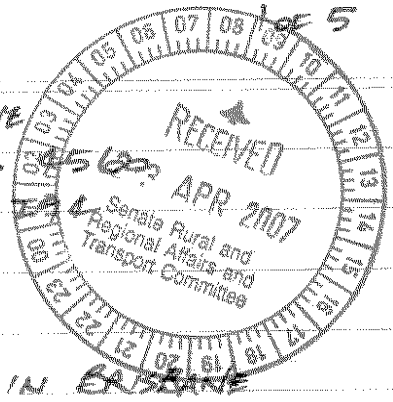
I REQUEST THAT I BE CALLED AS A WITNESS TO GIVE THIS EVIDENCE.

D. MILLIGAN
14 GODFREY AVE
EU-BLI QLD. 4560
TEL 54 422 [illegible]

19.4.07



THE SECRETARY
SENATE RURAL & REGIONAL AFFAIRS AND TRANSPORT
PARLIAMENT HOUSE. CANBERRA
ACT 2600

RE: SENATE INQUIRY INTO TRAVESTON DAM

- THE SENATE INQUIRY HEARING, CONDUCTED IN BRISBANE ON WED. 18th. APRIL 2007 AT THE BRISBANE EXHIBITION BUILDING MEETING ROOM M4, WAS AGAIN MISLED BY THE EVIDENCE SUPPLIED BY THE SUBMISSION NO 166 FROM THE QLD. GOVERNMENT.

- AT THIS HEARING, THE EVIDENCE TENDERED BY THE GOVERNMENT WITNESSES SUPPORTED THEIR SUBMISSION ON P110, THAT THE TRAVESTON CROSSING DAM RANKED FIRST IN TERMS OF POTENTIAL YIELD ETC. ETC. ETC... (REFER P110 ATTACHED HERE.)

- AS A CONCERNED CITIZEN I WROTE A SUPPLEMENTARY SUBMISSION TO MY PREVIOUS SUBMISSION No. 8A DATED 19.3.2007 (A COPY OF THIS SUPPLEMENTARY DATED 9.4.07 IS NOW ATTACHED TO THIS LETTER.)

REF. THE MAR. 1977 IRRIGATION & WATER SUPPLY COMMISSION P13.

- THE TRAVESTON CROSSING DAM CHOSEN BY GH&D AND RANKED No. 1 FOR YIELD COULD NEVER BE BUILT AS IT WAS FAR LARGER IN CAPACITY THAN THE KNOWN (SINCE 1977) HYDROLOGIC LIMIT FOR THAT SITE. (THE FACT IS CONFIRMED ON P63 OF THE GH&D STUDY P109 QLD. 166 SUBMISSION) YET IT WAS DELIBERATELY CHOSEN — WHY ?

- WHEN THE PREMIER MR. BEATTIE AND HIS MINISTER ANNOUNCED TRAVESTON DAM ON THE 27th. APRIL 2006

THE PREMIER REVERTED TO THE ORIGINAL DAM IN MAR. 1977 REPORT AS IT WAS THE MUCH SMALLER (660,000 ML.) CAPACITY DAM, BECAUSE THE QLD. GOVERNMENT KNEW THIS WAS THE DAMS HYDROLOGIC LIMIT. THE GHD 1,130,000 ML. WAS A FICTIONAL CAPACITY TO BOOST THE YIELD. APPROX 1.7 TIMES THE HYDROLOGIC LIMIT. (REFER ATTACHED QLD. GOVT. MINISTERIAL MEDIA STATEMENT 27.4.2006.) THE REASON GIVEN REPEATEDLY BY THE QUEENSLAND GOVERNMENT IN ALL MEDIA, PARLIAMENTARY DEBATES AND NOW AT YOUR SENATE HEARING "IT WAS CHOSEN DUE TO THE HIGHEST YIELD, 2.5 TIMES THE YIELD OF THE NEXT SOURCE."

- I BELIEVE VERY STRONGLY THAT INFORMATION PROVIDED FOR WRITTEN SUBMISSIONS WHICH IS KNOWN TO BE FALSE OR MISLEADING AND IS THEN COLLABORATED BY WITNESS TESTIMONY, SHOULD BE CHALLENGED, AND I WISH TO BE CALLED AS A WITNESS TO THE INQUIRY.
- THE PROPOSED TRAVESTON CROSSING DAM 660,000 ML. ANNOUNCED BY THE QLD. PREMIER ON THE 27.4.2006 WAS THEN REVISED BY THE QLD. GOVERNMENT ON 31.10.2006 TO AN EVEN SMALLER CAPACITY OF 570,000 ML. BECAUSE THE FIRST 29 BOREHOLES AT THE ORIGINAL DAM WALL 206.7 KM DID NOT FIND SUFFICIENT ROCK. THESE BOREHOLES MAINLY FOUND SAND, GRAVEL, AIR, & WATER & LOW STRENGTH ROCK. SO THE QUEENSLAND GOVERNMENT SECRETLY RELOCATED THE DRILLING RIGS FURTHER UPSTREAM AND DRILLED A HUGE NUMBER OF ADDITIONAL BORE HOLES DESPERATELY SEARCHING FOR SOME ROCK TO BUILD A DAM WALL IN ORDER TO SAVE FACE. 76 BOREHOLES IN TOTAL AND NO ENGINEERING DESIGN PUBLICLY RELEASED YET. — WHY ?

- SO NOW THE NEW DAM IS 900 M. UPSTREAM AT 207.6 KM WITH A FULL CAPACITY OF 570,000 ML IT IS A COMPLETELY NEW DAM AT A NEW LOCATION. THE GHD OPTION RANKED AS NO. 1 FOR YIELD IS NOW DOUBLE (1.98 TIMES) THIS PROPOSED DAM. IT IS QUITE DECEPTIVE TO KEEP REFERRING TO THE "BIBLE" AS THE PRINCIPAL REASON FOR CHOOSING TRAVESTON CROSSING DAM.

- I BELIEVE VERY STRONGLY THAT THIS TRAVESTON DAM WAS BASED ON A VERY HURRIED DECISION TO BE SEEN TO BE ACTING RESPONSIBLY TO PROVIDE ADDITIONAL WATER SUPPLIES TO A DROUGHT RAVAGED AND THIRSTY BRISBANE, AND IT REMOVED HEALTH FROM THE FRONT PAGE.
- THIS POLICY DECISION WAS NOT BASED ON THE 3 YEAR STUDY CONCLUDED A FEW MONTHS EARLIER AND RELEASED PUBLICLY ON THE 27TH. JAN 2006 — SEQRWSS STAGE 2 INTERIM REPORT (P46 OF QLD. GOVT SUMISSION NO. 166.)

