York Street in the vicinity of the proposed development.







Figure 10: York street bus stop

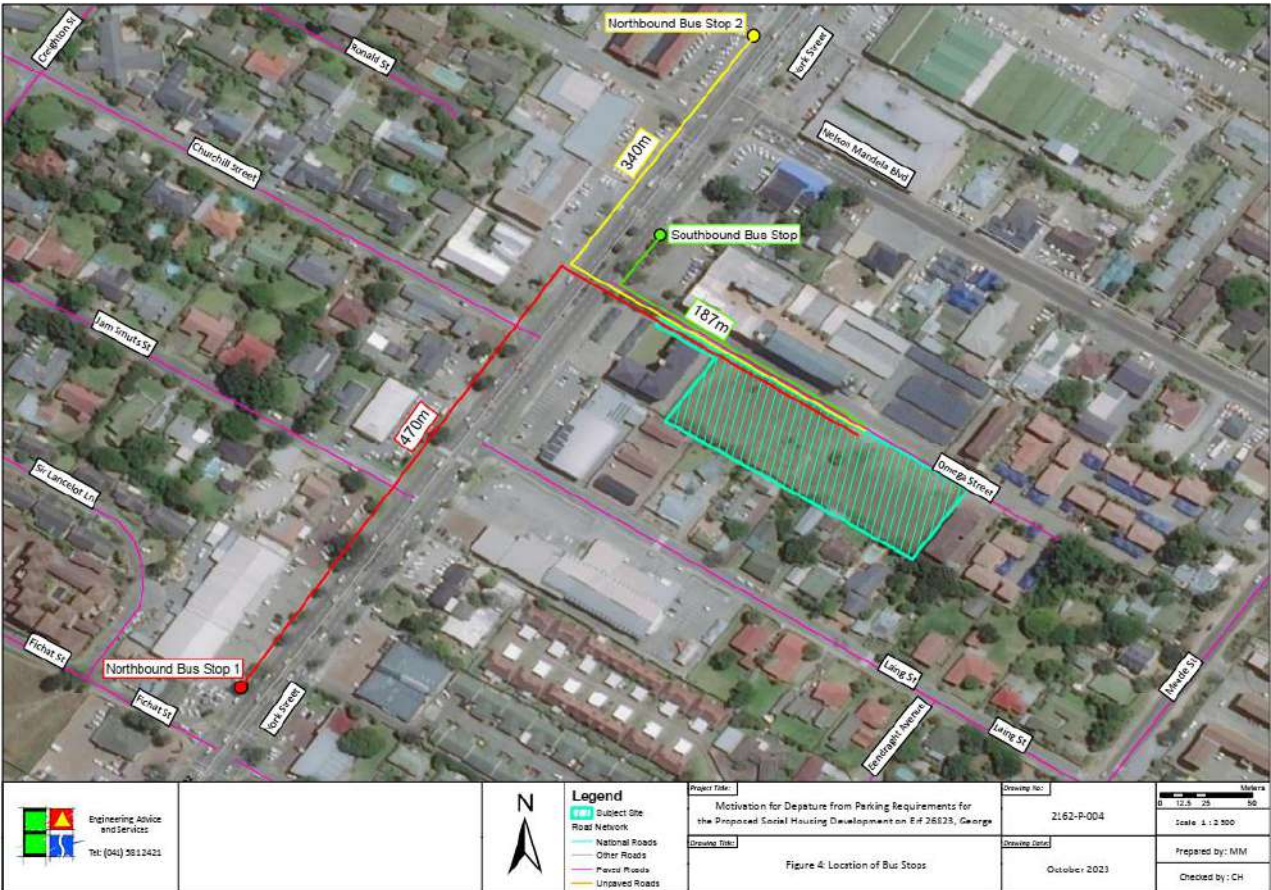


Figure 11: Location of bus stops relative to the proposed development

A total of 1 146 trips per direction operate along this route section each week. These routes operate between 1 and 8 times per hour with headways from 1 to 60 minutes as indicated in Table 14 below.



Route No	Route Name	Trips / Week	Ave Headway (min)	Ave No Trips/hr	Veh Capacity (AM)	Passengers Served (AM)
1A & 1A Exp	New Dawn Park – CBD	1146	8	8	1275	932
1B	Harmony Park – CBD		10	4	825	649
60	Rosedale – CBD		1	5	225	173
60A	Syferfontein (via Rosedal) – CBD		60	1	1125	750

Table 14: Go George Bus Operations – York Street

Data provided indicates approximately 74% occupancy on average during the AM peak period. There is thus sufficient capacity available to accommodate residents from the proposed development.

As stated in the Traffic Impact Assessment of Erf 26823, Omega Street, George, public transport stops are positioned less than 400m from the development on both sides of York Street.

The planned development is therefore within acceptable walking distance to public transport services.

#### 4.6 NON-MOTORISED TRANSPORT

The development is located withing 140m of York Street. Pedestrian sidewalks are in place along the southern side of Omega Close (adjacent the development). It is recommended that the sidewalk facility be extended to the planned development entrance and that said facility complies with Universal Access standards prescribed by George Municipality.

The sidewalks provided along both sides of York Street facilitate easy access to the public transport stops close by or to the CBD to the north and other areas to the east and south. These areas are within 1.2km of the development which equates to a 15-to-20-minute walking distance.

This is particularly relevant given that tenants will likely be reliant on walk and public transport modes of transport to access employment, shops, schools and any other destinations in the area.

**Implications:** The locality of the proposed Social Housing scheme is ideally situated in terms of existing and planned public transport routes. Furthermore, the proposed development is located within close proximity to the CBD which is adequately provided with pedestrian friendly sidewalks and infrastructure.



## 4.7 Social Housing Car Ownership

Apart from standard qualification criteria key criterion for access to social housing is household income.

Currently qualifying household income ranges from R1 850 to R22 000 per month. Residential units are sized based on the aforementioned ranges which includes single bedroom or studio apartments (typically for single person beneficiaries) and the 2 or possible three bedroom (typically families).

Social housing developments are generally ideally located in areas that are close to places of work, schools, shops, recreational and other social amenities and perhaps most importantly access to transport services. These amenities are all located within close proximity to the proposed development.

Based on the qualifying criteria for beneficiaries of social housing units, it is clear that access is targeted at individuals and families it is unlikely that these tenants' own cars or have access to private cars.

The parking demand / utilisation and tenant movement in social housing complexes according to section 4.7 will provide further motivation to reduce parking requirements for this development.

## 4.7 PARKING ARRANGEMENTS

### 4.7.1. Parking Requirements – Status quo

The parking demand for social housing developments has been included in the George Integrated Zoning Scheme Bylaw 2023 and is set at 0.75 bays per residential unit plus 0.25 bays per unit for visitors.

**Note:** The PT1 area has not yet been proclaimed, and therefore the parking departure related to this application will be based on the prescribed 1.25 bays per dwelling and 0.75 visitors bays per dwelling. However, the application area is located within a restructuring zone and is situated within close proximity to the CBD and public transport routes. Therefore, as discussed in the pre-application/submission meeting held on the 19<sup>th</sup> of July 2023 the principles of the demarcated PT1 area were considered in favor of the proposed departure parking ratio.

The site falls within the area to be demarcated as PT1. The PT1 area is an area where the use of public transport is to be promoted but where the Council considers the provision of public transport to be adequate.

In this case, from the data provided – indicating that formal public transport services along York Street currently exist and are intended to expand in the future – it can be argued that public transport provision is sufficient to warrant a proposed reduction in parking provision.





Land Use	Normal Req't	PT 1 Area
Flats	0.75 / dwelling	0.5 / dwelling
	0.25 / unit for visitors	0.25 / unit for visitors

Table 15: Parking Requirements vs PT1 area

This would result in a reduced provision of 0.75 bays per residential unit. While this ratio can be argued to be adequate when considering a “normal” apartment building (flats) development, in which there is no restriction on levels of income and as such all residents would potentially own a car, it is submitted that it is excessive when considered in a social housing context, which by their very nature allow individuals or household with low incomes access to formal housing.

Residents within social housing developments must qualify for rental housing based on strict financial criteria. Such criteria typically result in a low car-ownership situation with residents generally dependant on public or non-motorised transport modes depending upon the location of the complex relative to destinations (i.e., schools, shops, places of employment).

It is also noted that typically, most, if not all, land use zoning schemes do not provide a category for Social Housing Developments in terms of parking provision. This is most likely because on the one hand social housing is a relatively new phenomenon.

Local authorities are also reluctant to depart from parking provisions, as it may result in a scenario in which demand exceeds supply on site and adjacent landowners or municipal areas are compromised with illegal parking.

#### 4.7.2. Parking Ratio Studies

In order to motivate that a reduction in parking provision over and above that allowed for in the PT1 and PT2 area would be justified, research into a number of case studies was conducted as follows:

- Parking utilisation surveys conducted at social housing developments in Gqeberha;
- Parking Supply and Utilisation Data – other SHIs, Cape Town
- Precedent parking studies conducted at social housing developments in Cape Town by others were reviewed;
- Review of other relevant literature/studies conducted;
- Assessment of peak hour vehicle trip generation rates considered; and
- Analysis of Tenant turnover.



#### 4.7.2.1 Parking Utilisation Surveys – Gqeberha

EAS conducted a study motivating for the relaxation of parking requirements related to Social Housing developments in Jeffreys Bay in the Gqeberha municipal area. This included parking demand surveys at a number of secure access controlled social housing complexes in Gqeberha on weekdays and Sundays during May 2021.

The sites were visited during early mornings on weekends and between 06:00 and 07:00 and 17:30 and 18:30 on weekdays (when residents would generally be at home).

The demand surveys were supplemented by information supplied by various social housing institutions that manage such complexes related to the number of units provided, the number of parking bays provided and the number of bays used by residents. In most cases, the residents pay a monthly fee to use a parking bay.

The parking supply and demand information was surveyed and sourced at the following complexes:

- Walmer Link, Gqeberha;
- Fairview Link, Gqeberha;
- Willowdene, Gqeberha; and
- Milkwoods, Walmer, Gqeberha;

The results of the sourced and surveyed parking demand information are summarised in Table 16.

Housing Complex	Units	Bays Provided	Bays Utilised	% Utilised Bays / Unit	Utilised Bays / Unit	Survey Demand Max Utilisation	Survey Demand Bays / unit
Walmer Link	347	347 + 9	148	43%	0.43	88	0.25
Fairview Link	512	425 + 18	280	55%	0.55	178	0.35
Willowdene	400	269 + 20	189	47%	0.47	189	0.47
Milkwood	630	609 **	371	59%	0.59	284	0.45
<b>Total/Average</b>	<b>1889</b>	<b>1697</b>	<b>988</b>	<b>49.4%</b>	<b>0.51</b>	<b>739</b>	<b>0.38</b>

(\*\* - Includes 294 grassed bays due to high ratio imposed by NMBM)

Table 16: Results of Parking Demand Survey

Analysis of the parking bay provision supplied by each complex across the 4 sites indicate provision of 1697 bays for 1889 units – 89%.

However only 58% of the provided bays are being utilised. In summary across the four sites, an average of 0.38 bays per unit are used, 739 bays against 1889 units – ranging from 0.25 to 0.47 bays per unit.





#### 4.7.2.2 Precedent Parking Ratio Studies

As part of a study for a Social Housing Development in Parow (Cape Town), reference was made to two historical parking utilisation studies, the results of which are contained in Table 20 below, as well as a market analysis study.

As indicated in Table 17, historic parking utilisation data indicates an average parking ratio of 0.34 bays per unit.

Development	Units	Parking ratio Bays provided per unit	Parking ratio Bays Utilised per unit
Winnie Mandela Drive <sup>(12)</sup>	568	Unknown	0.11
Kew Town <sup>(12)</sup>	320	0.15	0.14
Joe Slovo, Langa <sup>(12)</sup>	705	0.50	0.17
The Range <sup>(12)</sup>	288	0.60	0.19
Scottsdene <sup>(13)</sup>	500	0.53	0.34
Drommedaris <sup>(13)</sup>	219	0.54	0.42
Steen Villa <sup>(13)</sup>	630	0.70	0.50
Bothasig Gardens <sup>(13)</sup>	120	1.63	0.81
	<b>Average</b>	<b>0.66</b>	<b>0.34</b>
	<b>Average excluding Bothasig</b>	<b>0.5</b>	<b>0.32</b>

Table 17: Results of Parking Demand Survey

It is noted that the high parking utilisation at the Bothasig Gardens development can be attributed to the location of the development some distance away from formal public transport services compared to the other complexes referred to.

In addition, the study noted that the target market for social housing is lower-middle income households with a gross monthly income of R22 000. Such households typically have lower than average car ownership. The study further found that approximately 41% of households own or regularly use one vehicle. This equates to 0.41 bays per residential unit / household.

#### 4.7.2.3 Parking Supply and Utilisation Data – Other Social Housing Complexes

Own Haven also operates a complex in Belhar, Cape Town, as well as Southernwood Square and Reservoir Mews in East London and Park Towers in Gqeberha.

The results of the sourced parking utilisation information are summarised in Table 18. The results indicate that utilisation at Belhar in Cape Town equates to the average provision of 0.62 bays per unit as discussed in Section 4.7.2.2. above.

The provision and utilisation of parking at the two complexes in East London is at a ratio of 1 bay per unit. This can possibly be attributed to the fact that there is no formal public transport system operating in East London.

The utilisation of the Kew Town complex in Gqeberha is 0.15 bays per unit. It is however noted that this building is historically a hotel building in the Gqeberha CBD and parking on this site equated to 10% of the site are in terms of the Port Elizabeth Zoning Scheme.



Parking availability is thus limited and while tenants are not turned away on the basis of car ownership the building's parking provision is similar to all other high rise residential buildings in the CBD which have limited parking available.

Housing Complex	Units	Bays Provided	Bays Allocated	% Allocated / unit	Allocated Bays / unit	Bays Utilised	No Bays utilised / unit
Belhar	630	504	322	51%	0.51	395	0.62
Southernwood Square	249	249	249	100%	1.0	249	1.0
Reservoir Mews	430	430	430	100%	1.0	430	1.0
Park Towers	136	32	20	15%	0.18	20	0.15

Table 18: Results of Parking utilisation – Other SH Complexes

Source: Own Haven Housing Association

#### 4.7.2.4 Other Relevant Literature and Studies

A study prepared by The National Association of Social Housing Organisation (NASHO) on behalf of the City of Cape Town related to Transit Oriented Development (TOD) Corridors entitled **Affordable Rental Housing Incentives, Efficiencies and Facilitating Projects** concluded that in order to incentivise affordable housing developments, parking ratios need to be reduced – even in PT areas – as not doing so will mean that ever larger erf sizes will be required to meet the current requirements, something not generally possible in built-up corridors.

The report recommends that **in order to achieve reasonably sized developments that are viable to develop and operate, parking requirements for affordable developments (including social housing) should be reduced to a ratio of 0.35** – which is equivalent to the parking uptake among existing social housing developments.

#### 4.7.2.5 Peak Hour Trip Generation Rates

A further argument in support of reduced parking ratios must be considered when applying the approach used in the determination of peak hour vehicle trip generation rates for use when conducting junction capacity analysis as contained in the Technical Methods for Highways (TMH) 16 and 17 documents South African Traffic Impact and Site Assessment Manual and South African Trip Data Manual respectively.

In these manuals provision has been made to reduce trip generation rates for characteristics ranging from low or very low car ownership, proximity to public transport corridors and interchanges and mixed-use developments. Different rates for reduction of the trip generation rates have been determined for each land use category. For example, for social housing complexes with low car ownership and adjacent to public transport nodes/or corridors, the adjustment for low car ownership is set at -30% and for proximity to public transit - 15% - thus a combined reduction of 40.5%.



What is important to note is that generated peak hour trips include inbound and outbound trips.

#### **4.7.2.6 Social Housing Tenant Turnover**

A further aspect in support of reducing parking ratios for social housing facilities is that once residents have signed a lease to stay in the complex, they tend to remain for approximately three to four years before moving out.

An analysis of tenant numbers at the complexes managed by Own Haven indicates that on average, 30% of residents move out of the complexes every year.

Thus, there is a low probability of residents improving their financial spending capacity to afford a vehicle. It is more likely that that residents will move to a different location than to remain within the social housing system.

#### **4.7.2.7 Parking Study Summary**

The results of the various utilisation surveys described above, both recent and historical, as well as the arguments in terms of ensuring the viability of affordable housing developments, the location of the planned Omega Close development in proximity to the George CBD area, schools, shops and other amenities as well as along the GoGeorge Integrated Public Transport Network (IPTN) routes along York Street, it is considered that it would be desirable to reduce the parking requirement to 0.35 bays as recommended in the City of Cape Town - TOD Corridors report.

Based on the proceeding sections it is considered that it would be reasonable to reduce the parking requirement to 0.35 bays as recommended in the City of Cape Town - TOD Corridors report. Furthermore it is noted that this ratio is in line with the take-up at Social Housing developments in Cape Town - which has a strong formal public transport network.

It is further noted that utilisation at complexes in Gqeberha also averages 0.38 bays per unit in a city in which the public transport network has not yet evolved to the state of that in Cape Town or George.



## 4.8 CONCLUSION - TRAFFIC

### 4.8.1 Summary of findings

The following conclusions can be drawn from the study:

- The proposed 166-unit development is likely to generate an additional 21 AM and PM peak hour trips (compared to 42 trips generated by 64 units as assessed in the Traffic Impact Assessment of Erf 26823, Omega Street, George (1)) considering a reduction based on low car ownership of tenants and the development's proximity to the GoGeorge bus routes along York Street;
- The affected intersections all operate at acceptable Levels of Service (LOS) in terms of capacity when considering the additional peak hour trips generated by the planned Own Haven Social Housing development added to the escalated background and latent traffic volumes for the 2025 development horizon provided that signal phasing be adjusted during the PM peak hour at the York Street / Fitchat Street intersection;
- Access to the site can safely be provided from Omega Close Road as proposed in the Traffic Impact Assessment of Erf 26823, Omega Street, George (1);
- The site is located close to a major public transport corridor (York Street) 140m away and nearby bus stops on York Street (190m southbound and 340m northbound) served by the GoGeorge bus service on a regular basis through the day;
- Pedestrian sidewalk facilities, in line with universal access standards, can be extended to the development access point;
- Tenant criteria for access to social housing units, in the main householder incomes, lends to low carownership – evident in location of such facilities in areas close to public transport opportunities, which supports a reduction in the parking requirement;
- The current GoGeorge public transport service along York Street supports a reduction in the parking requirement;
- Investigation of historical parking utilisation data at social housing complexes in Cape Town and Gqeberha indicates that a parking ratio of 0.35 bays per unit is reasonable and also improves the viability of social housing developments; and
- The provision of a notarial tie between erf 26823 and erf 2911, George such that shared parking for the housing development residents can be provided on erf 2911 facilitates an increase in the parking ratio to 0.5 bays per unit; and
- Overflow public parking generated by other sites currently make use of erf 26823, George and can be provided along the frontage of the site.

### 4.8.1 Recommendations

In view of the findings of this study, it is recommended that:

- This TIA Addendum be approved by the George Municipality;
- Access and egress to and from the proposed development be provided on



Omega Close as proposed in the Traffic Impact Assessment of Erf 26823, Omega Street, George (1);

- The access gate be set back 6.5m from the road edge and that the access be configured with one entering lane given that access control will be by means of remote-control technology;
- Pedestrian sidewalk facilities, in line with universal access standards, be provided in Omega Close from York Street up to the development access point;
- The verge along the proposed development be reconfigured to accommodate parallel public parking bays for use by the general public; and
- The developer submits an application to the George Municipality to depart from the requirement for parking provision for social housing from 1 bay per residential unit to 0.5 bays per residential unit, subject to a notarial tie between erf 26823 and erf 2911, George such that shared parking for the housing development residents can be provided on erf 2911.





## SECTION 5

## THE DEVELOPMENT PROPOSAL

## 5.1 URBAN DESIGN NARRATIVE / PROPOSED DEVELOPMENT

Jakupa Architects and Urban Designers prepared the urban design narrative in support of the proposed development (refer Annexure H).

The development proposal for this project recognises the significance of providing an opportunity for lower income families to gain access to the services, facilities and amenities of George's CBD. It is also recognised that this project will set a precedent for the goals of achieving equity and spatial justice. The design proposition is to provide a quality building that is safe and contribute positively to the aesthetics of the neighbourhood and give effect to the municipality's Urban Design Policy.

## 5.2 DEVELOPMENT RATIONALE

Human settlement, is much more than housing, it has by definition included the following principles that support the proposed spatial qualities of place:

- **Places Matter Most:** Places are much more important than individual buildings, but rather an integration of uses (i.e. traffic, the CBD, community facilities etc). The objective is to create an attractive and interesting place that is shaped by human scale, qualitative [phenomenological] and functional organization of the site, enriching the physical experience of the development by both its occupants and passers-by. The potential of the broader contextual area already includes key qualitative principles from which to draw inference.
- **Craft is King:** Attention to the existing grain and texture of the urban form must be complemented by the process of making/creating place. The overarching goal is to avoid crass built forms shaped by reductive technocratic solutions.
- **People and Space Integration:** User experience and integration with the existing morphology will be encouraged to enhance the genius loci.
- **Community over Time:** Systematical thinking and incremental development will provide the opportunity for development / growth of the community and inform the shape / character of the area over time. Sustainability [social, economic, environmental, resource] is to be treated as a matter of course, furthermore, we argue that the proposed development should allow for flexibility in accommodating a changing program that may be influenced by changing needs over time.
- **Sustainability:** Sustainability in the instance, revolves around the relationship of settlement in challenging social, economic and spatial ecologies and will be negotiated at the intersection of safety and place making. A "healing the land" philosophy is an appropriate conceptual framework for the considered preparation of the land to receive its people with dignity. Sustainability therefore begins with the fact that this development will accommodate lower income people at a well-located site close to a wide range of amenities in



George's CBD and have access to the significant GoGeorge public transport systems.

This is substantiated by entrenching ecological systems into the site development plan through building sustainable drainage systems [SUDS] principles into the design and layer it with social practice before applying other sustainability principles.

Place making is built into the form of the building. The design intent is to add qualitative considerations such as edible landscapes, recreational spaces for different age groups, supplemented with photovoltaic systems. Heat gain and heat loss will also be managed through the orientation of buildings and fenestration.

### 5.3 DESIGN PRINCIPLES

The principles that informed the above layout and unit typologies are listed and explained below:

- Perimeter block model: The perimeter block model allows for a gradation of interface with its context from the public realm to a private space within the built form. The proposed building configuration also facilitates a sense of community. The design is centred around two courtyards that allows for a safe and semi-private realm that is dedicated to people-oriented to use such as play and recreation areas. The parking area includes a variety of textures that allow for multi-functional use of space.
- Interface + Liturgy of Space: The street interface along Omega Close includes public facing uses predominantly reserved for the residents of the proposed development. This ensures activation of the street edge along Omega Close.

The uses proposed includes the primary entrance and management offices. A paved space is provided in front of the entrance for trees, a bench and a bicycle stand to make this a convivial space for both residents and visitors alike.

- Multifunctional courtyards: The three courtyards are not only functional in its accommodation of parking, SUDS systems and allowing sun to penetrate the development, it also functions as a place for people.



Figure 12: Examples of multi-functional courtyards

- Sustainability: Promote principles of sustainability wherever possible across the development. The building is orientated towards the sun to orientate higher order spaces (courtyards) towards the sun to ensure maximum light and thermal exposure. It is envisaged that a photovoltaic system is installed to generate electricity to supply the emergency lighting system and provide solar energy to generate power for a heat pump to the hot water supply.

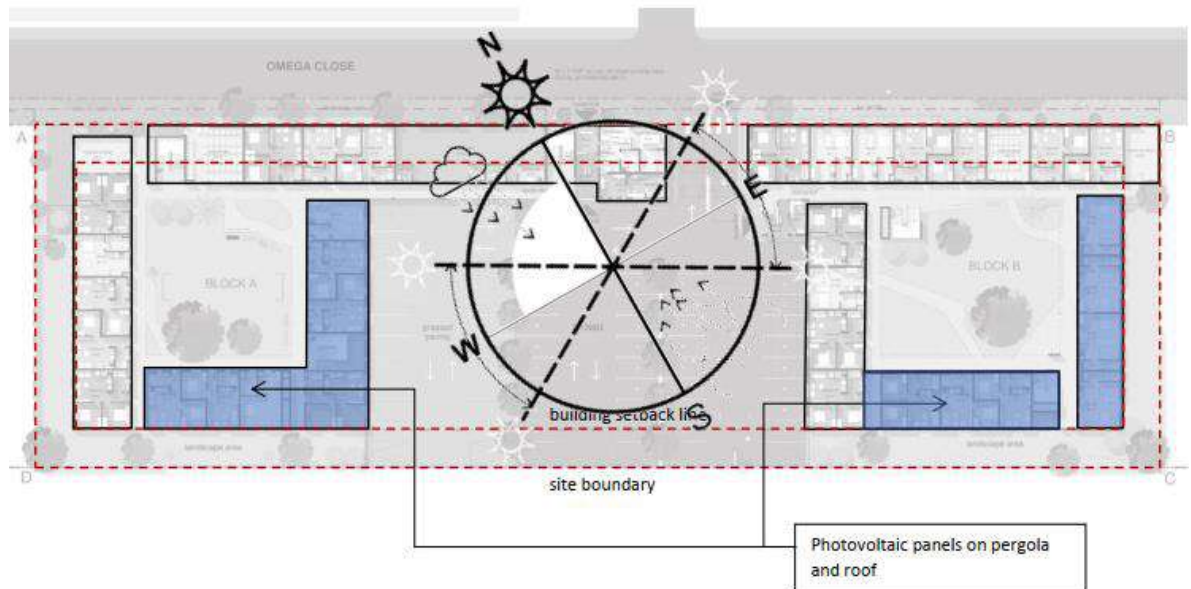


Figure 13: Sun-path (Photovoltaic panels)

- Occupying the roof: Utility spaces (laundry, drying facilities, etc.) and community gardens will be accommodated on the roof. The roof is imagined as a fifth elevation and will be treated as a designed element that the neighbouring residential apartment block will look down onto.

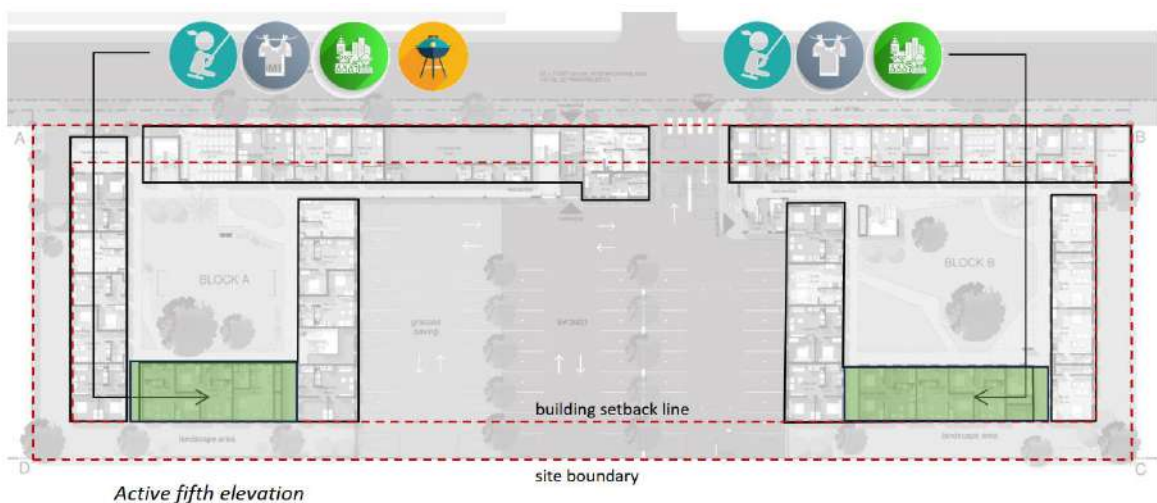


Figure 14: Roof top utilities and community garden



- Safety + Management Systems: The facility requires pro-active planning in terms of access and security management. Provision will be made for a permanent manned security service to control entry and provide surveillance at the entrance and throughout the development. A significant challenge for this site is that there is very little activity after hours. The development is designed that the façade fronts onto the street for improved surveillance. Security will also be managed across the site through the latest technologies available such as facial recognition systems and a manned CCTV system.

### 5.3 PROPOSED SITE LAYOUT COMPOSITION

The design proposition is organised around wrapping accommodation around three multi-functional courtyards. The layout presents a public interface to the street through its organisation of building entrance functions and street facing windows, entrance for vehicles and a pedestrian entrance with its associated equipment.

The circulation for tenants has been efficiently organised around five vertical circulation (stairs) points that are fire compliant. The layout of units is then rationally organised around the circulation patterns.

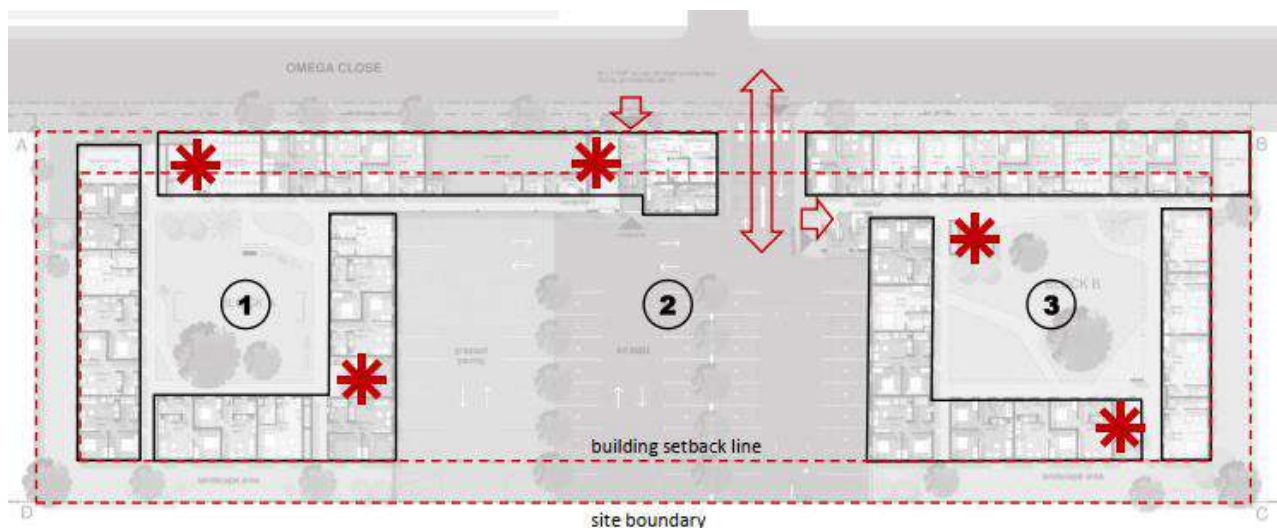


Figure 15: Proposed site layout Composition

The proposal has largely been developed within the various building line setbacks except for the street facing building line and the common eastern boundary, where it is proposed that the building be extended up to the site boundaries. This is done to create an intimate interface with the street edge as well as to accommodate parking and the required number of units to create a viable scheme. A rational and orthogonal layout of the building form is then extruded up to five levels.



## 5.4 PROPOSED LAND USES

The ambition of the proposal is to establish a vibrant environment for tenants that supports a wholesome environment integrated into its context. In support of this ambition, provision has been made for both outward and inward facing facilities that go beyond simply providing a play to stay.

The immediate context is dominated by institutional buildings and infrastructure-biased land uses. Omega Street is relatively placeless with no infrastructure to support people despite the neighbouring housing apartment blocks on either side of the site.

- Entrances, a resident meeting room and management offices are organised to dominate the street interface in an attempt to improve the street interface that will be further enhanced with the planting of indigenous trees and installation of seating outside this space to facilitate activity on the sidewalk.
- The design concept is to establish courtyards that will accommodate a safe place for tenants as semi-private space and house a variety of activities.
- It is acknowledged that the proposed development will accommodate various age groups and therefore need to make space for the target groups to undertake group activities such as: play equipment for young kids; marking out the hardened parking area to be used by teenagers for kicking a soccer ball, play street cricket or one-on-one basketball.
- Given the limited extent of the site and a maximum building height of 15m, the roof space will be used to accommodate drying yards, and if found to be feasible and sustainable, an urban vegetable garden and a garden roof space.
- An on-site security office will be provided from where the access control and CCTV systems will be managed.
- Finally, an onsite management office will be included in the design from where Own Haven will provide all site maintenance & upkeep and tenant management functions.





