6.4.3 Appendix D3: Heritage Impact Assessment

HERITAGE IMPACT ASSESSMENT
(Historical Component)

SWARTKOPS POWER STATION
DESALINATION PLANT

(Photo: J S Bennie)

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1. National Heritage Resources Act, 1999 (Act 25 of 1999)

The National Heritage Resources Act of 1999 makes provision for a compulsory Heritage Impact Assessment when an area exceeding 5000 m² is to be developed (National Heritage Resources Act 25 of 1999: page 55). Section 38 (3) a-g of the South African Heritage Resources Act sets out the minimum requirements of a heritage impact assessment, which include inter alia:

- Identification and mapping
- Assessment of significance
- Assessment of potential impacts
- Mitigation measures

Section 34 of the Act stipulates that no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial resources authority.

Section 38 of the Act clearly indicates that any person constructing a road or similar linear development exceeding 300m in length or developing an area exceeding 5000 m² is required to notify the responsible heritage resources authority or the South African Heritage Resources Agency (SAHRA). They in turn will advise whether an impact assessment report is needed before development can take place.

2. Introduction and Terms of Reference

Mrs Jenny Bennie was approached by Dr Mike Cohen on behalf of CEN IEM Unit and requested to undertake the historical component of the HIA assessment survey of the heritage requirements relating to the alteration and possible demolition of some buildings adjacent to the Swartkops Power Station.

The site of the Swartkops Power Station is the selected and preferred location for a desalination plant. It is believed that some of the existing infrastructure can be re-used. The sea water canals that were employed for cooling purposes are a suitable intake mechanism and the proximity of a 450 diameter water pipeline to Struandale Reservoir would reduce costs. The existing Fish Water Flats sea outfall could serve for the discharge of brine.

The property comprises the main power station, some detached buildings almost 60 years old and an outflow culvert (GPS S33 52 and E 25 38). The Swartkops Power Station is situated about 15 km north of Port Elizabeth harbour, on a major access road that branches off from the Port Elizabeth-Grahamstown highway. It is to be found about 2km south of the Swartkops estuary, between the Carbon Black factory and the Fishwater Flats Reclamation Plant close to the highway that leads to Swartkops Village. Midway through the village, the road links up with a road to Redhouse, Perseverance and Uitenhage.

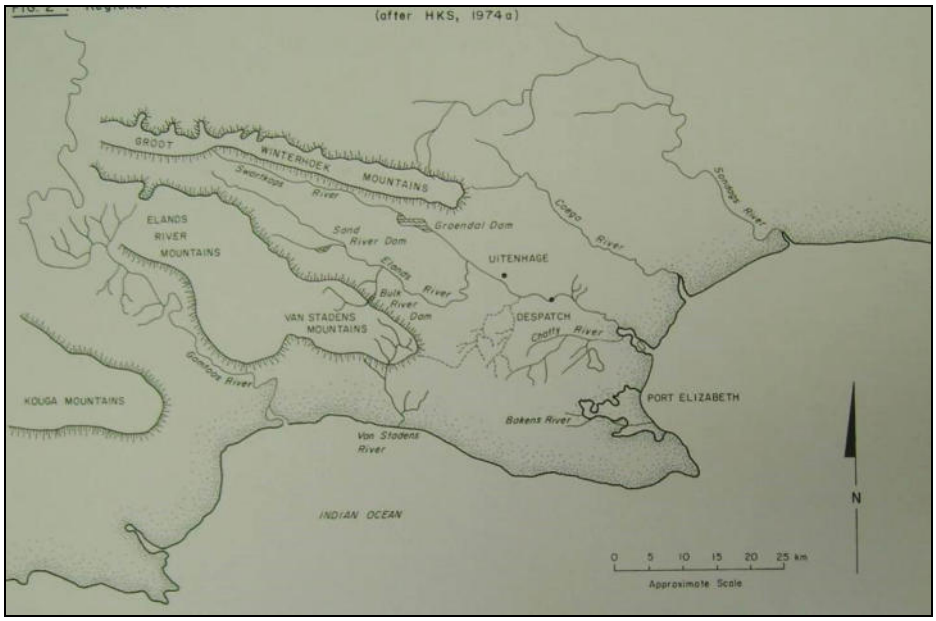
The great Winterhoek Mountains to the west of Uitenhage form the main catchment area with a smaller one bordering on the Chatty and Swartkops Rivers, downstream of the confluence of the Elands River with the Swartkops.

