

North Wales Police

**Proposed Eastern Command & Custody Facility
Davy Way, Llay, Wrexham
Operational Traffic Management Plan**

July 2015

22 Trinity Lane,
Beverley,
East Riding of Yorkshire,
HU17 0DY

📞 01482 679 911

✉ info@local-transport-projects.co.uk

🌐 www.local-transport-projects.co.uk

Registered No. 5295328

North Wales Police

Proposed Eastern Command & Custody Facility Davy Way, Llay, Wrexham Operational Traffic Management Plan

July 2015

Client Commission

Client:	North Wales Police	Date Commissioned:	12 th May 2015
Commissioned By:	Galliford Try (Gary Thorogood)	Order No:	

LTP Quality Control

Job No:	LTP/15/2074	File Ref:	Proposed Eastern Command & Custody Facility, Llay TMP - Final Issue 1		
Issue	Revision	Description	Originated	Checked	Date
1	-	Final Report	JH	SW	23/07/2015
			Authorised for Issue:		

LTP PROJECT TEAM

As part of our commitment to quality the following team of transport professionals was assembled specifically for the delivery of this project. Relevant qualifications are shown and CV's are available upon request to demonstrate our experience and credentials.

Team Member	LTP Designation	Qualifications
Tony Kirby	Director (Project Manager)	IEng MSc MCIHT FIHE
Steven Windass	Senior Transport Planner	BSc(Hons) MSc(Eng) MCIHT MIHE
Jack Hearnshaw	Transport Planner	BA (Hons) AMIHE

The contents of this document must not be copied or reproduced, in whole or in part, without the written consent of Local Transport Projects Ltd.

PROPOSED EASTERN COMMAND & CUSTODY FACILITY

DAVY WAY, LLAY, WREXHAM

OPERATIONAL TRAFFIC MANAGEMENT PLAN

CONTENTS

1.0	INTRODUCTION	2
1.1	Background	2
1.2	Scope	2
2.0	SITE LOCATION & DEVELOPMENT PROPOSALS	3
2.1	Site Location	3
2.2	Development Proposals	3
3.0	PROPOSED ACCESS & PARKING ARRANGEMENTS	4
3.1	Proposed Access Arrangements	4
3.2	Car Parking Arrangements	5
3.3	Cycle Parking Arrangements	5
4.0	PROPOSED TRAFFIC GENERATION	6
4.1	Introduction	6
4.2	Staff Shift Patterns	6
4.3	Staff Traffic Generation	8
4.4	Operational Traffic Generation	9
5.0	PROPOSED OPERATIONAL TRAFFIC MANAGEMENT STRATEGY	12
5.1	Description of Route – All Vehicular Traffic	12
5.2	Managing Operational Trips	12
5.3	Site Induction Pack	13
6.0	REFERENCES	14

APPENDICES

Appendix 1 – Proposed Site Layout Plan

TABLES

Table 1: Staff Shift Times (Weekday)	7
Table 2: Projected Staff Traffic Generation	8
Table 3: Projected Operational Trip Frequency	9
Table 4: Proposed Operational Traffic Generation	11
Table 5: Total Vehicle Trip Generation	11

FIGURES

Figure 1: Site Location	3
Figure 2: Proposed Access Locations	4

1.0 INTRODUCTION

1.1 Background

- 1.1.1 Local Transport Projects Ltd (LTP) has been commissioned by Galliford Try (Ref: Gary Thorogood) to produce an Operational Traffic Management Plan (OTMP) in support of proposals to provide an Eastern Command and Custody Facility for North Wales Police (NWP) on land to the south-east of Davy Way, Llay, Wrexham. A proposed site layout plan is attached as Appendix 1.

1.2 Scope

- 1.2.1 The scope of this OTMP has been discussed with Wrexham County Borough Council (WCBC) Highway Development Control (Ref: Peter Douthwaite) as outlined below:

