



TRAFFIC IMPACT ASSESSMENT REPORT

**CBH York
Grain Storage Upgrade**

**Lot 200 Knotts Road, York WA
SHIRE OF YORK**

PREPARED FOR: CBH Ltd

PREPARED BY: Tony Saraullo

DATE: 16 April 2018

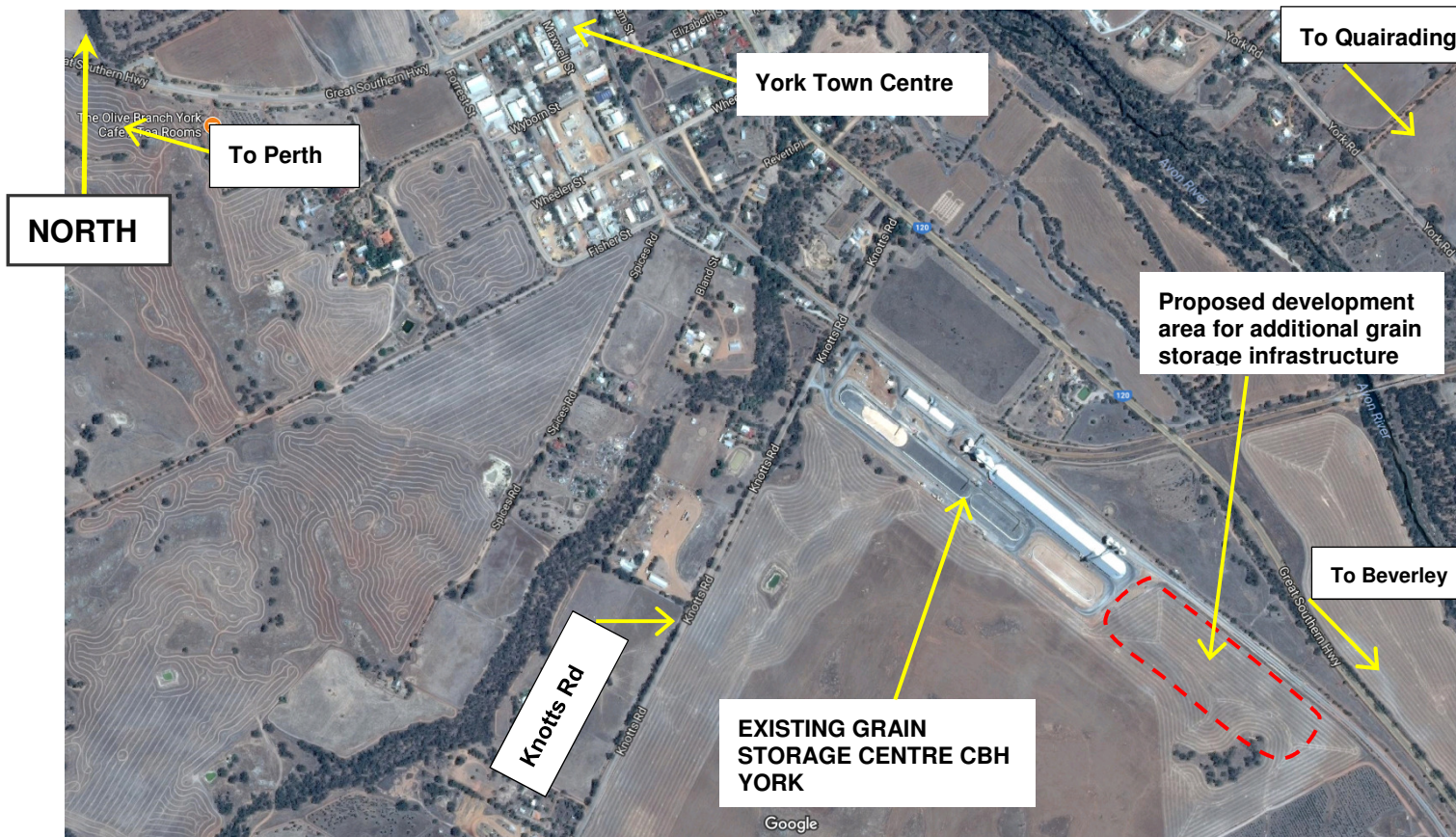
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1 Locality Plan



NOT TO SCALE

2 Background

2.1 General

This report outlines the methodology adopted and criteria used to undertake a traffic impact assessment associated with the proposed upgrade to the CBH York Grain Receival Site.

The location of CBH property in relation to the adjacent roads within the Shire of York is shown in Section 1 Locality Plan.

The traffic impact assessment report is required to provide the Shire of York with sufficient information so that CBH can obtain formal approval to proceed with the commencement of the works associated with the upgrade to the existing grain storage facility including associated road and drainage infrastructure.

Figure 1 demonstrates the location of the development site in relation to the main access into the CBH property Lot 200

2.2 Site Inspection

A site inspection of the property by the author was undertaken on 9th November 2017.

2.3 Transport Impact Assessment Checklist

The proposed development was assessed using the guidelines provided by the Department of Planning document:

Transport Impact Assessment Guidelines (August 2016) and more specifically *Volume 4 Appendix A1 Completed Checklist for Individual Development Transport Impact Statement*

