



# Hyden Workforce Accommodation Facility Transport Impact Assessment

**PREPARED FOR:**  
Kondinin Energy Pty Ltd

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# 1 Introduction

This Transport Impact Assessment (TIA) has been prepared by Transcore on behalf of Planning Solutions.

The subject of this report is the workforce accommodation facility at Hyden, which was established for the construction workforce associated with the King Rocks Wind Farm (KRWF). The facility is now proposed to be used by the construction workforce associated with the Kondinin Wind and Solar Farm (KWSF). Accordingly, an updated TIA is provided to confirm the traffic impacts associated with this workforce and a different travel route.

The subject site is at Lot 192 Hyden-Mount Walker Road, Hyden, in the Shire of Kondinin. The accommodation facility is located approximately 400m north of Hyden townsite, as shown in **Figure 1**.



**Figure 1: Location of the subject site**

The proposed KWSF site is east of Kondinin, approximately 60km west from the proposed accommodation facility.

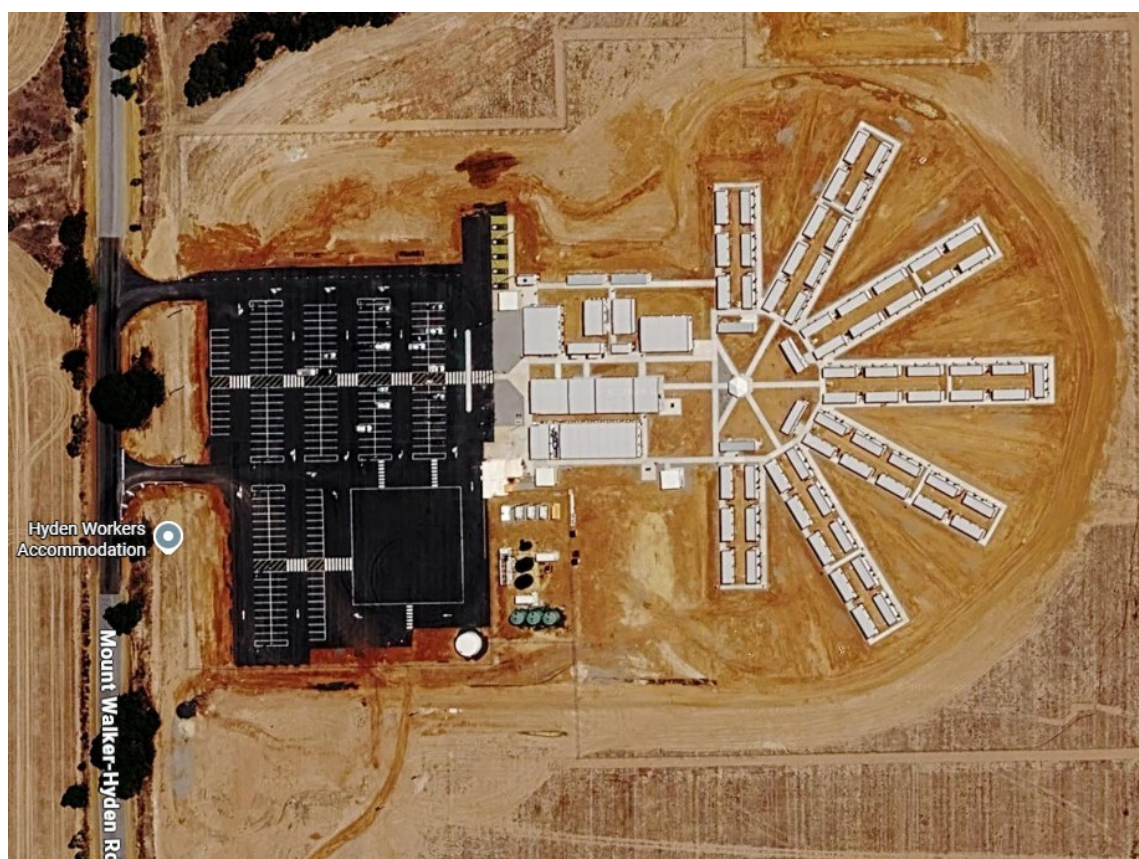
This TIA considers transport arrangements for workforce travel between the accommodation facility and Perth and between the accommodation facility and the KWSF site.

## 2 Proposed Development

The Hyden workforce accommodation facility was established for construction of the Synergy King Rocks Wind Farm (KRWF) project and is now proposed to be utilised for the Kondinin Wind and Solar Farm (KWSF) project.

The KWSF construction period is anticipated to be in the order of 24 months, with a peak workforce of 130 workers.

The existing site layout is illustrated in **Figure 2** and the approved development plans are included in **Appendix A**.



**Figure 2: Existing Hyden workforce accommodation facility**

The accommodation facility incorporates the following key components:

- 63 accommodation units (3-bed)
- Dry mess, wet mess, bathrooms, laundry, multifunction room, wellness and recreation facilities;
- Communications, security, admin, medical, storage and bin store;
- Loading zone at kitchen and ambulance bay at the medical rooms;
- Bus drop-off/pick-up facility for 2 buses plus 3 bus waiting bays;



driveway, then 2 bus spaces available at the bus shelter adjacent to the accommodation facility buildings.

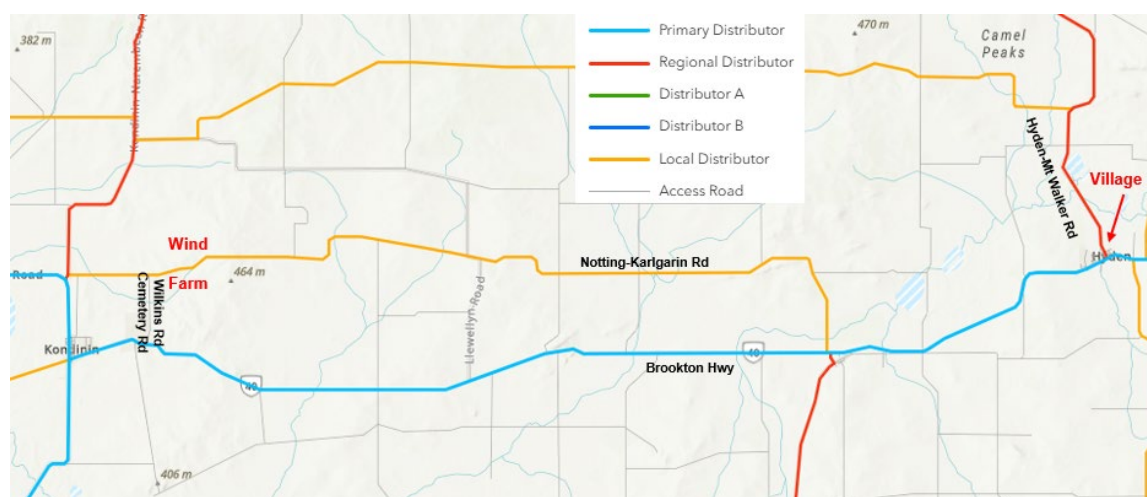
An ambulance bay is provided north of the bus shelter adjacent to the medical room.

A loading zone is provided south of the bus shelter adjacent to the kitchens and bin store. This loading zone is large enough for two heavy rigid trucks to reverse into for deliveries and waste collection.

## 3 Existing Situation

### 3.1 Existing Road Network

The existing road hierarchy on the road network between Hyden and the proposed KWSF windfarm site is illustrated in **Figure 4**, based on the Main Roads WA *Functional Road Hierarchy*.



**Figure 4: Existing road hierarchy**

**Hyden-Mount Walker Road** runs northwards from Hyden on the western side of the subject site. It is constructed as a single carriageway, two-lane rural road with 6.5m to 7m sealed width, with unsealed shoulders, as shown in **Figure 5**.



**Figure 5: Northbound view along Hyden-Mount Walker Road**

Hyden-Mount Walker Road is classified as a Regional Distributor in the Main Roads WA *Functional Road Hierarchy*. It is under the care and control of the Shire of Kondinin.

Hyden-Mount Walker Road has a posted speed limit of 50km/h north of Hyden townsite but changes to 80km/h in the vicinity of the accommodation facility before changing again to 110km/h further to the north.

**McPherson Street** is the southern extension of Hyden-Mount Walker Road within Hyden townsite (from Clayton Street to Brookton Highway). It is constructed as a two-lane urban road with sealed width ranging from approximately 8m to 10m between kerbs. The built-up area default speed limit of 50km/h applies within Hyden townsite.

McPherson Street is classified as a Regional Distributor in the Main Roads WA *Functional Road Hierarchy*. It is under the care and control of the Shire of Kondinin.

The existing Brookton Hwy / McPherson St T-intersection is shown in **Figure 6**. It has Give Way sign control on the McPherson Street approach. The westbound traffic lane on Brookton Highway is widened to 7m wide at this intersection to provide sufficient width for westbound through traffic to pass a vehicle waiting to turn right from Brookton Hwy into McPherson St.



**Figure 6: Brookton Hwy / McPherson St intersection**

**Brookton Highway** runs east west at the southern side of Hyden townsite. It is locally named as Marshall Street within Hyden townsite and Main Roads WA also has its

own naming system for different sections of Brookton Hwy (i.e. Kondinin-Hyden Road west of Hyden and Hyden-Lake King Road east of Hyden).

Brookton Highway is classified as a Primary Distributor in the Main Roads WA *Functional Road Hierarchy*. It is a State Road under the care and control of Main Roads WA.

Brookton Highway is generally constructed as a two-lane rural highway with 3.5m traffic lanes. Streetlighting is provided within Hyden townsite and some sections are also kerbed within the townsite. It has a posted speed limit of 50km/h within the townsite, transitioning to 80km/h for short sections outside the townsite and then to 110km/h speed limit.

**Notting-Karlgarin Road** runs east west through the KWSF windfarm site and connects to Brookton Highway about 16km west of Hyden, as illustrated in **Figure 4**. It is under the care and control of the Shire of Kondinin.

Notting-Karlgarin Road is classified as a Local Distributor in the Main Roads WA *Functional Road Hierarchy* and the default speed limit of 110km/h outside of a built-up area applies.

Short sections at the ends of Notting-Karlgarin Road are sealed but most of its length is constructed as an unsealed road.

**Wilkins Road (Cemetery Road)** runs north south between Brookton Highway and Notting-Karlgarin Road, as illustrated in **Figure 4**. It is under the care and control of the Shire of Kondinin.

Wilkins Road is classified as an Access Road in the Main Roads WA *Functional Road Hierarchy*. It is constructed as an unsealed road and the default speed limit of 110km/h outside of a built-up area applies on this road.

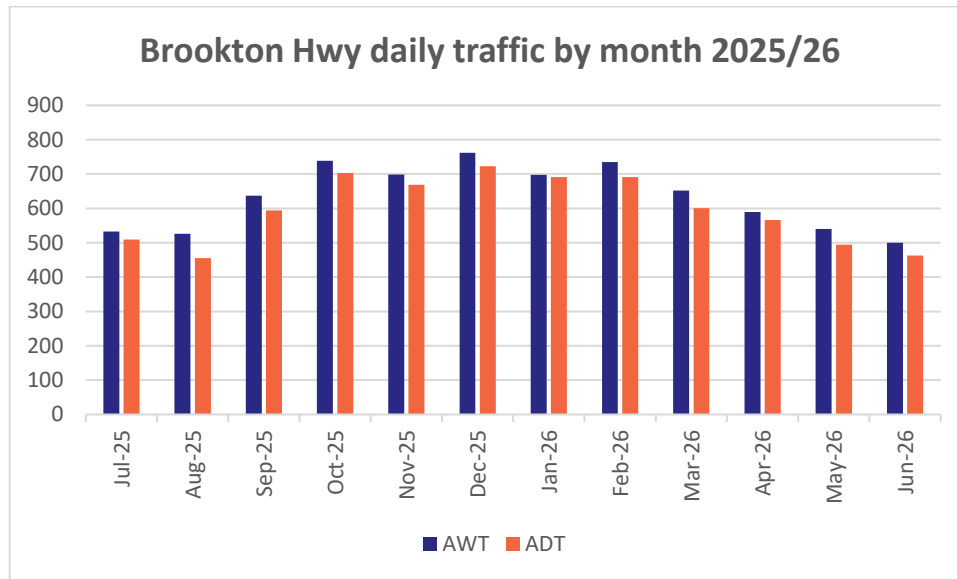
## 3.2 Existing Traffic Volumes

Traffic count information available on the Main Roads WA website indicates that Hyden-Mount Walker Road (north of Clayton St) carried average weekday traffic flows of 144 vehicles per day (vpd) in 2019/20, with 40vpd (27.8%) of this weekday traffic being heavy vehicles.

