

## **South Australia's Shining Light**

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### **SUMMARY**

South Australia's first Surveyor-General Colonel William Light sailed with his survey team from England in 1836 charged with the responsibility for selecting the site for the new Province's capital, setting out the city, and subdividing the adjacent rural land.

Unlike the earlier settlements in Australia, the Province was to be established under a scheme of orderly colonization that would absorb the poor and unemployed of the United Kingdom and establish a stable, healthy society in new lands. Transport of convicts was to be excluded, while more intensive forms of farming would be encouraged rather than pastoral activities.

While Light's terms of reference for the survey were clear cut, the requirements of the subdivision and disposal of land were complicated by the necessary free-enterprise funding compromises made by the controlling Commissioners in order to proceed.

Light was confident that his assigned duties could be carried out successfully and within a reasonable time frame. However, the early "dumping" of emigrants on shore in makeshift camps before the city of Adelaide had been laid out placed considerable pressure on him to compromise his planning and survey approach. He steadfastly refused to do so simply to satisfy a short-term inconvenience.

The products of this resolve are evident today in the renowned location and layout of the city of Adelaide, its belt of Parklands, and in the two-dimensional design he adopted for the surrounding lands and roadways of the Adelaide Plains.

# South Australia's Shining Light

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## 1. FOUNDING THE PROVINCE OF SOUTH AUSTRALIA

Unlike the other States of Australia, South Australia came into being as a British Province in 1836 rather than a British Colony. It was the “brain child” of a group of forward thinkers that supported systematic and orderly colonization overseas. They saw it as a means of advancing opportunities for Britain's poor and unemployed to break away from their crowded and unhealthy lifestyles and establish a stable and healthy society in a new country.

This was to be achieved by offering land at a low price to encourage investment, and to use the proceeds to fund the emigration of settlers to the new country. The process was designed to concentrate on supporting family migration, excluding the transportation of convicts, and encouraging more intensive forms of farming rather than pastoral activities.

In order to control the rate of development of the settlement and to restrict squatter occupation, no land was to be occupied or alienated before a regional plan had been established and the land parcels surveyed.

In support of these concepts, Great Britain passed a Law in 1834 allowing for the establishment of the Province of South Australia. A position of Surveyor-General was created by its controlling Commission, and a team of surveyors put together in London in 1835 to determine the requirements necessary for the planning, survey and settlement of the Province's new capital that would follow from an “on the ground” selection of the site.

### 1.1 The Survey Team

**Colonel William Light** was chosen to be South Australia's first Surveyor-General and his appointment was gazetted on the 4<sup>th</sup> of February 1836. As a soldier, he had attained the rank of Acting Lieutenant-Colonel under the Duke of Wellington in the Spanish campaign. Employed on terrain investigation and site planning for military operations, he was often required to use trigonometric survey techniques to pinpoint enemy-occupied positions.

As an experienced sailor and navigator, he was also completely familiar with the astronomical determination of latitude, longitude and true bearings, and in recommending him to the Commission for the position of Surveyor-General, Sir Roland Hill described him as “*an experienced surveyor*”.<sup>1</sup>

Prior to Light's appointment, **George Strickland Kingston** had taken up the post of Deputy Surveyor-General in 1835 and was given responsibility for recruiting a support team and determining the requirements for survey stores and equipment. As a practising architect/civil engineer rather than a surveyor, he was specifically tasked by the Commissioners to report on building issues in the new Province – “*means of shelter in the Colony. Tents, wooden houses, places for Stores. Permanent buildings, Plan of Town and Government buildings, these on a permanent plan.*”<sup>2</sup>

Kingston was guided in this task by a staff of well-qualified surveyors, including **Boyle Travers Finnis** who had been trained in surveying at the British Royal Military College before being posted to Mauritius where he carried out significant trigonometric and topographic surveys.

**William Pullen**, a naval Sub-Lieutenant known to Colonel Light, was recruited because of his skills in navigation, astronomical observations and hydrographic surveys.

On taking up his appointment in 1836, Colonel Light reviewed the men allocated to the project and requested the addition of two experienced military surveyors – **George Ormsby** and **Octavius Carrington**. Unfortunately, Carrington resigned his post just prior to departure for South Australia, but Ormsby went on to become a key figure in the development of the Adelaide plan.

### 1.2 Status of Surveying by 1836

The settlement of South Australia incidentally coincided with a period when the “tools of trade” of surveying were rapidly becoming more sophisticated. Mathematics associated with precision surveying had been well established by the 1830’s. Logarithms of both natural numbers and angle ratios had been refined, and the concepts of error probabilities for the measurement of angles and long lines were well documented. While distance measuring was still being done with short-length, steel chains, angles were being measured at a higher level of accuracy using portable theodolites with machine-divided circles.

Colonel Light and his experienced surveyors were well aware of the “accuracy advantages that could be gained using trigonometric surveying methods rather than the traditional running chainage approach”.

A stocktake list from Adelaide in April 1837 indicates that Light’s team was equipped with “*1 seven inch theodolite reading to 20 seconds of arc, and three five inch theodolites reading to 1 minute of arc*”<sup>3</sup>. The following year, the list included “*one nine inch Cary theodolite, one five inch Jones theodolite, and one six inch Cary theodolite*”<sup>4</sup>.

