
Our Reference: 1313 / A8 Rev. 5
12 May 2026

PROPOSED WAREHOUSING AND DISTRIBUTION DEVELOPMENTS ON ERF 1990, FISANTEKRAAL AREA, DURBANVILLE

REPORT ON PROVISION OF CIVIL ENGINEERING SERVICES

1. INTRODUCTION

The development proposals on Erf 1990 (unregistered Erven 1992, 1993, 1995 and 2006), Fisantekraal consist of warehousing and distribution developments. The expected GLA on the different unregistered portions/erven are as follows:

Consolidated erven 1992 and 1993:	24 707 m ² GLA	of warehousing and distribution
Erf 1995:	13 068 m ² GLA	of warehousing and distribution
Erf 2006:	<u>20 488 m² GLA</u>	of warehousing and distribution
Total:	58 263 m ² GLA	

This report summarises the situation with regard to the provision of the basic civil engineering services, i.e. water supply, sewerage and solid waste removal to the proposed development.

The development proposal is indicated on the layout plan in Annexure B. The concept of the civil engineering services is as indicated on Drawing no. 1313/1E as Annexure C.

2. SITE LOCATION AND DESCRIPTION

The property is located in the eastern outskirts of Durbanville in close proximity to the existing Durbanville Business Park. A Locality Plan is provided as Annexure A.

The site is surrounded by rural and semi-developed land. The proposed Darwin Road Extension will traverse the corner of the development.

The Upper Mosselbank River traverses the development site.

3. WATER SUPPLY

3.1 Demand:

The demand for potable water for the proposed development is estimated at **233 kl/day**, calculated as follows:

Warehousing & distribution (cons. erven):	24 707 m ² GLA @ 0,40 kl/100 m ² GLA /day	=	99 kl/day
Warehousing & distribution (erf 1995):	13 068 m ² GLA @ 0,40 kl/100 m ² GLA /day	=	52 kl/day
Warehousing & distribution (erf 2006):	20 488 m ² GLA @ 0,40 kl/100 m ² GLA /day	=	<u>82 kl/day</u>
Total:			233 kl/day

Peak water demand (peak factor @ 3.2) is estimated at **8.6 l/s** Fire flow is required at 50 l/s.

3.2 Distribution Zone:

The development falls within the City of Cape Town's Spes Bona reservoir Zone.

3.3 Supply:

Existing Infrastructure

The following watermains surround the proposed development as indicated on the layout plan in Annexure C:

- 110 mm Ø pipeline traverses Erf 1995
- 200 mm Ø main along Darwin Road and within Grant Road

The locations of the watermains are indicated on the layout plan in Annexure C.

Proposed Infrastructure

Supply of potable water to the development will be from the 200mm Ø watermain within Grant Road. The 200mm Ø watermain along Darwin Road will in future be extended towards the 200mm Ø watermain along Boy Briers Road to ensure sufficient capacity and multiple feeds. The 200mm Ø watermain will be situated within the road reserve of Darwin Road extension.

The detail of the water connections will be agreed with the City at detail engineering design stage.

3.4 CCT Capacity Confirmation:

Feedback from the City of Cape Town is that sufficient spare capacity is available in their bulk water system to service the development. The Water Capacity Analysis report of the City is included as Annexure D.

4. SEWERAGE

4.1 Flow:

Sewage flow from the proposed development is estimated at **210 kl/day**, calculated as follows:

Warehousing & distribution (cons. erven):	24 707 m ² GLA @ 0,36 kl/100 m ² GLA /day	=	89 kl/day
Warehousing & distribution (erf 1995):	13 068 m ² GLA @ 0,36 kl/100 m ² GLA /day	=	47 kl/day
Warehousing & distribution (erf 2006):	20 488 m ² GLA @ 0,36 kl/100 m ² GLA /day	=	<u>74 kl/day</u>
Total:			210 kl/day

Peak dry weather flow (peak factor @ 2.5) is estimated at **6.1 l/s**

4.2 Treatment:

The proposed development is situated within the catchment of the Fisantekraal Wastewater Treatment Works (WWTW). This treatment works has sufficient unallocated capacity to accommodate this development.