- THE JOINT MINISTERIAL MEDIA STATEMENTS ON THE 20TH. APRIL 2006 CONFIRM THIS FACT.
[ATTACHED M.M.S. P.BEATTIE & H. PALASZCZUK FROM 20.1.2006 to 27.4.2006.]
SO WHAT WAS THE DECISION ON THE 27TH. APRIL BASED ON — WHAT REPORT & WHAT WAS THE COST OF THE 660,000 ML. DAM PROJECT. THIS COST HAS NEVER BEEN PUBLICISED.
IT IS SIMPLY NOT CREDIBLE THAT THIS QLD. ANNOUNCEMENT HAD NO COSTING BY THE GOVT.

- AS I HAVE ADEQUATELY STATED IN MY SUBMISSIONS TO THIS SENATE INQUIRY THE PREMIER AND HIS CLOSE ADVISERS THEN ANNOUNCED A MUCH SMALLER - SIZE / OF THIS TRAVESTON CROSSING DAM — 180,000 ML NOW 15.9% OF THE SIZE OF THE GH&D NO. 1 RANKED DAM 1130,000 ML.; BUT SUDDENLY THE COST HAS BLOWN OUT TO 1.7 BILLION DOLLARS FROM THE G,H & D # 1.011 BILLION FOR A DAM 1/6 OF THE SIZE.
[1130,000 ÷ 180,000 = 6.278 OR 15.9%.]
- THIS IS ABSOLUTELY INCREDULOUS THAT A REPORT RELEASED PUBLICLY IN JULY 2006 (5.7.06) DATED JUNE 2006, HAS A TRAVESTON CROSSING DAM IMPOSSIBLE TO BUILD COSTED AT #1.011 BILLION DOLLARS AND YET ON THE SAME DAY 5.7.06, THAT THE PREMIER RELEASED THIS SECRET REPORT, HE ANNOUNCED A MUCH SMALLER DAM PROJECT AT A MUCH INCREASED COST.
- THIS #1.7 BILLION BUDGET COST, BLOWOUT FOR SIZE / HAS NEVER HAD THE DETAILED COSTING PUBLICLY RELEASED TO EXPLAIN WHY THE BLOWOUT OCCURED IN SUCH A SMALL SPACE OF TIME.
#1.011 BILLION FOR 1130000 ML. COMPARED TO #1.7 BILLION FOR 180,000 ML. OR #2.5 BILLION FOR 666,000 ML. (WATER FOR S.E.QLD. — LONG TERM SOLUTION P46 QLD. GOVT. SUBMISSION NO. 166) PLEASE REFER P64 OF THE LONG TERM SOLUTION, TABLE AT TOP OF THE PAGE, WHICH WAS ALSO PUBLICLY RELEASED BY THE PREMIER, ALSO ON THE 5TH. JULY 2006.

- IF THE SENATE INQUIRY IS AFTER THE FACTS OF THIS TRAVESTON CROSSING DAM, THEN IT IS VITAL THAT THE MISSING REPORTS & DOCUMENTS TOGETHER WITH THE DETAILED COSTINGS BE VIGOROUSLY PURSUED AND PUBLICISED AS IT IS ALL TAXPAYER DOLLARS BEING SPENT BY YOUR INQUIRY AND MR. BEATTIE'S GOVERNMENT.
- FURTHER I BELIEVE I SUPPLIED THE MAJORITY OF MY EVIDENCE REFERRED TO IN MY LETTER TODAY IN MY SUBMISSIONS ACCEPTED BY THE INQUIRY :- NO.S 8, 8A, 8B, 8C, & 8D. OF COURSE MY SUPPLEMENTARY SUBMISSION OF 9.4.07 TO NO. 8B DATED 19.3.07 APPEARS TO HAVE NOT BEEN ACCEPTED BY YOUR INQUIRY & WHILST THIS IS UNFORTUNATE IT DOES NOT ALTER MY PREVIOUS SUBMISSIONS. ALTHOUGH THE MAR. 1977 REPORT IS NECESSARY FOR THE HYDROLOGIC LIMIT.
- EVERY DAM EVER REPORTED UP UNTIL THE 27th. APRIL 2006 BY THE QUEENSLAND GOV'T. WAS ALWAYS COSTED AS FOLLOWS :-

LAND ACQUISITION COSTS =
INFRASTRUCTURE RELOCATION COSTS =
DAM CONSTRUCTION COSTS =
TOTAL CAPITAL COST = $

THEY ALWAYS THEN DIVIDE THE CAPITAL COST BY THE ANNUAL YIELD TO ARRIVE AT THE DEFINITIVE "COST PER MEGALITRE." THIS THEN IS USED TO RANK THE VARIOUS OPTIONS UNDER EVALUATION. IT IS ESSENTIAL TO NOW PRODUCE THE FACTS & THE DETAILED COSTINGS, WHICH HAVE NEVER BEEN REVEALED.

SINCERELY .... D. MILLIGAN

consideration as potential bulk supply sources of regional significance. These short-listed options were reviewed in more detail. Potential combinations of dams and weirs were also considered.

The main dam and weir site options examined were:

- Glendower Dam with a barrage on the Albert River;
- a dam on the Coomera River;
- a dam at Cedar Grove on the Logan River;
- Tilleys Bridge Dam with Cedar Grove Weir;
- Wyaralong Dam on the Teviot Brook with Cedar Grove Weir (Logan system);
- raising of Hinze Dam to Stage 3;
- water harvesting from the Coomera River and Canungra and Mudgeeraba Creeks and other suitable locations to a raised Hinze Dam;
- a dam at Zillman's Crossing on the Caboolture River;
- raising of Wappa Dam (South Maroochy);
- Amamoor Creek Dam (Mary system);
- Cambroon Dam on the Mary River;
- raising of Borumba Dam on Yabba Creek (Mary system);
- Kidaman Dam on Obi Obi Creek (Mary system);
- Traveston Crossing Dam (Mary system);
- raising Mt Crosby Weir on the Brisbane River; and
- raisinge Wivenhoe Dam.

The report ranked potential development options in terms of:

- potential yield (ie. the volume of water that could potentially be delivered); and
- unit cost of the dam per megalitre of water delivered.

Significantly, the Traveston Crossing Dam ranked first in terms of potential yield (and storage capacity) being more than 2.5 times greater than the second rating dam. The Traveston Crossing Dam ranked fourth in relation to the unit cost per megalitre of delivered water.

