

RELATED DOCUMENTATION

Related documents, policies and legislation:

- Australian Standard AS1158 'Lighting for roads and public spaces'
- NSW Public Lighting Code

POLICY

1. Application Assessment and Approval Process

Upon receiving application for street light shielding Council will conduct an assessment and approval process. The assessment process will include a risk assessment and will cover the following elements:

- Category of road
- Vehicle and pedestrian usage of the road
- Location of the street light on the road segment
- Proximity of the street light to the residence in question
- Existence of previous complaints about the light
- Consideration of the neighbouring properties
- Ability to shield the fitting to cut off spill light at the property boundary or just beyond without impacting on the road lighting.

If Council approves the installation of a shield, Council will notify the applicant and arrange for the installation.

Where Council does not approve the installation of a shield, an applicant will be notified in writing. The applicant may seek a review of the decision by writing to the General Manager. Alternatively, the applicant may, at their own expense, employ a qualified lighting engineer to certify that a shield will not impact the light level required on the roadway under the Australian Standard AS1158. Upon receipt of a copy of the certified design and Council's acceptance of the design, Council will arrange for the installation of the shield.

2. Shield Installation Costs

In all circumstances where Council has approved the application the applicant will be responsible for all costs incurred in installing a street light shield, except when obtrusive lighting has been caused by one of the following:

- Council has changed the light fitting since the applicant took up residence at the affected address.
- A previously installed shield has been removed or damaged.
- Council has installed a new light fitting on an existing or new pole where previously there has been no street light.

REVIEW

This policy is to be reviewed every four years.

11.2 Administration Centre - Air-Conditioning Status

11.2 Administration Centre - Air-Conditioning Status

Delivery Program Asset Management

Objective To provide budget information in relation to the air conditioning of the Customer Service Centre.

Background

At the March 2014 Facilities Committee meeting Council resolved, in part, as follows:

That Council receive a report on the status of the air conditioning system at the Council Administration Centre.

As background to this the current Council Administration or Customer Service Centre (CSC) building was completed in September 1986. The building when first occupied was utilised very differently than it is today. For example, the area now occupied by the Development and Environmental Health Group was originally designed and built for separate private professional leased areas.

Over the years walls have come down in the main staffed areas throughout the building to create an open plan work environment. This has also meant that the air-conditioning (AC), mainly the ducting, vents and temperature control, have been altered, to try to accommodate for, and restore, some balance in the original design of the AC system.

The AC system is now also ageing and deteriorating. Over the years since the system's installation many parts have been replaced, however many of the main units are still in place today. The units for the ground floor are located in the ceiling above the car parks, two in the South-West wing and three in the North-East wing. The first floor units are on the roof, three on the South-West wing and three on the North-East wing.

The company that currently services the AC system was engaged to assess and report on the condition of all the AC units and the information forthcoming has been used in this report. Given the scale of an AC replacement program it was also deemed necessary to examine other elements of the building structure that form or relate closely to the AC system. Some of these elements include the roof top platforms that the roof mounted AC units sit on and also the roof itself. It is important that any work required on these other elements is considered at the same time as the AC replacement program due to accessibility, disruption and cost.

To meet Council's energy efficiency and sustainability targets another key factor is the efficiency gains possible in an AC upgrade program, given the huge advances in technology over the 28 years since the existing systems were designed.

Key Issues

- Condition of existing system
- Efficiencies and cost

11.2 Administration Centre - Air-Conditioning Status

Information

Age, condition and efficiency of the existing air-conditioning systems

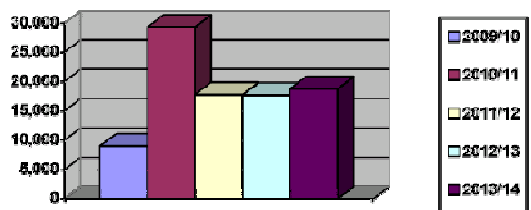
The assessment conducted by our service provider highlighted the following priorities for the CSC.