4.3 Conveyance:

Existing Infrastructure

The bulk sewerage infrastructure of the City of Cape Town near the development site are as follows and indicated on the layout plan in Annexure C:

- 825 mm Ø collector sewer traversing Erf 1995 and gravitating towards the Fisantekraal Bulk Pump Station
- Fisantekraal Bulk Pump Station pumping towards the Fisantekraal Wastewater Treatment Works (WWTW)

Proposed Infrastructure

The development area to the north of Upper Mosselbank River (Erven 1992, 1993 and 2006) should drain to a proposed new regional pump station next to Darwin Road. It has been identified that the following bulk infrastructure would be required to establish the pump station:

- New pump station on the adjacent Erf 1991. A servitude will be required in favour of the City until Erf 1991 is developed when the servitude will be conveyed to an erf.
- New rising main from the new pump station to the existing 900 mm Ø sewer collector on Farm 724/5. The rising main will be situated within the road reserve of Darwin Road extension.

The development area to the south of Upper Mosselbank River (Erf 1995) should connect to the 825mm Ø collector sewer traversing the erf.

The concept layout of the regional sewer pump station is provided in Annexure E. The detail of the pump station and connections will be agreed with the City at detail engineering design stage.

The City will also require that the existing "Dick Groeneweg" sewer pump station be decommissioned, and the pipework extended across Erf 1991, as indicated on the layout drawing in Annexure E, to connect to the new regional sewer pump station.

4.4 CCT Capacity Confirmation:

Feedback from the City of Cape Town is that sufficient spare capacity is available in their bulk sewerage system to service the development. The Sewer Capacity Analysis report of the City is included as Annexure D.

5. SOLID WASTE REMOVAL

Solid waste generated by the development is estimated at **1,75 ton/day**, calculated as follows:

Warehousing & distribution (cons. erven):	24 707 m ² GLA @ 3 kg/100 m ² GLA / day =	0,74 ton/day
Warehousing & distribution (erf 1995):	13 068 m ² GLA @ 3 kg/100 m ² GLA / day =	0,39 ton/day
Warehousing & distribution (erf 2006):	20 488 m ² GLA @ 3 kg/100 m ² GLA / day =	<u>0,62 ton/day</u>
Total:		1,75 ton/day

The City of Cape Town will be requested to provide a waste removal service to the development.

6. CONCLUSION

From the above it is concluded that the required basic civil engineering services, i.e. potable water, sewerage and solid waste removal, for the proposed warehousing and distribution developments on Erven 1992, 1993, 1995 and 2006 in the Fisantekraal area of Durbanville, can be accommodated by the City of Cape Town in their existing bulk infrastructure, alternatively in the bulk infrastructure items as per the master plans.