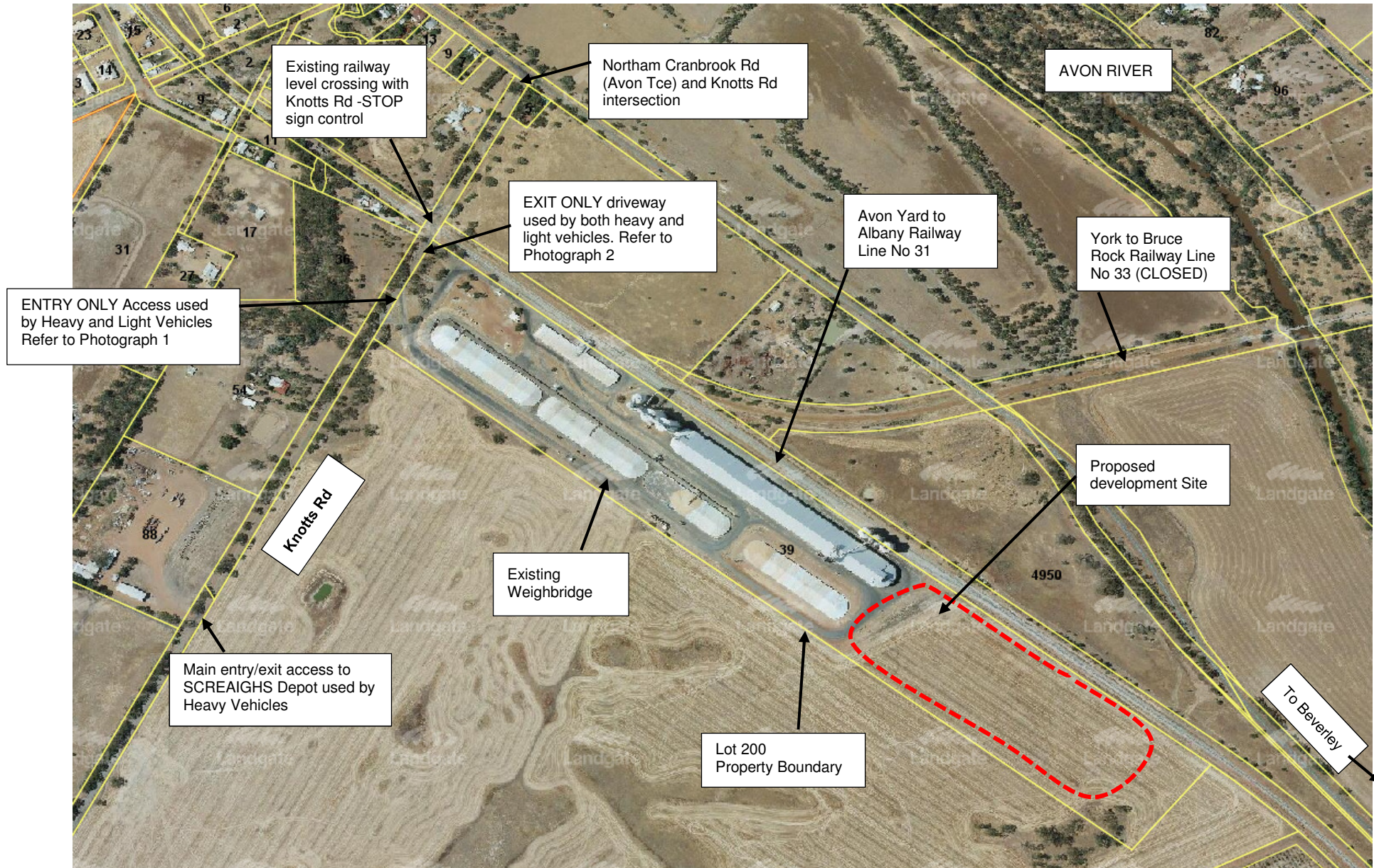
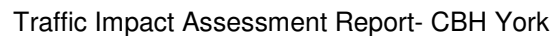


Figure 1. Location of existing property accesses and the proposed area of development



3 Description of the Development

Detailed information of the particulars of the development proposal, are listed in “CBH’s Letter to the Shire of York dated 21st August 2017 *Application for Planning Consent* and Determination of the Application by Council Meeting Reference document No SY122-10/17 *Development Application – Additions and Upgrades Inclusive of two new bulkheads for Grain Storage at CBH Site : Lot 200 Knotts Road, Balladong.* “

Copies of these are available upon request.

In summary the development application is proposing to upgrade the property to include:

- Two 375m long by 35m wide (37,500 tonne capacity), 1.27m high open bulkheads for grain storage and associated hopper pit, elevator and ground conveyer;
- A portable generator and air compressor to the hopper pit;
- Lighting towers to illuminate the hopper pit and open bulkheads during grain receivals, out-loading and during maintenance;
- An additional 36m long weighbridge, associated building and new site exit;
- A second grain sampling spear of 8m in height;
- Internal roads around grain receival, storage and truck weighing facilities; and
- Stormwater drainage infrastructure.

A site plan is shown in APPENDIX 1

4 Existing Operational Conditions

4.1 Affected roads

Knotts Road (Road No 4330028) is owned and maintained by Shire of York and as such any proposed development impacting on this road and within their road reserve will require planning, designing and constructing in accordance with their standards and guidelines.

Knotts Road is the only road used to access the CBH Grain Receival Centre in York

CBH operate and maintain an existing internal road system for use by all heavy and light vehicles that access Lot 200

Knotts Road from the Railway Crossing south to Lot 88 for approximately 470m, has a bitumen seal width of 5.8m and a road formation width of 8.0m to 8.4m

4.2 Existing Accesses

4.2.1 Main Entry Access off Knotts Road

There is a main entrance driveway which provides access from Knotts Road into the CBH property and connects onto an internal road. Refer to Photograph 1

This access will not be affected by the proposed development.



KNOTTS RD

Seal width = 5.8m
Formation width = 8.2m

Photograph 1 View south west – Main ENTRY ONLY driveway used by vehicles accessing CBH from the north



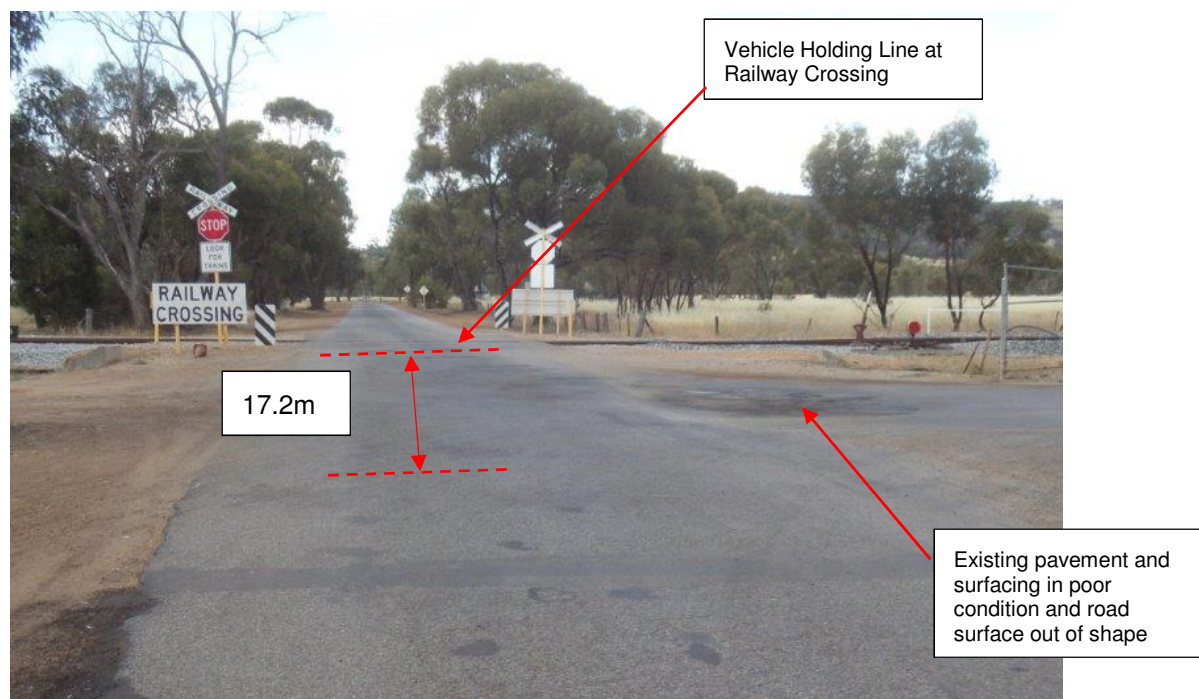
Photograph 2 View north east – Main ENTRY ONLY driveway used by vehicles accessing CBH from the south.

4.2.2 Main Exit Access off Knotts Road

This an existing EXIT ONLY driveway used by all heavy and light vehicles from operations within the CBH Centre, shown in Photograph 3 and 4



Photograph 3 View north east – Existing EXIT only driveway out from CBH Centre note proximity to railway crossing on Knotts Rd and the left out movement – wheel paths on the unsealed shoulder.



