

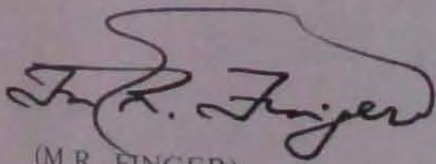
CONFIDENTIAL
CABINET DECISION

No. 2856

Submission No.: 2422

Title: KATHERINE-TINDAL INFRASTRUCTURE

Cabinet noted the Report.



(M.R. FINGER),
Secretary to Cabinet.

8 March, 1983.

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FOR CABINET

SUBMISSION No: 2422

Title:	KATHERINE-TINDAL INFRASTRUCTURE
Minister	Paul Everingham
Purpose:	To inform Cabinet of the infrastructure requirements likely to result from the Department of Defence proposals for the development of Tindal R.A.A.F. Base and the location of R.A.A.F. personnel at Katherine.
Relation to existing policy:	Consistent with policies for the development of the Northern Territory.
Timing/ legislative priority:	Nil
Announcement of decision, tabling, etc:	Nil
Acting required before announcement:	Nil
Staffing implications, numbers and costs, etc:	Not known at this stage.
Total cost:	Not known at this stage.

CONFIDENTIAL

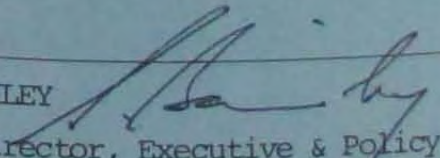
Department/Authority LAW

COMMENT ON CABINET SUBMISSION No.

TITLE: KATHERINE-TINDAL INFRASTRUCTURE

COMMENTS:

No comment necessary - paper for information only.

SIGNED: S.R.BAILEY 

DESIGNATION: Director, Executive & Policy Unit for Solicitor-General.

DATE: 2 March, 1983.

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Department/Authority OFFICE OF THE PUBLIC SERVICE COMMISSIONER

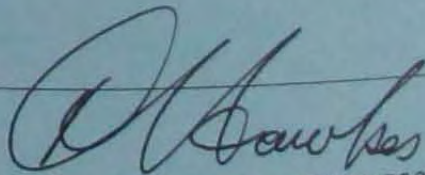
COMMENT ON CABINET SUBMISSION No.

TITLE: KATHERINE-TINDAL INFRASTRUCTURE

COMMENTS:

This Office has no comments on this submission at the present time. Increased Public Service staffing will be examined at an appropriate time as development occurs.

SIGNED:



DESIGNATION: DEPUTY PUBLIC SERVICE COMMISSIONER

DATE: 2 MARCH 1983

CONFIDENTIAL

Department/ ~~XXXXXX~~ TREASURY

COMMENT ON CABINET SUBMISSION No.

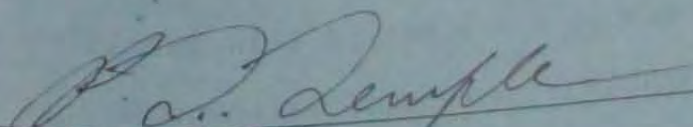
TITLE: KATHERINE-TINDAL INFRASTRUCTURE

COMMENTS:

The submission is for noting and contains no financial commitments at this stage.

The Treasury will be participating in the development of more specific arrangements as the need emerges.

As a matter of underlying policy, it is recommended that the project proceed, so far as is possible, without net cost to the Northern Territory Government.



SIGNED: P F TEMPLE

DESIGNATION: DEPUTY UNDER-TREASURER

DATE: 4 MARCH, 1983

CONFIDENTIAL

THE ISSUES

1. To inform Cabinet of the infrastructure requirements likely to result from the Department of Defence proposals for the development of Tindal R.A.A.F. Base and the location of R.A.A.F. personnel at Katherine.

BACKGROUND

2. The Department of Defence is considering proposals for the deployment to Tindal of a F/A-18 Squadron in 1986/87 (Scenario 1) and more comprehensive development of Tindal to include the transfer in the longer term of much of the R.A.A.F. activities currently conducted at Darwin. Options for location of R.A.A.F. personnel at Tindal and Katherine are also being considered.
3. The Commonwealth Government has commissioned a firm of consultants to undertake the development of a master plan for Tindal Base and environmental studies to assess the feasibility of the Katherine/Tindal development proposals.
4. Commonwealth timetabling for the project anticipates that sufficient information on the cost and feasibility of establishing a new R.A.A.F. Base at Tindal will be available by mid May 1983 to permit the Commonwealth Government to formally endorse the

location and to allow work to commence at the earliest possible date.

CONSIDERATION OF THE ISSUES

5. The project which is outlined in the information paper at Attachment A, will have a significant impact on the growth and development of Katherine. Cabinet may need to consider further information on issues as they arise.

PUBLIC IMPACT OF THE RECOMMENDATIONS

6. Katherine residents are expected to be in favour of the increased employment and development opportunities that will arise from expansion of the R.A.A.F. Base at Tindal. The possibility of adverse social effects could give some cause for concern. There may also be adverse effects on Darwin, but these are expected to be relatively minor.

FINANCIAL CONSIDERATIONS

7. Employment could peak at about 1,000 additional positions in 1984/85. Employment would be about equally divided between jobs directly associated with construction projects and additional flow-on employment in service industries and the public sector.

COMMONWEALTH AND LOCAL GOVERNMENT RELATIONS

8. Following an exchange of letters between the Prime Minister and the Chief Minister a joint Commonwealth/Northern Territory Consultative Committee has been established to provide for primary consultation and the effective operation of working parties. Representation at the local level is included through the Katherine Town Council.

CO-ORDINATION

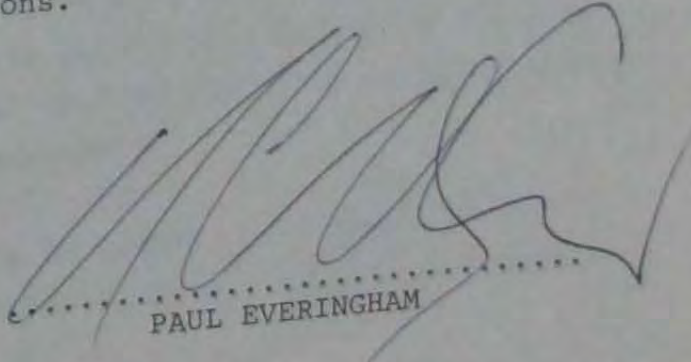
9. The information paper has been considered and endorsed by the Co-ordination Committee at its meeting on 8 February 1983.

