Land Development Agency

Section 94 Weston Creek Broad Acre Land Use Study

Final Draft Report to Land Development Agency

March 2004

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Background

1.1 Project

GHD was contracted by the Land Development Agency (LDA) in September 2003 to carry out a land use planning study of Part Block 4, Block 5, Part Block 6 and Part Block 8 Section 94 and Block 13 and 14 Section 83 Weston Creek (Figure 1) and to prepare a subdivision design and to prepare draft lease and development conditions for the release of the site.

1.2 Subject Site

The site, which is approximately 9 hectares in area, fronts the western side of Cotter Drive opposite the Australian Defence Training College and the RSPCA. The northern end of the site abuts vacant land adjacent to the Tuggeranong Parkway and Cotter Road roundabout.

To the west of the site is Streeton Drive and to the South Unwin Place which is opposite the Australian Federal Police and the Canberra Institute of Technology School of Horticulture. Refer to Figure 1 for Site Plan.

The land forms an 'L' shape around an existing broadacre area of land into which Hickey Court runs from Unwin Place. The Orana School, Baha'i Centre and the Canberra Sikh Association land all gain access from this road.

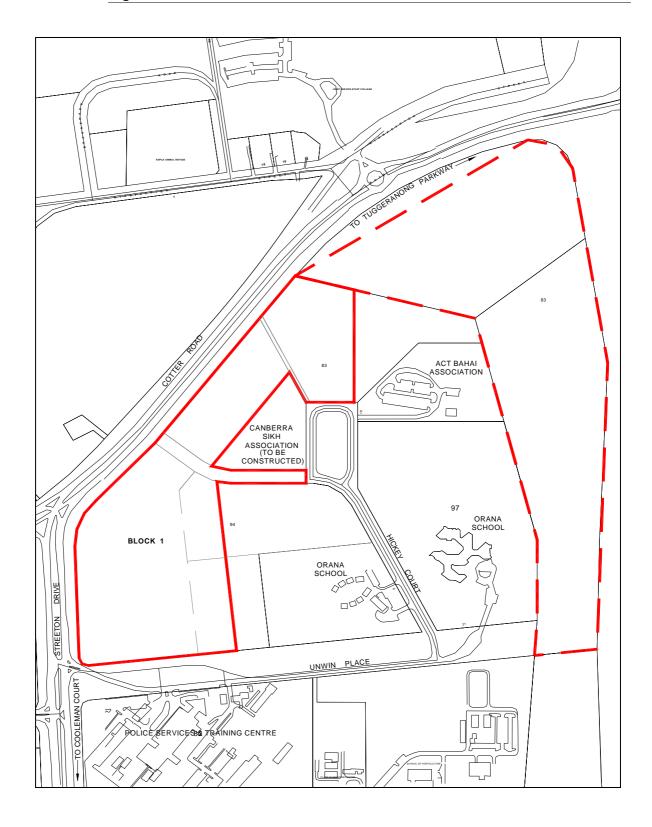
The land is presently undeveloped. An ACT Forests pine forest located on the southern half of the site and was removed in 2002 by ACT Forests. The northern half, which has never been developed, is lightly vegetated and presently functions (informally) as open space.

1.3 Investigations and Relevant Studies

The study to date has consisted of:

- Public information/consultation meetings principally with key stakeholders and local residents (refer Appendix A for a record of information briefing)
- Preparation of a draft set of lease conditions (refer Appendix B)
- Preparation of a roads and access report which examines various alternatives for improving traffic safety and convenience (refer Appendix C)
- ▶ Completion of a Landscape Assessment which identified and assessed the visual constraints and key features requiring protection (refer Appendix D)
- Mapping of the services available to the site (refer Appendix E)

Figure 1 Site Plan



Site Characteristics

2.1 Site Context

2.1.1 Location of the Land

The site is equidistant between the north and south of Canberra and is the only Broadacre site west of the Tuggeranong Parkway. The area is serviced by a strong network of roads from all parts of Canberra. It is also one of only two areas west of Capital Hill that can provide for Broadacre activities in the ACT.

2.1.2 Surrounding Land Uses

Locally the site is located within an existing area of broadacre land uses not all of which has been developed. The site, which is approximately 9 hectares in area, fronts the western side of Cotter Drive opposite the Australian Defence Training College and the RSPCA. The northern end of the site abuts vacant land adjacent to the Tuggeranong Parkway and Cotter Road roundabout.

To the west the site fronts Streeton Drive and to the South Unwin Place opposite the Australian Federal Police. Refer to Figure 1 for Site Plan.

The landforms an 'L' shape around an existing broadacre area of land into which Hickey Court runs from Unwin Place. The Orana School, Baha'i Centre and the Canberra Sikh Association land all gain access from this road.

The land is presently undeveloped. An ACT Forests pine forest located on the southern half of the site and was removed in 2002 by ACT Forests. The northern half, which has never been developed, is lightly vegetated and presently functions (informally) as open space.

Given the shape of the land and it's proximity to existing and proposed broadacre land uses, this is likely to be a key consideration in the identification of preferred future land uses and in subdivision design.

2.1.3 Site Access

Unwin Place is currently the only formed access point to the subject site. Unwin Place connects directly to Streeton Drive which is a Sub-Arterial Road. The intersection is an uncontrolled T intersection.

Dixon Drive, a major Collector Road intersects Streeton Drive only 75 metres to the south of the Unwin Place intersection. In this regard the Dixon/Streeton intersection influences the operation of the Unwin Place/Streeton Drive intersection.