Photograph 4 View north east –Proximity to railway crossing on Knotts Rd measured at 17.2m from holding line at rail crossing to centre of CBH driveway

4.3 Adjacent Road intersections or features

Refer to the Locality Plan and Figure 1 showing the external road and rail network system, in the vicinity of CBH York Grain Receival Centre.

Adjacent road intersections will not be affected by the proposed development

4.4 Traffic Data and Parking Capacity

4.4.1 General –Road Data

Knotts Road is classified by Main Roads of Western Australia (MRWA) and local government of WA as a Rural Local Road. It is designated by MRWA on their *Restricted Access Vehicle Road Network (RAV)* as a RAV 4 road. RAV 4 vehicles comprises prime mover and trailer combinations up to a maximum length of 27.5m and up to a maximum gross mass of 87.5 tonnes

The RAV rating of Knotts Road is conditional that “no operation of mass permitted vehicles are allowed while school bus is operating on the road”

Cartage contractors and hauliers that access CBH property from Knotts Road use a variety of combinations of truck- trailer/s configurations and a number operate under mass permit conditions. Typical combination is shown below

		Length (m)		Max Mass (tonnes)	
		≤27.5	87.5	5	

Knotts Road does not have any existing parking facilities and observations of the road structure indicates it is a control of access road within the York town site area.

4.4.2 Knotts Road

Existing traffic data and forecast growth of traffic using Knotts Rd is shown in TABLE 1

Vehicle Description	MEASURED Total ADT *	CALCULATED PRESENT DAY Total ADT **
Heavy Vehicles Classes 3 to 12 (11.4%)	20	22
Light Vehicles Classes 1 to 2	155	172
TOTAL Traffic	175	194

TABLE 1:

Legend

ADT = Average Daily Traffic (Both directions)

* Traffic count data extracted from MRWA Road Information System
June 2012 Refer FIGURE 3

** Based on a compound growth rate of 2% over 5 years

4.4.3 Northam Cranbrook Road (Avon Tce)

Existing traffic data and forecast growth of traffic using Northam Cranbrook (Avon Tce) taken from a location just south of Wheeler St intersection, is shown in TABLE 2

Vehicle Description	MEASURED Total ADT *	CALCULATED PRESENT DAY Total ADT **
Heavy Vehicles Classes 3 to 12 (14.2%)	143	178
Light Vehicles Classes 1 to 2	861	1071
TOTAL Traffic	1004	1249

TABLE 2:

Legend

ADT = Average Daily Traffic (both directions)

* Traffic count data extracted from MRWA Road Information System Feb/march 2006 Refer FIGURE 4

** Based on a compound growth rate of 2% over 11 years

Weekly Class Report

Count: Both Directions

Road Name: Knotts Rd (4330028)

Site No: 17854

Location Description: W of Great Southern Hwy (SLK 4.10)

Date Range: 07 Jun 2012 to 25 Jun 2012

Vehicle Classification Scheme (AustRoads94)														
Class	1	2	3	4	5	6	7	8	9	10	11	12	% Heavy	Vehicles
Monday	144	10	10	4	0	2	2	2	3	0	3	0		180
%	80.0	5.6	5.6	2.2	0.0	1.1	1.1	1.1	1.7	0.0	1.7	0.0	14.4	
Tuesday	140	8	9	2	0	2	2	1	2	2	1	0		165
%	84.8	4.8	5.5	1.2	0.0	1.2	1.2	0.6	1.2	1.2	0.6	0.0	12.7	
Wednesday	148	4	8	2	0	0	1	0	2	2	1	0		166
%	89.2	2.4	4.8	1.2	0.0	0.0	0.6	0.0	1.2	1.2	0.6	0.0	9.6	
Thursday	143	7	10	6	0	0	1	0	2	3	1	0		173
%	82.7	4.0	5.8	3.5	0.0	0.0	0.6	0.0	1.2	1.7	0.6	0.0	13.3	
Friday	156	15	9	3	0	0	0	0	2	4	1	0		192
%	81.3	7.8	4.7	1.6	0.0	0.0	0.0	0.0	1.0	2.1	0.5	0.0	9.9	
Saturday	122	14	4	3	0	0	0	0	0	1	0	0		146
%	83.6	9.6	2.7	2.1	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	5.5	
Sunday	109	17	3	2	0	0	1	0	0	1	0	0		134
%	81.3	12.7	2.2	1.5	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	5.2	
Avg Daily Vol	1	2	3	4	5	6	7	8	9	10	11	12	% Heavy	Vehicles
ADT (M-S)	137	11	8	3	0	1	1	0	2	2	1	0		165
%	83.0	6.7	4.8	1.8	0.0	0.6	0.6	0.0	1.2	1.2	0.6	0.0	10.9	
AWT (M-F)	146	9	9	3	0	1	1	1	2	2	1	0		175
%	83.4	5.1	5.1	1.7	0.0	0.6	0.6	0.6	1.1	1.1	0.6	0.0	11.4	
Weekend	116	16	4	3	0	0	1	0	0	1	0	0		140
%	82.9	11.4	2.9	2.1	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	6.4	

% Heavy = Classes 3 - 12

Figure 3. Extract from MRWA Road Information System- Knotts RoadComposition of Traffic 7th June 2012 to 25th June 2012

Weekly Class Report

Count: Both Directions Road Name: Avon Tce (M031)
 Site No: 15839 Location Description: S of Wheeler St (SLK 35.67)
 Date Range: 02 Feb 2006 to 13 Mar 2006

Vehicle Classification Scheme (AustRoads94)															
Class		1	2	3	4	5	6	7	8	9	10	11	12	% Heavy	Vehicles
Monday	→	764	40	50	21	2	1	5	2	15	31	10	0		938
%		81.4	4.3	5.3	2.2	0.2	0.1	0.5	0.2	1.6	3.3	1.1	0.0	14.6	
Tuesday		766	34	61	28	2	1	5	2	19	18	7	0		945
%		81.1	3.6	6.5	3.0	0.2	0.1	0.5	0.2	2.0	1.9	0.7	0.0	15.1	
Wednesday		831	33	64	25	2	2	7	5	22	19	8	0		1016
%		81.8	3.2	6.3	2.5	0.2	0.2	0.7	0.5	2.2	1.9	0.8	0.0	15.2	
Thursday		808	36	61	22	2	3	5	3	15	23	9	0		984
%		82.1	3.7	6.2	2.2	0.2	0.3	0.5	0.3	1.5	2.3	0.9	0.0	14.5	
Friday		892	51	62	19	3	0	4	2	13	18	7	0		1070
%		83.4	4.8	5.8	1.8	0.3	0.0	0.4	0.2	1.2	1.7	0.7	0.0	12.0	
Saturday		777	51	36	10	3	0	2	2	6	7	4	0		896
%		86.7	5.7	4.0	1.1	0.3	0.0	0.2	0.2	0.7	0.8	0.4	0.0	7.8	
Sunday		677	46	26	10	2	1	2	0	4	4	2	0		774
%		87.5	5.9	3.4	1.3	0.3	0.1	0.3	0.0	0.5	0.5	0.3	0.0	6.6	
Avg Daily Vol		1	2	3	4	5	6	7	8	9	10	11	12	% Heavy	Vehicles
ADT (M-S)		792	42	52	19	2	1	4	2	13	15	6	0		948
%		83.5	4.4	5.5	2.0	0.2	0.1	0.4	0.2	1.4	1.6	0.6	0.0	12.0	
AWT (M-F)		824	39	62	24	2	2	5	3	17	20	8	0		1004
%		82.1	3.9	6.2	2.4	0.2	0.2	0.5	0.3	1.7	2.0	0.8	0.0	14.2	
Weekend		727	49	31	10	3	1	2	1	5	6	3	0		835
%		87.1	5.9	3.7	1.2	0.4	0.1	0.2	0.1	0.6	0.7	0.4	0.0	7.4	