The final go-ahead is still dependent on various Commonwealth and State Government approvals and further investigations will continue over about the next two years including the refinement and optimisation of designs, environmental and social impact assessments and preparation of management plans to mitigate impacts. Final deliberations on the extent of the required buffer zone surrounding the ponded area will also be made during this current phase of investigations.

Recent more detailed investigations have resulted in a significant increase in the estimated cost to build the dam compared to that estimated in the preliminary desk top review of dam and weir sites (GHD 2006b). A comparison of revised costs and yields is presented below.

Capacity (megalitres) FSL (m)	Preliminary Estimate of HNFY(1) (ML/a)	Revised Estimate of HNFY(1) (ML/a)	Prudent Yield (ML/a)	Preliminary Estimate of Capital Cost of Dam Structure only ($ million)	Preliminary Estimate of Total Capital Cost of Dam ($ million)	NRMW Revised Estimate of Total Capital Cost of Dam ($ million)
180,000 (71)	66 000	80 000 (2)	70 000			1 400 to 1 700
With 350 000 ML Borumba Stage 3	-	130 000 (total)	110 000 (total)			250
660,000 (79.5) With Borumba Stage 3	161 000	200 000 (2) (total)	150,000 (total)	310	847 (3)	2,000 to 2,500 (Excluding Borumba Dam raising costs)

Notes:
(1) The historical no-failure yields (HNFY) shown in this table are prior to consideration of environmental flow releases.
(2) Refinement of the hydrologic model has resulted in an increased estimate of the HNFY.
(3) The preliminary estimate of total capital cost of the dam included the cost of land acquisition and relocation of main roads and shire facilities. The estimate did not include the cost of infrastructure to deliver the water to the demand centre i.e pipelines.

6.2.6 Wyaralong Dam (2011)

The Wyaralong Dam site is approximately 14 km north-west of Beaudesert and located on Teviot Brook 14.8 km upstream from the junction of Teviot Brook and the Logan River.

The proposed dam will hold up to 135,000 ML of water at its full supply level and will cover around 1740 hectares of land at that level. It will boost regional supplies by up to 21,000 ML/annum (refer Figure 10 for the storage behaviour curve), with most being used for urban and industrial purposes in the Beaudesert Shire, Logan City and the Gold Coast.

Recent geological investigations confirm previous studies carried out in 1991. Investigations include geological test pitting, seismic refraction survey and core drilling. Indications are that a dam could be founded at levels of approximately 2 to 4 metres on the abutments, and up to 14 metres in and adjacent to the stream bed. The site is considered suitable for either a concrete faced rockfill or roller compacted concrete construction. Costs are indicative of either type of construction.

SUPPLEMENTARY SUBMISSION TO MY PREVIOUS SUBMISSION ON 19.3.07 — P1 OF 2

THE SECRETARY
SENATE RURAL & REGIONAL AFFAIRS
PARLIAMENT HOUSE CANBERRA ACT. 2600

D. MILLIGAN
14 GODFREYS AVE.
BLI-BLI - QLD. 4560
TEL 54 422294

DEAR SIR / MADAM

RE: SENATE INQUIRY INTO TRAVESTON DAM 9.4.07

FINALLY THE PROTESTORS AND THE QUEENSLAND GOVT AGREE ON SOMETHING ABOUT TRAVESTON DAM. THE DEPUTY PREMIER ANNA BLIGH'S PRESS RELEASE CONCERNING THEIR 221 PAGE SUBMISSION TO THE SENATE ENQUIRY STATES " SENATORS OWE IT TO THE PEOPLE OF QUEENSLAND TO GET ACROSS THE DETAIL AND MAKE AN INFORMED DECISION. GET BEYOND THE POLITICS AND GET THE FACTS."

LETS US EXAMINE ONE OF THESE FACTS :-

GOVERNMENT FACT # " THE DATA CLEARLY SHOWS THAT OUT OF THE 80 SITES CONSIDERED ACROSS SEQ, THE TRAVESTON CROSSING DAM WAS RANKED No.1 IN TERMS OF YIELD AND STORAGE CAPACITY. IT WAS TWO AND A HALF TIMES BETTER THAN THE POTENTIAL YIELD OF THE SECOND RATED DAM."
(REFER GH&D TABLE 4.2 — P685)

THIS IS NOT A FACT IT IS "PURE FICTION"
AS THE DAM RANKED AS No 1 BY GH&D ON THIS LIST IS IMPOSSIBLE TO CONSTRUCT.
IT EXCEEDS THE "HYDROLOGIC LIMIT" OF THE TRAVESTON DAM SITE BY 70%.
THE GH&D REPORT REFERS TO THE KNOWN "PRACTICAL LIMIT FOR THE DEVELOPMENT" (REFER P634, 627 & P638 GH&D DESK TOP STUDY.)
THIS "HYDROLOGIC LIMIT" WAS FIRST INVESTIGATED AND REPORTED IN MAR. 1977 — IRRIGATION AND WATER SUPPLY

COMMISSION QUEENSLAND (REFER P13 TABLE IV DAM TO HYDROLOGIC LIMIT – 666,000 ML.)

IN 1994 THE TRAVESTON DAM WAS NOT CHOSEN FOR INVESTIGATION FURTHER, DUE TO THE STILL VALID REASONS WHICH SHOULD HAVE ALSO ELIMINATED TRAVESTON IN 2006. (REFER DPI WATER RESOURCES – DECEMBER 1994.)

THEREFORE THE KEY FACT CONSTANTLY QUOTED BY THE QUEENSLAND DEPUTY PREMIER IS A COMPLETE FALLACY AND CASTS DOUBT OVER THE INTEGRITY OF THEIR 221 PAGE SUBMISSION.

IT IS VITAL THAT THE SENATE INQUIRY, IN VIEW OF THESE ANOMOLIES, SEEK CLARIFICATION FROM THE AUTHOR OF THE G,H & O DESK TOP REVIEW OF IDENTIFIED DAM & WEIR SITES DATED JUNE 2006.

FOLLOWING THIS THE DEPUTY PREMIER MUST ALSO BE CALLED TO EXPLAIN THESE ANOMOLIES.

ALSO IT WOULD BE PRUDENT FOR THE SENATE INQUIRY TO OBTAIN THE 27th. JAN. 2005 RWSS STEERING COMMITTEE WORKSHOP MINUTES, WHICH SHOULD REVEAL A PLETHORA OF HIDDEN AGENDAS.

YOURS SINCERELY

D. MILLIGAN

CERTIFICATE IN CIVIL ENGINEERING

DESIGN OFFICE TECHNICIAN M.I.D.