Hickey Court is accessed off Unwin Place. It provides access to the Orana School and Baha'i and Sikh sites. As the Orana school has extended across Hickey Court this road now cuts the school in half.

Site access is to be a key consideration in the preferred subdivision design.

2.1.4 Traffic Volumes

As Unwin Place is a no through road and the route to the Orana School, the Unwin Place/ Streeton Drive intersection is influenced mainly by peak hour traffic. Traffic counts were conducted for this intersection. A preliminary model of the existing traffic scenario at the intersection was developed using the SIDRA V2 program. This indicates that the right hand turn from Unwin Place into Streeton Drive is at saturation point for a period during the a.m. and p.m. peaks, resulting in lengthy queues of up to 280m.

There is a refuge in the Streeton Street medium but that is also clogged during peak times. The output also indicated that vehicles existing Unwin Place to the South (left turning movement) are delayed by the right turning vehicles particularly during the PM peak.

2.1.5 Accident Statistics

For the Streeton Drive/Unwin Place intersection, statistics have shown five minor accidents in a five-year period.

2.1.6 Traffic Noise

Given the size and function of Cotter Road and Streeton Drive there is potential for noise impacts on any future use of the site.

2.2 Site Servicing

A preliminary determination of service locations and sizes in and surrounding the site was obtained through 'Dial Before you Dig'. It should be noted that the identified location of these services is approximate only and the exact location of these services should be confirmed prior to commencing any site works.

2.2.1 Stormwater/ Drainage

The site generally falls from the northeast to the southwest, with a minor ridge located along the northern side of Orana School. Overland stormwater generally flows towards the Streeton Drive and Cotter Road intersection and the intersection of Streeton Drive and Unwin Place.

Sections 83 and 94 are separated by a mown grass floodway running east west from Hickey Court. There are natural drainage lines running from the hill summit to the north and northwest ridgelines. There is a drainage trench running along the Unwin Place perimeter towards Streeton Drive.

2.2.2 **Sewer**

There is an existing 150mm dia reticulation sewer running generally east west across the site, which services the Baha'i Centre. Branching from this line is a 150mm dia main running just inside the western boundary of block 6/94, servicing the Orana School.

Unwin Place has a sewer main in the southern verge, however the size of the main cannot be confirmed by the information supplied by ActewAGL

2.2.3 Water

There is a 150mm water reticulation main in Unwin place, with a 750mm dia trunk main running parallel in the northern verge. Additionally there is a 200mm main in the eastern verge of Hickey Place servicing the Orana School and Baha'i Centre.

2.2.4 Electrical

There is electrical supply including street light cabling in the eastern verge of Hickey Place servicing the Orana School and Baha'i Centre. Street lighting is present in the both the eastern and western verges of Streeton Drive.

2.2.5 Telecommunications

Telstra has a cable in the eastern verge of Hickey Place servicing the Orana School and Baha'i Centre and an Optic Fibre cable in the southern verge of Unwin Place.

2.2.6 Gas

There is a gas main in the northern verge of Cotter Road and a main in the western verge of Streeton Drive that crosses Streeton Drive running south for around 20m in the eastern verge of Streeton Drive before running along the northern verge of Unwin Place. The size of these mains has not been confirmed by Agility.

2.3 Environmental Values

2.3.1 Topography

Slopes to the north and west have gradients ranging from approximately 9 to 15%. The gradient increases at the site boundary where there are embankments along Cotter Road. To the south, slopes are gradual and undulating, focusing views to the south. The cleared land to the south west of the site contains the lowest gradients particularly at the area adjacent to Orana School where there is a flattened platform of land.

The topography of the site is a key consideration in subdivision design.

2.3.2 Flora and Fauna

There is minimal remaining vegetation on the site due to bushfire damage. The area to the south west of the site still contains debris from plantation clearing earlier this year. In many areas the grassed slopes are covered in weeds such as Paterson's Curse.

Some small pine trees remain near the summit of the hill but most are dead or of poor health. Remnant eucalypts remain to the north of the site near Cotter Road, to the eastern ridges behind the ACT Baha'i Community Information Centre and to the areas adjacent to the Tuggernong Parkway. Fire has damaged most of these trees although the eucalypts are now regaining foliage.

Kangaroos currently use the site for feeding and migration. They tend to feed in the sheltered habitats around the hill summit and north east of the site on the open plains near the Tuggeranong Parkway.

Magpies were also present in many of the scattered remnant trees to the north of the site.

2.3.3 Heritage

There is a brick sewer vent on the open slopes to the north east of the study site (in Block 2, Section 83). The vent is on the register of the National Estate as Sewer Vent No. 3 and is one of three vents, which mark the route of Canberra's first main sewer that was completed in 1924. However, there is no potential for impact of odours from this vent on the subject site.

2.3.4 Landscape Visual Character

The Visual Assessment and Landscape Master Plan Report in Attachment D, identifies three general landscape character units within the site boundaries. These are related to location constraints and are identified (refer Figure 3 Landscape Master plan) as Area's "A", "B" and "C".

- Area "A" is the flat lower portion of the site described as Block 5, Pt Blocks 4 and 6
 Section 94.
- Area "B" is the lower hill slope area adjoining the Canberra Sikh Association site
 and along with Block 14 Section 83 includes the overland flow path and stormwater
 control Block 8 Section 94.
- Area "C" is that part of the site that has the steepest slopes and some remnant vegetation. It is described as Block 13 Section 83 and includes the parking loop of Hickey Court. Comments in respect to this area also relate to the areas of Block 2 and 3 Section 83.
- It should be noted that screen planting of pine trees have recently been added to
 the perimeter of the Orana school and that will affect future views into and out of the
 site.