Note: (H) - Public Holiday



% Heavy = Classes 3 - 12

Figure 4. Extract from MRWA Road Information System- Northam Cranbrook Rd
 (Avon Tce) Road (South of Wheeler St)
 Composition of Traffic 2nd Feb 2006 to 13th March 2006

4.4.4 CBH York Grain Storage Facility-Traffic Data

The following information was extracted from the Development Application for Additions and Upgrades for Lot 200 Knotts Road, submitted by CBH to the Shire of York 21st August 2017 ...Refer to Appendix 3

Vehicle Description	Mean Value of Traffic generated by CBH Grain Operations at York from the last five year harvest periods 2012/2013 to 2016/2017 harvest Total ADT *	Additional Traffic due to proposed storage expansion Total ADT **	Forecast CBHTraffic Total ADT**	Average Daily Traffic on Knotts Road (non harvest period)	Predicted Total traffic on Knotts Road due to CBH development
Heavy Vehicles Classes 3 to 11	120	48	168	22	190
Services Vehicles	3	2	5	-	-
Cars	30	12	42	172	219
TOTAL Traffic ADT	153	62	215	194	409

TABLE 3: EXISTING and FORECAST TRAFFIC DATA

* Traffic counts during non-harvest periods decreases by approx. 50% -60% for the purposes of this assessment the traffic generated by a typical harvest period will be used.

** For this assessment it is calculated from CBH receival records that the typical vehicle used for inbound haulage task is carting a 35 tonne load and that the additional storage units will be full after 3 months over a notional harvest period.

4.5 Existing road Impacts and Deficiencies

4.5.1 Railway Level Crossing

There is an existing level crossing located on Knotts Rd in proximity to the existing Exit only access point. Refer to Photograph No 4
The Level Crossing is under STOP SIGN control

Currently heavy vehicles coming out of CBH turning right into Knotts Rd, require to stop at the rail crossing, and block the opposing lane.
Refer to Photographs overleaf

Whilst both traffic lanes require to stop at the rail crossing, the slow crawl speed on take-off, will cause southbound vehicles to temporarily stop on the crossing. This is not compliant with road traffic code. The proposal to relocate the exit driveway further south as shown in the site plan, will alleviate this.

4.5.2 Road Width

The existing bitumen seal width on Knotts Road adjacent to the Entry and Exit driveways to CBH, is 5.8m wide and the formation width is 8.2m
Heavy vehicles turning left out from CBH require to turn into the opposing lane and conflict with northbound traffic. The existing road width is insufficient to cater for the wheel turning path being greater than the width of the traffic lane.



4.6 Accident Data

Investigations into MRWA's crash information database confirms that there were no recorded accidents on Knotts Road over its full length (4.68Km) from 1st January 2012 to 31st December 2016

However on the Northam Cranbrook Road between Henrietta St and Young Road records reveal that from the 1st January 2012 to 31st December 2016 there was 10 recorded crash incidents, however none occurred at the intersection with Knotts Rd .

Refer to Appendix 3 for detailed crash data report

4.7 Existing Speed Zones

The speed zone along Knotts Road at the CBH entry and exit points is 60 Km/Hr

CBH Internal Road is zoned at 20Km/Hr and reduces to 5Km/Hr within the grain unloading and weighbridge areas.

4.8 Existing Pedestrian Movements

The pedestrians are mainly generated from vehicles that park within the property. Footpaths are in place between internal car parks and office amenities buildings

5 Planned Operational Conditions

5.1 Development Opening Time

The existing grain handling facility as well as the proposed storage upgrade, is to be open 7 days a week.

Up to 15 staff would work on site during harvest grain receival period, this would cover 3 shifts of 8 hour .During the remainder of the year 6 staff will work on site including during specific out-loading operations covering grain by road or rail to other storage sites or to port as required.

6 Recommendations and Conclusions

After consideration of all the development information provided, the traffic data and observations from the site inspection undertaken on 9th November 2017, the author recommends the following:

The capacity of Knotts Road to accommodate the additional traffic generated by CBH's development is rated as adequate subject to the following being undertaken.

- 1) The proposed relocation of the exit driveway southwards will require to be a minimum distance of 32.5m measured from the holding line at the railway crossing to the centreline of the proposed exit driveway.

This is required to accommodate the length of the longest permitted vehicle turning right into Knotts Road, so that it does not block the southbound through traffic.

- 2) The width of Knotts Road at the Exit driveway will require to be widen to allow for heavy vehicle turning paths to enter lane correct onto Knotts Road. This to stop the left turn out movement from conflicting with northbound through vehicles.

3) The existing width of Knotts Road from Northam Cranbrook Road (Avon Tce) to the CBH entry driveway, is rated as narrow for the existing volume and heavy vehicle composition of the traffic that use it. The existing sealed traffic lane widths are less 3.0m. This is not compliant with Austroads design guidelines, for the nature of the use of this road.

It was noted, that Knotts Road at SLK 0.98 and southwards up to intersection with Cut Hill Road SLK 4.67, is measured at 7.0m seal width and 9.0m formation width (nominally).

Accordingly Knotts Road is recommended to be widen from Avon Tce to the subject CBH driveways, such that traffic lanes are a minimum 3.5m wide and unsealed shoulders are at minimum of 1.2m

4) Knotts Road pavement at the CBH driveways

The existing pavement at the CBH driveways is assessed as structurally adequate to receive the additional turning traffic. The design of the **widen** pavements associated with the proposed CBH driveways, is shown in CBH Drawing Nos 2017-429-0100-2 and 2017-429-0105-2 APPENDIX 4.

This is described as comprising:

- 130mm thick sub base using compacted gravel
- 180mm thick base course using gravel stabilised with cement (3% by weight)
- Bituminous seal coat using hot bitumen binder and 7mm aggregate
- Final wearing course comprising 50mm thick Dense graded Asphalt using 10mm aggregate.

The above pavement design is considered adequate to cater for the future heavy vehicle traffic

5) Knotts Road Surfacing

The existing condition of the bituminous seal on Knotts Road adjacent to the CBH driveways is rated as satisfactory, however the surface is flushed due to the aggregate chips being depressed into the pavement.

Recommend asphalt sealing with the 50mm dense grade asphalt that is proposed on the widenings to be extended across the Knotts Road pavement, to the limits of the heavy vehicle turning areas.