CONSULTANT DRAFTSMAN

Bligh's 221 page submission

Sunday, April 8, 2007 at 10:37AM
stevem in Senate Inquiry

NOTE: THURSDAY WAS 5.4.07 AND THEREFORE LATE AS SUBMISSIONS CLOSED ON WED. 4.4.07.

Gympie Times

7 APR 2007

THE State Government has lodged a 221-page submission to the Senate Inquiry setting out the overwhelming case for building the Trayeston Crossing Dam, Deputy Premier and Infrastructure Minister Anna Bligh said yesterday.

Ms Bligh said the submission lodged Thursday with 12 volumes of supporting data proved the dam was a crucial component in the inter-related network that made up the State Government's $7-$9 billion water grid.

She said detailed analysis included in the submission showed the Trayeston Crossing Dam was vital to meet a forecast shortfall of up to *490,000ML/year* in SEQ by 2051. This included provision for climate change.

"It's the only choice. This is the linchpin of our strategy that includes 'pumping water across SEQ where it is needed and using non-rainfall sources such as desalinated and purified recycled water," Ms Bligh said. 'The long-term benefits are obvious. By the time the Traveston system is completed td Stage 2, it will provide 31 per cent -45 per cent of the additional water we will require.

"Senators can't pick and choose like this is a smorgasbord. I urge them to read the submission so they properly understand the Traveston Crossing Dam's critical importance to Queensland.

"The submission sets out the thorough analysis of all available data that was considered by the Government when we formulated the water grid to battle the worst drought in the history of SEQ and plan for population growth.

"The data clearly shows that out of 80 sites considered across SEQ, the Traveston Crossing Dam was ranked No. 1 in terms of yield and storage capacity. It was two and a half times better than the potential yield of the second-rated dam.

"Senators owe it to the people of Queensland to get across the detail and make an informed decision. Get beyond the politics and get the facts.

Ms Bligh said the dam would provide vital flood mitigation to Gympie.

"Had it been in existence during the 1999 flood, it would have dropped flood levels by up to 4m in the town and saved a lot of heartache.

"The project will be an economic shot in the arm for the Gympie area, which is a poor-performing semi-rural shire. It will create more than 500 jobs, including approximately 150-200 for locals, and create opportunities for over 600 businesses, including about 240 local suppliers."

The report dispels many other misconceptions:

- Net evaporation is less than many major dams, including Wivenhoe and Borumba
- Geotechnical investigations have found that the site has solid foundations for a dam (Page133).
- Effect on the rural sector. Only 1.7 per cent of agricultural land in the Mary River Basin will be affected by Stage One. This represents 4.3 per cent of the state's dairy value and a meagre 0.1 per cent of beef, horticulture and other industries.

4.2 Comparison of Options

Each of the options in Table 4.1 were reviewed to identify the full supply level that results in the lowest unit cost (total capital cost /annual HNF yield) bulk water supply.

The project options in Table 4.2 have been ranked to indicate the projects with the maximum yield at the point of lowest unit cost.

Table 4.3 indicates the lowest unit cost project options sorted on the basis of unit cost of supply.

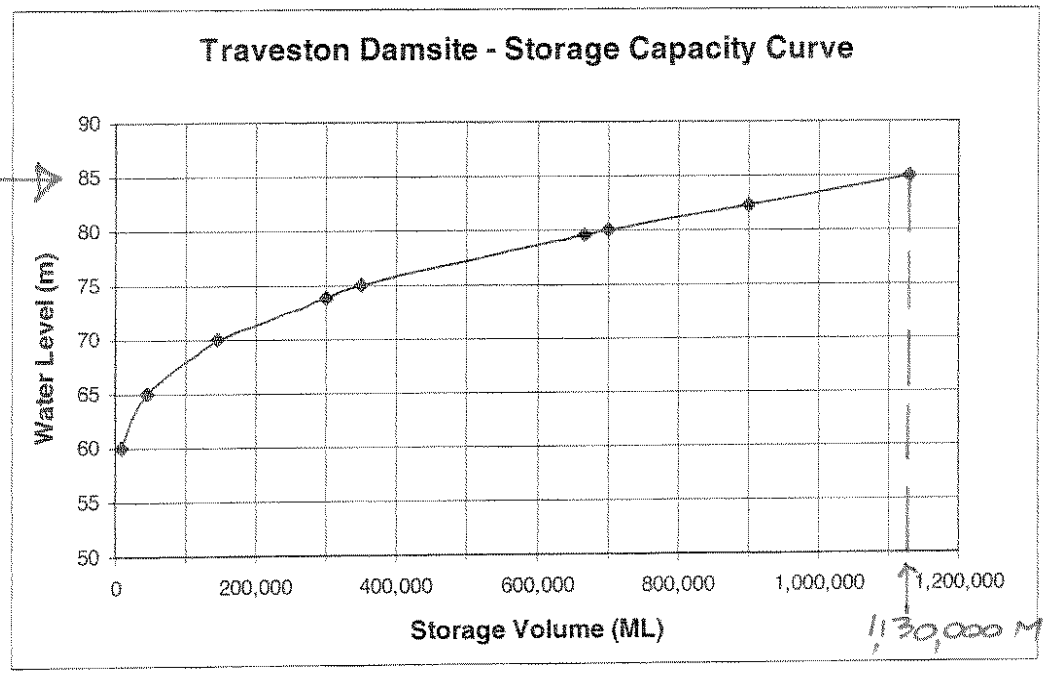
Table 4.2 Bulk Water Supply Options Ranked by Potential yield

Bulk Water Supply Project Option	Potential Yield (ML/a)	Storage Required (ML)	Full Supply Level (m)	Cost ($Million)	Unit Cost ($/ML/a)
Mary River Traveston Dam	215,340	1,130,000	85	1,011.1	4,695
Logan River/Cedar Grove Dam	78,346	295,136	40	768.9	9,814
Wyaralong 104,000 ML and Tilley's Bridge 110,000 ML Dams + Cedar Grove Weir	59,000	-	0	356.7	6,046
Mary River/Cambroon Dam	52,930	127,247	130	206.3	3,898
Wyaralong 104,000 ML and Tilley's Bridge 50,000 ML Dams + Cedar Grove Weir	50,000	-	0	301.3	6,025
Logan River/Tilley's Bridge near Rathdowney	42,714	100,000	110	223.1	5,223
Coomera River/Coomera Dam	42,688	110,678	64	503.9	11,804
Yabba Creek/Borumba Stage 3 with Coles Crossing Weir	39,236	475,581	170.5	266.7	6,797
Obi Obi Creek Kidaman Dam	36,883	172,898	130	172.5	4,677
Maroochy River/Raising Wappa Dam	30,004	81,230	77.5	238.0	7,932
Albert River/Glendower Dam acting in conjunction with a barrage on the Albert River	30,000	111,800	79.17	261.5	8,717
Wyaralong/Logan River Teviot Brook with Cedar Grove Weir	26,674	97,025	63	127.8	4,790
Amamoor Creek/Amamoor Dam	26,654	218,685	145	162.2	6,085

3.14.2 Storage Capacity

The storage capacity curves for Traveston damsite are as shown in Figure 3.14.1 and Figure 3.14.2. This information is derived from Irrigation and Water Supply Commission Drawing Number S46766 – Mary River Damsite 206.7km Storage Curves dated 17/5/76 and amended 7/10/77.

