

## **Annex E**

## Annex E – Construction Traffic

### Introduction

Construction of the EfW CHP facility is scheduled to commence in January 2012. The access road to the facility will be one of the first elements of the construction, coupled with the creation of temporary parking facilities for some construction related workers. Work on the operational aspects of the plant will commence in April 2012. It is anticipated that the facility will be completed and become available for operation towards the end of 2014.

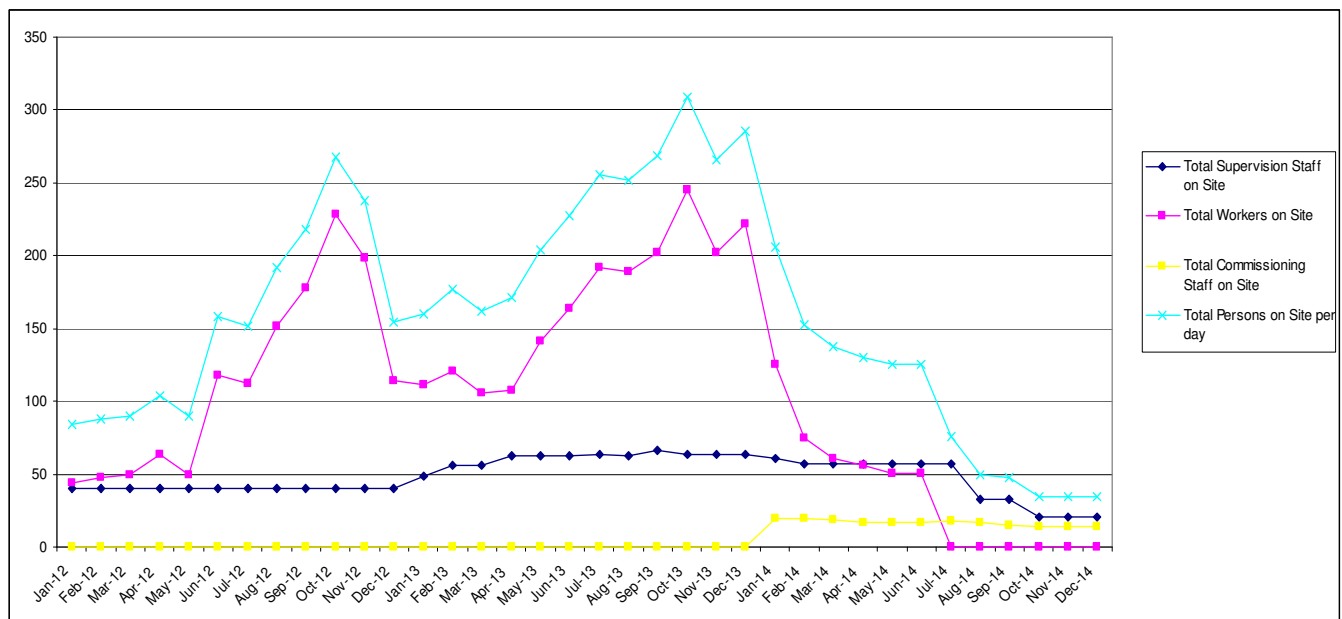
A number of different vehicle and movement types will need to access the development site during the construction period. These will include private motor vehicles and buses which will generally be associated with construction and supervision staff, HGV's which will be used to import and export materials to and from the site, as well as specific construction related vehicles.

Whilst the Transport Assessment has been prepared to consider the operational phases of the EfW CHP facility commencing in 2014, this document discusses the preparation and construction activities at the site. The following section considers the management of construction related trips.

### Construction Staff

It is recognised that there will be a number of different construction workers, associated with different companies, who will need to access and be present on the site at different points during the construction programme. These workers are likely to travel to and from the site, using different forms of transport, at different times. Notwithstanding this, they will be subject to controls and security checks.

In order to consider the movement of construction staff in more detail, MVV and its contractors have calculated the number of construction workers expected to be on site. This information is provided below.



The analysis indicates that the total construction staff present on site is expected to peak around October 2013, at 309 personnel.

Of the staff who will be present on site, it is recognised that they will travel to and from the site from different locations. In order to consider this in more detail, the following information has been provided from MVV and Kier (civil works contractor):

- It is assumed that 75% of Kier's supervision staff will be travelling to the site on a daily basis from outside of Plymouth, with the remaining 25% either living locally or staying in or around the city
- For all the other contractors it is assumed that all supervisory staff would be lodging locally
- It has been assumed that approximately 80% of other construction workers would lodge locally, with the remaining 20% (assumed as sub contractors) travelling in to the site from outside Plymouth
- In terms of MVV, 90% of supervisory staff will lodge locally with the remaining 10% travelling in to the site from outside of Plymouth

Based on the assumptions presented above, an analysis of the expected construction staff related movements during October 2013 (as the peak construction period) has been undertaken, as summarised in the table below.

