



Safety Innovation on the Worksite

4 Townhouses

Prefabrication of Upper Storeys

Eliminates OH&S risks

John Dwyer

Dwyer Building Services DBS

Warrnambool Victoria

www.dwyerbuildingservices.com.au





Project Overview



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The Project

- **Project occurred in 2006 in Warrnambool**
- **Four 2 storey townhouses constructed on small site**
- **Time schedules were tight**
- **Budget for project was \$1.8m**

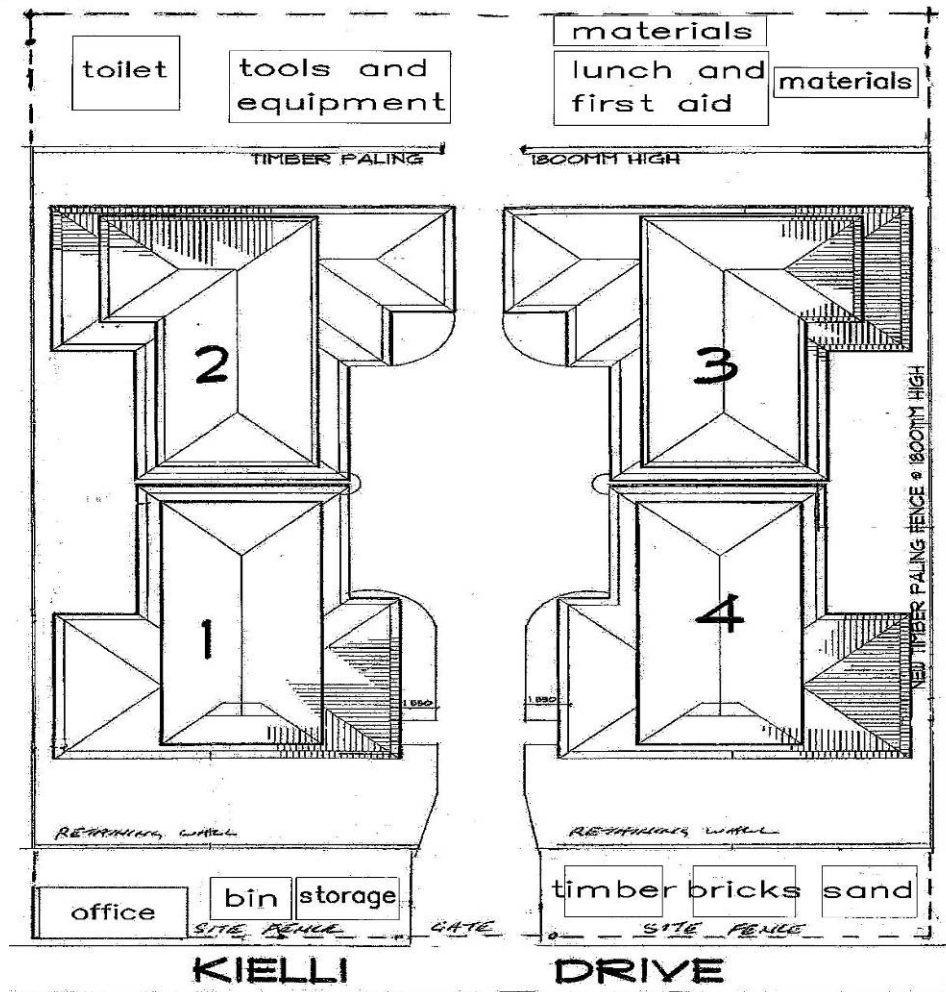


The Challenges

- Restricted site space
- Very close proximity to boundaries of neighbouring buildings
- Difficult to erect safe scaffold for upper storey construction
- Work to be done at height close to boundaries
- Standard scaffolding placement risky for neighbouring disputes & OH&S problems
- Tight finish deadline to contain costs within budget
- Fast completion & sales needed to beat forecast market downturn



