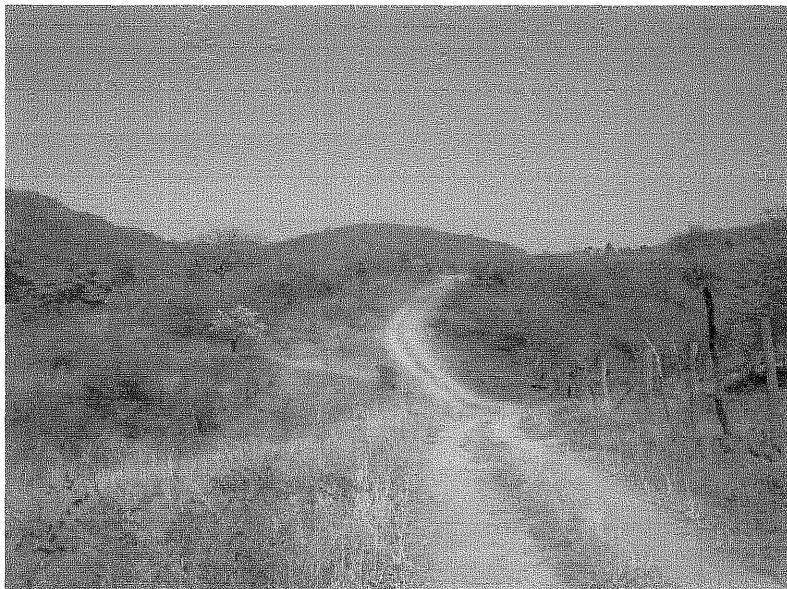


**PHASE 1 ARCHAEOLOGICAL / HERITAGE IMPACT
ASSESSMENT FOR PROPOSED SHATALE BRANCH PIPELINE**

**INJAKA WATER TREATMENT WORKS (MAVILJAN) – SHATALE BRANCH
(DWARSLOOP)
MPUMALANGA PROVINCE**

**REPORT PREPARED FOR
LANDSCAPE DYNAMICS ENVIRONMENTAL CONSULTANTS**



AUGUST 2008

ADANSONIA HERITAGE CONSULTANTS

ASSOCIATION OF SOUTHERN AFRICAN PROFESSIONAL ARCHAEOLOGISTS

C. VAN WYK

P.O. BOX 75, PILGRIM'S REST, 1290

17 SEP 2008

EXECUTIVE SUMMARY

A phase 1 Heritage Impact Assessment regarding archaeological and other cultural heritage resources was conducted on the footprint of the proposed Shatale pipeline route. The Bushbuckridge Local Municipality (Mpumalanga Province) identified the need to increase the primary water output by establishing the Shatale branch pipeline from Injaka Regional Water Treatment Works (Maviljan) to the Shatale Branch (Dwarsloop), approximately 9,1 km distance, in the Bushbuckridge area.

The historical background of the study area on the farms Injaka 267KU, Maviljan 252JU and Dwarsloop 248 KU, suggests that the area was populated since the 17th century, but the original pre-historic sites around the areas of Bushbuckridge, Injaka, Maviljan and Dwarsloop, were completely destroyed by modern residential infrastructure.

The study area is situated on topographical map 1:50 000, 2431 CC Bosbokrand, and falls within the Mpumalanga Province.

The National Heritage Resources Act, no 25 (1999)(NHRA), protects all heritage resources, which are classified as national estate. The NHRA stipulates that any person who intends to undertake a development such as a pipeline, is subjected to the provisions of the Act.

According to the survey of the study area as well as the evidence from secondary sources, no archaeological or cultural heritage remains were observed in the direct vicinity of the existing pipeline, or the proposed route of the Shatale Branch, at the GPS reference points as indicated and discussed in the report.

It is concluded that no archaeological or other cultural heritage resources will be impacted upon by the proposed development, and it is recommended that the proposed Shatale branch pipeline may continue.