6) Heavy Vehicle Turning Movements

Heavy vehicle turning from the proposed exit driveway will require to be lane correct so that no conflicts occur with the opposing traffic. Refer to the Exit and Entry turning movement details shown in CBH Drawing No 2017-427-SK002-B under APPENDIX 5

7) Road Signage and Pavement Marking

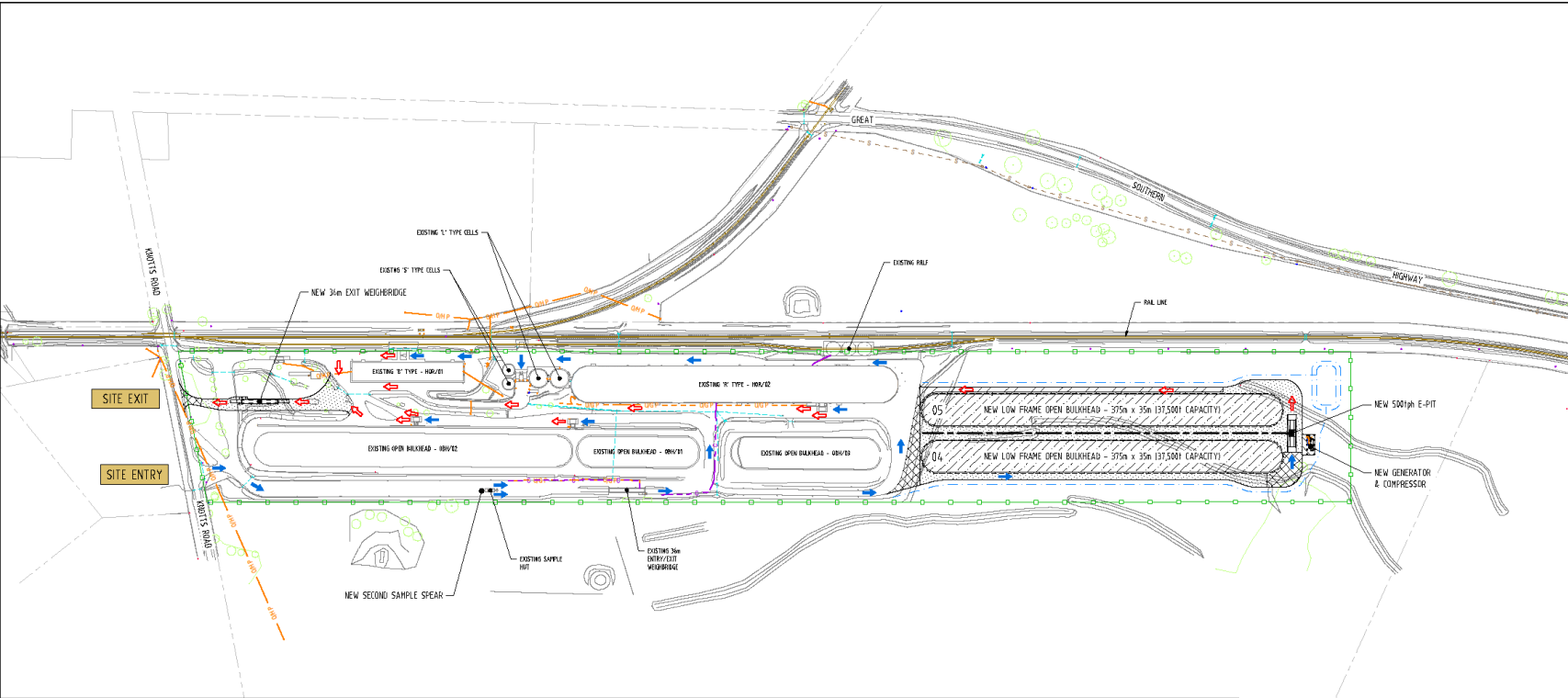
Any future road widening works that occurs on Knotts Road in the vicinity of the CBH property is to include an upgrade of all road signage and pavement marking so that they are in conformity with Australian Standard AS1742.2-2009-2 *Manual of Uniform Traffic Control Devices*

Proposed signage and holding line is shown in CBH Drawing No 2017-427-0111-0 under APPENDIX 6

END OF REPORT

APPENDIX 1

General Arrangement of proposed additional grain storage area



CIVIL LEGEND	SCOPE OF EQUIPMENT / CIVIL WORKS	PAVEMENT LEGEND	PRELIMINARY PAVEMENT QUANTITIES
<div><div><div>→</div><div>→</div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div></div>	<div><div>1. INSTALL 1 x 36m ABOVE GROUND 16t WEIGHBRIDGE WITH HUT</div><div>2. INSTALL 2 x 375m LOW STEEL FRAMED OPEN BULKHEAD (04) & (05)</div><div>3. INSTALL 1 x 500tph E-PIT</div><div>4. INSTALL 1 x 375m GROUND CONVEYOR (GCB)</div><div>5. INSTALL 2 x TRIPPERS</div><div>6. INSTALL 2 x STACKERS</div><div>7. PAVEMENT AS SPECIFIED</div><div>8. ASPHALT SURFACE AS SPECIFIED</div><div>9. DRAINAGE DESIGN AS REQUIRED</div><div>10. TRAFFIC MANAGEMENT SIGNS AS REQUIRED.</div></div>	<div><div><div></div><div>30mm THICK ASPHALT (10mm) ON 7mm METAL SEAL ON NEW 400mm RIDGE GRAVEL BASE TOP 200mm CEMENT STABILISED (13% BY WEIGHT)</div></div><div><div><div></div><div>30mm THICK DENSE GRADED ASPHALT (10mm) ON 7mm METAL SEAL ON NEW 400mm RIDGE GRAVEL BASE</div></div><div><div><div></div><div>50mm THICK DENSE GRADED ASPHALT (10mm) ON 7mm METAL SEAL ON NEW 400mm RIDGE GRAVEL BASE TOP 200mm CEMENT STABILISED (13% BY WEIGHT)</div></div><div><div><div></div><div>2 COAT METAL EMULSION SEAL (14/7) ON NEW 400mm RIDGE GRAVEL BASE TOP 200mm CEMENT STABILISED (13% BY WEIGHT)</div></div><div><div><div></div><div>2 COAT METAL EMULSION SEAL (14/7) ON NEW 400mm RIDGE GRAVEL BASE</div></div></div></div></div></div></div>	<div><div><div><div>SURFACE TREATMENT</div><div>2 COAT SEAL (AREA)</div><div>30mm DENSE GRADED ASPHALT</div><div>30mm ASPHALT</div><div>50mm DENSE GRADED ASPHALT</div></div><div><div>1,950m²</div><div>23,700m²</div><div>14,100m²</div><div>2,300m²</div></div><div><div><div><div>SUBGRADE</div><div>CEMENT STABILISED RIDGE GRAVEL (12% BY WEIGHT)</div><div>RIDGE GRAVEL</div></div><div><div>3,650m³</div><div>13,200m³</div></div></div></div></div></div>
<div><div><div>1:2000 @ A1</div><div>1:5000 @ A1</div><div>0 20 40 60 80 100 120 140 160 180 200 m</div></div><div><div><div>PRELIMINARY ISSUE</div><div>DO NOT USE FOR CONSTRUCTION</div><div>DATE: 28.05.17</div></div></div></div>			
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APPENDIX 2