Although not part of the subject site, the assessment also considered the hill slopes and ridgeline encompassed by the Tuggeranong Parkway and Cotter Road to the north east of the site. The view from these areas [blocks 2 & 3 Section 83] includes Capital Hill and the Governor General's residence.

Landscape visual character is a key consideration in the identification of preferred future land uses and in subdivision design.



3. Community and Stakeholder Expectations and Consultation

The results of the consultation process are located in the Community Consultation Report at Appendix A. The consultation process incorporated a two- part community information/consultation process that primarily focused on providing key stakeholders with targeted information sessions.

3.1 Stage 1 Consultation – Stakeholder Groups

The key stakeholders and the issues raised included:

Table 1 - Consultation

Stakeholder Issues Raised			
ACT Planning and Land Authority	 Population trends in age & distribution of aged facilities in Weston Creek. However, site not as well suited for aged facilities as other land areas currently available. 		
	Unwin Place/Streeton Drive intersection raised along with possible second access to site from Unwin Place.		
	Improvements (treed landscaping and bunding along Cotter Road) for visual amenity & traffic noise reduction supported.		
ACT Roads	Road design, signalisation of intersections and thresholds for traffic pedestrian safety were discussed.		
	The area has low accident rates.		
Australian Federal Police	Current lease to 2006 and they may relocate after that.		
	Parking issues raised.		
Australian National University	Horticulture project for their land is completed and interest declining. The University has sufficient land elsewhere.		
Baha'i Community	Proposing a temple (dome roof) located 'into the hill' to address design considerations.		
	Traffic issues raised		
Environment ACT	No tree assessment required for the site		
	Resident kangaroo population numbers dwindling due to lack of food and shelter. The Tuggeranong Parkway/Cotter Road proximity to the site reservation of land for habitat shelter is not desirable.		
Madison Lifestyle	Preference for a retirement hostel with independent		

Community	living units notwithstanding the need for a variation to the Territory Plan for such uses.
	Require 4 hectares for such uses.
	Buffers along Cotter Road for noise and visual impacts.
	Closure of Hickey Place and redirecting traffic along a new road through the subject land.
New Creations Ministry	Landscaped buffer strip along Cotter Road
	Site access should be onto Unwin Place with possible access to Hickey Court for overflow car parking.
	Proposing community hall and theatre, administration centre and church
nk	Require 4 to 6 hectares for such uses.
Orana School	Traffic concerns
	Master plan for future development recently completed and blocks destroyed by the fires will be rebuilt.
	Car parking & bus parking and turn around facilities needed.
	Preference for elderly retirement home on subject land
Sikh Community	Development for their site gaining access from the Hickey Court loop. Proposing a temple in a landscaped setting
	Preference for subject land to be developed for non- secular purposes such as residential or retirement.
Weston Creek Community Council	Community had indicated an interest in replanting the pine forest but acknowledge reports, post fires that the site will not be replanted.
	Alternative recreation use proposed.
	Welcome retirement complexes but not necessarily as proposed to date.
	Site is a gateway to Weston creek and in some way should reflect this
	Traffic issues raised
	Limitations to building heights and maintain visual amenity.

3.2 Stage 2 Consultation- Community Information Sessions

The second stage of the consultation program consisted of community based information sessions open to the public. Issues raised and discussed included:

- retirement village and institutional use for the site.
- It was accepted that the forest would not be replaced however perimeter tree planting would ameliorate this issue
- Access to Section 94
- Preferred uses under the Territory Plan
- Visual assessment of the site and how did that impact on building form
- The institutional use of the site and what uses did this entail

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Identifying Land Use Options for Further Investigation.

The project brief stipulated that the investigation of land use options should remain within the context of the Broadacre Land Use Policies area of the Territory Plan. The Project Brief also identified the following land uses on which to focus investigations for future use of the land. These are:

- Educational Establishment
- Health Facility
- Place of Worship
- Special Care Establishment
- Special Care Hostel

Both the Commonwealth Government and Territory Government have plans which relate to the subject land. These are:

- National Capital Plan
- Territory Plan
- The Canberra Spatial Plan

4.1 National Capital Plan

The National Capital Plan provides a framework for the Territory Plan (refer 4.2) while advancing those aspects of Canberra and the Territory, which are special to the National Capital role.

The National Capital Plan identifies the site as being within the Broadacre Areas as defined on the General Policy Plan.

The Plan contains a number of policies for Broadacre Areas and the following policies are considered relevant to the subject land:

- Broadacre areas may act as buffers between towns, provide sites for uses
 which require large land areas or may benefit from or be best located within a
 non-urban setting and provide a land bank for future urban areas.
- Within 5km of Mount Stromlo, development or installations which may, through night time illuminations or significant vibration, adversely affect the operation of Mount Stromlo Observatory or the associated seismology vault at Mount Stromlo, shall be referred to the Australian National University for examination and comment and reasonable steps shall be taken to mitigate adverse impacts.

The site is not included within any Designated Areas or in any areas of 'special requirements' under the National Capital Plan.