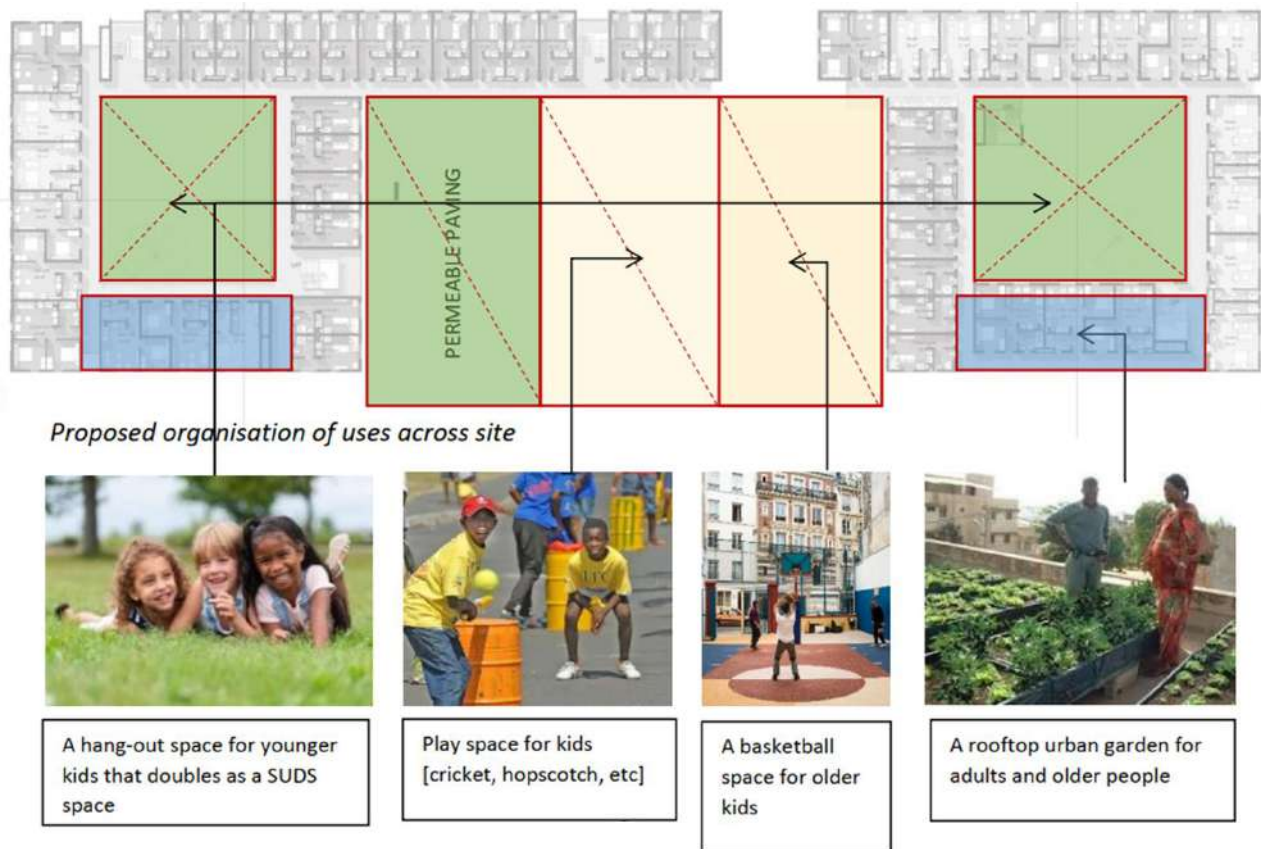


Figure 16: Proposed organisation of uses across site

Over and above the people-facing facilities, the development will accommodate a range of sustainability focused infrastructure that will include photo-voltaic systems, water and electricity metering systems, and a refuse recycling facility.

## 5.5 LANDSCAPING

Both hard and soft landscaping will be functional (as opposed to ornamental) and in support of Sustainable Urban Drainage Systems (SUDS) that aim to minimise stormwater run-off and allow for infiltration into the ground.

The planting palette will be derived from an indigenous water-wise planting list with minimal grassed areas. Similarly, the paving palette for the hard courtyards will include permeable paving options to accommodate water infiltration into the ground.

Vegetable planter boxes / Community gardening facilities will be accommodated on the rooftops in two locations that also functions as drying yards.

Trees will be planted for shade and hedges to promote privacy and an opportunity to soften neighbouring walls and palisade fences.





Figure 17: Proposed landscape plan

## 5.6 UNIT TYPOLOGIES AND LAYOUT

Units are arranged in both single and double banked configurations with consolidated vertical services ducts. The various unit types are distributed across the plan with the following ratios:



Figure 18: Ground Floor Layout





<b>BLOCK A</b>	ground floor	1st floor	2nd floor	3rd floor	total	%
studio	3	4	4	4	15	17%
1-bed	6	12	12	4	34	39%
2-bed	4	6	6	2	18	20%
2-bed duplex	0	0	0	21	21	24%
	13	22	22	31	88	100%

<b>BLOCK B</b>	ground floor	1st floor	2nd floor	3rd floor	total	%
studio	9	8	8	7	32	41%
1-bed	4	6	6	6	22	28%
2-bed	5	5	5	2	17	22%
2-bed duplex	0	0	0	7	7	9%
	18	19	19	22	78	100%

	31	41	41	53	166	total
--	----	----	----	----	-----	-------

Table 19: Unit typologies (Ground floor - 3<sup>rd</sup> Floor)

Figure 19: Typical unit Layout



Each of these unit types have been tried and tested at Conradie Park (Cape Town) and meets SHRA standards and specifications. Importantly, the units are also financially viable to develop and sufficiently robust to manage and maintain over the long term.

## 5.8 DEVELOPMENT PROPOSAL

The George Integrated Zoning Scheme By-law, 2023 development parameters for “Flats” applicable to the proposed development are outlined below:

- **Building Lines:** The proposed development will require a departure of the permissible 5m street boundary line and a departure of the 4.5m eastern common boundary.



Figure 20: Proposed Building Line Departures

- **Coverage:** The proposed building does not exceed the permissible 60% coverage and the total coverage is only 46% of the entire site.
- **Floor Factor:** The proposed floor factor is 1.38. The permissible floor factor is 2 and therefore no floor factor departure is required.
- **Parking:** As set out in Chapter 3 of this report, a parking ratio of 0.35 bays per unit in lieu of 2 bays per unit is required to ensure viability of the proposed Social Housing scheme and ensure integration with the public transport systems. The proposed development is located within the CBD and will in the future be subject to the provisions of the PT1 ratios.

There are sufficient existing integrated transport solutions and therefore an over supply of parking on-site is counterproductive to the future planning objectives of the George Municipality Transit Orientated Development Plan.

- **Height:** The building does not exceed the permissible 15m as prescribed, and the water storage indicated in the SDP does not exceed 2.1m in height as prescribed



in Section 21 and Section 27 of the George Integrated Zoning Scheme By-law 2023. Refer sections of the building



Figure 21: Building relative to permissible height



Figure 22: Boundary Wall height 2.1m

## 5.9 CONCLUSION – DEVELOPMENT PROPOSAL

The proposed development largely adheres to the development parameters for “Flats” as prescribed in the George Integrated Zoning Scheme By-law, 2023.





**SECTION 6****DESIRABILITY OF THE DEVELOPMENT PROPOSAL****6.1 DESIRABILITY CRITERIA IN TERMS OF SECTION 65 OF THE LAND USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY, 2023**

The proposed human settlement development was assessed in terms of the following desirability criteria:

- The proposal is consistent with the relevant **Spatial Policy** directives;
- The proposed development **responds positively to the urban form** of the surrounding urban environs (predominantly residential / business) and is regarded as a **sound contextual fit** for the proposed social housing development.
- The proposed development is **located extremely well in terms of public transport** services and **promotes walkability** within the central business district of George.
- Impacts on **environmental resources is minimal** and will not adversely affect the surrounding environs;
- The proposed development **will contribute towards socio-economic upliftment** of the existing community through the process of social housing;
- The development will **improve safety and welfare of the community**, providing upgraded and improved access to services;
- The proposed development was thoroughly assessed in terms of **traffic impact and impact on engineering services infrastructure**. Parking departures are required to make the scheme viable, however, the proposed development will integrate well with the existing urban structures and mobility networks.



## 6.2 PLANNING PRINCIPLES – LAND USE PLANNING ACT (LUPA, 2014)

LUPA (2014) includes a series of land use principles that should guide development in the province. The planning principles were reviewed and the proposed development assessed. It is concluded that the proposed development is fully compliant with the planning principles prescribed in LUPA (2014), as follows:

Land Use Planning Principles (LUPA, 2014)	Compliance/ Response
<b>Spatial Justice</b>	The proposed development creates opportunities for previously disadvantaged communities. The development will integrate well with the urban environs and community services. The development will align with objectives of spatial transformation and access to opportunities in well-located areas, acknowledging the locational significance of the site and investing in the improvement of the area with a social housing scheme.
<b>Spatial Sustainability</b>	The proposed social housing scheme is located within the George CBD and therefore no impact on the immediate bio-physical area is foreseen.
<b>Efficiency</b>	The proposed development aligns with the principle of efficiency, as it promotes densification of the existing urban form, optimal utilisation of bulk and link services and public transport infrastructure.
<b>Good Administration</b>	The application is submitted in terms of the relevant legislation and will be processed accordingly. An integrated transparent process has been undertaken to date, and will continue throughout the project roll-out, to ensure participation from all relevant stake holders. All reasonable measures will be undertaken to ensure a streamlined process, as required and promoted in terms of the relevant legislation.
<b>Spatial Resilience</b>	The proposed development is based on robust spatial principles that allow for flexibility in terms of land use allocations. The development also incorporates safety and risk assessment to ensure that it can withstand natural disasters, i.e. flooding, etc.

Table 20: Compliance with LUPA Principles



**SECTION 7****RECOMMENDATION**

The development as motivated in this report, provides an excellent opportunity for a social housing development that is integrated with the existing town and public transport infrastructure. The proposed Social housing concept will also provide much needed housing opportunities for the rental market in George Municipality.

Together with the improvement in quality of life that will be afforded to the qualifying applications within the community, the proposed development will provide the opportunity to alleviate pressure on housing delivery and contribute towards achieving the objectives of the Council, namely to ensure sustainable living conditions for the local community.

It is therefore proposed that the applications listed below be approved:

- i. Approval of a Site Development Plan in terms of Section 15(2)(g) to establish a social housing development on Erf 26823, George as per the regulation of Section 23 of the George Integrated Zoning Scheme By-Law, 2023.
- ii. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 5m along the Omega street boundary line.
- iii. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 4.5m along the eastern common boundary line.
- iv. To permit a reduced parking ratio in terms of Section 15(2)(b) of 0.5 bays per unit in lieu of 2 bays per unit (a notarial tie will with Erf RE/2219, George to achieve this ratio).



## **Annexure A**



PLANNING & ECONOMIC DEVELOPMENT

## MEMORANDUM

8/7/5

**4<sup>th</sup> August 2023**

**Planning and Economic Development**

**Reference:**

**Date:**

**Office:**

**To: The Office of the Municipal Manager: Mr Monde Stratu**

**From: Manager: Human Settlements: Mr Joel Mkunqwana**

**Copies: Executive Manager: Planning and Economic Development, Mr Lusanda Menze**

**Re: SPECIAL POWER OF ATTORNEY BY GRDM MM – LAND USE APPLICATION ON ERF 26823, OMEGA STREET, GEORGE: SITE DEVELOPMENT PLAN AND DEPARTURES FOR CONSTRUCTION OF A SOCIAL HOUSING DEVELOPMENT**

This serves as a formal request for approval of confirmation of Special Power of Attorney to be concluded by the office of the GRDM Municipal Manager, Mr M Stratu. This will be used by the appointed professional team appointed by Own Haven Housing Association.

Own Haven in its capacity as the formal social housing development partner of the GRDM has to date been engaging the George Municipality for a formal application and approval of Site Development Plan (SDP) with the prior formal authority of the GRDM. The process has now reached a point relative to this SDP application which necessitates that a Land Use Application for erf 26823, Omega Street, George, be formally made in terms of George Municipality's Land Use Planning By-Law. This requires a developer or owner of the affected property to trigger such a consideration by the affected Municipality.



Appended here-in is the related form of the Power of Attorney to be concluded by the office of the MM which will authorise either of the appointed professional team represented by both Messrs H Papenfus/Gerhard Swart of Urban Dynamics South Cape Pty Ltd.

**INITIATOR OF MEMORANDUM**



**APPROVED**



**NOT APPROVED**



**MG STRATU**

**MUNICIPAL MANAGER**

**DATE:** 8/8/2023

# SPECIAL POWER OF ATTORNEY

\*I/We ..... Mr Monde Stratu .....

..... the undersigned

do hereby nominate, constitute and appoint

**Hermanus Papenfus / Gerhard Swart**

of

**Urban Dynamics South Cape Pty Ltd**

with power of Substitution to be \*my/our lawful representative in \*my/our application for:

**To prepare and submit a land use application on Erf 26823 in terms the Land Use Planning By-Law for the George Municipality, 2023 to obtain approval for:**

- **A site development plan and related permanent departures for the purposes of constructing a social housing development.**


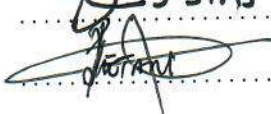
To represent \*me/us at any inquiry in relation to the abovementioned matters and generally do whatever may be necessary or desirable to procure the approval of the application, by virtue of those present and whatever our said representative have to date done herein.

Signed at GEORGE on this 08<sup>TH</sup> day of AUGUST 2023

Signed  .....

In the presence of the undersigned witnesses:

As Witnesses:

 S. SIMS  


<sup>1</sup> \*Delete whichever is not applicable

**EXTRACT FROM THE DRAFT MINUTES OF A COUNCIL MEETING OF GARDEN ROUTE DISTRICT  
MUNICIPALITY HELD IN THE CA ROBERTSON AND VIA ZOOM ON 12 DECEMBER 2023 AT 09:00**

**H. REPORTS FROM THE PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT / ITEMS  
VANAF DIE BEPLANNING EN EKONOMIESE DIENSTE DEPARTEMENT / IMIBA YESEBE  
LEZICWANGCISO KUNYE NOPHUHLISO LOQOQOSHO**

**H.1 APPROVAL OF A NOTARIAL LINK AND DUAL UTILISATION OF PARKING FACILITY, ERF  
2219 – SOCIAL HOUSING PROJECT, OMEGA STREET: OWN HAVEN HOUSING  
ASSOCIATION / GOEDKEURING VAN 'N NOTARIALE VERBINDING EN DUBBELE GEBRUIK  
VAN PARKERING - GERIEWE, ERF 2219 – MAATSKAPLIKE BEHUISINGSPROJEK,  
OMEGASTRAAT: "OWN HAVEN BEHUISINGS ASSOSIASIE / UKUVUNYELWA  
KWENKCAZELO YE-NOTARIAL LINK KUNYE NOKUSETYENZISWA KABINI KWENDAWO  
YOKUPAKA, ERF 2219 – IPROJEKTHI YEZINDLU ZENTLALO, ISITALATO sase-OMEGA:  
OHHA**

*Refer Report from the Executive Manager Planning and Economic Development (L Menze / Manager Human Settlements (J Mkunqwana) (pg 300-308)*

**RESOLVED**

- 5.1 That Council takes note that OHHA has advised that the George Municipality now prefers reversion to 0,75 relative to parking ratios which will reduce the overall planned quantity unit yields. However, further motivation has been submitted to approve 0,5 bays per unit.
- 5.2 That Council takes note that OHHA requires reversion to 0,35 parking ratio per unit in line with their detailed Traffic Impact Assessment and Parking Study that was submitted as part of the SDP exercise which renders an overall yield of 166 units.
- 5.3 That Council approves that a Notarial Link authorising use of a portion of the GRDM' Erf 2219, Omega Street to accommodate 24 parking bays to be used on a dual basis be authorised and concluded with OHHA.
- 5.4 That Council approves that the notarial link and associated lease be made available at a nominal amount per annum to not further impact the project financial viability.



---

**Adv. S Maqekeni**  
**Secretary of Council**

Confirmed Extract

## **Annexure B**



# GEORGE MUNICIPALITY



## APPLICATION FORM FOR APPLICATION SUBMITTED IN TERMS OF THE LAND-USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY

**NOTE:** Please complete this form using BLOCK capitals and ticking the appropriate boxes.

### PART A: APPLICANT DETAILS

First name(s)	Hermanus Hendrik		
Surname	Papenfus		
SACPLAN Reg No. (if applicable)	Pr. Pln A/2796/2019		
Company name (if applicable)	Urban Dynamics South Cape		
Postal Address	PO Box 2445, Bellville,	Postal Code	7535
Email	manie@udwc.co.za		
Tel	021 948 1545	Fax	n/a
		Cell	060 994 0036

### PART B: REGISTERED OWNER(S) DETAILS (if different from applicant)

Registered owner	MUN GARDEN ROUTE DISTRICT		
Address	The Office of the Municipal Manager, Garden Route District Municipality		
	54 York Street, George, Western Cape	Postal code	6529
E-mail			
Tel		Fax	
		Cell	

### PART C: PROPERTY DETAILS (in accordance with Title Deed)

Property Description [Erf / Erven / Portion(s) and Farm number(s), allotment area.]	Erf 26823, George
--	-------------------

Physical Address	Omega Close, George				
GPS Coordinates	33°57'55.1"S 22°27'11.7"E		Town/City	George	
Current Zoning	General Business IV	Extent	5469m <sup>2</sup>	Are there existing buildings?	Y N
Current Land Use	Vacant				
Title Deed number & date	T30615/2020				
Any restrictive conditions prohibiting application?	Y	N	If Yes, list condition number(s).		
Are the restrictive conditions in favour of a third party(ies)?	Y	N	If Yes, list the party(ies).		
Is the property encumbered by a bond?	Y	N	If Yes, list Bondholder(s)?		
Has the Municipality already decided on the application(s)?	Y	N	If yes, list reference number(s)?		
Any existing unauthorized buildings and/or land use on the subject property(ies)?	Y	N	If yes, is this application to legalize the building / land use?	Y	N
Are there any pending court case / order relating to the subject property(ies)?	Y	N	Are there any land claim(s) registered on the subject property(ies)?	Y	N

#### PART D: PRE-APPLICATION CONSULTATION

Has there been any pre-application consultation?	Y	N	If Yes, please complete the information below and attach the minutes.		
Official's name		Reference number		Date of consultation	

#### PART E: LAND USE APPLICATIONS IN TERMS OF SECTION 15 OF THE LAND USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY & APPLICATION FEES PAYABLE

**\*Application fees that are paid to the Municipality are non-refundable and proof of payment of the application fees must accompany the application.**

#### BANKING DETAILS

Name: George Municipality  
Bank: ABSA



Branch no.: 632005  
 Account no.: 01022220981  
 Type: Cheque  
 Swift Code: ABSAZAJCPE-SORTCODE 632005  
 VAT Registration Nr: 4630193664  
 E-MAIL: ronel@george.org.za  
 \*Payment reference: Erven , George

#### PART F: DETAILS OF PROPOSAL

Brief description of proposed development / intent of application:

Application for SDP submission and related departure applications.

#### PART G: ATTACHMENTS & SUPPORTING INFORMATION FOR LAND USE PLANNING APPLICATIONS

Please complete the following checklist and attach all the information relevant to the proposal. Failure to submit all information required will result in the application being deemed incomplete.

Is the following compulsory information attached?

Y	N	Completed application form	Y	N	Pre-application Checklist (where applicable)
Y	N	Power of Attorney / Owner's consent if applicant is not owner	Y	N	Bondholder's consent
Y	N	Motivation report / letter	Y	N	Proof of payment of fees
Y	N	Full copy of the Title Deed	Y	N	S.G. noting sheet extract / Erf diagram / General Plan
Y	N	Locality Plan	Y	N	Site layout plan

Minimum and additional requirements:

Y	N	N/A	Conveyancer's Certificate	Y	N	N/A	Land Use Plan / Zoning plan
Y	N	N/A	Proposed Subdivision Plan (including street names and numbers)	Y	N	N/A	Phasing Plan
Y	N	N/A	Consolidation Plan	Y	N	N/A	Copy of original approval letter (if applicable)
Y	N	N/A	Site Development Plan	Y	N	N/A	Landscaping / Tree Plan
Y	N	N/A	Abutting owner's consent	Y	N	N/A	Home Owners' Association consent
Y	N	N/A	Copy of Environmental Impact Assessment (EIA) / Heritage Impact Assessment (HIA) / Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) / Major Hazard Impact Assessment (MHIA) / Environmental Authorisation (EA) / Record of Decision (ROD)	Y	N	N/A	1 : 50 / 1:100 Flood line determination (plan / report)

			( <del>strikethrough irrelevant</del> )				
Y	N	N/A	Services Report or indication of all municipal services / registered servitudes	Y	N	N/A	Required number of documentation copies <b>2 copies</b>
Y	N	N/A	Any additional documents or information required as listed in the pre-application consultation form / minutes	Y	N	N/A	Other (specify)
<b>PART H: AUTHORISATION(S) IN TERMS OF OTHER LEGISLATION</b>							
Y	N/A	National Heritage Resources Act, 1999 (Act 25 of 1999)					Specific Environmental Management Act(s) (SEMA)
Y	N/A	National Environmental Management Act, 1998 (Act 107 of 1998)					(e.g. Environmental Conservation Act, 1989 (Act 73 of 1989), National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004),
Y	N/A	Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)		Y	N/A		National Environmental Integrated Coastal Management Act, 2008 (Act 24 of 2008), National Environmental Management: Waste Act, 2008 (Act 59 of 2008),
Y	N/A	Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) (SPLUMA)					National Water Act, 1998 (Act 36 of 1998)
Y	N/A	Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations					( <del>strikethrough irrelevant</del> )
Y	N/A	Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)		Y	N/A		Other (specify)
Y	N	If required, has application for EIA / HIA / TIA / TIS / MHIA approval been made? If yes, attach documents / plans / proof of submission etc. <b>N/A</b>					
Y	N	If required, do you want to follow an integrated application procedure in terms of section 44(1) of the Land-Use Planning By-law for George Municipality?					



**SECTION I: DECLARATION**

I hereby wish to confirm the following:

1. That the information contained in this application form and accompanying documentation is complete and correct.
2. The Municipality has not already decided on the application.
3. I'm aware that it is an offense in terms of section 86(1)(d) to supply particulars, information or answers in an application, knowing it to be false, incorrect or misleading or not believing them to be correct.
4. I am properly authorized to make this application on behalf of the owner and (where applicable) copies of such full relevant Powers of Attorney/Consent are attached hereto.
5. I have been appointed to submit this application on behalf of the owner and it is accepted that correspondence from and notifications by the Municipality in terms of the by-law will be sent only to me as the authorised agent and the owner will regularly consult with the agent in this regard (where applicable).
6. That this submission includes all necessary land use planning applications required to enable the development proposed herein.
7. I confirm that the relevant title deed(s) have been read and that there are no restrictive title deed restrictions, which impact on this application, or alternatively an application for removal/amendment/suspension forms part of this submission.
8. I am aware of the status of the existing bulk services and infrastructure in the subject area and that I am liable for any possible development charges which may be payable as a result of the proposed development.

Applicant's signature:



Date:

04/08/2023

Full name:

Hermanus Hendrik Papenfus

Professional capacity:

Town Planner

SACPLAN Reg. Nr:

Pr. Pln A/2796/2019)

**FOR OFFICE USE ONLY**

Date received:

--

Received by:

--

Receipt number:

--

Date application complete

--

**ANNEXURES**

**Please do not submit these Annexure exemplars with the application form.**

Annexure A: Exemplar of locality plan (consult guidelines for precise requirements)

Annexure B: Application submission checklist

Annexure C: Exemplar of typical layout plan (consult guidelines for precise requirements)

Annexure D: Examples of required documents



## **Annexure C**

**A. VIR AKTEBESORGER SE GEBRUIK / FOR CONVEYANCER'S USE:**

(a) Gelyktydiges met ander registrasiekantore/deelhelte: Simult with other registries/sectional titles:

Kode	Firma / Firm	Eiendom / Property	Kantoor / Office
1			
2			
3			
4			

(b) Klant afskrifte van akte permanent in Aktekantoor gelasseer: Client copies of deed filed permanently in Deeds Office:

Aard en nommer van akte Nature and number of deed	Omslag nr. Cover no.	Parawe van ondersoekers Initials of examiners

(c) Notas / Notes:

**BEAANTWOORDE KANTOOR GEBRUIK / FOR DEEDS OFFICE USE:**

-10-2020

**YOLAND OLIVIER**

Interdikte nagesien deur  
Interdicts checked by

Datum  
Date

Interdikte nagesien deur  
Interdicts checked by

Datum  
Date

Kantoor instruksies / Office instructions:

Seksie / Section:

Opmerkings Remarks	Paraaf Initials
(1) Dorp goedgkeurde (proklameer) Township approve (proclaimed)	
(2) Begraving Burial	
(3) Begraving Burial	
(4) Voorwraad Condition	
(5) Mikro Micro	
(6) Algemene plan General Plan	
(7) Tiesels Title deed	
(8) Verbode teen dorpsdeel Bonds against township title	
(9) Datum nagesien Date checked	

Deeds Reg A/C No.  
CTN  
**52**  
Akte Kant Rek. Nr.

**BISSET  
BOEHMKE  
MCBLAIN**  
TELEPHONE (021) 441-9800 TELEFOON

UITVOERING / EXECUTION

Ref. No./Verw. Nr. VS886

**LODGED**  
22-09-2020  
**INGEDIEN**

Datum van indiening/Date of lodgement

RCC 17/11/2020

Ondersoekers / Examiners	Kamers/ Rooms	Skakeling / Linking	Verwerp/ Reject	Passeer / Pass
1. H. Zitha				
2. M. H. SLO 1124				
3.				

**VIR AKTEBESORGER SE GEBRUIK / FOR CONVEYANCER'S USE:**

Aard van Akte / Nature of Deed: Transfer  
M. SLO & Jordim IN P. SLO  
t.g. n.f.o.  
Garden Route District Munc.  
CCBISC

T 000030915 / 2020

Skakeling / Linking	Titelaktes, ens. binne / Title deeds, etc. within
1	1
	T 66026 / 2016

GELYKTYDIGES / SIMULS				
No. in stel/batch	Kode	Name van Partye / Names of Parties	Naam van Firma / Name of Firm	Firma/ Firm No.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

**HANDED IN FOR EXECUTION**  
05 OCT 2020  
CAPE TOWN  
**HANDED IN FOR EXECUTION**

080007303764

Registration versoek deur:  
Registration requested by: MICHELLE VAN VYK

Datum:  
Date: 6/10/2020

Form beskrywing van eiendom (slegs para 1 in Akte) Brief description of property (merely para 1 in Deed)

RAUBENHEIMERS INC  
60 CATHEDRAL STREET  
GEORGE  
6529

TEL: 044-873 2043

Prepared by me

  
CONVEYANCER  
WILLEM MUNRO LUTTIG

Deeds Office Registration fees as per Act 47 of 1937		
	Amount	Office Fee
Purchase Price	R. 4 500 000,00	R. 2051,00
Reason for exemption	Category Exemption.....	Exemption t.o. Sec/Reg..... Acq/Proc.....

T 000030615 / 2020

## DEED OF TRANSFER

BE IT HEREBY MADE KNOWN THAT

MICHELLE VAN WYK

appeared before me, REGISTRAR OF DEEDS at CAPE TOWN, the said appeared being duly authorised thereto by a Power of Attorney granted to him/her by

DE SOUSA AND JARDIM INVESTMENTS PROPRIETARY LIMITED  
REGISTRATION NUMBER 2013/186859/07

which said Power of Attorney was signed at George on 14 September 2020

DATA / CAPTURE  
22-10-2020  
YOLANDI OLIVIER

And the appearer declared that his/her said principal had, on 14 August 2020, truly and legally sold by Private Treaty, and that he/she, the said Appearer in his/her capacity aforesaid, did, by virtue of these presents, cede and transfer and on behalf of:

**GARDEN ROUTE DISTRICT MUNICIPALITY**

its Successors in Title or assigns, in full and free property

**ERF 26823 GEORGE,  
IN THE MUNICIPALITY AND DIVISION OF GEORGE,  
WESTERN CAPE PROVINCE**

**IN EXTENT 5469 (FIVE THOUSAND FOUR HUNDRED AND SIXTY NINE)  
Square metres**

**FIRST REGISTERED AND STILL HELD BY CERTIFICATE OF  
REGISTERED TITLE NUMBER T36026/2016 WITH DIAGRAM SG NO.  
2615/2015 ANNEXED THEREON**

I. As regards the figure A e f depicted on Diagram SG No. 2615/2015.

**SUBJECT** to such conditions as contained in Deed of Transfer No T9685/1917.

II. As regards the figure e B C f as depicted on Diagram SG No. 2615/2015.

**SUBJECT** to such conditions as contained in Deed of Transfer No T9684/1917.

WHEREFORE the said Appearer, renouncing all rights and title which the said

**DE SOUSA AND JARDIM INVESTMENTS PROPRIETARY LIMITED  
REGISTRATION NUMBER 2013/186859/07**

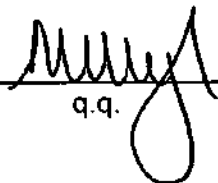
heretofore had to the premises, did in consequence also acknowledge it to be entirely dispossessed of, and disentitled to the same, and that by virtue of these presents, the said

**GARDEN ROUTE DISTRICT MUNICIPALITY**

its Successors in Title or assigns, now is and henceforth shall be entitled thereto, conformably to local custom, the State, however, reserving its rights, and finally acknowledging the purchase price to be the sum of R4 500 000,00 (FOUR MILLION FIVE HUNDRED THOUSAND RAND).

IN WITNESS WHEREOF, I the said Registrar, together with the Appearer, have subscribed to these presents, and have caused the Seal of Office to be affixed thereto.

THUS DONE and EXECUTED at the Office of the REGISTRAR OF DEEDS at CAPE TOWN on 6 October 2020

  
\_\_\_\_\_  
q.q.

In my presence

  
\_\_\_\_\_  
REGISTRAR OF DEEDS



RAUBENHEIMERS INC  
60 CATHEDRAL STREET  
GEORGE  
6529

TEL: 044-873 2043

1/11-5  
prepared by me

  
CONVEYANCER  
WILLEM MUNRO LUTTIG

## POWER OF ATTORNEY TO PASS TRANSFER

I, the undersigned

**JOSE HENRIQUE FERNANDES JARDIM**  
duly authorised hereto by a resolution of the Directors of  
**DE SOUSA AND JARDIM INVESTMENTS PROPRIETARY LIMITED**  
REGISTRATION NUMBER 2013/186859/07

do hereby nominate and appoint ANN MARJORY COETZEE and/or CARL  
CHRISTIAAN BURGER and/or LEANNE KIM WILLIAMS and/or MICHELLE VAN  
WYK and/or ROBERT CHRISTOPHER FERRANDI and/or RONEL ELS and/or  
TERTIA LIZETTE KRIEL and/or ALISON CARON FORTUIN

with power of substitution to be my true and lawful Attorney and Agent in my name,  
place and stead to appear at the Office of the REGISTRAR OF DEEDS at CAPE  
TOWN or any other competent official in the Republic of South Africa and then and  
there to act as my Attorney and Agent and to pass transfer to:

**GARDEN ROUTE DISTRICT MUNICIPALITY**

the property described as:

**LOT 26823 GEORGE,  
IN THE MUNICIPALITY AND DIVISION OF GEORGE,  
WESTERN CAPE PROVINCE**

**IN EXTENT 5469 (FIVE THOUSAND FOUR HUNDRED AND SIXTY NINE)  
Square metres**

**HELD BY CERTIFICATE OF REGISTERED TITLE NUMBER T66026/2016**

the said property having been sold by me on 14 August 2020, to the said  
transferee/s for the sum of R4 500 000,00 (Four Million Five Hundred Thousand  
Rand);

and further cede and transfer the said property in full and free property, to the said Transferee; to renounce all right, title and interest which the Transferor heretofore had in and to the said property, and generally, for effecting the purposes aforesaid, to do or cause to be done whatsoever shall be requisite, as fully and effectually, to all intents and purposes, as the Transferor might or could do, personally present and acting therein; hereby ratifying, allowing and confirming all and whatsoever the said Agent/s shall lawfully do or cause to be done in the premises, by virtue of these presents.


Signed at GEORGE on 2020-09-14

in the presence of the undersigned witnesses.

AS WITNESSES :

1.  \_\_\_\_\_

2.  \_\_\_\_\_

  
On behalf of DE SOUSA AND JARDIM  
INVESTMENTS PROPRIETARY  
LIMITED





GEORGE LOCAL MUNICIPALITY

CERTIFICATE IN TERMS OF SECTION 118 OF THE LOCAL GOVERNMENT: MUNICIPAL SYSTEMS ACT, 2000 (ACT No. 32 OF 2000)  
(AS PRESCRIBED IN TERMS OF SECTION 120 OF ACT No. 32 OF 2000)

ISSUED BY GEORGE LOCAL MUNICIPALITY

In terms of section 118 of the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000), it is hereby certified that all amounts that became due to George Local Municipality in connection with the undermentioned property situated within that municipality for municipal service fees, surcharges on fees, property rates and other municipal taxes, levies and duties during the two years preceding the date of application for this certificate, have been fully paid.

DESCRIPTION OF PROPERTY (see definition of property in section 1 of Act 32 of 2000)

21 Digit Code (or Municipal Reference Number): 6529

Erven: 26823

Portion: 0

Extension: GEORGE

Zoning:

Registration division / Administrative District:

Suburb:

Town:

Sectional Title unit number:

Exclusive use area and number as referred to on the registered plan:

Real right:

Scheme registration number:

Sectional Title Scheme Name:

Registered owner: DE SOUSA AND JARDIM INVESTMENTS PROPRIETARY LIMITED (2013/186859/07)

Name and Identity/ Registration Number of all purchaser/s: GARDEN ROUTE DISTRICT MUNICIPALITY (N/A)

This Certificate is valid until: 17/11/2020

Given under my hand at GEORGE on 18/09/2020

Digitally signed by George Municipality  
Signee: Winnifred Kennedy  
Sign date: 18/09/2020 04:45:00 PM  
Expiration date: 18/09/2022 11:22:02 AM

MUNICIPAL MANAGER  
George Local Municipality

Date issued: 18/09/2020

Authorised Officer: Winnifred Kennedy

Certificate By Conveyancer: CARL CHRISTAAN BURGER

I (full name and surname) hereby certify that this is a print-out of a data message in respect of the original clearance certificate electronically issued by the George Local Municipality.

