

**PUBLIC COMMENTS RECEIVED ON WORKS DEPOT BUSINESS PLAN**  
**ADVERTISED COMMENT PERIOD 3 AUGUST TO 12 OCTOBER 2004**

## ATTACHMENT 1

Area of Concern	Suggested alternative (if provided)
The cost is excessive - \$13,000,000	Share facilities with Wanneroo  Alternative - less expensive site
Landmark site. Very visible, pivotal site. Will not enhance the City's Business sector Site costs are too high Extra cost of the access bridge The impact on traffic and the local area	Alternate site
This is a landmark site and should be retained for a more suitable use Too many additional costs on this site, cut & fill, access bridge and power lines, removal and disposal of 40,000m <sup>3</sup> of fill Excessive cost The left in - left out site entry is not suitable for a depot of such size	Investigate smaller strategically positioned depots Retaining the Winton Rd depot, use of the Quarry site, using the CSIRO site
Loss of natural bushland	Purchase of site for retention as natural bushland
The site is a Landmark site  Cost is excessive The site is zoned business under the JCCDPM The amendment to the JCCDPM has not been presented to Council / Commissioners to date	The Quarry site would be an ideal location and cost efficient for ratepayers and the City
Excessive increased traffic levels on Hodges Drive	No construction of this site until the freeway extension is complete
There is no financial assessment of the proposed option The proposed plan, as published, provides no objective details Limited costings for this proposed site; eg no evidence of the PTA having been contacted re: the required access bridge, No demonstrated benefit to the City or to the Ratepayers	The possibility of a culvert style access over the rail reserve could be explored for significant cost savings
Exorbitant cost Location of a Land and Construction Works depot located at the gateway of the city Site not easily accessible	Acquire land within the City's budget Share resources with neighbouring shires and cities

*Connell Wagner Pty Ltd  
ABN 54 005 139 873  
Level 4, Sheraton Court  
207 Adelaide Terrace  
East Perth  
Western Australia 6004 Australia*

*Telephone: +61 8 9223 1500  
Facsimile: +61 8 9325 9948  
Email: cwper@conwag.com  
www.conmottmac.com*

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***Building Condition Report  
City of Joondalup  
Works Depot  
Wanneroo Road***

*29 November 2004  
Reference B305 / Rep01MT Depot  
Revision 4*

## Document Control



Document ID: P:\B305.00\6.0 REPORTS\_SPECS\REP01MT DEPOT REV 3.DOC

Rev No	Date	Revision Details	Typist	Author	Verifier	Approver
1	29/10/04	Draft Issue	MCT	MCT/PH/D P/LR/BM		
2	05/11/04	Client Comments Added	MCT	MCT/PH/D P/LR/BM		
3	11/11/04	Final Issue	MCT	MCT	SKL	DP
4	29/11/04	Executive Meeting Comments Added	MCT	DP	SKL	DP

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## **Appendix A**

Entry/Egress Works Depot Letter

# **1. Executive Summary**

Connell Wagner was commissioned by The City of Joondalup to carry out a Building Condition Report of the City of Joondalup Works Depot. Refer to section 3 for limitations of this report.

The report provides details of upgrades required as either operational change or maintenance/capital works upgrades on the facilities.

The items have been separated into Short, Medium and Long Term urgency with the descriptions as follows:

- **Short Term:** Immediate for ongoing occupation of the site.
- **Medium Term:** Required if the site remains occupied whilst a new facility is constructed.
- **Long Term:** Committed to the site for a long-term lease (10 years).

This review of the Works Depot indicated the following items require attention in the **short-term** occupation of the site:

- Undertake a full Operational review including Occupational Health and Safety and Public Safety.
- OH&S review of the site with mixture of City of Joondalup, public and other groups accessing the site.
- Undertake a traffic review and rectify with line marking, signs and barriers to safely separate the different modes of transport and pedestrian access.
- Upgrade fencing around the site for improved site security from residential developments.
- Upgrade ventilation of the sheds to suit the application in particular where hazardous goods are stored
- Provide a suitable welding booth with appropriate construction and ventilation
- Provide suitable fire protection to the sheds
- Ensure the gas valve pit is clean and operational
- Provide adequate emergency eyewash and shower facilities.
- Review the existing power outlets within the sheds and upgrade to suit environment including hazard locations.
- Review lighting within the sheds and provide physical protection and upgrade to suit any hazard requirements.
- Review the external lighting and upgrade to suit the security and operational requirements of the area.

Items that require attention and should be corrected in the **medium term** occupation of the site are:

- Upgrade of the air-conditioning to the administration building is required to overcome hot spots within the administration area
- Review the fire system within the administration building, in particular the fire hose reel locations and coverage
- Upgrade the downpipe system to the sheds to avoid run off to the residential development
- Review the emergency lighting system and upgrade to current Australian Standard requirements.
- Upgrade the distribution board within the Engineering Maintenance Shed.
- Repair structure and provide corrosion protection to shed structures
- Undertake a full noise and environmental impact study of the site with the new residential development adjacent.
- Undertake a review of setback of sheds appropriate with new adjacent residential development.

Items reviewed at the Works Depot that should be corrected and require attention in the **longer term** occupation of the site are:

- Undertake a review of the underground drainage system and upgrade as required.
- Review the washdown area including the tanks and any contamination and undertake rectification works.
- Spatial capacity of the site does not meet the requirements of the City of Joondalup briefing document so a full review of the site and additional requirements is necessary.
- Test the incoming mains cabling, main switchboard and submains.
- Provide suitable diffusers on the luminaires within the office spaces utilising screen based tasks.
- Review the water damage within the administration ceiling and undertake rectification works.
- Provide insulation to the storage sheds to assist with the environmental conditions for the stored equipment and goods.

These items are detailed within the remainder of the report.

## **2. Introduction**

Connell Wagner was commissioned by The City of Joondalup to carry out a Building Condition Report of the City of Joondalup Works Depot.

The City of Joondalup has leased areas off the City of Wanneroo Works Depot on Wanneroo Road for its own Works Depot. The leased areas house the administrative staff of the City of Joondalup Works Depot together with storage facilities, maintenance and workshop sheds and vehicle parking areas for the City's large and small trucks and trailers, utes, mowers, water trucks, graders, bob-cats, etc.

