Port of Plymouth Evidence Base Study

Final Report - Volume 2: Appendices

April 2010

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Appendix A - Stakeholder Consultations
## List of Stakeholders Consulted

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<tbody>
<tr>
<td>Plymouth City Council</td>
<td>Nigel Twinn</td>
</tr>
<tr>
<td></td>
<td>Philip Heseltine</td>
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<td></td>
<td>Andrew Jarrold</td>
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<td>Chris Grace</td>
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<td></td>
<td>Caroline Cousins</td>
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<tr>
<td>Devon County Council / DaSTS</td>
<td>Jamie Hulland</td>
</tr>
<tr>
<td>Cattewater Harbour Commission</td>
<td>Tim Charlesworth (Cattewater Harbour Master)</td>
</tr>
<tr>
<td>Plymouth City Development Company</td>
<td>Stephen Hullance</td>
</tr>
<tr>
<td>Tamar Estuary Consultative Forum</td>
<td>Kaja Curry</td>
</tr>
<tr>
<td>NHNB Devonport / MOD</td>
<td>Cdr Steve Layland (Queen’s Harbour Master)</td>
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<td></td>
<td>Tim Baker</td>
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<td>Phil Nott</td>
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<td>Sean Quinn</td>
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<td>Chris Wardle</td>
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<td></td>
<td>Patrick Valvona (Hyder Consulting for MOD / Defence Estates)</td>
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<td>Sutton Harbour Company</td>
<td>Pete Bromley</td>
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<tr>
<td>Associated British Ports</td>
<td>Dave Atkin</td>
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<tr>
<td>Cattedown Wharf</td>
<td>Dave Petherbridge</td>
</tr>
<tr>
<td>Bardon Aggregates / Pomphelett Wharf</td>
<td>Graham Hicks</td>
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<td></td>
<td>Guy Roseveare</td>
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<tr>
<td>Victoria Wharf</td>
<td>Liam Lynch</td>
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<tr>
<td>Maritime Plymouth</td>
<td>John Hepburn</td>
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<tr>
<td>University of Plymouth Marine Institute</td>
<td>Paul Wright</td>
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<td></td>
<td>Dr Gillian Glegg</td>
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<td>Princess Yachts</td>
<td>Glyn Thompson</td>
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<td>Plymouth Chamber of Commerce &amp; Industry</td>
<td>David Parlby</td>
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<td>SWRDA</td>
<td>David James</td>
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<td></td>
<td>Jonny Boston</td>
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<td>Marine &amp; Fisheries Agency</td>
<td>Peter Edwards</td>
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<td>Tim Reardon</td>
<td>Chamber of Shipping</td>
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<tr>
<td>Dept of Communities – Flood, Coastal Erosion &amp; Water Team</td>
<td>Peter Bide</td>
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<tr>
<td>Natural England</td>
<td>Gavin Black</td>
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<tr>
<td>Environment Agency</td>
<td>Clarissa Newell</td>
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<td>Greenergy</td>
<td>Nathan Leaver</td>
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<tr>
<td>Government Office for the South West</td>
<td>Pippa Ferguson</td>
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<tr>
<td>Brittany Ferries</td>
<td>Maria Hammett</td>
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<td>South West Councils</td>
<td>Tom Oswald</td>
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<tr>
<td>Independent Regional Transport Consultant</td>
<td>Neil Mitchell</td>
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<tr>
<td>Plymouth Yacht Haven</td>
<td>Laura Whinney</td>
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<tr>
<td>Charles Bush</td>
<td>Mayflower Marina</td>
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<tr>
<td>Chris Price</td>
<td>MDL Marinas</td>
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<tr>
<td>Adrian Mitchell</td>
<td>Weir Quay Sailing Club</td>
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Appendix B - Plymouth’s Commercial Port Facilities
Millbay Docks

B.1.1 Millbay Docks is a separate port authority within the Dockyard Port of Plymouth and is owned and operated by Associated British Ports.

B.1.2 The primary maritime traffic is mixed passenger car/HGV roll-on/roll-off (ro-ro) ferries to Roscoff, Brittany and Santander, Spain, operated by Brittany Ferries. The port also handles impact and export traffics.

B.1.3 Millbay Docks comprises an outer tidal basin with a water area of 12 ha and an inner basin of 3 ha. The inner basin is now closed to shipping and will be redeveloped for leisure purposes.

B.1.4 Equipment includes two ro-ro linkspans and a fleet of ro-ro tractor units as well as forklift trucks.

Figure B.1 – Millbay Port

B.1.5 The eastern part of the docks is disused and has been sold for leisure and housing redevelopment (English Cities Fund), with the exception of Trinity Pier which is still owned by ABP and used by Serco.

B.1.6 The ferry area backs onto Royal Marines base, with limited space for expansion, although an area has been cleared (former flour mill) that is retained for handling/storing general cargo.

B.1.7 Millbay Docks has a tidal basin (locks on the inner harbour have been removed) with 13 ha of water.

B.1.8 With a 170 m berth and an anchorage ground for vessels of up to 270 m in length, the port is large enough to accommodate most ocean-going cruise liners. Plymouth is an increasingly popular port of call for cruise liners and provides the shortest ferry route to western France and the Iberian Peninsula. The port supports a wide range of ro-ro operations, and is equipped with purpose-built facilities for freight and passengers.