Conveyancer

Date

21 Digit Code (or Municipal Reference Number): 6529

Page 1 of 1

Certificate number: 11665844

4

PROD DEEDS REGISTRATION SYSTEM - CAPE TOWN  
PREPARED BY : DRS08234 - LEBEL DIPONTSHENG

DATE : 20200923 TIME : 08 PAGE : 1

TRACK NUMBER : 86987383764

BLACK-BOOKING ENQUIRY ON NAME - DE SOUSA G. JARDIM INV PTY LTD  
ID NUMBER - 201318685907  
BIRTH DATE - 9  
MARITAL STATUS -  
MIDDEN NAME -  
TYPE OF PERSON - COMPANY

PERSON HAS NO CONTRACTS/INTERDICTS

\*\* PLEASE NOTE: THE INFORMATION APPEARING ON THIS PRINTOUT IS FURNISHED FOR PURPOSES OF INFORMATION ONLY.  
FOR MORE DETAILED INFORMATION, PLEASE REFER TO THE REGISTERED SOURCE DOCUMENTS.

\*\*\* END OF REPORT \*\*\*





TRACK NUMBER : 80007383764

PROPERTY DETAILS  
PRINT FOR PORTION 8  
ERF NO 26823  
TOWNSHIP GEORGE  
REG DIV GEORGE RD

PROVINCE WESTERN CAPE  
PREV DESCRIPTION  
DIAGRAM DEED NO T66826/2016  
EXTENT 5469 SQM  
CLEARANCE GEORGE MUN

ORIGIN REASON  
SUBDIVISION FROM ORIGIN PROPERTY  
GEORGE, 25790, 0 (R/E)

NO INTERDICTS

NO DOCUMENTS

OWNER DETAILS

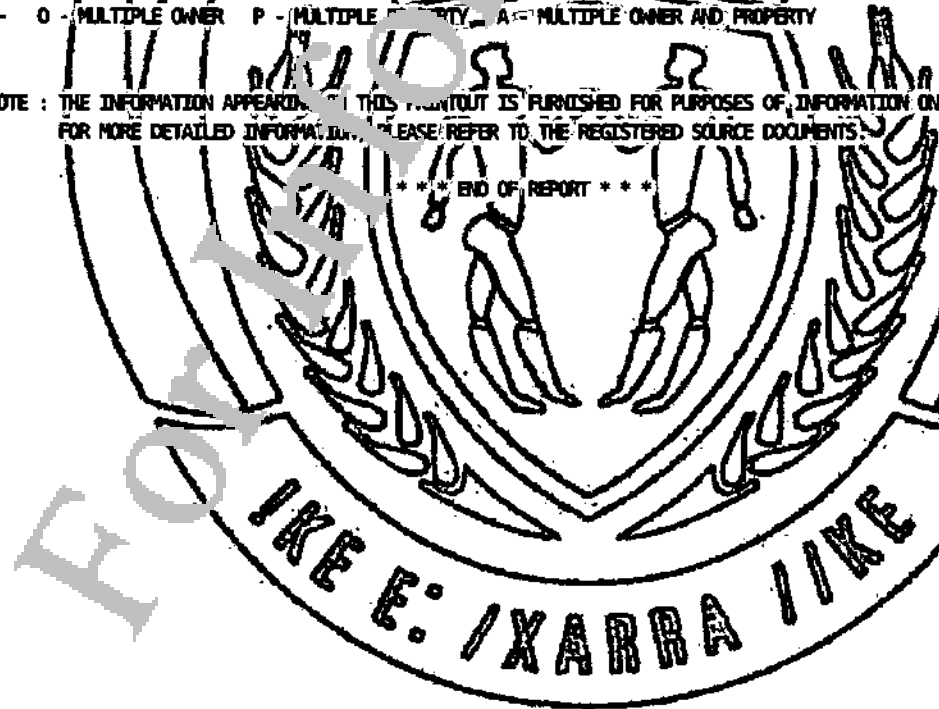
FULL NAME & SHARE  
DE SOUSA & JARDIM INV PTY LTD

PURCH DATE	AMT / REAS	O/P/A	IDENTITY	TITLE DEED	HMD	MICROFILM REF
			281318685987	T66826/2016	1028	28178315063548

\* O/P/A - 0 - MULTIPLE OWNER P - MULTIPLE PROPERTY A - MULTIPLE OWNER AND PROPERTY

\*\* PLEASE NOTE : THE INFORMATION APPEARING ON THIS PRINTOUT IS FURNISHED FOR PURPOSES OF INFORMATION ONLY.  
FOR MORE DETAILED INFORMATION PLEASE REFER TO THE REGISTERED SOURCE DOCUMENTS.

\*\*\* END OF REPORT \*\*\*



## **Annexure D**

## **CONVEYANCER'S CERTIFICATE**

I, the undersigned, ANDREW JOHN COX, Conveyancer

Do hereby certify that in respect of the following property, namely:

**ERF 26823 GEORGE,  
IN THE MUNICIPALITY AND DIVISION OF GEORGE,  
WESTERN CAPE PROVINCE**

**IN EXTENT: 5469 (FIVE THOUSAND FOUR HUNDRED AND SIXTY NINE)  
SQUARE METRES**

**Held by Deed of Transfer No. T30615/2020**

I have read the contents of the Title Deed and confirm that there are no Conditions of Title that prohibit the following:

1. The approval of a Site Development Plan in terms of Section 15(2)(g) to establish a social housing development on Erf 26823, George as per the provision of Section 23 of the George Integrated Zoning Scheme By-Law, 2017.
2. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 5m along the northern street boundary line.
3. To permit a building line departure in terms of Section 15(2)(b) of 0m in lieu of 4.5m along the eastern common boundary line.
4. To permit a reduced parking ratio in terms of Section 15(2)(b) of 0.35 bays per unit in lieu of 2 bays per unit.

Thus done and signed at PLETTENBERG BAY on this 4<sup>th</sup> day of September 2023

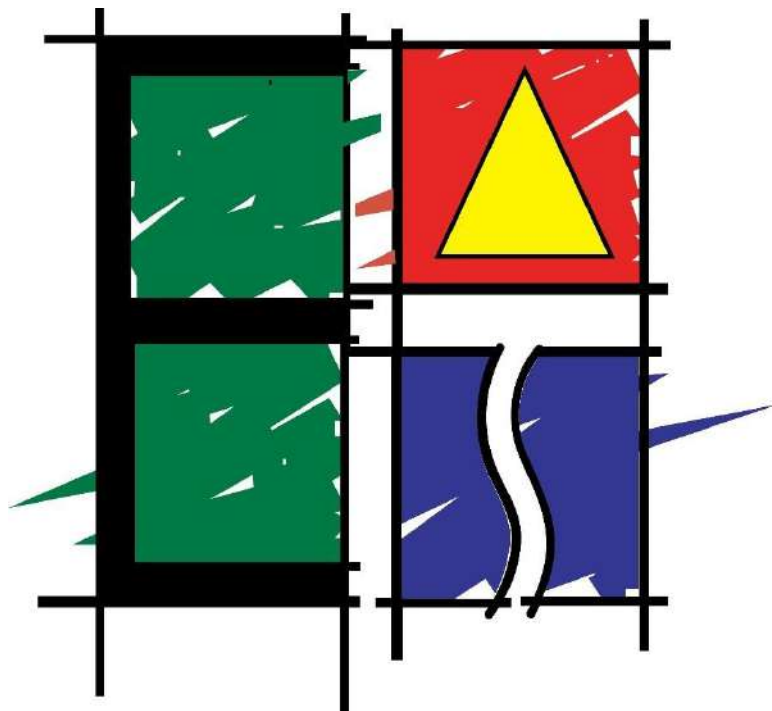
**ANDREW JOHN COX  
CONVEYANCER**



## **Annexure E**

***MOTIVATION FOR DEPARTURE FROM  
PARKING REQUIREMENT***

***FOR THE  
PROPOSED SOCIAL HOUSING DEVELOPMENT ON  
ERF 26823, GEORGE***



**January 2024**

**Prepared for: Own Haven Housing Association**

**Prepared by: Engineering Advice and Services (Pty) Ltd  
(041) 5812421**



**DOCUMENT CONTROL SHEET**

**CLIENT REF:** **OWN HAVEN HOUSING ASSOCIATION**

**PROJECT NAME:** **PROPOSED SOCIAL HOUSING DEVELOPMENT ON ERF 26823, GEORGE**

**DOCUMENT TITLE:** **MOTIVATION FOR PARKING DEPARTURE (TIA ADDENDUM)**

**DOCUMENT FILE REF:** F:\2100-2199\2162\Reports\REP001 - Parking Departure Motivation - Erf 26823, George - Final.docx

<b>Version</b>	<b>1</b>		
Compiled by	JK Charlton Cand. Eng Technologist (201580304)	May 2023	
Reviewed by	CGA Hastie Pr Tech. Eng (200070122)	August 2023	
<b>Version</b>	<b>2</b>		
Amendments made by	CGA Hastie Pr Tech. Eng (200070122)	January 2024	

**DISTRIBUTION:**

- 1) Original : Client – Own Haven – Mr Andrew Wiseman
- 2) Copy : George Municipality – Mr Zuko Vanqa
- 3) Copy : Jakupa Architects – Mr Khalied Jacobs
- 4) Copy :
- 5) Copy : EAS File 2162

**PREPARED BY :** Engineering Advice and Services (Pty) Ltd  
P O Box 13867  
HUMEWOOD  
6013

**Telephone :** 041 581 2421

**Email :** caryh@easpe.co.za

This Report has been prepared by Engineering Advice and Services, with all reasonable skill, care and diligence within the terms of the contract with the client, incorporating our standard terms and conditions of business and taking into account the resources devoted to it by agreement with the client. EAS disclaims any responsibility to the client and others in respect of any matters outside of the scope of the above.

This report is exclusive to the client and the described project. EAS accepts no responsibility of whatsoever nature to third parties to whom this Report, or any part thereof, is made known. Any such persons or parties rely on the report at their own risk.

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ANNEXURE E Notarial Tie – GRDM Council Resolution

# 1 INTRODUCTION

## 1.1 BACKGROUND

Engineering Advice & Services (Pty) Ltd was appointed by Own Haven Housing Association during April 2023 to prepare a Motivation for a Departure from the stipulated parking requirements for a proposed Social Housing Development on Erf 26823, George, situated adjacent Omega Close in George South.

This study will serve as an Addendum to the **Traffic Impact Assessment of Erf 26823, Omega Street, George** <sup>(1)</sup>, prepared by Delta Built Environment Consultants (Pty) Ltd for the Garden Route District Municipality. This TIA was also prepared for a proposed Social Housing Development.



The TIA assessed the vehicle and pedestrian impacts of the planned development albeit for a total of 64 apartments whereas the development proposed by Own Haven provides for a total of 166 units comprising 56 1-bed units, 63 2-bed units and 47 studio apartments.

The TIA also did not motivate for a reduction in the parking requirement (although a reduced parking provision was indicated).

This document will thus motivate for a reduction in the parking requirement based on parking ratios at other Social Housing complexes and considering other factors.

## 1.2 OBJECTIVES OF THE STUDY

In broad terms, the purpose of this study is to motivate a reduction in parking requirement for the planned development, confirm the extent and nature of the traffic generated by the proposed development, assess the impact of this traffic on the operation of the associated road network, and devise solutions for any problems identified. The following key elements, *inter alia*, are addressed in this study:

- An investigation into parking requirements imposed at similar social housing complexes;
- Based on these trends as well as other considerations motivate a departure from the current parking ratios stipulated in the **George Municipality Integrated Zoning Scheme By-law** <sup>(2)</sup>; and
- Confirm the impact of the development from a vehicular traffic perspective;

In general, this report serves to satisfy the George Municipality and any other authorities that the traffic impact of the envisaged development is within acceptable limits, that the recommended parking ratios are in line with the vehicle ownership of beneficiaries that will be accommodated in the complex and that any suggested improvements conform to the standards and parameters set by the relevant authorities.

## 1.3 METHODOLOGY

The approach followed in conducting the traffic impact statement was in accordance with the guidelines stipulated in **TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual** <sup>(3)</sup>.

This study serves as an Addendum to the TIA <sup>(1)</sup>, prepared by Delta BEC on behalf of the Garden Route DM. As such, this study addresses the possible additional impact of the planned development on the adjacent road and NMT network (166 units versus 64 units assessed) as well as motivating for a departure from stipulated parking requirements.

The methodology used was as follows:

- Given the extent of the social housing development, the expected trips that will be generated by the development were determined by using applicable trip generation rates specified in **TMH 17 Volume 1 - South African Trip Data Manual** <sup>(4)</sup> and compared to those assessed in the TIA <sup>(1)</sup>;
- The operation of the affected intersections and proposed access point was compared to that documented in the TIA to ensure that they operate at acceptable levels of service and

recommendations made on the need for road upgrading taking cognisance of the proposed development for the 2025 planning horizon;

- An investigation into parking provision and utilisation at similar social housing developments was conducted. Data was sourced from social housing institutions in the Western Cape, Southern Cape and Eastern Cape; and
- This data as well as that related to operation of the George Integrated Public Transport Network services in the vicinity of the development was used to motivate a suitable parking ratio for the proposed development.

## **1.4 STUDY AREA**

Based on the location and extent of the proposed development next to York Street the study area extended to the adjacent intersections of Nelson Mandela Boulevard and Fitchat Street with York Street.

It is considered that trips generated by the proposed development in Omega Close will approach along these roads and through these intersections.

## **1.5 ASSUMPTIONS AND LIMITATIONS**

The scope of this study is limited to the project as described in this report. The scope only deals with vehicular and pedestrian traffic related impacts adjacent to the site and excludes consideration of the following:

- Any vehicular and pedestrian activity outside of the intersections of York Street with Nelson Mandela Boulevard and Fitchat Street.

The report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- That all traffic generated by the proposed development is likely to approach via York Street;
- That trips generated by the proposed development are distributed to and from the site based on the location of the development site relative to the major road network; and
- That trips generated by the proposed development would be indicative of that related to low-income households with low car-ownership ratios that would be dependent public transport and pedestrian modes for transport between the development and places of employment, school and shopping.

Notwithstanding these assumptions it is our view that this study provides the necessary framework to ensure that the development meets the necessary legal, planning and operational requirements set by the relevant road authorities.

# **2 LAND USE RIGHTS, DEVELOPMENT AND ENVIRONS**

## **2.1 CURRENT LAND –USE RIGHTS**

Erf 26823 measures 5 469m<sup>2</sup> in area and is currently zoned for Residential Zone 4 purposes (flats). This zoning permits a FAR of 1, coverage of 60% and height limit of 15m.

Parking provision is currently set at 2 bays per residential unit.

The erf is currently vacant.

## **2.2 DEVELOPMENT ENVIRONS**

Land use to the east, south and west of the site is residential in nature (townhouse complexes and multistorey residential buildings). The Garden Route District Municipality offices are situated immediately north of the site across Omega Close.

Commercial land use is located along both sides of York Street.

## **2.3 OVERVIEW OF PROPOSED DEVELOPMENT**

The proposed development comprises 166 residential apartments/units and an additional 115m<sup>2</sup> of retail development. The units are configured as 1-bedroom units (56), 2-bedroom units (63) and studio apartments (47).

The units will be accommodated in two residential blocks, which are four storeys in height.

### 3 TRIP GENERATION AND DISTRIBUTION

#### 3.1 TRIP GENERATION CHARACTERISTICS

##### 3.1.1 Development Assessed in Delta BEC TIA

The development scope assessed in the Traffic Impact Assessment of Erf 26823, Omega Street, George <sup>(1)</sup>, namely 64 units.

In terms of **TMH 17 Volume 1 - South African Trip Data Manual** <sup>(4)</sup> peak hour trip generation rates for residential apartments and flats (category 220) are 0.65 per dwelling unit for the weekday AM and PM peak hours with a directional in: out split of 25:75 in the AM and 70:30 in the PM peak hour.

It is noted that no adjustment factors were included in the trip generation calculations, resulting in 42 peak hour trips used for analysis purposes as indicated in **Table 1** below.

**Table 1: Trip Generation Delta BEC TIA – 64 Units**

COMPONENT	AM		PM	
	TRIPS IN	TRIPS OUT	TRIPS IN	TRIPS OUT
Split (%)	25	75	70	30
Peak hour trips	11	32	30	13
<b>Total Generated Trips</b>	<b>42</b>		<b>42</b>	

Source: Delta Built Environment Consultants

##### 3.1.2 Proposed Own Haven Development

TMH17 further provides for a reduction in peak hour vehicle trips for various land use types based on a range of factors, namely car-ownership (-30% Low and 50% Very Low), location along a public transport route (-15%) and whether part of a mixed-use development (-15%).

Given that tenants that would be accommodated in the Social Housing complex form part of the low-income category and need to comply with strict admission criteria, it is argued that car-ownership is generally low. This situation will be discussed further later in this report when considering parking demand. As such, an adjustment factor of -30% has been applied for low car ownership.

In addition, as the planned development is located along a designated public transport route, a further -15% adjustment will be applied. This results in a total adjustment (reduction) of -40.5%.

##### **Residential Development – Apartments & Flats (220)**

Given that the proposed development comprises of 166 residential units, this results in a total of 108 peak hour trips as indicated in **Table 2** below.

**Table 2: Trip Generation Own Haven Development Proposal – 166 Residential Units**

COMPONENT	AM		PM	
	TRIPS IN	TRIPS OUT	TRIPS IN	TRIPS OUT
Split (%)	25	75	70	30
Peak hour trips	27	81	76	32
<b>Total Generated Trips</b>	<b>108</b>		<b>108</b>	

Applying the allowed reductions described above adjusts the peak hour generated trips to 64 – 21 peak hour trips more than that assessed in the DELTA TIA <sup>(1)</sup>.



**Table 3: Trip Generation Own Haven Development Proposal – 166 Units - Adjusted**

COMPONENT	AM		PM	
	TRIPS IN	TRIPS OUT	TRIPS IN	TRIPS OUT
Generated Trips	27	81	76	32
Less Reduction	11	33	31	13
Adjusted Trips	16	48	45	19
Total Adjusted Peak Hour Trips	64		64	

### 3.1.3 Summary of Generated Trips

Table 4 below summarizes the generated peak hour trips.

**Table 4: Peak Hour Trip Generation Summary**

COMPONENT	PRIMARY TRIPS			
	AM		PM	
	IN	OUT	IN	OUT
Apartments & Flats (220)	16	48	45	19
Total Adjusted Peak Hour Trips	16	48	45	19

### 3.1.4 Additional Generated Trips

The additional peak hour trips generated by the planned 166-unit development were determined as indicated in Table 5 below.

**Table 5: Additional Peak Hour trips Summary**

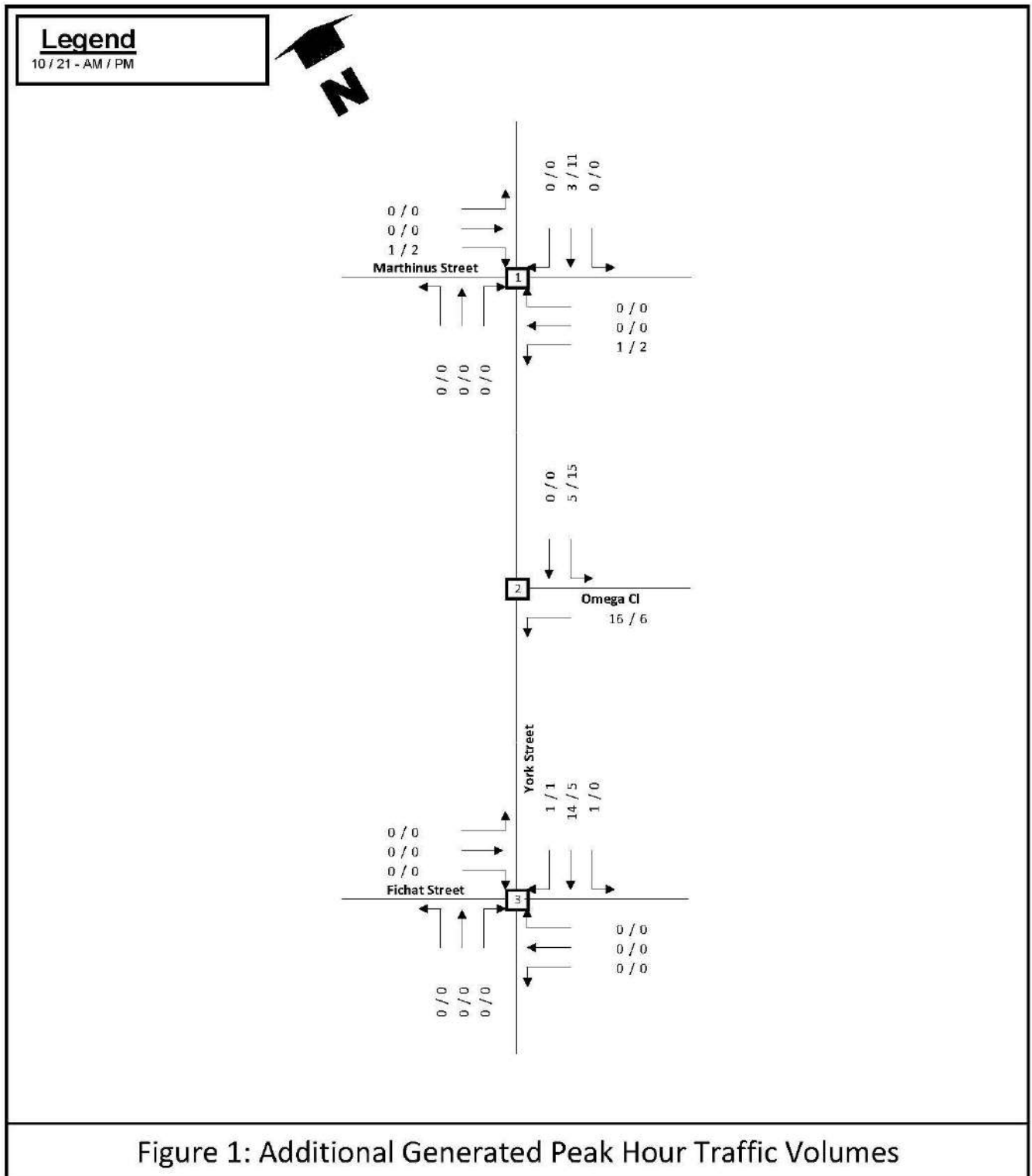
COMPONENT	PRIMARY TRIPS			
	AM		PM	
	IN	OUT	IN	OUT
64 Unit Development	11	32	30	13
166 Unit Development	16	48	45	19
Additional Peak Hour Trips	5	16	15	6

## 3.2 TRIP DISTRIBUTION

The additional peak hour trips calculated above were then assigned to the network in the same manner as in the Delta TIA <sup>(1)</sup>, (Refer Sheet 6 of Appendix C attached as Annexure A).

The additional generated trips are indicated on **Figure 1** overleaf.

The additional generated traffic volumes added to the 2025 background and latent traffic volumes are indicated on **Figure 2** overleaf.



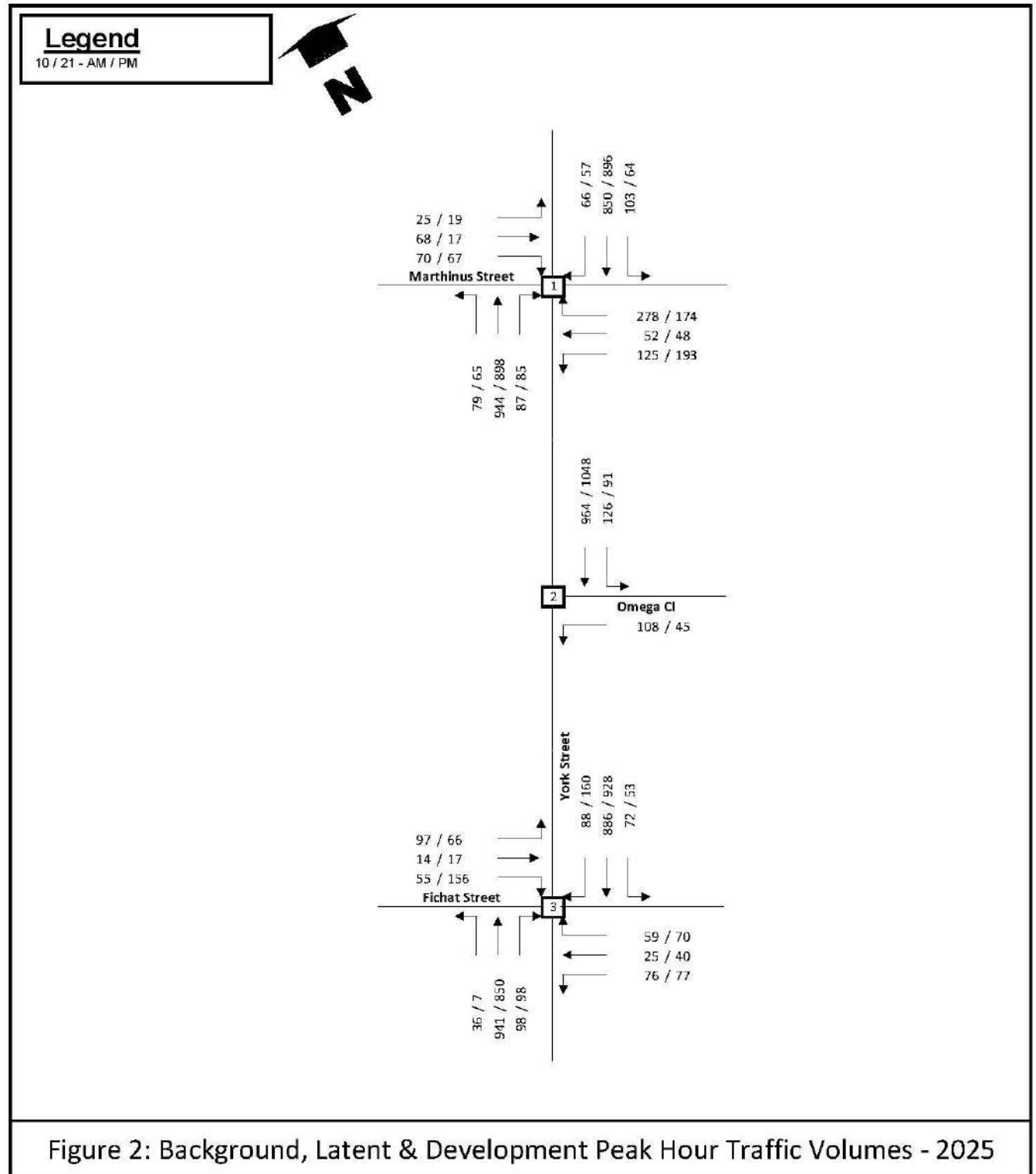


Figure 2: Background, Latent & Development Peak Hour Traffic Volumes - 2025

## 4 CAPACITY ANALYSIS – EXISTING SITUATION

**Level of Service (LOS)** is defined as the operating condition that may occur at an intersection when it accommodates various traffic volumes. LOS is a qualitative measure of the effect of speed, travel time, traffic interruptions, freedom to manoeuvre, safety, driving comfort and convenience, and operating costs. **LOS D** is considered an acceptable design standard (LOS C for SANRAL). The LOS applicable to intersections under various control conditions, as defined in the **Highway Capacity Manual** <sup>(5)</sup> are indicated in **Table 6** below:

**Table 6: Level of Service definitions for Vehicles (Highway Capacity Manual <sup>(5)</sup> method)**

Level of Service	Control delay per vehicle in seconds (d) (Including geometric delay)		LOS Colour Rating
	Signals and Roundabouts	Stop Signs and Yield Signs	
A	$d \leq 10$	$d \leq 10$	Excellent
B	$10 < d \leq 20$	$10 < d \leq 15$	Very Good
C	$20 < d \leq 35$	$15 < d \leq 25$	Good
D	$35 < d \leq 55$	$25 < d \leq 35$	Acceptable
E	$55 < d \leq 80$	$35 < d \leq 50$	Poor
F	$80 < d$	$50 < d$	Very Poor

### 4.1 2025 DEVELOPMENT HORIZON – 64 UNITS

**Table 7** below indicates the results of the capacity analysis conducted for the affected intersections in the Delta BEC TIA <sup>(1)</sup>.

**Table 7: Results of Intersection Capacity Analysis – 2025 Development Horizon – 64 units**

Intersection	Delay (s)		V/C		Critical LOS *	
	AM	PM	AM	PM	AM	PM
York Street / Omega Close	1.3	0.7	0.300	0.313	*A	*A
York Street / Nelson Mandela Bvd	29.8	26.0	0.665	0.570	C	C
York Street / Fitchat Street	30.8	48.2	>1.000	>1.000	D	D

\* - **SIDRA Intersection Network** <sup>(6)</sup> does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** <sup>(5)</sup> (Table 6 above).

Source: Delta Built Environment Consultants

## 4.2 2025 DEVELOPMENT HORIZON – 166 UNITS

Table 8 below indicates the results of the capacity analysis after the additional peak hour trips were added to traffic volumes at the affected intersections.

The capacity analysis was undertaken using the SIDRA Network Intersection <sup>(6)</sup> capacity analysis method but applying the Highway Capacity Manual <sup>(5)</sup> gap acceptance criteria for unsignalised intersections where applicable.

Note that the analysis was conducted for isolated intersections as the number of accesses between intersections would impact on results should a network analysis be conducted.

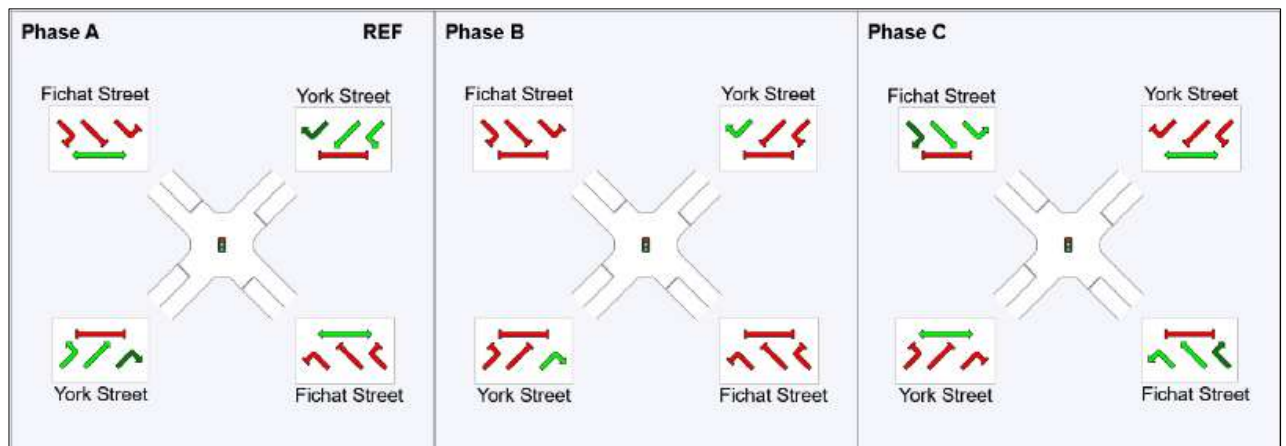
The detailed SIDRA output sheets attached as **Annexure B**. As can be seen from the results no major capacity problems are experienced as a result of the additional development trips.

However, in an effort to minimise the deterioration of LOS to E during the PM peak hour at the Fitchat Street junction, further analysis was conducted with an amended phasing arrangement, namely adjusting the leading right-turn phase on York Street to a lagging right-turn phase as indicated below.

**Table 8: Results of Intersection Capacity Analysis – 2025 Development Horizon – 166 units**

Intersection	Delay (s)		V/C		Critical LOS *	
	AM	PM	AM	PM	AM	PM
York Street / Omega Close	1.5	0.9	0.296	0.308	*A	*A
York Street / Nelson Mandela Bvd	24.7	18.9	0.615	0.464	C	B
York Street / Fitchat Street Current phasing	27.7	59.3	0.917	>1.000	C	E
Amended phasing	-	43.0	-	0.970	-	D

\* - **SIDRA Intersection Network** <sup>(6)</sup> does not calculate intersection LOS for stop-controlled intersections. The LOS indicated is sourced from the **Highway Capacity Manual** <sup>(5)</sup> (Table 6 above).



## 5 ACCESS ARRANGEMENTS

As described in the **Traffic Impact Assessment of Erf 26823, Omega Street, George <sup>(1)</sup>**, access to the site is provided directly from Omega Close as indicated on the proposed development layout plan attached as **Annexure C**.

The service flow rates at access-controlled entrances in vehicles per hour from Table 30 of **TMH 16 Volume 2- South African Traffic Impact and Site Assessment Standards and Requirements Manual <sup>(8)</sup>** are indicated in **Table 9** below.

**Table 9: Access Control Service Flow Rates**

Service flow rates (veh/h) for different control types	
Control type	Service flow (vph)
Swipe magnetic card	480
Remote controlled gates	450
Ticket dispenser: Automatic	390 -450
Ticket dispenser: Push button	220 - 360
Pin number operated gates	150
Pay fee on entry	120
Cell-phone operated gates (gate opens when a call is received)	100
Manual recording, Visitor completes form	80
Intercom operated gates (visitor contacts resident by intercom)	50

The number of entry lanes and the number of vehicles queuing in each lane are calculated after determining a Traffic Ratio over all entry lanes using the following formula:

$$\text{Traffic ratio} = \frac{\text{Total Volume / PHF}}{\text{Service flow rate}} \cdot 100$$

The number of lanes and queue length is then determined from **Table 10** below (Table 31 in TM16 Vol 2).

**Table 10: Access Control Queue Lengths**

95 <sup>th</sup> Percentile queue length (vehicles per channel) at controlled accesses						
Storage (Vehs)	Traffic ratio (Percentage) for different Numbers of Channels					
N <sub>Que</sub>	1 Channel	2 Channel	3 Channel	4 Channel	5 Channel	6 Channel
1	23	58	97	140	188	235
2	39	94	155	220	292	363
3	49	115	186	261	341	421
4	56	128	205	283	367	449
5	61	137	216	297	382	466
6	65	143	224	306	392	476
7	68	147	229	312	399	484
8	70	151	233	317	403	489
9	71	153	236	321	407	493
10	73	155	239	324	410	496

It is expected that up to 45 vehicles will enter the development during the PM peak hour (highest entering peak).

