



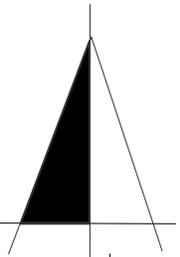
Index to Section B: Contextual Study

1. Location of Brits
2. Approach to Brits
3. A brief history of the Brits Muslim community
 - a. The Hartebeespoort Dam and its impact
 - b. Indians in Brits: 1917 - 2004
 - c. Political Development in the country - proclamation of Primindia – current proposition
 - d. Economic development
 - e. Social implications
 - f. The Mosque
4. An introductory map to the site
5. Physical traits: River, canals and topography
6. Vegetation density
7. The site in context:
 - a. Climate
 - b. Wind
 - c. Solar patterns and solar radiation
 - d. Water supply
 - e. Electrical supply
 - f. Sewage
 - g. Wastes
 - h. Storm water drainage
8. Basic model of site
9. Illustrations pertaining to the site in context:
 - a. Visual links and approach to the southern sector of the site
 - b. Views from the southern sector along the lower main road looking east
 - c. Approach from the upper main road
 - d. Views of the northern sector of the site
 - e. Views of the southern sector of the site
 - f. Important visual links within the community:
 - i. Reservoir view
 - ii. Visual link of minaret within the community
 - iii. Urban links to the site
10. Basic zoning criteria

1. Location of Brits:

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Brits

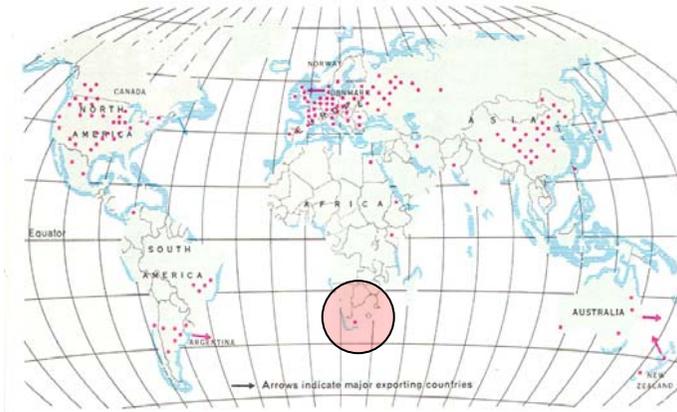


Fig. 1. Location map. (From Debenham: 1990, p.210).

Fig.2. Location map. (From Debenham: 1990, p.126).

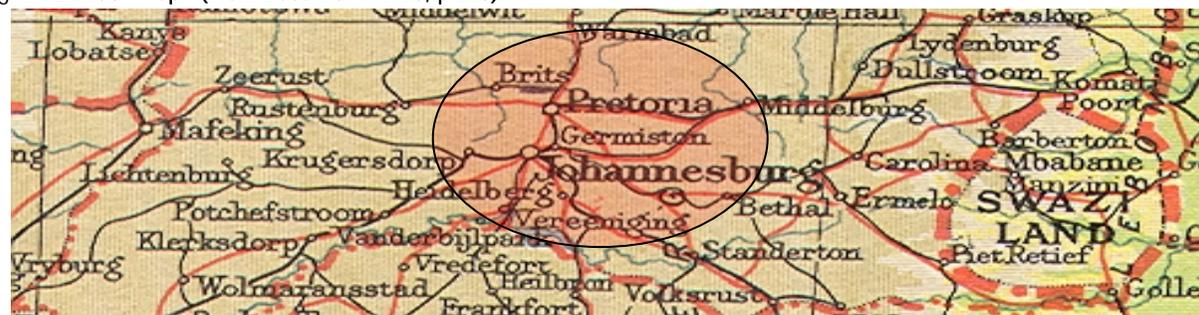
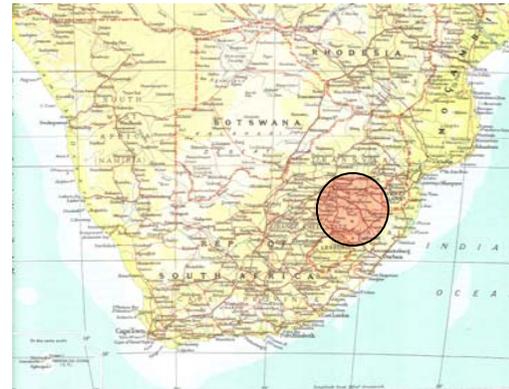


Fig. 3. Location map. (From Debenham: 1990, p.126)

Brits is situated forty-eight kilometers West of Pretoria, eighty-four kilometers North West of Johannesburg, seventy-six kilometers from Rustenburg and thirteen kilometers away from the Hartbeespoort Dam. The town is approximately one thousand and fifty meters above sea level. (Gani: 1987).