## 2. FINANCIAL INFLUENCES ON THE CADASTRAL DESIGN AND SURVEY

The Law of 1834 establishing South Australia as a Province required “£35,000 to be raised by the sale of land”<sup>5</sup> before settlement could proceed. The appointed Commission accordingly proceeded to float the project on the market in England and offered packages of 80 Acres of rural land plus an Acre town block at the upset price of £1 per Acre, exclusive of land for public roads. Interest in the float was modest, particularly as investors were required to purchase “site unseen” since the Commission could provide only scant information about the proposed location for settlement.

When only 437 land orders were taken up at this price, it was obliged to lower the upset price to 12/- per Acre for 80 Acre blocks, and to re-adjust the size of the original land orders to an equivalent value by providing 134 rural Acres together with the 1 Town Acre. Twenty further land orders were eventually taken up at the new price, enabling the £35,000 target to be reached.

The Commission agreed that the holders of the original 437 land orders would have first preference in choosing both their 134 Acre Rural Sections and their Town Acres. The other 20

Land Order holders would choose their 80 Acres next, while the balance of both rural and urban parcels would be sold at auction on site.

In order to permit this tiered approach, 1000 rural parcels of 134 Acres would be initially created, 437 of them selected, and the remaining 563 re-designed as 80 Acre blocks to fit in and around the first set of parcels. These conditions added serious complications to the way the design and survey of the land parcels would need to be approached.

With the required financial conditions of the 1834 Act finally met, settlement was given the “green light”, and Letters Patent creating the Province were issued on the 19th of February 1836. Colonel Light set sail in the *Rapid* from London with his survey team on the 1<sup>st</sup> of May, and arrived at Nepean Bay, Kangaroo Island on the 20<sup>th</sup> of August.

Unfortunately, under considerable pressure from the newly-formed and influential South Australia Company, the Commission had agreed to allow its ships to sail for South Australia from February 1836. This was three months before the survey teams had even left England!

### 3. SELECTING THE SITE FOR THE FIRST SETTLEMENT

Of the 25 Clauses and two subscripts in Colonel Light’s instructions from the Commission, four specifically related to survey issues regarding the design and layout of the main town and other settlements, the rural land parcels, and reserves. Of these, **Instruction 13** referred directly to the selection of the initial site for settlement:-

*“Whenever you find a good harbor you will cause the neighbouring land for a considerable distance to be carefully examined, and if the spot is well suited for the site of even a secondary town, you will direct such a survey to be made as will enable the Colonial Commissioner, if he thinks proper, to include the district in the lands offered for selection by the holders of the first 437 land orders.”*<sup>6</sup>

On arrival in South Australian waters in August 1836, Light’s first task was to examine the South Australian coastline to find and select the site for the Province’s first town using the detailed criteria set by the Commission and specifying that the best location would be the one that *“combines in the highest degree the following advantages:*

1. *A commodious harbor, safe and accessible at all seasons of the year;*
2. *A considerable tract of fertile land immediately adjoining;*
3. *An abundant supply of fresh water;*
4. *Facilities for internal communication;*
5. *Facilities for communication with other ports;*
6. *Distance from the limits of the colony, as a means of avoiding interference from without in the principle of colonization.”*<sup>7</sup>

Light inspected a number of areas along the coast including Port Lincoln, Encounter Bay and the mouth of the River Murray, and while Holdfast Bay hardly qualified as a “commodious harbor, safe and accessible at all seasons of the year” Light was immediately impressed by the Adelaide Plains beyond it that reached to the foothills of the Mount Lofty Ranges.

He saw that the land on the plain was fertile and wooded, and there appeared to be “an abundant supply of fresh water” to be had all the year round. The eventual discovery there of the Port River

with its safe anchorage put the site for the settlement in Light's mind beyond question, enabling him to direct his efforts to a wider inspection of the Plain to determine the best site for its first town.

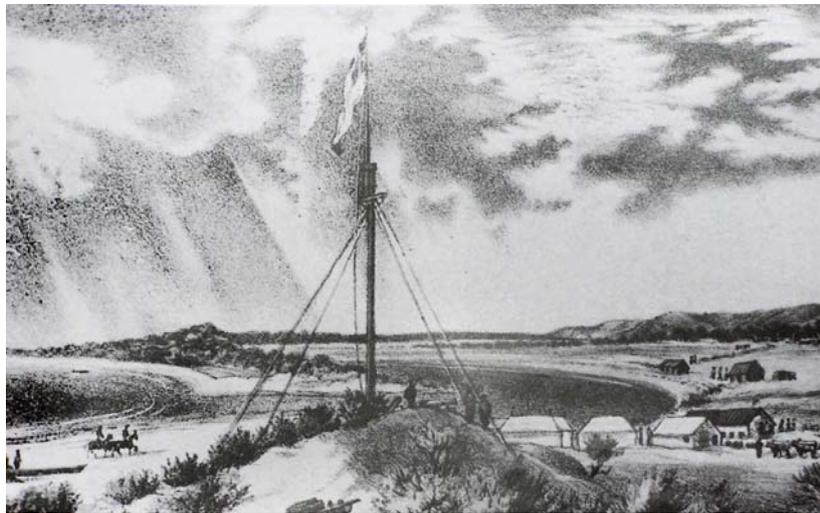
When Kingston and the rest of his team finally arrived in the *Cygnets* after a somewhat casual trip out from England, Light immediately set him the task of examining the water resources in the area below the Mount Lofty Ranges. At the same time, Finniss was sent to carry out a trigonometric survey for the establishment of a secondary town along the coast at Rapid Bay that Light had inspected earlier.