1. Severe corrosion of the coils, cabinets, dropper ducts and elevated running temperatures causing high inefficiency on all three of the South-West roof mounted AC units (AC-1, AC-2 & AC-3). These units are heavily exposed to the environment and are approximately 13 years old. The recommendation is to prioritise for immediate replacement.
2. Severe corrosion of the coils, cabinets and dropper ducts and inefficient running on all three of the North-East roof mounted AC units (AC-6, AC-7 & AC-8). These units are heavily exposed to the environment and are approximately 14 years old. The recommendation is to prioritise for replacement after the South-West roof mounts have been replaced.
3. The ground floor South-West wing AC units (AC-4 & AC-5) are approximately 28 years old and are in generally good condition. These units are not a priority to be replaced in comparison to the roof mounted systems however this could be reviewed down the track for energy efficiency and cost savings.
4. The ground floor North-East wing AC units (AC-9, AC-10 & AC-11) are approximately 28 years old and are in satisfactory condition. These units are not a priority to be replaced in comparison to the roof mounted systems however this could be reviewed down the track for energy efficiency and cost savings.

AC maintenance costs

In the details above it can be seen that the AC units that are exposed to the weather on the roof top of the CSC, will, and do, incur the majority of the ongoing reactive maintenance costs and they also require standard periodic preventative maintenance, as required by all the AC units at the building.

The reactive maintenance can be quite variable and often relates to weather conditions received during the summer period. Over recent years there has been replacement of major parts on the roof top AC units which was primarily related to corrosion. The large variation in the per annum maintenance costs for the AC units at the CSC can be seen in the graph below.



11.2 Administration Centre - Air-Conditioning StatusTiming of programed replacements

The replacement of the AC units 1, 2 and 3 are the first priority, however the condition of AC units 6, 7 and 8 are very similar. In terms of life expectancy a hot summer threatens some of these units. Timing of the replacement of these units is crucial to maintaining comfortable internal climate conditions for the staff.

Given the mild temperatures in autumn and early winter, any programmed replacement of these units should be allocated some time during this period. This would mean that the wing of the building upstairs being worked on would be without AC. The mild temperatures in autumn will allow the windows to be opened throughout those sections of the building to maintain comfortable air flow for the period that it would take to complete all work required.

This would enable the old units to be removed and other necessary work to be done to the roof platforms and the roof itself prior to the new units being craned into place on the roof. Given the replacement of these AC units is a high priority, estimates have been gathered to give Council an understanding of the financial requirements that would be necessary should we proceed with the first stages of a replacement program.

No pricing has been undertaken for the replacement of the ground floor AC units, which are still considered to be in good working order at this stage however it is important that an examination of options in this regard be undertaken due to the potential energy efficiency gains.

Estimate - AC Units Installations

Description	Price (\$)
First Floor SW AC 1,2 &3	163,012
First Floor NE AC 6,7 & 8	167,449
Total	330,460

Formal tenders would need to be called if Council proceeded with this work.

Condition of the roof top walkways and AC platforms

The roof top walkways and platforms that the AC units sit upon are generally in reasonable condition considering 28 year's exposure to the harsh salt air environment however they do need some work. Sections of the platforms will need replacement due to rust and the entire platforms need to be dismantled and sent away for hot dip galvanising to prevent further deterioration. Council staff have put together some budgetary estimates to carry out this work.

Estimate - Platforms

Description	Price (\$)
First Floor Roof SW	11,148
First Floor Roof NE	13,500

11.2 Administration Centre - Air-Conditioning Status*Condition of the roof*

The CSC roof was poorly designed for the high sub-tropical rainfall environment that the building is situated. This has caused and continues to cause the high level of building maintenance costs.

Over the past 10 years a reasonable amount of money has been spent trying to prevent leaks on the aluminium roof. These leaks stem from design, box gutter sizing, pitch, sheet lapping, pin holes and much more.

The pinholes now forming in the aluminium sheeting are produced as a result of electrolysis, which is a corrosion caused from dissimilar metals, e.g. from the aluminium sheeting contacting the roofing screws and the galvanized purins and sinking below the roof sheeting etc.

The design and the condition of the roof is poor and for that reason it is most important that consideration be given to re-sheeting the roof when the AC units and roof platforms are removed from it for their replacement. Economies of scale make this a priority due the disruption to the building and the cost of pulling all the new AC units off the roof at a later date for this purpose.

Estimates have been gathered for the roof replacement so that it can be considered with the AC replacement program, given the roof's current condition. Further problems also exist with the buildings box guttering system that will require an engineered design and further costing.

