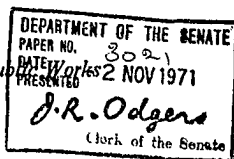


THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

*Parliamentary Standing Committee on Public Works*



## REPORT

relating to the proposed construction of

# PRIMARY AND PRE-SCHOOLS

at

# BRADSHAW (ALICE SPRINGS)

and

# NAKARA (DARWIN)

## Northern Territory

(FOURTEENTH REPORT OF 1971)

## C O N T E N T S

	<u>Paragraph</u>
The Reference	1
The Committee's Investigation	3
The Need	
Nakara Primary and Pre-School	5
Bradshaw Primary and Pre-School	12
The Proposed Schools	
Administration	17
Planning Outline	19
Facilities	23
The Sites	25
The Building Proposals	
Design	28
Construction and Materials	34
Finishes	36
Mechanical Services	40
Electrical Services	43
Hydraulic Services	44
Civil Works and Landscaping	45
Fire Protection	47
The Committee's Conclusion	48
Estimate of Cost	49
Programme	50
Recommendations and Conclusions	51

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

BRADSHAW AND NAKARA PRIMARY AND PRE-SCHOOLS  
NORTHERN TERRITORY

R E P O R T

By resolution on 10 September, 1971, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament, the proposal for the construction of two primary and pre-schools, one each at Bradshaw, a suburb of Alice Springs and at Nakara, a Darwin suburb.

The Committee have the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for the construction of two primary and pre-schools, one each at Darwin and at Alice Springs, in the suburbs of Nakara and Bradshaw respectively. Each school is planned to accommodate 800 primary and infant pupils and 100 pre-school pupils.
2. The estimated cost of the work is \$1.275 million for the Nakara school and \$1.2 million for the Bradshaw school.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Departments of Education and Science, and Works and took evidence from their representatives at a public hearing in Canberra. We inspected the sites of the proposed schools when we were in the Northern Territory early in August.

4. A written submission from a private person was received on the Nakara proposal.

THE NEED

5. Nakara Primary and Pre-School Plans for development of Darwin's urban areas are currently based on a series of districts each comprising four suburbs. Generally, the suburbs are sub-divided to provide about 600 residential lots which have as their focal point a primary school centre. Each district has a high school fed by students from the four primary schools.

6. Nakara is part of the district of Dripstone located about seven miles north-east of Darwin's city area. The suburbs of Brinkin, Tiwi and Wanguri complete the district. The Committee reported to the Parliament on the provision of sub-divisional services to all four neighbourhoods in 1970. Prior to that, we reported on the provision of services for the Casuarina District and also on the construction of primary schools in its suburbs of Wagaman, Jingili and Moil.

7. In the Dripstone District, Nakara and Brinkin will be the first suburbs developed and they are planned to contain 598 and 455 residential blocks respectively. Under a contract for the servicing of Nakara let in March 1971, 200 blocks are to be ready by February 1972, a further 200 by June 1972 and the final 198 by September 1972. Brinkin will be serviced by a private developer and it is expected at a slower rate, due to the absence of government housing construction.

8. Current information suggests that the estimated rate of housing occupancy for Nakara and Brinkin and the resulting primary school enrolment will be as follows:

Estimated Occupied Houses

	<u>February</u> <u>1973</u>	<u>June</u> <u>1973</u>	<u>December</u> <u>1973</u>	<u>February</u> <u>1974</u>	<u>June</u> <u>1974</u>	<u>December</u> <u>1974</u>
Nakara	100	150	300	500	550	598
Brinkin	-	-	-	80	150	200

Estimated Primary School Enrolments

Nakara	80	120	240	400	440	480
Brinkin	-	-	-	70	120	160

9. As mentioned, it has been the practice to erect a primary school in each suburb. However, as Brinkin will have fewer residential blocks than the normal neighbourhood and as a private school is planned to be built in it, the Nakara school is to be larger than normal and designed to serve the primary school needs of both areas. Nevertheless, a site is being reserved in Brinkin should future enrolment trends warrant its development. Estimated enrolments indicate that the Nakara School will be required to open by 1974. In the interim, children from the Dripstone District will be accommodated in the nearby Wagaman Primary School.

