

5.2 Provide a description of the area where the aquatic or ocean-based activity(ies) is/are to be undertaken and the location of the activity(ies) and alternative sites (if applicable).

The following infrastructure or activities will take place in aquatic environments at the site (refer to Figure 3 and Figure 4):

- The extension of Berkley Road (including a two lane bridge over the Black River) to the entrance of the development: Erf 15326 Rem (33°55'44.77"S; 18°28'39.80"E) – see Figure 10 and Figure 15.
- The widening of Berkley Road, and the extension of this road from the site entrance over the original course of the Liesbeek River: Erf 15326 Rem (33°55'51.71"S; 18°28'20.30"E) – see Figure 10
- The widening of the Berkley Road bridge over the Black River: Erf 15326 Rem (33°55'44.77"S; 18°28'39.80"E) – see Figure 10.
- The construction of Link Road into the development across the original course of the Liesbeek River: Erf 26169, Erf 151832, and Liesbeek Parkway Road Reserve (33°56'2.13"S; 18°28'23.20"E) – see Figure 8.
- Widening of the Liesbeek Parkway between the Station Road and Malta Road into the original course of the Liesbeek River: Liesbeek Parkway Road Reserve, Erf 26169, Erf 26170, Erf 26171, Erf 26172, Erf 26173, Erf 26174 and Erf 26175 – see Figure 13.
- Infilling or rehabilitating the original course of the Liesbeek River west of the development: Liesbeek Parkway Road Reserve, Erf 108936, Erf 26427, Erf 26169, Erf 26170, Erf 26171, Erf 26172, Erf 26173, Erf 26174 and Erf 26175 (33°56'2.94"S; 18°28'24.84"E) – see Figure 18 and Figure 21.
- Rehabilitating, restoring or upgrading the western banks of the Liesbeek canal (including the removal of the base of the canal), east of the development: Erf 151832, Erf 26426 and Erf 15326 Rem (33°56'3.07"S; 18°28'33.40"E) - see Figure 17 and Figure 20.
-

Coordinates of the boundary /perimeter of all proposed aquatic or ocean-based activities (sites) (if applicable):	Latitude (S): (deg.; min.; sec)	Longitude (E): (deg.; min.; sec)
	See above	

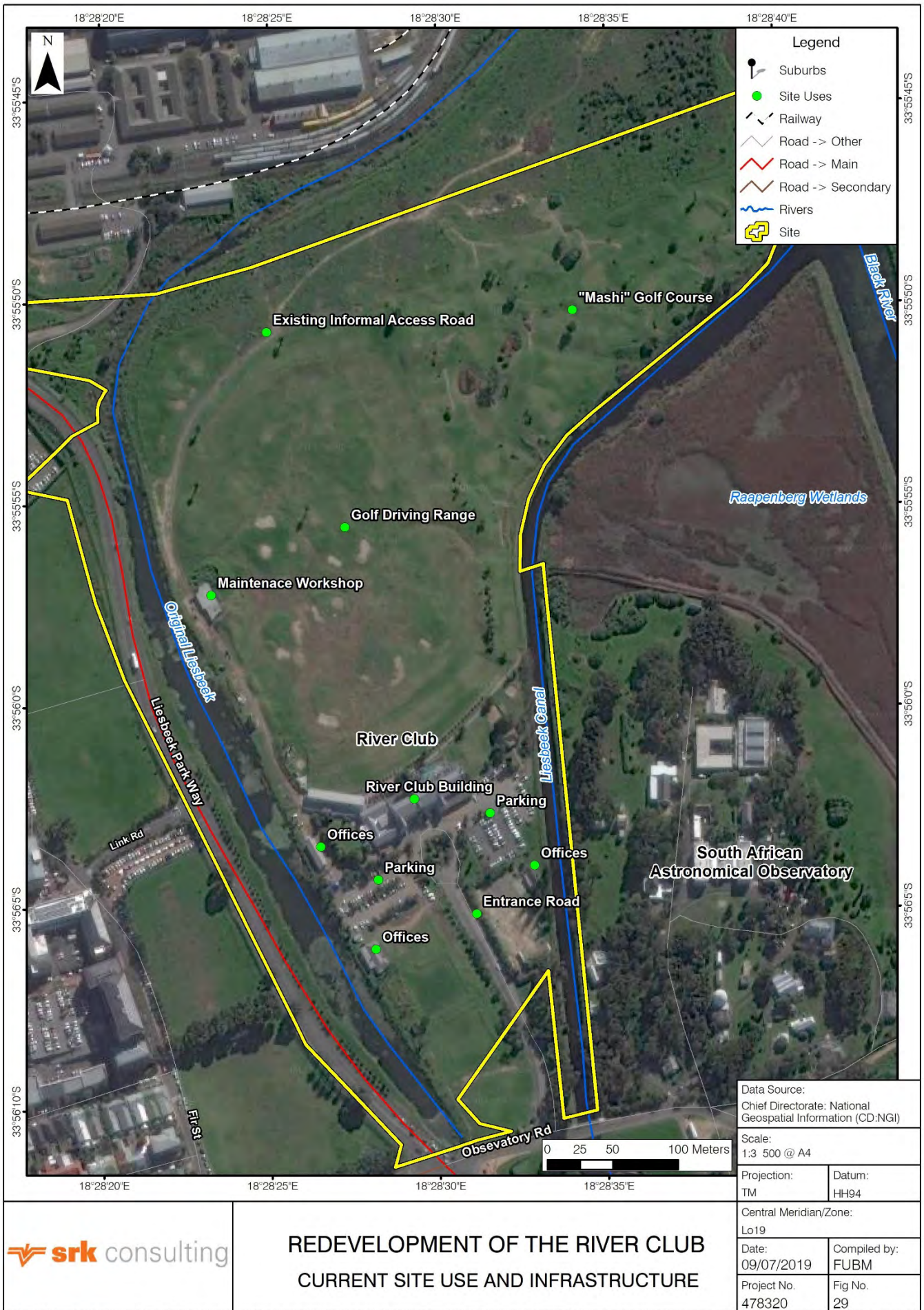
5.3 For a linear development proposal, please provide a description and coordinates of the corridor in which the proposed development will be undertaken (if applicable).

N/A

For linear activities:	Latitude (S): (deg.; min.; sec)	Longitude (E): (deg.; min.; sec)
• Starting point of the activity		
• Middle point of the activity		
• End point of the activity		

Note: For linear development proposals longer than 1000m, please provide an addendum with co-ordinates taken every 250m along the route. All important waypoints must be indicated and the GIS shape file provided digitally.

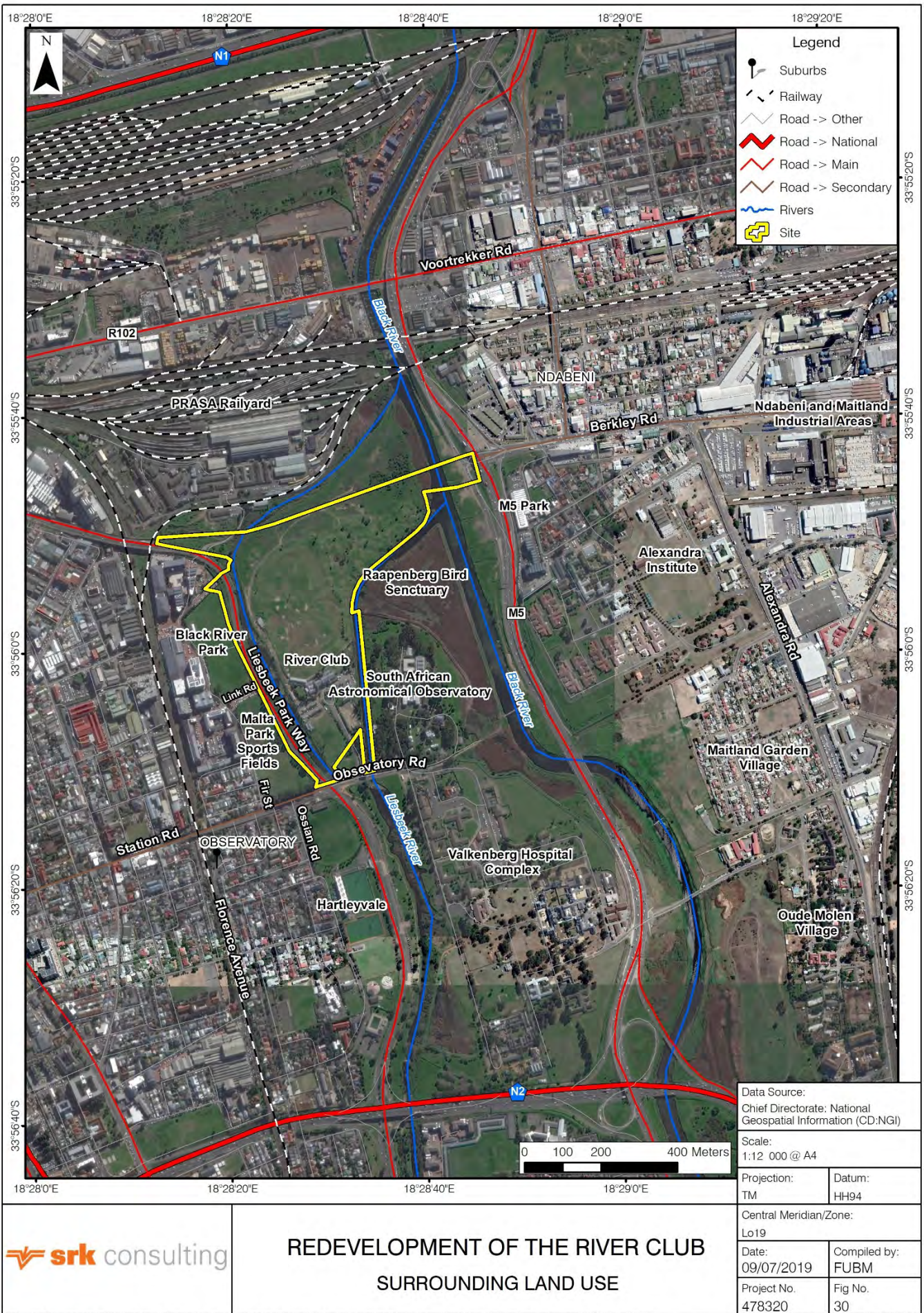
5.4 Provide a location map (see below) as **Appendix A** to this report that shows the location of the proposed development and associated structures and infrastructure on the property; as well as a detailed site development plan / site map (see below) as **Appendix B** to this report; and if applicable, all alternative properties and locations. The GIS shape files (.shp) for maps / site development plans must be included in the electronic copy of the report submitted to the competent authority.



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Revision: A Date: 09 07 2019

Figure 29: Current site use and infrastructure



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Revision: A Date: 09 07 2019

Figure 30: Surrounding land use

<p>Locality Map: Appendix A</p>	<p>The scale of the locality map must be at least 1:50 000. For linear development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; • a linear scale; • the prevailing wind direction (during November to April and during May to October); and • GPS co-ordinates (to indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection). <p>For an ocean-based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken.</p> <p>Coordinates must be provided in degrees, minutes and seconds using the Hartebeesthoek94; WGS84 co-ordinate system.</p>
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	Item	Reference
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following:	
	<ul style="list-style-type: none"> • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be indicated on the plan, preferably together with a linear scale. 	Appendix B
	<ul style="list-style-type: none"> • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. 	Figure 2
	<ul style="list-style-type: none"> • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be indicated on the site plan. 	Figure 29
	<ul style="list-style-type: none"> • The position of each element of the application as well as any other structures on the site must be indicated on the site plan. 	Appendix B
	<ul style="list-style-type: none"> • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the development <u>must</u> be indicated on the site plan. 	Figure 19 – Figure 25
	<ul style="list-style-type: none"> • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. 	N/A as servitudes will only be formalised when the subdivision plan is submitted
	<ul style="list-style-type: none"> • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): 	Appendix D, Figure 49, Figure 50
	<ul style="list-style-type: none"> o Watercourses / Rivers / Wetlands - including the 32 meter set back line from the edge of the bank of a river/stream/wetland; 	Figure 16, Figure 33 and Figure 34
	<ul style="list-style-type: none"> o Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable); 	Figure 49
	<ul style="list-style-type: none"> o Ridges; 	Figure 31
	<ul style="list-style-type: none"> o Cultural and historical features; 	Figure 50
	<ul style="list-style-type: none"> o Areas with indigenous vegetation (even if degraded or infested with alien species). 	Figure 37
	<ul style="list-style-type: none"> • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. 	N/A
	<ul style="list-style-type: none"> • North arrow 	Appendix D
	A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.	Appendix D
	The GIS shape file for the site development plan(s) must be submitted digitally.	

6. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached as **Appendix C** to this report. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.

See Figure 5-3 of the VIA and Appendix C.

SECTION B: DESCRIPTION OF THE RECEIVING ENVIRONMENT

Site/Area Description

For linear development proposals (pipelines, etc.) as well as development proposals that cover very large sites, it may be necessary to complete copies of this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area that is covered by each copy on the Site Plan.

1. GRADIENT OF THE SITE

Indicate the general gradient of the sites (highlight the appropriate box).

Flat	Flatter than 1:10	1:10—1:4	Steeper than 1:4
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2. LOCATION IN THE LANDSCAPE

(a) Indicate the landform(s) that best describes the site (highlight the appropriate box(es)).

Ridgeline	Plateau	Side-slope of hill / mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
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(b) Provide a description of the location in the landscape.

The confluence of the Liesbeek River and Black River is located to the northeast of the site, where these rivers merge to form the Salt River (see Figure 34). The Salt River flows into the Atlantic Ocean in Table Bay approximately 2.2 km downstream (north) of the Salt River Bridge. The generally low flow velocity of these two rivers results in wide flood plains. The site is located in the broad, flat floodplain of the Black and Liesbeek Rivers.

The site varies between 3 and 7 mamsl and is relatively flat (0 - 5 degrees) with local topographical variations at the driving range and mashie golf course (see Figure 31). A minor ridgeline (Observatory Hill) runs in a north-south direction south-east of the site. The highest point of this ridgeline is approximately 12 m above mamsl. The SAAO is located on this ridgeline.

The topographical landscape of the area surrounding the site has been significantly modified by the urban environment e.g. canalised rivers, major roads (M5, Liesbeek Parkway), industrial areas, large commercial developments, high-rise buildings, railway lines, etc. (see Figure 30).

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

(a) Is the site(s) located on or near any of the following (highlight the appropriate boxes)?

Shallow water table (less than 1.5m deep)	YES	NO	UNSURE
Seasonally wet soils (often close to water bodies)	YES	NO	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	NO	UNSURE
Dispersive soils (soils that dissolve in water)	YES	NO	UNSURE
Soils with high clay content	YES	NO	UNSURE
Any other unstable soil or geological feature	YES	NO	UNSURE
An area sensitive to erosion	YES	NO	UNSURE
An area adjacent to or above an aquifer.	YES	NO	UNSURE
An area within 100m of a source of surface water	YES	NO	UNSURE
An area within 500m of a wetland	YES	NO	UNSURE
An area within the 1:50 year flood zone	YES	NO	UNSURE
A water source subject to tidal influence	YES	NO	UNSURE

(b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (Information in respect of the above will often be available at the planning sections of local authorities. The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

(c) Indicate the type of geological formation underlying the site.

Granite	Shale	Sandstone	Quartzite	Dolomite	Dolerite	Other (describe)
Provide a description.						
<p>Geology</p> <p>The site is located to the east of Table Mountain and Devils Peak – steep and rugged sandstone formations of the Table Mountain Group (see Figure 31). The site is located at the foot of Devils Peak on shale of the Malmesbury Group overlaid with quaternary alluvium deposits consisting of loamy and sandy soils between the transformed natural channel of the Liesbeek River (west and north), the canalised channel of the Liesbeek River (“the Liesbeek Canal” - east) and the Black River (north-east).</p> <p>The site was originally underlain by the Springfontyn Formation of the Sandveld Group. This formation consists mainly of fine to medium grained quartzitic sands with the thickness of the sediments <10 m. Recent geotechnical investigations have indicated that while the site was underlain by alluvial soils, extensive historical infilling and dumping of refuse and rubble has completely altered the underlying upper geology of the site. The fill was found to generally consist of highly variable mixtures of refuse and rubble comprising ash, gravel concrete objects (some massive), boulders, plastic, bottles, organic matter, rusted steel objects, tyres, sections of brick walling, etc. all very loosely packed in a matrix consisting for the most part of variably silty sand.</p> <p>The basement rocks in the area consist of the Tygerberg Formation of the Malmesbury Group. This formation consists mainly of alternating layers of grey to green phyllitic shale, siltstone and medium to fine grained impure sandstone (greywacke). The transition between the sands and the Malmesbury rocks is characterised by a clay layer which is the product of weathering of the shale. The degree and depth of weathering can change over relatively short distances (SRK, 2012).</p> <p>Groundwater</p> <p>Groundwater below the site is varies between 1.5 m and 4.5 m below ground level during summer, and the average depth is approximately 2 m below ground level. In winter groundwater levels are expected to rise significantly.</p> <p>Groundwater in the study area occurs in two aquifers (Figure 35), namely:</p> <ul style="list-style-type: none"> • An upper unconfined primary (intergranular) aquifer with a yield of 0.1–0.5ℓ/s, locally known as the Atlantis Aquifer; which forms part of the more extensive Sandveld Aquifer, and • A deeper semi-confined secondary fractured bedrock aquifer with a yield of 0.1–0.5ℓ/s, known as the Malmesbury Group Aquifer. <p>Intergranular and fractured aquifers occur in largely medium to coarse grained granite, weathered to varying thicknesses and in jointed and occasionally fractured bedrock (DWAF, 2000). Intergranular aquifers are typically found in unconsolidated but occasionally semi-consolidated Tertiary-Quaternary coastal deposits and alluvial deposits along river terraces. Fractured aquifers are present in fractured and fissured bedrock. Groundwater in these aquifers is predominantly located within fractures and fissures.</p> <p>Locally, although it is likely that the Raapenberg Wetland is fed predominantly by groundwater, it has been deduced that this feature is hydrogeologically up-gradient of the River Club site, and that the canal buffers groundwater flows from the site towards the wetland (see Appendix G2).</p>						

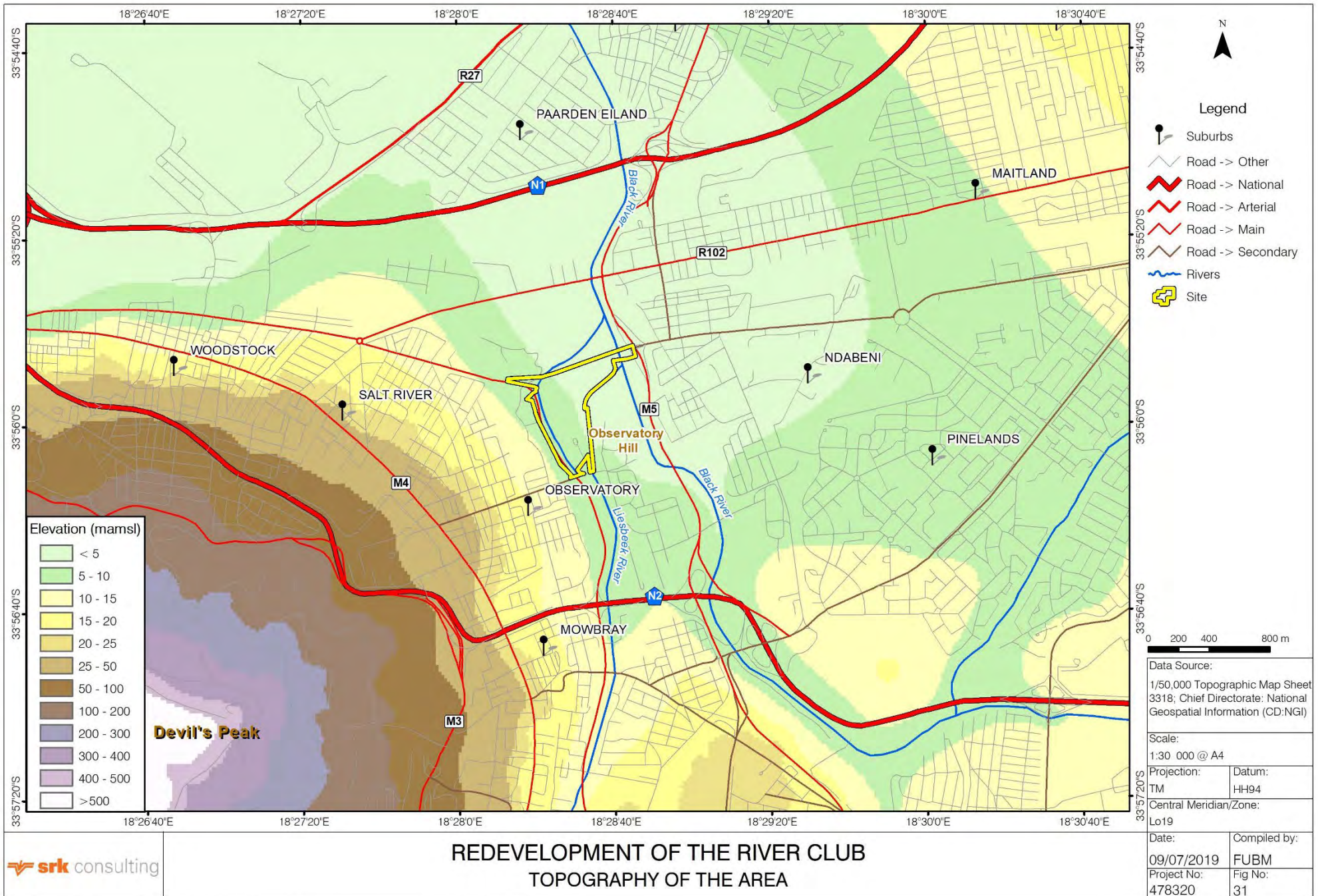


Figure 31: Topography of the area

4. SURFACE WATER

(a) Indicate the surface water present on and or adjacent to the site and alternative sites (highlight the appropriate boxes)?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoon	YES	NO	UNSURE

(b) Provide a description.

Also refer to Appendix G3 – Surface Water Hydrology Impact Assessment and Appendix G2 – Freshwater Ecology Impact Assessment.

Catchment

The River Club lies in the Salt River catchment (213.42km²) (Figure 32), which, along with the Hout Bay River catchment, is a major catchment in the Central Management Area of the CoCT (REMP, 2005). The catchment includes the Liesbeek River which drains the lower reaches of the Table Mountain National Park (TMNP) in the South, the Black River which also drains lower reaches of the TMNP, the Vygekraal River which drains the Cape Flats to the southeast, and the Elsiekraal River which drains the Tygerberg Hills to the northeast.

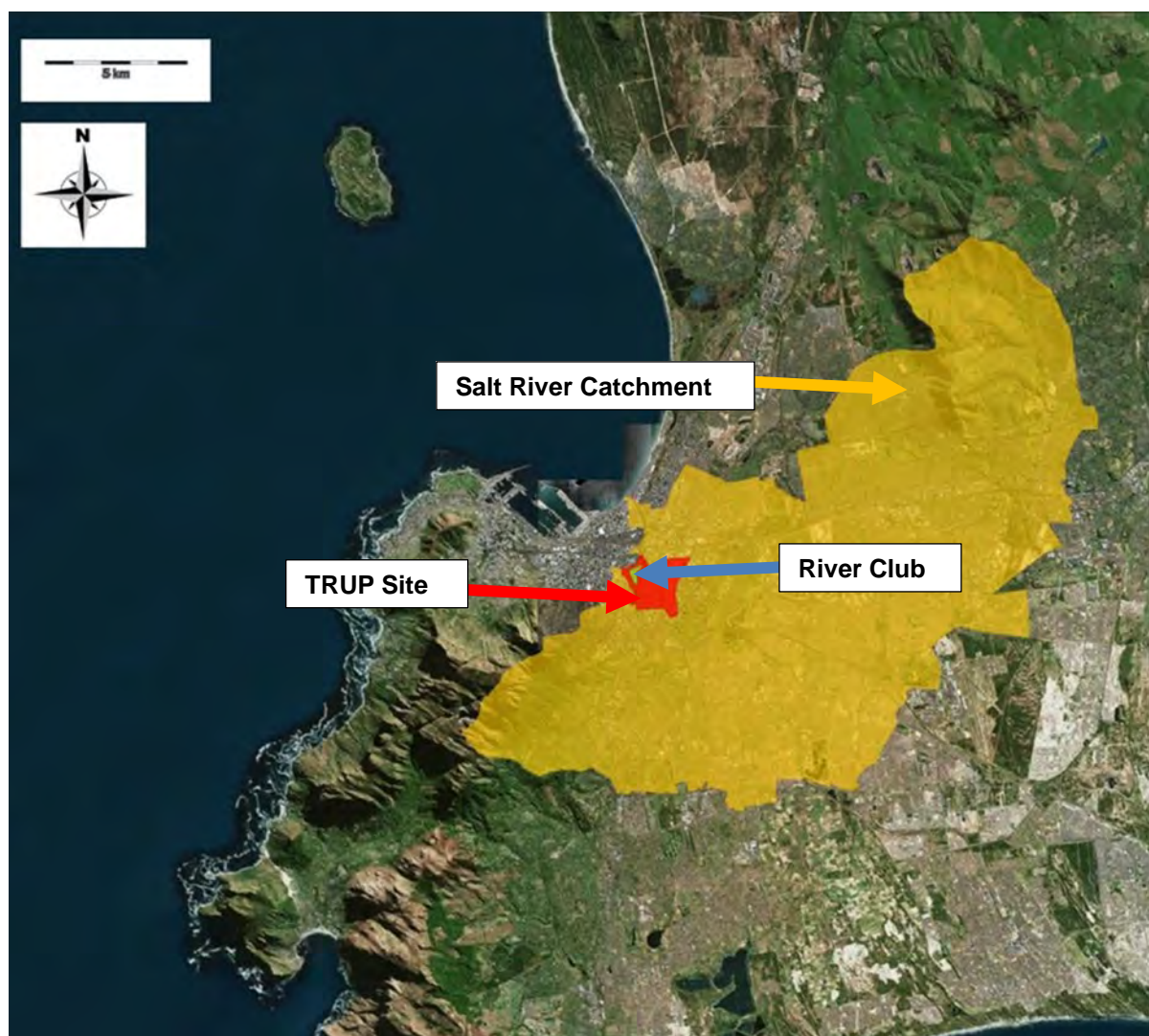


Figure 32: The Salt River Catchment

Rivers

The Black River occurs downstream of the confluence of the Vygekraal and Elsiekraal Rivers. These rivers confluence with the Black River approximately 2.8 km southeast (upstream) of the site (see Figure 33). The Liesbeek River confluences with the Black River at the site.

Historically, the Liesbeek and Black Rivers flowed into an extensive wetland system north of the site. However, in 1952 the Liesbeek was diverted and re-canalised south-east of the site to form the south eastern site boundary (the "Liesbeek Canal" – see Figure 34), overburden added to the site to raise it above flood levels and the Black River was canalised north of the site (Appendix G3). Between 1960 and 1980 the "original course of the Liesbeek" west of the site was fully reclaimed and infilled; but later, shortly before 1990, it was once again dredged to allow water to backflow from the Black River into a deep ditch approximating the old river-course. This degraded original course of the Liesbeek River now forms the western site boundary. The Black River forms the north eastern site boundary (see Figure 34).

In the subsequent 10 years, urban developments encroached on the extensive wetlands, and today the only remnant of these wetlands is the Raapenberg Wetland located to the east of the site (see Figure 34). Furthermore, canalisation in and urbanisation of the catchment has transformed the system so significantly that it is now subject to a new flow regime.

Consistent groundwater supply and effluent discharge from the Athlone and Bocharde's Quarry WWTWs makes the flow regime of the Black River relatively stable, though still significantly altered. The Liesbeek River is fed by mountain streams and runoff from well-serviced residential and commercial areas. Flow volumes in this river are therefore more seasonal.

The confluence of the original course of the Liesbeek River and Black River is located immediately northeast of the site (see Figure 34). The Salt River is considered to start at this confluence. The natural course of the Liesbeek River changed a number of times between 1937 and present (Aurecon, 2017). Today this river course west of the site is fed by stormwater from urban areas to the west, and from backwaters of the Black River.

Wetlands

Berms created for flood protection along both channels of the Liesbeek River limit flooding in what would have been their natural floodplain. These floodplains have been largely infilled on the site itself and as a result no wetland ecosystems occur on site today. However, the River Club is bounded by several wetlands. Figure 34 shows the River Club and its freshwater environments.

Upstream of the River Club, the Black River once formed part of an extensive wetland of which the Vincent Palotti wetlands and the Raapenberg wetlands are the only remnants (Turpie 1994). The Raapenberg wetland is bordered by both the Liesbeek Canal and Black River (Figure 34) and is fed by groundwater and the Liesbeek Canal. The presence of deep, organic soils in some of the M5 road reserves and off-ramp clover leaf areas supports the idea that the Black River once comprised broad wetland flats.

In addition to the above wetlands, the Black River and original course of the Liesbeek River is also abutted, in its reaches downstream of the N2, by extensive reedbed wetlands along its left hand bank (Figure 34). These wetlands are dominated by stands of *Phragmites australis* and have high functional importance as wetlands that are large enough to provide wetland habitat in an increasingly urbanised environment. It is also likely that they may play some role in terms of improving the quality of water discharged from adjacent urbanised developments (Appendix G2).