Estimate - Roof Remove and Replace Roof Sheeting

Description	Price (\$)
Re-sheet SW & NE Roof	185,000
Box guttering	20,000
Total	195,000

The estimated cost to complete all works as recommended in this report, replacing all roof mounted AC units, repairing and galvanising roof walkways and platforms and the replacement of roof sheeting on both wings of the building, has been calculated at \$540,108.00 with the supplied estimates.

Formal tenders would need to be called if Council proceeded with this work.

Sustainability Considerations

- **Environment**
The replacement of the ageing inefficient AC units will have a positive impact on energy reduction.
- **Social**
New AC units for the upstairs areas will provide staff with relief from the variation of temperatures and discomforts currently received from the existing system aiding productivity.
- **Economic**
New energy efficient AC units will reduce the overall energy consumption and maintenance costs of the Customer Service Centre.

11.2 Administration Centre - Air-Conditioning Status

Legal / Resource / Financial Implications

The current budget does not provide for any funds to complete this work. The budget originally had monies set aside to reserve to assist with future replacement of the air-conditioning however that money was then reallocated to the Shelly Beach Public Toilets.

The advice from the service provider is that due to increasing maintenance costs and risks of failure Council need to consider an allocation of funding in the current financial year to enable replacement in autumn 2015.

Consultation

Council utilised the services of a local air-conditioning engineering repair and installation company to assess the current condition of the AC systems.

Council utilised the services of a local company to provided condition reporting and a cost estimate for the replacement of the roof sheeting.

Council staff provide knowledge and pricing on other aspects of the report including the repairs and hot dip galvanizing of the roof top AC walkways and platforms.

Options

Given the current condition of the roof mounted AC units Council has the following options:

1. Council allocate funding to replace the South-West roof top AC units and repair and galvanise the walkway and platform, in autumn 2015.
2. Council allocate funding to replace the North-East roof top AC units and repair and galvanise the walkway and platform, in autumn 2016.
3. Council allocate funding to replace both the South-West roof top AC units and the North-East roof top AC units and repair and galvanise the walkways and platforms, in autumn 2015.
4. Council allocate funding to replace both the South-West roof top AC units and the North-East roof top AC units and repair and galvanise the walkways and platforms. Also when the old AC units and roof top platforms are removed have the roof re-sheeted prior to installing new AC units, in autumn 2015.

Option Estimates

Description	Price (\$)	Amount of Completion
Option 1	\$174,160	Partial AC Units SW Roof
Option 2	\$180,948	Partial AC Units NE Roof
Option 3	\$355,108	All Roof Top AC Units and Platform
Option 4	\$540,108	All Roof Top AC Units, Platform and Roof Re-Sheeting.

11.2 Administration Centre - Air-Conditioning Status

Council has no funding set aside for these works in the 2014/15 budget and based on the priorities identified in this report it may well be necessary to allocate funds this year to complete some of the more urgent works. This being the case the recommendation is for Council to receive a further report on this matter with that report then identifying the recommended financial plan, including funding sources, needed to finance the high priority works. That report can be submitted to Council early in 2015 to allow either some works to be completed in 2014/15, or alternatively a program of works to be incorporated into Council's long term financial plan for 2015/16 onwards.

Any financial plan will need to defer other funded works due to the magnitude of funding required to finance this replacement work.

RECOMMENDATIONS

1. That Council notes the contents of this report in respect to the current status of the air conditioning system at the Council Administration Centre.
2. That Council notes that no funds are currently available for the works identified in this report in the 2014/15 budget and that a further report be presented to Council outlining a recommended financial plan to finance the preferred program of works.

Attachment(s)

Nil

4.9 Administrative Centre Air Conditioning and Roof - Update**4.9 Administrative Centre Air Conditioning and Roof - Update**

Delivery Program Operations Support

Objective To update Council regarding the project to replace the administration building's air-conditioning system and roof sheeting.

Background

At the October 2014 meeting Council received a report recommending the replacement of the ageing air-conditioning (AC) units throughout the administration building. This report also recommended the replacement of the aluminum roof sheeting due to leaks as well as highlighting the need to repair and re-galvanise the rusting roof top AC platforms on the north-east and south-west sides of the building. The timing for replacement of the roof and AC platforms would be opportune when the old roof mounted AC units are removed.