4.2 The Canberra Spatial Plan

The ACT Government has recently released the Canberra Spatial Plan, March 2004. The purpose of the Plan is to provide strategic directions for the development of Canberra over the next 30 years.

The Canberra Spatial Plan identifies the subject land in the existing urban area of the city. It also identifies the site on the outer edge of the 'Residential Intensification Line'. This line relates to a 7.5km radius around the city centre. Residential intensification within this area will occur over the next 15 years to accommodate the predicted demand for a wider range of housing in localities close to employment and services. This is not likely to impact on the development site, because it is not currently included within the Residential Land Use Policies areas.

One significant difference between the draft Spatial Plan and the final Spatial Plan is the removal of "Broadacre" uses. There is now a possible need for a review of all Broadacre areas identified within both the National Capital Plan and the Territory Plan given that the Spatial Plan does not provide comprehensive policy direction in respect to these areas.

The Canberra Spatial Plan does not specifically identify or seek to guide future land use options for the subject site.

4.3 The Territory Plan

The Territory Plan includes the site in the Broadacre Land Use Policies Area. The Land Use Policies make provision for a range of uses, in a predominantly rural landscape setting, which require larger site and/or a location outside urban areas. It also makes provision for activities requiring clearance zones or protection from conflicting development.

The Plan also places numerous performance criteria on maintaining the natural and/or rural qualities of the land as well as landscape features and environmental values. While most land uses will have manageable impacts on some of these values, it is considered that transport depot is likely to be the most intrusive in form and may have larger impacts than the uses listed in section 5.1.2.

4.4 Identification of Preferred Future Land Use Options

Both the National Capital Plan and the Territory Plan are fairly consistent in their treatment of the subject land. Notwithstanding this the aims, intents and focus of the two plans does vary slightly in terms of broadacre land uses and in their respective definitions.

Under the Territory Plan, Schedule 1 of the Broadacre Land Use Policies lists the purposes for which the land may be used. The following Table X lists the Broadacre uses and undertakes a broad assessment of land use suitability.

Table 2 – Site Suitability

Assessment of site suitability for land uses listed in Schedule 1 of the Broadacre Land Use Policies of the Territory Plan.

Land Use	Assessment for the Subject Land
agriculture	Rural use – no need in broadacre area
animal care facility	Size and shape of land and potential impacts on adjoining

	uses – site not suitable.	
animal husbandry	Rural use – no need in broadacre area	
caravan park/camping ground	Site location not attractive for such a use. Size and shape of land and potential impacts on adjoining uses – site not suitable.	
cemetery	Slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
communications facility	High visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
community activity centre	Size and shape of land and potential impacts on adjoining uses – site not suitable.	
corrections facility	Location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
defence installation	Size and shape of land and potential impacts on adjoining uses – site not suitable.	
educational establishment	Existing school adjoins the site and CIT school of Horticulture in proximity to the site – site is potentially suitable.	
emergency services facility	Access, location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
health facility	Potentially suitable for such use.	
land management facility	High visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
MAJOR UTILITY INSTALLATION	Access, location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
municipal depot	Access, location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
nature conservation area	No known values.	
outdoor recreation facility	Slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
parkland	Limited values.	
place of worship	Adjoining uses are compatible – potentially suitable for such uses.	
road	As required.	
scientific research establishment	Need is limited.	
special care	Potentially suitable for such uses	

establishment		
special care hostel	Potentially suitable for such uses	
tourist facility	Access, location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
transport depot	Access, location of the site, high visibility, slopes, size and shape of land and potential impacts on adjoining uses – site not suitable.	
veterinary hospital	Size and shape of land and potential impacts on adjoining uses – site not suitable.	
woodlot	Reports post fires exclude this site from replanting.	

The assessment in Table 2, clarifies how the Project Brief identified the preferred future land use options for the subject land of:

- Educational Establishment
- Health Facility
- Place of Worship
- Special Care Establishment
- Special Care Hostel

While the National Capital Plan and the Territory Plan impose performance criteria for development of the subject land in relation to the uses listed above, it is considered that these uses have the highest potential for development on the site

Notwithstanding the above identified preferred uses, an application for another use could be made for the site. If this were to occur it would have to be assessed on its own merit and could result in a variation to the Territory Plan if required.

Subdivision Options for Preferred Future Land Uses

The preferred future land use options are:

- Educational Establishment
- Health Facility
- Place of Worship
- Special Care Establishment
- Special Care Hostel

The configuration of the subdivision <u>must</u> accommodate the preferred future uses. They are larger in scale and the proposed subdivision options need to reflect this. Another key consideration in the subdivision design is the Visual Assessment and Landscape Master Planning Report. Taking both into consideration there are four (4) options (refer Figure 4). These are outlined below:

5.1 Option 1 – One Block

This option allows for the reconfiguration of the existing blocks (Block 5, Pt Blocks 4 & 6, Block 8 Section 94, Block 13 & 14 Section 83) into one area of approximately 9 hectares. This would meet the criteria set down in the Broad Acre Land Use Policy for provision of and retention of sites for broad acre uses.

The creation of one large block meets the requirements of provision of the Broadacre Land Use Policy, however consideration must also be given to the uses included in the Territory Plan that could be located on such a relatively large block and one with a 'L' shape. Access would be via Unwin Place and Hickey Court.

5.2 Option 2 – Two Blocks

This option allows for two blocks to be formed, which would consist of Block 5, Pt Blocks 4 & 6 Section 94 with the second block consisting of Blocks 13 & 14 Section 83 and Block 8 Section 94. This allows for the natural division created by the drainage swale and takes advantage of separate road access provided by Hickey Court.