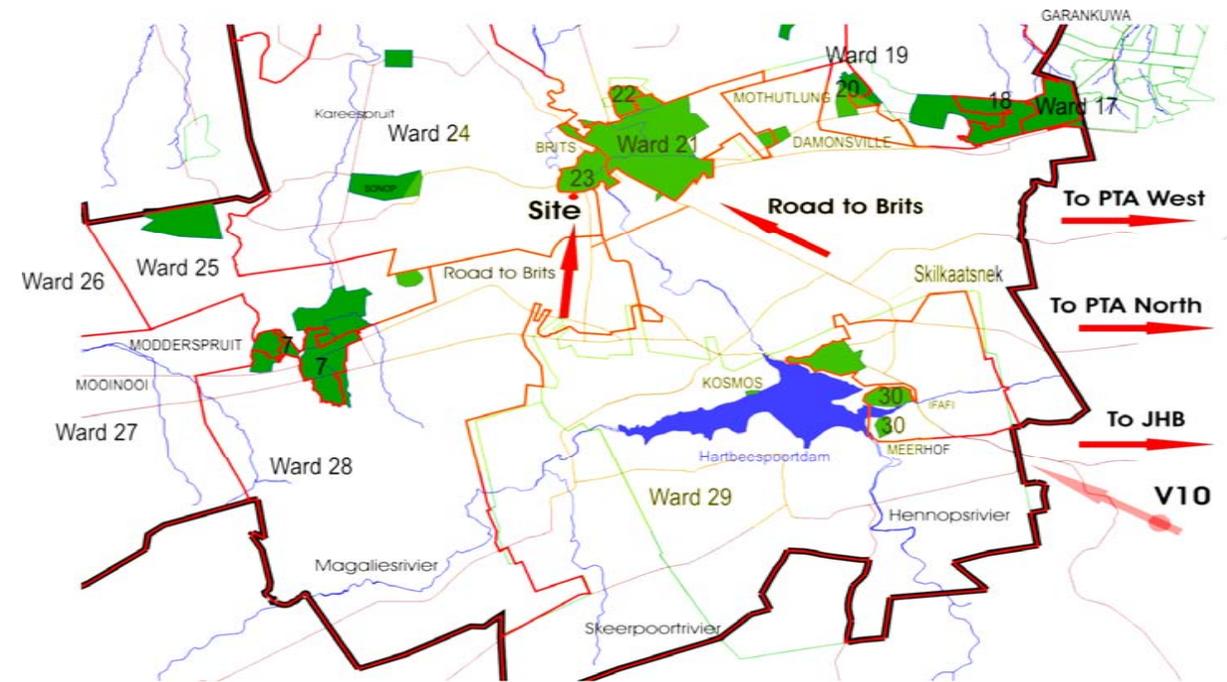


Fig. 4. Location map. (From Madibeng Council Catalogue: 2004, Section JQ8, p.5). The map indicates Brits with its surrounding suburbs. Roads demarcated in brown, indicate easy accessibility to the site. The site is located along the south-western periphery of Brits, along a major road leading into Brits.

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2. Approach to Brits:

Brits has two major roads which brings one into town. The northern-most road is mainly used by the locals, whilst the southern road is used by travelers and tourists alike, since this road is highlighted from the very onset of the approach to Brits via the setting of the Hartbeespoort Dam amidst a backdrop of a scenic mountain range.

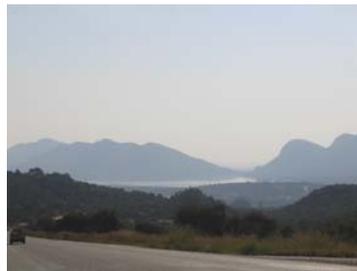


Fig. 5. Brits in general.
Along approach: one is lured to the dam



Fig. 6. Brits in general.
View of dam along winding route



Fig. 7. Brits in general.
Hartbeespoort dam: Boat in the distance



Fig. 8. Brits in general.
View from bridge towards the east



Fig. 9. Brits in general.
Panoramic of Hartbeespoort Dam from bridge



Fig. 10. Brits in general.
Leaving the dam behind

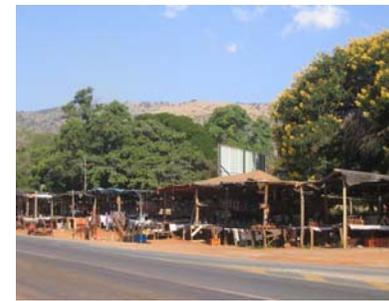


Fig. 11. Brits in general.
African curio market



Fig. 12. Brits in general.
Restaurants neighboring curio market



Fig. 13. Brits in general.
Recently opened Chameleon Village

Upon leaving the dam, the traveler is faced with numerous recreational activities, such as animal farms, camp sites and lodges, tea gardens, restaurants, curio markets and art galleries.

The proposed site is located a further 10 km away, thereby extending the tourist route into Brits town. The route to site is also marked with game farms and lodges, which eventually sprawl out into green countryside, with the mountains as a backdrop.



Fig. 14. Brits in general



Fig. 15. Brits in general



Fig. 16. Brits in general

Views of a green countryside and irrigation lands along route to site, with mountains as a backdrop.

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In December 1956 under the Nationalist Party rule, Primindia was declared under the Group Areas Act as an area for Indian Occupation only. In terms of the Group Areas Act, buffer strips were required to divide different race groups of the country. Primindia's boundaries thus stretched from the railway line between Tom and the Railway Street in the north, to the Crocodile River in the south, whilst the eastern boundary was Carel Street and the Western boundary, Brug Street, (as depicted on the map alongside). (Gani: 1987).

In 1962 Primindia was proclaimed. Since then, extensions were given to the Indians with special permission from the regional councilor in charge. In 1971 in terms of the Group Areas Act the area was extended and a further forty-four plots were allotted to the Indians. This was known as extension fifteen. In July 1986, extension 26 was proclaimed for Indians. In July 1987 some 142 plots were further assigned as an extension to already existing areas, (as depicted on the map alongside). (Gani: 1987).

Today, even though political freedom has been achieved, the Indian commercial area is sandwiched between Carel and Brug Streets along its western and eastern ends respectively, just as it was years earlier when the original perimeters were set by the apartheid government. Along its northern end, the previous railway line that served as a buffer between white and non-white zones still stands proud, whilst the southern edge is backed up against a strong residential belt. The residential area is likewise sandwiched along its northern end by the commercial area, along its southern end by a belt of stronghold irrigation land, along its eastern end by a highway, and along its western end by light industry. The impacts of the apartheid regime can yet be felt, since the Indian area cannot expand, bound by the boundaries of the past. As the need for space has grown, the Indian area has become immensely dense, and a housing shortage can be felt. Many Muslim families are forced to move out into areas where Islam cannot be felt, an area away from the Mosque, Madressa and Islamic culture. Young married couples live closely with their parents, to be a part of the neighborhood and culture, whilst the demand to ease the growing densification rises to its peak.

A suitable outlet and solution needs to be found. After a careful analysis it can clearly be observed that the link along the south western end of Carel Street to open veldt across the main road would be a best possible solution for an extension to the current Indian area. By creating a cultural village with a Mosque, a new Islamic housing belt will be suitably catered for. The new residents would then have a Mosque and an Islamic environment in their midst, and yet be closely connected to the old neighborhood by two main streets. The cultural village would also provide jobs for the new residential community, who would also

be closely linked to the heart of the western edge of town, and yet be along the periphery of the town, with dense greenery, the Crocodile River, and the Magaliesburg Mountains as their surrounding environment.

