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Appendix C

Traffic Impact Assessment &

Transport Incident Management Strategy

STANBURY
TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

TRAFFIC IMPACT ASSESSMENT

EXPANSION OF CLINICAL AND QUARANTINE WASTE MANAGEMENT FACILITY
9 KENOMA PLACE, ARNDELL PARK

PREPARED FOR STATE WASTE SERVICES PTY. LTD.
OUR REF: 16-031

FEBRUARY 2017

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APPENDICES

1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by State Waste Services Pty. Ltd. to prepare a Traffic Impact Assessment to accompany a Development Application for the expansion of an existing Clinical and Quarantine Waste Management Facility at 9 Kenoma Place, Arndell Park. The existing facility is licenced and approved to receive up to 650 tonnes of waste per year. Approval is now sought to increase this capacity to up to 3,000 tonnes per year.

The existing facility operates significantly below capacity, generally only being operational between approximately 7:30am – 3:00pm Monday to Friday. The expanded facility operations are largely proposed through an extension of the existing operational hours to accord with the current approval and licence to operate between 7:00am – 7:00pm Monday to Saturday.

This aim of this assessment is to investigate and report upon the potential traffic consequences of the proposal and to recommend appropriate ameliorative measures where required. This assessment is provided in response to the Department of Planning & Environment's Environmental Assessment Requirements for the preparation of an Environmental Impact Assessment for the subject development dated 1 December 2014 (the relevant sections of which are attached as **Appendix 1**).

This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the existing and proposed operational characteristics of the facility;
- Section 3 assess the adequacy of the existing and proposed site access arrangements, parking provision, internal circulation and servicing arrangements with reference to relevant Council, Roads & Maritime Services and Australian Standard specifications;
- Section 4 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure; and
- Section 5 estimates the projected traffic generating ability of the proposed expanded facility and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007.

1.2 Reference Documents

Reference is made to the following documents throughout this report:

- The Roads & Maritime Services' *Guide to Traffic Generating Developments*;
- Blacktown City Council's Blacktown Development Control Plan 2015 (DCP 2015);
- Australian Standard for *Parking Facilities Part 1: Off-Street Car Parking* (AS2890.1:2004);
- Australian Standard for Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities (AS2890.2:2002); and
- Australian Standard for *Parking Facilities Part 6: Off-Street Parking for People with Disabilities* (AS2890.6:2009).

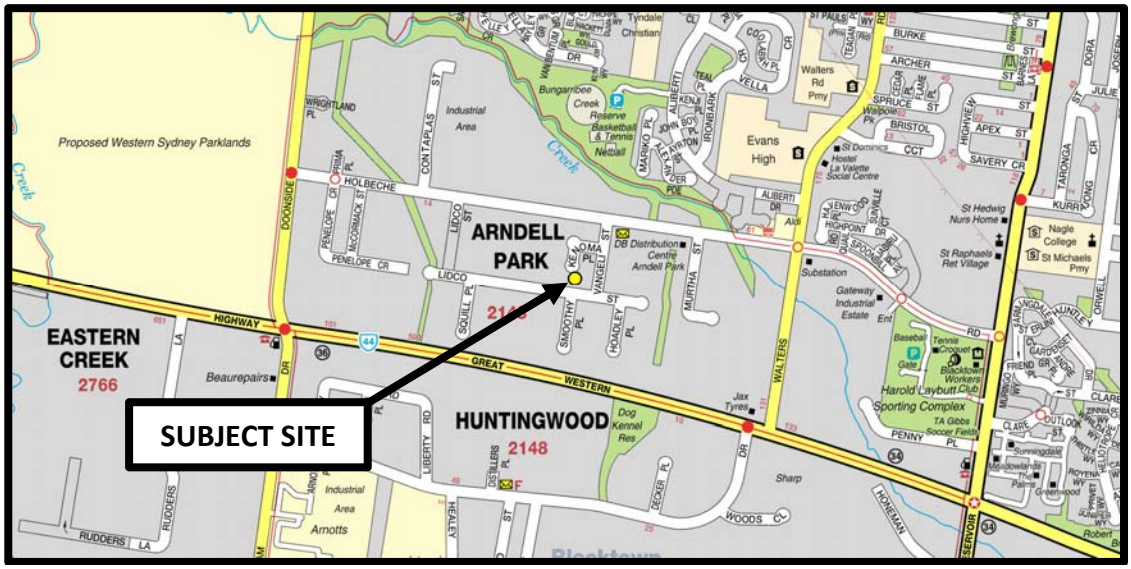
Existing and proposed site plans have been prepared by Plant Drafting Services. Reduced copies of a selection of these amended plans are included as **Appendix 2** for reference.

1.3 Site Details

1.3.1 Site Location

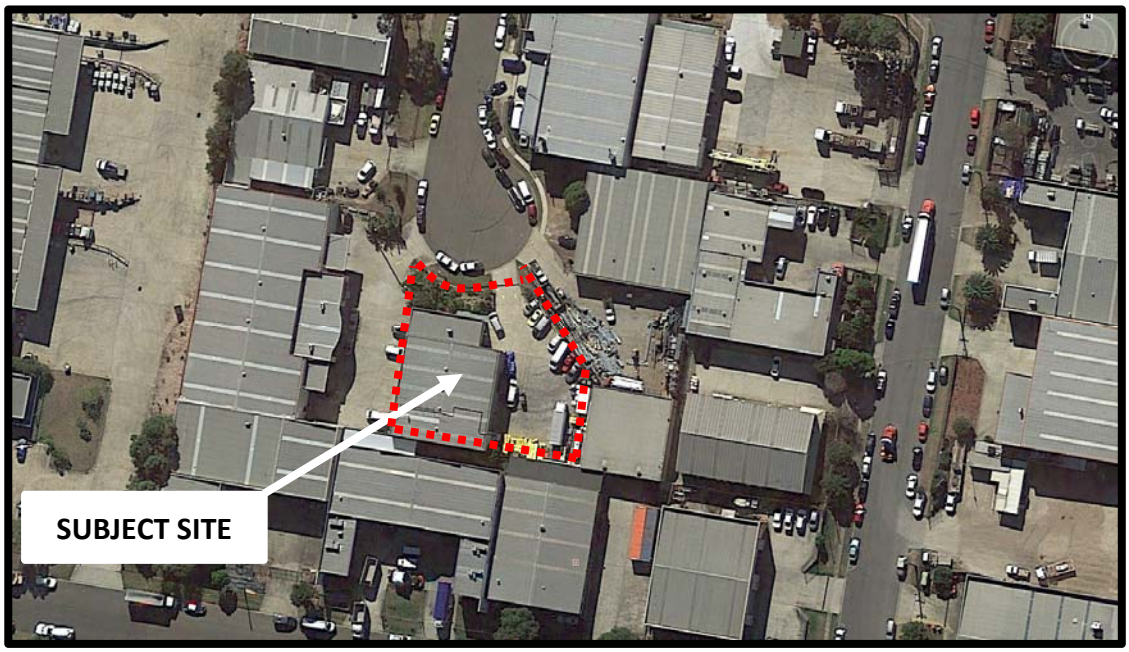
The subject site adjoins the southern Kenoma Place terminating cul-de-sac, Arndell Park. The site location is illustrated below and overleaf within a local and aerial context by **Figure 1** and **Figure 2**, respectively.

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD's Australian City Streets – Version 4

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT



Source: Google Earth (accessed 04/11/16)

1.3.2 Site Description

The subject site provides a real property description of Lot 14 DP 786328 and a street address of 9 Kenoma Place, Arndell Park. The site forms an irregularly shaped parcel of land providing a curved frontage of approximately 26m to the southern terminating cul-de-sac of Kenoma Place. The site provides an area of 1,492m^2.

1.3.3 Existing Site Use

The subject site currently accommodates a Clinical and Quarantine Waste Management Facility operated by State Waste Services. The facility is approved and licenced to receive, treat and dispose of up to 650 tonnes of clinical waste generally associated with the medical industry.

The existing site operations are contained within a single building providing a warehouse floor space of 505m^2 and an ancillary office space of 151m^2, located within the western portion of the site.

The existing warehouse is serviced by two roller doors within the eastern building wall, which connect to a large hardstand area located within the eastern portion of the site, which accommodates a heavy vehicle servicing / manoeuvring area in conjunction with formalised passenger vehicle parking spaces (containing six spaces, including one disabled space).

The subject site is currently serviced by an existing 6m wide combined ingress / egress driveway linking the on-site hardstand area and the southern terminating Kenoma Place cul-de-sac.

1.3.3 Surrounding Uses

Land to the east, south and west is occupied by similar industrial buildings of varying scales to that contained within the subject site, consistent with the general industrial zoning of the surrounding Arndell Park Industrial Estate.

2. OPERATIONAL CHARACTERISITCS

2.1 Existing Operational Characteristics

2.1.1 Summary of Use

State Waste Services Pty. Ltd. currently operate a Clinical and Quarantine Waste Management Facility within the subject site. The site operations provide a waste collection and disposal service to health and allied services industries and any other business that requires clinical and sharps waste disposal. The clinical wastes are treated by steam sterilisation process to destroy microbial organisms rendering the waste harmless.

Clinical and related waste is classified as special waste (Class 6.1 and 6.2) under the NSW EPA Waste Classification Guidelines.

The following provides a brief summary of the process, whilst full details are contained within the Environmental Impact Statement prepared by Stimson Baker Planning:

- State Waste Services provide specially marked wheelie bins (SMBs), complete with a heavy duty liner, to various places of business (primarily medical centres and hospitals).

- When full, the SMBs are picked up by a series of vehicles operated by State Waste Services ranging from vans to Medium Rigid Vehicles (MRVs) with the operator providing a replacement bin for the client.

- The collection vehicle then transports the SMBs to the subject site for treatment.

- The SMBs are removed from the collection vehicle on-site, weighed and aligned for processing (which occurs on the same day as delivery to the site).

- The contents of the SMBs are emptied into to an automatic waste treatment machine located within the warehouse. The load is shredded into small pieces and then sterilised through a steam process. The sterilised and shredded product is deposited into a large bulk collection bin.

- Once the bulk collection bin is at or near capacity, the bin is loaded onto a medium rigid collection vehicle and transported from the site for disposal at a separate waste facility located at Eastern Creek. Following disposal of the waste, the empty bulk collection bin is returned to the site.

- The SMBs are washed and stored for collection by the abovementioned transport vehicles referred to in Steps 1 – 3.

The facility is currently approved and licenced to receive up to 650 tonnes of clinical waste per year.

2.1.2 Hours of Operation

The facility is currently approved and licenced to operate between 7:00am – 7:00pm Monday to Saturday.

The current operational restrictions however result in the current operation being generally limited to approximately 7:30am – 3:00pm Monday to Friday.

2.1.3 On-Site Staffing Levels

The existing site operation results in the following staffing levels:

- Three administration staff; and
- Three process / floor staff.

Staff typically arrive between 7:00am – 9:00am and depart between 1:30pm – 3:00pm.

This Practice has been advised that five of the six site staff drive themselves to and from the site each day, with the remaining staff member catching a bus to and from the site.

2.1.4 Vehicle Fleet / Driver Details

State Waste Service owns and operates the following SMB transportation vehicles:

- Seven vans;
- One Small Rigid Vehicle (SRV); and
- Two Medium Rigid Vehicles (MRVs).

These vehicles are driven by employee and contract drivers. The vehicles are stored off-site when not in use (overnight).