Figure 3.14.1 Traveston Damsite: Storage Capacity Curve



RANKED NO. 1
ON TABLE 4.2

constructed on rock foundations has been assumed for this cost estimate. Review of these assumptions will be necessary should this option be considered further.

Quantities were developed based on survey data from GIS mapping for contour intervals of 5m.

Stripping depths of 20m were assumed for flood plain areas, decreasing to 5m on each abutment where the abutment steepness suggests that there is only minimal or no alluvium cover over the normal weathered rock profile.

For the purposes of these cost estimates, it has been assumed that materials for the construction of the dam embankment would be available.

In the absence of flood hydrology or spillway flood routing for this site, assumptions regarding the peak outflow were made as follows:

- The peak outflow was assumed to be equal to the peak inflow; and,
- The maximum design flood value was assumed based on a catchment area of 2,110 km^2 with the maximum design inflow flood assumed to be 10 $m^3/s/km^2$ (Footnote [2]).

The concept design was therefore developed to pass a peak outflow for the maximum design flood of 21,100m^3/s.

A spillway, 600m long was assumed to discharge directly into the river via a dissipater. This length of spillway has been adopted to minimise the impact on Imbil and Kandanga. If full supply levels are adopted that result in flooding of Imbil or Kandanga cost savings associated with the spillway may be possible.

These hydrological and hydraulic assumptions, including spillway length and peak outflow, should be reviewed, should this project be taken further.

An amount equal to 3% of the total contract price for the work has been allowed to provide for implementation and management of environmental works. This includes provision for fish lifts, erosion control works etc.

The estimated costs of the dams for these full supply levels are indicated in Figure 3.14.4. The optimum development was not able to be determined within the range of storage capacity and yield information available and so this information was extrapolated a small amount to enable the optimum development to be assessed. This optimum far exceeds the practical limit for the development, which is about a full supply level of EL75m as discussed above. The extrapolation therefore has no impact on the project costs at the critical full supply level of about EL 75m.

[2] 10 $m^3/s/km^2$ was based on other catchments in similar climatic environments.

Table 3.14.4 Traveston Damsite: Estimated Cost Summary

Full Supply Level	RCC Dam cost $M	Land Acquisition and relocation of Imbil $M	Main Roads $M	Electrical distribution $M	Telecom $M	Shire Facilities $M	TOTAL Capital Cost $M	Unit Capital Cost of Water ($/ML/a)	Marginal Capital Cost of Water $/ML/a
75	277.7	339.2	73.0	5.0	5.0	40.0	739.9	6,670	
80	313.4	416.4	74.0	7.5	7.5	40.5	859.3	5,243	2,254
85	376.9	502.2	76.0	7.5	7.5	41.0	1,011.1	4,695	2,951
90	421.8	586.5	81.0	7.5	7.5	42.0	1,146.3	5,254	47,809

TABLE 8.2
IDENTIFIED STORAGE SITE ALTERNATIVES FOR FUTURE WATER SUPPLY AUGMENTATION TO THE MARY RIVER VALLEY AND SUNSHINE COAST

STREAM LOCATION	AMTD (km)	CATCHMENT AREA (km^2)	MEAN ANNUAL DISCHARGE (ML/a)	PRELIMINARY HYDROLOGY ESTIMATE		CHOSEN FOR INVESTIGATION	REMARKS
				CAPACITY (ML)	YIELD (ML/a)		
Amamoor Creek	19.2	130	38 000	125 000	10 000	Yes	Good confinement at site. Strategically located to serve middle and lower Mary River in conjunction with raising Borumba Dam. Storage may inundate some environmentally sensitive areas.
Amamoor Creek	23.7	122	36 000	NA	NA	The site may need to be considered if 19.2 km site is unacceptable for environmental reasons.	Site confinement is not as good as 19.2 km site because of saddle in right abutment.
Mary River - Traverston	206.7	2 110	697 000	666 000	296 000	No	Extensive alluvial flood plain on right bank. Cost for dam updated from 1977 is $125 million. Damsite considered unsuitable because of high capital cost, inundation of prime agricultural land and displacement of rural population.
Mary River - Moy Pocket	244.1	830	399 000	NA	NA	Yes (weir site)	Well confined dam site although insufficient storage would be available without seriously affecting Kenilworth. Site chosen for potential weir to regulate natural flows from Upper Mary River.
Mary River - Kenilworth	270.0	480	188 000	320 000	106 000	Already evaluated	Appraisal study completed as part of the study Water Supply Sources in South-East Queensland.
Mary River - Cambroon	274.0	304	144 000	200 000	75 000	Excluded by Government from further consideration	Good confinement at site. Potential for a storage to satisfy Mary Valley and Sunshine Coast requirements. Conondale would be affected by larger developments.

TABLE 8.2 (CONTINUED)

STREAM LOCATION	AMTD (km)	CATCHMENT AREA (km^2)	MEAN ANNUAL DISCHARGE (ML/a)	PRELIMINARY HYDROLOGY ESTIMATE		CHOSEN FOR INVESTIGATION	REMARKS
				CAPACITY (ML)	YIELD (ML/a)		
Mary River - Conondale	291.0	106	50 000	100 000	30 000	Excluded by Government from further consideration	Good confinement at site. Potential for a storage to partially satisfy Mary Valley and Sunshine Coast requirements. Favourably located to augment supply from Baroon Pocket Dam.
Middle Creek	1.3	18	7 200	20 000	5 000	No	Insufficient supply available.
Munna Creek	22.2	1 410	290 000	385 000	46 700	No	Poor dam site, wide section, several saddle dams required on left bank.
Munna Creek - Merodian	32.5	1 205	248 000	150 000	25 000	Yes	Fair dam site. This site has potential to augment supply requirements in the lower Mary River.
Munna Creek -	36.0	1 100	226 000	NA	NA	No	Poor dam site, wide section
Kandanga Creek	12.2	184	36 000	NA	NA	No	Poor dam site, wide section
Kandanga Creek	21.4	147	29 000	NA	NA	No	Poor dam site, wide section
Kandanga Creek	28.5	119	23 500	NA	NA	No	Poor dam site, wide section
Obi Obi Creek	6.3	182	155 000	300 000	60 675	Excluded by Government from further consideration	Good confinement at site. Potential for a storage to satisfy Mary Valley and Sunshine Coast requirements. Ponded area for higher developments could encroach on National Park.
Skyring Creek	10.3	32	15 600	30 000	10 000	No	Insufficient supply available.
Wide Bay Creek	30.4	630	63 000	NA	NA	No	Poor dam site, wide section
Wide Bay Creek	36.2	580	58 000	100 000	25 000	Yes	Good confinement at site. High levels of development could effect Kilkivan.
Widgee Creek	5.0	370	NA	NA	NA	No	Poor dam site - no confinement.