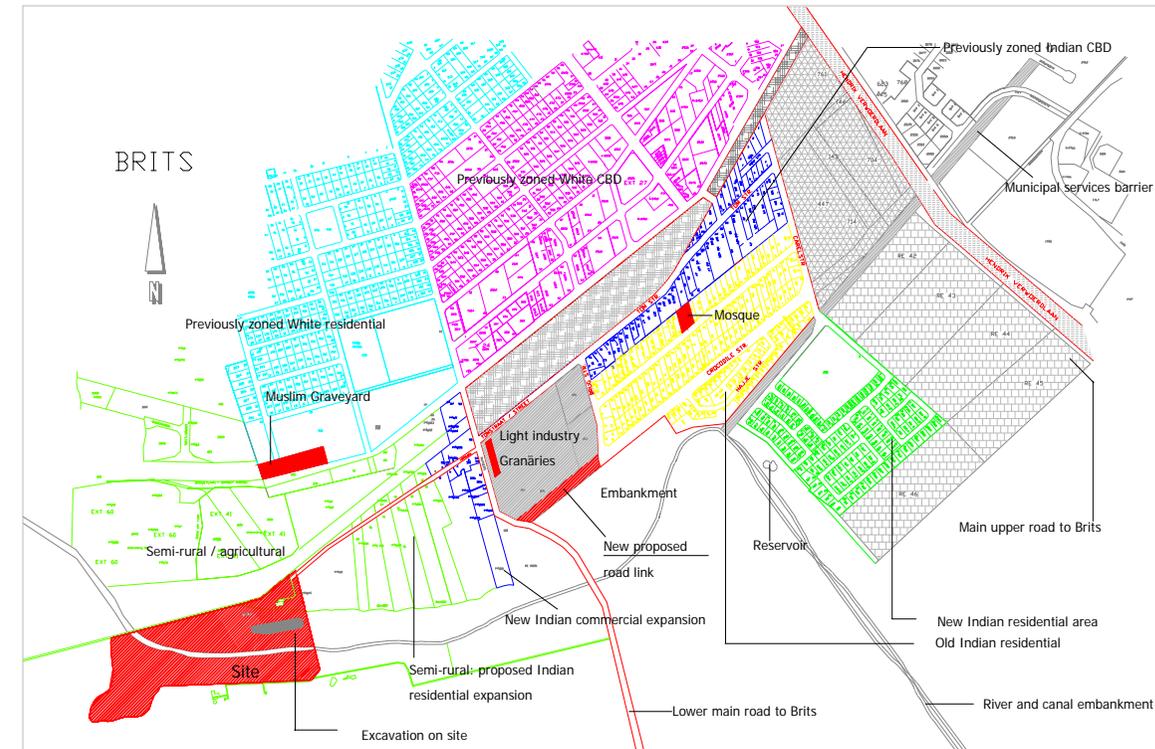
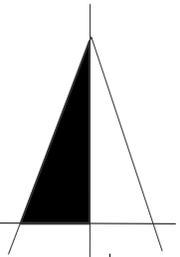


Fig. 17. The site in context. (From Madibeng Council Catalogue: 2004, Section JQ8, p.7).

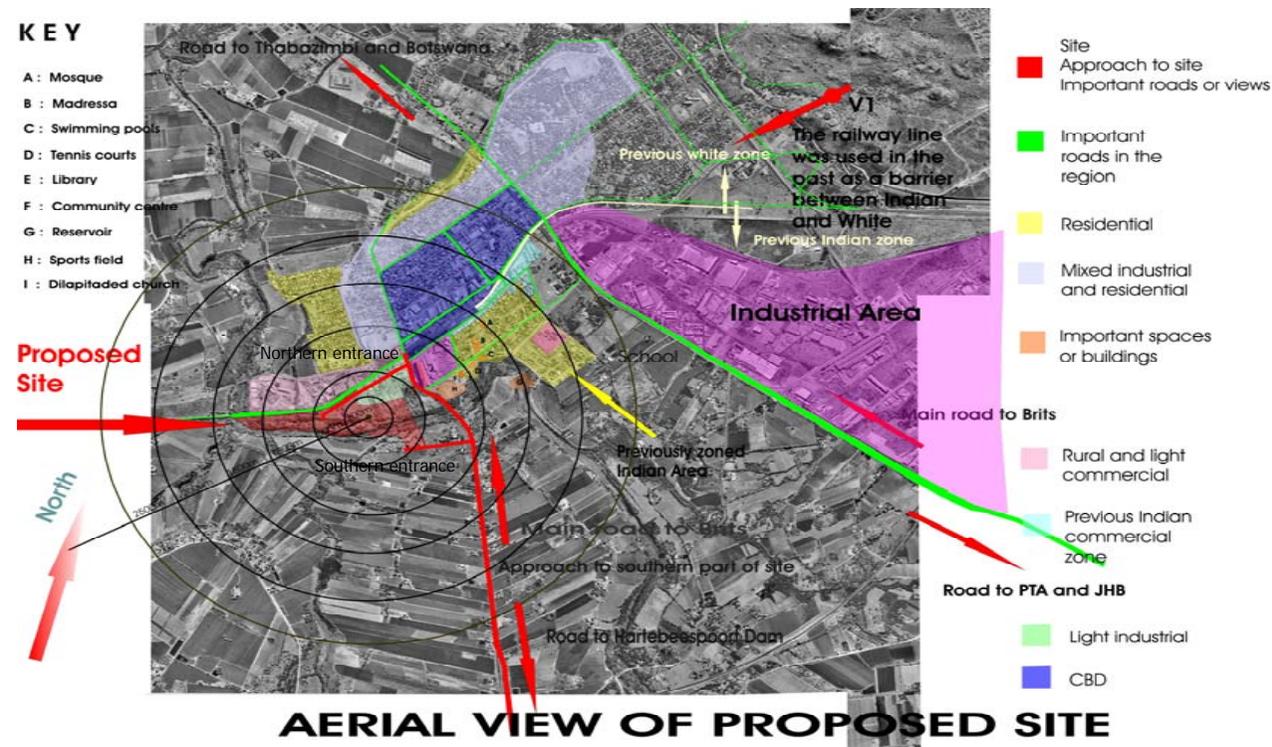
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4. An introductory map to the site:

Fig. 20. The site in context

BRITS: ZONES AND FUNCTIONS MAP



The granaries appear at the heart of Brits, and are an important landmark. Thus pictures taken are in reference to the granaries, in order to facilitate clearer orientation.