On behalf of BSI CONSULT

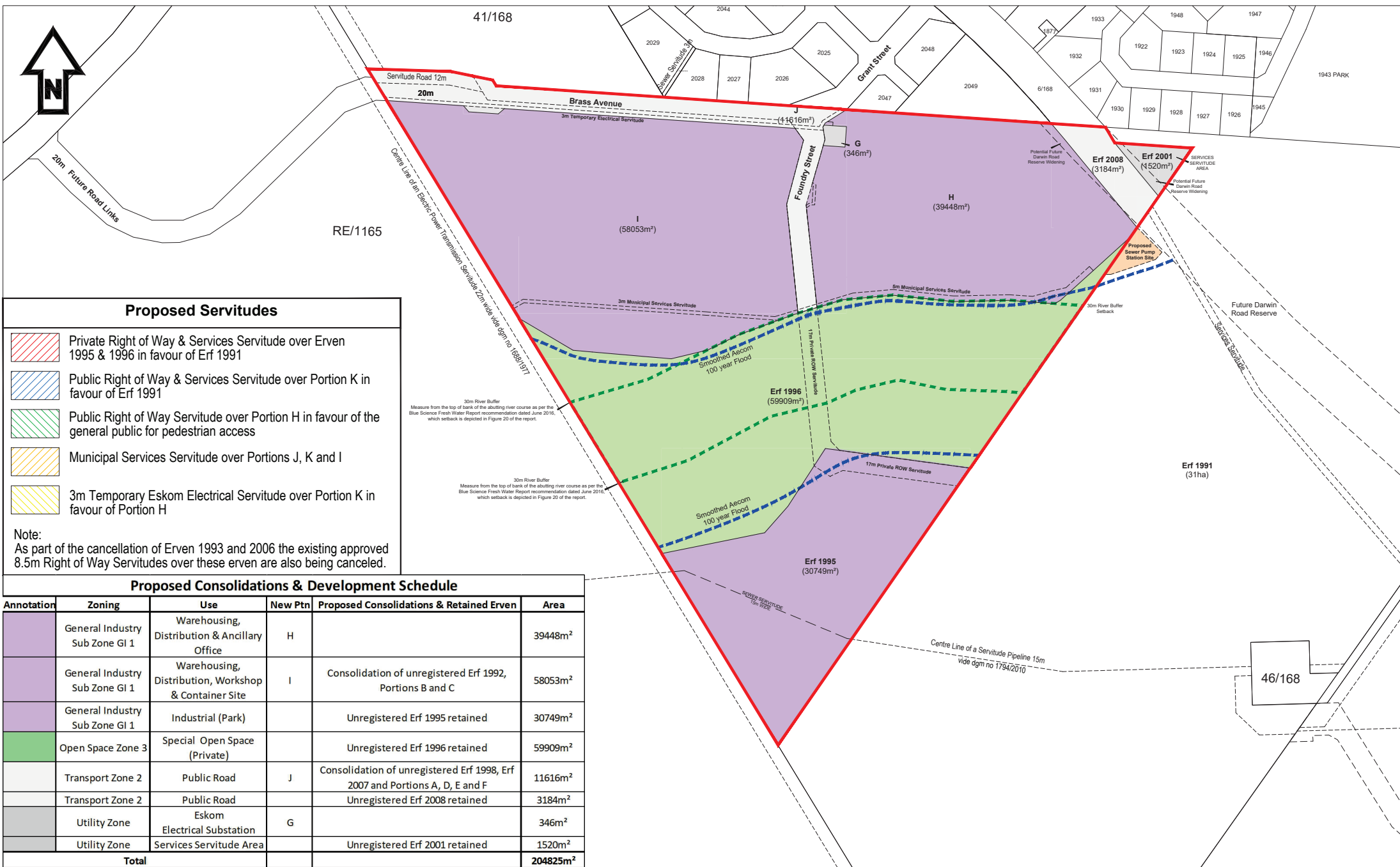