WATER SUPPLY FOR POWER STATIONS AT TARONG MILLMERRAN WANDOAN THEODORE AND TAROOM

IRRIGATION AND WATER SUPPLY COMMISSION — QUEENSLAND

MARCH 1977

For the purpose of the investigations, a rockfill embankment with an upstream concrete membrane has been adopted with the spillway on the left abutment. Table II gives details of the two storage sizes examined.

TABLE II

BOYNE RIVER 86.7 km DAMSITE

SUMMARY OF STORAGE DETAILS

	Dam for ~~Power~~ Station Alone	~~Dam to Hydrologic~~ Limit
Full Supply Level (metres)	275.0	292.0
Crest Level (metres)	282.5	300.0
Storage Capacity (megalitres)	125 000	~~710 000~~
Assured Yield/annum (megalitres)	32 000	68 000
Estimated Cost ($ Million)	11	18
Cost/megalitre of Yield ($)	344	270

The details of the pumping/pipeline system for delivery to Tarong are as follows:-

Length of pipeline	88 km
Pipeline diameter (M.S.C.L.)	900 mm
Power requirement	5090 kW
Estimated Capital Cost	$42 M
Power Cost/annum (Sept. 1976 tariffs)	$790 000

Mary River

Two damsites, each capable of yielding in excess of 32 000 megalitres per annum, are located upstream of Gympie on the Mary River. The sites are at 270.0 kilometres (Kenilworth damsite) and 205.7 kilometres (Traverston Crossing damsite).

Mary River 270.0 km (Kenilworth Damsite)

The Kenilworth damsite is located 26 kilometres west of Nambour and is approximately 90 kilometres from Tarong; the catchment area is 480 square kilometres. The damsite has a steep right bank and a sloping left bank. Alluvium overlies the main

valley floor. The embankment considered most feasible is a zoned earthfill structure having an impervious central core section. Details of the two storage sizes examined are given in Table III.

TABLE III

MARY RIVER 270.0 km DAMSITE

SUMMARY OF STORAGE DETAILS

	Design for Power Station Alone	Dam to Hydrologic Limit
Full Supply Level (metres)	113.0	132.0
Crest Level (metres)	126.0	143.0
Storage Capacity (megalitres)	30 000	320 000
Assured Yield/annum (megalitres)	32 000	104 000
Estimated Cost ($ Million)	17	27
Cost/megalitre of yield ($)	519	260

The pipeline pumping details from the Kenilworth damsite to Tarong are as follows:-

Pipeline Length	90 km
Pipeline Diameter (M.S.C.L.)	900 mm
Power Requirement	7900 kW
Power Cost/annum (Sept. 1976 tariff)	$1 227 000

Mary River 206.7 km (Traverston Crossing Damsite)

The Traverston Crossing damsite is located 15 kilometres to the south of Gympie and is approximately 33 kilometres north of the Kenilworth damsite. The catchment area is 2 110 square kilometres.

The axis considered is across a wide alluvial flood plain. Both banks have rock outcropping, although on the left bank it appears to be weathered. A single zoned earth fill embankment is envisaged. No provision has been made for a positive cut-off and further foundation investigation is necessary to confirm this assumption.

Yield studies were carried out on the basis that the storage would be operated in conjunction with Borumba Dam on Yabba Creek. Provision has also been made, as a prior commitment on the system, for the present and estimated future requirements for urban, industrial and irrigation purposes in the lower Mary River region of some 54 000 megalitres per annum.

Details of two such storages are shown in Table IV. Studies have also indicated that larger storages and yields may be feasible, but in the absence of adequate survey data, this cannot be verified at this stage.

TABLE IV

MARY RIVER 206.7 km DAMSITE

SUMMARY OF STORAGE DETAILS

	Design for Power Station Alone	Dam to Hydrologic Limit
Full Supply Level (metres)	65.5	80.0
Crest Level (metres)	75.0	93.0
Storage Capacity (megalitres)	50 000	666 000
Assured Yield/annum (megalitres)	32 000 (1)	286 000 (1)
Estimated Cost ($ Million)	11	40
Cost/megalitre of Yield ($)	122	118

Note: (1) - After provision of supply of 54 000 megalitres/annum to the Lower Mary River region.

The pipeline to Tarong (900 mm M.S.C.L.) is 100 kilometres long and is estimated to cost $50 million. The annual power cost on September, 1976 tariffs is $1 394 000.

TABLE V

WATER SUPPLY FOR TARONG

SUMMARY AND ESTIMATE OF COST

MID 1977

DAMSITE	CATCHMENT AREA km^2	CAPACITY Ml	ANNUAL YIELD Ml/annum	PIPELINE LENGTH km	CAPITAL COST			ANNUAL COST $M
					DAM $M	PIPELINE $M	TOTAL $M	
Mary River 270.0 km	480	28 000	32 000	90	17	44	61	7.4
(Kenilworth)		320 000	104 000	90	27	44	71	8.3
Mary River 206.7 km	2 110	50 000	32 000 (1)	100	11	50	61	7.6
(Traverston Crossing)		666 000	286 000 (1)	100	40	50	90	10.3
Boyne River 86.7 km	4 200	125 000	32 000	88	11	42	53	6.2
		710 000	68 000	88	18	42	60	6.9

NOTE (1) After provision of supply of 54 000 Ml/annum to the Lower Mary Region.