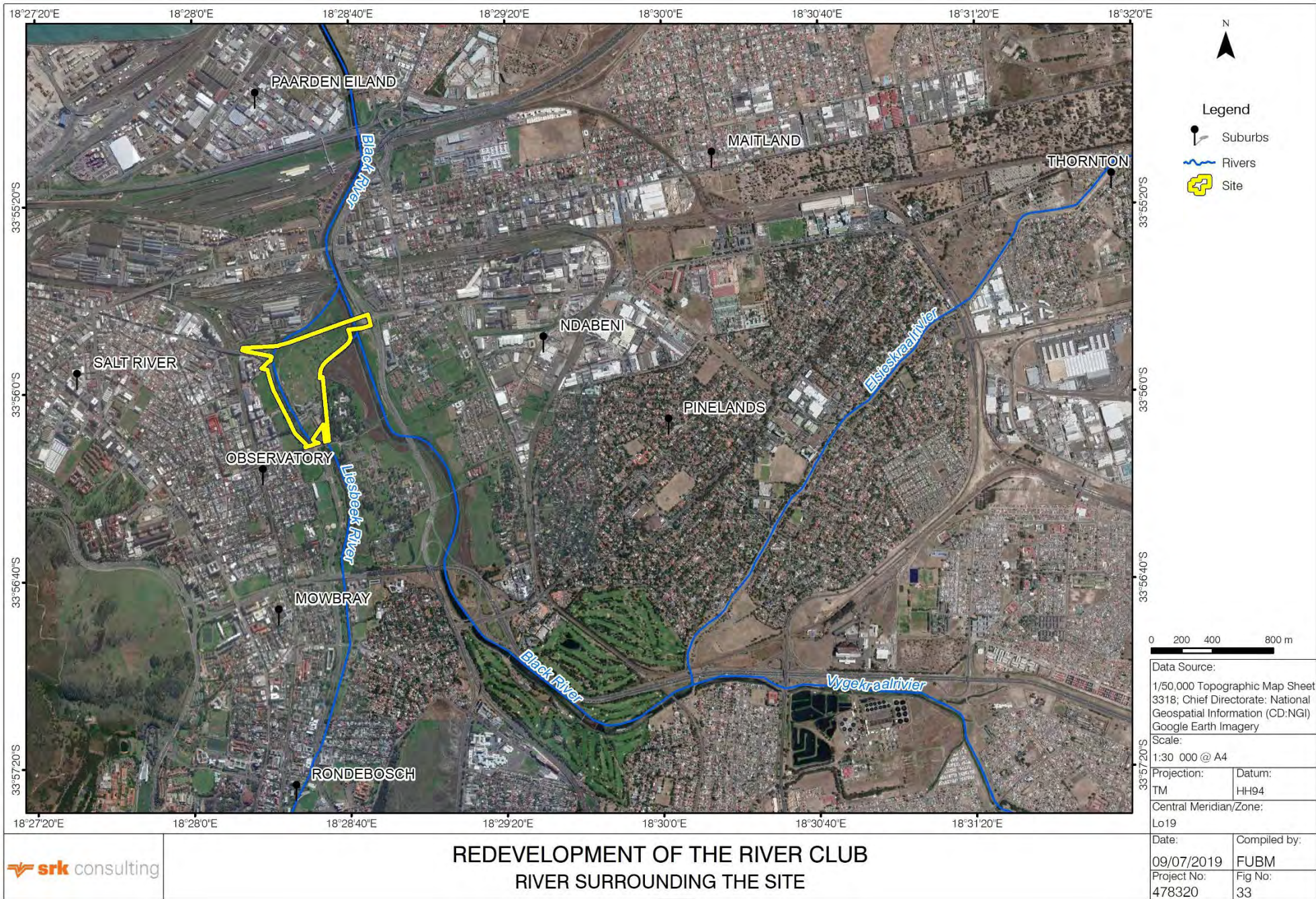
Hydrology

The available records for the last 17 years indicate that there have been approximately seven occasions when the River Club Site was inundated with water – generally considered 'flooded'. This is not surprising as most modelling indicates that any event greater than about the 1 in 2-year flood event is likely to result in flooding – depending on the spatial and temporal distribution of the storm event in the catchment. Therefore 'roughly' it is not unreasonable to expect several storm events to have resulted in flooding on the site in the past 17 years.

In order to assess the impact on flooding at the site and surrounding areas, and to assess potential mitigation for flooding at the site, Aurecon (2017) modelled floodlines⁵ for the study area both considering the current elevation of the River Club (refer to Appendix D), as well as a scenario where the entire site is raised above the 1 in 100 year floodline, and other development in the area (most notably the PRASA expansion and TRUP⁶).

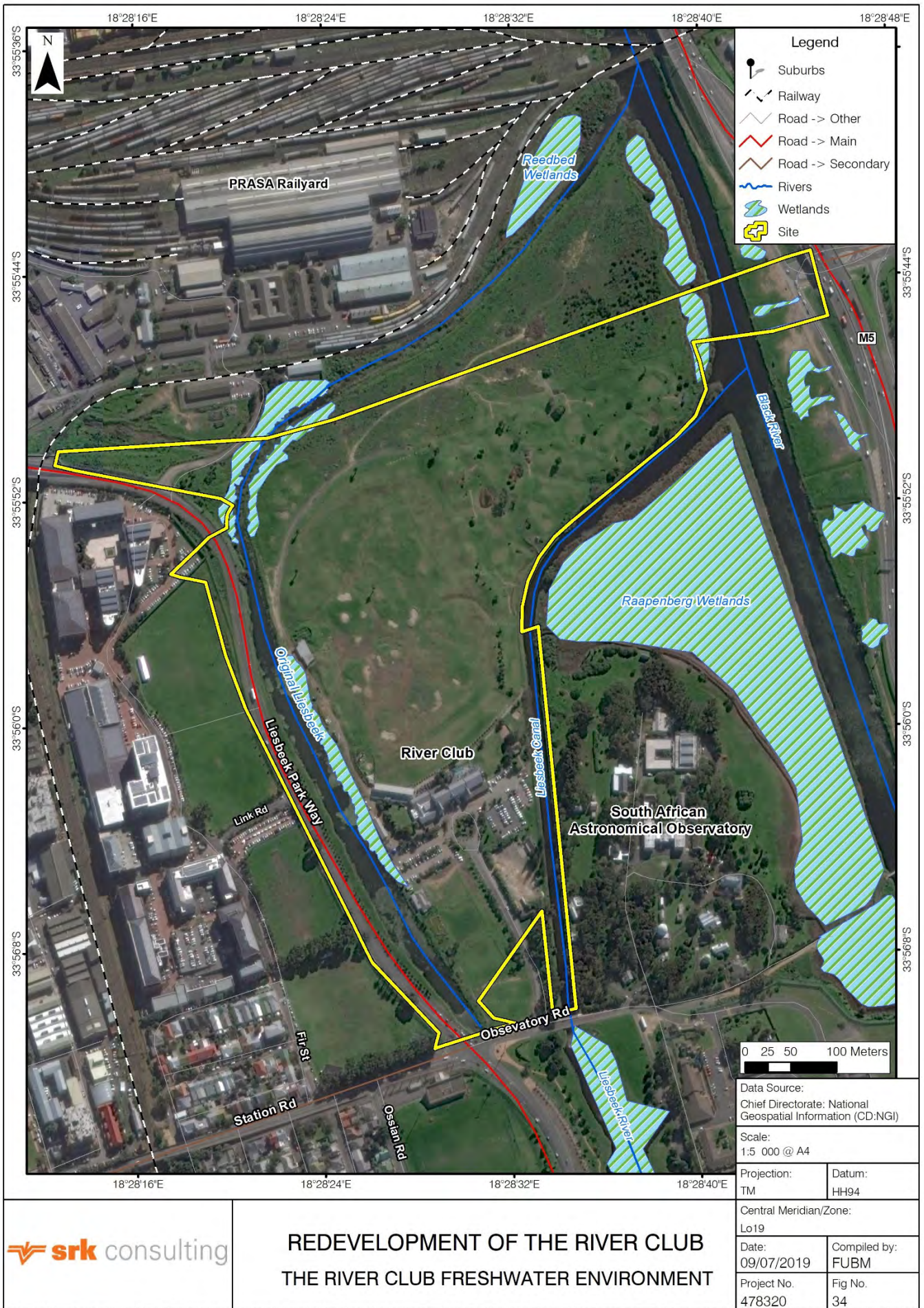
⁵ A flood line represents the highest elevation that would probably be reached during a storm within a return period of a number of years. A 100-year flood is a flood event that has a 1% probability of occurring in any given year and is also referred to as the 1% flood, since its annual exceedance probability is 1%, or as having a return period of 100-years.

⁶ The authors of the Surface Water Hydrology Impact Assessment (Aurecon) have confirmed that their modelling of the development including TRUP and development at Erf RE 26423 represents a conservative assessment of potential changes in flood hazard (i.e. new flood levels would be lower without any building on this site).



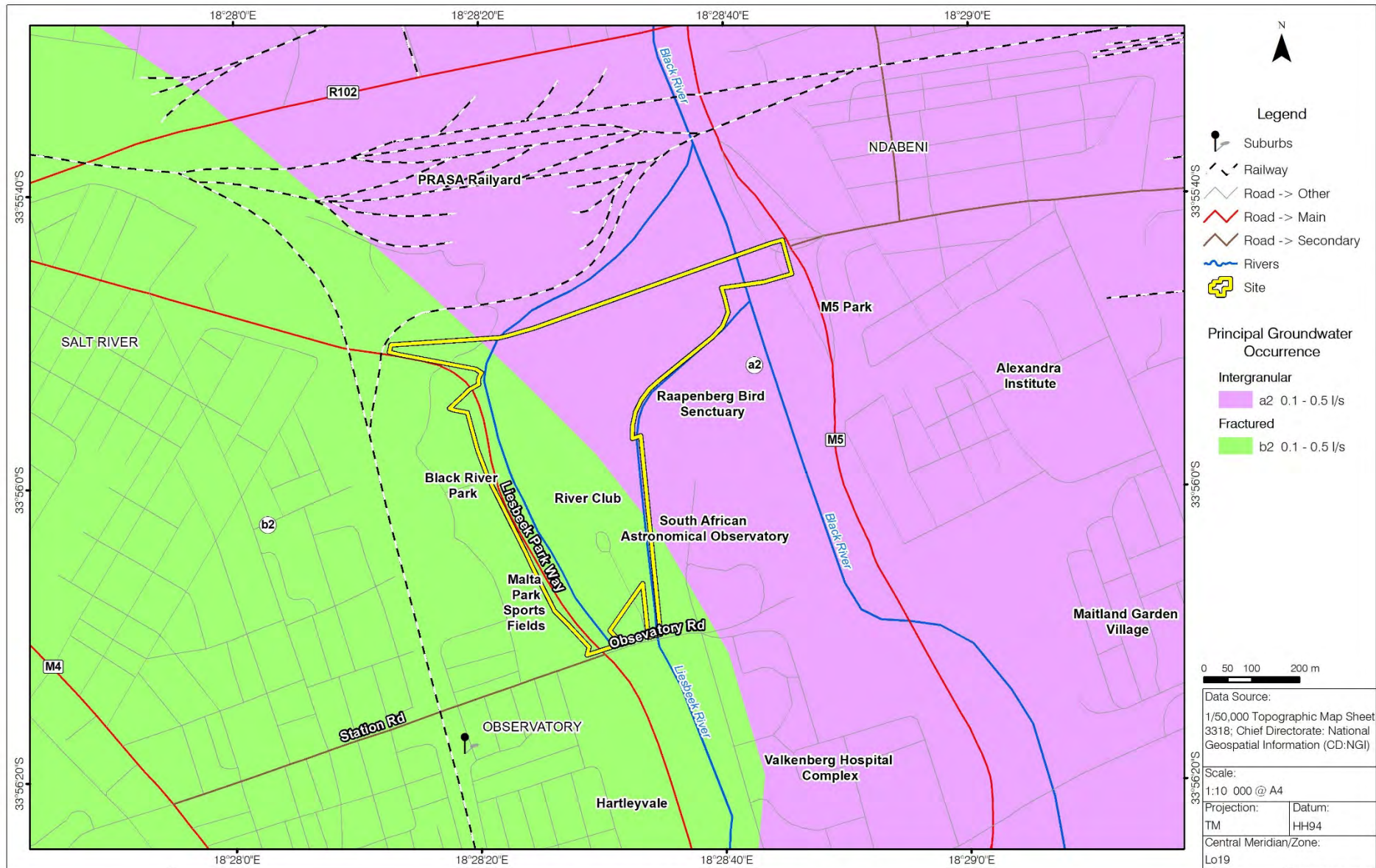
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Figure 33: River Surrounding the Site



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Figure 34: The River Club freshwater environment



Data Source:
 1/50,000 Topographic Map Sheet
 3318; Chief Directorate: National
 Geospatial Information (CD:NGI)

Scale:
 1:10 000 @ A4

Projection: TM	Datum: HH94
Central Meridian/Zone: Lo19	
Date: 09/07/2019	Compiled by: FUBM
Project No: 478320	Fig No: 35
Revision: A	Date: 09 07 2019



REDEVELOPMENT OF THE RIVER CLUB HYDROGEOLOGICAL MAP

Figure 35: Hydrogeological map

5. THE SEAFRONT / SEA

- (a) Is the site(s) located within any of the following areas? (highlight the appropriate boxes).
If the site or alternative site is closer than 100m to such an area, please provide the approximate distance in (m).

AREA	YES	NO	UNSURE	If "YES": Distance to nearest area (m)
An area within 100m of the high water mark of the sea	YES	NO	UNSURE	
An area within 100m of the high water mark of an estuary/lagoon	YES	NO	UNSURE	0m
An area within the littoral active zone	YES	NO	UNSURE	
An area in the coastal public property	YES	NO	UNSURE	
Major anthropogenic structures	YES	NO	UNSURE	
An area within a Coastal Protection Zone	YES	NO	UNSURE	
An area seaward of the coastal management line	YES	NO	UNSURE	
An area within the high risk zone (20 years)	YES	NO	UNSURE	0m
An area within the medium risk zone (50 years)	YES	NO	UNSURE	0m
An area within the low risk zone (100 years)	YES	NO	UNSURE	0m
An area below the 5m contour	YES	NO	UNSURE	0m
An area within 1km from the high water mark of the sea	YES	NO	UNSURE	
A rocky beach	YES	NO	UNSURE	
A sandy beach	YES	NO	UNSURE	

- (b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

6. BIODIVERSITY

Note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed development. To assist with the identification of the biodiversity occurring on site and the ecosystem status, consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc ("cd") from the Biodiversity-GIS Unit, Tel.: (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) must be provided as an overlay map on the property/site plan as **Appendix D** to this report.

- (a) Highlight the applicable biodiversity planning categories of all areas on preferred and alternative sites and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category. Also describe the prevailing level of protection of the Critical Biodiversity Area ("CBA") and Ecological Support Area ("ESA") (how many hectares / what percentages are formally protected).

Systematic Biodiversity Planning Category	CBA	ESA	Other Natural Area ("ONA")	No Natural Area Remaining ("NNR")
If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan and the conservation management objectives	<p>The site:</p> <ul style="list-style-type: none"> No CBAs are located on the site (refer to Figure 34 and Figure 36). The western boundary of the site, or the eastern bank of the original, degraded course of the Liesbeek River is classified as an unchannelled valley-bottom wetland and CESA (of 0,37 ha in extent). This CESA is not linked to a vegetation type, and no specific conservation management objectives for this feature are provided. The eastern boundary of the site as it banks onto the Black River is classified as an unchannelled valley-bottom wetland and CESA. This CESA is not linked to a vegetation type, and no specific conservation management objectives for this feature are provided. Although the CoCT Biodiversity Network (Holmes et al 2008; updated June 2016) lists the Berkley Road Extension and the PRASA owned land to the north of the site as "Other Natural Vegetation", studies have concluded (e.g. Helme, 2016) that there is almost no natural vegetation remaining in the study area. The Black River and both channels of the Liesbeek River are classified as Protected Areas in terms of a biodiversity agreement. 			
Describe the site's CBA/ESA quantitative values (hectares/percentage) in relation to the prevailing level of protection of CBA and ESA (how many hectares / what percentages are formally protected locally and in the province)				

	<p>In terms of management objectives, the 2017 CoCT Biodiversity Network indicates that "Conservation, low impact recreation & enviro education (could be supported in sensitive areas) as outlined in site management plan; hard infrastructure (should) only (be located) outside CBAs or adjacent or in existing highly degraded areas. Higher impact activities may be permitted on highly degraded areas."</p> <p>Surrounding areas:</p> <ul style="list-style-type: none"> • The Raapenberg Wetland is listed as a CBA. • Wetlands located on the PRASA bank of the original course of the Liesbeek River are listed as Other ESAs. • A patch of Renosterveld Vegetation on the northern extent of the SAAO is listed as a CBA. • The Raapenberg Bird Sanctuary has been recognised as a nature reserve area within the CoCT and is an important breeding site for many bird species (CoCT 2011).
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(b) Highlight and describe the habitat condition on site.

The site is a highly disturbed environment, with most of the aquatic ecosystems associated with this area under natural conditions (i.e. extensive floodplain wetlands set around and within the broad lowland river channels of the Black and Liesbeek Rivers) having been diverted, re-aligned, canalised, infilled or drained. Outside of the three channel systems described below (the Black, the western (natural) Liesbeek channel and the mainly canalised, eastern Liesbeek River canal, and the (artificial, isolated) golf course ponds, no wetland ecosystems remain on the site today.

Habitat Condition	Percentage of habitat condition class (adding up to 100%) and area of each in square metre (m ²)		Description and additional comments and observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes, etc.):
Natural	0%	0m ²	None.
Near Natural (includes areas with low to moderate level of alien invasive plants)	N/A as beyond site boundary		<p>Raapenberg Wetland:</p> <p>Located to the east of the site, beyond the artificial eastern channel of the Liesbeek River.</p> <p>Of all the aquatic ecosystems in proximity to the site, the Raapenberg Wetland is the only one with significant ecological value, and is considered by far the most sensitive to changes in flow, hydroperiod, water quality or fragmentation. The wetland is considered part of the seasonal clay flats renosterveld wetland.</p> <p>Seasonal salt marshes of the Raapenberg Wetland appear to have been accidentally conserved by the construction of berms along the Black River and Liesbeek Canal, as well as by the infilled pathway leading to the pedestrian bridge over the Black River.</p> <p>The biodiversity importance of the Raapenberg Wetland as a whole owes itself to the spatial and temporal diversity of habitat types that support a wide range of indigenous and in many cases locally to regionally endemic fauna and flora.</p> <p>Waterbirds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).</p>

Habitat Condition	Percentage of habitat condition class (adding up to 100%) and area of each in square metre (m ²)	Description and additional comments and observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes, etc.):
Degraded (includes areas heavily invaded by alien plants)	N/A as beyond site boundary	<p>The SAAO:</p> <p>Critically Threatened Peninsula Shale Renosterveld vegetation is present on this site, albeit in a greatly disturbed condition. Nine endemic or near-endemic wetland plant species occur within the SAAO site. Most of the natural vegetation is located in the central west, northern and central eastern part of the site, and is mainly in a poor condition.</p> <p>The proposed development is highly unlikely to impact negatively on the dryland renosterveld vegetation at the SAAO site and the security of the Critically Endangered <i>Moraea aristata</i> is thus likely assured, provided acceptable conservation measures are introduced on the SAAO site (see Appendix G2).</p>
	N/A as beyond site boundary	<p>The “natural” channel of the Liesbeek River north of the site:</p> <p>The least developed sides of the river, and also the only sides along which there are real opportunities for channel / wetland rehabilitation. The channel here is steep, and shows signs of historic and ongoing disturbance. Dense stands of Common Reeds (<i>Phragmites australis</i>) in places form good cover for water fowl and likely to provide nesting habitat for other birds as well.</p> <p>Mature alien trees line the left hand bank in places, with the main species comprising Manotoka and Sesbania. Although both of these are listed alien species in terms of the National Environmental Management Biodiversity Act 10 of 2004 (NEMBA), they still provide useful shelter as well as roosting and perching areas for birds.</p> <p>In the lower reaches of the channel, the channel is separated from a mixed <i>Phragmites australis</i> and <i>Typha capensis</i> reedbed by the bermed left hand river bank. This reedbed is considered an important part of the river / wetland system in these reaches, and assumed to comprise a relic of the former more extensive riverine wetlands that would have occurred in this now highly altered part of the catchment.</p> <p>Waterbirds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).</p>
	25%	~59 500 m ²

Habitat Condition	Percentage of habitat condition class (adding up to 100%) and area of each in square metre (m ²)	Description and additional comments and observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes, etc.):
	N/A as beyond site boundary	<p>Infilled former floodplain that lies north of the River Club boundary:</p> <p>An area that is now subject to litter, minor dumping and invasion by weedy and /or alien plants, including kikuyu grass (<i>Pennisetum clandestinum</i>).</p> <p>This floodplain is considered of extremely low sensitivity from an ecological perspective, with its only present functions being provision of a degree of buffering of the channel from adjacent noise and physical disturbance – such buffering derives only from the physical space provided by this area, and not from any quality of habitat it affords.</p>
	3% ~ 7 140 m ²	<p>Unlined artificial eastern channel of the Liesbeek River:</p> <p>Steep banks vegetated with Common Reed (<i>Phragmites australis</i>) (right hand bank), and mixed reeds and (mainly alien) trees along the left hand bank abutting the site.</p> <p>The left-hand bank (abutting the site) has been bermed along most of its length, presumably to reduce its flood potential.</p> <p>A small treed island has been established in the channel here and provides day roosting for birds (Darters and Cormorants) and is worthy of preservation. Waterbirds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).</p>
	3% ~ 7 140 m ²	<p>The Black River on the north-eastern site boundary:</p> <p>This banks are lined mainly with alien kikuyu grass and other invasive aliens such as cannas, and are bermed in places.</p> <p>The Black River is considered generally poor in indigenous biodiversity, largely as a result of habitat transformation, ongoing maintenance disturbance as a result of dredging of the channel; invasion by alien plants of both aquatic and marginal habitats; and poor water quality. Although no quantitative data had been sourced at the time that this document was produced, two alien fish species are understood from popular literature and comments by local resident to occur in the Black River, namely common carp (<i>Cyprinus carpio</i>) and African Catfish (<i>Clarias gariepinus</i>), as well as the pollution-tolerant amphibian, the Common platanna (<i>Xenopus laevis</i>).</p> <p>Waterbirds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened). In ecological terms the Black River, which is broader and more stable offers the greatest potential for birds.</p>

Habitat Condition	Percentage of habitat condition class (adding up to 100%) and area of each in square metre (m ²)		Description and additional comments and observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes, etc.):
Transformed (includes cultivation, dams, urban, plantation, roads, etc.)	4%	~9 520 m ²	<p>Canalised eastern channel of the Liesbeek River:</p> <p>Canalised on both sides in its reaches immediately downstream of Observatory Road fronting the site. Habitat diversity is low, and the canal provides a generally sterile aquatic ecosystem, unlikely to support a high diversity of flora and fauna, despite the relatively good water quality in this river.</p> <p>Willow trees along the canal provide day roosting for birds (Darters and Cormorants) and are worthy of preservation.</p> <p>Liesbeek River supports the Cape Galaxias (<i>Galaxias zebratus</i>) (a Western Cape endemic fish) as well as a more diverse suite of aquatic macroinvertebrates than those occurring in the Black River.</p> <p>Waterbirds are attracted to all peripheral water bodies at the site, including two birds that are rated conservation species (Great White Pelican and Greater Flamingos, both rated as near-threatened).</p>
	64.9 %	154 462 m ²	<p>Driving Range, Golf Course and other transformed areas (e.g. road reserves):</p> <p>The site and surrounding areas was found to support no terrestrial indigenous plant communities, being located on old fill material, and sensitivity to development was deemed negligible from a floral perspective.</p> <p>Apart from the open water habitats of the river channels, there are few habitat patches of value for birds within the site itself.</p> <p>Otter activity has been confirmed from the general region, however these are unlikely to have a resident population at the site, but rather a few individuals probably move in and out of this area throughout the year.</p>
	0.1%	~2 380 m ²	<p>Golf Course Ponds:</p> <p>A number of seasonally to perennially inundated ponds have been created in the golf course. These artificial water features have been noted as potentially suitable breeding sites for Western Leopard Toads (WLTs) and other amphibians. They are, however, easily replaceable habitats, and little effort has been made in their landscaping / design to replicate natural standing water habitats in this area.</p>

Birds:

Waterbird use of the area is heavily influenced by the availability of wetland habitats in the Raapenberg wetlands. The major drawback of the area for waterbirds, despite reasonable foraging areas and apparent food availability, is the lack of safe, undisturbed breeding habitat for the larger species. This situation applies along the greater part of the two rivers. The nearest significant breeding populations of larger waterbirds are at Intaka Island in Century City and at Rondevlei, near Grassy Park.

Despite the poor availability of habitat for birds on the site, its location at the confluence of the Liesbeek and Black Rivers means that the site has excellent wetland linkages across the centre-north of the Cape Town metropol.

Mammals:

Most of the larger mammal species that would have occurred naturally on the site have become locally extinct, leaving only a subset of small species that still manage to maintain meagre populations here. The conservation status of these mammals are almost all listed as being of Least Concern (LC), with only one species (African Clawless Otter) with a global and regional listing of Near Threatened (NT).

The Faunal Importance Assessment (FIA) score for Mammals on the River Club site is considered Moderate at regional and Low to Moderate at a national scale.

Reptiles:

The only reptile species of conservation concern that could occur at the site is the Cape Dwarf Chameleon which currently is listed as Vulnerable (VU).

The FIA score for reptiles in the context of the River Club site is Moderate at regional and Low to Moderate at a national scale.

Amphibians:

The only amphibian species of conservation concern that occurs at the site is the WLT which currently is listed as Endangered (EN).

The FIA score for amphibians in the context of the site is Moderate at regional and Low to Moderate at a national scale.

With regard to the presence of WLTs at the site, the following has relevance:

- The only known WLT breeding site in the region of the site is the wetlands at the Raapenberg Bird Sanctuary.
- WLTs refuge at terrestrial areas at the site during the non-breeding season.
- The WLT population of the area (that is, Observatory and surroundings), appears to be somewhat disjunct and seemingly completely separated from WLT breeding populations further south on the Cape Peninsula.

(c) Complete the table to indicate:

- (i) the type of vegetation present on the site, including its ecosystem status; and
- (ii) whether an aquatic ecosystem is present on/or adjacent to the site.

Terrestrial Ecosystems		Description of Ecosystem, Vegetation Type, Original Extent, Threshold (ha, %), Ecosystem Status
Ecosystem threat status as per the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Critically Endangered	A small portion of the site falls within the original extent of the Peninsula Shale Renosterveld vegetation type. This vegetation type occurs at the SAAO, but no remnants are known to occur at the site (see Appendix G2).
	Endangered	The majority of the site falls within the original extent of the Cape Flats Dune Strandveld Vegetation type. However, no known remnants of this vegetation types occur at the site (see Appendix G2).
	Vulnerable	N/A
	Least Threatened	N/A

Aquatic Ecosystems						
Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	

(d) Provide a description of the vegetation type and/or aquatic ecosystem present on the site, including any important biodiversity features/information identified on the site (e.g. threatened species and special habitats). Clearly describe the biodiversity targets and management objectives in this regard.

Vegetation Types:

The CoCT falls within the Cape Floral Region (CFR). The CFR is of international significance as one of the smallest but richest plant kingdoms in the world with approximately 70% of the plant species found only in this region. The fynbos biome includes two of South Africa's rarest vegetation types, namely Sand Fynbos and Renosterveld. Most of the CoCT is highly developed and transformed with very little natural vegetation remaining (CoCT, 2011).

The majority of the site falls within the original extent of the Cape Flats Dune Strandveld Vegetation type (see Figure 37). A small portion of the site falls within the original extent of the Peninsula Shale Renosterveld vegetation type (see Figure 37). This vegetation type occurs at the SAAO, but no remnants occur at the site.

The Cape Flats Dune Strandveld Vegetation Type is considered an Endangered vegetation type (Mucina and Rutherford, 2006). The Peninsula Shale Renosterveld vegetation type is endemic to the CoCT and is considered to be a Critically Endangered vegetation type (Mucina and Rutherford, 2006). However, no known remnants of these vegetation types occur at the site.

The site itself is mostly grassed (lawn) with scattered trees and is considered to be of extremely low sensitivity from an botanical perspective. There are a few trees in the areas surrounding the site. There are also dense tree copses surrounding the Observatory buildings on the ridgeline to the south-east of the site.

Aquatic Ecosystems:

Also refer to the table presented in Section 6(b).

The River Club is considered to be a highly disturbed environment and the floodplain at the site is considered to be of extremely low sensitivity from an ecological perspective, with its only present functions being as a WLT refuge and movement corridor and provision of a degree of buffering of the channel from adjacent noise and physical disturbance – such buffering derives only from the physical space provided by this area, and not from any quality of habitat it affords.

Water Quality:

Poor water quality characterises the Black River, falling into Category F+ ("Critically modified"), which is the most impacted category to which river quality can be assigned (Day and Clark, 2012). The river has almost completely lost habitat and function. Main contributors towards poor quality in the Black River are high concentrations of orthophosphate and total ammonia, and low oxygen concentrations.

Bacterial concentrations in the Black River peak in summer when water flows are low and inflow of relatively polluted water is undiluted. Smaller peaks occur in winter, from periodic sewage overflows and rain driven wash-off from polluted surfaces. Despite the refurbishment of the Athlone WWTW in 2003, *Escherichia coli* (*E.coli*) data recorded between 2012 and 2014 exceeded the threshold maximum concentration of 4 000 counts per 100ml. As such, the river was classified as "Unacceptable" for full and intermediate contact recreation⁷ purposes.

Bacterial data for the Liesbeek River indicated a Human Health Risk to intermediate contact users with faecal counts between 2 000 and 4 000 counts per 100ml (Day and Clark, 2012).