A Main Roads WA permanent traffic count station on Kondinin-Hyden Road (Brookton Hwy) west of Hyden reports average weekday traffic (AWT) flows of 634vpd in 2025/26, with 33.4% of this weekday traffic being heavy vehicles. 7-day average daily traffic (ADT) was 600vpd in 2025/26.

Seasonal variation in traffic flows on Brookton Highway is illustrated in **Figure 7**, which shows higher traffic volume during the October to February period. This corresponds to the harvest period, which typically extends from mid-October to December or January.

Highest monthly traffic flows occurred in December with ADT of 723vpd and AWT of 762vpd. The highest traffic flows recorded were associated with the King's Birthday Public Holiday with 1,327vpd on the public holiday Monday 29 Sept 2025 and 1,221vpd on Friday 26 Sept 2025.



**Figure 7: Brookton Hwy daily traffic by month in 2025/26**

### 3.3 Heavy Vehicle Routes

Restricted Access Vehicle (RAV) Network routes are designated for access by large heavy vehicle combinations that require special permits for each trip. Main Roads WA manages the RAV Networks and the permits for trucks to use them.

There are various sets of RAV Networks defined by MRWA for a number of different variations on vehicle configurations (eg. Tandem Drive versus Tri Drive, which refers to trucks with power to two axles or three axles, respectively). The Tandem Drive RAV Networks provide a useful first indication of the size of heavy vehicle combinations permitted on particular roads.

Hyden-Mount Walker Road is included in the Restricted Access Vehicles (RAV) Networks designated by Main Roads WA, including Tandem Drive Network 7, which means various vehicle combinations up to 36.5m long (eg. A-double road trains) are permitted to use this road.

Similarly, Brookton Hwy and the eastern section of Notting-Karlgarin Road the following roads are also included in Tandem Drive Network 7. The western section of Notting-Karlgarin Road is included in Tandem Drive Network 6 (various vehicle combinations up to 36.5m long but lower vehicle mass limits than Network 7).

Wilkins Road (Cemetery Road) is included in Tandem Drive Network 4, which permits various vehicle combinations up to 27.5m long (eg. B-doubles).

## 3.4 Public Transport Access

There are no existing public transport services in this rural area.

## 3.5 Pedestrian and Cyclist Facilities

There are no existing dedicated pedestrian or bicycle facilities on Hyden-Mount Walker Road north of the accommodation facility. A sealed footpath has been constructed on the eastern side of this road from the accommodation facility to Hyden townsite.

Cyclists are permitted to ride on Hyden-Mount Walker Road.

## 3.6 Crash Data

The Main Roads WA website includes *detailed crash history* data for all roads and intersections that recorded crashes over the 5-year period ending 31 December 2025.

A total of 36 crashes were recorded in the Shire of Kondinin during this period. The seven crashes that occurred on any of the road sections discussed in section 3.1 of this report (i.e. on routes between the Hyden accommodation facility and the Kondinin Wind and Solar Farm (KWSF)) are summarised below.

Six crashes occurred on the 38-kilometre section of Brookton Highway between Wilkins Rd, Kondinin (SLK 256.35) and McPherson Rd, Hyden (SLK 312.00). All were single vehicle accidents.

- In Jan 2022 a utility hit a tree on the right verge at SLK 290.49 resulting in fatality.
- In Feb 2022 a truck lost control while turning right at Aggiss Rd intersection (SLK 291.05) resulting in injury (medical treatment).
- In Mar 2023 a vehicle hit a fixed object on the left verge at SLK 283.02 after swerving to avoid an animal, resulting in injury (hospitalisation).
- In Oct 2023 a motorcycle hit an embankment on the left verge off a right-hand curve at SLK 257.56, resulting in injury (hospitalisation).
- In Mar 2024 a car hit a guard rail on the left verge at SLK 290.49 resulting in property damage only (major).
- In Oct 2025 a vehicle hit a tree on the left verge at SLK 297.00 resulting in property damage only (minor).

One crash occurred on Notting-Karlgarin Rd:

- In July 2022 a four-wheel drive vehicle swerved onto the right verge at SLK 15.29 (unsealed section approximately 11km east of Wilkins Rd intersection) to avoid an animal, resulting in property damage only (major).

## 4 Parking Assessment

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The 'as constructed' parking provision for the existing accommodation facility provides a total of 210 standard car bays plus 9 disabled bays. This currently provides parking for all accommodation facility staff (up to 16 persons) and the full capacity of 189 workers able to be accommodated at the accommodation facility, with spare capacity available for visitors.

Accordingly, the existing parking supply will satisfy the parking requirements associated with the lower workforce numbers of approximately 130 workers for the Kondinin Wind and Solar Farm (KWSF) project in future.

# 5 Traffic Assessment

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## 5.1 Assessment Period

It is understood that the 2024 development application for this accommodation facility indicated this facility would remain in place for up to five years. Accordingly, the assessment period for this TIA considers a relatively short-term planning horizon including approximately two years for construction of the subsequent KWSF project.

The peak periods of traffic flow generated by the proposed accommodation facility will be during the morning and evening peak periods before and after the work shift at the KWSF site. As detailed in the following sections, these peak periods are anticipated to be an AM peak hour sometime within 5-8AM and a PM peak hour sometime within 4-7PM, Monday to Saturday, similar to the KRWF workforce.

Sunday peak traffic flows will be related to workers travelling to and from the accommodation facility at the start and end of their rostered period. These flows will be spread over a number of hours.

## 5.2 Trip Generation

The estimation of the traffic volume that will be generated by the proposed use of the accommodation facility has been based on information provided by the applicant regarding the proposed workforce transportation arrangements and anticipated roster schedule. The traffic generation of the site components are quantified in the following sections.

### **Workforce commute between home and the accommodation facility**

It is understood that the construction workforce for the KWSF project will be rostered on a two weeks on / one week off basis, working six days per week, with arrival and departure of half of the workforce that is accommodated at the accommodation facility each week, similar to the KRWF workforce. Assuming the rostered day off is Sunday, that would mean approximately 65 workers departing on Sunday morning and a similar number of workers arriving at the accommodation facility on Sunday afternoon / evening.

It is anticipated that all 65 workers would travel between home and the accommodation facility using their own vehicles. It is possible that some workers would make ride-sharing arrangements between themselves, which would reduce the number of vehicle movements involved, but to ensure a robust assessment in this report it is assumed that all workers would drive their own vehicles to and from the accommodation facility.

If it is assumed that these light vehicle (LV) departures are spread over 4 hours on Sunday morning and light vehicle arrivals are spread over 6 hours on Sunday

afternoon / evening, then the workforce light vehicle arrival / departure pattern on Sundays in the three transport scenarios would be as follows:

- Sunday 7-11AM: 16-17 LV per hour outbound.
- Sunday 1-7PM: 10-11 LV per hour inbound.

#### **Accommodation facility staff commute between home and the accommodation facility**

Additionally, up to 16 accommodation facility operating staff will travel to the accommodation facility daily by private vehicles. At this stage it is not known how many would live locally and how many would have accommodation within the accommodation facility, but it is assumed this will remain similar to the existing situation. As they will be involved in a range of tasks including preparation of breakfast before workers depart to the worksite and dinner after workers return from the worksite, housekeeping throughout the day, bar staff during the evening and security at all hours, the arrival and departure patterns of these staff will also be spread throughout the day on all days of the week but is unlikely to involve more than 8 vehicle movements (inbound plus outbound combined) during any hour.

On Sundays the peak hour traffic flows that overlap with shift worker departures would probably occur after breakfast (eg. 2LV inbound / 6LV outbound) or before dinner (eg. 6LV inbound / 2LV outbound).

On Mondays to Saturdays it is anticipated these accommodation facility staff peak flows would not coincide with workforce travel peaks to / from the wind farm construction worksite as accommodation facility staff will be required to be on-site during these peak periods. A nominal traffic flow of two LV inbound during the workforce AM peak hour and two LV outbound during the workforce PM peak hour has been allowed for in this assessment.

#### **Workforce transportation between the accommodation facility and windfarm site**

It is understood that the construction workforce for the KWSF project will have work hours of 10 hours per day within a 12-hour window of 6AM to 6PM, six days per week. The 12-hour window allows for seasonal variations.

For example:

- If the 10-hour workday is 6AM-4PM then the AM peak hour of travel would be 5-6AM and the PM peak hour would be 4-5PM.
- If the 10-hour workday is 7AM-5PM then the AM peak hour of travel would be 5-6AM and the PM peak hour would be 5-6PM.
- If the 10-hour workday is 8AM-6PM then the AM peak hour of travel would be 5-6AM and the PM peak hour would be 6-7PM.

The applicant has advised that it is expected that workforce travel to and from the KWSF site will involve approximately 50 light vehicles to transport 130 workers with workers sharing vehicles as appropriate (i.e. typically 1 to 4 workers per vehicle with an average of 2.6 workers per vehicle). These vehicles will travel to the KWSF site during an AM peak hour sometime within 5-8AM in the morning and return to the

accommodation facility in the afternoon during a PM peak hour sometime within 4-7PM, Monday to Saturday, as indicated above.

The resultant workforce peak traffic flows between the accommodation facility and KWSF site would therefore be as follows:

- Mon-Sat AM peak hour: 50 vehicles outbound
- Mon-Sat PM peak hour: 50 vehicles inbound

During some periods of the KWSF construction it is understood that there may also be some Sunday or night shift construction work required by a smaller proportion of the workforce, mainly due to weather conditions.

Timing of potential night shift work would be variable and is currently unknown but if those workers depart from the accommodation facility after the evening meal those trips could coincide with afterwork recreational trips by accommodation facility residents as discussed below. However, it should be noted that afterwork recreational trips and regular AM and PM peak traffic flows would be proportionally lower when the overall workforce is split between day and night shift work.

#### **Afterwork employee traffic**

It is anticipated that a portion of the accommodation facility residents may choose to travel outside of the accommodation facility for recreational/leisure purposes to various local attraction nodes after the shift has finished. However, this traffic is expected to be limited and overwhelmingly outside of peak road network traffic activity periods. For this report it is conservatively assumed that 10 percent of the workforce may travel outside during the busiest hour during the evening (eg. 7-8PM) which would equate to 13 outbound trips by light vehicles and perhaps 7 inbound LV trips.

Similarly, on Sundays the half of the resident workers who are on their day off in the middle of their 2-week shift may also choose to travel outside of the accommodation facility for recreational/leisure purposes to various local attraction nodes. For this report it is conservatively assumed that 10 percent of those 65 people may travel outside during the busiest hour (eg. 7 LV in / 7 LV out)

#### **Visitor traffic**

Other, non-employee traffic, which is not directly associated with the project but rather relevant to the camp operation such as visitors, camp maintenance, various smaller service vehicles and other similar activities will also occur. However, this traffic is expected to be limited and will typically take place outside of peak road network traffic or accommodation facility traffic activity periods. As such, this traffic is not assessed further.

#### **Deliveries and waste collection traffic**

The proposed camp will need to be serviced on a regular basis and as such delivery and refrigerated trucks and waste collection vehicles will be arriving at the site several times a week and occasional diesel fuel deliveries. This type of traffic activity will typically occur outside peak road network periods and peak site traffic periods and is not significant enough to have a notable capacity impact on the road network. It is

more relevant to the design of the camp's internal facilities such as service vehicle accesses and internal driveways.

### **Overall Accommodation Facility Peak Traffic Flows**

The peak periods of traffic activity at the accommodation facility are summarised in **Table 1**.

**Table 1: Peak hour traffic generation of Hyden workforce accommodation facility**

| Period                                 | Inbound      | Outbound     | Total        |
|----------------------------------------|--------------|--------------|--------------|
| Mon-Sat AM peak hour                   | 2 vph        | 52 vph       | 54 vph       |
| Mon-Sat PM peak hour                   | 52 vph       | 2 vph        | 54 vph       |
| Mon-Sat 7-8PM (no night shift)         | 7 vph        | 13 vph       | 20 vph       |
| Mon-Sat (variable – night shift start) | 0 vph        | up to 50 vph | up to 50 vph |
| Mon-Sat (variable – night shift end)   | up to 50 vph | 0 vph        | up to 50 vph |
| Sun 8-9AM                              | 9 vph        | 26 vph       | 37 vph       |
| Sun 5-6PM                              | 20 vph       | 9 vph        | 29 vph       |

The 2024 TIA report for this accommodation facility for the KRWF project was based on peak workforce of 189 workers, compared to peak workforce of 130 for the KWSF project. Accordingly, the peak traffic flows assessed in that 2024 TIA were proportionally higher than shown above in **Table 1**.

