Figure 2.43. View of Pretoria CBD from SG Lourens Nurse College, ablewiki.ac.za, 2010.

Figure 2.44. View of CBD from Prinshof Cerebral Palsy School, ablewiki.ac.za, 2010.

Figure 2.45. Industrial buildings in Oumashoop Street and Soutpansberg Road. Author, 2016.

Figure 2.46. Department of Environmental Affairs facade. Author, 2016.

2.5 SITE: PROGRAMMATIC CONTEXT

2.5.1 RIVER SPACE

The taxi rank at the end of Dr Savage Road and adjacent to the bridge crossing the Apies River, located closer to the city serves as a social gathering space where informal trading takes place. These spaces may have developed informally due to the surrounding urban activity. Recreational amenities are limited along the river. The Pretoria Zoo, is visited by locals and tourists. The street furniture adjacent to the taxi rank and considered as part of the public-environmental interface is in a neglected state.

2.5.2 OPEN SPACE

Although the site is considered as part of the Prinshof Medical District of Pretoria, the surrounding institutions do not instigate collective resource use or interaction as confirmed by the site superintendent of Netcare Femina Hospital, Mrs. Thabethe, (2016). The institutions are aptly located for potential to occur. The site exhibits a programmatic openness which can be seen as an opportunity to connect the various programs located in the area and to regenerate a part of the city (see Figure 2.47). The site is dominated by health institutions, however, the Technikon of Pretoria, Department of Art, is situated on the western part of the site.

2.5.3 BUILT SPACE

Buildings are mostly single storey in height with a few double storeys (see Figure 2.43). Higher buildings are found towards the CBD. The use of steel sheeting as a roofing material is ubiquitous (see Figure 2.45). Most residential building roofs are hipped. Walls are mostly white painted plaster, some with face brick. The use of face brick in some of the multi-storey commercial buildings is not rare. The land use is owned by institutional facilities. This includes health care and educational facilities as well as a site for a telecom company. The educational facilities are focussed on the disabled and on educating people in the medical profession. Two schools are situated on the site, both for the disabled. Tshwane University, Department of Arts are also situated on the site. The northern part of the greater site is defined by the Department of Environmental Affairs (see Figure 2.46). Adjacent building programs include (see Figure 2.47):

- Netcare Femina Hospital
- Occupational Therapy Centre
- SG Lourens Nursing College
- Prinshof School for Cerebral Palsea Children
- Medical Research Council

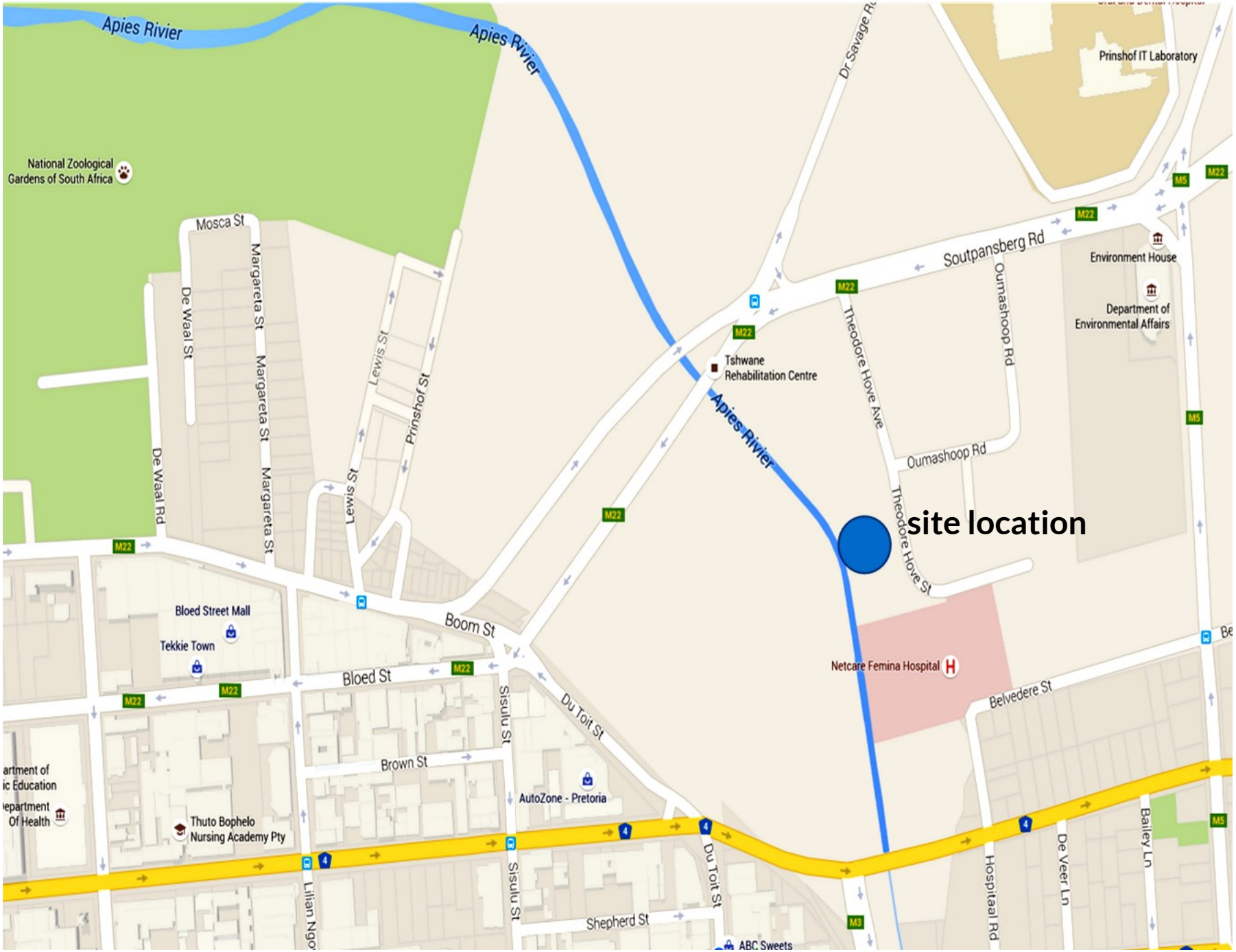


Figure 2.47. Overview of functions in larger site context. google.maps.com (adaptation), 2016.

2.6 SITE: HISTORICAL CONTEXT

2.6.1 RIVER SPACE

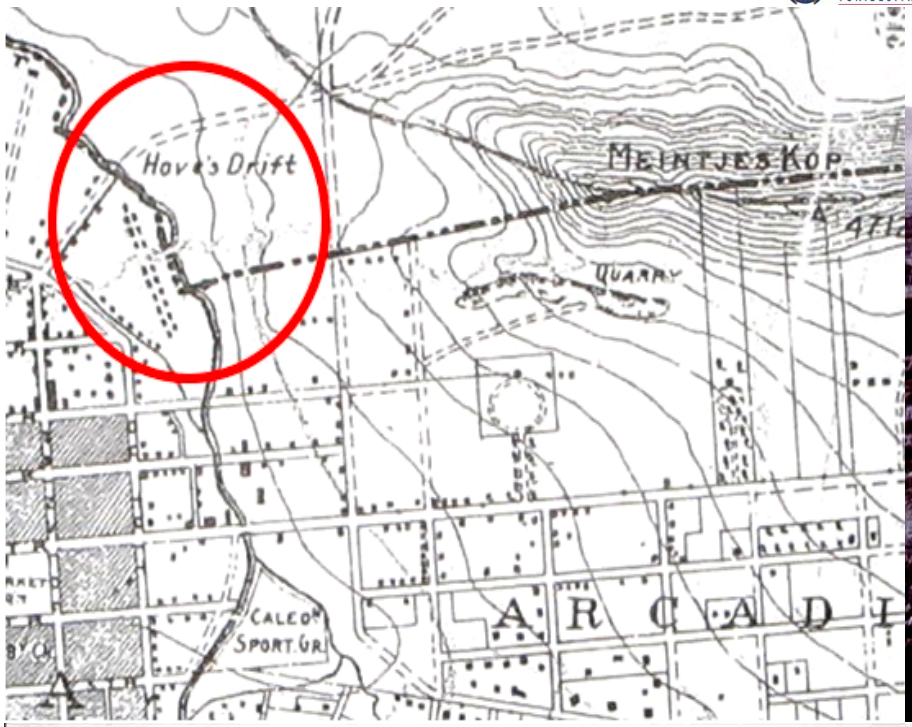
The site was historically known as Hove's Drift (Rosa Swanepoel Collection, 2008). It is specifically situated where Prinsloo Street and Bloed Street presently join with Dr Savage Road (see Figure 2.47), south of the Steve Biko Academic Hospital (then called the H.F. Verwoerd Hospital). Hove's Drift was well known to travellers during the 1800s and was named after Mr Hove, who had a mill at the drift (See Figure 2.48). Hove's Drift provided access across the Apies River by connecting central Pretoria to the north of Pretoria. In 1932, Dr Savage Street Bridge, named in 1935 after Dr S.R. Savage, who was mayor of Pretoria from 1907 to 1908, was built by Bain and Proudfoot Civil Engineers (Van der Waal Collection, 1999).