The division of area into one block of approximately 6 hectares, with the second block approximately 3 hectares. This allows for two separate uses capable of being accommodated on the site.

5.3 Option 3 – Three Blocks

This option allows for the maximum number of uses that could be accommodated on the site, however the overall size of each block is on the smaller size that the identified uses could be accommodated. One block would consist of Block 5, Pt Blocks 4 & 6 Section 94, the second block would consist of Block 14 Section 83 and the third block consisting of Block 13 Section 83. The approximate areas would be 4.5 hectares, and 2 hectares each respectively. It may not be desirable to concentrate high traffic uses through Hickey Court.

5.4 Option 4 – Split the site as shown

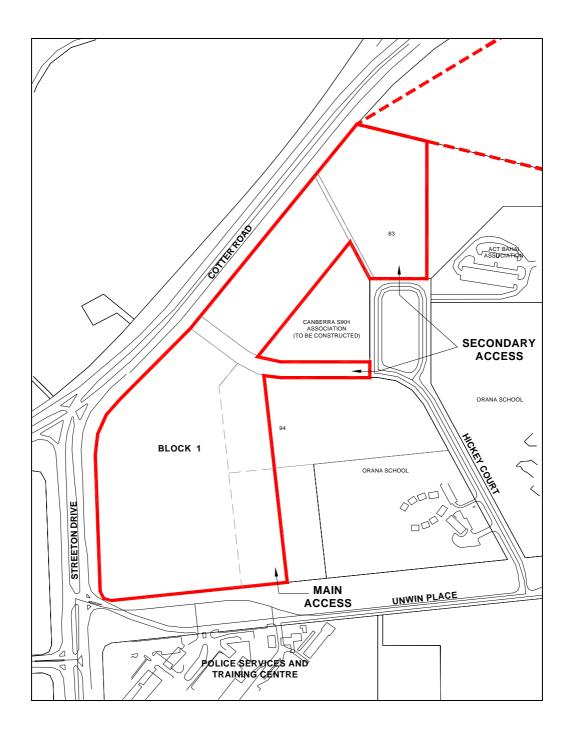
This option allows for the site to be split as shown, basically two blocks are created allowing a smaller block of approximately 2 hectares with close proximity to road access with a relatively flat topography. The second block consists of approximately 7 hectares, allowing for slope and access considerations. Access is improved to the second block through a newly created road from Unwin Place, which services both blocks. Secondary access is provided through Hickey Court.

5.5 Preferred Option for Subdivision Design

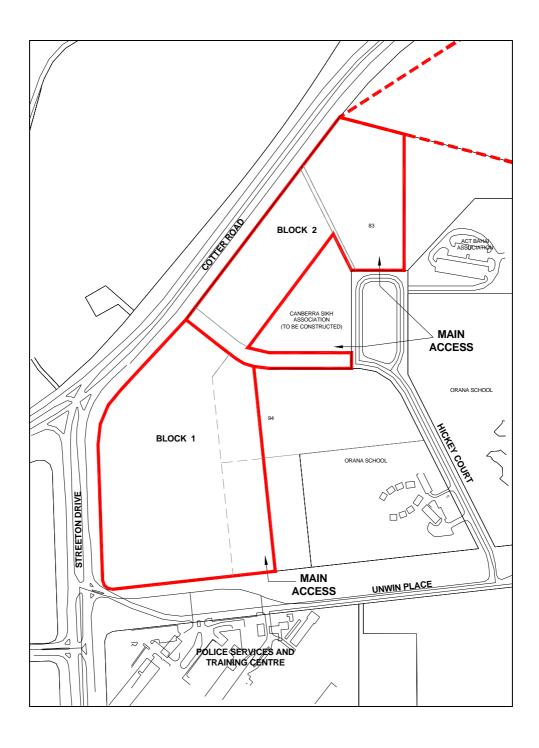
The ultimate subdivision layout will be directly affected by the end use of the site. Given the five (5) identified uses suitable from a policy perspective being: Educational Establishment, Health Facility, Place of Worship, Special Care Establishment and Special Care Hostel it is determined that Subdivision Option 4 – Split the site as shown would present the most appropriate use of the approximately 9 hectares of area available. This would result in two blocks, one approximately 2 hectares in area, the other approximately 7 hectares.

This is based on the sites ability to accommodate reasonably large buildings, the constraint of topographical features such as sight lines and slope higher up the site [Block 13 Section 83] and the access provided through Unwin Place and Hickey Court. Although Subdivision Option 3 could also be possible, the creation of a smaller 2 hectare block at the front of the site within close proximity to Streeton Drive with access through to the rear of the site provides the best traffic access whilst providing more surface area for buildings to be strategically placed higher up on the slope.