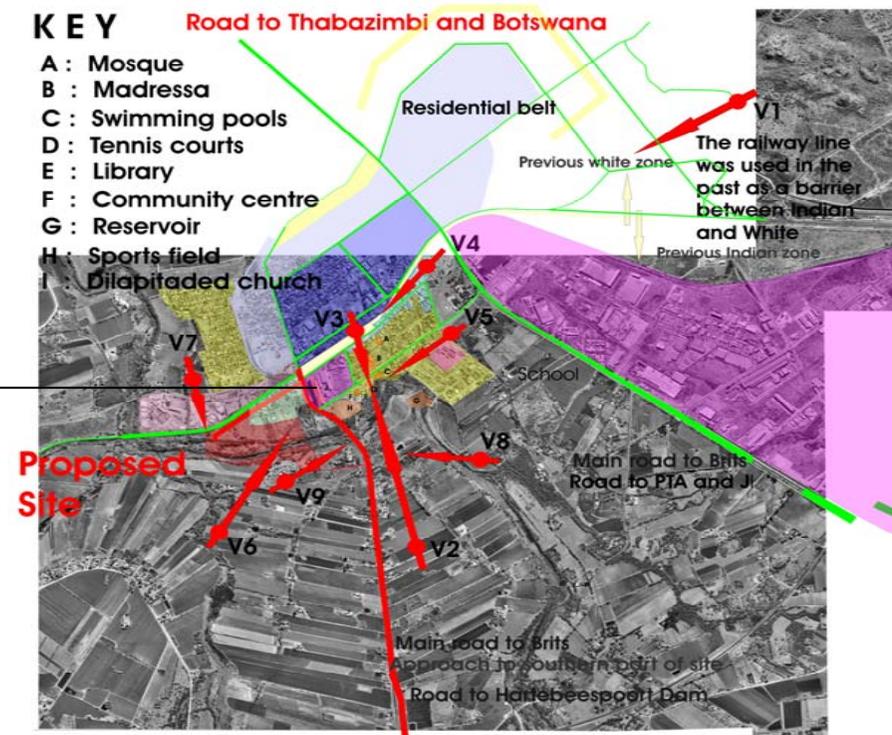
Fig. 21. Aerial view-1 of Brits



Site 1km south west of granaries

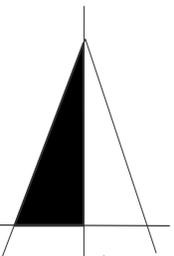
Left: Map indicating different zones and functions of Brits, as well as northern and southern entrances of proposed site.

Right: Viewing map indicating views 1-10

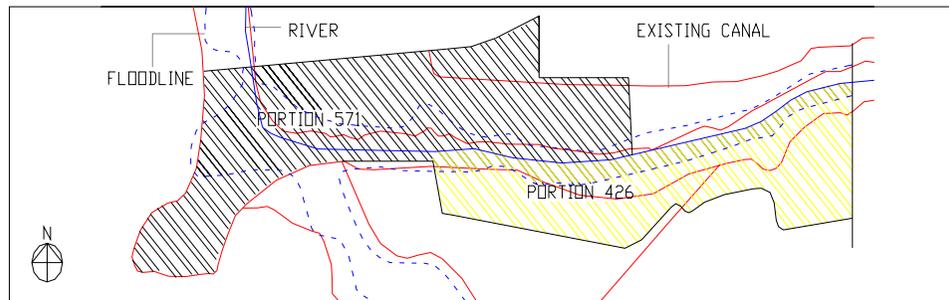
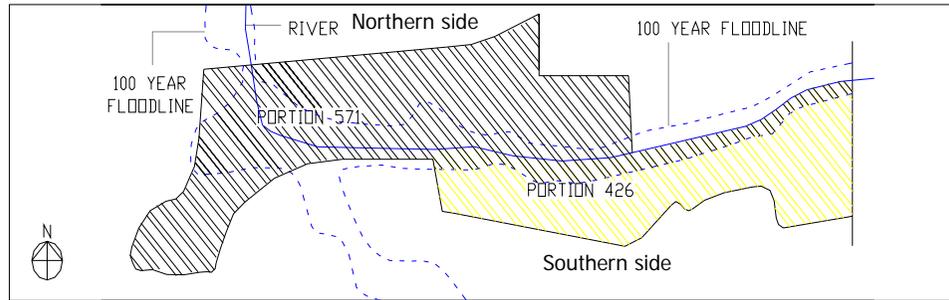
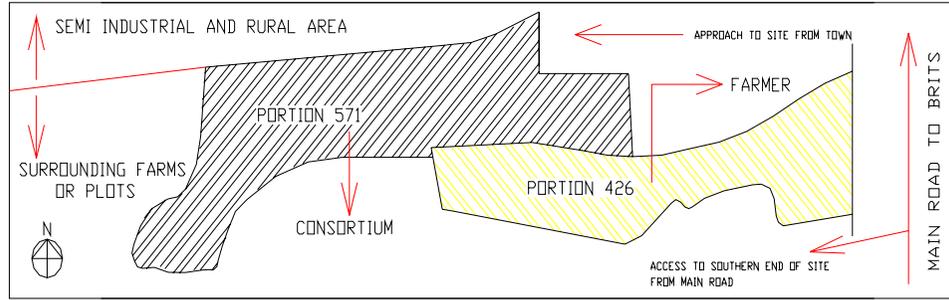


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5. Physical traits: River, canals and contours

The illustrations on the left: Begin by indicating the main road to Brits, as well as the approach to the site from two entrances, namely: the northern urban link, and the southern rural link. Further more, the site boundaries are highlighted in particular, so as to illustrate the narrow, rather longish shape of the site. The site is legally divided into portions 571 and 426 respectively. Whilst each portion belongs to different owners, the joint venture between the two owners enables the site to present itself as a whole.

