

CHAPTER TEN

MAJOR TOWNS OF THE EASTERN CAPE

10.1 INTRODUCTION

The Eastern Cape saw the establishment of a number of British government sponsored settlements (mostly military in origin). This is unusual in South Africa as most of the towns were established by either the Dutch (as agricultural centres) or were commercially driven such as the mining towns (Kimberely, Johannesburg, Barberton and Pilgrim's Rest) and the towns established at advantageous points on trading routes such as at the major river fording points (Escourt and Howick). This chapter investigates some of the major early Eastern Cape settlements, the rationale behind their establishment and the role of the military and specifically the Royal Engineers in their establishment.

10.2 GRAHAMSTOWN BACKGROUND

The British were determined to end the conflicts in the unwanted eastern areas, and at the behest of the *Landrosdt* (Magistrate) of the area, Colonel Glen Cuyler¹, launched an offensive in the Zuurveld under the command of a Scottish officer of noble birth, Colonel John Graham² and the deputy *Landrosdt* of the area, Andries Stockenstroem. The object

¹ **Colonel Cuyler** of the 59th Regiment of Foot, was born at Albany (previously Orange) in the colony of New York, but his United Empire Loyalist family moved to Nova Scotia when he was still a boy as a result of their refusal to support the separation of the United States from the British Crown. Being from a Yankee (Nieuw Nederland Dutch) family, he spoke the Dutch language. He held a Nova Scotian commission, and it was unusual in his time for a colonial commission to be recognised by regular forces.

He was appointed as military commander on the eastern frontier in the Cape Colony and later became landdrost of the Uitenhage. Cuyler's first task as landdrost was to have a drostdij (Magistrates house/ office) building erected, but lack of labour (commandeered from farmers in the district) meant that it took eight years to complete. The drostdij still stands, and is today a museum (<http://www.oocities.com>)

² **Colonel John Graham** 93rd Regiment of Foot (24 April 1778– 13 March 1821) was a soldier notable for founding Grahamstown, South Africa in 1814. Grahamstown went on to become a military, administrative, judicial and educational centre for its surrounding region.

was to “clear the Zuurveld” of the Xhosa (Butler, 1974; Danzinger,1978). In 1812, the Colonial Office in Whitehall received a dispatch informing them that Graham had succeeded in his task by using “a proper degree of terror” (KAB GH 23/4,1812 Papers despatched to Secretary of State, London Reporting the operations of Colonel Graham on the Frontiers).

The war of 1811-1812 was in fact a very nasty and bloody conflict, unlike the earlier skirmishes. Stockenstrom was killed and Graham was lucky to escape with his life. Before the action in which Stockenstrom died he and Graham were scouring the countryside and looking for a place where they could establish a military base. They came across an overgrown and abandoned *Boer* farm called Rietfontein which seemed to be a most ideal spot, and the military base began to grow. The tree which they sat under is now marked by a plinth in High Street. Cuyler named the town in Graham’s honour – Grahamstown (Butler,1974; Edwards,1934; Danzinger,1978).

After the war the Xhosa had come to a crisis, they had just been expelled from the areas to the west of the Fish River, and a family squabble had turned very bloody indeed. Into this confusion stepped a most remarkable man, Makana, or as some called him, Nxele, the left-handed one. Makana rallied the Xhosa behind him and prepared to attack Grahamstown which was correctly seen as the centre of colonial rule in the area. On April

John Graham was born in Dundee, Scotland. He was the second son of Robert Graham, the last laird of the demesne of Fintry and 12th representative of the Grahams of Fintry in Forfarshire, Scotland. Later in life, John became the 13th representative of the Fintry Grahams following the death of his elder brother in 1799 and his father in 1816.

At the age of 16, John was commissioned in the British Army, joining the 90th Regiment of Foot, which had been raised in 1794 by his kinsman, Thomas Graham of Balgowan (later Lord Lynedoch). Two expeditions to France in the late 1790s were followed by an appointment as aide-de-camp to the Earl of Chatham, who Graham served in the Netherlands. After three years on Guernsey with his regiment, Graham was sent to Ireland in 1803 and became assistant quartermaster-general.

January 1806 found him raised to the rank of Major in the 93rd Regiment of Foot, in which capacity he took part in the Battle of Blaauwberg, helping Great Britain to re-occupy the Cape of South Africa. Rapid promotion to Lieutenant Colonel led to him being given charge of the Cape Regiment (refer to footnote 5 chapter 8 page 214), based at Wynberg, which Graham trained as light infantry capable of delivering outstanding performance in wooded terrain (Wikipedia).

22nd 1819 Makana and his forces attacked Grahamstown. The forces gathered in full view of the British Garrison under the command of Colonel Tom Willshire, in the morning allowing them to prepare their defences. There are many stories about the battle of Egazini (the Xhosa name for the battle of Grahamstown meaning 'place of blood'). One of the myths is that Makana told his men not to worry about the bullets, "as they would be turned into water", a recurring theme in African anti-colonial struggle, as shown in the Maji-Maji revolt in German controlled Tanganyika in 1912. What Makana probably said was that he would wait for the rain that would dampen the gunpowder. When it was obvious that it would not rain he unleashed his forces on the garrison (Danzinger,1978; MacLennan, 1986; Le Cordeur, 1981).

It was "a close run thing". The garrison now had artillery and the Xhosa had their first experience of grapeshot that ripped through their ranks. Grahamstown in those days had a small civilian population that lived about a mile from the military base which was known as Fort England. This too was attacked by a smaller force, but managed to hold on. Word came through from Fort England that the base was running low on gunpowder. Mrs Elizabeth Salt, the wife of a sergeant at the base, put a small barrel of powder in her bodice to give the impression that she was pregnant, and knowing that the Xhosa would never harm a woman or a child, walked through their ranks to Fort England (MacLennan, 1986; Stapleton,1994).

Towards evening, the surviving Xhosa retreated back beyond the Fish River, leaving thousands dead and wounded. Egazini, which many historians consider to be "the most significant battle in South Africa's history", was over. Makana surrendered to Willshire but instead of being treated like a prisoner of war he was sent to Robben Island, the first political prisoner to be incarcerated on that now famous place. He later drowned trying to escape, his body was never recovered (Stapleton,1994).

Grahamstown grew from its initial military post into a town during the 1820s. The frontier was by no means secure and it would take much more resources to pacify the frontier, which in the post Napoleonic War slump, the British were reluctant to commit. The Xhosa also learnt of the power and horror of artillery, they would rarely confront cannon again. From henceforth they would fight a guerrilla war using the bush that they knew so well for their advantage.

The authorities in Whitehall decided on a scheme to settle people from across the British Isles in the Zuurveld, to try to secure the frontier.

The 1820 Settlers introduced a new dynamic into the South African scene that went beyond their agricultural struggles. The imperious governor of the Cape at that time, Lord Charles Somerset, the second son of the Duke of Beaufort, was astonished when one of the settlers, the Scottish poet Thomas Pringle, informed him that although he was not as well born as the noble lord, he, Pringle, did have rights and he was going to exercise them. It was possibly the first time that the concept had been so articulated. Pringle went on to establish the first newspaper in South Africa (Le Cordeur, 1981; TAB Microfilm M2951 – Grahamstown Journal; KAB Microfilm ZD/P4 – Pringle Papers 1819-1826).

Not long after their arrival the settlers started agitating for parliamentary representation, another unforeseen consequence of the scheme. The first newspaper in Grahamstown, The Grahamstown Journal was first published in 1831 (TAB Microfilm M2951-Grahamstown Journal). Schools would follow, and formal education begun.

The other change brought about by the settlers was their attitude to cattle. All other groups viewed cattle with an almost religious fervour. The British settlers viewed cattle as simply another commodity to be bought or sold. After their failure at crops, the settlers began to look at the native sheep with increased interest. In the 1840s Richard Daniell imported merino sheep. The area was ideal for sheep and the economy of the entire Cape was transformed as wool exports began to grow. The introduction of Angora goats started the mohair industry which continues to this day. The fledgling town of Port Elizabeth, which had been founded to accommodate the arrival of the settlers, suddenly found itself to be an increasingly important export harbour, and soon overtook Cape Town as the busiest port in South Africa. The Cape Colony had always been a drain on the resources of the Governing Authority, less than twenty years after the arrival of the 1820 Settlers it was paying for itself (Le cordeur, 1981; MS16929 – Grahamstown Chamber of Commerce Papers).

During this time Grahamstown began to take form. The town was laid out from the wall of the first structure in town, the yellow house which still stands in high street. Before long a

second street was needed and because it was new, the second oldest street in town, is still known as “New Street”.

Amongst the settlers was a group of Methodist priests, including the Reverends William Shaw and John Ayliff who tended to the spiritual needs of the settlers. As a result the Albany area became a Methodist stronghold and the place where the Methodist missionary endeavour in South Africa was launched. The first place of worship, the First Wesleyan Chapel, was erected in what is now Chapel Street in 1822, where the remains are preserved as a ruin. The first Anglican church, St Georges Church was built on Church Square in 1824. Over the next 130 years the modest little box-like church was enlarged and expanded to become the current Cathedral of St Michaels and St George. The first public buildings, the court and the gaol were erected at about the same time (Caffrey, 1973, Cardy, 1990, Welsh, 2000, Haswell, 1980).



Figure 80: Landing of the 1820 British settlers at Algoa bay - painting by Thomas Baines in the Albany museum in Grahamstown - 1820 settlers (www.south-africa-tours-and-travel.com/images/...)

10.2.1 GRAHAMSTOWN'S LAYOUT

The town was laid out in a grid form with very wide main streets (100 feet wide) running east west and 15m wide secondary roads, running north-south (figure 84). All of the buildings were built along the front property boundary creating a very urban feel. The town centre is a triangle of land with a church on axis with the main road (that is the church front

forms a central vista when looking east up the hill of the main street). The road terminates at the *drosty* (magistrates court) on the western side of town. (Note that the north point on the plan of Grahamstown, figure 84, points to the bottom of the page unlike modern convention which would point to the top of the page). It is unclear who designed Grahamstown, the plan below is drawn by H.W.Piers and it is noted that this is a duplicate as the original never arrived in London. A number of plans from the time drawn by Piers note that they are copies from sketches by Stretch (refer to figures 65, 73 and 77). Charles Lennox Stretch (1797-1882) arrived at Cape Town in 1818 with the 38th Regiment as an ensign on half pay (before 1871 an ensign was a commissioned officer in the British infantry of the lowest rank). He transferred to the eastern frontier to become assistant engineer to Major Cuthbert Holloway, commanding Royal Engineer in the Cape Colony. Stretch was appointed government surveyor in 1824 and was employed on a military survey of the colony until 1827. He took up this appointment again in 1835 after the Sixth Frontier War of 1834-1835; at that time he was captain in the 2nd Battalion, Provisional Colonial Infantry, and became active in the design and building of forts (le Cordeur, 1988; Garson, 1992:19). It could thus, be inferred that the Royal Engineers were involved in the design of the town, however the actual person who drew the plan was not a Royal Engineer, what is clear is that the military drew the plan. It is also clear that the Royal Engineers co-opted people of ability when required.

The 1820 Town regulations are still available in the Albany Museum (Manuscript SM370 – Albany Museum), they are signed by John Knight the Field-Cornet (a civilian invested with the authority of a military officer and empowered to act as a magistrate) and cover issues such as: regulations over nuisances, *outspanning* in the street (a place for people travelling to stop to rest their animals), cattle or cow stalls, riding violently, loose cattle damages, straw huts and brick kilns.

10.2.2 CONCLUSIONS ABOUT THE GRAHAMSTOWN LAYOUT

Grahamstown shows a very strong military influence, not only was the site of the town selected for military purposes but the military surveyed and planned the town. The military also formed a major proportion of the residents of the town. If you analyse the layout in

relation to the 'Grand Modell' (as discussed on page 17) it meets many of the elements of the Model.

Firstly, although the aim was to establish a military base the original design included an urban settlement. Secondly the area around Grahamstown was divided into farms and urban plots were established in town. The allotments shown in figure 87 illustrates that sub-urban plots were provided as well. The streets, as with all British colonial towns, are wide and straight and the town plan was approved in London before pegging and sale of plots. A public square, or in the case of Grahamstown a triangle, was provided. All the plots were large, rectangular and of equal size. the town was also surrounded by town common lands. The layout thus, shows a strong correlation with the 'Grand Modell' – the colonial policy of the time.

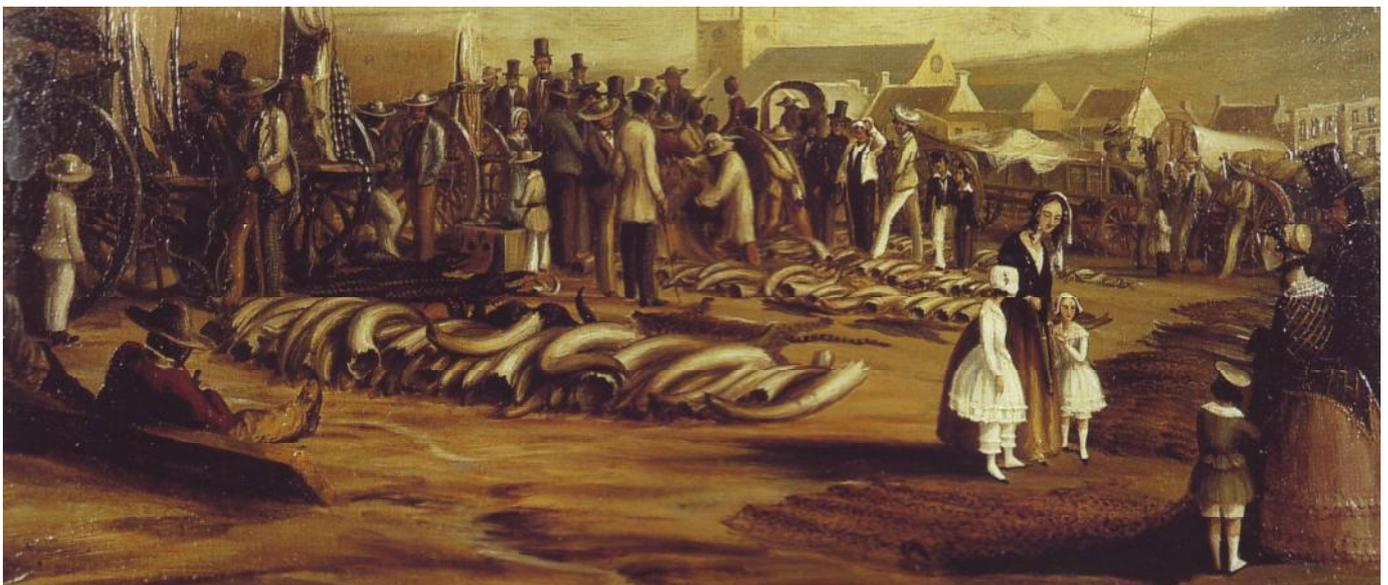


Figure 81: The Market Square circa 1850, a Baines Painting in the Albany Museum (after O'Meara:1995:21)



Figure 82: Grahamstown from Fort Selwyn, painted in 1850 by Thomas Baines (After O'Meara:1995:13)



Figure 83: Early Painting of Grahamstown (Haswell:1984)



Figure 84: WO 44/4 No 11 Map of Cape Colony: Grahamstown (now in Eastern Cape Province, South Africa). 'Plan of Grahams Town': shows Scott's Barracks, other military buildings, private buildings in the area; waterways, roads. Scale: 1 inch to 220 yards. Reference table. Compass indicator. Drawn by H W Piers, October 1838, to accompany duplicate of a letter dated 17 September 1838 from the Respective Officers at the Cape of Good Hope to R Byham, Secretary to the Board of Ordnance, the original having failed to reach London. Public Records Office Kew