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APPENDIX 1: LOCALITY MAP: (Reproduced with permission from Landscape Dynamics Environmental Services)

APPENDIX 2: SHATALE BRANCH PIPELINE: PROPOSED PIPELINE ROUTE
(Reproduced with permission from Landscape Dynamics Environmental Services)

PHASE 1 ARCHAEOLOGICAL / CULTURAL HERITAGE IMPACT ASSESSMENT FOR PROPOSED SHATALE BRANCH PIPELINE

A. INTRODUCTION

Adansonia Heritage Consultants were appointed by Landscape Dynamics Environmental Consultants, to conduct a phase 1 Heritage Impact Assessment regarding archaeological and other cultural heritage resources on the footprint of the proposed Shatale pipeline route. The Bushbuckridge Local Municipality (Mpumalanga Province) identified the need to increase the primary water output by establishing the Shatale branch pipeline from the Injaka Regional Water Treatment Works (Maviljan) on the mountain section, towards the Shatale Branch (Dwarsloop), approximately 9,1 km distance, in the Bushbuckridge area.

The proposed pipeline route will be installed parallel to the existing transfer line, approximately 5 metres to the east of the existing line. At certain points it deviates slightly from the existing line which is indicated by GPS co-ordinates and discussed in section "E" of this report.

This study investigates all possible archaeological and other cultural heritage resources in the proposed pipeline area and will make recommendations if any cultural heritage resources will be negatively impacted upon.

B. AIMS OF REPORT

The aim of this report is to identify all archaeological or cultural heritage features, which might be affected in the proposed Shatale branch pipeline route, and to document and assess the importance within local, provincial and national context. Comments and recommendations will be made to manage any archaeological and other cultural heritage resources which might be impacted upon. Co-ordinates for the proposed pipeline route were provided by Landscape Dynamics Environmental Consultants, and were used as a guideline for the investigation of the proposed route.

C. METHODOLOGY

In order to reach a comprehensive conclusion regarding the archaeological and cultural heritage resources in the vicinity of the proposed pipeline route, the following methods were used:

- Fieldwork and physical survey were conducted on foot of the entire 9,1 km of the

proposed Shatale branch pipeline route, as indicated by the GPS co-ordinates;

- Research was conducted by means of collecting primary or secondary literary sources with relevant information on the prehistory and history of the area;
- Evaluation of the resources which might be impacted upon by the footprint, were done within the framework provided by the National Heritage Resources Act, no. 25 (1999);
- Personal communication with relevant stakeholders.

All archaeological and other cultural heritage resources are evaluated according to the National Heritage Resources Act, no. 25 (1999) (NHRA), section 3(3). A place or object is considered to be part of the national estate if it has cultural significance or other special value in terms of:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.¹

D. LOCALITY

The study area was investigated for all possible heritage related features which might fall within the demarcated section (see GPS co-ordinates) of the proposed Shatale Branch pipeline route from the Injaka Regional Water Treatment Works (Injaka / Maviljan) on the mountain section, to the Shatale Branch (Dwarsloop), approximately 9,1 km (Maviljan to Dwarsloop). A visual layout of the existing transfer line (in blue), and the proposed transfer line (indicated in red), is provided in the Locality Plan (Appendix 2), in this report.

¹National Heritage Resources Act, no. 25 of 1999. pp. 12-14

It is situated on topographical map, 1:50 000, 2431 CC Bosbokrand. The area is within the Mpumalanga Province. The proposed area for the footprint is situated on the farms Injaka 267KU, Maviljan 252KU and Dwarsloop 248KU. The entire section of the proposed development is in the rural area, generally known as Bushbuckridge (see Appendix 1 & 2).

E. CO-ORDINATES AND DISCUSSION ON THE PROPOSED FOOTPRINT OF THE SHATALE BRANCH PIPELINE ROUTE

The GPS co-ordinates as discussed in this report, were provided by Landscape Dynamics Environmental Consultants:

SHATALE PIPE LINE ROUTE CO-ORDINATES			COMMENTS ON ARCHAEOLOGICAL / CULTURAL HERITAGE GFEATRES
START AT INYAKA WTW RESERVOIR	SOUTH 24°51'41.46"	EAST 31°05'11.13"	This area is disturbed by existing infrastructure of the Injaka Water Transfer Works at the reservoir. (Injaka 267 KU) No archaeological or cultural heritage remains were observed in this section. See photo a.
1	24°51'36.71"	31°05'15.42"	Proposed line follows the existing pipeline closely along a dirt track on the edge of the residential area, border of farms Injaka 267KU / Maviljan 252KU. The area is disturbed by infrastructure (dirt roads). No archaeological or cultural heritage remains were observed. See photo b.
2	24°51'25.72"	31°05'11.76"	Proposed line follows the existing pipeline route closely at the edge of the residential area, Maviljan 252KU. Area is disturbed by infrastructure (dirt roads) and erosion. No archaeological or cultural heritage remains were observed. See photo b.
3	24°51'18.62"	31°05'07.35"	Proposed pipeline deviates from the existing route at this point and changes direction (to north east), towards the residential area. From this point it follows the existing roads in the residential area of Maviljan 252KU, all the way to the R40. The area is disturbed by infrastructure (dirt roads) and erosion. No archaeological or cultural heritage remains were observed in this section. See photo c.
4	24°51'16.28"	31°05'58.91"	Proposed line does not follow the existing pipeline route. It follows existing dirt roads in the residential area of Maviljan 252KU. The area is disturbed by infrastructure (dirt roads, houses, power lines, water points, etc.). No archaeological or cultural heritage remains were observed in this section.
5	24°51'10.59"	31°05'59.42"	Proposed line follows an existing dirt road in the residential area of Maviljan 252KU. The area is disturbed by infrastructure (houses, dirt roads, power lines, etc). No archaeological or cultural heritage remains were observed in this section. See photo d.

SHATALE PIPE LINE ROUTE CO-ORDINATES			COMMENTS ON ARCHAEOLOGICAL / CULTURAL HERITAGE GFEATURES
6	24°51'06.53"	31°05'00.20"	Proposed line follows the existing dirt road in the residential area of Maviljan 252KU (Elevation 777m). The proposed pipeline again changes direction at this point. The area is disturbed by infrastructure (houses, dirt roads, power lines). No archaeological or cultural heritage remains were observed in this section. See photo d.
7	24°51'02.63"	31°05'03.99"	Proposed line continues along the existing dirt road in a northern direction, in the residential area of Maviljan 252KU. The area is disturbed by infrastructure (houses, dirt roads, power lines, water points etc.). No archaeological or cultural heritage remains were observed in this section. See photo d.
8	24°50'56.56"	31°04'58.78"	Proposed line continues along the existing dirt road in the residential area of Maviljan 252KU. The area is disturbed by infrastructure (houses, dirt roads, power lines, water points etc.). No archaeological or cultural heritage remains were observed in this section. See photo d.
9	24°50'50.46"	31°04'56.23"	Proposed line continues along the existing dirt road in the residential area of Maviljan 252KU. The area is disturbed by infrastructure (houses, dirt roads, power lines, water points etc.). No archaeological or cultural heritage remains were observed in this section. See photo d.
10	24°50'44.63"	31°04'56.02"	Proposed line continues along the existing dirt road in the residential area of Maviljan 252KU (Elevation 806m). The area is disturbed by infrastructure (houses, water points, dirt roads, power lines, etc.). No archaeological or cultural heritage remains were observed in this section. See photo d.
11	24°50'41.43"	31°04'58.15"	Proposed line continues along the existing dirt road in the residential area of Maviljan 252KU (Elevation 815m). The area is disturbed by infrastructure (houses, water points, dirt roads, power lines, etc.). No archaeological or cultural heritage remains were observed in this section. See photo d.
R40 ROAD CROSSING12	24°50'35.27"	31°04'55.89"	Proposed line crosses the R40 in residential area Maviljan 252KU, towards the north. The proposed line follows existing dirt roads to avoid homes. The area is disturbed by infrastructure (road, buildings, culverts, power lines etc.). No archaeological or cultural heritage remains were observed in this section. See photo e.
13	24°50'30.94"	31°04'57.80"	Proposed line changes direction (to west) and continues to follow existing roads in the residential area, Maviljan 252KU. The area is disturbed by infrastructure (dirt roads, buildings and agricultural activities etc.). No archaeological or cultural heritage remains were observed in this section. See photo f & g.
14	24°50'27.46"	31°04'51.25"	Proposed line changes direction towards the north in the residential area, Maviljan 252KU, on mountain section. The proposed pipeline is situated on an existing dirt road. The area is disturbed by infrastructure (dirt roads, buildings and agricultural activities etc.). No archaeological or cultural heritage remains were observed in this section. See photo f & g.