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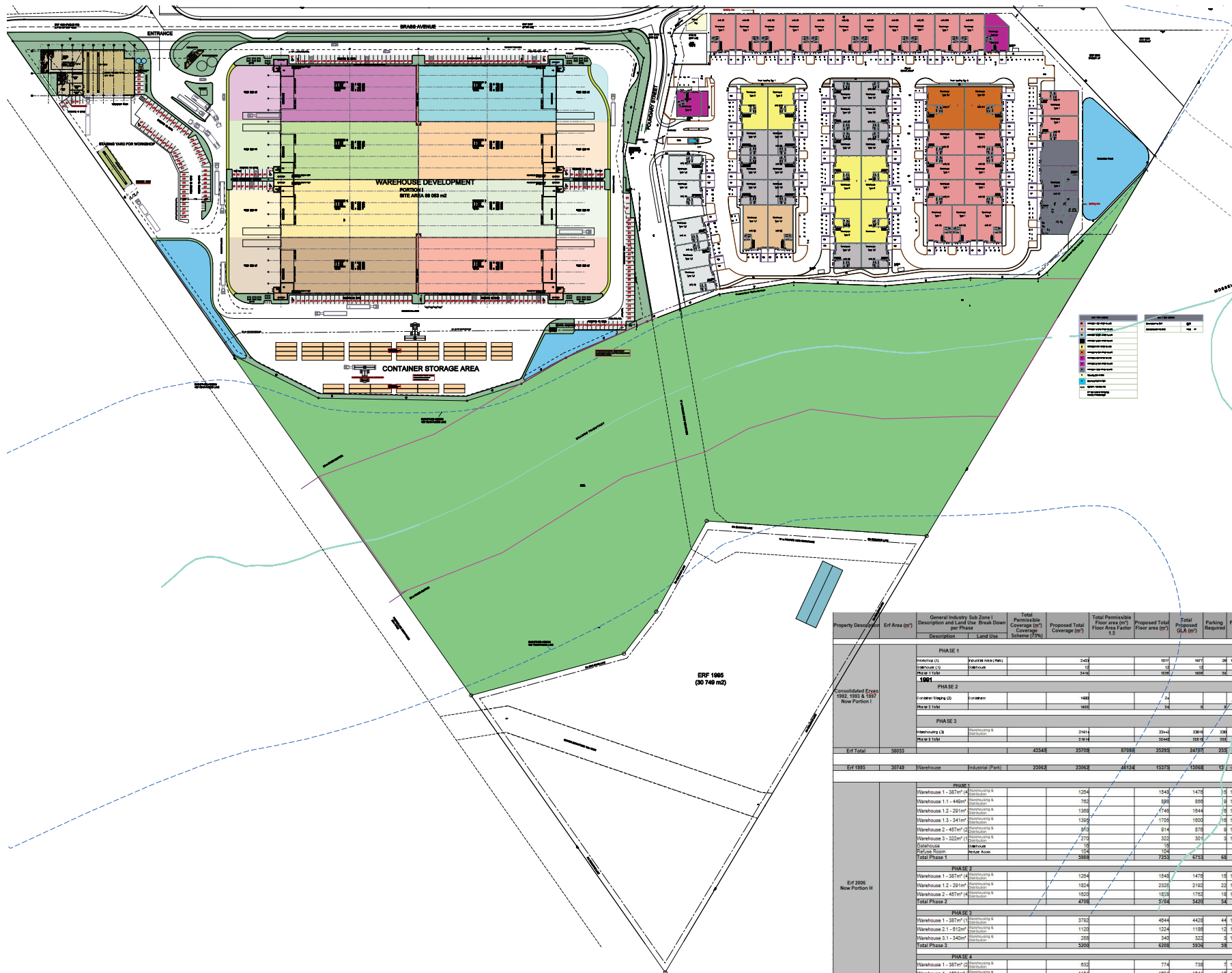
ANNEXURE A

