Solent LEP

Construction Labour and Skills Research

Final Report – version 12

Client: Solent LEP
Authors: Doug Forbes, Matt Paraskevopoulos, Karen Hazelden, Marcus Bennett
Approved by: CITB
Date: 6 April 2016

Version	Date	Details of modifications
First draft	April 2016	Version 11 for consultation
Final draft	April 2017	Version 12

CITB
Bircham Newton
Kings Lynn
Norfolk
PE31 6RH
t: +44 (0)344 994 4400
www.citb.co.uk

CITB is registered in England and Wales Charity No 264289 and in Scotland Charity No SC044875

Whole Life Consultants Limited
Dundee University Incubator
James Lindsay Place
Dundee
DD1 5JJ
t/f: +44 (0)1382 224 304
enquiries@wlcuk.com

Whole Life Consultants Ltd is registered in Scotland as SC259987, VAT number 852809506
Registered office c/o 14 City Quay, Dundee DD1 3JA

Table of Contents

List of Figures

List of Tables

1. Introduction and executive summary

This report uses the most reliable and trusted data available to present a picture of:

a) The anticipated demand for construction for the Solent area up to 2020 [Section 3].

b) The available supply of construction skills and training capacity as well as other factors that influence the construction workforce [Sections 4 & 5].

c) An assessment of the gap between demand and supply [Section 6].

d) A set of observations and recommendations for Solent to review [Section 7].

This report and associated appendices represent a significant amount of reading. For a summary understanding, the suggested priority sections are: 3, 6 and 7.

1.1. Background

The Solent Enterprise Partnership is working with CITB to create a construction strategy and action plan to help address the skills challenges the construction industry and training providers are facing across the Solent LEP area.

This report is the first step in the creation of an evidence base that should help inform decision making and enable the creation and execution of that wider construction strategy. It should be used to facilitate conversations across the Solent area and with other agencies, employers and providers.

CITB and Solent agreed what this research should inform and how. This report provides the concluded research that identifies current and emerging skills needs and makes recommendations on strategies and actions to ensure the Solent area has a construction workforce that is fit for purpose.

Demand for construction skills

Of 28 groups listed, those construction occupations showing the greatest peak annual demand are:

- Wood trades and interior fit out
- Labourers
- Other construction process managers
- Plumbing, heating, ventilation and air conditioning trades

These are for the known projects listed in the Glenigan database so demand will be further increased from non-specified projects. There is also significant demand for “non-construction professionals (excl. managers)” that provide the off-site back room supporting functions.

The most significant project types, in their anticipated demand for labour, will be (table 5):

- New housing
- Infrastructure
- Public non residential
- Private commercial

The labour demand arising from known projects peaks in 2016 at 46,950 people, while inclusion of projected growth moves the peak to 2017 and 47,250 people. When the non-Glenigan construction estimate is added to this, the total construction labour demand peaks for the area in 2017 at 64,700.

Supply

There are estimated to be 69,000 construction workers in the Solent area.

There were just over 4,320 Construction and Building Services Engineering learning aims delivered by 36 training organisations. However, 73% of these learning aims are delivered by just six colleges. Construction made up just 4% of the total number of learning aims delivered in the Solent area in 2012/13.

Skills shortages

Peak demand in October 2016 indicates a requirement for 93% of the 2015 workforce. While this suggests that in total there are approximately enough workers to fill demand, the indication is that potential shortages are likely for a number of occupations. These are:

Construction specific occupations that might be within the remit of a regional recruitment and development plan:

- Civil engineering operatives
- Plasterers
- Bricklayers
- Scaffolders
- Construction trades supervisors
- Plant operatives

Cross sector occupations within the capability of a regional recruitment and development plan:

- Logistics

Occupations unlikely to be influenced by a regional recruitment and development plan:

- Civil engineers
- Surveyors

1.2. Solent strategic objectives

Solent LEP's vision is to create an environment that will facilitate growth and private sector investment in the Solent area, allow business to grow, become more profitable, greener and enable new businesses to form and prosper, enabling the creation of new businesses and attracting new businesses to the area.

It has five strategic priorities around: enterprise; infrastructure; inward investment; strategic sector; skills for growth.

Construction has the potential to be significant in relation to each of those priorities but in particular in the context of this report to: skills for growth.

The Solent LEP Strategic Economic Plan, sets targets to achieve by 2020:

- Create an additional 15,500 new jobs in the Solent LEP area.
- Achieve GVA growth of 3%.

- Increase GVA per capita by an additional £3,000 per head and close the gap with the South East.
- Increase employment rates to 80% from the current 78% and improve economic activity rates from 80% to 81%.
- Raise the business birth rate from 3.6% to 4.1% (or create 1,000 new businesses).
- Improve the business survival rate[3] from 61.4% to 62.5%.
- Raise the proportion of the population with Level 4 and above skills to 36% of the working age population from the current 32%.
- Support the raising of education attainment rates to above the UK average.
- Increase inward investment into Solent, attracting at least 5% of Foreign Direct Investment (FDI) projects entering the UK.

The Solent Skills Strategy aims to:

- Raise aspirations.
- Grow the right kind of knowledge-led innovative businesses.
- Have a workforce that is highly skilled with high levels of STEM skills.
- Has an inclusive labour market with low levels of unemployment.
- Offers skills progression and workplace learning.
- Supports key growth sectors.
- Have research, development and innovation at its heart.

1.3. CITB's remit

- Assisting in ensuring that the further education offer for construction employers fits their needs – improving the quality, relevance and impact of the most significant providers of initial training, re-skilling and up-skilling.
- Sharing labour market intelligence – creating a 'bespoke evidence base' where required.
- Improving employability with a focus on ensuring that young people aged 16 to 24 have the best opportunity to get a job locally and are work-ready.
- Supporting business-provider collaboration.

The wider construction strategy created by Solent and CITB will seek to ensure that a continuing supply of appropriately qualified local people is available to meet the desired skills and employment outcomes. This strategy will be informed by the development of an evidence base that will provide information to support decision making and help ensure that the vision and objectives of Solent's skills plan are achieved.

2. Demand analysis methodology

2.1. Introduction

Labour demand depends on the expected level and type of construction activity within a defined geographical area. This commission involves a mixture of projects with different types of work (eg housing, infrastructure) happening at different times. Our analysis derives as complete a picture as possible of the type and timings of projects within an area. Once this has been determined the labour demand for each project is estimated using our Labour Forecasting Tool (LFT). To produce these forecasts we have drawn on a number of sources of data. The sources used are:

- **Labour Forecasting Tool:** CITB's Labour Forecasting Tool is an online application that can forecast labour needs for a range of construction projects. The LFT forecasts monthly skills and employment needs from a project's value and start/completion dates.
- **Construction Skills Network:** The Construction Skills Network (CSN) provides market intelligence for the UK construction industry. The data it produces highlights trends and how the industry will change year-on-year, allowing businesses to understand the current climate and plan ahead for the future.
- **Glenigan Pipeline:** Glenigan produce a pipeline of forthcoming projects within each local authority of the UK. These are collated to allow contractors to identify leads and to carry out construction market analysis.

2.2. About labour forecasting

Our work in labour forecasting is underpinned by the award winning Labour Forecasting Tool (LFT). The tool was used to develop a profile of estimated labour requirements in the LEP area by creating a bottom-up approach to skills forecasting which aggregates the employment from individual projects to create an area-wide profile. The Labour Forecasting Tool can predict labour requirements (i.e. number of operatives and managers) on a month-by-month and trade-by-trade basis given no more than the type of project, its value or gross floor area where appropriate, its location and its start and end dates. The LFT produces an indication of the total construction labour demand arising for that project in each of 28 occupations listed in Appendix A. The results are presented at the trade, craft and professional levels. The labour for the project may or may not come from the immediate vicinity. In some cases (e.g. professionals) it may be based in another part of the country. The question of supply is addressed in subsequent parts of the report.

The LFT has a number of specific models to which each project is assigned. There are seven standard models covering:

- New Housing
- Public Non-residential
- Private Commercial
- Private Industrial
- Infrastructure
- Housing Repair & Maintenance
- Non-housing Repair & Maintenance

Infrastructure is disaggregated into twelve more detailed models covering project types such as road, rail and water projects.

The output from the LFT is shown in two ways:

1. Total person years by occupation: the total person years for each occupation required for the project. This output takes no account of the project duration which has been given in the original data. For instance if the total person years were 50, this means that if the project lasts for one year there would be 50 people employed for one year; if it lasted for two years then there would be an average of 25 people employed each year.
2. Total person years per year: the total number of people required each year.

The Construction Skills Network (CSN) forecasts labour requirements for the next five years. For consistency we have presented the demand forecasts for the five-year period 2015-20 used in the CSN model. Labour demand figures have been rounded to the nearest 50.

The LFT produces an estimate of the labour demand on a monthly basis. It should be noted that the workforce will only peak for a relatively short period of time. The ramp up and ramp down to that peak may be quite large and will likely be smoothed by local contracting markets. In light of that we have presented the average workforce during the year of the peak.

2.3. Pipeline analysis

To allow the labour demand to be estimated by the LFT we first need to determine the pipeline of work in an area.

2.3.1. Analysis of the Glenigan pipeline

Our principal source of pipeline data is provided by Glenigan. The Glenigan data provides details of planning applications from local authorities supplement by Glenigan with additional project-specific data. The Glenigan pipeline does not identify every single project in an area as some small projects (typically but not exclusively those less than £250,000 in value) and predominantly those which do not require a planning application (including repair and maintenance) are not included.

The Glenigan pipeline is an extensive list of all of the projects taking place in an area. We have used the Mean Value Theorem to simplify its analysis. The Mean Value Theorem states that most information is obtained for least effort simply by considering only those data whose annual construction spend is higher than the mean. This approach is used to identify the significant projects that account for the largest amount of expenditure. Typically, this is around 20% of the projects accounting for about 80% of the value of the pipeline. These are the projects which we refer to as the significant projects.

Project values (£m) given in the Glenigan pipeline are the total value of construction and engineering works. The scope of this study is limited to the construction sector and for infrastructure projects an estimate of the engineering value has been calculated and subtracted from the total value. This provides what we have termed the construction value. The percentages applied to the total value of each infrastructure project type to derive the construction value can be seen in Table 1. The construction/engineering proportions have been validated through work we have undertaken for other clients.

An initial review of the projects in the pipeline is carried out to ensure that only projects which have (a) a defined value and (b) defined start and end dates are considered in the analysis.

The following input data is used to produce the forecasts from the Glenigan pipeline:

- The value of each project provided in the Glenigan pipeline for all projects excluding infrastructure.

- For infrastructure projects, the value used is a percentage of the value in the Glenigan pipeline, representing the construction portion of the value, excluding engineering construction.
- Start and end dates of each project provided in the Glenigan pipeline.
- For the significant projects, the project descriptions in the database enable us to assign the most appropriate project type (each type is driven by a different underlying model) to each forecast that is run through the LFT. Cases where a project consists of more than one type are broken down into multiple forecasts which are assigned specific project types to more closely predict the labour demand. This takes account of the different types of work within a single project, e.g. mixed developments comprising housing, commercial and industrial.
- For the rest of the projects (ie non-significant), the default project type allocation as defined in the Glenigan pipeline is applied, except for the infrastructure projects which are individually allocated to the most appropriate type from the available LFT infrastructure types.

Table 1: Proportion of total value related to construction

Infrastructure type	Sub-type	Construction value as a proportion of total value
Flooding	Flooding	90%
Transport	Bridges	100%
	Road Tunnel	100%
	Roads	100%
	Air Traffic Control	100%
	Airports	100%
	Ports	90%
	Stations (Underground/Network rail)	80%
	Mixed Rail	55%
	Electrification	35%
	Underground/DLR (not incl. Stations)	35%
	Rail maintenance	10%
	Trams	55%
	Contactless Ticketing	20%
Water	Water/Wastewater Treatment Works	90%
Communications	Broadband/Digital infrastructure	20%
Energy	Photovoltaics	80%
	Generation (Biomass)	50%
	Generation (Energy from Waste)	50%
	Generation (Nuclear)	50%
	Undefined Electricity Generation	40%
	Generation (Fossil fuel)	25%
	Generation (Renewables - Offshore)	20%
	Generation (Renewables - Onshore)	10%
	Gas Transmission/distribution	30%
	Electricity transmission/distribution	25%
	Interconnectors	20%
	Nuclear Decommissioning	60%
	Smart Meters	0%
	Oil and Gas	10%
Mining	Mining	80%
General infrastructure	General infrastructure	100%

2.3.2. Dealing with "cliff edges" in pipelines

The data from the known projects presents a picture of the forthcoming projects. As the time horizon extends there is less clarity on what is planned. For instance, in some cases a small number of projects are due to complete in the 2020s. The small workload shown by the demand profile is highly unlikely to reflect the total amount of work that will take place at that time. It is almost certain that there will be additional projects that come on stream at that time which have not yet been considered. To overcome this "activity gap", we assume that the future workforce is approximately equal to the peak. It should be noted that the peak labour demand refers to the current "snapshot" of the scheduled construction spend. It is prudent to expect that, should the investment in future years follow the same pattern, the peak labour demand figures are likely to be roughly similar assuming the mix of projects remains consistent. The peak has, therefore, been projected forwards and backcast to create a more likely scenario of the ongoing workforce. The employment growth rate is based on the CSN employment forecast for the whole region under consideration.

2.4. Allowing for projects beyond the known pipeline

The known pipeline has two characteristics which prevent the results from providing the entire labour demand profile for the area:

- It does not record all smaller projects (roughly those of less than £250,000 value).
- It records mainly new build projects with only a small amount of repair and maintenance works included.

These two issues could have an effect on the estimate of labour demand and produce lower figures than expected. In response to these issues, the following steps are undertaken to provide an estimate of the total labour demand across a region.

1. Only the new build projects arising from the known pipeline are run through the LFT, excluding any repair and maintenance work.
2. To estimate the full amount of new build work not captured in the known pipeline we compare the total known pipeline new build spend in the region with the output estimates for the CSN for the peak year. This allows us to estimate the new build spend for the entire region not included in the known pipeline and hence the factor to be applied to the corresponding output for the area under consideration. In some cases the value of work in the known pipeline is higher than the CSN output forecast. In that case we assume that the known pipeline has captured the full extent of new build activity occurring within the area analysed during the peak year.
3. The new build spend not included in the known pipeline (calculated in the previous step) is assigned to the project types which reflect the mix of works recorded in the known pipeline for the area. A separate item is created for each project type (e.g. general infrastructure, housing) and assigned a value proportional to the contribution of each type within the known pipeline.
4. To calculate the R&M elements of work taking place within the LEP, the CSN output data is used to calculate the ratio of R&M to new build work in the entire region. We assumed this ratio to be constant throughout the region.
5. The LFT is used to calculate the labour demand profile based on the values of different types of work estimated above.

6. Labour demand for the peak year is then projected forward and backcast throughout the period of analysis. For this process we use the construction employment growth factors applied previously to the known projects.

2.5. Calculating total labour demand

The steps outlined above are used to produce the total construction labour demand generated by adding allowances for R&M and small new build projects to the data included in Glenigan.

3. A view of demand

3.1. Introduction

This section provides an estimate of the labour demand that construction investment will create across the Solent LEP over the next five years. It includes a detailed analysis of the projects taking place wholly within the local authority districts of East Hampshire, Eastleigh, Fareham, Gosport, Havant, New Forest, Test Valley and Winchester and the unitary authorities of Isle of Wight, Portsmouth and Southampton.

As outlined in the methodology section the demand analysis was carried out in two stages:

- The first stage comprised analysis and processing of the known pipeline to create a snapshot in time of the labour demand arising in the LEP from the currently recorded projects. This combination of the Glenigan pipeline supplemented with additional information provides a set of projects which constitute the "known pipeline".
- Secondly, an estimate of the additional projects not included in the known pipeline is produced using the approach described in section 2.4.

3.2. Pipeline of known projects

3.2.1. Glenigan pipeline analysis

The initial review of the pipeline removed any projects that had missing data or were consultancy projects. This resulted in the removal of one project due to missing value and 45 projects due to missing dates. Also excluded were nine projects which were clearly identified as duplicates and one consultancy project. A full set of the projects which were omitted from the analysis is shown in Appendix B.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects in the LEP area. The process identified 146 significant projects accounting for 83% of the total construction spend in the area. This includes some projects which continue to 2027, as well as a housing scheme extending to 2045. This allowed a detailed analysis of a large proportion of all the projects and a comprehensive consideration of the project types to which they were assigned.

Table 2 shows the number of significant projects within the LEP area, the percentage of spend arising from the significant projects and the total spend. The construction spend shown in this table takes account of any adjustments for engineering works and any incomplete, duplicate or consultancy projects. Values are shown in 2015 prices as this was provided in the Glenigan database.

Table 2: Breakdown of the significant project and total values in the LEP, as captured in Glenigan[1]

	Solent LEP
Total number of projects in pipeline	639
Construction spend (£m – 2015 values)	7,463
Number of significant projects in pipeline	146
Construction spend in significant projects (£m – 2015 values)	6,224
Percentage of construction spend in significant projects	83.4%

Appendix C provides a full breakdown of the significant projects and their construction values. The peak year for the spend profile is 2016. The location of the significant projects within the Solent LEP can be seen in Figure 1. The radius of the markers is in proportion to the value of the work taking place.