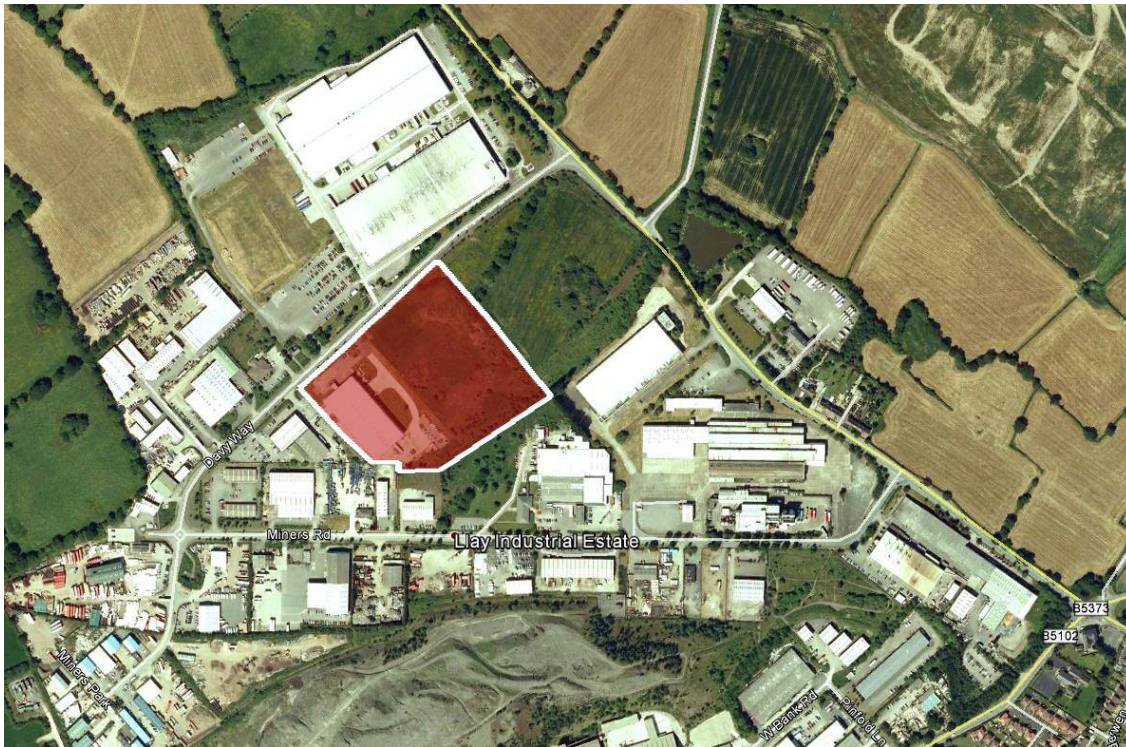
- **Proposed Parking Arrangements**
 - A description of the proposed on-site car parking, including the number and location of visitor parking spaces, the location, number and management of staff parking spaces, the number and location of disabled bays and the location of passenger drop-off spaces;
 - A description of the proposed on-site police vehicle parking, including the number, location and management of these spaces;
 - A description of the overall number, location and management of secure cycle and motorcycle parking.
- **Proposed Traffic Generation**
 - A description of staff shift patterns, including the mechanism to be employed for changing shifts;
 - Outline of the potential vehicle trip generation of the site, including the traffic impact during the relevant peak hours.
- **Proposed Operational Traffic Management Strategy**
 - Routeing strategy for all vehicles, both internal and external to the site;
 - Control methods to prevent unacceptable levels / timings of operational vehicle movements to and from the site.

2.0 SITE LOCATION & DEVELOPMENT PROPOSALS

2.1 Site Location

- 2.1.1 The proposed development site is located on Davy Way in Llay Industrial Estate to the north-west of the village of Llay. The site is situated approximately 6km north of Wrexham town centre and is bound by Davy Way to the north-west, fields and a small woodland area to the north-east, and existing employment development to the south-east and south-west.
- 2.1.2 The approximate boundary of the development site is highlighted in Figure 1.

Figure 1: Site Location



Source Imagery: Copyright Google Earth Pro (License Key-JCPMR5M58LXF2GE)