SHATALE PIPE LINE ROUTE CO-ORDINATES			COMMENTS ON ARCHAEOLOGICAL / CULTURAL HERITAGE GFEATURES
NEW PIPE LINE JOINS OLD PIPE'S ROUTE AT MANHOLE 15	24°50'20.33"	31°04'55.49"	End of residential area on farm Maviljan 252KU, mountain section. (Elevation 779m). Proposed pipeline route continues along the existing dirt road. Area disturbed by infrastructure (dirt roads, buildings and agricultural activities, power lines, water points etc.). No archaeological or other cultural heritage remains were observed in this section. The proposed pipeline joins the existing pipeline at the manhole - see photo h. From here the drop to the next manhole is 41 m. See photo i.
16	24°50'10.24"	31°05'06.35"	The proposed pipeline follows the existing line up to this point, from where it deviates towards the west, and joins the existing pipeline only further on. No archaeological or other cultural remains were identified in this section. See photo j.
17	24°49'38.70"	31°05'12.93"	The proposed pipeline continues to join the existing line at point 18. Extensive disturbance from the road as well as agricultural activities is seen in this area. No archaeological or other cultural remains were identified in this section. See photo k.
18	24°49'19.54"	31°05'16.31"	Beginning of residential area at Dwarsloop (but still on farm Maviljan 252KU)(Elevation 609m – below mountain). Existing pipeline is situated along the R40 main road. It is disturbed by infrastructure (road, buildings, culverts etc.) No archaeological or other cultural remains were identified in this section.
19	24°49'12.53"	31°05'15.86"	This section is in the residential area at Dwarsloop (but still on farm Maviljan 252KU) (Elevation 607m). Existing pipeline is situated along the R40 main road. Disturbed by infrastructure (road, buildings, culverts etc.) No archaeological or other cultural remains were identified in this section.
20	24°48'06.78"	31°05'03.40"	In residential area at Dwarsloop 248KU. Existing pipeline is situated next to main road and disturbed by infrastructure (road, buildings, culverts etc.), near Total garage. No archaeological or other cultural remains were identified in this section. See photos l, m & n.
21	24°47'28.97"	31°04'55.71"	In residential area at Dwarsloop 248KU. (Elevation 576m). The existing pipeline is situated next to the R40 main road. This area is disturbed by infrastructure (road, buildings, culverts etc.) No archaeological or other cultural remains were identified in this section. See photos l, m & n.
END AT SHATALE TURN-OFF 22	24°47'16.59"	31°04'47.30"	In residential area at Dwarsloop 248KU. (Elevation 555m). The existing pipeline is situated next to the R40 main road, and continues on to cross the river. It is disturbed by infrastructure (road, buildings, culverts etc.). No archaeological or other cultural remains were identified in this section. See photos o & p.

F. PHOTOGRAPHS OF AREAS TO BE AFFECTED BY THE PROPOSED SHATALE BRANCH PIPELINE ROUTE

The photographs were taken in sequence from the Injaka Regional Water Treatment Works (IWTW), and corresponds with the numbers of section "E".



Photo a: At Injaka WTW.



Photo b: Pipeline follows existing route.

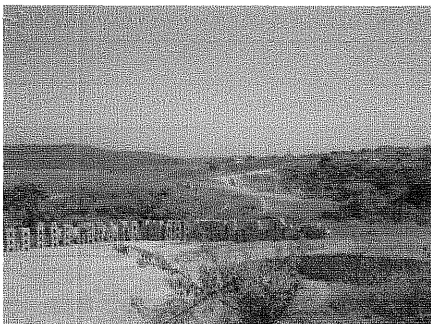


Photo c: Existing pipeline visible
New line deviates at this point.