RECOMMENDATIONS

10. It is recommended that:-

- (a) Cabinet notes the information paper at Attachment A; and
- (b) the intention of keeping Cabinet informed by further submissions.

4.3.83


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PAUL EVERINGHAM

KATHERINE/TINDAL INFRASTRUCTURE

BACKGROUND

Earlier defence planning proceeded on the basis that the main concentration of RAAF activities would be at Darwin. The transfer of a Mirage squadron from Butterworth to Darwin in 1983 with some adjustment to the South side of Darwin airport to accommodate it was seen as the first stage. The second stage entailed the replacement of the Mirage squadron by a squadron of F/A-18 fighters in December 1986.

Tindal was developed as part of RAAF strategy for locating RAAF aircraft and has served as a base for ad hoc exercises. It is otherwise maintained on a caretaker basis.

The Department of Defence are now reviewing earlier development proposals for RAAF facilities in Darwin and at Tindal in the light of the following possibilities:

- Deployment of the Mirage squadron from Butterworth to Darwin by July 1983 - now confirmed.
- Initial development of Tindal to the minimum extent necessary to base an F/A - 18 squadron there in 1986-87 (Scenario 1).
- More comprehensive development of Tindal to include the transfer of much of the RAAF activities currently conducted at Darwin to Tindal in the longer term. (Scenario 2).

Deployment of the Mirage Squadron to Darwin

It is not anticipated that the arrival of the Mirage squadron will have any major impact on Darwin. There will be a temporary demand for housing. The RAAF should be able to obtain from the private sector the 160 dwellings, including the 83 on base homes previously planned, it will be seeking for squadron personnel.

With the deployment of the F/A-18's to Tindal, withdrawal of the Mirages could have some minor effects on the private housing rental

market. Given the current trends in Darwin's projected population growth of 5% per annum, any small surplus in private sector rental housing which may develop should be readily absorbed. There may perhaps be a need for a minor short term adjustment to public sector housing growth.

Proposals announced by the Minister for Aviation on 24 November 1982 for a \$86 million development of Civil Aviation facilities in Darwin to be completed by late 1986 will provide a substantial boost to Darwin.

Changes in Defence thinking concerning the deployment of the F/A-18's to Tindal will have minimal effect on Darwin's current rate of growth and development. The more comprehensive proposals which includes transfer of most of the Airforce activities currently conducted at Darwin to Tindal could be crucial depending on the length of time envisaged for the transfer. However, given sufficient staging most of the potential disruption to the Darwin economy could be ameliorated.

Impact of Defence Proposals on Katherine/Tindal

Defence officials envisage all single personnel and about 100 families will be housed at Tindal base with the balance of married staff being housed in Katherine and Katherine East.

Three options are considered for the balance of Scenario 2. They are:

- (a) Locate all domestic facilities at Katherine - Option 1.
- (b) Locate married quarters at Katherine and single accommodation at Tindal - Option 2 and,
- (c) Locate all domestic facilities at Tindal - Option 3.

Population Changes

There are three components associated with the population changes resulting from the RAAF development proposal.

They are:

- (a) RAAF personnel and their families,
- (b) A temporary construction workforce and
- (c) An increase in permanent population associated with civilian employment to service the RAAF base, RAAF staff and families.

Growth in Katherine/Tindal population due to the RAAF component based on Department of Defence statistics is 2,038 and 3,112 persons for Scenario 1 and Scenario 2 respectively.

Input/output tables for the Northern Territory prepared by the Office of Policy and Planning suggest that employment as a result of Scenario 1 would peak at about 1090 positions in 1984-85. Some 570 positions would be directly associated with construction projects and some 520 would result from additional flow of civilian employment including some public service employment.

In addition, and allowing for employment of RAAF dependants, there would be additional jobs related to civilian employment to service incoming RAAF personnel and their families in 1987. This gives an additional population of some 3,000 for Scenario 1 increasing to about 4,300 at the end of the second scenario, over and above the natural growth rate for Katherine.

Katherine/Tindal population is anticipated to increase from a current total for about 3,900 to some 7,500 persons in 1987. This represents an average annual rate of population growth of the order of 14 percent per annum. No timing has yet been announced for the proposed second scenario.

Housing Requirements

The following indicates unit construction costs in 1982 prices for 460 married and 290 single quarters based on RAAF housing requirements for Scenario 1.

Tindal

290 single quarters	@	\$32,000	.....	\$9,280,000
100 married quarters	@	\$60,000	\$6,000,000

Katherine

360 married quarters	@	\$60,000	\$21,600,000
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			TOTAL	\$36,880,000
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Although it is assumed that construction costs are similar at Katherine and Tindal, on previous experience housing at Katherine East sub-division could prove more expensive because services have had to be laid down well below the surface through deep rock.

Cost estimates are based on three bedroom detached married quarters and one bedroom flats for single quarters. Unit cost estimates also take into account a standard of accommodation higher than normal general public housing.

The annual construction programme has been estimated over three years and assumes that serviced residential land will be progressively turned off during each year to accommodate RAAF, Northern Territory Public Service and general public housing requirements.

The Housing Commission could act as the agent of the Commonwealth to build the houses with their funds. This would be highly desirable so as to properly and economically co-ordinate the total Housing Commission and Commonwealth programme.

Additionally, general public housing will be required for civilian employment associated with construction projects and provision of services at Katherine and Tindal.