Figure 85: Sunday Morning, High Street Grahamstown, December 28, 1848, by Thomas Baines (the Troops marching to Church) (After O'Meara:1995:90)



Figure 86: The Town Square Grahamstown 1903 note the ox wagons. Most early South African towns have extremely wide streets to allow a fully spanned ox-wagon to U-turn. (O'Meara:1995:16)

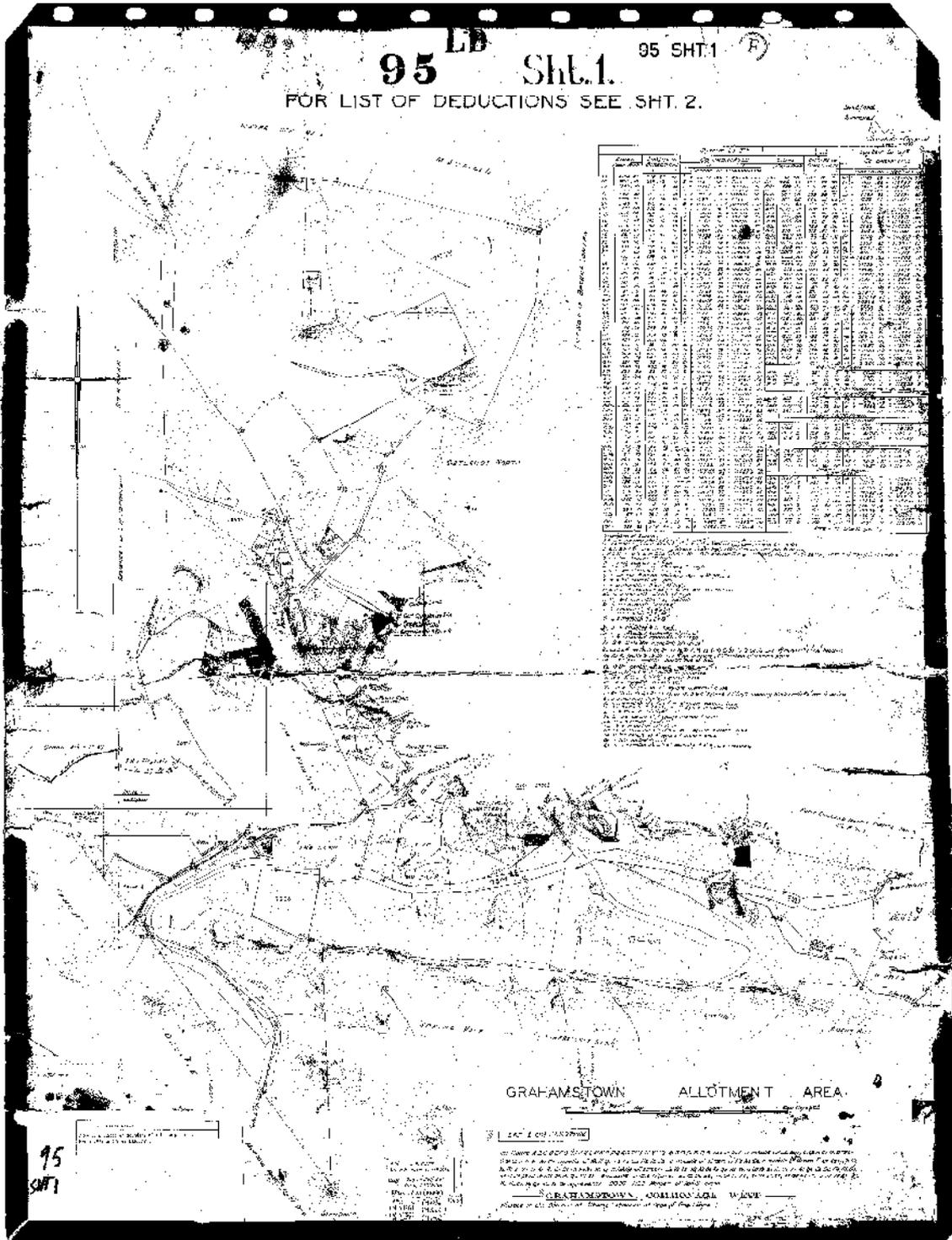


Figure 87: Grahamstown Allotment Area 1934 (Source Surveyor General)

10.3 KING WILLIAM'S TOWN

The history of King William's Town begins with the founding of the Buffalo Mission on the east bank of the Buffalo River in 1826 by John Brownlee of the London Missionary Society. During the Sixth Frontier War of 1834 – 1835 the mission was burnt down and after the war the settlement was declared a township and named after King William IV. It was to serve as a military and administrative centre for the new province of Queen Adelaide in 1835. It was surrounded by a ring of defensive forts Fort Beaufort, Fort Cox, Fort Thompson, Fort Peddie, Fort Willshire (was re-occupied) and Fort Montgomery-Williams. Fort Hill (King William's Town) was built in 1835. However this hastily-instituted defence system was of no avail as Lord Glenelg recalled Colonel Harry Smith and terminated Sir Benjamin D'Urban's appointment. On July 28, 1836 the British Government renounced its claim to the province of Queen Adelaide and ordered the withdrawal of all troops in the area, retaining only King William's Town and Fort Cox. Sir Andries Stockenstrom (son of the Andries Stockenstrom referred to on page 237) was appointed Lieutenant-Governor of the Eastern Cape (Welsh, 2000; Garson, 1992; Lamar and Thompson, 1981; Caffrey, 1973).

For the next ten years John Brownlee continued the mission and the town grew as a trading post. The War of the Axe in 1847 brought destruction to the mission once again and Brownlee was forced to leave. The importance of King William's Town was re-established on 23 December 1847 when it was made the capital of a new colony, British Kaffraria (sic). A considerable number of forts were built to protect the new territory. By the end of the Eighth Frontier War King William's Town had become a large military base and a number of structures had been built (Figures 88 - 94 show the development). These plans are interesting as they show cadastral information as well as building footprints. Military maps of the era tended to show structures and natural features. The property boundaries were purely pragmatic as the military began to allocate land to officers. The notes indicate that most of the plots were owned by military people. The town was largely planned by the

Royal Engineers and built with military labour. The fine quality of the dressed stonework buildings can still be seen today. The vast number of records which survive from the early days of King William's Town is notable – the Royal Engineers in King William's town not only built a great deal of the town but they also kept detailed records about all projects, supplies and inventory. There are plans of toilet blocks, skittle alleys (Figure 96), Mess Halls (Figure 95), stables etc. In April 1862 the military headquarters for the Eastern Frontier were moved from Grahamstown to King William's Town. Grahamstown was already experiencing an economic depression and the removal of the troops added considerably to the problem, as well as creating something of a social and cultural vacuum. King William's Town on the other hand was hopelessly inadequate for the additional troops and when proposed extensions for King William's Town came in at 65 000, The Cape Colony High Commissioner Sir Philip Wodehouse, recommended the re-establishment of Grahamstown as the military headquarters (Welsh, 2000; Garson, 1992; Lamar and Thompson, 1981; Caffrey, 1973).

The streets of King William's Town follow an irregular layout and the settlement has a far more organic feel than Grahamstown however, the area divided into individual stands follows a grid layout with north-south and east-west street orientation. Interestingly the streets follow magnetic north, not true north. A large area was left in front of the fort and barracks as a parade ground. The origins of the town are unmistakable with the mission station and the fort side by side in the town centre.

The plans reproduced below have been signed by a number of officials, mostly Royal Engineers. The maps of King William's Town are signed by or drawn by Captain Tylden (Royal Engineer), Robert William Duff³ (Lieutenant

³ **Maj.-Gen. Robert William Duff:** (26 October 1831 - 3 December 1913) Maj.-Gen. Robert William Duff was born on 26 October 1831 at London, England. He was the son of Adam Duff and Eleanor Fraser. He married Beatrice Maxse, daughter of James Maxse and Lady Caroline Fitz Hardinge Berkeley, on 9 January 1866 at St. George Hanover Square, London, England. He died on 3 December 1913 at age 82. Maj.-Gen. Robert William Duff gained the

in the Royal Engineers), M.C. Molesworth (Lieutenant in the Royal Engineers) and Charles Lennox Stretch⁴ (military surveyor).

In Liebenberg's (2006:19) article about Henry Hall and his maps of the colony, many of these same names appear. Liebenberg states "To give credibility to his work Hall followed the same method as in the compilation of his previous maps and listed the "authorities" from whom information had been obtained. Many of these names also feature on his 1849 and 1850 manuscript maps. For the divisions of Albany, Fort Beaufort, Somerset, Cradock, Colesberg, Graaff-Reinet and Uitenhage he acknowledges the names of the surveyors who, from 1819-22, undertook a trigonometrical survey of the North-East Frontier under the supervision of Captain Holloway, namely Captain Bonamy, Lieutenants Hope and Pettingall, Royal Engineer, surveyor C.L. Stretch, and H. White. For the representation of the division of Albert, Hall relied on information provided by Government Surveyor M. Robinson (See Queenstown below), and for the area designated North Victoria he made use of sketches and corrections obtained from Captain Richard Tylden, Royal Engineer, and Messrs R.E.W. Shepstone, C. Orpen, and T. Baines" (Liebenberg, 2006:19). In his journal Stretch observed that 'As the work we performed was not published by the government, a clerk in the Engineer's Office, having access to the papers and sketches, published our drawings some years after under the title of "Hall's Map of the Eastern Frontier"'(Le Cordeur,1988).

rank of Major-General in the service of the Royal Engineers (Charles Mosley, editor, Burke's Peerage, Baronetage & Knightage, 107th edition, 3 volumes, Wilmington, Delaware, U.S.A).

⁴ **Charles Lennox Stretch** (1797-1882) trained as a military surveyor and came to the Cape in 1818. He helped the Royal Engineers build fortifications on the Eastern Frontier and during the 1820s he participated in the survey of the North-Eastern Frontier under Captain Holloway. During the Sixth Frontier War he was an officer in the Cape Corps and after peace was declared he served as a diplomatic agent amongst the Xhosa. After the Seventh Frontier War he practised as a surveyor and in 1869 he was elected a member of the Legislative Council for the eastern districts.

10.3.1 CONCLUSIONS ABOUT THE LAYOUT OF KING WILLIAM'S TOWN

King William's town is nowhere near as regular in layout as Grahamstown, it is also fundamentally different in that there is no record of a complete plan being approved prior to establishment. Given that King William's Town was primarily a fort and mission station, on a very turbulent frontier, it had very few non-military or missionary residents – need for the town was thus not immediately evident. When plots were laid out (mainly for officers) they were pre-approved and did tend to follow a more regular layout, with similar dimensions. The residential blocks at the southern end of town begin to take on the classic colonial town model. The town, during the time frame of the study however, never really established a commercial basis and thus never really expanded beyond the military and missionary nucleus. It is evident that had the town expanded it would have adopted a grid layout for the expansion as the start of this is clearly evident.

King William's Town

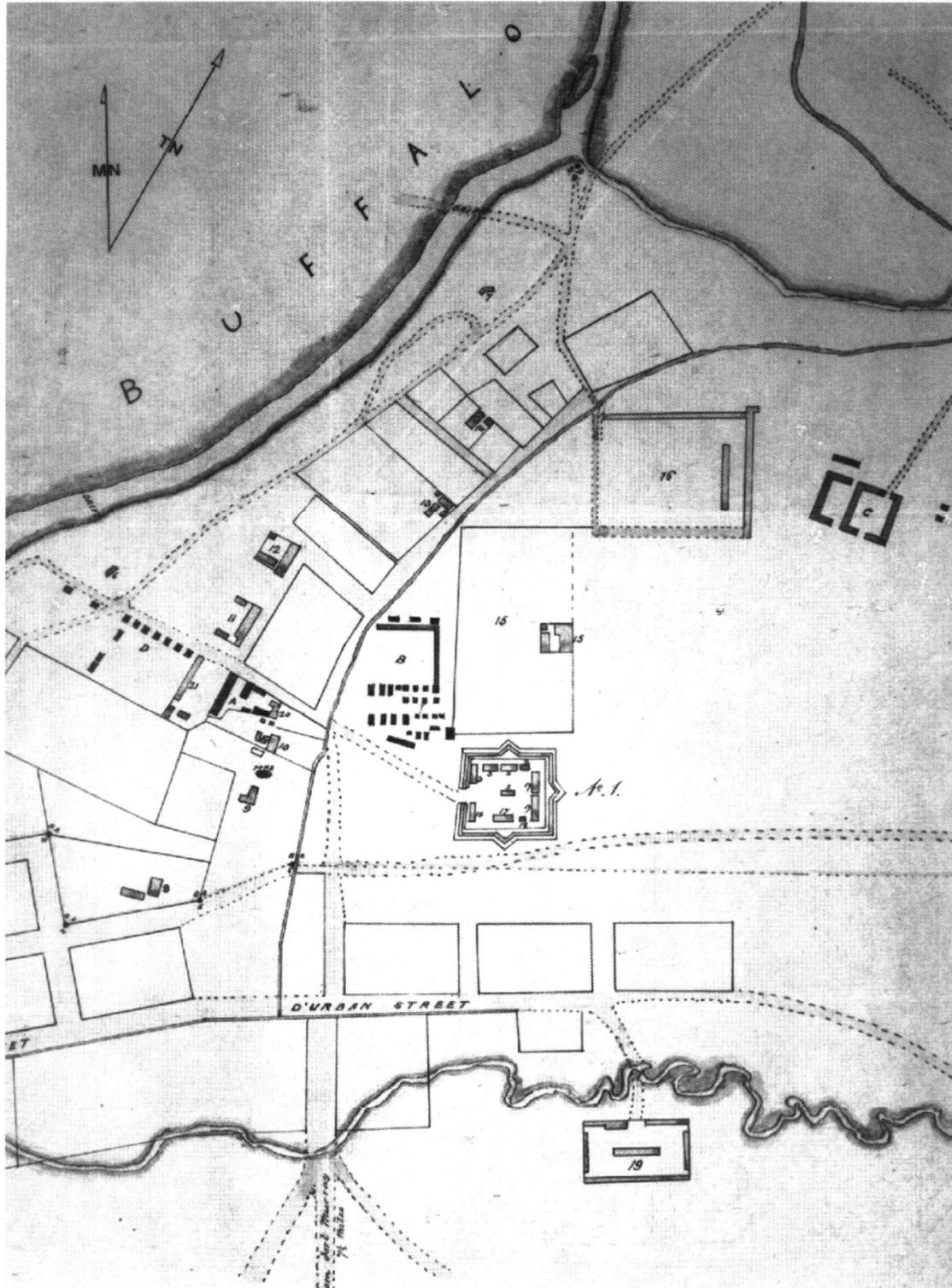


Figure 88: 1853 King William's Town, Plan showing the position of all the government buildings at King William's Town, signed Rd Tylden Capt CRI Engineer.