The Works Depot is approximately 30 years of age.

The Works Depot under review consists of the following buildings, which are leased by the City of Joondalup from the City of Wanneroo:

- Administration building (part of)
- Engineering Maintenance Shed
- Signs Shed
- Carpenters Shed
- Mowing Shed
- Chemical Store
- Vehicle Shelter
- External Storage

The City of Joondalup shares the site with the following groups:

- City of Wanneroo
- Eco Detour
- Contract Tyre Fitters
- Community Use including Rally Group
- Community Access due to Dog Pound
- Public

This report generally addresses the condition of the building services and structure of the buildings, traffic access and civil conditions and architectural spatial in comparison to the City of Joondalup brief requirements for the depot.

The reporting team comprised of:

- Don Phillips – Buildings Group Leader and Project Principal - Structures
- Michael Twartz – Senior Electrical Engineer and Project Leader
- Phil Hues – Senior Mechanical Engineer
- Louise Round – Associate and Infrastructure Leader
- Brian Miller – Senior Architect - COX

## **3. Limitations of this report**

### **3.1 General**

All reasonable steps have been taken in preparing this report.

However:

- The report is not a detailed investigative report that is based on comprehensive site inspections or examinations. The building fabric and engineering services have been inspected that are readily accessible and visible without the need for removal of fixed finishes, cladding and panels and causing minimum disturbance to building occupants. Due to the time constraint only one site visit was undertaken and so the report is restricted by this consideration.
- No engineering and architectural drawings or maintenance reports were available and so the details in this report can only be provided based upon the site visit. To confirm the items within the report a detailed inspection or examination and analysis of comprehensive drawings and calculations, specifications and as-built records is required.
- The inspection made and the report do not cover defects in inaccessible places, latent defects or defects which may arise from abnormal weather, from abnormal uses or abuses of the premises or which are not reasonably discoverable upon a brief visual inspection.
- No information was provided from the engineering staff or maintenance contractors.
- The report has been carried out in accordance with our discussions with the City of Joondalup. The extent of investigation required to provide a comprehensive report on the matters and subject of the report would be significantly greater than has been carried out to provide this report.

### **3.2 Asbestos, Hazardous Materials or Environmental Pollution.**

The report does not report and is not to be taken as in any way reporting on the presence or absence of asbestos, hazardous materials or environmental pollution on or from the site.

### **3.3 Building Codes and Fire Protection Measures**

Building Codes and regulations are in a state of continuous change and may have changed since the original construction. Buildings constructed in accordance with the codes and regulations in force at the time may not comply with current codes and regulations. The report gives an indication and/or example of areas of non-compliance with current codes and regulations but it does not intend to provide a comprehensive analysis of compliance with current codes and regulations, because there is no obligation to comply unless the facility is modified.

### **3.4 Disclosure to Third Parties**

The report must not be re-produced in whole or in part or included in any other document without our express consent in writing. No responsibility or liability to any third party is accepted for any damages whatsoever arising out of the use of the report by any third party.



## **4. Methodology**

In preparing this report, Connell Wagner has adopted the following Methodology.

### **4.1 Existing Documentation**

No existing drawings or documentation were available for review.

### **4.2 On-site Inspections**

General 'walk around' non-intrusive visual inspection was made of the following:

- Interior areas of the building.
- Exterior - facades, roof etc.
- Roads and traffic access.

Due to the time constraint on the report only one site visit was achievable.

### **4.3 Review of City of Joondalup Depot Brief Requirements**

The City of Joondalup Depot Brief was reviewed briefly in terms of spatial requirements and reported on.

### **4.4 Discussions with City of Joondalup**

During the course of our site visit, brief discussions were held City of Joondalup staff members.

## **5. Condition Report**

### **5.1 Mechanical Services**

#### **5.1.1 Administration Building**

Air conditioning is provided to the shared training room facility, office area and shared staff room by roof mounted evaporative air conditioning units installed as part of the original construction. Control of the air conditioning systems is provided via wall mounted controllers. At the time of the survey, it was informed that the unit serving the office area has been disconnected and does not operate.

Supplementary air conditioning in the form of 2 No Emailair wall mounted direct expansion split air conditioning units have been installed by The City of Joondalup to serve the office area. Hot spots are currently being experienced, as the units do not provide sufficient distribution due to the location and capacity of the units and the level of full and mid height partitioning installations. The associated condensing units serving these units are located at roof level.

Localised ceiling mounted circular Email extract fans are located throughout the building.

Fresh air is currently provided via openable windows and doors which is allowable by current Australian Standards. However, it is likely that these are not used during hot or cold weather and poor internal conditions result.

Toilet accommodation within the administration building is provided with extract ventilation via a roof mounted extract fan which is controlled via a time clock located within the main electrical switchboard.

#### **5.1.2 Engineering Maintenance and Storage Sheds**

Ventilation is provided to the Engineering Maintenance Shed via a large low level plate axial fan located in the rear wall with make up air via the main door opening and natural infiltration. It was not apparent whether the fan was operational or not. The fan was covered by storage which should be relocated if the fan is operational.

The remainder of the storage sheds are provided with rotary roof ventilators, which appear to have been installed in recent years. The Mowing and Parks shed is further supplemented with a roof mounted extract fan.

The Chemical and Paint Store is provided with natural ventilation only which should be supplemented by mechanical means.

The City of Joondalup has constructed a small welding booth within the Carpenters Shed which does not currently have any dedicated extract ventilation system installed and it is recommended that this be undertaken. This is an Occupational Health and Safety requirement.

### **5.2 Electrical Services**

#### **5.2.1 Administration Building**

The Main Switchboard for the building is located within the combined City of Wanneroo and City of Joondalup training room within the administration building. The switchboard is a NHP Panelboard recessed into the wall. It is in fair condition however the busbars and internal wiring of the switchboard could not be viewed. The switchboard is provided with RCD circuit breakers for the general purpose power outlets as required by the code. Due to the age a thermographic scan of the switchboard and megger testing of the incoming mains and any submain cabling is recommended. It is anticipated due to the connected circuit sizing that the switchboard is near

capacity and any upgrade of the facility is likely to require a switchboard upgrade. Further investigation would be required to confirm this.