Of the 1090 positions identified in the input/output tables, 570 positions directly associated with construction projects are assumed to be temporarily housed by contractors. Housing requirements for the remaining 520 persons has been translated on the basis of 1981 census data into the following requirements:

292 houses at \$50,000	.....	\$14,600,000
228medium density units at \$29 000	.....	\$ 6,612,000
		<hr/>
	Total	\$21,212,000
		<hr/>

The population analysis, which must be regarded as tentative and possibly optimistic, suggests that additional general public housing will be needed towards the end of the construction period as the impact of RAAF operations becomes more apparent. However, there is likely to be some replacement of temporary by permanent population as the construction phase winds down. Consequently, no specific allowance has been made for possible additional housing associated with Senario 1 after 1987.

Any building programme would need to cater for large contracts to attract large building companies to the town as it is unlikely that the existing industry in the area has the capacity, and at least could force contract prices up.

Dependant on the multiplier effects on the private sector, additional funds would be required from Northern Territory Treasury to ensure that there is no reduction in the housing programme in other areas. It should be noted by way of comparison with Katherine/Tindal requirements that the Northern Territory Housing Commission 1982/83 construction programme totals 894 units on a Territory-wide basis.

Scenario 2

Requirements are for the construction of an additional 240 married quarters and 162 single quarters (medium density) for RAAF personnel

transferred from Darwin. Capital costs would be of the following order in 1982 prices.

240 at \$60 000	.....	\$14 400 000
162 medium density units at \$32 000	.....	\$ 5 184 000
		<hr/>
	Total	\$19 584 000
		<hr/>

In addition, there is an estimated civilian population of about 230 persons over and above the natural growth factor which would be associated with RAAF activities and who would require housing. Again using 1981 census data to derive ratios of persons per dwelling and married to single persons, total costs would be of the following order in 1982 prices:

32 houses at \$50 000	.....	\$ 1 600 000
26 medium density units at \$29 000	.....	\$ 754 000
		<hr/>
	Total	\$ 2 354 000
		<hr/>

Total housing for Scenario 2 would therefore be of the order of \$22m. It should be noted, however, that an unknown proportion of housing construction for the civilian population could be undertaken and provided by the private sector.

Sub-Division Requirements - Internal Services

Scenario 1

Turn-off of serviced residential land to meet housing requirements at Katherine are spread over a three year period on the basis that services would be provided by the end of 1985/86. The following costs

totalling some \$9m are for internal services only and are exclusive of headworks.

Table 1

Item	1983/84	1984/85	1985/86	Total
Water & Sewerage	577 000	577 000	577 000	1 731 000
Roads & Stormwater	2 000 000	2 000 000	2 000 000	6 000 000
Electricity & Streetlighting	300 000	300 000	300 000	900 000
Landscaping	67 000	66 000	67 000	200 000
Total	2 944 000	2 943 000	2 944 000	8 831 000

Contracts would need to be let for the remaining part of neighbourhood 1 of Katherine East development by mid 1983 if the 1987 target is to be met. Planning and investigation are still necessary and contour mapping and foundation testing still needs to be done.

While temporary housing has been assumed for the construction workforce a second alternative involves bringing forward the provision of permanent housing required by the incoming service and civilian population so that it can be utilized to house a significant proportion of the workforce.

This approach would spread the construction work more evenly over the four year construction period whilst reducing the effects of housing a temporary construction workforce in camps and caravans on the social

fabric of an already established town. There are a number of avenues which could be explored through the Housing Commission and private sector construction and leasing arrangements to achieve the following possibilities.

Construction of the single mens quarters at Tindal base at an early date to accommodate construction personnel and subsequently RAAF personnel.

The Housing Commission expedite construction of 50 houses on the undeveloped lots of Stage 1 Katherine East.

Stage 2 Katherine East be put in hand at an early stage and expanded to include the medium density site south of the proposed land for about 60 accommodation units.

The housing development at Stage 2 be programmed at an early date.

Industrial Land

An additional 20 allotments in Katherine East industrial area would take up the remainder of Stage 1 of existing development. Contracts would need to be let in 1983. Draft design work is almost complete.

Retail

Sufficient retail space is already available within the existing zoning of the town. Little of this land is Government owned.

Community facilities and local shopping facilities are provided within the sub-division.

Scenario 2

Additional housing requirements can be met at Katherine East. Development costs for serviced residential land is about \$5m for Option 1 and \$4m for Option 2. Costs for development at Tindal have not been included but would be of the same order.

About 29 additional industrial blocks would be required and would absorb Stage 2 of existing development at Katherine East.

Commercial land requirements are provided within existing zoning. There may be a marginal requirement for offensive and hazardous industries but based on present development it would be anticipated that this requirement can be met.

Headworks - Electricity Water and Sewerage and RoadsElectricity

It is anticipated that construction of an additional 11 kV feeder from Katherine to Tindal at a cost of \$300 000 would be required with implementation of Scenario 1. Based on the preferred location of RAAF personnel this would be required in 1984/5.

The increase in electrical demand of approximately 2.5 MW can be accommodated by the existing generating plant at Katherine Power Station in the short term. However, augmentation will be required by 1986/7. This could be either by installation of additional generating plant at Katherine at a cost of \$3M or by interconnection of Katherine to the Darwin system by a transmission line, the latter involving the least overall cost.

If development proceeds to the implementation of Scenario 2, the transfer of RAAF activities from Darwin to Tindal, there could be a requirement for additional augmentation of the power supply. This will be dependent upon whether the transmission or local generation option is pursued to provide augmentation for Scenario 1.

Water Supply and Sewerage

Several possibilities are available for future water supply development at Katherine and Tindal, but the decision as to which are likely to be adopted depends on a combination of factors. These include the telescoping of Katherine's natural rate of population growth by some 15 - 20 years with the attendant possibility of associated agricultural and industrial developments requiring water in the Katherine area in addition to the increase in domestic water consumption.

The available options for surface water from a new source may also be influenced by Commonwealth decisions arising from the Katherine (Jawoyn) land claim.

Detailed feasibility studies have yet to be conducted to identify the most suitable long term water supply development program. Several surface water alternatives have been identified. These include:

Donkey Camp on the Katherine River

6 possible dam sites on tributories of McAddens Creek

2 possible sites on Dorothy Creek

1 dam site and run-of-the-river potential on 17 Mile Creek and

Keckwick Dam, on the Katherine River upstream from the Gorge.