As part of that report, estimates for the work, as provided by one supplier, were as follows:

Table One – Administration Centre – Air Conditioning Options

Description	Price (\$)	Amount of Completion
Option 1	174,000	Partial AC Units SW Roof
Option 2	181,000	Partial AC Units NE Roof
Option 3	355,000	All Roof Top AC Units and Platform
Option 4	540,000	All Roof Top AC Units, Platform and Roof Re-sheeting

In preparing the 2015/16 budget Council included \$496,000 for this work, based on option four.

Even though the \$496,000 was less than the \$540,000 estimate, it was hoped that savings might be achieved through a competitive tender process.

As part of the process of preparing the tender documentation, a specialist engineer was engaged to inspect and report on the existing AC system. The outcome of that report reiterated the poor condition of the AC system, while also finding that the AC ducting throughout the building has also deteriorated and requires replacement prior to becoming a health hazard, apart from already being inefficient.

This has significant budget implications and this report examines all the issues associated with this project.

Key Issues

- Independent evaluation of the poor condition of AC units
- Building water leaks, AC ducting and roof sheeting related
- Engineering report on the AC unit condition, including the ducting
- Costs and timing of the project

4.9 Administrative Centre Air Conditioning and Roof - Update

Information

Independent AC System Evaluation

To ensure clarity in advice and to prepare appropriate specifications for tendering purposes, Council engaged Peter Eustace & Associates Consulting Engineers to undertake an independent professional evaluation of the administration building AC system.

This evaluation identified that the AC system has deteriorated more extensively than previously estimated. The report not only highlighted the need to replace the aged AC units, both on the roof and in the ceiling spaces above the carparks on the ground floor, but also the AC ducting throughout the entire building.

The consultant stated:

'I have been discussing the direction we should take with my associates internally as well as some potential suppliers externally. I note that you have indicated leaks in the ducts on the first floor and couple that with my inspection of lower floor duct, reported water leaks through ducts etc., I feel it is necessary to replace the duct system. Although this may not be in the budget planning, 25 years out of any AC system is not bad value for money and, if anything, a testament to the original installation.

Efficiency is the benefit to replacing all ductwork when you replace the AC systems and while this is probably not quantifiable, it is definitely a fact! Coil performance can drop by 1% P.A with obviously further reductions where coils are damaged. Furthermore, duct leaks in new but poorly installed duct systems can be as large as 10%. Even though this was a good installation at the time, I am sure the duct leak is greater than 10% in many instances.'

The replacement of the AC ducting throughout the building is a large task on its own.

Large sections of the grid ceiling will need to be removed, and this will cause a great deal of disruption to staff and public areas. This means an upgrade process would need to be timed and staged carefully.

Building Water Leaks AC and Roof Sheetting Related

The inspection of the AC ducting system highlighted a number of the water leaks within the building that are related to AC ducting and AC units.

The water that has penetrated the ducting has caused metal corrosion and also deterioration of the unsealed insulation within the ducting. This can become a potential health hazard for the occupants of the building.

The aluminum roof sheetting has suffered from the effects of electrolysis and also damage from being walked on incorrectly over its nearly 50 years on the building, as there are no service walkways on the roof.

Modern construction would not use the profile roof sheetting that has been used on this building, particularly in a rainfall area such as ours.

4.9 Administrative Centre Air Conditioning and Roof - Update

Council then sought further advice on the current condition of the building's roof in general.

Engineer's Assessment of the Roof Structure and Sheeting

Council engaged a local engineer to assess the roof of the administration building. The engineer is a member of the original design team for the building.

The design of the roof is very low pitch, being a slope of two degrees. The engineer advised on the type and profile of roof sheeting that should be used to replace the existing aluminium roof sheeting. He also confirmed that the existing stainless steel box guttering around the building was in good condition, only requiring regular maintenance.

Staging, Timing and Cost of the Project

The most economical approach would be to retrofit the entire building at one time. Unfortunately this is not practical for a fully operational building, without impacting on the staff working within the building.

The practical approach is to stage the retrofit based on the condition of the AC system units throughout the building. The roof mounted AC units being exposed to the weather are those that are currently in the poorest condition.

The building can be split into four main areas;

1. First floor south west
2. First floor north east
3. Ground floor south west
4. Ground floor north east

Stages One and Two

The building has two distinct roof areas on the south west and the north east. Both of these areas contain roof mounted AC unit platforms and deteriorated AC units. These areas would be best staged as one and two.