Total daily traffic flows (two-way) generated by the accommodation facility are anticipated to include 100vpd for workers travelling to/from the KWSF site, up to 32vpd for staff travelling to/from the accommodation facility, approximately 26vpd for off-duty worker recreational trips, and a small number of trips by visitors, delivery vehicles and waste collection. Accordingly, the total daily traffic generation is anticipated to be up to 200vpd.

## **5.3 Trip Distribution**

The anticipated route for travel between the accommodation facility and the KWSF site is via Hyden-Mount Walker Road – McPherson St – Brookton Hwy – Wilkins Rd (Cemetery Rd), as shown in **Figure 8**.



**Figure 8: Anticipated travel route between the accommodation facility and the KWSF site**

The 50vph traffic flows to/from the KWSF site in the first four rows of **Table 1** would use this proposed route between the accommodation facility and the KWSF site.

All other vehicle movements in **Table 1** would use the southern section of Hyden-Mount Walker Road and vehicles to/from Perth would use Brookton Highway west of Hyden townsite.

## 5.4 Traffic Flow

Existing traffic count information from the Main Roads WA website indicates Hyden-Mount Walker Road (north of Clayton St) carried average weekday traffic flows of 144 vehicles per day (vpd) in 2019/20. The busiest hour of the average weekday was 11.30AM – 12.30PM with traffic flows of 15vph. During the range of accommodation facility peak hours the existing traffic flows on Hyden-Mount Walker Road were 1vph (5-6AM), 7vph (6-7AM), 10vph (7-8AM), 11vph (4-5PM), 10vph (5-6PM) and 6vph (6-7PM).

Total AM and PM peak hour traffic flows at the proposed accommodation facility driveway on Hyden-Mount Walker Road are shown in **Figure 9** for the 50-vehicle scenario using the proposed Brookton Highway route. (The figures shown assume the worst-case scenario coinciding with the highest existing background traffic flows listed above.)

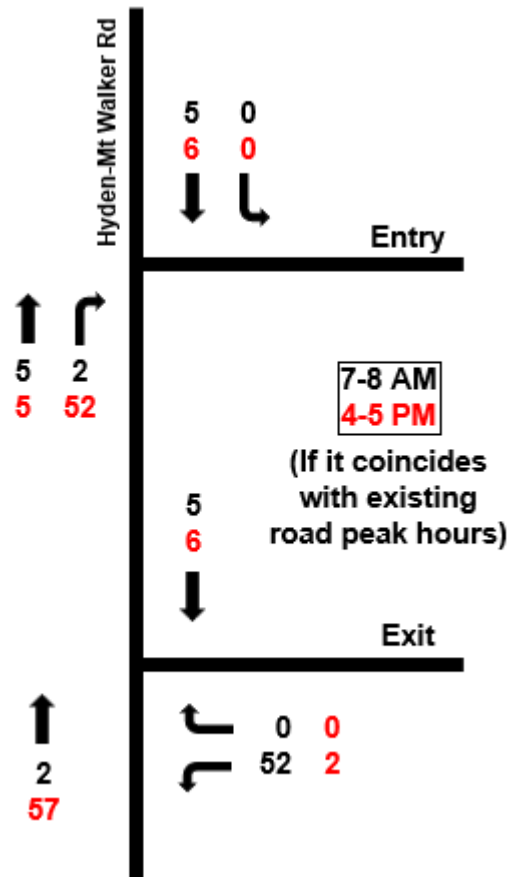
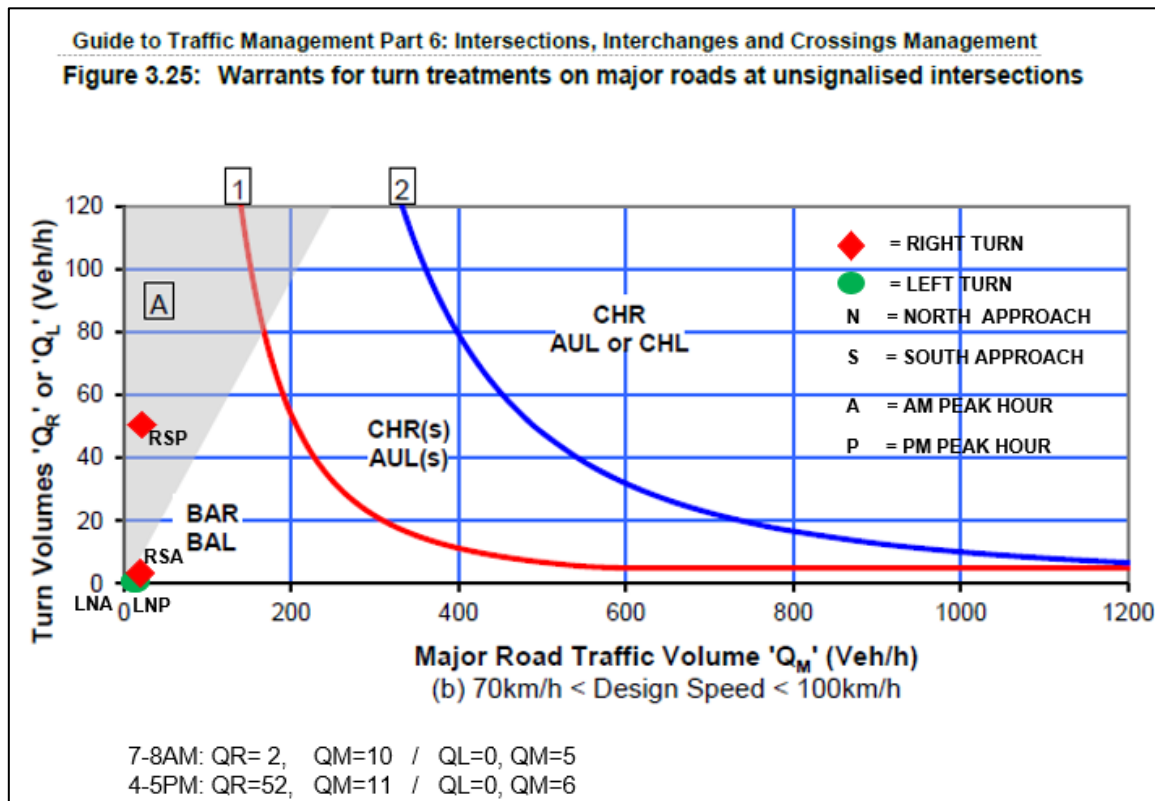


Figure 9: Potential highest workday peak hour traffic flows at accommodation facility driveways

## 5.5 Analysis of Local Intersections & Crossovers

The *Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management* (2020) provides warrants for turn treatments on major roads at unsignalised intersections (refer graph at Figure 3.25 of AGTM6).

The worst-case workday AM and PM traffic flows from **Figure 9** have been plotted on that graph in **Figure 10**.



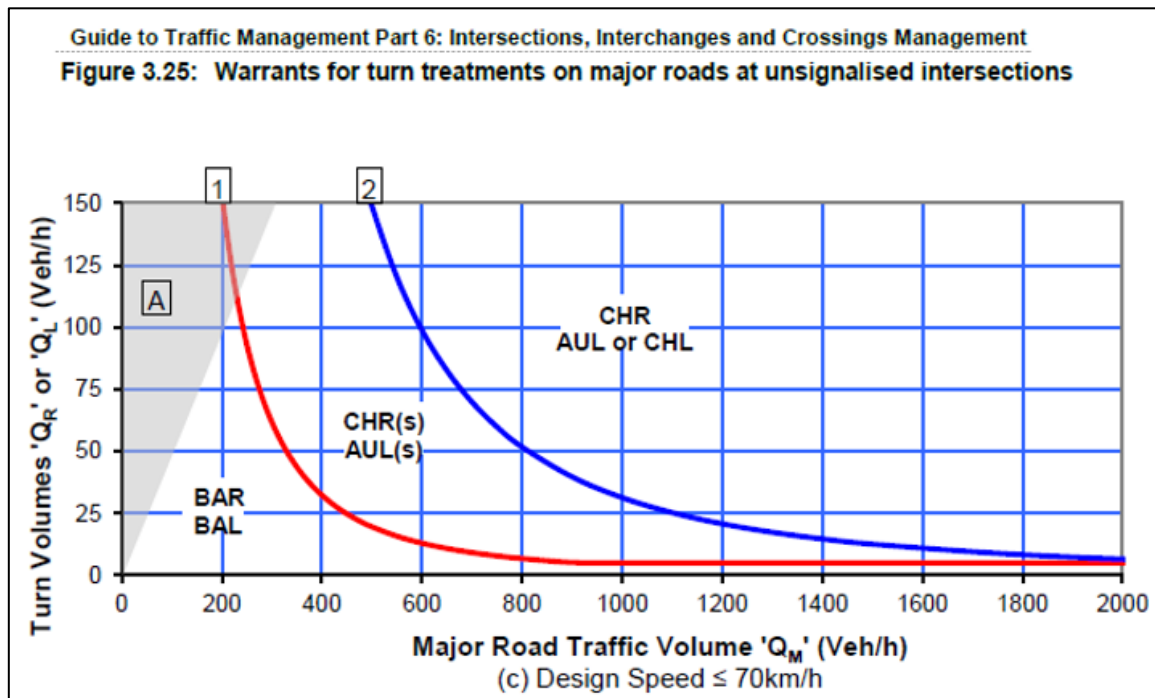
**Figure 10: Warrants for turn treatments at the accommodation facility driveways**

All of the traffic volumes fall well below the red line on that graph, meaning there is no warrant for auxiliary left turn lanes (AUL) or channelised turn lane treatments (CHR or CHL) at the accommodation facility driveways on Hyden-Mount Walker Road.

Note that the graph appropriate for the existing 80km/h speed limit has been used in this assessment.

#### Other intersections

Kondinin-Hyden Rd (Brookton Hwy) west of Hyden currently carries 562vpd AWT, with only 6vph (5-6AM), 15vph (6-7AM), 28vph (7-8AM), 44vph (4-5PM), 32vph (5-6PM) and 14vph (6-7PM) and max 57vph (12.15-1.15PM). Within Hyden townsite the speed limit is 50km/h and the appropriate graph for 50km/h allows higher volumes before intersection treatments are warranted (consider the warrants in **Figure 11** for 50km/h speed limit, compared to the warrants in **Figure 10** applicable at 70-100km/h).

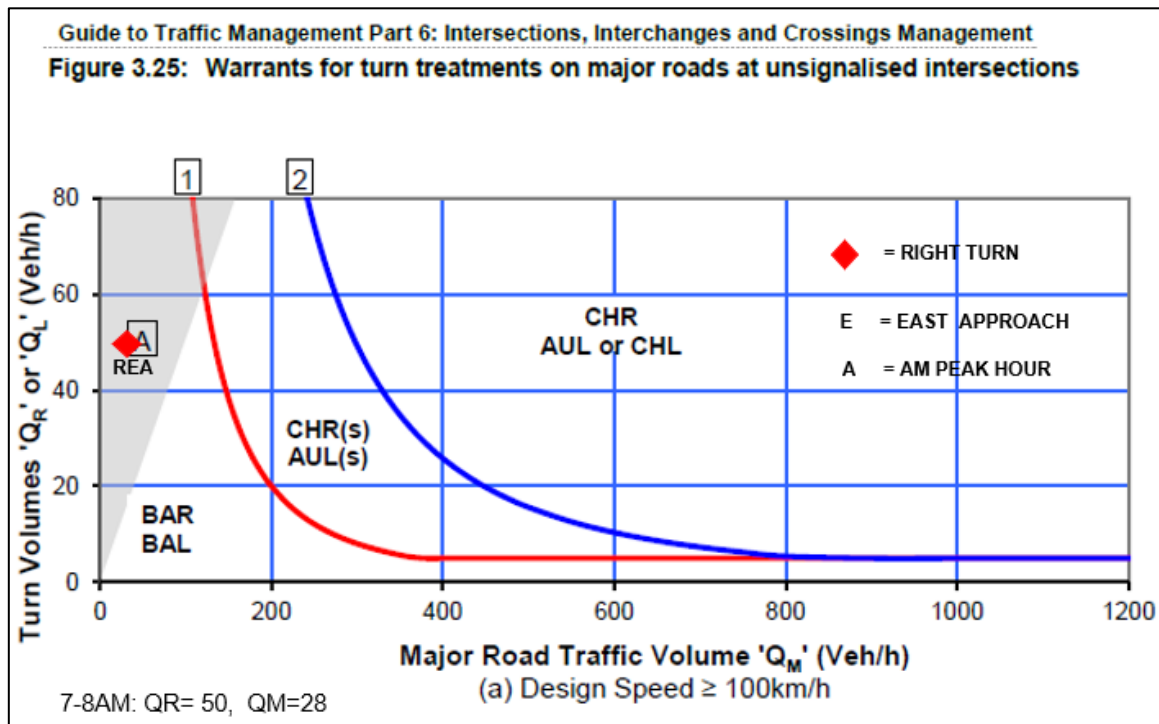


**Figure 11: Warrants for turn treatments within Hyden townsite**

Those warrants apply to the left and right turn movements from the major road (Brookton Highway). None of the KWSF traffic will be turning right from Brookton Highway at that intersection, so only the left turn from Brookton Highway into McPherson Street needs to be considered. Existing turn counts are not available at this intersection but there would need to be more than 200vph of eastbound through traffic on Brookton Highway through this intersection before a left turn treatment would be warranted at this intersection, so the proposed KWSF workforce traffic will not warrant an upgraded left turn treatment at this intersection.