2.1.5 Daily Fleet Operation

The daily routine of the State Waste Service owned transportation vehicle fleet is as follows:

- The vehicles, filled with empty specially marked bins (SMBs) loaded on the day before, are parked overnight at the driver's place of residence or the private contractor's site;
- The vehicles deliver the empty SMBs to various places of business and thence collect full SMBs;
- The full SMBs are transported to the site where the waste is unloaded into the treatment facility; and

- The vehicles are then loaded with empty SMBs and thence driven back to the driver's place of residence or the private contractor's site.

The above vehicles typically travel to and from the site between 7:00am and 12:00pm.

The vehicles are not parked for extended periods on the site.

2.1.6 Medical Waste Collection

Upon the on-site bulk collection bin being filled, the bin is loaded onto a special contractor MRV and transported to a separate waste facility for disposal located at Eastern Creek. The empty bin is then returned to the site by the same MRV.

The bulk collection bin removal and delivery typically occurs during the morning (between 7:30am – 9:00am) approximately five times per fortnight.

2.1.7 Other Site Servicing

Deliveries / servicing to / of the site includes:

- Gas is delivered to the site by MRVs approximately once per fortnight (typically between 1:00pm – 3:00pm); and

- General waste is collected once per week by a MRV.

2.1.8 Traffic Generation Summary

Table 1 below provides a summary of the peak hourly and daily traffic generation associated with the previously described current site operational characteristics.

TABLE 1
EXISTING TRAFFIC GENERATION

	Passenger Vehicles	Vans	SRVs	MRVs	TOTAL
Per Day					
In	5	7	1	5	18
Out	5	7	1	5	18
Total	10	14	2	10	36
Per AM Peak Hour					
In	5	1	1	1	8
Out	0	1	1	1	3
Total	5	2	2	2	11
Per PM Peak Hour					
In	0	-	-	-	0
Out	5	-	-	-	5
Total	5	-	-	-	5

The traffic generation summary contained within **Table 1** assumes a worst case scenario that bulk bin collection, general waste and gas delivery occurs on the same day.

The facility is currently operating significantly under capacity, largely only being operational between 7:30am – 3:00pm. Notwithstanding this, for the purpose of this assessment, it is assumed that all on-site staff exit the site during the afternoon commuter peak period.

Table 1 indicates that the existing site operation generates the following:

- 36 daily vehicle movements;
- 11 vehicle movements during the morning peak hour; and
- 5 vehicle movements during the evening peak hour.

The above operational characteristics result in approximately 650 tonnes of waste treated annually.

2.2 Proposed Operational Characteristics

2.2.1 Extent of Expansion

The proposal involves expanding the existing operation to increase the approved and licenced capacity from receiving 650 tonnes of waste per year to receiving 3,000 tonnes per year.

2.2.2 Hours of Operation

The expanded operations are largely proposed through an extension of the existing operational hours from approximately 7:30am – 3:00pm Monday to Friday to 7:00am – 7:00pm Monday to Saturday to accord with the current approved hours of operation.

2.2.3 On-Site Staffing Levels

The proposed expansion of the site capacity is not proposed to be accompanied by an increase in the maximum number of employees on-site at any one time. The maximum number of employees on-site at any one time is proposed to be retained at six staff.

2.2.4 Vehicle Fleet / Driver Details

The existing SMB transitional fleet is proposed to be increased by two vans, therefore resulting the following:

- Nine vans;
- One SRV; and
- Two MRVs.

Whilst the on-site staffing levels are proposed to be retained, three additional contract drivers are proposed to be employed to sustain the expanded site operations.

Similarly to the existing site operations, all transportation vehicles are to be stored off-site when not in use (overnight).

2.2.5 Daily Fleet Operation

The existing fleet operation will remain as existing, however all smaller vehicles (vans) will undertake two bin delivery / collection cycles in a single day.

This increased operation will extend the period of vehicles accessing / vacating the site to between 7am and 7pm Mon - Sat.

2.2.6 Medical Waste Collection

The bulk collection bin is to be transported to and from the site as existing however the bin loading / unloading activity is typically to occur in the late afternoon (between 4:00pm – 7:00pm) to ensure it occurs following the unloading and treatment of waste earlier in the day.

The increased site operation will necessitate bulk collection bin loading / loading activity to occur once per day.

2.2.7 Other Site Servicing

Gas deliveries and waste deliveries are to occur as existing however the frequency of servicing is to be increased as follows:

- Gas is to be delivered to the site once per week (typically between 1:00pm – 3:00pm); and
- General waste is collected once per week by a MRV.

2.2.8 Traffic Generation Summary

Table 2 overleaf provides a summary of the projected peak hourly and daily traffic generation associated with the previously described proposed expanded site operational characteristics.

TABLE 2 PROPOSED TRAFFIC GENERATION					
	Passenger Vehicles	**Vans**	**SRVs**	**MRVs**	**TOTAL**
Per Day					
In	5	18	1	5	29
Out	5	18	1	5	29
Total	10	36	2	10	58
Per AM Peak Hour					
In	5	2	1	1	9
Out	0	2	1	1	4
Total	5	4	2	2	13
Per PM Peak Hour					
In	0	2	0	1	3
Out	5	2	0	1	8
Total	5	4	0	2	11

The traffic generation summary contained within **Table 2** assumes a worst case scenario that bulk bin collection, general waste and gas delivery occurs on the same day.

Table 2 indicates that the proposed expanded site operation generates the following:

- 58 daily vehicle movements;
- 13 vehicle movements during the morning peak hour; and
- 11 vehicle movements during the evening peak hour.

The above operational characteristics are projected to be capable of receiving up to 3,000 tonnes of waste annually.

3 SITE ACCESS & INTERNAL CIRCULATION

No alterations are proposed to the existing site access, internal parking, circulation and servicing arrangements. The following sub-sections provide an assessment of the suitability or otherwise of the existing arrangements to accommodate the existing and projected operational requirements of the site use.

3.2 Vehicular Access

Access between the southern terminating Kenoma Place cul-de-sac and the subject site is currently provided by a 6m wide combined ingress / egress driveway.

The existing site access arrangements are proposed to be retained. As the maximum sized vehicle proposed to service the site is also to be retained as existing (MRV), the suitability of the existing site access arrangements are not proposed to be altered. Notwithstanding this, swept path plans have been prepared in order to demonstrate the ability of MRVs vehicles to enter and exit the site in a safe and efficient manner, copies of which are included as **Appendix 3**.

The straight alignment of the site access driveway with the alignment of the southern section of Kenoma Place, results in good sight distance between the frontage road and the existing site access driveway.

3.2 Parking Provision

The existing on-site passenger vehicle parking provision of six spaces (including one disabled space) is proposed to be retained.

Blacktown City Council provides the following locally sensitive minimum parking requirements within DCP 2015. This document however doesn't provide specific parking requirements for waste management facilities thereby indicating that assessment should be based on the operational characteristics of the proposed site operations.

Parking demand associated with the subject use is considered to be limited to that generated by staff and any potential visitors. It has previously been presented that the existing and proposed site operations will generate a demand for up to six employees on-site at any one time. The number of visitors is expected to be negligible. Whilst it has previously been presented that one of the existing six staff members catch public transport to travel to and from the site, assuming a worst case scenario that all staff drive themselves to and from the site, a peak passenger vehicle parking demand of six is anticipated. The existing and proposed parking provision of six spaces is therefore expected to readily accommodate operational demands and accordingly, is considered to be satisfactory.

Notwithstanding the above, assessment should also be undertaken of the proposed parking provision based on a standard industrial use in the event of the building be utilised in that nature in the future. Council's DCP 2015 requirements provides the following parking requirements for these standard industrial uses.

Warehouse
1 space per 75m^2

Office
1 space per 40m^2

A standard industrial use of the proposed development could therefore generate a parking demand of 11 parking spaces on the basis of a warehouse and office floor area of 505m^2 and 151m^2.

Under such a situation, the additional five spaces required over and above that provided on-site could reasonably be provided along the eastern site boundary in place of the existing gas storage area. Suitable compliance with Council's DCP 2015 is therefore considered to be capable, should the development be utilised as for a standard industrial use. In any case, any future occupation of the subject development by uses other than that currently proposed would need to be subject to a future development application, and it is considered appropriate to impose Council's industrial premises parking requirements at that time.

3.3 Internal Circulation and Manoeuvrability

3.3.1 Passenger Vehicle Parking

Upon entry into the access driveway, passenger vehicles will continue to proceed in a forward direction to connect with the existing parking spaces located adjacent to the north-eastern boundary and the office component of the building. The parking areas comprise standard 90 degree angled parking rows being serviced by adjoining circulation areas. The parking and circulation areas have been designed in accordance with AS2890.1-2004 and AS2890.6-2009 providing the following minimum dimensions:

- Standard passenger vehicle parking space width = 2.4m;
- Additional standard passenger space width where parking space adjoins an obstruction = 0.3m;
- Disabled passenger vehicle parking space width = 2.4m (with adjoining 2.4m wide shared area, where not provided within an adjoining circulation aisle);
- Passenger vehicle parking space length = 5.4m;
- Passenger vehicle parking aisle width = 5.8m;
- Two-way straight roadway = 6m; and
- Maximum ramp grade for the first 6m inside the site = 1 in 20.

In consideration of the above compliance with the relevant specifications of AS2890.1-2004 and AS2890.6-2009, the existing passenger vehicle parking layout as it relates to internal manoeuvrability is considered to be satisfactory.

3.3.2 Site Servicing

It has previously been presented that site is proposed to continue to be serviced by a range of vehicles up to and including MRVs. servicing associated with refuse collection is proposed to be accommodated within a single at-grade on-site servicing area located immediately to the south of the basement access ramp.

In order to demonstrate the ability of the existing and proposed internal handstand area external to the warehouse to accommodate the required manoeuvring throughout the site, this Practice has prepared swept path plans, copies of which are included as **Appendix 2**. The swept paths plans have been prepared utilising Autoturn software incorporating MRV vehicle turning specifications provided by AS2890.2-2002. The swept paths plans illustrate that the vehicles servicing the facility are capable of manoeuvring within the site in a safe and efficient manner. Accordingly, the internal heavy vehicle manoeuvring arrangements are considered to be satisfactory.

4 EXISTING TRAFFIC CONDITIONS

4.1 Surrounding Road Network

The following provides a description of the local road network surrounding the subject site:

- **Kenoma Place** performs a local access function between abutting industrial development and Vangeli Street to the north-east, under the care and control of Blacktown City Council. It provides a 13m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments. Traffic flow is governed by a continuation of the sign posted speed limit of 50km/h, governing the Arndell Park industrial precinct.

  Kenoma Place forms a terminating cul-de-sac providing a bulb diameter of 28m immediately adjoining the site. It extends to the north away from the site approximately 80m before curving to the east for approximately 100m, where it forms a T-junction with Vangeli Street. The junction of Vangeli Street and Kenoma Place is governed by major / minor priority control with Vangeli Street performing the priority route.

- **Vangeli Street** performs a minor collector function within the context of the Arndell Park industrial precinct, providing connectivity between a series of lower order industrial access roads and Holbeche Road to the north. Vangeli Street provides a 13m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments.

  Vangeli Street forms a T-junction with Holbeche Road approximately 100m to the north of Kenoma Place, operating under sign posted Give Way conditions with Holbeche Road performing the priority route. Kerb-side parking restrictions facility the informal provision of two northbound lanes within Vangeli Street on immediate approach to Holbeche Road.

- **Holbeche Road** performs a major collector function between the Arndell Park industrial precinct and the surrounding regional road network. It provides an east-west connection between Reservoir Road in the east and Doonside Road in the west in this regard.

  Holbeche Road, in the vicinity of Vangeli Street, provides a 13m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments.