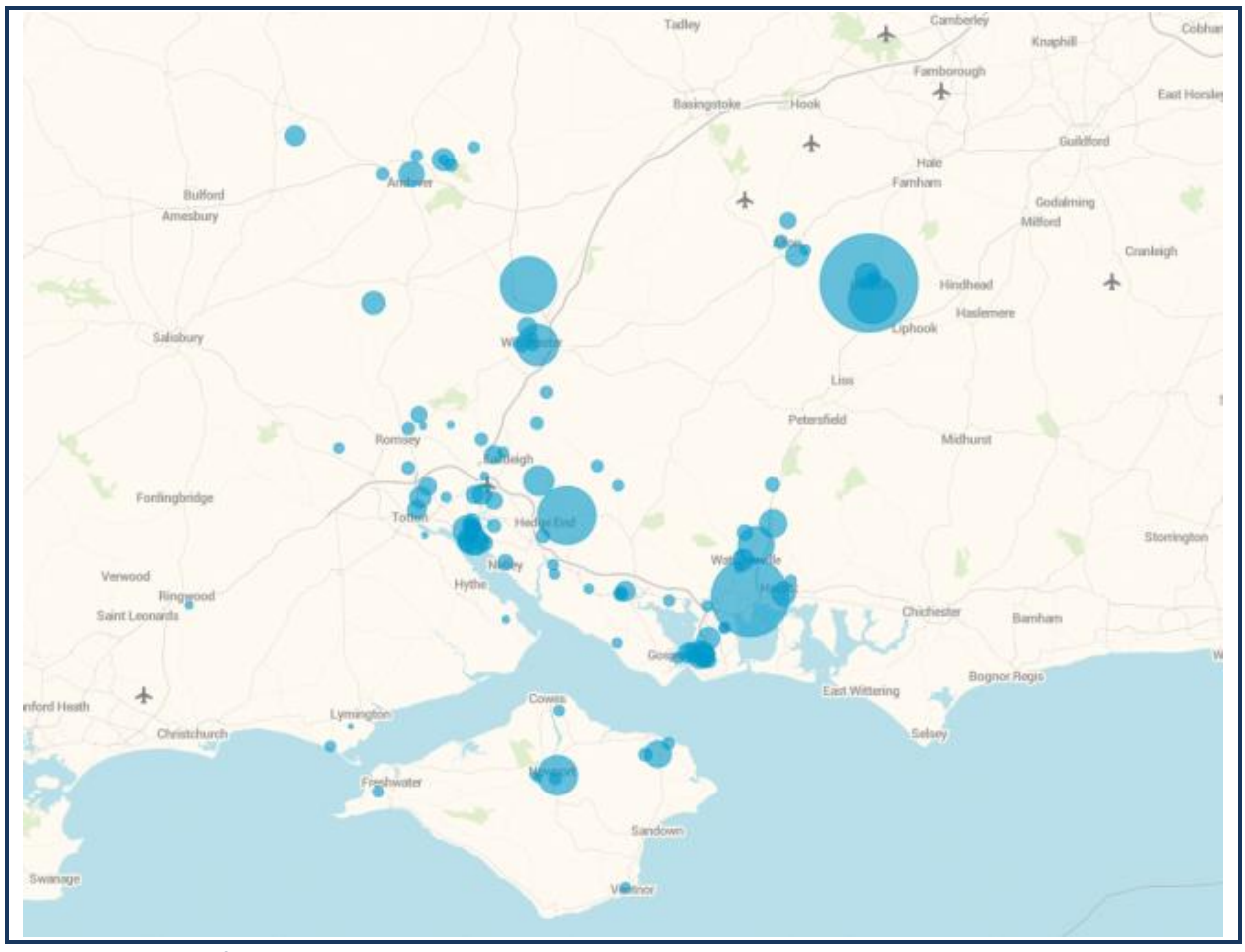

Figure 1: The significant projects in Glenigan used in this analysis

[1] The values in this table are the values from the Glenigan pipeline to which the construction element percentage has been applied and thus reflect the adjusted values of infrastructure projects values to distinguish between construction and engineering construction.

3.2.2. Breakdown of spend by project type

This section provides an overview of the construction spend (£m – 2015 values) for the peak year of 2016 in the Solent LEP area broken down by project type, based on the projects included in the Glenigan pipeline.

Table 3 shows the construction spend for each project type. It is clear that housing accounts for almost 35%. Infrastructure and public non-residential account for about 17% of the total spend each, with private commercial following with just below 13%. Non-housing R&M makes up almost 10%, while private industrial accounts for about 8% and housing R&M for less than 1%.

Table 3: Construction spend by project type in 2016

Project type	Construction spend in 2016 (2015 values - £m)	% of total
New Housing	581.8	34.9%
Infrastructure	290.2	17.4%
Public Non-residential	282.6	17.0%
Private Commercial	212.1	12.7%
Non-housing R&M	163.5	9.8%
Private Industrial	126.2	7.6%
Housing R&M	9.3	0.6%
Total	**1,665.5**	**100.0%**

The breakdown of infrastructure into its sub-types is shown in Table 4. Infrastructure is driven primarily by roads which comprise more than 50% of the infrastructure construction spend. Ports and photovoltaics then follow with about 22% and 20% of the spend respectively. All other infrastructure sub-types account for less than 4% of the infrastructure construction spend each.

Table 4: Construction spend per infrastructure sub-type in 2016

Infrastructure sub-type	Construction spend in 2016 (2015 values - £m)	% of total
Roads	150.9	52.0%
Ports	63.1	21.7%
Photovoltaics	57.6	19.9%
General Infrastructure	9.8	3.4%
Water/Wastewater Treatment Works	5.8	2.0%
Stations (Underground/Network rail)	1.3	0.5%
Bridges	1.0	0.4%
Undefined Energy	0.5	0.2%
Total	**290.2**	**100.0%**

3.2.3. Total known pipeline labour demand

Based on the analysis of the Glenigan pipeline this section presents the labour demand arising within the Solent LEP.

Figure 2 displays the construction labour demand arising from the known pipeline including an allowance for the projected growth. As noted in the methodology section the drop off and indeed the ramp up of projects from the analysis of a pipeline is somewhat artificial and is depicted by the solid blue section. The shaded blue area indicates the labour demand arising from the other work which may not be included in the pipeline.

The labour demand arising from known projects peaks in 2016 at 46,950 people, while inclusion of projected growth moves the peak to 2017 and 47,250 people.

For the peak year in Glenigan of 2016 we have shown a detailed breakdown by each of the 28 occupational groups for which the forecast has been produced. These are shown in Figure 3.

- The occupation making up most of the demand in 2016 is “non-construction professionals (excl. managers)” with a demand of 5,850 people.
- The projections of labour demand for the trades occupations for 2016 are as follows.
    - The trade occupation for which the demand is highest is “wood trades and interior fit-out”, peaking at 4,400 people;
    - “general labourers” with a demand of 3,050 people
    - “plumbing and heating, ventilation and air conditioning trades” follows with 3,000;
    - all other trades have a demand of less than 2,700 people each.

All the assumptions regarding the pipeline projects - including project duration and value - can be updated by the Solent LEP as and when more specific information becomes available through their access to the LFT.

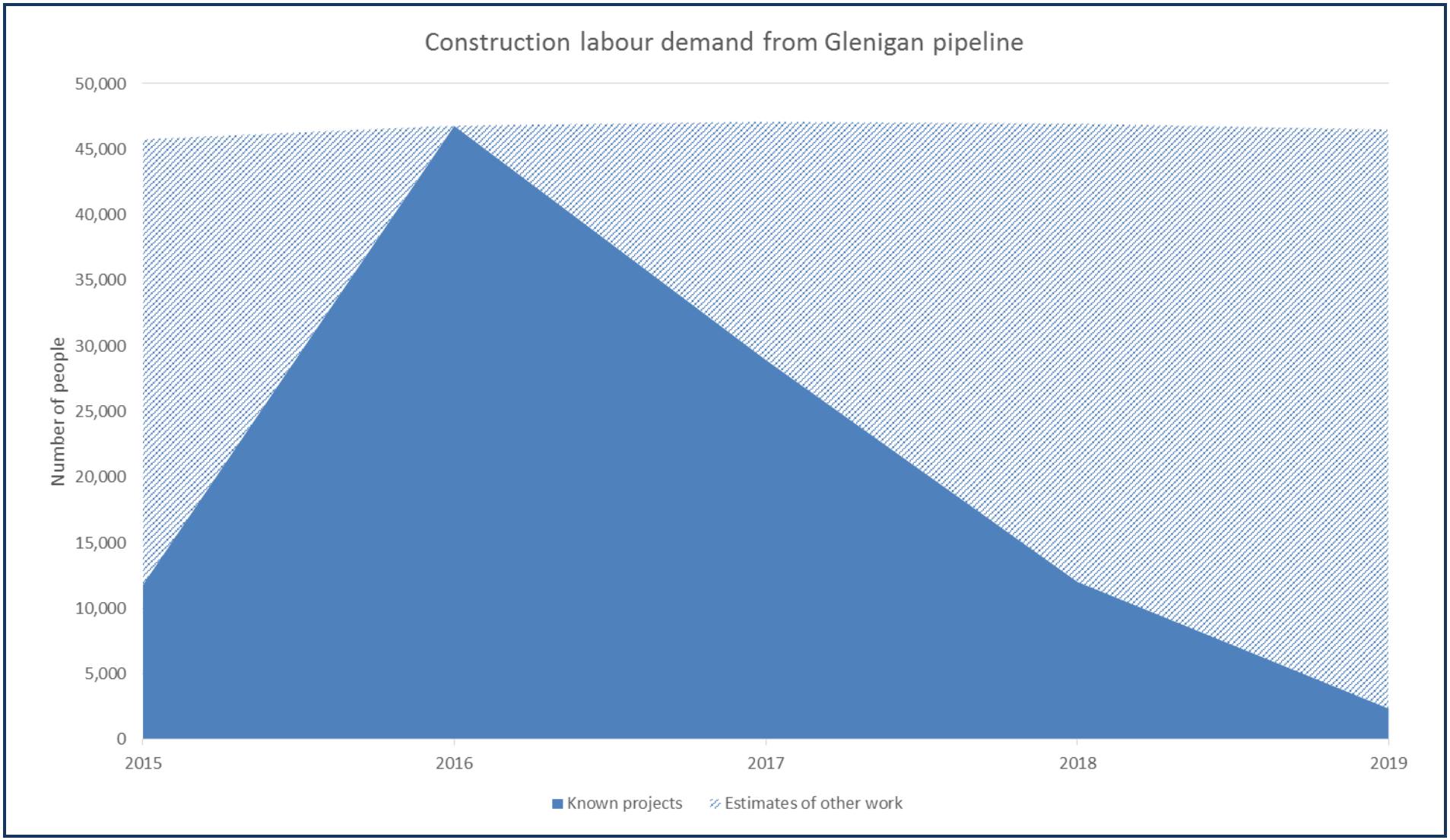

Figure 2: Construction labour demand arising from the known projects for the Solent LEP, including projected growth

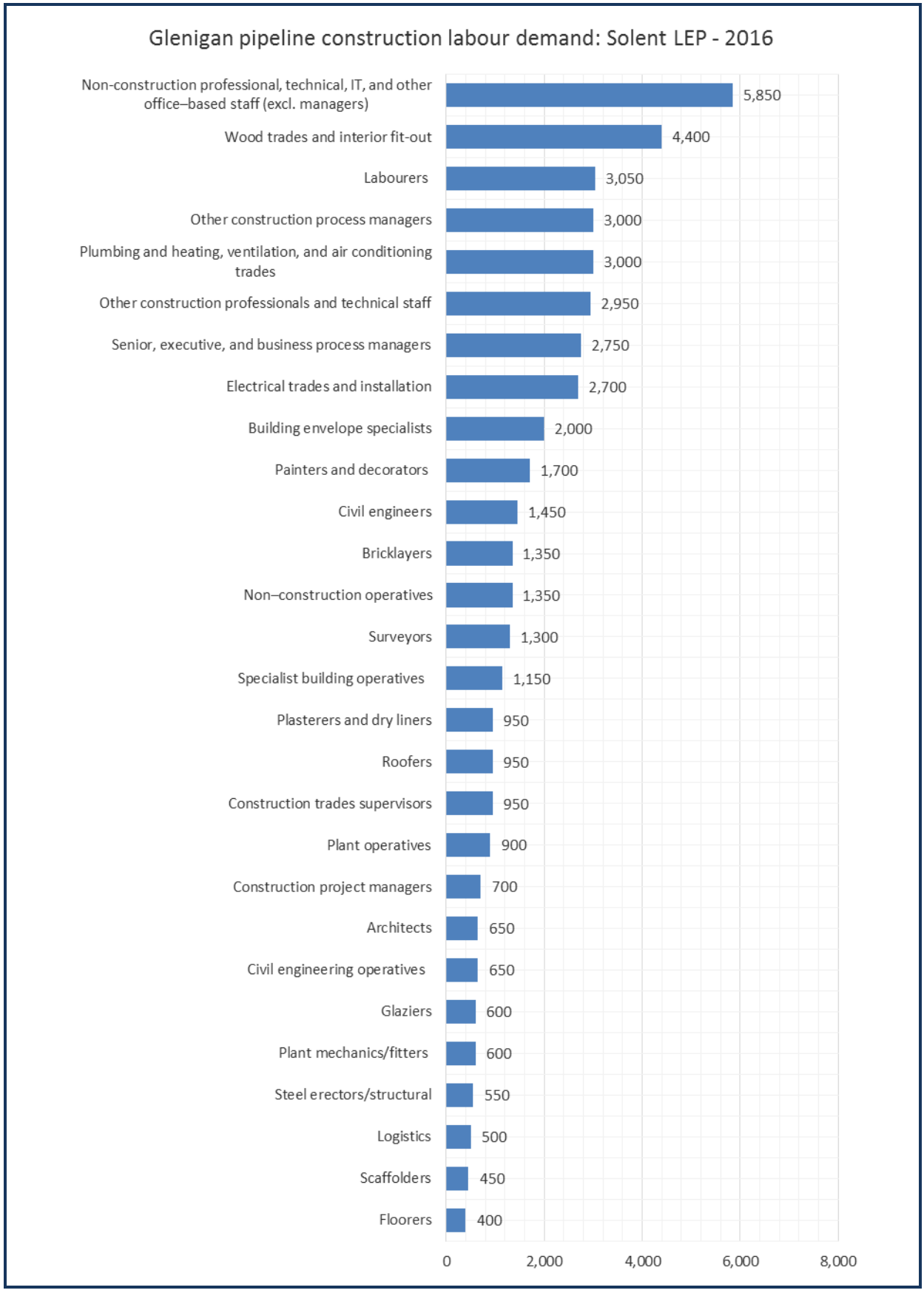

Figure 3: Construction labour demand arising from the known projects by occupation in the peak year

3.2.4. Breakdown of labour demand by project type

The labour demand has been calculated from the spend in each project type. In this section we have considered the total labour demand for the Solent LEP, shown in Table 5. Around 41% of the labour demand arises from new build housing, while public non-residential makes up just under 20% of the total demand. Private commercial is also around 20% while infrastructure is 7% and private industrial just 1%. Repair and maintenance works make up 11% of the labour demand, with the non-housing R&M element being higher than the non-housing one, however care should be taken in interpreting these figures as not all of the R&M work is included in the known pipeline.

Table 5: Known projects construction labour demand

Year	New Housing	Infrastructure	Public Non-housing	Private Industrial	Private Commercial	Housing R&M	Non-housing R&M	Total
2015	5,250	800	1,400	300	1,750	100	2,250	**11,850**
2016	17,900	4,550	9,800	750	8,200	150	5,500	**46,800**
2017	13,000	1,450	5,400	100	6,000	200	2,850	**28,950**
2018	5,300	450	2,050	50	3,600	50	600	**12,050**
2019	650	250	900	0	600	0	0	**2,400**
Total	**42,100**	**7,500**	**19,550**	**1,200**	**20,150**	**500**	**11,200**	**102,050**
% over period 2015-19	**41.2%**	**7.3%**	**19.1%**	**1.2%**	**19.7%**	**0.5%**	**11.0%**	**100%**

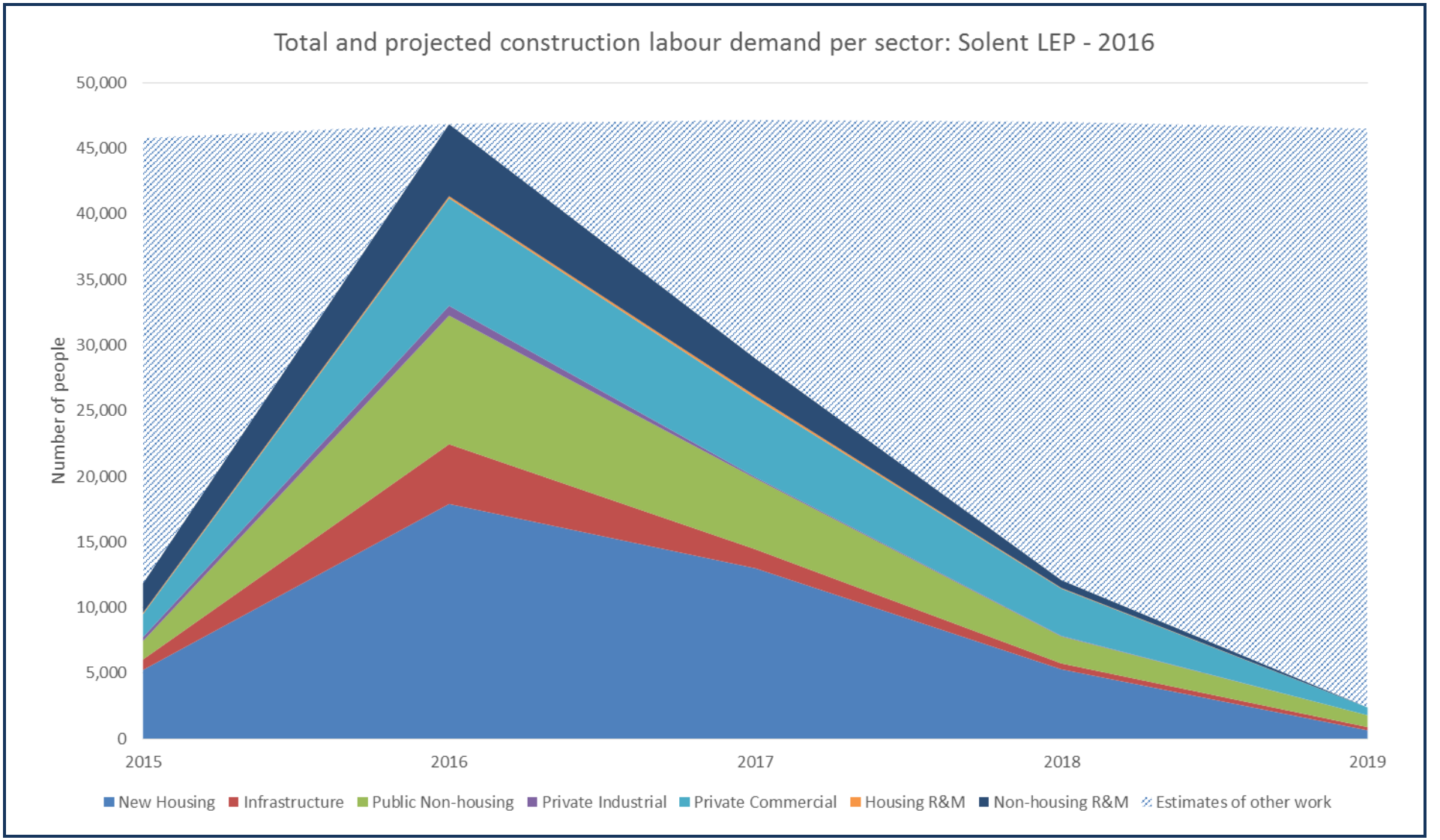

Figure 4: Labour demand by project type

3.3. Total estimate of labour demand

As outlined in the methodology the known pipeline may not include smaller projects or repair and maintenance work. This section shows the outcomes of the analysis which includes the total construction labour demand with an employment growth rate included. In this analysis the Glenigan estimate for the region was greater than the CSN forecast for the region and it was therefore assumed that Glenigan has captured all of the new build activity. This output is shown in Figure 5, in which the total construction labour demand peaks for the area in 2017 at 64,700, after which point it declines slightly. The red shaded area shows the likely total labour demand arising from estimates of other work. The solid blue area shows the labour demand arising from the known projects including R&M and peaks at 41,150 people in 2016, dropping to 25,950 people in 2017.