10. After Nakara is opened, it will also serve the adjacent developing suburbs of Wanguri and Tiwi until those areas have their own facilities. The filling of the school will depend on the rate of completion of houses in these neighbourhoods but it is thought that the build up of enrolments will be fairly rapid after the school opens.

11. The Committee concluded that there is a need for facilities to meet the primary and pre-school needs of the residents of the Nakara/Brinkin area of Darwin.

12. Bradshaw Primary and Pre-School The Bradshaw Drive sub-division, 1½ miles west of the centre of Alice Springs, comprises about 850 blocks of

which some 25% have been developed. The remainder of the sub-division has been serviced and housing construction is expected to be completed by 1974.

13. The following table indicates the estimated schooling demand to be generated by the sub-division and the growth of enrolments at other Alice Springs schools.

Alice Springs Primary Schools -  
Current and Projected Enrolments  
and School Capacities

	<u>Ross Park</u>	<u>Traeger Park</u>	<u>Gillen</u>	<u>Bradshaw</u>
<u>July 1971</u>				
Enrolment	463	545	524	-
Capacity	420	600	550 (b)	-
<u>July 1972</u>				
Enrolment	460	600	670	-
Capacity	450 (a)	600	670 (c)	-
<u>July 1973</u>				
Enrolment	460	600	540	350
Capacity	450 (a)	600	550 (b)	350 (d)
<u>July 1974</u>				
Enrolment	460	600	500	550
Capacity	450 (a)	600	500	550
<u>July 1975</u>				
Enrolment	400	600	500	800
Capacity	450	600	500	800

(a) Includes one transportable unit.

(b) Includes two transportable units.

(c) Includes six transportable units.

(d) Temporary establishment of school at Alice Springs High School.

14. Currently, the Bradshaw children are attending the Gillen Primary School which has in use transportable classrooms and will require more over the next 12 months. However, when the new Alice Springs High School becomes

available late in 1972, it is proposed to use portion of it to establish the Bradshaw Primary School from the beginning of the 1973 school year.

15. Subsequently, until primary schools in the proposed sub-divisions of Larapinta and Racecourse West have been established, primary school children from those areas will be enrolled at the Bradshaw School.

16. The Committee concluded that there is a need for primary and pre-school facilities in the Bradshaw neighbourhood of Alice Springs.

#### THE PROPOSED SCHOOLS

17. Administration Community education at all levels in the Northern Territory and the provision of buildings for such purposes are Commonwealth responsibilities. However, by agreement, the South Australian Government has, in the past, provided teachers and its curriculum has been followed.

18. In 1970, the South Australian Government decided to withdraw its services over a five year period. The Commonwealth then undertook recruitment of teachers and the first 70 Commonwealth teachers took up duty at the beginning of 1971. Their proportion will increase yearly over the five year changeover period. Meantime, however, the organization, curriculum and teaching methods continue to be broadly South Australian.

19. Planning Outline Previously in the Territory, suburban combined primary and infants schools on the one hand and pre-schools on the other have been constructed on separate sites. However, following a review of this policy, economic and some administrative benefits have been shown to be possible in having all groups at the same site. The schools in this reference are thus designed for the education of both primary and infant pupils in the one building complex with a pre-school in the same grounds.

20. The buildings will provide for functional separation of each department but with easy access to common areas. The Committee were told that the interior layout of teaching space has been designed to give effect to modern needs of flexibility in instruction and modern developments in co-operative teaching, team teaching and open space organization and planning of lessons.

21. The open learning area concept to be introduced to the Northern Territory on a partial basis in the Wagaman Primary School, on which the Committee reported to the Parliament on 25 September 1970, is extended to the whole school in the case of the Nakara and Bradshaw Schools. The learning areas are not sub-divided into separate classrooms but include two areas each of 2,120 sq. ft in the infant department and four areas each of 2,800 sq. ft in the primary department. When the schools' enrolment reach their capacities of 800, it is expected that three teachers and about 110 children will use each of the infant learning areas and four teachers and about 145 children each of the primary learning areas.