Construction Supervisor / Worker Personnel	Estimated Peak Construction Staff (at October 2013)	Travelling from Outside Plymouth (%)	Travelling from Within Plymouth (%)	Travelling from Outside Plymouth	Travelling from Within Plymouth
MVV (Supervisors)	20	10	90	2	18
Kier (Construction Supervisors)	30	75	25	22	8
Other Contractors (Supervisors)	14	0	100	0	14
MVV (Construction Workers)	-	-	-	-	-
Kier (Construction Workers)	46	20	80	9	37
Other Contractors (Construction Workers)	199	20	80	40	159
<b>Total</b>	<b>309</b>	<b>-</b>	<b>-</b>	<b>73</b>	<b>236</b>

The analysis indicates that approximately 73 construction personnel will travel to the site from outside of Plymouth (although this would be unlikely to occur on a daily basis) with the remaining 236 personnel lodging within the Plymouth area. The latter equates to approximately 76% of the total estimated workforce who would be present on the site at this time, representing the peak of construction activity.

It is intended that parking will be provided on site for supervising staff, who are less likely to be on site everyday and may not stay for the whole day, as they may also visit other sites. All vehicles entering (and exiting) the site will be required to pass through a security control point. Notwithstanding this, parking on site will be provided within a defined area which unauthorised vehicles will not be permitted to use. The proposed parking controls are provided in the table below:

Construction Supervisor / Worker Personnel	Parking Provision
MVV (Supervisors)	Permitted to park on site
Kier (Construction Supervisors)	Permitted to park on site
Other Contractors (Supervisors)	Permitted to park on site (on condition of car sharing)
MVV (Construction Workers)	-
Kier (Construction Workers)	Park off site
Other Contractors (Construction Workers)	Park off site

For those construction staff who will not be permitted to park on site, it has been identified that it will be necessary to provide a suitable off site parking facility, to ensure that parking demand is suitably managed, such that it does not impact on the area in the vicinity of the site.

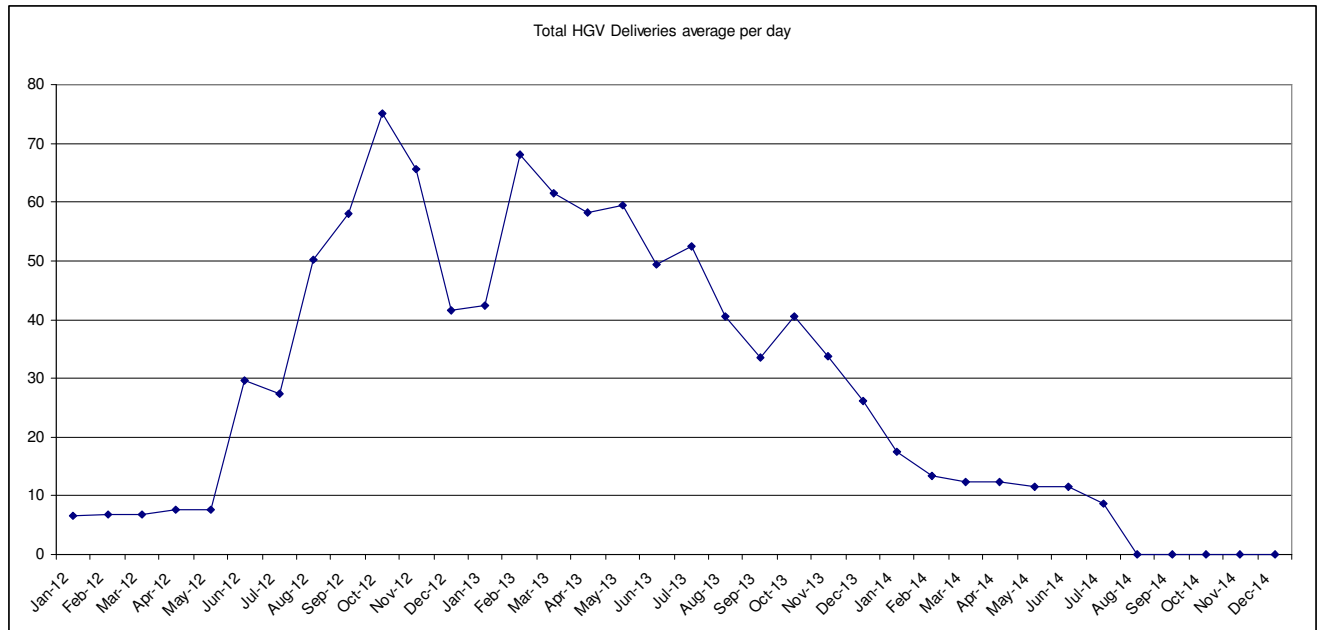
A specific off site parking area has been identified at Goschen Yard for this purpose, which is located off Saltash Road, approximately 1.4km from the EfW CHP facility site. Free buses will then be provided to transport staff to the site at the beginning of the day (anticipated to be between 0700 and 0730) and from the site at the end of the day (anticipated to be between 1800 and 1830).