  Holbeche Road intersects with Doonside Road to the west operating under traffic signal control. To the east, Holbeche Road intersects with Walters Road and thence Reservoir Road under two lane circulating roundabout control.

  The section of Holbeche Road between Walters Road and Reservoir Road forms a four lane divided carriageway, being governed by a sign posted speed limit of 60km/h.

- **Doonside Road** performs a sub-arterial function under the care and control of Blacktown City Council. It provides a north-south connection between the Doonside residential precinct in the north to the Huntingwood and Eastern Creek industrial precinct to the south (via Brabham Drive).

  Doonside Road, in the vicinity of Holbeche Road, forms a four lane divided carriageway, being governed by a sign posted speed limit of 70km/h. It intersect with Great Western Highway and Brabham Drive to the south of Holbeche Road under traffic signal control.

- **Reservoir Road** performs a State Road function under the care and control of the Roads & Maritime Services. It provides an important north-south arterial road between the Blacktown city centre (via Balmoral Road) in the north and Pemulwuy in the south-east.

  Reservoir Road, in the immediate vicinity of Holbeche Road, forms a four lane divided carriageway and is governed by a sign posted speed limit of 60km/h. It intersects with Great West Highway to the south under traffic signal control to the south, and thence provides on and off ramps to / from the east and westbound carriageways of the M4 Motorway.

4.2 Existing Traffic Volumes

Staff of Stanbury Traffic Planning have undertaken surveys of the junction of Holbeche Road and Vangeli Street in order to accurately ascertain the traffic demands. Surveys were undertaken between 7:00am – 9:00am and 4:00pm – 6:00pm on Thursday the 3rd of November 2016.

Figure 3 overleaf provides a summary of the surveyed commuter peak hour (8:00am – 9:00am and 5:00pm – 6:00pm) traffic flows at the surveyed junction Full details are contained within **Appendix 3** for reference.

FIGURE 3
EXISTING WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF HOLBECHE ROAD & VANGELI STREET

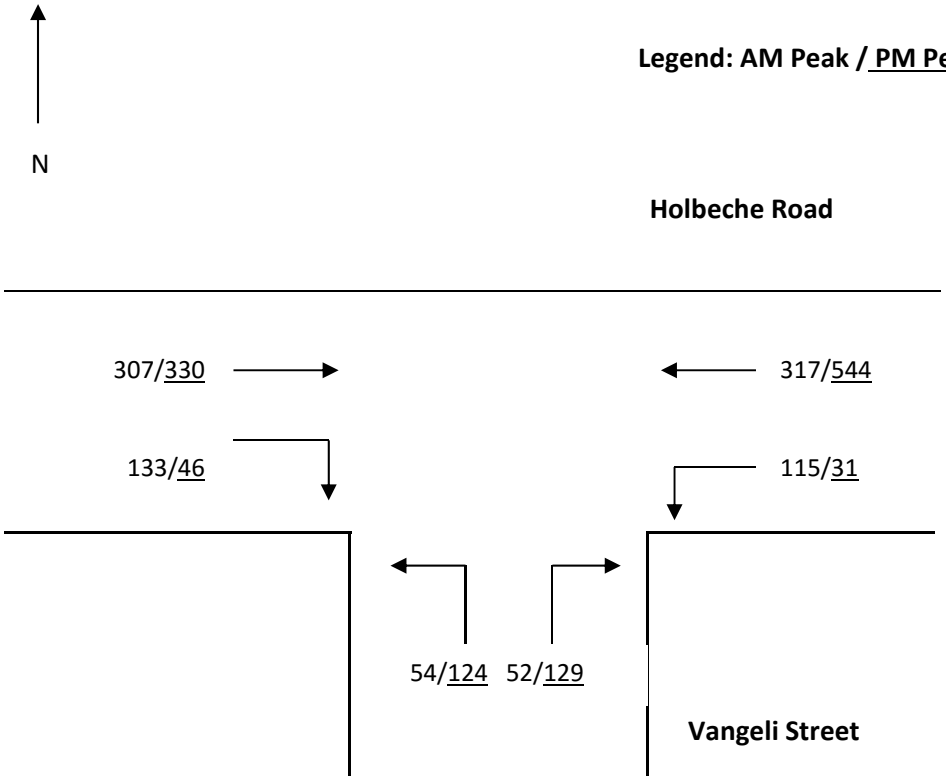


Figure 3 indicates the following:

- Holbeche Road accommodates directional traffic demands in the order of 300 – 550 vehicles per hour during peak periods;
- Vangeli Street accommodates directional traffic demands of between 100 – 250 vehicles per hour during peak periods;
- Vangeli Street traffic flow is tidal during commuter peak periods with southbound traffic dominating during the morning peak and northbound traffic dominating during the evening peak; and
- Turning movements to / from Vangeli Street are approximately evenly distributed from / to the east and west along Holbeche Road.

4.3 Existing Road Network Operation

4.3.1 Intersection Operation

The surveyed junction of Holbeche Road and Vangeli Street has been analysed utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the primary access junction servicing the subject site. SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs,

signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by the Roads and Maritime Services.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 3** below (being the RMS NSW method of calculation of Level of Service).

TABLE 3
LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS
GIVE WAY & STOP SIGNS

Level of Service	Average Delay per Vehicle (secs/veh)	Expected Delay
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Figure 3**. **Table 4** provides a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 4**.

TABLE 4
SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE

	AM	PM
Vangeli Street Approach		
Delay	13.9	20.9
Degree of Saturation	0.14	0.43
Level of Service	A	B
Eastern Holbeche Road Approach		
Delay	5.6	5.6
Degree of Saturation	0.17	0.29
Level of Service	A	A
Western Holbeche Road Approach		
Delay	8.7	10.0
Degree of Saturation	0.32	0.24
Level of Service	A	A
Total Intersection		
Delay	3.5	3.9
Degree of Saturation	0.32	0.43
Level of Service	A	B

Table 4 indicates that the junction of Holbeche Road and Vangeli Street operates with a level of service 'A' and 'B' during the morning and evening commuter peak periods, representing good operation and acceptable delays with spare capacity, respectively.

4.3.2 Primary Access Route Levels of Service

Reference is made to the Roads & Maritime Services' *Guide to Traffic Generating Developments* in order to undertake an assessment of the operational performance of the routes immediately servicing the subject site. The following existing operational levels of service apply in the immediate vicinity of the site, based on this publication:

- Vangeli Street (accommodating directional traffic demands less than 300 vehicles per hour) provides a level of service 'A' / 'B' during peak periods, representing free flow where drivers are largely unaffected by others in the traffic stream; and

- Holbeche Road (accommodating directional traffic demands up to 600 vehicles per hour) provides a level of service of 'B' / 'C' during peak periods, representing stable flow where some drivers are restricted to some degree to select their desired speed and to manoeuvre within the traffic stream.

4.3.3 Site Access Assessment

Traffic demands within Kenoma Place have been observed to be low (less than 100 vehicles), commensurate with its lower order industrial access cul-de-sac function. Motorists are accordingly provided with a good level of service. These low traffic demands in conjunction with the consistent vertical and horizontal alignment of Kenoma Place in the vicinity of the site and the site access location off the southern terminating cul-de-sac results in motorists being able to enter and exit the site with a good level of safety and efficiency.

4.4 Public Transport

4.4.1 Heavy Rail

The site is located approximately 3.2km to the south-east of Doonside Railway Station and 3.8km to the south-west of Blacktown Railway Station. Both stations provides access to train services which operate along the T1 (North Shore, Northern & Western) Line whilst Blacktown Railway Station also provides access to services along the T5 (Cumberland) Line.

4.4.2 Buses

Busways operate Route 724 between Blacktown Railway Station and the Arndell Park industrial precinct. The closest stops are located within Holbeche Road, immediately to the east of Vangeli Street, approximately 300m walking distance from the site. Route 724 provides a 20 minute frequency during weekday commuter peaks extending to approximately 40 minutes during weekday periods and 60 minutes during Saturdays and Sundays.

5. PROJECTED TRAFFIC CONDITIONS

5.1 Traffic Generation

The existing and projected traffic generating characteristics of the site use have previously been described within Sections 2.1.8 and 2.2.8 of this report. **Table 5** below provides a summary of the exiting and projected peak hourly site based traffic generation.

TABLE 5
EXISTING & PROJECTED WEEKDAY PEAK HOURLY TRAFFIC GENERATION

	Inbound Movements	Outbound Movements	Total Movements
AM PEAK HOUR			
Existing	8	3	11
Projected	9	4	13
Increase	1	1	2
PM PEAK HOUR			
Existing	0	5	5
Projected	3	8	11
Increase	3	3	6

Table 5 indicates that the expanded site use is projected to generate two and six additional vehicle movements to and from the site during weekday morning and evening commuter peak hours respectively. For the purposes of generating an absolute worst case scenario, it has been assumed that all morning and evening peak hour vehicle movements to and from the site shown in **Table 5** (13 and 11 vehicle movements during both peak periods respectively) are new trips.

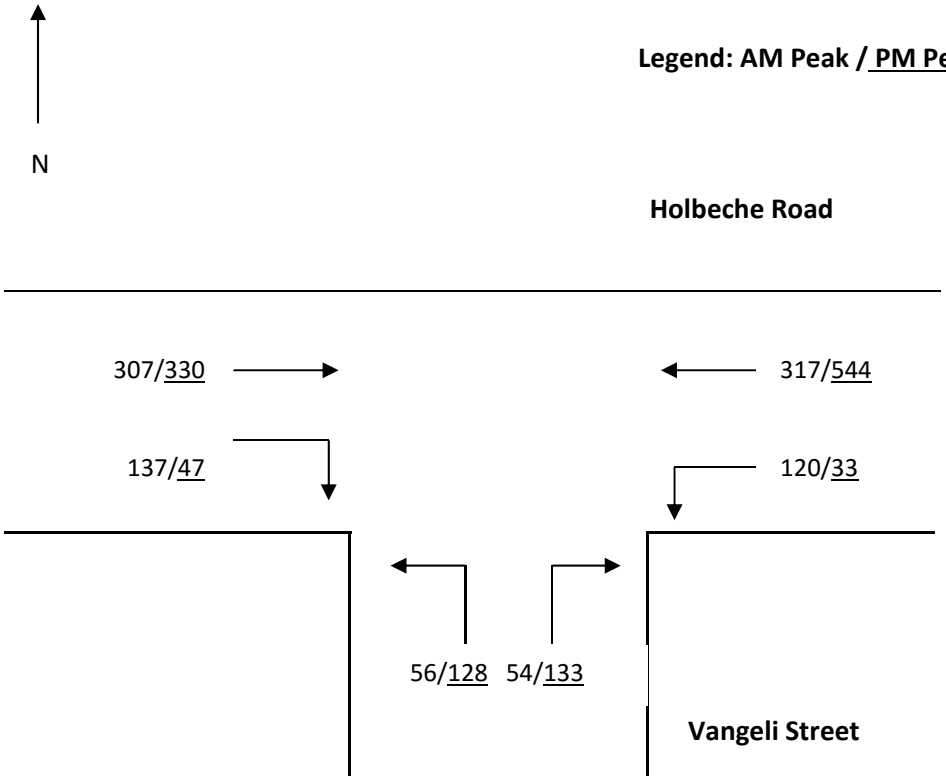
5.2 Trip Distribution

Trips generated to and from the development are projected to be distributed in accordance with current distributions presented within Figure 3, i.e. evenly to / from the east along Holbeche Road.

5.3 Projected Traffic Volumes

The projected peak hour traffic volumes at the junction of Holbeche Road and Vangeli Street have been formulated by adding the trip assignment presented within Section 5.2 of this report to the existing surveyed volumes illustrated within **Figure 3**. **Figure 4** overleaf provides an estimation of the future traffic volumes associated with and on approach to the subject development site.