Summary Crash Data Knotts Road

Detailed Crash History



Report Criteria

Road	SLK	CWY
M031 - Northam Cranbrook	35.34 to 51.04	All
4330028 - Knotts Rd	0.00 to 4.68	All

Parameter	Value	Description
From Date	01/01/2012	
To Date	31/12/2016	
Crash Type	All	
Severity	All	

Road	SLK	CWY	True Dist	Loc End Date	Dist Error	Intersection	Date	Day	Time	Severity	Crash No.	Type	Light Cond	Road Cond	Speed Limit	Traffic Control	Road Feature	Road Alignment	Speed Factor	MR Nature	Location	RUM	Unit	Unit Type	From Dir	To Dir	Veh/Ped Move	First Object Hit	Second Object Hit	Third Object Hit	Target Impact Point	
M031	35.34	S	35.34			HENRIETTA ST & AVON TCE (007142)	13/01/2014	Monday	0736	Medical	2014015673	Intersection	Daylight				No Sign Or Control	4-way Intx			Non Collision	On Oway	77:Loss Of Control: Right Turn - Intx	Colliding	Bicycle	W - CHIDL OW YORK	S - NORT HAM CRAN BROOK	Out Of Control: Other				
							27/08/2014	Wednesday	1305	Fatal	2014777344	Intersection	Daylight	Dry	60	Stop Sign	4-way Intx	Straight			Right Angle	On Oway	11:Inbc: Thru - Thru	Target	Car	S - NORT HAM CRAN BROOK	N - AVON TCE	Straight Ahead: Not Out Of Control				Side
																							Colliding	Prime Mover & 1 Trailer	E - NORT HAM CRAN BROOK	W - CHIDL OW YORK	Straight Ahead: Not Out Of Control					
							05/10/2015	Monday	1145	PDO Major	2015302922	Intersection	Daylight	Dry		Give Way Sign	4-way Intx	Straight			Rear End	On Oway	31:Same Dim: Same Lane Rear End	Colliding	Car	W - CHIDL OW YORK	N - AVON TCE	Swing Wide: Left Turn At Intx				
																							Target	Truck	W - CHIDL OW YORK	N - NORT HAM CRAN BROOK	Straight Ahead: Not Out Of Control				Side	
	35.85	S	35.85				16/06/2013	Sunday	2116	PDO Major	2013652021	Midblock	Dark - Street Lights Not Provided	Dry	60	No Sign Or Control		Curve			Rear End	On Oway	31:Same Dim: Same Lane Rear End	Colliding	Car	N	S	Straight Ahead: Not Out Of Control				
																							Target	Prime Mover & 1 Trailer	N	S	Straight Ahead: Not Out Of Control				Rear	
	36.92	S	36.92				13/01/2014	Monday	1039	Medical	2014016142	Midblock	Daylight			No Sign Or Control					Hit Object	On Left Verge After Leaving Oway	72:Off Path On Straight: Off Left Oway Obj	Colliding	Utility	N	S	Out Of Control: Trailer Unstable	Embankment			
	39.02	S	39.02				13/08/2013	Tuesday	0655	PDO Minor	2013154284	Midblock	Daylight	Dry		No Sign Or Control		Straight	No		Non Collision	On Left Verge After Leaving Oway	52:Overtaking: Out Of Control:	Colliding	Utility	W	E	Swerving: To Avoid Veh				
	42.31	S	42.31		0.00		25/07/2016	Monday	0525	PDO Major	2016250810	Midblock	Dark - Street Lights Not Provided	Wet		No Sign Or Control		Curve			Hit Object	On Left Verge After Leaving Oway	82:Off Path On Curve: Off Right Band In Obj	Colliding	Truck	N	S	Swerving: To Avoid Veh	Drainage Ditch			
	42.32	S	42.32		0.00		06/02/2015	Friday	0930	PDO Major	2015015826	Midblock	Daylight	Dry		No Sign Or Control		Straight			Hit Object	On Right Verge After Leaving Oway	74:Off Path On Straight: Off Right Oway Obj	Colliding	Car	S	N	Swerving: To Avoid Veh	Tree			
	45.34	S	45.34				12/11/2013	Tuesday	1455	PDO Major	2013212255	Midblock	Daylight	Dry	110	No Sign Or Control		Curve			Non Collision	On Oway	85:Off Path On Curve: Lost Control On Oway	Colliding	Truck	S	N	Out Of Control: Gravel Shoulder				
	45.42	S	45.42			YOUNG RD (011784)	23/11/2016	Wednesday	1330	Hospital	2016336825	Intersection	Daylight	Dry		No Sign Or Control	3-way Intx (T-junction)	Straight			Rear End	On Oway	33:Same Dim: Same Lane Right Rear	Colliding	Car			Straight Ahead: Not Out Of Control				

APPENDIX 3

CBH Supporting Information submitted to Shire of York 21st August 2017

Supporting information for the application for planning consent for additional grain receival, sampling, storage, truck weighing facilities and new site exit.

Project background

- Requirement for additional grain receival, storage, sampling, truck weighing facilities and a new site exit.

Proposed development

- A second grain sampling spear at the sampling platform/hut
- Internal road around grain receival, storage and truck weighing facilities
- Internal roads and grain storage stormwater drainage infrastructure
- Hopper pit, elevator and ground conveyor
- 2 x 375 m long (L) x 35 m wide (W) 37,500 tonne (T) open bulkheads for grain storage
- Portable generator and air compressor adjacent to the hopper pit
- Lighting towers will be used to illuminate the hopper pit and open bulkheads during grain receivals and out-loading and during maintenance
- One 36 m long weighbridge and hut
- New site exit.

Site operations

- Up to 15 staff would work on site during harvest grain receivals up to 7 days a week for 2 months.
- Up to 6 staff would work on site during the out-loading of grain for up to 7 days a week for 6 months.
- The 15 staff can work across 3 x 8 hour shifts with most working during 2 shifts between 6am and 10pm and 2 or 3 staff working a third shift at night out-loading during harvest grain receivals. Less staff would work a 1 x 12 hour shift during weekends.
- Other staff will also be on site intermittently around harvest grain receivals and out-loading to undertake fumigation, pest control and maintenance activities.

Grain receivals and out-loading statistics at York

Statistics include the following:

- Receivals by road from Growers farms during harvest
- Receivals by road from other CBH sites throughout the year
- Out-loading by road to other CBH site/port, domestic customers and disposals throughout the year
- Out-loading by rail to other CBH site/port throughout the year.