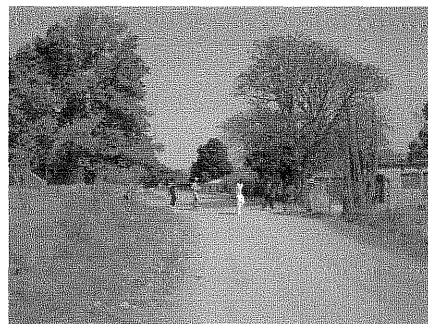


Photo d: New line follows existing roads.



Photo e: R40 crossing.

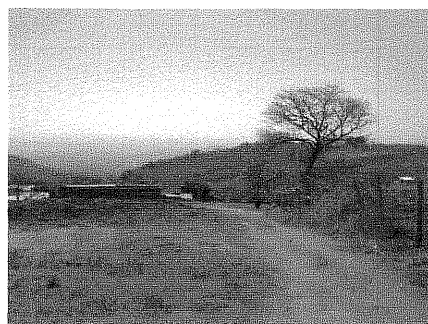


Photo f: New line follows existing roads.

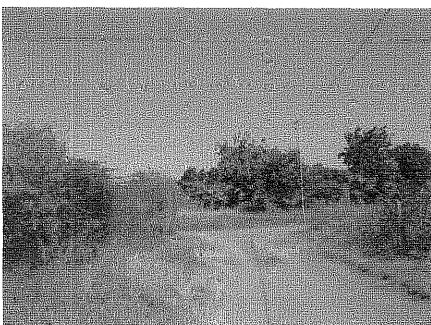


Photo g: New line follows existing roads

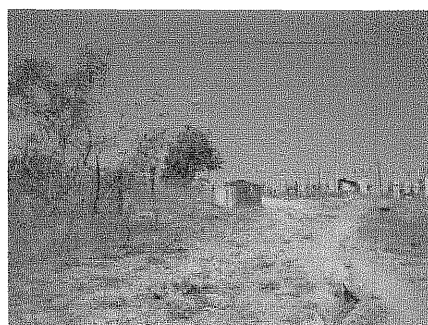


Photo h: New line joins existing line at manhole.



Photo i: 41m drop to next manhole

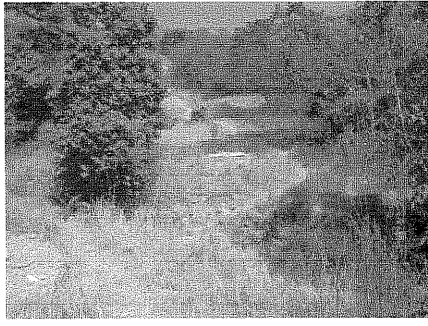


Photo j: New line deviates at this point from existing line.

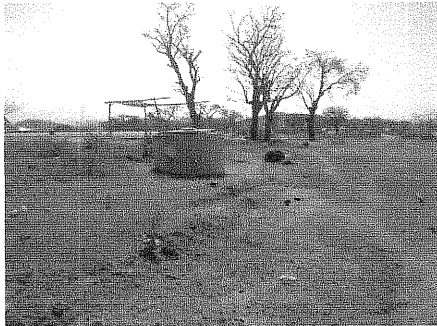


Photo k: New line joins existing line.



Photo l: In Dwarsloop residential area.

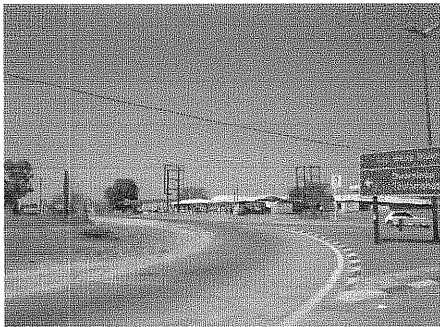


Photo m: In Dwarsloop residential area.

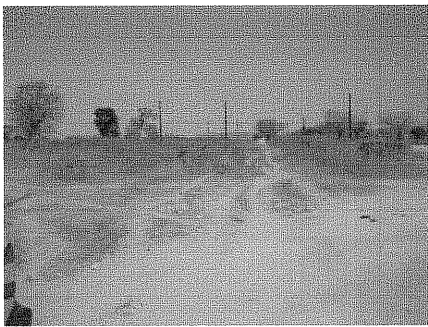


Photo n: In Dwarsloop residential area.