FIGURE 4
PROJECTED WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF HOLBECHE ROAD & VANGELI STREET



5.4 Traffic Impacts

5.4.1 Projected Intersection Performance

The primary site access junction of Holbeche Road and Vangeli Street has been modelled in order to estimate that likely impact on traffic safety and efficiency utilising the projected traffic volumes illustrated within **Figure 4**. A summary of the most pertinent results are indicated within **Table 6** overleaf whilst more detailed summaries are provided within **Appendix 5**.

TABLE 6 SIDRA OUTPUT – WEEKDAY PEAK HOUR PERFORMANCE				
	Existing Conditions		Projected Conditions	
	AM	PM	AM	PM
Vangeli Street Approach				
Delay	13.9	20.9	14.1	21.2
Degree of Saturation	0.14	0.43	0.14	0.44
Level of Service	A	B	A	B
Eastern Holbeche Road Approach				
Delay	5.6	5.6	5.6	5.6
Degree of Saturation	0.17	0.29	0.17	0.29
Level of Service	A	A	A	A
Western Holbeche Road Approach				
Delay	8.7	10.0	8.8	10.0
Degree of Saturation	0.32	0.24	0.32	0.24
Level of Service	A	A	A	A
Total Intersection				
Delay	3.5	3.9	3.6	4.1
Degree of Saturation	0.32	0.43	0.32	0.44
Level of Service	A	B	A	B

Table 6 indicates that the additional traffic generated by the development is not projected to have noticeable impacts on operation of the junction of Holbeche Road and Vangeli Street with only minor alterations projected with respect to delay and degree of saturation. In this regard, the existing intersection level of service is projected to remain unaltered, representing good conditions with spare capacity.

5.4.2 Site Access Assessment

The development has been projected to generate up to 13 peak hour vehicle movements to and from the site during weekday commuter peak periods. Such a level of traffic, comprising approximately one vehicle movement every four to five minutes, is most unlikely to result in any unreasonable or measurable impacts on the overall level of performance of the road network.

The following comments are provided with respect to the ability or otherwise of vehicles to access and exit the subject site in a safe and efficient manner, notwithstanding the above assessment:

- The positioning of the site access driveway at the end of the southern terminating Kenoma Place cul-de-sac facilitates good sight distance between the driveway and the adjoining public roadway; and

- The low traffic demands within Kenoma Place commensurate with its lower order industrial access cul-de-sac function results in vehicles being able to access and egress the site without delay.

Vehicles are accordingly projected to continue to be capable of entering the exiting the subject development access driveway in a safe and efficient manner.

5.5 Potential Transport Incident Impacts

It has previously been presented that the site operations provide a waste collection and disposal service to health and allied services industries and any other business that requires clinical and sharps waste disposal. Clinical and related waste is classified as special waste (Class 6.1 and 6.2) under the NSW EPA Waste Classification Guidelines.

The main hazards associated with this waste are sharps injury and the infectious nature of the waste. The risks associated with these hazards depends on exposure. A Transport Incident Management Strategy has been prepared and is attached as **Appendix 6**. This Strategy provides an assessment of the likely toxicity of levels of the waste transported to the site and procedures to be followed in the event of an incident during the transport of the waste to the site.

Following the receipt of the clinical waste by the site, it is treated by steam sterilisation process to destroy microbial organisms rendering the waste harmless. There is accordingly no risks associated with the transport of the treated waste from the site following treatment.

5.6 Construction Impacts

The Department of Planning & Environment's Environmental Assessment Requirements specified that assessment of the likely construction impacts are required to be undertaken. The subject application however does not involve any site infrastructure alterations and accordingly, no construction works or impacts are envisaged.

6. CONCLUSION

This report assesses the potential traffic and parking implications associated with a proposal to expand the existing approved and licensed operations of a Clinical and Quarantine Waste Management Facility at 9 Kenoma Place, Arndell Park. Based on this assessment, the following conclusions are now made:

- The existing facility is licenced and approved to receive up to 650 tonnes of waste per year;
- Approval is now sought to increase this capacity to up to 3,000 tonnes per year;
- The existing facility operates significantly below capacity, only being operational between approximately 7:30am – 3:00pm Monday to Friday;
- The expanded facility operations are proposed through an extension of the existing operational hours to accord with the current approval and licence to operate between 7:00am – 7:00pm Monday to Saturday;
- No alterations to the existing site access, internal circulation, servicing and built form arrangements are proposed;
- The existing site operations generate up to 11 peak hour vehicle movements to and from the site;
- The surrounding road network currently provides motorists with a reasonable level of service;
- The projected site operations are envisaged to generate up to 13 peak hour vehicle movements to and from the site;
- The minimal level of additional traffic projected as a result of the proposed expanded site operations is not anticipated to result in any noticeable impacts on the surrounding road network;
- The existing site access arrangements are projected to continue to provide vehicles up to and including MRVs with satisfactory conditions with which to access and vacate the site;
- The existing on-site passenger vehicle parking provision is projected to continue to satisfactorily accommodate the maximum instantaneous parking demand of the expanded site operations; and
- The existing on-site internal circulation and servicing layout are projected to continue to provide vehicles up to and including MRVs with satisfactory manoeuvring arrangements.

It is considered there are no traffic related issues that should prevent approval of the subject application. This action is therefore recommended.

APPENDIX 1

DRAWING NUMBER
165–04

USED ON
—
—
—
—

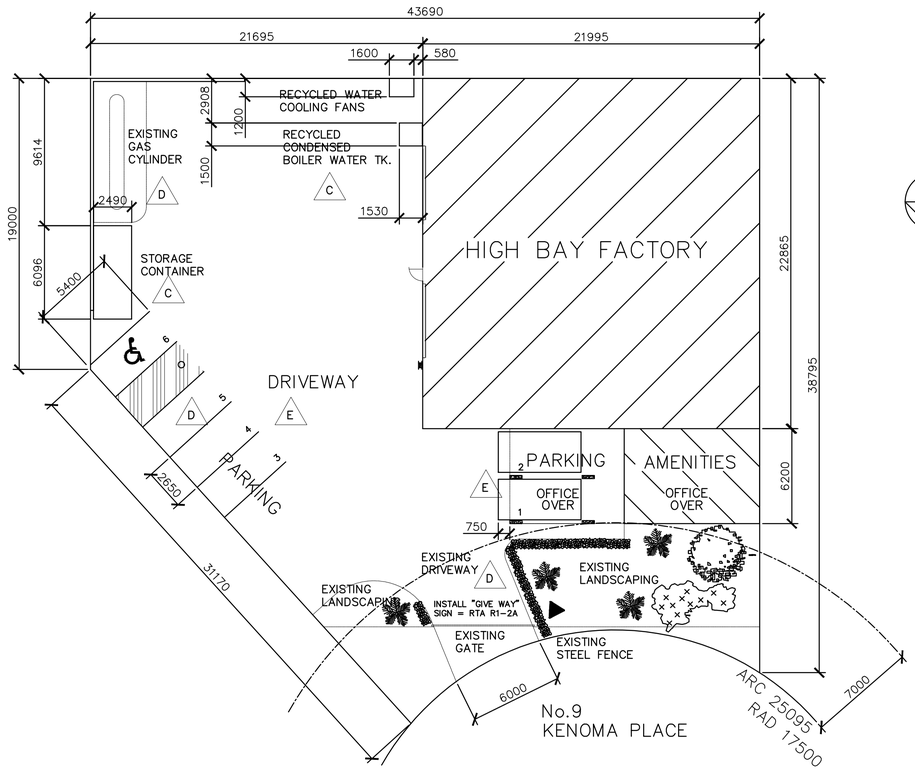
DO NOT SCALE

ISS	DATE	CHANGE	APPROVAL	ZONE
A	18/5/12	–	–	–
B	14/6/12	EXTERNAL HOSE REEL ADDED		
C	30/12/16	WATER TK FANS & CONTAINER ADDED		
D	29/01/17	PARKING MODIFIED SIGN ADDED		
E	23/02/17	PARKING NUMBERS ADJUSTED, GIVE WAY SIGN ROTATED, BOLLARD ADDED		

FOR SECTION ELEVATIONS REFER DRAWING 165–03
FOR EXTERNAL ELEVATIONS REFER DRAWING 165–02
FOR FLOOR PLAN VIEWS REFER DRAWING 165–01
FOR PLANT LAYOUT REFER DRAWING 165–06 REV A.

AREAS OF SITE COMPONENTS

AREA OF FACTORY FOOTPRINT	503 sq m
DRIVEWAY AREA	598 sq m
CARPARKING AREAS	165 sq m
LANDSCAPE AREA	164 sq m
GROUND FLOOR AMENITIES AREA	65 sq m
TOTAL SITE AREA	1495 sq m
1ST FLOOR OFFICE AREA	101 sq m