Receivals by road from Growers farms during harvest

Harvest period	Start date	Finish date	Total days	Total tonnes	Total deliveries	Daily av. deliveries	Daily av. tonnes
2012/13	25/10/12	30/01/13	70	140,178.68	4889	70	2,002.55
2013/14	28/10/13	17/1/14	67	278,720.72	8672	129	4,160.00
2014/15	23/10/14	02/01/15	60	246,083.99	7507	125	4,101.39
2015/16	21/10/15	24/01/16	91	192,039.48	5933	91	2,110.32
2016/17	25/10/16	24/01/17	74	266,140.60	7598	103	3,596.49

Receivals by road from other CBH sites throughout the year

Receival site	Start date	Finish date	Total days	Total tonnes	Total deliveries	Daily av. deliveries	Daily av. tonnes
Quairading	01/10/13	30/06/17	41	45,929.43	838	20	1,120.23
Greenhills	09/01/14	23/02/17	18	21,017.24	434	24	1,167.62
Yarding	13/01/14	14/01/14	2	1,220.72	23	12	610.36
Corrigin	03/06/14	06/01/17	13	15,064.45	278	21	1,158.80
Mawson	17/08/14	20/05/17	21	28,517.70	518	25	1,357.99
Kondinin	19/05/15	17/09/15	10	19,350.98	339	34	1,935.10
Bendering	23/09/15	25/09/15	2	4,096.38	70	35	2,048.19
Beverley	02/06/15	05/06/15	3	6,634.75	114	38	2,211.58
Bulyee	11/06/15	05/10/16	40	67,095.76	1,164	29	1,677.39
Yealering	08/08/16	11/08/16	4	4,325.76	76	19	1,081.44
Alderside	15/08/16	20/08/16	6	8,031.62	137	23	1,138.60
Yorkrakine	05/05/17	05/05/17	1	170.98	3	3	57
Shackleton	06/06/17	13/06/17	7	8,524.36	153	22	1,217.77
Yoting	01/08/17	03/08/17	3	2,589.32	45	15	172.62

Out-loading by road to other CBH site/port, domestic customers and disposals throughout the year

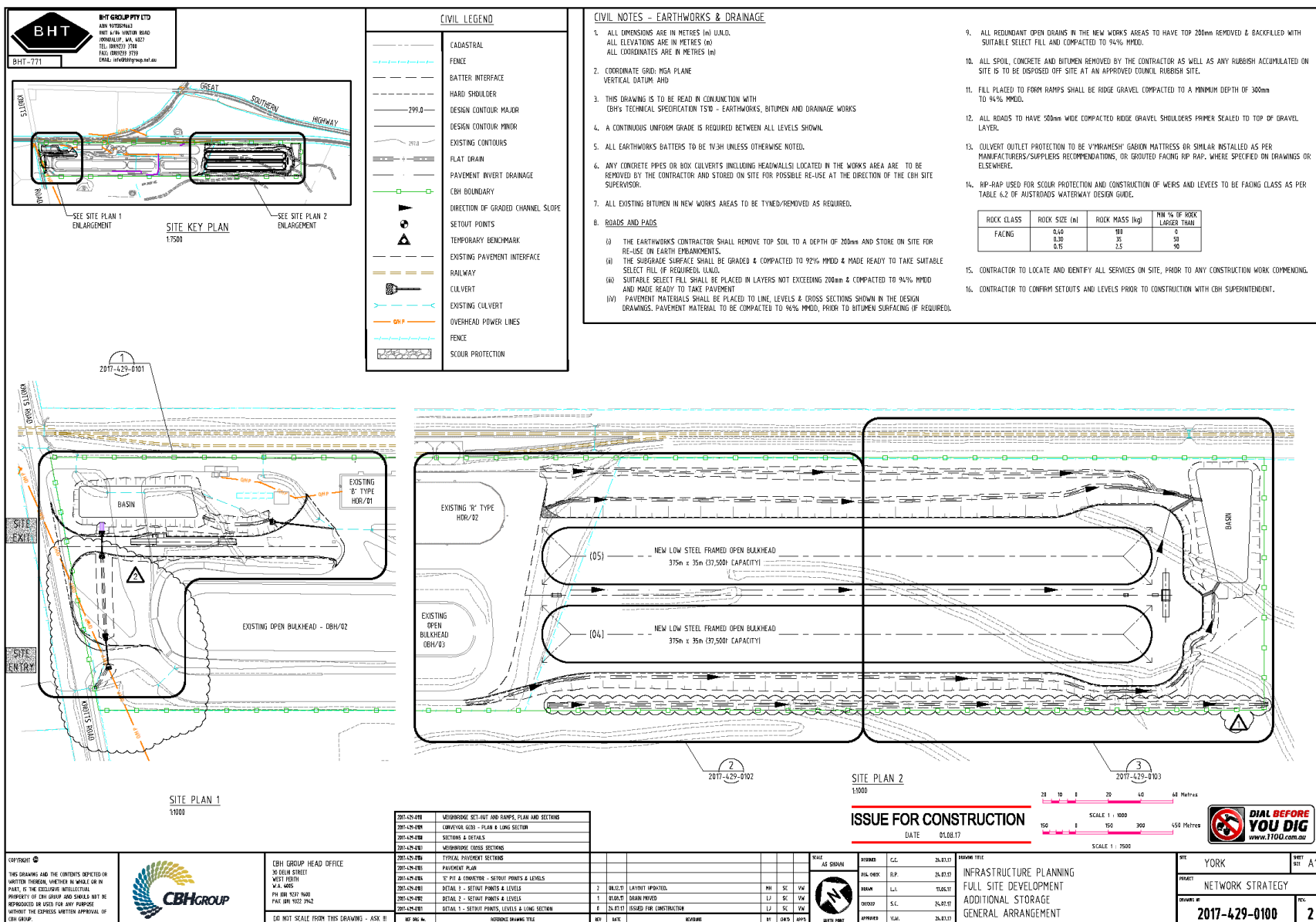
Receival site/port	Start date	Finish date	Total days	Total tonnes	Total deliveries	Daily av. Deliveries	Daily av. tonnes
Disposal	04/11/13	04/11/13	1	39.54	2	2	39.54
Domestic	18/12/13	24/12/13	5	474.60	8	2	94.92
Domestic	22/09/14	26/09/14	5	243.40	5	1	48.68
Disposal	07/03/14	18/11/14	3	110.04	3	1	36.68
Disposal	15/04/15	28/07/15	3	60.10	3	1	20.03
MGC	12/11/15	13/11/15	2	1266.23	23	12	633.12
Kwinana	14/11/15	23/12/16	31	34,961.15	614	20	1,127.78
Disposal	11/01/16	24/12/16	9	288.72	17	2	32.08
Domestic	11/03/16	11/11/16	68	7,749.24	146	2	113.96
Greenhills	17/11/16	23/11/16	6	2,838.20	54	9	473.03
Disposal	23/01/17	30/04/17	4	124.64	7	2	31.16

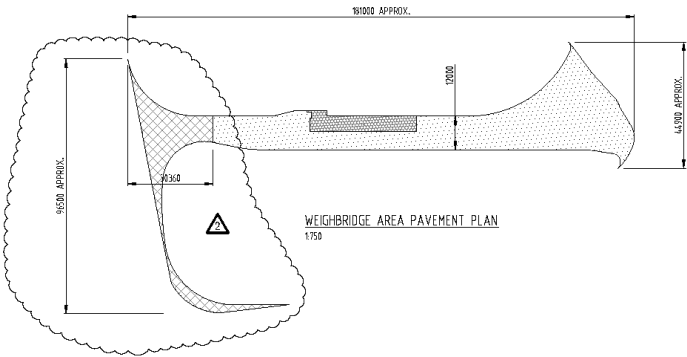
Out-loading by rail to other CBH site/port throughout the year