⁷ Intermediate-contact recreation is defined as water-skiing, wading and wind-surfing, canoeing and angling and is distinct from full contact recreational activities that entail full body-to-water contact such as swimming (Day and Clarke, 2012).

Ecological Status

Most of the naturally occurring aquatic ecosystems such as extensive floodplain wetlands have been transformed from their natural condition and no wetland ecosystems remain on site today.

The original course of the Liesbeek River

No natural flow from the Liesbeek River enters the original course west of the site and it is supplied by backwaters of the Black River. As a result, flow through this watercourse has been largely reduced. One result of the reduced rate is the shallowing of the water body which has facilitated the invasion of alien aquatic plants that prevent birds using the waterbody. Despite this, the original course has high rehabilitation and ecological potential.

An assessment of condition or Present Ecological State (PES) of the water course classified it as PES Category E, which indicates "a system that has undergone a Serious change from its natural conditions, with changes in natural river morphology being major contributors to this poor condition rating, along with water quality, changes in natural flow regime, extensive loss of indigenous vegetation and invasion of the river channel by alien plants" (FWC, 2015),

This aquatic ecosystem is considered to be of Moderate local sensitivity (see Appendix D).

The Liesbeek Canal

The Liesbeek Canal is not a natural water feature and is considered to have a PES Category of F which is indicative of "a system that has undergone Extreme changes from its natural condition" (FWC, 2015). The canalised portion of the canal has low habitat diversity with a sterile aquatic ecosystem. In contrast, the uncannalised portion (approximately 200m in length upstream of the confluence with the Black River) offers a better quality of riverine habitat and could be considered sensitive to disturbance.

This aquatic ecosystem is considered to be of Very low local sensitivity (see Appendix D).

The Black River

The Black River is not considered a sensitive environment. Given the high degree of habitat transformation, impacts of dredging and poor water quality, the Black River is considered to have low ecological importance. Its diminished importance is attributable to its stormwater and effluent conveyance function and habitat for some birds. The improved servicing and management of upstream developments would rapidly improve the water quality of the river which would make the rehabilitation of the river banks attainable, albeit not to natural conditions. The Black River was accorded a PES Category F.

Abutting wetlands such Raapenberg wetlands and other reedbed wetlands have high functional importance as wetlands large enough to provide wetland habitat in an environment that is largely transformed and urbanised. More specifically, they may play a role in polishing discharge from adjacent urbanised developments.

The Black River is considered to be of Low local sensitivity, and reedbed wetlands are considered to be of High local sensitivity (see Appendix D).

River / Land Interface

The original course of the Liesbeek River

Banks on either side of the original course of the Liesbeek River show signs of ongoing disturbance such as the raising of the right hand bank, presumably to reduce flooding of the River Club (FCG, 2015). The water course supports dense stands of reeds which form good cover for water fowl and likely provide nesting habitat for other birds as well.

In the lower reaches (towards the confluence of the Black River), the channel is separated from a reedbed by a berm. Although this reedbed lies outside of the River Club boundary, it is considered to have ecological value as a relic of a former, more extensive riverine wetland.

Reedbed wetlands are considered to be of High local sensitivity (see Appendix D).

The Liesbeek Canal

Similarly, a berm separates the right hand side of the Liesbeek Canal from Raapenberg Sanctuary in which the Raapenberg Wetlands occur. These wetlands support a wide diversity of habitat types such as reedbed, open water pools and pans and shallow wading areas and are recognised as an important breeding site for many duck species. These habitats would be sensitive to elevations in flood height which would inundate wading and nesting areas.

The Raapenberg Wetlands are considered to be of Very high local sensitivity (see Appendix D).

The Black River

The river banks of the Black River are lined mainly with alien invasive species, with berms in places. The right hand river bank, abutting the M5, is sterile with little vegetation. A small treed island exists on the site near the confluence with the Liesbeek Canal that serves as the focal area for a bird hide.

Reedbed wetlands are considered to be of High local sensitivity (see Appendix D).

Aquatic Flora

Riverine vegetation, although much of it exotic, is found along the banks of the rivers. Trees have been planted along Liesbeek Parkway, and around the sports fields to the west of the site provide protection from the wind.

Dense reed beds are located on the eastern edge of the site along the Black River.

Various exotic aquatic plants occur in the Black River, including parrot's feather (*Myriophyllum aquaticum*) and water hyacinth (*Eichhornia crassipes*), along with patches of indigenous pondweed (*Potamogeton pectinatus*).

Abutting wetlands are dominated by stands of common reed, *Phragmites australis*, which provide good cover for water fowl and likely provide nesting habitat for other birds as well.

Similarly, the original course of the Liesbeek River open water habitat is densely invaded with mainly alien plants. One of the most prominent invaders is the Benghal dayflower, *Commelina benghalensis*. Others include kikuyu grass (*Pennisetum clandestinum*) and mature alien trees with the main species comprising Manotoka (*Myoporum tenuifolium* subsp. *Montanum*) and Sesbania (*Sesbania punicea*).

The Liesbeek Canal gives way to vegetated banks, which are lined with *Phragmites australis* reeds as well as mixed reeds and trees (mainly alien) along the left hand bank.

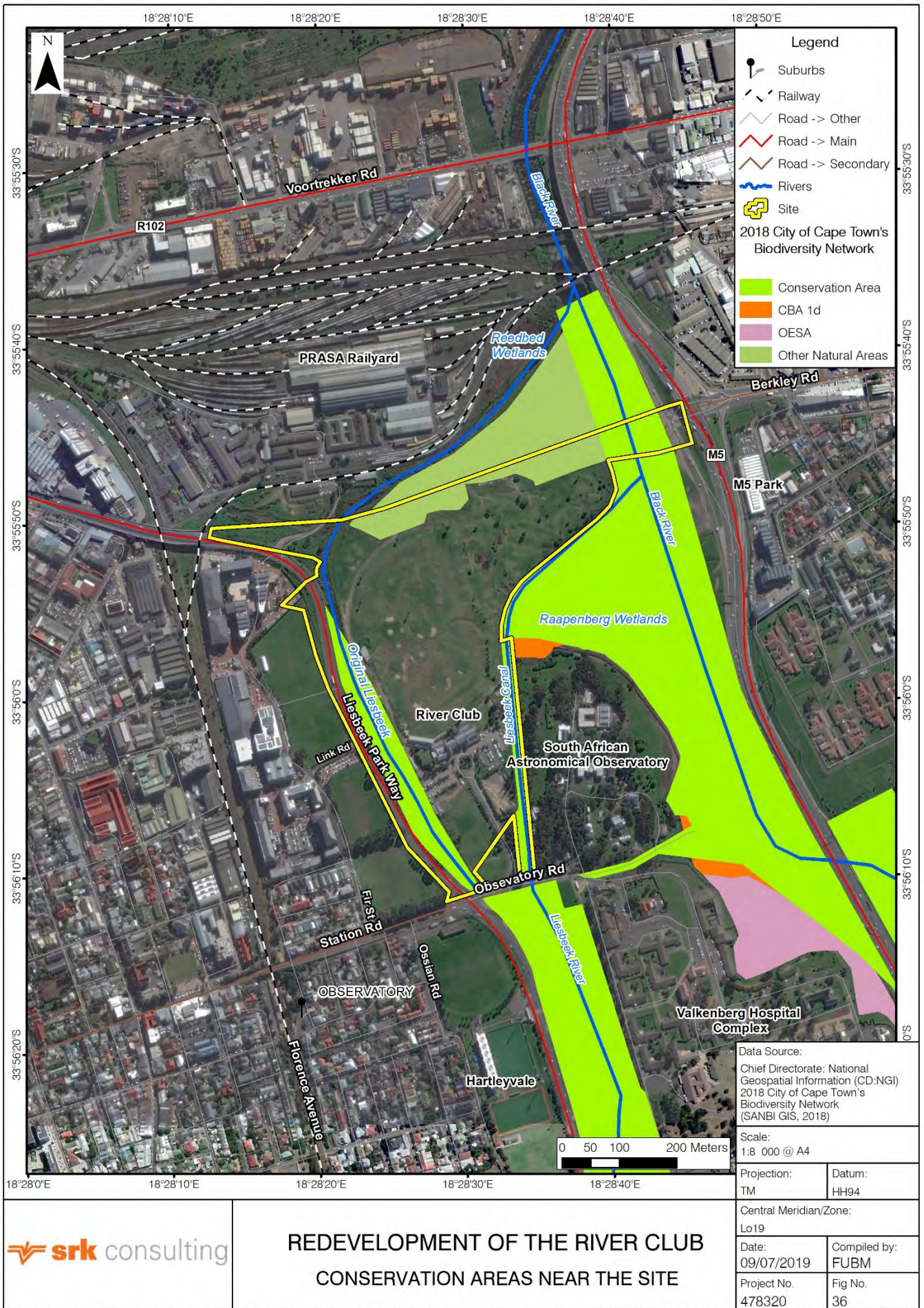


Figure 36: Conservation Areas near the Site

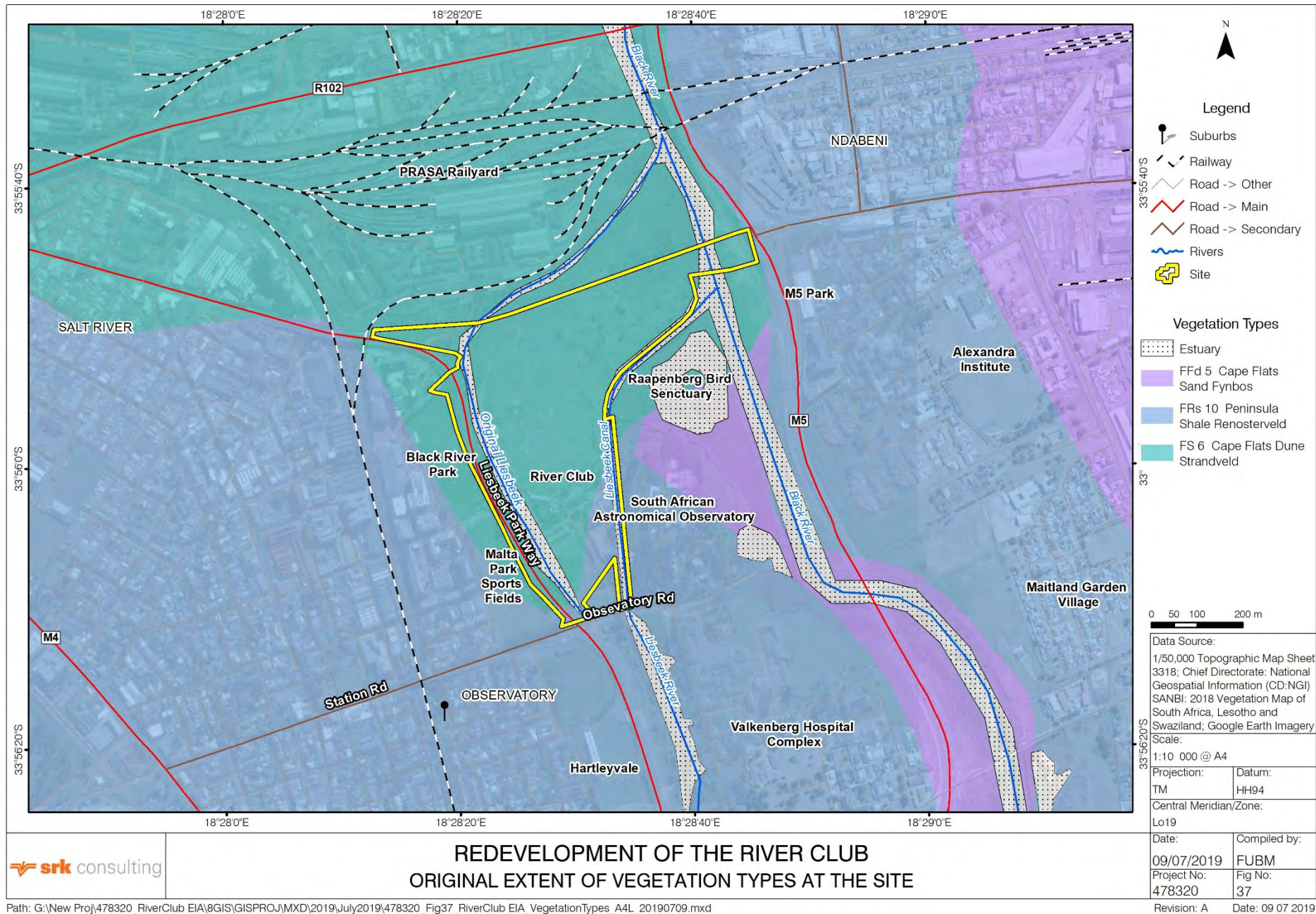


Figure 37: Original Extent of Vegetation Types at the Site

7. LAND USE OF THE SITE

Note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed development.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism and Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):	N/A			

(a) Provide a description.

The site is currently predominantly used by the proponent as a commercial rental enterprise comprising a golf driving range with a "mashie" 9-hole golf course in the north-east of the site, conference and function venue, restaurant and bar. A bird hide is located on the site which overlooks the new Liesbeek River channel and current confluence with the Black River. Beyond the mashie course is vacant land owned by the PRASA.

The River Club building (the main building), built in 1939, has been converted into a recreational and conference facility. A number of surrounding buildings on the property are rented to businesses for commercial use. The River Club parking area is to the south of the building, and the main access to the River Club is from the south off Observatory Road.

Undeveloped portions of the site are mostly grassed (lawn) or open ground, with scattered trees. Dense reed beds are located on the eastern edge of the site along the Black River.

Liesbeek Parkway (south), Albert Road (north-west) and Station Road (west) provide access to the site (see Figure 29). Although the M5 runs almost parallel to the eastern boundary of the site, access from the M5 is not currently possible.

8. LAND USE CHARACTER OF THE SURROUNDING AREA

- (a) Highlight the current land uses and/or prominent features that occur within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site.

Note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed development.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism and Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):				

- (b) Provide a description, including the distance and direction to the nearest residential area, industrial area, agri-industrial area.

The site is located less than 5 km from the Cape Town CBD (see Figure 1). There are a variety of land uses in the areas surrounding the site with residential, commercial, institutional and industrial activities interspersed with open spaces for passive and recreational activities.

The PRASA rail yard is located immediately north of the site with related industrial activities further north (see Figure 30).

Liesbeek Parkway (road) abuts the site's western boundary with sports fields (Malta Park) and the Black River Park commercial development, beyond that (see Figure 30). A railway line, light industry and the residential areas of Observatory and Salt River are located further west.

Raapenberg Bird Sanctuary Nature Reserve, situated on the banks of the Black River, is located to the immediate east of the Liesbeek River Canal. The M5 runs parallel to the site east of the Black River (see Figure 30). The Maitland and Ndabeni industrial areas, a commercial development (M5 Park), the Alexandra Hospital and the Maitland Garden Village are located east of the M5.

The SAAO, a Grade 1A Heritage Site, is situated on a low ridgeline immediately east of the southern portion of the site and the Liesbeek River Canal. The Valkenburg Hospital Complex is situated south-east of the site and south of the Observatory.

The site is located within the CoCT's TRUP "...a special and unique place in Cape Town... comprising sensitive ecological systems and habitats, extensive open space areas, significant institutions, historical buildings and cultural landscapes..." (CoCT, 2002). A separate study is currently underway to guide development of the TRUP.

Adjacent properties owned by public entities are indicated Below:

Erf Numbers	Property Owner
Erf RE/15334; Erf 16677; Erf 166797; Erf RE/16676; Erf 26162 and Erf 24631	South African Rail Commuter Corp Ltd.
Erf 24300; Erf 26437; Erf 26440; Erf 26454, Erf 26456 ; Erf 27661; Erf 24402; Erf 24403, Erf 24816, Erf 28095 and Erf 26166	The CoCT
Erf 26423 and Erf 151833	National Research Fund
Erf 165279	Tamric Trust (M5 Park)
Erf 24396	Hutchings Colin Stephen
Erf 118802	Hope Fountain Inv 10 CC
Erf 118808	Anchorcom Rental (Pty) Ltd
Erf 119084	Isaacs Asia
Erf 24394; Erf 24395	Da Luz Experience Family Trust
Erf 24398	Van Rhyn Wine & Spirit Co Ltd

9. SOCIO-ECONOMIC ASPECTS

- a) Describe the existing social and economic characteristics of the community in the vicinity of the proposed site, in order to provide baseline information (for example, population characteristics/demographics, level of education, the level of employment and unemployment in the area, available work force, seasonal migration patterns, major economic activities in the local municipality, gender aspects that might be of relevance to this project, etc.).

Refer to Section 4 of Appendix G4 – Socio-economic Baseline.

10. HISTORICAL AND CULTURAL ASPECTS

- (a) Please be advised that if section 38 of the NHRA is applicable to your proposed development, you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Heritage Western Cape must be given an opportunity, together with the rest of the I&APs, to comment on any Pre-application BAR, a Draft BAR, and Revised BAR.

Section 38 of the NHRA states the following:

"38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site-*
 - (i) exceeding 5 000m² in extent; or*
 - (ii) involving three or more existing erven or subdivisions thereof; or*
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) the re-zoning of a site exceeding 10 000m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,*

must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development".

- (b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the NHRA, must also be investigated, assessed and evaluated. Section 3(2) states the following:
- "3(2) Without limiting the generality of subsection (1), the national estate may include—*
- (a) places, buildings, structures and equipment of cultural significance;*
 - (b) places to which oral traditions are attached or which are associated with living heritage;*
 - (c) historical settlements and townscapes;*
 - (d) landscapes and natural features of cultural significance;*
 - (e) geological sites of scientific or cultural importance;*
 - (f) archaeological and palaeontological sites;*
 - (g) graves and burial grounds, including—*
 - (i) ancestral graves;*
 - (ii) royal graves and graves of traditional leaders;*
 - (iii) graves of victims of conflict;*
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;*
 - (v) historical graves and cemeteries; and*
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);*
 - (h) sites of significance relating to the history of slavery in South Africa;*
 - (i) movable objects, including—*
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;*
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;*
 - (iii) ethnographic art and objects;*
 - (iv) military objects;*
 - (v) objects of decorative or fine art;*
 - (vi) objects of scientific or technological interest; and*
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)".*

Is Section 38 of the NHRA applicable to the proposed development?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	<p>As the development will change the character of the site (which exceeds 5 000 m²) in extent, the development does trigger Section 38 of the NHRA.</p> <p>Please refer to Appendix G5 (Heritage Impact Assessment) for a far more detailed overview of the heritage baseline, and Appendix J (Impact Assessment) for an analysis of impacts considered and analysed in the BA process. A very brief summary follows:</p> <p>Topographically, the current sense of place at and along the section of the Liesbeek River at the site is that of a wide flat floodplain, greatly transformed by the frequent changes in land-use. Wetlands have been transformed to farmland, then to various institutional uses and to modern suburbia. Nevertheless, the floodplain, Liesbeek and Black Rivers, their confluence and the remnants of the Salt River estuary still exist today.</p> <p>Although the landscape in general is considered to be of heritage significance, and the broader area contains some highly significant heritage places and structures (the SAAO, Valkenburg Hospital and farm complex, Oudemolen and the Victorian period suburbs of Observatory and Maitland), the site itself includes no tangible traces of early historic events (see Appendix G5). The site therefore contains few tangible features. Nevertheless, People, including First Peoples groups, experience cultural value from the character, ecology, history, and awareness of the historical import of the floodplain and Liesbeek River.</p> <p>The one heritage feature of high significance that has been identified is the Liesbeek River corridor itself (and the confluence) which is the common feature that runs through the project area and beyond. It is a powerful historic symbol and place-mark that refers to early landscape of pre-colonial transhumance use, colonial settlement and agriculture, and contestation. The development proposal seeks to enhance and celebrate this important heritage resource, which is viewed by the specialists to offset impacts on the historical character of the site (and change in sense of place) and on the SAAO.</p> <p>Following submission of a heritage Notice in Intend to Develop (NID), Heritage Western Cape Requested a Heritage Impact Assessment (HIA) including an archaeological study and an urban design framework of the proposed development. These reports are attached as Appendix G5.</p> <p>The draft HIA and revised draft HIA were released for public comment in January 2018 and in March 2019 respectively. The HIA has now been finalised and submitted to HWC. HWC will consider the HIA at an Impact Assessment Committee Meeting (IACOM) and provide final comment on the report (to be attached as Appendix E1).</p>			
Will the development impact on any national estate referred to in Section 3(2) of the NHRA?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	The development may detract from the historical setting of the SAAO, a building that is a Grade I heritage site (i.e. of national heritage significance) because of its cultural and scientific historical significance.			
Will any building or structure older than 60 years be affected in any way?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	<p>The main building "the River Club Building" was built in 1939.</p> <p>This building has been assessed as a Grade III C heritage resource – a significant heritage resource due to its contribution to the character of the local environment. According to the heritage specialist, the buildings are considered to be of very low significance, and that the loss of this structure would have very little or no impact on the significance of the site or environs.</p>			
Are there any signs of culturally or historically significant elements, as defined in section 2 of the NHRA, including Archaeological or paleontological sites, on or close (within 20m) to the site?		YES	NO	UNCERTAIN
If YES or UNCERTAIN, explain:	<p>While the entire Liesbeek River valley has not been surveyed for archaeological material, many parts of the Observatory section have been examined: the River Cub itself was previously surveyed by the ACO, who have also observed excavations for new structures on the neighbouring SAAO site. Furthermore, comprehensive trial excavations have taken place at Valkenburg and at the Varsche River, and excavations for renovation of the Hospital were monitored.</p> <p>The archaeological material that has been found during these excavations relates entirely to the VOC period and thereafter.</p> <p>Despite the major works near the site (including canalisation of the river), no graves or human remains have been reported or are lodged according to the skeleton register at either Iziko Museum or the UCT medical school which have been the official repositories of such finds since both institutions were established. The nearest recorded of remains of pre-colonial people and archaeological sites are from close to the Salt River estuary in Milnerton.</p>			

	<p>Khoikhoi people burial methods are described and are archaeologically well documented. Therefore, if the site and surrounding area were once used as a burial ground it is extremely likely that remains would have already been discovered during previous excavations in the area.</p> <p>Furthermore, the site has undergone extensive surface disturbances (e.g. it has been infilled)</p> <p>It is therefore very unlikely that any significant archaeological or palaeontological resources will be uncovered during construction. It is however possible, although still unlikely, that during excavation of the western wall of the Liesbeek Canal (Riverine Concept Alternative only) and foundations of the Berkley Road bridge archaeological or palaeontological resources may be uncovered – but the discovery of human remains is extremely unlikely.</p> <p>This is the view of the Archaeology Contracts Office and is confirmed by ACO in the study attached as Appendix G5.</p>
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Note: If uncertain, the Department may request that specialist input be provided **and** Heritage Western Cape must provide comment on this aspect of the proposal. (Please note that a copy of the comments obtained from the Heritage Resources Authority must be appended to this report as Appendix E1).

11. APPLICABLE LEGISLATION, POLICIES, CIRCULARS AND/OR GUIDELINES

- (a) Identify all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to the development proposal and associated listed activity(ies) being applied for and that have been considered in the preparation of the BAR.

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	ADMINISTERING AUTHORITY and how it is relevant to this application	TYPE Permit/license/authorisation /comment / relevant consideration	DATE (if already obtained):
National Environmental Management Act 107 of 1998, as Amended	DEA&DP LLPT has a responsibility to ensure that the proposed activities and the S&EIR process conform to the principles of the National Environmental Management Act 107 of 1998 (NEMA). The proponent is obliged to take actions to prevent pollution or degradation of the environment in terms of Section 28 of NEMA, and to ensure that the environmental impacts associated with the project are considered, and mitigated where possible.	See below	N/A
EIA Regulations, 2014	DEA&DP The LLPT is obliged to apply for Environmental Authorisation (EA) for these listed activities and to undertake an S&EIR process in support of the application, in accordance with the procedure stipulated in GN R982 under NEMA.	EA	N/A
National Water Act 36 of 1998	DWS The proposed project activities will trigger water use activities in terms of section 21(c), (e), (g) and (i) of the National Water Act 36 of 1998 (NWA). A Water Use Licence (WUL) will be required for the redevelopment from the competent authority, in this case DWS.	Water Use Licence	In process
National Heritage Resources Act 25 of 1999	HWC The proponent notified HWC of the proposed activities via the submission of a NID on 17 December 2015. On the 7 th of January 2016 HWC confirmed that a HIA, including an archaeological study and urban design framework, will be required to assess impacts of the proposed redevelopment on heritage resources. The HIA has been undertaken as part of the EIA process in terms of NEMA.	Heritage Comment	In process
City of Cape Town Municipal Planning By-Law	CoCT The Municipal Planning By-law (MPBL) gives effect to the municipal planning function allocated to municipalities in terms of Part B of Schedule 4 of the Constitution. It also gives effect to certain requirements set in the Spatial Planning and Land Use Management Act (SPLUMA) and the Western Cape Land Use Planning Act (LUPA) – both of	Land use planning approval	In process

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	ADMINISTERING AUTHORITY and how it is relevant to this application	TYPE Permit/license/authorisation /comment / relevant consideration	DATE (if already obtained):
	<p>which came into operation on 1 July 2015. All land use and planning applications are made in terms of the MPBL.</p> <p>An application has been submitted to the CoCT in terms of the MPBL, including the Cape Town Development Management Scheme (DMS), for the approval of the following:</p> <ol style="list-style-type: none"> Deviation from the Table Bay District Plan, to permit urban development on land designated as "open space", "core 2" and "buffer 1", in accordance with section 16 of the MPBL. Rezoning of the property from Open Space Zoning 3: Special Open Space (OS3) to Subdivisional Area Overlay Zoning (SAO), in terms of section 42(a) of the MPBL. Approval to raise the level of the ground / construct retaining structures, in terms of section 42(i) of the MPBL and in accordance with item 126 of the DMS. 		
City of Cape Town Development Management Scheme	<p>CoCT The City of Cape Town's Development Management Scheme (DMS) is a schedule to the Municipal Planning By-Law and specifies the CoCT's zoning regulations.</p>	Rezoning	In process
Western Cape Provincial Spatial Development Framework (2014)	<p>DEA&DP The Western Cape Provincial SDF (PSDF) is an approved structure plan that provides guidelines for district, metropolitan and local municipal spatial initiatives such as IDPs and SDFs. The PSDF is a broad based document and does not control development or land use proposals at a micro-scale (e.g. individual properties). It is however relevant in setting out overarching planning policy guidelines adopted by the Provincial Government, and major development applications need to be evaluated in terms of these policy guidelines.</p>	None	N/A
Cape Town Integrated Development Plan (2012 - 2017)	<p>CoCT The CoCT Integrated Development Plan (IDP - 2012-2017) is built on five key pillars: the opportunity city; the safe city; the caring city; the inclusive city; and the well-run city. Four of these key pillars are relevant to the proposed development.</p>	None	N/A
Cape Town Spatial Development Framework (2012)	<p>CoCT The CoCT SDF is an approved structure plan in terms of section 34 of the Municipal Systems Act 32 of 2000 (MSA). It is an overarching policy framework aimed at spatial integration and the restructuring of the Cape Metropolitan Area. The spatial development framework outlines land use management guidelines for the City and the policies that underpin them.</p>	None	N/A
Table Bay District Plan (2012) and CoCT Environmental Management Framework	<p>CoCT In terms of section 20(1) of the Municipal Planning Bylaw (2015) (MPBL), any structure plan listed in Schedule 1 of the MPBL, including the TBDP, and which remains in force in terms of section 16(1)(b) of LUPA, is deemed to be a district spatial development framework in terms of the MPBL. The District Plan is informed by the city-wide SDF and its purpose is to guide spatial development processes in the district over an approximate 10 year planning period.</p> <p>As with the CoCT SDF, the TBDP is underpinned by a composite Spatial Development Plan. This plan identifies 'broad spatial planning categories' for</p>	Deviation from the approved policy	In process

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	ADMINISTERING AUTHORITY and how it is relevant to this application	TYPE Permit/license/authorisation /comment / relevant consideration	DATE (if already obtained):
	all land in the Table Bay District, as well as various structuring elements that are critical to the future development and restructuring of the City. The Environmental Management Framework (EMF) for the CoCT has been incorporated into the City District Plans.		
Two Rivers Urban Park Contextual Framework and Phase 1 Environmental Management Plan (2003)	CoCT The aim of the TRUP Contextual Framework and Phase 1 Environmental Management Plan (TRUPCF) is to provide a contextual framework for future development of the TRUP. The study encompassed the entire TRUP area, including the Valkenberg farmstead, Valkenberg Hospital, the Observatory, Alexandra Hospital, Maitland Garden Village, the Oude Molen complex and the River Club.	None	N/A
Cape Town Densification Policy (2012)	CoCT The CoCT Densification Policy was formulated in response to growing concerns that "rapid and continuous low-density development is threatening the long term sustainability of Cape Town" (CoCT, 2012). The policy suggests a number of ways in which densification can occur, including "higher-density infill on vacant and underutilised land throughout the built area of the city" (CoCT, 2012). The benefits of densification are identified in the policy.	None	N/A
CoCT Economic Growth Strategy (2013)	CoCT The principal objective of the Economic Growth Strategy, 2013 (EGS) is to grow the economy and create jobs.	None	N/A
CoCT Air Quality Management By-Law (2010)	CoCT The CoCT Air Quality Management By-Law, 2010, defines responsibilities to those who cause air pollution and measures to prevent and mitigate air pollution. The By-law also enables the establishment of local emission standards.	None	N/A

- (b) Describe how the proposed development **complies with and responds** to the legislation and policy context, plans, guidelines, spatial tools, municipal development planning frameworks and instruments.