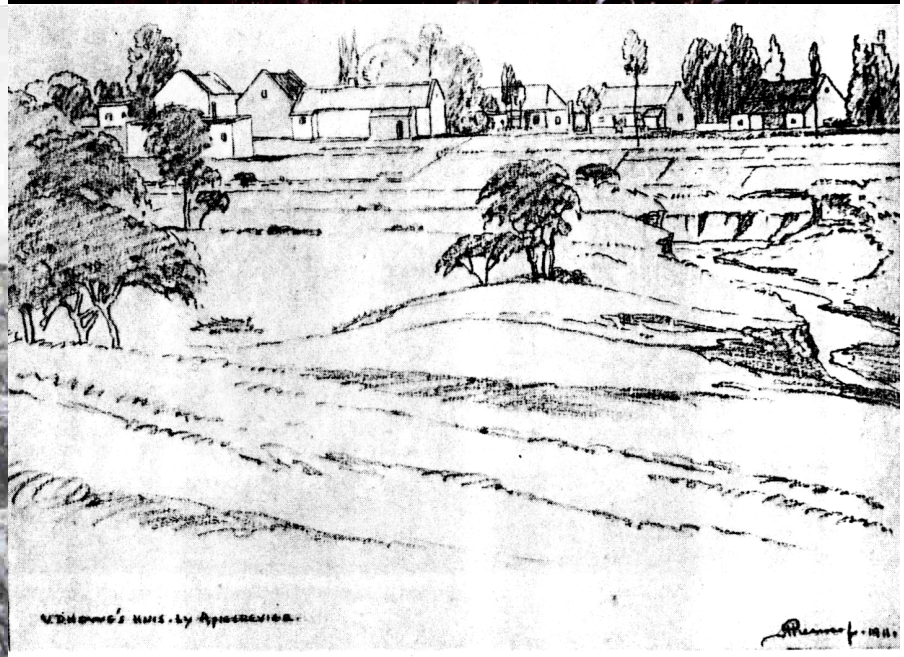
2.6.2 OPEN SPACE

In the 1900s, the area served as the Prinshof Experimental Station for the growth of indigenous horticulture (Van der Vaal Collection, 1999). The property on the west bank was owned by Theodore Hove (1834-1906) (Van der Waal Collection, 1999). A linocut work by Hendrik Pierneef exhibits the Union Buildings and the surrounding area in 1925. The site's natural and agricultural setting remained predominately the same until 1910, when it was allocated as a refugee camp in which living conditions were poor. After existing buildings were demolished, Prinshof was rebuilt as a medical district after the 1930s by the State (see Figure 2.49 - 2.52) Three foundation pads, shown in Figure 2.40, which are located below Oumashoop Street, are estimated to be from this period (also see Figure 2.53).

2.6.3 BUILT SPACE

This area held a British army camp during the South African War (1899-1902). The area was called Prinshof, after Joachim Prinsloo (Van der Waal Collection, 1999). A number of historical elements or buildings exist in the precinct in isolation, as shown by Figure 2.49. The Prinshof Cerebral Palsy School lies on the western edge of the Tshwane University of Technology Visual Arts Department (see Figure 2.50), and, on the eastern bank of the Apies River lies the SG Lourens College of Nursing (see Figure 2.51 and Figure 2.52). In 1943, the Prinshof School was designed by Basil South in association with Rees Poole Architects and is a typical example of the Modern movement in architecture (Van der Waal Collection, 1999).





Jacob Pierneef: Van der Hove's huis by Apiesrivier 1911

Figure 2.48. Hove's Drift, Rosa Swanepoel Collection, 2008.

Figure 2.49. Pretoria Layout in the 1960's. University of Pretoria Afrikana collection, 2016.

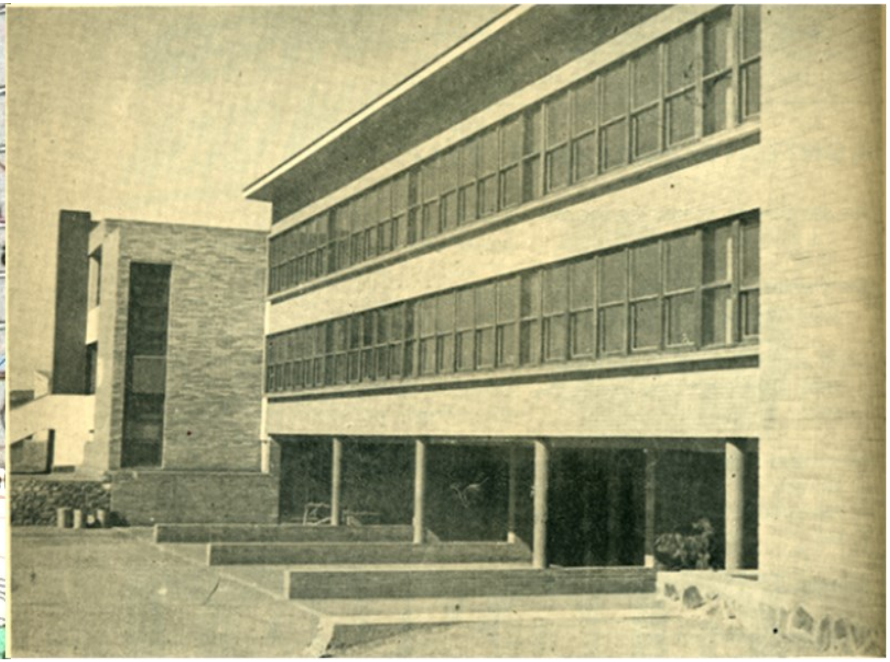


Figure 2.50. Old photograph of the Visual Arts Technikon, www.ablewiki.co.za, 2016.

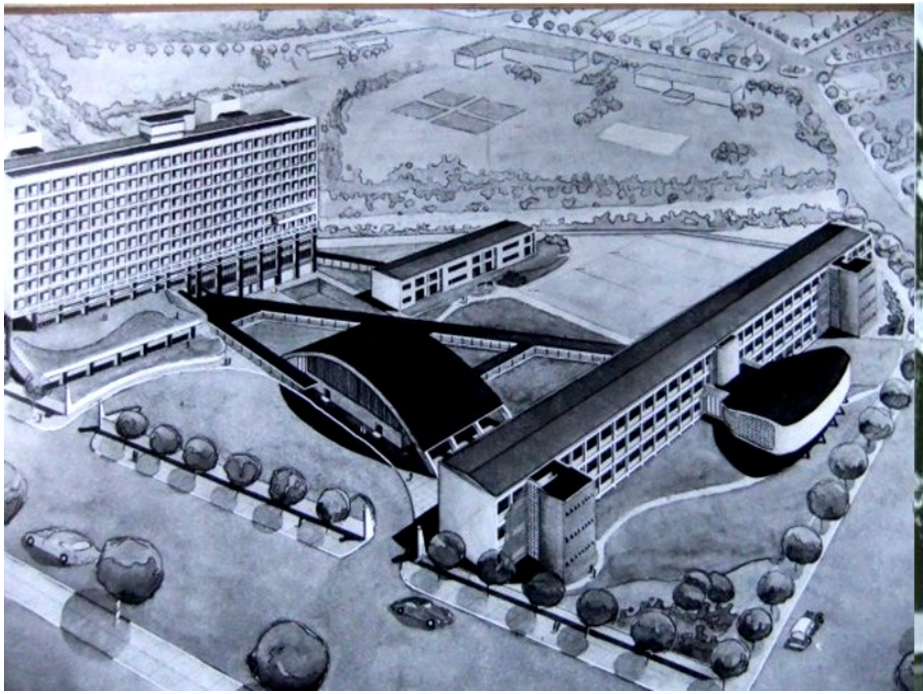


Figure 2.51. Photo-montage of the SG Nursing College, www.ablewiki.co.za, 2016.