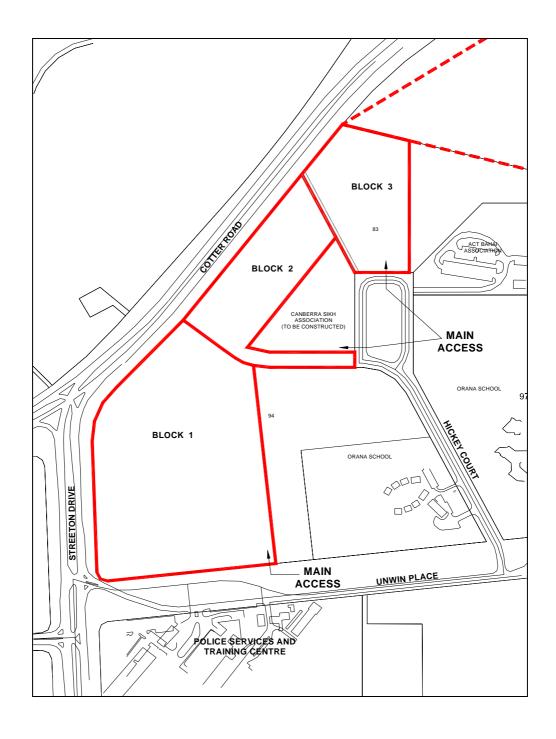
Figure 3 - SUBDIVISION LAYOUT OPTION 1 - ONE BLOCK



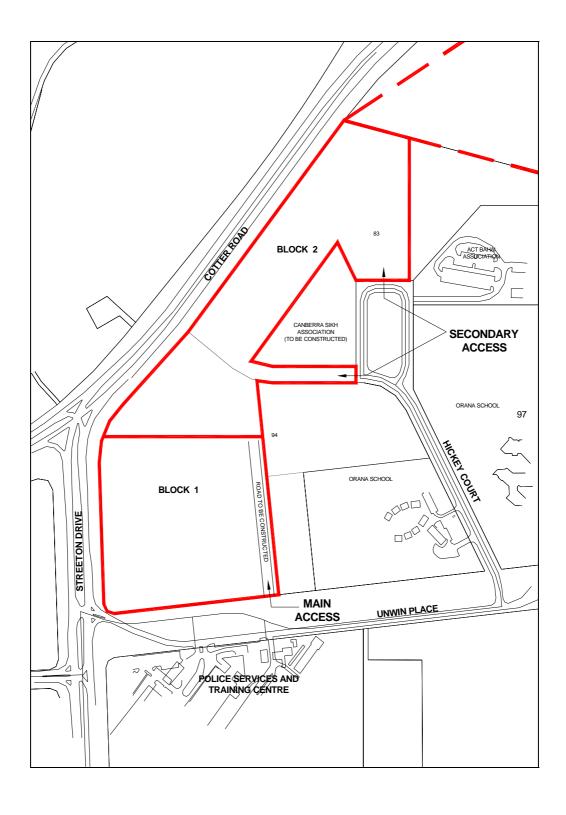
SUBDIVISION LAYOUT OPTION 2-TWO BLOCKS



SUBDIVISION LAYOUT OPTION 3-THREE BLOCKS



SUBDIVISION LAYOUT OPTION 4 - SPLIT THE SITE AS SHOWN



Opportunities and Constraints for Future Development

The preferred future land use options are:

- Educational Establishment
- Health Facility
- Place of Worship
- Special Care Establishment
- Special Care Hostel

6.1 Site Context

The location of the site in terms of Canberra, Weston Creek and in terms of the existing and proposed surrounding land uses does not provide limitations to the future use of the site for the uses listed above. However, the most compatible uses would be educational establishment and place of worship as these uses reflect the current uses surrounding the site.

6.1 Site Infrastructure and Servicing

6.1.1 Internal Site Access

There are four options to provide internal access to the site (refer Figure 5). They are:

Table 3 - Traffic Options

Traffic Access Option	Description	Costs
Option 1	Minimal works sealed access onto block 5.	Approx \$60,000
Option 2	Major works access road linking Unwin Place to Hickey Court	Approx \$250,000
Option 3	Minimal works access from Hickey Court Only	Approx \$90,000
Option 4	Minimal works access to both Unwin Place and Hickey Court	Approx \$160,000

The preferred subdivision layout using Subdivision Option 4 – Split the site as shown could result in a number of internal access options being used to direct internal traffic, however given the proposed use of the site Internal Site Access Option Four is worthy of consideration as it results in construction of an additional road beside the Orana School to service block 13 Section 83 at a cost of approximately \$160,000.

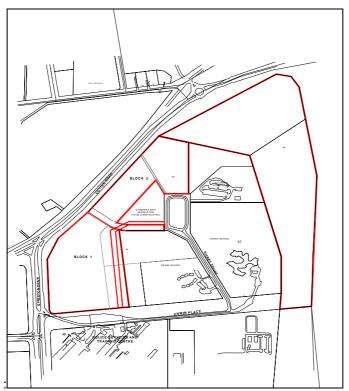
Construction of this additional road could significantly reduce through traffic to Hickey Court, resulting in less traffic having to pass through the Orana School site, which is dissected by the existing road.

Figure 4 - Internal Site Access Options

OPTION 1



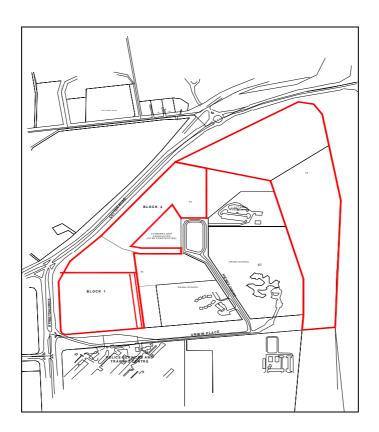
OPTION 2



OPTION 3:



OPTION 4:



6.1.2 **Traffic**

The use of the land will influence the traffic volumes on the Unwin Place/Streeton Drive intersection if the use generates traffic at peak times. However, if the use is a 'place of worship' then it may generate traffic only outside peak time, thus minimising the impacts on the intersection. Notwithstanding this the intersection is currently at saturation point, at the very least during peak times.