The communications system feeding the building is via a combined data and telephone system which is supplied from the City of Wanneroo. The City of Joondalup relies on the City of Wanneroo services to allow continual operation of their facilities. This does not provide the City of Joondalup with any security on their communications services, which should be addressed.

The administration building is generally fitout with 2x36W fluorescent bare batten luminaires surface mounted onto the tiled ceiling. The spacing of the fittings generally appeared satisfactory, however light meter readings or theoretical calculations would be required to confirm compliance with Australian Standard lighting level requirements. The light fittings did not possess diffusers and so do not provide any glare control. This causes glare problem with screen-based tasks and so the fittings are not suitable in these areas. This type of lighting is not considered appropriate to an office environment.

Exit signs are provided over the exit path doors, however, no other emergency luminaires were visible. A review of the system would be required to determine full compliance with the BCA and Australian Standards. Emergency luminaires are required by the current BCA.

The general power outlets appear to be of the older style moulded general-purpose power outlets which are of fair condition. Residual current device circuit breakers were present at the switchboard as required by AS3000. A check of the subcircuit cabling was not available and so testing of each circuit is recommended due to the age of the building.

The administration building has a motion sensing security alarm system with keypad control at the main door. It was advised that the security system alarms back through the City of Wanneroo offices, which again reduces the control of the systems by the City of Joondalup, and should be addressed.

### **5.2.2 Engineering Maintenance and Storage Sheds**

The switchboards within the sheds vary in condition. The Engineering Maintenance Shed is supplied through an original panel distribution board that is in poor condition and should be replaced. The Carpenters Shed, however, is supplied through a new Clipsal Load Centre with new circuit breaker protection in accordance with current standard requirements.

The engineering maintenance and storage sheds are all illuminated by 2x36W suspended or surface mounted bare batten light fittings. They are of varying condition, however, are generally adversely affected by the environmental conditions in the sheds, including dust, weather and heat. In addition the light fittings do not have any physical protection, such as wire guards, and so any physical impact may cause the lamp to blow or even smash. In addition the layout of the luminaires was not consistent and appears to have been located for ease of installation rather than suitability for uniform lighting levels.

The general power outlets within the sheds vary from standard outlets to weather protected outlets. The standard outlets appear to be affected by the conditions within the shed and weather protected outlets are more suitable for use in these areas. A review should be undertaken of all outlets and their condition and replacements undertaken for the environment in which they are located. The light switches within the sheds require a similar investigation. If the switches are located within a wet area without protection then this would be an Occupational Health and Safety risk.

No emergency or exit lighting, electronic security or communications is provided within the sheds.

### **5.2.3 External Area**

Minimal light is provided in the external areas with only a few minor lights on the outside of the buildings. It is anticipated that these lights would not provide levels suitable for the use of these areas safely at night, in particular for the operation of machinery and trucks. Additional lighting is therefore recommended for safety and security purposes.

One security camera is installed within the main truck park area which advice indicated was not functional, as the lighting within the area does not provide suitable illumination for the camera. This camera is monitored by the City of Wanneroo system and our advice is that the City of Joondalup has difficulties in obtaining a review of the images recorded by the camera when desired.

## **5.3 Fire Services**

### **5.3.1 Administration Building**

The administration building is currently served with 2 No. fire hose reels which are located externally to the building on the west and east facades and it would appear that they do not fully meet with the requirements of the BCA in terms of coverage distances.

The fire hose reel installation is further supplemented by a number of hand fire extinguishers of various types located throughout the building.

A smoke detection and fire alarm system is installed throughout the building with a fire indicator panel linked to the City of Wanneroo main system. The number and locations of the existing smoke detectors and fire bells within the City of Joondalup demise would appear to meet with the requirements of the BCA although and it is recommended that a full review and an audibility test be undertaken to confirm this.

### **5.3.2 Engineering Maintenance and Storage Sheds**

The Engineering Maintenance and Storage Sheds are currently served via a number of hand held fire extinguishers of various types, with some sheds currently with no provision.

It is recommended that the existing fire services provision be enhanced due to the nature and quantity of materials stored and used in the sheds and the locations of the buildings in relation to the nearest water supply for fire fighting purposes.

The external areas is currently served with 1 No. external fire hydrant located towards the east end of the administration building, adjacent the external vehicle shelter. The current provision would not appear to meet the requirements of the BCA in respect of providing adequate coverage for open yard protection.

In general, fire-fighting measures in these areas fall well short of current BCA requirements. They do not reflect the use of the facility and present a safety risk.

## **5.4 Hydraulic Services**

### **5.4.1 Administration Building**

Hot and cold water services are provided to the shared staffroom, the office tea point and the office and shared operative toilet locations. Hot water is being provided via a gas fired internal vertical Rheem hot water unit located within the Operatives toilet facilities.

The shared staffroom and the office tea point are further served with above sink electric boiling water units.

The gas supply to the building is located at the west end with the emergency gas shut off valve located within a valve pit adjacent the City of Wanneroo First Aid unit. At the time of the survey, the valve pit was filled in with sand and dirt, which would render the operation of the shut off valve difficult. It is therefore recommend that as a safety issue this pit is cleaned out and continually maintained to ensure that this build up does not occur.

Male and Female toilet accommodation is located throughout the building as follows:

<b>Location</b>	<b>Male</b>	<b>Female</b>	<b>Unisex</b>
Office Staff Toilets	3 WCs 2m of urinal 1.4m of WHB		1 Disabled WC 1 WHB
Shared Operatives Toilets	5 WCs 3.3m of urinal 4m of WHB 3 Showers	2 WCs 1 WHB 1 Shower	

The toilet accommodation is generally in a fair condition for its age.

Soil waste for the building is provided by an air vented single pipe soil waste system, which collects and discharges from all sanitary appliances before discharging. Local connections are generally of uPVC construction.