LOCALITY PLAN

ANNEXURE B

DEVELOPMENT PROPOSAL





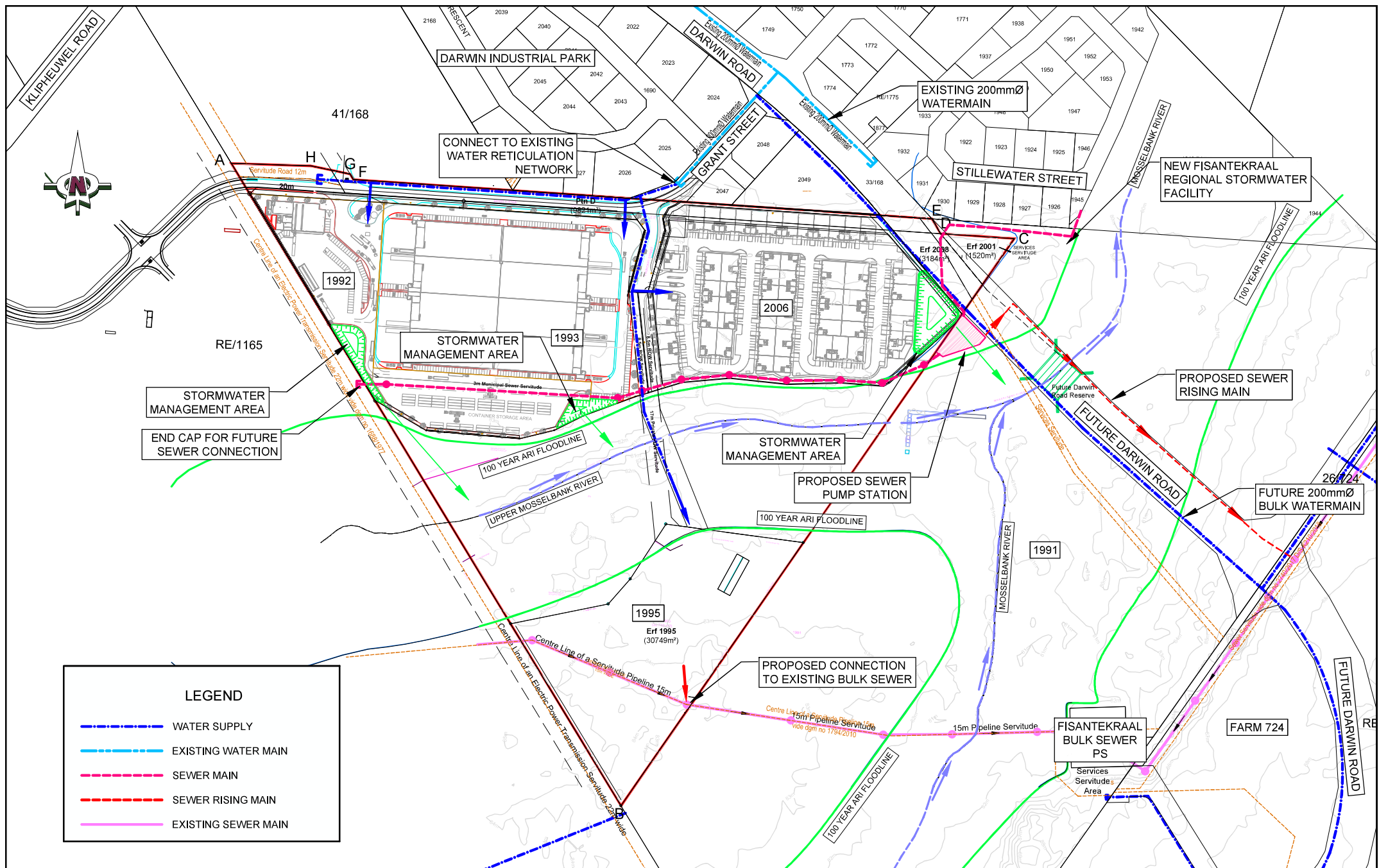
Property Description	Erf Area (m ²)	General Industry Sub Zone 1 Description and Land Use Break Down per Phase		Total Permissible Coverage (m ²) Scheme (72%)	Proposed Total Coverage (m ²)	Total Permissible Floor area (m ²) Floor Area Factor 1.5	Proposed Total Floor area (m ²)	Total Proposed GLA (m ²)	Parking Required	Paving & etc.	Parking Provided	
		Description	Land Use									
Consolidated Erfen 1982, 1983 & 1997 New Portion I		PHASE 1										
		Warehouse (1)	Warehousing & Distribution	2400		1871	1871	26	1,100m ²		26	
		Warehouse (2)	Industrial	12		12	12	2			2	
		Phase 1 Total		2412		1883	1883	28			28	
		PHASE 2										
		Container Storage (2)	Container	1480		24	24	0			0	
		Phase 2 Total		1480		24	24	0			0	
		PHASE 3										
		Warehouse (3)	Warehousing & Distribution	21814		22142	22142	224	1,100m ²		224	
		Phase 3 Total		21814		22142	22142	224			224	
		Erf Total	58553			43548	42928	24700	235			235
Erf 1985	30748	Warehouse	Industrial (Park)	23846	23846	46124	15275	13808	12	1,100m ²	121	
Erf 2006 New Portion H		PHASE 1										
		Warehouse 1 - 387m ² (4)	Warehousing & Distribution	1204		1548	1478	3	1/100m ²			
		Warehouse 1.1 - 440m ² (4)	Warehousing & Distribution	793		898	898	9	1/100m ²			
		Warehouse 1.2 - 201m ² (4)	Warehousing & Distribution	1366		1748	1644	24	1/100m ²			
		Warehouse 1.3 - 341m ² (4)	Warehousing & Distribution	1394		1705	1800	19	1/100m ²			
		Warehouse 2 - 487m ² (4)	Warehousing & Distribution	945		914	870	9	1/100m ²			
		Warehouse 3 - 322m ² (4)	Warehousing & Distribution	271		322	301	3	1/100m ²			
		Office/Storage	Office	10		10						
		Refuse Room	Refuse Room	104		104						
		Total Phase 1		3988		7259	6703	68			68	
Erf 2006 New Portion H		PHASE 2										
		Warehouse 1 - 387m ² (4)	Warehousing & Distribution	1204		1548	1478	15	1/100m ²			
		Warehouse 1.2 - 201m ² (4)	Warehousing & Distribution	1824		2320	2102	22	1/100m ²			
		Warehouse 2 - 487m ² (4)	Warehousing & Distribution	1522		1510	1752	19	1/100m ²			
		Total Phase 2		4550		5378	5428	54			54	
	Erf 2006 New Portion H	PHASE 3										
		Warehouse 1 - 387m ² (4)	Warehousing & Distribution	3705		4044	4428	44	1/100m ²			
		Warehouse 2 - 1-812m ² (4)	Warehousing & Distribution	1120		1224	1188	12	1/100m ²			
		Warehouse 3.1 - 340m ² (4)	Warehousing & Distribution	288		340	322	3	1/100m ²			
		Total Phase 3		5113		5608	5938	59			59	
Erf 2006 New Portion H		PHASE 4										
		Warehouse 1 - 387m ² (4)	Warehousing & Distribution	812		774	738	7	1/100m ²			
		Warehouse 4 - 1864m ² (4)	Warehousing & Distribution	1154		1094	1041	10	1/100m ²			
		Total Phase 4		1966		1868	1779	17			17	
		Erf Total (incl. proposed electrical substation - see Portion G)	38448			28596	17882	58172	21633	20488	205	