Financial assistance has been sought under the National Water Resources (Financial Assistance) Act and the recently announced bicentennial program related to the development of water resources to carry out field investigations and a feasibility study which will include further examination of the Keckwick Dam proposal.

In association with any dam development it will be essential to implement management controls throughout the catchment. These controls are likely to impose constraints on access and development and on land use. Apart from Donkey Camp, all the dam sites and much of the catchment areas lie within the Katherine land claim.

In the event that granting of the land claim prevents dam construction or the associated pipelines, access roads, power lines and borrow

pits, or effective management of the catchment area, future development of the Katherine water supply will be limited to developing the full potential of Donkey Camp and further development of ground water resources. This limitation may involve a significant cost penalty and could severely limit Katherine's potential for future growth and expansion.

Augmentation of water supply and sewerage headworks at both Katherine and Tindal raise the more immediate options as follows:

Katherine

- i) Treated surface water from Donkey Camp or a new source.
- ii) Treated or untreated groundwater.

Tindal

- i) Treated or untreated groundwater.
- ii) Treated water from Katherine
- iii) Treated water from a new source.

The Donkey Camp was recently implemented to provide Katherine with an improved water quality following significant complaints regarding the use of untreated groundwater. The available dry season yield at the existing Donkey Camp development is almost fully utilised by present demand. It is probable that the yield can be significantly increased by constructing one or more weirs or other structures to increase in-stream storage and regulate flow.

If the ground water option is considered, the question of whether or not the groundwater is to be treated is a matter which needs further discussion with the Commonwealth. If treated groundwater is used, the method and associated costs of treatment will require further investigation.

The order of costs which follow are based on the assumptions that augmented water for Katherine is supplied from the Katherine River (Donkey camp system) and that Tindal is supplied with treated ground water.

Scenario 1

Required water and sewerage headworks include the following:

Katherine

Water Supply

Existing water supply headworks require further augmentation for Scenario 1 at an estimated cost of \$320,000. They are adequate for Scenario 2, option 3. Further growth in population in Katherine beyond 1987 may require the introduction of new water supply sources. If Scenario 2 option 1 or 2 is considered, the system will require augmentation at an estimated cost of \$3.58M.

Sewerage

Augmentation of the existing system is required, including a new rising main from Katherine East to ponds, larger capacity pumps at Katherine East Pump Station, and augmentation of primary ponds.

Tindal

Water Supply

Investigation and augmentation of borefield is required. Elements of the assumed system are as follows: borefield, treatment plant, service tank and distribution main.

Sewerage

New sewer main and treatment facilities.

Scenario 2

Required water and sewerage headworks include the following:

Options 1 and 2Katherine

Augmentation of source, treatment plant and service tank.

Sewerage

Scenario 1 facilities are adequate.

Tindal

Water Supply

Scenario 1 facilities are adequate

Sewerage

Scenario 1 facilities are adequate.

Option 3Katherine

Water Supply

Scenario 1 facilities are adequate.

Sewerage

Scenario 1 facilities are adequate.

Tindal

Water Supply

Augmentation of borefield, treatment facilities, and storage.

Sewerage

Upgrading of pump station and augmentation of treatment facilities.

The estimated costs are presented in Table 2, but it is emphasized that the headwork costs must be considered as tentative and would be subject to review following investigation of the various options for water supply systems. The options for water supply headworks for Scenario 2 are additional to headworks required to augment the Katherine/Tindal water supply under Scenario 1.

Table 2
Water Supply and Sewerage

	Scenario 1	Scenario 2		Million \$
	Million \$	Option 1	Option 2	Option 3
<u>HEADWORKS</u>				
<u>Katherine</u>				
. Water Supply	0.32	3.58	3.58	-
. Sewerage	0.92	-	-	-
Sub-Total	1.24	3.58	3.58	-
<u>Tindal</u>				
. Water Supply	2.30	-	-	0.90
. Sewerage	0.47	-	-	0.15
Sub-Total	2.77	-	-	1.05
TOTAL	4.01	3.58	3.58	1.05
<u>INTERNAL WORKS</u>				
<u>Katherine</u>				
. Water Supply	0.47	0.51	0.35	-
. Sewerage	1.26	1.41	0.85	-
Sub-Total	1.73	1.92	1.20	-
<u>Tindal</u>				
. Water Supply	0.57	-	0.16	0.51
. Sewerage	1.37	-	0.56	1.41
Sub-Total	1.94	-	0.72	1.92
TOTAL	3.67	1.92	1.92	1.92
TOTAL	7.68	5.50	5.50	2.97

Roads

Duplication of Stuart Highway between Katherine and Tindal - cost estimate \$3.5m.

Community ServicesEducation

The capacity of existing facilities is pre-school 150, primary 840 and secondary 300 pupils. The existing capital works programme based on present enrolments projections includes a single unit pre-school at Katherine East. No other capital works were planned for Katherine during the next 5 years.

The following projections assume an influx of RAAF personnel occurs at a linear rate for Scenario 1. To this extent they are optimistic in terms of timing.

Table 3Education Enrolment Projections 1983-1987 and Second Phase Totals.

	<u>Scenario 1</u>					<u>Scenario 2</u>
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>Additional</u>
Pre	143	155	175	205	225	15
T-6	720	788	855	925	990	170
7-12	374	410	445	480	510	95
Total	1237	1353	1475	1610	1725	280

The following capital requirements would be necessary to accommodate these projections.

<u>Year</u>	<u>Item</u>	<u>Cost</u>
1983	Provide demountables (2) to the high school	\$ 120 000
1984	Move year 7's (presently in high school) to primary.	
	Provide demountables (4) to Clyde Fenton Primary	240 000
	Provide demountable toilet/ablution block to Clyde Fenton	30 000
	New pre-school	400 000
1985	Open new primary school ¹ .	3 100 000
1986	Open new secondary school	6 000 000
	<u>Total</u>	<u>9 890 000</u>

1. Alternatively, this could be delayed to 1986 requiring an additional four to five demountables (\$60 000 each).

Pre and primary school facilities can be located in accordance with the favoured option. Secondary school facilities need to be centrally located and busing may be involved.