Figure 2.52. Old photograph of the SG Nursing College, www.ablewiki.co.za, 2016.

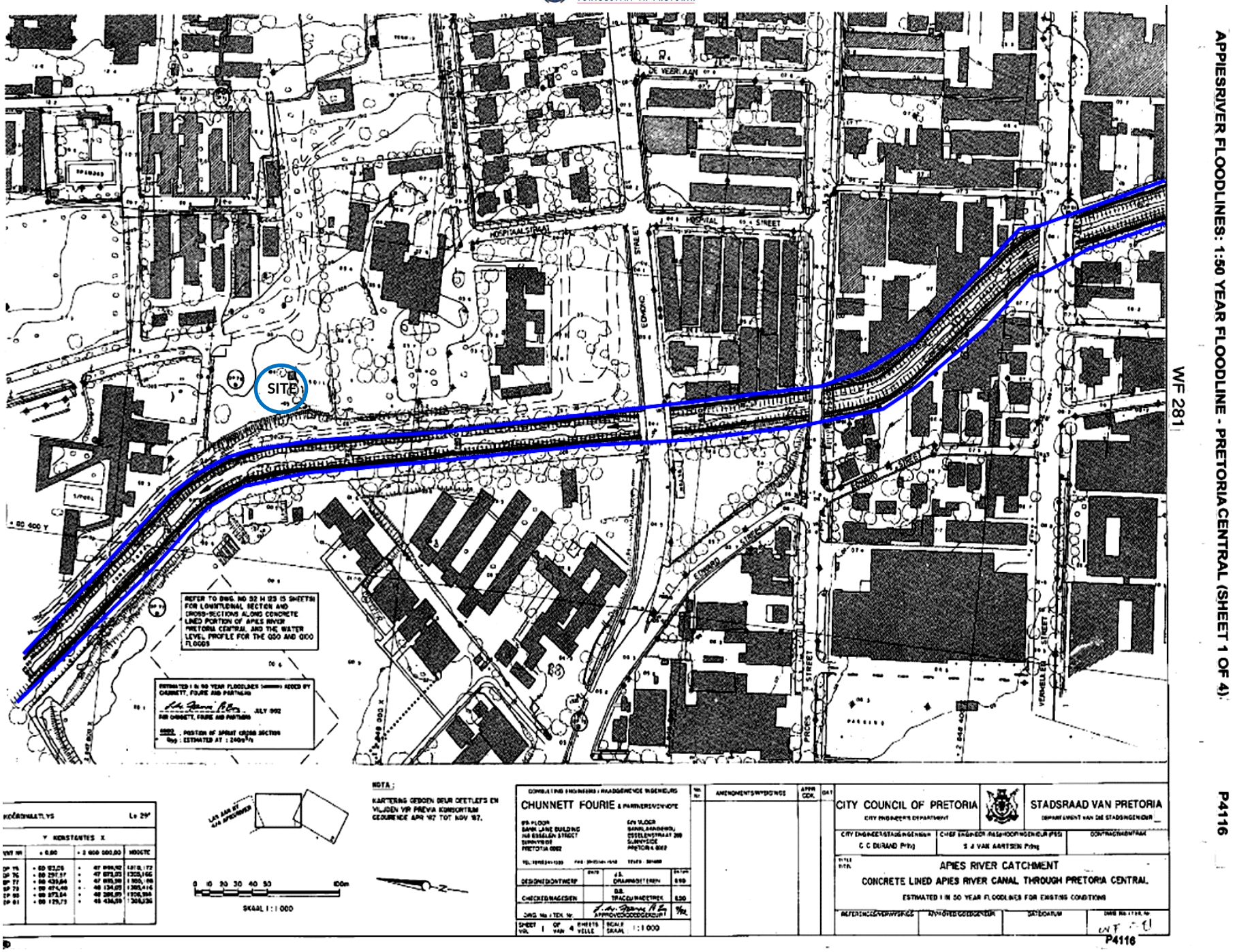


Figure 2.53. Apies River Channel Engineering Layout Drawings with 50 year flood lines, Tshwane Municipality Storm water Department, 2016.

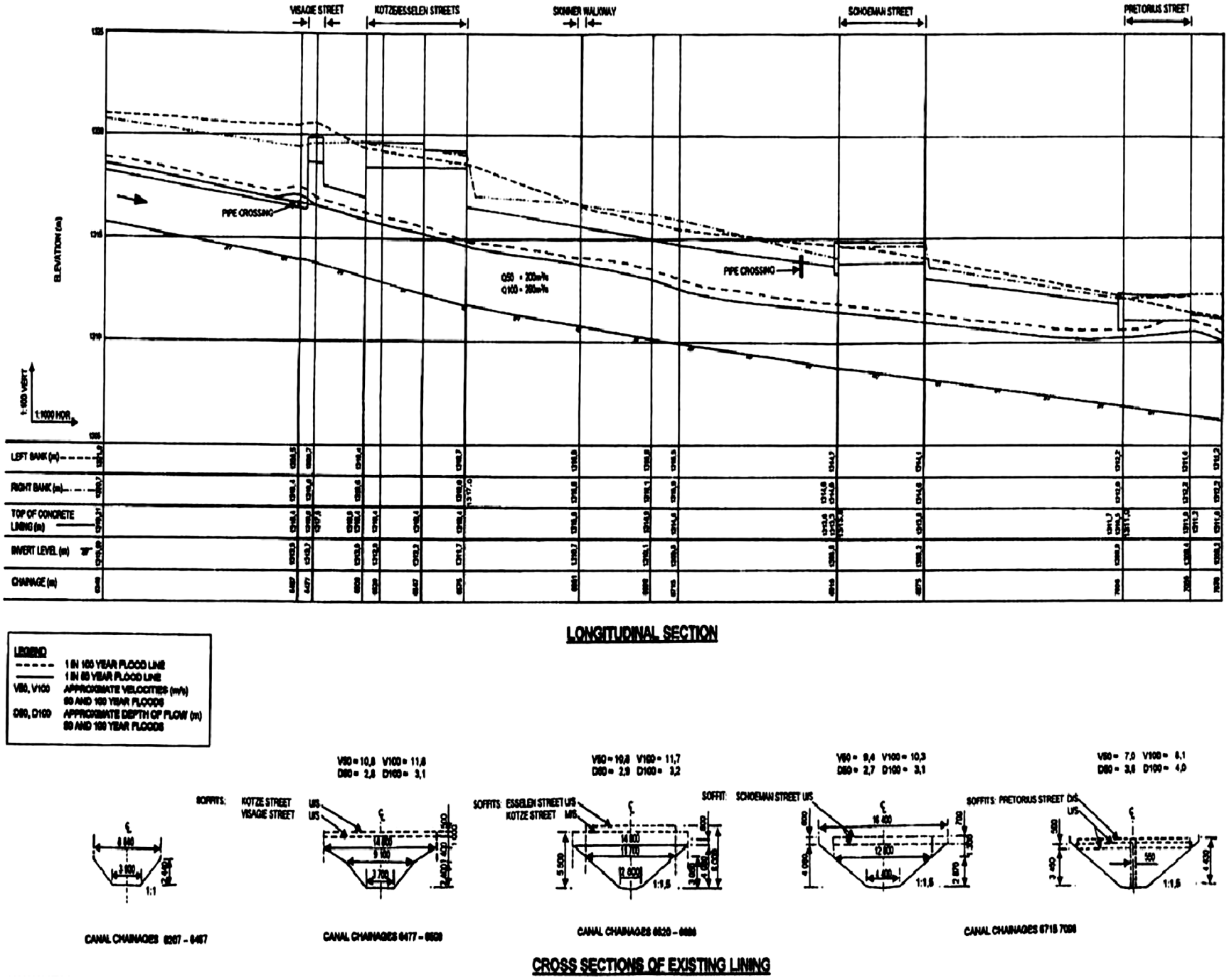
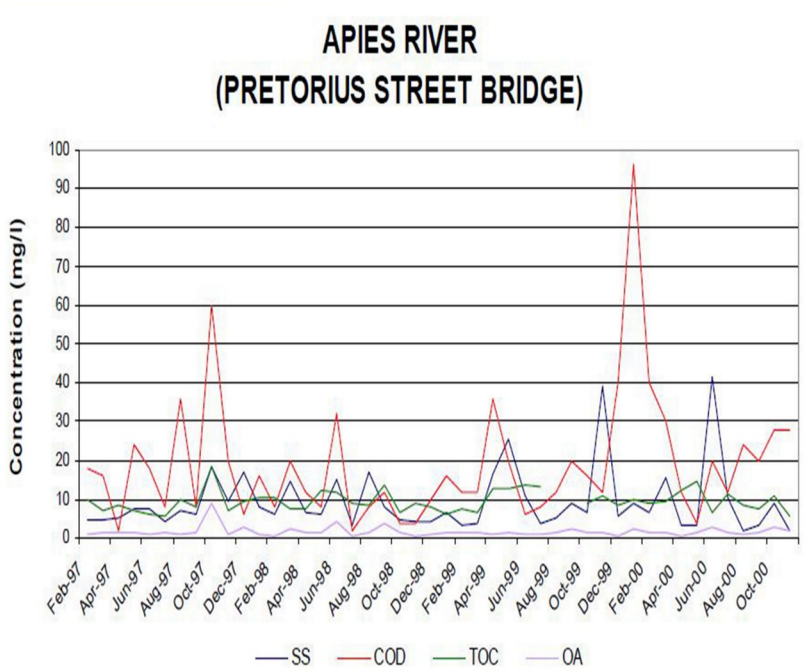