B.1.9 The Docks are only 800m from dual carriageway access to/from Plymouth.
### Table B.1 - Millbay Docks – Normal Acceptance Dimensions of Vessels

<table>
<thead>
<tr>
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<th>Quay Length</th>
<th>Length</th>
<th>Beam</th>
<th>Draft</th>
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<td>West Wharf Ro-ro Berth</td>
<td>170 m</td>
<td>200 m</td>
<td>No Restriction</td>
<td>8.5 m</td>
</tr>
<tr>
<td>Trinity Pier</td>
<td>150 m</td>
<td>120 m</td>
<td>No Restriction</td>
<td>4.5 m</td>
</tr>
<tr>
<td>Outer Basin</td>
<td>Anchorage</td>
<td>270 m</td>
<td>No Restriction</td>
<td>8.5 m</td>
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</table>

Source: ABP

Figure B.2 – Millbay Docks

Source: ABP

URL: [http://www.abports.co.uk/files/plymouth%202008.pdf](http://www.abports.co.uk/files/plymouth%202008.pdf)
Storage & Warehousing

B.1.10 The port offers up to 5,420 sq m of covered storage with around 34,000 sq m of additional open storage for goods or vehicles.

Specialised facilities

B.1.11 The facility has a ro-ro ramp with an exceptionally wide apron capable of accommodating virtually any ro-ro vessel with a capacity of up to 180t. First-class cruise and ro-ro facilities available within the Ferryport area include a modern passenger terminal, complete with Bureau de Change and buffet facilities.

B.1.12 Cranage & Mechanical Handling Equipment includes:

- Six forklift trucks of up to 10 tonnes’ capacity
- Five tugmasters

Operations

B.1.13 The average annual berth occupancy of the West Wharf (used for the ferries) is reported as only 25%, implying that there is plenty of spare capacity. However, it is difficult to use this capacity for cruise ships. Cruise liners typically need at least 12 hours alongside dedicated berth. Consequently, even if there is underused capacity at West Wharf (e.g. ferries berthing for only 2 hours per day), this will significantly limit opportunities for the berthing of cruise ships.

B.1.14 Millbay used to receive ro-ro freight for the Navy but this traffic has now stopped.

B.1.15 Trinity Pier is currently used for dry bulk (for example, handling 10,000t – fertiliser).

Development

B.1.16 The land in the East Wharf was sold to English Cities Fund / Muse Developments. This will not prevent port expansion, due to terms and conditions of sale. Trinity Pier is kept in ABP ownership although the use is restricted to cruise ships and as a lay-by for small vessels. The right of access to the east of the basins has been kept.

B.1.17 Muse was granted £4.5m HCA money for infrastructure works including dredging of the Inner Basin.

B.1.18 Whilst the aspiration for Trinity Pier is for it be used as a cruise facility, it still represents a possible long term opportunity for non-port development (e.g. residential).

Cruise Market

B.1.19 In 2005, approximately £4 million was spent on capital works including the 3 dolphins.

B.1.20 ABP are very keen to develop the cruise market (using of dolphins off Trinity Pier). The capital cost for a cruise ship berthing facility / quay is estimated by ABP to be £6-10m; ABP have stated that funding support from the public sector would be required to deliver the facility.

B.1.21 ABP consider that there is latent demand for cruise ships in Plymouth. Falmouth is also chasing a new cruise facility but ABP consider that Plymouth is advantaged in terms of its geographical position.

B.1.22 The benefit of cruise ships to the local economy has been estimated at £250k spend per berthing of a 2,000-passenger vessel (source: ABP).

B.1.23 ABP have expressed interest in South Yard (No. 1 Berth) in Devonport and have expressed concern about MOD selling off land no longer required for naval and related purposes in.
apiecemeal fashion. Even of some waterside facilities come available for purchase in the future, their operational use may be restricted by incompatible development nearby or by restricted landside access and/or other constraints: In other words, for viable port activities to be take up by the market, there is a need to provide suitable land adjacent to waterside facilities as well as the marine infrastructure itself.

Sutton Harbour

B.1.24 Sutton Harbour is owned by Sutton Harbour Holdings, part of the Sutton Harbour Group¹, which includes:

- property development;
- harbour-based businesses including in Plymouth; and
- aviation activities which include both Air Southwest, the low fare airline for the South West of England, and Plymouth City Airport.

B.1.25 Sutton Harbour itself is now primarily a marina (recently expanded, now with 500 marina berths in 5 marinas and a state-of-the-art fisheries complex, including one of the largest fish markets in the UK. Commercial cargo-handling (e.g. coal, scrap iron, timber) was discontinued around 20 years ago. The lock gates were renewed in 1992 and the fish market was relocated to its present site in 1995. Much of the site has been redeveloped with mixed use developments.

B.1.26 The main income for the port is generated by the marinas – around £1.2m p.a. but the fisheries activity also generates substantial income. Various office rentals (e.g. Princess Yachts, MCA, Seafish Authority) also generate income.

B.1.27 The port is active in encouraging and supporting major nautical events, such as the start of the Trans-Atlantic Race, the Finish of Fastnet, Classic Boat Rally.

B.1.28 Part of the dock has been infilled and redeveloped and further development adjoining the port land (to the east) is planned.

B.1.29 A trend in demand for berths for larger yachts has been identified – but there is limited capacity in the port and area generally.

B.1.30 The future is seen as definitely ‘leisure’ oriented, building on the attractive natural coastline and nautical history of the site (which include the famous Mayflower Steps). For this reason Sutton Harbour Group has diversified into the airport and airline...

¹ [http://www.sutton-harbour.co.uk/](http://www.sutton-harbour.co.uk/)
Figure B.3 – Sutton Harbour Layout

Source: Sutton Harbour

Fish Market

B.1.31 The Act of Parliament creating the port authority has a requirement to provide a fish market. This continues to be a lucrative activity. The market is the third largest in England & Wales by value of sales (after Brixham and Newlyn) and the largest in fish tonnage. Last year the market sold £8.8m worth of fish.