A number of options for the treatment of the Unwin Place/ Streeton Drive intersection have been considered and costed. These are:

Table 4 - Traffic Costs

been considered and costed. These are.			
Table 4 - Traffic Costs			
Option	Description	Cost	
Option 1	Realignment of Unwin Place to form a signalised cross intersection with Streeton Drive and the realigned Dixon Drive	\$1.8Million	
Option 2	Part signalisation of Streeton Drive at Unwin Place leaving Streeton Drive northbound traffic uncontrolled.	\$0.43Million	
Option 3	Full signalisation of Unwin Place/ Streeton Drive Intersection	\$0.3Million	
Option 4	Minimal works, high angle left turn from Dixon Drive into Streeton Drive and slip land works into Streeton Drive at Unwin Place.	\$0.26Million	

Based on the preferred future land uses, the preferred subdivision layout and the preferred internal site access, traffic modelling has determined that only minor works in association with the Unwin Place/Streeton Drive intersection are required. This is consistent with Option Four – Minimal Works. The cost for these road works has been estimated at \$0.26 Million for the Streeton Drive/ Unwin Place intersection.

The various options are examined in detail including intersection diagrams contained in the Traffic Assessment Report in Appendix C.

The requirements for minimal works is based on Traffic modelling using the SIDRA V2 program and are of a preliminary nature only as the exact land use characteristics of the nominated uses are not known.

6.1.3 **Traffic Noise**

The existing land uses in Hickey Court such as the Baha'i and Sikh sites are Places of Worship may require noise separation or be adequately noise buffered from residential areas or large traffic generation (e.g. Cotter Road). A buffer zone is a landscape enhancement option that recognises the existing uses and co-location opportunities afforded by the Broad Acre Land Use Policy. At a minimum a buffer zone of between 6 and 10 metres following the development edge along Cotter Road may be required and that this could entail a earth mound to a height of 3 metres to reduce noise. The noise buffer would also require tree plantings to ameliorate the visual impact and assist with screening of development. In considering the visual impact and noise effects on Area "C" that Streeton

Drive would at a minimum require tree plantings. Any landscape buffer must be able to be combined with the roadside treatment undertaken by Canberra Urban Parks and Places and in consultation with Roads ACT.

Whichever use is agreed for development purposes, a decision will need to be made as to management responsibility for the buffer zone. The buffer zone could either remain within the site being developed and maintained as part of the grounds management or be incorporated into the road reserve and maintained by Canberra Urban Parks and Places. Given the criticality of role of the buffer zone as mitigation to larger built form amenity protection and noise mitigation it is the recommended option that the buffer zone be located within the setback requirements for each block that adjoins Cotter Road and Streeton Drive. This would enable the road reserve to be available to add to the visual and noise attenuation with additional treatment if necessary.

6.2 Site Servicing

As the layout and extent of proposed development of the site has not been determined at this time, the number and location of required service ties is subject to assessment of a firm development proposal.

As such, the assessment of required servicing for development of the site has been carried out in general terms, and will be subject to further detailed assessment based on a defined development proposal.

Internal site works will be required as part of development of the blocks to connect to available service points.

6.2.1 Stormwater/Drainage

The existing surface flow on the site does not preclude development, and any development proposals adopted should retain the existing flow patterns.

The existing open unlined drain collecting surface flow from the northern section of the site should be retained as part of development either in its current state, or as part of a road reserve.

In general terms, it is considered that the site is adequately serviced by the surrounding overland flow system, based on discharge to existing road reserves. Capacity at these points would be need to be checked based on minor/major system flows generated by any proposed development.

6.2.2 Sewer

There are opportunities to connect to the sewer network in the southern verge of Cotter Drive adjacent to Block 1 of 94 and the section of sewer in the road reserve aligning with an extension of Hickey Place.

Available capacity will be dependent on the proposed development.

6.2.3 Water

Opportunities to provide water ties are available from water supply in the northern verge of Unwin Place and in the eastern verge of Hickey Place.

Available capacity will be dependent on the proposed development.

6.2.4 Electrical

Preliminary advice from ActewAGL is that depending on the commercial viability of the proposed development, ActewAGL will connect to the development block at its expense.

6.2.5 Telecommunications

It is understood from advice from Telstra that depending on the commercial viability of the proposed development, Telstra will connect to each block at its expense.

6.2.6 Gas

It is understood that depending on the commercial viability of the development Agility will connect to the development block at its expense.

6.3 Landscape Visual Character

As stated previously the Territory Plan places considerable emphasis on protecting the visual landscape qualities of land in the Broadacre Land Use Polices.

While the views from the site towards the west are open their impacts can be controlled through height limitation and the requirement for buildings to maintain solar access within the site. It is the potential visual impact on the surrounding established areas of Weston Creek given the "gateway" status that the residents have applied to the site that merits control in terms of mitigating any adverse amenity effect rather than those existing Hickey Court residents.

There is no height limit on development in the Broad Acre Land Use Policies area under the Territory Plan. Therefore it is appropriate that a height limit be applied to the lease conditions for all proposed development located within the high sensitivity visual impact.

In addition, the view from blocks 2 & 3 Section 83 of Capital Hill and the Governor General's residence, while outside the scope of the study, should be protected.

Visual amenity of existing and proposed surrounding land uses should also be closely regulated.