It should be noted that there is already widening of the existing westbound traffic lane at the Brookton Hwy / McPherson St T-intersection to allow through traffic to pass vehicles waiting to turn right into McPherson St, so there would be no requirement for any further intersection upgrade there.

The Brookton Hwy / Wilkins Rd T-intersection is located on a 110km/h section of Brookton Hwy and does not have any road widening applied at present. The right turn movement in from Brookton Hwy to Wilkins Rd in the worst-case 7-8AM scenario has been investigated, as shown in **Figure 12**.



**Figure 12: Warrants for turn treatments at Brookton Hwy / Wilkins Rd**

The right turn construction traffic volumes fall below the red line on that graph, meaning there is no warrant for intersection upgrades, particularly as this is only a temporary traffic increase during the KWSF construction period. Even during the busiest days of the year (refer section 3.2) the right turn construction traffic volumes would still fall below the red line on that graph, confirming that intersection upgrades are not warranted.

## 5.6 Sealed Road Widths

Austrorads *Guide to Road Design Part 3: Geometric Design* (2021) provides guidance on sealed road width on rural roads for different levels of daily traffic volumes in Table 4.5, which is reproduced below as **Figure 13**.

**Table 4.5: Single carriageway rural road widths (m)**

| Element                                      | Design AADT      |                  |                          |                  |                  |
|----------------------------------------------|------------------|------------------|--------------------------|------------------|------------------|
|                                              | 1–150            | 150–500          | 500–1000                 | 1000–3000        | > 3000           |
| Traffic lanes <sup>(1)</sup>                 | 3.7<br>(1 x 3.7) | 6.2<br>(2 x 3.1) | 6.2–7.0<br>(2 x 3.1/3.5) | 7.0<br>(2 x 3.5) | 7.0<br>(2 x 3.5) |
| Total shoulder                               | 2.5              | 1.5              | 1.5                      | 2.0              | 2.5              |
| Minimum shoulder seal<br>(2),(3),(4),(5),(6) | 0                | 0.5              | 0.5                      | 1.0              | 1.5              |
| Total carriageway                            | 8.7              | 9.2              | 9.2–10.0                 | 11.0             | 12.0             |

- 1 Traffic lane widths include centrelines but are exclusive of edge-lines.
- 2 Where significant numbers of cyclists use the roadway, consideration should be given to fully sealing the shoulders. Suggest use of a maximum size 10 mm seal within a 20 km radius of towns.
- 3 Wider shoulder seals may be appropriate depending on requirements for maintenance costs, soil and climatic conditions or to accommodate the tracked width requirements for Large Combination Vehicles.
- 4 Short lengths of wider shoulder seal or lay-bys to be provided at suitable locations to provide for discretionary stops.
- 5 Full width shoulder seals may be appropriate adjacent to safety barriers and on the high side of superelevation.
- 6 A minimum 7.0 m seal should be provided on designated heavy vehicle routes (or where the AADT contains more than 15% heavy vehicles).

**Figure 13: Austroads guidelines on rural road widths**

Footnote 6 advises a minimum 7.0m seal should be provided on designated heavy vehicle routes (or where the Average Annual Daily Traffic (AADT) contains more than 15% heavy vehicles).

The existing average daily traffic (ADT) volume on Hyden-Mount Walker Road (excluding current accommodation facility traffic) was 137vpd including heavy vehicle component of 37vpd.

As indicated in section 5.2, the accommodation facility traffic for the KWSF project would typically be up to 200vpd to/from the accommodation facility, bringing total traffic to around 340vpd, whereas the total during the previous KRWF project was previously estimated to be around 500vpd.

For AADT of 150 to 500vpd Austroads recommends total sealed width of 7.2m (2x3.1m traffic lanes and 2 x 0.5m sealed shoulders). That would also satisfy minimum recommended sealed width in the 500 to 1000vpd range as well.

The section of Hyden-Mount Walker Road adjacent to the accommodation village has been widened to at least 8m sealed width (see **Figure 2**) and from the accommodation village to Hyden townsite the sealed width is now approximately 7.2m, which complies with the widths set out in **Figure 13**.

## 5.7 Unsealed Roads

Austroads Guide to Road Design Part 3 does not provide guidance for unsealed roads. Instead it refers designers to the ARRB *Unsealed Roads Manual: Guidelines to Good Practice* (2009), which is now replaced by the ARRB *Unsealed Roads Best Practice Guide* (2020).

That ARRB guidance does not explicitly state the traffic capacity of unsealed roads but does refer to overseas work which “provides valuable guidelines for the geometric design of very low volume roads (average daily traffic (ADT) < 400 vpd).”

Table 3.9 of the ARRB *Unsealed Roads Best Practice Guide* designates a Road Class 4A, described as a “main road > 150 ADT”. The description includes the following dot points:

- All weather road, predominantly two-lane and unsealed. Can be sealed if economically justified.
- Operating speed standard of 50-80km/h according to terrain.
- Minimum carriageway width is 7m.

Accordingly, the unsealed roads that would potentially carry traffic travelling between the accommodation facility and the KWSF site (i.e. Wilkins Road and a section of Notting-Karlgarin Road east of Wilkins Road) can be considered to have sufficient capacity to accommodate the traffic flows generated by the workforce traffic during construction of the proposed KWSF project.

## 5.8 Impact on Surrounding Roads and Neighbouring Areas

Daily traffic flows of up to 3,000vpd are deemed satisfactory on residential access streets in the WAPC’s *Liveable Neighbourhoods* policy.

Peak hour traffic flows on residential streets are typically around 10% of average weekday traffic flows, so a 3,000vpd threshold equates to peak hourly flows in the order of 300vph.

The traffic flows during the peak hours on all of the nearby roads will remain well below that 300vph threshold (and less than during the KRWF project), so the impact on the surrounding roads is considered to be within acceptable limits and should be deemed acceptable on a short-term basis during the construction period of the proposed KWSF project.

## 5.9 Traffic Noise and Vibration

The WAPC’s *State Planning Policy 5.4: Road and Rail Transport Noise and Freight Considerations in Land Use Planning* requires assessment of noise impact on noise-sensitive developments when a road carries more than 20,000vpd in an urban area or 5,000vpd in a rural area.

The proposed KWSF workforce at the accommodation facility will not increase the traffic flows on any surrounding roads to anywhere near the abovementioned traffic thresholds, so no significant traffic noise impacts on surrounding areas are anticipated.

## 5.10 Road Safety

As noted in Section 3.1, Hyden-Mount Walker Road has a posted speed limit of 50km/h north of Hyden townsite but changes to 80km/h in the vicinity of the proposed development. It is noted that heavy vehicle combinations such as road trains up to 36.5m long are permitted on this road.

The traffic volumes on this road will be less under the proposed use of the accommodation facility for the KWSF project than they recently have been under the KRWF project, so no change of speed zoning would be considered necessary for the current proposal.

## 5.11 Provision for Service Vehicles

Service vehicles will continue to access the site using the one-way internal driveway system with entry via the northern driveway crossover and exit via the southern driveway crossover on Hyden-Mount Walker Road.

Buses are not anticipated to be used during the proposed use of the accommodation facility for KWSF construction workers. If any buses do need to access the accommodation facility, they would also use that one-way driveway circulation system, with 3 waiting bays provided along the northern inbound driveway, then 2 bus spaces available at the bus shelter adjacent to the accommodation facility buildings, as shown in **Figure 3**.

A loading zone is provided south of the bus shelter adjacent to the kitchens and bin store. This loading zone is large enough for two heavy rigid trucks to reverse into for deliveries and waste collection.

An ambulance bay is provided north of the bus shelter adjacent to the medical room.

For the original development application for the accommodation facility, turn path plans were prepared for 12.5m heavy rigid vehicles (trucks and buses) and 19m semi-trailer to demonstrate that sufficient space is available for these vehicle movements in the subsequently approved site layout. The turn path plans are shown at **Appendix B**.

## 6 Public Transport Access

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There are no existing public transport services in this rural area.

Public transport access is not a consideration for the proposed use of the accommodation facility.

## 7 Pedestrian and Cyclist Access

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The subject site is located approximately 400m north of Hyden townsite, so it is within walking distance.

The accommodation facility includes its own dining and recreational facilities but there is also potential for interaction with Hyden townsite.

Accordingly, a sealed footpath has already been constructed on the eastern side of Hyden-Mount Walker Road from the accommodation facility to Hyden townsite for the KRWF project.

The number of workers accommodated at the accommodation facility will be lower for the KWSF project, so no further changes to existing pedestrian and cyclist access are considered warranted for this proposal.

## 8 Conclusions

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This Transport Impact Assessment relates to the workforce accommodation facility at Hyden, which was established for construction of the King Rocks Wind Farm (KRWF) project and is now proposed to be utilised for the Kondinin Wind and Solar Farm (KWSF) project. The anticipated peak workforce for KWSF is currently anticipated to be approximately 130 people.

The subject site is at Lot 192 Hyden-Mount Walker Road, Hyden, in the Shire of Kondinin. The accommodation facility is located approximately 400m north of Hyden townsite.

It is anticipated that workers will use their own vehicles to travel between Perth and the accommodation facility on roster changeover days.

The accommodation facility has parking provision of 210 standard car bays plus 9 disabled bays. This will provide parking for all accommodation facility staff and all workers accommodated at the accommodation facility with spare capacity for visitors when required.

The applicant has advised that it is expected that workforce travel to and from the KWSF site will involve approximately 50 vehicles to transport 130 workers with workers sharing vehicles as appropriate (i.e. average vehicle occupancy of 2.6 people per vehicle).

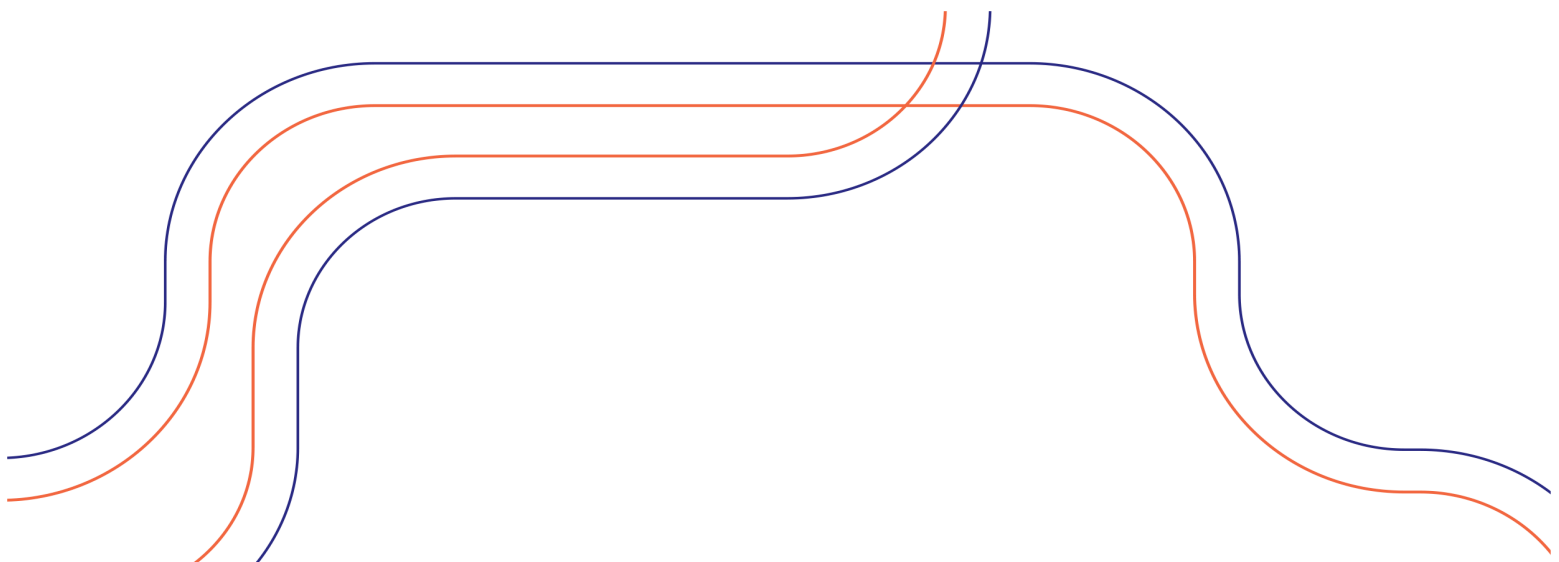
The accommodation facility was designed for peak workforce of 189 workers for the KRWF project, compared to peak workforce of 130 now proposed for the KWSF project. Accordingly, the peak traffic flows during the KWSF project will be proportionally lower than during the KRWF project.