The terrestrial features of the region are undulating hills in the south-west; a flood plain including the lower reaches of the Swartkops and Chatty Rivers; the escarpment which becomes less prominent in the north-east and a plateau to the north.

The main industries of the valley are the mining of clay for bricks and the concentration of estuarine water for salt production. The Swartkops Power Station which was “built on the edge of the flood plain has, together with a railway embankment, cut off part of the original flood plain and created a ponded area adjacent to Kwazekele township” (Grindley,1974). Certain species of tropical fish established themselves in the outfall channels as a result of the warm water discharged from the power station.

2.1 Approach and methodology

The historical significance of the area and the possible necessary retention of some of the original buildings will be assessed. The consequence of transforming these into viable structures will be reviewed, as will the overall impact on the area in general.



Map showing the general location of study area

3. History

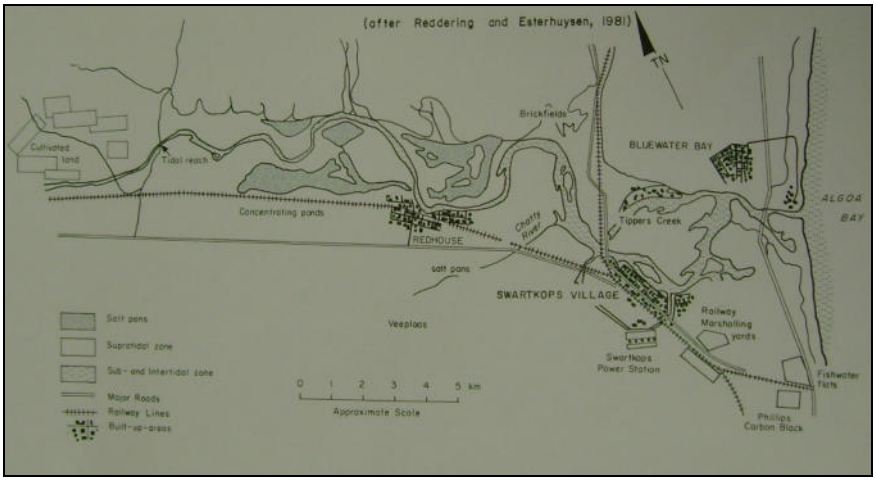
3.1 The section below gives a brief outline of the history of the property and places the heritage features identified in the study within its historical context. A detailed description of the structures and features of the Power Station and outbuildings is given later in this report.

3.1.1 Early history

The area under review was populated by the first early inhabitants in Algoa Bay. The San (hunter-gatherers who were here from 20,000 years ago), the Khoekhoen (pastoralists who settled in the Eastern Cape coastal region from about AD 100) and Bantu-speaking people (mixed farmers living in the Great Kei area from AD 700)) are recorded in this vicinity. It is recommended that an archaeological survey takes place as evidence of Stone Age man may be found.

From the middle of the 18th century competition for resources between black, Khoekhoen and white settlers became more acute, leading later to the frontier wars. As early as 1669 an official survey ship had visited Algoa Bay and by 1702 it was recorded that the first elephant hunters had passed as far east as the Sundays River

The saltpans in the vicinity of the Swartkops River were well known before the first official travellers visited the region. They were a source of commodity and were extensively utilized in earlier centuries. Ensign August Friederich Beutler's exploratory expedition in 1752 is recorded as having encamped at the Swartkops River, where a Dutch East India Company "possessional" beacon, near the mouth, was erected. These beacons were intended to prevent French occupation of the coast.



Map showing Swartkops village, the position of Power Station and surrounding area

3.1.2 18th, 19th and 20th Centuries

The Swartkops valley became more populated during the late 18th and early 19th century as a result of the eastward movement of the Trekboer from the western Cape. They were hoping to escape from the restrictions placed on them by the Dutch East India Company. A number of loan farms were granted along the eastern Cape coast. One of these was *Zwartkopswagendrift* (part of the current survey area) which was established in 1776. This was subdivided in 1820 by the van Rooyens, with one portion being sold again in 1838. In 1871 when the owner, Mrs Hitzeroth, died it was divided into five portions. Those early settlers, as had the nomadic tribes before them, recognized the Swartkops estuary as being rich and productive, supporting good fish populations and many birds.