NOTES

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ANNEXURE C

CONCEPT CIVIL ENGINEERING SERVICES



ANNEXURE D

CCT BULK WATER & SEWERAGE CAPACITY ANALYSIS



Water & Sanitation Head Office
Cnr Voortrekker & Mike Pienaar Blvd
Bellville 7530
Tel: **+27 021 400 5022**
Fax: **+27 21 970 3140**
E-mail: water.info@capetown.gov.za
Evaluator: Lufefe Sigenene

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Umnxeba: **+27 021 400 5022**
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Water en Sanitasie Hoof Kantoor
H/V Voortrekker & Mike Pienaar Blvd
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Reference: 20240114_L

13 April 2025

Attention: Lukas Louw (Pr. Eng.)

BSi Consult Civil and Structural Engineers

Email: lukas@bsiconsult.co.za

COMMENT ON WATER AND SANITATION INFRASTRUCTURE CAPACITY AND DEVELOPMENT CONDITIONS FOR THE PROPOSED DEVELOPMENT OF ERVEN 1992, 1993, 1995, 2006, FISANTEKRAAL

Background

BSi Consult has been appointed determine civil engineering services requirements and to apply for the necessary capacities for the proposed industrial development with an estimated GLA of 55 359 m² in Fisantekraal. The properties are currently zoned as General Industrial 1 (GI1). The water and sewer latest master plan has identified the subject area as a site for potential densification with anticipated future water demand of 168.0 kℓ/d.

This letter provides an overview of the existing water and sewer infrastructure near the development, the capacity of both complete systems to service it as well as associated conditions that would apply. The information provided is based on City of Cape Town master plan model as well as comments from relevant branches of the department.