Figure 2.54. Apies River Channel Engineering Section Drawings, Tshwane Municipality Storm water Department, 2016.

Analysis	1997	1998	1999	2000	Average
Suspended Solids (mg/l)	8.36	8.13	11.32	9.65	9.37
pH	8.41	8.57	8.18	8.42	8.39
Conductivity (mS/m)	48.41	43.77	42.70	49.39	46.07
Chloride (mg/l)	38.09	31.67	32.50	34.91	34.29
OA (mg/l)	2.11	1.61	1.28	1.71	1.68
COD (mg/l)	19.64	11.33	17.50	28.55	19.25
Ammonia (mg/l)	0.18	0.14	0.08	0.13	0.14
Phosphate (mg/l)	0.32	0.18	0.09	0.10	0.17
Nitrate Nitrogen as N (mg/l)	3.05	2.28	2.23	3.35	2.73
TOC (mg/l)	8.90	9.57	10.13	9.70	9.57
DO (mg/l)	8.57	7.65	7.34	6.13	7.42
Temperature (°C)	15.76	19.87	19.68	22.49	19.45
E. coli	12.64				

Walker Spruit before Apies River	1997	1998	1999	Average
Suspended Solids (mg/l)	49.78	13.50	8.47	23.92
pH	8.44	8.56	8.19	8.40
Conductivity (mS/m)	49.13	44.59	40.85	44.85
Chloride (mg/l)	37.45	39.83	37.17	38.15
OA (mg/l)	5.07	1.83	2.03	2.98
COD (mg/l)	40.44	14.17	24.67	26.42
Ammonia (mg/l)	0.33	0.16	0.08	0.19
Phosphate (mg/l)	0.46	0.17	0.10	0.24
Nitrate Nitrogen as N (mg/l)	2.41	2.21	1.74	2.12
TOC (mg/l)	15.06	9.48	10.61	11.72
DO (mg/l)	8.20	8.09	7.36	7.88
Temperature (°C)	15.89	19.74	19.39	18.34
E. coli	18.64			



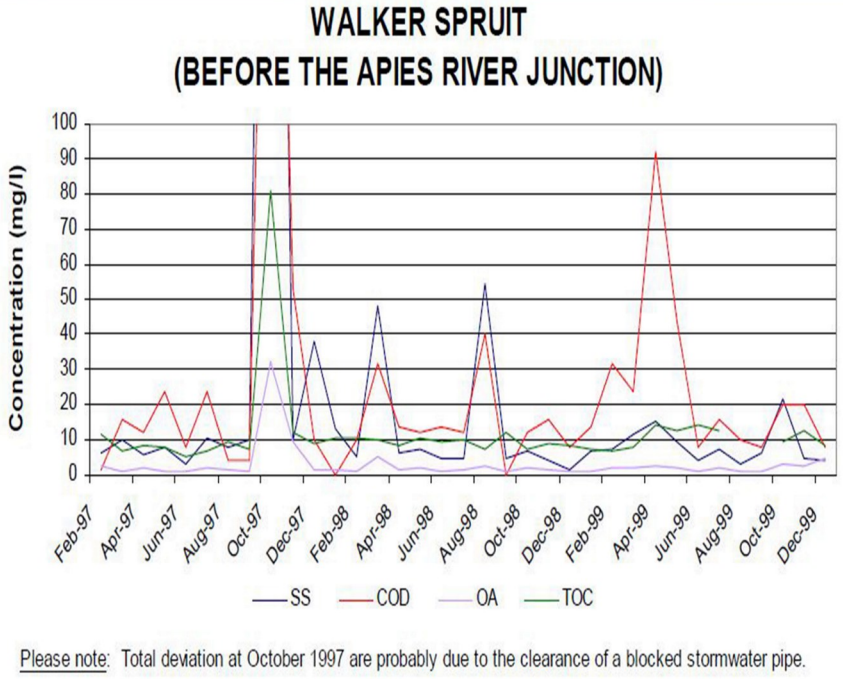


Figure 2.55. Water quality of the Apies River at the Pretorius Street Bridge and Walkerspruit before the Apies River Junction, Ahlers, T. pg. 117, 2006.

2.7 SITE: ANALYSIS MAPPING

2.7.1 INTRODUCTION

In addition to the physical condition since the construction of the Apies River channel (see Figure 2.53 and 2.54) and its water quality, (see Figure 2.55) six spatial and elemental layered mapping exercises were investigated. This mapping technique is similarly illustrated in the manner the Kallang River is mapped as part of an overall urban storm water decentralisation strategy (see Figure 2.56). As mentioned below, represent the current spatial conditions are mapped on site with regard to which natural and man-made systems can potentially intersect.

2.7.2 HYDROLOGICAL LAYER

There are potential zones for capturing rainwater, on-site groundwater, storm water, and sewer opportunities around the site (see Figure 2.57). Natural drainage lines intersect above ground with the nodes of these systems. The roofs of buildings show significant potential for capturing water because of their vast surface area and because there is existing rainwater run-off infrastructure.

2.7.3 HISTORICAL LAYER

The various buildings on site can be classified according to the following categories: natural setting, vernacular architecture, Modernist, new builds, temporary, abandoned, and sites of demolition (see Figure 2.58). These classifications provide a sense of the larger and more relative chronic continuum of the urban fabric with regard to its history and the principles underpinning the respective building periods.

2.7.4 EXPERIENTIAL LAYER

Daily movement patterns, sites where production occurs and where occupants relax during breaks, viewpoints, pollution nodes, and points where memory responsive space exists can be found on the site (see Figure 2.59).

2.7.5 FUNCTIONAL LAYER

Building functions and footprints, erf boundaries, motorways, access points, transport nodes, and the electrical system are part of the functional layer of the site (see Figure 2.60).

2.7.6 NATURAL LAYER

Predominantly open-earth sites (see Figure 2.61) which show signs of recent storm water flooding and open lawns are located on both sides of the Apies River. A significant amount of shade and large tree canopies exist alongside the river. The types of trees which were predominantly identified on the site include Sideroxylon Inerme (Northern White Milkwood), Pericopis Angolensis (Muwanga tree), Searsia Lancea, and Searsia Leptodictya (Mountain Karee tree).