2.2 Development Proposals

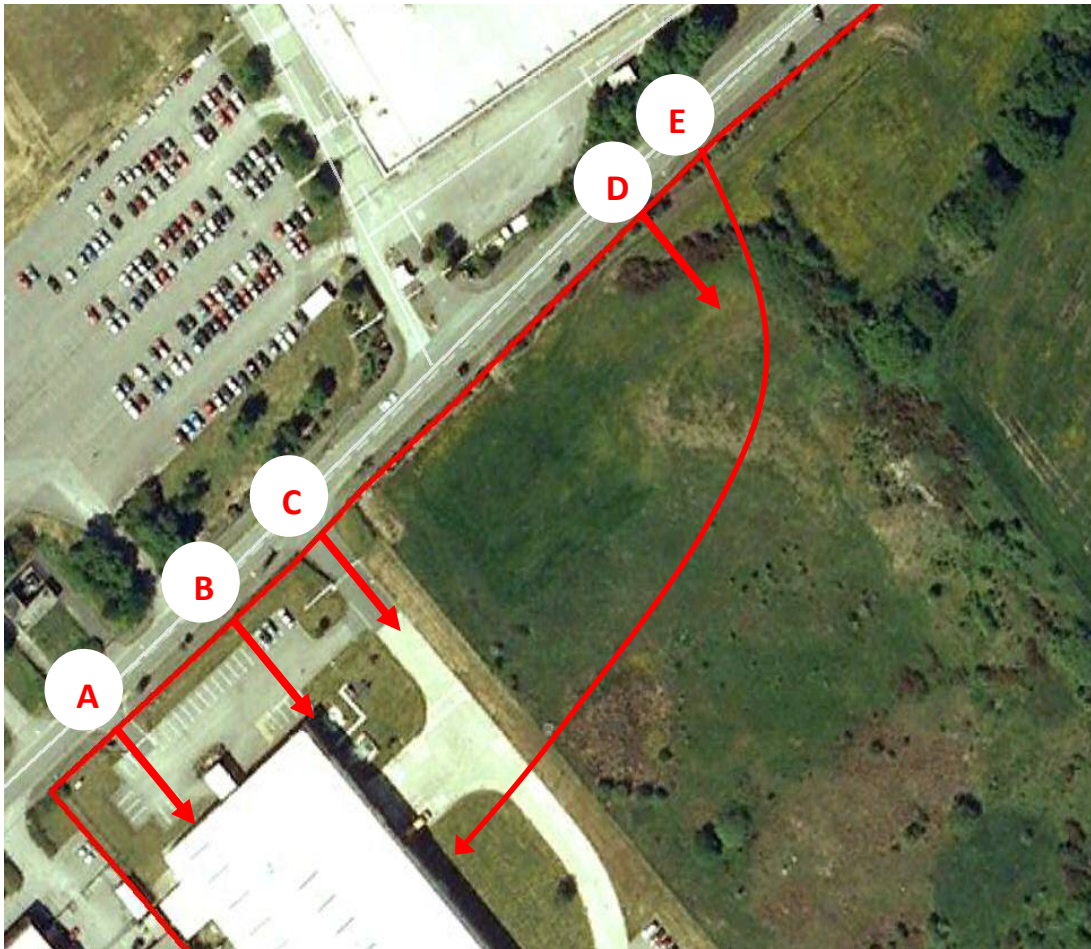
- 2.2.1 The development proposals involve the demolition of an existing warehouse (currently disused but formerly occupied by Sharp Electronics) and the construction of a new three-storey building to provide an Eastern Command Centre and Custody Facility for use by NWP. It is understood that the facility will accommodate a number of departments and replace existing NWP offices and custody facilities within the counties of Wrexham and Flintshire.
- 2.2.2 The proposed site is expected to have a Gross Floor Area (GFA) of approximately 8,000m², including office accommodation, a full custody suite and ancillary accommodation (plant room, gym, locker rooms, WC, and showers). Approximately 350 staff are to be based at the site, which is expected to be operational 24 hours a day, seven days a week.

3.0 PROPOSED ACCESS & PARKING ARRANGEMENTS

3.1 Proposed Access Arrangements

- 3.1.1 Access for all modes will be taken from Davy Way to the north-west of the site. It is expected that the two existing vehicular access points to the site will be retained, with the construction of a third vehicular access further to the north-east. Two shared pedestrian and cycle accesses are to be constructed, one for public use and one for use by staff. The approximate locations of the proposed site access points (A to E) are shown on the plan in Figure 2, with a description of each provided below:

Figure 2: Proposed Access Locations



Source Imagery: Copyright Google Earth Pro (License Key-JCPMR5M58LXF2GE)

- A) Existing vehicular access to the site to be retained to provide two-way access to a visitor car park;
- B) New pedestrian and cycle access to be provided for visitor use;
- C) Existing vehicular access to the site to be retained for use by operational, service and custody vehicles. It is expected that security gates will be installed at the access to control the entry and exit of vehicles;

- D) New vehicular access to be constructed to provide two-way access to a staff car park; and
- E) New gated pedestrian and cycle access to be provided for use by staff. A shared foot/cycle path will intersect the staff car park leading towards the staff entrance to the south of the proposed office building.