(Garson,1992:61)

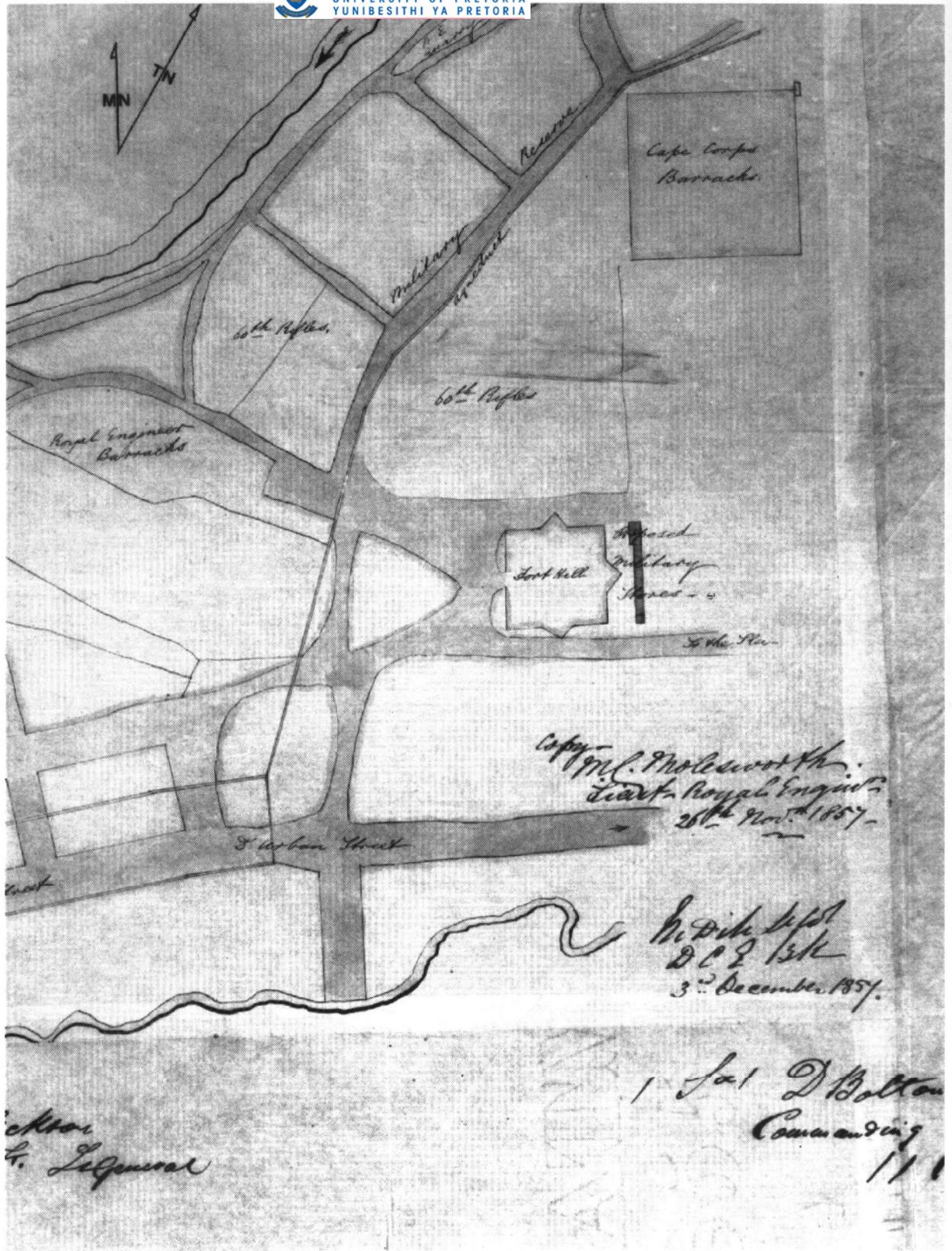


Figure 89: 1857 King Williams' Town, rough block plan to show the site of the military stores, proposed to be erected. (Garson,1992:65)

King William's Town

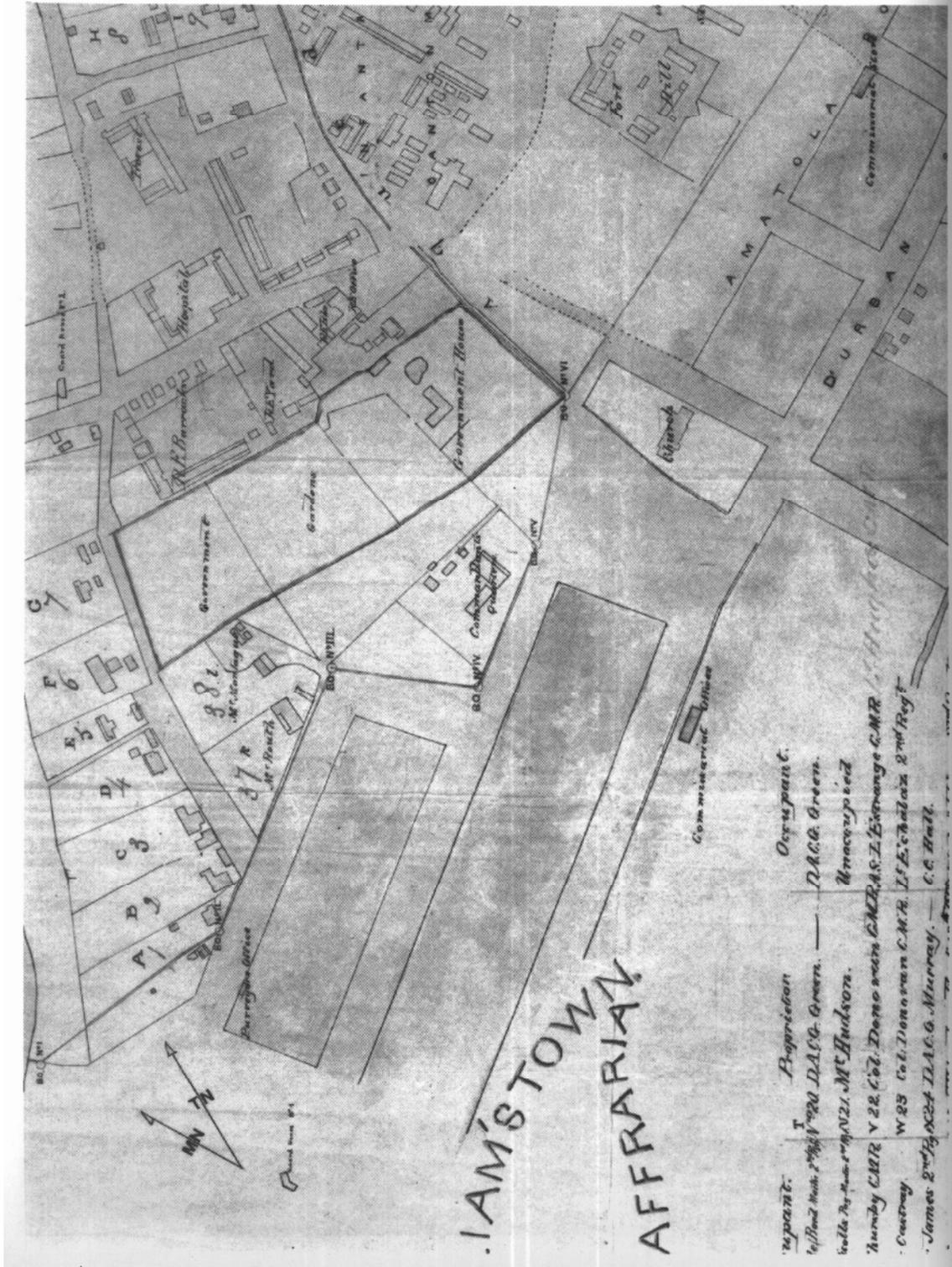


Figure 90: 1859 King William's Town British Kaffaria. Copy drawn by Francis R Gubbins Lieut 2nd Queen's Royal Regt. Assistant Engineer. (Garson,1992:71)

Figure 92: 1861 King William's Town sketch showing approximately the boundaries of the Borough of King William's Town. (Garson,1992:75)

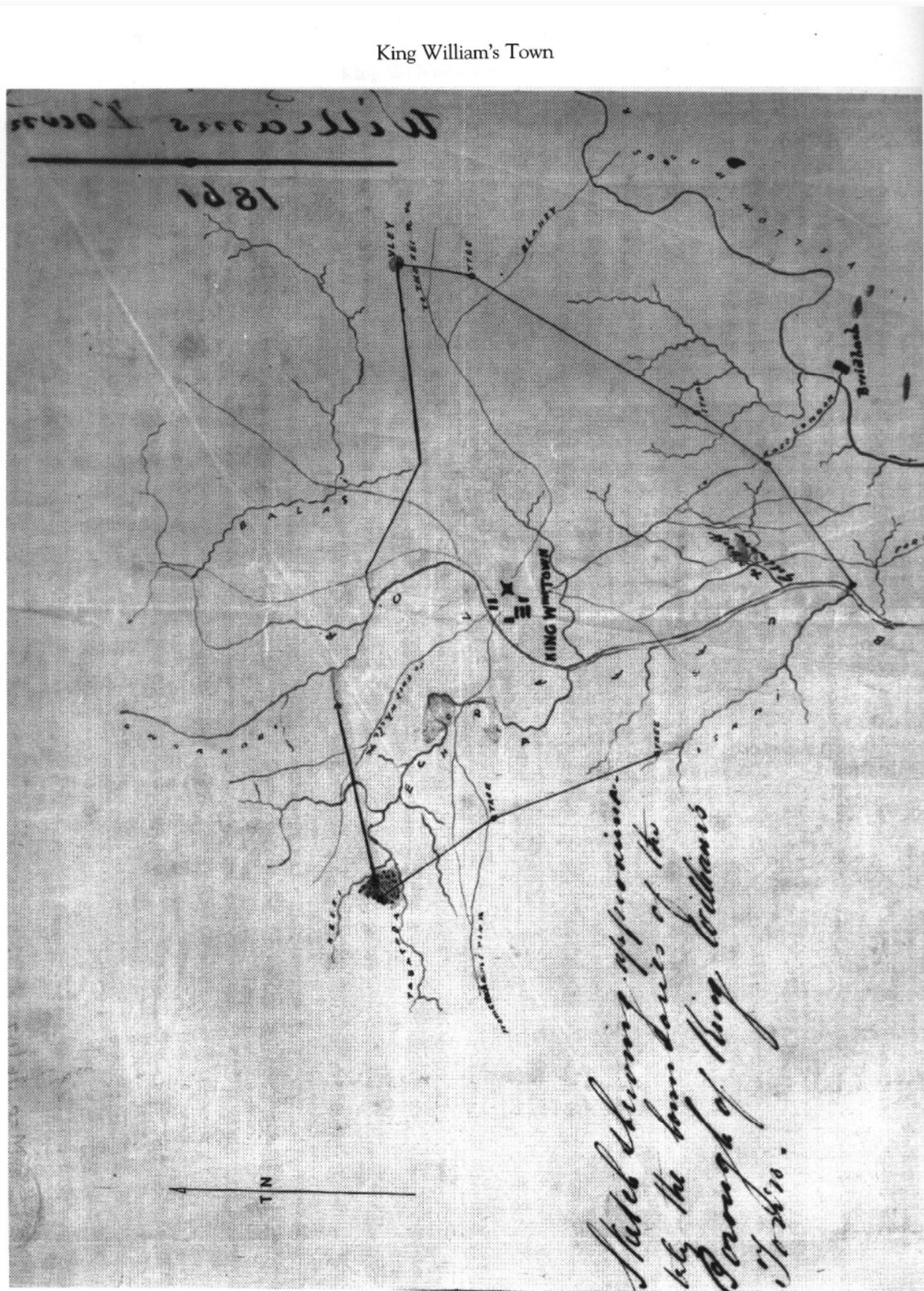
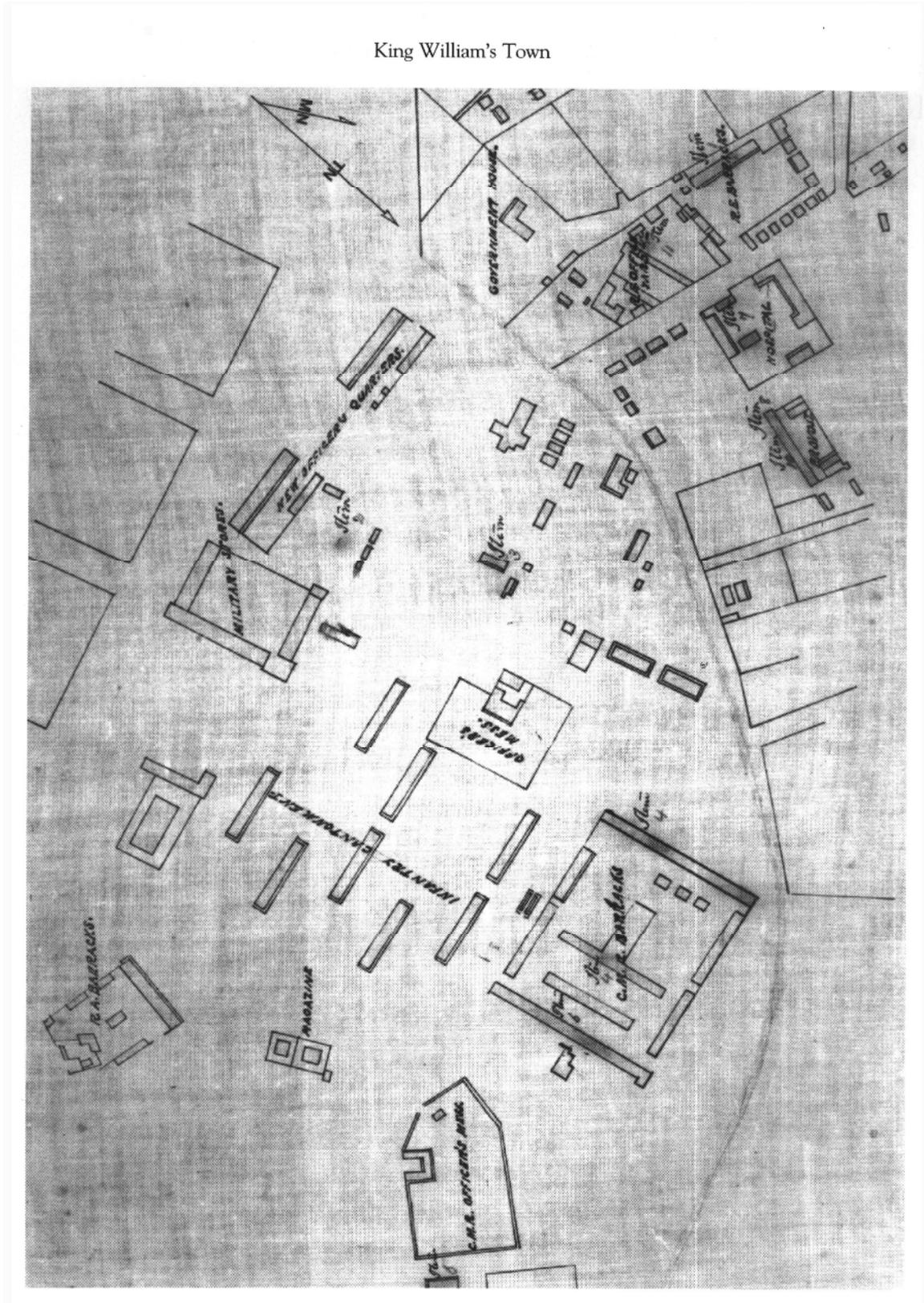


Figure 93: 1870 King William's Town. Traced by I.Graham Sergt RE 28/9/70
(Garson,1992:85)