Given a peak hour volume of 45 vehicles entering the residential complex the traffic ratios for each control type are indicated in **Table 11** overleaf.



**Table 11: Access Control Queue Lengths for erf 26823, George**

Peak Hour Trips - IN	45	Traffic ratio	Q-Length Veh	Lanes Required	Q-Length (m)
Access Control Options	Flow (Vph)				
Swipe Magnetic card	480	23	1	1	6.5
Remote controlled gates	450	23	1	1	6.5
Pin number operated gates	150	39	2	1	13
Cell-phone operated gates (gate opens when a call is received)	100	56	1	2	6.5
Manual Recording (Visitor Completes form)	80	65	2	2	13
Intercom Operated Gates (Visitor contacts resident by Intercom)	50	115	3	2	19.5

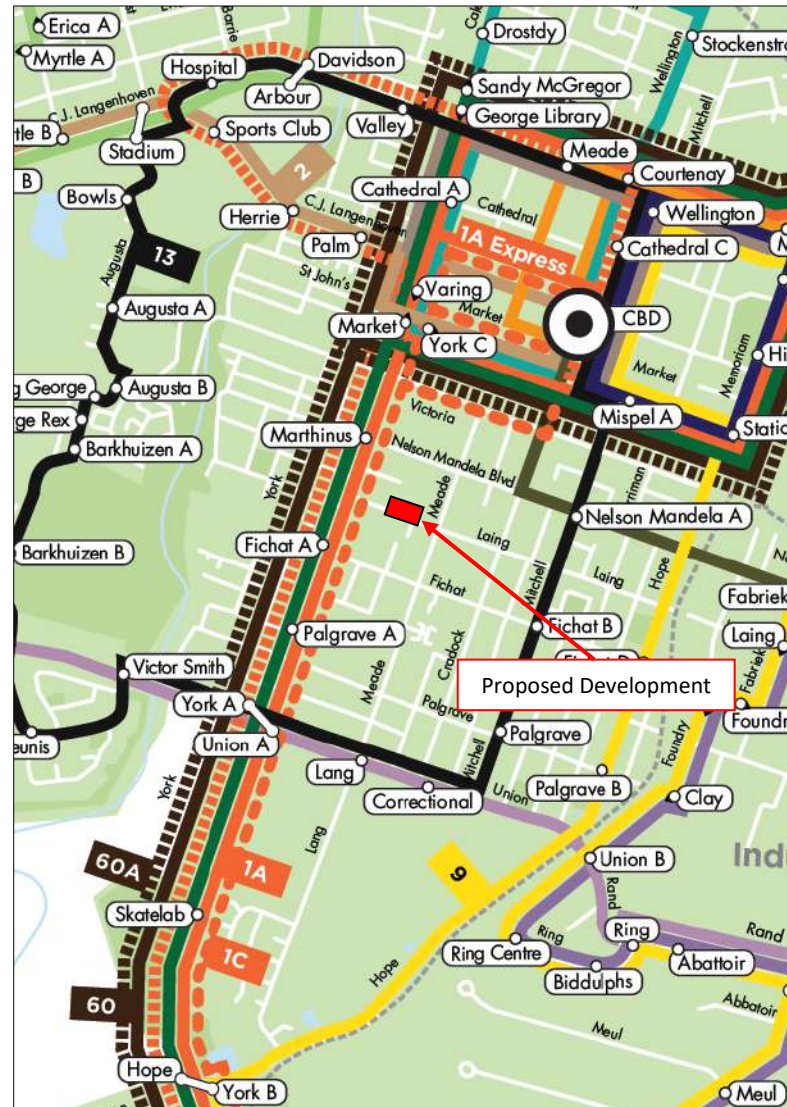
Remote controlled access will be implemented including facial recognition software.

As such, given the low peak hour entering volume, access gates would be configured with one entering lane and the security gate set back at least 6.5 m from the road edge

Detailed calculations are attached as **Annexure D**:

## 6 PUBLIC TRANSPORT OPERATIONS

As stated in the **Traffic Impact Assessment of Erf 26823, Omega Street, George** <sup>(1)</sup>, public transport services, supplied by Go George bus service are provided along York Street. Based on information supplied by Go George, four GIPTN routes are currently servicing York Street between Hope Street to the south and Market Street to the north as indicated on **Figure 3**.



Source: [www.gogorge.org.za](http://www.gogorge.org.za)

**Figure 3: Extract of Go George Route Map**

A total of 1 146 trips per direction operate along this route section each week. These routes operate between 1 and 8 times per hour with headways from 1 to 60 minutes as indicated in **Table 12** below.

**Table 12: GoGeorge Bus Operations – York Street Section 24**

Route No	Route Name	Trips / Week	Ave Headway (min)	Ave No Trips/hr	Veh Capacity (AM)	Passengers Served (AM)
1A & 1A Exp	New Dawn Park – CBD	1146	8	8	1275	932
1B	Harmony Park – CBD		10	4	825	649
60	Rosedale – CBD		1	5	225	173
60A	Syferfontein (via Rosedal) – CBD		60	1	1125	750

Source: GoGeorge

The data provided indicates approximately 74% occupancy on average during the AM peak period. There is thus sufficient capacity available to accommodate residents from the proposed development.

**Figure 4** overleaf indicates the location of bus stops along York Street in the vicinity of the proposed development.

The access to the development is planned approximately 140 m from York Street.

The nearest bus-stop in the southbound direction is located approximately 50m north of Omega Close – thus a distance of 190m from the development access gate. The nearest northbound direction stop is approximately 200m north of Omega Close, thus 340m from the development access.

Another northbound direction stop is located 330m south of Omega Close near Fitchat Street thus 470m from the development access.



The planned development is therefore within acceptable walking distance to public transport services.

## 7 NON-MOTORISED TRANSPORT

From a non-motorised transport perspective, as stated above, the development is located withing 140m of York Street.

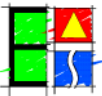
Pedestrian sidewalks are in place along the southern side of Omega Close (adjacent the development) and along York Street.

The sidewalk in Omega Close will be extended to the planned development entrance and will comply with Universal Access standards prescribed by George Municipality.

The sidewalks provided along both sides of York Street facilitate easy access to the public transport stops close by or to the CBD to the north and other areas to the east and south. These areas are within 1.2km of the development which equates to a 15-to-20-minute walking distance.

This is particularly relevant given that tenants will likely be reliant on walk and public transport modes of transport to access employment, shops, schools and any other destinations in the area.





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#### Legend

-  Subject Site
-  Road Network
-  National Roads
-  Other Roads
-  Paved Roads
-  Unpaved Roads

Project Title:

Motivation for Departure from Parking Requirements for  
the Proposed Social Housing Development on Erf 26823, George

Drawing Title:

Figure 4: Location of Bus Stops

Drawing No:

2162-P-004

Drawing Date:

October 2023

Meters

0 12.5 25 50

Scale 1 : 2 500

Prepared by : MM

Checked by : CH



## 8 PARKING ARRANGEMENTS

### 8.1 CURRENT PARKING REQUIREMENTS

The parking demand for social housing developments has been included in the **George Integrated Zoning Scheme Bylaw** <sup>(2)</sup> (Draft Amendment) and is set at 0.75 bays per residential unit plus 0.25 bays per unit for visitors.

The site falls within an area alongside York Street which is anticipated to be demarcated as PT1. The PT1 area is an area where the use of public transport is to be promoted but where the Council considers the provision of public transport to be inadequate.

While provision for PT1 areas has been made in the **George Integrated Zoning Scheme Bylaw** <sup>(2)</sup> (Draft Amendment), the areas have yet to be formally demarcated.

In this case, from the data provided – indicating that formal public transport services along York Street currently exist and are intended to expand in the future – it can be argued that public transport provision is sufficient to warrant a proposed reduction in parking provision.

**Table 13: Parking Requirements**

Land Use	Normal Req't	PT 1 Area
Flats	0.75 / dwelling	0.5 / dwelling
	0.25 / unit for visitors	0.25 / unit for visitors

This would result in a reduced provision of 0.75 bays per residential unit.

While this ratio can be argued to be adequate when considering a “normal” apartment building (flats) development, in which there is no restriction on levels of income and as such all residents would potentially own a car, it is submitted that it is excessive when considered in a social housing context, which by their very nature allow individuals or household with low incomes access to formal housing.

Such residents must qualify for rental housing based on strict financial criteria. Such criteria typically result in a low car-ownership situation with residents generally captive to public or non-motorised transport modes depending upon the location of the complex relative to destinations (i.e., schools, shops, places of employment).

It is also noted that typically, most, if not all, land use zoning schemes do not provide a category for Social Housing Developments in terms of parking provision. This is most likely because on the one hand social housing as we have come to know it is a relatively new phenomenon, while on the other there are few, if any precedent studies addressing parking demand for such developments.

Local authorities are also reluctant to depart from parking provisions, as it may result in instances where demand exceeds supply on site and adjacent landowners / municipal areas compromised by illegal parking.

### 8.2 SOCIAL HOUSING TENANTS – CAR OWNERSHIP

Apart from standard qualification criteria (have a clean credit record, 21 years or older, must be a South African Citizen and must be able to pay required monthly rental), a key criterion for access to social housing is householder income.

Currently qualifying householder incomes range from R1 850 to R22 000 per month.

Residential units are sized based on the householder income ranges with the lower ranges qualifying for single bedroom or studio apartments (typically single person beneficiaries) and the higher income range qualifying for 2 or possible three bedroom (typically families).

Social housing developments are generally ideally located in areas that are close to places of work, schools, shops, recreational and other social amenities and perhaps most importantly **access to transport services**.

Given the low household income categories that qualify beneficiaries for social housing units and given the development of complexes in close proximity to public transport networks, it is clear that access is targeted at individuals and families that do not own or have access to private cars.

The parking demand / utilisation and tenant movement in social housing complexes discussed in the next sections will provide further motivation to reduce parking requirements for this development.



### 8.3 PARKING RATIO STUDIES

In order to motivate that a reduction in parking provision over and above that allowed for in a PT1 area would be justified, research into a number of avenues was conducted as follows:

- Parking utilisation surveys conducted by the author at social housing developments in Gqeberha;
- Parking Supply and Utilisation Data – other SHIs, Cape Town
- Precedent parking studies conducted at social housing developments in Cape Town by others were reviewed;
- Review of other relevant literature/studies conducted;
- Assessment of peak hour vehicle trip generation rates considered; and
- Analysis of Tenant turnover.

#### 8.3.1 Parking Utilisation Surveys - Gqeberha

As part of a motivation for the relaxation of parking requirements for a proposed Social Housing development in Jeffreys Bay <sup>(10)</sup> EAS conducted, parking demand surveys at a number of secure access-controlled social housing complexes in Gqeberha on a weekday and Sunday during May 2021.

The sites were visited during early morning on the weekend and between 06:00 and 07:00 and 17:30 and 18:30 on weekdays (when residents would generally be at home).

The demand surveys were supplemented by information supplied by various social housing institutions that manage such complexes related to the number of units provided, the number of parking bays provided and the number of bays used by residents. In most cases, the residents pay a monthly fee to use a parking bay.

The parking supply and demand information was surveyed and sourced at the following complexes:

- Walmer Link, Gqeberha;
- Fairview Link, Gqeberha;
- Willowdene, Gqeberha; and
- Milkwoods, Walmer, Gqeberha;

The results of the sourced and surveyed parking demand information are summarised in **Table 14**.

**Table 14: Results of Parking Demand Survey**

Housing Complex	Units	Bays Provided	Bays Allocated	% Allocated / unit	Allocated Bays / unit	Survey Demand Max Utilisation	Survey Demand Bays / unit
Walmer Link	347	347 + 9	148	43%	0.43	88	0.25
Fairview Link	512	425 + 18	280	55%	0.55	178	0.35
Willowdene	400	269 + 20	189	47%	0.47	189	0.47
Milkwood	630	609 **	371	59%	0.59	284	0.45
<b>Total/Average</b>	<b>1889</b>	<b>1697</b>	<b>988</b>	<b>49.4%</b>	<b>0.51</b>	<b>739</b>	<b>0.38</b>

\*\* - Includes 294 grassed bays due to high ratio imposed by NMBM

Analysis of the parking bay provision supplied by each complex across the 4 sites indicate provision of 1697 bays for 1889 units – 89%.

However only 58% of the provided bays are allocated.

In summary across the four sites, an average of 0.38 bays per unit are used, 739 bays against 1889 units – ranging from 0.25 to 0.47 bays per unit.

### 8.3.2 Precedent Parking Ratio Studies

As part of a study for a Social Housing Development in Parow <sup>(11)</sup>, reference was made to two historical parking utilisation studies, the results of which are contained in **Table 15** below, as well as a market analysis study.

As indicated in **Table 15**, historic parking utilisation data indicates an average ratio of 0.34 bays per unit.

**Table 15: Results of Parking Demand Survey**

Development	Units	Parking ratio Bays provided per unit	Parking ratio Bays Utilised per unit
Winnie Mandela Drive <sup>(12)</sup>	568	Unknown	0.11
Kew Town <sup>(12)</sup>	320	0.15	0.14
Joe Slovo, Langa <sup>(12)</sup>	705	0.50	0.17
The Range <sup>(12)</sup>	288	0.60	0.19
Scottsdene <sup>(13)</sup>	500	0.53	0.34
Drommedaris <sup>(13)</sup>	219	0.54	0.42
Steen Villa <sup>(13)</sup>	630	0.70	0.50
Bothasig Gardens <sup>(13)</sup>	120	1.63	0.81
	<b>Average</b>	<b>0.66</b>	<b>0.34</b>
	<b>Average excluding Bothasig</b>	<b>0.5</b>	<b>0.32</b>

Source: 12) JSA, 13) Gibb

It is noted that the high parking utilisation at the Bothasig Gardens development can be attributed to the location of the development some distance away from formal public transport services compared to the other complexes referred to.

In addition, the study noted that the target market for social housing is lower-middle income households with a gross monthly income of R15 000. Such households typically have lower than average car-ownership. The study further found that approximately 41% of households own or regularly use one vehicle.

This equates to 0.41 bays per residential unit.

### 8.3.3 Parking Supply and Utilisation Data – Other Social Housing Complexes

Own Haven also operates a complex in Belhar, Cape Town, as well as Southernwood Square and Reservoir Mews in East London and Park Towers in Gqeberha.

The results of the sourced parking utilisation information are summarised in **Table 16** and indicate that utilisation at Belhar in Cape Town equates to the average provision of 0.62 bays per unit as discussed in Section 8.2.2 above.

The provision and utilisation of parking at the two complexes in East London is at a ratio of 1 bay per unit. This can possibly be attributed to no formal public transport system operating in East London.

The utilisation of the complex in Gqeberha is 0.15 bays per unit. It is however noted that this building is historically a hotel building in the Gqeberha CBD and parking on this site equated to 10% of the site are in terms of the Port Elizabeth Zoning Scheme.

Parking availability is thus limited and while tenants are not turned away on the basis of car ownership the building's parking provision is similar to all other high rise residential buildings in the CBD which have limited parking available.

**Table 16: Results of Parking utilisation – Other SH Complexes**

Housing Complex	Units	Bays Provided	Bays Allocated	% Allocated / unit	Allocated Bays / unit	Bays Utilised	No Bays utilised / unit
Belhar	630	504	322	51%	0.51	395	0.62
Southernwood Sq	249	249	249	100%	1.0	249	1.0
Reservoir Mews	430	430	430	100%	1.0	430	1.0
Park Towers	136	32	20	15%	0.18	20	0.15

Source: Own Haven Housing Association

### 8.3.4 Other Relevant Literature and Studies

A study prepared by NASHO on behalf of the City of Cape Town related to Transit Oriented Development (TOD) Corridors entitled **Affordable Rental Housing Incentives, Efficiencies and Facilitating Projects** <sup>(14)</sup> concluded that in order to incentivise affordable housing developments, parking ratios need to be reduced – even in PT areas – as not doing so will mean that ever larger erf sizes will be required to meet the current requirements, something not generally possible in built-up corridors.

The report recommends that in order to achieve reasonably sized developments that are viable to develop and operate, parking requirements for affordable developments (including social housing) should be reduced to a ratio of 0.35 – which is equivalent to the parking uptake among existing social housing developments.

### 8.3.5 Peak Hour Trip Generation Rates

A further argument in support of reduced parking ratios could be made when considering the approach used in the determination of peak hour vehicle trip generation rates for use when conducting junction capacity analysis contained in the TMH 16 and TMH 17 documents **South African Traffic Impact and Site Assessment Manual** <sup>(3)</sup> and **South African Trip Data Manual** <sup>(4)</sup> respectively.

In these manuals provision has been made to reduce trip generation rates for characteristics ranging from low or very low car ownership, proximity to public transport corridors and interchanges and mixed-use developments. Different rates for reduction of the trip generation rates have been determined for each land use category.

For example, for social housing complexes with low car ownership and adjacent to public transport nodes/or corridors, the adjustment for low car ownership is set at -30% and for proximity to public transit - 15% - thus a combined reduction of 40.5%.

What is important to note is that generated peak hour trips include inbound and outbound trips

### 8.3.6 Social Housing Tenant Turnover

A further aspect in support of reducing parking ratios for social housing facilities is that once residents have entered the complex, they tend to remain for approximately three to four years before moving out of the complex.

An analysis of tenant numbers at the complexes managed by Own Haven indicates that on average, 30% of residents move out of the complexes every year.

There is therefore also a low likelihood of residents improving their personal situation so that they can afford a vehicle and then remaining in the complex.

It is more likely that they would improve their accommodation situation by moving out of the social housing system.

**Table 17: Number of Mutations – Own Haven Complexes**

Complex	Location	No of Units	No of Mutations	Percentage
Milkwoods	PE	630	199	32%
Reservoir Mews	East London	430	109	25%
Southernwood Square	East London	249	59	24%
Oewerrus	East London	126	53	42%
Sunrise View	East London	108	29	27%
Ekuphumleni	East London	24	13	54%
Milner Court	PE	10	0	0%
Talana Court	PE	12	0	0%
Park Towers	PE	136	53	39%
		<b>1725</b>	<b>515</b>	<b>30%</b>

Source: Own Haven Housing Association

### 8.3.7 Summary

Given the results of the various utilisation surveys described above, both recent and historical, as well as the arguments in terms of ensuring the viability of affordable housing developments, the location of the planned Omega Close Development in proximity to the George CBD area, schools, shops and other amenities as well as along the GoGeorge IPTN routes along York Street, it is considered that it would be ideal to reduce the parking requirement to 0.35 bays as recommended in the TOD Corridor <sup>(14)</sup> report.

Furthermore, it is noted that this ratio is in line with the take-up at Social Housing developments in Cape Town - which has a strong formal public transport network.

It is further noted that utilisation at complexes in Gqeberha also averages 0.38 bays per unit in a city in which the public transport network has not yet evolved to the state of that in Cape Town nor George for that matter.

## 8.4 PARKING PROVISION

Notwithstanding the above, discussions with George Municipality have revealed that reducing the parking ratio to 0.35 bays per unit may realise a parking shortfall in Omega Close given that overflow parking from residential complexes in Omega Close currently making use of erf 26823 will no longer be able to do so once the development is complete.

A further concern from the municipal perspective is that given parking requirements of 0.75 bays per unit imposed on other social housing developments recently approved in George, permitting a ratio of 0.35 bays is a substantial reduction from that standard and does not provide any room to accommodate possible demand in excess of 0.35 bays per unit.

As such, in an effort to allay these concerns, the Garden Route District Municipality (GRDM) has agreed to a request by the developer that a notarial tie between erf 26823 and erf 2219, George be put in place to facilitate an increase in the parking ratio to 0.5 bays per unit.

It is submitted that a departure from 0.75 bays to 0.5 bays per unit is reasonable given that the development is situated within the George CBD and is in close walking distance to amenities in the CBD as well as public transport services in York Street.

This notarial tie (agreement to which is reflected in an extract from the minutes of the of the Garden Route District Municipality Council Meeting held on 12 December 2023 - attached as **Annexure E**) will result in 24 parking bays on erf 2219, George being shared between residents of the proposed social housing complex and GRDM staff.

An agreement between the parties outlining the necessary security and access control measures to be implemented by the developer will be put in place such that use of the shared bays by the development residents does not negatively impact on GRDM staff and that the shared bays are available to residents outside of working hours.

Given the proposed 166 residential units, a total of 83 parking bays is required to meet the 0.5 bays per unit requirement. 59 parking bays can be provided on erf 26823 and an additional 24 bays are required on erf 2911.

In addition to the required on-site parking provision, additional parallel on-street bays (XX) will be provided in Omega Street as indicated on the submitted Site Development Plan (**Annexure C**). These bays will accommodate any general public demand

## 8.5 LOADING REQUIREMENTS

Loading provision will be as stipulated in the George Zoning Scheme By-laws <sup>(2)</sup>.

## 9 CONCLUSIONS

The following conclusions can be drawn from the study:

- The proposed 166-unit development is likely to generate an additional 21 AM and PM peak hour trips (compared to 42 trips generated by 64 units as assessed in the **Traffic Impact Assessment of Erf 26823, Omega Street, George** <sup>(1)</sup>) considering a reduction based on low car ownership of tenants and the development's proximity to the GoGeorge bus routes along York Street;
- The affected intersections all operate at acceptable Levels of Service (LOS) in terms of capacity when considering the additional peak hour trips generated by the planned Own Haven Social Housing development added to the escalated background and latent traffic volumes for the 2025 development horizon provided that signal phasing be adjusted during the PM peak hour at the York Street / Fitchat Street intersection;
- Access to the site can safely be provided from Omega Close Road as proposed in the **Traffic Impact Assessment of Erf 26823, Omega Street, George** <sup>(1)</sup>;
- The site is located close to a major public transport corridor (York Street) 140m away and nearby bus stops on York Street (190m southbound and 340m northbound) served by the GoGeorge bus service on a regular basis through the day;
- Pedestrian sidewalk facilities, in line with universal access standards, can be extended to the development access point;
- Tenant criteria for access to social housing units, in the main householder incomes, lends to low car-ownership – evident in location of such facilities in areas close to public transport opportunities, which supports a reduction in the parking requirement;
- The current GoGeorge public transport service along York Street supports a reduction in the parking requirement;
- Investigation of historical parking utilisation data at social housing complexes in Cape Town and Gqeberha indicates that a parking ratio of 0.35 bays per unit is reasonable and also improves the viability of social housing developments; and
- The provision of a notarial tie between erf 26823 and erf 2911, George such that shared parking for the housing development residents can be provided on erf 2911 facilitates an increase in the parking ratio to 0.5 bays per unit; and
- Overflow public parking generated by other sites currently make use of erf 26823, George and can be provided along the frontage of the site.

## 10 RECOMMENDATIONS

In view of the findings of this study, it is recommended that:

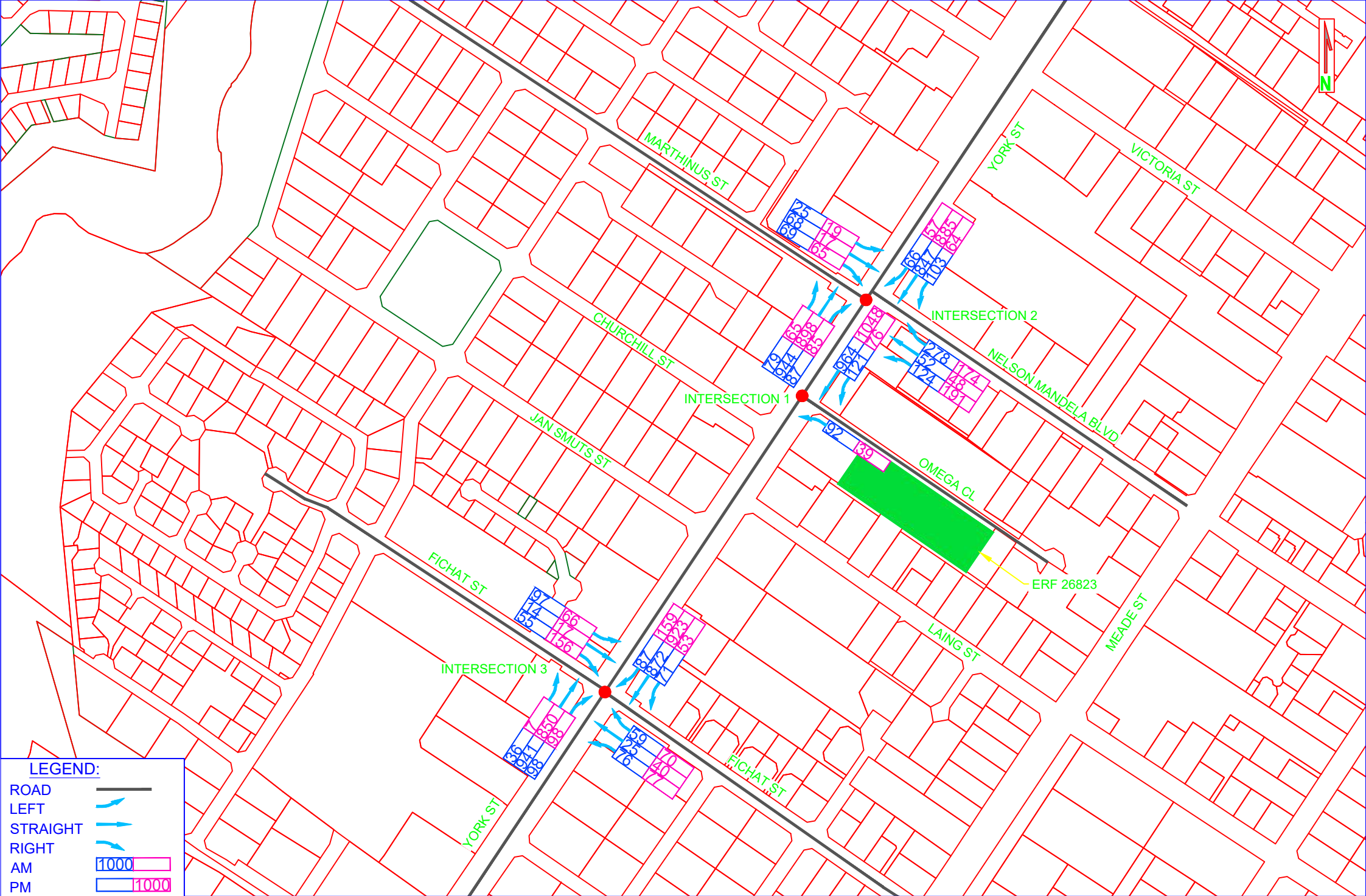
- This TIA Addendum be approved by the George Municipality;
- Access and egress to and from the proposed development be provided on Omega Close as proposed in the **Traffic Impact Assessment of Erf 26823, Omega Street, George** <sup>(1)</sup>;
- The access gate be set back 6.5m from the road edge and that the access be configured with one entering lane given that access control will be by means of remote-control technology;
- Pedestrian sidewalk facilities, in line with universal access standards, be provided in Omega Close from York Street up to the development access point;
- The verge along the proposed development be reconfigured to accommodate parallel public parking bays for use by the general public; and
- The developer submits an application to the George Municipality to **depart from the requirement for parking provision for social housing from 1 bay per residential unit to 0.5 bays per residential unit**, subject to a notarial tie between erf 26823 and erf 2911, George such that shared parking for the housing development residents can be provided on erf 2911.



## 11 REFERENCES

1. *Delta Built Environment Consultants (Pty) Ltd, Traffic Impact Assessment of Erf 26823, Omega Street, George*, Garden Route District Municipality, April 2023.
2. *George Municipality, George Integrated Zoning Scheme By-Law Draft Amendment*, George Municipality, 2023.
3. *Joubert, Sampson, et al, TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual*, COTO, September 2013.
4. *Joubert, Sampson, et al, TMH 17 Volume 1- South African Trip Data Manual*, COTO, September 2013.
5. *Transportation Research Board, Highway Capacity Manual*, 2000.
6. *Akcelik & Associates (Pty) Ltd, SIDRA Intersection Network 9 User Guide*, SIDRA Solutions, April 2022.
7. *Joubert, Sampson, et al, TMH 16 Volume 2- South African Traffic Impact and Site Assessment Standards and Requirements Manual*, COTO, September 2013.
8. *COTO, TRH26: South African Road Classification and Access Management Manual – Ver. 1*, SANRAL, 2012.
9. *Bruinette Kruger Stoffberg Inc, PG3/85 Parking Standards (Second Edition)*, Department of Transport, November 1985
10. *Engineering Advice and Services Proposed Residential Development on Portion 215 of Erf 335, Jeffreys Bay, Own Haven Housing Association*, April 2022.
11. *Motion Consulting Engineers, Parow Social Housing Development – Block F – Site Traffic Assessment*, Van Zyl and Associates obo City of Cape Town, November 2021.
12. *JSA, Hostel Upgrade & Community Residential Unit Project in Langa, Cape Town, Parking Demand Survey*, 2011.
13. *Gibb, Communicare Social Housing Developments: Bespoke Trip Generation and Parking Ratios Study*, Communicare, 2011.
14. *NASHO, Affordable Rental Housing Incentives, Efficiencies and Facilitating Projects*, City of Cape Town, July 2016

ANNEXURE A  
DELTA BEC  
TIA  
Background,  
Latent and  
Development  
Traffic Volumes  
- 2025



ANNEXURE B  
Capacity  
Analysis – 2025  
– Additional  
Peak Hour  
Volumes

# MOVEMENT SUMMARY

 Site: 01 [[01] 01 AM AD (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Parking Departure for the Proposed Social  
Housing Development on Erf 26823, George  
2025 After Development

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 96 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh ]	[ Dist ] m				km/h
SouthEast: Albert Street															
21	L2	All MCs	131	0.0	131	0.0	0.436	27.6	LOS C	8.8	61.6	0.81	0.76	0.81	30.4
22	T1	All MCs	55	0.0	55	0.0	0.436	22.1	LOS C	8.8	61.6	0.81	0.76	0.81	30.8
23	R2	All MCs	293	0.0	293	0.0	* 0.436	28.0	LOS C	8.8	61.6	0.83	0.78	0.83	32.7
Approach			478	0.0	478	0.0	0.436	27.2	LOS C	8.8	61.6	0.82	0.77	0.82	31.9
NorthEast: York Street															
24	L2	All MCs	108	0.0	108	0.0	0.563	25.3	LOS C	17.1	120.0	0.77	0.71	0.77	35.9
25	T1	All MCs	896	0.0	896	0.0	0.563	20.6	LOS C	17.1	120.0	0.77	0.70	0.77	32.3
26	R2	All MCs	69	0.0	69	0.0	0.416	41.1	LOS D	2.9	20.2	0.87	0.78	0.87	20.4
Approach			1074	0.0	1074	0.0	0.563	22.4	LOS C	17.1	120.0	0.78	0.71	0.78	31.7
NorthWest: Marthinus Street															
27	L2	All MCs	26	0.0	26	0.0	0.486	41.7	LOS D	7.2	50.5	0.92	0.79	0.92	20.9
28	T1	All MCs	72	0.0	72	0.0	* 0.486	36.2	LOS D	7.2	50.5	0.92	0.79	0.92	25.0
29	R2	All MCs	74	0.0	74	0.0	0.486	41.8	LOS D	7.2	50.5	0.92	0.79	0.92	17.3
Approach			172	0.0	172	0.0	0.486	39.4	LOS D	7.2	50.5	0.92	0.79	0.92	21.3
SouthWest: York Street															
30	L2	All MCs	83	0.0	83	0.0	0.615	25.9	LOS C	19.4	135.8	0.80	0.73	0.80	24.1
31	T1	All MCs	994	0.0	994	0.0	0.615	21.8	LOS C	19.4	135.8	0.80	0.72	0.80	32.0
32	R2	All MCs	92	0.0	92	0.0	* 0.487	41.3	LOS D	3.8	26.6	0.88	0.79	0.88	25.2
Approach			1168	0.0	1168	0.0	0.615	23.6	LOS C	19.4	135.8	0.81	0.73	0.81	30.7
All Vehicles			2892	0.0	2892	0.0	0.615	24.7	LOS C	19.4	135.8	0.81	0.73	0.81	30.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
SouthEast: Albert Street												
P5	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02

NorthEast: York Street												
P6	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
NorthWest: Marthinus Street												
P7	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
SouthWest: York Street												
P8	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
All Pedestrians		200	211	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 Site: 01 [[01] 01 PM AD (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Parking Departure for the Proposed Social  
Housing Development on Erf 26823, George  
2025 After Development