22. The open learning areas will be acoustically treated and have access to a practical work area fitted with a bench, water and gas services to facilitate its use for art, craft, science and other practical activities. In addition, each will have a carpeted special activities space which will be acoustically separate for use for very quiet or very noisy activities, and also a storeroom and a teachers' room for conference and preparation purposes. A further facility for each learning area will be an associated outdoor area, partly covered and screened, in the form of a courtyard.

23. Facilities The accommodation proposed is similar to that provided in recent Northern Territory schools. However, because of the



larger size of the proposed schools, an office for a deputy headmaster and an infant department teachers' work room for the preparation of teaching aids will be provided. Each school will have a library, and a dental room, a medical room and two sick rooms.

24. The separate assembly and amenities areas for primary and infant children will be linked by a canteen which will be easily accessible from both areas. These facilities and associated toilets will be arranged so that community use is practical without entering other parts of the schools. Other toilets will be dispersed amongst the learning areas and will be easily accessible from the playgrounds. Internal service roads, parking areas and paths will be provided as will two basketball courts and grassed playing areas.

#### THE SITES

25. The Nakara site covers over 11¼ acres and is bounded by Buchanan Terrace, Goodman Street and Nakara Terrace. The Bradshaw site of almost the same area is bounded by Flynn Drive and Adamson Street.

26. Each site is centrally situated in its suburb, access is available without crossing major roads and each adjoins the community oval which will be available for school use.

27. The Committee agree that the sites selected are suitable.

#### THE BUILDING PROPOSALS

28. Design Due to the similarities of the sites and their purpose, the same design is to be used for both schools, resulting in economies in design times and cost. However, because of climatic conditions, the Bradshaw school will be heated in winter and evaporatively cooled in summer, whereas the Nakara facility will be air conditioned and

the pre-school designed for natural cross ventilation and fitted with ceiling fans.

29. Direct sun penetration will be avoided to reduce the load on the cooling plant and to prevent glare. This will be achieved by facing classroom windows north and south and by providing wide overhangs, and sun screens. Anti-glare glass will be used in windows.

30. The open space class teaching principle has a fundamental bearing on the planning and design of the schools because the learning areas which have taken the place of conventional classrooms, are grouped without division walls into large learning area suites. Nevertheless, the architectural result will provide an environment in which advanced educational techniques can be effectively used. Some divisibility of areas will be possible, however, by the use of mobile furniture and screens. The general purpose learning areas will be supplemented by ancillary areas for specialised purposes and these will include teachers' rooms, storerooms, practical work areas and special activity rooms. The learning areas are to open on to semi-enclosed sheltered courtyards, which will be used for study and project assignments out of doors.

31. The accommodation requirements of the schools fall into clearly defined elements of administration, infant learning areas, primary learning areas, a library and resource centre and an assembly area. These will be arranged in block form linked by covered ways to provide shelter and ready access.

32. The pre-schools will take the form of separate buildings set in their own playgrounds. Their facilities will include quiet rooms, play rooms, offices, toilets and a kitchen.

33. The open space concept will involve some increase in the general noise level particularly in the learning area suites. This problem will be overcome by carpeted floors and ceilings of acoustic tiles. The special activity rooms will be acoustically isolated from the rest of the building.

34. Construction and Materials The buildings will be constructed of transversely spanning steel roof trusses at 16 ft centres supported on steel columns. The trusses will be spanned by steel purlins to support the roof decking and suspended ceilings. The library roof will be supported on exposed timber framing.

35. Floors will be reinforced concrete slabs on consolidated filling, and walls generally will be concrete block including courtyard screen walls of pierced blocks. Windows will be tinted glass in anodised aluminium frames. Roofs will be insulated and covered with galvanised steel decking. Courtyards will be sun screened with horizontal louvres.

36. Finishes Finishes will be selected to provide both durability and low maintenance costs. External finishes to walls will include face blockwork, coloured metal cladding and coloured asbestos cement sheeting.