Site Plan



Site Restrictions

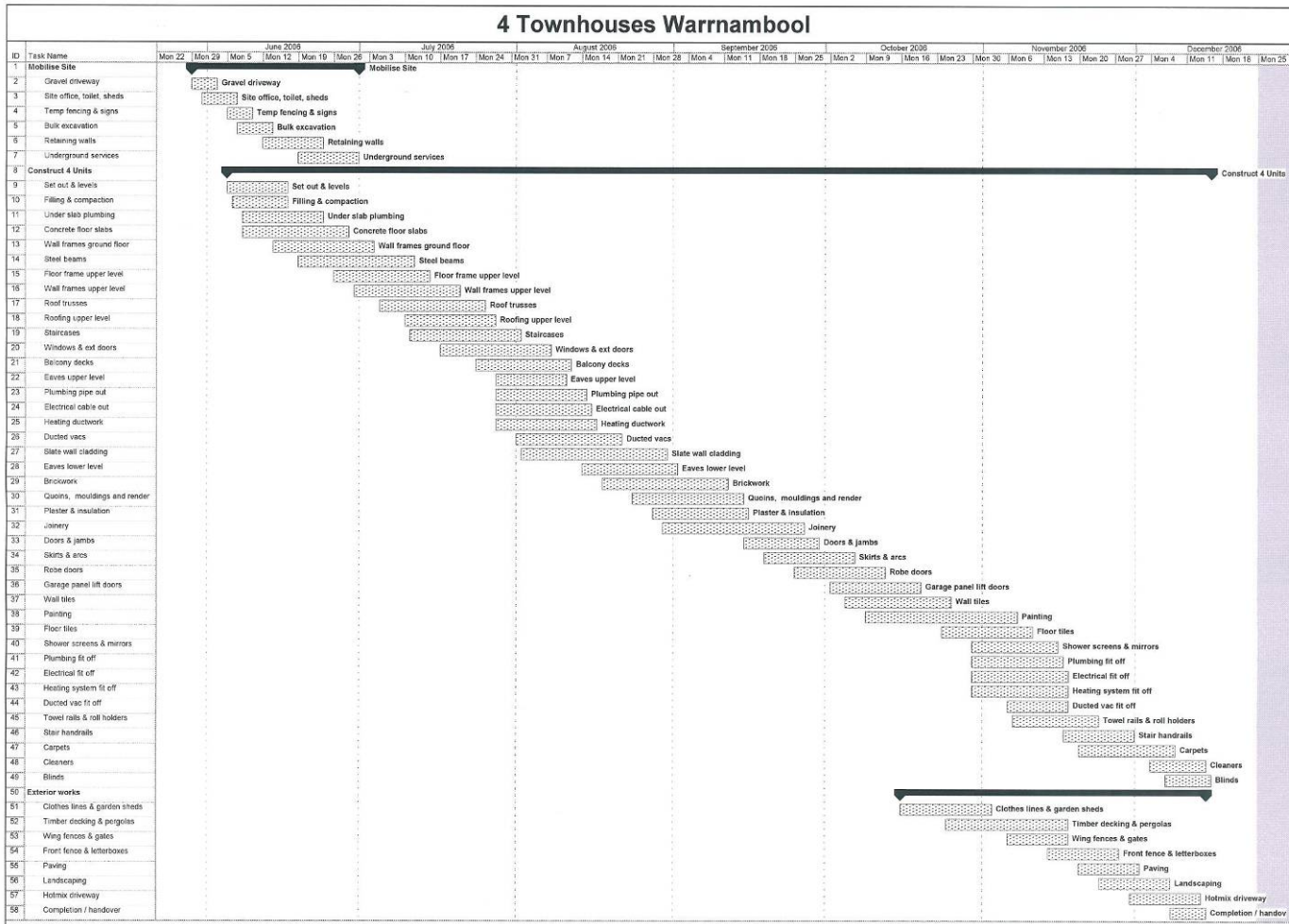


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Work Program





Project Safety Planning



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Safety Policy

Occupational Health & Safety Policy

DBS is committed to providing a safe and healthy work environment for all employees, contractors and visitors. We are dedicated to the continuous improvement of our safety and health programs with a focus on reducing risk and the elimination of work related illness and injury.