6.4 Opportunities and Constraints for Development

As with every site there always exists opportunities and constraints for different types of development. This report outlines some of the more important aspects of those opportunities that exist and the constraints.

6.3.1 Opportunities

- Given the Broad Acre Land Use Policy and principles, the importance of the size of the site at present should not be underestimated.
- Development incorporating significant landscaping treatments is able to accommodate bulky development in the form of large-scale buildings up to four storeys in height. This should occur in the less visually sensitive parts of the site, predominantly on the lower section [Block 5, Pt Block 4 & 6 Section 94].

- Due to the proximity of existing buildings, which provide an institutional framework such as the ACT Baha'i Community, Orana School, the Defence College and AFP College similar buildings would not be out of place.
- Development on the lower slope will gain expansive views towards the north and south, whilst views into the site would be minimised.
- Access to the site can be provided from either Unwin Place and through Hickey Court
- The use of extensive border tree planting along Cotter Road, Streeton Drive and Unwin Place will help to alleviate the visual impact of any development of the site, particularly as embankments along Cotter Road and Streeton Drivel help to alleviate the visual impact of new development and reduce potentially negative views and noise from Cotter Road.
- There is no constraint to provision of standard urban services to any part of the site.
- There are no environmental constraints.

6.3.2 Constraints

- Due to the prominence of the site as a gateway entry to the Weston Creek area, development should take advantage of what is strategically located developable land for uses that are Broad Acre in nature.
- Development on the site needs to be sensitive to views from surrounding areas and local buildings such as the ACT Baha'i Community, Orana School, Australian Federal Police College and RSPCA. Where possible, the more elevated slopes should be retained as vegetated areas or have buildings benched into the slope similar to the buildings on the ACT Baha'i Community site.
- The topography on the northwest is the steepest on the site and is therefore less suited to development. If it were graded there would be an adverse visual impact.
- The retention of the existing floodway [Block 8 Section 94] as a floodway easement between the top of the site and the undulating lower portion of the site acts as a divide across the site.
- Views of the site from Capital Hill and the Governor's residence limit the height of development and preclude developments protruding above the ridgeline and hilltop on Block 12.
- The existing use of the site, which accommodated the Orana School, has significantly
 resulted in peak hour traffic saturation. Any additional uses required to access the site
 during peak hour would result in conflict (refer Traffic Report Appendix C).
- No future use of the site should result in impacts on the operation of the Mount Stromlo facilities particularly in relation to 'light' and 'vibrations'.

7. Recommendation for Final Development Options

7.1 Final Land Use Option

Key Recommendations

- · Broadacre land use policy is retained
- That the site be used for Educational or for a Place of Worship use given the available land area and centralised location in accordance with the Broad Acre Land Use Policy of the Territory Plan
- That the preferred Subdivision Option Four of creating no more than two blocks be adopted utilising an area for development of approximately 2 hectare and 7 hectares.
- That Traffic Option Four be adopted for treatment of the Streeton Drive/ Unwin Place intersection based on the need to augment the existing intersection and the fact that the majority of additional use would be not in peak hour.
- That Internal Site Access Option Four be adopted resulting in the construction of an additional internal road adjacent to the Orana School site to provide access to block 14 and 13 Section 83 to ease any additional traffic on Hickey Court.
- That buffer, landscaping and height restrictions be placed on development as part
 of the lease conditions to protect enhance the amenity and use of the site,
 particularly towards the rear of the site where the site slopes upwards.
- Visually prominent land to have strong development controls
- Planting of trees and shrubs to alleviate visual intrusion of buildings be a mandatory requirement to development.

7.2 Alternative Land Use Option

This involves consideration of alternative land use activities but not a variation of the Territory Plan's intended use of Broad Acre Land Use Policy by allowing the adoption of the Subdivision option (Option 3) of creating three blocks, thus allowing the additional smaller land area uses of Special Care Establishment or Special Care Hostel.

It is <u>not</u> recommended that any variation be undertaken to the Territory Plan for any use other than those uses contained in the Broad Acre Land Use Policy. This discounts those uses such as retirement accommodation, residential accommodation or other commercial facilities.

Were a specific need to be identified for a development of a non Broad Acre use of the subject site there exist two sites in close proximity that could be better utilised for any such need. The two alternative Broad Acre sites that may meet the needs for any land use policy change are the AFP site on the corner of Streeton Drive, Unwin Place and Heysen Street and the ANU site, which has dual frontage [Unwin Place and Heysen Street]. The AFP and ANU sites have a greater land area, are closer to the existing commercial centre and

recreation network linkages and are not as adversely affected by visual amenity and traffic issues.

In addition both leaseholders have indicated a willingness to consider non Broad Acre Land Uses for their sites. In the case of the AFP their lease comes up for renewal in 2006. Any future intensification of residential density in Weston Creek area, outside of those areas indicated in the Spatial Plan, are more likely to require either of these sites.

7.2.1 Recommendation for land adjoining the site

It is considered that the land identified as Blocks 2 & 3 Section 83 adjoining the site be used for buffer and corridor purposes. That this area be excised from the Broad Acre Land Use Policy and their land use policy varied to "Hills Ridges and Buffer Areas" so that it is managed publicly as part of a nature reserve and recognises the visual significance of the sites in regard to the Tuggeranong Parkway Cotter Road roundabout and the "gateway" aspect of block 2 in particular. This would also recognise the heritage item located on block 2.