B.1.32 Around two-thirds of the fish for sale arrives by road from other ports, while around one-third is delivered from fishing boats at the harbour.

B.1.33 The fish sales are carried out by an independent auctioneering agent, Plymouth Trawler Agents. An electronic, on-line ‘Dutch auction’ system is used, allowing buyers to participate from around the country. This system is being further upgraded. By comparison, at the other large fish markets – including the new fish market in Brixham - sales are still carried out in the traditional manner.

B.1.34 Interfish has a nearby production facility processing pelagic fish (mainly scallops) at Wallsend Industrial Estate, Cattedown.

B.1.35 Relatively few fishing boats are ‘local’ – around 30 smaller inshore boats working full-time out of Plymouth. However, last year 260 fishing boats landed their catches in Plymouth. Plymouth is a popular calling point as there are local services (including bunkers and ice) as well as a fast turn-round. Plymouth has gained trade from Newlyn.

B.1.36 The largest fishing boats calling are the ‘scallop’ boats – 500dwt and 5.6m draft.

2 [http://www.suttonharbourmarina.com/marinamap.html](http://www.suttonharbourmarina.com/marinamap.html)

B.1.37 The port charges landing dues (2.5% by sea, 1.5% by road), leases moorings and supplies ice and diesel (5.5 million litres supplied in the last year). They also lease the market building and processing workshops.

B.1.38 Most the crew on fishing boats are not from the UK (e.g. Filipino, Latvia). Similarly, most of the staff involved in fish processing are not from the UK (e.g. Latvia).

B.1.39 Road access is reported to be good – leading quickly to dual carriageway.

Victoria Wharf

B.1.40 Victoria Wharf is owned by the diversified Victoria Group, which has other port and shipping interests around the UK.\(^4\)

Figure B.4 – Victoria Wharf

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B.1.41 Victoria Wharf handles vessels of up to 6,000 dwt (8,000 dwt partially loaded), with a maximum beam of 18m and length of up to 140m. The berths have water depths of 6.8m and 6.6m. The facility offers extensive open and covered storage and modern cargo handling equipment, to enable quick despatch of vessels. The port is ideally located for connections to the UK motorway network and handles a wide variety of bulk and packaged commodities.\(^5\)

B.1.42 Victoria Wharf has undergone significant upgrade and improvement in recent years by the private operator of this facility, the company being owned by a local entrepreneur. The facility and is well

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\(^4\) [http://www.portofboston.co.uk/index.htm](http://www.portofboston.co.uk/index.htm)

\(^5\) [http://www.portofboston.co.uk/pages/victoria_wharf.htm](http://www.portofboston.co.uk/pages/victoria_wharf.htm)
equipped and offers three berths over a total quay length of 250m, although the configuration means that berthing of only one vessel at a time is possible.

B.1.43 Victoria Wharves is the primary facility in the port for handling exports of china clay. Other exports include grain and scrap, while imports include small parcels of feedstuffs, timber and general cargo. The wharf’s back up area includes 5,000m2 of warehousing and two grain silos.

B.1.44 Currently Victoria Wharves handles around half of the port’s total dry bulk cargo throughput.

B.1.45 The wharf is now enclosed by other development, so further expansion is not possible. It is not large enough for handling cruise ships.

Cattedown Wharves

B.1.46 Cattedown Wharves were acquired by James Fisher in 2007 from the FT Everard family.

B.1.47 The cargo handled is mainly liquid bulk: petroleum products destined for storage tanks owned by Greenergy (25% ownership by Tesco) and Texaco/Chevron, who distribute throughout the Southwest. Biofuels are also imported: FAME (biodiesel) and Brazilian sugar-cane ethanol. The oil products vessels are usually 15,000dwt, with around 2-3 ships per week (there is capacity to receive more).

B.1.48 The level of dry goods handled has dropped off but cargo handled includes:

- animal feed, from South America, transhipped in Rotterdam (they deal with a single merchant);
- fertilizer;
- aggregates;
- ball clay (used for ceramics), sent to the Mediterranean; and
- China clay (kaolin - used for paper production) sent to the Baltic.

B.1.49 Fisher increased charges, which initially resulted in a fall in traffic but levels have now recovered. Fisher is still reportedly reviewing the financial viability of dry cargo.

B.1.50 The market for animal feed reaches up to East and North Devon (e.g. Tiverton) and comes Animal feed is typically transport in 3,500 dwt vessels; clay is transported in vessels up to 5,000dwt. Vessel size for exports is limited more by the capacity of the destination ports.

B.1.51 The market for petroleum products extends from Penzance to Poole.

B.1.52 Clay originates mainly from local and Cornish quarries owned by Imerys, Goonvean and Sibelco. Imerys has been closing clay pits in the region and is increasingly importing clay from Brazil. The main export ports for clay are Plymouth, Teignmouth, Fowey (owned by Imerys). The clay port of Par (also owned by Imerys) has closed.

B.1.53 Cattedown Wharves are in direct competition with Victoria Wharf, as well as Teignmouth and Portbury (direct delivery).
Cattedown Wharves Ltd is the private owner and manager of three berths at the eastern end of the Cattewater. The firm is part of the Everard Group of companies which also owns and operates a fleet of coastal bulk carriers and tankers.