Rainwater collection from the building is provided by a number of strategically positioned downpipes located around the perimeter of the building which appeared to be in fair condition and free from debris. The downpipes discharge onto the large concrete vehicular forecourt which runs off under gravity means to the 2 No. underground stormwater drainage sumps located under the public car park and external storage area. Discussions with City of Joondalup personnel at the time of the survey resolved that there are no grease traps and petrol interceptors located in the facility and that the drainage discharges into the surrounding bush. It is recommended that further specialist investigation be undertaken to establish whether or not any ground contamination has occurred. From observations on site, it would appear that the underground drainage system is inadequate for the purposes of the facility and evidence is present that the main stormwater discharge runs off the forecourt rather than underground. It is therefore recommended that the drainage system be upgraded.

The City of Joondalup is at risk of an EPA prosecution if this issue is not addressed.

### **5.4.2 Engineering Maintenance and Storage Sheds**

Cold water is provided to the majority of the shed facilities to serve a stainless steel sink position utilising uPVC pipework construction.

Drainage from the shed sinks is provided via local connections utilising uPVC construction to underground services. At the time of the inspection it was difficult to establish and report on the underground drainage installation and current condition.

The City of Joondalup storage sheds are not currently served with either an emergency shower facility or eyewash and it is recommended that these be provided.

Rainwater downpipes are located around the perimeter of the sheds and appear to be in a fair condition and free from debris. The downpipes discharge on the concrete forecourt in a similar manner to the administration building.

Rainwater from a number of downpipes and roofs to the rear of some of the sheds currently runs off into the adjacent residential land under development and it is recommended that this be rectified.

At the time of the survey it was informed, that a number of underground storage tanks are located within the washdown area. It is recommended that a specialist be employed to fully survey the size, condition and contents of these tanks and whether or not any ground contamination has occurred.

## **5.5 Structural**

### **5.5.1 Administration Building**

The administration building is a single storey steel framed structure with approx. 5deg pitched steel deck roof, brick infill walls and a concrete slab floor. There were no plans available for the building however it appears in excess of 30years in age. There were no observed signs of structural distress and as a result the structure appears to be performing adequately. There was a temporary transportable structure which appears to be utilised for a medical room located adjacent to the building on the western end, This structure appears to be performing adequately although observations of any foundations to adequately tie the building down in a severe wind storm could not be undertaken. This would need further investigation.

The buildings appeared to be used for, office accommodation, training facilities, ablution facilities for day labourers and storage facilities for library books and equipment.

### **5.5.2 Engineering Maintenance and Storage Sheds**

The Engineering Maintenance and Storage Sheds are varying in construction and age, however, are all basically of large home garage type or farm shed construction (class 10 outbuildings). The sheds used by the City of Joondalup are in a line facing the main vehicle storage apron with the rear face approximately 3m from a boundary fence. In one case a lean-to extends from the shed to the fence line. Only sections or groups of these sheds are used by the City of Joondalup, the others are occupied by the City of Wanneroo.

These sheds are all steel framed, some with cold-formed sections others with hot-rolled sections, metal clad and with concrete floor slabs. All except one of the buildings used cold formed sections as purlins and girts. One of the sheds used timber purlins and girts. These sheds were generally structurally sound however required maintenance to touch up corrosion or repair damaged elements.

The buildings appeared to be used for storage of materials including paints and other flammable liquids, storage of equipment including lawn mowers with fuel in there tanks and for general use by the maintenance staff to carry out minor repairs and maintenance to equipment.

## **5.6 Architectural**

### **5.6.1 Administration Building**

The administrative staff have office space within a double brick external wall building with metal deck roof and metal clad parapet. This building, designated as **Leased Area "A"** on the aerial photo plan of the site, has windows only on the south side at the west end and this is the leased area occupied. This building also houses the overflow requirement of the City of Wanneroo libraries, a shared meeting/training room and shared male and female ablution facilities for both internal staff and the external work forces for both City Councils. The external staff toilet facilities are also accessible to other community groups who have access to other City of Wanneroo buildings within the Depot area including the public who have access to the dog pound at the eastern end of the Depot.

The ablutions facilities consist of:-

<b>Location</b>	<b>w.c cubicles</b>	<b>Urinal xs.s Length (m)</b>	<b>Showers</b>	<b>Wash basins</b>	<b>Wash trough Length (m)</b>
Male internal staff	3	2.4	0	1	1.35
Male external staff	5	3.0	3	0	4.0
Female internal and external staff	2	0	1	1	0
Access toilet	1	0	1	1	0

The access toilet conforms with the requirements of AS 1428.

The BCA calls for 1 w.c.pan for every 15 females or part thereof and 1 washbasin for every 30 females therefore the female toilet area conforms to the BCA requirements for unto 60 female employees.

The requirements for male toilets are 1 w.c. pan for every 20 male employees or part thereof and a 600mm length of urinal for every 25 males unto 50 and then an additional 600mm length for every 50 males thereafter together with 1 wash basin for every 30 male employees. Therefore the male internal staff toilet satisfies the code for 60 employees and the male external toilet for 100 employees

Ten (10) administrative personnel presently carry out their Works Depot duties, in this leased Area "A" of approx. 100 m<sup>2</sup> of floor space. The staff currently consists of the Works Depot coordinator and his assistant, five (5) supervisors two (2) persons in Customer Services, and one part-time (1) clerical staff.

The coordinator and his assistant each have office space of approx. 10m<sup>2</sup> and these offices take up the entire width of the west wall of the leased space and have glazed partition wall between the two and between the general staff area. These partitions are solid to 1.0m and glazed to approx. 2.1m and open over to the ceiling height at approx. 2.7m above floor. There is

no privacy for Coordinators when in conversation on the phone or carrying out interviews with employees.

The five supervisors each have office space of approx. 10m<sup>2</sup> and again three of these offices occupy the entire length of the north wall of the leased space and have low screens between each office. The east and north walls of this leased area is timber stud wall with cement sheet lining on both sides and are solid to approx. 2.1m and glazed to ceiling above. There does not appear to be any insulation installed in these walls as conversations can be overheard by anyone walking in the corridor north of the leased area wall to access the shared toilets.

The reception area also is approx. 10m<sup>2</sup> and occupies the southeastern corner of the leased space and the remaining staff occupy the remaining space along the south wall containing the windows.

The ceiling is a mineral fibre tile in a suspended metal grid system and shows signs of severe water staining most likely from water entry around the penetrations for the roof mounted A/C units. Further investigation would be required to confirm this.