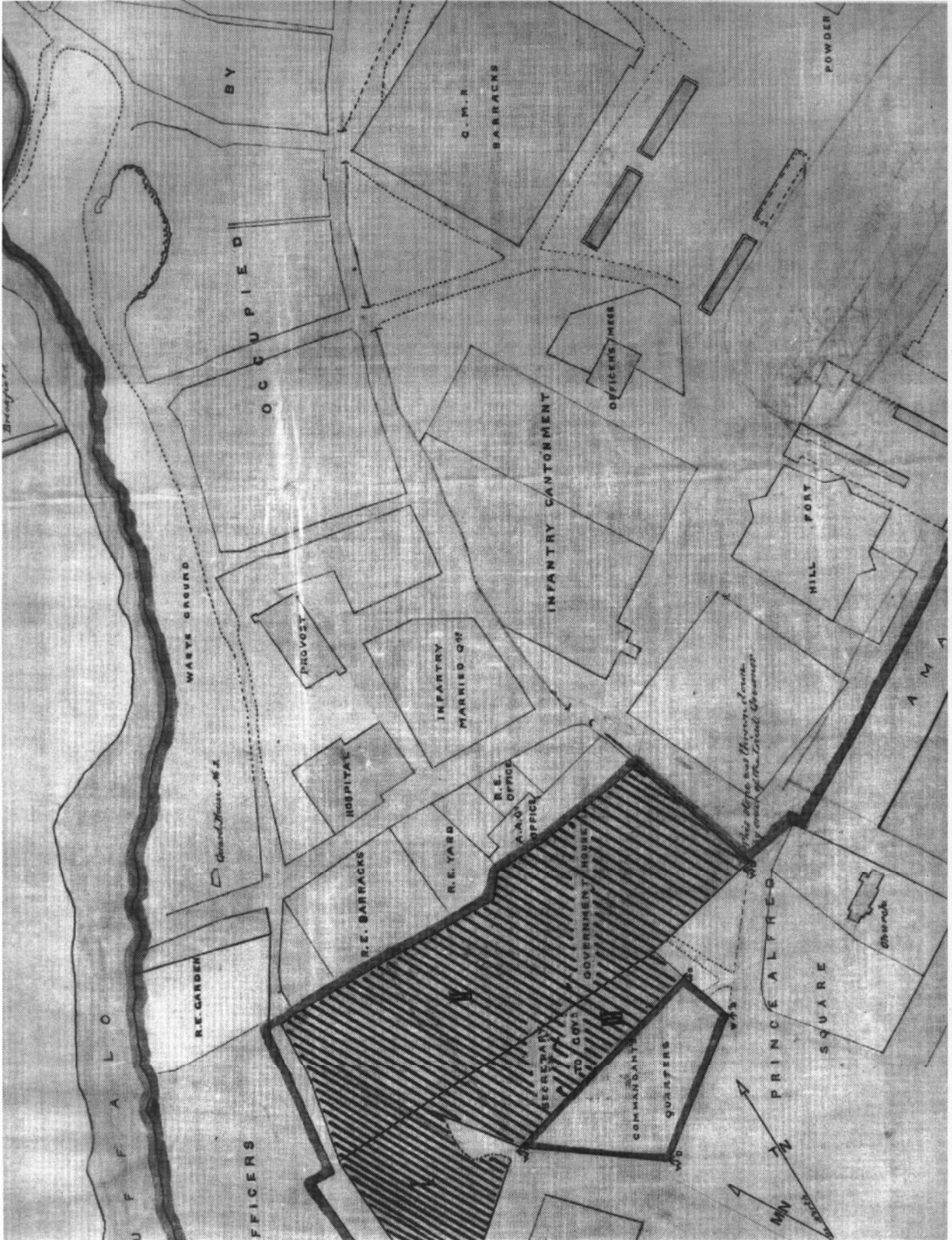
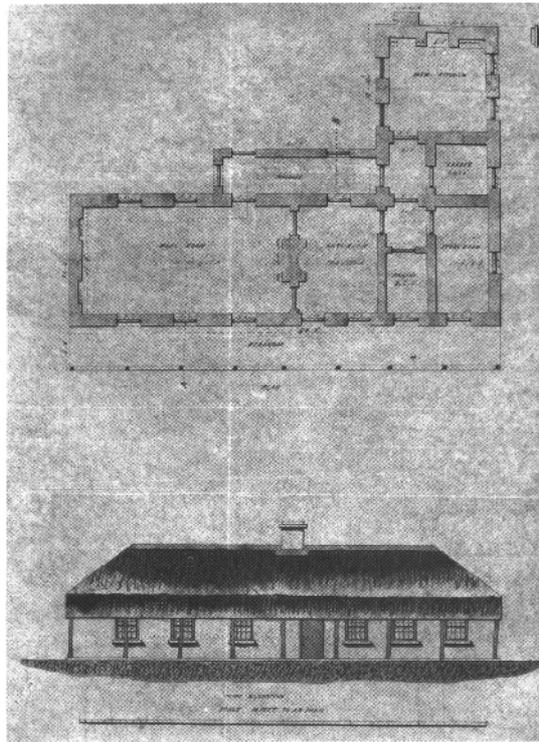
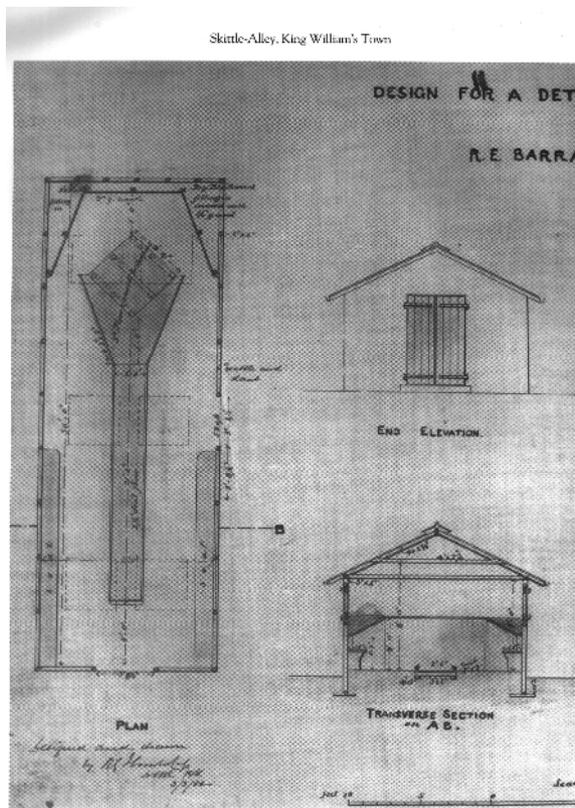


Figure 94: 1863 King William's Town Plan showing military reserve and proposed extension (hatched) (Garson,1992:81)

Mess Establishment, King William's Town



Skittle-Alley, King William's Town



Figures 95 and 96: Mess Establishment King William's Town and Skittle Alley, King William's Town (Garson,1992)

10.4 QUEENSTOWN

During the on-going frontier wars Harry-Smith¹ founded the town of Whittlesea (named after his birth town). In the Sixth Frontier War the town was attacked and overrun. Sir George Cathcart (governor of the Cape of Good Hope 1852-1853) proclaimed, after the British killed the attacking chief, that he would

¹ Lieutenant General **Sir Henry George Wakelyn Smith**, 1st Baronet of Aliwal GCB (28 June 1787-12 October 1860), known as **Sir Harry Smith**. He was born in Whittlesey, Cambridgeshire, the son of a surgeon. Harry Smith was educated privately and entered the army in 1805. His first active service was in South America in 1806 during the British invasions of the Río de la Plata. He distinguished himself at the Battle of Montevideo in 1807, but first came to real prominence during the Peninsular War in which he served from 1808 through to the end of the war at the Battle of Toulouse in 1814. Smith served throughout these campaigns with the 95th Rifles. On 7 April 1812 (the day following the storming of Badajoz) a well-born Spanish lady, whose entire property in the city had been destroyed, presented herself at the British lines seeking protection from the licence of the soldiery for herself and her sister, a child of fourteen. The latter, Juana Maria de Los Dolores de León, had but recently emerged from a convent; but notwithstanding her years she was married to Harry Smith a few days later. She accompanied him throughout the rest of the war. At the close of the war Harry Smith volunteered for service in the United States, where he was present at the Battle of Bladensburg on 24 August 1814, and witnessed the burning of the capitol at Washington. Returning to Europe he was a brigade major at the Battle of Waterloo in 1815.

In 1828 he was ordered to the Cape of Good Hope, where he commanded a division in the Xhosa Wars of 1834-36. In 1835 he accomplished the feat of riding from Cape Town to Grahamstown, in less than six days; and having restored confidence among the settlers by his energetic measures, he was appointed governor of the Province of Queen Adelaide, where he gained unbounded influence over the “native tribes” (sic), whom he vigorously set himself to civilize and benefit.

But though supported by Sir Benjamin D'Urban, the high commissioner, the ministry in London reversed his policy and, to quote Smith's own words, directed the Province of Queen Adelaide to be restored to barbarism. Smith himself was removed from his command, his departure being deplored alike by the Xhosa and the Dutch; and numbers of the latter, largely in consequence of this policy of Lord Glenelg began the migration to the interior known as the Great Trek

grant pardon to the tribe provided they withdrew from the area. Cathcart went on to explain... “the only way in which South African Aborigines (sic) whom it may have been necessary to expel from their former locations can be prevented from returning is by immediately replacing them by some other occupants” (Murray: correspondence of Sir George Cathcart: Cathcart : Pakington 29 Nov 1852 p 156). Thus a policy arose to allocate farms in this area to settlers. The most important aspect of the scheme was that the community which was established there must be self-sufficient and defensible. The area was to serve as a buffer zone. Lombard (1952) in his study identified six main policies behind the settlement from his extensive study of Cathcart’s correspondence:

1. to occupy the territory;
2. to establish a town for defensive purposes and to cause the surveyor general to immediately lay out streets and plots;
3. to establish the farming and pastoral area;
4. to connect the area via a road to the established settled areas;
5. receive applications from people who were prepared to become resident of the town and establish the town first and then the farms and finally;
6. to give preference to people with an active interest in the area.

It was felt that the plan would gain support from London as it was a cost effective local defensive strategy instead of mustering troops for the area. Cathcart declared that should the policy be carried out in full then there was no chance of another Kaffir (sic) War, and that a great and disastrous war will be impossible (Chase: History of the Cape of Good Hope from 1820-1868 p 474). A board was thus, established “...for the purposes of reporting upon and carrying out, measures for the occupation and security of that part of North Victoria which has become forfeited to the Crown by the rebellion of the Tambookie Tribes, and especially for the establishment of a village or town on the Kommane or Bush River, about 18 miles from Whittlesea and for providing for the pastoral and agricultural occupation of the territory between Whittlesea and the proposed village” (Lombard:1952).

Cathcart wrote of the establishment of the new town as early as November 1852: “I have appointed a provisional land commission ... to select and recommend in the first place a site for a village, with the advantages of water and capabilities of irrigation; these are requisites generally as difficult to be found as they are indispensable in this arid country, but a place has already been suggested which is likely to answer the purpose on the Bush or Komane River, only 20 miles in advance of the present occupied line” (Murray: Correspondence of Sir George Cathcart: Cathcart – Pakington 29 Nov 1852 pg 157).

Cathcart named the town Queenstown (in honour of Queen Adelaide) and it lay on the direct route from Aliwal-North to East London. M.R. Robinson, who from 1856 to 1859 was stationed in Grahamstown as Deputy Surveyor-General of the Eastern Districts, left with six police to survey the site. He was to be joined later by Woodfield, a land surveyor from Cape Town, and was assisted by surveyor van Reenen. The team laid out the first *erven* (urban plots) in the first week of February 1853 and by the 9th February 1853 Robinson sent the first sketch plan to the Secretary of the Governor to present to the Governor. The original plan is now housed in the Public Records Office, Kew (Figure 97). In the attached letter Robinson explains that 53 *erven* were already allocated and that people were in the process of fencing and building on them and that 20 *erven* had been set aside for the *Nerderduits Gereformeerde Kerk* (Dutch Reformed Church). The main street had been named Cathcart, and Robinson requested that Cathcart himself name the other streets. In closing Robinson writes “...the site of Queenstown is admirably adapted for the purpose for which it has been selected and there is every prospect of it becoming rapidly a thriving frontier town” (Deputy Surveyor General Eastern Cape 25: Letters Despatched 9.2.1853- 26.5.1854 p1).

The first 50 *erven* (plots) each of half an acre were sold to ‘bone fide’ residents at a cost of £4 10s per *erf* (one plot). The cost breakdown was explained as £2 for the land, £1 10s for the surveying the area and to cover the costs of the town lands and £1 for the building of a dam and water

reticulation for the town. Each property had to be fenced and built on in a specified time period. 50 more *erven* were surveyed and sold at £7 10s each on the basis of personal applications. These *erven* were intended for the farmers of the district so they could build a *tuinhuis* (garden house or house in town) and ensure their commitment to the town and the district. These stands were £5 each with the same surveying and infrastructure costs as the first 50 stands. These stands as well as the stands for the church are clearly marked on Robinson's plan. Cathcart approved that £50 of the proceeds of the sales be used to build the dam. The rest of the stands were sold in the normal manner of a public auction. The land granted to the *Nerderduits Gereformeerde Kerk* is interesting as the land was granted on condition that:

1. It could only be sold to people who would live on it within six months;
2. any profit from the sale of the land must be used to build the church in Queenstown;
3. if the first two conditions were not met within six months from the 28th January 1853 then the land would revert to government ownership (Lombard:1952).

The British government did this to give the Afrikaans people a stake in the town and hence an interest in it. The British, as ever pragmatic people, knew that the majority of the farming community were of Dutch descent and they also knew that the church would give them a base in the town.

The layout of Queenstown is unique. It was laid out around a central hexagon, which was to be the *laager* (a camp protected by a circle of wagons or other vehicles, formerly used by the *Boers* in South Africa) to which the citizens would flee in time of trouble. Although still a distinguishing feature of the town today, the hexagon was never used for its intended purpose.



Figure 97: Queenstown (Public Records Office, Kew (MPG106) 1 item extracted from CO 48/339. Cape colony: Queenstown. Plan of proposed village, shows roads, the Kommane River, plots for sale or grant, Crown and Hottentot (sic) reserves. Reference table. Scale 1inch: to about 190 feet. Compass indicator. Signed M R Robinson, Assistant Surveyor General, August 1853.

Cathcart wrote to Robinson "...you have precisely carried into effect, the idea I had formed, of a town equally adapted for convenience and comfort in quiet times, and for defensibility and security in case of Tambookie or Kaffir (sic) annoyances should they ever again disturb the peace of that part of the country in which it is situated" (Deputy Surveyor General Eastern Cape 1: Government letters received Cathcart- Robinson 16 Feb 1853 No 5a). He goes on to acknowledge that he was honoured that the main road was named after him and to suggest that the road circling the hexagon be named Robinson and the other streets named after the other committee members – Calderwood, Shepstone, Bowker and Zeiler (Lombard:1952).

On the 14th April 1853 Sir George Cathcart wrote "...my endeavours to fill up an important part of the country ... have been attended with complete success, so that a promising town of some thirty houses has already sprung up" (Blouboek: "further papers relative to the state of the Kaffir Tribes (in continuation of papers presented 31 May 1853) 1855 Cathcart – Newcastle 14 April 1853 pg 3). The development of the town was remarkable, a correspondent of the Graham's Town Journal, who visited the town on the 17th March 1853 (a mere six weeks after the allocation of the first stands) reported a house built of bricks and a number of houses being built with 6 inch unbaked bricks almost complete. Many people were living in wagons, tents, *pondokke* (shanties) and wattle and daub houses. He commented that wood, food and drink were expensive. He reported that the town consisted of 154 *erven*; the great majority of which were sold. He sung the praises to the town's plan and commented on the three main streets which were 100 feet wide (Lombard:1952).

Indeed the town grew so fast that in February 1855 the need to build within a limited time period was removed"it is with great pleasure that His Excellency observes that the flourishing prospects of Queenstown admit of the obligation being withdrawn, without danger to the prosperity of the town. The Registrar of Deeds has accordingly been instructed to pass transfer without reference to the clause adverted to" (Colonial Office 5026 letters despatched: Letter Book, Civil Country II October 1854 p415)(Lombard:1952).