The main activity of the Wharves is the import of petroleum products, including petroleum, diesel, heating and marine gas oil. Products are delivered by coastal tankers from refineries in the North East and Swansea to storage tanks located directly adjacent to the berth. These represent the main terminals at the centre of the oil companies’ distribution networks for the South West region. Discharge of products is effected via a common user facility at the west end of the wharf. The volume handled at the berth has stabilised recently at around 1.2 million tonnes a year. The majority of visiting tankers are typically small vessels of 5-6,000 dwt although an increasing number of 16-20,000 dwt vessels are handled.

Cattedown Wharves is also the main import facility for animal feeds, which represents 45-50% of all dry bulk traffic handled by the port as a whole. Other goods include fertilisers, timber, cement, coal, and small quantities of salt, clay and grit. A significant volume of fish is also discharged here for direct delivery to an adjoining fish processing company.

The company has recently invested heavily (£800,000) in two new purpose-built warehouses, both of around 2,500-3,000t capacity and each with the potential to handle a throughput of 25,000 tonnes pa. These are committed to existing business/customers and expansion potential of the current site is exhausted. Part of the development has only been achieved by issuing notice to the existing coal yard to quit the site.

Quoted discharge speeds for bulk are 2,000tph subject to road transport, where discharge is direct from ship by grab unloader to trucks waiting on the quayside.

Cargoes handled at Cattewater are distributed throughout Devon and Cornwall and West Somerset by road. An increase in cargo handling would lead to traffic issues. For example, it is not unusual for 1,000 tonnes to be moved in a day, requiring 50-80 truck movements. In a direct delivery operation (i.e. direct from ship to consignee) trucks must be queued and waiting in the access road.
B.1.61 The volume of dry cargo handled at Cattedown Wharves represents about a 35% share of the total dry cargo throughput at the port, while it is the only facility offering liquid bulk facilities.

B.1.62 Cattewater Wharves is served by the remains of a rail connection but this has now been mothballed and may eventually be removed.

Pomphlett Aggregate Export Terminal

Figure B.6 – Pomphlett Jetty and Terminal

B.1.63 The Pomphlett jetty on the south bank of the Cattewater harbour is a dedicated user facility operated by Bardon Aggregates Plc for the export of limestone from its nearby Moorcroft Quarry.

B.1.64 Bardon Aggregates (BA) is part of Holcim – the German building materials group – and the jetty is also used to import cement. Approximately 50,000t p.a. is imported from Brunsbuttel in Germany (by their sister company Paragon) and used to make concrete, usually in 3000dwt vessels. Paragon also import cement through Truro.

B.1.65 The jetty has 3 * 1500t cement silos and 16 * 220t aggregates bins. The conveyor is rated at 1200t/h but achieves a net throughput of around 700t/h.

B.1.66 The jetty can accommodate ships up to 4000DWT; the main constraints are draft (2m) and length (100m) due to the limited turning circle in the Oreston channel.

B.1.67 BA also have a number of other quarries, including Greystone (Launceston) excavating basalt and Lee Moor (Plympton), containing China Clay waste.

B.1.68 Previously the quarry produced up to 1 million tonnes of stone a year, nowadays the production is around 500,000t, with about 100,000t shipped by sea through the jetty and the rest by road. Volumes have therefore contracted from the 200,000 tonnes pa volume that was typically shipped out by sea in the early1990s.
B.1.69 Shipments are normally destined for the Channel Islands, Isle of Wight and Sheerness in Kent, for firms involved in production of construction materials in the South East. Occasional shipments are to other destinations in the UK and Europe. They shipped material for the reconstruction of Brixham Harbour.

B.1.70 Agricultural lime is shipped to Holland.

B.1.71 The marketing of recycled aggregate, such as China Clay waste (which is mainly fine, sandy aggregate), has been considered but the material available generally has poor load-bearing characteristics (clay is ‘decomposed’ granite) and requires a high proportion of cement, making the finished product more expensive. However, the Lee Moor sand (secondary aggregate) has an attractive appearance (due to mica flecks) and can be marketed and decorative slab are shipped (by road) from there to Halifax.

B.1.72 The aggregates market is ‘high bulk / low value’, meaning that transport costs form a relatively high proportion of the delivered costs. Their main market is Plymouth and the surrounding area. Agricultural lime, which they also produce, has a higher value and consequently has a wider market (e.g. it is sold as far away as Penzance). Stone blocks are also higher value and have a wider regional market.

B.1.73 There are plans for the reclamation of land for development to handle cement. Other products the company has considered include recycled glass cullet, grain and clay. There was a local tungsten extraction business planned (with a potential traffic of 3,300t p.a. of fine ore) but this has not been developed.

B.1.74 The regional minerals strategy has protected the quarries.

B.1.75 Potential for rail transport is limited by train weight constraints (Devon Banks 1,100t and 600t on Brunel’s curved rail bridge). The main market would be the South East, but this is already served by large trains from the West Country. Aggregates from the South West, delivered by rail would cost more to the end users.

B.1.76 There is some wastage of the steel piles and there are plans to introduce sheet piling and infill. This would mean that they could import Irish gritstone (for road surfacing - currently handled at Cattewater) – this trade would have some synergy as they could supply a return load of aggregate.

B.1.77 In the view of the operator, road access to the site has deteriorated since the construction of the ‘Morrison’ roundabout.

Howards Quay

B.1.78 This facility is owned by John Howard and backs on to the sewage works. It is silted up.

B.1.79 There are plans to develop a marina here, although this could interfere with the turning circle for Pomphlett Jetty.