**It must be noted that there is no room for expansion of administration staff within the presently Leased Area "A" of the office building.**

A lunchroom also exists at the west end of the leased area having external access which is also a shared area with community groups using the City of Wanneroo facilities.

#### **5.6.2 Engineering Maintenance and Storage Sheds**

The storage sheds and maintenance workshops are designated as **Lease Areas "B", "C" and "C1"** on the aerial photo plan of the site and areas within a metal clad steel frame agricultural style structure with chain link mesh enclosures within the sheds to form secure storage areas for the City of Joondalup. The remainder of the space in this structure is occupied by the City of Wanneroo.

Areas B & C has a general storage area with no shelving together with the Engineering Dept. maintenance shed, sign store and carpenters workshop. The workshops are neither insulated nor ventilated. The carpenter's workshop has a DIY welding booth formed out of particleboard but also in close proximity is sawdust, which is a highly combustible material. This welding area needs to be rectified to provide a safe working environment.

The Mowing and Parks storage and maintenance shed contains 20 or more mowers which have fuel in their tanks, fertilizer and paint all of which is hazardous material and of a combustible nature. There does not appear to be any warning signage covering the Hazardous goods or a emergency shower, fire blankets or extinguishers any where in the area. Again the store and workshops are neither insulated nor ventilated.

The shed is approx. 35 metres long or more and approx. 5metre high located approx. 3 metres from the southern boundary which is designated by a chain link mesh fence 2 metres high topped with barbed wire. The City of Wanneroo Planning Dept. were contacted and have advised that for Class 10 Outbuildings the required setback from boundaries in non-residential and rural settings, the zoning when the sheds were originally erected, is 6 metres from the street frontage and nil for rear and sides. However a new residential development is now underway all along the south boundary to this Depot and so the requirements need to comply with the "R Code"- Residential Planning Code which allows a wall greater than 30 metres long without major openings and 5 metres high to be erected within 2.5 metres of the boundary.



With this new estate being established along this boundary there will arise in the future complaints of nuisance from the residence in the houses nearby which will have a serious impact on how Council business is conducted particularly with noise in the early hours of the morning.

## **6. Civil and Traffic Access**

### **6.1 Civil**

The civil infrastructure is generally in good condition from a visual inspection.

No assessment has been made of the underground storm water system, which will have to be undertaken to determine suitability of the area.

### **6.2 Traffic Access**

Access to the site is currently from two points on Wanneroo Road. Wanneroo Road carries approximately 16,000 vehicles per day at this point, based on Main Roads' figures for 1998/99. It is a single carriageway with right turn pockets for access into the site. The posted speed limit is 70 kph.

There is significant subdivisional development along Wanneroo Road and the traffic volumes will increase with time. This will increase the difficulty for traffic using the depot.

Discussions resolved that traffic access from the site to Wanneroo Road is difficult and the City of Wanneroo has advised that northbound traffic is required to travel around the City of Wanneroo site to the northern access road. These requirements are detailed in the letter in Appendix A and indicate the difficulty of traffic access to and from the property at the peak periods.

The separation of the right turn movements, in and out, to the two access roads will help to reduce conflict and therefore reduce the potential for crashes. If the trial of this arrangement is successful then it is recommended to change the intersections so that the traffic islands in Wanneroo Road prevent the movements that not required.

### **6.3 Internal Circulation**

To provide for the trucks that use the depot the road layout is necessarily wide and open. However, this can lead to smaller vehicles, in particular private vehicles, being unsure how to position themselves on the roads. Additional signs and lines would assist with this.

There is a mix of vehicle types using the depot and this can lead to conflict. It is advisable to segregate the vehicle types, as far as is practicable. A full traffic survey is recommended to determine the exact requirements.

Clear signage within the depot will assist in reinforcing the requirement for northbound traffic to use the northern access road.

## **7. Site Comparison with Depot Brief Requirements**

The City of Joondalup have leased areas of the City of Wanneroo Works Depot for their own Works Depot and a comparison of the areas leased to the requirements outlined in the Facility Brief show

<b>ACCOMMODATION</b>	<b>Requirements of Brief</b>		<b>Area Leased at Wanneroo Depot</b>	
	<b>Required Enclosed</b> Area m <sup>2</sup>	Staff No's	<b>Present Enclosed</b> Area m <sup>2</sup>	Staff No's
Department Administration Includes storage, amenities, Meet/train rooms etc	712.5	28	Area "A" <b>106 m<sup>2</sup></b> The storage amenities meeting/train rooms on shared basis with City of Wanneroo & CoW community groups.	Total 10

Total Accommodation for administration office required by Brief is 250 m compared to the present leased area 106 m<sup>2</sup>. equating to 150% increase of area required.

<b>STORAGE (undercover)</b>	<b>Requirements of Brief</b>		
	<b>Area leased</b> Area "C1" <b>100 m<sup>2</sup></b>	<b>Area Req'd</b>	
Parks & Reserves			
Irrigation storage		145	16 external
Mowers storage		120	25 external
Nursery		400	
Maintenance		200	51 external
Engineering	Area "B" <b>65 m<sup>2</sup></b>		
Construct & maintenance		300	
Workshop		200	
Buildings Operations	Area "C" <b>99 m<sup>2</sup></b>	300	
<b>ABLUTIONS</b>	Nil shared facility	200	160

<b>STORAGE (external)</b>		Requirements of Brief including Parking	
	Open	u/cover	Vehicle park Area Req'd
Parks & Reserves			
Irrigation storage	128		288 m <sup>2</sup>
Mowers storage	180	180	580 m <sup>2</sup>
Nursery	0	0	
Maintenance	1151	0	586 m <sup>2</sup>
<b>Engineering</b>			
Construct & maintenance	Area "E" <b>985 m<sup>2</sup></b>	600	528 m <sup>2</sup>
Workshop	Area "F" <b>427 m<sup>2</sup></b>	100	
<b>WASTE MANAGEMENT</b>		8	110 m <sup>2</sup>
<b>GENERAL PARKING</b>		Areas "H"	
		1, 2, 3 & 4	
		<b>3502 m<sup>2</sup></b>	

Total Enclosed Storage/Workshop areas required by Brief is 1,665 m<sup>2</sup> compared to present leased undercover area of 264 m<sup>2</sup>. equating to over 600% increase of area required a further Undercover area is required 180 m<sup>2</sup>.