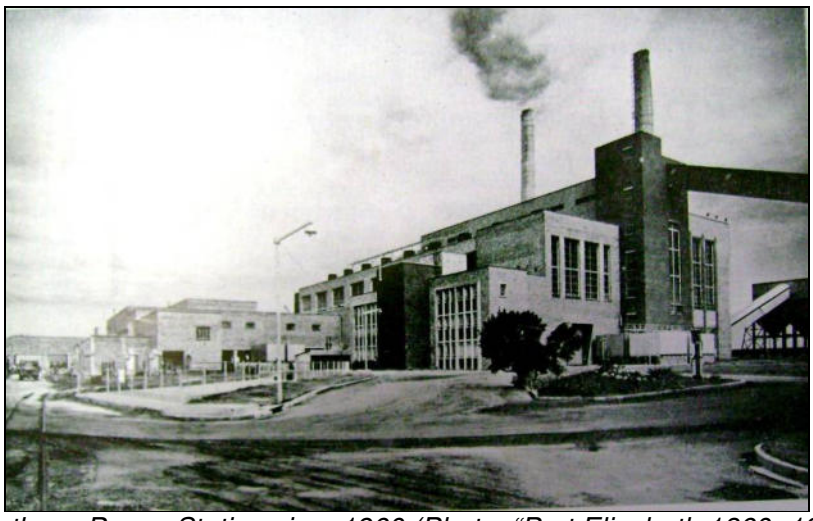
The area became more easily accessible and viable when the first road bridge over the Swartkops opened on 24 September 1859. It was named after the Colonial Secretary, the Hon. R W Rawson but was destroyed by floods in 1876. The new Wylde Bridge opened in 1879.

In 1875 the Port Elizabeth-Uitenhage railway was completed and Swartkops became an important junction. The first railway bridge across the Swartkops River was built during the construction of the line. A second was built after 1893 and the present bridge was opened on 10 July 1955.

In 1897 the Zwartkops Valley Land Company purchased the whole farm *Fish Water Flats*, with the exception of the portion that already belonged to the railway. Sixty-three plots were surveyed. In 1904 the Company bought the remainder of the original *Zwartkopswagendrift,* some land going to private individuals and some to the Port Elizabeth City Council. The Railways expropriated a portion of the area for workshops in 1957 and purchased 1708 morgen from the municipality in 1962.

In 1977 the City Council of Port Elizabeth adopted a structure plan for the Swartkops river valley, which while ensuring that the demand for urban expansion was met, had as its principal objective the preservation of the estuary. A CSIR report of 1986 noted that the area was in remarkably good condition and a unique resource.

4. The Swartkops Power Station



Swartkops Power Station circa 1960 (Photo: "Port Elizabeth 1860 -1960")

The Port Elizabeth City Council took the first decision to build a new power station at Swartkops (to supplement the one in Mount Road that had originally opened on 1 May 1906) on 1 February 1939, but the issue continued to be debated for many years as to whether rather to upgrade and extend the old one. The city had become increasingly industrialized during the 1930's with the need for extra electricity capacity becoming paramount. By 1942 ratepayers voted in favour of the Council generating its own electrical needs rather than negotiating for bulk supply or complete control from ESCOM.

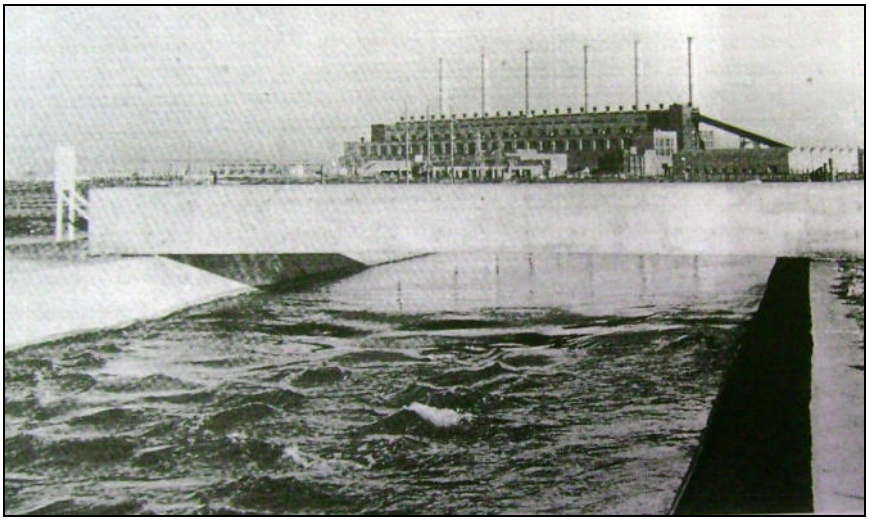
Although there was less demand during World War 11 (1939-45), it was considered a good time to design and erect the new Power Station. The City Electrical Engineer was appointed in a consulting capacity and Mr Wardle from England, the structural engineer.