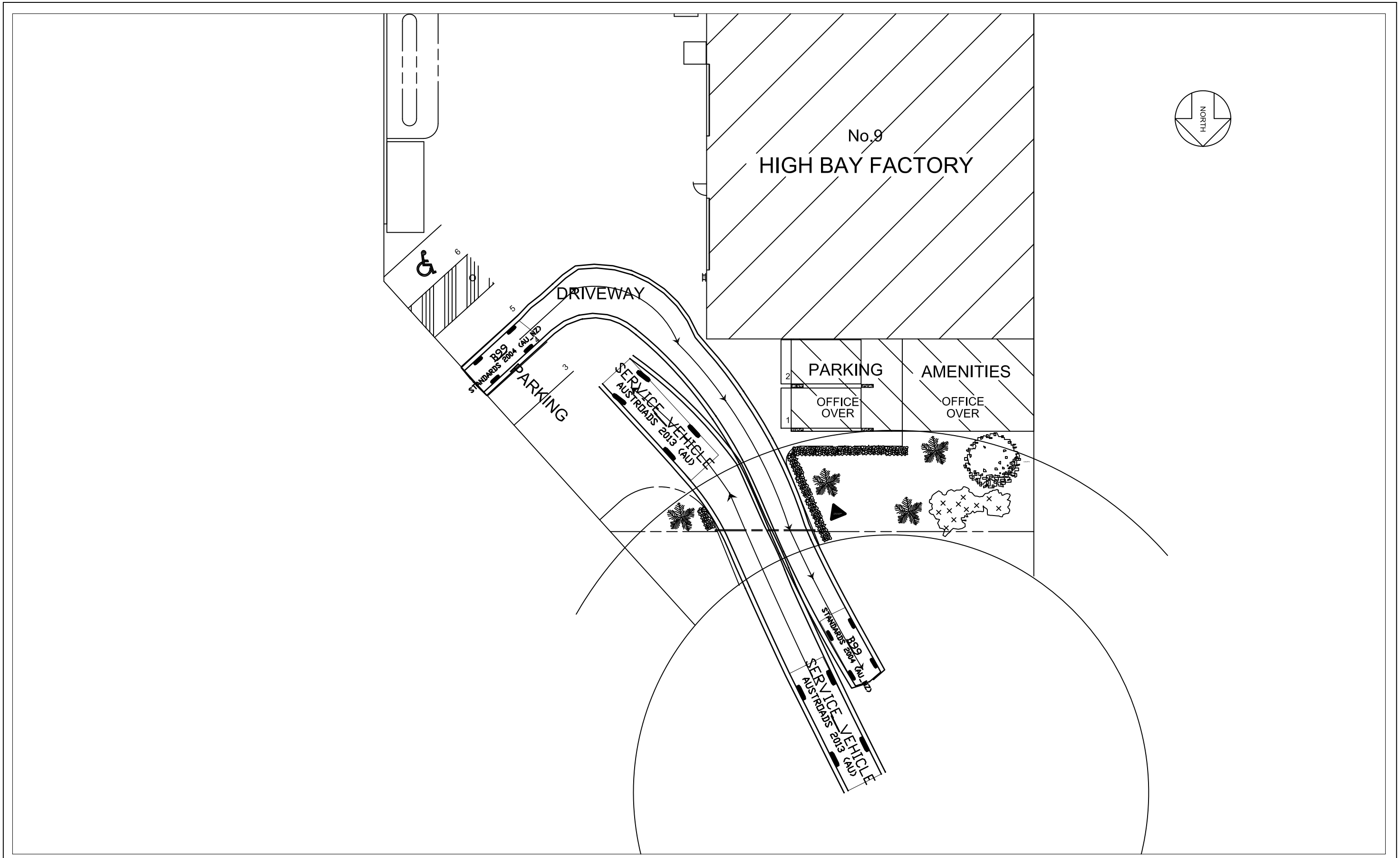


TOLERANCES		DIMENSIONS IN: mm	DRAWN NJP	C.A.D. MECHANICAL STRUCTURAL ARCHITECTURAL	Plant Drafting Services	Telephone (02)4732–2904 Mobile 0418–322904
LINEAR	±0.50	DRAWING PRACTICE AS 1100	CHECKED –		16 Hillcrest Ave, Penrith, N.S.W. 2750	
HOLE CENTRES	±0.20		PASSED –	TITLE	WASTE MANAGEMENT FACILITY	
HOLE DIAMETERS	±0.10	MATERIAL	APPROVED –		STATE WASTE SERVICES, 9 Kenoma Place, Arndell Park	
ANGULAR	±0.5°				SITE PLAN	
ALL HOLE DIAMETERS STATED ARE FINISHED SIZES AFTER PLATING (IF APPLICABLE)		FINISH			DRAWING NUMBER 165–04	SHEET SIZE A1
UNLESS OTHERWISE SPECIFIED ALL TOLERANCES ARE PER TABLE		TSC	DATE APPROVED –	SCALE 1:200	SHEET 1 OF 1	

FILE: a1sheet.dwg (Nov 96)

165-04E, 23/02/2017 7:16:21 PM

APPENDIX 2



STANBURY TRAFFIC PLANNING
TRAFFIC. PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING
ADDRESS: 9 TOXTETH ROAD, GLEBE, 2037
PH: (02) 9660 6394
MOB: 0410 561 848
EMAIL: morgan@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

NOTES:

1. THIS PLAN IS BASED ON SITE PLANS PREPARED BY PLANT DRAFTING SERVICES.
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 10 IN CONJUNCTION WITH 8.8m LONG MEDIUM RIGID VEHICLE AND B99 PASSENGER VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 2: OFF-STREET COMMERCIAL VEHICLE FACILITIES (AS2890.2:2002) AND PART 1: OFF-STREET CAR PARKING (AS2890.1:2004), RESPECTIVELY.

STANBURY TRAFFIC PLANNING

SITE INGRESS / EGRESS SWEPT PATHS

PROPOSED EXPANSION OF WASTE MANAGEMENT FACILITY

9 KENOMA PLACE

ARNDELL PARK

SCALE: 1:250 AT A3

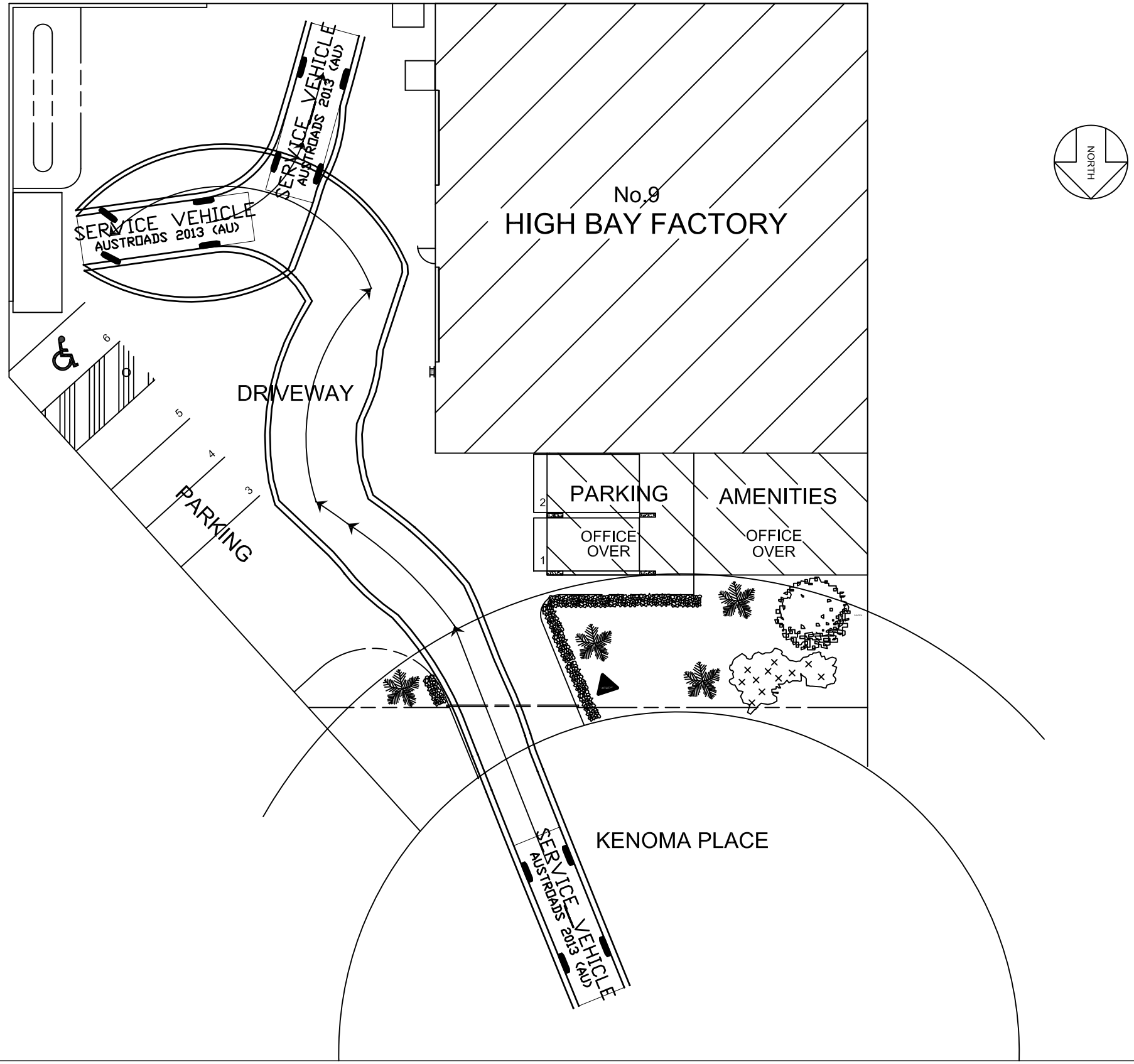
FILE: 16-031

SUPERSEDES SHEET/ISSUE -

DATE: 13/02/2017

ISSUE A

SHEET 1



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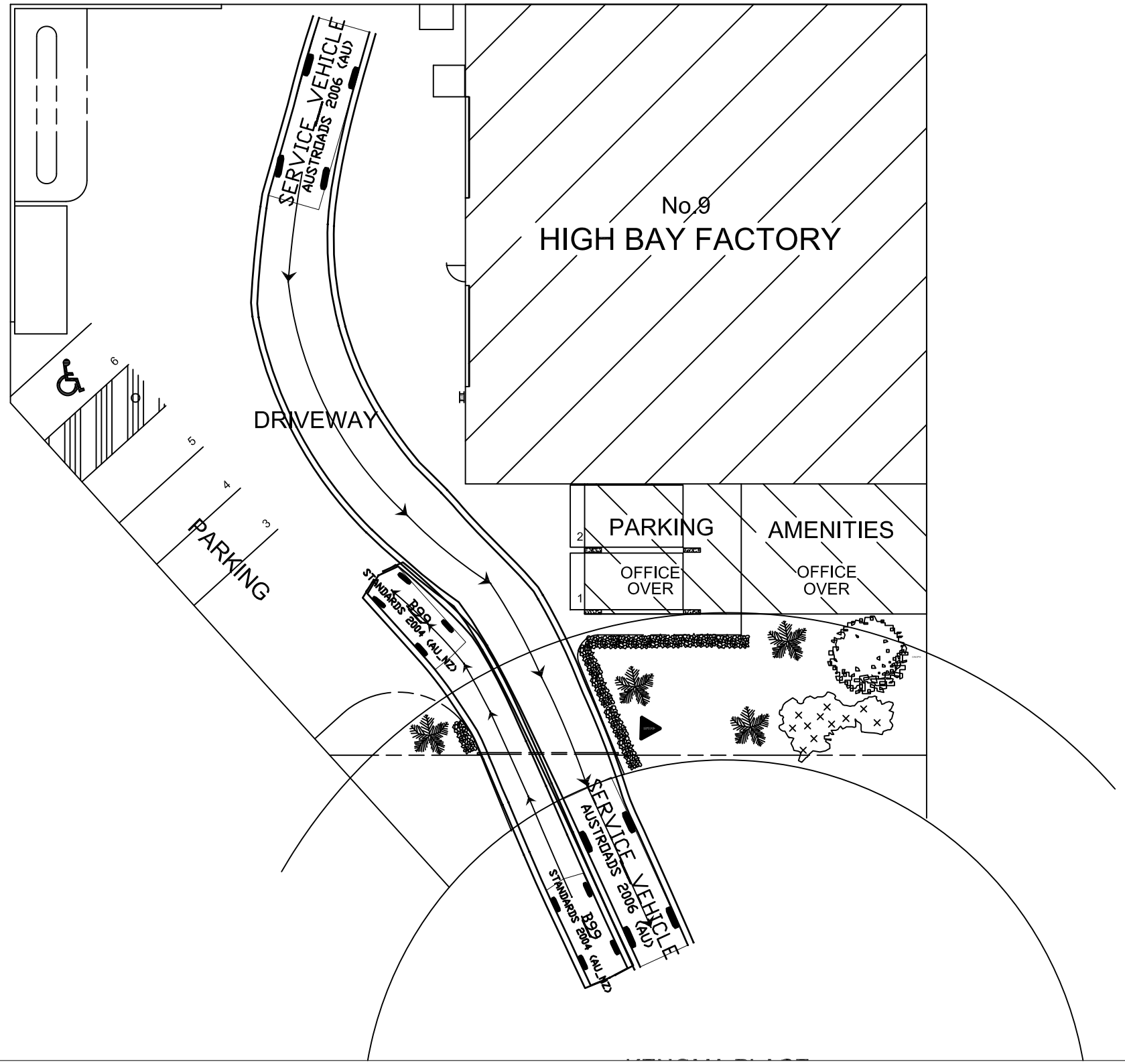
STANBURY TRAFFIC PLANNING

INTERNAL SERVICE VEHICLE TURNAROUND / MANOEUVRING
PROPOSED EXPANSION OF WASTE MANAGEMENT FACILITY
9 KENOMA PLACE
ARNDELL PARK

SCALE: 1:250 AT A3
FILE: 16-031
SUPERSEDES SHEET/ISSUE -
DATE: 13/02/2017
ISSUE A
SHEET 2



STANBURY TRAFFIC PLANNING
TRAFFIC. PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING
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STANBURY TRAFFIC PLANNING