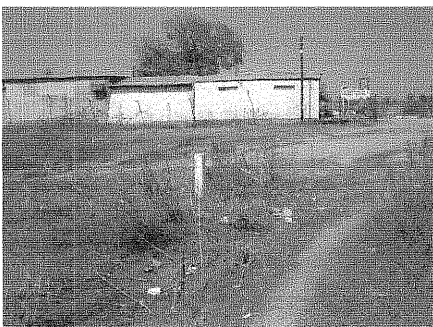


Photo o: End of Shatale branch.



Photo p: End of Shatale branch.

G. HISTORICAL BACKGROUND

• Introduction

The study area has originally been inhabited by the San or Bushman people. Remains of stone tools and occasionally rock art sites have been found throughout the wider area. Very little contemporary research has been done on prehistoric African settlements in the past centuries in the study area. In archaeological terms, hills or higher ground were usually vantage points for hunting, for protection of livestock (from predators or tsetse-fly), as well as symbolic physical elevation for groups overlooking inferior people. Hill-tops also have association with rain-making rituals, and hill slopes were occasionally terraced for agricultural purposes. One often finds stone-walled structures on top and on the sides of hills.² Stone walled settlements with terracing are common throughout the area,^{3 4} where it has not already been disturbed by residential development.

Several early ethnographical and linguistic studies by early researchers such as D. Ziervogel and N.J. Van Warmelo, revealed that the study area before 1886, was inhabited by Eastern Sotho groups (Pulana, Kutswe and Pai), the Tsonga (Nhlanganu and Tšhangana), from before the 18th century.^{5 6} The whole district is divided in two, with the Drakensberg Escarpment in the west at an elevation of approximately 1400m, and the Low Veld towards the east (elevation approximately 400 / 500m). There are notable climatic variations between the two areas and during ancient times, it was connected with mainly one route, Kowyns' Pass.⁷ By reason of this geographical position, it was in pre-historic times the meeting place of African peoples from the East, South, West and the North-West, which resulted in a confused tangle of African groups, sections and scattered units.

Today, we found that the boundaries of groups are intersected and overlapped to an amazing extent,⁸ and languages such as Zulu, Xhosa, Swazi, Nhlanganu, Nkuna, sePedi, hiPau and seRôka, are commonly spoken in the area.⁹

Several circular stone-walled complexes and terraces as well as graves have been recorded in the vicinities of Hazyview¹⁰, Bushbuckridge, Graskop and Sabie, and clay

²T. Makhura, *Early Inhabitants*, in *Delius, P. (ed.), Mpumalanga: History and heritage*. p. 122-124.

³C. Van Wyk, *Inspection of Umbhaha Stone-walled settlement, Hazyview*, pp. 1-2.

⁴PRMA: Information file 9/2.

⁵N.J. Van Warmelo, *A Preliminary Survey of the Bantu Tribes of South Africa*. pp. 90-92 & 111.

⁶H. S. Webb, *The Native Inhabitants of the Southern Lowveld*, in *Lowveld Regional Development Association, The South-Eastern Transvaal Lowveld*. p. 16.

⁷M. De Jongh (ed.), *Swatini*, p. 21.

⁸N.J. van Warmelo, *A Preliminary Survey of the Bantu Tribes of South Africa*, p. 51.

⁹M. De Jongh (ed.), *Swatini*, p. 21.

¹⁰PRMA: Information file 9/2.

potsherds, upper as well as lower grinding stones are common features at most of the archaeological sites.¹¹

The only early trade route which crossed this section, was a footpath used by the African groups from Delagoa Bay towards Bushbuckridge (Magashulaskraal), along the Sabie river, up the Escarpment, and further north to the Soutpansberg.¹²

H. SIGNIFICANCE OF HERITAGE RESOURCES IN STUDY AREA

The National Heritage Resources Act no. 25, 1999 (NHRA) aims to promote good management of the national estate, and to enable and encourage communities to conserve their legacy so that it may be bequeathed to future generations. Heritage is unique and it cannot be renewed, and contributes to redressing past inequities.¹³ It promotes previously neglected research areas of which the study area is in crucial need of.