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6 The production of 1 tonne of clay results in 8t of secondary aggregate, mainly coarse sands.
Figure B.7 – Howards Quay
Appendix C - Overview of South West Ports
Introduction

C.1.1 Due to the peninsular nature of the region, the South West has an extensive coastline and a long history of maritime activity with many ports. The region has an important location in the peripheral maritime region of the European Atlantic Arc, and has good sea links with Brittany, Normandy, Ireland and Spain. The region’s ports perform many functions such as providing commercial and passenger links to Europe, recreation and leisure.

C.1.2 Ports and water borne transport are important for the movement of goods in and out of the region. The volume of sea freight passing through the region’s ports has risen at a faster rate than for the country as a whole. Overall the region handled 20 million tonnes of freight in 2003.

C.1.3 The draft RSS recognises the opportunities to develop freight markets through the Region’s ports. Specifically, it mentions china clay traffic from Par and the bunkering and cruise ship opportunities at Falmouth. This specific mention of the importance of the Region’s smaller ports is especially pertinent for Cornwall. The draft RSS states:

“The coast, and in particular the region’s smaller ports, offer a potential resource for supporting some of the more peripheral parts of the region. It is therefore important to protect and develop opportunities for appropriate port development to facilitate more sustainable movement of goods and materials.”

C.1.4 The European Commission’s ‘Motorways of the Sea’ strategy document, highlights the ‘complementary potential’ of Plymouth, Falmouth, Teignmouth, Penzance, Fowey/Par, and other smaller ports. 7

Brixham Harbour

C.1.5 Brixham Harbour is located on the Southern aspect of Tor Bay and boasts one of the largest fishing fleets in the UK, plus a thriving newly developed fish market to support it.

C.1.6 Brixham is the most important fish market in England & Wales, measured by the value of the catch landed. This has inspired a complete redevelopment of Brixham’s commercial harbour frontage featuring a new, larger fish market, with a new chilled store and grading, display and despatch areas. 8

1.1 Phase 1 of the Fish Market Complex will be completed in 2010, featuring a new fish market building, high quality fish restaurant, tourist walkway, offices and employment space.

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7 http://www.swcouncils.gov.uk/media/SWRA/RSS%20Documents/Technical%20Documents/02.15_Promotion_of_Short_Sea_Shipping_in_the_Atlantic_Arc_-_March_2005.pdf

Penzance Harbour & Newlyn, Cornwall

C.1.7 Penzance - along with Newlyn, just a mile to the west - is the first secure harbour and anchorage on the coast of the English Channel on entering from the Atlantic Ocean.

Penzance

C.1.8 Penzance harbour had a long trading tradition. Today, the harbour provides both a commercial and a recreational service to the town, although trading by sea has long declined in the face of efficient land-based transport.

C.1.9 There is a gated, inner harbour or Wet Dock for commercial use by fishing and similar vessels and by other deeper draft vessels.

C.1.10 Located in a tidal basin of the harbour is a dry dock and shipyard for service and repair to coastal shipping and small naval vessels.

C.1.11 Regular passenger services are maintained to the Isles of Scilly by the Isles of Scilly Steamship Company throughout the summer season - from March to October carrying both day-visitors and holiday tourists to the Islands. A freight service to the Islands is also operated year-round by the Company from the harbour.

C.1.12 Facilities are available for visiting yachters and recreational use of the harbour is made both by Penzance Sailing Club and Penzance Sub-Aqua Club who each have clubhouse premises on the quay.

C.1.13 A major re-development of Penzance Harbour is presently proposed which will add significant new facilities for users of all types of craft.

C.1.14 There are modest fish landings within the Port and the main cargo handled in the wet dock consists of supplies and freight to and from the Isles of Scilly. Other cargo recently handled includes stone for sea defence projects and heavy lifts for South Western Electricity.

C.1.15 Penzance Harbour offers commercial ship repairs from Penzance Dry Dock Ltd who operate the dry dock.

C.1.16 There are also facilities for recreational residents’ craft consisting of 240 moorings and berths in the wet dock for up to 50 visiting yachts.

C.1.17 The port of Penzance is the berthing place for the ‘Scillonian’ ferry, providing a vital link to residents of and visitors to the Isles of Scilly. The ferry operates from April to November, with the crossing lasting two hours and forty minutes. The Isles of Scilly Sea Link is included within the Cornwall LTP2 as a major scheme bid for funding, which was submitted to Government in August 2004.

C.1.18 In December 2002, Council of the Isles of Scilly commissioned a study which identified the need for measures to be implemented to maintain the sea links to the Isles in order to sustain their economic well-being. The Isles of Scilly Route Partnership Group was therefore established to develop proposals to address the vessel and port issues.

9 http://www.penzance.co.uk/descrip/index.htm?harbour.htm~main_pz
10 http://www.newlynharbour.co.uk/htmlpages/harbour/harbour_info.htm
Fowey, Cornwall

C.1.19 Fowey Harbour is situated on the south coast of Cornwall, approximately halfway between Plymouth and Falmouth. Fowey is a natural deep water harbour and is the largest exporting port on the South West peninsula, in tonnage terms.

Figure C.1 – Lower Fowey Estuary

Source: Fowey Harbour

C.1.20 The main export from Fowey is China clay, which shipped to destinations all over the world. Traffic at the port grew from 0.6 million to 1.7 million tonnes between 1965 and 1995. Fowey handled 1.3 million tonnes in 2004, three-quarters of which went to Scandinavia and Canada.

C.1.21 At Fowey in 2008, around 260 vessels loaded 850,000mt of china clay, the majority in bulk but some 12,000 tonnes of break-bulk. Secondary aggregates and rock salt were also handled and the operator hopes that this trade will continue to grow through Fowey in 2009.