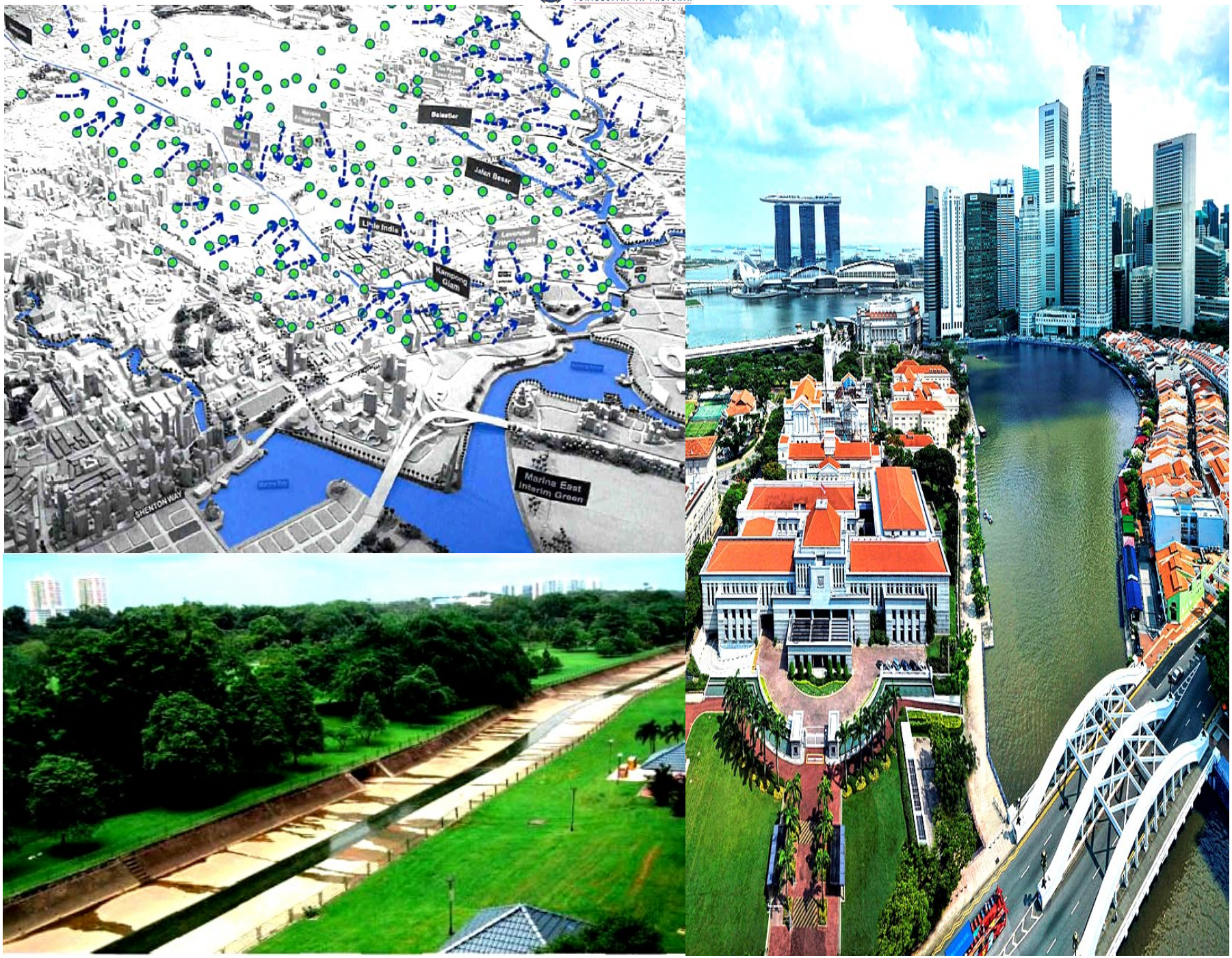


Figure 2.56. Mapping the Kallang River in Singapore as part of storm water decentralisation strategy. p.37, Ryan, 2010.

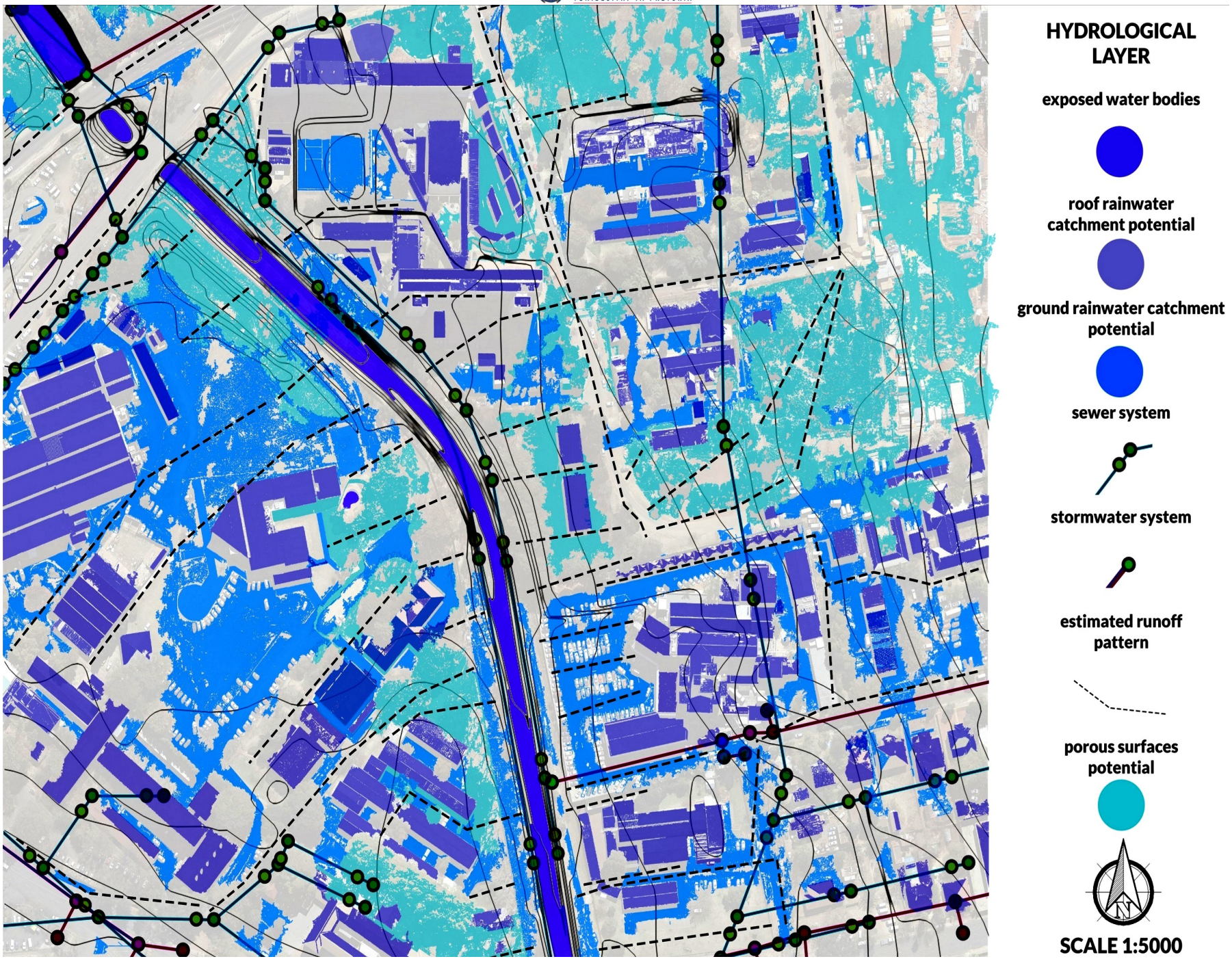


Figure 2.57. Site Analysis Mapping: Hydrological layer. ArcGIS layers with author's adaptation, 2016.