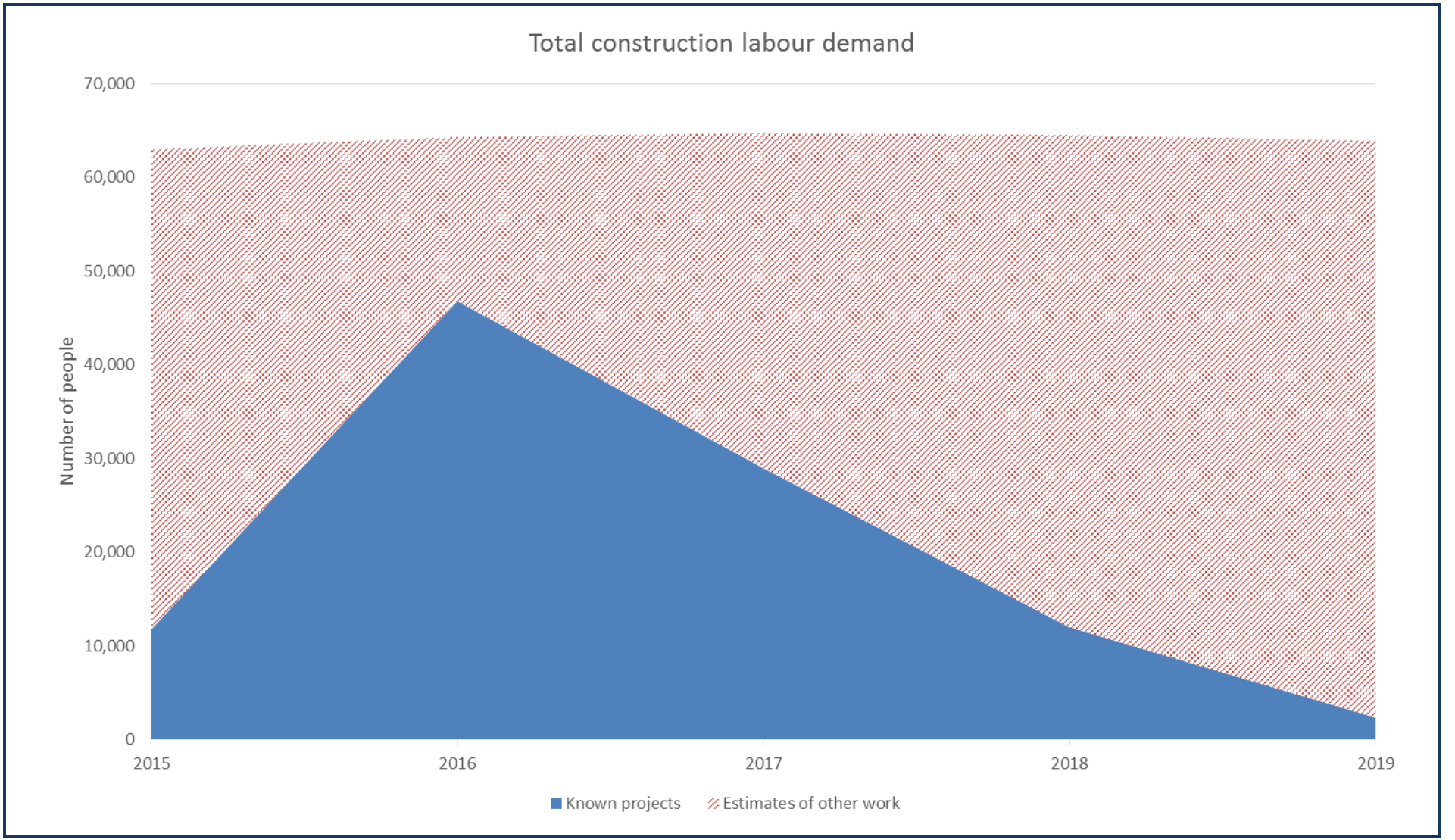

Figure 5: Total construction labour demand including estimates for both R&M and projects not in the known pipeline

3.4. Neighbouring areas

This section provides an overview of the large projects and related developments and construction frameworks which are current or are scheduled to begin within the next five years in the local authorities in close proximity to the Solent LEP, namely Basingstoke and Deane, Chichester, Christchurch, East Dorset, Hart, Waverley, West Berkshire and Wiltshire (made up of East Wiltshire, Kennet, Salisbury and West Wiltshire). The Mean Value Theorem was applied twice to the combined set of projects taking place within the areas listed above to identify the significant projects measured by their average annual spend in Glenigan. These projects were outside the scope of the current research and have thus not been included in the analysis. Table 6 presents the details for each of these projects. Values are shown in 2015 prices.

Table 6: Significant projects in neighbouring areas

Number	Description	Local Authority	Project value (£m 2015 values)	Start Date	End Date	Project Type
1	Trunk Road (Upgrading)	Salisbury	2,000.0	01/04/2020	27/03/2024	Roads
2	Sovereign Development Consortium Main Contractor Framework 2015	West Berkshire	320.0	05/05/2014	07/05/2018	New Housing
3	Research & Development Facility	North Wiltshire	250.0	27/10/2014	28/10/2019	Private Industrial
4	Highway Infrastructure Design & Build Framework	Chichester	250.0	01/12/2016	01/12/2022	Roads
5	Bypass	Chichester	200.0	24/08/2016	24/11/2024	Roads
6	2,505 Residential/Care Home/Schools/Commercial Units	West Wiltshire	187.9	24/07/2016	21/08/2017	New Housing
7	2,000 Residential Units	West Berkshire	150.0	28/02/2017	28/02/2022	New Housing
8	Army Basing Programme Development	Salisbury	135.9	16/09/2016	16/10/2017	Public Non-housing
9	Industrial Estate Regeneration	West Berkshire	125.0	04/01/2016	01/01/2018	Private Industrial
10	Fly Fishing Training Facility	West Berkshire	81.2	21/08/2016	03/04/2017	Public Non-housing
11	Commercial & Residential Development	Waverley	80.0	08/02/2016	07/08/2017	Private Commercial
12	1,254 Residential & Commercial	Salisbury	78.2	31/08/2015	27/08/2018	Private Commercial
13	1,007 Residential/School & Local Centre	North Wiltshire	75.5	03/03/2016	03/03/2017	Private Commercial
14	108 Residential Units	Waverley	70.0	21/07/2014	18/04/2016	New Housing
15	Storage/Distribution Centre & Shop	North Wiltshire	69.5	30/10/2015	11/05/2016	Private Industrial
16	Service Family Accommodation	Kennet	66.8	14/09/2015	12/09/2016	New Housing
17	26 Army Basing Programme Buildings (New/Extension)	Kennet	57.1	06/11/2016	26/08/2017	Public Non-housing
18	525 Houses/225 Flats/1 School & Commercial Units	Chichester	56.6	18/03/2016	15/04/2017	New Housing
19	712 Residential/Retail/Community Units	West Berkshire	53.4	02/01/2017	29/01/2018	New Housing
20	534 Houses & 139 Flats	Salisbury	50.5	05/10/2016	02/11/2017	New Housing
21	Flats	West Berkshire	50.0	12/01/2015	16/05/2016	New Housing
22	Hospital (Redevelopment)	Christchurch	50.0	29/02/2016	29/08/2017	Public Non-housing
23	Employment Development	East Dorset	42.6	06/06/2016	06/08/2017	Private Commercial

Table 6: Significant projects in neighbouring areas

Number	Description	Local Authority	Project value (£m 2015 values)	Start Date	End Date	Project Type
24	500 Residential & 4 School/Employment/Leisure/Retail Units	North Wiltshire	37.8	13/01/2016	09/02/2017	Private Commercial
25	Research & Development	North Wiltshire	36.2	27/10/2014	01/02/2016	Private Industrial
26	462 Residential Units/School & Commercial Units	West Berkshire	34.7	16/12/2015	12/01/2017	Private Commercial
27	451 Houses/Medical/Community Facilities (New/Extension)	West Wiltshire	33.8	21/01/2016	17/02/2017	New Housing
28	444 Houses & 1 School/Community Facility	Salisbury	33.4	31/08/2016	28/09/2017	New Housing
29	Retail Store	West Berkshire	33.0	27/05/2015	25/05/2016	Private Commercial
30	422 Residential Units	North Wiltshire	31.7	16/01/2016	12/02/2017	Private Commercial
31	Industrial/Office & Commercial Units	Christchurch	27.2	03/12/2015	14/06/2016	Private Industrial

3.5. Summary of demand

- The analysis of the labour demand arising from the construction spend in the Solent LEP area peaks at around 64,700 people in 2017, when taking account of the potential undefined work in addition to the Glenigan pipeline of projects.
- Around 47% of the known new build projects' demand arises from housing developments. Another 22% is classified as private commercial developments and 15% as public non-residential. Infrastructure follows with roughly 8% while private industrial accounts for just 1% of the new build construction labour demand.
- The known pipeline R&M labour demand accounts for 11.5% of the total demand and is almost exclusively made up of non-housing R&M (accounting for over 95% of the R&M labour demand).
- During 2016, the peak year of the Glenigan pipeline demand, the most labour-intensive occupation group is "non-construction professional, technical, IT and other office–based staff" with an average demand of 5,850 people.
- The projections of labour demand for the trades occupations for the peak year of 2016 are as follows:
    - The trade occupation for which demand is highest is "wood trades and interior fit-out", peaking at 4,400 people;
    - "general labourers" then follow with about 3,050 people demanded;
    - "plumbing and heating, ventilation and air conditioning trades" rank third, with a demand of 3,000 people;
    - all other trades result in a demand of less than 2,700 people each.

4. A picture of supply

When looking at the supply of workers there are two main elements to consider: the size of the current workforce and the existing amount of training.

The first element of this section takes a view on the current employment levels for the Solent Local Enterprise Partnership (LEP) area and then how this relates to overall employment across the England region. Data from CITB's Construction Skills Network (CSN) is used along with official Government sources.

For the second section, while training occurs at Further Education (FE) and Higher Education (HE) the focus will be on FE that takes place in the LEP area and the wider South East region. FE tends to be sourced and delivered in a close proximity to home and workplace, whereas the length of study and specialisms for universities for HE can give greater degrees of mobility.

The demand forecasts can then be compared against employment, training and workforce mobility to give an indication of possible gaps and/or occupational pinch points.

4.1. Main points

- Current construction workforce estimates for the South East of England are just over 377,000 workers.
- The Solent LEP area accounts for 18% of the South East's current construction employment (approx. 69,000 workers[2]).
- The size profile of employers across the Solent LEP area are overwhelming (94.5%) micro sized companies.
- There were just over 4,320 Construction and Building Services Engineering learning aims delivered in the LEP area, accounting for 4% of the total learning aims in 2012/2013[3].
- Thirty six training providers delivered construction relevant FE courses within the Solent LEP area with the six main providers delivering over two-thirds (73%) of all FE Construction and Building Services Engineering learning.

4.2. Existing Workforce

Construction employment across the UK suffered significant declines during the recent recession, and the South East was no exception as shown in Figure 6 below. Employment in the region increased steadily from just over 348,000 in 2002 to just over 412,000 in 2008. The recession saw a steep fall in this figure to a low of just over 355,000 in 2012. By 2014 number of construction workers in the region had started to rise with employment standing at just over 371,000. The current CSN forecast for 2016 – 2020 shows continued employment growth until 2017 and then a slight fall off until the end of the forecast period. However even the highest point in 2017 of 388,000 is still well below the pre-recession peak in 2008.

[2] The workforce estimated in this section is larger than that produced by the LFT in the previous section. As noted earlier in the report the Glenigan analysis will not identify smaller projects or a large amount of repair and maintenance

[3] Note: a leaner can have multiple learning aims depending upon the nature of the course learning.

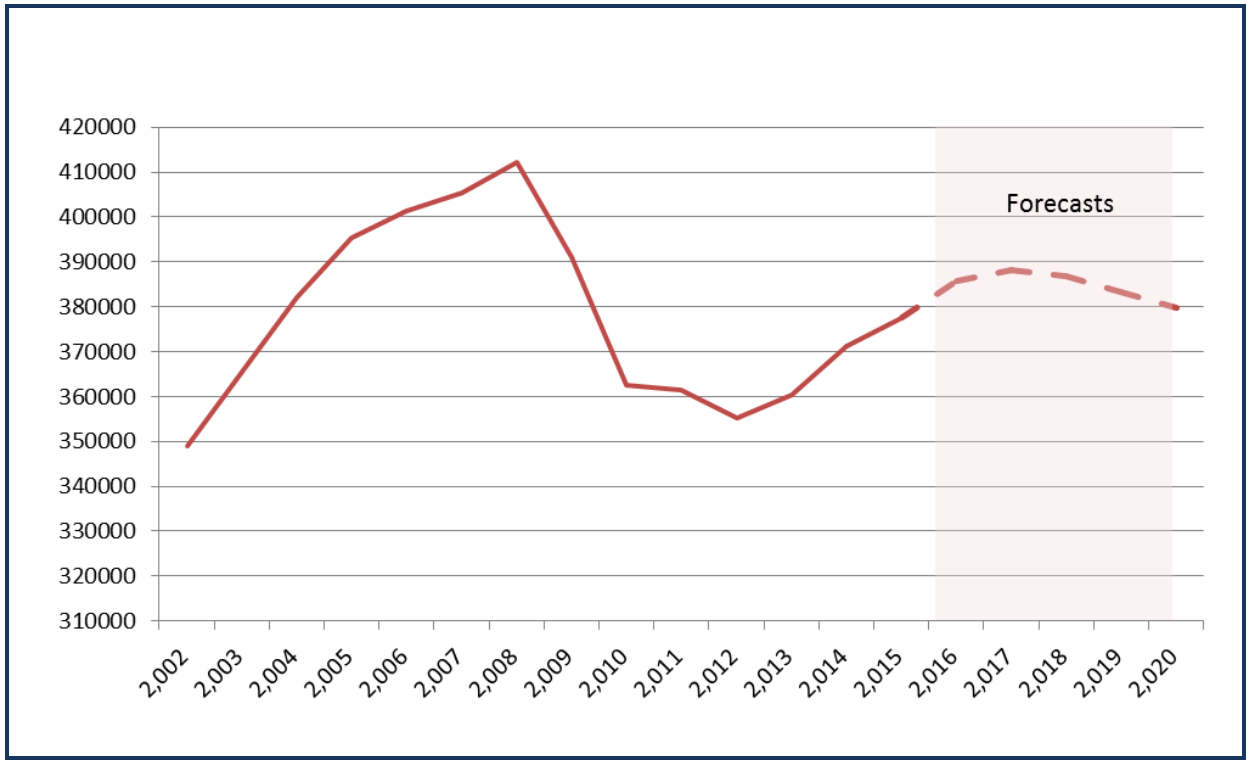

Figure 6: Construction employment in the South East 2002-2020 (Source: Experian)

An analysis of the Annual Population Survey[4] gives an indication of the share of South East's construction workforce located in the Solent LEP area. The latest data shows that the LEP area accounts for 18.3% of regional construction employment, in Table 7 below shows what this means for total employment at occupation and industry level in the Solent LEP area.

[4] ONS/NOMIS (2015) Annual Population Survey workplace analysis by industry Jan 14 to Dec 14

Table 7: Construction occupation breakdown 2015 (Source Experian & CITB)

Occupation	Solent	South East
Senior, executive and business process managers	5,691	31,100
Construction project managers	1,407	7,690
Other construction process managers	4,950	27,050
Non-construction professional, technical, IT, and other office-based staff	10,495	57,350
Construction trade supervisors	1,125	6,150
Wood trades and interior fit-out	6,458	35,290
Bricklayers	1,325	7,240
Building envelope specialists	2,908	15,890
Painters and decorators	3,563	19,470
Plasterers	941	5,140
Roofers	1,404	7,670
Floorers	802	4,380
Glaziers	705	3,850
Specialist building operatives nec*	1,444	7,890
Scaffolders	454	2,480
Plant operatives	1,089	5,950
Plant mechanics/fitters	803	4,390
Steel erectors/structural fabrication	543	2,970
Labourers nec*	3,556	19,430
Electrical trades and installation	4,471	24,430
Plumbing and HVAC trades	3,962	21,650
Logistics	575	3,140
Civil engineering operatives nec*	348	1,900
Non-construction operatives	483	2,640
Civil engineers	1,014	5,540
Other construction professionals and technical staff	6,225	34,020
Architects	1,085	5,930
Surveyors	1,274	6,960
Total	69,096	377,590

*nec – not elsewhere classified

4.3. Employer Structure

Analysis of construction businesses reveals that around 17% of all construction firms within South East region are located in the Solent LEP Area.

Overall the pattern of firm size in the Solent LEP area is similar to that of the South East region, with just over 94% of firms being micro (employing fewer than 10 people). In the South East there are a

total of 45 large companies (employing 250 and over) but only 5 of these large organisations are based within the LEP area.

The breakdown by firm size in Solent LEP is shown in Figure 7 below.