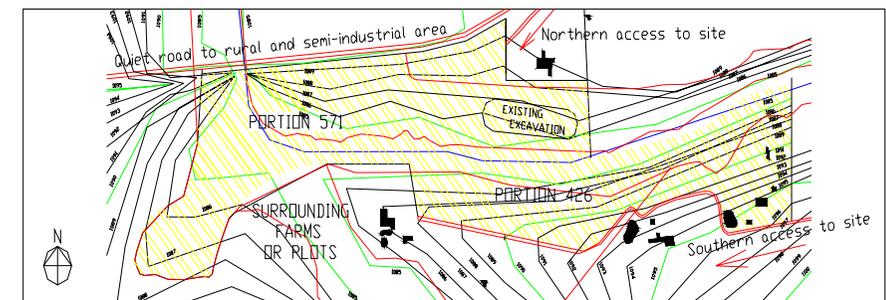
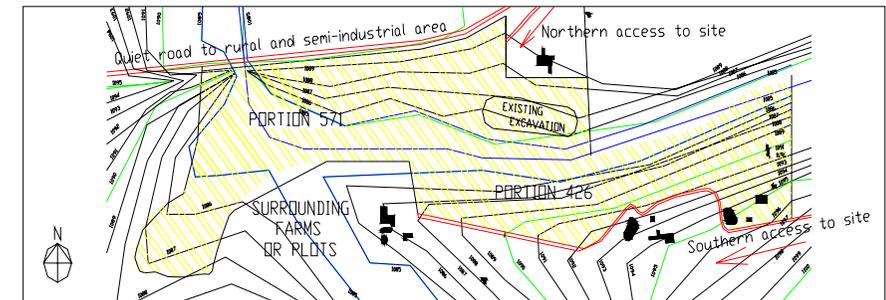
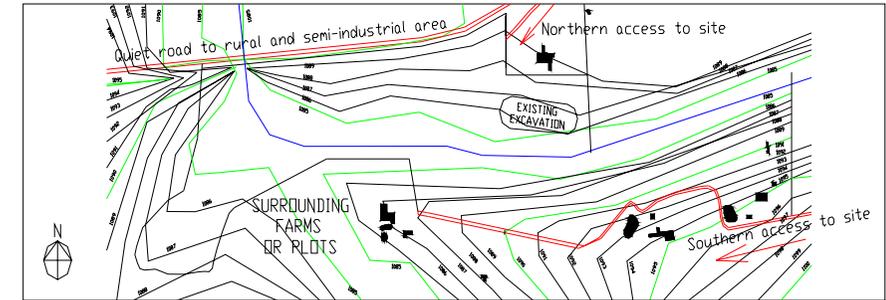
The second illustration introduces the river and its 100-year flood lines, as per the previous flood line declared in 1999.

The third illustration introduces the existing canal system, demarcated in red.

The illustrations on the right: Begin by introducing the natural contours of the site, and illustrate the existing excavation on site, previously meant for a small dam, along the north-eastern frontier.

The second illustration depicts the site (in yellow) within the contexts of its surrounding contours.

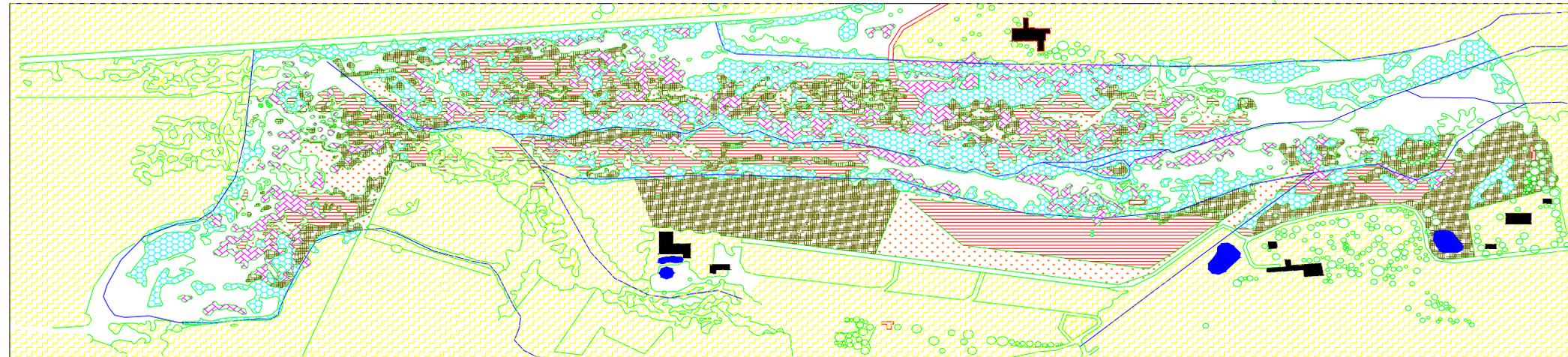
The third illustration portrays all the data compiled into one drawing. In general, the site is located along the south western periphery of town. Along its north western edge, it is surrounded by a semi-rural, semi light industrial area, whilst along its southern belt it is surrounded by dense greenery and agricultural lands. (Please refer to map on page). (Fig's. 22-27. The site in context).



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6. Vegetation density: (Fig. 28. The site in context).



	Color	Density rating					Description		
		5	4	3	2	1	Density	Type and general comments	Further remarks / input
E Y Y		X					Very intense density	Sweet thorn, mature trees, indigenous forest bush	
			X				Intense density	Younger trees, Buffalo thorn – evergreen – ziziphus moeronata	
				X			Moderate density	Celtus Africana tree: white stinkwood; Arcacias	
					X		Low Density	Common names: Karee tree, river bush willow	
						X	Very low density	grassland, weeds	
		Surrounding areas – mainly farms or plots; Open spaces – extreme low density – barren regions							
Alien plant life around the river is in the process of being removed in a recent project due to the alien plantation blockage of the river coarse									

7. The site in

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context:

a. Climate:

Brits is situated 1050m above sea level, with latitude of approximately 26°. Summer temperatures are thus hot, ranging from 13.1° (minimum) to 32° (maximum), and a relative humidity between 45° and 50°. According to SPP, a company specializing in optimal thermal environments, (personal interview), the humidity of the site, due to its closeness to the Crocodile River, could reach a humidity level of 55°, (personal interview). Winter months are usually dry and mild, with relative humidity levels dropping between 25° and 28°, with temperatures ranging between 3.2° and 29.3°. The average rainfall of the area is approximately 700mm, of which 85% occurs during the summer in the form of thundershowers. (SAWS, 2003).

b. Wind:

Winds are light to moderate and are typically from a south easterly direction, probably due to the current location of the town within the dip of the Magalies Mountain range. In general wind turbines require an average of 11km/hour to operate, (Lyle, 1994). With an average wind speed of 6.5 km/hour, with 35% of the year being calm, (SAWS, 2003), generating electricity through wind power would not be a suitable option. The tilt of photovoltaic cells should approximately be equal to the latitude of the site minus ten degrees. Thus the latitude of Brits could be said to be approximately 26°. Thus the angle of the photovoltaic cells should be positioned at 16°.

c. Solar patterns and solar radiation

During summer, the Brits region experiences on average, 70% bright sunshine, whilst in the winter months it is as high as 81%. (SAWS, 2002). The abundance of solar energy should thus be capitalized upon to its maximum potential, in order to save on long-term energy costs. The tilt of photovoltaic cells should approximately be equal to the latitude of the site minus ten degrees. Thus the latitude of Brits could be said to be approximately 26°. Thus the angle of the photovoltaic cells should be positioned at 16°.