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	Describe how the proposed development complies with and responds:
National Environmental Management Act 107 of 1998, as Amended	LLPT has a responsibility to ensure that the proposed activities and the BA process conform to the principles of NEMA. The proponent is obliged to take actions to prevent pollution or degradation of the environment in terms of Section 28 of NEMA, and to ensure that the environmental impacts associated with the project are considered, and mitigated where possible. By executing this BA process (including specialist studies) the client has investigated impacts, and planned for the mitigation of these. Should authorisation be granted, compliance with the Environmental Management Programme (EMPr) – which will be a condition of authorisation) will go a long way in ensuring that pollution and degradation of the environment is prevented. The LLPT will still be responsible for preventing unanticipated pollution and degradation of the environment, for the duration of construction and operations.
EIA Regulations, 2014	By executing the BA process (and not commencing development prior to EA) the LLPT is compliant with the EIA Regulations (2014).
National Water Act 36 of 1998	

<p>LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS</p>	<p>Describe how the proposed development complies with and responds:</p>
	<p>By executing the BA process and submitting a WUL Application (and not commencing development prior to WUL) the LLPT is compliant with the NWA.</p>
<p>National Heritage Resources Act 25 of 1999</p>	<p>By conducting the HIA (the BA process, and not commencing development prior to EA), and receiving comment from HWC on this document, the LLPT is compliant with the NHRA.</p>
<p>Western Cape Provincial Spatial Development Framework (2014)</p>	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>The PSDF is underpinned by three interrelated themes, namely:</p> <ul style="list-style-type: none"> • Sustainable use of the Western Cape’s spatial assets (resources); • Opening up opportunities in the Provincial space-economy (space economy); and • Developing integrated and sustainable settlements (settlement). <p>The following development aspects have relevance to these themes:</p> <ul style="list-style-type: none"> • As the site is transformed, the development will not have a highly significant negative impact on biodiversity and ecosystem services relating to the site itself. It is anticipated, however, that an element of rehabilitation will occur which will improve the ecological integrity of the Liesbeek Canal. • At a conceptual level (i.e. as per Figure 4.2 of the CTSDf) the site forms part of an extensive open space system that stretches from Table Bay to False Bay (north to south) and Devil’s Peak to Stellenbosch Farms (west to east). In reality, however, the site forms part of an open space system that is much more localised, extending from the River Club, at the most northern point, southwards, where it terminates at King David Mowbray Golf Course (Planning Partners, 2018). • The area presents extensive opportunities for rehabilitation of the watercourses, to a point which could provide a substantially better quality of habitat than is currently the case. Development can be integrated with these opportunities and cross subsidise environmental management. • The proponent will strive to make the development sustainable through (for example) the use of greywater for irrigation, green building design and alternative forms of energy. Further, the proximity of the site to a range of existing train stations (e.g. Salt River, Observatory and Maitland) and future MyCiTi routes means that travel via public transport will be attractive to users. • It is anticipated that the density proposed for the site will generate the necessary thresholds to support public transport uses not only within the TRUP, but also along the nearby Main Road and Voortrekker Road corridors (Planning Partners, 2018). • The prevailing market means that the provision of parking for private motor vehicles is a necessity. However, this may not always be the case and so the parking levels in basements/buildings throughout the development will be designed to allow for conversion into other uses or for use by patrons of TRUP on a paid parking basis, as and when the demand for parking at the development begins to decline. • While a number of feasible layout alternatives have been considered, due to the nature of the development proposed it will not be possible to avoid cultural and visual impacts completely. Residual cultural and visual impacts are therefore anticipated. Mitigation measures are inherent in the design, and are recommended in order to minimize the potential cultural and visual impacts of the development. • Transport for Cape Town (TCT), the CoCT’s transport and traffic planning authority, has made provision for an extension of Berkley Road through the northern portion of the River Club site on the latest CoCT Road Network Plan (August 2013). This road extension would be a key intervention as Berkley Road has strong connections to the M5 motorway and Voortrekker Road (to the east) and Liesbeek Parkway and Malta Road (to the west). This will transform transport linkages across the Black River and improve accessibility in the sub-metropolitan area, which will in turn improve access to economic opportunities for people in Cape Town (particularly once Berkley Road and Liesbeek Parkway are connected). • The proposal is for compact, mixed use development in a part of the CoCT that is currently underutilised and fragmented. The development therefore has the potential to revitalise and integrate strategically located land within an urban environment (Planning Partners, 2018).

<p>LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS</p>	<p>Describe how the proposed development complies with and responds:</p>
	<ul style="list-style-type: none"> The development will include a social (inclusionary) housing component.
<p>Cape Town Integrated Development Plan (2012 – 2017)</p>	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>The CoCT IDP (2012-2017) is built on five key pillars: the opportunity city; the safe city; the caring city; the inclusive city; and the well-run city.</p> <p>The following development aspects have relevance to these pillars:</p> <ul style="list-style-type: none"> The proposed development will attract investment into a strategically located site within the City (Planning Partners, 2018). Investment into the site at the scale proposed has potential to benefit both the local economy and the economy of Cape Town as a whole, including the creation of a substantial number of jobs. A development such as the one proposed at the River Club will improve safety and pedestrian permeability and promote 24-hour surveillance in this part of TRUP (Planning Partners, 2018). Increased safety in TRUP should be regarded as essential to the process of reinvigorating this area for use by all Capetonians. The development will include a social housing component and the development will be mixed use. The River Club will have positive externalities for the rest of TRUP because people residing in / visiting the River Club will have the opportunity to visit other parts of TRUP, and <i>vice versa</i> (Planning Partners, 2018). The proposed development will involve capital investment of approximately R4-billion. Estimations are that the development will contribute approximately R40-million per annum in rates and taxes. This is substantial revenue for the City and can be utilised in a variety of positive ways, including the provision of social housing, service infrastructure upgrades and public transport upgrades and implementation (Planning Partners, 2018).
<p>Cape Town Spatial Development Framework (2012)</p>	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>Close inspection of the composite spatial plan reveals that the land on which the proposal is situated is categorised as “urban development” (refer to Figure 38). The proposal is therefore aligned with the ‘spatial planning category’ as designated in the CoCT SDF⁸.</p> <p>The SDF is further underpinned by a variety of strategies, policy statements and policy guidelines that are intended to ensure that land use is managed consistently in line with the City’s vision and spatial goals and contributes to the achievement of the long-term metropolitan spatial structure.</p> <p>The following development aspects have relevance to these strategies, policy statements and guidelines:</p> <ul style="list-style-type: none"> The proposed development will be capable of accommodating economic subsectors appropriate for this location, and it is evident that the site is well located: it is highly accessible by private motor vehicle, public transport (particularly rail) and NMT modes; they are well located in relation to natural amenities (e.g. the TRUP), recreational activities (e.g. Hartleyvale sports grounds, river running trails, golf courses) and cultural attractions (e.g. SAAO); it will include a residential component built at relatively high-density; and it is highly visible and secure. The proposal for the site therefore “responds appropriately to the spatial needs and requirements of the economic sectors that are attracted to, and function, within Cape Town” (Planning Partners, 2018). The fact that terrestrial areas at the site do not hold substantial ecological value and there are good opportunities to rehabilitate freshwater ecosystems adjacent to the site, combined with the possibility to effectively mitigate against flooding by raising the ground, means that the River Club

⁸ It is understood that the CoCT SDF is currently being reviewed by the CoCT. The River Club professional team has not seen the Draft CoCT SDF (2016) and therefore cannot comment on the land use status of the site in terms of the Draft CoCT SDF (2016).

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	Describe how the proposed development complies with and responds:
	<p>should be considered as a site to accommodate urban development (Planning Partners, 2018).</p> <ul style="list-style-type: none"> Although the River Club facility currently does reinforce the recreational character of the area, there is a view that this is not the most optimal use of this strategically positioned land (Planning Partners, 2018). This strategic position stems largely from the fact that the site is located at the 'knuckle' between two of Cape Town's primary development corridors, namely Voortrekker Road and Main Road (Planning Partners, 2018). Development corridors are identified in the SDF as areas of land use intensification. The process of land use intensification, as defined in the SDF, refers to "achieving a greater spectrum of mixed uses (commercial, industrial and residential) through the increased use of space, both horizontally and vertically, in accessible, high-opportunity locations". It is recommended that this intensification occurs primarily along the "multi-directional accessibility grid", which consists of a hierarchy of routes, most notably the primary, accessibility grid, which includes "development corridors" (i.e. Voortrekker Road and Main Road). The SDF explicitly states that "employment-generating activities, retail development, social facilities, public institutions and intensive mixed-use and residential development should be encouraged on and adjacent to the accessibility grid, particularly the primary accessibility grid". This tends to suggest that, if other factors do not discount development, the site is suitable for land intensification (Planning Partners, 2018).
Municipal Spatial Development Framework 2018	<p>The revised MSDF was approved by Council on 25 April 2018 and the effective date is 1 July 2018. In terms of the new MSDF the River Club is designated as part of the Urban Inner Core. This is a priority investment area where urban development is, in principle, supported.</p> <p>It is recognized that there may be local features which apply to a particular site, such as floodlines, that could influence development, but the presumption is that property inside the Urban Inner Core is a priority investment and development area.</p> <p>During the transition, it is possible that a lower order plan, such as a District Spatial Development Framework, may be inconsistent with the new MSDF. The Municipality is currently going through a process to iron out these inconsistencies. Until the applicable District Spatial Development Framework is repealed or amended, it will be necessary to motivate for a deviation and to demonstrate circumstances for such deviation.</p>
Table Bay District Plan (2012) and CoCT	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>It is evident in Figure 38, which is a plan for Sub-District 3 TRUP / Salt River / Observatory / Paarden Eiland, that the land on which the River Club is situated is categorised as a mixture of "open space", "core 2" and "buffer 1".</p> <p>"Open space" is defined in the District Plan as: "Open space which is not part of the biodiversity network or significant agricultural areas, but has been identified to promote access to open space for active and passive recreation. Whilst the focus is on areas that are usable and accessible for most of the year, the identification has included cemeteries, detention ponds, servitudes, river corridors and road reserves in order to promote the notion of a linked open space system."</p> <p>It is acknowledged that the River Club does currently form part of an open space system of sub-metropolitan significance (Planning Partners, 2018).</p> <p>"Core 2" land on the site falls within and adjacent to the surrounding river courses. "Core 2", as determined in the District Plan, includes: "Ecological corridors; critical ecological support areas; significant coastal and dune protection zones, major river corridors and waterbodies excluding waste water treatment works."</p> <p>The proposal is to rehabilitate the river courses and their edges, in line with recommendations made by the freshwater ecologist on the project team, Dr. Liz Day.</p> <p>"Buffer 1" land on the site falls within and adjacent to the Berkley Road extension road reserve. "Buffer 1", is defined in the in the District Plan as: "Rural areas, game and livestock farming areas and other natural vegetation areas that do not form part of</p>

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	Describe how the proposed development complies with and responds:
	<p>the core areas, but are recognised as areas that could provide opportunities to establish biodiversity offsets. Essential utility service infrastructure may be located in Buffer 1 areas.”</p> <p>The Berkley Road extension may be considered as “essential utility service infrastructure” and should therefore be considered as appropriate development within a “Buffer 1” designated area. Furthermore, very limited natural vegetation remains in this area.</p> <p>The proposal, therefore, differs from the ‘spatial planning category’ and associated guidelines for “open Space” and “Core 2” areas as contained in the Table Bay District Spatial Development Plan.</p> <p>According to the TBDP, if a “...proposal is in conflict with the statutory designation and/or text of the District SDP and / or any other structure plan in terms of s4(10) of the LUPO...” then “...the CoCT can consider condoning a deviation from the approved policy. This deviation should be fully motivated as part of any LUPO or building plan applications that may be required”.</p> <p>The introduction of the MPBL, and specifically section 13(2) of the MPBL, means that it is necessary to submit an application to the CoCT in order to amend the TBDP. This amendment will be to reclassify the portion of land upon which the proposed River Club development is situated from “open space” and “buffer 1” to “urban development” (as indicated in the SDF) and will be fully motivated with reference to contextual and site specific informants (Planning Partners, 2018).</p> <p>Notwithstanding the inconsistency with the TBDP, the planning guidelines for the TRUP local area, including the River Club site, is currently being reconsidered in the forthcoming TRUP Local Area Spatial Development Framework. This local structure plan is likely to give better direction to the current thinking for the River Club site in the TRUP context and will provide an up-to-date indication of what level of development may be accommodated on the site (Planning Partners, 2018).</p>
Environmental Management Framework	<p>The following information from the EMF is relevant to the site and / or areas adjacent to the site:</p> <ul style="list-style-type: none"> • The Raapenberg Wetland and the original course of the Liesbeek River are listed as conservation areas; • The Raapenberg Wetland and the original course of the Liesbeek River are listed as CBAs; • The site is listed as a Structuring Open Space which forms part of the Coast to Coast Greenway; and • Portions of the site, the PRASA site, the SAAO and Valkenberg are listed as “existing special areas” from a cultural perspective.
Two Rivers Urban Park Contextual Framework and Phase 1 Environmental Management Plan (2003)	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>The report contains specific guidelines relating to future management of development at the River Club and the Observatory. The current development proposal for the River Club is not consistent with a number of the principles and guidelines outlined in the TRUPCF and would be a departure from policy currently associated with the site (Planning Partners, 2018)⁹.</p> <p>With regards to the guidelines contained in the TRUPCF of 2003, the development proposal for the River Club represents a paradigm shift for the way the site can be developed.</p>
Cape Town Densification Policy (2012)	<p>Also refer to the Planning Policy Overview – Appendix K1.</p> <p>The Densification Policy is underpinned by policy statements which “should guide all density related land use decisions” (CoCT, 2012).</p>

⁹ It should be noted that a new TRUP study, run in tandem by the Provincial Government of the Western Cape and the CoCT, is currently being undertaken and will result in new development initiatives and planning guidelines for the TRUP area.

<p>LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS</p>	<p>Describe how the proposed development complies with and responds:</p>
	<p>The following development aspects have relevance to these policy statements:</p> <ul style="list-style-type: none"> • The River Club development will be mixed use but will have a substantial residential component, with an estimated density of approximately 35 dwelling units/ha (du/ha) (Planning Partners, 2018). The development will therefore enhance the density in this part of Cape Town and will contribute towards the City achieving its base density target (Planning Partners, 2018). • It is believed that TRUP, and the River Club in particular, represents an ideal spatial location for densification to occur (Planning Partners, 2018). The following factors are pertinent to this argument (Planning Partners, 2018): <ul style="list-style-type: none"> ◦ The site is easily accessible by public transport, with a range of train stations being within walking distance. In addition, the nearby corridors of Main Road and Voortrekker Road carry numerous bus and mini bus taxi services. ◦ A range of employment opportunities exist within the local area, whether it be industrial (Ndabeni, Maitland, Salt River, Culemberg), commercial (Black River Parkway), retail (Main road, Voortrekker Road) or institutional (Valkenburg, SAAO, Alexandra Hospital). This excludes the additional employment opportunities that will be provide within the River Club development, as well as the other ongoing projects within TRUP. ◦ There are various amenities in the local area, including numerous education, health and recreational facilities. • The River Club will be a mixed use precinct within TRUP and will include residential, commercial and retail uses, as well as open space. The precinct will therefore promote a 'live, work, play' lifestyle. • The buildings proposed at the River Club are likely to be higher than surrounding development. The height, combined with the total bulk Gross Building Area to be developed means that a visual impact will be unavoidable. However, the low sensitivity of visual receptors south and east of the site (see Appendix G6), vast spaces surrounding the site, combined with the site's position in relation to the mountain and the sea, mean that the buildings and development layout can be designed to reduce the impact on view lines to both the mountain and the sea (Planning Partners, 2018). • The location, height, scale, form and orientation of the proposed building may all be considered appropriate in this case due to the following pertinent reasons (Planning Partners, 2018): <ul style="list-style-type: none"> ◦ The land is identified for 'urban development' in the CoCT SDF (2012). ◦ The land is a greenfield site that is well located within the metropolitan area: it falls at the 'knuckle' of the Main Road and Voortrekker Road corridors; it is within easy walking distance of public transport, particularly the rail network; there are a range of employment opportunities (existing and proposed) within the local area; it is easily accessible to various social facilities, including numerous education, health and recreational facilities; and there is an abundance of public open space surrounding the site (much of which will be improved and become more usable as the image of TRUP improves). <ul style="list-style-type: none"> ▪ The existing character of the site and the surrounding area has been considered and has been factored into the design in the following ways: ▪ Open spaces will be retained for landscaping and informal recreational purposes; ▪ Buffer areas will be implemented adjacent to the rivers, as per specialist recommendation; and ▪ Key axis and gateways will be retained so as to ensure that a visual connection with surrounding amenity values (such as the Observatory and the Raapenberg Wetland) are maintained and celebrated. • The Densification Policy includes various Densification Priority Zones (DPZs), including "infill sites" and "greenfield developments within the urban edge, and more specifically adjacent to existing urban development" (CoCT, 2012). The River Club falls into both of these categories and should therefore be considered for densification (Planning Partners, 2018). • The Densification Policy lists various spatial structuring elements around which densification should be targeted. Two such structuring elements are 'activity

LEGISLATION, POLICIES, PLANS, GUIDELINES, SPATIAL TOOLS, MUNICIPAL DEVELOPMENT PLANNING FRAMEWORKS, AND INSTRUMENTS	Describe how the proposed development complies with and responds:
	<p>routes' (e.g. Main Road, Voortrekker Road) and 'metropolitan, district and local parks' (e.g. TRUP).</p> <p>Although the site does not abut either Main Road or Voortrekker Road, it is close enough to these routes (as well as their associated train stations) to influence them. The Densification Policy suggests that densities surrounding activity routes should be in the range of 100-375 du/ha in buildings anywhere between 4 and 15 storeys (CoCT, 2012). The River Club development can help to contribute to the density thresholds required in order to make the activity routes function optimally.</p> <p>With regards to densities surrounding metropolitan parks, the Densification Policy suggests that densities should be higher than those in surrounding areas. Pertinently, the density should be such that it "improves surveillance and security" (CoCT, 2012), something which the River Club can undoubtedly assist with within TRUP (Planning Partners, 2018).</p> <p>Densification is not a "one size fits all" solution and must be considered in relation to context (Planning Partners, 2018). However, Planning Partners believe that the proposed development at the River Club may be compliant with the policies and objectives of the Densification Policy because:</p> <ul style="list-style-type: none"> • It is believed that TRUP, and the River Club in particular, represents an ideal spatial location for densification to occur; • The development will contribute towards the City achieving its base density target; • The development can help to contribute to the density thresholds required in order to make activity routes function optimally; • The development can help to contribute to the density thresholds required in order to make public transport function optimally; • The precinct will promote a 'live, work, play' lifestyle; • Buildings and development layout can be designed to reduce the impact on view lines to both the mountain and the sea; and • The development will improve surveillance and security.
CoCT Economic Growth Strategy (2013)	<p>The River Club development may be consistent with this strategy in the following ways:</p> <ul style="list-style-type: none"> • The development may lead to significant investment and job creation; • The development may reduce the reliance on municipal services and resource use by implementing solar power generation and the (re)use of grey water; and • The development may facilitate the development of important public infrastructure (i.e. the extension of Berkley Road).
CoCT Air Quality Management By-Law (2010)	<p>No form of manufacturing is proposed at the site, i.e. no noxious or industrial facilities will be developed and there will be no industrial emissions emanating from the site, once developed. An Atmospheric Emission Licence is therefore not required for the project.</p> <p>In terms of this Bylaw as it relates to the project, any person who (a) conducts any activity; or (b) causes or permits dust emissions to occur, shall adopt the best practical environmental option to the satisfaction of the authorised person, to prevent and abate dust emissions into the atmosphere that may be harmful to public health and well-being or is likely to cause a nuisance to persons residing or present in the vicinity of such land, activity or premises.</p> <p>While no significant dust emissions are anticipated during operations, the Construction Phase EMP will include management measures to reduce dust emissions from the site during construction.</p>

Note: Copies of any comments, permit(s) or licences received from any other Organ of State must be attached to this report as **Appendix E**.

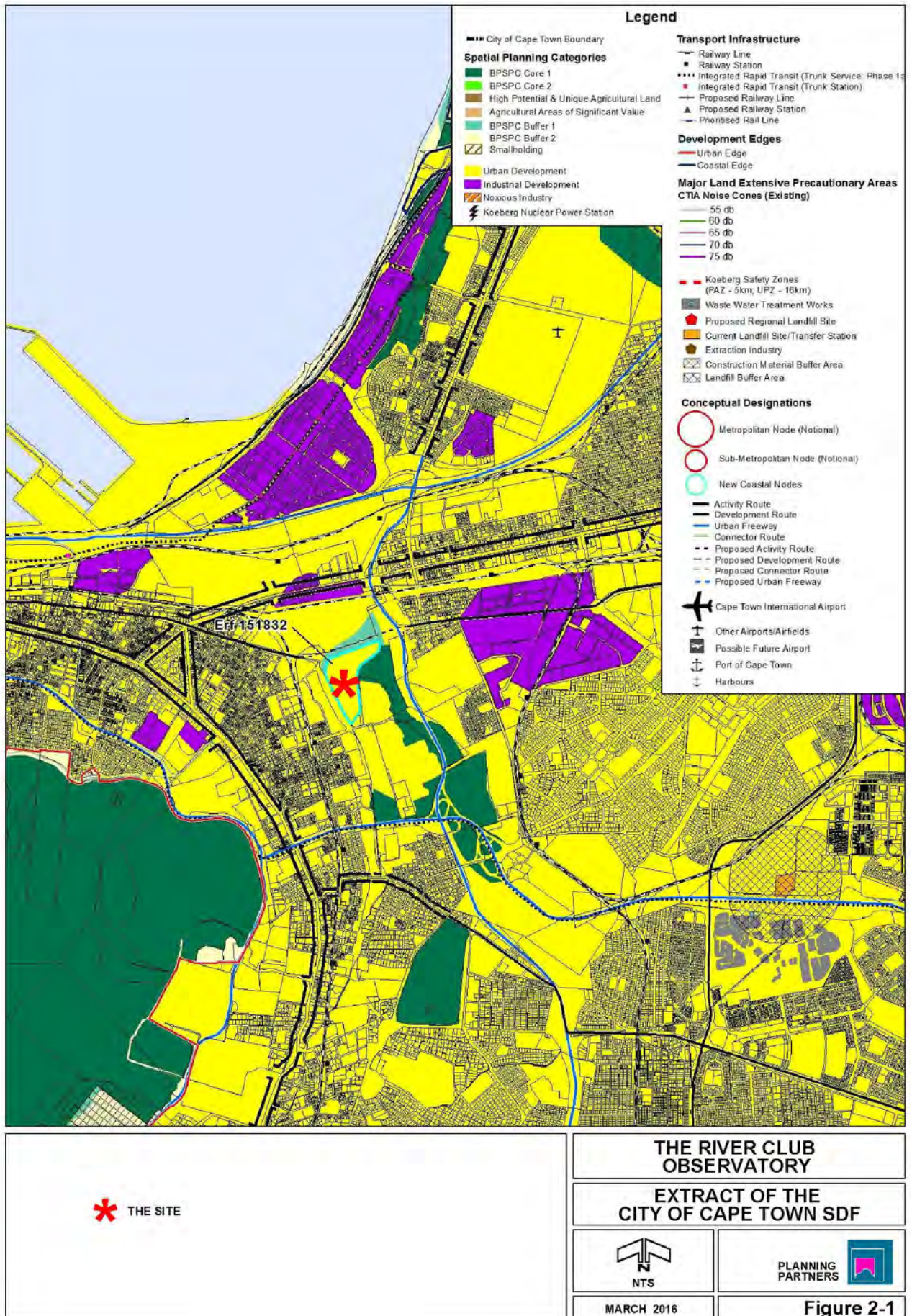


Figure 38: Extract of the CoCT SDF



Figure 39: Table Bay District Plan Sub-District 3

SECTION C: PUBLIC PARTICIPATION

The PPP must fulfil the requirements outlined in the NEMA, the EIA Regulations, 2014 (as amended) and if applicable, the NEM: WA and/or the NEM: AQA. This Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must also be taken into account.

- Please highlight the appropriate box to indicate whether the specific requirement was undertaken or whether there was an exemption applied for.

In terms of Regulation 41 of the EIA Regulations, 2014 (as amended) -			
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -			
(i) the site where the activity to which the application relates, is or is to be undertaken; and	YES	EXEMPTION	
(ii) any alternative site	YES	EXEMPTION	N/A
(b) giving written notice, in any manner provided for in Section 47D of the NEMA, to -			
(i) the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	N/A
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES	EXEMPTION	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES	EXEMPTION	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES	EXEMPTION	
(vi) any other party as required by the Department;	YES	EXEMPTION	N/A
(c) placing an advertisement in -			
(i) one local newspaper; or	YES	EXEMPTION	
(ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	YES	EXEMPTION	N/A
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken	YES	EXEMPTION	N/A
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to— (i) illiteracy; (ii) disability; or (iii) any other disadvantage.	YES	EXEMPTION	N/A
If you have indicated that "EXEMPTION" is applicable to any of the above, proof of the exemption decision must be appended to this report.			
Please note that for the NEM: WA and NEM: AQA, a notice must be placed in at least two newspapers circulating in the area where the activity applied for is proposed.			
If applicable, has/will an advertisement be placed in at least two newspapers?	YES		NO
If "NO", then proof of the exemption decision must be appended to this report.			

- Provide a list of all the State Departments and Organs of State that were consulted:

State Department / Organ of State	Date request was sent:	Date comment received:	Support / not in support
CapeNature	By 15 July 2019		
CoCT departments:	By 15 July 2019		
City Parks	By 15 July 2019		
Catchment, Stormwater and River Management	By 15 July 2019		
Disaster Risk Management	By 15 July 2019		
Electricity	By 15 July 2019		
Environmental Resource Management	By 15 July 2019		
Heritage Management	By 15 July 2019		
Planning and Building Development Management	By 15 July 2019		
Refuse	By 15 July 2019		
Spatial Planning and Urban Design	By 15 July 2019		

Sport and Recreation	By 15 July 2019		
Tourism	By 15 July 2019		
Transport	By 15 July 2019		
Water and Sanitation	By 15 July 2019		
DEA&DP	By 15 July 2019		
DWS	By 15 July 2019		
HWC	By 15 July 2019		

3. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated, or the reasons for not including them.

(The detailed outcomes of this process, including copies of the supporting documents and inputs must be included in a Comments and Response Report to be attached to the BAR (see note below) as **Appendix F**).

Previously pre-application stakeholder engagement was undertaken for the project on Draft Scoping, and Revised Draft Scoping Reports for the project in furtherance of a Scoping and Environmental Impact Reporting (S&EIR) Process as was required at the initiation of the pre-application phase.

However, the EIA Regulations, 2014 were amended by GN R324 – GN R327 on 7 April 2017. As part of these changes, Activity 27 of Listing Notice 2 (the only “listing Notice 2” activity previously applicable to the project) was amended to exclude its applicability in urban areas. The project, as currently contemplated, therefore only triggers Activities listed in Listing Notice 1 and Listing Notice 3, requiring a BA Process.

Note that the development proposal has been amended significantly since these engagement processes, partially in response to stakeholder comments, as well as input from specialists (most notably, a new approach to rehabilitation, a more significant setback at the SAAO boundary and the inclusion of a component of social housing at the development).

Issues raised during these stakeholder engagement processes during Scoping are summarised as follows:

- The Need and Desirability and (in)appropriateness of the proposed land use for the site;
- The opportunity cost of not developing the site for alternative low intensity land uses;
- The need to consider reasonable alternatives;
- The need for integration with the TRUP planning process and the impact of the development on TRUP;
- The efficiency / inefficiency of the urban form that will be created if the development is authorised;
- Flooding of adjacent properties;
- The impact on the WLT;
- The impact on adjacent freshwater and botanical resources;
- The loss of the site as part of an open space resource;
- A change to the sense of place of the area;
- A decline in the cultural and historic value of the site, and adjacent sites of cultural and historical significance (and in particular, the view from the SAAO to Signal Hill);
- The exclusivity of the development proposal / lack of affordable and / or social housing component; and
- Increased private vehicles on the local road network.

This BA Report is now being released for pre-application stakeholder engagement for 60 days, where after the report will be updated, and an application for EA will be submitted to DEA&DP, and the BA Report will be released for another (30 day) stakeholder engagement period.

4. Provide a summary of any conditional aspects identified / highlighted by any Organs of State, which have jurisdiction in respect of any aspect of the relevant activity.

This will be provided following stakeholder engagement in this document.

Note:

Even if pre-application public participation is undertaken as allowed for by Regulation 40(3), it must be undertaken in accordance with the requirements set out in Regulations 3(3), 3(4), 3(8), 7(2), 7(5), 19, 40, 41, 42, 43 and 44.

If the “exemption” option is selected above and no proof of the exemption decision is attached to this BAR, the application will be refused.

A list of all the potential I&APs, including the Organs of State, notified and a list of all the registered I&APs must be submitted with the BAR. The list of registered I&APs must be opened, maintained and made available to any person requesting access to the register in writing.

The BAR must be submitted to the Department when being made available to I&APs, including the relevant Organs of State and State Departments which have jurisdiction with regard to any aspect of the activity, for a commenting period of at least 30 days. Unless agreement to the contrary has been reached between the Competent Authority and the EAP, the EAP will be

responsible for the consultation with the relevant State Departments in terms of Section 24O and Regulation 7(2) – which consultation must happen simultaneously with the consultation with the I&APs and other Organs of State.

All the comments received from I&APs on the BAR must be recorded, responded to and included in the Comments and Responses Report included as **Appendix F** of the BAR. If necessary, any amendments made in response to comments received must be effected in the BAR itself. The Comments and Responses Report must also include a description of the PPP followed.

The minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded, must also be submitted as part of the public participation information to be attached to the final BAR as **Appendix F**.