Principles:

We are committed to:

- Ensuring safety and health is an integral part of our management that ranks equally with all other activities of the organization.
- Providing and maintaining a safe and healthy workplace for employees, contractors and visitors.
- Risk Management process ensuring consistency with the nature of the workplace and risk assessment.
- Meeting or exceeding OH&S legislation and codes of practice.
- OH&S targets ensuring continuous improvement.
- Encouraging and supporting employees, contractors and visitors to improve safety and health through consultation, information, training and supervision.
- Promoting consultation between management, employees and contractors on matters affecting safety and health including any workplace changes that may affect safety and health.

Responsibilities:

DBS recognizes that management has the overall responsibility to provide a safe and healthy workplace through the effective implementation of this policy. DBS manager's take responsibility and are accountable for implementing this policy.

Implementation of this OH&S Policy is a shared responsibility. Employee's, contractors and visitors are responsible for ensuring that work activities are undertaken in a safe manner and in accordance with OH&S training, procedures and policies.



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Site Safety

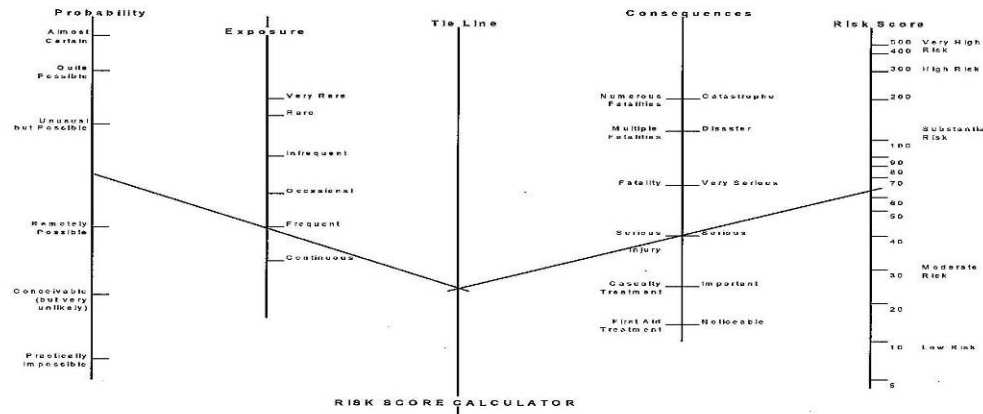
Steps in controlling OHS hazards and risks

Figure 1 – Steps in controlling OHS hazards and risks



Risk Assessment

Plant/ tool name	Bobcat
Date	
Risk	Moderate/ substantial risk
Plant Number	1003



Safety Requirements

Hazards	Safety measures
Roll over	Seat belt/ safety bar
Tipping	Keep load low when travelling
Fire	Engine off when refuelling
People in area	Reverse beeper, warning light, clear work area
Rolling when stopped	Park brake
Unauthorized use	Remove keys
Maintenance	Checklist record/ maintenance done