It is understood that the construction workforce for the KWSF project will have work hours of 10 hours per day within a 12-hour window of 6AM to 6PM, six days per week. The 12-hour window allows for seasonal variations. Therefore, workforce travel to and from the KWSF site will typically result in 50 vehicles outbound from the accommodation facility prior to that 10-hour shift and 50 vehicles inbound to the accommodation facility after the end of that 10-hour shift. Total daily traffic flows of up to 200vpd (two-way total) will be generated by the accommodation facility during the KWSF construction period.

Nighttime or Sunday work may occasionally be required, mainly due to weather conditions required for particular tasks.

The anticipated route for travel between the accommodation facility and the KWSF site is via Hyden-Mount Walker Road – McPherson St – Brookton Hwy – Wilkins Rd (Cemetery Rd). No road or intersection improvements are considered to be warranted along this route to accommodate KWSF workforce traffic movements during the construction period, which is anticipated to occur over a period of approximately two years.

A sealed footpath has already been constructed on the eastern side of Hyden-Mount Walker Road from the accommodation facility to Hyden townsite for the KRWF project. The number of workers accommodated at the accommodation facility will be lower for the KWSF project, so no changes to existing pedestrian and cyclist access or the existing posted speed limit are considered warranted for this proposal.

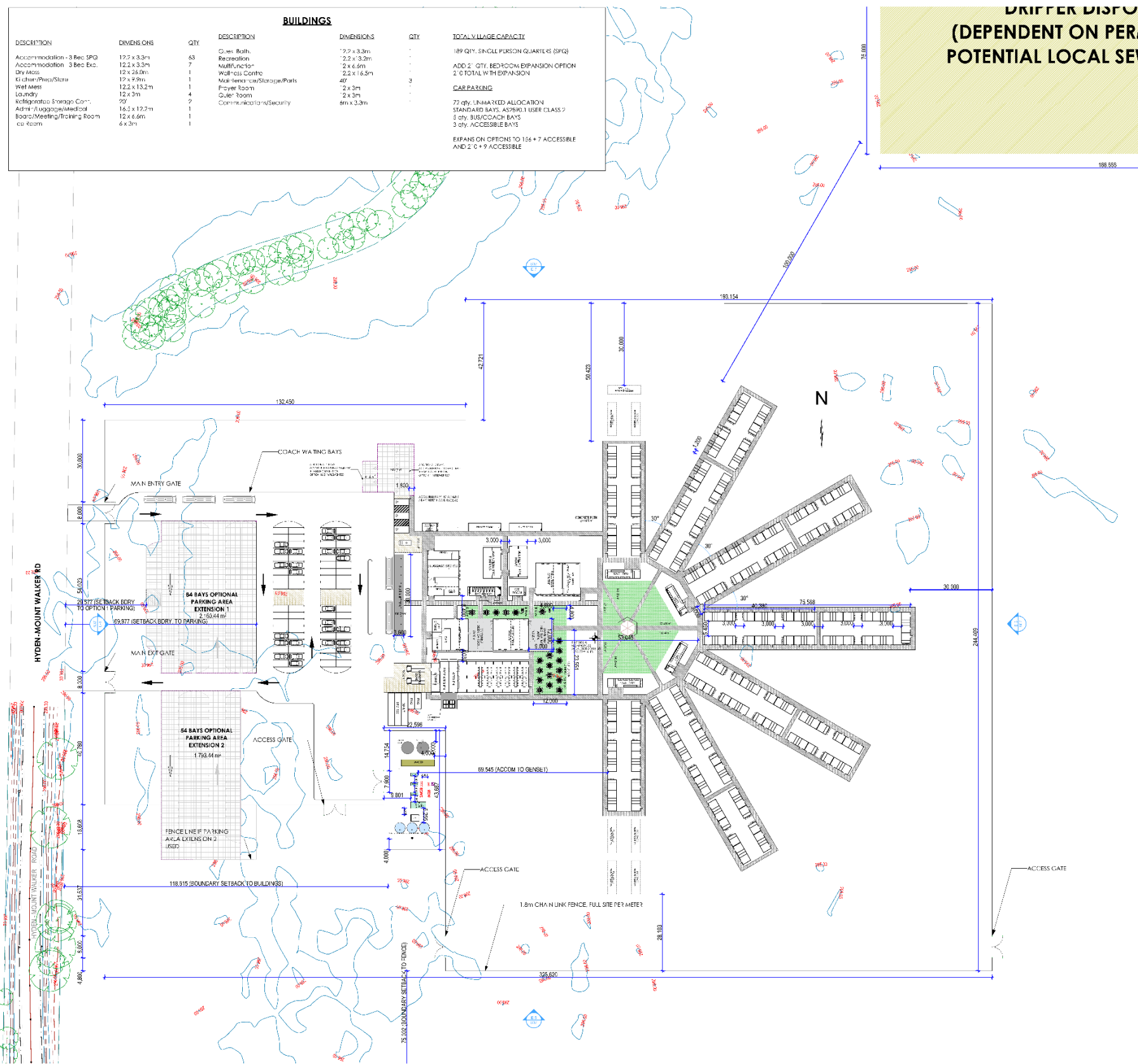


# Appendix A

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## SITE LAYOUT





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CLIENT: SYNERGY

PROJECT: SYNERGY KING ROCKS  
WIND FARM ACCOMMODATION  
VILLAGE

SITE ADDRESS: LOT 192 HYDEN-MOUNT  
WALKER RD HYDEN WA 6359

**DO NOT SCALE  
PRINT IN COLOUR**

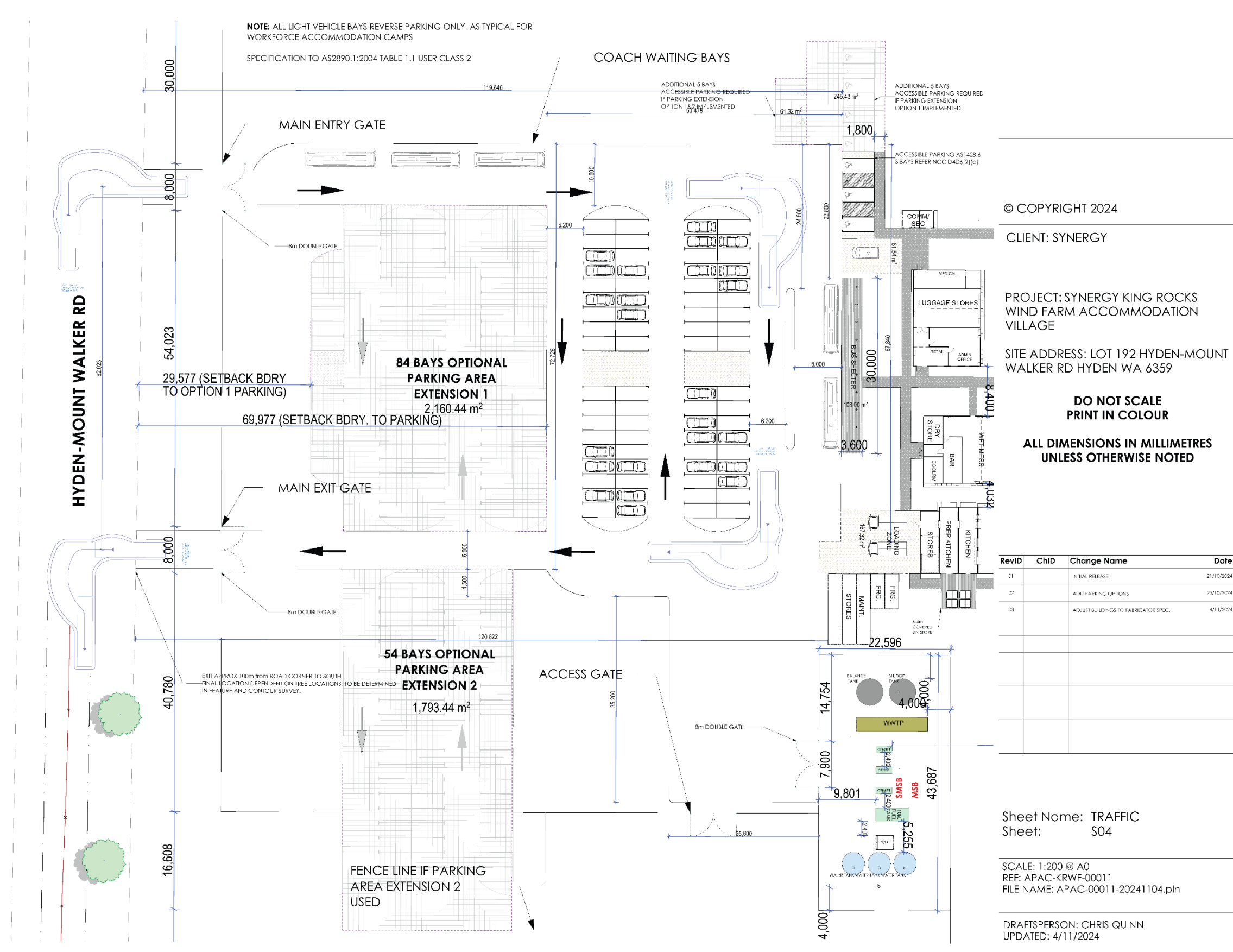
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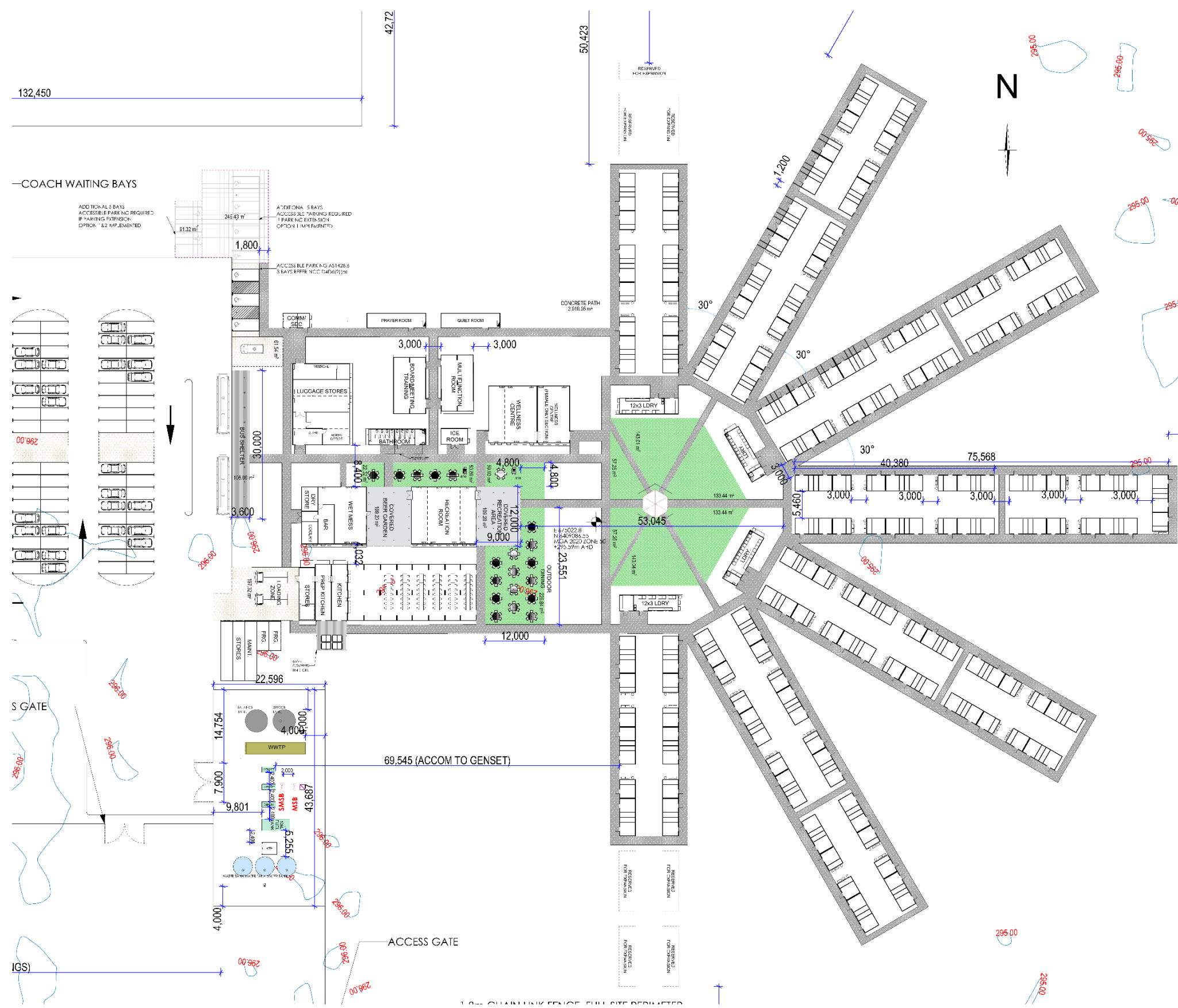
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| C2    | C7A  | ADD PARKING OPTIONS                  | 15/11/2024 |
| C3    |      | ADJUST BUILDINGS TO FABRICATOR SPEC. | 4/11/2024  |
|       |      |                                      |            |
|       |      |                                      |            |
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DRAFTSPERSON: CHRIS QUINN  
UPDATED: 4/11/2024