Proof of all the notices given as indicated, as well as notice to I&APs of the availability of the Pre-Application BAR (if applicable), Draft BAR, and Revised BAR (if applicable) must be submitted as part of the public participation information to be attached to the BAR as **Appendix F**. In terms of the required “proof” the following must be submitted to the Department:

- a site map showing where the site notice was displayed, a dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
 - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
 - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
 - if a facsimile was sent, a copy of the facsimile report;
 - if an electronic mail was sent, a copy of the electronic mail sent; and
 - if a “mail drop” was done, a signed register of “mail drops” received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement (“newspaper clipping”) that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION D: NEED AND DESIRABILITY

Note: Before completing this section, first consult this Department’s Circular EADP 0028/2014 (dated 9 December 2014) on the “One Environmental Management System” and the EIA Regulations, 2014 (as amended), any subsequent Circulars, and guidelines available on the Department’s website: <http://www.westerncape.gov.za/eadp>). In this regard, it must be noted that the *Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010* published by the national Department of Environmental Affairs on 20 October 2014 (GN No. 891 on Government Gazette No. 38108 refers) (available at: http://www.gov.za/sites/www.gov.za/files/38108__891.pdf) also applied to EIAs in terms of the EIA Regulations, 2014 (as amended).

1. Is the development permitted in terms of the property’s existing land use rights?	YES	NO	Please explain
The property is currently zoned Special Open Space: Open Space 3 in terms of the CoCT’s Development Management Scheme, which does not convey the necessary development rights to accommodate the proposed development. It is therefore necessary to rezone the property in order to permit the proposed development.			
2. Will the development be in line with the following?			
(a) Provincial Spatial Development Framework (“PSDF”).	YES	NO	Please explain
Also refer to Section B11 the Planning Policy Overview – Appendix K1. Although the PSDF is a broad-based document that does not provide specific guidance for development or land use proposals at a micro-scale (e.g. individual properties), it does contain overarching planning policy guidelines adopted by the Provincial Government, and major development applications need to be evaluated in terms of these policy guidelines. In terms of environmental integrity, the WCSDF contains policies and guidelines pertaining to the “sustainable use of the Western Cape’s spatial assets”, which include <i>inter alia</i> environmental assets such as biodiversity, freshwater resources, clean sources of energy, and cultural and scenic assets. The development will aim to be consistent with the policies and guidelines contained in the PSDF. However, there is a certain minimum level of bulk leasable area required in order to make the development financially viable, and there will need to be a trade-off between e.g. ecological rehabilitation and protection, cultural and visual impacts and economic viability.			
(b) Urban edge / edge of built environment for the area.	YES	NO	Please explain
The property falls within the urban edge, as defined in the CoCT Spatial Development Framework (2012).			
(c) Integrated Development Plan and Spatial Development Framework of the Local Municipality (e.g., would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO	Please explain
Also refer to Section B11 the Planning Policy Overview – Appendix K1.			

In terms of the CoCT IDP the proposed development will attract investment into a strategically located site within the City (Planning Partners, 2018). Investment into the site at the scale proposed has potential to benefit both the local economy and the economy of Cape Town as a whole, including the creation of a substantial number of jobs thereby creating and economically enabling environment in which investment can grow and jobs can be created. In this way, the development will create opportunities and be in line with the IDP.

A development such as the one proposed at the River Club will promote 24-hour surveillance and increase feet-on-the-ground, thereby increasing the safety of the area in line with the CoCT IDP. Furthermore, the River Club development will be mixed use and will have opportunities to live, work and play; and that this mix of uses, whether they be residential, commercial or recreational, will mean that the River Club is attractive to a wide array of people. Furthermore, the site will be publically accessible, allowing access of the community to rehabilitated river courses and the associated public amenities.

In terms of the Cape Town SDF, the proposal is consistent with the designated land use category (i.e. "urban development"), as well as various policies, including *inter alia* those pertaining to land use intensification, mixed use development, densification, the promotion of public transport, the promotion of non-motorised transport, and the development of high quality destination places and associated public spaces. In terms of the MSDP (2018) the site is located within the Urban Inner Core, a priority investment area where urban development is, in principle, supported.

While the development is in line with a number of policies contained in the PSDP such as opening-up opportunities in the urban space-economy, improving accessibility, the promotion of a mixed use development, and the promotion of densification, it is in conflict with others that relate to the protection of cultural assets.

(d) An Environmental Management Framework ("EMF") adopted by this Department. (e.g., Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO	Please explain
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Also refer to Section B11 the Planning Policy Overview – Appendix K1.

The EMF for the CoCT has been incorporated into the City District Plans. The following information from the EMF is relevant to the site:

- The Raapenberg Wetland and the original course of the Liesbeek River are listed as conservation areas;
- The Raapenberg Wetland and the original course of the Liesbeek River are listed as CBAs;
- The site is listed as a Structuring Open Space which forms part of the Coast to Coast Greenway;
- Portions of the site, the PRASA site, Observatory and Valkenberg are listed as "existing special areas" from a cultural perspective;

According to the TBDP (which is informed by the EMF), the land on which the River Club is situated is categorised as a mixture of "open space" and "buffer 1". The proposal, therefore, differs from the 'spatial planning category' as designated in the Table Bay District Spatial Development Plan.

According to the TBDP, if a "...proposal is in conflict with the statutory designation and/or text of the District SDP and / or any other structure plan in terms of s4(10) of LUPO..." then "...the CoCT can consider condoning a deviation from the approved policy. This deviation should be fully motivated as part of any LUPO or building plan applications that may be required".

As well as the impact of a change in the open space function of the site, the BA has considered ecological and cultural impacts, and potential benefits of the development to inform a decision by environmental authorities about the environmental acceptability of the development. The BA process has found that ecological, visual and cultural impacts are generally acceptable, and that the benefits of the development (in terms of financial contribution and ecological rehabilitation) are significant.

(e) Any other Plans (e.g., Integrated Waste Management Plan (for waste management activities), etc.)).	YES	NO	Please explain
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Table Bay District Plan

The TBDP categorises the land on which the proposed development is located as a mixture of "open space" and "buffer 1". Consequently, it will be necessary to submit an application to the CoCT in order to amend the TBDP.

TRUP Local Area Spatial Development Framework

In terms of section 12(1) of the Municipal Planning By-Law, the CoCT may adopt a local spatial development framework for a specified geographical area within the geographical area of the City. CoCT and WCPG have informed the River Club project team that a local spatial development framework will be compiled for the TRUP area and that the River Club site will form part of the SDF. This SDF document is forthcoming.

CoCT Densification Policy

In terms of the Cape Town Densification Policy (refer to Section 2.2.6), Planning Partners (2016) believe that the proposed development at the River Club is compliant with the policies and objectives of the Densification Policy because:

- It is believed that TRUP, and the River Club in particular, represents an ideal spatial location for densification to occur;
- The development will contribute towards the City achieving its base density target;

<ul style="list-style-type: none"> • The development can help to contribute to the density thresholds required in order to make activity routes function optimally; • The development can help to contribute to the density thresholds required in order to make public transport function optimally; • The precinct will promote a 'live, work, play' lifestyle; • Buildings and development layout can be designed to have a low impact on view lines to both the mountain and the sea; and • The development will improve surveillance and security. 			
<p>3. Is the land use (associated with the project being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (in other words, is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	YES	NO	Please explain
<p>In terms of the Cape Town SDF, the proposal is consistent with the designated land use category (i.e. "urban development"), as well as various policies, including <i>inter alia</i> those pertaining to land use intensification, mixed use development, densification, the promotion of public transport, the promotion of non-motorised transport, and the development of high quality destination places and associated public spaces.</p> <p>Furthermore, the River Club falls within TRUP, which is an area of the city that has been identified by both the Western Cape Government and the CoCT for more intensive development in the short – medium term.</p>			
<p>4. Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur on the proposed site at this point in time?</p>	YES	NO	Please explain
<p>The River Club falls within TRUP, which is an area of the city that has been identified by both the Western Cape Government and the CoCT for more intensive development in the short – medium term. Furthermore, a property market analysis produced by Rhode has demonstrated that there will be sufficient demand to sustain the development, at this location, at this point in time, and that in this sense the development is desirable (see Appendix K6).</p>			
<p>5. Does the community/area need the project and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g., development is a National Priority, but within a specific local context it could be inappropriate.)</p>	YES	NO	Please explain
<p>Although the development does not spatially align with the TDBP, it is largely aligned with the infrastructural support that the plan identifies is needed to sustain economic growth and realise a more inclusive city (i.e. key societal needs), including:</p> <ul style="list-style-type: none"> • Improve the efficiency of the public transport system by developing a system of routes that support higher speed mobility as well as a feeder circulation as part of MyCiti. • Support commercial development and residential intensification, with a particular focus along the Voortrekker Road Corridor. • Promote mixed use development in the Foreshore, the Fringe, Langa and along the southern Main Road corridor. • Protect river corridors and mountain-to-sea linkages which provide habitat protection and recreational opportunities, while ensuring visual and physical access to the water's edge. • Support the creation of a high-quality, multifunctional recreational area that forms part of an ecological system stretching from Table Bay to False Bay and facilitate the establishment of the Two Rivers Urban Metropolitan Park. • Promote social integration and a diversity of housing types in the area. 			
<p>6. Are the necessary services available together with adequate unallocated municipal capacity (at the time of application), or must additional capacity be created to cater for the project? (Confirmation by the relevant municipality in this regard must be attached to the BAR as Appendix E.)</p>	YES	NO	Please explain
<p>Refer to Appendix K5 – Services Report</p> <p>Electricity: Sufficient capacity is available to service the development, provided that a Main Step-Down Substation is provided on the site (see Appendix C2)</p> <p>Potable water: Sufficient unallocated capacity exists to service the development.</p> <p>Sewerage: Although sufficient treatment capacity exists, due to capacity constraints, a PDWF of 16 l/s only can be accommodated by the current network, and the full PDWF can only be accommodated once the gravity mains have been upgraded (which is likely to occur within the next five years).</p>			
<p>7. Is this project provided for in the infrastructure planning of the municipality and if not, what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant municipality in this regard must be attached to the BAR as Appendix E.)</p>	YES	NO	Please explain
<p>Apart from road infrastructure, minimal bulk infrastructure expansions are required on behalf of the municipality to service the proposed River Club redevelopment. There is also a significant development contribution which shall be payable by the proponent which shall contribute to the funding of bulk infrastructure (including the partial extension of Berkley Road).</p>			

The development will draw on municipal services (water supply, electrical supply, sewerage and waste management). The developer (and tenants) will pay rates and also pay for these services.

If municipal services allocated to the River Club development are in short supply (as may well be the case - water, electricity and sewerage supply capacity is constrained in this part of the City), this may constrain other developments, until such services are available. However, this is not necessarily an opportunity cost, since there is no *prima facie* reason why other developments should be preferred.

8. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO	Please explain
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N/A

9. Do location factors favour this land use (associated with the development proposal and associated listed activity(ies) applied for) at this place? (This relates to the contextualisation of the proposed land use on the proposed site within its broader context.)	YES	NO	Please explain
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The following pertinent aspects may merit the investigation of more intense development at the site:

- The site is transformed from an ecological perspective, and interfaces with freshwater habitats are degraded.
- A property market analysis conducted by Rode concludes that there is sufficient demand to sustain the development, at this location, at this point in time.
- The River Club is regarded as a "gateway site" to TRUP. Indeed, it has been identified by CoCT's Spatial Planning & Urban Design Department as "*the Western Gateway into the TRUP*" and should, by implication, "*accommodate a high density mixed-use agglomeration of uses which support the Policy of 'Live, Work, Play'*". Furthermore, the River Club is considered a by the CoCT's Spatial Planning & Urban Design Department as a "*catalyst project that is to be used to implement the Local Authority SDF Concept Plan for the greater TRUP, together with the SKA HQ's and the Cape Health Technology Park (CHTP)*" (CoCT comment on Draft Scoping report).
- The site falls within the sphere of influence of the Voortrekker Road Integration Zone and is identified as an "area-based intervention opportunity" in relation to this Integration Zone.
- Currently the only vehicular access to the property is off Observatory Road, via Liesbeek Parkway. However, TCT has made provision for an extension of Berkley Road through the northern portion of the River Club site on the latest CoCT Road Network Plan (August 2013). This road extension would be a key intervention as Berkley Road has strong connections to the M5 motorway and Voortrekker Road (to the east) and Liesbeek Parkway and Albert Road (to the west). This will change the character of the site, transform transport linkages onto the site and open up new economic opportunities.
- The site is privately owned (by the proponent) and is strategically located close to the CBD with good access to major road and rail transport routes. According to the proponent, few (if any) other opportunities exist this close to the CBD for a mixed-use development such as the one proposed.
- The development will densify the area, provide housing, employment and public amenities and both Observatory rail station (to the south-west) and Koeberg rail station (to the north-east) fall within a 500m radius of the site, thus making the development compliant with the CoCT's TOD Strategy (whereby land use intensification is encouraged to occur within 500m of public transport stations).
- The hydrologist on the project team has conducted detailed modelling of floodwater conditions in the local area. The study has established that the most achievable mitigation measure to prevent flooding of the site is to raise the ground surface at The River Club to an elevation slightly above the 100-year flood elevation, and importantly that this measure would have limited detrimental effects on neighbouring properties, which is a key criterion for determining whether or not the raising of the site is a viable proposal.

10. Will the development proposal or the land use associated with the development proposal applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	YES	NO	Please explain
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Both the Liesbeek and Black Rivers can be described as modified and stressed ecosystems. These have been identified and characterized in the Biodiversity Assessment (see Appendix G2). Rehabilitation of interfaces of the site with these waterbodies is proposed. This activity is likely to enhance the ecological value of these interfaces.

A number of CBAs and ESAs are located adjacent to the site (e.g. in the channel of the original channel of the Liesbeek River). ESAs in the original channel of the Liesbeek River would be infilled if the preferred alternative is selected) and reedbed wetlands will be lost from the construction of the Berkley Road Bridge over the Black River, however, this area would be rehabilitated to provide ecological function, and the canalised channel of the Liesbeek River to the East of the site will be rehabilitated as a natural watercourse, vastly increasing the ecological function of this portion of the channel, and improving ecological connectivity between the Liesbeek and Black Rivers.

By far the most sensitive ecological feature in close proximity to the site is the Raapenberg Wetland. Provided that construction phase mitigation is applied, no significant impacts on this feature are anticipated as a result of the development.

Although the development will reinforce the Liesbeek River corridor as a highly significant and public heritage resource (as well as provide public access to this area), the development is expected to detract from the heritage value of the site as a site of conflict and of agrarian history, and may partly detract from the heritage value of the SAAO.

11. Will the development impact on people's health and well-being (e.g., in terms of noise, odours, visual character and 'sense of place', etc.)?	YES	NO	Please explain
<p>This is an urban development in an urban area and it is extremely unlikely that health, safety and social ill (impacts) will arise.</p> <p>Nuisance impacts are anticipated from noise and dust during construction.</p> <p>Culturally, the TRUP landscape has high significance due to its historical, social, aesthetic, architectural, scientific and environmental values and it possesses a strong sense of place. There are a number of features within the TRUP that are of particular heritage significance. They include the Valkenberg farmstead, the Valkenberg hospital complex, the Observatory Complex, the Alexandra Hospital, Maitland Garden Village and the Oude Molen complex. The site itself, however, includes no tangible traces of early historic events (see Appendix G5). The site therefore contains little that is worthy of conservation from a heritage perspective, other than the Liesbeek River course. The Liesbeek River course and confluence with the Black River have been identified as being of high significance, and a common feature that runs through the project area and beyond. It is a powerful historic symbol and place-mark that refers to early landscape of pre-colonial transhumance use, colonial settlement and agriculture, and contestation.</p> <p>The site also has cultural significance as a site of conflict, and from the agrarian history of the area. This history is experienced by stakeholders when observing the site as a transformed but still open floodplain of the Liesbeek and Black Rivers.</p> <p>Furthermore, the site itself is assessed to have inherent cultural value as the setting for adjacent significant sites and structures in addition to sharing spatial characteristics of the TRUP, of which it is a component.</p> <p>Possible impacts on the visual, cultural and heritage value of the site and surrounds are as follows (see Appendix J):</p> <ul style="list-style-type: none"> • Loss or damage to palaeontological and archaeological resources; • Loss of structures on the site with heritage value; • Change in heritage value of the site; • Changes in historical setting of the SAAO; • Altered sense of place; and • Visual intrusion. <p>Heritage informants, and the urban design framework, are important and the design and layout has taken account of these and attempted to minimise adverse impacts, as far as possible. Heritage indicators have been developed to guide the development, and in response the design has evolved considerably – most notably by setting back from the SAAO complex (as opposed to setting back from the original course of the Liesbeek River), and rehabilitating the Liesbeek River canal to extend the Liesbeek River corridor from the south to the confluence with the Black River.</p> <p>While two feasible layout alternatives are being considered, due to the nature of the development proposed it is not possible to avoid cultural and visual impacts completely. Residual cultural and ecological impacts are therefore anticipated.</p> <p>In order to mitigate potential cultural impacts of the development a cultural, heritage and educational centre is included as part of the development proposal.</p>			
12. Will the proposed development or the land use associated with the proposed development applied for, result in unacceptable opportunity costs?	YES	NO	Please explain
<p>By developing the site predominantly for residential, commercial and retail uses, other development alternatives will be foregone. However, while the proponent has considered the viability of reasonable alternatives that are identified (see Appendix K2), as the site is privately owned by the proponent, zoned for private use, and currently operated as a commercial operation, it is reasonable that the proponents only select development alternatives that are financially viable (including the No-Go Alternative – in this case the continued operation of the site as a viable golf and conference facility). In this sense, there are no "opportunities" for the development of alternatives that are not feasible to the proponent.</p> <p>The opportunity costs of a) feasible development alternatives, and b) the No-Go Alternative (as compared to feasible development alternatives) have been considered in Impact Assessment (Appendix J).</p> <p>If municipal services allocated to the River Club development are in short supply, this may constrain other developments, until such services are available. However, this is not necessarily an opportunity cost, since there is no prima facie reason why other forms of development should be preferred.</p>			
13. What will the cumulative impacts (positive and negative) of the proposed land use associated with the development proposal and associated listed activity(ies) applied for, be?			
<p>The following cumulative impacts have been identified and assessed (see Appendix J):</p> <ul style="list-style-type: none"> • Changes in flood elevations; • Changes in freshwater habitat quality; • WLT habitat loss and WLT mortalities; • Traffic congestion and delays to road users; • Gentrification; and • Change in sense of place. 			

The development may also act as catalyst for economic growth and regeneration in the wider area, delivering a range of socio-economic benefits.			
14. Is the development the best practicable environmental option for this land/site?	YES	NO	Please explain
<p>The best practicable environmental option is the option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term.</p> <p>The proponent has calculated that a minimum Gross Leasable Area (GLA) is required to make the development financially viable (see Section E and Appendix K2), and has selected two viable layouts designed to mitigate the anticipated visual and cultural impacts as far as possible (and to enhance ecological benefits). Layouts were selected in consultation with the specialists on the project team. Nevertheless, the development will, alter the sense of place, reduce the heritage value of the site and impact on the historical setting of the SAAO. The project will also entail significant socio-economic and ecological benefits. Therefore, should the development be authorised, trade-offs will be necessary.</p> <p>Negative impacts can be mitigated to acceptable levels if the Riverine Concept Alternative is selected (see Appendix J). This alternative has therefore been selected as the preferred development alternative by the proponent. The site is privately owned and has been the subject of unsuccessful revitalisation initiatives for over a quarter of a century, and it is therefore reasonable to assume that should the development not be approved the site will continue to be inaccessible to the public, and used as a commercial recreational and conferencing facility. The benefits (and impacts) of the development would be forgone.</p> <p>In the sense that at present, the two realistic and viable outcomes for the future of the site are either a) the preferred development alternative which re-envision the site, and b) the No-Go Alternative, the preferred development alternative does provide more benefits at a tolerable cost to society, and is therefore considered an acceptable option for the site, <i>ceteris paribus</i>.</p>			
15. What will the benefits be to society in general and to the local communities?			Please explain
<p>The following socio-economic benefits have been identified:</p> <ul style="list-style-type: none"> • Wealth creation through investment; • Increased employment, income and skills development; • Increased government revenue; • Increase in centrally located housing, including affordable housing; • Densification facilitating improved connectivity, transport systems and TRUP implementation; • Change in public amenity value of the site; and • Increase in property values in surrounding areas. 			
16. Any other need and desirability considerations related to the proposed development?			Please explain
<p>The site has been the subject of revitalisation initiatives for over a quarter of a century but none have been financially viable, leading to the persistent under-utilisation of the site. The proponents motivate that the current development proposal seeks to unlock the commercial potential of underutilised land that is strategically located in close proximity to the CBD and major road and rail transport infrastructure.</p> <p>The extension of Berkley Road transforms the context of the site as a largely undeveloped tranche of land within the floodplain of the Liesbeek and Black Rivers. Furthermore, the site is located in a highly transformed urban environment. The proponents therefore maintain that the site is suitable for high density development.</p> <p>New site access points at the Berkley Road extension and at Link Road would not only make the site more accessible to private motor vehicles and public transport, but to pedestrians and cyclists too, and the implementation of the Berkley Road extension in particular will improve permeability between the Voortrekker and Main Road corridors, including the associated train stations and public facilities. Furthermore, densification at the site is expected to contribute to the generation of thresholds to support public transport and retail uses within TRUP, and the nearby Main Road and Voortrekker Road corridors.</p> <p>It is believed that the River Club development can complement five important structuring elements in the surrounding area:</p> <ul style="list-style-type: none"> • TRUP: the proposal development may assist in providing work opportunities, shopping space and residential accommodation to the broader TRUP community. A successful, well-maintained development will also improve the perception and utility of TRUP. The development could therefore act as catalyst to the TRUP's future development as it could become a desirable destination in which to live and work. • Development corridors: the site is located at the knuckle between two development corridors, namely Voortrekker Road and Main Road, both of which accommodate intense mixed use development and functioning public transport routes. Once Berkley road is extended, the development can become an integrating site between development corridors and reinforce these corridors with higher densities and supplementary mixed use development. • Public transport: the site is well located in relation to a variety of train stations, both on the western edge of Black River (e.g. Observatory, Mowbray, Salt River) and eastern edge (e.g. Koeberg, Ndabeni, Maitland). The proximity to these stations means that more intense development, particularly residential densification, on the River Club site should be considered. Higher density thresholds in this area will assist in making public transport function optimally (including any future MyCiTi bus routes planned for the area). 			

- NMT: The development will integrate with the Liesbeek Parkway Cycle path along the Liesbeek River, the Malta Road Cycle path running into Salt River and bike lanes along Albert Road in Salt River.
- River edges: the river edges surrounding the site will be rehabilitated so as to enhance ecological function. Moreover, these buffer areas can be designed and landscaped to accommodate pedestrians, thus encouraging more interaction between the public and the river edges, and celebrating the historical value of the Liesbeek River course.

17. Describe how the **general objectives of Integrated Environmental Management** as set out in Section 23 of the NEMA have been taken into account:

The general objectives of IEM as set out in Section 23 (2) of NEMA include measures taken to:

- Promote the integration of the principles of environmental management into the making of all decisions which may have a significant effect on the environment;
- Identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts, maximising benefits;
- Ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- Ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- Ensure the consideration of environmental attributes in management and decision making which may have a significant effect on the environment; and
- Identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management.

These objectives are taken into account in the BA process. Potential impacts have been identified, measures for mitigation are presented and a public participation process conducted as part of the BA process. The findings are presented in this BAR and are compliant with the objectives as set out in Section 23 of NEMA.

18. Describe how the **principles of environmental management** as set out in Section 2 of the NEMA have been taken into account:

Environmental and socio-economic factors are considered and weighed up, to ensure that the development is sustainable.

The potential impacts of the development are identified, assessed and evaluated using SRK's standard impact assessment methodology in order to determine the significance of each positive and negative impact. The significance of the impacts is described and assessed in Appendix J.

Mitigation measures are recommended in the BAR to prevent, minimise impacts (and optimise benefits) and to secure stakeholders' environmental rights. An EMPr has been drafted and will be implemented to ensure that potential environmental pollution and degradation can be minimised, if not prevented.

The needs and interests of stakeholders are taken into account through a thorough public participation process, providing adequate opportunities for participation by all stakeholders in the BA process.

SECTION E: DETAILS OF ALL THE ALTERNATIVES CONSIDERED

Note: Before completing this section, first consult this Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, 2014 (as amended), any subsequent Circulars, and guidelines available on the Department's website <http://www.westerncape.gov.za/eadp>.

The EIA Regulations, 2014 (as amended) defines "alternatives" as "in relation to a proposed activity, means different means of fulfilling the general purpose and requirements of the activity, which may include alternatives to the—

- (a) property on which or location where the activity is proposed to be undertaken;
- (b) type of activity to be undertaken;
- (c) design or layout of the activity;
- (d) technology to be used in the activity; or
- (e) operational aspects of the activity;
- (f) and includes the option of not implementing the activity;"

The NEMA (section 24(4)(a) and (b) of the NEMA, refers) prescribes that the procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation –

- ensure that the general objectives of integrated environmental management laid down in the NEMA and the National Environmental Management Principles set out in the NEMA are taken into account; and
- include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The general objective of integrated environmental management (section 23 of NEMA, refers) is, *inter alia*, to "identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management" set out in the NEMA.

The identification, evaluation, consideration and comparative assessment of alternatives directly relate to the management of impacts. Related to every identified impact, alternatives, modifications or changes to the activity must be identified, evaluated, considered and comparatively considered to:

- in terms of negative impacts, firstly avoid a negative impact altogether, or if avoidance is not possible alternatives to better mitigate, manage and remediate a negative impact and to compensate for/offset any impacts that remain after mitigation and remediation; and
- in terms of positive impacts, maximise impacts.

1. DETAILS OF THE IDENTIFIED AND CONSIDERED ALTERNATIVES AND INDICATE THOSE ALTERNATIVES THAT WERE FOUND TO BE FEASIBLE AND REASONABLE

Note: A full description of the investigation of alternatives must be provided and motivation if no reasonable or feasible alternatives exists.

- (a) Property and **location/site** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The proponent owns the majority of the site, and the characteristics and location of the site, are central to the development proposal and project motivation. While the suitability of the site for a development of this nature has been assessed, the consideration of alternative sites is not possible as no other site is available to the proponent for a development of this nature, and, therefore, falls outside the scope of this EIA process. As such a site selection matrix has not been compiled.

Berkeley Road Extension is an approved scheme within a right of way proclaimed and set aside for this purpose. The land vests in the CoCT. The location of this road is taken as given by the project team, and other possible locations of the road are not considered to be reasonable alternatives.

- (b) **Activity** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The purpose of the project is to deliver mixed-use development at the site. Previously, the proponents intended for the market to determine the price of residential units at the site, however, and following stakeholder input, the proponent considered alternatives to incorporate an element of subsidised housing units within the development (see Section E 1 (c)) below.

No other activity alternatives (other than the No-Go Alternative) are currently being considered by the proponent.

- (c) **Design or layout** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Layout Progression

Feasible layout alternatives have been refined through a number of iterations in response to a number of aspects, including, *inter alia*, the ecological status of the site, potential inundation, cultural and heritage factors, traffic and access, urban plans, the TRUP, public comment, as well as commercial and technical considerations. These prior layout alternatives are described below as six main layout concepts. The reasons underpinning their evolution to the current conceptual layout are also described briefly below.

Initial Layout:

The initial concept assumed that the servitude for the Berkley Road extension could be acquired by LLPT the proponent and could be developed, and would therefore not be used for the road extension. This concept also assumed that the existing River Club building would need to be retained during the redevelopment of the site.

Revised Layout 1:

Both the initial and revised concepts included a "hard edge" and an engineered extension of the original course of the Liesbeek River in order to create a marina at the main retail component (Figure 40). It was also assumed that this water body would be required for floodwater abatement.

The CoCT advised LLPT that plans for the Berkley Road extension would not be withdrawn and this road forms part of the long term plans for the spatial development of the City (providing better access to Salt River, Woodstock and Observatory from the M5). The servitude and the Berkley Road extension were then included in the development concept. This layout assumed that the Liesbeek River would be diverted to the original course to the west of the site, and that the River Club building would be retained.

The following also formed part of the revised layout:

- New access from new link from bridge from Black River Parkway development;
- Existing site entrance retained;
- Retail and mixed use positioned centrally with public spaces being north orientated and protected from the South East wind;
- Commercial office buildings located along the Berkley Road extension on the northern boundary of the development.
- High rise residential apartment buildings located on the southern edge of the development.
- Parking on surface minimised with most parking accommodated in basement and podium parking structures.
- Non-motorised transport to include running and cycling tracks throughout the development; and
- 140 000m² of floor area.