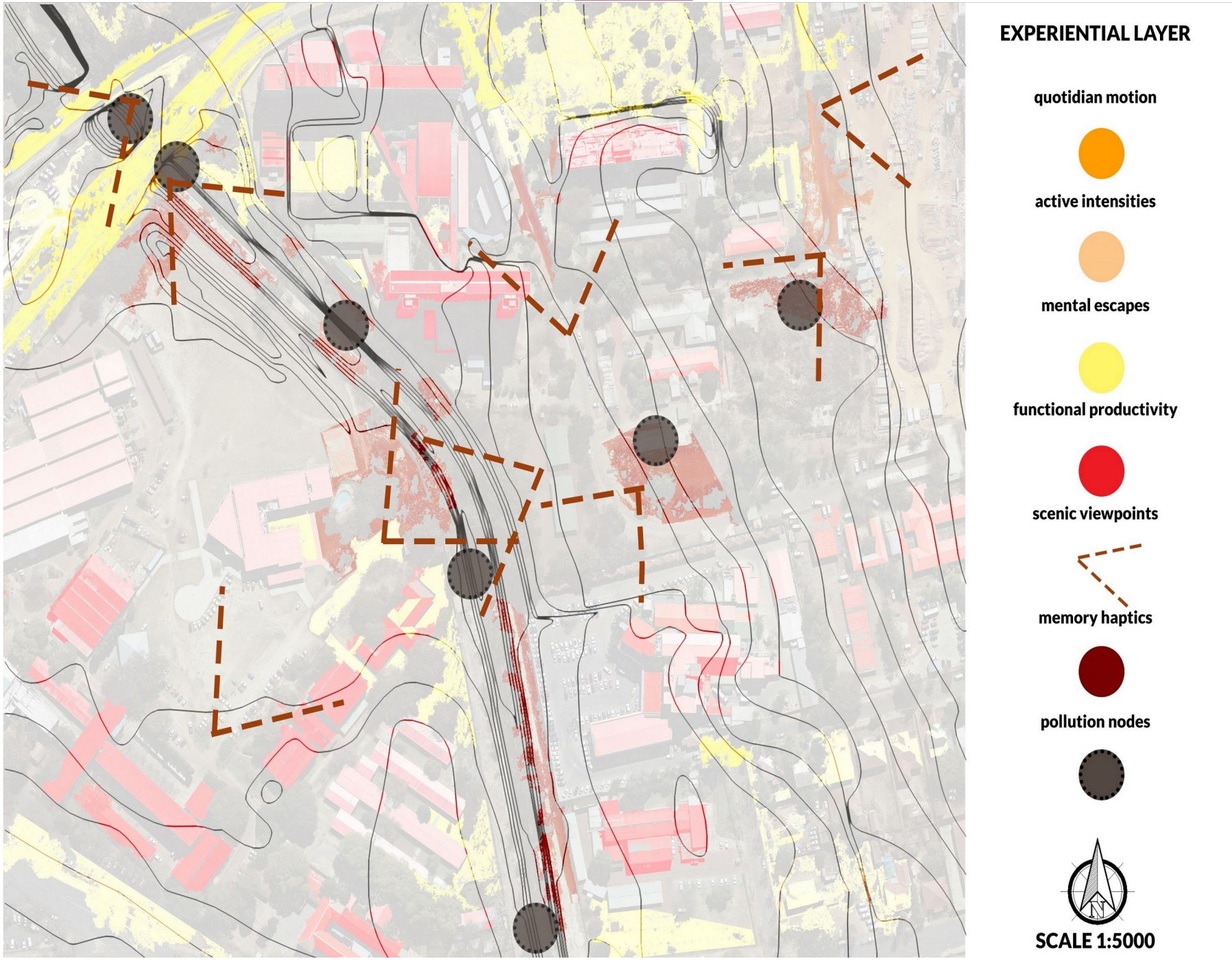


Figure 2.58. Site Analysis Mapping: Experiential layer. ArcGIS layers with author's adaptation, 2016.

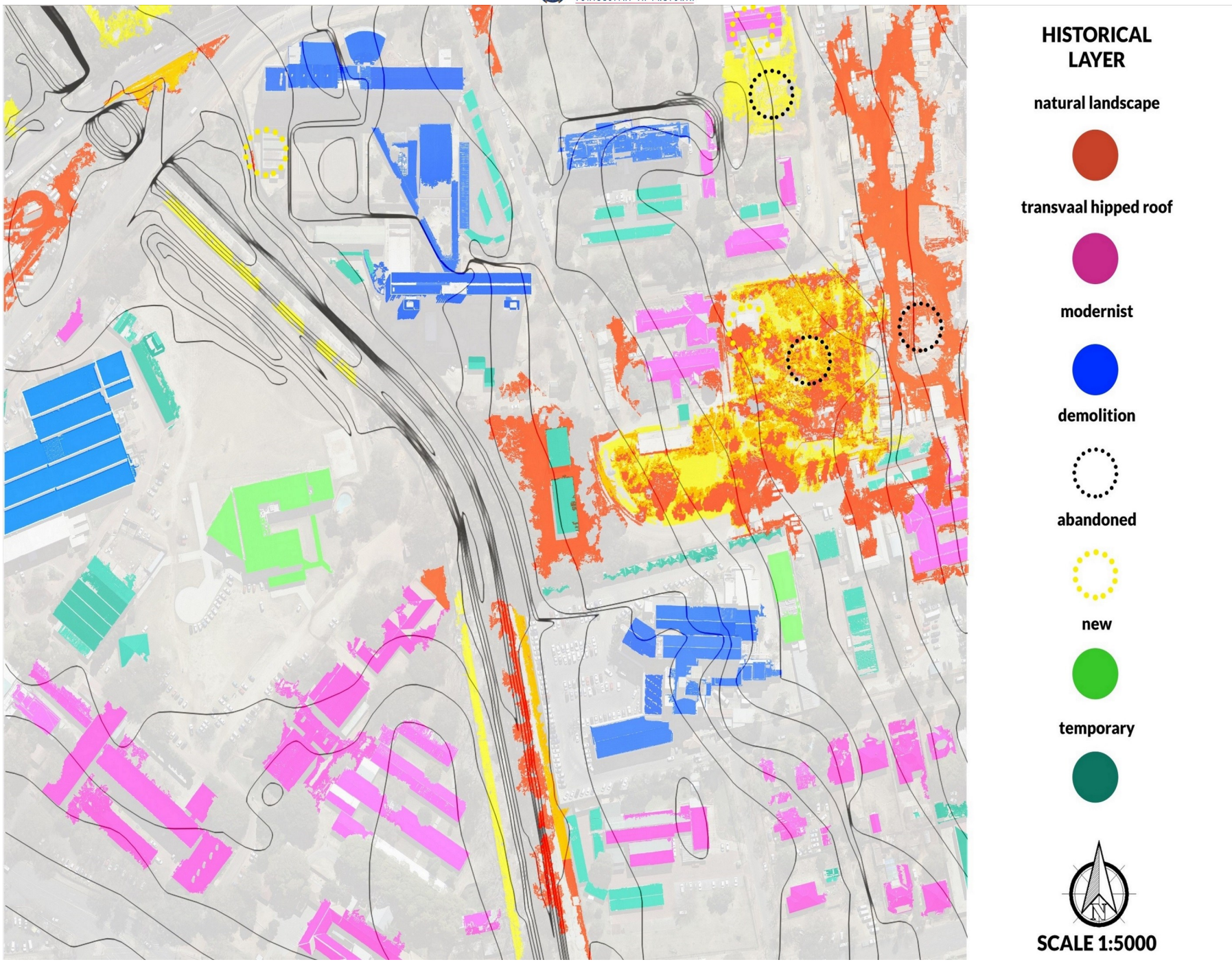


Figure 2.59. Site Analysis Mapping: Historical layer. ArcGIS layers with author's adaptation, 2016.