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CLIENT: SYNERGY

PROJECT: SYNERGY KING ROCKS  
WIND FARM ACCOMMODATION  
VILLAGE

SITE ADDRESS: LOT 192 HYDEN-MOUNT  
WALKER RD HYDEN WA 6359

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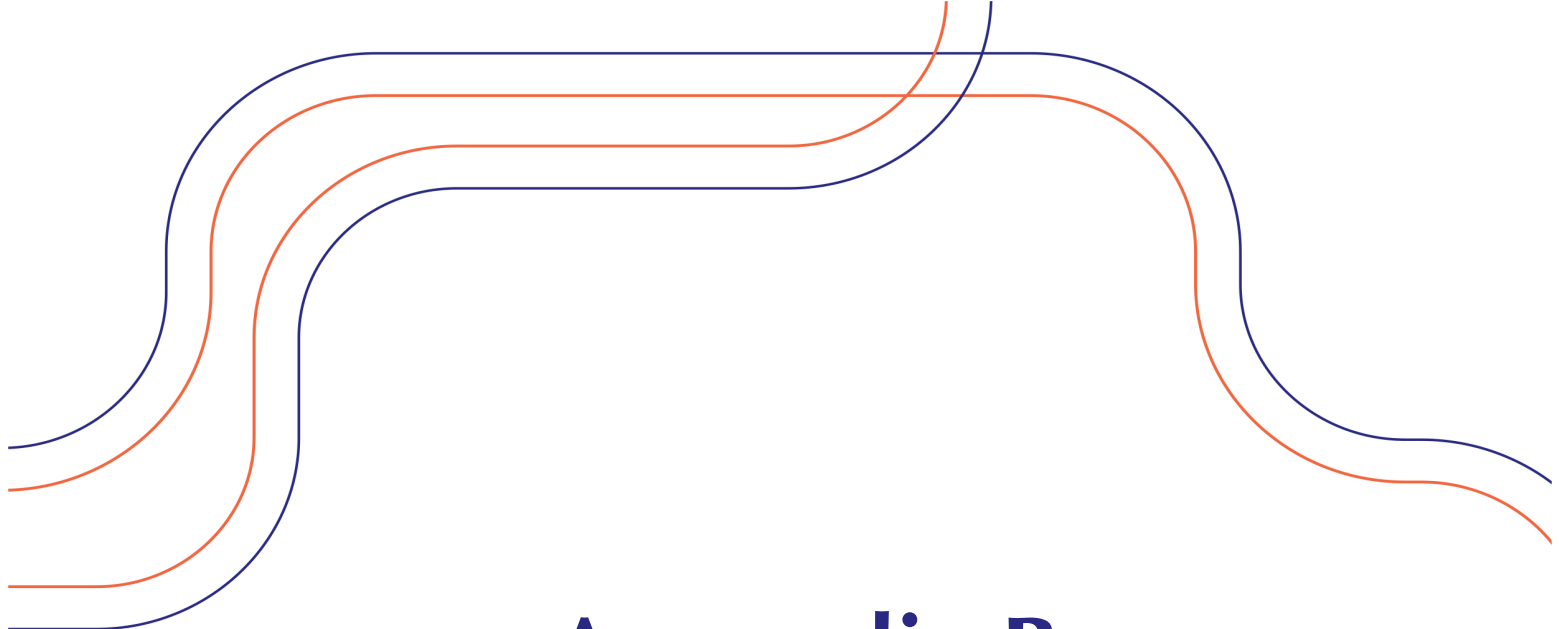
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| C3    |      | ADJUST BUILDINGS TO FABRICATOR SPEC. | 4/11/2024  |
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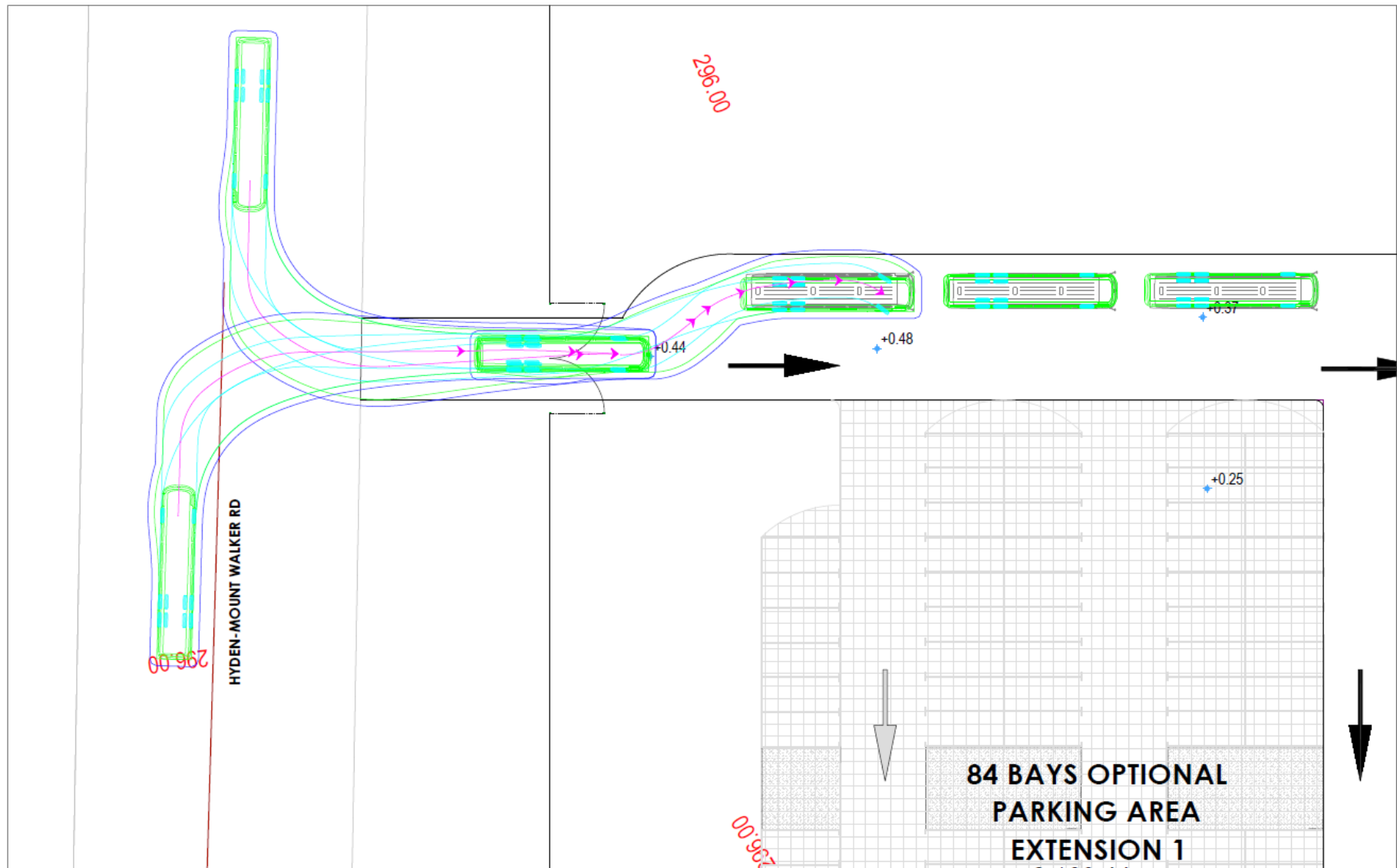


# Appendix B

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## TURN PATH ANALYSIS



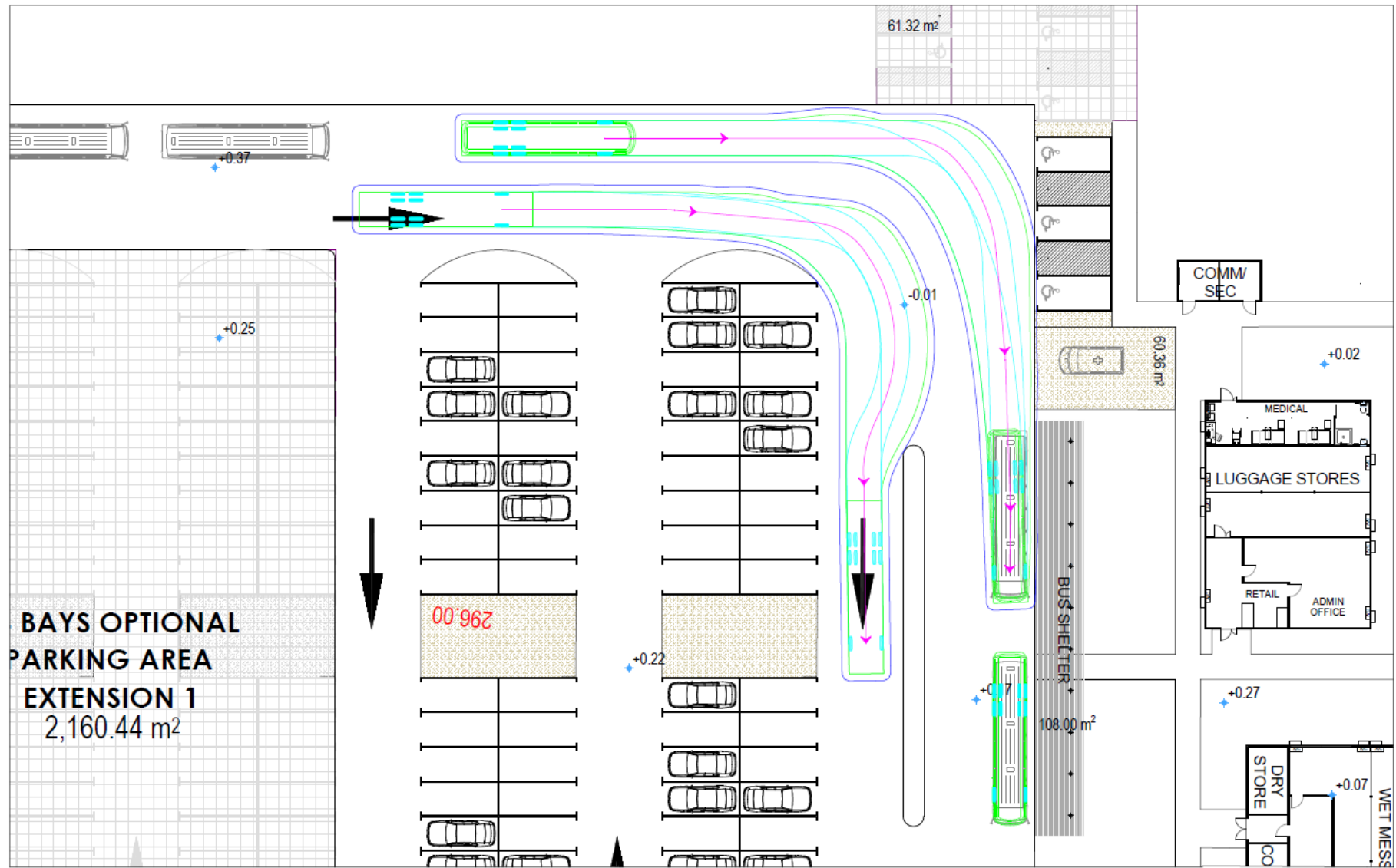


Synergy Hyden Workforce Accommodation  
 Austroads 2023: 12.5m Bus  
 Right In and Left In Entry