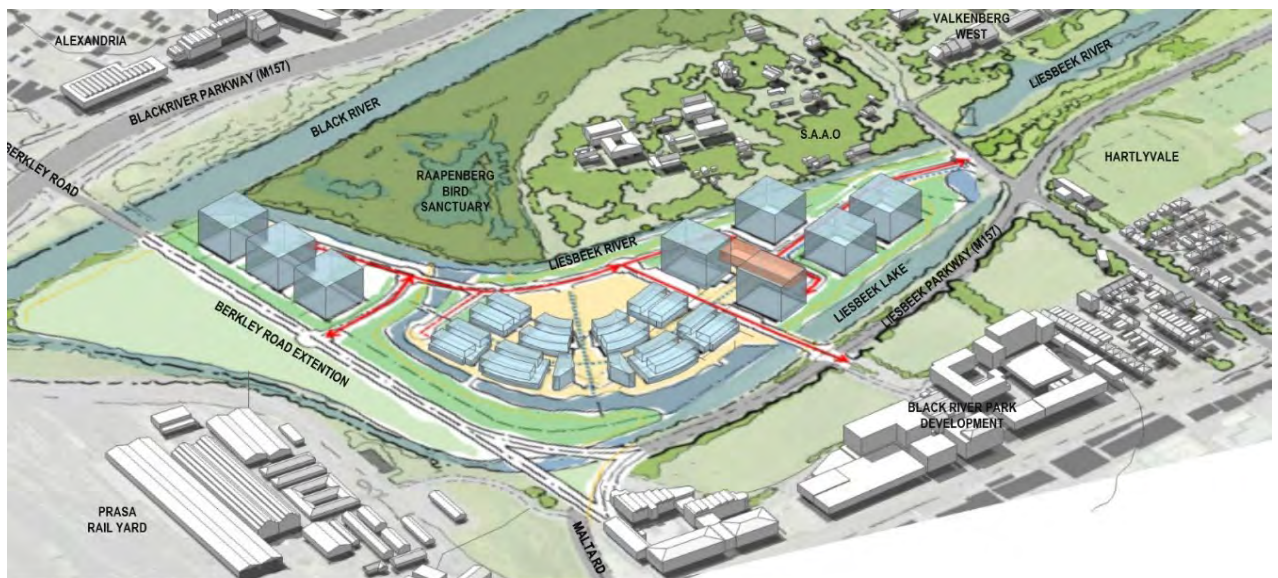


Figure 40: Revised Layout 1

Revised Layout 2:

A heritage specialist has assessed the existing River Club building to be a Grade III C heritage site (a heritage site of low local significance), and that it will be possible to apply for the demolition of this building, and that such an application has a reasonable chance of success. Previous plans to retain the River Club building were therefore revised. Due to the low lying nature of the site, the possible demolition of this building had a significant impact on the development concept, allowing more extensive portions of the site to be raised above the 1:100 year flood line.

Following initial input from the freshwater ecologist ecological setbacks were instituted on the original course of the Liesbeek River and Liesbeek Canal (see Figure 41).

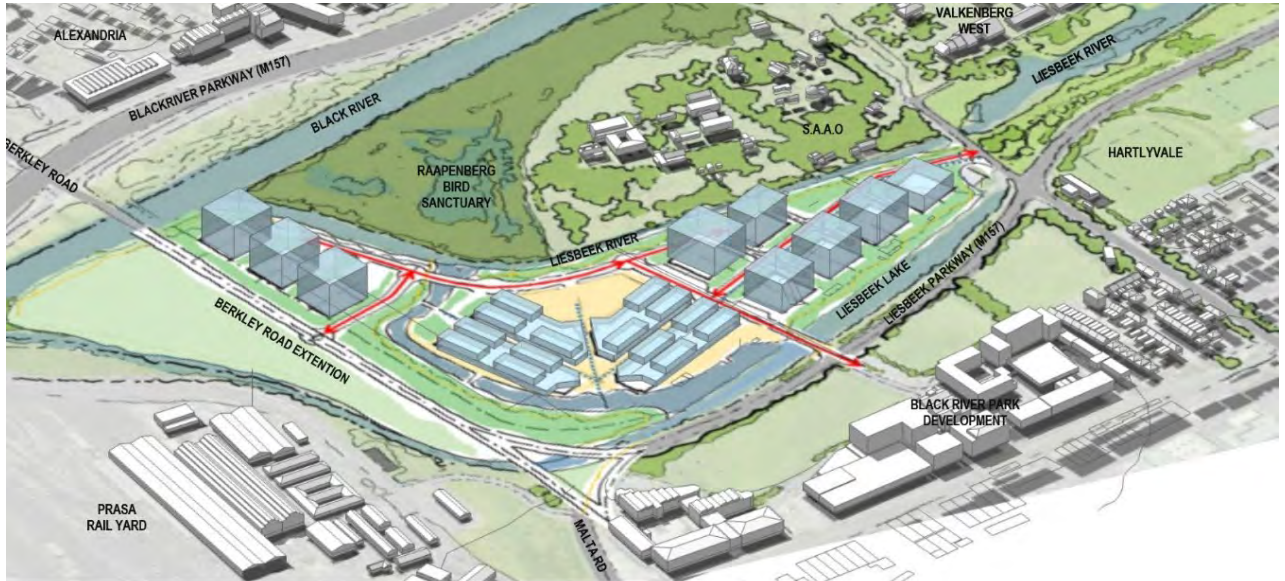


Figure 41: Revised Layout 2

Revised Layout 3:

Specialist hydrology indicated that a new water body connecting the Liesbeek Canal and the original course of the Liesbeek River is not required to abate floodwaters. The number of buildings on the northern edge of the site was reduced, and this water feature was removed (see Figure 42).

Following preliminary input from the freshwater ecologist, the marina edge at the main retail component of the proposed development was shelved in order to reduce the impact and enhance the benefit of the development on the freshwater environment.

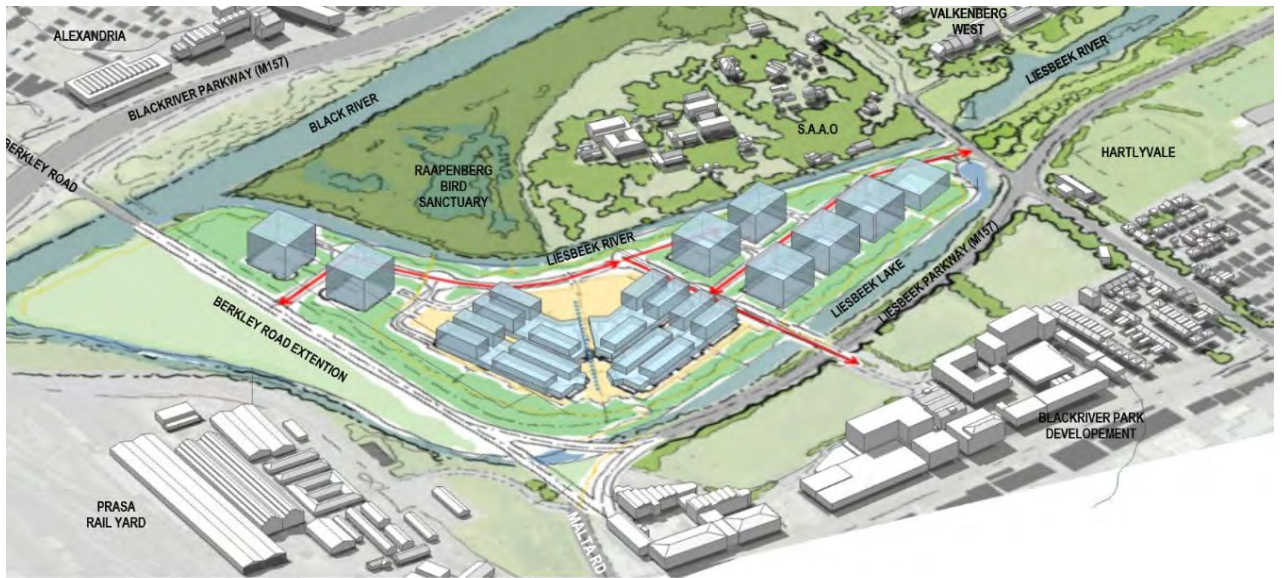


Figure 42: Revised Layout 3

Revised Layout 4:

Following more detailed input from a heritage practitioner, a more substantial setback from the SAAO was implemented, the internal access road was moved away from this boundary, and a central (or open space) was included (see Figure 43). A visual and pedestrian east-west link was also included. Gross Building Area was reduced to 120 000 m².

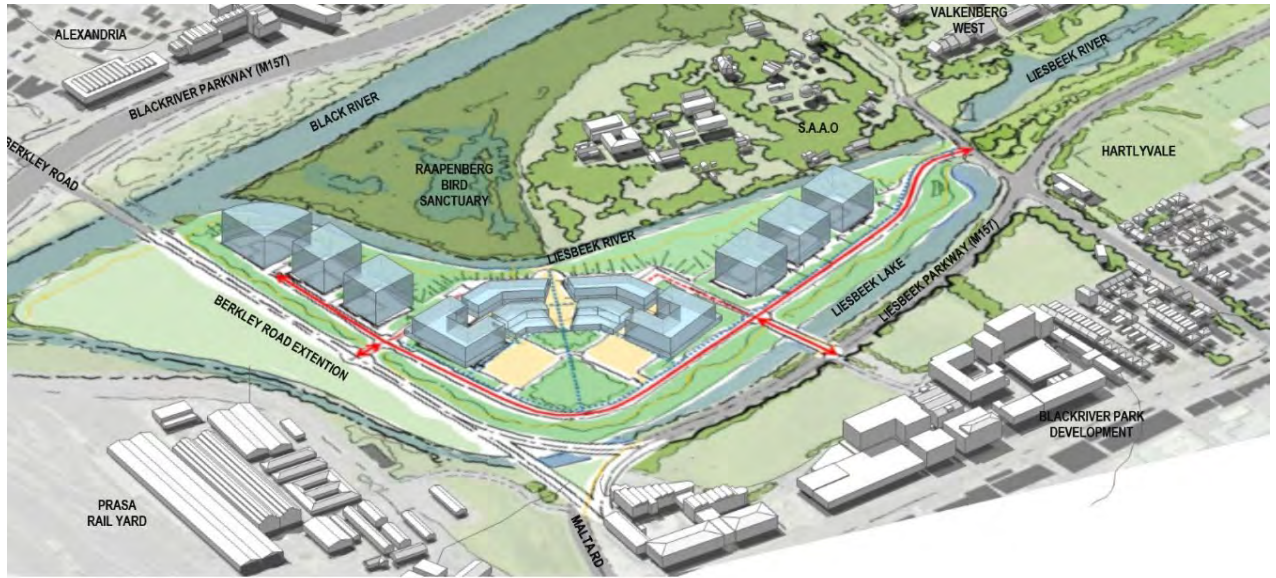


Figure 43: Revised Layout 4

Revised Layout 5:

Taking into account high infrastructure costs and feasibility analysis; as well as input from the urban designers, TRUP, the heritage consultant, the ecologist, geotechnical specialists, and structural, civil and traffic engineers, the following changes to the development proposal were made (see Figure 44):

- The conversion of the central park into an east-west ecological corridor through the development;
- The inclusion of view lines to Devil's Peak, Lions Head and Table Mountain;
- The fragmentation of building form and lower heights in the southern precinct;
- An increase in building heights in the northern precinct;
- The possible remodelling of the Liesbeek Canal as a natural watercourse;
- The inclusion of a cultural, environmental and educational centre in a prime location in the development;
- A reduction in surface parking; and
- An increase in the floor area provision to 140 000 m².

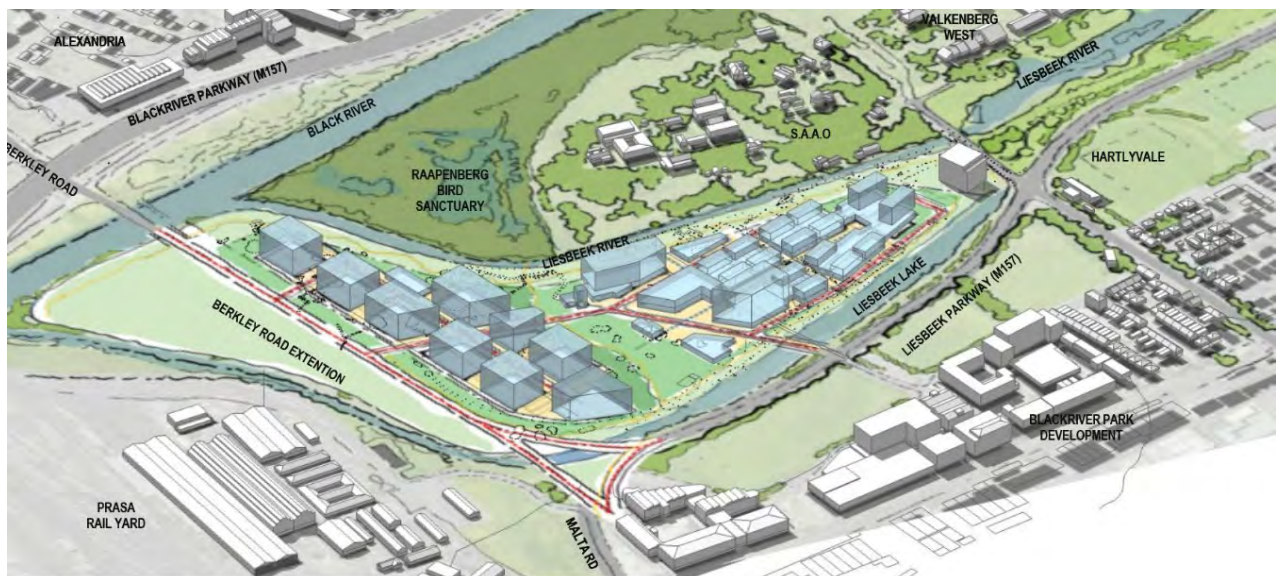


Figure 44: Revised Layout 5

Revised Layout 6:

Taking into account the competing imperatives of setting back from the SAAO, and for the ecological restoration of the Liesbeek River, a sixth preferred development layout was developed which included the following changes:

- The introduction of a wide riverine corridor along the route of the existing canal running adjacent to the eastern boundary of the site; and
- The infilling and landscaping of the old Liesbeek River channel on the western edge of the site to create a vegetated stormwater swale.



Figure 45: Revised Layout 6

Layout Alternatives Under Consideration

Also see Section A1 and Appendix K2: Alternatives Analysis

Preferred Development Alternative: The Riverine Corridor Alternative

In order to further mitigate heritage and visual (sense of place) impacts, and respond to inputs from the CoCT made during consultation on the planning application, the following changes were made to the sixth layout alternative to form the current preferred development alternative:

- A more substantial (50m) setback of the north-western most building from the confluence of the Liesbeek Canal and the Black River;
- A further reduction in the heights of buildings directly opposite the SAAO (to four stories); and
- The realignment of the internal road linking the development precincts to a more orthogonal layout.

This alternative proposes approximately 150 000m² of floor space, which includes retail, office, residential (including inclusionary housing), hotel and community uses (see Figure 3). Developed areas of the site (including roadways) will be raised above the 100-year flood elevation.

The proposal includes the wide riverine corridor along the route of the existing canal running adjacent to the eastern boundary of the site (see Figure 16 and Figure 17), and also includes the infilling and landscaping of the old Liesbeek River channel on the western edge of the site as a vegetated stormwater swale (see Figure 18). The 'ecological corridor' and open space that extends across the site in an east-west direction, connecting the rehabilitated riverine corridor and the stormwater swale, is also retained.

Alongside the transformed riverine corridor there will be pedestrian and cycle paths, as well as viewing and seating areas where the public can enjoy the amenity of this rehabilitated water course. The SAAO, with its heritage features, and the Raapenberg Wetland & Bird Sanctuary, with its associated flora and fauna, will become more accessible to the public as a result of the riverine corridor upgrade.

This alternative has been found to be financially feasible to the proponent (see Appendix K2).

Development Alternative 1: The Island Concept Alternative

This alternative is largely the same as the preferred alternative, with the only difference being that it involves the upgrading and setback along the old Liesbeek River channel and the retention of the canal as a manmade engineered structure (i.e. the existing watercourses adjacent to the site will remain largely unchanged) – see Figure 4, Figure 19, Figure 20 and Figure 21.

This alternative has been found to be financially feasible to the proponent (see Appendix K2).

Reasonable Alternatives found to be Not Feasible to the Proponent

Development Alternative 2: Mixed Use Affordable Alternative

This alternative assumes that a large part of Precinct 1 is directed at the affordable and inclusionary housing market, with Precinct 2 accommodating a mix of office, retail and residential use. Only a limited retail component is included in this alternative (see

Figure 46).

This alternative includes 110 000 m² of floor area.

With a projected annual return of 7.08% (pre-tax), this alternative is not considered financially viable for the proponent and therefore will not be assessed as a feasible development alternative (see Appendix K2).

Alternative 3: Reduced Floor Space Alternative

This alternative proposes less intense development on the site, with floor area reduced to approximately 102 000 m² and the provision of larger areas of green open space (see Figure 47).

With a projected annual return of 7.56% (pre-tax), this alternative is not considered financially viable for the proponent and therefore will not be assessed as a feasible development alternative (see Appendix K2).

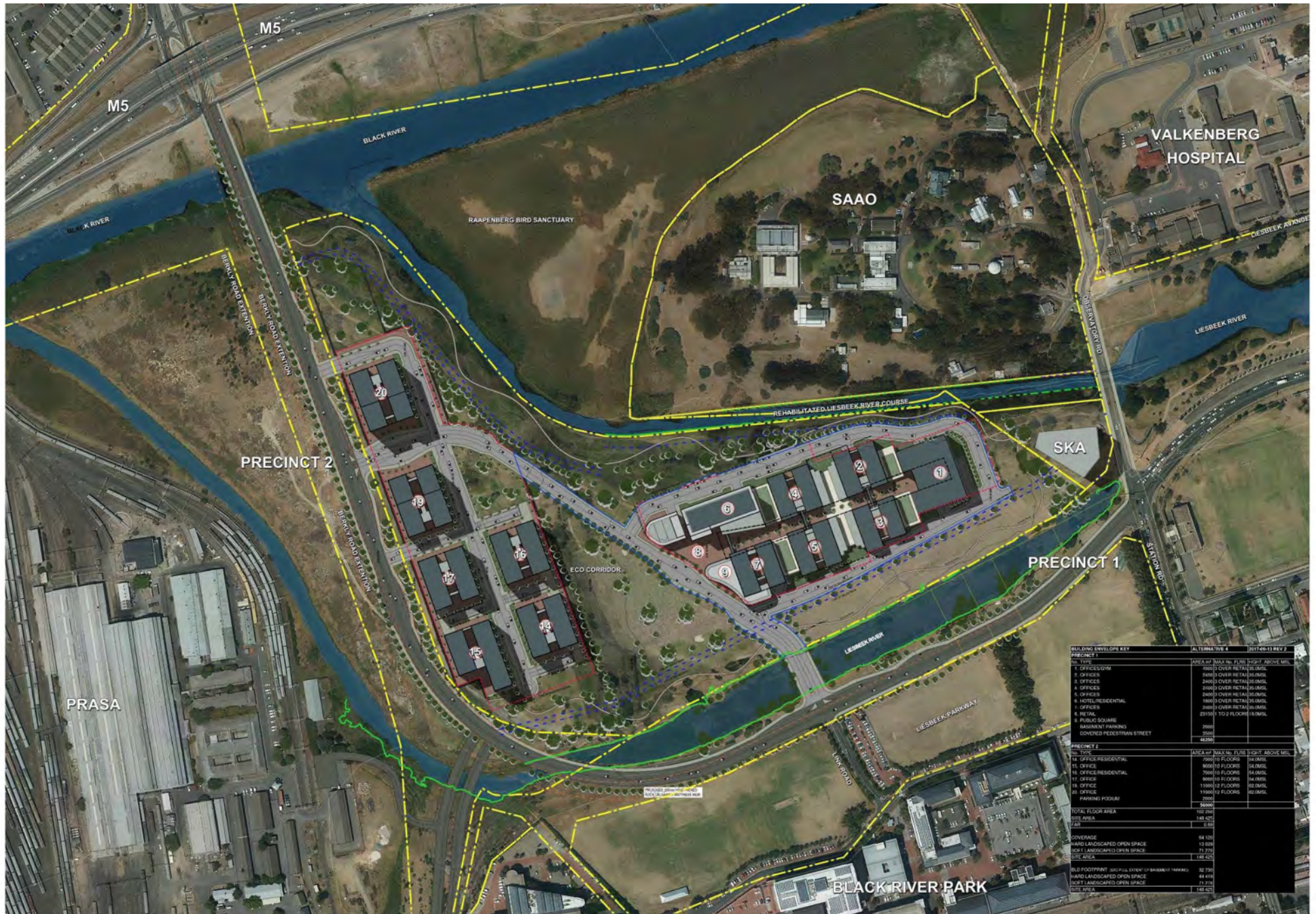


Figure 46: Mixed Use Affordable Alternative

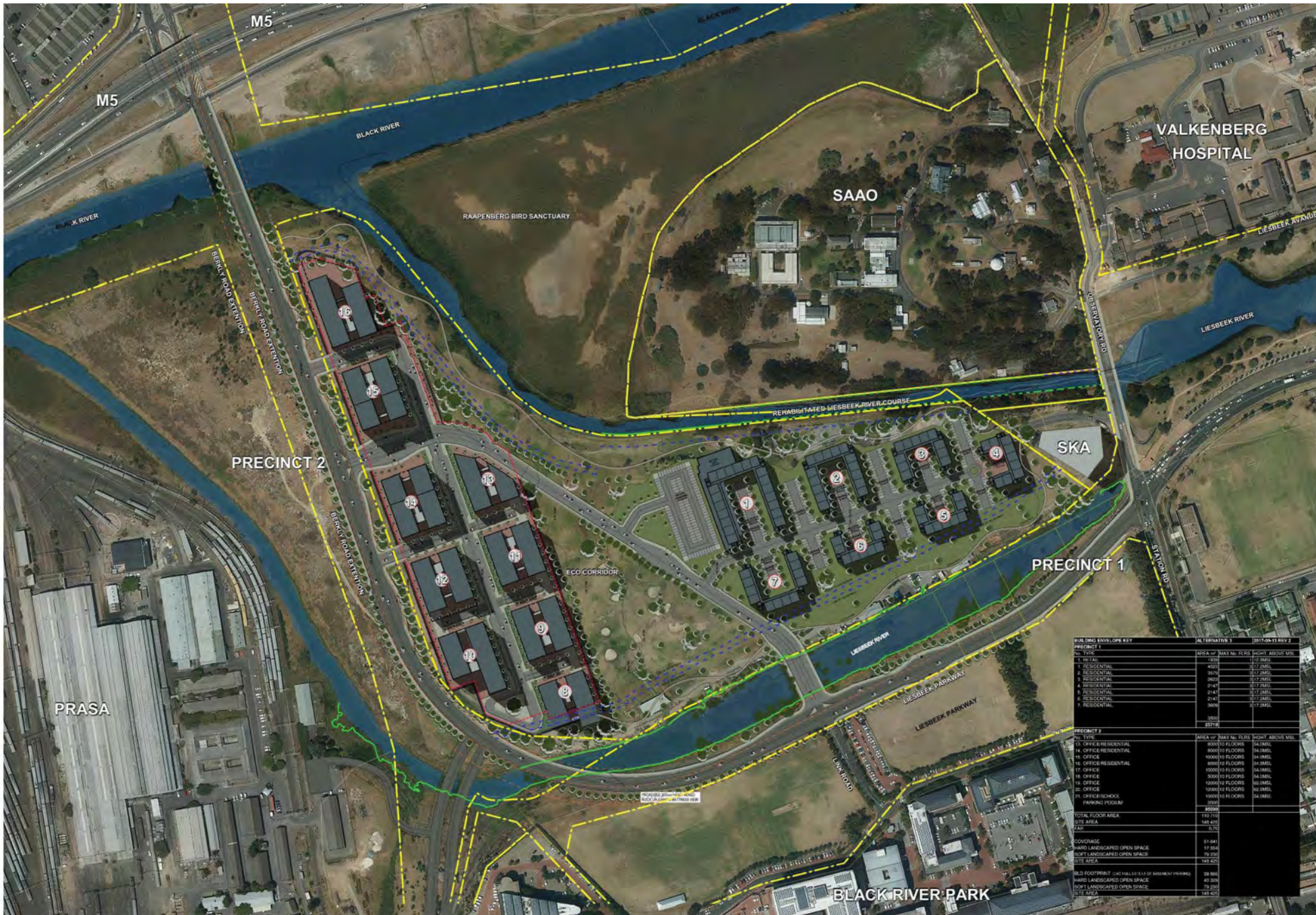


Figure 47: Reduced Floor Space Alternative

- (d) **Technology** alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The proposal is to construct an attractive and sought after development, and the quality and cost of construction materials and methodologies will therefore be a key consideration during detailed design.

As the development will be implemented in phases, technologies and implementation strategies may change; however, it is assumed by the EAP that the best available construction methods and materials, that are both affordable and do not pose significant costs to the environment, will be selected. Construction materials and methods will only be determined when final design and construction contracts go out to tender for each phase of the development.

- (e) **Operational** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The following operational alternatives were considered by the proponent:

- Reduced parking ratios – the full development provides a total of 4801 parking bays - a reduced total of 1005 parking bays from the City's requirement. This will be achieved by Travel Demand Measures, including public transport and NMT. Should Travel Demand Measures prove to be successful, and the parking demand at the development is further reduced, parking at the site can be used by e.g. visitors to other sites in the TRUP.
- The treatment and use of grey water or black water at the site – this was considered but eliminated as an operational alternative to water supply because of concerns for water contamination (of surrounding freshwater environments) and because the CoCT has advised that effluent treatment and reuse is not appropriate for the site.

- (f) The option of **not implementing** the activity (the 'No-Go' Option):

The No-Go Alternative has been considered in the BA in accordance with the requirements of the EIA Regulations, 2014. The No-Go Alternative entails no change to the status quo, in other words, the site would continue to be used commercially for recreational purposes and low-scale commercial activities and a golf course.

Despite being visually open, in its current state the site represents a physical barrier. Furthermore, as a commercial golf and conferencing facility, the site is not generally accessible to the public, meaning the NMT routes along the river terminate at the southern boundary of the site, and the broader linkages envisaged as part of TRUP are not possible (see Figure 48).

The interfaces of the site with watercourses currently have a relatively low ecological function, and do not act as a valuable ecological corridor along the Liesbeek River to the Black River.

The linkages and connectivity proposed by TRUP are integrated into the River Club vision, and cannot be achieved as efficiently as currently proposed without development on the River Club site, in particular the Berkley Road extension which the development will partially facility, and the continuation of public and NMT transport systems.

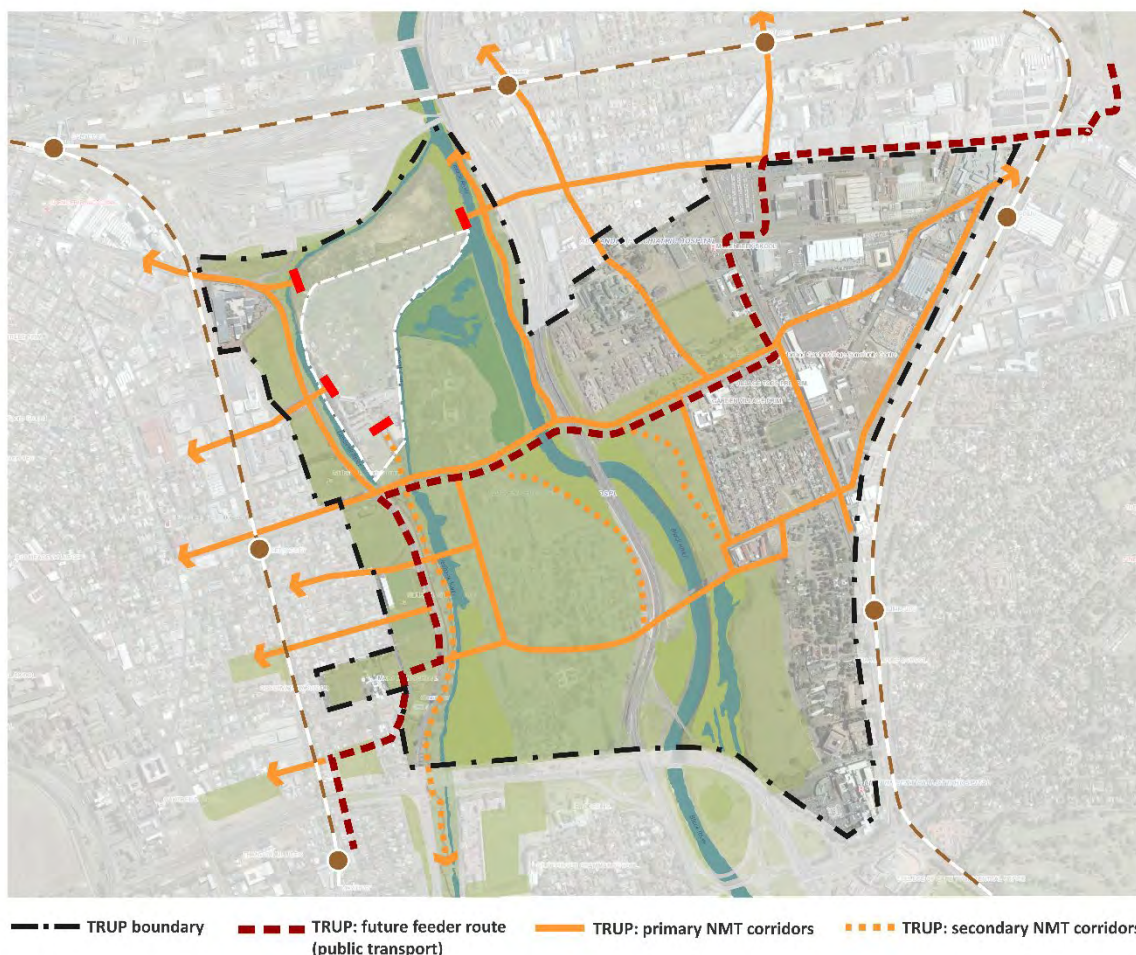


Figure 48: The No-Go Alternative

- (g) **Other** alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No other alternatives reasonable alternatives have been identified or have been investigated by the proponent.

- (h) Provide a **summary** of all alternatives investigated and the outcome of each investigation:

Refer to Section E 1 (c) above and Section E 1 (i) below.