In the late 19th century, Queenstown prospered, and the huge local sandstone public buildings were built, most still standing today. The magnificent Town Hall facade is an example of such, as are the Methodist Church, the Anglican Church and the Dutch Reformed Church.

After the 1920's depression, Queenstown once again entered a period of prosperity while still acting as a supply and educational centre for surrounding farmers and smaller towns. After 1948, at the beginning of the *Apartheid* era, the district changed character as white-owned farms were bought out and the land incorporated in the nearby Transkei and Ciskei homelands.

10.4.1 CONCLUSIONS ON THE LAYOUT OF QUEENSTOWN

The historical background of Queenstown can be seen in its layout, which is quite unique. The original objective of the town was to serve as a defensive stronghold and buffer zone for the frontier area. There was a central hexagonal area where cannon or rifle fire could be directed down six thoroughfares radiating from the centre. This seems to be the only town on the Eastern Frontier specifically designed on a conscious plan. Queenstown is a famous example, being designed in a modified radial-concentric shape to provide uninterrupted views of approaching enemies down the main streets. This shows marked similarities to Khartoum City, redesigned by the Royal Engineers in 1898, according to a generally-accepted pattern of Union Jacks, in a symbolic statement of British dominance (Home:1997:41). Queenstown's design however, predates Khartoum. It is interesting also in that the design emulates the Union Jack and the patriotic design would be helpful in selling ideas to parliament in Britain (Home, 1997, Welsh, 2000; Garson, 1992; Lamar and Thompson, 1981; Caffrey, 1973).

The fanned out line-of-sight design of Queenstown also shows similarities to the design of the Provost Prison, Grahamstown (1838), which was based on Jeremy Bentham's eighteenth century 'Panopticon' system for the 'ceaseless

surveillance of prisoners'. The prison formed part of Governor Sir Benjamin D'Urban's fortified barrack establishment for the military headquarters of the Eastern Frontier. The prison comprises eight cells, each with an exercise yard in front, arranged around a quadrant, with a two storey round tower overlooking all cells and yards (Tomlinson,2006:8-9).

Queenstown adheres to a number of the principles of the "Grand Modell". It was clearly a policy of deliberate urbanisation in order to stabilize and 'civilise' the frontier. Land was allocated as both farms and urban plots this is evident from the reference to '*tuinhuse*' for the Afrikaners, that is a house in town for use when attending quarterly communion. The plan was obviously laid out in advance of settlement; in fact it was laid out specifically to attract settlers to the area. The streets are wide and straight, although the design is an adapted grid-iron layout. The plots are all standard size and rectangular and a large central area is left open as public space. The reservation of plots for public purposes is clearly evident from the allocated plots on the plan. Lastly the town is surrounded by extensive town commons.

SECTION CONCLUSIONS

It is evident from the case studies that it was not only the Royal Engineers who were involved in colonial development; rather that the Royal Engineers were the design and implementation arm of British colonialism. The Royal Engineers carried out orders; they were ordered to survey regions, establish military bases and stabilise the frontier. What is interesting is how this was achieved. The Royal Engineers displayed a very pragmatic and technically competent approach to their work. Bases were carefully selected, surveys scientifically executed. In short they were good at what they did and their competence is evident in the fact that much of their work still exists. Despite the technocratic and scientific training the Surveyors and Royal Engineers received they also showed artistic flare and design sensitivity, Queenstown's layout being a case in point. It seems that the scientific training did not stifle artistic flare.

The work executed by the Royal Engineers to this day is the physical display of colonisation. The roads, railways, mountain passes, ports and sandstone buildings.

All three towns discussed above clearly show the British colonial philosophy of settling areas in order to dominate and control them. British dominance was achieved with relatively few troops but with a systematic land allocation system. Towns were vital components of the settlement of the area and were used not only as military outposts (as in the case of Grahamstown and King William's Town) but as strongholds in an ever-expanding frontier. The British colonised the area more by way of continuously encroaching settlement than by direct warfare and land clearance.

The rate at which these towns developed is phenomenal given the turbulent frontier and the relatively low population of the time. Queenstown went from an idea on paper to a town with over one hundred mostly-developed stands within three years.

It is also interesting to note that the British government actively used the allocation of land to colonise the frontier; the towns were surveyed and serviced by the proceeds of the sale of the land, the government never sought to provide houses. The government's stimulation came from the recognition of surveyed land rights and from the provision of infrastructure such as water schemes, roads, churches, schools and libraries.

The Eastern Cape also clearly illustrates that the colonial economic model desperately needed labour and a class structure to operate. The need for labour and the desire to create a market economy drove much of the conflict in the area. This conflict was however, not purely racial – it is important to remember that the British brought out numerous indentured labourers from England as part of the 1820's scheme. So in many ways the upper class British exploited their own lower classes in much the same way as they exploited the Xhosa once the indenture scheme failed. What is fascinating is that life on the frontier led to a breakdown of the British class structures and the colonial government had to allow more than the landed gentry to vote and participate in colonial structures – The Pringle Papers (KAB Microfilm ZD/P4) and *Le Cordeur* (1981) offer fascinating insights into the class struggle on the frontier.

Queenstown illustrates most clearly the pre-planning of settlements, they did not simply grow, and settlements were designed on paper and approved in London prior to pegging, land sale and occupation. A search of the National Archives shows that the British placed a great deal of emphasis on land survey, access and suitable areas for colonisation. Examples of this work are:

- KAB Map M2/452 - a general map of the country between Grahamstown and the mouth of the Fish River showing the different situations fit for settlements and habitations,
- KAB Map M2/460 - a map of the public roads from Uitenhage to Fort Beaufort via Grahamstown, Somerset and Graaff-Reinet,

- KAB Map M1/2671 - a map of the Eastern Districts, showing Grahamstown and Bathurst and showing the military posts and forts occupied in February 1837,
- KAB Map M3/49- 1838 - a plan of the survey of roads from Grahamstown to Fort Brown, Koonap Drift, Committee's Drift, Trompetter's Drift, Frazer's Camp and Fort Peddie.

Much of the settlement approach adopted in the Eastern Cape broadly follows the "Grand Modell" as explained by Home (1997). British colonial development relied heavily on physical development. Development of infrastructure, land demarcation and registration were key to economic and social development.

Physical development was carried out by a number of agencies. Colonial government was set up to regulate, tax and structure society. Surveyors were utilised to explore, chart and demarcate territories and to convert land into demarcated marketable portions. Military personnel were utilised not only in times of war but interestingly the military were key to the construction of civil infrastructure within the colonies. The military often performed many functions; they were the colonial police force, a source of state controlled labour (for example for building the Franschhoek Pass). The officers of the Royal Engineers (and indeed other military officers) were key members of society – military officers not only took on key colonial posts but were also considered the gentry of colonial society, members of literary circles and contributors to academic articles. The cultural vacuum felt in Grahamstown when the military post moved to King William's Town bears testament to this.

In the early colonial period the most common military specialists were surveyors and the Royal Engineers. In the latter periods the military role decreased and specialists such as public health authorities became prominent. Town Planning in South Africa became prominent in the era in which management of urban areas took over from the physical development of the area. The Royal Engineers and surveyors were involved in

development and building of infrastructure and the opening up of new territories. They were less involved in the management and maintenance of areas once they were established. The Royal Engineers were the pioneers of today's development professions, they developed an approach to the opening up of new territories – a state sponsored development agency. This was different from what happened in plantation America, which had been developed by private companies. The military influence in South Africa was far stronger than it had been in earlier plantation colonies.

It is interesting to study a map of Africa today, former British colonies stand out because of the road, rail and urban networks. Colonies such as Portuguese Angola and Mozambique have little infrastructure outside the port cities. The Belgium Congo relied heavily on the river system and thus, added little in the way of road or rail networks. The British developed colonies – they saw the communications infrastructure, ports and towns – as vital to the development of the colonial economy. Infrastructure provision went hand in hand with commercial development. It is difficult to ascertain if the physical development lead to the commercial development or *vice versa* – they were interrelated and symbiotic. The massive government investment in physical infrastructure, it could be argued, was also dictated by the response of the officials involved. The Royal Engineers were scientifically trained and unsurprisingly their response to development was physical infrastructure. Equally it could be argued that the training of the Royal Engineers evolved out of the need for these technocratic skills.

The towns and infrastructure of the Eastern Cape which the Royal Engineers and other colonial officials designed and built has endured; it is still in use and the towns still functional. The merino sheep industry also still exists. What is interesting is that these elements are all the civilian work carried out; the military work, the forts, signals and posts became redundant as soon as the military need fell away. In short only the elements which serve today's needs endure, the military threats have gone so the defensive structures are redundant. Argued from the other point of view, the defensive structures must have worked as the frontier is now stable. It is also clear that the civilian

infrastructure is still relevant and thus, endures. This speaks to the timeless (and largely cultureless) nature of well executed design. If a design is technically competent and functional it will transcend time, class and culture.



SECTION D

THEORETICAL ASSESSMENT OF THE ROLE AND APPROACH OF THE ROYAL ENGINEERS AND LESSONS FOR DEVELOPMENT PLANNING

CHAPTER ELEVEN

THEORETICAL EVOLUTION OF PLANNING - STRENGTHS AND WEAKNESSES OF THE EARLY COLONIAL APPROACH

11.1 INTRODUCTION

This chapter seeks to understand the British imperial approach to colonial expansion and development in a theoretical or methodological manner and in a contemporary way. How did this period of development relate to modern planning? The previous section focused on the physical and spatial development; this section aims to list the main elements of the approach to development. The section begins by analysing the evolution of modern town planning, as town planning is the profession today which would handle the type of spatial development which occurred during the colonial period. The Royal Engineers' approach to development and background training is then reduced to its theoretical approach. This theoretical approach is then analysed in order to glean the lessons history can teach us about development, specifically development on 'terra nova'. Learning positive planning approaches from history is always tricky as all development happens within a socio-cultural, economic and political reality and often one would not wish to replicate these – colonisation being an excellent example of what not to replicate. However, the colonial era saw a great deal of physical and spatial development. This sort of development aimed at establishing viable economies is still needed in developing countries, so lessons can be learnt from the past. I would however, stop short of implying that the historic approach could offer a theoretical framework for modern planning. elements of spatial development worked in colonial times and could thus be investigated within the broader modern approach to planning.

This Study has illustrated that a small highly trained group of military engineers had a significant impact on the establishment of early towns and infrastructure in South Africa (today the spatial development process would fall under the town planning profession). They have left a lasting footprint on South Africa's spatial development and many of the

towns and much of the infrastructure is still in use today (specifically the harbours, railways and mountain passes). This chapter seeks to describe the development of town planning, planning education and the theory of planning in South Africa (with reference to world trends) in order to understand the approach adopted by the Royal Engineers and to analyse the strengths and weaknesses thereof and ask if any elements of it have merit today.

This chapter begins by investigating what was happening in Europe during this period and how the planning profession emerged in South Africa after this period in order to better compare and contrast the approach of the Royal Engineers to later developments and modern concepts of planning. The chapter also aims to locate the work of the Royal Engineers which was analysed earlier in this study within a theoretical framework. In other words an attempt is made to extract planning theory or approach to planning from historical analysis of developmental elements which worked in the past. This chapter seeks to move beyond what the Royal Engineers did and to understand how they made it happen; to arrive at a positive theory of planning or to ask when does planning work or which elements of past planning worked?

11.2 WHAT IS THEORY?

The Oxford English Dictionary defines theory as:

- a supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained: Darwin's theory of evolution
- a set of principles on which the practice of an activity is based: a theory of education[mass noun] :music theory
- an idea used to account for a situation or justify a course of action: my theory would be that the place has been seriously mismanaged
- Mathematics a collection of propositions to illustrate the principles of a subject

Origin: late 16th century (denoting a mental scheme of something to be done): via late Latin from Greek the ria 'contemplation, speculation', from the ros 'spectator'" (Oxford English Dictionary, <http://oxforddictionaries.com>)

In philosophy, **theory** refers to contemplation or speculation, as opposed to action. A classical example uses the discipline of medicine to explain the distinction: Medical theory and theorising involves trying to understand the causes and nature of health and sickness, while the practical side of medicine is trying to make people healthy. These two things are related but can be independent, because it is possible to research health and sickness without curing specific patients, and it is possible to cure a patient without knowing how the cure worked. Pythagoras changed the word to mean a passionate sympathetic contemplation of mathematical and scientific knowledge. This was because Pythagoras considered such intellectual pursuits the way to reach the highest plane of existence. Pythagoras stressed the killing of one's emotions and the lusts of the body in order to release the intellect to soar into the exalted domain of *theory*. Thus it was Pythagoras who gave the word "theory" the specific meaning which leads to the classical and modern concept of a distinction between theory as uninvolved, neutral thinking, and practice.

Theories are analytical tools for understanding, explaining, and making predictions about a given subject matter. Theories are constructed to explain, predict, and master phenomena (e.g., inanimate things, events, or behaviour of animals).

11.3 THE APPROACH OF THE ROYAL ENGINEERS REDUCED TO ITS THEORETICAL AND METHODOLOGICAL ROOTS

Although the introduction of the rational comprehensive approach to planning has been ascribed to Meyerson and Banfield's publication in 1955 (Muller, 1992:134), it is argued that the rational approach to planning, more specifically Cartesian rationality, is the manner in which colonial towns were planned. The Royal Engineers were trained in the sciences, with little thought for humanities (as demonstrated in chapter three). Engineering and survey were seen as exact sciences and consequently towns, which were laid out by these engineers, were functional and rational. Given that the towns were planned by the Royal Engineers, military principles such as strategic locations, clear lines of communication, structured and ordered settlements also dominate. Looking to Roman colonial expansion the importance of military camps in colonising of areas becomes

apparent. The military control, regularity, order and logic gave rise to standardised plans which evolved as tested solutions to problems. In Roman camps the plans were uniform, street widths standard and all troops knew what their role was in establishing camps. To this military control the British added science, initially the scientific solutions to fortifications and siege tactics, but over time public health and hygiene lead to specifications of space between tents, ventilation, sanitation and other aspects of design.

It is argued that the military background and the era of the emergence of the sciences in Britain combined to give rise to a rational mode of planning.

“His Royal Highness the Duke of Cambridge in describing in the House of Lords the operations of the Abyssinian General ... declared that his every step had been a success and a triumph ... because ... before he took to the field – as a philosopher in his study – he planned (the strategy beforehand)” (Head,1869:376).

The records of the Royal Engineers are littered with references to the rational mode of thought, indeed it was even applied to discipline; in his book Sir Frances Head (1869:16) describes the “black hole”, forty-eight hours solitary confinement. He argues that when “...left entirely to himself, with nothing in the whole world to do or look at, it forces (a person) to think. And his reasoning faculties, strengthened by his mathematical studies, soon demonstrate, or, at all events, under the cold-water cure, have a fair opportunity of demonstrating to him, that he had acted insubordinately.”

It is interesting to note that two of the major development phases in South Africa, those of the colonial era and of the immediate post World War II period were both based on rational modes, on engineering projects and large state involvement. In the case of the laying out of Halifax, in Canada, the local governor proudly stated his imperial vision of town building: “...without money you could have no town – no settlement and indeed no settlers. ‘Tis very certain that the public money cleared the ground, built the town, secured it ... The money is laid out in building forts, Barracks, storehouses, hospitals, church, wharf, public works, all that seem absolutely necessary.” He also stated that the lots were worth 50 guineas because of the stimulation of public works spending(Stelter,1983: 179).