Health

It has been assumed that RAAF personnel and their dependants would in the main utilise the general communities' medical and hospital

services irrespective of the option adopted for the location of RAAF housing.

Extensions to Katherine hospital to provide a 32 bed wing at a cost of \$1.5m is projected for 1985/86 and 1986/87.

No capital expenditure is envisaged for such services as the school dental service as they will be included in the construction of schools. At this stage there appears to be no need to provide for extensions to the Katherine Community Health Centre.

Law and Order

Upgrading of police facilities would be population related with the possibility of a small staff increase at Katherine in the longer term.

The Supreme Court may commence sittings in Katherine. This will require upgrading of Court facilities at a cost of about \$700,000 in 1986/87.

Municipal and Community Services

The substantial projected influx of armed services personnel to a small community will have significant impacts on the composition and life style of that community. Appropriate planning can substantially minimize negative impacts and resultant problems with a net gain in economic expansion and growth of community services and activities. The following infrastructure requirements proposed by the Department of Community Development are based on the assumption that this will occur.

Infrastructure Requirements (Scenario I)

<u>Community Services Division</u>	\$70,000
Two additional staff	\$190,000
Annual Grants	\$1,000,000
(a) Capital projects (grants-in-aid)	
<u>Library Services Division</u>	
Additional staffing and book stock	\$43,000
. One off	

. Annual	\$36,000
. Capital	\$160,000

Community Welfare Division

Two additional staff	\$70,000
Programme costs (annual)	\$30,000
Grants & Subsidies (annual)	\$40,000
Child Care Centre (capital)	\$280,000

Local Government Division

Civic hall (capital)	\$1,200,000
Drainage programme (capital)	\$1,800,000

Correctional Services Division

One additional staff	\$30,000
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Additional Infrastructure Requirements (Scenario 2).

Library Services Division

Additional staffing and book stock	
. One off	\$64,000
. Annual	\$55,000

Community Welfare Division

One additional staff	\$30,000
Programme costs (annual)	\$50,000
Grants & Subsidies (annual)	\$30,000

Correctional Services Division

Construction of Prison (b) (capital)	\$13,400,000
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- (a) Includes grants-in-aids for youth and sport, arts and cultural affairs.
- (b) This project was already under consideration prior to the Tindal exercise.

OTHER MATTERS

Special Land Requirements

Additional land requirements in proximity to Tindal proposed for defence purposes include:

- . A major area of land for the expanded Tindal facility lies on the Manbulloo pastoral lease.

Defence requirements on the North East portion of the former Mataranka pastoral lease.

Elsey Station as a possible site for a weapons range of about 30 km radius.

The table and map at Attachment A indicates rural enterprise within a 30 km radius of Tindal.

Horticulture

The largest operation is the recent horticultural developments on Manbulloo Station. Developments on the Station include a mango plantation in excess of 300 hectares and 80 hectares of rockmelons.

Numerous other horticultural crops such as lettuce, cabbage, french beans and watermelons are grown along the Katherine River.

Grain Cropping

The Katherine district is one of the two main areas of grain production in the Territory. The main crops of the area are sorghum, maize and mung beans. Cropping in the area is anticipated to substantially increase in the next few years.

The Northern end of Mataranka Station has been subdivided by A.D.M.A. into farms of approximately 4000 ha each. It is anticipated that the main activity will be grain cropping. However these farms are also expected to diversify into livestock production and into small areas of horticulture.

Livestock Production

The great majority of the area within the thirty kilometre radius is used for livestock production. Although some improved pasture has been established in the area, extensive livestock production remains dominant.

Further details concerning land status particularly for Elsey Station are being established.

Availability of Construction Material

It appears that there are assured and sufficient supplies of crushed rock under leases already granted. Sufficient local supplies of concrete grade sand and road gravel are believed to be available also, but precise information on quantities, grades and locations will have to come from a geological survey of the area. Some potential sources of supply may be subject to Aboriginal land claims.

Co-ordination and Consultation

The Co-ordinator General has been designated as the Northern Territory Government's contact through whom confidential consultation could take place on issues related to the development of RAAF/Tindal and for the co-ordination of information from Northern Territory departments and agencies.

Following an exchange of letters between the Prime Minister and the Chief Minister, a joint consultative committee is being established along the lines of the Committee which has been successfully used for planning and development of the Alice Springs to Darwin railway. It is planned to hold the inaugural meeting in Darwin in mid-March 1983. The consultative committee will provide the opportunity for primary consultation and working party groups to operate effectively, and will include representation at the local level through the Katherine Town Council.

The Commonwealth have commissioned a firm of consultants to undertake a feasibility study which involves the development of a master plan for Tindal base and environmental studies to assess the feasibility of the Katherine/Tindal development proposals. Preliminary timetabling for establishment of the project and the scope of the consultants commission is at Attachment 'B'.

Timing is critical for delivery of the F/A-18 fighters. Consequently, development requirements need to be in place by mid 1987 to permit

delivery of the aircraft to a fully operational base. To achieve this target, it is necessary that sufficient information on the cost and feasibility of establishing a new RAAF base at Tindal is available by mid May 1983 to permit the Commonwealth Government to formally endorse the location, and to allow work to commence at the earliest possible date.

The possibility of bringing some projects associated with the servicing of Katherine and Tindal forward for early commencement is currently being considered by both the Commonwealth and the Northern Territory. This would provide the opportunity to take advantage of the present economic climate and avoid escalating costs and strains on local resources arising from the peaking of construction expenditure that would be necessary to meet the 1987 deadline.

Capital Expenditure on Infrastructure Requirements

The summary of capital expenditure on infrastructure requirements presented in Table 4 are indicative only. Cost estimates for Scenario 2 are in addition to costs for services provided under Scenario 1. They are subject to review of the various options for housing Service personnel.

The extent to which the Commonwealth Government picks-up expenditure beyond normal population growth in Katherine has yet to be considered. Of the estimated total of \$96M for Scenario 1 and \$30.5M for Scenario 2, expenditure which can be directly attributed to the Commonwealth is estimated at some \$41.9M and \$19.6M respectively. In the light of the Commonwealth as a major user, it would be anticipated that the Commonwealth would also contribute to the additional costs of \$54.1M and \$10.9M for Scenario 1 and 2, especially for major capital expenditure on headworks such as electricity, water and sewerage, and roads.