Table 1: Estimated water demand and sewer flow anticipated for the proposed development provided by BSi Consult

Description	Potable Water Demand ¹				Sewer Flow ²	
	Quantity (Units/Area/ No. people)	Total AADD (kℓ/d)	Peak Flow (ℓ/s) (PF = 3.3)	Fire Flow (ℓ/s)	Total ADWF (kℓ/d)	Peak Flow (Dry weather) (ℓ/s) (PF=3.0)
Erven 1992, 1993, 1995 and 2006, Fisantekraal						
Industrial Development	55 359 m ²	293.4	11.2	50.0	264.1	9.2
Total	55 359 m²	293.4 kℓ/d	11.2 ℓ/s	50.0 ℓ/s	264.1 kℓ/d	9.2 ℓ/s

Notes:

¹ Based on a water demand of 530ℓ/100m²/d

² Based on a 90% sewer flow according to the design criterion (as per the W&S Tariff Policy)

Water Reticulation

Distribution zone

This proposed development is located within the Spes Bona water distribution zone and is supplied from the Spes Bona reservoir via a 450 mmØ main in Klipheuwel Road.

Present situation

Based on latest available GIS data and hydraulic model, there is limited water mains in the immediate vicinity of the proposed development. There is an existing 200 mm diameter water main situated at Grant Street. The main has a peak velocity of 0.23 m/s, flow rate of 5.86ℓ/s, an average

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demand head of 93.5 m and static head of 60 m. Along Klipheuwel Road is a 250 mm water main (approximately 200 m from the north-western boundary of Erf 1992) with an average peak velocity of 2.4m/s and peak flow of 94.0 l/s. The velocity in this main is considered high in terms of reticulation design criteria, pressure losses and water hammer may be experienced. There is a 450 mm water main in Klipheuwel Road with a peak flow and velocity of 38.0 l/s and 0.25 m/s respectively. This main has a demand and static head of 117.0 m and 118.0 m respectively.

There is sufficient capacity in the existing water network to accommodate the demand calculations reflected in table 1 above. The developer is to provide evidence of water saving initiatives that will be incorporated in the development. It should be noted that the City does not guarantee flow and pressure and therefore the relevant official in the Water Inspectorate official may need to confirm the need for onsite storage to meet fire requirements based on the nature of the development.

The applicant needs to be aware that there is a requirement for fire boosting to whatever level the proposed development requires and storage where required. The consulting engineer should liaise directly with Tiaan.Wright@capetown.gov.za in terms of the layout of the proposed development on how it will be serviced with water link.

See figure 1.1 and 1.2 for existing water reticulation layout attached.

Bulk Water

No infrastructure under the control of the City of Cape Town's Bulk Water Branch exists in the immediate vicinity of the proposed development shown in the application.

The City of Cape Town's bulk supply system has sufficient water resource, treatment, bulk storage and conveyance capacity to supply the estimated average daily demand of **293.4 kℓ/day** respectively of the proposed development.

The connection will have to be connected to a nearby reticulation network.

Sewer Reticulation

Drainage area

The existing sewer network in the vicinity of the proposed development falls within the sub-catchment of Business Park - Fisantekraal 4 sewer pump station. Sewer influent from Fisantekraal 1 pump station pumps to Fisantekraal 1 and then to Fisantekraal Bulk regional pump station which discharges at the Fisantekraal Wastewater Treatment Works (WWTW).

Present situation

Based on latest GIS data and hydraulic model, there is limited sewer mains in the immediate vicinity of the development. There is an existing 160 mm diameter sewer main along Grant Street which gravitates to Fisantekraal 4 pump station. Along the southern boundary of Erf 1995 is a 825 mm diameter bulk sewer which gravitates to Fisantekraal Bulk pump station.

The above-mentioned sewer mains and existing downstream sewer network has sufficient spare capacity to accommodate the proposed development. The consulting engineer should liaise directly with Tiaan.Wright@capetown.gov.za in terms of the layout of the proposed development on how it will be serviced with sewer link.

Following a meeting between the appointed consultant (BSi Consult) and the Water and Sanitation department, it was recommended that a dedicated new municipal sewer pump station, to serve the development and replace the existing Business Park sewer pump station completely, is to be

installed. The proposed pump station is to be situated north of the Mosselbank River and to pump sewage south directly along Darwin Road reserve to the 900 mm bulk sewer main which then gravitates to the Fisantekraal regional pump station facility. An allowance to be made for along with the necessary sewer gravity lines and rising mains, servitudes where applicable, the river crossing etc.

See figure 2.1 and 2.2 for existing sewer reticulation layout attached.