11.3.1 CARTESIAN RATIONALITY

As is generally known, René Descartes (1596 –1650), also known as Renatus Cartesius (Latinised form), was a highly influential French philosopher, mathematician, scientist, and writer. He has been dubbed the "Father of Modern Philosophy" and the "Father of Modern Mathematics," and much of subsequent Western philosophy is a reaction to his writings, which have been closely studied from his time down to the present day. His influence in mathematics is also apparent, the Cartesian coordinate system that is used in plane geometry and algebra being named after him, and he was one of the key figures in the Scientific Revolution (Keeling,1968). A very brief synopsis is given here by way of introduction and to frame the argument. This section is by no means a rigorous analysis of Cartesian rationality.

Descartes was a major figure in 17th century continental rationalism, later advocated by Baruch Spinoza and Gottfried Leibniz, and opposed by the empiricist school of thought consisting of Hobbes, Locke, Berkeley, and Hume. Leibniz, Spinoza and Descartes were all versed in mathematics as well as philosophy. As the inventor of the Cartesian coordinate system, Descartes founded analytic geometry, the bridge between algebra and geometry crucial to the invention of calculus and analysis. Descartes' reflections on mind and mechanism began the strain of Western thought that much later, impelled by the invention of the electronic computer and by the possibility of machine intelligence, blossomed into the Turing test and related thought. His most famous statement is: *Cogito ergo sum* (I think, therefore I am), found in the Principles of Philosophy (Latin) (Keeling,1968)(Clarke,2006) (Gaukroger,1995).

Descartes is often regarded as the first modern thinker to provide a philosophical framework for the natural sciences as these began to develop. In his discourse on the method he attempts to arrive at a fundamental set of principles that one can know as true without any doubt. To achieve this, he employs a method called methodological scepticism: he rejects any idea that can be doubted, and then re-establishes them in order to acquire a firm foundation for genuine knowledge.

The laws of the Cartesian method are four:

- Accept nothing as true which is not clear and distinct;
- Analyse a problem into its parts and discuss it part by part;

- Arrange thoughts from simple to complex as the order of study;
- Enumerations must be full and complete and nothing must be omitted.

This is the method adopted in mathematics; Descartes transferred it to philosophy with the intention of constructing metaphysics on a new basis.

11.3.2 RATIONALISM

In epistemology and in its broadest sense, rationalism is "any view appealing to reason as a source of knowledge or justification". In more technical terms it is a method or a theory "in which the criterion of truth is not sensory but intellectual and deductive". Different degrees of emphasis on this method or theory lead to a range of rationalist standpoints, from the moderate position "that reason has precedence over other ways of acquiring knowledge" to the radical position that reason is "the unique path to knowledge" (Audi,1999:771).

Within the Western philosophical tradition, "rationalism begins with the Eleatics, Pythagoreans, and Plato, whose theory of the self-sufficiency of reason became the *leitmotif* of Neoplatonism and idealism"(Bourke,1962:263). Since the Enlightenment, rationalism has been associated with the introduction of mathematical methods into philosophy, as in Descartes, Leibniz, and Spinoza (Bourke,1962:263). This is commonly called continental rationalism, because it was predominant in the continental schools of Europe, whereas in Britain empiricism dominated.

Rationalism is often contrasted with empiricism. Taken very broadly these views are not mutually exclusive, since a philosopher can be both rationalist and empiricist (Lacey:1996:286–287). Taken to extremes the empiricist view holds that all ideas come to us through experience, either through the five external senses or through such inner sensations as pain and pleasure, and thus that knowledge is essentially based on or derived from experience. At issue is the fundamental source of human knowledge, and the proper techniques for verifying what we think we know.

Proponents of some varieties of rationalism argue that, starting with foundational basic principles, like the axioms of geometry, one could deductively derive the rest of all possible

knowledge. The philosophers who held this view most clearly were Spinoza and Leibniz, whose attempts to grapple with the epistemological and metaphysical problems raised by Descartes led to a development of the fundamental approach of rationalism. Both Spinoza and Leibniz asserted that, in principle, all knowledge, including scientific knowledge, could be gained through the use of reason alone, though they both observed that this was not possible in practice for human beings except in specific areas such as mathematics. On the other hand, Leibniz admitted that "we are all mere Empirics in three fourths of our actions" (Monadology § 28, cited in Audi,1999: 772).

The contention of this thesis is that this rational approach to problem solving lay at the heart of the Royal Engineers approach; they were trained in advanced mathematics and taught to analyse, learn through observations and solve problems. They seemed capable of finding solutions to all problems through their training and deductive reasoning.

11.3.3 THE ROYAL ENGINEER'S METHODOLOGY

If you analyse what the Royal Engineers did in terms of the basic idea of a theory, that is a model for formulating a set of principles on which the practice of an activity is based, you would arrive at a recipe for development on '*terra nova*' - a way of developing virgin territory. In order to better understand the process the regional development (or development of the colony generally) has been separated from the development of towns or the local scale. (In the text a summary of the stages of the process is provided in italics to allow for a quick overview of the process.)

The first step was a strategic assessment of the colony, in the case of the Cape this involved the securing of Simon's Town and the sea routes around the Cape (*STRATEGIC OVERVIEW / EVALUATION*). Secondly the colony was mapped and surveyed. These maps sought to understand the territory, many of the maps have annotations on them about the quality of the grazing, the peoples and their numbers, routes, geology and topography, in other words the classic '*SURVEY*' stage. The British then set about controlling the frontier districts through the establishment of administrative centres (*ESTABLISHMENT OF AN ADMINISTRATIVE NETWORK*), they also controlled the flow of goods from the ports to the interior, mainly as a means of controlling the Dutch population by controlling the supply of gun powder and other goods which arrived through

the Cape ports (*ESTABLISH GOVERNANCE*). At the same time the Colonial Government encouraged agricultural development through the allocations of land and a land registration system. Colonial officials were instructed to investigate the geology in search for mining potential as well as natural resources, such as rubber, sisal, timber as the supply of raw materials was critical to the development of the colonial economy (*DEVELOP THE ECONOMY*). Infrastructure was developed: firstly ports and then railroads, mountain-passes, bridges, water schemes as well as social infrastructure such as schools, libraries and sports grounds. The sports grounds were seen as critical to social stability as in all of the colonies there was a preponderance of young men and often few women or families. The sports grounds were seen as necessary to keep the men busy and thus prevent trouble (*PROVIDE INFRASTRUCTURE*). A key element of British colonies was the desire to maintain the supply of materials and this could best be achieved in a stable environment; stable and predictable governance and services (such as harbour services, railways, post and later telecommunications) were vital to this process (*ESTABLISH AND MAINTAIN STABLE PREDICTABLE GOVERNANCE*).

At the Local scale, the first major element of the development process was to ascertain the need for a settlement or administrative area (*ESTABLISHMENT OF NEED*), followed by site selection (*SITE SELECTION*). The site selection was critical especially in terms of defending areas and supplying them with water. The site was then designed and the plans sent to London for approval (*DESIGN AND APPROVAL OF DESIGN*). Construction began with the surveying of the town and pegging of properties (*SURVEY AND PEGGING OF LAND*), stands were then sold to offset the cost of infrastructure development (mainly water supply) (*SALE OF PROPERTIES*). The costs of the infrastructure development were already known at the time of the sale of the properties thus it must have been designed and budgeted for at the design stage. Infrastructure was developed (*DEVELOPMENT OF INFRASTRUCTURE*) and the town managed by means of title deed restrictions (*MANAGEMENT OF SETTLEMENT*). The state then set about building public buildings such as town halls, schools, and libraries, many towns although not containing many parks in the modern sense had sports grounds such as cricket ovals and public gardens around the town hall (*DEVELOPMENT OF INFRASTRUCTURE*). The streets tended to remain as dirt roads, however, the examples from Durban show that effort was expended on the building of bridges, causeways and fording points such as pontoons. Routes between

towns were developed as the moving of goods was vital to the economy (*DEVELOPMENT OF TRADE ROUTES / LINKS*).

In summary the development process adopted by the Royal Engineers was a rational process by which they provided the administrative and infrastructural framework to allow for free enterprise. The process is in no way creating a social state and never attempts to supply individuals with houses or financial assistance, it sets out to provide a framework within which people can provide for themselves (indeed the British Government always sought to create self sustaining colonies – although this did not always happen).

It is the contention of this thesis that the scientific training received by the Royal Engineers lead to a rational and pragmatic development process. It was a developmental process which delivered a vast amount of infrastructure around the British Empire in a relatively short timeframe and with limited manpower. Much of the infrastructure and most of the settlements still exist and are still functional, economies set up in the 1800's still function, the Eastern Cape is still a sheep farming district. There are thus certain elements of development which transcend time and culture and rational pragmatic development can both deliver and it has been shown can also be very creative.

South Africa today could learn much from this pragmatic approach to planning, having highly skilled professionals with strong technical abilities and management acumen is essential to rapid, competent development. as a cautionary note however, the role of truly democratic governance and public participation can not be overlooked. What the Royal Engineers achieved is impressive in the implementation sense – the complete lack of social input is however, a major negative in their approach.

How then does this approach compare with developmental processes today?

11.4 THE EMERGENCE OF THE MODERN PLANNING PROFESSION, PLANNING EDUCATION AND PLANNING THEORY

This section seeks to give a broad background to the evolution of the planning profession, planning education and planning theory. The detail is limited to a narrative as it is presented to explain where in the evolutionary process the Royal Engineer's approach resides.

11.4.1 THE PLANNING PROFESSION

The town planning profession is a relatively young profession having its roots in the establishment of the Town Planning Institute in England in the early twentieth century; the institute received a royal charter a few years later becoming the Royal Town Planning Institute. Town planning in Britain has its origins in reform. The early town planners were members of a social movement which sought to persuade government and public of the benefits of town planning (Evans,1993). Social reformers in Britain, responding to the urban squalor caused by the industrial revolution, sought to develop new urban forms as well as to improve existing urban areas through health and safety bylaws and building controls. A long history emerged of industrialists providing better housing conditions for their workers, known as 'the Enlightened Industrialists', people like Salt, Rowntree, Cadbury and Lever all built model communities which aimed to solve the perceived 'ills' of the industrial city (overcrowding, pollution, congestion and unsanitary conditions). These ideas were carried forward by Ebenezer Howard in his Garden City Movement and in America in the New Deal Communities. It was at the height of the Boer War clash that the Garden City Association was established and in 1903 that Letchworth was established and only a few years later that the first thoughts of establishing a Garden City in the Cape of Good Hope started germinating. The result was Pinelands, designed by Thompson in the late 1920's (Muller, 1999:5-7). "In the end Pinelands lacked the elemental principles of the Garden City: the reformist convictions, the public ownership prerequisite, the population limitation, the self-containment proposition and the greenbelt spatial constraint, and assumed the form of a suburban housing development. It (however) broke new ground in South Africa in planning and environmental terms, and in a legal sense. It became the subject of the country's first formal town planning scheme and thus emulated Unwin's Hampstead Garden Suburb which in 1906 had become a pace-setter in British town

planning legislation” (Muller, 1999:7). This shows a direct transfer of ideas between Britain and South Africa and a rapid transfer at that. In 1925 Henry Lanchester, in his book The Art of Town Planning describes the prevailing planning in the colonies. “The towns laid out in the Dominions, mainly during the nineteenth century, have mostly followed the conventionally rectangular plotting usually regarded as typical of America (Lanchester, 1925:196).

It is interesting to note here that town planning emerged as a response to the problems of industrialised cities, in other words it emerged as a profession concerned largely with the management of existing areas. What the Royal Engineers were doing in South Africa was development on undeveloped land. Interestingly many of the early responses to industrial city problems were new developments, for example the garden cities, not necessarily improvements to existing areas. The improvements to the existing areas began as health and building by-laws.

The period from 1910 – 1935 saw an explosion in the zeal for town planning. Patrick Geddes, one of the leading exponents of the ‘new art of Town Planning’ stated: “The town planner fails unless he can become something of a miracle-worker to the people. He must be able to show them signs and wonders, to abate malaria, plague, enteric, child-mortality, and to create wonders of beauty and veritable transformation schemes. Sometimes he can do this in a few weeks, or even in a few days, by changing a squalid slum into a pleasant courtyard ... Within a few weeks he can change an expanse of rubbish mounds, befouled in every hollow and defiling every home with their germ-laden dust, into a restful and shady open space, where the elders can sit in the evening watching the children play and watering the new trees they have helped to plant (Patrick Geddes, Report on Indore, 1918; quoted in Home,1997:141). Home (1997:141) expresses it best ...”this rose tinted view of the potential offered by the new ‘art of town planning’ was typical of Patrick Geddes, who was not burdened by excessive modesty”. The quote however, clearly illustrates a number of early influences in planning, firstly the reformist attitude, the belief that through adequate design, aspects such as public health and hygiene could be improved, that planning could offer a better life for all. Design, order, beauty and structure went hand in hand with public health, civic order and civilized society. The enthusiasm for town planning in the decade after 1910 coincided with Imperial federation. Grandiose plans for new capitals at New Delhi, Pretoria, Canberra and Ottawa were being formulated and, as an editorial in 1913 in

the Town Planning Review put it, “what better reply to those who hold that there is no use for Town Planning, all our cities being built?” (vol. 4, No 3:185). “These new capitals in the Grand Manner ‘transported dominion and showcased it’, highlighting the difference between the civilization of the colonizers and the old order of the indigenous population” (Home, 1997:144). Colonial dominance was expressed in the management, control and use of land. In the early twentieth century the idea of town planning emerged as a new approach to managing the colonial city. It offered a ‘tool box’ of techniques, packaged within a new professional and legislative structure. These included the following: land-use zoning, public authority control of urban expansion and urban renewal, financial provisions for land-owners involved with the planning and development process (through compulsory purchase and betterment levies), the garden city, or garden suburb model of low-density family housing, and policies of urban containment and decentralization (Home, 1997:219).

In South Africa, the notion of statutory development control took root in the 1930’s and an innovative venture – the Witwatersrand and Pretoria Joint Town Planning Scheme – was introduced in 1932. Its purpose was the resolution of the problem of uncoordinated development in and around the towns making up the Witwatersrand region (Muller, 1999:10).

Planning has never truly lost its missionary zeal and successive approaches to planning - from design, through legislation to slum clearance and redevelopment - have largely failed to live up to the expectations raised by the professions reformist nature. More recently the communicative approach has tried to understand and accommodate the diverse communities and competing demands on land. For the context of this study town planning as a profession comes after the date of the study, it is however interesting that the correspondence with respect to the establishment of Queenstown discussed in an earlier chapter clearly points to a desire to provide better living environments than those found in the industrial towns of England – the reformist attitude began in the colonial period when new settlements were founded - attempts were made to keep them open, clean and healthy. This to a large extent explains the long straight wide roads and large stands in colonial cities (obviously rectilinear plans were also practical and easy to layout).

11.4.2 PLANNING EDUCATION

Planning education has followed the developmental trend of the profession. “Planning education began in the early twentieth century as reformers clamoured for more cohesive approaches to urban problems of the industrial cities, and as architects, landscape architects and engineers thirsted for more direct training in the urban-scale design process they found themselves tasked to compete. For half a century the planning schools movement was small and limited to the major industrial countries, but by the late 1960’s there were schools on all continents and enrolments were in the thousands. Growth had been fuelled by Keynesian government economic interventions, responses to urban unrest, and a growing environmental movement (Stiftel,2009:38).

University urban planning education began in the early twentieth century (The University of Liverpool is widely cited as having offered the first course in 1907) with courses taught for the benefit of architects, landscape architects and engineers who wished to expand their practices into the city planning domain (Stiftel, 2009:38). The early schools were firmly set in the design profession tradition, while drawing on the growing sentiment for scientific applications in government and industry. Growth in the early decades was modest, by the end of the decade; however, design was no longer the sole orientation of planning schools, with new schools formed in social science settings. Even schools with purely design backgrounds began to admit students whose prior work had not been in a design setting (Stiftel, 2009:39). Rooted in the New Deal, the Chicago school of planning was set up in the late 1940’s. It gave an enormous stimulus to planning education and research by formulating the ‘generalist-with-a-specialism’ model. In the wake of this came trail blazing publications in planning theory (Faludi, 2009:22). The Chicago school was a meeting ground of pioneers in the application of the social sciences as city and regional planners tried to broaden the foundations of their professional experience (Faludi, 2009:22).