In light of the aforementioned climatic and solar patterns, solar radiation would be phenomenal. Care would thus have to be taken in the allocation of materials and their relative transmission of heat, (u-values), as well as effective measures to counter against excessive radiation thereby affecting comfort levels in the internal environment. Both eastern and western facades, as well as the roofing planes should adequately cater for radiation via means of insulation, recesses and screening of various natures'. (Please refer to Section-F, titled 'Technical investigation,' (pg), for more details on sun paths and u-values, and their consequential design alterations.

d. Water supply:

The site currently has a fresh water stream flowing beneath it, along both its northern and southern sections. This could provide water for the proposed development via the means of drilling boreholes approximately 80 feet deep. Since the site borders on the Brits district proper, as well as peri-urban area, it has the advantage of gaining water supplies from council, as well as gaining water, via the existing canal system from the Hartebeespoort Dam. By further conserving rain water, the site has numerous avenues of water supplies.

e. Electrical supply:

The site, as previously mentioned, borders on both urban and peri-urban regions. Therefore electrical supply is determined by two sources, namely, the Brits Electrical Board, as well as ESKOM. These, together with back-up generators in the form of photovoltaic cells, would provide amply for all requirements.

f. Sewage:

The council sewage line runs through the northern sector of the site. Thus the proposed development would drain all its sewage to the provided connection. The southern section however would have to make use of septic tanks and the likes thereof, as is practiced by the surrounding farm belt. Since this sector will be falling beyond the domain of the thesis, it would be sufficient for all sewage to connect to municipal mains.

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g. Wastes:

A waste collection area would have to be determined on both northern and southern sections of the site. The wastes collected on the northern side would then be collected weekly by the council, as is regular practice within the urban precinct. The southern sector in contrast, would have to have its own waste collection and dumping criteria, or could be affiliated to the northern waste collection, via an additional fee. The latter proposition however, would harbor upon council's ruling, and would for the purposes of the thesis be ruled out, with the southern sector having an independent waste collecting and dumping criteria.

h. Storm water drainage:

Storm water in both sections of the site, should carefully be channeled towards its natural water course on site, meaning towards the Crocodile River. Many examples of this sort of water channeling are commonly in practice within the surrounding area, for example Mouna-Manzi, a resort along the Crocodile River banks, approximately 10 km away, as illustrated below:



Fig. 29. Possible solutions



Fig. 30. Possible solutions

Water channeling at Mouna-Manzi, Hartebeespoort, Brits

8. Basic model of site:



Fig. 31. Model of site with initial concept

Fig. 32. Model of site with initial concept

Fig. 33. Model of site with initial concept

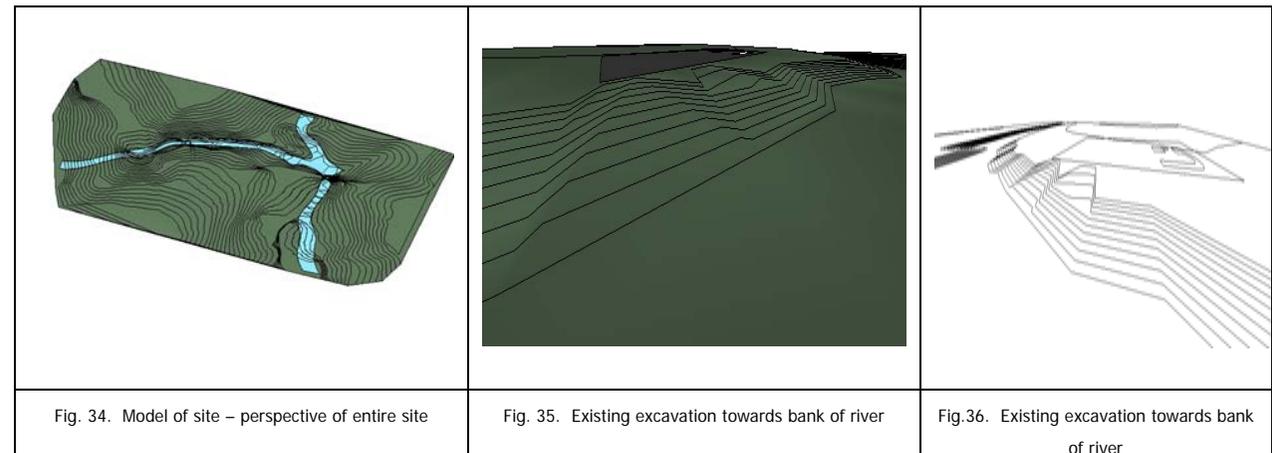


Fig. 34. Model of site – perspective of entire site

Fig. 35. Existing excavation towards bank of river

Fig. 36. Existing excavation towards bank of river





9. Illustrations pertaining to the site in context:

a. Visual links and approach to the southern sector of the site:

Traveling along the southern road towards Brits, one encounters the southern entrance of the proposed cultural village, allowing a peak of the town, with the granaries in the distance.



(Fig. 37. The site in context). View-2
Peak towards town before entering site



(Fig. 38. The site in context). View-6
View of granaries from southern entrance



(Fig. 39. The site in context).
Approach to site off the main road: southern entrance

The northern end of the site can be approached by continuing along the southern road, over the Crocodile River, and into the town.

Entrance to Site from south entrance



(Fig. 40. The site in context).
View 8: View of bridge over Crocodile river



(Fig. 41. The site in context).
View 8: View from bridge looking west



(Fig. 42. The site in context).
Close up view from bridge, looking west

b. Views from the southern sector along the lower main road looking east:

Viewing from the bridge towards the east, we notice the Muslim residential component, as well as the community center.

Viewing from left to right:



(Fig. 43. The site in context). View 9:
Community center in the background



(Fig. 44. The site in context). View 9: Smaller
pedestrian bridge behind community center



(Fig. 45. The site in context). View 9: Muslim
residential component in background



(Fig. 46. The site in context). View 9: Close
up- Muslim residential sector in background



(Fig. 47. The site in context). View 9: View of river
and canal, with Muslim residential area in background



(Fig. 48. The site in context). View 9: ZCC
members traditionally baptizing in the river water

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c. Approach from the upper main road:

Approaching Brits from its northern-most road, one passes through the famous pass of Silkaatsnek. Brits can be seen in the distance, at the bottom of the hill. Upon entering Brits, the site could be accessed via Tom Street, via the Muslim commercial district. The site is located 1km away from the end of Tom Street, amidst a side street. This is termed the urban link of the site.



