Indoor Environment Quality
IEQ-13 Air Supply Ductwork

Points Available	Points Claimed	CIR Submitted
1	1	Y

Credit Criteria
One point is awarded where it is demonstrated that all accessible supply air ductwork has been cleaned to remove dust, dirt and mould prior to occupancy.
If the ductwork is new or the fitout does not include ductwork this credit is 'Not Applicable' - type "na" in the 'No. of Points Achieved' column.

Documents Provided

✓	CIR for the combined use of cleaned existing ductwork and new ductwork along with associated evidence. IEQ-13: 1
✓	An extract from the cleaning contract that demonstrates the removal of dust, dirt and mould from all accessible supply air ductwork will be undertaken after all major tenancy fitout works and prior to occupancy. IEQ-13: 2
✓	An extract from the building contractor's scope of works that outlines the installation of new ductwork as part of the tenancy fitout works. IEQ-13: 3

Discussion
- The attached CIR confirms that the project can claim 1 point for cleaning existing ductwork, sealing it, and then installing new ductwork. The evidence provided shows that existing ductwork and AHU were cleaned and sealed. Existing ductwork was only unsealed once the new ductwork was installed.

CIR Response:

IEQ-13 'Air Supply Ductwork'
Technical Clarification: A project may claim 1 point where a combination of both new and existing ductwork is used, provided that the project can demonstrate that all existing ductwork was cleaned before the new ductwork was added and that all ductwork was sealed upon completion of ductwork fitout works.

green building council australia

Green Star Credit Interpretation Request (CIR) Form

Note: If Man-1 Credits are being applied for then this Form must be submitted by a Green Star Accredited Professional for the project.

Project Name: **GBCA Fitout (GS412I)**	Date: 13/12/2007
[ ] Green Star – Office Design v1 [ ] Green Star – Office Design v2 [ ] Green Star – Office As Built v1 [ ] Green Star – Office As Built v2 [ ] Green Star – Office Interiors v1 [x] Green Star – Office Interiors v1.1 [ ] Other_____	Submitter Name, Organisation and Position: **Richard Palmer, Advanced Environmental, Environmental Design Consultant** Are you an Accredited Professional? **Yes** Green Star Credit for which CIR is sought: **IEQ – 13**

What precludes the project from meeting the Credit Criteria?

The credit criteria requires that all ductwork is cleaned to remove dirt, dust and mould prior to occupancy. If the ductwork is new, this credit is "Not Applicable".

This project has a combination of old and new ductwork. Therefore, an interpretation is required to determine the appropriate course of action to ensure the aim of the credit is met.

Interpretation Requested:

There is a mixture of new and existing ductwork in the fit-out. The existing ductwork has been cleaned and sealed after all fit-out works on that ductwork have been completed. Sealing the ductwork ensured no particulates entered the cleaned ducts during further fitout works.

The new ductwork was added to the cleaned and sealed ducts during further fit-out works.

This means that all ductwork in the fit-out was either cleaned or new.

Does the proposed solution meet the Aim of the Credit?	**Yes**
Does the CIR propose alternative yet equivalent compliance with the Aim of the Credit?	**Yes**
Is the proposed solution a building attribute rather than subject to operations?	**Yes**

Documents Attached:

- Statement from the mechanical servicer stating all existing ductwork was cleaned and sealed.
- Photographs of the sealed ductwork demonstrating no particulates could enter the ductwork during further fitout works.
- Statement from the builder demonstrating that all existing ductwork was sealed and all subsequent ductwork was new.
- Mechanical drawings showing existing (cleaned and sealed) and new ductwork.

GBCA Technical Manager Use:

Interpretation Number: _____	Does the application fulfil the aim of the credit? Y / N

Date CIR forwarded to the Advisory Panel:	
Date Recommendations are Due:	
Advisory Panel Respondent (initials):	
Conflicts of Interest Declared:	
GBCA Advisory Panel Response:	
Replied to Enquiry (initials):	Date:
Technical Clarifications & CIR Rulings updated on GBCA website:	Y / N GBCA Staff Responsible:
Text of CIR Ruling:	

IEQ-13: 1

ESTABLISHED 1875

James L Williams Pty Ltd

Air Conditioning & Mechanical Services

ACN 004 122 650 ABN 17 004 122 650

13th May 2008

Joe Karten
Technical Coordinator
Green Building Council of Australia
Level 15, 179 Elizabeth Street
Sydney, NSW 2000

Dear Joe,

This letter provides confirmation that James L. Williams P/L sealed off the existing ductwork with plastic and duct tape, as shown by the attached photographs, after it was cleaned by Ductclean Australia for the fit-out works of the Green Building Council of Australia at Level 15, 179 Elizabeth Street, Sydney on the 29th of November, 2007.