Year	Receival Site/port	Start date	Finish date	Total deliveries	Total tonnes	Delivery av. tonnes
2013	MGC	14/10/13	27/12/13	7	19,184	2,740.57
2013	Kwinana	19/10/13	31/12/13	45	144,265.5	3,205.9
2014	Kwinana	04/01/14	29/12/14	109	293,377	2,691.53
2014	MGC	06/02/14	06/10/14	13	29,033	2,233.31
2015	Kwinana	02/01/15	30/12/15	106	336,707	3,176.48
2015	Geraldton	20/01/15	20/01/15	2	4,888	2,444
2015	MGC	03/02/15	15/10/15	6	15,300	2,550
2016	Kwinana	02/01/16	30/12/16	83	221,024	2,662.94
2016	MGC	11/08/16	15/11/16	7	12,476	1,782.28
2017	Kwinana	04/01/17	18/07/17	58	184,150	3,715
2017	MGC	19/01/17	31/05/17	4	8,914	228.5

APPENDIX 4

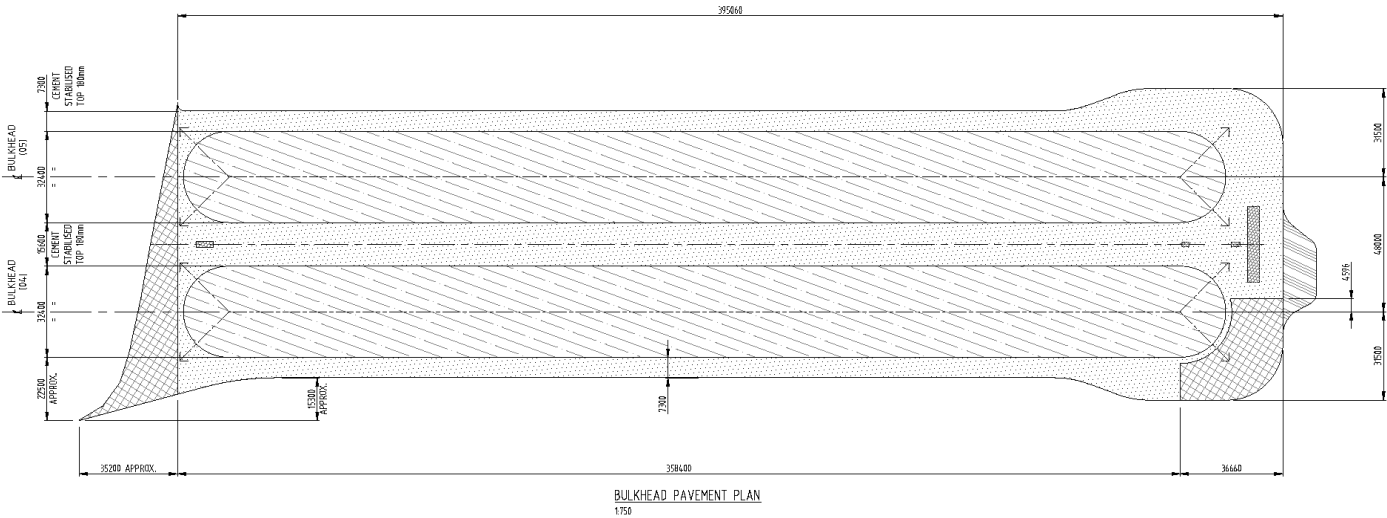
CBH York – General Arrangement Pavement Design





HATCHING LEGEND		
TYPE 1.	30mm THICK ASPHALT (10mm) ON 7mm SEAL ON NEW 310mm RIDGE GRAVEL BASE TOP 100mm CEMENT STABILISED (3% BY WEIGHT)	15880m ²
TYPE 2.	50mm THICK DENSE GRADED ASPHALT (10mm) ON 7mm METAL SEAL ON NEW 310mm RIDGE GRAVEL BASE TOP 100mm CEMENT STABILISED (3% BY WEIGHT)	2,650m ²
TYPE 3.	30mm THICK DENSE GRADED ASPHALT (10mm) ON 7mm METAL SEAL ON NEW 310mm RIDGE GRAVEL BASE	23,680m ²
TYPE 4.	2 COAT METAL EMULSION SEAL (1% / 7) ON NEW 310mm RIDGE GRAVEL BASE	340m ²
TYPE 5.	NEW 310mm RIDGE GRAVEL BASE UNDER CONCRETE SLABS	350m ²

- NOTE:
1. FOR NOTES AND REFERENCE DRAWINGS REFER CBH DRAWING 2017-429-0100
 2. ALL DIMENSIONS IN MILLIMETRES
 3. FOR TYPICAL PAVEMENT SECTIONS REFER DRAWING 2017-429-0106



ISSUE FOR CONSTRUCTION

DATE 01.08.17



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WEST PERTH
W.A. 6150
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FAX 08 9337 7662

REF	REV	DATE	DESCRIPTION	BY	CHECKED	APPROVED
2017-429-0100	1	01.08.17	LAYOUT UPDATED	PH	SC	VW
2017-429-0101	1	01.08.17	HATCH PATTERN REVISED	LJ	SC	VW
2017-429-0102	1	01.08.17	ISSUED FOR CONSTRUCTION	LJ	SC	VW

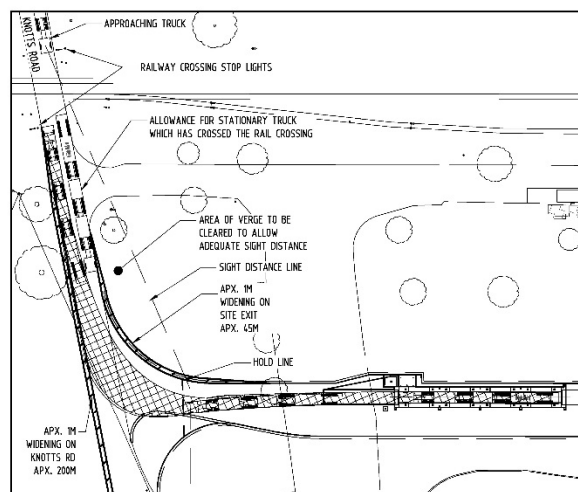
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ISSUED	C.L.	26.83.17
CHKD	B.P.	26.83.17
DESIGN	L.J.	16.06.17
CHKD	S.C.	26.83.17
APPROVED	S.C.	26.83.17

PROJECT	INFRASTRUCTURE PLANNING FULL SITE DEVELOPMENT ADDITIONAL STORAGE PAVEMENT PLAN
DATE	2017-429-0105
REV	2

APPENDIX 5

CBH York –Heavy vehicle turning paths

[illegible][illegible]

10 0 10 20 30 Metres

SCALE 1 : 500

[illegible]

APPENDIX 6

CBH York –Road Signage and Pavement Marking