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 96 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. veh	Dist ] m				km/h
			veh/h		veh/h		v/c	sec							
SouthEast: Albert Street															
21	L2	All MCs	202	0.0	202	0.0	0.463	35.1	LOS D	9.9	69.0	0.87	0.77	0.87	27.1
22	T1	All MCs	51	0.0	51	0.0	0.463	29.6	LOS C	9.9	69.0	0.87	0.77	0.87	27.1
23	R2	All MCs	183	0.0	183	0.0	* 0.463	35.0	LOS D	9.9	69.0	0.89	0.78	0.89	29.4
Approach			436	0.0	436	0.0	0.463	34.4	LOS C	9.9	69.0	0.88	0.78	0.88	28.1
NorthEast: York Street															
24	L2	All MCs	67	0.0	67	0.0	0.463	18.8	LOS B	13.8	96.7	0.64	0.59	0.64	40.7
25	T1	All MCs	944	0.0	944	0.0	0.463	13.2	LOS B	13.9	97.3	0.64	0.58	0.64	38.1
26	R2	All MCs	60	0.0	60	0.0	0.248	26.1	LOS C	1.9	13.4	0.69	0.74	0.69	25.8
Approach			1072	0.0	1072	0.0	0.463	14.3	LOS B	13.9	97.3	0.64	0.59	0.64	37.4
NorthWest: Marthinus Street															
27	L2	All MCs	20	0.0	20	0.0	0.437	45.8	LOS D	4.7	32.6	0.94	0.78	0.94	19.2
28	T1	All MCs	18	0.0	18	0.0	* 0.437	40.3	LOS D	4.7	32.6	0.94	0.78	0.94	23.1
29	R2	All MCs	68	0.0	68	0.0	0.437	45.9	LOS D	4.7	32.6	0.94	0.78	0.94	15.8
Approach			106	0.0	106	0.0	0.437	44.9	LOS D	4.7	32.6	0.94	0.78	0.94	17.8
SouthWest: York Street															
30	L2	All MCs	68	0.0	68	0.0	0.464	18.8	LOS B	13.9	97.0	0.64	0.59	0.64	29.4
31	T1	All MCs	945	0.0	945	0.0	0.464	13.2	LOS B	13.9	97.6	0.64	0.58	0.64	38.1
32	R2	All MCs	89	0.0	89	0.0	* 0.369	27.4	LOS C	3.0	21.2	0.73	0.76	0.73	29.9
Approach			1103	0.0	1103	0.0	0.464	14.7	LOS B	13.9	97.6	0.64	0.59	0.64	36.7
All Vehicles			2717	0.0	2717	0.0	0.464	18.9	LOS B	13.9	97.6	0.69	0.63	0.69	33.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
SouthEast: Albert Street												
P5	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02

NorthEast: York Street												
P6	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
NorthWest: Marthinus Street												
P7	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
SouthWest: York Street												
P8	Full	50	53	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02
All Pedestrians		200	211	42.3	LOS E	0.1	0.1	0.94	0.94	196.1	200.0	1.02

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

 **Site: 02 [[01] 02 AM AD (Site Folder: General)]**

**Output produced by SIDRA INTERSECTION Version: 9.1.3.210**

Parking Departure for the Proposed Social  
Housing Development on Erf 26823, George  
2025 After Development  
Site Category: (None)  
Stop (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. ]	Dist ]				km/h
			veh/h		veh/h					veh	m				
SouthEast: Omega															
21	L2	All MCs	107	0.0	107	0.0	0.119	10.2	LOS B	0.5	3.3	0.48	0.92	0.48	37.1
Approach			107	0.0	107	0.0	0.119	10.2	LOS B	0.5	3.3	0.48	0.92	0.48	37.1
NorthEast: York Street															
24	L2	All MCs	133	0.0	133	0.0	0.296	5.5	LOS A	0.0	0.0	0.00	0.14	0.00	50.8
25	T1	All MCs	1015	0.0	1015	0.0	0.296	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	56.6
Approach			1147	0.0	1147	0.0	0.296	0.7	NA	0.0	0.0	0.00	0.07	0.00	55.1
All Vehicles			1255	0.0	1255	0.0	0.296	1.5	NA	0.5	3.3	0.04	0.14	0.04	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

 **Site: 02 [[01] 02 PM AD (Site Folder: General)]**

**Output produced by SIDRA INTERSECTION Version: 9.1.3.210**

Parking Departure for the Proposed Social  
Housing Development on Erf 26823, George  
2025 After Development  
Site Category: (None)  
Stop (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m				km/h
SouthEast: Omega															
21	L2	All MCs	53	0.0	53	0.0	0.063	10.6	LOS B	0.2	1.7	0.50	0.91	0.50	36.7
Approach			53	0.0	53	0.0	0.063	10.6	LOS B	0.2	1.7	0.50	0.91	0.50	36.7
NorthEast: York Street															
24	L2	All MCs	97	0.0	97	0.0	0.308	5.5	LOS A	0.0	0.0	0.00	0.10	0.00	51.6
25	T1	All MCs	1100	0.0	1100	0.0	0.308	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	57.4
Approach			1197	0.0	1197	0.0	0.308	0.5	NA	0.0	0.0	0.00	0.05	0.00	56.3
All Vehicles			1249	0.0	1249	0.0	0.308	0.9	NA	0.2	1.7	0.02	0.08	0.02	54.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).  
Vehicle movement LOS values are based on average delay per movement.  
Minor Road Approach LOS values are based on average delay for all vehicle movements.  
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
Two-Way Sign Control Capacity Model: SIDRA Standard.  
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

## MOVEMENT SUMMARY

**Site: 03 [[01] 03 AM AD (Site Folder: General)]**

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

### Parking Departure for the Proposed Social

Housing Development on Erf 26823, George

2025 After Development

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total veh/h	Flw %	[ Total veh/h	Flw %				[ Veh. veh	Dist ] m				km/h
SouthEast: Fichat Street															
21	L2	All MCs	80	0.0	80	0.0	0.584	45.5	LOS D	7.8	54.5	0.97	0.81	0.97	15.5
22	T1	All MCs	26	0.0	26	0.0	0.584	39.9	LOS D	7.8	54.5	0.97	0.81	0.97	12.3
23	R2	All MCs	62	0.0	62	0.0	0.584	50.6	LOS D	7.8	54.5	0.97	0.81	0.97	15.9
Approach			168	0.0	168	0.0	0.584	46.5	LOS D	7.8	54.5	0.97	0.81	0.97	15.2
NorthEast: York Street															
24	L2	All MCs	76	0.0	76	0.0	0.917	36.8	LOS D	51.4	360.0	0.98	1.01	1.12	14.1
25	T1	All MCs	927	0.0	927	0.0	* 0.917	32.5	LOS C	51.4	360.0	0.98	1.01	1.12	17.2
26	R2	All MCs	92	0.0	92	0.0	0.917	73.3	LOS E	5.9	41.6	1.00	1.01	1.48	6.3
Approach			1095	0.0	1095	0.0	0.917	36.2	LOS D	51.4	360.0	0.98	1.01	1.15	15.5
NorthWest: Fichat Street															
27	L2	All MCs	102	0.0	102	0.0	0.587	44.7	LOS D	8.1	56.5	0.97	0.81	0.97	14.0
28	T1	All MCs	15	0.0	15	0.0	* 0.587	40.1	LOS D	8.1	56.5	0.97	0.81	0.97	12.4
29	R2	All MCs	58	0.0	58	0.0	0.587	49.9	LOS D	8.1	56.5	0.97	0.81	0.97	13.7
Approach			175	0.0	175	0.0	0.587	46.1	LOS D	8.1	56.5	0.97	0.81	0.97	13.8
SouthWest: York Street															
30	L2	All MCs	38	0.0	38	0.0	0.719	16.2	LOS B	28.6	200.4	0.68	0.63	0.68	22.6
31	T1	All MCs	991	0.0	991	0.0	0.719	10.7	LOS B	28.6	200.4	0.71	0.65	0.71	36.9
32	R2	All MCs	103	0.0	103	0.0	* 0.719	42.4	LOS D	6.0	41.9	1.00	0.85	1.10	21.0
Approach			1132	0.0	1132	0.0	0.719	13.8	LOS B	28.6	200.4	0.73	0.67	0.75	34.3
All Vehicles			2569	0.0	2569	0.0	0.917	27.7	LOS C	51.4	360.0	0.87	0.83	0.95	21.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- \* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
SouthEast: Fichat Street												
P5	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthEast: York Street												

P6 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthWest: Fichat Street											
P7 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
SouthWest: York Street											
P8 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
All Pedestrians	200	211	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: F:\2100-2199\2162\Design\SIDRA\SIDRA.sip9



Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
SouthEast: Fichat Street												
P5	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthEast: York Street												

P6 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthWest: Fichat Street											
P7 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
SouthWest: York Street											
P8 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
All Pedestrians	200	211	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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## MOVEMENT SUMMARY

**Site: 03 [[01] 03 PM AD - Phasing (Site Folder: General)]**

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

### Parking Departure for the Proposed Social

Housing Development on Erf 26823, George

2025 After Development

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 100 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [ Veh. veh    Dist ] m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Fichat Street															
21	L2	All MCs	81	0.0	81	0.0	0.607	45.1	LOS D	9.0	63.3	0.97	0.81	0.97	15.8
22	T1	All MCs	42	0.0	42	0.0	0.607	39.5	LOS D	9.0	63.3	0.97	0.81	0.97	12.6
23	R2	All MCs	74	0.0	74	0.0	0.607	49.2	LOS D	9.0	63.3	0.97	0.81	0.97	16.1
Approach			197	0.0	197	0.0	0.607	45.4	LOS D	9.0	63.3	0.97	0.81	0.97	15.3
NorthEast: York Street															
24	L2	All MCs	57	0.0	57	0.0	0.970	49.6	LOS D	60.8	425.7	1.00	1.15	1.23	11.1
25	T1	All MCs	982	0.0	982	0.0	* 0.970	45.2	LOS D	60.8	425.7	1.00	1.15	1.24	13.4
26	R2	All MCs	167	0.0	167	0.0	* 0.970	78.4	LOS E	11.1	77.4	1.00	1.11	1.47	6.0
Approach			1206	0.0	1206	0.0	0.970	50.0	LOS D	60.8	425.7	1.00	1.14	1.27	11.9
NorthWest: Fichat Street															
27	L2	All MCs	69	0.0	69	0.0	0.956	66.9	LOS E	15.5	108.5	1.00	1.07	1.41	10.2
28	T1	All MCs	18	0.0	18	0.0	* 0.956	62.2	LOS E	15.5	108.5	1.00	1.07	1.41	8.8
29	R2	All MCs	164	0.0	164	0.0	0.956	72.5	LOS E	15.5	108.5	1.00	1.07	1.41	9.9
Approach			252	0.0	252	0.0	0.956	70.2	LOS E	15.5	108.5	1.00	1.07	1.41	9.9
SouthWest: York Street															
30	L2	All MCs	7	0.0	7	0.0	0.827	28.2	LOS C	36.7	256.7	0.90	0.85	0.93	17.2
31	T1	All MCs	895	0.0	895	0.0	0.827	22.6	LOS C	36.7	256.7	0.90	0.86	0.94	27.1
32	R2	All MCs	103	0.0	103	0.0	0.827	68.2	LOS E	7.0	48.7	1.00	0.96	1.26	13.3
Approach			1005	0.0	1005	0.0	0.827	27.3	LOS C	36.7	256.7	0.91	0.87	0.98	24.7
All Vehicles			2660	0.0	2660	0.0	0.970	43.0	LOS D	60.8	425.7	0.97	1.01	1.15	15.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- \* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
SouthEast: Fichat Street												
P5	Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthEast: York Street												

P6 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
NorthWest: Fichat Street											
P7 Full	50	53	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01
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All Pedestrians	200	211	44.3	LOS E	0.1	0.1	0.94	0.94	198.1	200.0	1.01

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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ANNEXURE C  
Development  
Layout

PROPERTY RIGHTS SCHEDULE - SIZES					
Plot	Plot Area	Plot Factor	Plot Area	Plot Factor	Plot Area
Plot 1	1,400 m <sup>2</sup>	1.0	Plot 2	1,400 m <sup>2</sup>	1.0
Plot 3	1,400 m <sup>2</sup>	1.0	Plot 4	1,400 m <sup>2</sup>	1.0
Plot 5	1,400 m <sup>2</sup>	1.0	Plot 6	1,400 m <sup>2</sup>	1.0
Plot 7	1,400 m <sup>2</sup>	1.0	Plot 8	1,400 m <sup>2</sup>	1.0
Plot 9	1,400 m <sup>2</sup>	1.0	Plot 10	1,400 m <sup>2</sup>	1.0
Plot 11	1,400 m <sup>2</sup>	1.0	Plot 12	1,400 m <sup>2</sup>	1.0
Plot 13	1,400 m <sup>2</sup>	1.0	Plot 14	1,400 m <sup>2</sup>	1.0
Plot 15	1,400 m <sup>2</sup>	1.0	Plot 16	1,400 m <sup>2</sup>	1.0
Plot 17	1,400 m <sup>2</sup>	1.0	Plot 18	1,400 m <sup>2</sup>	1.0
Plot 19	1,400 m <sup>2</sup>	1.0	Plot 20	1,400 m <sup>2</sup>	1.0
Plot 21	1,400 m <sup>2</sup>	1.0	Plot 22	1,400 m <sup>2</sup>	1.0
Plot 23	1,400 m <sup>2</sup>	1.0	Plot 24	1,400 m <sup>2</sup>	1.0
Plot 25	1,400 m <sup>2</sup>	1.0	Plot 26	1,400 m <sup>2</sup>	1.0
Plot 27	1,400 m <sup>2</sup>	1.0	Plot 28	1,400 m <sup>2</sup>	1.0
Plot 29	1,400 m <sup>2</sup>	1.0	Plot 30	1,400 m <sup>2</sup>	1.0
Plot 31	1,400 m <sup>2</sup>	1.0	Plot 32	1,400 m <sup>2</sup>	1.0
Plot 33	1,400 m <sup>2</sup>	1.0	Plot 34	1,400 m <sup>2</sup>	1.0
Plot 35	1,400 m <sup>2</sup>	1.0	Plot 36	1,400 m <sup>2</sup>	1.0
Plot 37	1,400 m <sup>2</sup>	1.0	Plot 38	1,400 m <sup>2</sup>	1.0
Plot 39	1,400 m <sup>2</sup>	1.0	Plot 40	1,400 m <sup>2</sup>	1.0
Plot 41	1,400 m <sup>2</sup>	1.0	Plot 42	1,400 m <sup>2</sup>	1.0
Plot 43	1,400 m <sup>2</sup>	1.0	Plot 44	1,400 m <sup>2</sup>	1.0
Plot 45	1,400 m <sup>2</sup>	1.0	Plot 46	1,400 m <sup>2</sup>	1.0
Plot 47	1,400 m <sup>2</sup>	1.0	Plot 48	1,400 m <sup>2</sup>	1.0
Plot 49	1,400 m <sup>2</sup>	1.0	Plot 50	1,400 m <sup>2</sup>	1.0
Plot 51	1,400 m <sup>2</sup>	1.0	Plot 52	1,400 m <sup>2</sup>	1.0
Plot 53	1,400 m <sup>2</sup>	1.0	Plot 54	1,400 m <sup>2</sup>	1.0
Plot 55	1,400 m <sup>2</sup>	1.0	Plot 56	1,400 m <sup>2</sup>	1.0
Plot 57	1,400 m <sup>2</sup>	1.0	Plot 58	1,400 m <sup>2</sup>	1.0
Plot 59	1,400 m <sup>2</sup>	1.0	Plot 60	1,400 m <sup>2</sup>	1.0
Plot 61	1,400 m <sup>2</sup>	1.0	Plot 62	1,400 m <sup>2</sup>	1.0
Plot 63	1,400 m <sup>2</sup>	1.0	Plot 64	1,400 m <sup>2</sup>	1.0
Plot 65	1,400 m <sup>2</sup>	1.0	Plot 66	1,400 m <sup>2</sup>	1.0
Plot 67	1,400 m <sup>2</sup>	1.0	Plot 68	1,400 m <sup>2</sup>	1.0
Plot 69	1,400 m <sup>2</sup>	1.0	Plot 70	1,400 m <sup>2</sup>	1.0
Plot 71	1,400 m <sup>2</sup>	1.0	Plot 72	1,400 m <sup>2</sup>	1.0
Plot 73	1,400 m <sup>2</sup>	1.0	Plot 74	1,400 m <sup>2</sup>	1.0
Plot 75	1,400 m <sup>2</sup>	1.0	Plot 76	1,400 m <sup>2</sup>	1.0
Plot 77	1,400 m <sup>2</sup>	1.0	Plot 78	1,400 m <sup>2</sup>	1.0
Plot 79	1,400 m <sup>2</sup>	1.0	Plot 80	1,400 m <sup>2</sup>	1.0
Plot 81	1,400 m <sup>2</sup>	1.0	Plot 82	1,400 m <sup>2</sup>	1.0
Plot 83	1,400 m <sup>2</sup>	1.0	Plot 84	1,400 m <sup>2</sup>	1.0
Plot 85	1,400 m <sup>2</sup>	1.0	Plot 86	1,400 m <sup>2</sup>	1.0
Plot 87	1,400 m <sup>2</sup>	1.0	Plot 88	1,400 m <sup>2</sup>	1.0
Plot 89	1,400 m <sup>2</sup>	1.0	Plot 90	1,400 m <sup>2</sup>	1.0
Plot 91	1,400 m <sup>2</sup>	1.0	Plot 92	1,400 m <sup>2</sup>	1.0
Plot 93	1,400 m <sup>2</sup>	1.0	Plot 94	1,400 m <sup>2</sup>	1.0
Plot 95	1,400 m <sup>2</sup>	1.0	Plot 96	1,400 m <sup>2</sup>	1.0
Plot 97	1,400 m <sup>2</sup>	1.0	Plot 98	1,400 m <sup>2</sup>	1.0
Plot 99	1,400 m <sup>2</sup>	1.0	Plot 100	1,400 m <sup>2</sup>	1.0

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**Notes**

All dimensions to be checked on site and on drawings, any discrepancies to be reported to the architect before work is put in hand. Only square dimensions are to be taken.

All levels to be checked on site and on drawings and any discrepancies must be reported to the architect before any work is put in hand. All levels shown are finished floor levels.

Soil and founding conditions must be checked and verified by a geotechnical engineer.

All work must be completed in accordance with SANS 10400 and the current National Building Regulations.

All structural work must be checked by a structural engineer and must be read in conjunction with their drawings.

**General notes**

#### BUILDING COVERAGE

	BLOCK A	BLOCK B
COVERED AREA	1 365.9 m <sup>2</sup>	1 121.5 m <sup>2</sup>
<b>TOTAL BUILDING GLA</b>	<b>2 487.4 m<sup>2</sup></b>	

#### BUILDING GLA

	BLOCK A	BLOCK B	
GROUND FLOOR	760.8 m <sup>2</sup>	740.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
FIRST FLOOR	524.3 m <sup>2</sup>	714.9 m <sup>2</sup>	1 239.2 m <sup>2</sup>
SECOND FLOOR	524.3 m <sup>2</sup>	714.9 m <sup>2</sup>	1 239.2 m <sup>2</sup>
THIRD FLOOR	524.3 m <sup>2</sup>	714.9 m <sup>2</sup>	1 239.2 m <sup>2</sup>
FOURTH FLOOR	524.3 m <sup>2</sup>	714.9 m <sup>2</sup>	1 239.2 m <sup>2</sup>
<b>TOTAL BUILDING GLA</b>	<b>7 524.4 m<sup>2</sup></b>		
<b>FLOOR AREA RATIO</b>	<b>2.58/1</b>	<b>5.40/1</b>	<b>1.38</b>

#	Revised	Date	By	Information
1	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
2	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
3	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
4	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
5	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
6	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
7	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
8	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
9	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
10	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
11	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
12	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
13	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
14	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
15	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
16	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
17	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
18	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
19	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
20	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
21	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
22	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
23	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
24	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
25	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
26	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
27	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
28	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
29	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
30	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
31	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
32	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
33	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
34	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
35	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
36	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
37	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
38	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
39	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
40	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
41	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
42	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
43	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
44	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
45	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
46	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
47	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
48	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
49	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
50	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
51	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
52	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
53	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
54	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
55	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
56	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
57	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
58	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
59	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
60	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
61	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
62	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
63	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
64	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
65	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
66	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
67	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
68	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
69	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
70	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
71	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
72	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
73	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
74	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
75	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
76	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
77	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
78	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
79	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
80	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
81	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
82	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
83	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
84	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
85	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
86	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
87	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
88	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
89	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
90	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
91	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
92	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
93	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
94	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
95	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
96	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
97	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
98	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
99	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
100	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION

#	Revision Category	Date	Issued by	Issue
Revisions				



ANNEXURE D  
Access Gate  
Calculations

# REQUIRED STACKING DISTANCE FOR ACCESS CONTROL

Trip Generation (Peak hour volume IN) for 166 RES Units

Peak Hour Trips - IN	45	Traffic ratio	Q-Length Veh	Lanes Required	Q-Length m
Access Control Options	Flow - Vph				
Swipe Magnetic card	480	23.0	1	1	6.5
Remote controlled gates	450	23.0	1	1	6.5
Pin number operated gates	150	39.0	2	1	13
Cell-phone operated gates (gate opens when a call is received)	100	56.0	1	2	6.5
Manual Recording (Visitor Completes form)	80	65.0	2	2	13
Intercom Operated Gates (Visitor contacts resident by Intercom)	50	115.0	3	2	19.5

ANNEXURE E  
Notarial Tie –  
GRDM Council  
Resolution

**EXTRACT FROM THE DRAFT MINUTES OF A COUNCIL MEETING OF GARDEN ROUTE DISTRICT MUNICIPALITY HELD IN THE CA ROBERTSON AND VIA ZOOM ON 12 DECEMBER 2023 AT 09:00**

**H. REPORTS FROM THE PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT / ITEMS VANAF DIE BEPLANNING EN EKONOMIESE DIENSTE DEPARTEMENT / IMIBA YESEBE LEZICWANGCISO KUNYE NOPHUHLISO LOQOQOSHO**

**H.1 APPROVAL OF A NOTARIAL LINK AND DUAL UTILISATION OF PARKING FACILITY, ERF 2219 – SOCIAL HOUSING PROJECT, OMEGA STREET: OWN HAVEN HOUSING ASSOCIATION / GOEDKEURING VAN 'N NOTARIALE VERBINDING EN DUBBELE GEBRUIK VAN PARKERING - GERIEWE, ERF 2219 – MAATSKAPLIKE BEHUISINGSPROJEK, OMEGASTRAAT: "OWN HAVEN BEHUISINGS ASSOSIASIE / UKUVUNYELWA KWENKCAZELO YE-NOTARIAL LINK KUNYE NOKUSETYENZISWA KABINI KWENDAWO YOKUPAKA, ERF 2219 – IPROJEKTHI YEZINDLU ZENTLALO, ISITALATO sase-OMEGA: OHHA**

*Refer Report from the Executive Manager Planning and Economic Development (L Menze / Manager Human Settlements (J Mkunqwana) (pg 300-308)*

**RESOLVED**

- 5.1 That Council takes note that OHHA has advised that the George Municipality now prefers reversion to 0,75 relative to parking ratios which will reduce the overall planned quantity unit yields. However, further motivation has been submitted to approve 0,5 bays per unit.
- 5.2 That Council takes note that OHHA requires reversion to 0,35 parking ratio per unit in line with their detailed Traffic Impact Assessment and Parking Study that was submitted as part of the SDP exercise which renders an overall yield of 166 units.
- 5.3 That Council approves that a Notarial Link authorising use of a portion of the GRDM' Erf 2219, Omega Street to accommodate 24 parking bays to be used on a dual basis be authorised and concluded with OHHA.
- 5.4 That Council approves that the notarial link and associated lease be made available at a nominal amount per annum to not further impact the project financial viability.

A handwritten signature in black ink, appearing to read 'PP Maqekeni', is positioned above a horizontal line.

**Adv. S Maqekeni**  
**Secretary of Council**

Confirmed Extract



## **Annexure F**

# OMEGA SOCIAL HOUSING DEVELOPMENT

## ENGINEERING SERVICES REPORT



DOCUMENT NO: C888/OD/001 REV OA

**Prepared by:**

Unit 304, Soho on Strand,  
128 Strand Street  
Cape Town  
8001

**SEPTEMBER 2023**

**NADESON**  
CONSULTING SERVICES

## Revision Summary

Project Name: Omega Social Housing Development

Document No: C888/OD/001

This document has gone through a line of checking procedure, which forms part of our Quality Management System.



.....  
Signature of Project Leader



.....  
Signature of Department Director

OA	18 September 2023	DM	AD	Issued for information
Revision	Date	By	Checked	Description of Revision

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	<b>ANNEXURE C: GIS STORMWATER SERVICES.....</b>	Error! Bookmark not defined.
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# 1 INTRODUCTION

## 1.1 Scope

Nadeson Consulting Services has been appointed to report on the civil engineering infrastructure requirements necessary to service the Social Housing Development.

The objective of this report is to assess the capacity of the existing services, pedestrian access and road upgrades required for the proposed development.

## 1.2 Site Location

The proposed development is located within George on Erf 25790. The site is situated South of Omega Close.

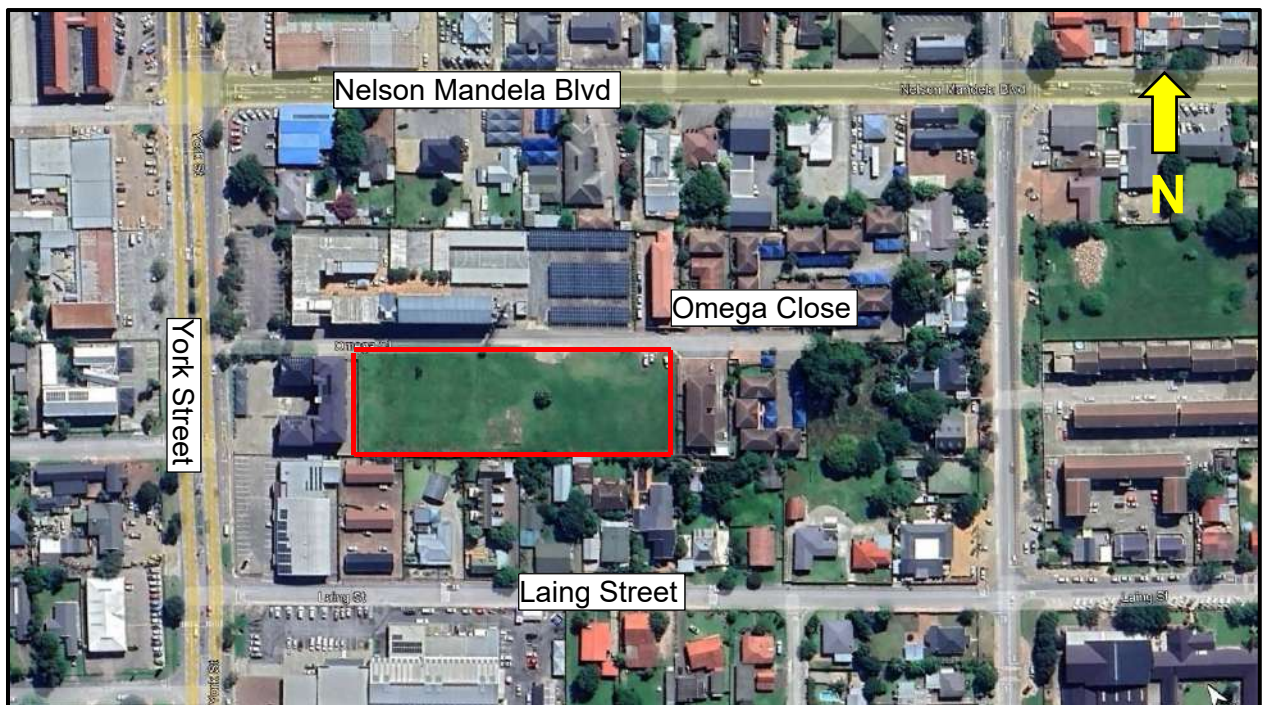


Figure 1.1: Site Location

## 1.3 Town Planning

The proposed site is to be developed for Social Housing. The development footprint is approximately 5398m<sup>2</sup> and comprises of the following:

- 166 Housing Units.
- Parking Area – 53 parking bays



## 2 LAYOUT

The layout below provides a brief overview of the extent for the proposed housing development.



Figure 2.1: Proposed Layout



Figure 2.2: Proposed Layout Render

## 3 ROADS AND WALKWAYS

### 3.1 Existing accesses

Currently no formal pedestrian and vehicular access exist to the site.



### **3.2 Proposed Road and walkway upgrades**

In order to provide safe access for pedestrians and vehicles to the proposed development, new access infrastructure will be required along Omega Close.

The proposal entails constructing a vehicular access road off Omega Close in the centre of the site. Surfaced sidewalk is proposed along Omega Street adjacent to the development for pedestrian access. A refuse embayment will be incorporated in Omega Street.

Additional 53 parking bays is proposed for the proposed development. The proposed parking area is located on the south open area of the site.

Refer to Annexure A for roads layout indicating the proposal.

All external road improvements should be undertaken in accordance with the requirements of the Traffic Impact Assessment. All standards will conform to those of the George Municipality and major non private access roads will be handed over to the Municipality upon completion.

## **4 STORMWATER MANAGEMENT**

### **4.1 Stormwater Drainage Plan**

The basic requirements of the stormwater drainage plan will need to ensure the following:

- Stormwater runoff from the development into the adjacent areas should be adequately controlled to prevent downstream flooding.
- Subsurface drainage paths should not be significantly restricted by the development of the site. Any groundwater recharge area within the site should not be significantly altered.

Noting the above, Stormwater drainage flow must be managed in terms of the Sustainable Urban Drainage Systems (SUDS) and Stormwater Best Management Practices (BMP's) criteria. This will assist with the stormwater management and cleansing of the water in terms of TSS and phosphate removal.

Stormwater runoff for the development will generally be managed on a catchment-wide basis and will take into account the surrounding built and natural environment. Stormwater infrastructure proposed for the sites will comprise both overland flow and underground piped systems.

Minor storm events will be catered for in the buried pipe networks. The network will be sized to accommodate a 2 year flood recurrence interval. In this scheme no hard surface will be allowed to flood, such as walkways or roads.

For Major storm events, the road networks together with the underground stormwater pipes will be designed to accommodate a 50 and 100 year flood recurrence interval. Further to this, excess runoff from a major storm event, which will be conveyed within the roadway, will not exceed a depth of 150mm above the highest point. Under such conditions, inconvenience to visitors is acceptable but access by emergency vehicles should not be completely hindered.

#### **4.2 Existing Stormwater Infrastructure**

Based on existing GIS information received, a 375mm diameter stormwater reticulation drain along the eastern boundary of the site and appears to run in the neighbouring erf towards Laing street. An existing 300mm diameter pipe inlet on the site drain to the 450mm diameter reticulation.

The site is relatively flat but there is sufficient open area within the site development plan to accommodate and delay additional stormwater runoff during high storm events.

#### **4.3 Proposed Stormwater Infrastructure**

The stormwater proposal for the site entails draining stormwater to landscaping shaped to form a grassed swales which will be interconnected throughout the site. The swales will eventually drain to the existing 300mm diameter connection on the South-East corner of the site. The intention would be that the swales attenuate on site as far as possible before draining to municipal infrastructure. The space available is limited to incorporate a stormwater detention pond so storage is proposed within the landscape areas. The parking area is proposed to drain to grassed channel and between the bays with catchpits at drainage points downstream of the channels.

Rainwater harvesting is proposed for the development to reduce stormwater drainage from the site and utilise water for irrigation.

The proposed stormwater reticulation layout is reflected in (Annexure B).

The proposed development consist of additional hard and landscaped surfaces with a parking area and play courts. The additional flow is to attenuate in the proposed detention pond and the overflow discharge drain to municipal infrastructure during peak storm events. A summary of the results are indicated in Table 4.3.

**Table 4.3: Summary of Computations.**

<b>STORM EVENT (24 hr duration)</b>	<b>PRE- DEVELOPMENT PEAK FLOW</b>  (m <sup>3</sup> /s)	<b>POST- DEVELOPMENT PEAK FLOW</b>  (m <sup>3</sup> /s)
<b>2 Year Return Interval</b>	0.009	0.051
<b>5 Year Return Interval</b>	0.014	0.077
<b>10 Year Return Interval</b>	0.019	0.103
<b>50 Year Return Interval</b>	0.033	0.134
<b>100 Year Return Interval</b>	0.042	0.225

It is recommended that as far as possible the post-development runoff meets pre-development runoff. This will ensure that all existing stormwater infrastructure is adequate for the new development and no further bulk stormwater infrastructure upgrades is required. In order to achieve this the engineer should ensure that sustainable drainage methods are implement within the site by conveying stormwater runoff into landscaped/grassed areas where possible.

## **5 WATER RETICULATION**

### **5.1 Existing Water Infrastructure**

Existing 110mm diameter water network is located in Omega Street which connects to the main water supply in York Street.

## 5.2 Estimated Water Demand

An instantaneous peak flow (peak AADD) for the proposed development amounts to approximately 1.34 l/s. The derivation of this value is given below.

### Estimated Peak Water Demand

Table 5.1 provides a simple calculation of instantaneous peak flow.

**Table 5.1: Peak water demand calculations.**

Land use	No of Leaners	Area (m <sup>2</sup> )/GLA	AADD		AADD (l/d)	AADD (l/s)	Peak AADD (l/s)
Residential	166		(l/Unit/d)	350	58 100.00	0.67	1.34
<b>Total</b>					<b>58 100.00</b>	<b>0.67</b>	<b>1.34</b>

Peak factor (red book Table J.9) 

2.0
-----

The proposed demand used above was aligned with the recommended range specified in the “Guidelines for Human Settlement Planning and Design” (Red Book). The peak factor was in accordance with Table J.9 of the same publication.

The development will likely be considered as a high risk fire risk category. Hence, a minimum fire flow requirement of 25 l/s at a 15m residual pressure head is applicable.

## 5.3 Proposed Water Reticulation

A new water connection is proposed from the existing 110mm diameter water reticulation in York Street. A new bulk water meter to be constructed in the sidewalk adjacent to the main entrance road to the development.

The existing water pressure for fire supply is low in the area for fire supply and the proposal would entail the construction of storage tanks with booster pumps to provide the required pressure to the development according to by-laws.

The propose water reticulation reflected in (Annexure B).

## 5.4 Alternative Water Sources

A possible wellpoint will be considered for the development but will need to be investigated. The rainwater harvesting is a secondary system for irrigating landscaping.

## 6 SEWER RETICULATION

### 6.1 Existing Sewer Infrastructure

An existing 160mm diameter sewer reticulation is located in Omega Street and drain along the eastern boundary within the site.