Unfortunately, Ormsby wasn't expected to arrive in the Province until December. His experience and capabilities would have been particularly valuable at this time to run a second field survey team and enable Light to devote all his efforts into the planning of the new settlement.

His site inspection had only just begun when the barque *Africaine* anchored in Holdfast Bay on the 7<sup>th</sup> of November 1836 and put ashore the first 76 settlers.

Light now had the added concern of providing food and housing for them as well as for his survey team that had been on salted provisions for seven months and desperately needed fresh meat and vegetables. He therefore had no compunction in immediately contracting the *Africaine* to sail to Hobart and bring back provisions and livestock.

The arrival a month later of the barque *Tam-o-Shanter* with a further 74 passengers exacerbated his problems. Frustrated by the conditions they were required to endure in the makeshift camp set up in the sandhills at Holdfast Bay, the new arrivals continuously pressured Light to make an immediate selection of the first town's site so that the city parcels could be set out and allocated. However, he refused to compromise his approach to satisfy their immediate needs.



**Figure 1: Colonel Light's Flagstaff at the settler's camp, Holdfast Bay.**

Instead, he proceeded methodically with a preliminary survey of the plain from the foothills of the Ranges to the coast, and then north as far as the recently discovered Port River. He paid particular attention to the flood plain of the River Torrens that cut through the Para Plateau, and the amount of flat land available on the escarpments to the north and south of the river.

To establish 1000 city parcels and its parks, he needed around 5 square miles of reasonably flat land. While the high sections of the Para Plateau on both sides of the River Torrens could accommodate this, the merchants who had arrived with the first settlers were adamant that the town should be located adjacent to the sheltered landing point on the Port River. They applied intense pressure on Light to adopt their proposal, but he would not give up his ideal location for a site covered by mangrove swamp and loose sand and lacking an adequate supply of fresh water. His refusal resulted in a campaign of severe, personal criticism that endured for the rest of his time in the Province.

In the Preliminary Plan Light sent to the Commissioners in London showing the results of his preliminary site survey (Figure 2), he included a canal to be excavated between the landing point and a point on the River Torrens adjacent to the proposed town site.

Historians have suggested that Light may have included this as a way to quell the criticisms of the merchants while having no intention of including it once his site had been approved. Nevertheless, the proposed canal reserve continues to exist today within the median reserve of the Port Road.

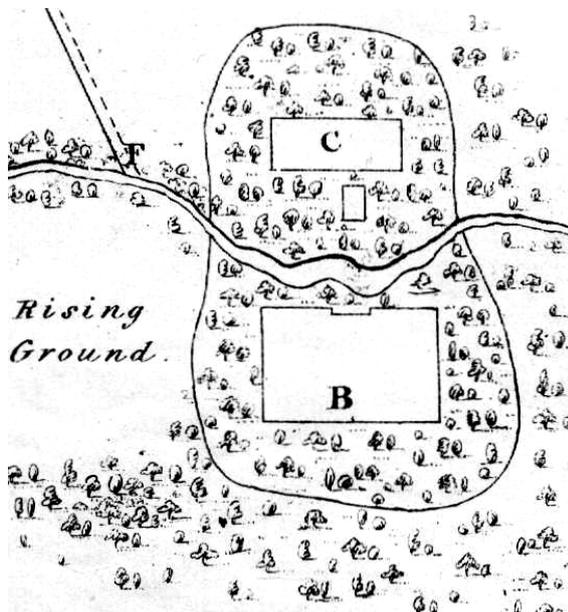
Light's plan shows that he had chosen to lay out the first town in the form of rectangles on both the north and south elevated land of the Para Plateau adjacent to the river. It is probable that his

decision to split the town was dictated by the presence of watercourses to the south and east of the southern area as these showed signs of flooding in winter and reduced the amount of land available to incorporate 1000 parcels into one rectangle.

While the plan clearly displays Light's early intention to establish a parklands belt completely encircling both parts of the city, it does not indicate a specific or regular width for it.



**Figure 2: Light's Site Survey of the Adelaide Plains**



**Figure 3: Light's Adelaide.**

#### **4. THE DESIGN AND LAY OUT THE CITY**

It is clear from the Commission's **Instruction 17** that Colonel Light alone was responsible for selecting a design for Adelaide within the following guidelines:-

*"When you have determined the site of the first town, you will proceed to lay it out in accordance with the 'Regulations for the preliminary sales of colonial lands in the country'. You will make the streets of ample width, and arrange them with reference to the convenience of the inhabitants and the beauty and salubrity of the town; and you will make the necessary reserves for squares, public walks and quays."*<sup>8</sup>

Light left no written records that explain how his ideas for the city plan were derived, and many theories have since been put forward by historians ranging from credible to fanciful. However, it mattered little to the Commissioners so long as it supported the principles expounded by the "free-thinkers".