### Construction Vehicles

#### *HGV Deliveries*

In terms of the movement of vehicles which will be related with the construction activities on site directly, discussions with MVV have indicated that there may be up to 75 deliveries per day, at the peak of the construction phase (approximately October 2012, in terms of deliveries).

A summary of the delivery movements is provided below. It should be noted that wherever possible, deliveries will be undertaken outside of the traffic peak hours, by prior arrangement.



### *HGV Routing*

It is anticipated that construction related HGV movements will travel to and from the site using Weston Mill Drive to connect with the A38. As these routes form part of the 'higher order' highway network in the area, including the A38 which forms part of the Highways Agency's trunk road network, it is considered that they are most suitable to accommodate the vehicle types and volume of traffic that will be associated with the construction phase of the EfW CHP facility.

When abnormal load vehicle movements are required to deliver large components to the EfW CHP facility, the construction contractor will be required to liaise directly with the relevant highway authorities in advance, to obtain the required agreements, prior to the abnormal load deliveries taking place. Any traffic management required for abnormal load deliveries will be confirmed with the relevant authorities as part of this process.

### *Internal Site Procedures*

Access to the site and the internal transport procedures will be confirmed by the construction contractor prior to construction works commencing on the site. The procedures will be included within the Construction Environmental Management Plan (CEMP) to ensure that the procedures are enforced, as appropriate.

Security controls will be put in place at the site access point, to ensure that only permitted vehicles and personnel are able to gain access to the site. A parking compound will be provided within the site, which will also be subject to authority access controls.

A site lay down area will be provided on site, currently proposed to be located within the south western area of the site, on land which is known colloquially as 'Table Top Mountain', which is located away from the main EfW CHP facility building. The facility is considered to be of a suitable size and in this location, is expected to allow construction activities to be carried out effectively.

## Construction Vehicles Highway Impact Assessment

Taking forward the information presented above, it is noted that the Transport Assessment that has been prepared considers the operational implications of the EfW CHP facility, commencing in 2014, in terms of the local highway network. During the construction phases of the development however, traffic flows as presented above, will be generated to and from the site.

Therefore, the information presented above has subsequently allowed an assessment to be undertaken of the operation of the highway network in proximity of the site during the construction phase of the proposals. As such, the table below summarises the anticipated number of trips associated with the construction phase of the development, in relation to the origins and destinations of the trips.

It should be noted that this is based on supervisor / construction staff levels in October 2013, as this is anticipated to represent the peak in the number construction workers that are expected to be on site.

Staff	Those Parking on Site		Those Parking at Goschen Yard	
	Travelling from outside of Plymouth	Travelling from within Plymouth	Travelling from outside of Plymouth	Travelling from within Plymouth
MVV Supervisors	2	18	0	0
Kier Supervisors	22	8	0	0
Other Supervisors	0	7*	0	0
MVV Construction	0	0	0	0
Kier Construction	0	0	9	37
Other Construction	0	0	40	159
<b>TOTAL</b>	<b>24</b>	<b>33</b>	<b>49</b>	<b>196</b>

\*As discussed, the 14 "other supervisors" will car share, hence resulting in 7 trips each way

It is anticipated that all site construction workers will arrive on site (via minibuses from Goschen Yard) between 0700 and 0730 in the morning, and will leave the site between 1800 and 1830 in the evening, as discussed previously. As such, these trips will occur outside of the morning and afternoon peak hours that have been assessed as part of the TA.