(Fig. 49. The site in context). Silkaatsnek pass in the distance



(Fig. 50. The site in context). Close-up: Silkaatsnek pass in the distance



(Fig. 51. The site in context). View 4: Tom Street- Commercial heart



(Fig. 52. The site in context). Access road to site at end of Tom street, just pass granaries, leads to gravel road.



(Fig. 53. The site in context). North entrance to site from CBD



(Fig. 54. The site in context). Existing excavation on northern portion of site

d. Views of the northern sector of the site:



(Fig. 55. The site in context). Northern side: existing excavation with client's house in the background



(Fig. 56. The site in context). Northern side: canal passing through site, looking east



(Fig. 57. The site in context). Northern side: canal passing through site, looking west



(Fig. 58. The site in context). Northern side: Viewing dense greenery on site



(Fig. 59. The site in context). Northern side: peak at river through greenery



(Fig. 60. The site in context). Northern side: View of river bank





e. **Views of the southern sector of the site:** Views begin at the river and terminate at the southern entrance of the site.



Fig. 61. Southern side looking north: granaries in the background demarcated in red.



Fig. 62. Southern side looking west: steeper gradient of the site towards the river embankment



Fig. 63. Southern side looking north: steeper gradient of the site towards the river embankment



Above: Fig. 67. View of river from the southern sector.



Fig. 68. View of density on southern side



Fig. 69. View of canal on southern side



Fig. 70. Bridge over canal leading towards the plot 426.



Fig. 64. View from southern side overlooking the canal, with granaries in the background



Fig. 65. View from southern side towards granaries



Fig. 66. Existing house on site built from local low-intensity river-sand-concrete blocks



Below: Fig.'s 71-72. The Gardens at plot 426 – the garden will become part of the proposed cultural village experience.

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f. Important visual links within the community:



Fig. 73. View of bridge from the garden at plot 426



Fig. 74. View of granaries from the garden at plot 426



Fig. 75. Exit on gravel road to main road

I. Reservoir view:



Fig. 76. View of reservoir from northern end of site looking south east

Below: Fig. 78.
View of reservoir (on far left) from residential zone. The granaries can be seen on the far right, with the beginnings of the site just behind the granaries



Fig. 77. Close-up of waterfall at reservoir



II. The visual link with the minaret within the community:



III. Urban links to the site:



Above: Fig. 82. Visual links

Left: View 3 - the southern entrance to the site can be seen from town, with the mountain as backdrop.
Right: the northern link to the site is located at the end of the Muslim commercial sector.

Below: Fig.'s 85-86. Visual links



Fig. 84. Physical link to southern entrance of site



Crocodile Street within the residential area, terminates in a gravel pathway which creates a link to the site

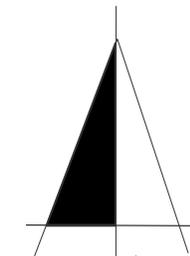
Above: Fig.'s 79-81. Minaret links



Above: Fig. 83. Visual links



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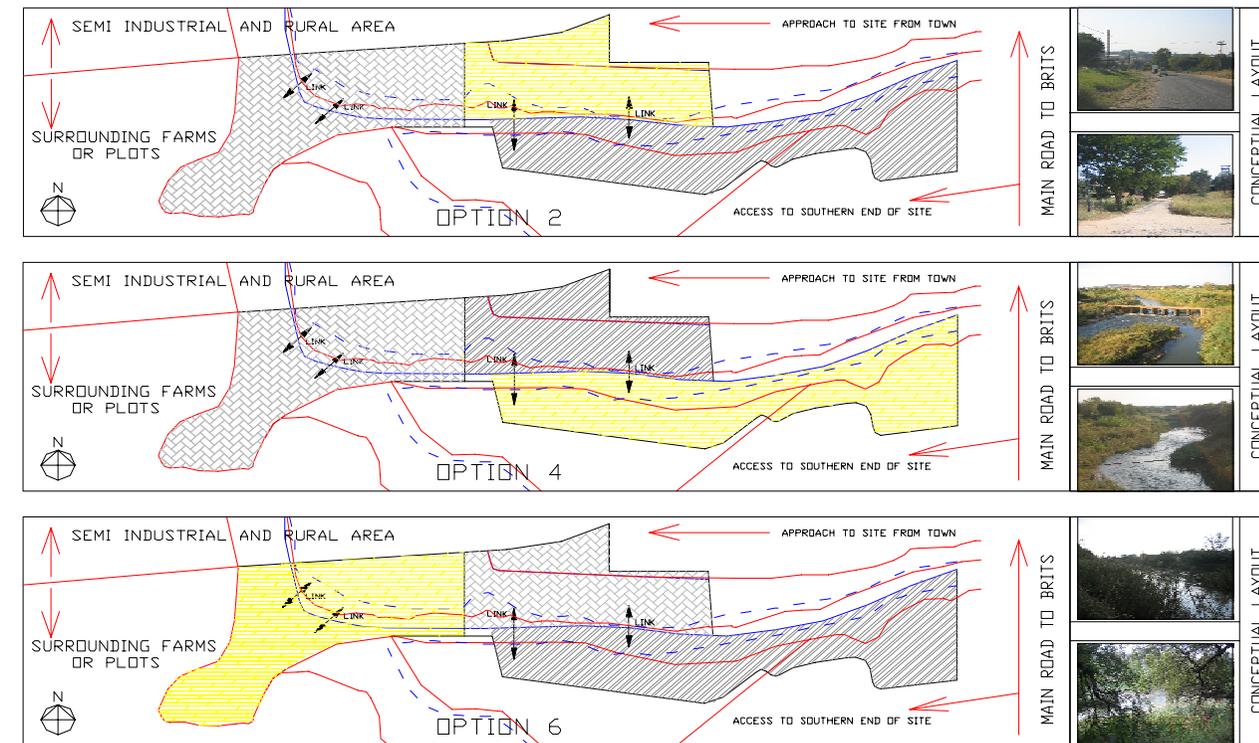
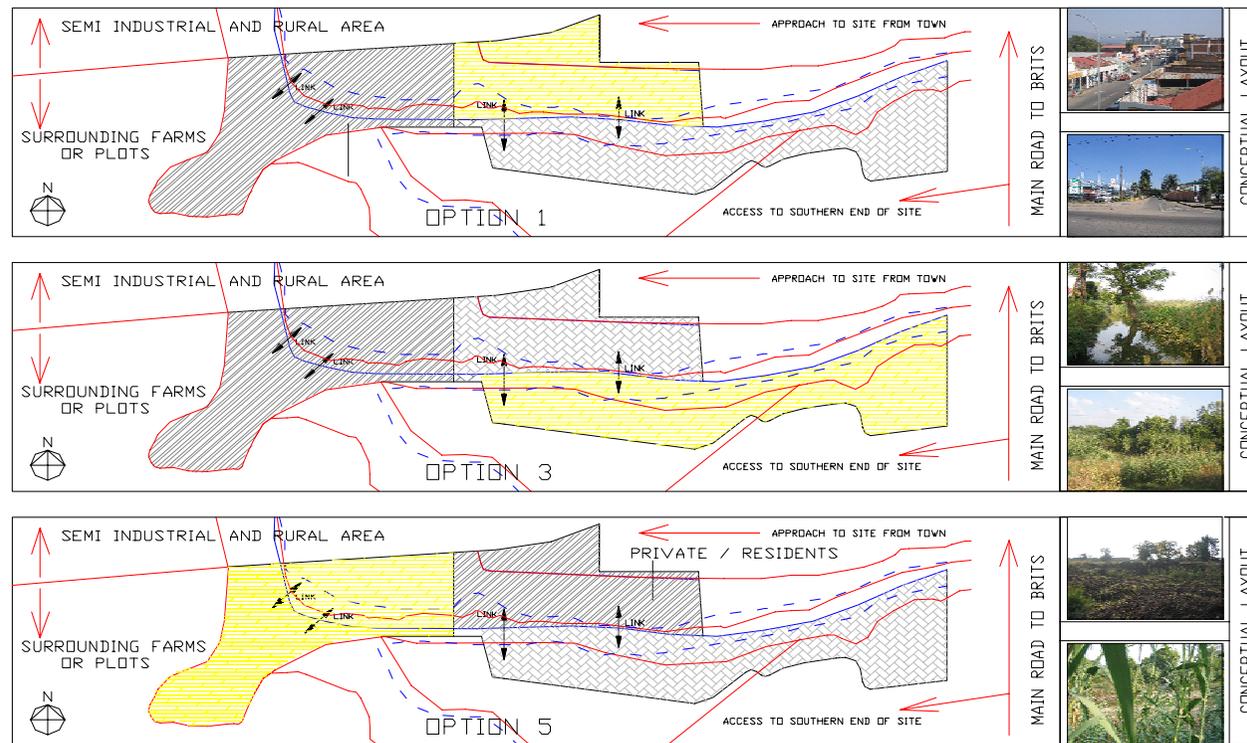