#### **4.1 Fixing the alignment of South Adelaide**

The layout of the southern and larger portion of the city began on 11 January 1837 with Light overseeing the placement of the first peg at the corner of South and West Terraces. This point was chosen simply to enable South and West Terraces to be 150 feet wide and back from the edge of the Para Plateau escarpment.

The alignment of North Terrace was fixed 'in situ' by the simple procedure of measuring a similar distance back from the furthest south point of the escarpment edge to the east (see Figure 4). Right angles were turned off this line, and pegging of the 1 Acre parcels began.

Light had no need or intention to set this line due East (its True Bearing today is around 86° 27'), however an early Arrowsmith lithograph printed in London based on Light's surveys assumed that it was so and displayed West Terrace as True North. Since that time, there has been common belief among historians that Light made a mistake in his observations, however the field notes of Finniss of May 1837 confirm that it was not Colonel Light who made the mistake but Arrowsmith.

Light chose the One Acre city parcels to be laid out as squares. Theoretically, this would have given them side dimensions of 316.23 links, but when a length standard was eventually established in Adelaide in May 1837, it was clear that the Gunter chains used were of quite varied lengths. Added to the fact that the city surveys were carried out in the height of a South Australian summer, it is understandable that the average side of today's parcels is closer to 320 links.

His original design of the south block of the city incorporated a set pattern of road widths of 1, 1½ and 2 chains, with the four enclosing terraces being 150 feet wide. The width of the rectangle was selected to be 32 blocks and the depth 20 blocks, making a total of 640 parcels of 1 Acre.

However, the design included five public squares of 6 Acres each (one within the North Adelaide block), a central square of 8 Acres and 4 Acres for Government use, and that meant a total of 42 parcels of the 640 would not be available for private selection. Furthermore, an additional parcel was later required to be set aside for a Town Hall.

While pegging out the frontages east along North Terrace in January 1837, Light found that the final parcel row fell within the flood plain of First Creek, requiring him to relocate six parcels. Adding these to the unavailable 42 parcels, plus a decision to reduce North Adelaide by 60 meant that he had to include an extra 108 in South Adelaide, and he did this by laying out additional blocks of parcels near the south-eastern perimeter.

The end result is visible today as a curious, zig-zag eastern boundary with steps designed to keep the parcels out of the First Creek flood plain. This redesign appears to have also required a reduction in road widths as the old East Terrace of 150 feet width was re-named Hutt Street and today is 200 links wide.

#### **4.2 North Adelaide**

While some of the design elements of South Adelaide appear in North Adelaide, its overall layout is far more complex. No investigation to date has come close to explaining the mixture of formal structures laid out in an informal pattern.

Attempts have been made to show a geometric link between the North and South Adelaide blocks, but quick GPS coordinate checks of the unaltered cadastral boundaries soon dispel these theories.

It is likely that the changing shape of the River Torrens from east to west played its part. Even today, the upstream section in the city is narrower and passes through a more definable gully, and this may have convinced Light that the lower part of North Adelaide was unlikely to be inundated by flood waters.

### 4.3 Port Adelaide

As a result of continued pressure from the merchant lobbyists, and their support by the resident Governor, Light finally agreed to “stretch” the interpretation of that part of Commission Instruction 13 that stated *“if the spot is well suited for the site of even a secondary town, you will direct such a survey to be made as will enable the Colonial Commissioner, if he thinks proper, to include the district in the lands offered for selection by the holders of the first 437 land orders”*<sup>9</sup>. On completion of the North Adelaide component, he travelled to the port and designed a secondary town of 200 city parcels. These were included in the first selection.