3. Identification and Collation of Sites/Projects

3.1 Sources of Information

A review of the following documents indicated that there have been a large number of dam and weir sites considered to supplement the raw water supply in the South East Queensland region. The documents reviewed included:

1. JWP, "Future Water Source Options for the Sunshine Coast" Table 16.1(draft), Aquagen, July 2005;
2. 27th January 2005 RWSS Steering Committee Workshop minutes;
3. Sunwater, "Water Supply Study of the Upper Mary Valley – Security of Supply", August 2004;
4. GHD/Kinhill, "South East Queensland Water and Waste Water Management and Infrastructure Study – Final Report for Phase 1 – Water Sources and Infrastructure Needs", Department of Natural Resources, April 1999;
5. Queensland DPI Water Resources, "An Appraisal Study of Water Supply Sources for The Sunshine Coast and The Mary River Valley", December 1994;
6. Queensland Water Resources Commission and Brisbane Area Water Board "Water Supply Sources in South East Queensland", January 1991;
7. A review of the information in the Department of Natural Resources and Mines library and the DPI library is underway, but has not as yet been collated and added to this report;
8. A review of the information held by each of the Councils and Water Authorities in the study area has commenced but has not yet reached a stage where information can be added to the Initial Scoping Report; and,
9. GHD, "South East Queensland Regional Water Supply Study, Stage 1 Report", 2004.
10. DNR, "Seismic Refraction Reconnaissance Survey On Bremer River 67.7 km and 70.0 km Damsites," work files, 1981, DNR reference 27207.
11. DNR, "Further progress report on Lockyer Valley water resources investigation," work files, 1982, DNR reference 26837.
12. DNR, "Reedy Creek scheme, preliminary report," work files, 1977, DNR reference 61079.
13. DNR, "Report on the water resources of Tinana Creek," work files, 1950, DNR reference 24021.
14. P.E. Mann, "Yabba Creek 19.3 km and Amamoor Creek 14.7 km dam sites, seismic refraction survey, Queensland," work files, 1959, DNR reference 64799.
15. DNR, "Geology and Mineral Resources: Damsites - Perserverence and Westbrook," work files, 2002 DNR reference 42848.

Natural Resources and Mines
The Honourable Henry Palaszczuk

Friday, January 27, 2006

Government, Councils move ahead with SE Qld water supply solutions

The Queensland Government and the Council of Mayors, South East Queensland released a report outlining a number of water supply solutions they were already working on for the region.

Natural Resources and Mines Minister Henry Palaszczuk and Council of Mayors (SEQ) Chairman Campbell Newman released the South East Queensland Regional Water Supply Strategy (SEQRWSS) Stage Two Interim Report today.

Mr Palaszczuk said the interim report released today identified a number of projects that could help save water and access alternative supplies.

"The strategy is clearly not solely based on dams. There is already more than a trillion litres of unused water storage capacity in south-east Queensland dams," Mr Palaszczuk said.

"By 2026, we expect 3.7 million people will live in South East Queensland. This growth has to be supported by a secure, quality water supply."

Cr Newman said the 18 Councils had been working with the Queensland Government on the SEQRWSS to address the urgent challenges of the current drought.

"Local government is responsible for providing water to homes and businesses, so it's very important we work with the State Government and get smarter about the use of water resources, explore new options and protect water quality," he said.

"Although this strategy spells out some possible solutions, there is no quick fix to the drought. With dam levels at around 34%, we still need to watch every drop."

The Queensland Government provided $1.6 million funding towards stage two of the SEQRWSS and local Councils have contributed $1 million.

Short term projects highlighted for investigation in the interim report include:
* recycled water - collecting wastewater from Brisbane and Ipswich to supply to industry in the Western Corridor, Swanbank power station and possibly Tarong power station and Australia Trade Coast;
* recommissioning both Enoggera Dam and Lake Manchester;
* minor aquifers - investigating groundwater for emergency supplies in mainland areas in Brisbane, such as Oxley;
* regional pressure reduction and leakage management - $20 million from the Queensland Government to subsidise local government pressure reduction schemes. This is expected to save 50 - 75 megalitres per day across the region;
* inter-catchment water distribution - small storages in higher rainfall areas could be emptied more quickly to take advantage of their greater chance of being filled. Project will look at Gold Coast off-take, southern regional pipeline and North Stradbroke augmentation and possible Redland interconnection;
* indoor water efficiency - possibility of mandating rainwater tanks in new homes for toilet and external use;
* regional desalination - Gold Coast City Council has commissioned an advanced study to determine costs of a 55 - 110 megalitre per day desalination plant;
* Cedar Grove Weir - State Government to progress construction of Cedar Grove Weir on the Logan River;
* construct Mary River Weir - to improve security of supply for Gympie and Noosa.

Other medium and long term options include new infrastructure such as:
* raising of Hinze Dam and Wivenhoe Dam
* investigate recycled water options
* Wyaralong Dam
* recommissioning of Ewen Maddock Dam.

Cr Newman said the interim report primarily focuses on urban water provisions.

"The requirements for rural water supply will be done as part of the final report for the SEQRWSS due for release at the end of 2006."

The Queensland Government and the Council of Mayors is equally concerned about sustaining water supplies for rural communities.

Mr Palaszczuk said the Quensland Government has also initiated a review of the existing institutional arrangements for water in south-east Queensland.

"There are 19 major water supply storages with 12 different owners in the regions. A total of 18 local governments deliver water to their ratepayers, while a number of adjoining councils obtain water from south-east Queensland," he said.

The Council of Mayors (SEQ) represents the 18 Councils of South East Queensland - Beaudesert, Boonah, Brisbane, Caboolture, Caloundra, Esk, Gatton, Gold Coast, Ipswich, Kilcoy, Laidley, Logan, Maroochy, Noosa, Pine Rivers, Redcliffe, Redland and Toowoomba.

Media contacts:
* Kirby Anderson (Mr Palaszczuk's office) 3896 3689 or 0418 197 350
* Francis Quinlivan (Lord Mayor's office) 3403 4832 or 0408 709 160

Minister for Natural Resources, Mines and Water
The Honourable Henry Palaszczuk

Friday, April 07, 2006

Government committed to greater water security for SunshineCoast

The Queensland Government was committed to providing greater water security for the SunshineCoast through the South East Queensland Regional Water Supply Strategy currently under development, Water Minister Henry Palaszczuk said.

"Water is liquid gold. The Queensland Government is committed to securing future water supplies for all users – households, communities, businesses, industry and the environment," Mr Palaszczuk said.

"In the State's south-east, the Government is working with the 18 local councils, including Maroochy, Caloundra and Noosa, to develop and implement this region-wide strategy."

"As Minister, I recognise the water supply situation on the SunshineCoast is good. Nevertheless, the Government wants to strengthen the position for the SunshineCoast."

"For instance, the Government's decision to proceed with the Mary River Weir is in line with the SEQRWSS will improve water security for Noosa and Gympie."

"The Mary River Weir at Coles Crossing is expected provide up to an extra 25 million litres of water per day or up to 1.6 billion litres each year."