11 http://www.foweyharbour.co.uk/documents/Imerysportinfo09.pdf
12 http://www.foweyharbour.co.uk/harbourmap.htm
Table C.1 - Fowey Port Traffic (All Dry Bulk, ‘000 tonnes)

<table>
<thead>
<tr>
<th>Imports</th>
<th>Exports</th>
<th>All Foreign Traffic</th>
<th>Domestic Inwards</th>
<th>Domestic Outwards</th>
<th>All Domestic Traffic</th>
<th>Total Foreign &amp; Domestic Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>874</td>
<td>904</td>
<td>-</td>
<td>31</td>
<td>31</td>
<td>935</td>
</tr>
</tbody>
</table>

Source: Maritime Statistics 2008

C.1.22 The harbour also supports a host of recreational activities with 1500 private moorings and over 7000 craft visit each year. Fowey is also a popular port of call for cruise liners.

1.2 Fowey is a deep water port accessible in all weather and all states of the tides. The Port is under the control of Fowey Harbour Commissioners, who are also the Pilotage Authority for Fowey, Par and Charlestown. The main loading berths - owned by Imerys - are situated on the western bank of the channel approximately 2 km from the Harbour entrance.

C.1.23 The rise and fall of the tide varies between 2.0 and 6.0 metres and the ebb tide can be in excess of 1.75 knots. Because of tidal movement larger ships are moved in slack water.

C.1.24 The Ship channel is 6.50 metres low water on spring tides. High Water full and change is 6 hours and 14 minutes.

C.1.25 Lay-by berths at buoys in the river can cater for two vessels.

C.1.26 There are restrictions on loading vessels over 120 metres LOA and/or cargo over 7,000DWT; the largest ship brought into the port was over 165 metres and 17,000 tonnes deadweight.

Table C.1 - Imerys Operational Berths at Fowey

<table>
<thead>
<tr>
<th>Berth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4 Jetty</td>
<td>Non operational Depth of water 7.3m Normal max LOA 120m Berth facing approx. 20m long Height of quay 10.5m above LWOST Metal and concrete construction jetty type berth Fyson Fixed Radial Bulk clay conveyor Maximum throughput 500t per hour</td>
</tr>
<tr>
<td>No 5 Jetty &amp; No 6 Jetty</td>
<td>Depth of water 6.7m Depth of water 6.7m Normal max LOA 100m* Normal max LOA 120m* Quay 5/6 overall length 165m Quay 5/6 overall length 165m Height of Quay 5/6 8.75m above LWOST Height of Quay 5/6 8.75m above LWOST Concrete quayside berth Concrete quayside berth Down River section of Quay 5/6 Up River section of Quay 5/6 Jones 971 Mobile crane Babcock-Moxey Fixed Radial Bulk clay conveyor Bags loading berth Also used as a lay-by/waiting berth Rock Salt / Aggregates handling berth</td>
</tr>
<tr>
<td>No. 8 Jetty</td>
<td>Depth of water 8.5m Normal max LOA 150m Height of quay 7.0m above LWOST Concrete quayside/jetty berth 110 m overall length Travelling Bulk clay conveyor that traverses the quay on fixed rails</td>
</tr>
</tbody>
</table>
C.1.27 In recent years, Fowey has become a popular port of call for cruise liners, the largest visiting the harbour being the Crystal Harmony with a length of 248 metres and of 48,000 tonnes gross. There are two landing points designated for this business; one in the centre of Fowey Town at Albert Quay and the other adjacent to South Coast UK’s offices giving access to a coach park area on IMERYS’ property.

C.1.28 China clay is transported to Fowey by road and rail (although this may have stopped) and is either loaded direct to vessel or tipped to a store. The store can hold up to 22,000 tonnes in 14 separate bays.

Par, Cornwall

C.1.29 The port of Par is used to transport aggregates, timber, oil and salt. The current port has limitations on the size of vessel that can be loaded/unloaded and also on the times that the vessels can be loaded/unloaded. Proposals were developed in 2001 which facilitated access for significantly larger vessels, transport and loading facilities to take advantage of the market opportunity for secondary aggregates.

C.1.30 The Port of Par has been closed to commercial shipping since January 2008.

Falmouth, Truro and Penryn, Cornwall

C.1.31 Falmouth Bay is claimed to be the third largest natural harbour in the world.

C.1.32 There are three related port/marine complexes:

- Falmouth;
- Truro; and
- Penryn.

C.1.33 Falmouth is Cornwall’s largest and busiest sea port and an important maritime service base for the entire south-west region of England.

C.1.34 Falmouth, Truro and Penryn are very different ports. Falmouth is essentially a port that serves passing vessels. By contrast, the Port of Truro is close to the main road network of Cornwall with excellent facilities for inland distribution of bulk commodities. The River Fal also has a significant role as a sheltered location for laid-up tonnage. The lay-up facilities are the largest offered in a single location in the UK.

C.1.35 The smaller port of Penryn, covering about 40 hectares, is now used mainly for fishing and leisure activities together with some specialist marine and diving craft.

C.1.36 Nearly half of Cornwall’s yacht moorings are within the two ports of Truro and Penryn, including Mylor Yacht Harbour and Falmouth Yacht Marina respectively.

Falmouth

C.1.37 The port has extensive deepwater moorings and is an important centre for bunkering, ship repairs, cruise calls as well as for fuel.

C.1.38 Falmouth can provide a wide range of services to commercial shipping including dry docks, bunker barges, cargo handling, lay up berths, casualty moorings and underwater services.