TABLE 4

CAPITAL EXPENDITURE ON INFRASTRUCTURE REQUIREMENTS

	<u>SCENARIO 1</u>	\$'000	\$'000
<u>HOUSING REQUIREMENTS</u>			
<u>Service Personnel</u>			
Tindal			
290 Single quarters		9,280	
100 Married quarters		6,000	
Katherine			
360 Married quarters		21,600	
Total Service Personnel		36,880	
<u>General Public Housing</u>			
Katherine			
292 Houses		14,600	
228 Medium density units		6,612	
Total General Public Housing		21,212	
TOTAL HOUSING REQUIREMENTS			58,092
<u>SUB-DIVISION REQUIREMENTS -INTERNAL SERVICES</u>			
Katherine			
Water and sewerage		1,731	
Roads and Storm Water		6,000	
Electricity and Street lighting		900	
Landscaping		200	
Total		8,831	
Tindal			
Water supply		570	
Sewerage		1,370	
Total		1,940	
TOTAL SUB-DIVISION REQUIREMENTS			10,771

<u>HEADWORKS</u>	\$'000	\$'000
<u>Electricity</u>		
11 Kv feeder	300	
Augmentation of power supply	3,000	
Total electricity	3,300	
<u>WATER SUPPLY AND SEWERAGE</u>		
Katherine		
Water supply	320	
Sewerage	920	
Sub-total	1,240	
Tindal		
Water supply	2,300	
Sewerage	470	
Sub-total	2,770	
Total Water Supply and Sewerage	4,010	
TOTAL HEADWORKS		7,310

ROADS

Duplication of Katherine/Tindal section of Stuart Highway	3,500
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EDUCATION

2 Demountables for High School	120	
4 Demountables for Primary School	240	
1 Toilet and Ablution Block for Primary	30	
New Pre-school	400	
New Primary School	3,100	
New Secondary School	6,000	
TOTAL EDUCATION	9,890	

HEALTH

Extension to Katherine Hospital	1,500	
TOTAL HEALTH		1,500

	\$'000	\$'000
<u>LAW AND ORDER</u>		
Upgrade Court Facilities	700	
TOTAL LAW & ORDER		700
<u>MUNICIPAL AND COMMUNITY SERVICES</u>		
Community Services	1,000	
Library services	203	
Community Welfare	280	
Local Government	3,000	
TOTAL MUNICIPAL AND COMMUNITY SERVICES		4,483
TOTAL INFRASTRUCTURE REQUIREMENTS FOR SCENARIO 1		96,246

SCENARIO 2

	\$'000	\$'000
<u>HOUSING REQUIREMENTS</u>		
<u>Service Personnel</u>		
162 Single quarters	5,184	
240 Married quarters	14,400	
Total Service Personnel	19,584	
<u>General Public Housing</u>		
32 Houses	1,600	
26 Medium density units	754	
Total General Public Housing	2,354	
TOTAL HOUSING REQUIREMENTS		21,938
<u>SUB-DIVISION REQUIREMENTS -INTERNAL SERVICES (a)</u>		
Katherine Total	5,000	
TOTAL SUB-DIVISION REQUIREMENTS		5,000

HEADWORKSElectricity (b)

	\$'000	\$'000
<u>WATER SUPPLY AND SEWERAGE</u>		
Water supply	3,580	
Sewerage	-	
Total Water Supply & Sewerage	3,580	
TOTAL HEADWORKS		
		3,580
<u>ROADS</u>		
Education		-
Health		-
Law & Order		-
<u>MUNICIPAL AND COMMUNITY SERVICES (c)</u>		
TOTAL INFRASTRUCTURE REQUIREMENTS FOR SCENARIO 2		30,518

Notes to Table

- (a) Costs for Internal Services totalling about \$5M are based on the assumption that all additional R.A.A.F. personnel are housed in Katherine. A proportion of these costs would be transferred to Tindal if the options to house R.A.A.F. staff and families on the Base were exercised.
- (b) Any additional costs in electricity generation would be borne by the Darwin system if the transmission line option from Darwin to Katherine were implemented under Scenario 1.
- (c) No additional capital costs have been foreshadowed.

RURAL ENTERPRISES WITHIN 30KMS OF TINDAL AIRPORT

LEASE NO.	BLOCK NO.	AREA	OWNER	LEASE DESCRIPTION	TYPE OF OPERATION
173	88, 94, Katherine River	204 ha	B.W. & B.A. Morrow	Cultivation	Pasture seed production, hay, cattle production, horticulture
249	Sect. 86 Katherine River	47.5 ha	L. Brodie	Cultivation	Pasture seed production Horticulture, cattle
305	Sect. 160	124.8 ha	A. Ivanetz	Agricultural	
307	Sect. 164	154 ha	A.M. Lawrie	Agricultural	Horticulture, Horse Stud Pasture seed production
308 309	Sect. 165 Sect. 166	198 ha) 205 ha)	R.G. Hersey	Agricultural	Horticulture (Cabbages, Lettuce) etc.
310	Sect. 167	160 ha	J.R. Donnellan	Agricultural	Horticulture & seed production
405	Sect. 211	68 ha	Kalano Progress Association	Agricultural	Hay, Seed Production Horticulture
412	Sect. 97	200 ha	F. & J. Griffiths	Agricultural	Cropping - Sorghum & Mungbeans Hay, Horticulture
440	Sect. 153	41.4 ha	A. Nixon	Agriculture	Hay Production Cattle
506	Lot 468 Town of Katherine	0.6 ha		Cultivation	
508	Lot 477 Town of Katherine	31.6 ha		Ag. Cultural Farm	
509	Lot 469	0.88 ha		Ag. Cultural Farm	