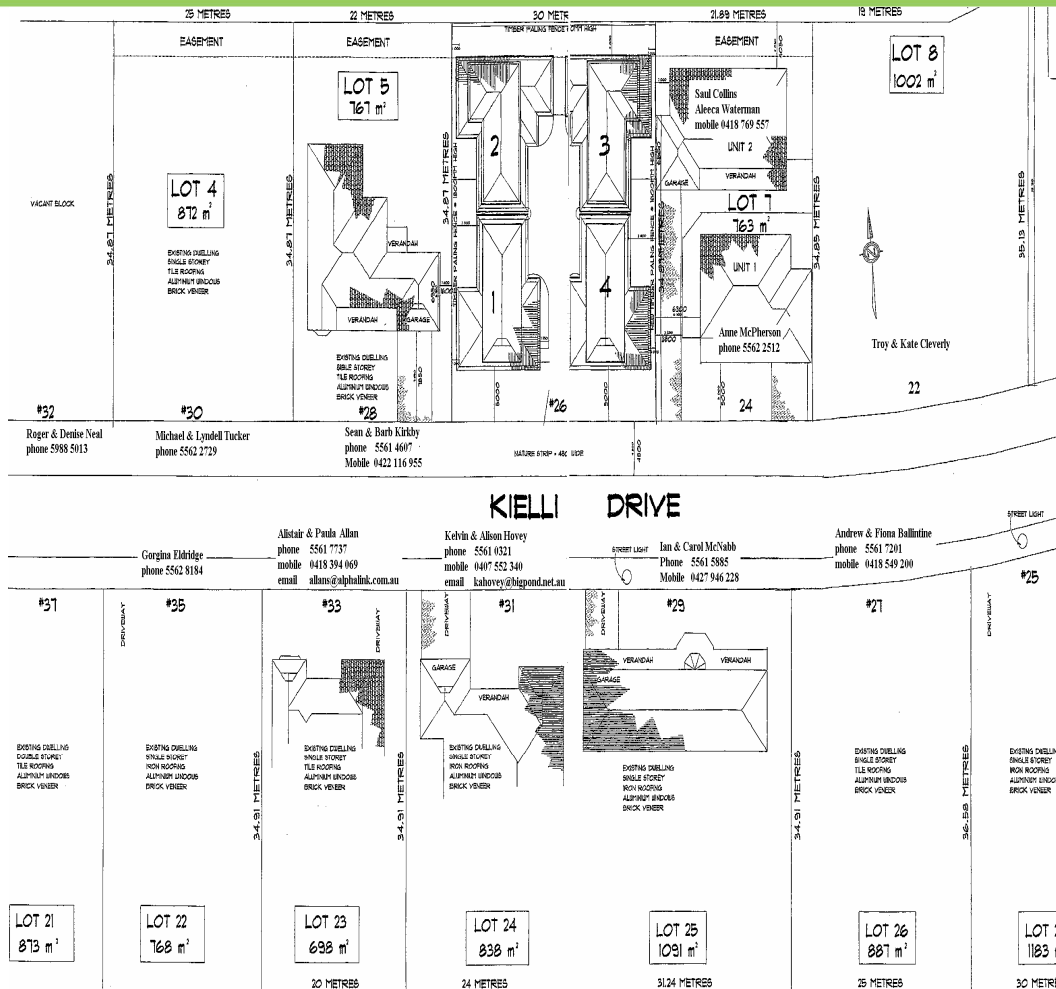
I have completed risk assessment and fully understand hazards involved and safety measurements required operating this equipment in a safe manner, in the work shop and on site.

I will provide my employer with a new risk assessment if any of the above conditions change.

User print name..... User print name.....



Neighbourhood Plan



Site Inductions

Excavation Works 26 Kielli Drive

Jamie Keane, Keanes Excavation & Plumbing P/L confirmed the following

1. Signed OH&S / JSA
2. Workcover & Public Liability insurance certificates of currency
3. Red card
4. Communication only through Dwyer Constructions site manager Phil Dwyer.
5. No interference of other trades on site.
6. Leave work area tidy & remove rubbish from site.
7. Workmanship will be of a 1st class standard and finish.
8. Jamie Keane is fully responsible to manage all occupational health & safety legislative requirements on site and provide adequate personal protective equipment.
9. Protect all new and existing surfaces, pay for any damages and report to site manager.
10. Non smoking site
11. Fire extinguishers
12. Toilets
13. First Aid
14. Emergency phone numbers
15. Tools and materials keep separate from Dwyer Constructions
16. Sheds not for sub contractor use. Smoko facilities only.
17. No mobile phones
18. Parking, vacant blocks west of site or as directed, parking at own risk.
19. Entering and leaving site give way to pedestrians and traffic.
20. Keep road surface and street gutters clean at all times.
21. Prevent spillages of fuel, oil and grease from plant or mud from truck tyres and soil falling from truck bodies. Any spills must be removed and cleaned up immediately.