**LEGEND**  
 Vehicle Body  
 Wheel Path  
 500mm Clearance

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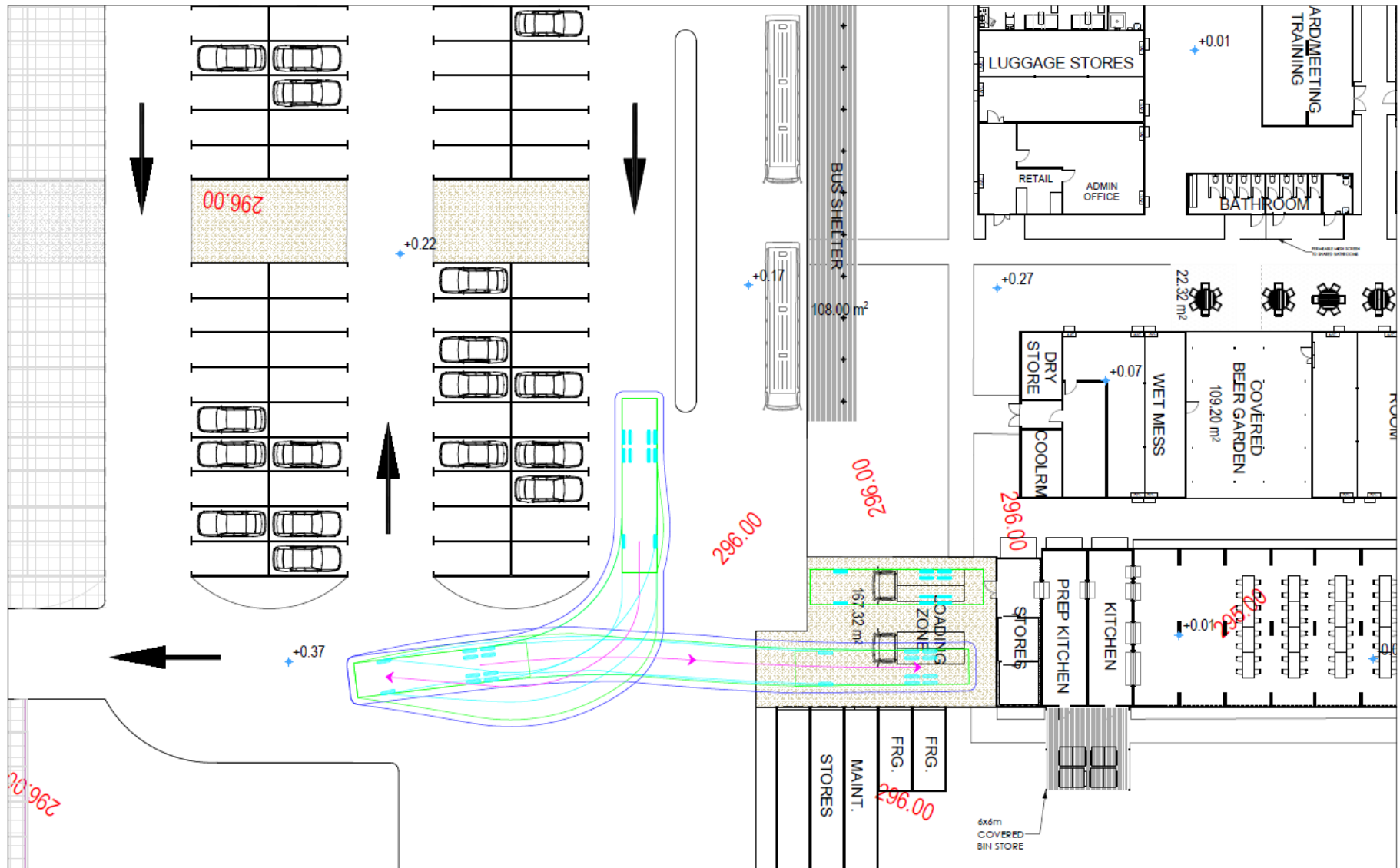


Synergy Hyden Workforce Accommodation  
 12.5m Bus and 12.5m HRV  
 Bus & Truck Simultaneous Turn

LEGEND  
 Vehicle Body  
 Wheel Path  
 500mm Clearance

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Synergy Hyden Workforce Accommodation  
 12.5m HRV  
 Loading Zone Entry

**LEGEND**  
 Vehicle Body  
 Wheel Path  
 500mm Clearance

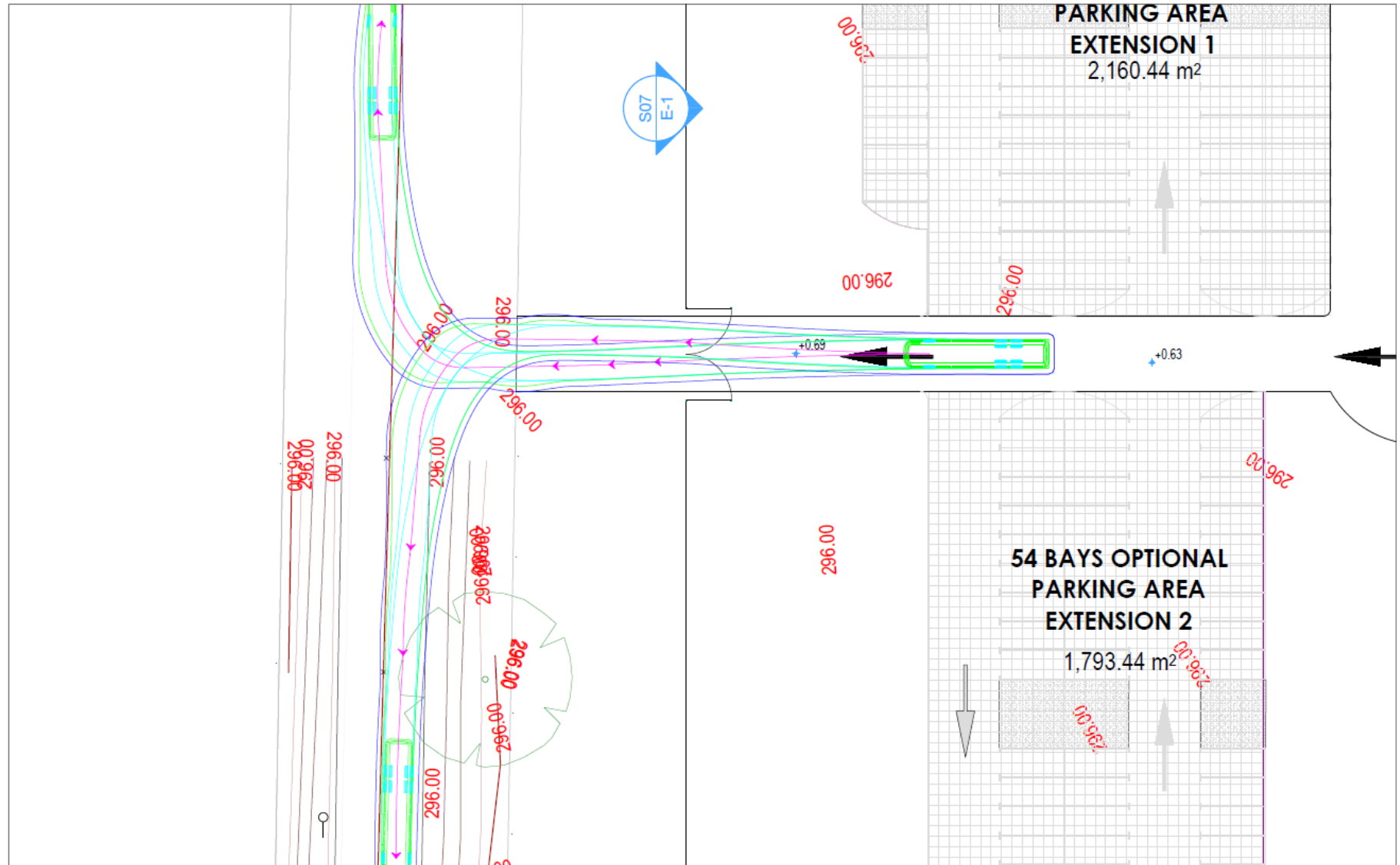


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Synergy Hyden Workforce Accommodation  
Austrroads 2023: 12.5m Bus  
Right Out and Left Out Exit

**LEGEND**  
Vehicle Body  
Wheel Path  
500mm Clearance

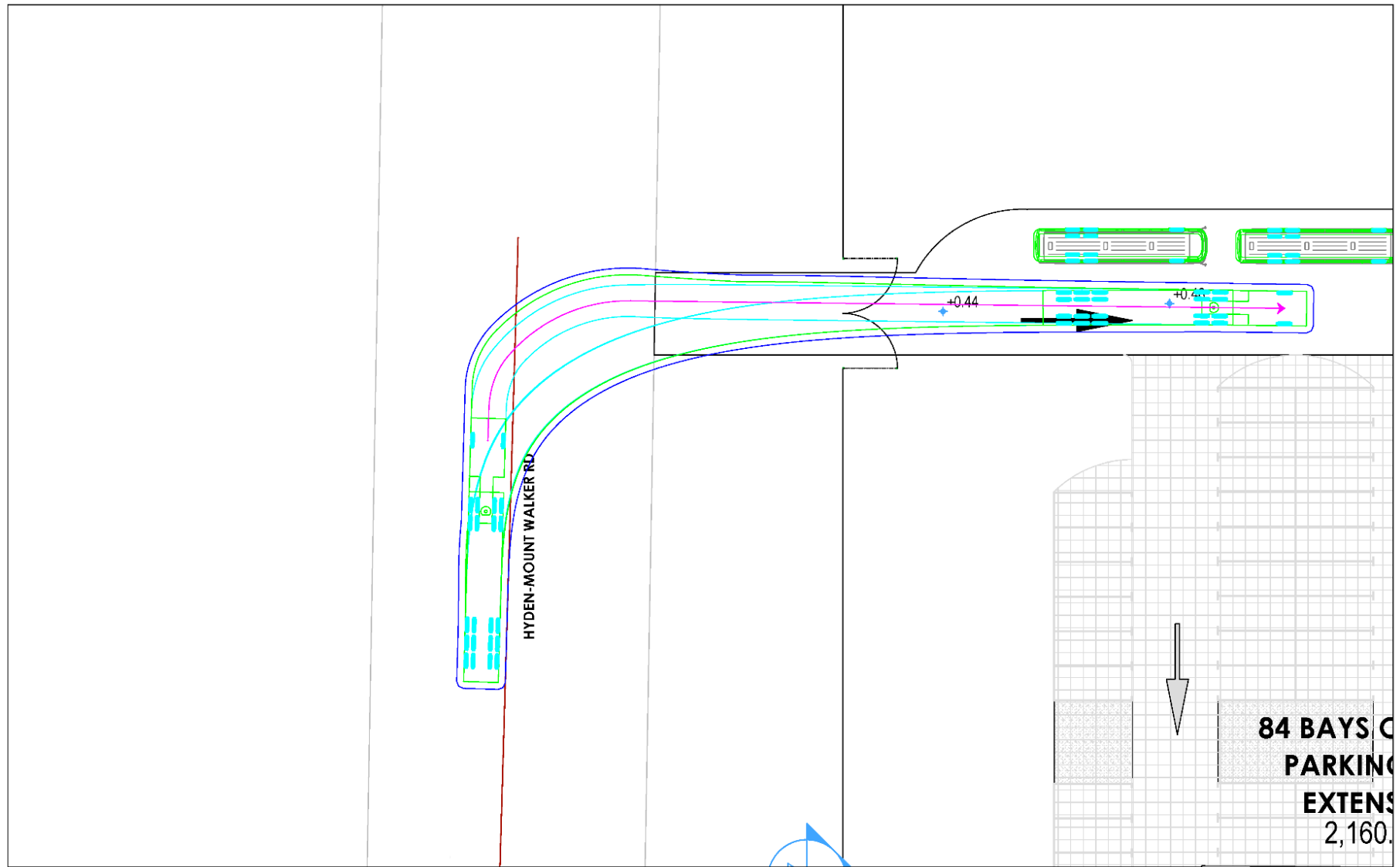


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Synergy Hyden Workforce Accommodation  
Austroads 2023: 19m Semi-Trailer  
Right In Entry