Basic zoning criteria: Scale 1: 10 000

Fig.'s 87-92. Framework analysis

Key:

 Relaxation Belt
  Spiritual Belt
  Public Belt

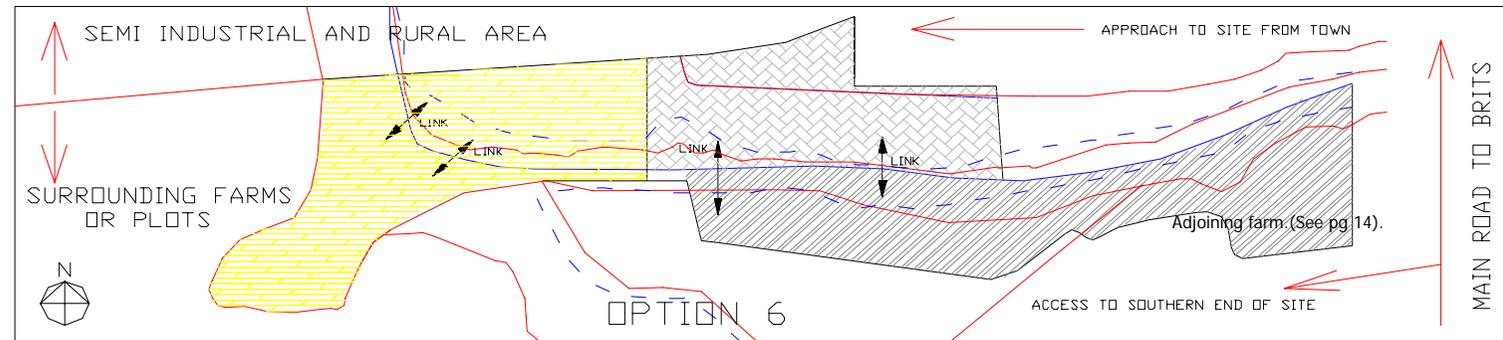


Since the brief stipulates 3 zones, which can be paired with each other in any suitable fashion, 6 possible frameworks could exist.

The best framework was chosen to be option 6, as is explained on the following page.

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Key;

- Relaxation Belt
- Spiritual Belt
- Public Belt

The client implicated that the site be categorized into three distinct zones, namely:

- A public zone to house activities which are intended for all cultures to experience an Islamic setting
- A spiritual belt for residents only
- A relaxation belt for residents only

Fig. 93. Framework analysis.

The north eastern sector was chosen for the public belt. This stems from the fact that it has the closest affinity towards the town, and would thereby make it suitable for locals to easily access the site, via the entrance within the town. By placing all public structures, such as the conference center and its adjoining eating areas, the Mosque as well as the exhibition center along this belt, it would thereby bring tourists and travelers into the town in order to access the cultural village. This would thereby have a positive impact upon the economy of local business.

The southern belt was chosen for the spiritual belt. This would enable all meditation units to face the river, spread along the longitudinal pattern of this sector of the site. It would also provide an easy link to the more religious nature of its opposite public belt, yet is separated via the Crocodile River. Furthermore, the spiritual belt would have its own access along the more rural entrance of the site, which would thereby enable these guests to enter there spiritual haven without having to go into the hustle and bustle of the town. The spiritual belt would also have a link to the adjoining farm along the south-eastern sector of the site.

The north-western belt was chosen for the relaxation belt. This would cause guests visiting the cultural village for purely recreational pursuits, to enter the cultural village via the town. The relaxation belt is also suitably tucked away from the more religious nature of the other two belts, separated from them via the Crocodile River.

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