"As a Government we want to continue to work with councils to achieve greater water security for communities across the State's south-east and across Queensland."

The SEQRWSS Stage Two Interim Report is available at www.seqwaterstrategy.qld.gov.au

7 April 2006

Media contact: Kirby Anderson 3896 3689

Premier of Queensland
The Honourable Peter Beattie

Thursday, April 20, 2006

$127M ON WATER PROJECT ANNOUNCED BY QUEENSLAND GOVERNMENT

Premier Peter Beattie today announced $127M in funding as part of the Queensland Government's continuing work to secure South East Queensland's water supply now and into the future.

"We're working co-operatively with councils across the region to ensure we have the best possible plans in place to secure SE Queensland's water supply," Mr Beattie said.

"The Minister for Water and the Minister for Local Government are working closely with the Council of Mayors to ensure we get water planning right."

Mr Beattie said the $127M in water funding will be allocated in the following way:

- $100 million for an initial order of pipes for the first stage of the Western Corridor Recycled Water Scheme providing recycled water to Tarong and Swanbank power stations freeing up to 110 megalitres per day;
- $14 million to support the investigation of the proposed expansion of the Gold Coast desalination plant at Tugun from 55 megalitres per day to 120 megalitres per day; and
- An additional $12M in funding to help SEQ Councils fix water main breaks and leaks. Water wastage and loss is a major issue in the South East – the increase in funding for the

program from $20M to $32M will help ensure councils move as quickly as possible to fix leaks and breakages which leads to the loss of thousands of litres of water each day.
- $1 million to redesign of the Southern Regional Pipeline to transfer 120 megalitres per day.

The Premier said the $127M boost in investment will help securing some 300 megalitres per day – almost half of the region's current daily water use.

"This is why a co-ordinated, co-operative plan is so important as it ensures we maximise current water resources and introduce innovative water saving measures.

"We will continue to work with the Council of Mayors and the new Water Commission to ensure the best plans possible are in place to secure our water supplies for the decades to come."

Minister Palaszczuk said the new investments were in-line with the government's commitments under the South East Queensland Regional Water Supply Strategy.

"The commitment of an initial $100 million for pipes for the Western Corridor Recycled Water Scheme will ensure we can fast-track this major project.

"The Western Corridor Recycled Water Scheme will free up water from our dams, by connecting power stations and industry with a new source of water – recycled water."

"The Government committed $20 million to this project in its Mini-Budget last year."

Minister Boyle said: "It's estimated the $32 million project to manage water pressure and reduce leaks will save between 60 million and 90 million litres a day across the region.

"That's 60 to 90 olympic sized swimming pools per day.

To put that in perspective the proposed Wyralong Dam will supply 70 million litres per day, so this project will save as much water as a small dam supplies.

"I have put a couple of provisos on this funding package.

"The 18 councils of south east Queensland must agree to collectively address water leakage.

"This project will not work unless all 18 councils sign up and the entire region is looked at as a whole.

"The second proviso is the need for speed. I expect this project to be completed within three years, we cannot afford to let it drag out," Ms Boyle said

Ms Boyle said to assist councils to act immediately some of the usual administrative requirements will be waived.

The project will involve:

- Redesigning the water pipe network into zones. This means if a pipe bursts it can be isolated immediately, thereby saving water;
- Installing better technology to monitor water pressure in these zones. This means if water pressure suddenly drops (which would happen if a pipe bursts), the system will automatically isolate the zone; and
- Reducing water pressure through infrastructure upgrades.

Media Contact – Premier's Office – 3224 4500

Joint Statement:

Premier of Queensland
The Honourable Peter Beattie

Minister for Natural Resources, Mines and Water
The Honourable Henry Palaszczuk

Thursday, April 27, 2006

PREMIER VISITS POSSIBLE NEW DAM SITE

The Queensland Government has nominated an area near Gympie as the likely site it is investigating to build the new Mary River dam.

Premier Peter Beattie and Water Minister Henry Palaszczuk visited the site in the Traveston district today.

"A dam on the Mary River catchment is essential for the south east corner of our State – especially the Cooloola region as well as the burgeoning Sunshine Coast," Mr Beattie said.

"Traveston has been identified by the Department of Natural Resources, Mines and Water as a promising site for the dam through its work developing the South East Queensland Regional Water Supply Strategy.

"We will now completely assess this site so a final decision can be made on the positioning of the

Mary River dam and work can start to have it built and operating by the end of 2011."

Mr Beattie said a dam at the Traveston site could potentially provide an addtional 100,000 megalitres of water each year to boost Queensland's water supply system.

A dam at Traveston is estimated to have a storage area of 7,600 hectares.

Its storage capacity is projected at 660,000 megalitres – more than double the capacity of the 300,000-megalitre Paradise Dam commissioned by the State Government on the Burnett River near Bundaberg late last year.

Depending upon its design, a dam at Traveston could also provide significant flood mitigation for Gympie and Maryborough.

Mr Palaszczuk said the potential for the Traveston site on the Mary River would be thoroughly investigated.

"There a number of issues that we will need to look at closely including the properties that will be affected by the potential new dam," Mr Palaszczuk said.

"We will obviously work closely with the local community throughout any process."

Mr Palaszczuk said the Government had ruled out constructing a dam at Cambroon, on Obi Obi Creek or Moy Pocket that have been previously suggested as possible dam or weir sites in the region.

"Building a dam at the Cambroon site would have meant relocating the town of Connondale," Mr Palaszczuk said.

"I would like to acknowledge the strong representations made to me by the Member for Glasshouse Carolyn Male and the Member for Nicklin Peter Wellington on these sites. The Government is acting accordingly by ruling out any water storages on these three sites."

Mr Beattie said water was liquid gold and ensuring we had adequate supplies to support population growth and development was one of the great challenges the State faced.

"Our Government is working hard to meet this challenge in a number of ways," Mr Beattie said.

"We are establishing the Water Commission in south east Queensland to help ensure a coordinated regional approach to water planning instead of ad hoc planning based on the decisions of individuals, councils and infrastructure owners.

"We have also committed to hundreds of millions of dollars in new infrastructure.

"Just this month we announced another $127 milllion for a raft of new projects including water pipes, desalination and addressing water main breaks and leaks.

"And as part of our new Queensland Future Growth Fund announced yesterday we will help fund twonew dams and two new weir projects.

"This includes the dam in the Mary River catchment and bringing forward the construction of the promised new dam on the upper reaches of the Logan River.

"In addition on the Fitzroy River in Central Queensland we will raise the Eden Bann weir and build a new weir at Rookwood."

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