### 4.4 Selection of the town parcels

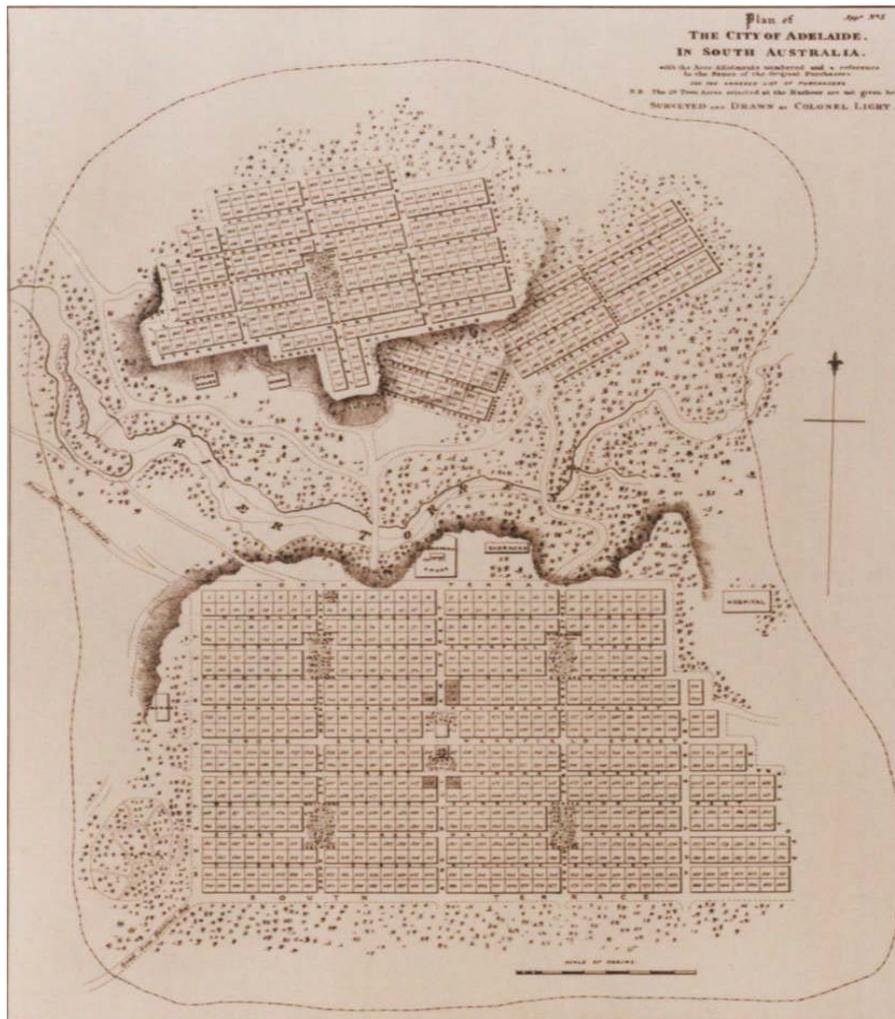
With pegs in place and numbered to allow inspection on the ground, the step process for selection began on the 23<sup>rd</sup> of March 1837, seven months after Light’s arrival in the Province.

On that day, a lottery was held for the holders of the initial 437 land orders to determine priority for parcel selection. Those not selected were then put up for public auction four days later.

Of the port subdivision, only 29 parcels were selected, all of them by holders of 134 Acre Land Orders. This was well short of the 200 anticipated and demanded by the Governor and the merchants.

A hand-drafted plan of Colonel Light’s final layout was sent to the Commissioners in London and a reproduction produced by the lithographer Arrowsmith for inclusion in the Commission’s 2<sup>nd</sup> Report to Parliament (Figure 4). Once again, discrepancies appeared in the printed plan.

The most significant was the delineation of a 1 Acre parcel to be set aside in the centre of the main square of the city for a church. This never appeared on Light’s original drawing and was clearly added in London by “persons unknown”. While no church was ever established there, a later claim of site ownership by the Church of England resulted in a lengthy Court case.



**Figure 4: Published plan of the final layout of the City of Adelaide**

## 5. DESIGN OF THE 134 ACRE SECTIONS

With the urban surveys behind him, Colonel Light was able to concentrate his teams onto the task of developing a practical design for the surrounding rural parcels. General guidelines for the survey were provided by the Commission in its **Instruction 18**:-

*“In making this survey you will divide the lands into sections of 134 acres each, of a form convenient for occupation and fencing, with a reserved road adjoining each section; and you will provide in the best manner you can for the after division into 80-acre sections of such of these lands as may not be selected by the holders of the first 437 land orders. In laying down the division lines, you will avail yourself, as far as practicable, of the natural boundaries.”<sup>10</sup>*

The Commission also instructed that principal stations were to be *“permanently marked, and that proper descriptions of such marks duly recorded.”<sup>11</sup>*

Light could clearly see the complications of design and pegging that the two-tiered selection process had created for him, but he was determined not to let this be a constraint on good regional planning.

He chose not to immediately define the width of his proposed belt of parklands around the city as no specific instructions had been given to him in this regard. It was clear to him that a fixing of an arbitrary distance would restrict the options he had for creating a reasonable rural parcel design.

He was also aware of the importance that had to be placed on the access to water, and needed to avoid the layout of arbitrary grids that created parcels straddling both banks of major waterways.

The complications associated with the requirements to establish a cadastre containing two different sized rural parcels also influenced Light to first establish an accurate network of trigonometric stations across the Adelaide Plains, and to use this network to coordinate a series of topographic surveys locating the significant features of the landscape.

He would then use these surveys to design a subdivision based on 134 Acre blocks to allow the “holders of the first 437 Land Orders” to make their choices, then follow up with a re-design of the balance of available land into 80 Acre parcels for auction.

The network would enable the establishment of a coordinated cadastre and allow parcel corners to be pegged “ad hoc”, accurately and within a few days of the owners requesting them.

Superfluous clearing of long lines by the survey teams would be eliminated. The time and effort required replacing lost pegs would be cut considerably, and peg replacements could be set to the same accuracy as the originals.