As these areas also include the roof sheeting and the corroded AC unit platforms, these items would be replaced and repaired as a component of each stage, when the AC units are removed from the roof.

The ducting replacement in that section would also be carried out in line with the other roof works of that stage. This work would need to be coordinated carefully with the staff in that same area to allow the progressive replacement of the ducting.

The ducting replacement work is intensive and requires removal of the grid ceiling and the lighting in the specific areas. This will be very disruptive to normal operations.

4.9 Administrative Centre Air Conditioning and Roof - Update

Stages Three and Four

Replacement of the ground floor AC units in stages three and four will be less disruptive to the building, as the AC units are in the ceilings of the undercover car park areas each side of the building.

The ceilings will be removed from the drive through car park areas, which will act as a work health and safety improvement for AC maintenance purposes, by providing visible safe access to the new AC units in those areas.

The ducting replacement in these stages will, as in stages one and two, be very disruptive and require significant coordination and timing.

Project Timing

The project is best timed to use Ballina's climate when the particular section of the building can operate without AC, using only natural window ventilation for the period of the stages retrofit.

To achieve this, the retrofit would require staging early to mid-Autumn or early to mid-Spring. Example time periods are displayed in table two.

Table Two – Example Time Periods

Stage	Available Time Period	Calendar Year	Financial Year
One	September – October	2017	2016/17
Two	March – April	2018	2016/17
Three	September – October	2018	2017/18
Four	March - April	2019	2017/18

Estimated Project Costs

The financial implications of the four stages of the project are significant.

The additional cost of replacing the roof sheathing and repaling the AC roof platforms in stages one and two, and also the cost implications and inconvenience of replacing the AC ducting throughout the building in all stages of the project is substantial.

The additional costs of the roof sheathing replacement and the roof platform repairs and re-galvanising, for stages one and two, were estimated at \$209,648 in a report to Council in October 2014.

To give Council an indication of the budget now required for the project, indicative pricing has been put together in table three.

This is an indicative estimate only.

To confirm an accurate understanding of the cost implications of the air-conditioning and internal ducting replacement. Council will need to go to formal tender.

The consulting engineering has provided Council with a full set of building drawings encompassing a new efficient AC system design, for use in the tender process.

4.9 Administrative Centre Air Conditioning and Roof - Update

Table Three – Indicative Budget

Staging and Elements		Pre Tender Estimates Only	Price
Stage One	AC Units x 3		160,000
	AC Ducting/Assoc. Work		185,580
	Roof Sheeting		100,000
	Roof Platforms		15,000
Stage Two	AC Units x 3		160,000
	AC Ducting/Assoc. Work		185,580
	Roof Sheeting		100,000
	Roof Platforms		15,000
Stage Three	AC Units x 2		130,000
Stage Four	AC Ducting/Assoc. Work		150,783
	AC Units x 3		110,000
	AC Ducting/Assoc. Work Platforms		127,584
Estimated Total Cost			1,419,567
Contingency 15%			212,935
Estimated Cost Including Contingency			1,632,502

Legal / Resource / Financial Implications

The 2015/16 Operational Plan has a budget of \$496,000 for the original schedule of works. This now leaves a shortfall of approximately \$1.134 m for the revised works program.

The latest estimates for each stage, with the 15% contingency included, are as follows:

Table Four – Stage Budgets

Stage	Estimate (\$)	Financial Year
One	530,000	2016/17
Two	510,000	2016/17
Three	320,000	2017/18
Four	270,000	2017/18

With Council already having a budget of \$496,000 set aside, there is a \$544,000 deficit to complete stages one and two in 2016/17 (ie total estimate of \$1,040,000 less \$496,000 available = \$544,000). An amount of \$690,000 is also needed in 2017/18 for the final two stages.

All up this means there is a total shortfall of \$1,134,000 over the two financial years.

In looking at financing options, as the administration building provides support services for all Council's activities, the business operations of Council with significant reserves (i.e. water, waste, wastewater) can make a contribution to the shortfall based on their proportion of the total Council business, as per the following table.