### 6.2 Estimated Sewer Flows

The Peak Wet Weather Flow (PWWF) for the proposed development amounts to approximately 1.26 l/s. The derivation of this value is given below.

#### Estimated Peak Foul Sewer Flows

The anticipated sewerage flows generated from the development would amount to approximately 80% of the domestic water demand, which excludes the use of grey water schemes.

The estimated Peak Foul sewer flows is estimated at approximately 80% of the water demand and allows for 30% stormwater infiltration as indicated below:

**Table 6.2: Peak sewer demand for the development.**

Land use	No of Units	Area (m <sup>2</sup> )/GLA	Unit Discharge	Dry Weather flow (l/day)	Dry Weather flow (l/s)	Wet Weather Flow (l/s)	Peak Wet Weather flow (l/s)
Residential	166		(l/Unit/d) 280	46 480.00	0.54	0.70	1.26
<b>Total</b>				<b>46 480.00</b>	<b>0.54</b>	0.70	<b>1.26</b>

Sewer Factor	80%	Used Fig C,1 in the Red Book
Peak (redbook Table K.4)	1.80	
Infiltration	30%	

The proposed discharge (per dwelling category), used in estimation of the total sewer flows is in line with the “Red Book”. The Peak factor used to determine the instantaneous peak flow anticipated in the internal sewer reticulation is in accordance with Figure C1 of the same publication.

### 6.3 Proposed Sewer drainage

The sewer drainage design for the proposed development is to connect to the existing 160mm diameter sewer pipeline along the eastern boundary of the site. A new manhole is proposed on the new connection point. A services servitude will need to be registered for the sewer draining along the eastern boundary of the site.

The proposed sewer reticulation is reflected in (Annexure B).

The internal networks, including pipe gradients, manholes, pipelines and erf connections will be designed according to George Municipality design standards.

## **7 SOLID WASTE**

### **7.1 Capacity to Collect**

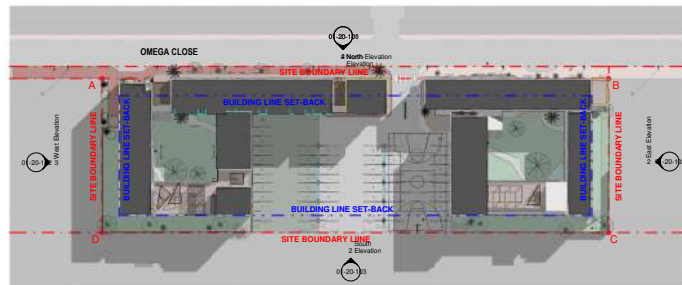
It is proposed that the disposal of solid waste to a land fill site or recycling to be the responsibility of the George Municipality. Domestic waste can be collected on a weekly basis at roadsides in wheelie-bins by self-compacting refuse vehicles in Omega Close.



## **ANNEXURE A: SITE LAYOUT**



**4 North-Elevation**  
1 : 200



**3 Site Plan**  
1 : 500



### UNIT SCHEDULE PER BLOCK

BLOCK A

BLOCK B

GROUND FLOOR	13 UNITS	18 UNITS	31 UNITS
Studio	3	9	
1 bed	6	4	
2 bed	4	5	
Transformer Room	1	1	
Refuse Room	1	1	
Security	1	1	
CHHA Office	1	0	
Community Hall	1	0	
FIRST FLOOR	22 UNITS	15 UNITS	41 UNITS
Studio	4	8	
1 bed	12	6	
2 bed	6	5	
SECOND FLOOR	22 UNITS	19 UNITS	41 UNITS
Studio	4	8	
1 bed	12	6	
2 bed	6	5	
THIRD FLOOR	31 UNITS	23 UNITS	53 UNITS
Studio	4	7	
1 bed	4	6	
2 bed	2	2	
2 bed duplex	21	7	
ROOF FLOOR			
Staircase over-run	3	2	
Drying / Rec Area	1	1	
TOTAL TOTALS:	166 UNITS		
TOTAL PARKING:	58 BAYS		



**1** **Ground Floor L00**  
1 : 200

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## notes

- All dimensions to be checked on site and on drawings, any discrepancies to be reported to the architect before work is put to hand. Only figured dimensions are to be taken.
- All levels to be checked on site and on drawings and any discrepancies must be reported to the architect before any work is put to hand. All levels shown are finished floor levels.
- Soil and founding conditions must be checked and verified by a geotechnical engineer.
- All work must be completed in accordance with SANS 10400 and the current National Building Regulations.
- All structural work must be checked by a structural engineer and must be read in conjunction with their drawings.

### General notes

I	156 UNIT DEVELOPMENT PROPOSAL	2023.08.25	P5	INFORMATION
H	Omaha Cross Presentation	2023.07.18	P5	INFORMATION
G	Capex Revision	2023.07.10	P5	INFORMATION
F	Number & Parking Reduction	2023.06.29	P5	INFORMATION
E	Ratio Reduction to 0.29 Parking	2023.06.14	P5	INFORMATION
D	Reduced ratio Search Plan Proposal	2023.06.07	P5	INFORMATION
C	First Search Plan	2023.03.08	P5	INFORMATION
B	Block 5 invited, external area defined	2022.12.07	PM	INFORMATION
A	First issue for information	2022.12.05	PM	INFORMATION

ID	Revision Category	Date	Issued by	Issued to
Revisions				

signature

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client \_\_\_\_\_ signature \_\_\_\_\_

project title

Omega Social Housing -

Onoga Social Housing  
George

George

drawing title

Ground Floor L00

Omega Close

George

date \_\_\_\_\_

221206

scale                      drawn                      checked

As indicated	PS	KJ
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project number	stage	dwg no.	revision
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## **ANNEXURE B: SERVICES LAYOUT**



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GENERAL NOTES:

NO	DATE	BY	FOR INFORMATION

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Consultant Signature

CLIENT

**OWN HAVEN**

Project

**OMEGA SOCIAL HOUSING DEVELOPMENT**

Drawing Title

**ROADS AND SERVICES LAYOUT**

Drawn	WC	Design Check	AD
Drawn	WC	Checked	AD
Date	SEPTEMBER 2023	Scale	1:200
Project No	C888	Drawing No	C8000
Revision	0A		

## **Annexure G**



**OWN HAVEN HOUSING ASSOCIATION NPC**

**ELECTRICAL SERVICES REPORT**

**FOR**

**PROPOSED OMEGA SOCIAL HOUSING  
DEVELOPMENT, GEORGE**

REPORT NO: G/19367/R

Dated: 27 October 2023

**Prepared by:**

Clinkscapes Maughan-Brown (South) (Pty) Ltd.  
39 Victoria Street  
GEORGE  
6529

Contact: Mr. GS Adams  
Tel. No. 044-874 1511



**CLINKSCALES MAUGHAN-BROWN**  
**CONSULTING MECHANICAL  
& ELECTRICAL ENGINEERS**



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14.0	Conclusion	6
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	B – Municipal Development Charges Calculation	
	C – E-mail message from Municipality, dated 25 October 2023	

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## 1.0 **INTRODUCTION**

This report has been prepared by Clinkscales Maughan-Brown (CMB) at their George office, who have been appointed by the Developer, Messrs. Own Haven Housing Association NPC, as the Electrical Consultants for the main supply to this development.

The purpose of this report is to provide the necessary information on the proposed electrical connection to the existing municipal network in the area, in order to obtain all the necessary statutory approvals and to draw up a services agreement.

## 2.0 **LOCATION AND EXTENT OF DEVELOPMENT**

The location of the planned development is Erf No. 26823, Omega Street in George. It will consist of 166 social housing apartments, grouped together in two (2) free standing adjacent blocks of five (5) stories each.

## 3.0 **SUPPLY AUTHORITY**

The Supply Authority for the area is George Municipality, and therefore their Electricity Department was consulted on matters related to the electrical services.

## 4.0 **BASIS OF REPORT**

The report is based on the following:

- (i) Site development plan prepared by Messrs. Jakupa Architects + Urban Designers.
- (ii) An e-mail message dated 25 October 2023 received from Mr. M. Gatyeni of the George Municipality's Electrical Department.
- (iii) General information received from the Client and other members of the professional team for this development.

## 5.0 **DEMAND**

Based on the information currently available, the peak kVA demand of the Development has been estimated at  $166 \text{ units} \times 8,05\text{kVA} \times 0.3 \text{ d.f.} = 400\text{kVA}$  after diversity maximum demand.

This is a provisional calculation and will be finalized after all the network load particulars have been concluded.

The following objectives will be set to reduce consumption:

- Comply with SANS 10400.
- Energy efficient light fittings, air conditioning, mechanical ventilation, refrigeration and water heating installations, etc.
- Use of LPG gas instead of electrical appliances for cooking where economically feasible.
- Use of energy efficient appliances.
- Installation of Photo Voltaic (PV), if it can be economically justified.

It is expected that with the implementation of these measures, consumption could be reduced significantly.

## 6.0 **AVAILABILITY OF CAPACITY**

The Municipality has indicated that they have no objections to supplying this development and would prefer it be provided at bulk MV (Medium Voltage – 11kV) and be a bulk metered connection. The internal network downstream from the 11kV Bulk MV kWh meter will remain the property and maintenance of the Developer / Homeowners Association.

Included under Annexure C of this report is an e-mail message dated 25 October 2023 received from the Municipality in this regard.

## 7.0 **POINT OF CONNECTION AND POINT OF SUPPLY**

The Point of Connection would be to cut a new 3-way 11kV Ring Main Unit (RMU) into an existing MV underground cable ring feed supplying the existing municipal substation “ST-EDEN MUN (630kVA)”. A Bulk MV Metering Unit will further be installed downstream from the latter RMU, which will include the Bulk MV kWh consumption meter for the development. The meter shall be 4 quadrant, 4 wire and programmed as such.

The load terminals of this Bulk MV kWh meter will become the Point of Supply for the Development. Refer Drawing No. 19367/E/01 attached under Annexure A for proposed positions of this equipment.

The MV and LV reticulation network downstream from the Point of Supply is considered to be the Internal Network and will on completion become the responsibility of the Developer / Homeowners' Association for their ownership and operation.

## 8.0 **EXTERNAL NETWORK**

The External Network is considered to be the network between the Point of Connection and the Point of Supply as defined above, which is to be taken over by the Municipality on completion for their ownership and operation.

All drawings and specifications of the External Network must comply with the Municipality's technical requirements and must be submitted to them for official approval before construction can commence.

Construction will be undertaken by an accredited Electrical Contractor to be prior approved by the Municipality.

## 9.0 **INTERNAL NETWORK**

The Developer will have to enter into a supply agreement with the Municipality and will be responsible for operating and maintaining the internal network downstream of the said meter. The Developer shall appoint and maintain an appointment of a responsible person as defined in the General Machinery Regulations of the OHS Act to take responsibility of the installation and operation thereof downstream of the meter.

The Developer will be responsible for metering each individual residential unit's consumption, sending out accounts, debt collection, etc. The services of a metering agent could be employed to assist in this regard and using prepayment metering.

All cables and electrical equipment outside the erf will be installed in servitudes, road reserves and open spaces and will be accessible to the Municipality at all times.

It is noted that no Small Scale Embedded Generator (SSEG) or renewable energy plant shall be installed without prior Municipal approval, and in the case of approval a competent person shall be appointed in terms of GMR(2).

## 10.0 **TAKING-OVER OF INSTALLATION**

As stated before, the Municipality should take-over the External Network on completion and the Developer or Homeowners' Association the Internal Network, and respectively be responsible for the operation and maintenance thereof.

Drawings and a specification for the work will be submitted to the Municipality for approval before construction work commences. On completion of construction, a full set of As-Built drawings (electronic and hard copy) together with test certificates and manuals of the equipment shall be handed over to the Municipality.

The Consulting Engineer responsible for the project will also certify that all work has been completed in accordance with the drawings and specification approved by the Municipality.

It should not be a requirement for the Municipality to approve the Internal Network, but the drawings and specification for same shall also be submitted to the Municipality for their records and information during the approval stage of the External Network.

## 11.0 **ENVIRONMENTAL REQUIREMENTS**

All work will comply in all respects with the relevant environmental management requirements.

## 12.0 **PROGRAMME**

A programme for the completion of this project is to be made available to the Municipality once this has been finalised.

## 13.0 **CAPITAL COSTS**

- (i) The Developer will be responsible for the supply, installation and commissioning of the complete internal network and the link to the existing network as described above. All work will be done under the direction of the Developer's Electrical Consultant, i.e. Messrs. Clinkscales Maughan-Brown, and by an Electrical Contractor to be approved by the Developer and the Municipality.
- (ii) The Developer will be responsible for payment of the standard Municipal Development Charges (DC's) towards bulk infrastructure. The level at which the development connects in the shared network, and thus its contribution to shared networks, must be taken as MV. Based on a provisional calculation done by Mr. M. Gatyeni, the amount payable for DC's is  $R\ 1\ 787\ 278.67 + R\ 268\ 091.80\ \text{VAT} = R\ 2\ 055\ 370.47$ . A copy of this calculation is attached under Annexure B.

The above DC's are based on a maximum Notified Demand of 400kVA.

- (iii) Should the above demand need to be increased or decreased, all related cost including development charges as applicable shall be for the homeowner's accounts.
- (iv) Details regarding the electrical capacity allocation to each unit to be included in the rental agreements or sales contracts. Should this development ever in future need to be taken over by the Municipality, the infrastructure shall be designed and upgraded to our standards before this can be requested.
- (v) No individual consumer can connect to the Municipal network, as the power need to be supplied via the Bulk MV metering point.
- (vi) The re-sale of electricity shall be done according to the regulations and bylaws.

#### 14.0 **CONCLUSION**

We trust that this information is sufficient to obtain the necessary statutory approvals for the development and to draw up the services agreement.

Please do not hesitate to contact the writer should more information be required.

If you are in agreement with the above, we can forward a copy of this report directly to the Municipality's Electrical Department for their approval and any further comments that they may have.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Stiaan Adams'.

Stiaan Adams Pr Tech Eng

**CLINKSCALES MAUGHAN-BROWN**

---ooo0ooo---

## ANNEXURE A



Drawing No. 19367/E/01 – Plan Layout of Proposed Electrical Connection





## Annexure B

### Municipal Development Charges Calculation

Development Charges Calculator				Version 1.00		2023/07/04	
				Erf Number	26823		
				Allotment area	George		
				Elec DCs Area/Region	George Network		
				Elec Link Network	MV		
				Elec Development Type	Normal		
				Developer/Owner	Own Haven		
				Erf Size (ha)	0		
				Date (YYYY/MM/DD)	2023-10-25		
				Current Financial Year	2023/2024		
				Collaborator Application Reference	0		
Code	Land Use		Unit				
				Total Existing Right		Total New Right	
<b>RESIDENTIAL</b>				Units	Units	Units	
	Single Res > 1000m² Erf (Upmarket)		unit		1		
<b>OTHERS</b>				kVA		kVA	
	Others. No further diversity applied. (as applied by consultant)		Actual kVA (ADMD)				400
				Please select			
Is the development located within Public Transport (PT1) zone?				Yes			
<b>Calculation of bulk engineering services component of Development Charge</b>							
Service	Units	Existing demand (ADMD)	New demand (ADMD)	Unit Cost	Amount	VAT	Total
Electricity	kVA	5,78	400,00	R 4 533,70	R 1 787 278,67	R 268 091,80	R 2 055 370,47
Total bulk engineering services component of Development Charge payable					R 1 787 278,67	R 268 091,80	R 2 055 370,47
<b>Link engineering services component of Development Charge</b>							
<b>Total Development Charge Payable</b>							
City of George Calculated (ETS):  Signature : _____ Date : October 25, 2023							
NOTE : In relation to the increase pursuant to section 66(5B)(b) of the Planning By-Law (as amended) in line with the consumer price index published by Statistic South Africa) using the date of approval as the base month							
Notes:							
Departmental Notes:							

For the internal use of Finance only

Service	Financial codeUKey number	Total
Electricity	20220703048979	R 2 055 370,47
		R 2 055 370,47

## Annexure C

E-mail message from Municipality, dated 25 October 2023

**From:** Mzwanele Gatyeni <mgatyeni@george.gov.za>  
**Sent:** Wednesday, 25 October 2023 08:16  
**To:** sadams@cmbgeorge.co.za  
**Cc:** Daniel Greeff; Rasmus Esterhuysen; 'Andrew Wiseman'; 'Manie Papenfus'  
**Subject:** RE: 19367: Omega Close Social Housing Development, George: Bulk Electrical Supply  
**Attachments:** 0 - Erf 26823 Omega Close - George DC Elec Model 2023-07-05 Master.pdf

Dear Stiaan,

Please find our comments on email below in blue.

Further comments will be provided on services report.

Regards,

Mzwanele

---

**From:** sadams@cmbgeorge.co.za <sadams@cmbgeorge.co.za>  
**Sent:** Tuesday, October 24, 2023 8:44 AM  
**To:** Mzwanele Gatyeni <mgatyeni@george.gov.za>  
**Cc:** Daniel Greeff <Dgreeff@george.gov.za>; Rasmus Esterhuysen <Rgesterhuysen@george.gov.za>; 'Andrew Wiseman' <andrew@ownhaven.co.za>; 'Manie Papenfus' <Manie@udwc.co.za>  
**Subject:** RE: 19367: Omega Close Social Housing Development, George: Bulk Electrical Supply  
**Importance:** High

**Caution:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Morning Mzwanele,

Herewith just a follow-up on our e-mail of 19 Oct 2023 regarding the above.

I am available should you wish to meet on site to discuss anything.

Awaiting your reply.

Regards,

**Stiaan Adams** Pr Tech Eng

---

**Clinkscapes Maughan-Brown – George**  
Consulting Mechanical & Electrical Engineers

39 Victoria street, George, 6529 | P O Box 2551, George, 6530  
**Tel:** (+27) 44 874 1511 | **Mobile:** (+27) 82 771 7956  
**Email:** [sadams@cmbgeorge.co.za](mailto:sadams@cmbgeorge.co.za) | **Website:** [www.clinkscapes.co.za](http://www.clinkscapes.co.za)

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**From:** [sadams@cmbgeorge.co.za](mailto:sadams@cmbgeorge.co.za) <[sadams@cmbgeorge.co.za](mailto:sadams@cmbgeorge.co.za)>  
**Sent:** Thursday, October 19, 2023 4:25 PM  
**To:** 'Mzwanele Gatyeni' <[mgatyeni@george.gov.za](mailto:mgatyeni@george.gov.za)>  
**Cc:** 'Daniel Greeff' <[Dgreeff@george.gov.za](mailto:Dgreeff@george.gov.za)>; 'Rasmus Esterhuysen' <[Rgesterhuysen@george.gov.za](mailto:Rgesterhuysen@george.gov.za)>; 'Andrew Wiseman' <[andrew@ownhaven.co.za](mailto:andrew@ownhaven.co.za)>; 'Manie Papenfus' <[Manie@udwc.co.za](mailto:Manie@udwc.co.za)>  
**Subject:** 19367: Omega Close Social Housing Development, George: Bulk Electrical Supply  
**Importance:** High

Dear Mzwanele,

We have been appointed by the Developers, Messrs. Own Haven Housing Association, for the Approval Stage of the Bulk Electrical Supply to the above-mentioned new development. As part of this appointment we will be responsible for the Electrical Services Report, which on completion will be sent to the Municipality for comments and final approval.

The development will consist of 166 social housing units in a four-storey building. Unit area sizes will vary between 31m<sup>2</sup> (studio apartment) to 45m<sup>2</sup> (2-bedroom apartment). Our estimated NMD is 400kVA (577A).

See attached the following drawings:

1. Locality Plan and existing MV and LV reticulation network in the area. The Development Erf No. is 26823 and highlighted in colour. Just off York Street, opposite the Eden District Municipality.
2. Ground Floor of the proposed development, depicting the footprint layout. You will note that there are already two transformer rooms allowed for by the Developer, one per block of apartments.

We would appreciate if you could please advise on the following:

- a) The Municipality's preference on supplying the development with either Bulk MV or Bulk LV. Considering the two transformer rooms already allowed for and also the estimated NMD of 400kVA, we would presume Bulk MV would be better? **Bulk MV it is. We have checked the network and found no issues.**
- b) In which MV cable can the extension be cut into? You will note there are two 35C\*3P MV cables running past the development to supply a ring feed to existing substation "ST-EDEN MUNIC". **It does not matter, the supply will be on a ring?**
- c) Estimated Development Charges calculation, taking into account it is Social Housing. **See attachment. You will further need to make allowance for Consumer Deposit for 3 months consumption at estimated maximum demand.**
- d) Any other specific requirements that the Municipality might have in this regard. **Refer to Danie's email which he recently provided (Development in Meade Street)**

Please advise should you wish to have a site inspection, then we can make a time.

Looking forward to your response.

Regards,

**Stiaan Adams** Pr Tech Eng

---

**Clinkscapes Maughan-Brown – George**  
Consulting Mechanical & Electrical Engineers

39 Victoria street, George, 6529 | P O Box 2551, George, 6530  
**Tel:** (+27) 44 874 1511 | **Mobile:** (+27) 82 771 7956  
**Email:** [sadams@cmbgeorge.co.za](mailto:sadams@cmbgeorge.co.za) | **Website:** [www.clinkscapes.co.za](http://www.clinkscapes.co.za)

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## **Annexure H**

## OMEGA SOCIAL HOUSING: URBAN DESIGN NARRATIVE

The development proposal for this project recognises the significance of providing an opportunity for lower income families to gain access to the amenities of George's CBD. We also recognise that this project will set a precedent for the goals of achieving equity and spatial justice. The design proposition is to provide a quality building that is safe and contribute positively to the aesthetics of the neighbourhood and give effect to the municipality's Urban Design Policy.

### 1. URBAN DESIGN POLICY CONTEXT

The proposed Omega Social Housing project described in this report is a model development shaped by both the desire to make liveable environments for its residents and integrate the development into its context.

We have referenced George Municipality's Urban Design Guidelines For High Density, Social And Affordable Housing policy document, applied our urban design sensibilities and measured it against what is achievable. While we may not tick all boxes within the Guidelines, we have closely aligned our proposal to the spirit and principles, encompassed therein.

This report must therefore should not be read in isolation but within the context of the larger regulatory frameworks and the principles within the policy document. Its useful to note that the policy document references images and design proposals produced by Jakupa. Our design responses in this instance, is born out of principles of:

2. **Safety and security:** over and above the various technological and management models we've planned for in support of creating a safe environment, we've adopted a perimeter block model that allows for oversight and an intimate relationship to an active street that demonstrates safety through design principles.
3. **Integration:** we've shaped our proposal to respond to the immediate context in scale, form and function. At a higher level, the location of the site makes room for lower income families in a well-located area close to George's CBD.
4. **Inclusive and Adaptive:** the very nature of the development rationale is inclusivity and is reflected in the values of the design rationale and the intent in creating inclusive communities. We've considered the street as a public space that establishes amenity for pedestrians where none exists. This includes making provision for universal access systems and accommodation both inside and immediately adjacent to the development.
5. **Sense of Place:** in the context of this being a development for rental stock, we've established a sense of place through the form and architectural language as well as making provision for placemaking initiative within the development. These include active courtyards for a variety of age groups including soft and hard play areas for boys and girls and vegetable gardens for the elderly.

6. **Balance:** the design proposition has been the result of measuring what is possible within the financial constraints, the technical limitations [predominantly engineering limitations] and the management model used by the client. A process of negotiating trade-offs between these competing interests has resulted in the design proposed within this report.
7. **People oriented:** we've promoted people being the centre of this development. Where cars share space with pedestrians, such as the parking court, we've added overlays to the design that allows flexibility in its use. Similarly, the development has been arranged around a series of courtyards that generates layers of privacy from the street to the front door.

The following narrative describes the design proposition in relation to the intent to create vibrant and inclusive places with George.

## 1. DEVELOPMENT RATIONALE

---

Human settlement however, is much more than housing, it has by definition included the following principles that support the proposed spatial qualities of the place:

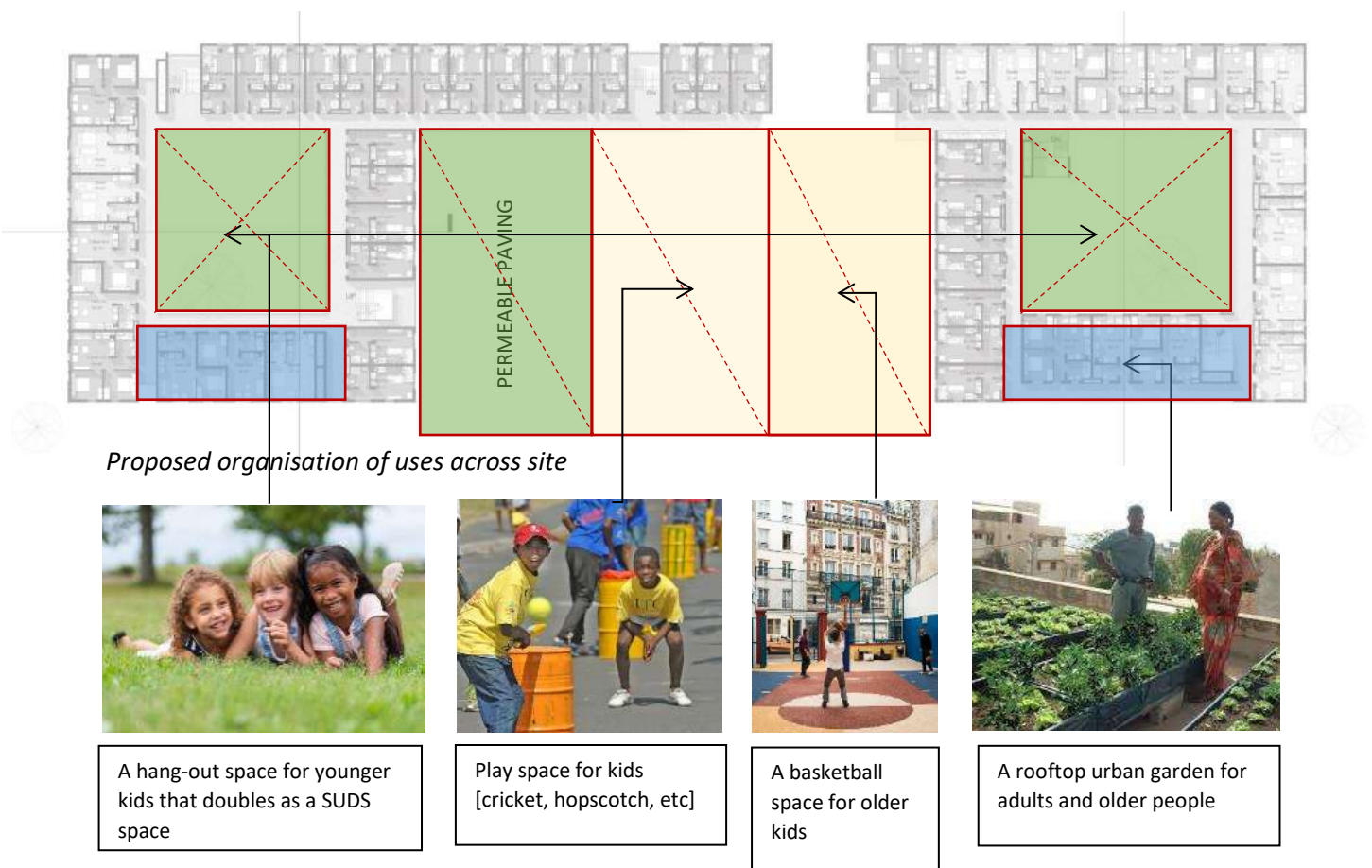
1. **Places Matter Most:** Places are much more important than individual buildings or traffic volumes. We will create attractive and interesting places that are shaped by human scale, qualitative [phenomenological] and functional organization of the site, enlivening the physical experience of the development by both its occupants and passers-by. The rich potential of the broader site already provides key qualitative principles from which to draw inference.
2. **Craft is King:** Attention to the grain and texture of the making of urban form must be complemented by the crafting of the making of the place. We aim to avoid crass built forms shaped by reductive technocratic solutions.
3. **People and Space Integration:** We will encourage a positive relationship with the existing morphology and integrate it with its genius loci. The sense of place includes the relationship of people, their activities, and cultural practices, ultimately reflecting their character in its making.
4. **Community over Time:** Systems thinking and incremental development will allow opportunity for the development to shape its form and character over time. Sustainability [social, economic, environmental, resource] is to be treated as a matter of course, furthermore, we argue that the development should allow for flexibility in accommodating a changing program that may be influenced by changing needs over time.
5. **Sustainability:** Sustainability in the instance of this context, without question, has to revolve around the relationship of settlement in challenging social, economic and spatial ecologies and will be negotiated at the intersection of safety and place making. A "healing the land" philosophy is an appropriate conceptual framework for the considered preparation of the land to receive its people with dignity. Sustainability therefore begins with the fact that this development will accommodate lower income people at a well-located site close to a wide range of amenities in George's CBD and have access to the significant GoGeorge public transport systems.

We'll supplement this with entrenching ecological systems into our plan through building sustainable drainage systems [SUDS] principles into the design and layer it with social practice before applying other sustainability principles.



The immediate context is dominated by institutional buildings and infrastructure-biased land uses. Omega Street is relatively placeless with no infrastructure to support people despite the neighbouring housing apartment blocks on either side of the site.

1. Entrances, a resident meeting room and management offices are organised to dominate the street interface in an attempt to improve the street interface that will be further enhanced with the planting of indigenous trees and installation of seating outside these space to facilitate activity on the sidewalk.
2. The design concept is to establish courtyards that will accommodate a safe place for tenants as semi-private space and house a variety of activities.
3. It is acknowledged that the proposed development will accommodate various age groups and therefore need to make space for the target groups to undertake group activities such as: play equipment for young kids; marking out the hardened parking area to be used by teenagers for kicking a soccer ball, play street cricket or one-on-one basketball.
4. Given the limited extent of the site and a maximum building height of 15m, the roof space will be used to accommodate drying yards, and if found to be feasible and sustainable, an urban vegetable garden and a garden roof space.
5. An on-site security office will be provided from where the access control and CCTV systems will be managed.
6. Finally, an onsite management office will be included in the design from where Own Haven will provide all site maintenance & upkeep and tenant management functions.

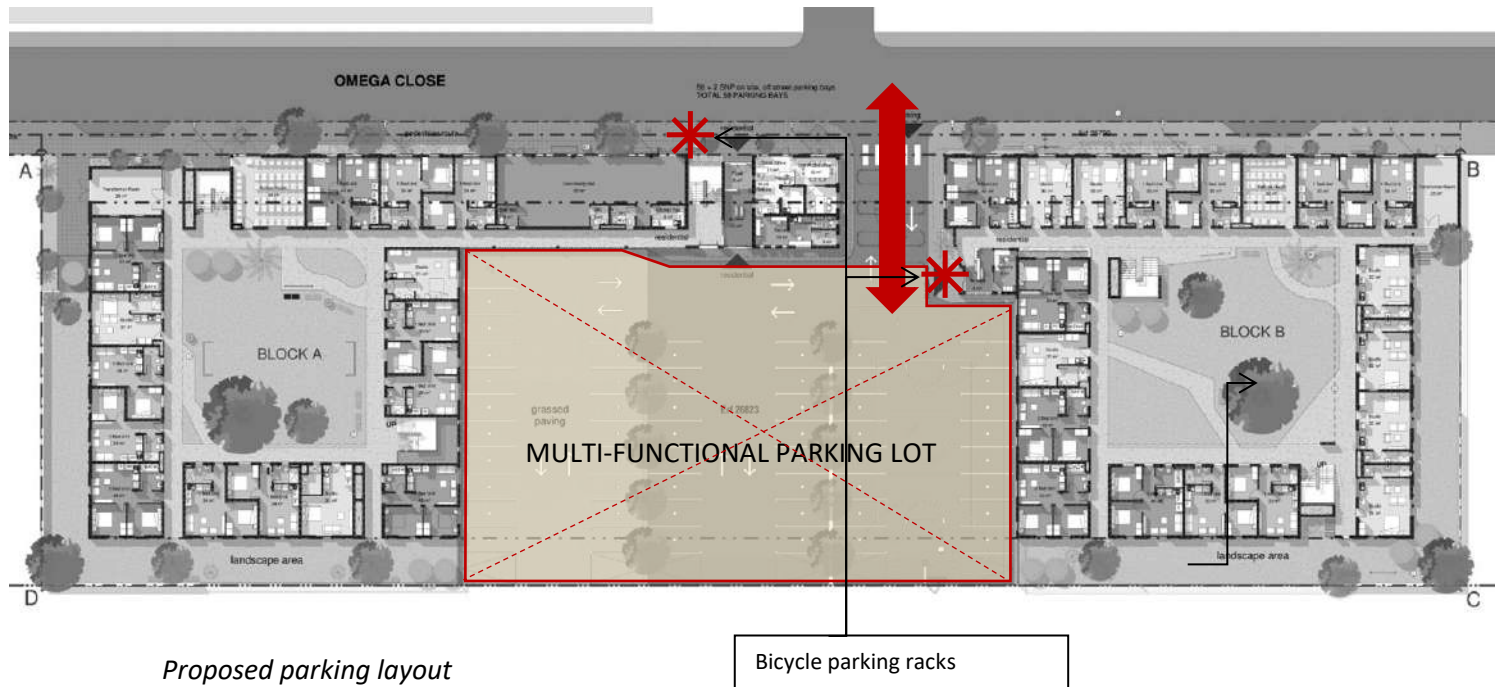




Over and above the people-facing facilities, the development will accommodate a range of sustainability focused infrastructure that will include photo-voltaic systems, water and electricity metering systems, and a refuse recycling facility.

### 1.3 Parking

We've accommodated 58 parking bays on site within courtyards at a ratio of more than 0,35 bays per unit. They'll be accessed from a managed one-way access point from Omega Street and due the constrained nature of the site, will be doubling up as play areas when not in use as parking space.