For any queries regarding this matter, feel free to contact me at (02) 8338 5888.

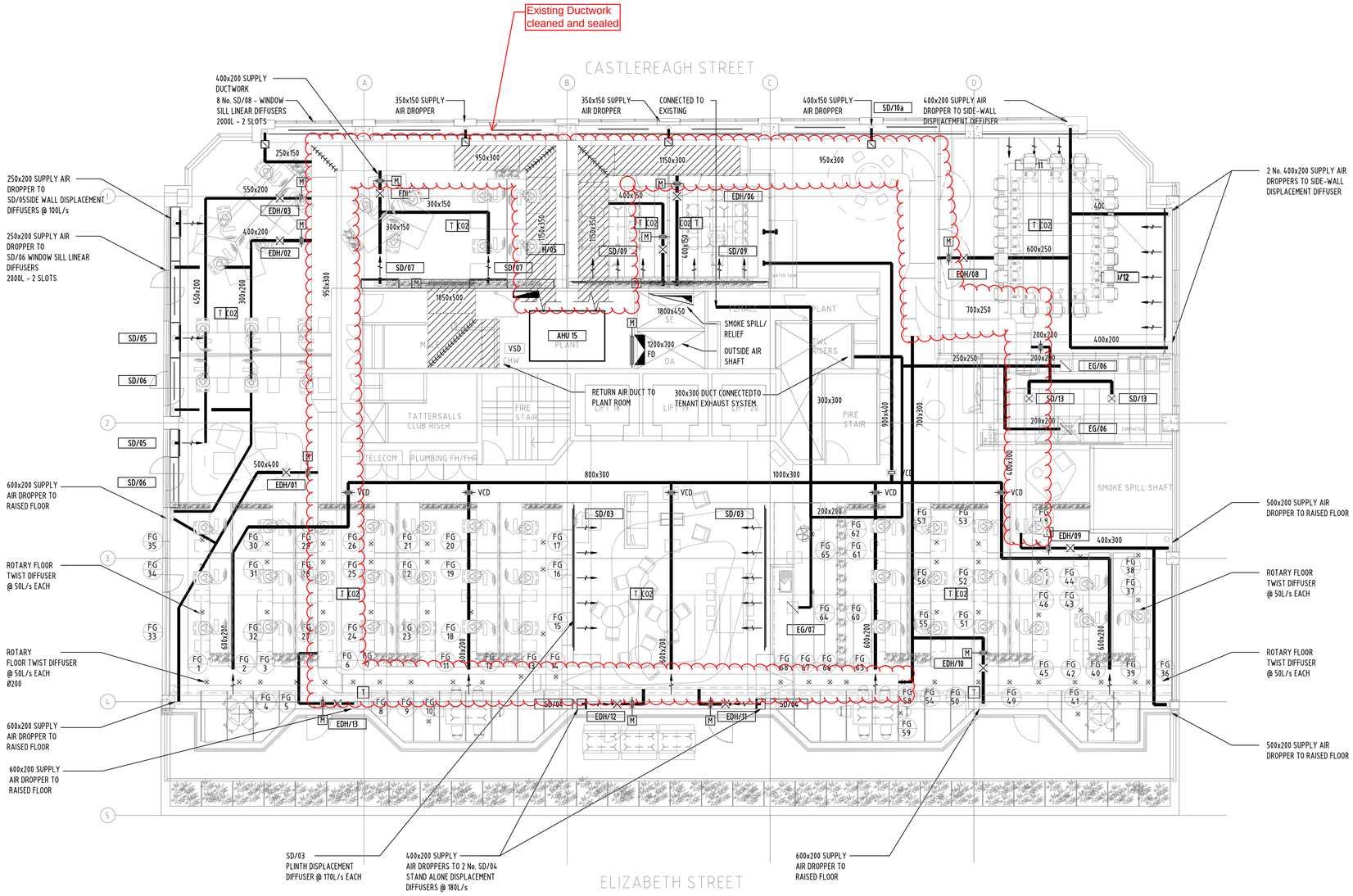
Regards,

Paul Glekas
Project Manager B.E. SYDU (HONS)

James L. Williams Pty Ltd.
Unit 10/476 Gardeners Road, Alexandria NSW 2015Ph: (02) 8338 5888 Fax: (02) 9313 5612