Open Storage area required 2167 m<sup>2</sup> compared with the present 1412 m<sup>2</sup> leased in areas E & F which is a 50% increase in area.

In both cases above it is evident that the needs of the City of Joondalup require far more area than those presently leased.

The vehicle parking and maintenance areas are more difficult to define as it appears that 3502 m<sup>2</sup> (in areas H1, H2, H3 & H4) of parking is being leased and available to CoJ compared to the required areas from the Brief of 2092 m<sup>2</sup>. Although the Leased Areas "H1 – H4" appear to be truck parking bays located behind the CoW truck maintenance building.

There does not appear to be any leased truck parking either under the covered area northeast of the CoJ Administration area or in the area between the admin area and the current leased store/workshop sheds. It is also difficult to determine where staff parking is located at present and what parking accommodation is required for the all staff in Administration and external.

Visitor parking to the Administration building for CoJ is noted in the Brief for 16 cars including 1 disabled bay required whereas at present to the north of Administration building there are six bays plus a disabled bay but there is no indication in the lease agreement of CoJ leasing any space in this car parking area.

## **8. Environmental Impact on Surrounds**

Residential developments are being undertaken around the Works Depot and in particular a development is currently being constructed directly behind the engineering and maintenance sheds.

The City of Joondalup has undertaken an assessment of the noise impact of the site on the residential developments. The result of the review is that the Works Depot will have a problem with noise when the residential development is completed. Additional investigations by an acoustics consultant would be required to confirm these findings, however, due to the close proximity of the sheds to the residence and the type of works and machinery used within the sheds would appear to be a problem.

In addition the review states “even the construction of a solid boundary wall is unlikely to achieve sufficient attenuation to enable compliance with the Regulations”. Currently there is a chain link fence installed to this boundary.

Therefore to continue operation within the Works Depot a rearrangement of the site may be required to enable compliance with the noise regulations.

## **9. Operations**

### **9.1 Operational Details**

During our site visit the operation details of the site were briefly discussed.

The City of Joondalup advised they share the site with the following:

- City of Wanneroo
- Eco Detour
- Contract Tyre Fitters
- Community Use including Rally Group
- Community Access due to Dog Pound
- Public access

No fencing or security separates any of the facilities and so there is always the possibility that the operations of the City of Joondalup will coincide with the presence of these other occupiers.

The City of Joondalup use machinery and large trucks which cause concerns in this application.

A full Occupational Health and Safety review and City of Joondalup Operations review is recommended to ensure that the site is safe and operational.

# **10. Recommendations**

## **10.1 General**

The present facilities that the City of Joondalup occupy at the City of Wanneroo Depot is deficient in a lot of areas as follows:

- Operational details with other groups occupying the site.
- Spatial aspects in comparison with the main brief.
- Environmental aspects with noise and the residential development currently under construction.
- Air-conditioning within the administration building.
- Insulation and Ventilation within the sheds
- Structural condition of the sheds
- Electrical components within the sheds
- BCA compliance items in particular fire and emergency lighting

The report provides details of upgrades required as either operational change or maintenance/capital works upgrades on the facilities. The items have been separated into Short, Medium and Long Term urgency. The full list of items that were listed as part of this review are detailed within the following sections.

## **10.2 Short Term Recommendations**

The Short-Term recommendations are those items that require immediate attention for the City of Joondalup's ongoing occupation of the site.

### **10.2.1 General**

- An operations review of the site is required due to the occupancy of the City of Joondalup and other groups and the mixture of heavy machinery, vehicles and the public.
- Restriction of operations to suit the noise regulations and times of operations.
- A full Occupational Health and Safety review and City of Joondalup Operations review is recommended to ensure that the site is safe and operational.
- Undertake a traffic review and rectify with line marking, signs and barriers to suit the different modes of transport and pedestrian access.

### **10.2.2 Mechanical Services**

- Upgrade ventilation of the sheds to suit the application in particular where hazardous goods are stored
- Provide a suitable welding booth with appropriate construction and ventilation.

### **10.2.3 Electrical Services**

- Upgrade the lighting within the sheds to suit the application in particular where hazardous goods are stored and the provision of wire guards to prevent physical damage.
- Upgrade light switches to suit the environment in which they are installed in particular where hazardous goods are stored.
- Upgrade the power outlets to suit the environment in which they are installed in particular where hazardous goods are stored.
- Provide emergency lighting to sheds.
- Review the external lighting and upgrade to suit security and operational requirements of the area.

#### **10.2.4 Fire Services**

- Provide suitable fire protection to the sheds.

#### **10.2.5 Hydraulic Services**

- Ensure the gas emergency shut off valve is clean and operational
- Provide adequate emergency eye wash and shower facilities
- Review the site requirements for grease traps and petrol interceptors and upgrade as required to avoid any ground contamination.

#### **10.2.6 Structural**

- Provide suitable hazardous storage facilities within the sheds.
- Upgrade fencing around the site for improved site security from residential developments.

#### **10.2.7 Architectural**

- Provide suitable signage and facilities suitable for the storage of the hazardous materials.

### **10.3 Medium Term Recommendations**

The Medium Term recommendations are those items that require correction if the City of Joondalup occupy the site whilst a new facility is constructed.

#### **10.3.1 General**

- Review of planning requirements and BCA in regard to setback requirements from property boundary.
- Undertake a full noise and environmental impact study of the site with the new residential development adjacent.

#### **10.3.2 Mechanical Services**

- Upgrade the air-conditioning to the City of Joondalup administration area within the administration building by the installation of further air-conditioning split systems to overcome the hot spots.

#### **10.3.3 Electrical Services**

- Testing of the mains cabling and main switchboard.
- Review of the emergency and exit lighting system within the administration building and upgrade the system to comply with current regulations.
- Upgrade the old panel switchboards within the sheds with new load centres.

#### **10.3.4 Fire Services**

- Upgrade the fire system within the administration building, in particular the fire hose reel locations and coverage.