The NHRA stipulates that any person who intends to undertake a development categorised for example, as a pipeline (section 38 (1)(a), is subjected to the provisions of subsections (7)(8) and (9) of the NHRA, and that no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such sites, (section 27(18)), and that special consent of the local authority must be required for any alteration or development affecting a heritage area (section 31(7)).¹⁴

However, no archaeological or cultural heritage remains were observed in the direct vicinity of the existing pipeline, or the proposed Shatale Branch pipeline at the GPS reference points as indicated and discussed above.

I. CONCLUSION AND RECOMMENDATIONS

As indicated above, no archaeological or cultural heritage remains were observed in the direct vicinity of the existing pipeline, or the proposed Shatale Branch pipeline, at the GPS reference points as indicated and discussed above. The historical background suggests that the area was populated since the 17th century, but these original pre-historic sites

¹¹D. Ziervogel, *The Eastern Sotho, A Tribal, Historical and Linguistic Survey*, p. 3.

¹²L. Changuion & J.S. Bergh, Swart gemeenskappe voor die koms van die blankes, in J.S. Bergh (red.), *Geskiedenis Atlas van Suid Afrika: Die vier Noordelike Provinsies*. p. 104.

¹³National Heritage Resources Act, no. 25 of 1999. p. 2.

¹⁴National Heritage Resources Act, no. 25 of 1999.

around the areas of Bushbuckridge, Injaka, Maviljan and Dwarsloop, were completely destroyed by modern residential infrastructure.

It is concluded that no archaeological or other cultural heritage resources will be impacted upon by the proposed development, and it is recommended that the proposed Shatale Branch pipeline development may continue.

J. SOURCES

• GOVERNMENT PUBLICATIONS:

NATIONAL LEGISLATION

Republic of South Africa, *National Heritage Resources Act*, (Act No. 25 of 1999).

• LITERARY SOURCES

CHANGUION L, & BERGH J.S., Swart gemeenskappe voor die koms van die blankes, in J.S. Bergh (red)., *Geskiedenis Atlas van Suid Afrika: Die vier Noordelike Provinsies*. J.L. van Schaik, 1999.

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ZIERVOGEL, D. *The Eastern Sotho: A Tribal, Historical and Linguistic Survey with Ethnographical notes on the Pai, Kutswe and Pulana Bantu Tribes*. Pretoria, 1953.

• PILGRIM'S REST MUSEUM ARCHIVES (PRMA)

PRMA: Information file 9/2. *Prehistory & Archaeology*.

PRMA: Information file 10/1. *Ethonology & Anthropology*.

• MISCELLANEOUS

Van Wyk, C., *Inspection of Umbhaba Stone-walled settlement, Hazyview*, 2001.

APPENDIX 1: LOCALITY MAP

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Environmental Services)