SITE INGRESS / EGRESS SWEPT PATHS

PROPOSED EXPANSION OF WASTE MANAGEMENT FACILITY

9 KENOMA PLACE

ARNDELL PARK

SCALE: 1:250 AT A3

FILE: 16-031

SUPERSEDES SHEET/ISSUE -

DATE: 13/02/2017

ISSUE A

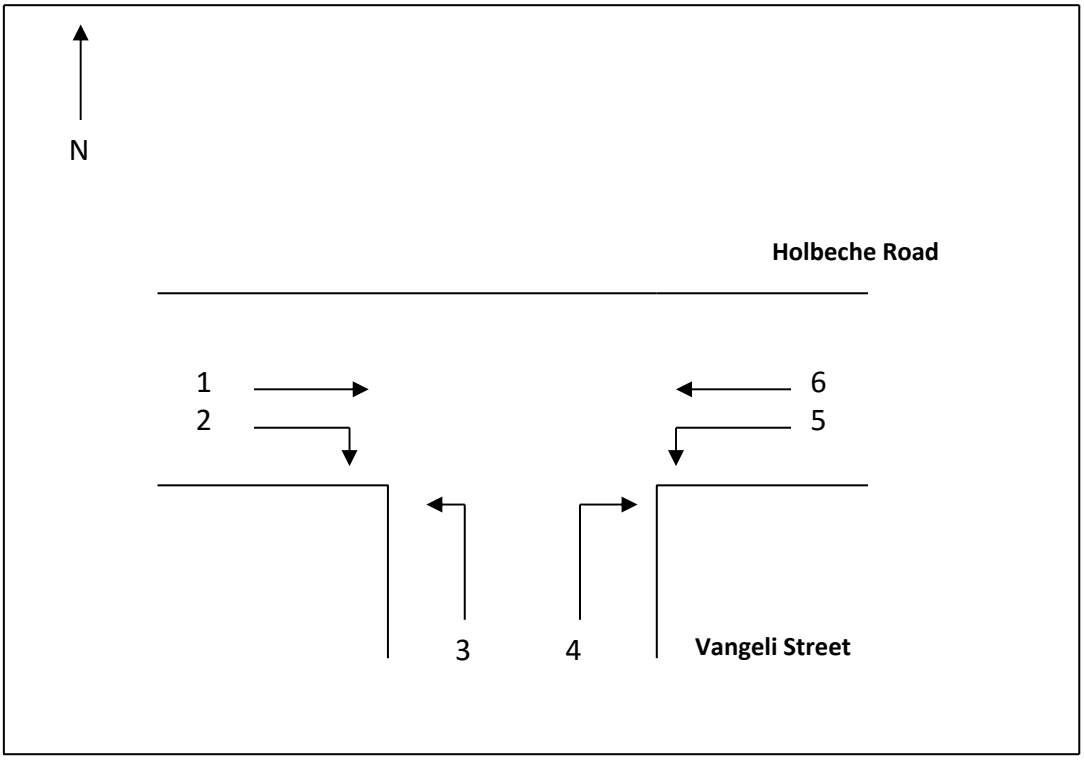
SHEET 3

APPENDIX 3

STANBURY TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

TRAFFIC COUNTS AT: Holbeche Road & Vangeli Street, Arndell Park
DATE: 3rd November 2016
TIME: Fine

Time	Direction of Vehicular Traffic					
	1	**2**	**3**	**4**	**5**	**6**
7.00 – 7.15am	69	21	8	6	31	68
7.15 – 7.30am	71	20	9	8	25	71
7.30 – 7.45am	76	25	11	9	31	74
7.45 – 8.00am	70	37	10	7	49	84
TOTAL	**286**	**103**	**38**	**30**	**136**	**297**
8.00 – 8.15am	78	31	8	14	23	75
8.15 – 8.30am	81	39	20	14	29	73
8.30 – 8.45am	73	31	11	13	32	88
8.45 – 9.00am	75	32	15	11	31	81
TOTAL	**307**	**133**	**54**	**52**	**115**	**317**
4.00 – 4.15pm	88	10	30	25	6	107
4.15 – 4.30pm	85	11	31	27	5	115
4.30 – 4.45pm	91	12	30	25	9	119
4.45 – 5.00pm	95	10	35	32	7	118
TOTAL	**359**	**43**	**126**	**109**	**27**	**459**
5.00 – 5.15pm	95	10	48	42	6	152
5.15 – 5.30pm	76	12	20	28	8	135
5.30 – 5.45pm	80	11	31	31	9	129
5.45 – 6.00pm	79	13	25	28	8	128
TOTAL	**330**	**46**	**124**	**129**	**31**	**544**



APPENDIX 4

MOVEMENT SUMMARY

Site: [Holbeche Road & Vangeli Street]

Existing AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Vangeli Street											
1	L2	54	5.0	0.046	6.7	LOS A	0.2	1.3	0.38	0.60	52.2
3	R2	52	5.0	0.136	13.9	LOS A	0.5	3.5	0.70	0.88	47.4
Approach		106	5.0	0.136	10.3	LOS A	0.5	3.5	0.54	0.74	49.8
East: Holbeche Road East											
4	L2	115	5.0	0.064	5.6	LOS A	0.0	0.0	0.00	0.58	53.4
5	T1	317	5.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		432	5.0	0.168	1.5	NA	0.0	0.0	0.00	0.15	58.1
West: Holbeche Road West											
11	T1	307	5.0	0.317	1.8	LOS A	1.8	13.1	0.40	0.22	56.4
12	R2	133	5.0	0.317	8.7	LOS A	1.8	13.1	0.40	0.22	54.5
Approach		440	5.0	0.317	3.9	NA	1.8	13.1	0.40	0.22	55.8
All Vehicles		978	5.0	0.317	3.5	NA	1.8	13.1	0.24	0.25	56.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Holbeche Road & Vangeli Street]

Existing PM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Vangeli Street											
1	L2	124	5.0	0.139	8.2	LOS A	0.5	3.9	0.53	0.75	51.5
3	R2	129	5.0	0.425	20.9	LOS B	1.9	13.6	0.83	1.01	43.5
Approach		253	5.0	0.425	14.7	LOS B	1.9	13.6	0.68	0.88	47.1
East: Holbeche Road East											
4	L2	31	5.0	0.017	5.6	LOS A	0.0	0.0	0.00	0.58	53.4
5	T1	544	5.0	0.288	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		575	5.0	0.288	0.3	NA	0.0	0.0	0.00	0.03	59.5
West: Holbeche Road West											
11	T1	330	5.0	0.241	1.1	LOS A	0.8	6.0	0.22	0.08	57.9
12	R2	46	5.0	0.241	10.0	LOS A	0.8	6.0	0.22	0.08	55.9
Approach		376	5.0	0.241	2.2	NA	0.8	6.0	0.22	0.08	57.6
All Vehicles		1204	5.0	0.425	3.9	NA	1.9	13.6	0.21	0.23	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX 5

MOVEMENT SUMMARY

Site: [Holbeche Road & Vangeli Street]

Projected AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Vangeli Street											
1	L2	56	5.0	0.048	6.7	LOS A	0.2	1.3	0.38	0.60	52.2
3	R2	54	5.0	0.143	14.1	LOS A	0.5	3.7	0.71	0.88	47.3
Approach		110	5.0	0.143	10.3	LOS A	0.5	3.7	0.54	0.74	49.7
East: Holbeche Road East											
4	L2	120	5.0	0.067	5.6	LOS A	0.0	0.0	0.00	0.58	53.4
5	T1	317	5.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		437	5.0	0.168	1.6	NA	0.0	0.0	0.00	0.16	58.0
West: Holbeche Road West											
11	T1	307	5.0	0.322	1.9	LOS A	1.9	13.7	0.41	0.23	56.3
12	R2	137	5.0	0.322	8.8	LOS A	1.9	13.7	0.41	0.23	54.4
Approach		444	5.0	0.322	4.0	NA	1.9	13.7	0.41	0.23	55.7
All Vehicles		991	5.0	0.322	3.6	NA	1.9	13.7	0.24	0.26	55.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Holbeche Road & Vangeli Street]

Projected PM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Vangeli Street											
1	L2	128	5.0	0.144	8.2	LOS A	0.6	4.0	0.53	0.75	51.4
3	R2	133	5.0	0.439	21.2	LOS B	2.0	14.3	0.84	1.02	43.3
Approach		261	5.0	0.439	14.8	LOS B	2.0	14.3	0.69	0.89	47.0
East: Holbeche Road East											
4	L2	33	5.0	0.018	5.6	LOS A	0.0	0.0	0.00	0.58	53.4
5	T1	544	5.0	0.288	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		577	5.0	0.288	0.4	NA	0.0	0.0	0.00	0.03	59.5
West: Holbeche Road West											
11	T1	330	5.0	0.242	1.2	LOS A	0.8	6.1	0.23	0.09	57.8
12	R2	47	5.0	0.242	10.0	LOS A	0.8	6.1	0.23	0.09	55.8
Approach		377	5.0	0.242	2.3	NA	0.8	6.1	0.23	0.09	57.6
All Vehicles		1215	5.0	0.439	4.1	NA	2.0	14.3	0.22	0.23	55.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX 6

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

TRANSPORT INCIDENT MANAGEMENT STRATEGY

EXPANSION OF CLINICAL AND QUARANTINE WASTE MANAGEMENT FACILITY
9 KENOMA PLACE, ARNDELL PARK

PREPARED FOR STATE WASTE SERVICES PTY. LTD.
OUR REF: 16-031-2

NOVEMBER 2016

9 toxteth road
glebe nsw 2037

morgan@stanburytraffic.com.au
www.stanburytraffic.com.au

ph : 0410 561 848
abn : 23 613 111 916

TABLE OF CONTENTS

APPENDICES

1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by State Waste Services Pty. Ltd. to prepare a Traffic Impact Assessment to accompany a Development Application for the expansion of an existing Clinical and Quarantine Waste Management Facility at 9 Kenoma Place, Arndell Park.

The clinical and related waste being transported to the facility is classified as special waste (Class 6.1 and 6.2) under the NSW EPA Waste Classification Guidelines.

The types and classification of wastes transported to the facility are as follows:

Chemical Name	UN No.	DG Class
Clinical Waste	3291	6.2
Cytotoxic	2810	6.1

The main hazards associated with this waste are sharps injury and the infectious nature of the waste. The risk of these hazards depends on exposure.

The existing facility is licenced and approved to receive up to 650 tonnes of waste per year. Approval is now sought to increase this capacity to up to 3,000 tonnes per year.

A traffic impact assessment has been prepared to investigate and report upon the potential traffic consequences of the proposal and to recommend appropriate ameliorative measures where required. The assessment is provided in response to the Department of Planning and Environment's Environmental Assessment Requirements for the preparation of an Environmental Impact Assessment for the subject development, dated 1 December 2014.

As part of the traffic impact assessment, an Incident Management Strategy is required and is presented as this document. The aim of this strategy is to demonstrate that the transport risks associated with the additional waste capacity will be mitigated so far is as reasonably practicable.

This strategy uses recognised incident management fundamentals, and provide examples of tactical processes which State Waste Services Pty. Ltd. propose to implement through the preparation and implementation of a future Transport Incident Management Plan which will be subject to approval by the EPA. These examples establish that State Waste Services will take all reasonable steps to ensure compliance to regulatory, legislative obligations, and adhere to industry best practices.

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2. SUMMARY OF TRANSPORT OPERATIONS

The current transport operations include the use of a total of ten vehicles, being:

- Seven (7) vans;
- One (1) Small Rigid Vehicle (SMV); and
- Two (2) Medium Rigid Vehicles (MRVs).