13 http://www.falmouthport.co.uk/index.php
C.1.39 A&P Falmouth Shiprepair is based in Falmouth Port with three graving docks provide up to 100,000 dwt dry dock capacity, with the total wharfage with craneage and all other technical services, extends to 2.5km.14

C.1.40 A&P Falmouth operates five berths and three graving docks. There are five berths with a total length of 2,440 metres.

**Table C.1 – Falmouth Berths & Docks**

<table>
<thead>
<tr>
<th>Berth</th>
<th>Length (metres)</th>
<th>Depth alongside (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Wharf</td>
<td>204</td>
<td>8</td>
</tr>
<tr>
<td>Duchy Wharf</td>
<td>240</td>
<td>8</td>
</tr>
<tr>
<td>Queen’s Wharf</td>
<td>198</td>
<td>6.5</td>
</tr>
<tr>
<td>King’s Wharf</td>
<td>190</td>
<td>6.5</td>
</tr>
<tr>
<td>Empire Wharf</td>
<td>150</td>
<td>6.5</td>
</tr>
</tbody>
</table>

Source: Port of Falmouth Handbook15

C.1.41 A&P Falmouth operates eight cranes ranging from 7.5 to 48 tonnes capacity.

C.1.42 Commercial cargo handling facilities are available alongside the docks in Falmouth and further upriver at Lighterage Quay in Truro.

C.1.43 Falmouth is a busy working port handling over 100,000T of product annually. With its wide range of equipment and facilities, A&P Falmouth can handle a wide variety of cargoes, from bulks to breakbulk and containers. The main cargoes are fertilisers, coal and stone products.

C.1.44 There are over 30 firms located in the docks providing a full range of services including towage, ship's agency, area port health, diving services, local surveyors and tank washing. Falmouth is used by 40,000+ cruise passengers annually.

C.1.45 Falmouth is the UK’s largest offshore bunker station.

C.1.46 The fishing industry is of significant economic importance to the region with around £70 million of landings and the handling 0.4 million tonnes in 2004. Falmouth also dealt with 605,000 tonnes of china clay in 1999.

C.1.47 There are plans to deliver a project to improve Falmouth’s capacity to attract cruise ships, in line with the aspirations set out in the draft RSS. The project sets out to provide (with estimated costs set out in brackets):

- a new wharf (£500k);
- a cruise terminal (£4m); and
- dredging of the channel to enable larger cruise ships to go alongside to access these new facilities (£6m).

C.1.48 These measures will provide future opportunities and flexibility for increased cargo operations. These proposals are subject to a series of three related bids for external funding and the overall

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14 http://www.ap-falmouth.co.uk/ and http://www.ap-group.co.uk/APFalmouth/Resources/AP-Falmouth.pdf
15 http://www.falmouthport.co.uk/pdf/ports_handbook.pdf
project is seen as key to the economic and social development of the local area. In addition, there are a range of potential local transport opportunities that must be harnessed.

C.1.49 Falmouth Harbour Commissioners state that new activity for the Port is needed to ensure its long term survival. The current port operations contribute substantially to the local economy with a recent report commissioned by the Government Office South West estimating that Falmouth Docks alone, with a turnover of £35m, is responsible for wages of £13.8m in Cornwall.

Truro

C.1.50 Truro is a small sheltered tidal harbour at the head of the Fal Estuary on the River Truro. This tidal berth (which dries out at high water) offers a central inland location for Cornwall and the South West. It has good connections to main markets in south-west England. In addition to handling bulk cargo, it is the UK leader for mooring of laid-up tonnage.

C.1.51 Lying just nine miles from the mouth of the River Fal, the Port of Truro covers about 1,000 hectares and is located near three major roads: the A30, A38 and A39. The port is also within easy reach of the M5 at Exeter and Penzance.

C.1.52 At the heart of the port’s commercial activities is Lighterage Quay, Newham (1.5 km downstream from the city of Truro) which is 350m x 10m wide with both covered and open storage alongside. Vessels up to 2,000 dwt, 4.4 metres draught and 85 metres LOA can berth. Facilities on the quay include a 50 tonne weighbridge and fresh water.

C.1.53 The port’s main cargoes are sand, cement, scrap metal, building materials, animal feed, grain and fertilisers. Most of these cargoes are owned by customers in the farming, quarrying and construction industries. Other one-off cargoes i.e. boat hulls, steel coils etc. are also handled.

C.1.54 Stevedoring is provided by Truro Port Services (TPS), which has plenty of experience in handling bulk, bagged and palletised cargo. TPS operates two cranes of 35 and 30 tonnes together with front and side loading fork-lift trucks of up to 4 tonnes capacity and various other specialist equipment. Heavier capacity cranes of up to 100 tonnes lift can be subcontracted as and when required from an adjacent company.

C.1.55 There are a number of deep water lay-up berths for large vessels situated in the King Harry Ferry. These moorings will accommodate vessels up to 219m LOA.

C.1.56 There are a number of leisure moorings (c1000) located around the upper half of the Fal Estuary. Visitors pontoons are also available at Woodbury, Malpas, Ruan Creek and Turnaware Bar as well as berthing facilities alongside the quays in Truro.

C.1.57 The Port of Truro also has a native oyster fishery which is open from the 1 October to 31 March each year which only vessels fishing by traditional means may dredge.

C.1.58 Carrick District Council (CDC) is the Statutory Harbour Authority for the Port of Truro and in August 2003, they commissioned HR Wallingford to carry out a study into the sustainable development of the Ports of Truro and Penryn. This report follows on from a previous study carried out in 1988, which provided a ten year strategy for the development of the Port of Truro. In relation to freight, the 2003 report concluded that:

- Coastal and short sea carriage of freight will play an increasingly important role in sustainable distribution (in line with key guidance from the DfT)
- Developing secure land and sea access will support all four of the outcomes proposed in the strategy.
- Secure land and sea access can be achieved through:
- Anticipation of future shipping needs and commitment to supply access as required.
• Provision of efficient intermodal connections and linkages with the external freight transport network.