### 5.1 Trigonometric Surveys

To establish the network, Colonel Light divided the Adelaide Plain into three sectors based around the initial survey point earlier placed at the intersection of North and West Terraces for the city survey (denoted in the survey notes as Station A). The alignment of West Terrace was adopted as the baseline for the network.

Light took responsibility for the survey of the Plain north of the River Torrens and between the foothills and the coast, Finnis the area south-west of the West Terrace alignment to the coast, and Ormsby the sector east of the baseline around the city to the river and up to the foothills.

Unfortunately, all but a few pages of Light's field notes for this work were lost when the Survey Office burnt down, and possibly for the same reason, none of Ormsby's have ever been located. However, Finnis's notes are intact and they clearly demonstrate the methodology Light adopted and the connections that were made between stations placed by all three surveyors.

Light was particularly anxious to have an accurate measurement from the city to the sea to determine the number of rows of rural parcels he could establish, and he directed Finnis to connect between Station A and the flagstaff at Holdfast Bay (see Figure 1).

To do this, Finnis twice measured a baseline with a standardized 100 foot steel chain westward from Station A to his Station D. His field book records the two distances as 17,484.69 feet and 17,483.76 feet, indicating a rough chaining accuracy of 1 in 18,000.

Using this base, he made the requested trigonometric connection to the flagstaff, and Light was able to accurately determine the amount of land available from the city alignment to the sea and formulate his plan for the rural parcels.

He had already determined to create the 134 Acre parcels as rectangles of sides 4000 links by 3350 links, creating a common side measurement of 4000 links that would later accommodate the 80 Acre rectangular parcels subdivision.

Recognising that the expansion of rural land on the Plains would be north-south, he determined to lay out his rectangles with the common 4000 link side east-west. This would ensure that the major transport routes could be kept straight when the re-subdivision of land to 80 Acre parcels was instigated. The direct result of this can be seen in Adelaide today with the major north-south suburban roads being continuous straight lines and exactly 1 mile apart.

Colonel Light's Instructions from the Commission made no specific requirement for a belt of Parklands to surround the city, except for the mention in Instruction 17 "*you will make the necessary reserves for squares, public walks and quays*"<sup>12</sup> .” However, his first rough plans of the city show that from the outset he had decided to do so.

The first defined points of the park were set out by Finnis early in February 1838 from the intersection of the city's South and West Terraces. His field notes record:- *distance measured from the south-west corner of the town...150 feet for road, and 30 chains in addition. The same distance laid off in the prolongation of the West front of the town fixes the corner of Section #*"<sup>13</sup>

This corner defined the starting point for the layout of the 134 Acre Sections for all parcels south of the River Torrens.

His choice of a 30 chain wide Park has never been explained. Moreover, it applies only to the southern parklands belt of the city and a portion to the east. The remainder to the north and west are "balances" left over after land for the 134 Acre parcel subdivision had been excised and a road established between the River Torrens bridge and the track to Holdfast Bay.

## 5.2 Road Alignments

In fixing the alignment of **Port Road**, Colonel Light needed to select a site for the planned canal junction with the River Torrens. A bridge across the river would also be essential there for road traffic to enter South Adelaide.

Having planned to raise the level of the river to establish a basin for barges within the parklands, Light carried out a detailed survey of the river's current course as well as its earlier alignments. He selected a crossing point for the bridge then fixed the road alignment to the port as a straight line from it to the flagstaff erected at the port's landing point.

The road corridor was set at 350 links, allowing for a canal 150 links wide with 100 link traffic corridors each side of it. Finnis later recorded that Light had considered the use of one of these corridors for a railway.

By 1837, the "Bay Road" track to Holdfast Bay was already an important traffic corridor, and Colonel Light needed to incorporate it into his rural parcel design. His only concerns were the two sizeable watercourses of Brown Hill Creek and Sturt River that had been restricting traffic during periods of the winter months. Detailed topographical surveys of these waterways had earlier been carried out by Ormsby and Finnis, and Light chose to run the road east from the flagstaff at the coast until it crossed the Sturt River, then bend it directly towards the city along a diagonal of several rectangular blocks.

He was later obliged to introduce a second diagonal to provide a better crossing point over Brown Hill Creek and through the west parklands directly to the West Terrace/South Terrace intersection.

### **5.3 River Torrens Parcels**

In order to avoid having rural blocks straddle the River Torrens, Light was able again to choose rectangle diagonals on both sides of the river to the east of the city. These were set far enough back from the river to provide land for subdivision into 134 Acre parcels. He was convinced that all of these prime parcels would be taken up during the first land lottery and would not need to be readjusted to 80 Acres. This turned out to be the case despite many of them being undersized.

Creating river frontage parcels to the west of the city was more complicated because of the alignments of the Port and Holdfast Bay roads and the western boundary of the Parklands. The resultant subdivision shows an irregularity that is out of step with the rest of the design.

### **5.4 The Northern Subdivision**

It is believed that Colonel Light's northern subdivision commenced with a straight line set back from the gully of Dry Creek and parallel with the east-west alignment used on the south side of the River Torrens. This enabled the urban land parcels set out earlier at the port to be connected, while providing a straight east-west highway from the hills face to the port. Again Light used rectangle diagonals to establish 134 Acre parcels towards the city but excluding the last two parcels at the triangle apex to allow for the Parklands around North Adelaide.