#### LEGEND

Vehicle Body  
Wheel Path  
500mm Clearance

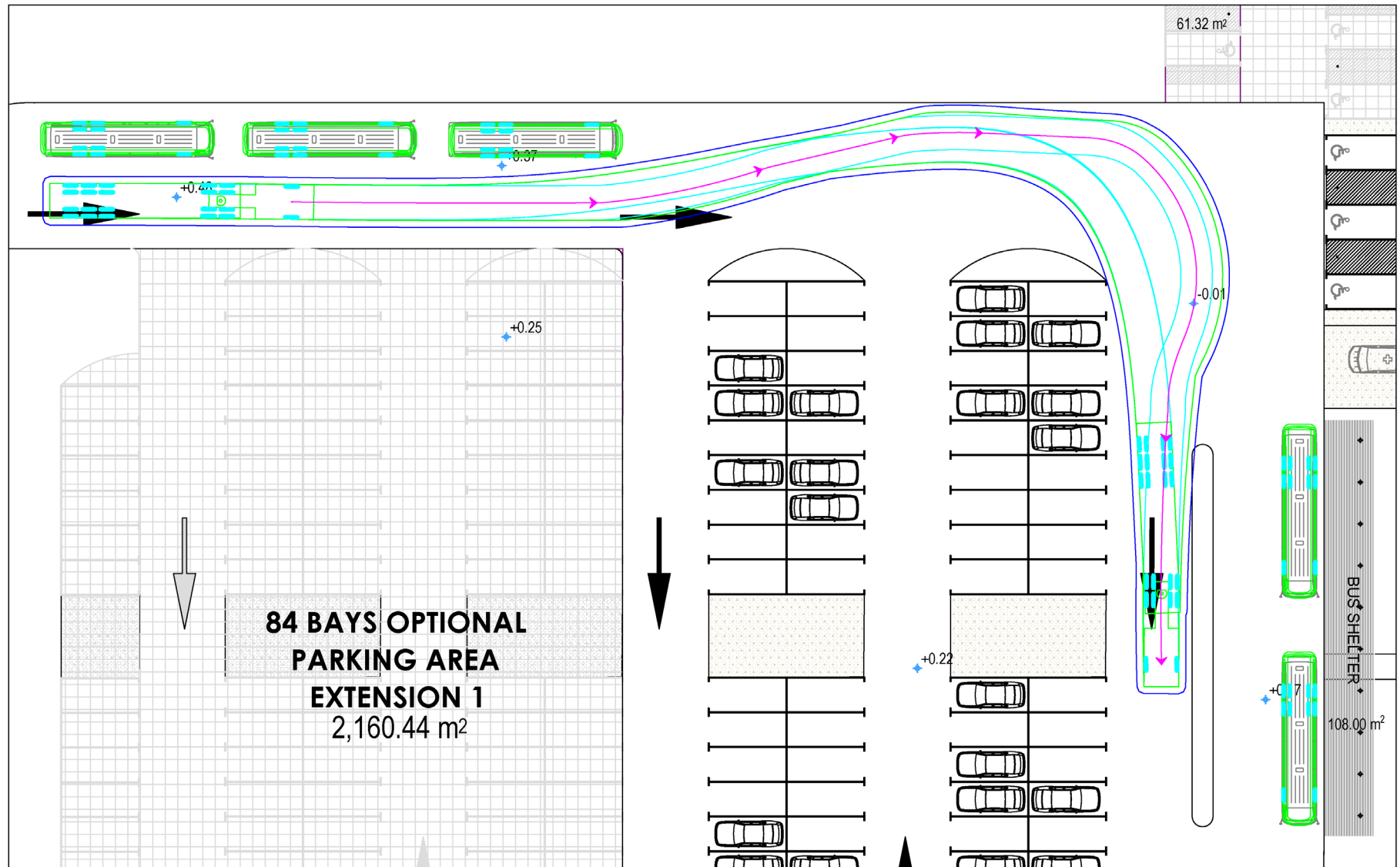


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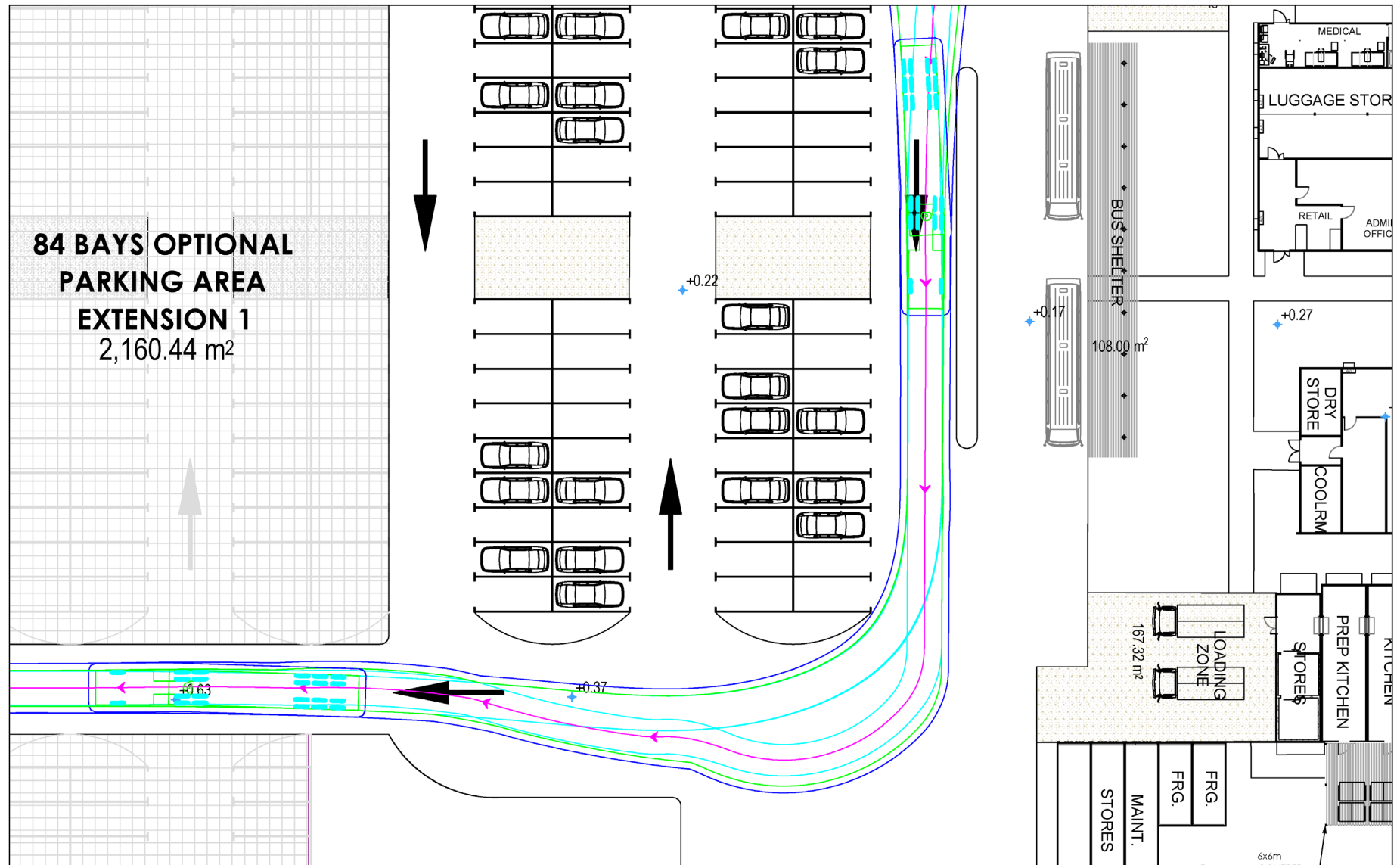


Synergy Hyden Workforce Accommodation  
Austroads 2023: 19m Semi-Trailer  
Semi-Trailer Turn

**LEGEND**  
Vehicle Body  
Wheel Path  
500mm Clearance

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Synergy Hyden Workforce Accommodation  
Austroads 2023: 19m Semi-Trailer  
Semi-Trailer Turn

**LEGEND**  
Vehicle Body  
Wheel Path  
500mm Clearance

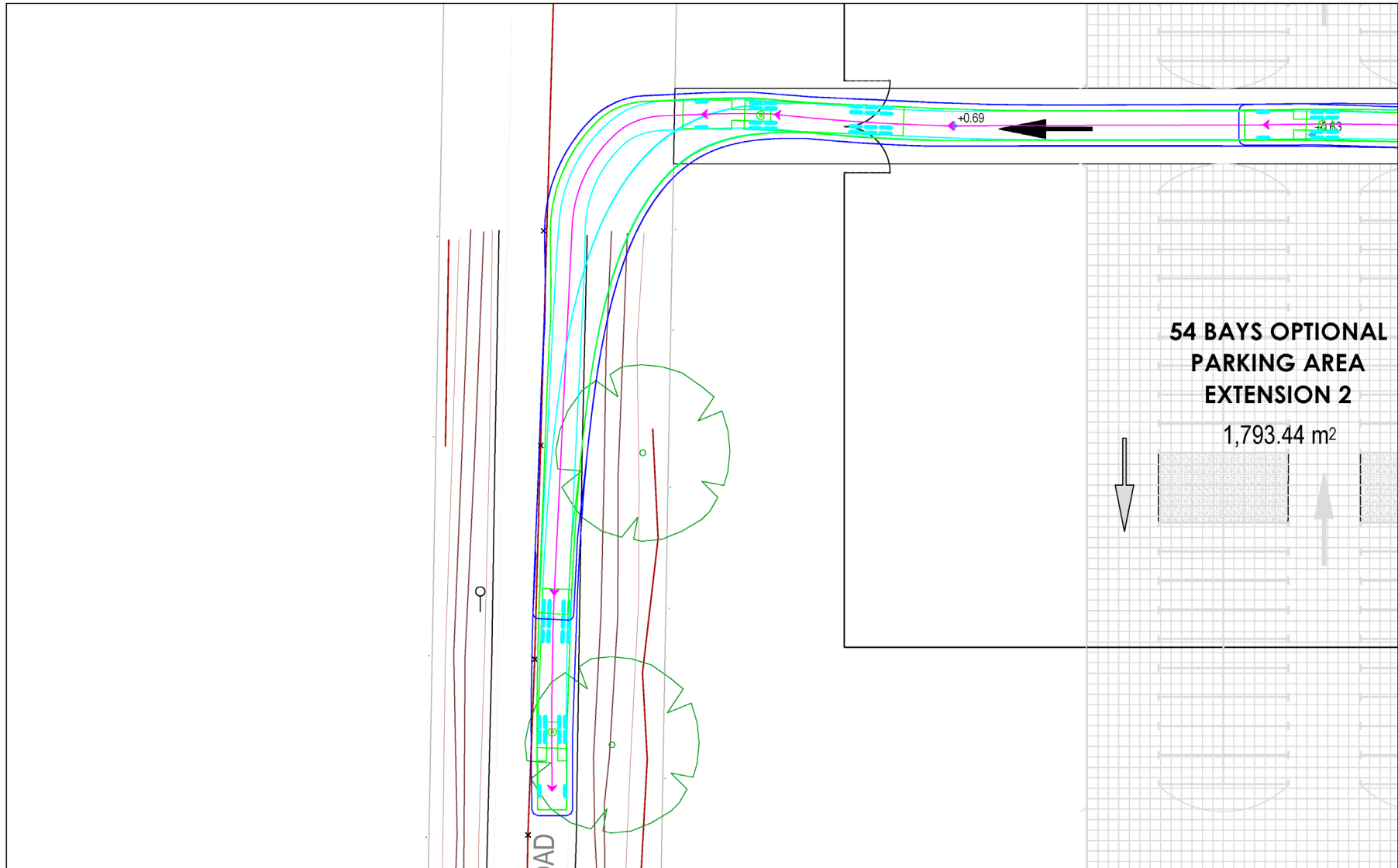


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Synergy Hyden Workforce Accommodation  
 Austroads 2023: 19m Semi-Trailer  
 Left Out Exit

**LEGEND**  
 Vehicle Body  
 Wheel Path  
 500mm Clearance



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01/11/2024

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