LEASE NO.	BLOCK NO.	AREA	OWNER	LEASE DESCRIPTION	TYPE OF OPERATION
	Por. 550	CSIRO			Mixed farming. Research Centre
	Por. 392				
510	Lot 471 Town of Katherine	0.8 ha	P.A. Sarney	Ag. Cultural Farm	
511	Lot 476 Town of Katherine	30.0	G.R. Hobbs	Ag. Cultural Farm	
512	Lot 478 Town of Katherine	45 ha	R. & L. Buzzo	Ag. Cultural Farm	
523	Lot 473 Town of Katherine	1.0 ha		Ag. Cultural Farm	
550	Block 149 Katherine River Ag. Area	64.2 ha		Ag. Cultural Farm	
581	Portion 380	1.5 ha	A.P. Landsdowne	Agricultural	
703	Block 142 Katherine River	92 ha	J. Tilley	Ag. Cultural Farm	Grain Cropping Cattle
714	Por. 647	1347 ha		Ag. Cultural Farm	Uralla (Old Meatworks)
716	Por. 654	60.2 ha	D.J. & N.E. Sweetman	Ag. Cultural Farm	
734 734	Blocks 162) 163)	Subdivided into N.T. Portions 1901-1908		average area	32 ha each Total Area -40 Blocks 162 & 163 298 ha

LEASE NO.	BLOCK NO.	AREA	OWNER	LEASE DESCRIPTION	TYPE OF OPERATION
737	N.T. Por. 909	Subdivided into portions 1821 - 1830			(Total area Por. 919 = 963 ha)
739	N.T. Por. 912	3933 ha	Northmeat Farm	F. & G.	Sorghum Production and Cattle
553	Lot 646	.72 ha	L. Fernandez	Miscellaneous	Horticulture
554	Lot 465	.65 ha	N.K. & B.M. Rankin	Miscellaneous	Horticulture
555	Lot 466	.65 ha	S.E. McArdle	Miscellaneous	Horticulture
556	Lot 467	.65 ha	A.M. Krouwel	Miscellaneous	Horticulture
PL525			Manbulloo Station		Horticulture & Cropping
	Por. 786	Caves Reserve	Cutta Cutta Caves		
	Por. 782	Kintore Caves Reserve			
	Por. 450 Por. 675)	Katherine Rural Education Centre			Mixed Farming
PL635		Mataranka Station (includes ADMA areas)			
	Por. 1070 Por. 1071 Por. 864 Por. 664 Por. 1156 Por. 722	Tindal Airstrip			
742	N.T. Por. 1059	2608 ha	W. Christie	Agricultural	Cropping Sorghum & Mungbeans
746	Por. 1039/1272	1591 ha	K.J. Hickey	Agricultural	Cropping Maize, Sorghum & Mungs Hay

LEASE NO.	BLOCK NO.	AREA	OWNER	LEASE DESCRIPTION	TYPE OF OPERATION
747	N.T. Por. 1060, 1178, 726	2746 ha	A. Nixon	Agricultural	Hay, Pasture Seed Prod. Cattle
748	Block 161 N.T. Por. 1021	6238 ha	Renfree Scott/ Vanderleur	Agricultural	Subdivision of some/ Rest Sorghum cropping
749	N.T. Por. 1179/1061	2831 ha	L.J. Phillips	Agricultural	Pasture seed prod., Hay, Cattle
758	N.T. Por. 968, 1362	6521 ha	K. & F. Landsdowne	Agricultural	Some Cropping, hay and Cattle
760	N.T. Por. 1543	296 ha	?	Miscellaneous	
521	N.T. 969	3806 ha	J. Tilley	Miscellaneous	Cattle Breeding and some Cropping
533	N.T. 1026	7449 ha	G. Mitchell	Miscellaneous	Cattle Breeding
536	N.T. Por. 394	2.3 ha	?	Miscellaneous	Horses (Vet. Clinic)
541	N.T. Por. 911	2.3 ha	?	Miscellaneous	Horses (Vet. Clinic)
545	N.T. Por. 1481	35 ha	B.W. & B.A. Morrow	Miscellaneous	Horticulture, Animals, Seed production.
548	N.T. Por. 1020	2105 ha	D. Smith	Miscellaneous	Some subdivision - pasture seed



ABORIGINAL LAND CLAIM

30 Km radius from Tiedal

KATHERINE GORGE NATIONAL PARK

KATHERINE ABBATOIR

TOWN OF KATHERINE

MANGO PLANTATION 300 AC

YOUTH CROPPING AREA

POTENTIAL HORTICULTURE AREA

ADAM FARMS

POTENTIAL CROPPING AREAS

PL 925 MANBULLOG

NT 908 2255
C.L.P. 98
MATARANKA

RURAL ACTIVITIES Jan 83

- HORTICULTURE (Mangoes, Rockmelons, Lettuce, Cabbage, Beans Etc)
- AGRICULTURE (Sorghum, Maize, Mungbean, Millet, Guar Etc)
- PASTURE (Pasture Seed Production and Hay)

SCOPE AND STAGING OF THIS COMMISSION
Project Milestones:

At the current preliminary stage of project planning, the key project milestones are as follows:

- late Mar 83 Indicative Cost (for initial Cabinet briefing)
- mid May 83 Preliminary Estimate (for inclusion in Dept of Defence budget submissions and to obtain firm Cabinet endorsement of Tindal as the location of the new RAAF fighter presence in the NT).
 NOTE: This endorsement is essential to accord the project "status and to permit the commencement of design development for the project.
- late July 83 Completion of Draft EIS
- Aug 83 Public comment
- early Sep 83 Assessment of public comment
- late Sep 83 Completion of final EIS
- late Oct 83 Limit of Cost Estimate and completion of PWC evidence
- Nov 83 Tabling of motion in Parliament referring the proposal for consideration by the Parliamentary Works Committee (PWC)
- early Feb 84 PWC hearing

It is emphasized that the above milestones cannot be guaranteed and some change may be anticipated as a result of the progressive development of project planning networks. It is also emphasized that Stages 3 and 4 of this commission, as described hereafter, are dependent upon Cabinet endorsement of the preliminary estimate.