3.2 Car Parking Arrangements

- 3.2.1 Site access point 'A' will provide access to a visitor car park consisting of 31 car parking spaces, including 4 disabled spaces. The visitor car park will be situated within the Davy Way site frontage, allowing ease of access to the visitor entrance to the building. The car park will also act as a relief route for operational or emergency vehicles should access be unavailable via access point 'C'.
- 3.2.2 Site access point 'C' will be the main access to the site for operational, service and custody vehicles. It will provide access to the site servicing area, a custody vehicle dock, an operational vehicle parking area, and a vehicle wash and tyre inflating facility. 61 operational vehicle parking spaces will be provided to the south of the main building, with 2 of these spaces provided with charging points for electric vehicles. It is expected that these spaces will accommodate all of the operational vehicles to be based at the site.
- 3.2.3 Site access point 'D' will provide access to a staff car park which is expected to have 280 car parking spaces, including 17 disabled spaces which are to be located nearest to the proposed building. A total of 6 motorcycle parking spaces are expected to be provided. The staff car park is to be located to the north-east of the main building and a shared foot/cycle path will intersect the car park in an approximate north-east to south-west direction to allow staff access between the car park and building. The path will also provide a staff pedestrian and cycle link to Davy Way (access point 'E').
- 3.2.4 The Travel Plan (LTP, 2015b) produced for the site recommends that allocating preferential parking spaces to staff that car share should be considered as part of the design of the site. Should car share bays be implemented, these should be located in a favourable position within the staff car park (i.e. closest to the main building). An appropriate enforcement system could also be put in place to ensure that the car share bays are used by car sharers only.

3.3 Cycle Parking Arrangements

- 3.3.1 The current proposals indicate that covered and secure cycle parking will be provided adjacent to both the public and staff entrances to the main building and will be accessible via the dedicated shared foot/cycle paths. As per the Travel Plan measures, the use of these cycle parking spaces should be monitored at suitable points following first occupation of the site to determine whether an adequate number of spaces are provided.

4.0 PROPOSED TRAFFIC GENERATION

4.1 Introduction

- 4.1.1 North Wales Police (NWP) has provided detail regarding staff numbers, shift patterns and the frequency of operational vehicle trips likely to be generated by the proposed Eastern Command and Custody Facility. This data has been interrogated to determine the total number of vehicle trips likely to be generated by the site during each hourly period.
- 4.1.2 It is understood that the traffic peak periods on the highway network within the vicinity of the site are 07:30-08:30 (AM) and 16:30-17:30 (PM). A Transport Assessment (TA) appraising the likely traffic impact of the development proposals has been produced alongside this OTMP (LTP, 2015a).

4.2 Staff Shift Patterns

- 4.2.1 As previously outlined, the proposed site will be operational 24 hours a day, 7 days a week and is expected to be the base for approximately 350 staff. NWP has provided shift patterns for all staff to be based at the site during June 2015 and this data has been analysed to determine how many staff are likely to be at the site on an average day. The analysis revealed that a total of 184 staff are likely to on-site across a 24-hour period on an average weekday with 70 staff on-site across a 24-hour period on an average weekend day.
- 4.2.2 The number of staff members expected to start/finish work at each time on an average weekday is shown in Table 1:

Table 1: Staff Shift Times (Weekday)

Shift Start/End Time	No. Employee Arrivals	No. Employee Departures
01:00	0	1
02:00	0	1
03:00	0	2
04:00	0	2
05:00	0	0
06:00	30	0
06:30	4	0
07:00	10	4
08:00	50	0
08:30	7	0
09:00	38	0
09:15	1	0
10:00	8	0
11:00	2	0
12:00	2	0
13:00	15	0
14:00	5	27
15:00	0	4
16:00	4	26
16:30	0	4
17:00	2	49
17:30	0	7
18:00	0	31
18:15	0	1
19:00	1	0
20:00	0	1
21:00	2	3
22:00	4	15
23:00	0	1
00:00	0	3
TOTAL	185	182

- 4.2.3 Table 1 demonstrates that most staff shifts generally begin during the morning between the hours of 06:00-09:00, with a smaller number of shifts beginning during other hours of the day. Similarly, most shifts end during the afternoon between the hours of 14:00-18:00 with a smaller number ending during other hours. It is noted that at least 1 shift starts or ends during most hours of the day, although a much smaller number occur during the night time hours.

4.3 Staff Traffic Generation

- 4.3.1 The number of staff vehicle trips likely to be generated by the site has been calculated based upon the modal split projections of the TA (LTP, 2015a) which uses a split of 80.3% vehicle trip generating modes and 19.7% non-vehicle trip generating modes. For the purposes of this assessment, it is assumed that arriving staff will do so within the 15 minutes prior to their shift starting and departing staff will do so within 15 minutes of their shift ending. This will ensure that handovers can occur between different shifts and will also result in staff arrivals and departures being staggered.
- 4.3.2 Table 2 outlines the projected number of vehicle trips likely to be generated by the staff during each hourly period on an average weekday. The number of vehicle trips generated between the hours of 07:30-08:30 and 16:30-17:30 have also been included as this is understood to reflect the daily AM and PM peak hours of the local highway network.