As the design orientation of planning weakened, applied social science tools were adopted and planning schools were free to branch into wider ranges of policy concerns, building regional coverage and adding transportation, housing, social welfare, environmental resource issues and economic development. By the late 1970’s, many planning schools covered much of the range of domestic policy matters affecting human settlements. At the same time, the breadth led inevitably to weakened focus, there were challenges that the

boundaries of planning had become too diffuse (Stiftel, 2009:39). Policy scientist Aaron Wildavsky famously asked ‘if planning is everything, maybe it is nothing’ (Wildavsky, 1973:127). The number of schools and number of students skyrocketed in the 1960’s and 1970’s, co-incident with the broadening scope, there was much debate about the changing nature of the profession on the one hand the lack of hard technical skills and design ability was challenged whilst others felt the skill changes followed the changing nature of the job from design consultant to staff policy analyst in government, ‘generating information for decision makers’ (Hemmens, 1988:87).

Concepts of planning widespread in the mid-twentieth century emphasized rationalist top-down models of planning embodied in concepts such as master, comprehensive and general planning. The rational model articulated by Meyerson and Banfield (1955) became the principal language of planning method. Data analysis was central, as were new tools of computer-based analysis. The social unrest of the 1960’s subjected these modernist approaches to intense criticism. Radical planners such as Goodman (1971) saw the rational model as a tool used by the elites to disenfranchise poor, inner city residents. The legacy of this criticism and the planning profession’s responses have been a series of models for greater involvement of community, residents and stakeholders in the planning process including advocacy planning, citizen participation, empowerment and civic engagement (Stiftel, 2009:40). This ‘communicative turn’ in planning research and practice remains a major force today, but at the same time there has been a resurgence of design in planning schools driven by the wide interest in new urbanism, urban design, ‘walk-able’ communities and in Europe the emphasis on spatial planning (Stiftel, 2009:39).

“As planners we are expected to (re)solve the problems of the future before they occur through the activity called planning.... Planning has been reduced to solving today’s problems rather than creating a vision of the future. The problems of the world have become complex and imprecise while the methods, techniques and tools used by planners to forecast the future are predictive and deterministic but do not offer imaginative or creative solutions” (Meng, 2009:48). Planning education has also been significantly tied to the industrial, legal and cultural context of specific countries. When planning schools in the major industrial countries found they were enrolling students from developing countries in significant numbers, they initiated specialisations orientated toward practice in the developing country setting (Stiftel, 2009:45). This transition faced challenges of adequately

illustrating general principles in the context of widely divergent countries, as well as questions of the appropriateness of industrial-nation originated concepts to developing-country problem solving (Qadeer, 1988:64; Sanyal, 1989:139). Much planning scholarship assumes the context of democratic governance and market-based economics (Gunder and Fookes, 1997:54).

11.4.3 PLANNING THEORY AND METHODOLOGY

After the founding of the Planning Profession in the early 1900's, the emergence of planning approaches and theories can be formally analysed. Early Planning was guided more by methodologies rather than full blown theories. As early as Britain's Housing, Town Planning, etc. Act of 1909 methodologies emerged. The Act made provision for the preparation of town planning schemes but did not prescribe an approach (Muller, 1992). Patrick Geddes, through the Cities Committee of the Sociological Society offered the first recorded planning approach:

"We welcomed and highly appreciated the Town Planning Act of 1909, and have addressed ourselves ... to the nature and method of the City Survey which we are unanimously of opinion is necessary before the preparation of any Town Planning Scheme can be satisfactorily undertaken... Without this, municipalities and others interested are in danger of taking the very opposite course, that of planning before survey. Our suggestion towards guarding against this is hence of the most definite kind, viz: before proceeding to the preparation of a Town Planning Scheme, it is desirable to institute a Preliminary Local Survey..." (Geddes, 1949: 124-6)

Muller (1992) explains that the Geddesian 'survey-analysis-plan' was the planning method taught in all planning schools between 1920 and around 1960. Geddes derived the system from his application of biological evolutionary principles to the growth of cities; from an acknowledgement of the organic interdependence of the component elements of an environment. His survey system was comprehensive and included geology, climatology through communications and manufacturing to population characteristics and urban conditions (Muller, 1992:126-7). The Geddes approach gave a 'scientific validation' to the work of planners. Breheny stated "(Geddes) certainly was in favour of an explicit planning process, and a scientifically based process, at that ..." (Breheny, 1989 after Muller, 1992).

Geddes system began to fall out of favour as it "...led to a tendency towards collecting information for its own sake, unselective and uncritical wallowing in facts and figures... almost as if survey or information collecting was a kind of ritual behaviour" (McLoughlin, 1969:125). Perhaps one of Gedde's greatest lasting contributions was in the field of

Regional Planning. His emphasis on synopticism and the context within which planning was to be pursued led him to question the interpretation of town in relation to country. Geddes' thinking on civic and regional planning spread rapidly and inspired the Regional Planning Association of America, which was established in the early 1920's. Until Geddes applied his sociological insight and his biological knowledge to the region, regionalism was an archaic and backward looking movement. In promoting the ideal of decentralised urban settlement within a region Mumford advocated a four stage process, commencing with a thorough survey of the region's resources, followed by a 'reevaluation' of conventional assumptions about the region on the basis of the latest information. The third stage involved the preparation of the plan, and the process ended with implementation including, where necessary, modifications to the plan (Mumford,1947). These planning ideas led to the planning of Radburn in the 1920's which carried through in the work of the Greenbelt towns of the Resettlement Administration formed under Roosevelt's New Deal Policy in the 1930's. These methodologies were essentially derived and developed from practice; from practical necessity of making decisions that were defensible and sensible in social, economic and environmental terms (Muller, 1992).

At around the same time as the New Deal Policy the National Resources Planning board was formed (It served from the depression of the 1930's until 1943) shortly before the demise of the NRPB it published a guide for community planning, under the title Action for Cities. The Guide introduced the notion of citizen participation in the determination of objectives (Muller,1992). Krueckeberg (1983) notes that the emphasis of the NRPB was not on physical design, but rather on a systematic and linked process of study, analysis and public participation in policy making. By the 1950's implementation was added to the process (1950 Schuster Report and Keeble's 1952 textbook), this represents a move beyond the analytical and synthetic plan-making exercise to operational programmes and physical development (Muller, 1992).

In the 1950's Meyerson and Banfield's work for the Chicargo Housing Authority led to the promulgation of a new approach to planning. In 1955 they published Politics, Planning and the Public Interest (Meyerson and Banfield, 1955). The authors unequivocally link 'good planning' with 'rational decision-making' and in so doing introduce the notion of rationality into the planning process. The model they introduce draws on the conception of the public interest as a basis for goal definition (ends) and decision making in planning. Meyerson

and Banfield describe their thinking in the following way: “Since planning is designing a course of action to achieve ends, ‘efficient’ planning is that which under given conditions leads to the maximization of the attainment of the relevant ends. We will assume that a planned course of action which is selected rationally is most likely to maximize the attainment of the relevant ends and that therefore ‘rational’ planning and ‘efficient’ planning are the same “(Meyerson and Banfield, 1955:11). Rationality was however, challenged by Parsons who explained that “...action is rational in so far as it pursues ends possible within the conditions of the situation and by means which, among those available to the actor, are intrinsically best adapted to the end for reasons understandable and verifiable by positive empirical science” (Muller, 1992:135). Marsh and Simon (1959, after Muller, 1992) note that pure rationalism is supplemented by the concept of satisficing which, in seeking a realistic/satisfactory decision rather than an unattainable optimal one, acknowledges the limits or bounds of rationality. So the notion of ‘bounded rationality’ entered planning theory.

Meyerson and Banfield’s correlation of ‘efficient’ and ‘rational’ planning was carried forward by Davidoff and Reiner in their article Choice Theory of Planning (1962). They suggest that efficiency is measured in terms of the satisfaction of aggregated individual preferences, and describe rationality in two senses: increasing the reasonableness of decisions and involving full knowledge of the system in question. Their planning process commences with a ‘value formulation’ stage that addresses the interface between fact and value, and implicitly ascribes a rational base to values – which are statements of preferences, of criteria and, in particular, of ends and goals (Muller,1992).

In the decades that followed, increased attention was accorded to planning method. A broadening of the interpretation of rationalism was marked with a coupling with comprehensiveness, leading to Charles Lindblom’s ‘Rational Comprehensive’ approach (Lindblom, 1973).

“...much of the 1950’s and 1960’s, Western planning thought became almost conterminous with the Rational Comprehensive model...which attempted to apply logical positivism to society. It defined rationality exclusively in terms of positive knowledge and instrumental calculation. Such knowledge was claimed to be objective and universal” (Weaver, Jessop and Das, 1985:157-158).

Methodology in Planning thus developed as a mix in which the procedural requirements of scientific method, of empiricism, of logical positivism, stood alongside the reason-based precepts of philosophical rationalism.

After the second World War interest in, and development of, the fields of operations research, cybernetics and systems analysis took hold in the planning profession. Writers such as Mc Loughlin (1969), Chadwick (1971), Marshall and Masser (1981), Catanese and Steiss (1970) all include a form of systems analysis procedure, which is an extension of an applied scientific research process that in turn is a modification of the 'hypothesis-observation-test hypothesis-modify' cycle of scientific enquiry. The approach thus accords planning methodology the attributes of scientific method supported by a form of normative rationality theory. Chadwick suggests that what is needed "...is a theory of planning which recognises the limits on rationality, and gives rise to methods in which both intuition and rational techniques can play appropriate parts" (Chadwick, 1971:10). Thus, in a 15 year period following the introduction of rationality to planning thinking, the sphere of methodology moved away from the basic issues attaching to practical *modus operandi* and progressively into the domain of theory. The concern with practical planning procedure was supplanted by a preoccupation with procedural planning theory.

It is in some ways paradoxical that the theoretical refinement of the rational planning model that occurred in the 1960's was accompanied by the emergence of a practical concern with citizen involvement in planning processes. Demands for the democratization of planning following the abuses of urban renewal and disregard for constitutional civil rights which surfaced in the United States, coincided with the findings of the Planning Advisory Group on the need for community involvement in planning in the United Kingdom (Muller, 1992:143).

Planning theories today look at aspects of power and politics, Watson (2001), Foucault (1972), Faubion (1994), Forester (1989), Innes (1998), Hoch (2002), Flyvbjerg (1998), Allmendinger (2002) and community participation and empowerment, e.g. Healy (2003, 1997, 1993, 1997). "With the demise of rational scientific planning as the dominant form of planning theory, the space was opened up for the emergence of a range of new theoretical positions, concerned both to explain planning as a phenomenon and to provide ideas for how planning should be conducted, and to what ends. Some of these theorists, influenced

by a growing disillusionment with modernist thinking and technocratic planning, were persuaded that social movements in liberal democracies, and the development of civil society more generally, held the key to social transformation. Their new interest in localized and empirical approaches centres on the empowerment of groups outside (and sometimes against) the state” (Watson,2002:29). Key among these new theories was communicative planning approaches such as Forester and Habermas. They saw: interaction (with stakeholders or interest groups), communicating ideas, forming arguments, debating differences in understandings, and finally reaching consensus on a course of action; replace detached, expert-driven plan-making as the primary activity of planners. These ideas are developed to their most sophisticated form by Patsy Healey, who also introduces ‘institutionalism’ as an explanatory theory of social dynamics to inform the normative position of communicative planning. “These ideas about state, citizenship and participation are ... firmly rooted in current Western political and social theory, from which planning theory also takes its cue” (Watson,2003:397).

Communicative action theory has for some time been criticized on the grounds that it fails to recognize the operation of power (Flyvbjerg, 1998a; Huxley, 2000; Huxley & Yiftachel, 2000) within consensus seeking processes, and the issue of power remains problematic in multicultural positions as well. Other writers (e.g. Abram, 2000; Neuman, 2000) have pointed to the great difficulty or impossibility of achieving consensus around planning issues however carefully formulated the process: differences can be underestimated and planners can assume a shared rationality where it does not exist (Watson, 2003:403).

As with planning education and the planning profession; planning theory is in flux. The reformist roots of planning are undeniable and the evolutionary trend from physical design to social reform and citizen participation undeniable; so where does the Royal Engineers’ approach fit within this evolution? Obviously the answer is at the beginning - firmly in the design tradition and unquestionably it was a very physical response to social and physical constraints.

11.5 CONCLUSIONS

The approach adopted by the Royal Engineers fits into the evolution of planning; it was a rational, design lead approach and very much in the vogue of the early planning approaches. In much the same way as early town planning solutions the Royal Engineers looked to the design and implementation of new development as the solution. What the evolution of Town Planning theory and education illustrates most clearly is not necessarily a change in approach as much as a change in the problem – today planning does not deal with the need to develop new undeveloped areas, town planning is a tool and approach for managing existing built up areas and multi-cultural societies. Planning has become far more democratic and sensitive to the needs of the population.

What the Royal Engineers approach illustrates best is an approach for the development of new areas on virgin territory. It is an approach which can be adapted to today's new developments and city expansion rather than the management of existing developed areas. What history illustrates most clearly is that the approach adopted depends very much on the problem at hand, if you are looking to new physical developments then the historic approach of the Royal Engineers as the implementation stage (that is provided the strategy resides within a far more democratic and participatory process) is as valid today as it was in the 1700 and 1800's; it is however, inappropriate to the management of existing urban areas, where modern approaches are far more relevant. The Royal Engineer's approach is also little suited to multi-cultural, dynamic societies – it is utilitarian top down planning, its merit lies in the limited field of implementation. The strong training and hard technical skills are vital to physical implementation and it is argued that these design skills should not be dropped from planning education, especially in developing areas where physical development and expansion are vital. Planning has however, come a long way from the top down approach of the past and thus the approach of the Royal Engineers must be understood as an implementation approach only. It is not a sensitive or consultative process. The value of their training and pragmatism today rests in the physical design and development stages of a far boarder and more consultative planning process.

Perhaps the greatest legacy of the Royal Engineers is that the training system which evolved was a precursor to the professions. This was the fore runner of professional education and training.

CHAPTER TWELVE

LESSONS FROM THE SOUTH AFRICAN CASE STUDY

12.1 INTRODUCTION

Reflecting on the basis of this study it is necessary to distil what the case studies and history of South Africa's colonial development can teach us about the British colonial approach, methodology and impact and to ask what lessons can be learnt for this.

12.2 THE BRITISH APPROACH TO COLONIAL DEVELOPMENT

The British colonial influence on South Africa has been immense and is an enduring feature of South Africa today. This study has highlighted that the British colonial development was very physical; the British built a vast network of infrastructure and urban centres and established the land registration system still in use today. The historic background and case studies have painted the picture of a state controlled and funded development-led approach to colonisation. The approach of the British in South Africa clearly follows the 'Grand Modell' as described in Home (1997:9). Home summarised the main components of the model as:

- 'A policy of deliberate urbanisation in preference to dispersed settlement': During the British colonial era many administrative centres were set up to better control the colony and public administration improved. The British colonial towns were dominated by the town hall and clock tower, the towns also became commercial centres with skilled craftsmen; they were not the sleepy ecclesiastical centres of the Dutch era.
- 'Land rights allocated in a combination of town, suburban and country lots': The British continued this trend in South Africa. The official correspondence in the case of Queenstown clearly demonstrates this.
- 'The town is planned and laid out in advance of settlement': again Queenstown clearly demonstrates that this was the case in the Eastern Cape as well.