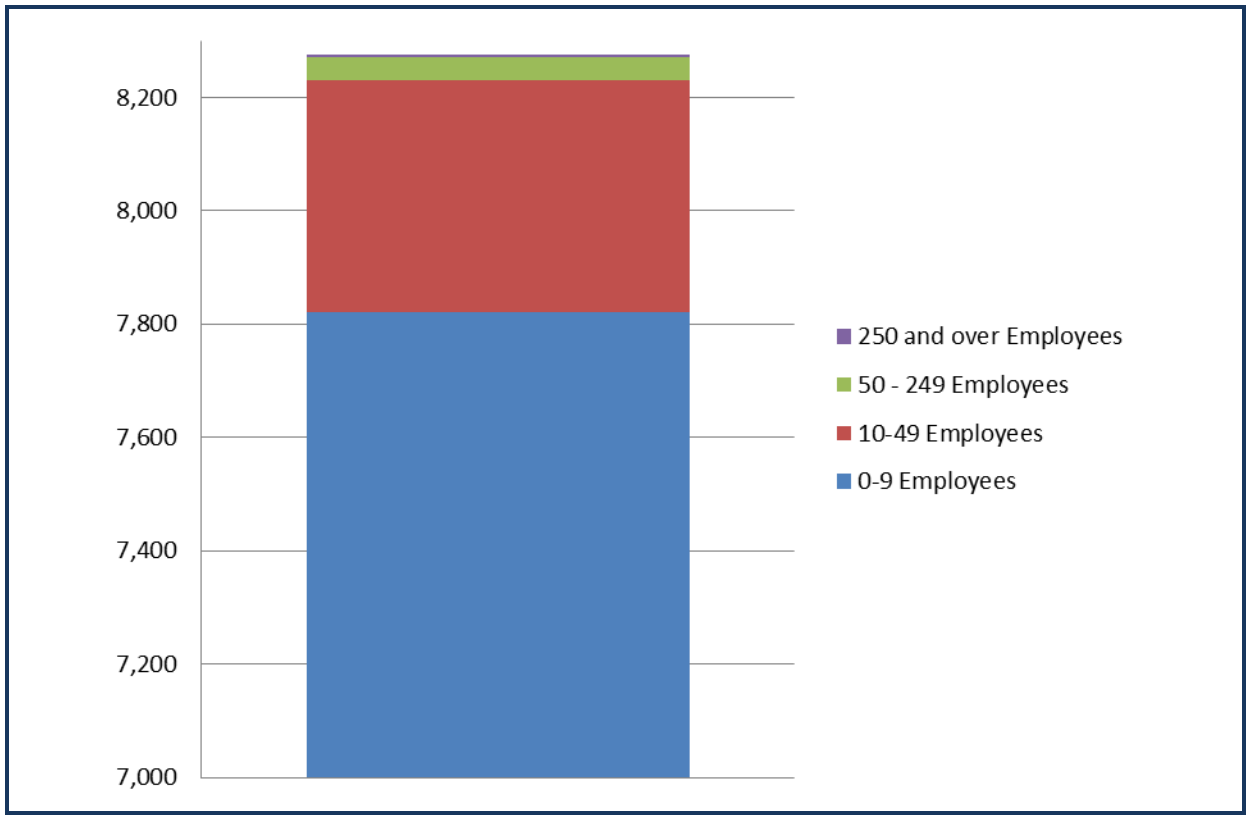

Figure 7: Construction firms by size, 2015 (Source:ONS/NOMIS)

4.4. Training provision

In terms of delivering skills to the construction workforce, further education providers play a significant role in equipping people with vocational skills for all sectors of UK business, and for construction in particular.

Data available at local authority level produced by the Skills Funding Agency[5] shows that in Further Education learner volumes, the Solent LEP area accounted for 100,840 learners which representing 35% of total provision in the South East (all learners, all sectors).

Although the number of learners can be identified it is more difficult to identify training as this is reported by learning aims, and not the number of learners. 'Learners' generally refers to the number of individuals who are funded each year, while the term 'learning aims refers to the number of discreet pieces of learning that are funded. It is possible for an individual to complete multiple learning aims in each year, with each aim having some level of funding against it.

There are two main categories of learning aims relevant to the Construction Sector, Construction and Building Services Engineering; together they accounted for just over 4,310 learning aims delivered in the Solent LEP area[6]. This represents 4.2% of the total number of learning aims across all

[5] Skills Funding Agency (2014) Overall FE and Skills Participation by Level and Age and by Region, Local Authority (2005/06 to 2013/14) Learner Volumes
[6] NOMIS – 2012/2013 recognised sectors, all levels, all sectors

sectors, and gives an indication of how construction training fits with overall FE provision which is lower than the 18% share that construction has for total employment within the LEP area.

Data from the Skills Funding Agency[7] identified 36 training providers delivering FE Construction and Building Services Engineering learning across the Solent LEP area with the six main providers responsible for almost three quarters of construction training, these are:

- Highbury College
- Eastleigh College
- Isle of Wight College
- CITB Construction-Skills
- Southampton City College
- Fareham College

Four further training providers (Carillion Construction Ltd; Brockenhurst College; JTL Ltd, and Chichester) deliver training volumes of around 100-200 aims per year along with a wider number that deliver learning volumes of less than 50 aims per year. Although not identified in the figures, there will also be providers delivering training at very low volumes such as less than 10 learning aims per year.

Note the training will cover full and part time further education, apprenticeships and on-site assessment for qualifications such as National Vocational Qualifications (NVQs) and QCF diplomas and certificate.

Data available from the Skills Funding Agency do not allow identification of course level detail however the websites of the main training providers (links in Appendix D) indicate that there is a range of courses on offer that would relate to the main occupations, while also covering some of the technical and higher level skills that would be relevant to work currently underway in the Solent LEP area and future planned projects.

[7] Skills Funding Agency (2014): 2012/2013 FE and Skills learning aims by delivery in each Local Authority

5. Mobility of the workforce

The construction workforce is highly mobile, with workers tending to move from project to project which may mean working in other counties or regions (or even countries) from where they usually live. To measure the extent of this movement of workers, CITB commissioned research (Workforce Mobility and Skills in the UK Construction Sector 2015) to provide a reliable evidence base of the mature of the construction workforce in the UK concerning its qualification levels and the extent of occupation and geographic mobility to offer insight into where skills gaps might emerge as a result of occupational/geographic movement. The research provides data at a regional level so that future training interventions and the supply of job opportunities for local people can be understood.

5.1. Main points

- More than a quarter of all South East construction workers have worked in the industry for at least 20 years (28%), and half have worked in the industry for at least 10 years (50%), compared to a higher UK average (56%).
- At the time of the research just over half of all construction workers in the South East were living in the region when they started their construction career (55%).
- The average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 27 miles (22 miles is the UK average).
- Three quarters of all South East construction workers are confident that when they finish their current job their next job will allow them to travel to work from their permanent home on a daily basis (77%).
- Overall nearly half of all construction workers have only worked on one project type (47%).
- Amongst construction workers under the age of 60 in the South East over two fifths (43%) believe they will definitely want to be working in the construction sector, a further third (30%) believe it is very likely they will want to be working in the construction sector and 10% believe it is quite likely they will want to be working in the construction sector. In total over four-fifths of workers in the region aged 60 and under believe that it is likely they will still be working in construction in five years' time.

5.2. Work history

More than a quarter of South East construction workers have worked in the construction industry for over 20 years (28%) and half have worked in the industry for at least 10 years (50%).

The most likely reason for working in the South East is because they grew up there/have always lived there (45%), this compares to 55% across the whole of the UK. with a further 5% mentioning other reasons to do with their family. The next most likely reason for working at their current location is that their employer sent them there (44%), this compares to just 36% for the UK as a whole, suggesting a greater reliance on workers from other regions than may be typical in other parts of the UK.

In terms of the regions/nations in which workers' current employer operates, the proportion for which this is the case is 65% in the South East (the lowest proportion out of all of the regions), while 27% operate in London, 19% in the East of England and 18% in the South West, as shown in Appendix E.

5.3. Worker origins

Workers were asked which region/nation they were living in just before they got their first job in construction in the UK. Overall more than half of all construction workers in the South East were living in the South East when they started their construction career (55%) the same as for the East of England and slightly higher than London at 50%. Workers currently based in the South East, therefore, are among the least likely to have remained in the same region/nation in which they were based for their first construction job.

In addition just over half of the construction workers in the South East (55%) have remained in the same region/nation as they did their first qualification/training in. This is the second lowest proportion (after the East of England (50%) of all the regions/nations in the UK meaning that workers in the South East are amongst the most mobile.

Among other regions/nations, the figure ranges from 50% of workers in the East of England remaining in the area where they took their first qualification to 96% in Northern Ireland.

5.4. Travel to site

Just over half (58%) of construction workers in the South East have their current residence in the region, with 42% travelling into the region from another region/nation in which their current residence is based. The South East has the highest figure for inward travel to work. At the time of the survey 12% of construction workers in the South East had travelled into the region from London and a further 7% had travelled from the South West.

Workers in the South East were asked to indicate the furthest distance they have worked from their permanent or current home in the last 12 months. Figure 8 shows that nearly a fifth (16%) have worked no more than 20 miles away and a further quarter (27%) have worked between 21 and 50 miles away. This leaves just over half that have worked more than 50 miles away from their permanent home (55%), with almost a third (31%) that have worked between 51 and 100 miles away and just under a quarter (24%) that have worked more than 100 miles away which is about average for the UK.

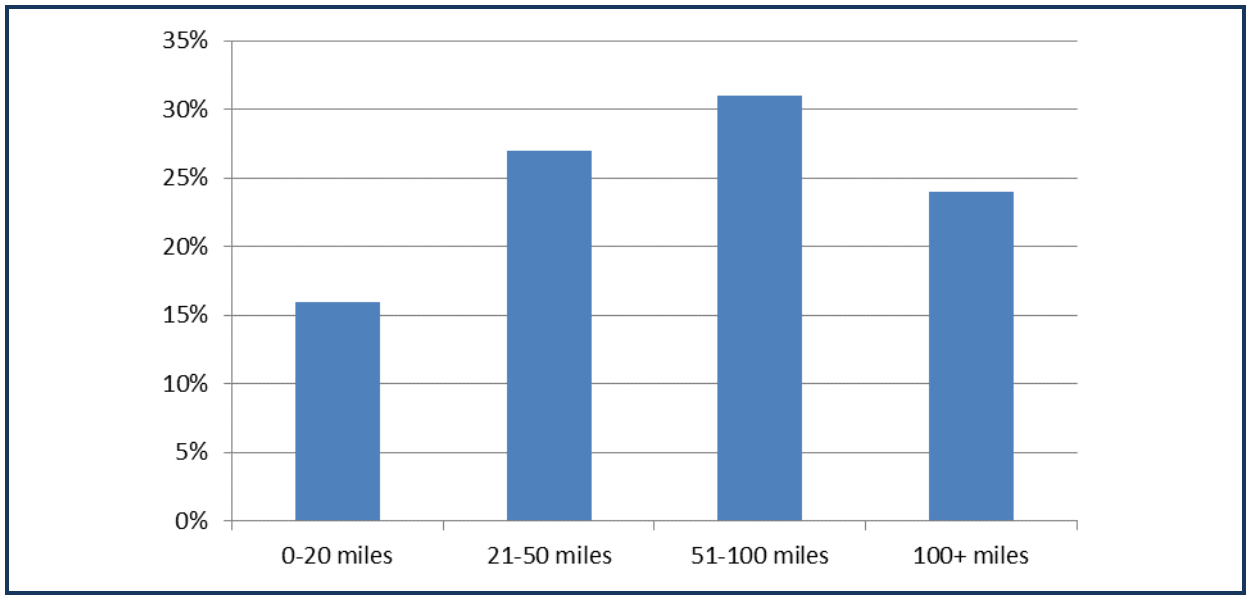

Figure 8: Furthest distance worked in past 12 months (CITB 2015)

5.5. Site duration and change

In order to get a measure of workplace stability, workers were asked to indicate how long they expect to work at that specific site during this phase.

Around a fifth of all construction workers in the South East (21%) do not expect to work on that site for more than a month, including 8% that only expect to be there for about a week or less. More than a quarter anticipated being on site for more than a month, but less than a year (27%) and around 3 in 10 expect to stay on that site for a year or longer (29%), However in a further one fifth of cases (22%) workers did not know how much longer they could expect to be on site, indicating that a significant minority of temporary workers are living with a certain amount of uncertainty and insecurity.

More than three quarters of all construction workers in the South East are confident that when they finish this job they will get a job that allows them to travel from their permanent home to work on a daily basis (77%). The remaining quarter of workers, in aggregate, are sure that this will not be the case (3%); that it depends where the work is (15%); or that they don't know (4%).

5.6. Sub-sector and sector mobility

All workers were asked which of six types of construction work (New Housing, Housing Repair and Maintenance, Commercial, Private Industrial, Public Non-Housing or Infrastructure) they have spent periods of at least three months at a time working in.

Overall nearly half of all construction workers have only worked on one project type (47%), which suggests a pattern of increased stability in the sector as shown in Table 8 shows.

Table 8: Type of projects spent significant periods on (CITB 2015)

	SE 2015 %	SE 2012 %	UK 2015 %
New housing	84	82	83
Housing repair and maintenance including extensions/loft conversions	41	47	36
Commercial work such as shops, office, pubs etc	35	51	35
Private industrial work such as factories, warehousing, mechanical engineering, land reclamation	30	43	30
Public non-housing work such as schools, sports facilities, landscaping	33	60	33
Infrastructure building projects, such as road/rail/airport, sewerage/water treatment, power stations	21	32	21
ONE TYPE ONLY	47	18	48
TWO TYPES	12	22	14
THREE TYPES	13	17	11
FOUR TYPES	6	13	8
FIVE TYPES	9	16	9
SIX TYPES	11	11	9
Unweighted bases	*439*	*420*	*4,771*

5.7. Leaving the sector

In order to assess the potential outflow from the sector in the next five years (based on workers' preferences), all workers were asked how likely it is that in five years' time they will still want to be working in construction. Excluding those aged 60 and over (as those over 60 may be assumed to be considering retirement in the next five years): 43% believe they will definitely want to be working in the construction sector, 30% believe it is very likely they will want to be working in the construction sector and 13% believe it is quite likely they will want to be working in the construction sector. Only 8% think on any level that they will not want to be working in the construction sector in 5 years' time.

Overall the findings from the mobility study indicate that workers in the South East are the amongst the most mobile construction workforces in the UK. There is evidence of a high degree of movement between neighbouring regions.

6. Demand against supply

6.1. Main points

Before looking at demand against supply, it should be noted that the Glenigan dataset used to produce the demand view is based on projects that are picked up at various stages of the planning process. As such there will be projects in the pipeline that may not go ahead or be subject to delay; additionally there will be newer projects that will be added to the list. In this respect the view is essentially a snapshot of what potential work could look like.

When looking forward, there will be less visibility on future projects, especially for work that requires shorter planning times. Research carried out by CITB on behalf of UKCG (Figure 9) showed that the lead time from planning to work starting on site varied by the type of work and value. Large scale infrastructure and commercial projects took the longest time whereas lower value work in general along with work in the industrial sector was able to get on site quickest.

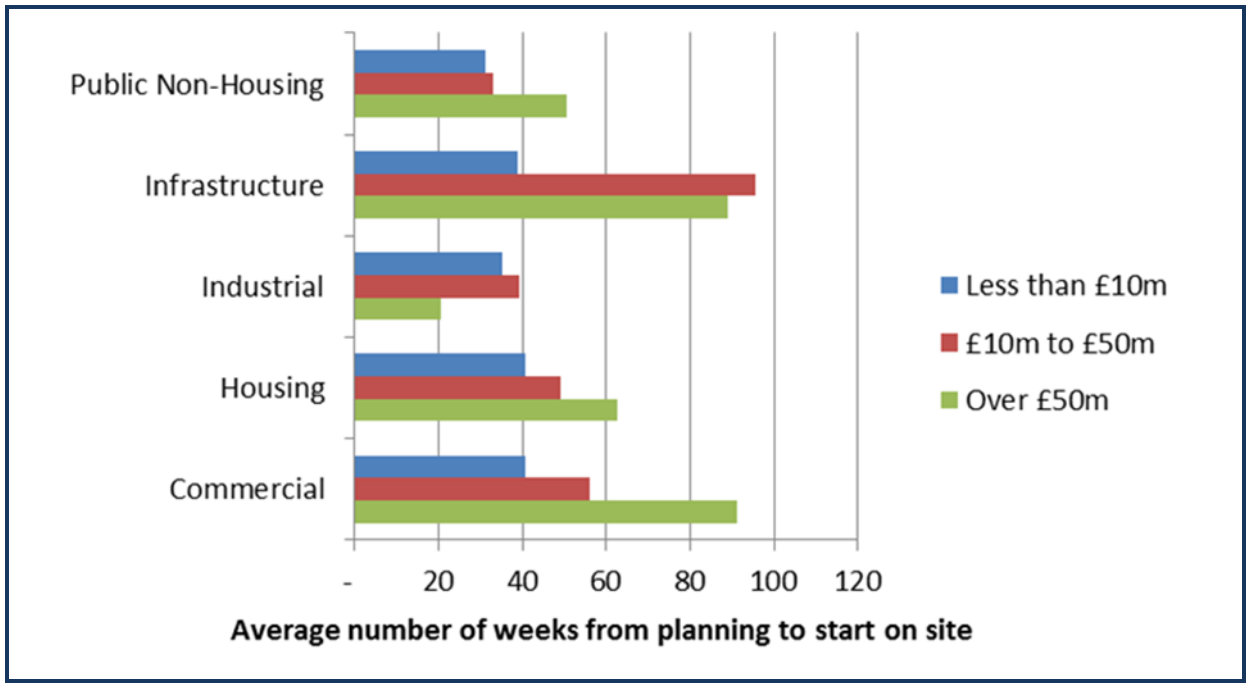

Figure 9: Average number of weeks from planning to work on site. UK 2010 – 2013 (Source UKCG/Glenigan)

There will also be work carried out that does not require planning permission, for example household repair and maintenance (R&M) work, and this can account for a significant share of work in the construction sector. Current estimates for R&M work in the South East indicate that it accounts for 45% of yearly construction output in the region[8] well above the UK average of 38%.

Also in looking at demand against supply, while different types of projects can be categorised by their type of build, such as housing, commercial and industrial, the workforce skills required are less easy to categorise in the same way as some occupations will be able to apply their skills across a number of different sectors. For example, evidence from the 2015 Mobility research[9] shows that occupations such as plasterers and banksmen/bankpersons are most likely to have only worked on

[8] CITB (2015) Construction Skills Network – South East
[9] CITB(2015) Workforce Mobility and Skills in the UK Construction Sector – South East

one project type, while bricklayers, site managers, dryliners and scaffolders are more likely to have worked on a wide range of building projects.