The broad scope of this commission is to produce a master plan for RAAF Tindal which is not only responsive to RAAF functional requirements and to considerations of cost effectiveness but which is environmentally responsible and defensible. It is also a requirement of this commission that the various investigations detailed hereafter, together with the results of relevant investigations and project design inputs to be provided by others, be consolidated into the form of a Draft Environmental Impact Statement and pursued to the point where environmental clearance has been obtained.

In broad terms, fulfilment of the above will require:

Stage 1 (early Jan 83 to mid Mar 83):

- determination of all environmental, physical or engineering constraints likely to affect the master planning of RAAF Tindal (except for those physical and engineering constraints identified in Section 4.00 hereafter which are to be provided by others);
- analysis of the above (including data/constraints provided by others) to arrive at two or more broad zoning options for the development of RAAF Tindal;
- identification of the relative merits/demerits of these options in terms of development costs, functional efficiency, environmental acceptability, etc;
- development of the preferred broad zoning option to the extent that major traffic routes, service corridors, airfield development, future expansion needs and macro landscape intentions, etc (but not individual building sites, etc) are indicated. (This information is needed to permit the preparation of the indicative cost by others by late March '83 and to serve as a

- starting point for sketch plan studies by others for the facilities required in each zone);
- simultaneously, during this stage, identification of any environmental constraints likely to diminish the suitability of other sites being considered by RAAF for the training area/bombing range, the ultimate radio receiving/transmitting facility and the ultimate Air Defence Control Centre. (This information is necessary to permit the finalisation of land acquisitions by others); and
 - simultaneously, during this stage, a full assessment of the planning/environmental impact of the proposed RAAF presence on the existing Katherine community, including assessment of:
 - (a) the maximum capacity of town facilities/services in 1983 and in 1988 under normal population growth;
 - (b) the capacity of these facilities/services to meet the needs of the estimated construction workforce between late 1985 and 1988;
 - (c) the capacity of these facilities/services to meet the influx of RAAF personnel from 1988 onwards;
 - (d) the multiplier effect on town facilities/services arising from the RAAF presence (e.g. school teachers, shop assistants, etc.);
 - (e) the additional facilities/services foreseen as being necessary to meet situations (b), (c) and (d)

This information, together with advice as to normal arrangements for the provision and funding of additional facilities/services, is needed to permit the conduct and conclusion of negotiations between the Commonwealth and N.T. Government during Stage 2 and also to permit the taking of decisions on housing procurement during Stage 2).

Stage 2 (mid Mar 83 to early May 83):

- continuation and finalisation of all environmental or other studies/data collection, not critical to the form of the developing master plan for RAAF Tindal, but nevertheless required for the purpose of a full EIS (on-base and off-base):
- development of the preferred Stage 1 zoning plan into the form of a preliminary master plan (or development plan) to indicate the envisaged built form of RAAF Tindal. This will necessitate the indication of such detail as:
 - (a) all major/minor road proposals;
 - (b) vehicle car parks/handstanding;
 - (c) all airfield requirements (ie runways, taxiways, aprons, navaids, noise contours, safety distances, clearance requirements, etc);
 - (d) main service corridors and main sewer/stormwater discharge proposals;
 - (e) sites for all major building facilities (taking account of functional inter-relationships, access and other siting requirements);
 - (f) pedestrian ways;
 - (g) service installations (eg. water tanks, sewerage plant, fuel installations, etc);
 - (h) open space, playing fields, parade grounds and other major landscape elements (eg. uncleared land, shelter belts, visual barriers etc); and
 - (i) security fences and control points, etc.
- supplementation of the above with such principles diagrams and supporting written/illustrative material in brochure form as is necessary to convey to separate design teams (concurrently developing sketch plans for parcels of the project work) the overall master planning intent, including suggestions as to the character of the built form intended.

NOTE 1: All but the first item in this stage will need to be developed in close consultation with RAAF and with those project teams commencing work on initial architectural and engineering design.

NOTE 2: Although the preliminary master plan will substantially assist the preparation of the preliminary estimate by others and is fundamental to the start of the project design development phase, it is not intended that the preliminary master plan should unnecessarily restrict subsequent project design initiatives.

Stage 3 (mid May 83 to August 83):

- regular contact with the project design development being undertaken by others (most likely different teams for particular zones or groups of zones) to the extent necessary to progressively update and adjust the preliminary master plan as increasing detail becomes available, or as planning conflicts arise;
- simultaneously, the preparation of the Draft Environmental Impact Statement, covering all aspects of the total project defined in 1.0g, plus statements on the outcome of Commonwealth/NT Government discussions on the provision of infrastructure/services, etc, to support the RAAF presence (see Stage 1) and including the latest relevant information obtainable from the design development of the project;
- preparation of any exhibition material and the organisation of presentations, displays, etc, as may be necessary to assist public/NT Government acceptance and support for the project; and
- undertake all tasks, including lodgement of advertisements and distribution of reports,

necessary to permit public review of the Draft EIS during August 1983.

Stage 4 (early September 83 to mid Oct 83):

- continuing contact with the project design development being undertaken by others to the reducing extent necessary to progressively update and refine the preliminary master plan as project details are finalised;
- assessment of public comments received in connection with the Draft EIS;
- revision of the Draft EIS to take into account any comments acceptable to RAAF/Defence and preparation of the Final Environmental Impact Statement;
- assistance to Department of Defence, as may be required, in obtaining final environmental clearance from the Minister for Home Affairs and Environment, NT Government, etc.
- revision of any master planning aspects on RAAF Tindal, occasioned by agreed revisions to the Draft EIS, and preparation of a Final Master Plan and Final Zone Plan for RAAF Tindal in the form normally adopted by DTC for such documents.
- preparation of a Final Master Plan Report, assembling as attachments those individual reports on discreet topics that have been tabled at previous stages and have served to influence the form of the Final Master Plan, have influenced the acquisition of related lands or have influenced the expansion of Katherine and the form of RAAF presence therein. A brief summary of the rationale behind the Final Master Plan and Final Zone Plan is to be prepared as a forward to the above assemblage of previous reports and is needed to explain both documents to those who may be involved in the subsequent expansion of RAAF Tindal. NOTE: Completion of

all the above will be needed by mid October 1983
to enable finalisation of PWC evidence by DTC
and Department of Defence.