Table Five – Stage Budgets and Funding Sources

Estimate (\$)	Water (14%)	Waste Water \$215}	Waste (65)	General Fund (59%)
1,134,000	159,000	238,000	68,000	669,000

4.9 Administrative Centre Air Conditioning and Roof - Update

This then leaves a General Fund shortfall of \$669,000.

If the works are spread over two financial years the shortfall represents an amount of \$334,500 per annum.

In looking at options to fund this work the main options are:

- a) Reallocate funds from other revenue funded General Fund capital works programs – For example the General Fund has approximately \$220,000 allocated annually to capital works on community buildings, \$162,000 for the depot and \$100,000 for toilets. These programs could be reduced to finance these works. The priorities for this funding are outlined in the report located later in this agenda titled “Community Infrastructure – Recurrent Projects and Funding”.
- b) Source funds from reserves – The major reserves available are the Community Infrastructure Reserve and the Landfill and Resource Management (LRM) Reserve. Details on the movements in the Community Infrastructure Reserve are outlined in the report located elsewhere in this agenda titled “Community Infrastructure – Non-Recurrent Projects and Funding”.

The LRM reserve has an estimated balance of \$3.4m as at 30 June 2016, excluding externally restricted monies such as grants. This balance is expected to grow rapidly from 2017/18 onwards as the existing waste loans are largely repaid in 2016/17.

- c) Loans – This is not recommended as the preference is not to extend Council’s existing loan debt, unless a revenue source for the repayment of that debt is identified. There is no revenue source for these loan repayments.
- d) Grants – Grants are not readily available for works of this nature.

The \$669,000 is a significant amount of expenditure, and with no specific reserves created for works of this nature, the only feasible option is to try and spread the cost over options a) and b).

Based on the various levels of funding available and the forecast reserve balances a possible funding strategy would be as follows:

Table Six – General Fund Contribution

Year	Amount (\$)	Community / Depot Infrastructure Recurrent Funding (1)	Community Infrastructure Reserve	LRM Reserve
2016/17	334,500	50,000	84,500	200,000
2017/18	334,500	50,000	84,500	200,000

(1) \$25,000 would be sourced from the community buildings budget and \$25,000 from the depot budget each year.

4.9 Administrative Centre Air Conditioning and Roof - Update

This is considered to be a reasonable mix of funding to have this work completed.

To understand the impact on the works program for the Community Infrastructure Recurrent Funding and the Community Infrastructure Reserve please refer to the Recurrent and Non-recurrent Community Infrastructure reports included elsewhere in this agenda.

The struggle in obtaining funding for works of this nature highlights what is a deficiency in Council's recurrent budget. There is the annual allocation of approximately \$220,000 for works on community buildings however this funding is insufficient to meet the annual needs for the multitude of community buildings that Council owns and maintains.

Prior to the four year special rate variation approved by the Minister for Local Government for Council commencing in 2010/11, Council did not have a recurrent budget for community facilities (or for open spaces and sports fields). As part of that special rate variation process Council had intended to create a recurrent budget of around \$500,000 for community facilities.

However due to the numerous objections to the rate variation, Council's final application to the Minister, which was approved, reduced the overall percentage increase sought. This resulted in the community infrastructure figure reducing to approximately \$150,000 which has now been steadily indexed to the current figure of \$220,000.

This means there remains a shortfall in the Council recurrent budget, as ideally it is estimated that we need around \$500,000 plus per annum to adequately maintain our community facilities. With new facilities being built (surf clubs etc) efforts will need to be made to increase this recurrent allocation over time to ensure these buildings are maintained into the future.

Consultation

Council utilised the services of a consultant engineering firm to inspect the existing AC system and provide a design for the efficient new AC system. Council utilised the services of a local consultant engineer to check the status of the roof sheeting and drainage system.

Options

The options revolve around doing the work and the funding sources.

The replacement of the air conditioning and roof has been flagged for a number of years and there is little doubt that the works are now fast approaching the urgent stage. The roof continues to leak heavily in storms, whereas the air conditioning is very close to the end of its useful life and is operating inefficiently.

As to funding sources the proposal outlined in this report is considered to provide a reasonable mix. Council could amend this mix by increasing or decreasing the funds sourced from each source.

Generally the impact on the LRM reserve is minimal due to its large balance, whereas the sourcing of funds from the Community Infrastructure Recurrent General Fund Budget and the Community Infrastructure Reserve will result in other works being deferred.