Wastewater Treatment

The anticipated wastewater flow from the proposed development has been calculated to be **264.1 kℓ/d**.

This proposed development is situated within the catchment of the Fisantekraal Wastewater Treatment Works (WWTW). This treatment works has sufficient unallocated capacity to accommodate the anticipated discharge from this development.

Conclusion

The existing water and sewer infrastructure surrounding the proposed development has sufficient capacity to accommodate the anticipated water demand and sewer flows from the development.

Conditions

The Water and Sanitation Department supports the proposed development application provided the following conditions be met:

1. That the developer may be responsible for the payment of the Development Contributions for bulk civil engineering services, if any, as determined annually by Council.
2. All costs, relating to alterations to the existing water and sewerage systems and the provision of new water and sewer connections, will be for the account of the applicant.
3. An on-site pressure test is recommended to evaluate the fire design requirements for the proposed development.
4. A civils layout must be submitted to Tiaan.Wright@capetown.gov.za for approval. The design is to be completed and signed off by a registered civil engineer.
5. All services to comply with the "Minimum Standards of Civil Engineering Services in Townships (as amended) document".
6. Before commencement of construction, all way leave applications should be in place and approved.
7. All new service connections to be constructed and inspected by Council on completion before section 137 for transfer will be approved.
8. That the developer be responsible for the payment of the development contributions for bulk civil engineering services, if any, as determined annually by Council and contained in the attached signed Acknowledgement of Debt.
9. All internal services are private and will not be taken over by The City of Cape Town.

Additional Technical Requirements

10. The water and sewer capacities allocated according to this document shall not be reserved if not taken up before the lesser of 5 years or the approved development period.
11. Water and Sanitation municipal service designs to be designed according to Departmental Service Standards and be approved prior to construction. These standards can be obtained on the City of Cape Town Website.

General/ Disclaimer

Information provided is based on best available data. The infrastructure as-built information referred to and used in the analysis is based on the GIS asset records, while modelled pressures, flows,

velocities, capacities and volumes are based on hydraulic models of the current land use and demands. Where appropriate, future land use and demands are considered. The flows and pressures provided are theoretical and not measured. All levels provided to be verified on site.

Yours faithfully

 Digitally signed by
McKaylin Adonis
Date: 2025.04.13
20:57:44 +02'00'

On behalf of

Zolile Basholo

DIRECTOR: TECHNICAL SERVICES, WATER AND SANITATION DIRECTORATE

Figure 1 Water reticulation layout



Figure 1 - Existing Water Distribution Network



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
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Water and Sanitation

Water and Sanitation Directorate
Technical Services

LEGEND

- Fire Hydrant
- Water Valves
- Air
- Isolation
- Water Mains
 - Reticulation Mains
 - Water Leading
 - Bulk Water - Mains
- Land Parcel



Aerial Imagery 2023Jan



1:3 500

Date: 2025/04/13

Projection: Transverse Mercator
Central Meridian: 19° East
Ellipsoid: WGS84
Datum: Hartbeesthoek94

PLEASE NOTE:

- Every effort has been made to ensure the accuracy of information in this map at the time of publication.
- The spatial data portrayed in this map is as current, accurate and complete as provided by the various line departments responsible for the maintenance of these datasets.
- The City of Cape Town accepts no responsibility for, and will not be liable for, any errors or omissions contained herein.

Figure 2 Sewer reticulation layout



Figure 2 - Existing Sewer Conveyance Network



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Water and Sanitation

Water and Sanitation Directorate
Technical Services

LEGEND

- Sewer Manholes
- Sewer Pump Station
- Sewer Connection Point
- Sewer Connection Line
- Sewer Main
- Sewer Pressurised Mains
- Redundant Sewer Main
- Land Parcel



Aerial Imagery 2023/Jan



1:3 500

Date: 2025/04/13

Projection: Transverse Mercator
Central Meridian: 19° East
Ellipsoid: WGS84
Datum: Harthebeesthoek94

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ANNEXURE E

REGIONAL SEWER PUMP STATION: CONCEPT LAYOUT