Table 2: Projected Staff Traffic Generation

Time	Arrivals	Departures	Two-Way
00:00-01:00	0	2	2
01:00-02:00	0	1	1
02:00-03:00	0	1	1
03:00-04:00	0	2	2
04:00-05:00	0	2	2
05:00-06:00	24	0	24
06:00-07:00	12	0	12
07:00-08:00	40	3	43
07:30-08:30*	46	0	46
08:00-09:00	36	0	36
09:00-10:00	7	0	7
10:00-11:00	2	0	2
11:00-12:00	2	0	2
12:00-13:00	12	0	12
13:00-14:00	4	0	4
14:00-15:00	0	22	22
15:00-16:00	3	3	6
16:00-17:00	2	23	25
16:30-17:30*	2	42	44
17:00-18:00	0	45	45
18:00-19:00	1	26	27
19:00-20:00	0	0	0
20:00-21:00	1	1	2
21:00-22:00	3	2	5
22:00-23:00	0	12	12
23:00-00:00	0	1	1
Total Vehicle Trips	149	146	295

*Included for reference only, figures are not included as part of the overall total due to data overlap with surrounding time periods.

- 4.3.3 Table 2 shows that 07:30-08:30 represents the period when the most hourly two-way staff vehicle trips are likely to be generated by the site, with 46 two-way movements. As previously outlined, the 24-hour operation of the site means that staff vehicle trips are likely to be generated during most hourly periods, although the frequency of trips is significantly reduced during night time hours.
- 4.3.4 It is noted that the site Travel Plan (LTP, 2015b) aims to decrease the proportion of staff car driver trips by at least 5% within 5 years of first occupation of the site. Should this target be achieved, this would result in a reduction of 15 two-way vehicle trips during each 24-hour period.

4.4 Operational Traffic Generation

- 4.4.1 NWP have provided detailed information with regards to the number and frequency of operational trips likely to be generated by the proposed development. Each department would be expected to generate a different number of operational trips based upon their function, with some departments generating no operational trips at all. Table 3 outlines the projected frequency of operational trips per department/function.

Table 3: Projected Operational Trip Frequency

Department/Function	Frequency of Operational Trips
Prison Van	Expected to visit the site twice a day, once at around 08:00 and again at around 17:00, generating 4 daily two-way trips.
CSI & WECTU	4 two-way movements per CSI staff per shift. 2 two-way movements per WECTU staff per shift.
CID	Department to generate 40 two-way movements per day.
AJD	No trips to and from station.
PCSO	4-6 two-way movements per person per shift.
Intel & Prisoner Handling	No trips to and from station.
RPU	6 two-way movements per person per shift.
Community Safety	2 two-way movements per person per shift.
Crime Services	2 two-way movements per person per shift.
Command Team	4 two-way movements per person (except admin) per shift.
Seized Property	Caretaker to generate 8 two-way movements. Rest of department to generate 4 two-way movements.
Training & Diversity	1 two-way movement per person per shift.
Operational Planning	1 two-way movement per shift.
MASH & WISDOM	0.2 two-way movements per person per shift.
Deliveries & Post	6 two-way movements per day.

- 4.4.2 In order to determine the number of operational vehicle trips generated by the custody facility, data outlining the total number of detainee arrivals and departures generated during each hourly period by the existing Wrexham custody suite between August 2011 and July 2012 was provided by NWP. This data was analysed to determine the number of custody arrivals and departures likely to occur each day at the proposed site and revealed that a total of 20 two-way trips per day (10 arrivals & 10 departures) are likely to be generated, resulting in 1 trip during each hourly period, except during the period 03:00-07:00 when no trips are likely to be made.
- 4.4.3 The information outlined within Table 3 has been analysed alongside shift start and end times to determine approximate timings of the operational trips to be generated by the site. Typically, staff operational departures will be made an hour after the shift begins with arrivals occurring an hour prior to the shift ending. Where a department generates multiple trips per staff member per day, assumptions have been made as to the timings of these trips, although it is noted that trips are often limited by purpose (i.e. response to an emergency or incident) and as such may not occur during the same hourly period each day.
- 4.4.4 Table 4 outlines the total number of operational vehicle trips (including custody detainee trips and deliveries) likely to be generated by the site during each hourly period on a typical weekday:

Table 4: Proposed Operational Traffic Generation

Time	Arrivals	Departures	Two-Way
00:00-01:00	1	2	3
01:00-02:00	3	0	3
02:00-03:00	0	2	2
03:00-04:00	2	0	2
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	1	1
07:00-08:00	1	7	8
07:30-08:30	1	8	9
08:00-09:00	1	9	10
09:00-10:00	3	21	24
10:00-11:00	7	19	26
11:00-12:00	13	14	27
12:00-13:00	17	14	31
13:00-14:00	9	14	23
14:00-15:00	16	16	32
15:00-16:00	28	5	33
16:00-17:00	7	5	12
16:30-17:30	7	6	13
17:00-18:00	8	7	15
18:00-19:00	5	5	10
19:00-20:00	5	3	8
20:00-21:00	13	2	15
21:00-22:00	3	3	6
22:00-23:00	2	2	4
23:00-00:00	3	0	3
Total	147	151	298

- 4.4.5 Table 4 demonstrates that operational vehicle movements are likely to be spread across the 24-hour daily period, with most trips likely to be generated during the daytime (07:00-19:00).
- 4.4.6 The total proposed vehicle trip generation of the site (including staff and operational movements) during the respective AM and PM peak hours is shown within Table 5:

Table 5: Total Vehicle Trip Generation

	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Staff Traffic Generation	46	0	46	2	42	44
Operational Traffic Generation	1	8	9	7	6	13
Total Proposed Traffic Generation	47	8	55	9	48	57

5.0 PROPOSED OPERATIONAL TRAFFIC MANAGEMENT STRATEGY

5.1 Description of Route – All Vehicular Traffic

- 5.1.1 All vehicles trips generated by the proposed development will travel to/from the site via the Davy Way / Rackery Lane or Miners Road / Rackery Lane junctions. Given the proximity of the site to the Davy Way / Rackery Lane junction, it is considered likely that most vehicle trips generated by the site will travel via this junction.
- 5.1.2 As outlined within Section 3.1, operational and staff vehicle movements will use separate, secure access points and movements will be segregated internally. This will ensure that any blue light movements generated by the proposed development are able to access the wider highway network quickly, and will ensure that the site remains secure. Given that the route via Davy Way / Rackery Lane is the shortest to access the wider network, it is envisaged that any blue light vehicle trips generated by the site will travel through this junction.
- 5.1.3 All staff at the site will be informed of the access arrangements at the site prior to first occupation.

5.2 Managing Operational Trips

- 5.2.1 As outlined within Section 4.4, the site is likely to receive 3 deliveries per day, resulting in the generation of 6 two-way vehicle trips. All deliveries are likely to take place during the standard working hours of 09:00-17:00 and shall avoid network peak hours where possible.
- 5.2.2 All other operational trips generated by the site will be limited by purpose but will take place outside of network peak hours where possible. Given that many staff will work daytime shifts which start and finish around the network peak periods, most operational vehicle movements are likely to occur during the middle hours of the day (as demonstrated within Table 4) thus reducing pressure on the local highway network during peak periods.
- 5.2.3 It is noted, however, that some operational trips (particularly blue light trips) will inevitably occur during the network peak hours although the frequency of these trips will vary from day to day. All staff will be informed of the benefits of reducing the number of vehicle trips generated by the site and will be actively encouraged to make vehicle trips outside of network peak hours wherever possible.

5.3 Site Induction Pack

5.3.1 As part of the package of Travel Plan measures, it is proposed that each employee at the site will receive a 'New Site Welcome Travel Pack' (NSWTP) prior to site relocation. The NSWTP should also be placed on display within communal areas and should contain details of:

- Local walking and cycling maps;
- Public transport information details (location of bus stops, timetables and fare details etc);
- Local car sharing opportunities;
- The benefits of smart working practices such as telephone conferencing and effective diary management; and
- The Travel Plan, its aims, objectives, targets and measures.

5.3.2 It is felt that induction information should also form part of the NSWTP, which should include the following details:

- The location of the covered on-site cycle parking and the proposed access route from Davy Way;
- The location of any on-site motorcycle parking;
- The location of the standard car parking spaces, any restrictions on car park circulation (e.g. one way systems) that may be introduced, any visitor parking spaces that staff should avoid parking in and the speed limit in place on site;
- The safe pedestrian routes between the site car park(s) and the main building, including any crossing points; and
- The protocol for entering and exiting the site via the controlled barrier system.