- ‘Wide streets laid out in geometric, usually grid-iron form’: All of the case studies demonstrate geometric layouts, however, in the cases of Grahamstown and King William’s Town the geometric layout applied to the urban plots not the military bases. The military bases had a layout and logic of their own, however, once *erven* were laid out for the construction of houses these were in a grid form. Queenstown is a fascinating radial concentric layout.
- ‘Public squares’: Grahamstown has a triangular ‘square’ at the top of the hill of the main street, King Williams’ Town has a large parade ground in the centre and Queenstown is laid out around the strategic defensive space for a *laager* (a camp protected by a circle of wagons) in the centre.
- ‘Standard size, rectangular plots, spacious in comparison with those in British towns of the time’: There were no standard plot sizes in South Africa, however, all the plots were large by British standards and all were rectangular.
- ‘Some plots reserved for public purposes’: All three of the towns used as case studies have public buildings clearly demarcated on the plans.
- ‘A physical distinction between town and country, usually by common land or an encircling green belt’: The municipal boundary of King William’s Town is clearly evident in Figure 92, the town lands are extensive. The official correspondence of Queenstown also speaks of town common lands. There are no references in the South African examples to greenbelts.

The South African British colonial era was the era in which the developmental infrastructure of the country was installed. It is true that the purpose for which it was developed – capital extraction – is abhorrent by today’s standards. It must nevertheless be acknowledged that although it may have been done for the wrong reasons by today’s standards it is still developmental – the process and the product are valid today. The ‘why?’ has changed dramatically over the years but the ‘what?’ and ‘how?’ of the developmental process are still appropriate. The British model was developmental since it created a market economy and through the vast infrastructural network it linked all British colonies into a global market. Obviously it was not democratic as no one ever asked the local population if they wanted a market economy. It was assumed that a market economy was technologically advanced and thus unquestionably good.

12.3 THE COLONIAL METHODOLOGY

The development of the Eastern Cape region of South Africa is a story about development of a region with, in the British view, no pre-colonial permanent settlement pattern. The British did not consider the scattered *Boer* huts or dispersed Xhosa *kraals* as an urban infrastructure.

The British set about building the infrastructure necessary to develop the colony. This was a state funded and controlled process. All land prior to delineation and sale was considered crown land. The colonial government set about delineating the land, servicing it and creating the 'civilising' influence of an urban network. The cost of this was covered by the sale of the land. It was achieved by deploying technical specialists – the surveyors and Royal Engineers.

The British over the centuries of colonial expansion had established both the policies and expertise necessary to execute colonial expansion. The military were used as both conquerors and developers. Specialised expertise had been created within the armed forces in order to facilitate this process. The evolution of the ordinance survey, land surveying and engineering led to the establishment of specialised training centres which were the pre-cursors to the development of the professions. These specialists began in the military; it was a state-run initiative.

Colonisation occurred in accordance with an evolving policy approach based on years of colonial expansion. It was a physical development approach as Edmund Spenser stated (after Home, 1997:9) "...nothing doth sooner cause civility in any country than many market towns, by reason that people repairing often thither for their needs will daily see and learn civil manners ... Besides there is nothing doth more stay and strengthen the country than such corporate towns, as proof in many rebellions hath been proved".

In order to execute this form of colonial development the British developed the educational and training infrastructure necessary. The Royal Engineers were the professionals trained to carry out these strategies. Interestingly the British did not base this training on the contemporary apprentice approach to training but rather the training system turned to the

sciences. They developed a training system based on sound education, scientific principles and technical training. This was the pre-cursor to the development of the professional education and precedes the civil evolution of the professions.

The military did not focus only on defence and warfare – this was a strategic approach to conquering territory. The development of the physical and social infrastructure and urban network was as much a military strategy as a developmental one. ‘Civilisation’ was seen as urban and seen to be a stabilising force.

12.4 THE IMPACT OF BRITISH COLONIAL DEVELOPMENT IN THE CAPE COLONY

The impact of the British on South Africa can be clearly seen when analysing Annexure A during the 154 years of Dutch rule the Cape settlement and infrastructure was largely around Cape Town and within the coastal belt defined by the Cape Fold Mountains. Only centres such as Graaff-Reinet and Uitenhage lay beyond the mountains and both of these settlements were little more than a couple of mud huts.

During the period of this study 1806-1872, only sixty-six years, some forty-four towns were established, all of the main mountain passes built, and a couple of significant harbours created: Port Elizabeth, East London and Durban. Two major agricultural industries were also established; wool in the Eastern Cape and sugar cane in Natal. Port Elizabeth, East London and Durban have become three of the five major cities in South Africa. The other two being Cape Town which existed prior to British occupation and Johannesburg, which although being established after the time frame of this study and being in one of the *Boer* Republics had a very strong British influence.

The towns and rural economies established by the British have thus had a significant influence on South Africa’s economy today.

The Royal Engineers had a very specific agenda to expand British colonial influence and they went ahead and built what ever was necessary to further that agenda. Development

was aimed at furthering colonial economic interests; however, often these interests coincided with modern developmental needs. The Royal Engineers developed the infrastructure that was of strategic importance to the development of the economy and thus although they did this for colonial reasons the infrastructure is still valid for development generally. The strategic nature of what was developed in the colonial era is the reason why it endures today.

Many of the original towns of the Eastern Cape established during the study period still exist today and in the case of Queenstown the basic economic base remains unaltered. In other areas such as Grahamstown the original military foundation no longer exists. Grahamstown has evolved into an academic centre with a major university and has become a cultural centre with an arts festival. The university and arts festival could have developed in a variety of locations; however, towns tend to gain a momentum and life of their own. Although the original function of Grahamstown no longer exists; the developed centre and population, the infrastructural links and the existing cultural services allowed the centre to evolve and attract new functions. The town layout has adapted to a new economic base and a new function. Over time the port cities have become far more important to the region, although the network of smaller inland towns still exist the two major ports East London and Port Elizabeth have developed into major commercial centres.

The key lessons which can be learnt from the Royal Engineers and their impact on South Africa are:

- Strategic infrastructure development is key to sustainable economic growth.
- Logical, strategic and technically competent development endures and remains useful and relevant.
- Established centres gain a life and momentum of their own. Once a centre has been developed and the infrastructure provided it will attract population and economic development. Port Elizabeth and East London are good examples the established harbour and strategic infrastructure together with the wool industry in the hinterland has led to the growth of two major commercial centres.
- Infrastructure which is provided for a very specific and limited function will become redundant. The forts, military posts and signals of the eastern frontier are all

redundant and today are little more than places of historic interest as their original function is no longer necessary. The military bases at Grahamstown and King William's Town have however, evolved into major settlements as the infrastructure was more general.

- A well-trained scientific professional can have a remarkable impact on the development of an area and its economy. There were never many Royal Engineers in South Africa yet their impact in the legacy of the infrastructure which they started has been immense. The ports, roads, mountain passes, railways, towns and communications systems all still exist and have been augmented and adapted to modern requirements.

The Royal Engineers' training at Chatham, is a very early example of professional training; it was comprehensive, high quality and practical. Those who emerged from this training carried out vast public works around the British Empire; they produced very few theories of development but they did challenge ideas. The *avant-garde* designs of some colonial towns such as Queenstown, Khartoum, Adelaide and Savannah show a desire to improve on settlement forms and to provide design solutions to urban problems. The evolution of defensive structures in the Eastern Cape clearly shows the development of the defensive sciences and a considered approach and strategy.

The study has made the case that one of the main developmental arms of the British Empire were the Royal Engineers. They were schooled in the sciences and trained to be experts in almost all things; they were the master craftsmen and skilled problem solvers of the era.

It has been shown that they adopted a pragmatic approach to development, they initially received a very good scientific academic training, they then learnt by example whilst serving under engineer commanders. As a unit they learnt by observation, experimentation and example. What is striking in their approach is that they saw a problem and simply went about solving it and their solutions were inevitably physical structures and infrastructure, often they reported these solutions after the fact. This is in striking contrast with today's approach to planning. Planning today is about problem identification, community input and policy formulation; this precedes physical planning and implementation, which is why it is important to acknowledge that the Royal Engineers

approach had major limitations and should be seen as an implementation stage rather than a full blown planning approach if applied today.

12.5 THE LEGACY OF COLONISATION

Colonisation of South Africa has left a considerable legacy. Much of Africa's failure to thrive has in recent years been blamed on colonisation and its legacy. Many colonial attitudes and policies are blatantly abhorrent by today's standards and practices, policies such as slavery, racist policies and large-scale 'land grabs'. Today the terms 'Imperialism' and 'Colonialism' are seen in pejorative terms. It is however, important to remember that this was not always the case and the 'civilising' influence of Britain was seen at the time in laudatory terms. For better or for worse (and in many cases both better and worse simultaneously) colonisation was a reality for South Africa and colonial development, attitudes and policies have had, and continue to have, a significant influence on the country and its development.

Despite the indisputable negative consequences of colonial development it is important to acknowledge that there have been some positive impacts. The global economy we speak of today is unquestionably the natural extension of the world trade routes and infrastructure established by the Colonial powers. Although television, mass media, the internet and the fact that air flights are not only the preserve of the wealthy makes the global economy a visible reality of these times, it was established over a hundred years ago by sail ships, buccaneers and adventurers.

South Africa is part of the global economy with established infrastructure, trade routes, commercial agriculture, mining and many primary industries. The challenge is to develop the secondary and tertiary sectors as these were deliberately developed in Britain not the colonies. It is also important to integrate the African population into the property and company ownership structures as the colonial system although establishing a capitalist system sought equally to maintain a labour pool and often this was along racial lines.

The positive aspects of Colonial development however, can be listed as:

- Well developed ports and harbour infrastructure linked into world trade routes.

- An established and functional rail network.
- A commercial farming sector which produces a surplus for export.
- Mountain passes and a road network.
- An urban infrastructure and established market and administration network of cities, towns and villages.
- Administrative Infrastructure such as water works, sewerage, health care, administration, schools, post and telecommunications.

But perhaps the greatest lesson from colonial development which this study uncovered was that this was achieved largely by a pragmatic approach to development. Much of the development of the Eastern Cape was planned and executed by a highly skilled, academically trained engineering unit which, although being part of the military and having their roots in fortifications and military engineering, spent most of their time on civil development and peacetime duties. In short the state controlled and deployed a highly skilled and pragmatic unit of the Royal Engineers to build the infrastructure and development of 'civilisation' around the world. The Royal Engineers were never the only officials involved, yet the case studies of the Eastern Cape show a remarkable number of designs and plans signed by them, which illustrates that they were a significant force in the development process. British colonial development was largely a team effort, of which the Royal Engineers played a part. The British had centuries of experience in establishing colonies and so all officials from the governors, to military commanders and civilian officials, followed a broadly agreed strategy of an urban and infrastructural development led approach. Over time the British developed the skills necessary to do this.

The state implemented a capital works programme of staggering breadth and scale around the British Empire through the use of both the military and other colonial officials. Because the Cape Colony was developed by the military and administration, British Imperial planning in South Africa was based primarily on militaristic and administrative control criteria. This influenced the selection of sites as well as the physical layout of colonial towns (Queenstown being the best example).

When it comes to planning it is interesting to note that under the British colonial model public opinion was very important and had a huge impact; yet it was confined to the

political level. Issues such as the anti-slavery movement had far reaching results yet it was London public opinion which largely impacted on the colonies. London public opinion was equally skewed as only landed gentry were allowed the vote. It was a very elitist system for upper class, wealthy, educated men. Indeed it is argued that had the modern public participation process been applied in the colonial era; the outcome would have been essentially the same as women, labour or the Xhosa would not have been consulted. The debate would have been with the educated and empowered of the day. It is also interesting to observe that London politicians, journalist and clergy had a significant impact on the debates about the colonies, even though very few of them ever left England – first hand experience was obviously unimportant. Issues of town design and layout were not issues of public debate – the need for a town arose, the town was functionally laid out based on a pre-conceived notion of what towns were, the plan was approved in London and then a few settlers moved in. This was not however, a static rigid process. Those who laid out towns learnt from good examples, refined principles and improved on problems.

Well trained professionals providing strategic infrastructure are key to the development of new territory. In an era when new territory is scarce planning has adapted to become a largely management profession aimed at guiding and refining existing urban areas. What the past can teach us is that in the developing world bold, strategic investment can dramatically impact on economic development. In order to effect this development technically trained, highly skilled people are vital developmental tools within a broader more democratic planning process.

It is necessary to now return to the original questions which informed this study:

12.5.1 WHY DID THE SPATIAL PATTERN DEVELOP?

The spatial pattern which evolved in the Eastern Cape shows a strong correlation with the 'Grand Modell'. Urban settlements were seen as a way of pacifying and civilising new territory. The British in South Africa implemented much the same policy that had evolved over centuries of colonisation. The fact that South Africa was developed for largely strategic reasons did not prevent the British from implementing a known policy to pacify and control a colony.

12.5.2 WHO PLANNED THESE AREAS AND THE INFRASTRUCTURE?

The study has made the case that the planning and implementation of the towns and key infrastructure was handled by colonial officials (that is state implemented) and that the staff utilised were the military. Within the military those with the technical expertise were the Royal Engineers and surveyors. These were military men with rigorous scientific training deployed around the British Empire to carry out the capital works projects deemed necessary to control and develop Britain's colonies.

12.5.3 WHAT WAS PROVIDED BY THE STATE AND WHY?

In the early phases of British Colonial development that state delineated land and sold land parcels (both urban and rural), provided an urban network of towns in order to control the colony and to establish markets, provided strategic infrastructure such as ports, railways, roads, mountain passes and water schemes and provided social infrastructure such as halls, libraries, schools, museums and public administration. The British never sought to provide social assistance in the modern sense of benefits, housing or health care. The provisions made were clearly based on the attitude that is you create a viable economy and stable government people can take care of themselves.

The state infrastructure and towns were provided to establish an economy in the colonies, for better control of the population and (often-mentioned in the historic texts) towns were seen as a civilising influence as those visiting the towns mingled with others and were exposed to more urbane behaviour.

12.5.4 HOW DID THEY GO ABOUT THE DEVELOPMENT?

The short answer is in a very pragmatic way. The state defined the need for a town or infrastructure and assigned trained professionals (mostly from the military) to supply it. The British had evolved a training system and engineering unit within the military over years of colonial development and they deployed these trained professionals around the empire. Much of the development provided was funded via the sale of colonial land, thus the pegging and demarcation of land was vital. The infrastructure provided was of a strategic nature aimed at establishing viable economic development, colonial control and linking the colony with Britain via functional harbours.

Morris (1968: 325) expresses it best:

'It was a paradox of Empire that the British, the most pragmatic of peoples, should have best expressed themselves architecturally in planned townscapes – in groups rather than individual buildings, skylines rather than facades. This was partly because soldiers so often laid out settlements, and partly because in their overseas possessions the British allowed themselves to be more formal and methodical than they often were at home. There were no sentimental yearnings for the crooked way, the rolling way. Right angles were 'de rigueur' in the Imperial towns, streets were often numerically named: many cities, like Adelaide, were built to a grid. Streets were often immensely wide, to allow ox-trains to turn in them, and the setting of spire against dome, tree against clock tower, was often arranged with methodical finesse. Foreigners were frequently struck by what seemed to them to be an uncharacteristic logic of design: van Hubner, surveying the straight broad streets of Australia, concluded that the young Englishmen of the Colonies 'lean to the American'. Certainly the cities which the British had summoned into existence across the world were notable for a spaciousness, an airiness, that suggested boundless promise – as though the colonial planners foresaw from the very start their couple of shacks and a lean-to shop transformed into a metropolis.' Morris (1968: 325)