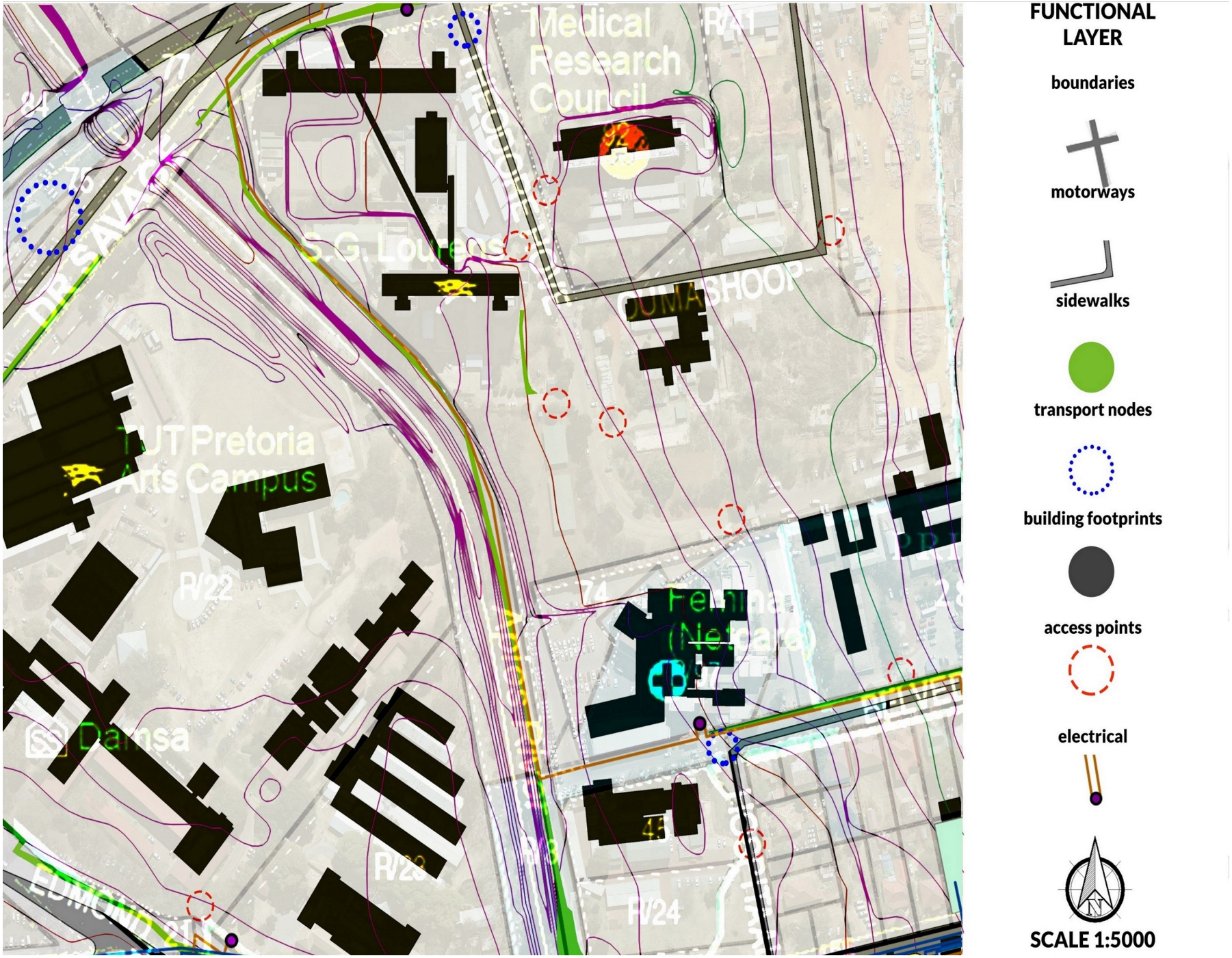


Figure 2.60. Site Analysis Mapping: Functional layer. ArcGIS layers with author's adaptation, 2016.

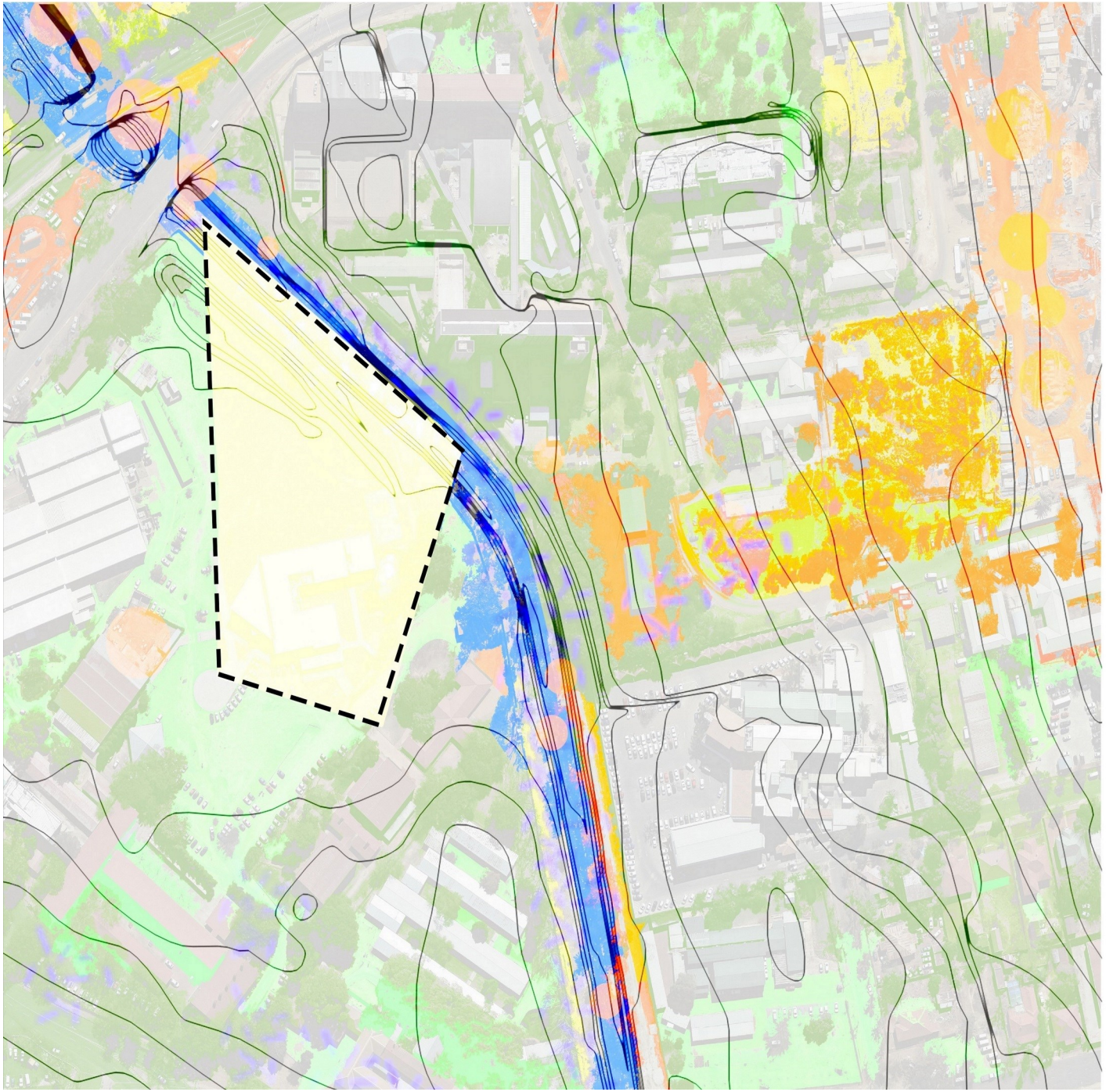


Figure 2.61. Site Analysis Mapping: Natural layer. ArcGIS layers with author's adaptation, 2016.

2.8 CONTEXT CONCLUSION

2.8.1 PHYSICAL CONDITION

The Prinshof Medical District forms part of the boundary line of the CBD. The river and adjacent spaces are enclosed by walls on each side, preventing visibility. The area has thus become a dangerous area to walk through (see Figure 2.36). Here, the grain of the city becomes disconnected from the overall part of the city. It causes the strong urban activity emanating from the east and south east of the city to dissipate as it passes the precinct, resulting in an overall loss of urban connections.

2.8.2 HISTORICAL CONDITION

The overgrown flora on the site perhaps infers with the original natural setting which existed in the area prior to 1900 (compare Figure 2.42 with 2.48). The findings of the study show potential for the site to be developed as an area combining both functional and experiential aspects that can provide eco-systemic services to the surrounding urban grain (see Figure 2.62). Site visits have indicated that fresh groundwater exists in large quantities, as abovementioned, with a water table of one meter (see Figure 2.41). This information was confirmed by the site supervisor from the Netcare Femina Hospital, Mrs Thabethe.

2.8.3 SITE POTENTIAL

The potential elements that were identified result from the overlaying of the aforementioned layers. An investigation of these layers showed that spaces of exchange between natural and man-made systems exist adjacent to the river and south of the SG Lourens Nursing College. The site shows great potential in the following areas/aspects: vertical potential, systemic exchanges, energy syncs, linear flows, centroidal potential, activity nodes, and combinative potential (see Figure 2.62). Most importantly, the combinative potential of the site shows where many of the aspects with potential exist in a single, defined area.