6.0 REFERENCES

LTP (Local Transport Projects), 2015a. **Proposed Eastern Command & Custody Facility, Llay – Transport Assessment.**

LTP (Local Transport Projects), 2015b. **Proposed Eastern Command & Custody Facility, Llay – Travel Plan.**

WG (Welsh Government), 2014. **Planning Policy Wales Chapter 8: Transport.**

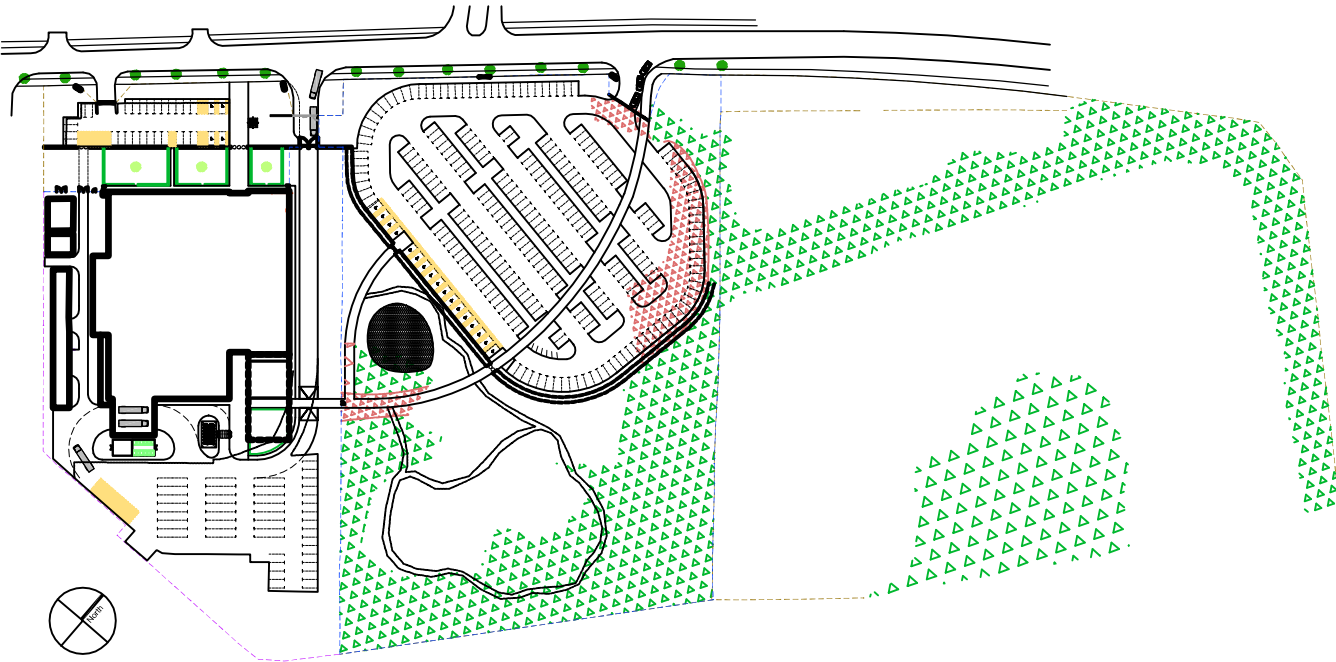
WAG (Welsh Assembly Government), 2007. **Planning Policy Wales Technical Advice Note 18: Transport.**

Appendix I – Proposed Site Layout Plan

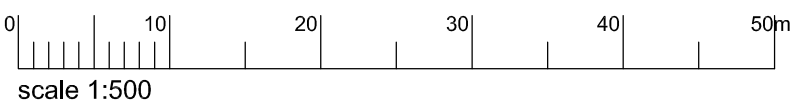


SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on the drawing, note the following:	
CONSTRUCTION	MAINTENANCE
	DECOMMISSIONING/ DEMOLITION
	ENVIRONMENT
It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved Method Statement.	

- NOTES:**
- All dimensions are to be checked on site prior to preparing any working or shop drawings or commencing work on site.
 - This drawing is to be read in conjunction with all relevant Architect's, M&E and Structural Engineers' drawings and specifications.