Agreed Signed:.....*Jamie Keane*..... Jamie Keane

Date ..*5./6./2006*.....



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Job Safety Analysis (JSA)

FROM : Keanes Excavation & Plumbing P/L DATE : 5 June 2006
 TO : Dwyer Constructions JSA No : 1
 SITE : 26 Kielli Drive
 ACTIVITY : Excavation

Activity <small>List the tasks required to perform the activity in the sequence they are carried out</small>	Hazards <small>Against each task list the hazards that could cause injury when the task is performed.</small>	Risk control measures <small>List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.</small>	Who is responsible <small>Write name of person responsible to implement the control measure identified.</small>
Excavation Plant & Equipment	Physical injury due to faulty plant and equipment, damaged or missing guards	Make sure all equipment has been serviced, tested and risk assessed prior to use and comply's with relevant codes. I have been fully trained in safe use of all equipment.	Jamie Keane
	Operating excavators and trucks	Use only experienced operators, licenced to operate the particular equipment. Carry out daily plant safety checklists. Follow plant safety regulations and codes. Provide and wear high visibility vests	Jamie Keane
	Loading and unloading excavation plant	Follow recommended loading procedures. Secure excavation plant to float trailer before moving off site. Provide traffic control in accordance with Vicroads requirements	Jamie Keane
Excavation	Moving plant around site	Be aware of other workers in vicinity and sound warning prior to reversing. Ensure warning lights and audible warning devices operating correctly.	Jamie Keane
	Collapse of excavation and boundary fences	Excavate in stages, ensure adequate shoring and temporary bracing in place	Jamie Keane
	Underground services	Locate all underground services manually prior to using powered plant	Jamie Keane
Manual handling of materials and equipment	Physical injury due to lifting and carrying heavy loads or repetitive manual handling.	Use prescribed manual handling methods when lifting or carrying materials & equipment around site	Jamie Keane
		Use mechanical lifting equipment where applicable or provide adequate manpower to lift and carry heavy loads	Jamie Keane
OH&S acts & guides	Safety of self and others	I have read, studied and understand OH&S acts and guides and they are available on site	Jamie Keane
Confined space, sunlight, dust, fumes and noise	Skin, eyes, ear and lung damage	Provide adequate PPE and comply with OH&S laws and codes	Jamie Keane
Health and Safety	Personal accident	I will manage my own Health and Safety legislative requirements. Safety is my personal responsibility, awareness of my own and others safety is essential	Jamie Keane
Electrical	Faulty equipment, plugs, sockets, leads and switches	Ensure all leads and electrical equipment serviced, maintained and tagged prior to use	Jamie Keane
	Electrocution wet conditions	Electrical equipment and leads not to be used in rain. Suspend leads 2.1m above ground	Jamie Keane
Any New Tasks	Risks and hazards associated with new tasks	Provide Dwyer Constructions with JSA for approval prior to starting any new tasks.	Jamie Keane

Jamie Keane Signed :

Jamie Keane



Emergency Phone Numbers

AMBULANCE	000
POLICE	000
FIRE BRIGADE	000

HOSPITAL (Warrnambool) 5563 1666

ELECTRICITY 13 2412

GAS 1800 676 300

WATER (Wannon Water) 1300 926 666

POISONS (Information) 13 1126

WORKCOVER

1. Notifiable Incidents 13 2360
2. Advisory Service 1800 136 089
3. Web Address www.workcover.vic.gov.au





Site Preparation



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Excavation



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Establishment



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Concrete Preparation



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Concrete



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Crane Lift Upper Storey



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Innovative Response

- Needed to be 'low tech' and low cost
- Modified structural designs allowed upper storeys to be built on ground
- Craned and cantilevered into place
- Upper storey did not require heavy full height scaffolding