EXIT

IEQ-13: 1



LEGEND

AxB	RECTANGULAR DUCTWORK
	SUPPLY AIR DUCTWORK
	RETURN AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	DROPPER
SD/xx	STAND ALONE DISPLACEMENT DIFFUSER
SD/xx	SIDE WALL DISPLACEMENT DIFFUSER
SD/xx	SWIRL DIFFUSER
	ROTARY FLOOR DIFFUSER
EG/xx	RETURN/EXHAUST AIR GRILLE
FD	FIRE DAMPER
VCD	VOLUME CONTROL DAMPER
M	MOTORISED DAMPER
EDH/xx	ELECTRICAL DUCT HEATER
T	TEMPERATURE SENSOR
CO2	CO2 SENSOR
	DISTRIBUTION BOARD
FG 48	FLOOR DIFFUSER NO.

Rev	Description	By	Date
A	AS BUILT	ENRAVEL	11.03.2009

CONSULTANT

Lincolne Scott

Consulting Engineers
Adelaide Auckland Bangkok
Brisbane Cairns Honolulu
Melbourne Perth Shanghai
Singapore Sydney

Level 1 46 McLaren Street
PO Box 6946 North Sydney
New South Wales 2059 Australia
Telephone 61 2 9957 6699
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sydney@lincolnscott.com

JLW
ESTABLISHED 1875
JAMES L. WILLIAMS PTY. LTD.
ACN 004 122 650
AIR CONDITIONING & MECHANICAL CONTRACTORS

SYDNEY
UNIT 10 CENTURY ESTATE
476 GARDENERS ROAD
ALEXANDRIA NSW 2015
P.O.BOX 636
ROSEBERY NSW 1445
TELEPHONE (02) 9313 5911
FACSIMILIE (02) 9313 5613

BRISBANE
MOUNT ISA
MELBOURNE
HEAD OFFICE

CLIENT

GBCA

Project

LEVEL 15
179 ELIZABETH STREET
SYDNEY NSW 2000

Drawing Title

DUCTWORK LAYOUT
L15

CAD File		Drawn	-
Coordinated		Scale	1:100 @A1
Project Architect		Date	11-03-09
Project Director			
PTW Project No. -	Drawing Number ST 236-M01 A	Rev A	
JLW Project No. ST 236			

AS BUILT

IEQ-13: 1

Joe Karten

From: Briana Thompson (nee Eastham)
Sent: Friday, 27 June 2008 1:47 PM
To: Richard Palmer
Cc: Sonia DeAlmada; Joe Karten
Subject: GBCA Sydney Fitout (GS-412I)
Attachments: CIR IEQ-14.pdf; CIR IEQ-13.pdf

Dear Richard,

Please see below the responses to your Credit Interpretation Requests.

IEQ-14 'Tenant Exhaust'
CIR Ruling: The Credit Interpretation Request (CIR) to have a negatively pressured moderately enclosed room (i.e. a room which is contained by three or more walls, and has an opening that is larger than 1.2 x 2. meters) that is being exhausted per the Technical Manual as shown by a Computational Fluid Dynamics (CFD) model be deemed equivalent to an enclosed room is granted.

Please note: This CIR approves the use of CFD modeling to show that a negatively pressured moderately enclosed room can be exhausted as per the Credit Criteria and Compliance Requirements on the Technical Manual. It does not automatically grant the points for this credit.

IEQ-13 'Air Supply Ductwork'
Technical Clarification: A project may claim 1 point where a combination of both new and existing ductwork is used, provided that the project can demonstrate that all existing ductwork was cleaned cleaned before the new ductwork was added and that all ductwork was sealed upon completion of ductwork fitout works.

As the Case Manager for this project, please do not hesitate to contact me if you require further clarification.

Kind regards,

Briana Thompson

Briana Thompson (nee Eastham)
Technical Coordinator
Green Building Council of Australia
Briana.Thompson@gbca.org.au

Level 15, 179 Elizabeth St Sydney NSW 2000
Postal: PO Box Q78 QVB NSW 1230
Phone +612 8252 8222 | Fax +612 8252 8223

http://www.gbca.org.au

IEQ-13: 2

DUCTCLEAN AUSTRALIA

CERTIFICATE OF COMPLETION

This is to certify that

DUCTCLEAN AUSTRALIA

Has carried out Duct Cleaning for and on behalf of

JL Williams Pty ltd.

At

179 Elizabeth St Sydney

The following areas were cleaned and sanitised in accordance with NADCA standard specifications:

Level 15

- 1 Air Handling Unit including coil cleaning and unit cleaning
- Installation of access panels and plates
- Cleaning of A/C metal duct system.