LOCALITY MAP: Shatale Pipeline Route



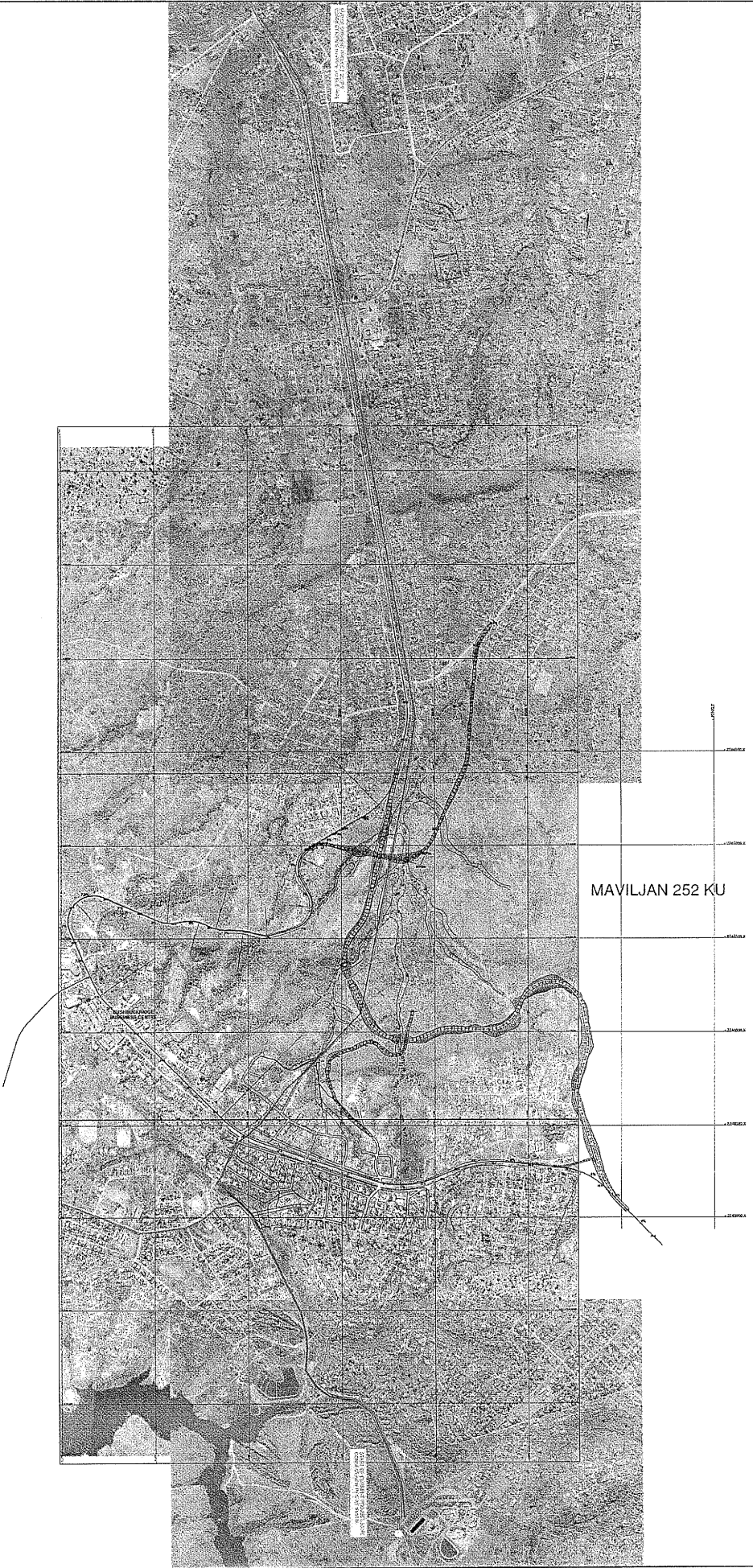
Environmental Impact Assessment Process undertaken by:
Landscape Dynamics Environmental Consultants

Scale 1 : 60 000

500 0 500 1,000 1,500 Meters



**APPENDIX 2: SHATALE BRANCH PIPELINE:
PROPOSED PIPELINE ROUTE**
(Reproduced with permission from Landscape Dynamics
Environmental Services)



Prepared by: **Arif A. J. M. S. P.**
 Checked by: **Arif A. J. M. S. P.**
 Approved by: **Arif A. J. M. S. P.**
 Date: **15/05/2024**

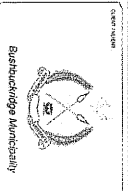


Arif A. J. M. S. P.
Engineers and Project Managers
 Civil Engineering
 1008
 No. 25, Jalan
 No. 25, Jalan

REVISION	DATE	BY	REASON

DESIGNER	J. J. J.
CHECKER	J. J. J.
APPROVER	J. J. J.
DATE	

GENERAL SCALE: COMMERCIAL MAP
AS SHOWN
 No. 25, Jalan
 No. 25, Jalan



PROJECT NAME: **SHAJTALE BRANCH PIPELINE**
PLANNED PIPELINE ROUTE

PROJECT NO.	NS 3031/B11
DATE	15/05/2024
SCALE	AS SHOWN
STATUS	