1 Full Site Key Plan
NTS



Rev	Rev Date	Purpose of revision	Drawn	Check'd	Review	Appr'd
P4	15.07.2015	ISSUE FOR CLIENT APPROVAL FOLLOWING SECURITY MEETING	JW	ST	DH	DH
P3	03.12.2014	ISSUE FOR CLIENT COMMENT	RB	JW	ST	DH
P2	24.11.2014	Issue for presentation	RB	JW	ST	DH
P1	24.10.2014	Issue for Stage 3 Report	ST	JW	RB	DH

JACOBS

Client
NORTH WALES POLICE

Project
EASTERN COMMAND AND CUSTODY FACILITY

Drawing title
PROPOSED SITE PLAN

Drawing Status
PRELIMINARY

Scale
1 : 200 @ A1 DO NOT SCALE

Jacobs No.
B1305210

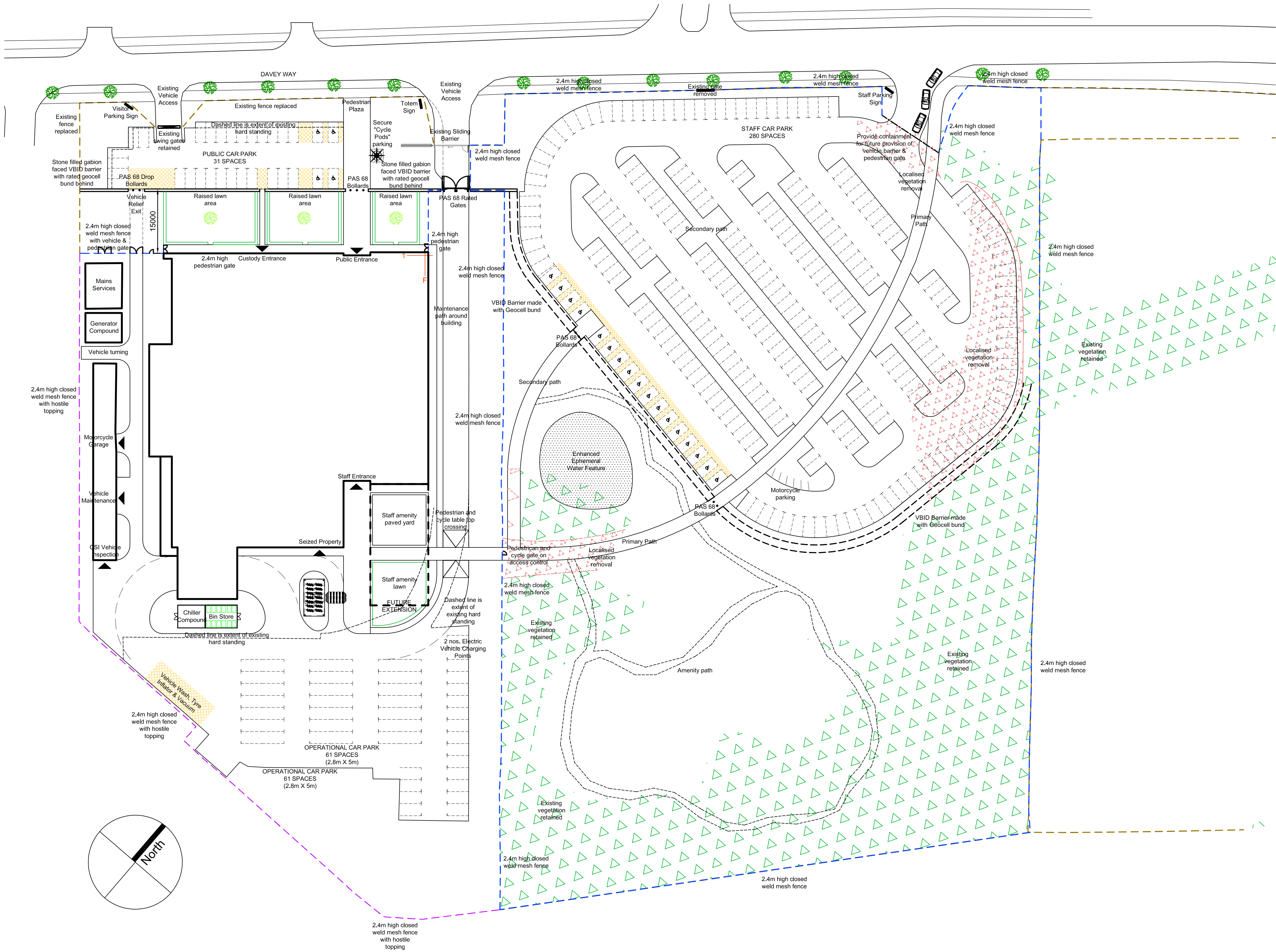
JPI No.

Drawing Number
B1305210/AR/050.001

Sheet No.
P4

Rev

This drawing is not to be used in whole or part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions.



1 Proposed Site Plan
1 : 500