In general, as discussed in the Mobility section, construction workers in the South East are amongst the most mobile in the country which suggest that the supply of workers for future projects will be supplemented by workers outside the area.

6.2. Gap analysis

At peak activity which is forecast to occur in October 2016, there would be an estimated monthly demand of over 64,000; for the whole of 2016 and 2017 there would be average monthly demands of 46,800 and 28,950 workers respectively. As Table 9 shows peak demand and then the average yearly demand figures based on the work identified would account for a significant share of the current workforce employed with the Solent LEP area.

Table 9: Demand as a % of 2015 employment (Source: CITB/WLC)

Area	Peak Demand(October 2016) (% of 2015 Employment	2016 Average Demand (% of 2015 Employment)	2017 Average Demand (% of 2015 Employment)
Solent LEP Area	93%	68%	42%

The demand details covered show that work across the Solent LEP area will require involvement from the full range of construction occupations across the timeline. Analysis of the occupational groups used in the CSN, which can be compared to estimates of current employment allows examination of both yearly demand and peak demand (as highlighted in Table 10).

Table 10: Occupational breakdown of demand for Solent LEP (Source: CITB/WLC)

Occupations	Average 2016
Senior, executive and business process managers	48%
Construction project managers	51%
Other construction process managers	61%
Non-construction professional, technical, IT, and other office-based staff	56%
Construction trade supervisors	82%
Wood trades and interior fit-out	68%
Bricklayers	101%
Building envelope specialists	69%
Painters and decorators	47%
Plasterers	103%
Roofers	69%
Floorers	47%
Glaziers	87%
Specialist building operatives nec*	79%
Scaffolders	95%
Plant operatives	83%
Plant mechanics/fitters	75%
Steel erectors/structural fabrication	104%
Labourers nec*	85%
Electrical trades and installation	60%
Plumbing and HVAC trades	76%
Logistics	89%
Civil engineering operatives nec*	186%
Non-construction operatives	277%
Civil engineers	141%
Other construction professionals and technical staff	47%
Architects	61%
Surveyors	101%

This analysis shows that there are some possible disparities where demand outstrips the current employment estimates for number of occupations These are:

- Non Constructive Operatives[10]
- Civil engineering operatives not elsewhere classified (nec)[11]
- Civil Engineering Operatives
- Surveyors

For each of these occupations, peak demand exceeds current employment and average employment in 2016 and 2017 is more than 20 percentage points higher than the average for all occupations for either or both years.

Of these occupations the main risks look to be around the future supply of:

- Plasterers
- Scaffolders
- Non Constructive Operatives[12]
- Civil engineering operatives not elsewhere classified (nec)[13]
- Civil Engineering Operatives
- Surveyors

All of these could be in high demand, based on both their share of forecasted employment and the absolute numbers required.

It is interesting to note that the analysis forecast potential shortfalls across a wide range of occupations based on their skillsets, qualification levels and those traditionally working across other sectors. The following discussion categorises the occupations between those that are construction specific and those that work in other sectors.

Construction specific occupations

The category of **Civil engineering operatives nec** covers occupations that include road construction, rail construction and maintenance, and quarry workers. Within these areas they cover higher qualification occupations up to degree level, as such there can be at least three years' of education and training before becoming qualified. It is, therefore, highly likely that the short-term demand increase identified would require workers to be drawn into the Solent LEP.

While the skill requirement for **labourers nec** (which are all elementary construction occupations) may not be as high as trades such as carpentry, roofing and the like, some may see it as a way of

[10] General occupation title that covers: metal making and treating process operatives, process operatives nec metal working machine operatives, water and sewerage plant operative, assemblers (vehicle and metal goods), routine inspectors and testers, assemblers and routine operatives nec, elementary security guards, and related occupation, protective service associate professionals
[11] General occupation title that covers: road construction operatives, rail construction and maintenance operatives, quarry workers and related operatives
[12] General occupation title that covers: metal making and treating process operatives, process operatives nec metal working machine operatives, water and sewerage plant operative, assemblers (vehicle and metal goods), routine inspectors and testers, assemblers and routine operatives nec, elementary security guards, and related occupation, protective service associate professionals
[13] General occupation title that covers: road construction operatives, rail construction and maintenance operatives, quarry workers and related operatives

gaining construction experience. The risk here is the number required and the amount and availability of training that would be needed for them to work safely on construction sites, however this is likely to be focused on the number of candidates from within LEP area that are willing to take up labouring roles.

The demand for **surveyors** is linked to an increasing demand for higher level skills that sits across construction in general. As well as a degree there is a requirement for two to three years of further training to become a fully qualified surveyor, so the only way that demand in this occupation can be met is by recruiting workers from outside the region. Given their integral nature to every part of the construction process, especially at the commencement of construction activities, supply of skilled workers in this occupation will need consideration.

Specialist building operatives nec covers a range of occupations that have specialised and niche skills predominately used for repair and refurbishment. This type of work tends to be more labour intensive and consequently they are in high demand particularly in 2016, dependent upon the type.

Cross-sector occupations

As skills in these occupations can be used in other sectors, the degree to which demand can be met will be influenced by factors other than construction demand.

Non-construction operatives tend to provide support roles and do not rely on construction specific skills, therefore employment in this group can be subject to general market conditions. Although there is a significant increase in percentage terms, the impact would need to be examined in more detail against wider workforce/job projections.

With regard to how demand fits with existing training provision, Appendix D highlights the ten main colleges across the Solent LEP area that cover a wide range of construction training and qualifications. However it should be noted that although construction work will generate a training demand, other factors such as the requirement to have a qualification in relation to a competence card (Construction Skills Certification Scheme (CSCS) http://www.cscs.uk.com/ and Construction Plant Competence Scheme (CPCS) http://www.citb.co.uk/cards-testing/construction-plant-competence-scheme-cpcs/about-the-cpcs/) and delivering training to people leaving school, will also have a bearing on what training is required.

As noted earlier, there will be other work carried out in the Solent LEP area that does not require planning permission, which will not have been captured in the demand analysis. With the level of demand identified taking up most of the workforce, and given the mobility factors outlined above, it is very likely that workers will need to be drawn in from outside the LEP area to meet demand.

6.3. Long term construction employment forecast

The Construction Skills Network provides a forecast for construction employment by region and occupation for the next five years. In numbers terms the South East's total employment is predicted to increase by just over 2,000 in the five years to 2020, from just over 377,000 in 2015 to over 379,000 in 2020.

Given that 18% of construction workers in the South East are based in the Solent LEP area, it is possible to use the CSN forecast for the region to estimate the changes to the workforce over the next five years. The LEP construction workforce would be expected to increase by around 500 workers between 2015 and 2020.

The Annual Recruitment Requirement (ARR) is a gross requirement that takes into account workforce flows into and out of construction, due to factors such as movements between industries, migration sickness and retirement. It provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

The South East's ARR for 2016 – 2020 is 1,730. It represents 0.4% of base 2016 employment, lower than the UK average of 1.7%, this is because the South East like Greater London benefits from strong inflows from other regions.

The ARR for the Solent LEP area would be expected to be in the region of 300 additional recruits per year (in addition to the workforce flows and movements in and out of the industry outlined above). The occupations most in demand on the 2016 – 2020 forecast period will be:

- Surveyors - 600 ARR
- Plant Mechanics/fitters - 340 ARR

There is some cross over between short term requirements outlined by the Glenigan data and these longer term forecasts in that both predict a demand for Surveyors.

7. Conclusions and recommendations

7.1. Summary

Although an assessment suggests that in total there are approximately enough workers to fill demand, the indication is that potential shortages are likely for a number of occupations. A number of these appear to be in areas where a local construction recruitment and development plan may have a positive impact:

- Civil engineering operatives
- Plasterers
- Bricklayers
- Scaffolders
- Construction trades supervisors
- Plant operatives

Other anticipated occupational gaps are either influenced by sectors other than just construction or require very long periods of training and development or are in occupations that tend not be tied to a location so are unlikely to be influenced by a local recruitment and development plan within the timeframe of this report.

In addition, some construction occupations are anticipating significant peak demand and so should also be considered within a local construction recruitment and development plan:

- Wood trades and interior fit out
- Labourers
- Other construction process managers
- Plumbing, heating, ventilation and air conditioning trades

There is also significant demand for non-construction, management and back room roles, so a local recruitment and development plan may address opportunities for upskilling or reskilling to allow workers to develop new skills and draw new workers in, so creating employment opportunities.

The most significant project types, in their anticipated demand for labour, will be:

- New housing
- Infrastructure
- Public non residential
- Private commercial

And so it makes sense to test as far as possible that the provision of additional supply meets the needs of the projects types.

7.2. Recommendations

CITB is working with the Solent Local Enterprise Partnership and its significant stakeholders in developing a Strategy for construction training & development. The following recommendations are being addressed within that Strategy.

Recommendation 1

Review this report with a view to its informing the local recruitment and skills development plan that. This with the aim to:

1. Addressing any perceived high risk and likely gaps between demand and skills provision for critical professions and trades.
2. Ensuring that there is sufficient local provision for high demand occupations.

Action should be taken for phased recruitment and training to address at least part of the anticipated shortages, while at the same time avoiding potential over provision.

Recommendation 2

Pipeline identification, planning and exploitation

Develop, as far as possible, a more detailed long term picture of construction and infrastructure investments for the Solent area; assess their implications and potential skills demands and use this information to inform skills recruitment (1). Given the lead times for development of skills, a forward look should seek to identify where major initiatives will skew demand.

Recommendation 4

Identify potential partners within the Solent area; share analysis with them and engage them in contributing to local collaboration in driving the recruitment and skills development plans.

Recommendation 5

Develop the future curriculum, the provision and appropriateness of construction skills training.

1. Through mediated collaboration, it may be possible for FE colleges to: reduce the provision of under-subscribed courses; add provision for over-subscribed courses; add additional or enhance specialist courses to reflect the potential need for new construction skills and balance the provision of training with anticipated demand from the construction contractors locally. That should, where possible, be through apprenticeships (see below). By working together the major colleges can avoid duplication of effort and enhance specialisations.
2. Occupations highlighted as having pinch-points should form part of an early action plan to assess what short-term interventions can be activated to address these concerns and identify funding that can be utilised to pump-prime short term training interventions.
3. A common complaint of construction employers is that new starters are not often enough ‘site ready’ so a curriculum might including working with employers to enhance new starters’ site readiness and behaviours.
4. However, the Skills Funding Agency Data Cube makes it clear that construction starts and completions in FE are mostly level 1 and 2 – while demand is mostly at level 3 and 4. The Solent LEP should commission research to establish insights and conclusions to help direct the alignment of further education completion to pipeline labour demand.

Recommendation 6

Outreach – build a more positive image of construction with young people and increase recruitment through schools.

Construction is sometimes associated with negative and inaccurate stereotypes that deter potential recruits. Education choices and career decisions are often influenced in school. With an anticipated long term demand for some skills, the potential exists for an outreach programme that goes out to schools to correct negative perceptions, build a positive image and encourage applications for construction skills courses and apprenticeships from a broader spectrum of young people – in particular ethnic minorities and young women.

Building awareness of the opportunities may include use of support and guidance from CITB and utilising approaches like GO Construct (www.goconstruct.org).

Recommendation 7

Use procurement as a lever to enable skills development

The potential exists through smarter approaches to procurement to encourage those bidding for construction and infrastructure contracts to be mandated to include provision for co-ordinated recruitment, training, apprenticeships and outreach within their responses to tender. Provision would also be required to hold contractors to account for commitments made.

Such an approach could be co-ordinated through local authorities and be a requirement of planning applications and local authority and public sector contracts. It may also be possible to encourage major contracting businesses to follow such an approach in support of the Region's skills and economic development.

Maintaining & enhancing the evidence base

Use the access to the Labour Forecasting Tool that is included with the report to review Labour Market Intelligence (LMI) and update the evidence base to supports decision making as circumstances change and to demonstrate construction pipeline opportunities.

The demand forecasts produced using data from Glenigan are the result of a snapshot at a moment in time and so it is wise to update demand forecasts on a regular basis – six monthly is suggested.

Solent LEP - Construction Labour Research

Technical Appendices

Client: Solent LEP
Authors: Doug Forbes, Matt Paraskevopoulos, Karen Hazelden, Marcus Bennett
Approved by: CITB
Date: April 2016

Table of contents

Appendix A. Occupational definitions

Reference is made in this report to a range of occupational aggregates for construction occupations. This appendix contains details of the 166 individual occupations which are aggregated into 28 occupational aggregates.

Occupations included within construction occupational aggregates (Four-digit codes refer to Office for National Statistics Standard Occupational Classification Codes).	
1 Senior, executive, and business process managers)	
	(1115) Chief executives and senior officials
	(1131) Financial managers and directors
	(1132) Marketing and sales directors
	(1133) Purchasing managers and directors
	(1135) Human resource managers and directors
	(1251) Property, housing and estate managers
	(1136) Information technology and telecommunications directors
	(2150) Research and development managers
	(1162) Managers and directors in storage and warehousing
	(1259) Managers and proprietors in other services nec
	(1139) Functional managers and directors nec
	(2133) IT specialist managers
	(2134) IT project and programme managers
	(3538) Financial accounts managers
	(3545) Sales accounts and business development managers
2 Construction project managers	
	(2436) Construction project managers and related professionals
3 Other construction process managers	
	(1121) Production managers and directors in manufacturing
	(1122) Production managers and directors in construction
	(1161) Managers and directors in transport and distribution
	(1255) Waste disposal and environmental services managers
	(3567) Health and safety officers
	(3550) Conservation and environmental associate professionals
4 Non-construction professional, technical, IT, and other office–based staff (excl. managers)	
	(3131) IT operations technicians
	(3132) IT user support technicians
	(3534) Finance and investment analysts and advisers
	(3535) Taxation experts
	(3537) Financial and accounting technicians
	(3563) Vocational and industrial trainers and instructors
	(3539) Business and related associate professionals nec
	(3520) Legal associate professionals
	(3565) Inspectors of standards and regulations
	(2136) Programmers and software development professionals

	(2139) Information technology and telecommunications professionals nec
	(3544) Estate agents and auctioneers
	(2413) Solicitors
	(2419) Legal professionals nec
	(2421) Chartered and certified accountants
	(2424) Business and financial project management professionals
	(2423) Management consultants and business analysts
	(4216) Receptionists
	(4217) Typists and related keyboard occupations
	(3542) Business sales executives
	(4122) Book-keepers, payroll managers and wages clerks
	(4131) Records clerks and assistants
	(4133) Stock control clerks and assistants
	(7213) Telephonists
	(7214) Communication operators
	(4215) Personal assistants and other secretaries
	(7111) Sales and retail assistants
	(7113) Telephone salespersons
	(3541) Buyers and procurement officers
	(3562) Human resources and industrial relations officers
	(4121) Credit controllers
	(4214) Company secretaries
	(7129) Sales related occupations nec
	(7211) Call and contact centre occupations
	(7219) Customer service occupations nec
	(9219) Elementary administration occupations nec
	(2111) Chemical scientists
	(2112) Biological scientists and biochemists
	(2113) Physical scientists
	(3111) Laboratory technicians
	(3421) Graphic designers
	(2463) Environmental health professionals
	(2135) IT business analysts, architects and systems designers
	(2141) Conservation professionals
	(2142) Environment professionals
	(2425) Actuaries, economists and statisticians
	(2426) Business and related research professionals
	(4124) Finance officers

	(4129) Financial administrative occupations nec
	(4138) Human resources administrative occupations
	(4151) Sales administrators
	(4159) Other administrative occupations nec
	(4162) Office supervisors
	(7130) Sales supervisors
	(7220) Customer service managers and supervisors
	(4161) Office managers
5 Construction Trades Supervisors	
	(5250) Skilled metal, electrical and electronic trades supervisors
	(5330) Construction and building trades supervisors
6 Wood trades and interior fit-out	
	(5315) Carpenters and joiners
	(8121) Paper and wood machine operatives
	(5442) Furniture makers and other craft woodworkers
	(5319) Construction and building trades nec (25%)
7 Bricklayers	
	(5312) Bricklayers and masons
8 Building envelope specialists	
	(5319) Construction and building trades nec (50%)
9 Painters and decorators	
	(5323) Painters and decorators
	(5319) Construction and building trades nec (5%)
10 Plasterers	
	(5321) Plasterers
11 Roofers	
	(5313) Roofers, roof tilers and slaters
12 Floorers	
	(5322) Floorers and wall tillers
13 Glaziers	
	(5316) Glaziers, window fabricators and fitters
	(5319) Construction and building trades nec (5%)
14 Specialist building operatives not elsewhere classified (nec)	
	(8149) Construction operatives nec (100%)
	(5319) Construction and building trades nec (5%)
	(9132) Industrial cleaning process occupations
	(5449) Other skilled trades nec

15 Scaffolders	
	(8141) Scaffolders, stagers and riggers
16 Plant operatives	
	(8221) Crane drivers
	(8129) Plant and machine operatives nec
	(8222) Fork-lift truck drivers
	(8229) Mobile machine drivers and operatives nec
17 Plant mechanics/fitters	
	(5223) Metal working production and maintenance fitters
	(5224) Precision instrument makers and repairers
	(5231) Vehicle technicians, mechanics and electricians
	(9139) Elementary process plant occupations nec
	(5222) Tool makers, tool fitters and markers-out
	(5232) Vehicle body builders and repairers
18 Steel erectors/structural fabrication	
	(5311) Steel erectors
	(5215) Welding trades
	(5214) Metal plate workers, and riveters
	(5319) Construction and building trades nec (5%)
	(5211) Smiths and forge workers
	(5221) Metal machining setters and setter-operators
19 Labourers nec	
	(9120) Elementary construction occupations (100%)
20 Electrical trades and installation	
	(5241) Electricians and electrical fitters
	(5249) Electrical and electronic trades nec
	(5242) Telecommunications engineers
21 Plumbing and heating, ventilation, and air conditioning trades	
	(5314) Plumbers and heating and ventilating engineers
	(5216) Pipe fitters
	(5319) Construction and building trades nec (5%)
	(5225) Air-conditioning and refrigeration engineers
22 Logistics	
	(8211) Large goods vehicle drivers
	(8212) Van drivers
	(9260) Elementary storage occupations
	(3541) Buyers and purchasing officers (50%)

	(4134) Transport and distribution clerks and assistants
23 Civil engineering operatives not elsewhere classified (nec)	
	(8142) Road construction operatives
	(8143) Rail construction and maintenance operatives
	(8123) Quarry workers and related operatives
24 Non–construction operatives	
	(8117) Metal making and treating process operatives
	(8119) Process operatives nec
	(8125) Metal working machine operatives
	(8126) Water and sewerage plant operatives
	(8132) Assemblers (vehicles and metal goods)
	(8133) Routine inspectors and testers
	(8139) Assemblers and routine operatives nec
	(9249) Elementary security occupations nec
	(9233) Cleaners and domestics
	(9232) Street cleaners
	(5113) Gardeners and landscape gardeners
	(6232) Caretakers
	(9241) Security guards and related occupations
	(3319) Protective service associate professionals nec
25 Civil engineers	
	(2121) Civil engineers
26 Other construction professionals and technical staff	
	(2122) Mechanical engineers
	(2123) Electrical engineers
	(2126) Design and development engineers
	(2127) Production and process engineers
	(2461) Quality control and planning engineers
	(2129) Engineering professionals nec
	(3112) Electrical and electronics technicians
	(3113) Engineering technicians
	(3114) Building and civil engineering technicians
	(3119) Science, engineering and production technicians nec
	(3121) Architectural and town planning technicians
	(3122) Draughtspersons
	(3115) Quality assurance technicians
	(2432) Town planning officers
	(2124) Electronics engineers

	(2435) Chartered architectural technologists (3531) Estimators, valuers and assessors (3116) Planning, process and production technicians
27 Architects	
	(2431) Architects
28 Surveyors	
	(2433) Quantity surveyors (2434) Chartered surveyors

Appendix B. Glenigan projects removed and their corresponding local authorities

This section contains a list of all the Glenigan projects removed from the analysis, stating the reason for their exclusion.