- (i) Provide a detailed **motivation for not further considering** the alternatives that were found not feasible and reasonable, including a description and proof of the investigation of those alternatives:

MLC undertook a feasibility or returns analysis of reasonable development alternatives (development alternatives 1 – 4) to determine the expected first year returns on investment (incorporated into Appendix K2). Allison Stober Property Services also advised that developments with market capitalisation rates below 9% are not commercially viable (see Appendix K3). Layouts and development concepts provided by Vivid, the analysis produced by MLC and the comment from Allison Stober Property Services have been used by the proponent to determine the financial feasibility of alternatives suggested by stakeholders that are considered reasonable: namely, the provision of a large part of the development as subsidised or inclusionary housing, and the retention of larger portions of the site for open space. These alternatives have been determined to be not financially feasible to the proponent, and are therefore excluded from further analysis.

2. PREFERRED ALTERNATIVE

- (a) Provide a **concluding statement** indicating the preferred alternative(s), including preferred location, site, activity and technology for the development.

The key characteristics of the preferred alternative are:

- The redevelopment of the River Club site in two precincts for 150 000 m² floor area;
- Construction of a substantial section of the Berkley Road extension to the north of the site by the developer, which will not only provide access onto the site, but will also establish a public amenity in terms of the wider transportation network;
- Additional access via a new bridge crossing over Liesbeek Parkway;
- Medium-high rise retail, hotel and residential apartment buildings (approximately 4-9 storeys) located in the southern portion of the development (Precinct 1);
- Medium rise office or residential buildings (approximately 8-10 storeys) located along the Berkley Road extension in the northern portion of the site (Precinct 2);
- Provision of 20% of the residential component as inclusionary housing units;
- Most parking accommodated in super-basement structures underneath the developed portions of the site;
- Remodelling of the existing canal into a rehabilitated riverine corridor;
- Infilling of the old Liesbeek River channel and remodelling of this channel into a vegetated stormwater swale;
- Central park that functions as a public space as well as an east-west ecological corridor through the development;
- Non-motorised transport to include pedestrian paths and running and cycling tracks throughout the development; and
- Facilities for future MyCiTi bus and taxi services.

The major implications of this alternative are:

- With a projected annual return of 9.01% (pre-tax), the project is considered to be financially viable;
- Approximately 80 000m² (± 55%) of the site will be raised above the 100-year flood elevation to approximately 5.4 mamsl in order to accommodate development;
- A catalytic, mixed use development will be implemented at the western gateway into TRUP;
- Densification and diversification of residential stock will occur in-line with the CoCT's Densification Policy.
- Inclusionary housing will be provided, thus satisfying an important social need;
- Supply of retail and office space in this location will satisfy market demand;
- The proponent will partially extend Berkley Road, funded by offsets against the required development contribution payable to the CoCT. This extension has been identified by the CoCT's Transport and Urban Development Authority's (TDA) as a key road network intervention which they will complete in the future by widening the road, and constructing a crossing over the original course of the Liesbeek River to link Berkley Road with Malta Road / Liesbeek Parkway;
- Intense urban development will occur within a 500m radius from higher order public transport stations (i.e. Observatory and Koeberg train stations), in line with the CoCT's TOD Strategy.
- The existing canal will be rehabilitated into a riverine corridor that will effectively allow for a continuation of the lower Liesbeek River as a visually congruent and publicly accessible riverine corridor, with resulting ecological and social benefits, as well as opportunities to inform the public of the heritage value of the Liesbeek River itself;
- The original course of the Liesbeek River to the west of the site will be converted into a landscaped stormwater swale with public and ecological value;
- An ecological corridor / parkland area will extend through the site in an east-west direction, thus allowing for faunal movement and recreational activities; and
- The development will yield a substantial income for the Municipality in terms of rates to assist with service delivery in areas of need elsewhere in the city.

SECTION F: ENVIRONMENTAL ASPECTS ASSOCIATED WITH THE ALTERNATIVES

Note: The information in this section must be DUPLICATED for all the feasible and reasonable ALTERNATIVES.

1. DESCRIBE THE ENVIRONMENTAL ASPECTS ASSOCIATED WITH THE PROPOSED DEVELOPMENT AND ITS ALTERNATIVES, FOCUSING ON THE FOLLOWING:

(a) Geographical, geological and physical aspects:

<p>Preferred Development Alternative / The Riverine Corridor Alternative:</p> <p>A large portion of the site will be raised by about 2.5 m above the 1:100 year floodline to -5.4 mamsl.</p> <p>Alternative 1 / The Island Concept Alternative:</p> <p>A large portion of the site will be raised by about 2.5 m above the 1:100 year floodline to -5.4 mamsl.</p> <p>No-Go Alternative:</p> <p>The site will remain at its current elevation.</p>

(b) Ecological aspects:

Will the proposed development and its alternatives have an impact on CBAs or ESAs? If yes, please explain: Also include a description of how the proposed development will influence the quantitative values (hectares/percentage) of the categories on the CBA/ESA map.	YES	NO
<p>Preferred Development Alternative:</p> <p>Portions of the original course of the Liesbeek River that have been assigned ESA status will be infilled (0.37 ha in extent). The original, degraded course of the Liesbeek River will be infilled (where it fronts the site), and landscaped as a stormwater swale with ecological value (and public amenity).</p> <p>A small portion of reedbed wetlands at the Black River will be lost through the construction of the Berkley Road Bridge over the Black River.</p> <p>ESA wetlands do not have quantitative conservation targets.</p> <p>No CBAs will be impacted by the proposed development.</p> <p>Alternative 1:</p> <p>A small portion of reedbed wetlands at the Black River will be lost through the construction of the Berkley Road Bridge over the Black River.</p> <p>ESA wetlands do not have quantitative conservation targets.</p> <p>No CBAs will be impacted by the proposed development.</p> <p>No-Go Alternative:</p> <p>No ESAs or CBAs would be impacted should this alternative be selected (but rehabilitation of the Liesbeek Canal and or the original course of the Liesbeek River would be forgone).</p>		

<p>Will the proposed development and its alternatives have an impact on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)? If yes, please explain:</p>	<p>YES</p>	<p>NO</p>
<p>Preferred Development Alternative:</p> <ul style="list-style-type: none"> • Temporary water contamination and habitat deterioration during construction, at a higher intensity for the Riverine Corridor Alternative because of the extensive work required for rehabilitation of the Liesbeek Canal. • The loss of riverine wetlands along the Black River for the construction of the Berkley Road Bridge. • Major improvement of habitat quality and ecological functioning of the Liesbeek River Canal. • Loss of habitat quality and ecosystem functioning of the original course of the Liesbeek River. • Contamination of the Liesbeek and Black Rivers during operations. • Improvement of aquatic fauna habitat quality. <p>No botanical impacts are anticipated.</p> <p>Alternative 1:</p> <ul style="list-style-type: none"> • Temporary water contamination and habitat deterioration during construction. • The loss of riverine wetlands along the Black River for the construction of the Berkley Road Bridge. • Minor improvement of habitat quality and ecological functioning of the Liesbeek River Canal. • Improvement of habitat quality and ecosystem functioning of the original course of the Liesbeek River. • Contamination of the Liesbeek and Black Rivers during operations. <p>No botanical impacts are anticipated.</p> <p>No-Go Alternative:</p> <p>No aquatic ecosystems would be impacted should this alternative be selected (but rehabilitation of the Liesbeek Canal and or the original course of the Liesbeek River would be forgone).</p>		
<p>Will the proposed development and its alternatives have an impact on any populations of threatened plant or animal species, and/or on any habitat that may contain a unique signature of plant or animal species? If yes, please explain:</p>	<p>YES</p>	<p>NO</p>
<p>Preferred Development Alternative:</p> <ul style="list-style-type: none"> • An increase in WLT mortalities during construction. • WLT habitat quality will be improved (both aquatic and terrestrial), but there will be a loss in the extent of terrestrial habitat available to the WLT. <p>Alternative 1:</p> <ul style="list-style-type: none"> • An increase in WLT mortalities during construction. • WLT habitat quality will be improved (both aquatic and terrestrial), but there will be a loss in the extent of terrestrial habitat available to the WLT. <p>No-Go Alternative:</p> <p>No threatened plant or animal species would be impacted if the No-Go Alternative is selected.</p>		

Describe the manner in which any other biological aspects will be impacted:			
Preferred Development Alternative:			
As well as those described above, the following impacts on biological resources are anticipated:			
<ul style="list-style-type: none"> • An improvement in aquatic and terrestrial faunal habitat quality. • A loss in the extent of terrestrial faunal habitat. • An improvement in faunal connectivity. 			
Alternative 1:			
As well as those described above, the following impacts on biological resources are anticipated:			
<ul style="list-style-type: none"> • An improvement in aquatic and terrestrial faunal habitat quality. • A loss in the extent of terrestrial faunal habitat. • A loss of faunal connectivity. 			
No-Go Alternative:			
No other biological impacts are anticipated if the No-Go Alternative is selected.			
Will the proposed development also trigger section 63 of the NEM: ICMA?		YES	NO
If yes, describe the following:			
(i) the extent to which the applicant has in the past complied with similar authorisations; (ii) whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development proposal or listed activity is consistent with the purpose for establishing and protecting those areas; (iii) the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area; (iv) the likely socio-economic impact if the listed activity is authorised or is not authorised; (v) the likely impact of coastal environmental processes on the proposed development; (vi) whether the development proposal or listed activity— (a) is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations; (b) is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17 of NEM: ICMA; (c) is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18 of NEM: ICMA; (d) is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated; (e) is likely to be significantly damaged or prejudiced by dynamic coastal processes; (f) would substantially prejudice the achievement of any coastal management objective; or (g) would be contrary to the interests of the whole community; (vii) whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land; (viii) whether the proposed development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area; and (ix) the objects of NEM: ICMA, where applicable.			
N/A			

(c) Social and Economic aspects:

What is the expected capital value of the project on completion?	R4.459 billion	
What is the expected yearly income or contribution to the economy that will be generated by or as a result of the project?	R465 million	
Will the project contribute to service infrastructure?	YES	NO
Is the project a public amenity?	YES	NO
How many new employment opportunities will be created during the development phase?	5 239	
What is the expected value of the employment opportunities during the development phase?	R1.63 billion	
What percentage of this will accrue to previously disadvantaged individuals?	20 – 25%	
How will this be ensured and monitored (please explain):		

Through giving preference to suitably qualified and experienced accredited BEEE contractors and SMME's (Annual reports compiled by the project QS over the duration of the development phase).	
How many permanent new employment opportunities will be created during the operational phase of the project?	860
What is the expected current value of the employment opportunities during the first 10 years?	R2 billion
What percentage of this will accrue to previously disadvantaged individuals?	30 – 40%
How will this be ensured and monitored (please explain):	
Through giving preference to suitably qualified and experienced accredited BEEE contractors and SMME's (Annual report compiled by the managing agent of the development)	
Any other information related to the manner in which the socio-economic aspects will be impacted:	
<p>Both feasible alternatives:</p> <p>The following socio-economic benefits are anticipated:</p> <ul style="list-style-type: none"> • Wealth creation through investment; • Increased employment, income and skills development; • Increased government revenue; • Increase in centrally located housing, including inclusionary housing; • Densification facilitating improved connectivity, transport systems and TRUP implementation; • Change in public amenity value of the site; and • Increase in property values in surrounding areas. <p>The following socio-economic impact is anticipated:</p> <ul style="list-style-type: none"> • Gentrification. <p>The following socio-economic impacts were assessed but found to be insignificant:</p> <ul style="list-style-type: none"> • Change in quality of life; and • Pressure on service provision. <p>No-Go Alternative:</p> <ul style="list-style-type: none"> • The River Club would continue to present a physical barrier for NMT systems, and would continue to be a relatively sterile private amenity at a key location within TRUP, and may pose a physical impediment to the implementation of TRUP as currently envisaged. 	

(d) Heritage and Cultural aspects:

<p>Preferred Development Alternative:</p> <ul style="list-style-type: none"> • Damage to palaeontological and archaeological resources during construction of the rehabilitated canal. • Loss of structures at the site with heritage value. • A decline in the heritage value of the site, but the celebration of the most historically and culturally significant feature of the site: the Liesbeek River course. • A deterioration of the historical setting at the SAAO. <p>Alternative 1:</p> <ul style="list-style-type: none"> • Loss of structures at the site with heritage value. • A decline in the heritage value of the site; • An significant deterioration of the historical setting at the SAAO. <p>No-Go Alternative:</p> <ul style="list-style-type: none"> • Avoidance of negative impacts and benefits; and • Forgone opportunities for integration of the SAAO, staff and public with the River Club development.
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2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

Will the development proposal produce waste (including rubble) during the development phase?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	9 652.5 m ³	
It is anticipated that ~142 m ³ of waste will be generated monthly during a 7 year construction period. It is anticipated that 30% of waste will be recycled. The following waste types are anticipated: <ul style="list-style-type: none"> • Rubble, damaged building materials; and • Small volumes of hazardous waste (such as oily rags, cement bags, contaminated soil from spills, etc). 		

Will the development proposal produce waste during its operational phase?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	132 m ³ / month	
It is anticipated that ~132 m ³ of waste will be generated monthly during operations. It is anticipated that 80% of this waste will be recycled. The following waste types are anticipated: <ul style="list-style-type: none"> • General office waste; • Domestic waste; and • Paper, bottles, and a small amount of wet waste. 		

Will the development proposal require waste to be treated / disposed of on site?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type per phase of the proposed development to be treated/disposed of?	N/A m ³	
N/A	N/A	
If no, where and how will the waste be treated / disposed of? Please explain. Indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type per phase of the proposed development to be treated/disposed of?	m ³	
General waste will be separated at source, and collected by the Municipality and a recycling contractor.	142 m ³ per month during construction 132 m ³ per month during operations	
Has the municipality or relevant authority confirmed that sufficient capacity exists for treating / disposing of the waste to be generated by the development proposal? If yes, provide written confirmation from the municipality or relevant authority.	YES	NO
Will the development proposal produce waste that will be treated and/or disposed of at another facility other than into a municipal waste stream?	YES	NO
If yes, has this facility confirmed that sufficient capacity exists for treating / disposing of the waste to be generated by the development proposal? Provide written confirmation from the facility.	YES	NO
Does the facility have an operating license? (If yes, please attach a copy of the licence.)	YES	NO
Facility name:		
Contact person:		
Cell:	Postal address:	
Telephone:	Postal code:	
Fax:	E-mail:	

Describe the measures that will be taken to reduce, reuse or recycle waste:
It is anticipated that ~30% of waste generated during construction will be recycled.

(b) Emissions into the atmosphere

Will the development proposal produce emissions that will be released into the atmosphere?	YES	NO
If yes, does this require approval in terms of relevant legislation?	YES	NO
If yes, what is the approximate volume(s) of emissions released into the atmosphere?	N/A	m ³
Describe the emissions in terms of type and concentration and how these will be avoided/managed/treated/mitigated:		
No industrial facilities are proposed, and no facilities are anticipated to generate emissions or pollution (other than waste and sewage).		

3. WATER USE

(a) Indicate the source(s) of water for the development proposal by highlighting the appropriate box(es).

Municipal	Water board	Groundwater	River, Stream, Dam or Lake	Other	The project will not use water
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Note: Provide proof of assurance of water supply (e.g. Letter of confirmation from the municipality / water user associations, yield of borehole)

(b) If water is to be extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	N/A	0 m ³
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(c) Does the development proposal require a water use permit / license from DWS?	YES	NO
If yes, please submit the necessary application to the DWS and attach proof thereof to this application as an Appendix.		

(d) Describe the measures that will be taken to reduce water demand, and measures to reuse or recycle water:
In terms of the water reuse and conservation, the following has relevance: <ul style="list-style-type: none">As per correspondence received from CoCT Water Demand Management & Strategy Department dated 01 September 2016 – no onsite treatment of wastewater will be permitted and thus treatment of wastewater is not being pursued, however smaller scale opportunities for greywater recycling will be considered.The possibility of supply from the CoCT's Treated Sewer Effluent Network (which is currently being expanded) was explored. There are however concerns that using treated effluent for irrigation may compromise river health due to the close proximity to the water courses.The abstraction of surface and/or groundwater to reduce the demand for potable water is being considered and will be the subject of subsequent applications if pursued. Furthermore, the best practicable solution in terms of water efficient designs will be implemented as part of the project, and the developer will apply 4 Star Green Building principles.

4. POWER SUPPLY

(a) Describe the source of power e.g. municipality / Eskom / renewable energy source.

Municipality (10 MVA) and renewable energy source (2 MVA).
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(b) If power supply is not available, where will power be sourced?

Sufficient capacity (10 MVA) is available to service the development, provided that a Main Step-Down Substation is provided on the site, as is proposed. The River Club can make use of the ± 10 kVA available capacity on a 'first come first serve' basis, which will be sufficient for the development (Appendix E2).

5. ENERGY EFFICIENCY

- (a) Describe the design measures, if any, that have been taken to ensure that the development proposal will be energy efficient:

The best practicable solution in terms of energy efficient designs will be implemented as part of the project, and the developer will apply 4 Star Green Building principle, and at a minimum green building and design principles including, but not limited to, the following power efficiencies:

- LED lighting technology throughout the development;
- Time-of-Use and Occupancy Sensors to manage lighting and air-conditioning systems;
- Air-Conditioning systems to comprise latest inverter-based variable load capacity technology;
- Centralized air-conditioning services with heat-exchanger systems to provide hot-water for local usage (minimizing the need for electrical heating);
- Building insulation;
- Site energy management systems ensuring load-demand management; and
- Building methodologies that reduce energy needs.

- (b) Describe how alternative energy sources have been taken into account or been built into the design of the project, if any:

In order to supplement electrical supply, LLPT proposes to install solar panels on rooftops (see Figure 24). 330 Watt solar panels, angled at 15° to the horizontal and fitted in rows of four-panels per access-aisle (for cleaning and maintenance) will be fitted over ≤ 60% of the available roof space. These panels will provide 2-MVA of total power to the site at peak-demand.

6. TRANSPORT, TRAFFIC AND ACCESS

Describe the impacts in terms of transport, traffic and access.

The following transport and traffic impacts have been identified and assessed (see Appendix J1 and G1):

- Delays to road users during upgrades of intersections;
- Delays to road users from construction traffic;
- Delays to road users from development traffic; and
- Changes to travel times following the full upgrade of the road network.

The following impact on road users is anticipated following completion of the development (as well as various road and intersection upgrades that are required by the LLPT):

- Extended peak periods delays on the Liesbeek Parkway.

The following impacts on road users are anticipated following completion of the development (as well as various road and intersection upgrades that are required by the LLPT):

- Reduced travel times between the M5 and Observatory, and on Liesbeek Parkway.

Although limited delays to road users are anticipated on the Liesbeek Parkway until the CoCT implements the upgrades that they propose, the infrastructure proposed will also assist the long term planning (and functioning) of TRUP and the City by providing public access from the west into TRUP from the suburb of Observatory, and from the east into Observatory and the CBD.

7. NUISANCE FACTOR (NOISE, ODOUR, etc.)

Describe the potential nuisance factor or impacts in terms of noise and odours.

The following nuisance impacts are anticipated during construction (see Appendix J1):

- Nuisance from dust and exhaust emissions; and
- Nuisance from noise.

Note: Include impacts that the surrounding environment will have on the proposed development.

8. OTHER

The only other impact that has been identified and assessed is the increase in flood hazard (for both alternatives). The following conclusion were made with regard to increased flood hazard:

- Increased flooding south of the site near the Hartleyvale Sports Complex may increase the extent of High Hazard Flood zones for flood return events of 1:50 years or less frequent at:
 - On one lane of the Liesbeek Parkway; and
 - A localised area around the complex itself.

Increased flooding at the Hartleyvale Sports Complex has a low probability of threatening property and human safety as flooding here is localised and the area would be flooded under current conditions (but at a slightly lower depth). It is also unlikely that the complex would be used during a flood event of this magnitude.

Mitigation is required at the Liesbeek Parkway.

SECTION G: IMPACT ASSESSMENT, IMPACT AVOIDANCE, MANAGEMENT, MITIGATION AND MONITORING MEASURES

1. METHODOLOGY USED IN DETERMINING AND RANKING ENVIRONMENTAL IMPACTS AND RISKS ASSOCIATED WITH THE ALTERNATIVES

- (a) Describe the **methodology** used in determining and ranking the nature, significance consequences, extent, duration and probability of potential environmental impacts and risks associated with the proposed development and alternatives.

Refer to Appendix J

- (b) Please describe any gaps in knowledge.

The following knowledge gap applies to the biodiversity impact assessment:

- Details of actual non-saline western leopard toad breeding areas in the Raapenberg wetlands are not known and should be checked – this gap is not material to the findings of the study which has been conservative in this regard.

The following knowledge gaps apply to the surface water hydrology impact assessment:

- There is no collaboration data available for the model.

The following knowledge gaps apply to the traffic impact assessment:

- The timeframes of the occupation of the development is market driven and is therefore uncertain, but will affect traffic impacts; and
- The extent to which regional people movements will shift to public transport.

- (c) Please describe the underlying assumptions.

General:

- All design and ecological mitigation measures will be strictly implemented.
- Information provided by LLPT and other consultants and specialists is accurate.
- No significant developments or changes in the socioeconomic characteristics will take place in the area of influence between data collection and submission of the report.

With regards to traffic:

- The traffic on the partially and fully extended Berkley Road is based on the outcome of the City's EMME traffic model with an assumed growth in income levels and in origin destination demands which is in turn based on the current City development strategies;
- The planned public transport facilities with respect to bus and MyCiti services will be realised; and
- The impact of the access control measures implemented on the background traffic which will use the development link road as a through route between the M5 and Liesbeek Parkway will be effective.

With regards to freshwater ecology:

- The design details included in the specialist aquatic ecology report will be fully implemented, unless specifically modified through required mitigation measures;
- Assessments of the impacts of floodplain infilling on Raapenberg wetland function relied heavily on the findings of the hydrological study with regard to changes in depth and frequency of flood inundation; and
- The design of the rehabilitated canal (preferred alternative) has been based on modelled flood levels and flow rates as provided by the hydrological specialists – the assessment of its biodiversity implications is based on the assumption that the river (as designed) will function as an unlined lowland river without need for additional future lining or hard stabilisation.

With regards to surface water hydrology:

- The Two Dimensional (2D) surface water hydrology models that have been configured for this study provide a reasonable basis for making informed judgements regarding the flood levels for both the pre- and post-development of the River Club site flooding and adjacent areas;
- The model, and previous hydrological models for the catchment were reasonably accurate; and
- Available hydraulic information (e.g. information on stormwater system) was accurate.

With regards to visual:

- The simulated views in the visual impact assessment and generated by architects are not intended to be artistic impressions of the proposed development, but are intended to indicate the position and built mass of the development in the landscape. The simulations are of unattractive block buildings with no redeeming architectural features which could mitigate impacts.

(d) Please describe the uncertainties.

- Visual impact assessment is not, by nature, a purely objective, quantitative process, and depends to some extent on subjective judgments - assessing the visual impacts of a development/site in absolute and objective terms is not achievable. Thus, qualitative as well as quantitative techniques are required. Where subjective judgments are required, appropriate criteria and motivations for these are clearly stated.
- The viewshed calculations in the VIA were undertaken using 5 m contour intervals. The viewshed depicts the area from which the project might be visible. The viewshed does not necessarily take localised undulations, vegetation and all existing man-made structures - which may obscure views - into account¹⁰. This means that the project is not necessarily visible from everywhere within the viewshed, i.e. from some places the project may be obscured.

(e) Describe adequacy of the assessment methods used.

With regards to the socio-economic impact assessment:

- The assessment of socio-economic impacts is based largely on secondary data gathered during a desktop analysis. Primary field work (other than a site inspection) and socioeconomic surveys were not conducted for this study, as the existing data was deemed sufficient.

With regards to the freshwater ecology impact assessment:

- Assessments of terrestrial and aquatic ecosystems were informed by a combination of desktop studies, review of existing data and limited ground-truthing in the case of western leopard toad populations, wetland extent, Raapenberg wetland bird populations, wetland function and wetland habitat sensitivities as the available data were considered adequate to inform the assessment outcomes.

With regards to the surface water hydrology impact assessment:

- While not calibrated, the model was tested for its sensitivity to changes in hydrology. The impact is not considered to change the main conclusions of the result, in that while increase flows would result in higher flood levels, the impact of the development is unlikely to increase.

With regards to the traffic impact assessment:

- The EMME model used for predicting the expected traffic on the road network is the best tool available currently.

¹⁰ The heights and footprints of the buildings bordering the site were taken into consideration when generating the viewshed to account for the screening effect of these buildings.

2. IDENTIFICATION, ASSESSMENT AND RANKING OF IMPACTS TO REACH THE PROPOSED ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE WITHIN THE SITE

Note: In this section the focus is on the identified issues, impacts and risks that influenced the identification of the alternatives. This includes how aspects of the receiving environment have influenced the selection.

(a) List the identified impacts and risks for each alternative.

<p>Preferred Alternative – the Riverine Corridor Alternative:</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> • Nuisance from dust and exhaust emissions; • Nuisance from noise; • Water contamination and deterioration of habitat quality; • Loss of riverine wetlands along the Black River margin; • Faunal mortalities; • Change in aquatic habitat quality; • Change in terrestrial habitat quality; • Change in faunal connectivity; • Change in floral species composition; • Wealth creation through investment; • Increased employment, income and skills development; • Delays to road users during upgrades to the M5 / Berkley Road and Link Road / Liesbeek Parkway intersections; • Delays to road users from construction vehicle traffic; • Loss or damage to palaeontological and archaeological resources; • Loss of structures on the site with heritage value; and • Altered sense of place from construction activities. <p>Operational Phase:</p>
<p>Alternative 1 – the Island Concept Alternative:</p>	<ul style="list-style-type: none"> • Change in Flood Hazard at Surrounding Properties; • Changes to habitat quality and ecological functioning of the Liesbeek Canal; • Changes to habitat quality and ecological functioning of the original course of the Liesbeek River; • Changes to habitat quality and ecological functioning of the Raapenberg Wetland; • Contamination of the Liesbeek and Black Rivers; • Changes to habitat quality in rehabilitated areas; • Faunal mortalities; • Increased employment, income and skills development; • Increased government revenue; • Increase in centrally located housing, including affordable housing; • Densification facilitating improved connectivity, transport systems and TRUP implementation; • Change in public amenity value of the site; • Increase in property values in surrounding areas; • Gentrification in surrounding residential areas; • Change in the quality of life in the area; • Pressure on service provision; • Delays to road users from development related traffic; • Change in historic character of the site; • Change in heritage value Liesbeek River floodplain at the site; • Changes in historical setting of the SAAO; • Altered sense of place caused by the change in character of the site; • Visual intrusion; and • Altered sense of place and visual quality caused by light pollution at night.
<p>No-go Alternative:</p>	<p>The implications of selecting the No-Go Alternative for all identified impacts has been considered.</p>

(b) Describe the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated.

Attached as Appendix J

(c) Provide a summary of the site selection matrix.

The proponent owns the majority of the site, and the characteristics and location of the site, are central to the development proposal and project motivation. While the suitability of the site for a development of this nature is assessed in this report, the consideration of alternative sites is not possible as no other site is available to the proponent for a development of this nature, and, therefore, falls outside the scope of this BA process. As such a site selection matrix has not been compiled.

Berkeley Road Extension is an approved scheme within a right of way proclaimed and set aside for this purpose. The land vests in the City of Cape Town. The location of this road is taken as given by the project team, and other possible locations of the road are not considered to be reasonable alternatives.

(d) Outcome of the site selection matrix.

N/A

3. SPECIALIST INPUTS/STUDIES, FINDINGS AND RECOMMENDATIONS

Note: Specialist inputs/studies must be attached to this report as **Appendix G** and must comply with the content requirements set out in Appendix 6 of the EIA Regulations, 2014 (as amended). Also take into account the Department's Circular EADP 0028/2014 (dated 9 December 2014) on the "One Environmental Management System" and the EIA Regulations, 2014, any subsequent Circulars, and guidelines available on the Department's website (<http://www.westerncape.gov.za/eadp>).

Provide a summary of the findings and impact management measures identified in any specialist report and an indication of how these findings and recommendations have been included in the BAR.

The following specialist studies were undertaken:

- Biodiversity impact assessment;
- Faunal comment (to inform biodiversity impact assessment);
- Botanical comment (to inform biodiversity impact assessment);
- Hydrogeological comment (to inform biodiversity impact assessment);
- Surface water hydrology impact assessment;
- Heritage impact assessment;
- Visual impact assessment;
- Socio-economic impact assessment; and
- Traffic impact assessment.

The completed specialist studies and their findings have been integrated into the BA Report, and have informed the final development proposal. The key findings of each specialist were evaluated in relation to each other to provide an overall and integrated assessment of the project impacts (see Appendix J).

SRK has considered the suite of potential impacts in a holistic manner and in certain instances, based on independent professional judgment and this integrated approach, may have altered impact significance ratings provided by the specialist (see specialist studies attached as Appendix G).

Specialists have made recommendations for the management of impacts, and the EIA team has assessed these recommendations and incorporated them into both impact assessment, and the EMPr.

4. ENVIRONMENTAL IMPACT STATEMENT

Provide an environmental impact statement of the following:

(i) A summary of the key findings of the EIA.

The project will entail so-called triple bottom line costs, i.e. social, environmental and economic costs. The triple bottom line concerns itself with environmental (taken to mean biophysical) sustainability, social equity and economic efficiency and is typically employed by companies seeking to report on their performance. The concept serves as a useful construct to frame the evaluation of environmental impacts of the project.