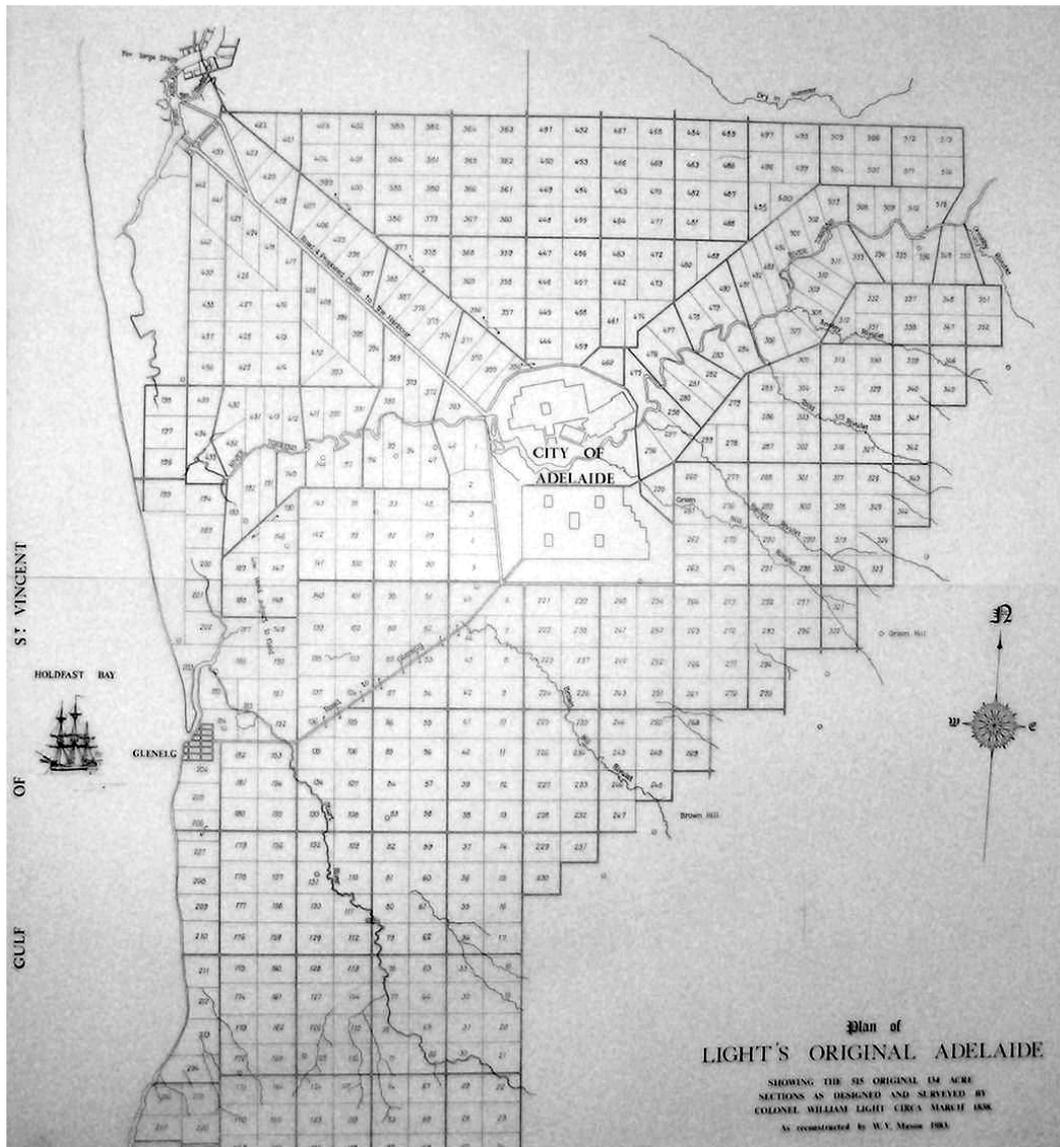
This left a corridor between the western diagonal and Port roads that had to be subdivided into irregular shaped parcels of 134 Acres with non-parallel back and front road frontages. This corridor terminated on the street alignment of the 29 Town Acres at the port that were earlier established by Light.

## **6. SELECTION AND DISPOSAL OF PARCELS**

On the 17<sup>th</sup> of March 1838, Light presented his plan of the 134 Acre parcel subdivision to the holders of the Preliminary Land Orders. A lottery was taken to determine the priority of selection. Colonel Light was fortunate to get first choice, and he opted for Section 1 immediately adjacent to the bridge over the River Torrens. Only 14 of the 437 holders of Land Orders chose to defer selection.

Light was then able to proceed with conversion of the balance areas to 80 Acre parcels, and when his revised plan was issued, the north-south road pattern was unchanged, but a small number of steps had to be introduced in the east-west alignments. Several “left-over” pockets of land were also created with areas considerably under 80 Acres.