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type	Reason for omission
1	Pontoon	Isle of Wight		30/12/2015	07/10/2016	Private Industrial	Missing value
2	Offshore Wind Farm	Isle of Wight	2,000.0			Infrastructure	Missing dates
3	200 Houses/Flats	Eastleigh	15.0			New Housing	Missing dates
4	Hotel Building	Portsmouth	12.5			Private Commercial	Missing dates
5	125 Houses	Havant	9.4			New Housing	Missing dates
6	55 Elderly Person Flats	Fareham	6.5			New Housing	Missing dates
7	Care Home & 7 Flats	East Hampshire	6.0			Private Commercial	Missing dates
8	5 Supermarket & Flats/Surgery Units(New/Refurb)	Winchester	5.9			Private Commercial	Missing dates
9	Care Home	Portsmouth	5.0			Private Commercial	Missing dates
10	56 Houses, 4 Flats & 2 Bungalows	Eastleigh	4.6			New Housing	Missing dates
11	Residential Care Home (New/Refurbishment)	Portsmouth	4.0			Private Commercial	Missing dates
12	61 Flats	Southampton	3.1			New Housing	Missing dates
13	Football Development Centre (Extension)	New Forest	3.0			Public Non-housing	Missing dates
14	31 Houses & 6 Flats/3 Bungalows	East Hampshire	3.0			New Housing	Missing dates
15	Residential Care Home Blocks (Extension)	East Hampshire	2.0			Private Commercial	Missing dates
16	Nursing Home	Portsmouth	2.0			Private Commercial	Missing dates
17	24 Flats & 13 Houses	Southampton	1.9			New Housing	Missing dates
18	Supermarket & Builders Merchant	Southampton	1.8			Private Commercial	Missing dates
19	Retail Warehouse (Extension/Alterations)	Eastleigh	1.6			Private Industrial	Missing dates
20	Office Building (Extension)	Winchester	1.6			Private Commercial	Missing dates
21	Industrial & Office Buildings	Portsmouth	1.2			Private Industrial	Missing dates
22	10 Houses & 4 Flats	Eastleigh	1.1			New Housing	Missing dates
23	21 Flats (Conversion/Extension)	Isle of Wight	1.0			New Housing	Missing dates
24	4 Student Accommodation/Light Industrial Units	Portsmouth	1.0			New Housing	Missing dates

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type	Reason for omission
25	10 Industrial Units	New Forest	0.8			Private Industrial	Missing dates
26	11 Flats	Havant	0.6			New Housing	Missing dates
27	Restaurant Building	Test Valley	0.5			Private Commercial	Missing dates
28	Car Showroom & Vehicle Workshop (Extension/Alterations)	Southampton	0.3			Private Commercial	Missing dates
29	Asbestos Consultancy Services (Framework)	New Forest	0.8	01/01/2016	28/12/2018	Public Non-housing	Consultancy
30	62 Houses & 41 Flats	Southampton	7.7	30/06/2016	28/07/2017	New Housing	Duplicate of 15146135
31	Sports Club House	Test Valley	5.4	05/04/2016	16/11/2016	Public Non-housing	Duplicate of 15042355
32	Hotel	Isle of Wight	3.4	06/10/2015	18/05/2016	Private Commercial	Duplicate of 14296006
33	10 Flats (Conversion)	Portsmouth	0.5	01/07/2016	29/07/2017	New Housing	Duplicate of 15274079

Appendix C. Significant Glenigan projects and corresponding local authorities

This section provides a list of all the significant projects analysed, organised by the local authority within which they occur. The projects appear in the following as they were put into the LFT, broken down into different elements and areas, when required, i.e. if a mixed project was broken down into new housing and private commercial, both elements are included here, each with its corresponding construction value. For this reason, there 208 entries appearing in the following table, as opposed to 146 significant projects identified in Glenigan.

The naming scheme functions as such:

- The prefix SOLENT has been added to all projects.
- The number following that is just an increasing number for distinction purposes.
- The next character denotes the breakdown into different project types, if applicable. The letters a, b, c etc. are arbitrarily assigned for distinction purposes.
- The suffix "-ADJ" is applied to four large frameworks projects, for which only the element taking place within the LEP was considered.
- The name of the project as it appears in the Glenigan pipeline.
- The type of the project appears next, determining which LFT model was used.
- In the case of non-infrastructure projects, a suffix denotes whether the project in question is a new project or repair and maintenance works, to determine which specific LFT model is used. Infrastructure projects are treated as new construction.
- In the case of non-infrastructure projects, the last suffix denotes the duration of the project (short =< 12 months, medium = 12-24 months, long => 24 months), which determines the labour profile of individual coefficients).

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
1	SOLENT002a - Military Base Redevelopment - New Housing - New - long	East Hampshire	250.0	11/05/2016	11/07/1945	New Housing
2	SOLENT002b - Military Base Redevelopment - Private Commercial - New - long	East Hampshire	250.0	11/05/2016	11/07/1945	Private Commercial
3	SOLENT002c - Military Base Redevelopment - Public Non-housing - New - long	East Hampshire	250.0	11/05/2016	11/07/1945	Public Non-housing
4	SOLENT003a - Shopping Centre Re-Development - New Housing - New - medium	Portsmouth	250.0	03/04/2017	03/12/2018	New Housing
5	SOLENT003b - Shopping Centre Re-Development - Private Commercial - New - medium	Portsmouth	250.0	03/04/2017	03/12/2018	Private Commercial
6	SOLENT004 - Lift Refurbishment and Installation Framework Agreement - Non-housing R&M - R&M - long	Portsmouth	480.0	01/09/2014	01/09/2018	Private Industrial
7	SOLENT005a - 730 Flats & Commercial Units - New Housing - New - long	Southampton	112.5	14/08/2017	10/11/2025	New Housing
8	SOLENT005b - 730 Flats & Commercial Units - Private Commercial - New - long	Southampton	112.5	14/08/2017	10/11/2025	Private Commercial
9	SOLENT005c - 730 Flats & Commercial Units - Public Non-housing - New - long	Southampton	112.5	14/08/2017	10/11/2025	Public Non-housing
10	SOLENT005d - 730 Flats & Commercial Units - Ports	Southampton	101.3	14/08/2017	10/11/2025	Ports
11	SOLENT006-ADJ - Intermediate Construction Framework - Public Non-housing - New - long	Winchester	182.0	01/10/2015	26/09/2019	Public Non-housing
12	SOLENT007a – 3,532 Homes & 8 Schools/Local Centre Units - New Housing - New – medium	Eastleigh	88.5	21/05/2016	18/06/2017	New Housing
13	SOLENT007b – 3,532 Homes & 8 Schools/Local Centre Units - Public Non-housing - New – medium	Eastleigh	88.5	21/05/2016	18/06/2017	Public Non-housing
14	SOLENT007c – 3,532 Homes & 8 Schools/Local Centre Units - Private Commercial - New - medium	Eastleigh	88.5	21/05/2016	18/06/2017	Private Commercial
15	SOLENT008a - Army Base Redevelopment - New Housing - New - long	Winchester	125.0	05/05/2015	07/05/2019	New Housing
16	SOLENT008b - Army Base Redevelopment - Public Non-housing - New - long	Winchester	125.0	05/05/2015	07/05/2019	Public Non-housing
17	SOLENT009-ADJ - Highways & Transportation Infrastructure Framework Contract - Roads	Winchester	27.6	01/04/2016	01/04/2020	Roads
18	SOLENT010 - Student Halls of Residence Framework - New Housing - New - long	Southampton	200.0	04/05/2015	04/05/2019	New Housing
19	SOLENT011a - 2406 Residential/Schools/Commercial Units - New Housing - New - medium	East Hampshire	45.0	03/03/2016	30/03/2017	New Housing

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
20	SOLENT011b - 2406 Residential/Schools/Commercial Units - Public Non-housing - New - medium	East Hampshire	45.0	03/03/2016	30/03/2017	Public Non-housing
21	SOLENT011c - 2406 Residential/Schools/Commercial Units - Private Commercial - New - medium	East Hampshire	45.0	03/03/2016	30/03/2017	Private Commercial
22	SOLENT011d - 2406 Residential/Schools/Commercial Units - Roads	East Hampshire	45.0	03/03/2016	30/03/2017	Roads
23	SOLENT012-ADJ - Contractor Framework - New Housing - New - long	Southampton	34.5	07/12/2015	07/12/2019	New Housing
24	SOLENT013a - 177 Homes & Retail Units - New Housing - New - long	Winchester	45.0	11/05/2016	11/05/2019	New Housing
25	SOLENT013b - 177 Homes & Retail Units - Public Non-housing - New - long	Winchester	45.0	11/05/2016	11/05/2019	Public Non-housing
26	SOLENT013c - 177 Homes & Retail Units - Private Commercial - New - long	Winchester	45.0	11/05/2016	11/05/2019	Private Commercial
27	SOLENT014a - 849 Homes - New Housing - New - long	Isle of Wight	62.5	14/06/2010	28/03/2016	New Housing
28	SOLENT014b - 849 Homes - Biomass	Isle of Wight	31.3	14/06/2010	28/03/2016	Biomass
29	SOLENT015 - Employment Development, Hotel & Conference - Private Commercial - New - long	Havant	102.0	11/01/2016	05/01/2026	Private Commercial
30	SOLENT016a - 6,500 Houses/Commercial - New Housing - New - long	Southampton	33.3	01/08/2017	01/08/2027	New Housing
31	SOLENT016b - 6,500 Houses/Commercial - Public Non-housing - New - long	Southampton	33.3	01/08/2017	01/08/2027	Public Non-housing
32	SOLENT016c - 6,500 Houses/Commercial - Private Commercial - New - long	Southampton	33.3	01/08/2017	01/08/2027	Private Commercial
33	SOLENT017a – 1,104 Residential/Care Home/School & Local Centre - New Housing - New - medium	Eastleigh	27.6	28/04/2016	26/05/2017	New Housing
34	SOLENT017b – 1,104 Residential/Care Home/School & Local Centre - Public Non-housing - New - medium	Eastleigh	27.6	28/04/2016	26/05/2017	Public Non-housing
35	SOLENT017c – 1,104 Residential/Care Home/School & Local Centre - Private Commercial - New - medium	Eastleigh	27.6	28/04/2016	26/05/2017	Private Commercial
36	SOLENT018a - Red Funnell Facilities - Ports	Southampton	16.9	02/08/2016	11/05/2017	Ports
37	SOLENT018b - Red Funnell Facilities - Private Commercial - New - short	Southampton	18.7	02/08/2016	11/05/2017	Private Commercial
38	SOLENT018c - Red Funnell Facilities - Private Industrial - New - short	Southampton	18.7	02/08/2016	11/05/2017	Private Industrial
39	SOLENT018d - Red Funnell Facilities - Electricity Transmission/distribution	Southampton	4.7	02/08/2016	11/05/2017	Electricity Transmission/distrib

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
						ution
40	SOLENT019a - 950 Houses & 4 Schools/Retail/Commercial Units - New Housing - New - medium	Eastleigh	14.3	19/03/2016	16/04/2017	New Housing
41	SOLENT019b - 950 Houses & 4 Schools/Retail/Commercial Units - Roads	Eastleigh	14.3	19/03/2016	16/04/2017	Roads
42	SOLENT019c - 950 Houses & 4 Schools/Retail/Commercial Units - New Housing - New - medium	Eastleigh	14.3	19/03/2016	16/04/2017	New Housing
43	SOLENT019d - 950 Houses & 4 Schools/Retail/Commercial Units - Roads	Eastleigh	14.3	19/03/2016	16/04/2017	Roads
44	SOLENT019e - 950 Houses & 4 Schools/Retail/Commercial Units - Roads	Eastleigh	14.3	19/03/2016	16/04/2017	Roads
45	SOLENT020a - Shopping Centre, Hotel, Cinema, Restaurants, Offices & 620 Flats (New/Refurb) - New Housing - New - long	Southampton	16.6	05/09/2014	05/09/2019	New Housing
46	SOLENT020b - Shopping Centre, Hotel, Cinema, Restaurants, Offices & 620 Flats (New/Refurb) - Private Commercial - New - long	Southampton	53.4	05/09/2014	05/09/2019	Private Commercial
47	SOLENT021 - Retail & Cinema - Private Commercial - New - medium	Southampton	65.0	05/01/2015	05/01/2017	Private Commercial
48	SOLENT022a - 817 Residential/Care Village & Local Centre Units - New Housing - New - medium	East Hampshire	20.4	01/01/2016	28/01/2017	New Housing
49	SOLENT022b - 817 Residential/Care Village & Local Centre Units - Public Non-housing - New - medium	East Hampshire	20.4	01/01/2016	28/01/2017	Public Non-housing
50	SOLENT022c - 817 Residential/Care Village & Local Centre Units - Private Commercial - New - medium	East Hampshire	20.4	01/01/2016	28/01/2017	Private Commercial
51	SOLENT023a - Student Accommodation, Homes & Commercial Development (New/Conversion) - New Housing - New - medium	Portsmouth	30.0	09/10/2015	01/08/2017	New Housing
52	SOLENT023b - Student Accommodation, Homes & Commercial Development (New/Conversion) - Private Commercial - New - medium	Portsmouth	30.0	09/10/2015	01/08/2017	Private Commercial
53	SOLENT024a - 911 Residential/Commercial Units - New Housing - New - medium	Isle of Wight	18.8	25/02/2016	24/03/2017	New Housing
54	SOLENT024b - 911 Residential/Commercial Units - Public Non-housing - New - medium	Isle of Wight	18.8	25/02/2016	24/03/2017	Public Non-housing
55	SOLENT024c - 911 Residential/Commercial Units - Private Commercial - New - medium	Isle of Wight	18.8	25/02/2016	24/03/2017	Private Commercial

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
56	SOLENT026 - Business Park (Redevelopment) - Private Commercial - New - long	Test Valley	50.0	22/02/2016	18/02/2019	Private Commercial
57	SOLENT027a - 500 Residential/Business/Industry/Training Centre Units - Private Industrial - New - long	East Hampshire	20.9	14/12/2015	14/12/2020	Private Industrial
58	SOLENT027b - 500 Residential/Business/Industry/Training Centre Units - New Housing - New - long	East Hampshire	29.1	14/12/2015	14/12/2020	New Housing
59	SOLENT028a - Hotel, Residential & 5 Commercial Units - Private Commercial - New - long	Southampton	25.0	01/07/2015	01/09/2017	Private Commercial
60	SOLENT028b - Hotel, Residential & 5 Commercial Units - New Housing - New - long	Southampton	25.0	01/07/2015	01/09/2017	New Housing
61	SOLENT029 - Health/Wellbeing Campus - Public Non-housing - New - long	Havant	45.0	14/11/2016	08/11/2021	Public Non-housing
62	SOLENT030a - Primary Contractors Framework Agreement - New Housing - New - long	Portsmouth	10.9	01/10/2013	01/10/2017	New Housing
63	SOLENT030b - Primary Contractors Framework Agreement - Private Commercial - New - long	Portsmouth	10.9	01/10/2013	01/10/2017	Private Commercial
64	SOLENT030c - Primary Contractors Framework Agreement - Public Non-housing - New - long	Portsmouth	10.9	01/10/2013	01/10/2017	Public Non-housing
65	SOLENT030d - Primary Contractors Framework Agreement - General Infrastructure	Portsmouth	10.9	01/10/2013	01/10/2017	General Infrastructure
66	SOLENT032 - Capital Dredge Project - Ports	Portsmouth	36.0	07/12/2015	05/12/2016	Ports
67	SOLENT033a - Residential Units/Country Park - New Housing - New - medium	East Hampshire	19.9	11/07/2016	07/08/2017	New Housing
68	SOLENT033b - Residential Units/Country Park - General Infrastructure	East Hampshire	19.9	11/07/2016	07/08/2017	General Infrastructure
69	SOLENT034 - 111 Houses - New Housing - New - medium	Test Valley	39.8	24/11/2014	21/12/2015	New Housing
70	SOLENT035a - 518 Residential Units - New Housing - New - medium	Portsmouth	13.0	03/02/2016	02/03/2017	New Housing
71	SOLENT035b - 518 Residential Units - Undefined Energy	Portsmouth	5.2	03/02/2016	02/03/2017	Undefined Energy
72	SOLENT035c - 518 Residential Units - Flooding	Portsmouth	11.7	03/02/2016	02/03/2017	Flooding
73	SOLENT036a - 730 Flats & 5 Offices/Hotel/Retail/Commercial Units - Flooding	Southampton	6.6	17/11/2016	15/12/2017	Flooding
74	SOLENT036b - 730 Flats & 5 Offices/Hotel/Retail/Commercial Units - Ports	Southampton	6.6	17/11/2016	15/12/2017	Ports
75	SOLENT036c - 730 Flats & 5 Offices/Hotel/Retail/Commercial Units - New Housing -	Southampton	7.4	17/11/2016	15/12/2017	New Housing