37. Floors in the learning areas, the library and resource centre, the special activities room, offices and teachers' rooms will be carpeted. Those of the toilets and kitchens will be ceramic tiled and the assembly stage will be of timber. Other floors will be vinyl tiled.

38. Walls generally will be painted fair faced blockwork, but in toilets and similar areas they will be ceramic tiled.

39. Ceilings of the learning areas and special activities rooms will be suspended plaster acoustic tiles. The offices, staff areas, medical room, dental room and sick rooms will have fibrous plaster ceilings whilst in the library and resource centre timber will be used. Other areas will have asbestos cement ceilings.

40. Mechanical Services All occupied areas of the Nakara Primary School will be air conditioned from a central chilled water plant connected to air handling plants in each learning area and the library. Individual fan coil units will be provided elsewhere and ceiling fans will be installed in the pre-school.

41. Both the primary and pre-school sections of the Bradshaw school will be evaporatively cooled in summer and heated in winter. Air handling plant and cooling towers will be located near the administration, primary, infant and pre-school areas and hot water heating will be reticulated from a central boiler house.

42. Mechanical services common to both schools will include exhaust ventilation of toilet and kitchen areas, electric hot water units, L.P. gas in each practical work area and refrigerated drinking water units.

43. Electrical Services Electricity from the town mains will be reticulated by underground cable from the street line to a substation in each school. Lighting will generally be fluorescent and external security and car park lighting will be provided. A public address system and electric clocks will be installed and general purpose power outlets will be provided as required. Provision will be made for future television installation.

44. Hydraulic Services Water supply and sewerage will be connected to the existing town mains in adjacent streets. A lawn watering system will be installed.

45. Civil Works and Landscaping Internal roads, parking areas and paths will be bitumen sealed and two basketball courts will be provided at each school.

46. Where possible, trees on each site will be preserved and both sites will be landscaped. Open areas will be grassed.

47. Fire Protection A thermal fire alarm system connected to the local fire station will be installed. Hose reels and portable fire extinguishers will be provided inside the buildings as required.

48. The Committee's Conclusion The Committee recommend the construction of the work in this reference.

ESTIMATE OF COST

49. The estimated cost of the Nakara and the Bradshaw Primary and Pre-Schools when referred to the Committee was \$1.275 million and \$1.2 million respectively, made up as follows:

<u>Nakara Primary and Pre-School</u>	\$
Building work	795,000
Mechanical services	277,000
Electrical services	75,000
Hydraulic services	42,000
Civil works	86,000
	<hr/>
	1,275,000

<u>Bradshaw Primary and Pre-School</u>	
Building work	770,000
Mechanical services	233,000
Electrical services	75,000
Hydraulic services	40,000
Civil works	82,000
	<hr/>
	1,200,000
	<hr/>

PROGRAMME

50. After an approval to proceed is given, preparation of contract documents, calling of tenders and letting contracts will take until May 1972. Construction of each school is expected to be completed 18 months after a contract is let so that both will be completed by December 1973.

RECOMMENDATIONS AND CONCLUSIONS

51. The summary of recommendations and conclusions of the Committee is set out below. Alongside each is shown the paragraph in the report to which it refers.

	<u>Paragraph</u>
1. THERE IS A NEED FOR FACILITIES TO MEET THE PRIMARY AND PRE-SCHOOL NEEDS OF THE RESIDENTS OF THE NAKARA/BRINKIN AREA OF DARWIN.	11
2. THERE IS A NEED FOR PRIMARY AND PRE-SCHOOL FACILITIES IN THE BRADSHAW NEIGHBOURHOOD OF ALICE SPRINGS.	16
3. THE SITES SELECTED ARE SUITABLE.	27
4. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	48
5. THE ESTIMATED COST OF THE NAKARA AND BRADSHAW PRIMARY AND PRE-SCHOOLS WHEN REFERRED TO THE COMMITTEE WAS \$1.275 MILLION AND \$1.2 MILLION RESPECTIVELY.	49

  
(C.R. KELLY)  
Chairman

Parliamentary Standing Committee on Public Works,  
Parliament House,  
CANBERRA, A.C.T.

28 October 1971.