SIGNED: _____ **DATE:** 29-11-07

NADCA
NATIONAL AIR DUCT CLEANERS ASSOCIATION

IEQ-13: 3

Client

Bligh Voller Nield Architecture

GBCA Offices Fit-out
Level 15, 179 Elizabeth Street, Sydney
Mechanical Services Scope of Works
SYD0703900

14h November 2007

Lincolne Scott Australia Pty Ltd
ABN 47 005 113 468
Level 1 41 McLaren Street
P O Box 6245 North Sydney
New South Wales 2060 Australia
Email sydney@lincolne.com
Telephone 61 2 8907 0900
Facsimile 61 2 9957 4127

Authorised for Issue Astrid Siohan (Project Leader) 14/11/07 (Date)

TABLE OF CONTENTS

Revision No.	Section & Page No.	Issue/Amendment	Author	Project Engineer	Approved	Date
A	All	Initial Issue for Tender	AAS	AAS	-	22/10/2007
B	All	Construction Issue	AAS	AAS	CJ	14/11/2007

1. SCOPE OF WORKS

1.1 GENERAL

The mechanical services for the GBCA Offices Fit-out will incorporate the following: -

- Heating, ventilation & air conditioning to open plan office area, board room, meeting rooms and members' lounge/café.
- Exhaust air system to kitchenette & Utilities/ store from base building tenant exhaust system.

1.2 SCOPE OF WORKS

The works on the existing ventilation and air conditioning installations shall include the following:

- Confirm for the existing equipments to be re-used:
  - Supply air flow and fan static pressure
  - Cooling coil: chilled water temperature and flow rate
  - Duct-mounted heaters capacities
  - Tenant exhaust provision
  - Relief/smoke exhaust air flow rate and fan static pressure
  - Maximum outside air flow rate
- Remove existing flexible ductwork, rigid ductwork, VAV boxes as indicated on the drawing.

Note: removal from floor by others.

- Disconnect & remove cabling to VAV boxes electrical re-heaters.
- Blank-off un-used ductwork connections
- Clean existing re-used ductwork and air handling unit (AHU)
- Replace existing AHU air intake bag filter with F7 panel filter.
- Supply & install VSD on existing AHU fan.
- Up-grade existing fan motor to suit air flows as indicated to equipment data sheet.
- Supply & install supply air system including ductwork, dampers, motorised dampers, electrical duct heaters and supply air diffusers as indicated on the drawing.

Note: Circular Supply air ductwork shall be rigid. Power shall be provided to re-heaters from the existing mechanical distribution board in plant room.

- Supply and install return air system including ductwork, dampers and exhaust air grilles as indicated on the drawing.

IEQ-13: 3

- Supply and install exhaust air system including ductwork, dampers and grilles as indicated on drawings. Connect to existing Tenant General Exhaust riser.

- Provision of new controls as detailed in ventilation and controls schematic, connect to existing control panel in the plant room and connect to base building BMS.

- Commissioning of the air conditioning ventilation and smoke control systems.

- Provide shop and as-built drawings.

2. DESIGN CRITERIA

Item	Design Criteria
External ambient conditions (for air conditioning plant full load performance)	Summer 32°C dry bulb maximum 25°C wet bulb maximum Full solar load Winter 10.5°C dry bulb minimum Internal loads included
Internal conditions (for conditioning plant full load performance)	Summer 24.0°C dry bulb maximum at point of control (26.0°C dry bulb in Eastern perimeter area) Winter 21.0°C dry bulb minimum at point of control
Humidity control	Relative humidity controlled by virtue of cooling coil performance.
Controls tolerance for air conditioning system	±2°C dry bulb at point of control
Outside Air	50% improvement to AS 1668.2-1991 requirements
Exhaust Air	In accordance with AS 1668.2:1991 requirements
Infiltration	1 air changes per hour for all perimeter areas
Occupancy	1 person per 10m^2
Hours of Operation Supply Air	12 hours from existing floor Air Handling Unit Air distribution is to provide even, draught free air movement and to be readily amenable to modification to suit partitioning alterations. Air movement to be between 0.1 and 0.25 m/s in occupied spaces measured 1.0 to 1.5m above floor level.
Internal Heat Gains: - People: - General office lighting: - Equipment:	 70 W/person sensible / 60 W/person latent 8W/m^2 15 W/m^2 NLA (LCD monitors throughout)
Tenancy Provisions:	**Exhaust Air Systems** 400 L/s