Upper Storey's Built on Ground

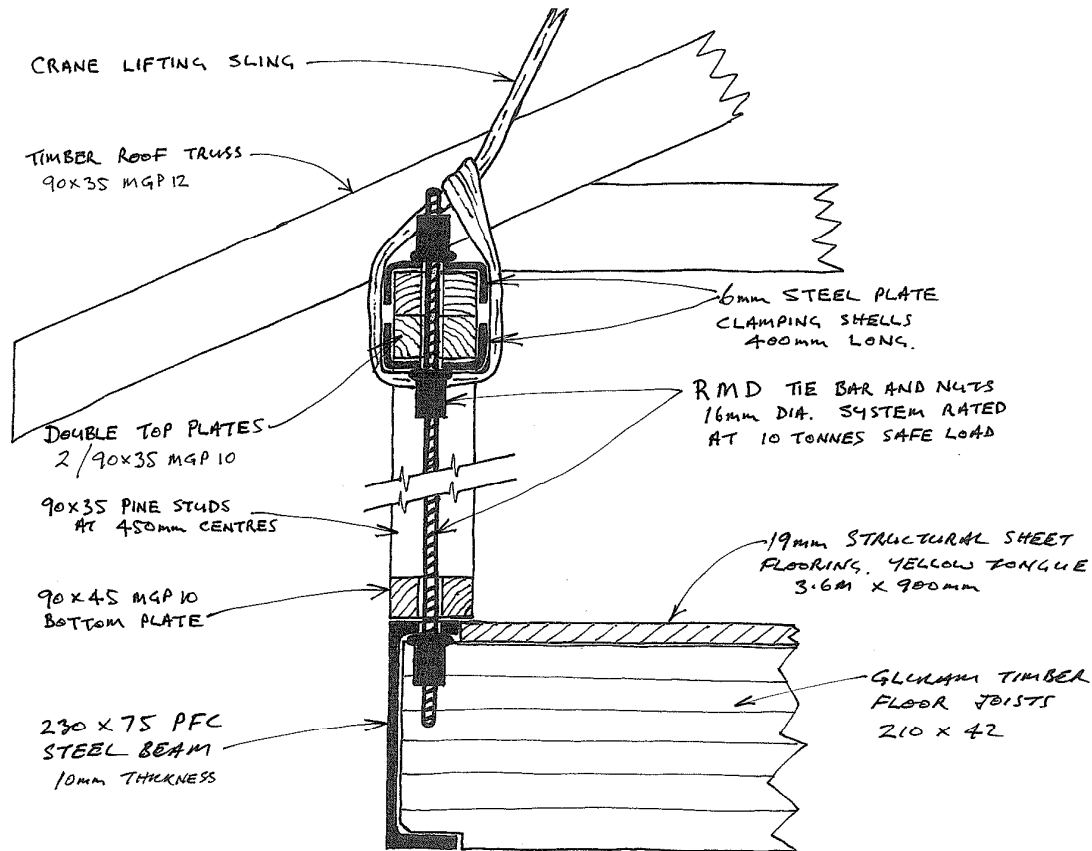


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Lifting System



SIMPLE LIFTING TIE ASSEMBLY PLACED AT 4 LOCATIONS.
QUICK, EASY SET UP AND REMOVAL METHOD ALLOWED SAME LIFTING GEAR SET
TO BE USED ON ALL 4 BUILDINGS



Lift



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Lift



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Lift Team



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Finished Project



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Project Finish



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Project Completion



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Summary and Conclusion



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Win/Win for Safety Initiatives

- Upper level safety risks eliminated
- Boost to construction team morale
- Structurally stronger building than the minimum building code requirement
- Better able to withstand future extreme storms or strong wind events
- Building program streamlined
- Saved 2 months project time avoiding cost blowouts
- Savings of \$8,000 scaffolding costs
- Savings of \$20,000 in labour and site administration costs
- Enhanced marketing exposure for DBS through local press report on safety innovation



Thank you

Questions please

John Dwyer

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