It is also anticipated that the site supervisors will also arrive and depart the site at the times referred to above, as at least some supervising staff will be required to be on site for the duration of the construction working hours each day. However, to ensure that a robust assessment is undertaken, the trips associated with all of the site supervisors have been assumed to occur within the AM and PM peak hours assessed in the TA (0800-0900 and 1600-1700).

In order to distribute these supervisor trips onto the highway network, the following assumptions have been made, based on the information presented previously:

- Those travelling from outside of Plymouth will travel along the A38, followed by the A3064 St Budeaux bypass (Weston Mill Drive)
- Those travelling from within Plymouth will use the A3064 Wolseley Road to access the site

In addition to those working on site, consideration has also been given to the number of HGVs accessing the site, on a daily basis. As identified above, the peak in HGV construction traffic is predicted to occur in October 2012 (as opposed to the construction worker peak, which is expected to occur in October 2013), with up to 75 deliveries being made to the site, per day. The construction delivery traffic is expected to

peak earlier on in the construction process as the HGV movements will be associated with the main civil construction works, which will take place within the first 12 months.

It is anticipated that the deliveries will occur outside the peak hours and reasonable measures will be put in place to manage the associated delivery movements. However, to ensure a robust assessment, it has been assumed that a flat delivery profile between 0800 and 1800 would apply, as these are the times that deliveries will be accepted at the site according to the PCC CoP. This thereby suggests that 7.5 HGVs will arrive and depart the site during both the AM and PM peak hours (i.e. 15 HGV movements in the AM and PM peak hours).

The construction worker and HGV information presented above has subsequently been used to inform the operational assessment of the junctions located within the TA study area, with regard to the construction phase of the development. As such, the construction traffic was added to the 2014 Do Minimum Scenario presented within the TA, to create a 2014 'Do Construction' scenario.

The results of the analysis are presented in the tables below. Again, it should be noted that the flows that have been used to inform these tests represent a robust situation, as it is not expected that all supervisors would travel to and from the site during the peak hours and furthermore, that HGV deliveries would also be unlikely to occur during these times. In addition, the maximum construction worker traffic and maximum HGV delivery traffic are expected to occur at different stages of the construction process (October 2013 and October 2012 respectively), but these have been combined for the purposes of the assessment.

#### **Wolseley Road / Saltash Road – 2014 'Do Construction'**

Approach	AM (0800-0900)		PM (1600-1700)	
	Sat (%)	MMQ	Sat (%)	MMQ
Wolseley Rd N Ahead	62.7	11.6	51.1	6.4
Wolseley Rd N Right	89.1	22.3	87.3	11.8
Wolseley Rd S Ahead + Left	89.4	8.6	86.7	9.3
Wolseley Rd S Ahead	88.3	8.3	86.9	9.4
Saltash Rd Left	28.3	2.0	81.7	11.9
Saltash Rd Right	8.7	0.5	11.0	0.6
Cyclotime (secs)	81		61	
Practical Reserve Capacity (PRC)	0.6%		3.1%	

### Wolseley Road / Weston Mill Drive – 2014 ‘Do Construction’

Approach	AM (0800-0900)		PM (1600-1700)	
	Sat (%)	MMQ	Sat (%)	MMQ
Wolseley Rd N Ahead + Left	89.3	9.0	89.7	8.5
Wolseley Rd N Ahead + Right	89.6	10.0	88.5	8.9
Weston Mill Dr Left	86.8	7.9	55.8	8.9
Weston Mill Dr Ahead + Left	87.2	8.4	40.7	1.7
Weston Mill Dr Ahead + Right	70.2	5.0	44.4	2.3
Wolseley Rd S Ahead + Left	71.3	6.0	88.9	16.1
Wolseley Rd S Right	65.1	5.2	89.4	16.4
Dockyard Ahead + Left	23.9	1.0	88.8	11.4
Dockyard Right	23.1	1.1	32.8	2.8
Cycletime (secs)	66		84	
Practical Reserve Capacity (PRC)	0.5%		0.4%	

### Weston Mill Drive / Carlton Terrace – 2014 ‘Do Construction’

Approach	AM (0800-0900)		PM (1600-1700)	
	Sat (%)	MMQ	Sat (%)	MMQ
Carlton Terrace	71.3	3.9	50.3	3.8
Weston Mill Dr E Ahead + Left	86.0	11.9	89.4	14.7
Weston Mill Dr E Ahead + Right	86.8	13.0	90.4	16.4
Ferndale Rd	78.8	4.8	90.8	9.9
Weston Mill Dr W Ahead + Left	85.6	8.3	91.5	21.2
Weston Mill Dr W Ahead + Right	86.7	8.9	91.0	22.1
Cycletime (secs)	57		120	
Practical Reserve Capacity (PRC)	3.7%		-1.6%	

As presented in the tables above, both the Wolseley Road / Saltash Road and Wolseley Road / Weston Mill Drive junctions are predicted to operate within capacity in the AM and PM peak hours of the 2014 ‘Do Construction’ scenarios. The Weston Mill Drive / Carlton Terrace junction is predicted to operate within capacity in the AM peak hour, but slightly in excess of the recommended capacity threshold in the PM peak hour. However; the junction remains within its theoretical capacity, with its operation similar to that presented in the TA for the 2014 Do Minimum scenario.