The newly constructed Swartkops Power Station. near Swartkops Village, came on line on 1 May 1954. An additional loyalty incentive to workers was the thirty dwellings that were constructed nearby in 1955 to house the Power Station personnel.

Swartkops Power Station and surrounds June 2010 *(Photos: J S Bennie)*

The ownership of the Swartkops Power Station was officially transferred from the Electricity Supply Commission to the Port Elizabeth Council on 31 March 1955 after the approval by the City Council by 17 votes to 2. It was also supported by the Electrical Engineers, City Treasurer, Chamber of Commerce and Industry and the Uitenhage Municipality which purchased electricity from the City Council. The operation of the Swartkops Power station eased the load on the Mount Road Power Station, allowing for extensive overhauls to be undertaken on that generating plant.

The Swartkops plant was originally designed with 5 chimneys (there were eventually 6) with a capacity of 240,000 kilowatts. The main building housed 40,000 kilowatts of plant with the circulating water inlet canal and pump house built for half the capacity and the circulating water outlet canal able to handle full capacity. Coal stations, coal handling plant, workshops, stores and the switch house were also completed.



The outflow of thermal effluent- in the form of cooling water from the Swartkops Power Station- flowed into the estuary. This outflow caused raised temperatures upstream of Swartkops village, while the intake grids lay downstream of the village. (Photo: J Grindley May 1971)

By 1974 both the Swartkops Power Station and Mount Road Power Station together were unable to meet the demands for electricity from the City, so bulk supply had to come from the national grid. The former power station was placed on hold between 1986 and 1995 as ESCOM had excess capacity, but with new demands after 1995 and RDP projects, it was once again in action. A year later a number of new power stations became operative and ESCOM was able to meet the demand and offered tariffs which made the Swartkops Power Station uncompetitive.

In 1996 the Mayor of Port Elizabeth, Nceba Faku, and City Council decided to decommission and sell the equipment at the Power Station for scrap to a company headed by northern Cape businessman, Kobus Smit. He paid less

than R4 million for it and within weeks sold off the turbines for more than R30 million.

The closure of the Power Station resulted in the loss of jobs, the loss of bargaining power with Eskom plus Port Elizabeth no longer has a significant grid licence which now means that the electricity supply to Coega Development Corporation, for example, is independent of the city, making no contribution to the local economy.

The Power Station buildings are situated in a sensitive ecological and recreational zone and historically came into conflict with environmentalists such as the Zwartkops Trust (established in 1969). Arguments occurred during the 1970's and 80's when the Power Station was not running at full capacity and as a result produced more pollution in the form of metal build up and 'acid rain' emanating from ash precipitate. Extensive repair work was carried out on the 30 year old power station at that time and it was restored to its original condition making for a cleaner environment.

5. Discussion

The site of the Swartkops Power Station is on a portion of the Swartkops River flood plain, bounded by the railway line and road on the seaward side and Kwazekele and Motherwell townships on the north and west. While a number of environmental impact assessments have taken place over the years, no complementary heritage studies have been done. Although the buildings are not quite 60 years old, they are part of the urban landscape, some of which needs to be preserved for posterity. Parts of the current infrastructure can be incorporated into the desalination plant project and some of the built environment re-used to re-vitalise the area.

6. Recommendations and conclusion

- Any new development should take the National Heritage Act, 1999 (No 25 of 1999) into account.
- The South African Heritage Resources Agency or relevant museum be notified if anything of archaeological or historical significance is found during excavations or building operations.
- It is important to note that historical sites are non-renewable. Once they are destroyed they cannot be returned to their original condition.
- No new development should take place without being registered with SAHRA and without their comments and recommendations.
- All construction work should be monitored for possible archaeological finds or buried structures.
- Should finds be made work should be halted to allow the professionals suitable time to investigate.

7. References

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(www.mype.co.za/gallery/details.php? Image-id=3734)

8. Consultations:

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