These vehicles are driven by employee and contract drivers. The vehicles are stored off-site when not in use (overnight).

The above vehicles typically travel to and from the site from between 7:00am and 12:00pm.

Current operations generate a total:

- 36 movements per day (total in and out);
- An AM peak of 11 movements per hour; and
- A PM peak of 5 movements per hour.

The hours of operation are proposed to be increased from the current 7:30am – 3:00pm Monday to Friday, to 7:00am – 7:00pm Monday to Saturday.

The existing fleet is proposed to be increased by two (2) vans, therefore resulting in the following:

- Nine (9) vans;
- One (1) Small Rigid Vehicle (SMV); and
- Two (2) Medium Rigid Vehicles (MRVs).

Similarly to the existing site operations, all transportation vehicles are to be stored off-site when not in use (overnight).

The increased operation will extend the period of vehicle movements accessing / vacating the site to between 7:00am and 7:00pm Monday to Saturday.

The proposed operation is projected to generate a total:

- 58 movements per day (total in and out);
- An AM peak of 13 movements per hour; and
- A PM peak of 11 movements per hour.

3. STRATEGY CONSIDERATIONS

3.1 The PAMM Model

The PAMM (Prepare / Assess / Manage / Mitigate) model is a commonly used approach to Incident Management.

The model is multi-disciplinary, with the outer ring (PAMM) being the tactical arms that require review and adaptation to a specific task, and the inner ring (Simulations / Incident) being the arena in which each arm of the model is engaged. Refer to Figure 1. *PAMM Model* below.

FIGURE 1
PAMM MODEL

The PAMM model acknowledges that while each component is critical to the successful management of incidents, the preference is to not have the incident occur in the first place.

In this document the PAMM model has been applied to the transport operation only.

Each of the arms are further discussed below as applicable to the transport operation.

Refer to **Appendix 1** for a further developed pictorial of the model including details on how State Waste Services Pty. Ltd. propose to apply the PAMM fundamentals.

3.1.1 Prepare – Improve Organisational Readiness

The successful implementation of the PREPARE arm of the model offers the largest Return on Investment (RoI) with respect to the effectiveness of any incident management strategy. This may include the following:

- Company Polices;
- Training – Chain of Responsibility / Incident Cause Analysis Method (ICAM) / Induction into this Strategy;
- Implementation of a robust Incident Identification, Reporting and Investigation framework (refer to **Appendix 2**, Figure Appendix 2.2 for a sample Near Miss Report);
- Inspections – Vehicles / waste bins / Chain of Responsibility;
- Audits, and
- Establishment of clear Responsibility & Accountability matrices.

3.1.2 Assess – Identify and Evaluate Incidents

The ASSESS arm is the primary SIMULATION phase activity. ASSESS includes the gathering and analysis of incident data from various sources, and the subsequent implementation of any applicable control measures.

The ASSESS arm may include such activities as:

- Analysis of Chain of Responsibility dashboard (refer to **Appendix 2**, Figure Appendix 2.1 for a sample Dashboard);
- Undertake desk-top scenarios;
- Emergency Response Team workshops;
- Monitoring of Industry trends, and
- Establishment of Regulatory update alerts.

3.1.3 Manage – Contain and Recover

Successful execution of the MANAGE arm of the model requires prior, meaningful action in both the PREPARE and ASSESS arms.

At the time an incident occurs, each member of the team involved in the response must know their role, be suitably trained (and deemed competent), and be prepared to execute the tasks allocated to them.

It is broadly recognised that in the event of an incident, there exists a potential where staff become overwhelmed, and forget the tasks that are required of them. The development of the following documents and processes aims to create an easy-to-use set of operational field tools for use in the event of an incident:

- Specific Incident Response Checklists for:
  - Drivers;
  - Emergency Response Team members; and
  - Management.
- Pollution Incident Response Management Procedures (PIRMP) (refer to **Appendix 2,** Figure Appendix 2.3 for a sample PIRMP), and
- Provision of appropriate on-board emergency response resources.

3.1.4 Mitigate – Document Results and Improve Performance

The MITIGATE arm is often considered the most difficult to successfully implement. As an incident is managed, and the recovery operation complete, staff may feel reluctant to speak openly and honestly about the circumstances behind an incident. The success of the MITIGATE arm depends on the establishment of an open and blameless environment where the incident can be deconstructed, analysed, and the lessons learned developed and communicated company wide. It is imperative that State Waste Services Pty. Ltd. encourages this approach as part of their commitment to continual improvement.

The tools made available to staff in the MITIGATE arm include:

- Incident investigation and reporting processes;
- Incident de-briefs;
- Company-wide feedback; and
- Update to procedures.

3.2 Implementation

As State Waste Services Pty. Ltd. transitions from its current operating Approval to the increased capacity expected under a new Approval, the implementation of the processes, tools and analysis outlined above is expected to transition also.

3.3 Monitor and Review

Best systems are ones that evolve as an activity or operation develop and lessons are learned. State Waste Services Pty. Ltd. are to have a review schedule that ensures the applicability and robustness of each of the strategies is maintained.

4. CONCLUDING STATEMENT

This document provides an overarching Incident Management Strategy associated with the transport operations of a Clinical and Quarantine Waste Management Facility at 9 Kenoma Place, Arndell Park. It is considered this Strategy will satisfactorily inform the preparation and implementation of a suitable future Transport Incident Management Plan by State Waste Services Pty. Ltd., which will be subject to approval by the Environment Protection Authority

APPENDIX 1

INCIDENT MANAGEMENT STRATEGY

PREPARE

Improve Organisational Readiness

- Company Policies
- Training
- Drills
- Inspections & Audits
- Near Miss reporting

ASSESS

Identify and Evaluate Incidents

- Worst Case Scenarios
- Emergency Response Team
- Industry Trends
- Regulatory Alerts
- CoR Dashboard

MITIGATE

Document Results & Improve Performance

- Investigations
- Incident de-briefs
- Company-wide feedback
- Update Procedures

MANAGE

Contain and Recover

- PIRMP
- Emergency Procedures
- Emergency Checklists
- Field resources

Figure Appendix 1.1 Developed PAMM model

APPENDIX 2

Figure Appendix 2.1 Sample Chain of Responsibility dashboard

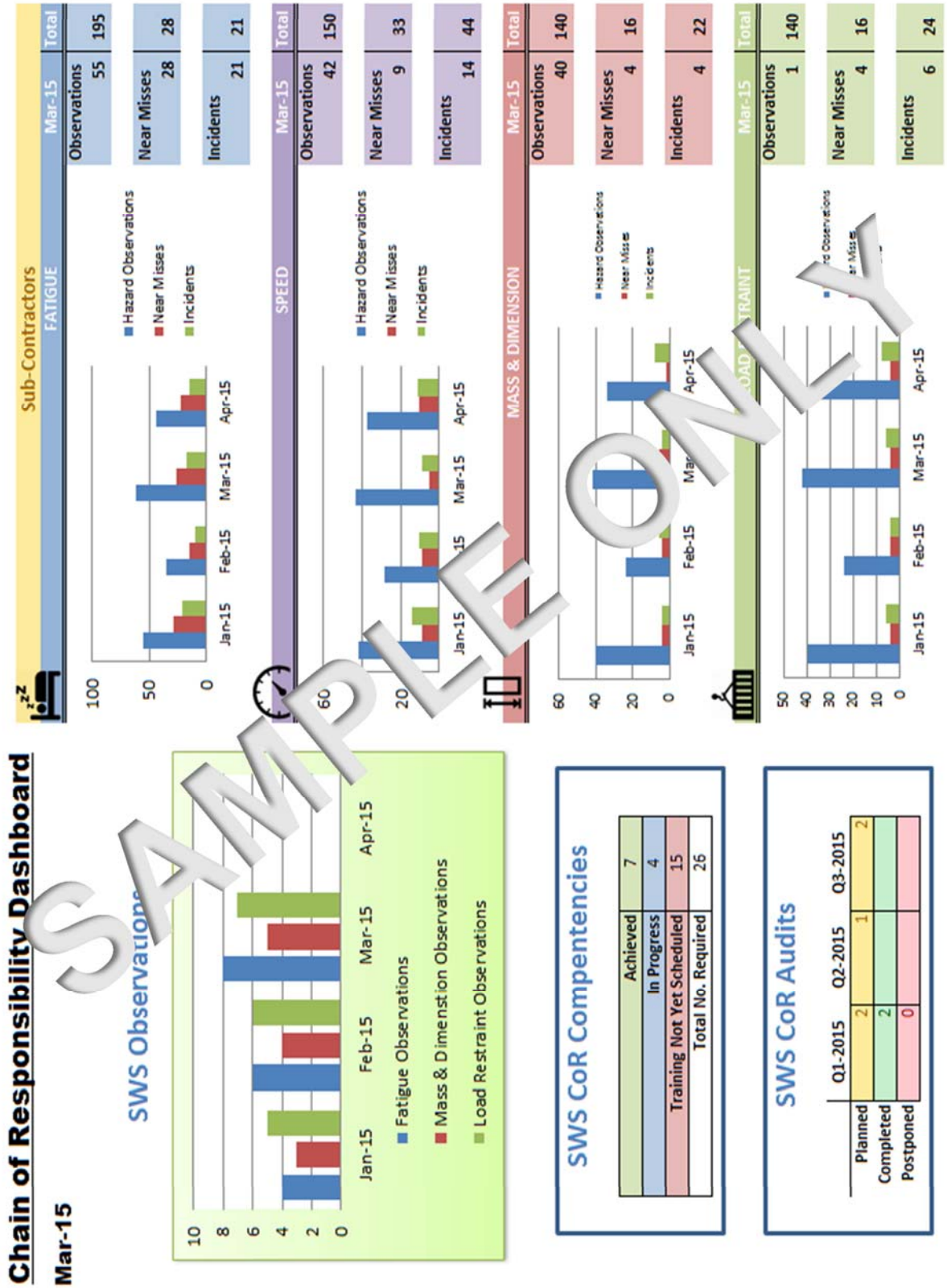

Figure Appendix 2.2 Sample Near Miss Report form

NEAR-MISS REPORT

(Enter company name and address)

1. Name of Person involved (Last, First, Middle Initial)	2. Title/Position of Person Involved
3. Name of Person Completing Form (Last, First, Middle Initial)	4. Title of Person Completing Form
5. Department	6. Contact Phone Number
7. Witness Name (Last, First, Middle Initial)	8. Witness Phone Number

9. Date & Time of Incident Date: _____ Time: _____ AM/PM	10: Near-Miss Location – Site of Incident _____ _____

11. Near-Miss Description (Describe fully the protocol/procedures being followed including all substanc… quipment, …nach… being used which was related to the near-miss Use additional sheets if necessary)

_____
_____
_____
_____

12. Personal Protective Equipment (PPE) Used (if applicable)

13. Severity – Circle the level of severity which yo… could… ar if such a… ncident evolved (Example: High = fatality, permanent disability, high dollar loss; Medium = temporary disability, some d… loss; … …ior or no injury, no lost dollar. Consider such factors as physical injuries, damage to equipment or property, and environmental impact)

… MEDIUM LOW

14. Probability – Circle the lev… …bili… at … …on or property may be exposed to a similar situation, and that required hazards or system failures may be present or likely. (Example: High … …que… and by numerous individuals; Medium = tasks occur on a regular basis by certain individuals; Low = tasks occur infrequently by few individua… …so … such criteria as complexity of the system, latent and human factors, etc.)

HIGH MEDIUM LOW

15. Corrective Actio… vha… …lone or has been done to prevent recurrence of this incident? E.g. employee training, change of procedures, purchasing of …t, etc.)