2.8.4 WAY FORWARD

Given the multiple layers that exist on the site, natural and artificial systems exist in a symbiotic manner, and the potential for both to interact or perform on a level of exchanges can be explored or investigated further (see Figure 2.63). These can be spatially translated, facilitated or accommodated by considering a regenerative catalyst. The variables have been exposed and require a theoretical vehicle in order to eventually manifest towards a design.

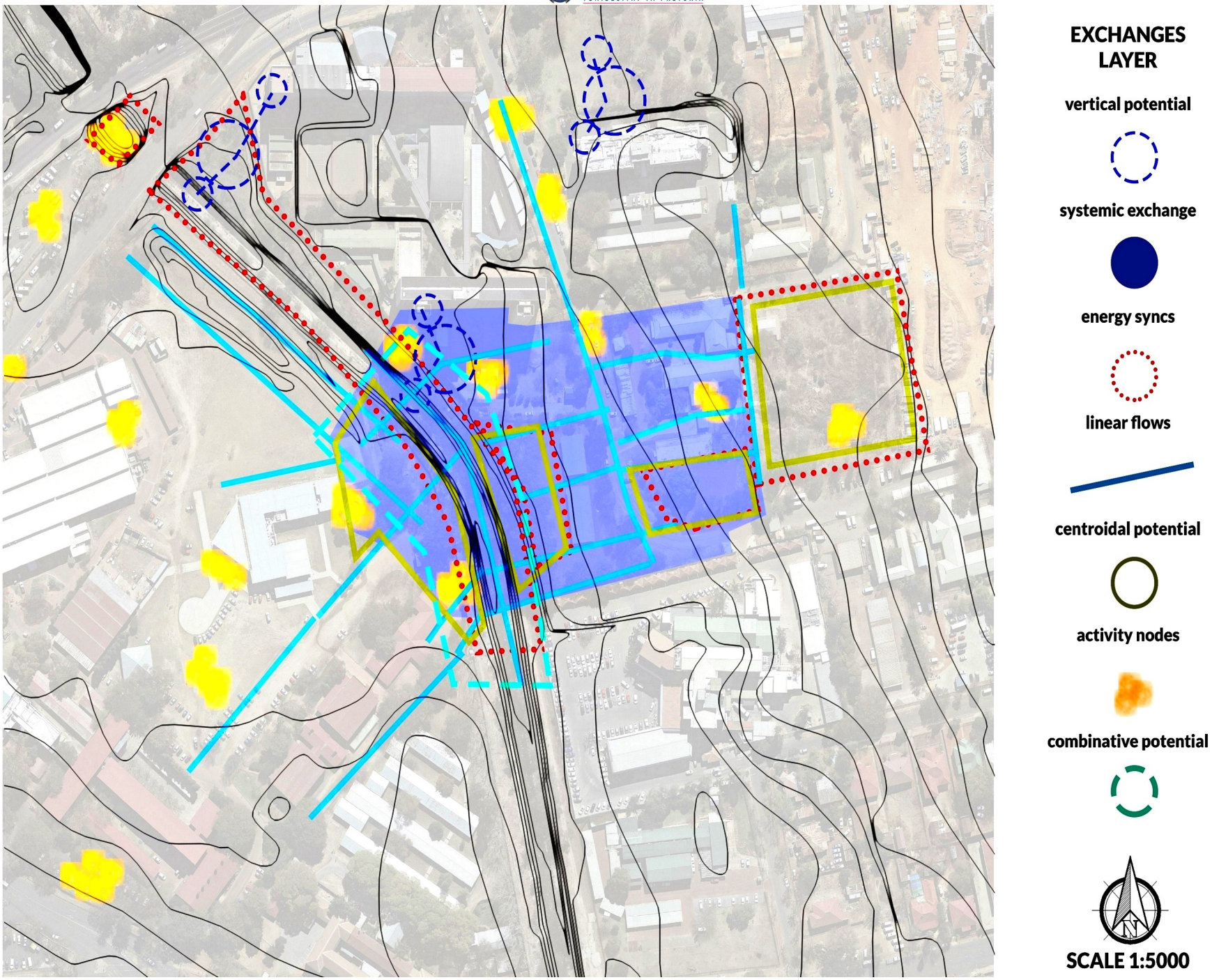


Figure 2.62. Site Analysis Mapping: Exchanges layer. Author, 2016.

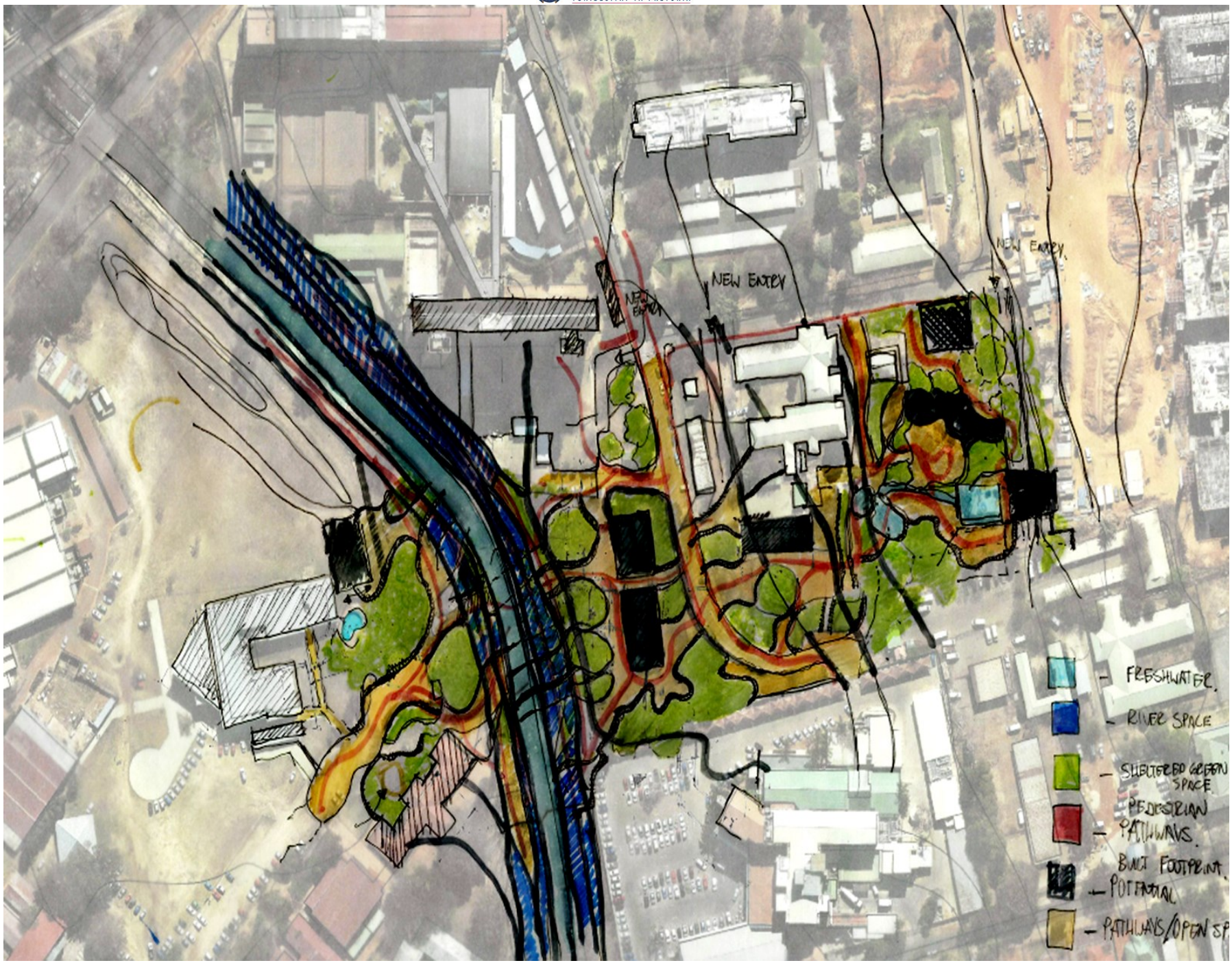


Figure 2.63. Site Potential: Organic site patterns parti diagram. Author, 2016.