We've also made provision for bicycle parking space both internally and on the sidewalk adjacent to the entrance area that is more in keeping with NMT principles. We've also made provision for sidewalk continuity in support of pedestrians, particularly across the vehicular entrance lanes and intend lowering kerbs for universal accessibility.

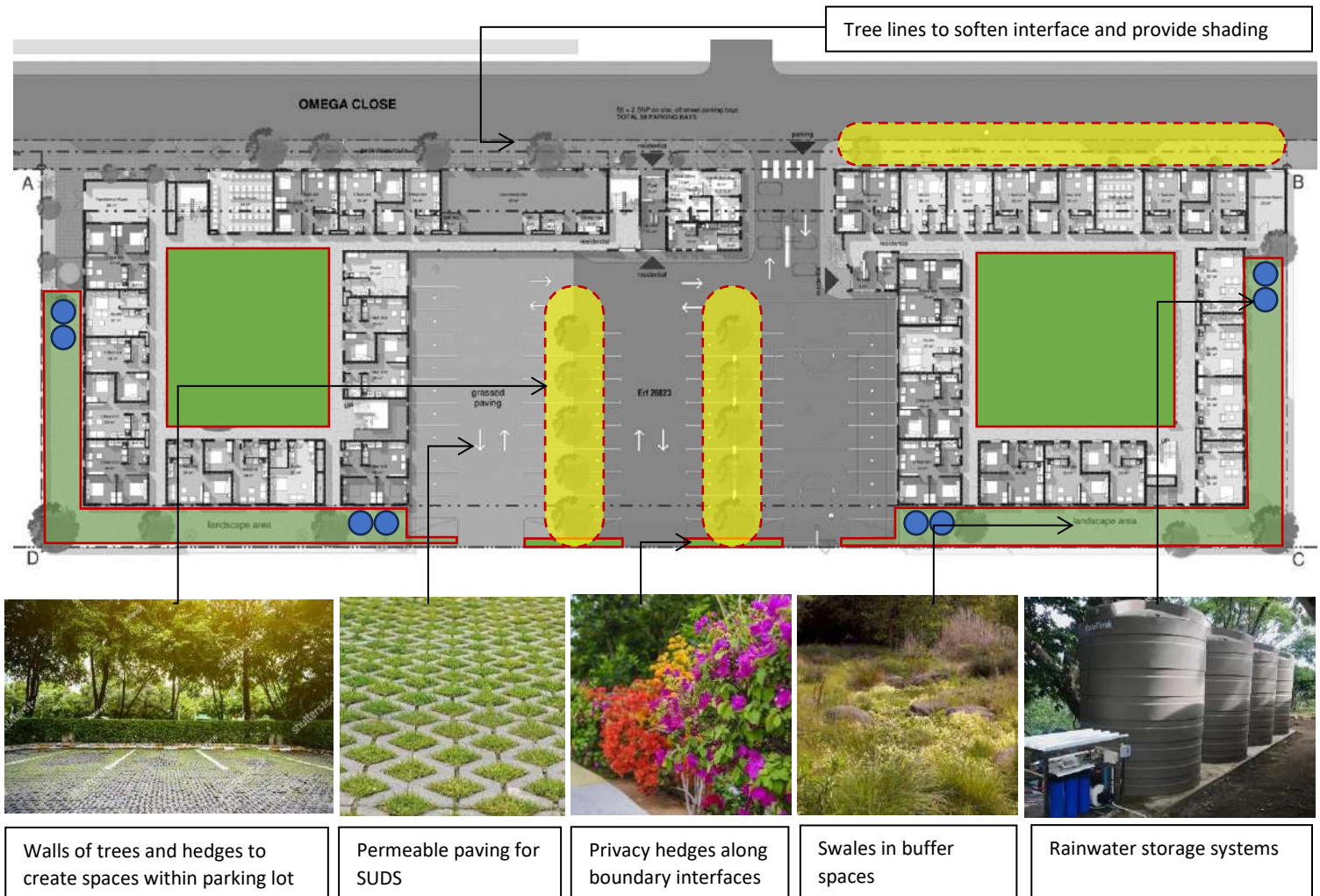
### 1.4 Landscaping

Both hard and soft landscaping will be functional [as opposed to ornamental] and in support of Sustainable Urban Drainage Systems [SUDS] that aim to delay stormwater and allow for infiltration into the ground.

The planting palette will be derived from an indigenous water-wise planting list with minimal grassed areas. Similarly, the paving palette for the hard courtyards will include permeable paving options to accommodate water infiltration into the ground.

We will accommodate vegetable planter boxes on the rooftops in two locations that also doubles up as drying yards.

We'll establish trees for shade and hedges to promote privacy and an opportunity to soften neighbouring walls and palisade fences.



### *Proposed landscape structure*

## **1.5 Mobility**

The site is well-located and has easy access to the amenities of York Street as well as the GoGeorge BRT route.

We will make provision for bicycle parking facilities both internal to the development. We'll establish the sidewalk to provide for pedestrian continuity and establish a seat in front of the entrance area.

We've made provision for disabled tenants through a range of units being equipped for differently abled tenants on the ground floor. We'll also make provision for them to be able to move around the site by ensuring passage widths accommodates wheelchairs and make provision for refuge areas at escape staircases. We'll also make it possible for people to access level changes through the use of ramps where the ground plane requires a level change.

## 1.6 Unit Layout and Typology

Units are arranged in both single and double banked configurations with consolidated vertical services ducts. The various unit types are distributed across the plan with the following ratios:



Proposed ground floor plan

<b>BLOCK A</b>	ground floor	1st floor	2nd floor	3rd floor	total	%
studio	3	4	4	4	15	17%
1-bed	6	12	12	4	34	39%
2-bed	4	6	6	2	18	20%
2-bed duplex	0	0	0	21	21	24%
	13	22	22	31	88	100%

<b>BLOCK B</b>	ground floor	1st floor	2nd floor	3rd floor	total	%
studio	9	8	8	7	32	41%
1-bed	4	6	6	6	22	28%
2-bed	5	5	5	2	17	22%
2-bed duplex	0	0	0	7	7	9%
	18	19	19	22	78	100%

31	41	41	53	166	total
----	----	----	----	-----	-------





### *Typical Unit Layout`*

Each of these unit types have been tried and tested at Conradie Park [Cape Town] and meets SHRA standards and specifications. Importantly, they are also financially viable to develop and sufficiently robust to manage and maintain over the long term.

### **1.7 Design Principles in Diagram**

Each of the above mentioned diagrams describe the design principles that has shaped the proposal. It proposes a highly functional facility that responds well to its interface with its context in both scale and use. Over and above those mentioned above, the following diagrams describe our intent:

### *168 units within a perimeter block model*

We've been able to achieve the unit numbers required by reimagining how the perimeter block model functions. Here we've achieved two courtyards that makes for a safe and semi-private realm that is dedicated to people oriented use such as play and recreation. We've also managed to enclose the parking requirements within a multi-functional space that could also accommodate play spaces when the occasions allows.

The perimeter block model allows for a gradation of interface with its context from the public realm to a private space within the built form. The model also facilitates a sense of community

### *Interface + Liturgy of Space*

We've arranged public facing uses along the ground floor along Omega Street to establish an active interface. The uses proposed includes the primary entrance and management offices. We will allocate a paved space in front of the entrance for trees, a bench and a bicycle stand to make this a convivial space for both residents and visitors alike.

We've arranged an entrance configuration for both vehicles and pedestrians at the development's front door. We've also located the security detail and management office in this area, all contributing to activating the façade , denoting entrance and providing a sense of security.

The management office and security office is the start of the sequence of spaces that introduces tenants and visitors to the facility. Once the facility has been accessed, the building is organized around a series of multi-functional courtyards.

### *Multifunctional courtyards*

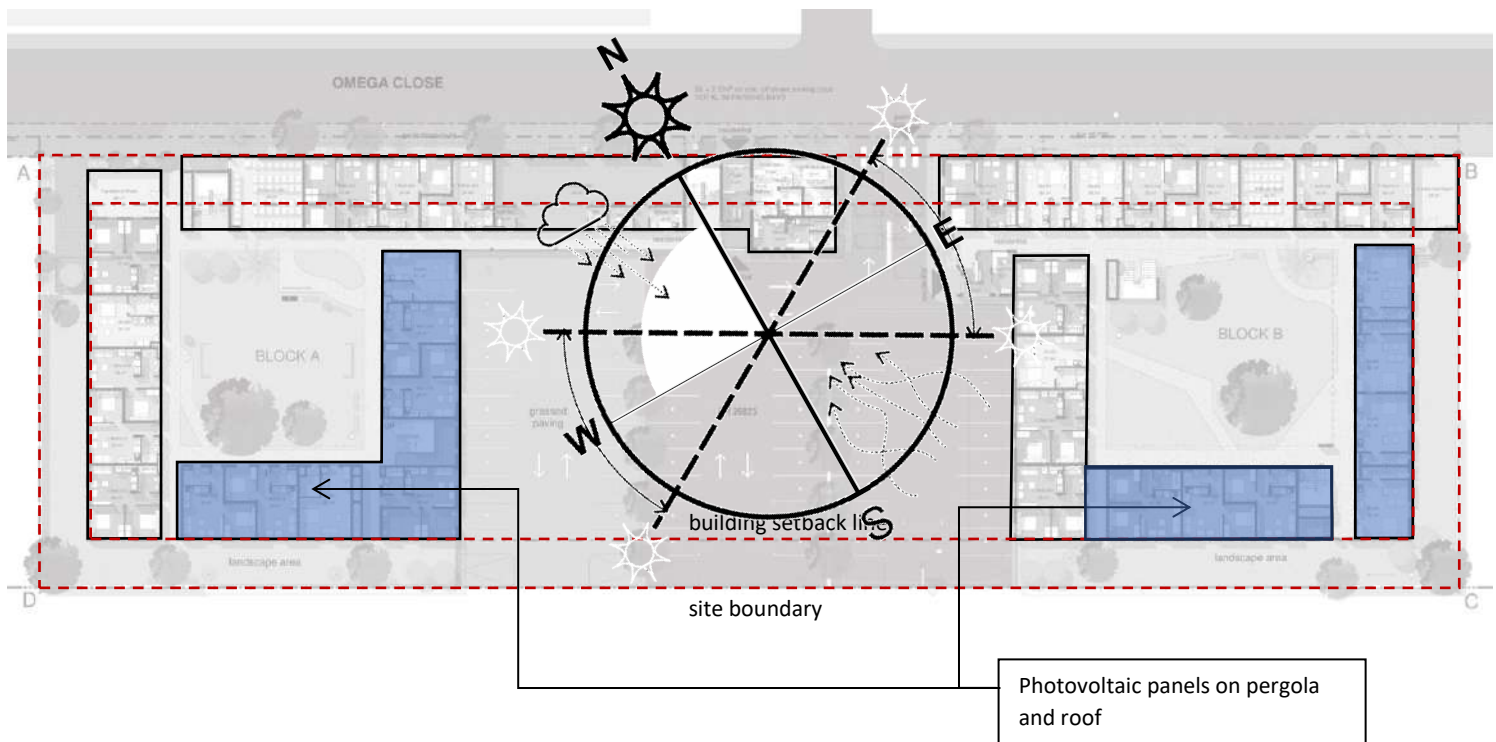
The three courtyards are not only functional in its accommodation of parking, SUDS systems and allowing sun to penetrate the development, it also functions as a place for people.



### *Harnessing the Sun + Catching the Rain*

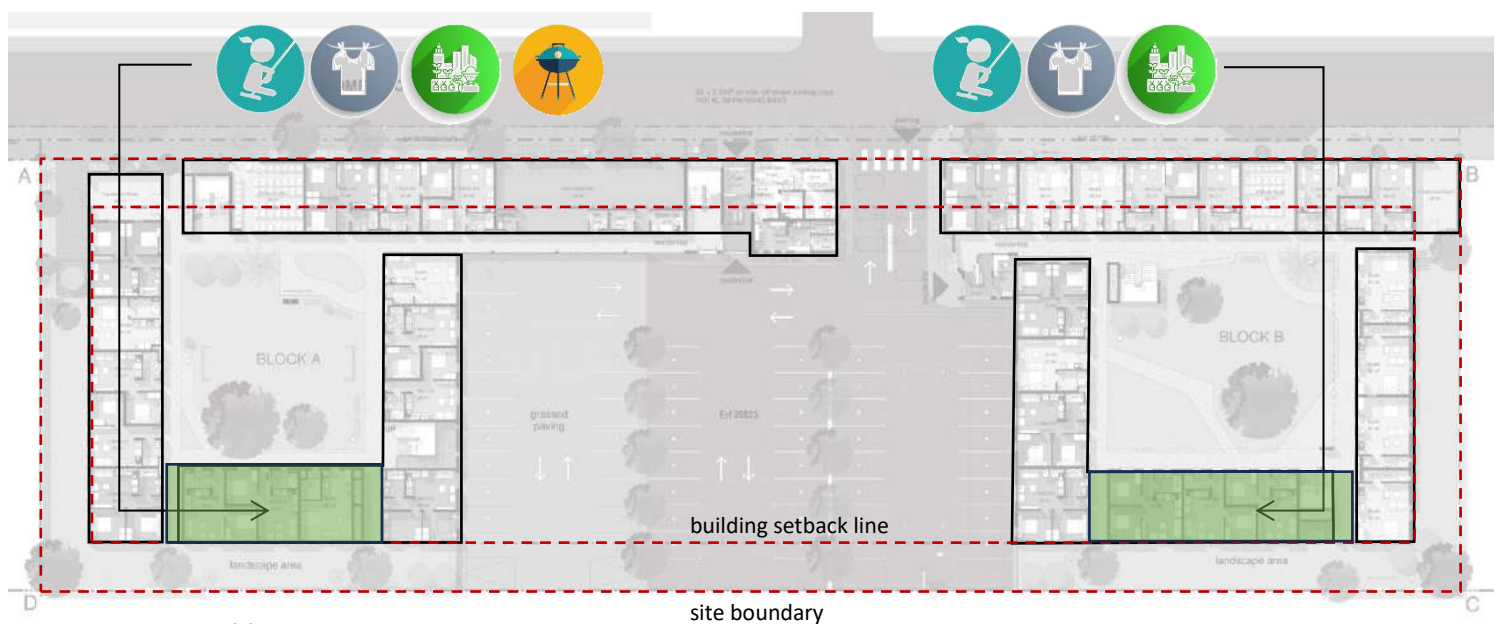
We intend to promote principles of sustainability wherever possible across the development. First principles dictate that the building is orientated to the sun. in this case, we've oriented the higher order spaces [courtyards] towards the sun to ensure maximum light and thermal comfort is maintained.

We're also planning to install a photovoltaic system to generate electricity to supply the emergency lighting system as well as operate a heat pump for hot water supply.



### Occupying the roof

Within the tight constraints of the development and the pressure placed on the plan, we have displaced some of the functions traditionally found on the ground floor, to the roof. We've made room for laundry drying facilities integrated into a pergola over two locations across the roof. We have also made provision for it to be used as a play space as well as an opportunity for older people to use it as an urban farm that could either be employed as a hobby or a small scaled food production to supplement the food basket.





Here the roof is imagined as a fifth elevation and will be treated as a designed element that the neighbouring residential apartment block will look down onto.

### *Safety + Management Systems*

The facility requires it to be actively managed in order to maintain the quality of the facility. We will make provision for a permanent manned security service to manage entry and provide a “bobby on the beat” service internally.

A significant challenge for this site is that there is very little activity after hours. We have designed the development so that the façade fronts onto the street and generate “eyes on the street” for an improved surveillance over the street.

We will also manage security across the site through the latest technologies available such as facial recognition systems and a manned CCTV system.

## **1.8 Narrative and Design Portrayal**

The perception that Social Housing projects lacks design and is only about pragmatism is dispelled through careful design decision making. This team, including a full set of design consultants have honed the social housing typologies on the Conradie Park development in Pinelands. It is our ambition to build on the lessons learned and execute them wherever possible.

**Quality:** the first myth we wish to dispel is that Social Housing Developments are unattractive and devoid of spatial quality. Careful thought has been given to marry pragmatic constraints with the opportunity for creative solutions to entrench spatial quality in the shared spaces. We will seek to balance the hard public realm with creative public realm and landscaping proposals that will support convivial environments.

**Solidity and permanence:** the architecture of the building is derived from a language of brickwork that represents mass and permanence. The approach seeks to demonstrate a language of stability and security in the lives of often vulnerable tenants.

**Identity:** the communal spaces and attempts to make facilities available to various age groups, aim to build a sense of belonging and facilitate relationships between tenants. This is also translated into the fabric of the architecture that will make a distinctive residential building in a challenging context.

**Maintenance materials:** we aim to use robust materials that facilitates longevity of the facility and manage the maintenance risks. We have opted to use clay brick for the facades and robust detailing to reduce its lifecycle costs. Similarly, we’ll use robust interior finishes that not only look good but reduces maintenance costs in the long run.

**Diversity of activities:** we wish to provide wholesome places for people where their homes also offer a diverse set of activities inhouse. We’ve extracted multiple uses from the entire public realm and is shaped around an idea that the public realm is programmed for certain activities but also

allow for flexibility of how these spaces could be used. The place will offer a diversity of opportunity for creative minds to invent interpretations of the spaces.

**Safe places:** the design proposition is built on the idea of creating safe spaces and a gradation between public and private space. We have attempted to reflect this through using the courtyards as layers of increasingly private and intimate spaces the deeper one penetrates the development with the most intimate being the “soft” courtyards to the back of the development. In addition, safety is supported through space-facing building facades where “eyes on the street” builds a sense of safety. We also plan to augment the design’s safety concerns with management’s safety tools such as CCTV and face recognition access control systems and a 24/7 security detail being present.



This architectural elevation drawing shows the proposed building facade. The structure is a multi-story building with a complex arrangement of windows and panels. The facade features a mix of grey and yellow panels, with a central section that is taller and more prominent. The drawing includes landscaping elements like trees and shrubs at the base of the building, and a street with a traffic light and a car in the foreground.



TOTAL UNITS:	166 UNITS
TOTAL PARKING:	56 DAYS

Carbonyl reactivity

---



## DEVELOPMENT PROPOSAL



**2 East Elevation**  
1:200



**3 West Elevation**  
1 : 200

UNIT SCHEDULE PER BLOCK

	BLOCK A	BLOCK B
1		
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99		
100		

GROUND FLOOR	31 UNITS	16 UNITS	31 UNITS
Studio	2	0	
1 bed	6	4	
2 bed	8	6	
Transformer Room	1	1	
Barista Room	1	1	
Security	1	1	
Child, Office	1	0	
Community Hall	1	0	

PROF FLOER 12 UNITS 16 UNITS 41 UNITS

Grade	4	8
Level	12	8
Level	4	8

SECOND FLOOR: 23 UNITS 18 UNITS 41 UNITS

54.00	4	8
1 foot	12	0
2 feet	3	0

THIRD FLOOR	31 LECTURE	20 UNITS	53 UNITS
-------------	------------	----------	----------

Good	4	7
Fair	4	8
Poor	1	2
Extremely poor	0	1

ROD# Plot#

Staircase view-up	1	2
Down / Back view	1	1

TOTAL UNITS: 166 UNITS

TOTAL PARKING:	66 DAYS
----------------	---------

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**INDEX**

[illegible]

### General notes



1 Second Floor L02  
1:200



#### Area Legend

-  1. Best Unit  
 2. Best Unit  
 Other  
 Stubble

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033	2033-2034	2034-2035	2035-2036	2036-2037	2037-2038	2038-2039	2039-2040	2040-2041	2041-2042	2042-2043	2043-2044	2044-2045	2045-2046	2046-2047	2047-2048	2048-2049	2049-2050	2050-2051	2051-2052	2052-2053	2053-2054	2054-2055	2055-2056	2056-2057	2057-2058	2058-2059	2059-2060	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066	2066-2067	2067-2068	2068-2069	2069-2070	2070-2071	2071-2072	2072-2073	2073-2074	2074-2075	2075-2076	2076-2077	2077-2078	2078-2079	2079-2080	2080-2081	2081-2082	2082-2083	2083-2084	2084-2085	2085-2086	2086-2087	2087-2088	2088-2089	2089-2090	2090-2091	2091-2092	2092-2093	2093-2094	2094-2095	2095-2096	2096-2097	2097-2098	2098-2099	2099-2100	2100-2101	2101-2102	2102-2103	2103-2104	2104-2105	2105-2106	2106-2107	2107-2108	2108-2109	2109-2110	2110-2111	2111-2112	2112-2113	2113-2114	2114-2115	2115-2116	2116-2117	2117-2118	2118-2119	2119-2120	2120-2121	2121-2122	2122-2123	2123-2124	2124-2125	2125-2126	2126-2127	2127-2128	2128-2129	2129-2130	2130-2131	2131-2132	2132-2133	2133-2134	2134-2135	2135-2136	2136-2137	2137-2138	2138-2139	2139-2140	2140-2141	2141-2142	2142-2143	2143-2144	2144-2145	2145-2146	2146-2147	2147-2148	2148-2149	2149-2150	2150-2151	2151-2152	2152-2153	2153-2154	2154-2155	2155-2156	2156-2157	2157-2158	2158-2159	2159-2160	2160-2161	2161-2162	2162-2163	2163-2164	2164-2165	2165-2166	2166-2167	2167-2168	2168-2169	2169-2170	2170-2171	2171-2172	2172-2173	2173-2174	2174-2175	2175-2176	2176-2177	2177-2178	2178-2179	2179-2180	2180-2181	2181-2182	2182-2183	2183-2184	2184-2185	2185-2186	2186-2187	2187-2188	2188-2189	2189-2190	2190-2191	2191-2192	2192-2193	2193-2194	2194-2195	2195-2196	2196-2197	2197-2198	2198-2199	2199-2200	2200-2201	2201-2202	2202-2203	2203-2204	2204-2205	2205-2206	2206-2207	2207-2208	2208-2209	2209-2210	2210-2211	2211-2212	2212-2213	2213-2214	2214-2215	2215-2216	2216-2217	2217-2218	2218-2219	2219-2220	2220-2221	2221-2222	2222-2223	2223-2224	2224-2225	2225-2226	2226-2227	2227-2228	2228-2229	2229-2230	2230-2231	2231-2232	2232-2233	2233-2234	2234-2235	2235-2236	2236-2237	2237-2238	2238-2239	2239-2240	2240-2241	2241-2242	2242-2243	2243-2244	2244-2245	2245-2246	2246-2247	2247-2248	2248-2249	2249-2250	2250-2251	2251-2252	2252-2253	2253-2254	2254-2255	2255-2256	2256-2257	2257-2258	2258-2259	2259-2260	2260-2261	2261-2262	2262-2263	2263-2264	2264-2265	2265-2266	2266-2267	2267-2268	2268-2269	2269-2270	2270-2271	2271-2272	2272-2273	2273-2274	2274-2275	2275-2276	2276-2277	2277-2278	2278-2279	2279-2280	2280-2281	2281-2282	2282-2283	2283-2284	2284-2285	2285-2286	2286-2287	2287-2288	2288-2289	2289-2290	2290-2291	2291-2292	2292-2293	2293-2294	2294-2295	2295-2296	2296-2297	2297-2298	2298-2299	2299-2300	2300-2301	2301-2302	2302-2303	2303
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Signature \_\_\_\_\_

33 smaller home street gardens, Cape Town 8001  
t) +27 21 462 1824  
f) +27 21 462 1629  
e) info@johapo.co.za  
www.johapo.co.za

Signature \_\_\_\_\_

CHHA

project title

---

**Omega Social Housing -  
George**

drawing title  
Second Floor L02

Omega Close  
George

221206

state	drop	sketch
As indicated	PS	KJ

project number	stage	diag no.	revision
2223	01-20-102		I

This architectural rendering shows the proposed multi-story residential building complex. The design features two main wings with multiple floors, each equipped with balconies. The central entrance area is highlighted with a yellow facade. The building is set against a clear blue sky, and the foreground shows a paved area with some landscaping elements like trees and a low wall.



- ☐ 1 Quad Unit
- ☐ 2 Quad Units
- ☐ 3 Quad Units
- ☐ Quad Unit

BLOCK A		BLOCK B	
DRIVING FLOOR	10 UNITS	10 UNITS	31 UNITS

ENCLOSURE FLOOR	10 JUN 10	10 JUN 07A	51 UNITS
Stake	2	0	
YARD	6	4	
ZONE	4	5	
Transformer Room	1	4	
Service Room	1	1	
Security	1	1	
CHINA Office	1	0	
Community Hall	1	0	

FIRST FLOOR	2019.02.14	19.04.01.18	41 UNITS
CLUB	4	0	
1st fl	13	6	
2nd fl	6	6	

SECOND FLOOR	22 UNITS	18 UNITS	41 UNITS
Quads	4	8	
Tand	12	8	
Zand	6	0	

THIRD FLOOR	31 UNITS	32 UNITS	53 UNITS
Studio	4	7	
1 BED	8	16	
2 BED	2	2	
2 BED SUITE	21	7	

ROOM FLOOR		
Disturbance area only	1	2
Dining / Rec. Area	1	1

TOTAL UNITS:	166 UNITS
TOTAL PARKING:	58 SPACES

months

All shipments to and from checked air cargo need an aircraft weight discrepancy report to be supported by the aircraft balance sheet and the cargo weight and volume discrepancy report. All items to be checked in for cargo must be weighed and any discrepancies must be reported to the airport before any item is put to flight. All items should be weighed from within 1000 and loading conditions must be checked and noted by a ground crew member. All work must be completed in accordance with ICAO 1988 and the current National Airports Regulations.

All aircraft work must be checked by a structural engineer and must be noted in the aircraft log.

Current status

[illegible]

ID	Revenue Category	Tier	Start Date	End Date
Revenue				

signature

59 Balkenanst street  
Gordon, Cape Town  
8001

tel: +27 21 442 1324  
fax: +27 21 442 1639  
info@iikapa.co.za  
www.iikapa.co.za

 iikapa  
INTEGRATED INFORMATION & KNOWLEDGE APPLICATIONS

OHHA

**Omega Social Housing - George**

Third Floor L03

Omega Close  
George

221200

score	front	cracked
0	0.00	0.00

projelele numarası	stajın	dayı no.	tarixi
2223	01-20-103		



## DEVELOPMENT PROPOSAL



UNIT SCHEDULE PER BLOCK			
BLOCK A		BLOCK B	
<b>GROUND FLOOR</b>		<b>40 UNITS</b>	<b>31 UNITS</b>
Studio	3	0	
1 Bed	0	4	
2 Bed	4	5	
Transitional Row	1	1	
Refuge Room	1	1	
Security	4	1	
CHW Clinic	1	0	
Community Hall	1	0	
<b>FIRST FLOOR</b>		<b>22 UNITS</b>	<b>41 UNITS</b>
Studio	4	0	
1 Bed	10	4	
2 Bed	1	5	
<b>SECOND FLOOR</b>		<b>22 UNITS</b>	<b>41 UNITS</b>
Studio	4	0	
1 Bed	12	0	
2 Bed	0	0	
<b>THIRD FLOOR</b>		<b>31 UNITS</b>	<b>53 UNITS</b>
Studio	4	0	
1 Bed	4	4	
2 Bed	0	0	
2 bed studio	1	0	
<b>ROOF FLOOR</b>			
Emergency room	1	0	
Drying Room	1	1	
<b>TOTAL UNITS: 166 UNITS</b>			
<b>TOTAL PARKING: 59 SPACES</b>			

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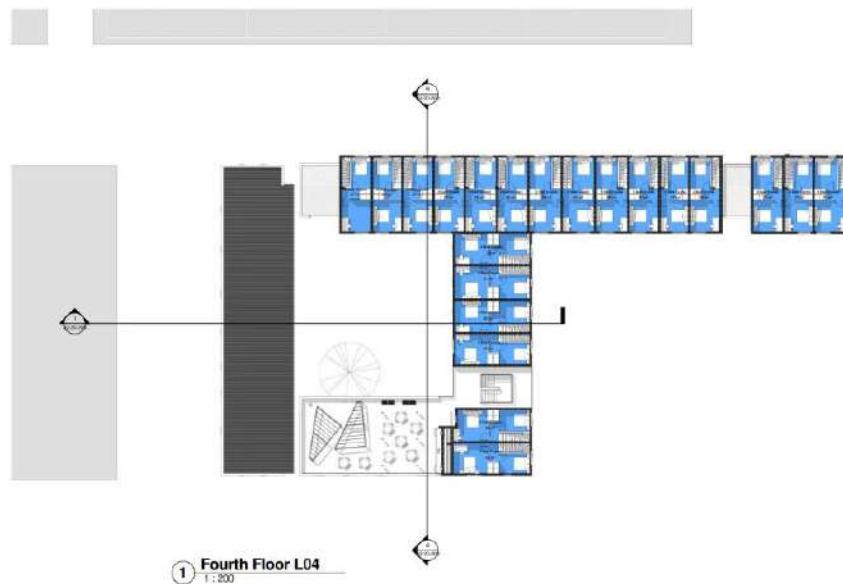
**Alertness** to the fact that the environment is not static is always a key to successful work. It is recorded that the most successful workers are paid to hunt. Only by constant observation can the job be taken.

**Alertness** to the changes or any other factors that change and any developments that are required in the workplace before any work is started. All workers should be knowledgeable.

Get and working conditions should be checked and verified by a competent engineer.

**Alertness** to the changes in the workplace with the use of the 1940 and the current National

Cerebral rotte



**1 Fourth Floor L04**  
1 : 200



Area Legend

 2.5 MB[illegible]

1	Revised Charges	2	3	4	5
Revised					

1000000

55 Walterville Street  
Gardens, Cape Town  
6001  
[T] +27 21 462 3824  
[F] +27 21 462 1629  
[E] info@jakupa.co.za  
www.jakupa.co.za



class \_\_\_\_\_ Nomme \_\_\_\_\_

OHHA

grossed \$114

## Omega Social Housing

Omega Social Housing -  
George

Erweitert: 10.04

Fourth Floor L04

**Answer: C**

George

Source: *U.S. Census Bureau, Current Population Reports, 1990*

date \_\_\_\_\_

221206

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2223 01-20-104 1

2229 01-20-104 1

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**Our Ref:** HM / EDEN / GEORGE / ERF 26823  
**Case No:** HWC23111305SB1113  
**Enquiries:** Stephanie Barnardt  
**E-mail:** Stephanie.Barnardt@westerncape.gov.za  
**Tel:** 021 483 5959



**Applicant:** Andrew Wiseman  
**Property owner:** Garden Route District Municipality - AL Wiseman  
**andrew@ownhaven.co.za**

**RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: DECISION**  
**In terms of Section 38(4) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape**  
**Provincial Gazette 6061, Notice 298 of 2003**

**NOTIFICATION OF INTENT TO DEVELOP PROPOSED RESIDENTIAL DEVELOPMENT ON ERVEN 26823, 1-11 OMEGA CLOSE, GEORGE, SUBMITTED IN TERMS OF SECTION 38(1) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999).**

The matter above has reference.

Heritage Western Cape is in receipt of the above matter received. This matter was discussed at the Heritage Officers meeting held on 14 December 2023.

You are hereby notified that, since there is no reason to believe that the proposed residential development on Erven 26823, 1- 11 Omega Close, George, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay.

This letter does not exonerate the applicant from obtaining any necessary approval from any other applicable statutory authority.

HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

.....  
Sneha Jhupsee  
**Acting Assistant Director: Professional Services**



[www.westerncape.gov.za/cas](http://www.westerncape.gov.za/cas)

**Street Address:** Protea Assurance Building, Green Market Square, Cape Town, 8000 • **Postal Address:** P.O. Box 1665, Cape Town, 8000  
• **Tel:** +27 (0)21 483 5959 • **E-mail:** ceoheritage@westerncape.gov.za

**Straatadres:** Protea Assuransie-gebou, Groentemarkplein, Kaapstad, 8000 • **Posadres:** Posbus 1665, Kaapstad, 8000  
• **Tel:** +27 (0)21 483 5959 • **E-pos:** ceoheritage@westerncape.gov.za

**Idilesi yendawo:** kumgangatho 3, kwisakhiwo iprotea Assurance, Greenmarket Square, eKapa, 8000 • **Idilesi yeposi:** Inombolo yebhokisi yeposi 1665, eKapa, 8000 • **Iinombolo zomnxeba:** +27 (0)21 483 5959 • **Idilesi ye-imeyile:** ceoheritage@westerncape.gov.za

## Plan 1





## REGIONAL CONTEXT





## GEORGE

ERF 26823

OMEGA SOCIAL HOUSING

## LOCAL CONTEXT

-  Subject Property (5469 m²)
-  Cadastral Boundaries

PLEASE NOTE:  
All boundary line positions, distances and property sizes need to be verified by a Professional Land Surveyor.