The challenge for DEA&DP is to take a decision which is sustainable in the long term and which will probably entail trade-offs between social, environmental and economic costs and benefits. The trade-offs are documented in the report, which assesses environmental impacts and benefits and compares these to the No-Go alternative. SRK believes it will be instructive to reduce the decision factors to the key points which the authorities should consider. These points constitute the principal findings of the BA:

<ul style="list-style-type: none"> • The LLPT operates the River Club in Observatory, Cape Town (the site) and owns the majority of the site. • The LLPT is proposing to redevelop most of the site for commercial, retail and residential use. • Infilling of the site to above the 1:100 year floodline, demolition of existing structures, construction of new buildings, roads, bridges, surface water control structures all form part of the development proposal. • The site and surrounding area is prone to regular flooding. • The site is transformed from a biophysical perspective and has limited ecological value. However, the adjacent freshwater ecosystems (i.e. the natural course of the Liesbeek and Black Rivers), as well as the interfaces of the site with these features - although degraded - have ecological value and also provide an opportunity for rehabilitation. • The local road network is currently congested, and a number of intersections and the Liesbeek Parkway already operate beyond capacity during peak periods. • The sense of place of the study area is strongly influenced by the rivers, and an "island" of green open space in a highly developed and evolving urban environment of mixed land use. • Historically, culturally and ecologically, the riverine corridor and floodplain of the Liesbeek River is considered to be the most important component of the historic landscape, and is the key topographical determinant of the current urban townscape from a heritage perspective. • The site has both historical agricultural and cultural significance as an extensive wide-open floodplain. • The site is the one of the last open remnants of the floodplain. • The site abuts the historic landscape of the SAAO. • The site provides low-quality, but important terrestrial habitat and connectivity for faunal species, most importantly, the WLT. • Various alternative layouts were considered, and the preferred layout alternative was selected through a process of extensive consultation with specialists, most notably heritage and freshwater specialists. • The two layout alternatives presented for impact assessment, the Riverine Corridor Alternative and the Island Concept Alternative, are similar except for their treatment of the original course of the Liesbeek River and the Liesbeek Canal. • The site can be infilled without significantly changing the flood hazard in surrounding communities. • Delays to road users are anticipated both during construction of the development, and during operations, and numerous road upgrades are required from both the CoCT and the LLPT. • The character of the site as a wide open floodplain will be transformed by the development. • Although a negative change in the historical character of the site is anticipated, the Riverine Corridor Alternative provides an opportunity to rehabilitate and enhance the Liesbeek River corridor, and enhance its public amenity value. The heritage specialists conclude that this alternative would lead to a net benefit to the heritage value of the site. • The development, of the Riverine Concept Alternative is expected to detract from the historical setting of the SAAO. • The Island Concept Alternative will lead to a more significant degradation of the historical setting of the SAAO. • The development will lead to the loss of well represented wetlands of limited ecological value in the original course of the Liesbeek River and on the banks of the Black River that are classified as ESAs. • The Raapenberg Wetland is not expected to be negatively impacted by the development. • The Riverine Corridor Alternative will improve the quality of aquatic habitats at and adjacent to the site. • Although there will be a loss in the extent of terrestrial habitat, the quality of terrestrial habitat will improve by developing the site as proposed. • Faunal mortalities, most importantly of WLT are anticipated both during construction and operation, and extensive mitigation has been carefully planned to avoid this impact as far as possible. • A significant loss of sense of place and visual intrusion are anticipated. • The development will provide housing close to the City, and will include an inclusionary housing component. • The development will increase employment and wealth, improve skills, increase government revenue, provide densification and facilitate improved connectivity, transport systems and TRUP implementation, improve the public amenity value of the site. • The development may increase the pace of local gentrification to a limited extent. • The design (layout) of the development has been informed by extensive input by specialists, and therefore a number of mitigation measures are inherent in design, or must be incorporated into detailed design. These components of the design of the development are recommended as conditions of authorisation. • Although heritage and visual impacts cannot be fully mitigated by on-site mitigation (i.e. there will be significant residual visual impacts), strict implementation of the EMPr will ensure that ecological benefits are enhanced, and that potential impacts are mitigated to acceptable levels. • Heritage and visual impacts have been assessed to be acceptable by specialists, and there will be a net benefit to ecological systems at, and adjacent to, the site if the preferred development alternative is selected. Furthermore, socio-economic benefits to local communities and to the CoCT will be significant. The proposal is therefore recommended for development. 		
<p>(ii) Has a map of appropriate scale been provided, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers?</p> <p>The only No-Go area for the entire construction period is the Raapenberg Wetland (other than when damage to existing retaining structures are repaired, as specified by the freshwater ecologist)</p> <p>Figure 49</p>	<p>YES</p>	<p>NO</p>

(iii) A summary of the positive and negative impacts that the proposed development and alternatives will cause in the environment and community.

Relevant observations with regard to the overall impact ratings, assuming mitigation measures are effectively implemented, are:

- The predicted *air quality* impact, associated with the generation of dust and resulting nuisance effects during construction is rated as *very low* for both alternatives.
- The predicted *noise* impact, associated with construction activities, is rated as *very low* for both alternatives.
- The predicted impact of increased flood hazard (significant damage to property and fatalities) is rated as *very low* for both alternatives.
- The predicted impacts on freshwater habitats (including wetlands) are generally rated as *low*.
- The predicted benefit of improved habitat quality and ecological functioning of the Liesbeek Canal is rated as *high* for the Riverine Corridor Alternative and *very low* for the Island Concept Alternative.
- The predicted benefit of improved habitat quality and ecological functioning of the original course of the Liesbeek River is rated as *low* for the Island Concept Alternative.
- The predicted impact of faunal mortalities (particularly WLT) is rated as *low* for both alternatives.
- The predicted benefits of improved aquatic fauna habitat quality and connectivity are rated as *low* for the Riverine Corridor Alternative.
- The predicted impact of a loss of terrestrial fauna habitat is rated as *low* for both alternatives.
- The predicted socio-economic benefits are significant, and outweigh potential impacts.
- The predicted impacts of delays to road users are rated as *low* and *medium* for both development alternatives.
- The predicted impact of a loss or damage to palaeontological or archaeological resources during construction is rated as *very low* for the Riverine Corridor Alternative.
- Although the development will affect the historical character of the site, there is a predicted net benefit of the Riverine Corridor Alternative to heritage resources.
- The predicted impact of a loss of structures at the site with heritage value is rated as *low* for both alternatives.
- The predicted impact of a change in historical setting of the SAAO is rated as *high* for the Riverine Corridor Alternative, and *very high* for the Island Concept Alternative.
- The predicted impact of altered sense of place from development of the site is rated as *medium* for both development alternatives.
- The predicted impact of visual intrusion from development at the site is rated as *medium* for both development alternatives.
- The predicted contribution of the development to cumulative increases in delays to road users is rated as *medium*.
- The predicted contribution of the development to a cumulative increase in gentrification is rated as *medium*.
- The predicted contribution of the development to the cumulative loss of the Liesbeek River floodplain as a heritage resource is rated as *medium*.
- The predicted contribution of the development to a cumulative loss in sense of place in the study area is rated as *medium*.



REDEVELOPMENT OF THE RIVER CLUB ECOLOGICAL SENSITIVITY

Path: G:\New Proj\478320_RiverClub EIA\8GIS\GISPROJ\MXD\2019\July2019\478320_Fig49_RiverClub EIA_EcologicalSensitivity_A4L_20190709.mxd

Data Source:	
1/50,000 Topographic Map Sheet 3318; Chief Directorate: National Geospatial Information (CD:NGI)	
Google Earth Imagery	
Scale:	
1:8 000 @ A4	
Projection:	Datum:
TM	WGS84
Central Meridian/Zone:	
Lo19	
Date:	Compiled by:
29/04/2019	FUBM
Project No:	Fig No:
478320	49
Revision: A	Date: 09 07 2019

Figure 49: Ecological Sensitivity



Figure 50: Heritage Sensitivity

5: IMPACT MANAGEMENT, MITIGATION AND MONITORING MEASURES

- (a) Based on the assessment, describe the impact management, mitigation and monitoring measures as well as the impact management objectives and impact management outcomes included in the EMPr. The EMPr must be attached to this report as Appendix H.

Impact	Impact Management Outcome
Construction Phase	
Air Quality	Prevent dust from causing a nuisance to local communities
Noise	Prevent noise from causing a nuisance to local communities
Ecological	Prevent water contamination and protect and enhance habitat quality
	Minimise the loss of riverine wetlands along the Black River margin
	Reduce faunal (mainly WLT) mortalities
	Improve aquatic and terrestrial habitat quality, and improve faunal connectivity
	Improve floral species composition
Socio- economic	Enhance the intensity of economic benefits on the local community and economy
Traffic	Reduce delays to road users
Cultural- historical	Prevent loss or damage to palaeontological and archaeological resources
	Mitigate the loss of structures on the site with heritage value
Visual	Maintain the sense of place
Operation Phase	
Hydrology	Prevent increased flood hazard on local communities (i.e. users of the Liesbeek Parkway)
Ecological	Improve the habitat quality and ecological functioning of the Liesbeek Canal
	Enhance the habitat quality and ecological functioning of the swale at the original course of the Liesbeek River
	Prevent changes to habitat quality and ecological functioning of the Raapenburg Wetland
	Prevent contamination of the Liesbeek and Black Rivers
	Prevent changes to habitat quality in rehabilitated areas
	Reduce faunal (mainly WLT) mortalities
Socio- economic	Enhance the intensity of economic benefits on the local community and economy
Traffic	Reduce delays to road users
Cultural- historical	Enhance the heritage value of the Liesbeek River floodplain
	Mitigate changes in historical setting of the SAAO
Visual	Mitigate changes to the sense of place of the site
	Mitigate and prevent visual intrusion, as far as possible

- (b) Describe any provisions for the adherence to requirements that are prescribed in a Specific Environmental Management Act relevant to the listed activity or specified activity in question.

No requirements of Specific Environmental Management Acts are relevant to the application.

- (c) Describe the ability of the applicant to implement the management, mitigation and monitoring measures.

Zenprop is one of the largest property investment and development companies in South Africa. Founded in 1998, it has a track record for excellence. Its property portfolio comprises a mix of retail, offices, industrial and warehousing, and hospitality.

Zenprop and the Indigo Group (the LLPT) will ensure that sufficient resources are committed to the implementation of the EMPr during all stages of the development, and will ensure monitoring of compliance as specified. The LLPT are committed to developing the site to the highest environmental standards, and to create a world-class mixed use development. Intrinsic to this vision is the rehabilitation of open areas at the site to increase their public amenity and ecological functioning.

The LLPT intend to retain ownership of the development in the long-term, and as such are in a position to ensure the continued compliance of environmental management to the specifications of the EMPr and EA.

- (d) Provide the details of any financial provisions for the management of negative environmental impacts, rehabilitation and closure of the proposed development.

The freshwater ecologist has recommended that the developer compile a detailed costing for implementation of rehabilitation efforts, landscaping and for ongoing management, including allowance for acquisition and planting and / or nursery propagation of sufficient locally indigenous plants to achieve the required landscaping objectives and emergency rehabilitation (e.g. in the event of a flood) prior to the commencement of construction.

- (e) Describe any assumptions, uncertainties, and gaps in knowledge which relate to the impact management, mitigation and monitoring measures proposed.

The conclusions of specialist studies and the EIA are based on the following key assumptions:

- The development will be developed as articulated in this report; and
- Strict compliance with the EMPr will be ensured.

SECTION H: RECOMMENDATIONS OF THE EAP AND SPECIALISTS

(a) In my view as the appointed EAP, the information contained in this BAR and the documentation attached hereto is sufficient to make a decision in respect of the listed activity(ies) applied for.	YES	NO
(b) If the documentation attached hereto is sufficient to make a decision, please indicate below whether, in your opinion, the listed activity(ies) should or should not be authorised:		
Listed activity(ies) should be authorised:	YES	NO
<p>Provide reasons for your opinion</p> <p>This BA Report has identified and assessed the potential biophysical and socio-economic impacts associated with the proposed redevelopment of the River Club, Observatory, Cape Town, taking into account the concerns of potentially affected stakeholders.</p> <p>In terms of section 31 (n) of NEMA, the EAP is required to provide an opinion as to whether the activity should or should not be authorised. In this section, a qualified opinion is ventured, and in this regard, the EAPs believe that sufficient information is available for DEA&DP to take a decision.</p> <p>The site is strategically located close to the CBD, and offers one of the last major development opportunities this close to the City. The site has been the subject of revitalisation initiatives for over a quarter of a century but none have been financially viable, leading to the persistent under-utilisation of the site.</p> <p>The project achieves a number of the CoCT's key city making imperatives, including densification and mixed-use development. Nevertheless, the project is located in a sensitive cultural landscape and is located in the floodplain of the Liesbeek and Black Rivers, is zoned as Private Open Space and the development conflicts with the Table Bay District Plan (for which an application for amendment has been submitted).</p> <p>In order to develop the site large portions must be infilled to above the 1:100 floodline, which will entail significant cost. The cost of the installation of services will also be high (see Appendix K2). The developer has investigated reasonable (mixed-use) development alternatives identified by stakeholders, and has assessed these to be not financially viable. The developer has further calculated that the GLA currently proposed is the minimum required to ensure financial feasibility (see Appendices K2 and K3), and as such, impacts associated with the change in character of the site cannot be avoided completely through layout or operational alternatives. In other words, residual impacts on the character of the site, the historical setting of the SAAO, and sense of place of the area are anticipated should the development proceed.</p> <p>The proponent has presented two financially feasible development alternatives: the Riverine Corridor Alternative and the Island Concept Alternative (as well as the No-Go Alternative) for assessment in this BA. An experienced specialist team comparatively assessed the impacts and benefits of the two development alternatives (see Appendix G). The HIA concluded that the impact of the "Island Concept Alternative" on the historical setting of the SAAO would be <i>significant</i>, but that the impacts of the Riverine Corridor Alternative (that steps back from the SAAO and restores the Liesbeek River Floodplain) on the historical setting of the SAAO are tolerable. The ecological benefits of the Riverine Corridor Alternative are also significantly higher than for the Island Concept Alternative.</p> <p>The specialist team and EAPs have not identified any fatal flaws associated with the Riverine Concept Alternative, and have assessed that (as well as residual impacts) there will be a number of socio-economic benefits to local communities and government, and that the immediately adjacent ecological environment will be improved.</p> <p>The LLPT is committed to ensuring that the development is operated to high standards, achieved through implementation of the recommended mitigation measures and ongoing monitoring of performance. The EAPs believe, and specialist studies and the BA Report demonstrates that, through effective implementation of detailed design and the stipulated mitigation measures, the adverse impacts can be reduced to tolerable levels, and that benefits are significant. The Riverine Corridor Alternative is therefore positively assessed for development.</p> <p>Ultimately, DEA&DP will need to consider whether to authorise the project, which brings significant economic and ecological benefits, but which will lead to irreversible (but acceptable) heritage and visual impacts, and is currently not consistent with zoning and the Table Bay District Plan (which are the subject of amendment applications).</p>		
(c) Provide a description of any aspects that were conditional to the findings of the assessment by the EAP and Specialists which are to be included as conditions of authorisation.		
<p>The following development component have been or will be incorporated into the design of the development through discussions with specialists and the developer. These components are assumed to form part of the project description, and are key to the pre-mitigation assessment of impacts, nevertheless, they have been incorporated into the EMP for reference. Additional mitigation measures to reduce the significance of impacts are also recommended, and are also included in the EMP.</p> <p>Ecology:</p> <ul style="list-style-type: none"> The current elevation of conservation areas, ecological corridors¹¹, the Liesbeek Canal, original channel of the Liesbeek River (unless the Riverine Corridor Alternative is selected) open space swales and open space areas will be retained as far as possible; 		

¹¹ In this context, an ecological corridor is defined as a corridor that allows for the unrestricted movement of fauna.

- Sewerage pump stations will be installed in plenum chambers in basements with a 6 hour overflow capacity;
- Gabions will be installed on the edges of roads on the outer perimeter of each development precinct;
- An ecological corridor of at least 10 m will be retained along the southern property boundary of the site;
- An ecological corridor of at least 10 m will be retained between the Berkley Road Extension and the northern building line of the site (with the exception of a single choke-point at the north-western corner of the development);
- A recreational buffer area of at least 65 m wide will be retained between Precinct 1 and Precinct 2;
- At least two culverts will be installed under the Berkley Road Extension to allow for faunal movement;
- For the Black River Bridge:
 - Two box culverts will be installed above the 1:50 year floodline on each bank of the river to facilitate faunal passage through the infilled road structure;
 - Gabion baskets will be installed on the road edge where the bridge ties into the existing Berkley Road; and
 - Unlined grassed channels will channel stormwater from Berkley Road into the Black River.
- For the recreational buffer area running through the development area between Precinct 1 and Precinct 2:
 - At least 40% of this corridor will be managed as an indigenous planted habitat without lawns or pathways and designed to provide continuous cover and protection for the movement of western leopard toads through the corridor;
 - The corridor will be shaped up steeply towards the surface of the road that crosses this area, and a gabion toad barrier will be provided along the edge of both sides of the road to prevent WLTs from climbing up onto the road; and
 - Three culverts will be installed under the road that crosses this area at a location to be agreed with by a wetland or faunal specialist.
- For the Riverine Corridor Alternative:
 - At the Liesbeek Canal:
 - The western wall of the canal and its base will be removed;
 - Stepped gabions will be installed on the remaining eastern canal wall to a depth slightly lower than the wet season base-flow level;
 - Gabions along the eastern canal wall will be vegetated with sedges and areas of higher spatial diversity will be provided (e.g. by adjusting installation marginally);
 - A riverine corridor of at least 25 m will be provided for channel flow up to the 1:1 year return interval flood, including a short low bank, shaped roughly to a slope of 1:4 to create a slightly elevated floodplain to accommodate within-year floods;
 - The river will be allowed to meander in this corridor naturally;
 - The short low bank will be vegetated with *Phragmites australis* reedbed and other indigenous plant species typical of lowland rivers in this area;
 - The within-year floodplain / channel margin will be vegetated with a range of indigenous plant species (it is likely that *Phragmites australis* reeds and possibly *Typha capensis* bulrush would dominate);
 - An ecological corridor of at least 15 m width at its narrowest pinch-point in the south-eastern corner of the development will be established and retained from upslope of the 1:1 year floodline, and this area will be vegetated with appropriate low-growing indigenous vegetation for at least the first 7.5 m and other indigenous riparian vegetation thereafter – where space permits the ecological corridor will extend westwards well beyond the 15m width (that is, in areas as shown in the layout plan excluding the above pinch point);
 - A 1 m high gabion wall will be installed at the western boundary of the ecological corridor to restrict the movement of Western Leopard Toad into the development area;
 - A recreational buffer area and pathways will be installed to east of the ecological corridor;
 - A 1 m high gabion wall will be installed at the western boundary of the recreational buffer area to further restrict the movement of Western Leopard Toad into the development area;
 - The western bank of the earth channel downstream of the existing canal will be shaped all the way to the Black River to mimic the rehabilitated profile upstream, and this area will be planted accordingly with locally indigenous vegetation;
 - Existing willow trees will be replaced along on the western bank of the earth channel downstream of the existing canal with indigenous riverine trees that will supply roosting and /or nesting areas to riverine birds; and
 - The western bank of the Black River where it fronts the site will be shaped to the approval of an aquatic ecologist.
 - At the original course of the Liesbeek River:
 - Infill the channel to create a wide vegetated open swale with ecological, amenity and stormwater polishing functions;
 - Provide terrestrial and breeding season habitat for WLTs in this area;
 - Allow stormwater to daylight as open channel vegetated bioretention swales;
 - Place low weirs at intervals in the swale behind which water can back up and create seasonally inundated areas;
 - Install eight culverts under the Link Road Crossing of the swale to allow for faunal movement;
 - Include three additional culverts at the Liesbeek swale crossing of the Berkley Road on the eastern terrestrial margins of the swale to allow faunal movements during flood events (i.e. seven culverts in total);
 - Pipe stormwater flows that currently enter the channel from urban areas to the west of Liesbeek Parkway under the swale;
 - Step the eastern (development) side of the swale up steeply using gabions to discourage western leopard toad passage into the development;
 - Use toad barriers edging the rehabilitated swale as the foundations for pathways; and

- Slope sections of the western bank of the swale gradually up to a walkway, but retain sections of steep bank for bird nesting habitat – walkways must include toad barriers to restrict toad passage from the swale onto Liesbeek Parkway.
- For the Island Concept Alternative:
 - At the Liesbeek Canal:
 - Recreational buffer area with a width of at least 20 m will be retained along the western bank of the canal where it fronts the site; and
 - Gum trees will be replaced with locally indigenous plants and trees.
 - At the original course of the Liesbeek River:
 - Allow the Link Road Bridge and the Berkley Road Bridge to span the rehabilitated watercourse on piers, including buffer areas.
 - The eastern channel bank will be graded to a slope of 1:5 (or flatter) over a distance of about 7.5 m,
 - An ecological corridor of about 7 m will be provided to the east of the graded bank and this area will be planted with locally indigenous vegetation (with the emphasis on habitat creation);
 - A 20 m wide recreational buffer area will be retained to the east of east of the ecological corridor; and
 - The low-lying area will be stepped up steeply up to the development platform with gabion baskets to discourage western leopard toad passage into the development.

Visual:

- A “green” setback will be retained along the banks of the Liesbeek River and the Black/Salt River.
- Visual (green) corridors connecting with the Black River will be retained.
- Westerly views towards Devils Peak will be utilised in movement routes.
- Easterly views across Raapenberg Bird Sanctuary will be utilised.
- The Raapenberg Bird Sanctuary will be linked visually with the portion of the site bordering the Sanctuary.
- 20% of the total floor space (~30 000 m²) will be allocated for residential use.
- 20% (6 000 m²) of residential floor space will be allocated for inclusionary housing.

Heritage and Urban Design

- The canalised portion of the Liesbeek River will be restored as an ecologically viable riverine corridor, and a meaningful sense of ‘river-ness’ will be established;
- The sense of place of the historically significant topography of the Liesbeek River will be restored (by implementing design recommendations of the freshwater ecologist at the Liesbeek Canal);
- The development will step back and be built to a height that responds to the shape established by the banks, trees and buildings of the SAAO;
- A substantial setback immediately north of the confluence of the Liesbeek and Black Rivers will be retained to celebrate the likely location of a precolonial river crossing;
- The shape of the original course of the Liesbeek River will be reflected in the design of the development; and
- The following building design principles will be followed:
 - Buildings on the Berkley Road (northern) part of the development should have greater bulk and height than the southern part opposite the SAAO site;
 - Buildings at precinct entrances should be designed to reflect gateways and emphasise the hierarchy of spaces in the precinct;
 - Buildings on prominent corners and edges should contain architectural features that highlight the significance of these buildings;
 - Along internal streets, emphasis shall be placed on the interface between buildings and the public realm in order to promote an attractive and pedestrian friendly urban environment;
 - The design of buildings around public accessible spaces shall be appropriately scaled and contribute to the creation of safe spaces; and
 - Any parking structures that are above finished ground level shall be screened or shall incorporate an active interface so that hard edges and blank walls are avoided.

(d) If you are of the opinion that the activity should be authorised, please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an environmental authorisation.		
Key recommendations, which are considered essential, are:		
<ol style="list-style-type: none"> 1. Implement the EMPr to guide detailed design, construction, operation and maintenance activities and to provide a framework for the ongoing assessment of environmental performance; 2. Appoint an experienced Environmental Control Officer (ECO) with a qualification and experience in freshwater ecology to oversee the implementation of the EMPr and supervise any construction activities in particularly sensitive habitats; 3. Get sign-off from a freshwater ecologist for all changes to the project description that may affect freshwater resources (although none are anticipated); 4. Prevent uncontrolled access to the Raapenberg Wetland during construction and operations; 5. Obtain other permits and authorisations as may be required, including, but not limited to: <ol style="list-style-type: none"> a. WUL; b. Rezoning; and c. Amendment to the District Plan. 		
(e) Please indicate the recommended periods in terms of the following periods that should be specified in the environmental authorisation:		
i.	the period within which commencement must occur;	5 years
ii.	the period for which the environmental authorisation is granted and the date on which the development proposal will have been concluded, where the environmental authorisation does not include operational aspects;	15 years
iii.	the period for which the portion of the environmental authorisation that deals with non-operational aspects is granted; and	N/A
iv.	the period for which the portion of the environmental authorisation that deals with operational aspects is granted.	N/A

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SECTION I: APPENDICES

The following appendices must be attached to this report:

APPENDIX		Confirm that Appendix is attached	
Appendix A:	Locality map	✓	
Appendix B:	Site development plan(s)	✓	
	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	✓	
Appendix C:	Photographs	✓	
Appendix D:	Biodiversity overlay map	✓	
Appendix E:	Permit(s) / license(s) from any other Organ of State, including service letters from the municipality.	✓	
	Appendix E1:	Copy of comment from HWC.	Final BAR
	Appendix E2	Confirmation of electrical supply capacity	Final BAR
	Appendix E3	Confirmation of sewage treatment capacity	Final BAR
	Appendix E4	Confirmation of potable water supply capacity	Final BAR
	Appendix E4	Confirmation of capacity to receive waste	Final BAR
Appendix F:	Public participation information	✓	
Appendix F1	Copy of the register of I&APs	✓	
Appendix F2	Comments and responses summary	Final BAR	
Appendix F3	Proof of notices	✓	
Appendix F4	Advertisements	✓	
Appendix G:	Specialist Report(s)		
Appendix G1	Traffic Impact Assessment	✓	
Appendix G2	Biodiversity Impact Assessment	✓	

Appendix G3	Surface Water Hydrology Impact Assessment	✓
Appendix G4	Socio-economic Impact Assessment	✓
Appendix G5	Heritage Impact Assessment	✓
Appendix G6	Visual Impact Assessment	✓
Appendix H :	EMPr	✓
Appendix I:	Additional information related to listed waste management activities (if applicable)	N/A
Appendix J:	If applicable, description of the impact assessment process followed to reach the proposed preferred alternative within the site.	✓
Appendix K:	Any Other (if applicable).	
Appendix K1	Planning Policy Overview	✓
Appendix K2	Alternatives Analysis	✓
Appendix K3	Property Market Comment	✓
Appendix K4	Services Report	✓
Appendix K5	Electrical Services Report	✓
Appendix K6	Property Market Analysis	✓
Appendix K7	Executive Summary	✓

SECTION J: DECLARATIONS

THE APPLICANT

Note: Duplicate this section where there is more than one applicant.

I Jody Aufrechtig..... in my personal capacity or duly authorised thereto, hereby declare/affirm all the information submitted as part of this Report is true and correct, and that I –

- am aware of and understand the content of this report;
- am fully aware of my responsibilities in terms of the NEMA, the EIA Regulations in terms of the NEMA (Government Notice No. R. 982, refers) (as amended) and any relevant specific environmental management Act and that failure to fulfil these requirements may constitute an offence in terms of relevant environmental legislation;
- have provided the EAP and Specialist, Review EAP (if applicable), and Review Specialist (if applicable), and the Competent Authority with access to all information at my disposal that is relevant to the application;
- will be responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority;
- will be responsible for the costs incurred in complying with the conditions that may be attached to any decision(s) issued by the Competent Authority;

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant:

J. Aufrechtig

Name of Organisation:

LLPT

Date:

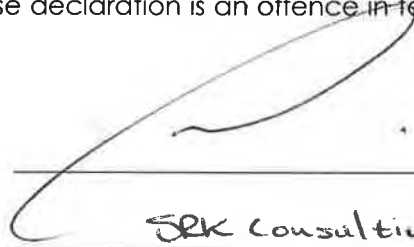
11/07/19

THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, Matthew Law....., as the appointed EAP hereby declare/affirm:

- the correctness of the information provided as part of this Report;
- that all the comments and inputs from stakeholders and I&APs ~~have been~~ will be included in this Report;
- that all the inputs and recommendations from the specialist reports, if specialist reports were produced, have been included in this Report;
- any information provided by me to I&APs and any responses by me to the comments or inputs made by I&APs;
- that I have maintained my independence throughout this EIA process, or if not independent, that the review EAP has reviewed my work (Note: a declaration by the review EAP must be submitted);
- that I have throughout this EIA process met all of the general requirements of EAPs as set out in Regulation 13;
- I have throughout this EIA process disclosed to the applicant, the specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared as part of the application;
- have ensured that information containing all relevant facts in respect of the application ~~was~~ will be distributed or ~~was~~ will be made available to I&APs and that participation by I&APs ~~was~~ will be facilitated in such a manner that all I&APs ~~were~~ will be provided with a reasonable opportunity to participate and to provide comments;
- ~~have~~ will ensure that the comments of all I&APs ~~were~~ will be considered, recorded and submitted to the Department in respect of the application;
- have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, if specialist inputs and recommendations were produced;
- have kept a register of all I&APs that participated during the PPP; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the EAP:



Name of Company:

SRK Consulting (Pty) Ltd

Date:

11/07/2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, Elizabeth (Liz) Day, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

Freshwater Consulting cc

Date:

7 July 2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, SCOTT MASSON, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

SRK CONSULTING

Date:

05 / 07 / 2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, STEPHEN TOWNSEND, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

STEPHEN TOWNSEND, ARCHITECT/CONSERVATIONIST.

Date:

5 July 2019.

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, JUE REUTHER, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

SEK CONSULTING

Date:

08/07/2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I Lloyd Fisher-Jeffes as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I :

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

Aurecon

Date:

8-7-2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, MICHAEL JOHN SHAND as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:

M. J. Shand

Name of Company:

AURECON

Date:

8-7-2019

THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I Tim Hart....., as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I :

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:

Tim Hart

Name of Company:

ACO Associates CC

Date:

8 July 2019

SRK Report Distribution Record

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Client	LLPT	15	1 x HC		
Matthew Law	SRK	16	1 x HC		
SRK Library	SRK	17	1 x CD		
Website and various	SRK	18	Pdf		

Approval Signature:

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