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
	New - medium					
76	SOLENT036d - 730 Flats & 5 Offices/Hotel/Retail/Commercial Units - Public Non-housing - New - medium	Southampton	7.4	17/11/2016	15/12/2017	Public Non-housing
77	SOLENT036e - 730 Flats & 5 Offices/Hotel/Retail/Commercial Units - Private Commercial - New - medium	Southampton	7.4	17/11/2016	15/12/2017	Private Commercial
78	SOLENT037 - Distribution Centre - Private Industrial - New - medium	Test Valley	35.6	13/08/2015	11/05/2017	Private Industrial
79	SOLENT038 - 194 Residential Units - New Housing - New - long	Havant	35.0	04/02/2013	14/10/2016	New Housing
80	SOLENT039 - Secure Tidal Berth - Ports	Portsmouth	30.6	27/04/2015	07/10/2016	Ports
81	SOLENT040 - Marine Works - Ports	Portsmouth	30.6	07/04/2015	07/04/2016	Ports
82	SOLENT041 - Student Accommodation - New Housing - New - medium	Southampton	32.0	11/02/2016	24/03/2017	New Housing
83	SOLENT042a - 14 Army Basing Programme Buildings (New/Extension) - New Housing - New - short	Test Valley	10.7	16/06/2016	05/04/2017	New Housing
84	SOLENT042b - 14 Army Basing Programme Buildings (New/Extension) - Private Commercial - New - short	Test Valley	10.7	16/06/2016	05/04/2017	Private Commercial
85	SOLENT042c - 14 Army Basing Programme Buildings (New/Extension) - Public Non-housing - New - short	Test Valley	10.7	16/06/2016	05/04/2017	Public Non-housing
86	SOLENT043 - Slip Road (Improvements) - Roads	Eastleigh	30.0	01/04/2016	01/04/2017	Roads
87	SOLENT044 - Junction (Improvements) - Roads	Fareham	30.0	11/04/2016	11/04/2017	Roads
88	SOLENT045 - Junction (Improvements) - Roads	Test Valley	30.0	01/04/2016	31/03/2017	Roads
89	SOLENT046 - Junction (Improvements) - Roads	Southampton	30.0	01/04/2016	01/04/2017	Roads
90	SOLENT047 - Slip Road (Improvements) - Roads	Winchester	30.0	01/04/2016	01/04/2017	Roads
91	SOLENT048 - Junction (Improvements) - Roads	Winchester	30.0	11/04/2016	11/04/2017	Roads
92	SOLENT049-ADJ - Highways & Transportation Infrastructure Framework Contract - Roads	Winchester	3.3	01/04/2016	01/04/2020	Roads
93	SOLENT050 - 425 Homes - New Housing - New - short	Winchester	28.4	25/01/2016	30/01/2017	New Housing
94	SOLENT051 - 3 Employment Buildings - Private Industrial - New - short	Southampton	26.8	15/12/2015	18/09/2016	Private Industrial
95	SOLENT052a - 350 Residential/1 Elderly Care Village/1 Local Centre - New Housing -	Winchester	13.2	28/08/2016	25/09/2017	New Housing

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
	New - medium					
96	SOLENT052b - 350 Residential/1 Elderly Care Village/1 Local Centre - Private Commercial - New - medium	Winchester	13.2	28/08/2016	25/09/2017	Private Commercial
97	SOLENT053 - Leisure Centre - Private Commercial - New - medium	Eastleigh	25.0	04/01/2016	07/04/2017	Private Commercial
98	SOLENT054 - University Maritime Centre - Public Non-housing - New - long	Southampton	25.0	05/12/2015	13/02/2018	Public Non-housing
99	SOLENT056 - 280 Houses & 51 Flats - New Housing - New - medium	Test Valley	24.8	02/05/2016	29/05/2017	New Housing
100	SOLENT058 - Student Accommodation - New Housing - New - medium	Southampton	24.0	13/04/2015	01/07/2016	New Housing
101	SOLENT059 - School - Public Non-housing - New - short	Southampton	22.6	30/11/2015	25/07/2016	Public Non-housing
102	SOLENT060 - New Teaching Block - Phase 2 - Public Non-housing - New - medium	Southampton	21.0	30/06/2014	04/12/2015	Public Non-housing
103	SOLENT061 - 275 Residential Units - New Housing - New - medium	East Hampshire	20.6	16/11/2015	12/12/2016	New Housing
104	SOLENT062 - 263 Houses/Town Houses/12 Flats & Sports Facility - New Housing - New - medium	Test Valley	20.6	19/10/2015	14/11/2016	New Housing
105	SOLENT063a - 141 Student Flats/6 Student Townhouses & 5 Commercial Units - New Housing - New - medium	Southampton	10.0	22/12/2014	27/06/2016	New Housing
106	SOLENT063b - 141 Student Flats/6 Student Townhouses & 5 Commercial Units - Private Commercial - New - medium	Southampton	10.0	22/12/2014	27/06/2016	Private Commercial
107	SOLENT064 - Sports Hall (Phase 3) - Private Commercial - New - medium	Southampton	20.0	06/06/2016	04/06/2018	Private Commercial
108	SOLENT065 - 41 Student Flats - New Housing - New - medium	Southampton	20.0	12/01/2015	30/05/2016	New Housing
109	SOLENT066 - University - Public Non-housing - New - medium	Winchester	20.0	07/03/2016	04/09/2017	Public Non-housing
110	SOLENT068 - 233 Houses/60 Flats - New Housing - New - long	Havant	19.1	08/06/2016	08/09/2018	New Housing
111	SOLENT069a - 329 Flats & Supermarket/Commercial Units - New Housing - New - medium	Southampton	13.7	23/06/2014	08/04/2016	New Housing
112	SOLENT069b - 329 Flats & Supermarket/Commercial Units - Private Commercial - New - medium	Southampton	5.3	23/06/2014	08/04/2016	Private Commercial
113	SOLENT070 - 250 Residential Units - New Housing - New - medium	Eastleigh	18.8	06/02/2016	05/03/2017	New Housing
114	SOLENT072a - 339 Flats/12 Houses/1 Shop/1 Office - New Housing - New - medium	Southampton	16.9	14/01/2016	10/02/2017	New Housing
115	SOLENT072b - 339 Flats/12 Houses/1 Shop/1 Office - Private Commercial - New -	Southampton	0.8	14/01/2016	10/02/2017	Private Commercial

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
	medium					
116	SOLENT073 - Student Accommodation - New Housing - New - medium	Southampton	17.0	15/06/2015	12/09/2016	New Housing
117	SOLENT074 - 197 Houses/Bungalows & 24 Flats - New Housing - New - medium	East Hampshire	16.6	26/12/2014	22/01/2016	New Housing
118	SOLENT075a - Student Accommodation & 14 Commercial Units - New Housing - New - short	Portsmouth	8.2	26/01/2015	23/11/2015	New Housing
119	SOLENT075b - Student Accommodation & 14 Commercial Units - Private Industrial - New - short	Portsmouth	8.2	26/01/2015	23/11/2015	Private Industrial
120	SOLENT076 - Residential Units/College (New/Extension) - Public Non-housing - New - medium	Fareham	16.0	08/09/2014	01/02/2016	Public Non-housing
121	SOLENT078 - 200 Houses - New Housing - New - medium	East Hampshire	15.0	07/03/2016	03/04/2017	New Housing
122	SOLENT079a - 73 Houses, 27 Flats & 1 Business Unit (New/Conversion) - New Housing - New - medium	East Hampshire	7.5	07/03/2016	05/03/2018	New Housing
123	SOLENT079b - 73 Houses, 27 Flats & 1 Business Unit (New/Conversion) - Private Commercial - New - medium	East Hampshire	7.5	07/03/2016	05/03/2018	Private Commercial
124	SOLENT082 - 141 Houses & 49 Flats - New Housing - New - medium	Eastleigh	14.3	08/02/2016	10/03/2017	New Housing
125	SOLENT083 - 160 Houses/Town Houses & 22 Flats - New Housing - New - medium	Southampton	13.7	06/11/2016	04/12/2017	New Housing
126	SOLENT084a - 181 Retirement Flats/Bungalows - New Housing - New - medium	Isle of Wight	6.8	11/04/2016	22/05/2017	New Housing
127	SOLENT084b - 181 Retirement Flats/Bungalows - Public Non-housing - New - medium	Isle of Wight	6.8	11/04/2016	22/05/2017	Public Non-housing
128	SOLENT085 - 180 Houses & Flats - New Housing - New - medium	Test Valley	13.5	04/01/2016	30/01/2017	New Housing
129	SOLENT087 - Student Accommodation - New Housing - New - medium	Southampton	12.9	20/08/2015	30/09/2016	New Housing
130	SOLENT091 - Housing & Office (Refurb) - Non-housing R&M - R&M - medium	Portsmouth	12.5	23/06/2014	21/12/2015	New Housing
131	SOLENT092 - 3 Industrial/Warehouse & Distribution Units - Private Industrial - New - short	Eastleigh	12.5	07/01/2016	19/07/2016	Private Industrial
132	SOLENT093 - 145 Houses & 20 Flats - New Housing - New - medium	Winchester	12.4	05/11/2015	02/12/2016	New Housing
133	SOLENT094 - Supermarket - Private Commercial - New - short	Isle of Wight	12.0	13/06/2016	12/06/2017	Private Commercial
134	SOLENT095 - 54 Extra Care Flats & 1 Day Care Centre - Private Commercial - New - medium	Test Valley	12.0	29/06/2016	10/08/2017	Private Commercial

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
135	SOLENT098 - Tower Blocks (Refurbishment) - Non-housing R&M - R&M - short	Portsmouth	12.0	14/12/2015	12/12/2016	New Housing
136	SOLENT099a - Office, Storage & Community - New Housing - New - short	Winchester	5.9	14/10/2015	18/07/2016	New Housing
137	SOLENT099b - Office, Storage & Community - Public Non-housing - New - short	Winchester	5.9	14/10/2015	18/07/2016	Public Non-housing
138	SOLENT100 - Storage & Distribution Depot - Private Industrial - New - short	Test Valley	11.6	29/06/2015	15/01/2016	Private Industrial
139	SOLENT101 - 150 Houses/Flats - New Housing - New - medium	Winchester	11.3	24/03/2016	21/04/2017	New Housing
140	SOLENT104 - 118 Houses & 27 Flats - New Housing - New - medium	Test Valley	10.9	30/06/2016	28/07/2017	New Housing
141	SOLENT105a - 128 Houses/Flats & 15 Hotel/Holiday Units - New Housing - New - medium	Isle of Wight	5.4	17/07/2016	14/08/2017	New Housing
142	SOLENT105b - 128 Houses/Flats & 15 Hotel/Holiday Units - Private Commercial - New - medium	Isle of Wight	5.4	17/07/2016	14/08/2017	Private Commercial
143	SOLENT106a - 48 Retirement Flats - New Housing - New - medium	Gosport	2.7	22/04/2016	20/05/2017	New Housing
144	SOLENT106b - 48 Retirement Flats - Private Commercial - New - medium	Gosport	2.7	22/04/2016	20/05/2017	Private Commercial
145	SOLENT106c - 48 Retirement Flats - Flooding	Gosport	2.4	22/04/2016	20/05/2017	Flooding
146	SOLENT106d - 48 Retirement Flats - Private industrial - New - medium	Gosport	2.7	22/04/2016	20/05/2017	Private industrial
147	SOLENT107 - Warehouse & Offices - Private Industrial - New - short	Portsmouth	10.4	28/09/2015	23/09/2016	Private Industrial
148	SOLENT108 - 117 Houses & 18 Flats - New Housing - New - medium	Fareham	10.1	27/05/2016	24/06/2017	New Housing
149	SOLENT109a - Mixed Use Development Opportunity - Ports	Isle of Wight	3.0	14/03/2016	14/09/2016	Ports
150	SOLENT109b - Mixed Use Development Opportunity - New Housing - New - short	Isle of Wight	3.3	14/03/2016	14/09/2016	New Housing
151	SOLENT109c - Mixed Use Development Opportunity - Private Commercial - New - short	Isle of Wight	3.3	14/03/2016	14/09/2016	Private Commercial
152	SOLENT110 - Road (Widening) - Roads	New Forest	10.0	04/04/2021	03/04/2022	Roads
153	SOLENT115 - 52 Elderly Extra Care Flats & 1 Day Care Centre - Private Commercial - New - medium	Winchester	10.0	24/01/2016	20/02/2017	Private Commercial
154	SOLENT117a - 113 Houses/16 Flats & 1 Local Centre - New Housing - New - medium	Test Valley	4.9	21/08/2016	18/09/2017	New Housing
155	SOLENT117b - 113 Houses/16 Flats & 1 Local Centre - Public Non-housing - New - medium	Test Valley	4.9	21/08/2016	18/09/2017	Public Non-housing

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
156	SOLENT119 - 71 Elderly Care Flats - New Housing - New - medium	Fareham	9.3	08/09/2016	06/10/2017	New Housing
157	SOLENT120 - Industrial/Warehouse Development - Private Industrial - New - short	Havant	9.2	09/02/2016	21/08/2016	Private Industrial
158	SOLENT121 - Hotel Building - Private Commercial - New - short	Portsmouth	9.2	15/02/2016	21/10/2016	Private Commercial
159	SOLENT122 - Student Accommodation - New Housing - New - medium	Winchester	9.2	02/08/2016	12/09/2017	New Housing
160	SOLENT123 - 60 Elderly Persons Flats - New Housing - New - medium	Isle of Wight	9.0	07/09/2016	05/10/2017	New Housing
161	SOLENT124 - 98 Houses & 22 Flats - New Housing - New - medium	Eastleigh	9.0	11/09/2015	08/10/2016	New Housing
162	SOLENT125 - 120 Residential Units - New Housing - New - medium	Fareham	9.0	25/09/2016	23/10/2017	New Housing
163	SOLENT126 - School - Public Non-housing - New - medium	Isle of Wight	9.0	23/11/2015	26/12/2016	Public Non-housing
164	SOLENT127 - Housing - New Housing - New - short	Havant	9.0	08/02/2016	08/02/2017	New Housing
165	SOLENT128 - 119 Beach Huts - Private Commercial - New - medium	New Forest	8.9	30/03/2016	27/04/2017	Private Commercial
166	SOLENT131 - 115 Houses - New Housing - New - medium	Test Valley	8.6	16/10/2016	13/11/2017	New Housing
167	SOLENT132 - Leisure Building - Private Commercial - New - short	Fareham	8.5	04/06/2015	05/05/2016	Private Commercial
168	SOLENT133 - 111 Residential Units - New Housing - New - medium	Test Valley	8.3	01/02/2016	27/02/2017	New Housing
169	SOLENT137 - Multi Storey Car Park - Private Commercial - New - medium	Southampton	8.0	06/06/2016	23/06/2017	Private Commercial
170	SOLENT138 - Local Road & Infrastructure - Roads	Gosport	7.8	30/11/2015	29/08/2016	Roads
171	SOLENT139a - 100 Homes/1 Shipping Terminal/1 Hotel & Commercial Units - New Housing - New - medium	Isle of Wight	3.9	16/11/2016	14/12/2017	New Housing
172	SOLENT139b - 100 Homes/1 Shipping Terminal/1 Hotel & Commercial Units - Private Commercial - New - medium	Isle of Wight	3.9	16/11/2016	14/12/2017	Private Commercial
173	SOLENT140 - 62 Houses & 41 Flats - New Housing - New - medium	Southampton	7.7	30/06/2016	28/07/2017	New Housing
174	SOLENT143 - 39 Extra Care Units/6 Assisted Living Flats & 1 Care Home - Private Commercial - New - short	Fareham	7.5	09/03/2015	07/03/2016	Private Commercial
175	SOLENT146 - 7 Industry/Office/Warehouse Units - Private Industrial - New - short	Gosport	7.3	15/04/2016	26/10/2016	Private Industrial
176	SOLENT147 - School - Public Non-housing - New - short	East Hampshire	7.2	08/02/2016	08/02/2017	Public Non-housing
177	SOLENT148 - School - Public Non-housing - New - short	East Hampshire	7.2	08/02/2016	08/02/2017	Public Non-housing

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
178	SOLENT149 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
179	SOLENT150 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
180	SOLENT151 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
181	SOLENT152 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
182	SOLENT153 - School - Public Non-housing - New - short	Portsmouth	7.2	08/02/2016	08/02/2017	Public Non-housing
183	SOLENT154 - School - Public Non-housing - New - short	Portsmouth	7.2	08/02/2016	08/02/2017	Public Non-housing
184	SOLENT155 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
185	SOLENT156 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
186	SOLENT157 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
187	SOLENT158 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
188	SOLENT159 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
189	SOLENT160 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
190	SOLENT161 - School - Public Non-housing - New - short	Test Valley	7.2	29/02/2016	28/02/2017	Public Non-housing
191	SOLENT162 - School - Public Non-housing - New - short	Southampton	7.2	08/02/2016	08/02/2017	Public Non-housing
192	SOLENT163 - School - Public Non-housing - New - short	Southampton	7.2	08/02/2016	08/02/2017	Public Non-housing
193	SOLENT164 - School - Public Non-housing - New - short	New Forest	7.2	08/02/2016	08/02/2017	Public Non-housing
194	SOLENT165 - School - Public Non-housing - New - short	Isle of Wight	7.2	08/02/2016	08/02/2017	Public Non-housing
195	SOLENT166 - School - Public Non-housing - New - short	Winchester	7.2	08/02/2016	08/02/2017	Public Non-housing
196	SOLENT170 - Multi Storey Car Park (Extension) - Private Industrial - New - short	Southampton	7.0	05/05/2015	02/02/2016	Private Industrial
197	SOLENT177 - Hotel - Private Commercial - New - short	Southampton	6.6	26/09/2016	09/05/2017	Private Commercial
198	SOLENT178 - 5 Retail Units - Private Commercial - New - short	Havant	6.5	12/01/2015	18/12/2015	Private Commercial
199	SOLENT181 - Postal Delivery Office - Private Commercial - New - short	Portsmouth	6.5	07/12/2015	08/08/2016	Private Commercial
200	SOLENT191 - Manufacturing Building - Private Industrial - New - short	Portsmouth	6.0	06/07/2015	29/04/2016	Private Industrial
201	SOLENT205 - Sports Clubhouse - Private Commercial - New - short	Test Valley	5.4	03/04/2016	03/12/2016	Private Commercial