#### Framework Construction Staff Travel Plan

In order to manage the transport arrangements associated with the Construction Staff at the EfW CHP, a Framework Construction Staff Travel Plan (FCSTP) has been prepared, as summarised below.



The aim of the FCSTP is to outline methods which can be used to facilitate considered traffic movements to and from the site, thereby managing the impact of the construction.

The Travel Plan is similar to the Framework Staff Travel Plan (FSTP) that has been prepared for the EfW CHP, which will apply to the site once it becomes operational, but there are some fundamental differences. These are related to:

- The nature of the site: An employment site will be likely to have a mixed workforce, which will be associated with a reasonably consistent traffic movement pattern, over the course of the scheme. A construction site will have a variable workforce, both in quantity and in terms of the origins of the staff, meaning that travel patterns are more likely to vary, even over short periods of time (eg. on a week-by-week basis).
- Travel Plan targets: It is likely that targets associated with the operational site through the FSTP are likely to be associated with the promotion of alternative modes of transport, thereby aiming to reduce private car based travel, potentially over the longer term. A FCSTP is expected to need to focus more on absolute trip numbers and whilst it will promote alternative modes, it needs to accept that trips are associated with the shorter term and that car based trips may be more viable. As such, the targets are likely to focus more on car sharing and trip optimisation.
- Travel Plan monitoring: Will be undertaken annually for the FSTP in the form of surveys. It is envisaged that due to the variability and shorter term of the construction period that monitoring of the FCSTP is more likely to focus on 'issues', should they arise.

### *Background Information*

The construction site is located within HMNB Devonport, Plymouth. Access to the site will be provided off the North Access Road connecting to the signalised junction at Wolseley Road / Weston Mill Drive.

The junction at Wolseley Road / Weston Mill Drive provides onward access to the wider highway network including St Budeaux to the west, Plymouth city centre, Keyham and Devonport to the east and the A38 to the north.

Sustainable travel is considered within the Transport Assessment report (see **SECTION 4**), and identifies that the site is relatively well served in terms of sustainable travel, including walking, cycling and both bus and rail based forms of public transport. The site is located within an established employment area. There are therefore a number of opportunities to travel sustainably to the site from a number of locations around Plymouth and the surrounding areas.

Details relating to the existing opportunities for sustainable travel to take place within the vicinity of the development site have been presented, which includes an overview of the bus network operating near to the site. This has highlighted that there are a number of bus routes serving the locality and providing travel to and from destinations within Plymouth and the surrounding urban and rural localities.

Available rail services have also been investigated and this has shown that there are two stations within close proximity to the development site and these provide access to the national rail network. It is considered that Plymouth North Road Rail Station, situated 3.4km from the development site, is likely to be the station of choice for future rail travellers due to the rail frequencies and destinations available. It is therefore possible that walking, cycling, taxi and bus travel will be used to travel to and from the station.

Notwithstanding the above, it is recognised that mode choice is a decision taken by the individual. The presence of realistic journey alternatives enhances opportunities to minimise trips undertaken using private motor vehicles however, and promote sustainable modes. It is thereby noted that there are a number of opportunities available at this site.

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### Framework Construction Staff Travel Plan Measures

As discussed above, the scope of the FCSTP will inherently be reduced compared to that of the Staff Travel Plan, which will be implemented at site occupation and then monitored for the ensuing five year period. Notwithstanding this, the FCSTP offers a real opportunity to manage construction travel movements associated with the relevant staff and a number of possible measures have therefore been identified, including:

- Provision of Travel Information Leaflet to all construction staff, to summarise the travel options which are available
- Promotion of car sharing, both for those who will park on and off site
- Provision of an off site parking facility (proposed to be located at Goschen Yard) which will be served by a dedicated, free staff shuttle bus
- Management of car parking on site, which will be provided within the secure perimeter of the construction area, which will be subject to access authorisation