REF: C:\Users\user\OneDrive - Urban Dynamics\Documents\PROJECTS\George\George\_Erf\_26823\_Omega\_Social\_Housing\Plans

COMPILED BY: Albert Ellis (SAGC Reg: GTgGSc 1059)

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DATE:	MARCH 2023	CLIENT:
SCALE:	SEE LINESCALE	
PLAN NO:		

FILE NAME:  
**URBAN DYNAMICS SOUTH AFRICA**  
South Gate Office Park,  
Ground Floor, Unit 2,  
Carl Cronje Drive,  
South Gate Tyger Waterfront,  
Belville, 7530  
PO Box 2445, Belville, 7535  
Tel: (021) 648 1545  
Website: [www.udw.co.za](http://www.udw.co.za)

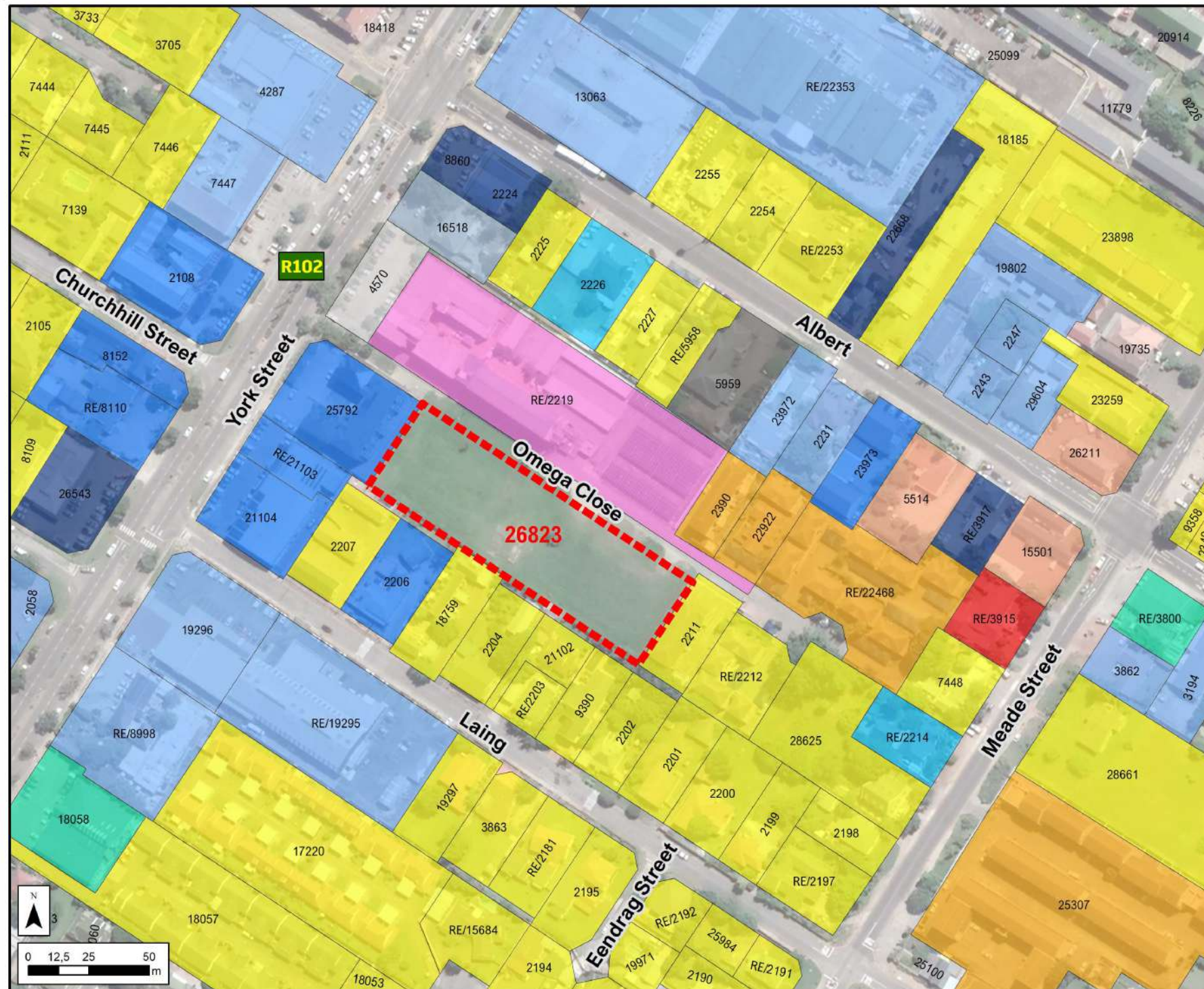


## Plan 2





## Plan 3



# GEORGE

## ERF 26823

### OMEGA SOCIAL HOUSING

#### LAND USE

-  Subject Property
-  Residential
-  Tourist Accommodation
-  Shops
-  Offices
-  Car Dealership
-  Auction House
-  Veterinarian
-  Restaurant
-  Education
-  Medical Facility
-  Church
-  Municipal Offices
-  Parking

PLEASE NOTE:  
All boundary line positions, distances and property sizes need to be verified by a Professional Land Surveyor.

REF: C:\Users\user\OneDrive - Urban Dynamics\Documents\PROJECTS\George\George\_Erf\_26823\_Omega\_Social\_Housing\Plans

COMPILED BY: Albert Ellis (SAGC Reg: GTgGSc 1059)

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DATE:	SEPTEMBER 2023	CLIENT:
SCALE:	SEE LINESCALE	
PLAN NO:		
FILE NAME:		

**URBAN DYNAMICS SOUTH AFRICA**  
South Gate Office Park,  
Ground Floor, Unit 2,  
Carl Cronje Drive,  
South Gate Tyger Waterfront,  
Belville, 7530  
PO Box 2445, Belville, 7535  
Tel: (021) 648 1545  
Website: www.udw.co.za

## Plan 4



## Legend

★ Special Places

● Golf Courses

✈ Airport

### Proposed Linkages

— Activity Corridors

— Gateways into George

--- Proposed Road Extensions

--- Proposed pedestrian and NMT linkages

.... Western By Pass

— Roads

■ Public Open Spaces

500m Catchment Zone For Intensification - Proposed Restructuring Zone

□ Urban Node

□ Secondary Node

□ Commercial Node

□ Industrial Node

□ TOD Development Node

□ Medium to Long Term Urban Growth Area

■ Airport Support Area

● Priority Water Resource Units

### Land Use

#### Land Use

■ Commercial

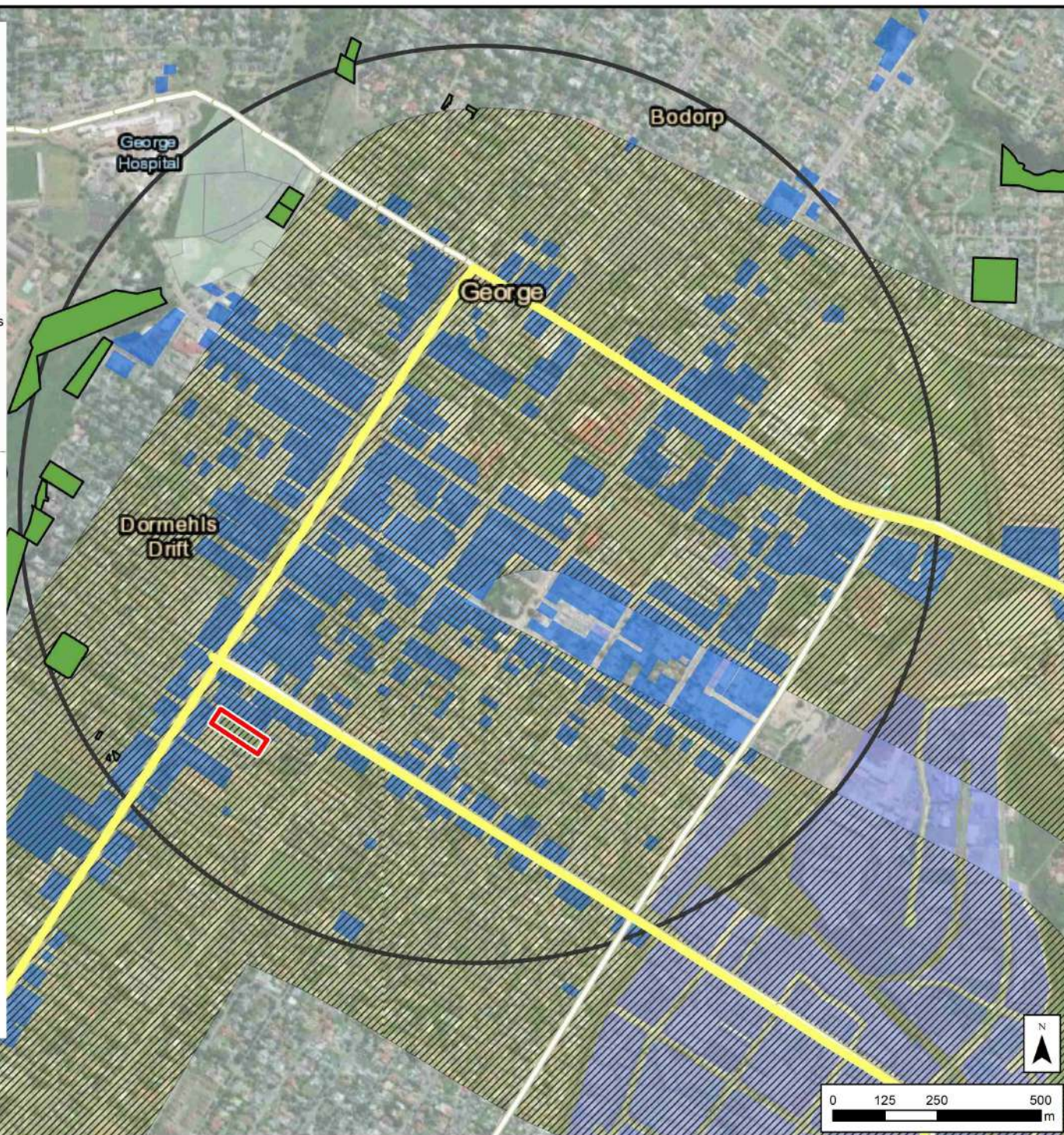
■ Community

■ Residential

■ Industrial

Future Industrial

■



## GEORGE

ERF 26823

OMEGA SOCIAL HOUSING

SDF CONTEXT

□ Subject Property

Source:  
George Municipality

PLEASE NOTE:  
All boundary line positions, distances and property sizes need to be verified by a Professional Land Surveyor.

REF: C:\Users\OneDrive - Urban Dynamics\Documents\PROJECTS\George\George\_26823\_Omega\_Social\_Housing\Plans

COMPILED BY: Albert Ellis (SAGC Reg: GTgGISc 1059)

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DATE:

MARCH 2023

SCALE:

SEE LINESCALE

PLAN NO:

FILE NAME:

CLIENT

URBAN DYNAMICS SOUTH AFRICA


South Gate Office Park,  
Ground Floor, Unit 2,  
Carl Cronje Drive,  
South Gate Tyger Waterfront,  
Belville, 7530  
PO Box 2445, Belville, 7535

Tel: (021) 948 1545  
Website: www.udw.co.za

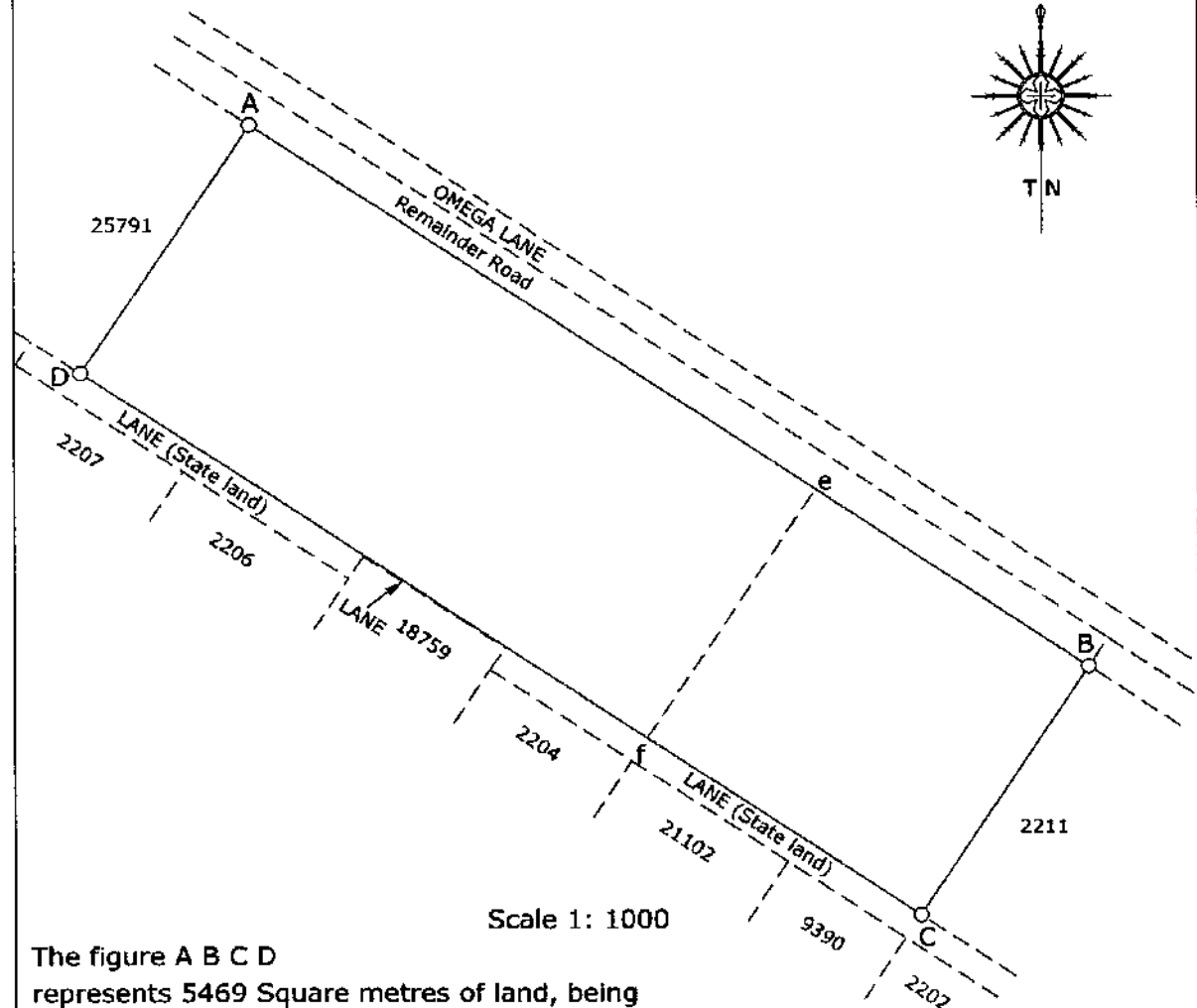


## Plan 5

Bailey &amp; le Roux, Professional Land Surveyors, GEORGE

SIDES Metres		ANGLES OF DIRECTION	CO-ORDINATES Y System WG 23° X			S.G. No. 2615/2015
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BC	40,75	303 28 40	B	+50 572,22	+59 903,53	
CD	134,22	33 30 00	C	+50 460,27	+59 977,57	
DA	40,75	123 28 40	D	+50 482,76	+60 011,55	
		213 30 40		+50 594,72	+59 937,51	
		79P4	⊕	+50 564,49	+59 774,63	
		84P4	⊕	+50 677,96	+59 951,45	

Beacon Descriptions:  
A,B,C,D 12mm iron pegs



The figure A B C D  
represents 5469 Square metres of land, being  
Erf 26823 , a portion of Erf 25790 GEORGE

Situate in the Municipality and  
Administrative District of George  
Province of the Western Cape  
Surveyed in October 2015  
by me

J.H.Bailey (PLS0019) Professional Land Surveyor

This diagram is annexed to  
No. 166026/2016  
dated  
i.f.o.

The original diagram is  
SG. No. 6961/2008  
annexed to Transfer

D/T 2010. .10627

File No. S8775/58 v.2  
S.R. No. 1306/2015  
Comp. BL-7DD/X41(1751)

LPI C0270002

Registrar of Deeds

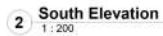
EXEMPT FROM PROVISIONS OF ACT  
70 OF 1970  
SECTION 1(a)

APPROVED IN TERMS OF SECT. 29  
OF ORD. 15/1985  
REF. Erf. 25790/George  
DATE 2015-06-08



## Plan 6

### General notes



TOTAL UNITS:	166 UNITS
TOTAL PARKING:	59 BAYS

FLOOR AREA RATIO  $\frac{7,004.4}{3,400.0}$  1.38

ID	Revision/Comments	Date	Issued By	Issued To
Revisions				

96-buiterkant street  
gardens, cape town  
8001  
[t] +27 21 462 1824  
[f] +27 21 462 1629  
[e] info@jakupa.co.za  
www.jakupa.co.za

signature:

project number	stage	deg no	revision
2223	01-20-103		1





#### UNIT SCHEDULE PER BLOCK

	BLOCK A	BLOCK B	
GROUND FLOOR	13 UNITS	18 UNITS	31 UNITS
Staircase	3	8	
1 bed	6	4	
2 bed	4	6	
Transformer Room	1	1	
Refuse Room	1	1	
Security	1	1	
CHVA Office	1	0	
Club House	1	0	

FIRST FLOOR	22 UNITS	19 UNITS	41 UNITS
Staircase	4	8	
1 bed	12	8	
2 bed	6	5	

SECOND FLOOR	22 UNITS	19 UNITS	41 UNITS
Staircase	4	8	
1 bed	12	8	
2 bed	6	5	

THIRD FLOOR	31 UNITS	22 UNITS	53 UNITS
Staircase	4	7	
1 bed	4	6	
2 bed	2	2	
2 bed duplex	21	7	

ROOF FLOOR			
Staircase over lift	3	2	
Drying / Rec Area	1	1	
TOTAL UNITS	166 UNITS		
TOTAL PARKING	59 BAYS		

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#### notes

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All work must be completed in accordance with SANS 10400 and the current National Building Regulations.  
All structural work must be checked by a structural engineer and must be read in conjunction with their drawings.

#### General notes

#### BUILDING COVERAGE

	BLOCK A	BLOCK B
COVERED AREA	1 365.0 m <sup>2</sup>	1 131.3 m <sup>2</sup>
TOTAL BUILDING GLA	2 496.3 m <sup>2</sup>	

#### BUILDING GLA

	BLOCK A	BLOCK B
GROUND FLOOR	703 m <sup>2</sup>	743 m <sup>2</sup>
FIRST FLOOR	834 m <sup>2</sup>	778 m <sup>2</sup>
SECOND FLOOR	834 m <sup>2</sup>	778 m <sup>2</sup>
THIRD FLOOR	824 m <sup>2</sup>	778 m <sup>2</sup>
FOURTH FLOOR	803 m <sup>2</sup>	255 m <sup>2</sup>

TOTAL BUILDING GLA	7 024 m <sup>2</sup>	
FLOOR AREA RATIO	2.5254	1.38

	NO	DATE	BY	REVISION
1	2023-08-28	PS	INFORMATION	
2	2023-07-18	PS	INFORMATION	
3	2023-07-01	PS	INFORMATION	
4	2023-06-20	PS	INFORMATION	
5	2023-06-14	PS	INFORMATION	
6	2023-06-07	PS	INFORMATION	
7	2023-01-08	PS	INFORMATION	
8	2022-12-07	PS	INFORMATION	
9	2022-12-06	PS	INFORMATION	

ID	Revision/Comments	Date	Issued by	Issued
Revisions				

signature  
99 Sutherland Street  
Gardens, Cape Town  
8001  
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F: +27 21 462 1629  
E: info@jakupa.co.za  
www.jakupa.co.za

client  
OHHA

project title  
Omega Social Housing -  
George

drawing title  
Fourth Floor L04

location  
Omega Close  
George

date  
221206

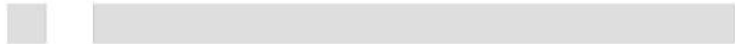
scale  
As indicated

project number  
2223

stage  
01-20-104

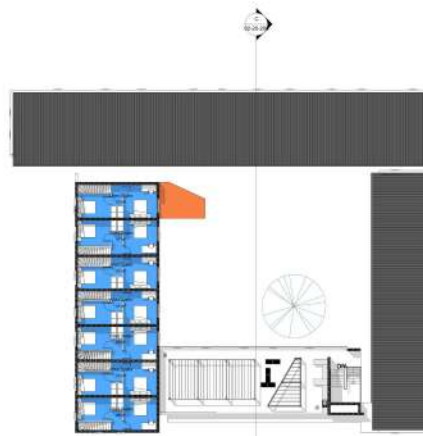
checked  
KJ

revised  
I



BLOCK A GLA 690.0 m<sup>2</sup>

1 Fourth Floor L04  
1 : 200



BLOCK B GLA 235.4 m<sup>2</sup>

#### Area Legend

2 Bed Duplex





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notes

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All work must be completed in accordance with SANS 10400 and the current National Building Regulations.  
All structural work must be checked by a structural engineer and must be noted in conjunction with their drawings.

General notes

NO	REVISION/DESCRIPTION	DATE	BY	REVISION
1	Design Change Presentation	2023-08-28	PS	INFORMATION
2	Client Response	2023-08-29	PS	NO INFORMATION
3	Revised Design Presentation	2023-08-30	PS	NO INFORMATION
4	Revised Design Presentation	2023-08-31	PS	NO INFORMATION
5	Revised Design Presentation	2023-09-01	PS	NO INFORMATION
6	Revised Design Presentation	2023-09-02	PS	NO INFORMATION
7	Final Design Presentation	2023-09-03	PS	NO INFORMATION
8	Final Design Presentation	2023-09-04	PS	NO INFORMATION
9	Final Design Presentation	2023-09-05	PS	NO INFORMATION

NO	REVISION/DESCRIPTION	DATE	BY	REVISION
1	Revisions			

signature  
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Garden, Cape Town  
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Tel: +27 21 462 1629  
Email: info@jakupa.co.za  
www.jakupa.co.za

client  
OHHA

project title  
Omega Social Housing -  
George

drawing title  
Roof L05

location  
Omega Close  
George

date  
22/12/2023

scale  
As indicated

project number  
2223

stage  
01-20-105

checked  
KJ

revised  
1

1 Roof L05  
1 : 200





#### notes

All dimensions to be checked on site and on drawings, any discrepancies to be reported to the architect before work is put to hand. Only figured dimensions are to be taken.  
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All structural work must be checked by a structural engineer and must be noted in conjunction with their drawings.

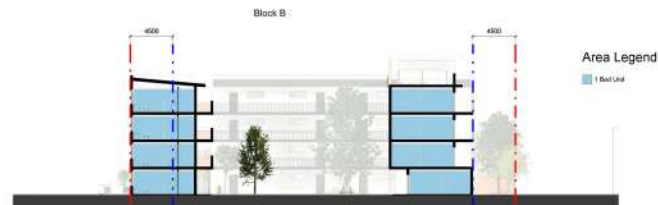
#### General notes



**1 Section 1**  
1 : 100



**B Section B**  
1 : 200



**C Section C**  
1 : 200

NO	REVISION	DATE	BY	DESCRIPTION
1	Design Concept	2022-08-25	PS	INFORMATION
2	Design Development	2022-07-14	PS	INFORMATION
3	Final Design	2022-07-14	PS	INFORMATION
4	Final Design	2022-07-14	PS	INFORMATION
5	Final Design	2022-07-14	PS	INFORMATION
6	Final Design	2022-07-14	PS	INFORMATION
7	Final Design	2022-07-14	PS	INFORMATION
8	Final Design	2022-07-14	PS	INFORMATION
9	Final Design	2022-07-14	PS	INFORMATION
10	Final Design	2022-07-14	PS	INFORMATION

NO	REVISION	DATE	BY	DESCRIPTION
1	Final Design	2022-07-14	PS	INFORMATION

NO	REVISION	DATE	BY	DESCRIPTION
1	Final Design	2022-07-14	PS	INFORMATION

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8001  
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Tel: +27 21 462 1629  
Email: info@jakupa.co.za  
www.jakupa.co.za

client  
OHHA

project title  
**Omega Social Housing - George**

drawing title  
Sections A, B, C, 3d

location  
Omega Close  
George

date  
22/12/2022

scale  
As indicated

project number  
2223

stage  
02-20-200

drawn  
PS

checked  
KJ

revised  
1



PROPERTY RIGHTS SCHEDULE - SIZES						
DFP 2503	ZONING OR 4	Plot	Floor Factor 1.0	Min GLA 7 524.4 m <sup>2</sup>	Maximum Coverage 3 331.4 m <sup>2</sup>	Max Coverage 50%
DFP 2503	ZONING OR 4	Plot	Floor Factor 1.0	Min GLA 7 524.4 m <sup>2</sup>	Maximum Coverage 3 331.4 m <sup>2</sup>	Max Coverage 50%



4 North-Elevation  
1 : 200



3 Site Plan  
1 : 500



#### UNIT SCHEDULE PER BLOCK

BLOCK A		BLOCK B		31 UNITS
GROUND FLOOR	13 UNITS	16 UNITS		
Studio	3	9		
1 bed	8	4		
2 bed	4	3		
Transformer Room	1	1		
Refuse Room	1	1		
Security	1	1		
CHWA Office	1	0		
Club House	1	0		
FIRST FLOOR	22 UNITS	19 UNITS	41 UNITS	
Studio	4	8		
1 bed	12	6		
2 bed	6	5		
SECOND FLOOR	22 UNITS	19 UNITS	41 UNITS	
Studio	4	8		
1 bed	12	6		
2 bed	6	5		
THIRD FLOOR	31 UNITS	22 UNITS	53 UNITS	
Studio	4	7		
1 bed	4	6		
2 bed	2	2		
2 bed duplex	21	7		
ROOF FLOOR				
Staircase over-run	3	2		
Drying / Plan Area	1	1		
TOTAL UNITS:	166 UNITS			
TOTAL PARKING:	59 BAYS			

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#### notes

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#### General notes

#### BUILDING COVERAGE

	BLOCK A	BLOCK B
COVERED AREA	1 365.9 m <sup>2</sup>	1 121.5 m <sup>2</sup>
TOTAL BUILDING GLA	2 487.4 m <sup>2</sup>	

#### BUILDING GLA

	BLOCK A	BLOCK B	
GROUND FLOOR	166.8 m <sup>2</sup>	166.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
FIRST FLOOR	166.3 m <sup>2</sup>	166.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
SECOND FLOOR	166.3 m <sup>2</sup>	166.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
THIRD FLOOR	166.3 m <sup>2</sup>	166.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
FOURTH FLOOR	166.3 m <sup>2</sup>	166.3 m <sup>2</sup>	1 501.1 m <sup>2</sup>
TOTAL BUILDING GLA			7 524.4 m <sup>2</sup>
FLOOR AREA RATIO	2.58/1		1.38



1 Ground Floor L00  
1 : 200

#### Area Legend

- 1 Bed Unit
- 2 Bed Unit
- Access
- Club House
- Entry
- IT
- Kitchen Area
- CHWA Boudoir
- CHWA Office
- Refuse Room
- Security
- Security WC
- SHW WC
- Stair
- Stair
- Transformer Room
- WC

DF 2011

TOTAL COVERAGE 2 497 m<sup>2</sup>

#	Revised	Date	By	Information
1	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
2	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
3	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
4	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
5	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
6	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
7	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
8	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
9	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
10	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
11	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
12	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
13	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
14	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
15	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
16	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
17	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
18	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
19	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION
20	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION

#	Revision Category	Date	Issued By	Issued At
Revisions				

#	Revised	Date	By	Information
1	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

99-Inderkant street gardens, cape town	
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Omega Social Housing - George
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#	Revised	Date	By	Information
1	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION

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Omega Close	

George	
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scale	drawn	checked
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#	Revised	Date	By	Information
1	100 UNIT SOCIAL HOUSING	2024-01-20	PS	INFORMATION

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#### notes

All dimensions to be checked on site and on drawings, any discrepancies to be reported to the architect before work is put to hand. Only figured dimensions are to be taken.  
All levels to be checked on site and on drawings and any discrepancies must be reported to the architect before any work is put to hand. All levels shown are finished floor levels.  
Soil and founding conditions must be checked and verified by a geotechnical engineer.  
All work must be completed in accordance with SANS 10400 and the current National Building Regulations.  
All structural work must be checked by a structural engineer and must be in accordance with their drawings.

#### General notes

#### UNIT SCHEDULE PER BLOCK

	BLOCK A	BLOCK B	
GROUND FLOOR	13 UNITS	10 UNITS	31 UNITS
Studio	3	0	
1 bed	6	4	
2 bed	4	3	
Transformer Room	1	1	
Refuse Room	1	1	
Security	1	1	
OHHA Office	1	0	
Club House	1	0	
FIRST FLOOR	22 UNITS	19 UNITS	41 UNITS
Studio	4	0	
1 bed	12	6	
2 bed	6	5	
SECOND FLOOR	22 UNITS	19 UNITS	41 UNITS
Studio	4	0	
1 bed	12	6	
2 bed	6	5	
THIRD FLOOR	31 UNITS	22 UNITS	53 UNITS
Studio	4	7	
1 bed	4	6	
2 bed	2	3	
2 bed duplex	21	7	
ROOF FLOOR			
Staircase over run	3	2	
Drying / Rec Area	1	1	
TOTAL UNITS:	166 UNITS		
TOTAL PARKING:	59 BAYS		

#### BUILDING COVERAGE

	BLOCK A	BLOCK B
COVERED AREA	1 365.5 m <sup>2</sup>	1 131.5 m <sup>2</sup>
TOTAL BUILDING GLA		2 497.0 m <sup>2</sup>

#### BUILDING GLA

	BLOCK A	BLOCK B
GROUND FLOOR	761 m <sup>2</sup>	763 m <sup>2</sup>
FIRST FLOOR	841 m <sup>2</sup>	774 m <sup>2</sup>
SECOND FLOOR	841 m <sup>2</sup>	774 m <sup>2</sup>
THIRD FLOOR	841 m <sup>2</sup>	774 m <sup>2</sup>
FOURTH FLOOR	841 m <sup>2</sup>	774 m <sup>2</sup>
TOTAL BUILDING GLA		7 724 m <sup>2</sup>
FLOOR AREA RATIO	2.384	1.38

NO	REVISION/DESCRIPTION	DATE	BY	INFO
1	Design Change Presentation	2022-07-14	PS	INFORMATION
2	Client Review	2022-07-14	PS	INFORMATION
3	Revised Design	2022-07-14	PS	INFORMATION
4	Revised Design	2022-07-14	PS	INFORMATION
5	Revised Design	2022-07-14	PS	INFORMATION
6	Revised Design	2022-07-14	PS	INFORMATION
7	Revised Design	2022-07-14	PS	INFORMATION
8	Revised Design	2022-07-14	PS	INFORMATION
9	Revised Design	2022-07-14	PS	INFORMATION
10	Revised Design	2022-07-14	PS	INFORMATION

NO	REVISION/DESCRIPTION	DATE	BY	INFO
1	Revised Design	2022-07-14	PS	INFORMATION

signature

99 Sutherland Street  
Gardens, Cape Town  
8001  
Tel: +27 21 462 1824  
Tel: +27 21 462 1629  
Email: info@jakupa.co.za  
www.jakupa.co.za

signature

client  
OHHA

project title  
Omega Social Housing -  
George

drawing title  
First Floor L01

location  
Omega Close  
George

date  
221206

scale	drawn	checked
As indicated	PS	KJ
project number	stage	drawn no.
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2 North Elevation  
1 : 200



1 First Floor L01  
1 : 200

BLOCK A GLA 924.5 m<sup>2</sup>

BLOCK B GLA 774.8 m<sup>2</sup>



**notes**

All dimensions to be checked on site and on drawings, any discrepancies to be reported to the architect before work is put in hand. Only figured dimensions are to be taken.

All levels to be checked on site and on drawings and any discrepancies must be reported to the architect before any work is put in hand. All levels shown are finished floor levels.

Soil and founding conditions must be checked and verified by a geotechnical engineer.

All work must be completed in accordance with SANS 10400 and the current National Building Regulations.

All structural work must be checked by a structural engineer and must be in accordance with their drawings.

**General notes**

### UNIT SCHEDULE PER BLOCK

	BLOCK A	BLOCK B	
GROUND FLOOR	13 UNITS	19 UNITS	31 UNITS
Studio	3	6	
1 bed	6	4	
2 bed	4	5	
Transformer Room	1	1	
Refuse Room	1	1	
Security	1	1	
OHSA Office	1	0	
Club House	1	0	
FIRST FLOOR	22 UNITS	19 UNITS	41 UNITS
Studio	4	6	
1 bed	12	6	
2 bed	6	5	
SECOND FLOOR	22 UNITS	19 UNITS	41 UNITS
Studio	4	6	
1 bed	12	6	
2 bed	6	5	
THIRD FLOOR	31 UNITS	20 UNITS	53 UNITS
Studio	4	7	
1 bed	4	6	
2 bed	2	2	
2 bed (open)	21	7	
ROOF FLOOR			
Staircase over-run	3	2	
Drying / Hot Area	1	1	
TOTAL UNITS:	166 UNITS		
TOTAL PARKING:	59 BAYS		

### BUILDING COVERAGE

	BLOCK A	BLOCK B
COVERED AREA	1 365.8 m <sup>2</sup>	1 131.3 m <sup>2</sup>
TOTAL BUILDING GLA		2 497.1 m <sup>2</sup>

### BUILDING GLA

	BLOCK A	BLOCK B
GROUND FLOOR	763.4 m <sup>2</sup>	763.3 m <sup>2</sup>
FIRST FLOOR	824.3 m <sup>2</sup>	1 088.3 m <sup>2</sup>
SECOND FLOOR	824.3 m <sup>2</sup>	1 088.3 m <sup>2</sup>
THIRD FLOOR	824.3 m <sup>2</sup>	1 088.3 m <sup>2</sup>
FOURTH FLOOR	824.3 m <sup>2</sup>	1 088.3 m <sup>2</sup>
TOTAL BUILDING GLA		7 024.4 m <sup>2</sup>
FLOOR AREA RATIO:	2.264	1.38

NO	REVISION/DESCRIPTION	DATE	BY	INFO
1	Design Change Presentation	2023-08-28	PS	INFORMATION
2	Client Feedback	2023-09-07	PS	INFORMATION
3	Revised Design	2023-09-14	PS	INFORMATION
4	Revised Design	2023-09-14	PS	INFORMATION
5	Revised Design	2023-09-14	PS	INFORMATION
6	Revised Design	2023-09-14	PS	INFORMATION
7	Revised Design	2023-09-14	PS	INFORMATION
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