_____
_____
_____
_____
_____
_____

16. Miscellaneous Information (Provide any other information or recommendations which you feel are pertinent to the incident)

_____
_____
_____

Figure Appendix 2.3 Sample (part) PIRMP form

WORK INSTRUCTION POLLUTION INCIDENT RESPONSE MANAGEMENT PLANS

PLAN ACTIVATION: INTERNAL ALERTING - ORDER of RESPONSE

Co-ordindators 7:00am - 7:00pm	1	Name 1	Phone No. 1	Job Title 1
	2	Name 2	Phone No. 2	Job Title 2
	3	Name 3	Phone No. 3	Job Title 3
	4	Name 4	Phone No. 4	Job Title 4
	5	Name 5	Phone No. 5	Job Title 5

SITUATION APPRAISAL:

STEP 1: TAKE DETAILS of INCIDENT FROM DRIVER INVOLVED

	ACTION	SIGNATURE WHEN COMPLETE
1.1	Check if any injury to driver or third party?	
1.2	Check if any emergency conditions exist	
1.3	Confirm location	
1.4	Confirm if loaded or empty	
1.5	If loaded, is there a spill?	
1.6	Check if any impact to traffic / environment	
1.7	Check if any damage to vehicle	
1.8	Check if any damage to third party vehicle / asset	
1.9	If at a pickup location, confirm contact details for that location	
1.10	Confirm if ERT member(s) are required on location	

STEP 2: ASSESS INFORMATION PROVIDED

	ACTION		URE WHEN COMPLETE
2.1	Contact additional ERT member(s) if assistance i uired		
2.2	If incident is at a pickup location, contact and fol nstructions		
2.3	Contact relevant external services		
	EPA Pollution Line	13 5	
	Local Council	Ring P Di ry 1223	
	RMS Traffic Contro	131 700	
	Police	000	
	Fi Rescu	000	
	W v	131 050	

CONTACT	RESPONSE / ACTIONS / COMMENTS / NOTES
EPA Pollution Line	
Local Council	
RMS Traffic Control	
Police	
Fire & Rescue	
Workcover	

STANBURY TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

TRANSPORT INCIDENT MANAGEMENT STRATEGY

EXPANSION OF CLINICAL AND QUARANTINE WASTE MANAGEMENT FACILITY
9 KENOMA PLACE, ARNDELL PARK

PREPARED FOR STATE WASTE SERVICES PTY. LTD.
OUR REF: 16-031-2

NOVEMBER 2016

9 toxteth road
glebe nsw 2037

morgan@stanburytraffic.com.au
www.stanburytraffic.com.au

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abn : 23 613 111 916

TABLE OF CONTENTS

APPENDICES

1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by State Waste Services Pty. Ltd. to prepare a Traffic Impact Assessment to accompany a Development Application for the expansion of an existing Clinical and Quarantine Waste Management Facility at 9 Kenoma Place, Arndell Park.

The clinical and related waste being transported to the facility is classified as special waste (Class 6.1 and 6.2) under the NSW EPA Waste Classification Guidelines.

The types and classification of wastes transported to the facility are as follows:

Chemical Name	UN No.	DG Class
Clinical Waste	3291	6.2
Cytotoxic	2810	6.1

The main hazards associated with this waste are sharps injury and the infectious nature of the waste. The risk of these hazards depends on exposure.

The existing facility is licenced and approved to receive up to 650 tonnes of waste per year. Approval is now sought to increase this capacity to up to 3,000 tonnes per year.

A traffic impact assessment has been prepared to investigate and report upon the potential traffic consequences of the proposal and to recommend appropriate ameliorative measures where required. The assessment is provided in response to the Department of Planning and Environment's Environmental Assessment Requirements for the preparation of an Environmental Impact Assessment for the subject development, dated 1 December 2014.

As part of the traffic impact assessment, an Incident Management Strategy is required and is presented as this document. The aim of this strategy is to demonstrate that the transport risks associated with the additional waste capacity will be mitigated so far is as reasonably practicable.

This strategy uses recognised incident management fundamentals, and provide examples of tactical processes which State Waste Services Pty. Ltd. propose to implement through the preparation and implementation of a future Transport Incident Management Plan which will be subject to approval by the EPA. These examples establish that State Waste Services will take all reasonable steps to ensure compliance to regulatory, legislative obligations, and adhere to industry best practices.

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- Drills
- Inspections & Audits
- Near Miss reporting

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- Emergency Response Team
- Industry Trends
- Regulatory Alerts
- CoR Dashboard

MITIGATE

Document Results & Improve Performance

- Investigations
- Incident de-briefs
- Company-wide feedback
- Update Procedures

MANAGE

Contain and Recover

- PIRMP
- Emergency Procedures
- Emergency Checklists
- Field resources

Figure Appendix 1.1 Developed PAMM model

APPENDIX 2

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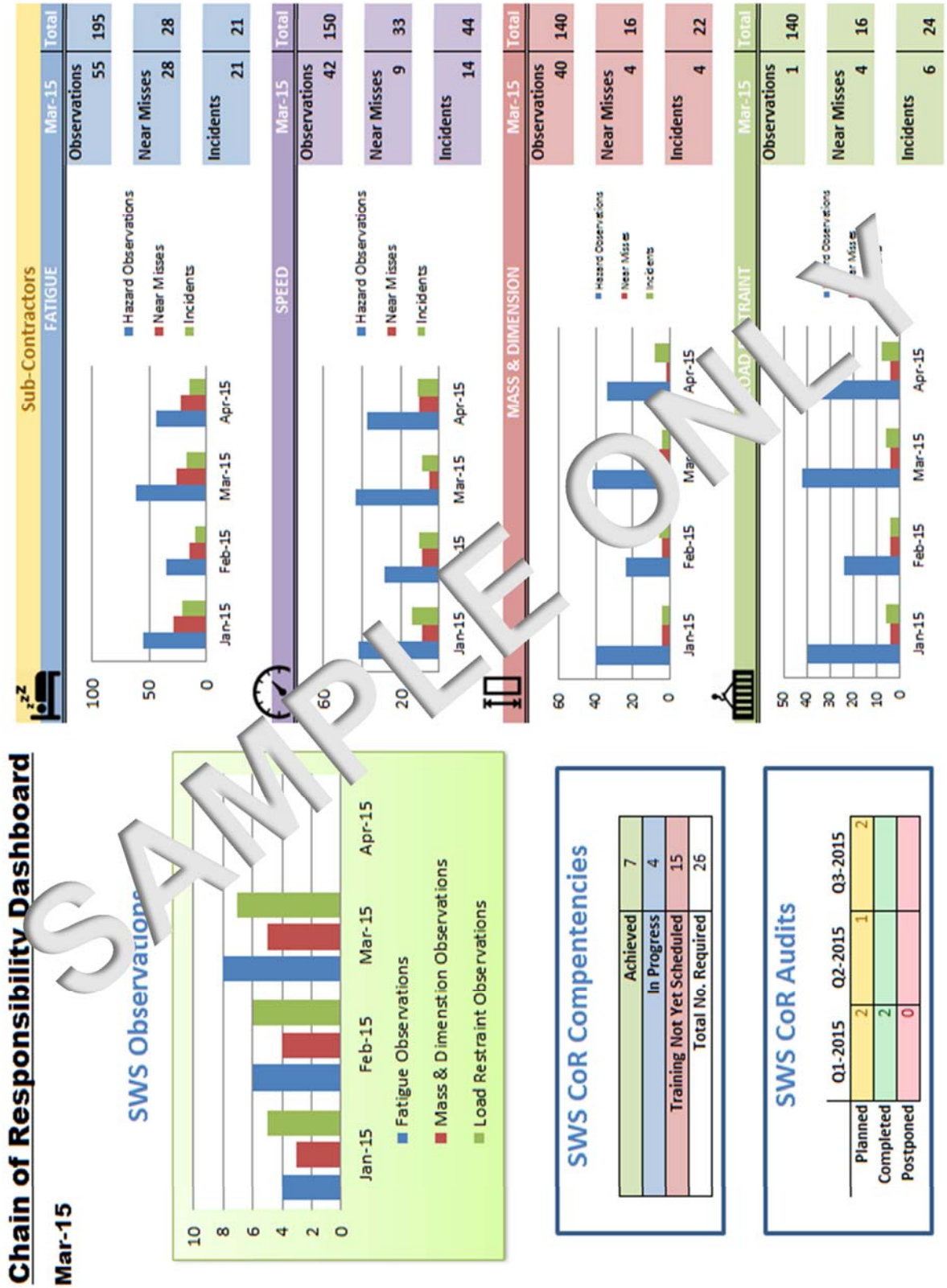

Figure Appendix 2.2 Sample Near Miss Report form

NEAR-MISS REPORT

(Enter company name and address)

1. Name of Person involved (Last, First, Middle Initial)	2. Title/Position of Person Involved
3. Name of Person Completing Form (Last, First, Middle Initial)	4. Title of Person Completing Form
5. Department	6. Contact Phone Number
7. Witness Name (Last, First, Middle Initial)	8. Witness Phone Number

9. Date & Time of Incident Date: _____ Time: _____ AM/PM	10: Near-Miss Location – Site of Incident _____ _____

11. Near-Miss Description (Describe fully the protocol/procedures being followed including all substanc… quipment, …nach… being used which was related to the near-miss Use additional sheets if necessary)

_____
_____
_____
_____

12. Personal Protective Equipment (PPE) Used (if applicable)

13. Severity – Circle the level of severity which yo… could… ar if such a… ncident evolved (Example: High = fatality, permanent disability, high dollar loss; Medium = temporary disability, some d… loss; … …ior or no injury, no lost dollar. Consider such factors as physical injuries, damage to equipment or property, and environmental impact)

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HIGH MEDIUM LOW

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_____
_____
_____
_____
_____
_____

16. Miscellaneous Information (Provide any other information or recommendations which you feel are pertinent to the incident)

_____
_____
_____

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PLAN ACTIVATION: INTERNAL ALERTING - ORDER of RESPONSE

Co-ordindators 7:00am - 7:00pm	1	Name 1	Phone No. 1	Job Title 1
	2	Name 2	Phone No. 2	Job Title 2
	3	Name 3	Phone No. 3	Job Title 3
	4	Name 4	Phone No. 4	Job Title 4
	5	Name 5	Phone No. 5	Job Title 5

SITUATION APPRAISAL:

STEP 1: TAKE DETAILS of INCIDENT FROM DRIVER INVOLVED

	ACTION	SIGNATURE WHEN COMPLETE
1.1	Check if any injury to driver or third party?	
1.2	Check if any emergency conditions exist	
1.3	Confirm location	
1.4	Confirm if loaded or empty	
1.5	If loaded, is there a spill?	
1.6	Check if any impact to traffic / environment	
1.7	Check if any damage to vehicle	
1.8	Check if any damage to third party vehicle / asset	
1.9	If at a pickup location, confirm contact details for that location	
1.10	Confirm if ERT member(s) are required on location	

STEP 2: ASSESS INFORMATION PROVIDED

	ACTION		URE WHEN COMPLETE
2.1	Contact additional ERT member(s) if assistance i uired		
2.2	If incident is at a pickup location, contact and fol nstructions		
2.3	Contact relevant external services		
	EPA Pollution Line	13 5	
	Local Council	Ring P Di ry 1223	
	RMS Traffic Contro	131 700	
	Police	000	
	Fi Rescu	000	
	W v	131 050	

CONTACT	RESPONSE / ACTIONS / COMMENTS / NOTES
EPA Pollution Line	
Local Council	
RMS Traffic Control	
Police	
Fire & Rescue	
Workcover	