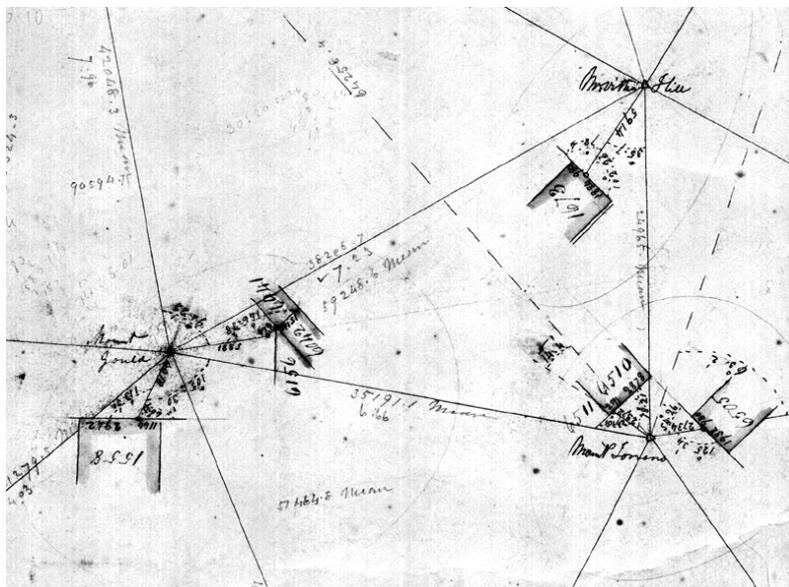
Colonel Light’s next task was to organize his team to set out the boundaries of the selected parcels when requested by the landholders. Having created the design in the form of a coordinated cadastre, he was able to use his trigonometric network stations to mark out the corner of any block within 3 to 4 days.



**Figure 5: Light's layout of the 134 Acre parcels**

This work was well under way when the *Rapid* returned from London on the 21<sup>st</sup> of June 1838 with new Instructions from the Commissioners. Light was outraged to find that his survey methodology was to cease immediately and he was to “adopt the plan of a running survey recommended by Captain Dawson, as well as by other scientific surveyors whom we had consulted.”<sup>14</sup>

Furthermore, the Commissioners indicated that they had already entered into negotiations to appoint a replacement Surveyor-General, but were willing to give Light “*an opportunity of proceeding with the survey under the new arrangements*”.



**Figure 6: Setting out Section corners from the trigonometric network**

Light was infuriated and resigned on the spot, and when the survey team learned of what had been proposed, all but three resigned along with him.

The landholders in Adelaide, having finally understood the nature and benefits of Light’s system, recognized immediately the disadvantages of the running survey approach and raised such strong objections that the Commissioners were obliged to abandon their proposal immediately.

Kingston was suspected to have played a role in the Commissioners’ change of support and he resigned as Acting Surveyor-General, but Light refused to take up the post again. It was left to Ormsby to act temporarily in the position and to continue the process that Light had instigated.

## **7. COLONEL LIGHT’S LEGACY**

Colonel Light remained in Adelaide after his resignation and established the first private survey practice in the Province with Finnis and other former colleagues. However, worn down by his efforts and suffering from tuberculosis, he eventually passed away on the 6<sup>th</sup> of October 1839, leaving behind in his Journal a final message to his fellow South Australians.

*“The reasons that led me to fix Adelaide where it is I do not expect to be generally understood or calmly judged of at the present. My enemies, however, by disputing their validity in every particular, have done me the good service of fixing the whole of the responsibility upon me. I am*

*perfectly willing to bear it; and I leave it to posterity, and not to them, to decide whether I am entitled to praise or to blame.*"<sup>15</sup>

Light was buried with honors in the city square that carries his name, and the citizens erected a statue to its first Surveyor-General on a prominent hill overlooking the Parklands that he created. It stands as a continuous reminder to South Australians of the insight, perseverance and resolve that were necessary to build the State's capital on such a unique landscape.



**Figure 7: Light's statue overlooking the Parklands**

“No one who stands beneath the statue on what is called Light's Vision and looks across the valley of the Torrens, or sees the city at night from Mount Lofty, can have any doubt about whether to praise or to blame.” - David Elder, 1984.

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## BIOGRAPHICAL NOTES

John Porter is a former Surveyor-General of South Australia and Fellow of the Institution of Surveyors, Australia. He graduated from the University of Adelaide with a Degree in Surveying in 1962, and holds Post-graduate Diplomas in Town Planning and Business Administration.

Through his earlier association with the South Australian Government's services export company SAGRIC International, he spent over 15 years working in the global market, much of this time on long-term implementation of land administration functions.

He has worked in a range of countries with differing social, political, economic and religious institutions and has visited many others in the pursuit of market opportunities, particularly in regard to UN, World Bank, Asian Development Bank, EU and AusAID funded projects.

Earlier in his career in the South Australian Government, he held the position of Assistant Commissioner of Highways before being appointed Surveyor-General in 1988.

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A Fellow of the Institution of Surveyors, Australia, he served as South Australia's Division President and Federal Councillor, and while stationed overseas represented Australia in Commission 1 of FIG.

He is now retired.

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