#### **10.3.5 Hydraulic Services**

- Upgrade the downpipe system to the sheds to avoid run off to the residential development.
- Review the site requirements for grease traps and petrol interceptors and upgrade as required to avoid any ground contamination.



#### **10.3.6 Structural**

- Undertake maintenance to touch up corrosion or repair damaged elements on the existing sheds.

#### **10.3.7 Architectural**

- Provide suitable signage and facilities suitable for the storage of the hazardous materials.

### **10.4 Long Term Recommendations**

The Long Term recommendations are recommended upgrades to the site if the City of Joondalup commit to a long-term lease.

#### **10.4.1 Mechanical Services**

- Replacement of the existing administration building air conditioning system with a fully ducted direct expansion system and mechanical ventilation.
- Provide ventilation to all sheds to suit the application and for improved conditions for occupants.

#### **10.4.2 Electrical Services**

- Upgrade the electrical infrastructure including the main switchboard.
- Upgrade the lighting within the administration area to suit the screen-based applications within the area.
- Upgrade the communications system so the City of Joondalup has a separate system to the City of Wanneroo to increase security on the system.
- Upgrade the security system so the City of Joondalup has a separate system with full coverage of the City of Joondalup areas including camera coverage to the external areas.
- Provide new lighting within the sheds to suit the application.
- Provide new power outlets and subcircuit cabling to suit outlet location requirements and application of each shed.
- Provide lighting to all the external areas to allow nighttime use within the areas.

#### **10.4.3 Hydraulic Services**

- Undertake a review of the underground drainage system and upgrade as required
- Review the washdown area including the tanks and any contamination and undertake rectification works as necessary

#### **10.4.4 Structural**

- Review the transportable building, currently serving as the medical centre, foundations and provide suitable tie down as required.
- Remove the existing sheds and provide new sheds to suit the application and hazardous storage requirements.

#### **10.4.5 Architectural**

- Confirm the number of personnel that use the site and upgrade the ablutions to suit the number of personnel.
- Obtain additional space to suit any additional administration staff requirements.
- Review the spatial requirements of the City of Joondalup (as per the brief) and obtain additional space from the City of Wanneroo, build additional administration facilities, sheds and storage spaces to suit these requirements.

- Provide suitable walls to enable privacy to management.

**10.4.6 Other**

- Restrict site access and provide additional fencing to ensure that the locations of heavy machinery and vehicles are accessed by authorised personnel only.
- Rearrangement of the site and construction requirements to suit the location of the residential development and noise requirement.

# ***Appendix A***

***Entry/Egress Works Depot Letter***

2 December 2004

City of Joondalup  
PO Box 21  
JOONDALUP WA 6065 [Fax: 9400 4510]

**Attention: Mr Matthew McArthur**

Dear Sir

### **EXISTING JOONDALUP WORKS DEPOT**

We enclose our Order of Magnitude Estimate for the works at the Ashby site based on Connell Wagners Building Condition Report, summarised as follows:

Short Term Works	\$125,000
Medium Term Works	200,000
Long Term Works	4,100,000
Furniture and equipment	500,000
Communications upgrade	incl
ESD considerations	200,000
Contingency	225,000
Escalation to completion (say June 2006)	450,000
<b>TOTAL</b>	<b><u><u>\$5,800,000</u></u></b>

*Short term* works are those that require immediate attention. *Medium term* works may be prioritised and undertaken depending on management decisions and work practices. *Long term* works allow for site redevelopment.

For comparison the following is the Hodges Drive project budget (updated):

Land	\$2,800,000
Construction	5,885,000
HV relocation	415,000
Consultants fees	600,000
Furniture and equipment	600,000
Communications upgrade	500,000
ESD considerations	200,000
Escalation to completion (say June 2006)	1,000,000
	<b><u><u>\$12,000,000</u></u></b>

Yours faithfully  
**Ralph Beattie Bosworth**

**Trevor Sanders**  
Director

## **COST BENEFIT ANALYSIS**

This Cost Benefit Analysis, requested by the City of Joondalup, deals with the following options for the City's depot.

- i) Remaining at and redeveloping Ashby including the cost of the purchase of Hodges land at the end of the Ashby lease.
- ii) Developing the Hodges site as planned.

The analysis addresses both 10 and 20 year periods.

The biggest "driver" of cost in the Ashby option is the cost of inefficiencies; at \$536K - \$6.1M after 10 years and \$14.4M after 20 years. For comparative analysis of inefficiencies; at \$672K - \$7.7M after 10 years and \$18.1M after 20 years, are also provided.

Attention is drawn to the assumptions.

## **COST SUMMARY**

<b>10 years</b>	<b>Period Cost</b>	<b>Development at End of Period</b>	<b>Total Cost of Option</b>	<b>NPV Inflation 3.5%</b>
Ashby Site \$536K inefficiencies	\$9,912,000	\$20,508,000	\$30,420,000	\$21,567,000
Ashby Site \$672K inefficiencies	\$11,961,000	\$20,508,000	\$32,469,000	\$23,020,000
Hodges Site	\$12,000,000	\$12,880,000	\$24,880,000	\$17,640,000

<b>20 years</b>				
Ashby Site \$536K inefficiencies	\$20,643,000	\$35,215,000	\$55,858,000	\$28,096,000
Ashby Site \$672K inefficiencies	\$27,153,000	\$35,215,000	\$62,368,000	\$31,371,000
Hodges Site	\$12,000,000	\$25,760,000	\$37,760,000	\$18,993,000

## **NOTES**

We have previously calculated that the difference in the Total Cost of buying land at Hodges now or in 10 or 20 years is relatively insignificant as the cost of capital almost equals escalation in land prices. Capital management issues would normally drive this decision and not "investment" reasoning.

Money invested at Ashby generally has zero residual value at the end of lease.

Money invested at Hodges has significant value at the end of 10 and 20 year periods (in addition to land value).

Maintenance costs (although not included herein) should be significantly less at Hodges.

Site constraints at Ashby will not allow efficient long term redevelopment. Additional inefficiencies will occur during the reconstruction phase at Ashby. The Ashby site cannot accommodate the full Depot brief.

The Ashby redevelopment proposal may never meet environment (noise) requirements due to proximity to residential housing.