Number	Description	Local Authority	Value (£m)	Start Date	End Date	Project Type
202	SOLENT207 - Training Centre - Private Industrial - New - short	Isle of Wight	5.3	13/01/2016	06/10/2016	Private Industrial
203	SOLENT210 - School - Public Non-housing - New - short	Isle of Wight	5.0	14/09/2015	09/05/2016	Public Non-housing
204	SOLENT211 - School - Public Non-housing - New - short	Isle of Wight	5.0	08/02/2016	03/10/2016	Public Non-housing
205	SOLENT220 - Berth (Deepening) - Ports	New Forest	4.5	27/07/2015	27/02/2016	Ports
206	SOLENT221 - Leisure Centre & Non Food Retail (Conversion) - Non-housing R&M - R&M - short	Havant	5.0	22/03/2016	26/06/2016	Private Commercial
207	SOLENT222 - Food Factory Warehouse - Private Industrial - New - short	New Forest	5.0	04/12/2015	15/06/2016	Private Industrial
208	SOLENT287 - Supermarket (Conversion) - Non-housing R&M - R&M - short	Southampton	2.9	18/04/2016	18/07/2016	Private Commercial

Appendix D. Training provider overview

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
Highbury College	https://www.highbury.ac.uk	Level 1 Foundation Learning in Painting and Decorating Level 2 Intermediate Apprenticeship in Bench Joinery Level 2 Intermediate Apprenticeship in Groundworks Level 2 Apprenticeship in Engineering Maintenance & Installation Level 2 Intermediate Apprenticeship in Carpentry and Joinery Level 2 Intermediate Apprenticeship in Plumbing and Heating Level 2 Intermediate Apprenticeship in Painting and Decorating Level 2 Intermediate Apprenticeship in Wall and Floor Tiling Level 2 Intermediate Apprenticeship in Maintenance Operations Level 2 Intermediate Apprenticeship in Plastering Level 2 Intermediate	Level 3 Diploma Plastering - Fibrous Level 1 Diploma in Groundworks Level 2 Diploma in GCO Level 3 Diploma in Site Carpentry (149 hours) Level 2 Diploma Brickwork Day Release Level 2 Diploma in Engineering Level 2 Diploma in Plastering (Part-time) Level 2 Diploma in Bench Joinery Level 2 Diploma in Construction (Carpentry and Joinery) Level 1 Diploma in Brickwork (Day release) C&G L1 Dip Wall & Floor Tiling Level 3 Diploma in Electrical Installation Level 1 Diploma in Plastering (Part-time) Level 2 Diploma in Plastering Level 2 Diploma in Painting	HNC Level 4 Diploma in Electronical/Electronic Engineering HNC Level 4 BTEC HNC Diploma in Construction and the Built Environment (yr1) HND Level 5 BTEC HND Diploma in Construction and the Built Environment (yr2) Level 4 CIOB Certificate in Site Management	Changeover Dom-Catering / CODC1 Training 1 Day TPCP1a Training 2 Day COCN1 Training CMET2 Training CMA1 Training Half Day COMCAT3 Training CMET1 Training 1 Day CODNCO1 Training ACS CCN1+CENWAT Training ACS CCN1+CKR1 Training ACS CCN1+HTR1 Training ACS CCN1+DAH1 Training ACS Half Day Warm Air (DAH1) training ACS Half Day Fires (HTR1) training ACS Cat CIGA1 ACS CCN1 + CPA1 Training ACS 3 Day Core (CCN1) Training ACS Intermediate Gas Certificate ACS Half Day Boilers/Water Heaters (CENWAT1) training

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
		Apprenticeship in Bricklaying Level 3 Apprenticeship in Engineering Maintenance Level 3 Advanced Apprenticeship in Building Services Engineering Level 3 Advanced Apprenticeship in Electrical/Electronic Engineering Level 3 Advanced Apprenticeship in Plastering (Solid) Level 3 Advanced Apprenticeship in Painting and Decorating Level 3 Advanced Apprenticeship in Carpentry and Joinery Level 3 Advanced Apprenticeship in Surveying Level 3 Advanced Apprenticeship in Plastering (Fibrous) Level 3 Advanced Apprenticeship in Electrical Installation Plumbing & Heating Advanced Apprenticeship Framework Level 4/5 Higher Apprenticeship in	and Decorating Level 2 Diploma in Wall and Floor Tiling Level 2 Diploma in Electrical Installation Level 3 Diploma in Site Carpentry (Part-time) Level 1 Diploma in Carpentry and Joinery Level 2 Diploma in Plumbing Level 3 Diploma in Site Carpentry Level 3 Diploma in Site Carpentry Level 3 BTEC Diploma in Construction and the Built Environment Level 2 Diploma in Brickwork Level 1 Diploma in Brickwork Level 1 Diploma in Painting and Decorating Level 2 Diploma in Engineering Level 3 BTEC Extended Diploma in Electrical/Electronic Engineering		ACS Half Day CPA1 Training ACS Core Training + CKR1 ACS Comm Catering - Comcat1 IGC + ACS Initial Route CCN1 Training CCCN1+ COMCAT3 CCCN1 Training IGC + ACS Initial Route CENWAT1 Assessment C&G 2382 17th Edition IEE regs -Day CMET1 Assessment BAE- CCN1 training (initial) 3 days Half Day CORT1 assessment Water Regulations Risk Assessment of L8 (Legionella) MET4 Training CPA1 Training REGT1,REGT2, REGT4 (Southern Gas Networks) CMET2 (Southern Gas Networks) TPCP1A (SGN) BAE- CKR1 training (initial) half day

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
		Construction and the Built Environment Level 4/5 Higher Apprenticeship in Civil Engineering Advanced Apprenticeship in Engineering Leadership			Water Harvesting & Reuse Systems Above Ground Drainage & Rainwater Systems EAL Initial Inspection Testing & Certification of Electrical Installations L3 C&G 2377-22 Portable Appliance Testing Level 3 Award in Installation and Maintenance of Photovoltaic Systems (Full Training and Assessment) MET1 Training ACS Half Day Warm Air (DAH1) Training Heat Pump Systems ICPN1 Commercial Pipework 1/2 day training Domestic Hot Water Storage Systems ACS Core Training + HTR1
Eastleigh College	http://www.eastleigh.ac.uk/careers/	Advanced Apprenticeship in Construction Technical - Day Release Advanced Apprenticeship in Surveying - Day Release Higher Apprenticeship in Construction Management - Day Release	BTEC Level 2 Diploma in Construction and Built Environment (QCF) Level 3 BTEC Extended Diploma in Construction and Built Environment Year 1 Level 3 Diploma in Construction and Built	Level 4 Higher National Certificate in Construction (Year 1 of 2)	CSCS Card Training ECO - Asbestos Awareness Training ECO - External Wall Insulation Training ECO - Hard to Treat Walls Training

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
		Higher Apprenticeship in Engineering Environmental Technologies - Day Release Level 2 Diploma in Building Maintenance Apprenticeship (Yr 1 of 2)	Environment PT (Year 1 of 2) Level 3 Diploma in Surveying, Property & Maintenance - RORO		ECO - Loft Insulation Training ECO - Domestic Energy Advisor (4 Day) ECO - Green Deal Advisor (4 day) PAS 2030 Green Deal Part-Time
Isle of Wight College	https://www.iwcollege.ac.uk/	Brickwork Apprenticeship - Intermediate Brickwork Apprenticeship - Advance Carpentry and Joinery - Intermediate Carpentry and Joinery - Advanced Painting & Decorating - Intermediate Painting & Decorating – Advanced	Construction -Construction Skills Carpentry and Joinery - Construction Skills Brickwork : Diploma in Brickwork : Level 1 and Level 2 Carpentry and Joinery - Diploma in Site Carpentry - Level 2		
Southampton City College	https://www.southampton-city.ac.uk/	Bench Joinery Apprenticeship- Intermediate and Advanced Bricklaying Apprenticeship – Intermediate and Advanced Building Services Apprenticeship- Advanced Civil Engineering Apprenticeship –Advanced Construction Contracting Apprenticeship - Advanced Painting & Decorating	Access to Building Services Engineering- City & Guilds Diploma Bricklaying Qualification: City & Guilds Diploma- Leve 1 and Level 2 Carpentry & Joinery: Qualification: City & Guilds - Diploma Level 1 and Level 2 Construction and Built Environment: Qualification: BTEC 90-credit Diploma -Level	HNC in Building Services Engineering - BTEC HNC HNC in Construction Management- BTEC HNC	

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
		Apprenticeship Intermediate and Advanced Site Carpentry Apprenticeship – Intermediate and Advanced Sustainable Built Environment Apprenticeship - Higher	3 Painting & Decorating Qualification: City & Guilds Diploma- Level 1 and Level 2		
Fareham College	http://www.fareham.ac.uk/	Level 2 intermediate Apprenticeship in painting and decorating Level 2 Intermediate Apprenticeship in Plumbing Level 2 intermediate apprenticeship in carpentry and joinery Level 2 intermediate apprenticeship in bricklaying	Level 1 Foundation Diploma in Basic Construction Level 1 Foundation Diploma in Bricklaying Level 1 Foundation Diploma in Carpentry & Joinery Level 1 Foundation Diploma in Electrical Installation Level 1 Foundation Diploma in Painting & Decorating Level 1 Foundation Diploma in Plumbing Level 2 Intermediate Diploma in Bricklaying Level 2 Intermediate Diploma in Electrical Installations Level 2 Intermediate Diploma in Painting & Decorating Level 2 Intermediate Diploma in Plumbing Level 2 Intermediate Diploma Level 3 Advanced Diploma in Bricklaying n Site Carpentry Level 3 Advanced Diploma in		Health & Safety in a Construction Environment Advanced Brick Work Cutting (Safe Use of Petrol Driven Cut-off Saws)

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
			Carpentry & Joinery		
Brocklehurst College	https://www.brock.ac.uk/the-college/	Intermediate and Advanced Apprenticeship in Bricklaying Intermediate and Advanced Apprenticeship in Site Carpentry & Bench Joinery	Brickwork Level 1 Diploma CITB Brickwork Level 2 Diploma CITB Brickwork Level 3 Diploma CITB Carpentry & Joinery Level 1 Diploma – City & Guilds Carpentry & Joinery Level 2 Diploma – City & Guilds Electrical Installations Level 2 Diploma – City & Guilds Health & Safety in a Construction Environment Level 1 Award Marine Engineering Intermediate Apprenticeship Plumbing Studies Level 1 Diploma – City & Guilds Plumbing Studies Level 2 Diploma – City & Guilds Plumbing Studies Level 3 Diploma – City & Guilds Bench Joinery Level 2 Diploma Bench Joinery Level 2 NVQ Bench Joinery Level 3 Diploma Bench Joinery Level 3 NVQ Brickwork – Diploma Level 3		

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
			Brickwork Level 1 Diploma – Evening Brickwork Level 2 NVQ Carpentry & Joinery Level 1 Diploma Carpentry & Joinery Level 1 Diploma – Evening Electrical – Part P of the Building Regulation Electrical 17th Edition Electrical Installations Level 2 Diploma – Evening Electro Technical Systems (Electrical Installation) Level 3 NVQ Plumbing Diploma – Level 2 City & Guilds Plumbing Studies Level 2 Diploma – Evening Site Carpentry Diploma Level 2 Site Carpentry Level 2 NVQ Water Regulation		
Chichester College	https://chichester.ac.uk/	Security Systems Intermediate Level 2 Apprenticeship town planning level 3 advanced apprenticeship	Carpentry And Joinery Level 1 Diploma Bench Joinery Level 2 Boilers/central heating bpec cenwat1 Bpec domestic gas foundation		Cpcs practical test - forward tipping dumper a09 Cskills cpcs practical test - 360º excavator tracked above 10 tonnes a59 Cskills cpcs practical test - 360º excavator tracked below

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
			Bricklaying level 1 diploma Bricklaying level 2 diploma Construction skills Core gas safety - domestic bpec ccn1 (revision and assessment) Cskills Nvq Certificate In Plant Operations - Transporting Loads Plant (Ewpa) Level 2 Skills NVQ Diploma in Plant Operations (Construction)- 360º Excavating Plant (Ewpa) Level 2 Cskills Nvq Diploma In Plant Operations (Construction) - Excavating Plant Level 2 Design and verification of electrical installations level 4 award Electrical installation level 1 diploma Electrical installations (buildings and structures) level 2 diploma Electrical installations (buildings and structures) level 3 diploma Furnishings level 2 diploma Furnishings level 3 diploma Furniture design and making		10 tonnes a58 Cskills cpcs practical test refresher - ride on roller a31 Cskills cpcs theory refresh, theory test & practical test- 360° excavator tracked below 10 tonnes a58 Cskills cpcs theory test - 360º excavator tracked below 10 tonnes a58 Cskills cpcs theory test - 60º excavator tracked above 10 tonnes a59 Cskills cpcs theory test - forward tipping dumper a09 Cskills cpcs theory test - ride on roller a31 Cskills cpcs theory test refresher - 360 degree excavator tracked above 10 tonnes a59 Cskills cpcs theory test refresher training - 360º excavator tracked above 10 tonnes a59 Cskills cpcs theory test refresher training - 360º excavator tracked below 10 tonnes a58 Cskills cpcs theory test refresher training - ride on roller a31

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
			level 3 diploma Furniture level 2 diploma Furniture making level 1 (1st year) Furniture restoration level 3 diploma Gas cookers bpec ckr1 Gas fires and wall heaters bpec htr1 Gas foundation bpec certificate In-service inspections and testing of electrical equipment level 3 award Initial verification and certification of electrical installations level 3 award Painting & decorating level 1 diploma Painting and decorating level 2 diploma Periodic inspection, testing and certification of electrical installations level 3 award Plumbing level 1 diploma Plumbing level 2 diploma Site carpentry level 2 diploma Requirements for electrical installations award		Cskills cpcs theory test refresher training forward tipping dumper a09 Cskills cpcs theory test refresher training, theory test & practical test - ride on roller a31 Cskills foundation course to operate a58a tracked 360º excavator under 10 tonnes Cskills foundation course to operate a59a tracked 360º excavator above 10 tonnes Cskills foundation course to operate ride on roller to achieve a cpcs trained operator card a31 Cskills nvq certificate in plant operations (construction) - compacting plant (ewpa) level 2 Cskills nvq certificate in plant operations (construction) - extracting plant level 2 Cskills nvq certificate in plant operations (construction) - telescopic handler level 2 Quality cpcs forward tipping dumper card training- cpcs red card

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
			Wood machining level 2 diploma		
Basingstoke College		Entry Level Basics in the Construction Industry Level 2 Intermediate Apprenticeship in Brickwork (Trowel Occupations) Level 2 Intermediate Apprenticeship in Building Maintenance, Multi-trade Repair and Refurbishment Operations Level 2 Intermediate Apprenticeship in Interior Systems Level 2 Intermediate Apprenticeship in Wood Occupations Level 2 Intermediate Carpentry and Joinery Level 2 Intermediate Interior Systems Level 3 Advanced Apprenticeship in Brickwork (Trowel Occupations) Level 3 Advanced Apprenticeship in Painting and Decorating Level 3 Advanced Apprenticeship in Wood Occupations	Level 1 Introduction to Carpentry & Joinery Level 1 Introduction to Interiors & Plaster Finishes Level 1 Introduction to the Construction Industry Level 3 Advanced Construction & the Built Environment Level 3 Advanced Site Carpentry	HNC in Construction & the Built Environment (Part time)	

Provider	Website	Apprenticeships/ Traineeships/New Entrants	Vocational Courses	Higher/Further Education	Short duration
Farnborough College of Technology	https://www.farn-ct.ac.uk/	Advanced Apprenticeship in Carpentry Intermediate Apprenticeship in Carpentry (Site Carpentry) Advanced Apprenticeship in Electrical Installation Intermediate Apprenticeship in Domestic Heating Intermediate Apprenticeship in Plumbing	Level 1 City & Guilds Diploma in Construction Skills (Carpentry) Level 1 City & Guilds Diploma in Construction Skills (Bricklaying) Level 1 Diploma in Construction Skills (Plumbing) Level 1 City & Guilds Diploma in Construction Skills (Electrical Installation) Level 2 City & Guilds Diploma in Site Carpentry Level 2 City & Guilds Diploma in Electrical Installation (Buildings & Structures) Level 2 City & Guilds Diploma in Plumbing Studies		Level 3 Award in The Requirements for Electrical Installations BS7671: 2008 (2015) (10 Weeks)

Appendix E. Region/nation employer operates in, compared with region/nation working in currently

Region/nation employer operates in	Region/nation currently working in											
	EM %	EE %	GL %	NE %	NW %	NI %	SC %	SE %	SW %	WA %	WM %	YH %
East Midlands	83	16	8	13	3	2	4	**12**	8	7	24	11
East of England	12	67	15	11	2	1	4	**19**	8	7	9	6
London	10	27	84	13	4	1	5	**27**	12	7	9	6
North East	9	9	8	93	3	1	4	**6**	7	7	8	15
North West	11	9	8	14	93	1	4	**6**	7	11	11	10
Northern Ireland	3	3	3	2	1	99	3	**2**	1	3	2	1
Scotland	6	4	6	9	1	2	97	**2**	4	4	5	4
South East	**13**	**23**	**27**	**12**	**3**	*	**4**	**65**	**21**	**7**	**11**	**6**
South West	9	5	7	10	3	*	4	**18**	83	10	15	5
Wales	6	5	5	8	3	*	4	**3**	10	96	14	4
West Midlands	21	9	8	12	6	*	4	**7**	12	9	92	8
Yorkshire and the Humber	15	10	7	19	4	1	5	**6**	8	8	8	88
Republic of Ireland	1	2	3	*	*	2	1	**1**	1	2	2	*
Other parts of Europe	*	*	*	1	0	0	0	**0**	*	0	1	0
Outside Europe	*	1	0	*	0	0	0	**0**	*	0	*	0
Other / Unsure	1	3	2	3	2	*	1	**3**	1	*	1	3
Unweighted bases	*410*	*366*	*452*	*427*	*435*	*274*	*463*	***439***	*494*	*290*	*352*	*369*

Source: Workforce Mobility and Skills in the UK Construction Sector 2015. BMG Research on behalf of CITB.

Base: All respondents,
*denotes less than 0.5%