## ASSUMPTIONS

Hodges project cost incl land @ \$2.8M	:	\$12.0M
Hodges land	:	\$2.8M
Construction Cost at Ashby	:	\$5.8M (reduced depot brief)
Interest rate on cash investment	:	6.25% p.a.
Land cost increase	:	20 year average : 7% p.a.
Current lease cost Ashby	:	\$80,000
Increases in lease cost (estimate)	:	3% p.a.
Operational inefficiencies at Ashby (estimate)	:	i) \$536K ii) \$672K
Construction cost increases	:	5% p.a. (long term average)
Construction cost at Hodges	:	\$9.2M excluding land

Cost of capital (\$12.0M) is not included in calculations.

Rates, taxes, maintenance, incidentals etc are not included in calculations.

GST is excluded

Interest (income) calculation based on \$12M less \$5.8M construction at Ashby = \$6.2M x 6.25%pa.  
Lease cost and operational inefficiency cost is then deducted from interest income.

*Period cost is calculated as:*

- i) construction cost at Ashby plus lease cost plus inefficiency cost less interest income.

*Development at End of Lease of Period is:*

- i) at Ashby  
cost of new construction at Hodges at 10 and 20 years (escalated) plus escalated cost of land
- ii) at Hodges  
proportion cost of replacement construction at Hodges without site costs (\$0.9m) assuming 25 year life (escalated at 5.0% pa)

## CALCULATIONS

### 1. Period Cost

	10 Years	20 Years
<b>Ashby Site</b>		
• construction Ashby	5.800	5.800
• land	-	-
• lease and \$536K inefficiencies less interest income (attached)	4.112	14.843
	<b>9.912</b>	<b>20.643</b>

	10 Years	20 Years
<b>Ashby Site</b>		
• construction Ashby	5.800	5.800
• land	-	-
• lease and \$672K inefficiencies less interest (attached)	6.161	21.353
	<b>11.961</b>	<b>27.153</b>

	10 Years	20 Years
<b>Hodges Land</b>		
• land	2.800	2.800
• construction	9.200	9.200
	<b>12.000</b>	<b>12.000</b>

### 2. Development at End of Period

	10 Years	20 Years
<b>Ashby Site</b>		
• land (escalated)	5.508	10.835
• construction at Hodges	15.00	24.380
	<b>20.508</b>	<b>35.215</b>

	10 Years	20 Years
<b>Hodges</b>		
• proportion of 25 year replacement cost at 10/20 year	<b>12.880</b>	<b>25.76</b>

**Note:** both options "own" Hodges or similar land at this stage

Year	Development (Ashby)	Lease (Ashby)	Operational Inefficiencies	Interest Land purchased	Interest Land not purchased	Land Value
	one off	+3.0% p.a.	+3.0% p.a.	+6.25% p.a. \$3,400,000.00	+6.25% p.a. \$6,200,000.00	+7.0% p.a. \$2,800,000.00
1	\$5,800,000.00	\$80,000.00	\$672,000.00	\$2,860,500.00	\$5,835,500.00	\$2,996,000.00
2	\$0.00	\$82,400.00	\$692,160.00	\$2,264,721.25	\$5,425,658.75	\$3,205,720.00
3	\$0.00	\$84,872.00	\$712,924.80	\$1,608,469.53	\$4,966,965.62	\$3,430,120.40
4	\$0.00	\$87,418.16	\$734,312.54	\$887,268.17	\$4,455,670.27	\$3,670,228.83
5	\$0.00	\$90,040.70	\$756,341.92	\$96,339.81	\$3,887,767.04	\$3,927,144.85
6	\$0.00	\$92,741.93	\$779,032.18	-\$769,413.06	\$3,258,978.37	\$4,202,044.99
7	\$0.00	\$95,524.18	\$802,403.14	-\$1,715,428.70	\$2,564,737.19	\$4,496,188.13
8	\$0.00	\$98,389.91	\$826,475.24	-\$2,747,508.15	\$1,800,168.12	\$4,810,921.30
9	\$0.00	\$101,341.61	\$851,269.49	-\$3,871,838.51	\$960,067.53	\$5,147,685.79
<b>10</b>	<b>\$0.00</b>	<b>\$104,381.85</b>	<b>\$876,807.58</b>	<b>-\$5,095,017.85</b>	<b>\$38,882.31</b>	<b>\$5,508,023.80</b>
11	\$0.00	\$107,513.31	\$903,111.81	-\$6,424,081.58	-\$969,312.66	\$5,893,585.47
12	\$0.00	\$110,738.71	\$930,205.16	-\$7,866,530.55	-\$2,070,838.57	\$6,306,136.45
13	\$0.00	\$114,060.87	\$958,111.32	-\$9,430,360.89	-\$3,272,438.17	\$6,747,566.00
14	\$0.00	\$117,482.70	\$986,854.66	-\$11,124,095.80	-\$4,581,302.91	\$7,219,895.62
15	\$0.00	\$121,007.18	\$1,016,460.30	-\$12,956,819.26	-\$6,005,101.81	\$7,725,288.31
16	\$0.00	\$124,637.39	\$1,046,954.10	-\$14,938,211.96	-\$7,552,012.17	\$8,266,058.50
17	\$0.00	\$128,376.52	\$1,078,362.73	-\$17,078,589.45	-\$9,230,752.18	\$8,844,682.59
18	\$0.00	\$132,227.81	\$1,110,713.61	-\$19,388,942.72	-\$11,050,615.61	\$9,463,810.37
19	\$0.00	\$136,194.64	\$1,144,035.02	-\$21,880,981.30	-\$13,021,508.74	\$10,126,277.10
<b>20</b>	<b>\$0.00</b>	<b>\$140,280.48</b>	<b>\$1,178,356.07</b>	<b>-\$24,567,179.18</b>	<b>-\$15,153,989.59</b>	<b>\$10,835,116.49</b>
20	\$5,800,000.00	\$2,149,629.96	\$18,056,891.66	-\$27,967,179.18	-\$21,353,989.59	\$8,035,116.49
10	\$5,800,000.00	\$917,110.34	\$7,703,726.90	-\$8,495,017.85	-\$6,161,117.69	\$2,708,023.80