C.1.59 The Harbour Authority has committed itself to upgrading facilities to enable the efficient, safe and quick handling of goods which includes maintaining a dredging commitment, improved navigational lighting, upgrading quay surfaces and providing security for goods on the quay.

Penryn

C.1.60 Penryn is used mainly for fishing vessels and pleasure craft. The harbour dries at low water.

C.1.61 The Town Quay can handle vessels up to 54 metres in length and has a maximum depth of 4.3 metres at HW springs. The Port of Penryn operates a range of mobile cranes up to 45 tonnes capacity. Open quayside Storage is available.

Bideford, Devon

C.1.62 Bideford is a small tidal port on the North Devon coast which imports and exports general cargoes (ball clay exported to Spain and Finland, salt & sand imported).

C.1.63 Approximately 60,000 tonnes of cargo was handled in 2007 along with 277 tonnes of fish.

C.1.64 As well as having a shipyard (at Appledore) the Oldenburg Passenger Ferry to Lundy Island is also based at Bideford.

C.1.65 Bideford offers 300 metres of modern quay frontage available twice a day every day on the tide for vessels of around 2 metres draft, and on spring tides twice a day to vessels of up to 5 metres draft.

C.1.66 Bideford regularly handles ships of 90+ metres with drafts of 4.5 metres that export clay from local quarries to Finland and Spain. Other occasional imports are road salt.

C.1.67 The port has its own Priestman crawler crane and a new state-of-the-art Fuchs grab rehandler.

Teignmouth, Devon

C.1.68 Teignmouth has a long-established reputation for handling ball clay and has built up a substantial animal-feed import business. The port also operates its own fully computerised warehouse stock-control system.

C.1.69 Cargo handling is undertaken by the Teignmouth Quay Company Ltd, a member of Associated British Ports.

C.1.70 The new Western Quays development (the result of £5m investment by ABP) has greatly enhanced the port’s cargo-handling facilities. The development required the straightening of the quay wall, deepening of the berths and the construction of a new 3,000 sq m transit shed. The work has created room for more frequent arrivals of the larger ships that now use the port, and an impressive acceleration in turnaround times for vessels.

C.1.71 Average annual dry bulk handled is: 650,000 t, including:
• Export: 380,000t (mostly ball clay and some china clay).
• Import: 270,000t - Animal feed, fertiliser, salt, blast furnace slag - all transhipped from continental Europe (Rotterdam, Hamburg etc.).

C.1.72 The main regional competitors are in Plymouth – Cattewater and Victoria Wharfs

17 [http://www.teignmouthharbour.com/Shipping_commercial.htm](http://www.teignmouthharbour.com/Shipping_commercial.htm)
C.1.73 Ball clay is the port’s principal traffic, exported by WBB Minerals and Imerys (mined locally at Kingsteignton) to destinations throughout Europe.

C.1.74 Recently, the port’s bulk trade was bolstered by a new 25-year agreement with Civil & Marine Cement Slag Co. Ltd to import blast-furnace slag from Corus’s plant at Port Talbot.

C.1.75 Two 50-tonne weighbridges and two modern loading shovels are dedicated to animal-feed handling. The port’s total on-site storage capacity has increased to 150,000 sq ft.¹⁸

C.1.76 Open storage is available for timber cargoes, and the port handles both pre- and un-slung timber. The port can cater for vessels of up to 120 m in length and with 5 m draft.

Table C.2 – Teignmouth Vessel Restrictions

<table>
<thead>
<tr>
<th>Dock/Quay</th>
<th>Maximum Size of Vessel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length</td>
</tr>
<tr>
<td>Eastern Quay</td>
<td>119 m</td>
</tr>
<tr>
<td>Western Quay</td>
<td>300 m</td>
</tr>
</tbody>
</table>

C.1.77 The port is equipped with extensive, modern GAFTA/ UKASTA approved warehouse facilities and separate storage bays are available for organic animal-feed cargoes.

C.1.78 Cranage & Mechanical Handling Equipment includes:
- Two 35-tonne capacity mobile cranes;
- Two 60-tonne capacity mobile cranes;
- Two Fuchs material handler cranes;
- Two Volvo loading shovels;
- One grain elevator;
- Three skid-steer loaders;
- Seven forklift trucks; and
- Two 50-tonne capacity weighbridges.

C.1.79 There are over 800 shipping movements a year handling more than 600,000t of cargo. The average size of vessel that is used for general coastal trades has increased and the current quay configuration is not well suited to these longer, wider, vessels.

C.1.80 Associated British Ports are currently planning a £4m investment to build a replacement quay line, 300m long and to provide as much additional storage as practicable on site in order that the port can continue to serve the people of Devon for the next generation. It is vital that this project succeeds

C.1.81 There are five working berths, which are fully equipped to handle a wide range of cargoes for both import and export, including bulks, mini bulks to palletised, unitised and general cargo.

C.1.82 There is over 9,300 square metres of warehousing plus a large area of quayside storage supporting this.

¹⁸ ABP [http://www.abports.co.uk/custinfo/ports/teign.htm](http://www.abports.co.uk/custinfo/ports/teign.htm)
C.1.83 The depth and alignment of the River Teign restricts the size of vessels able to use the Port. Teignmouth can currently accommodate vessels of in excess of 100 metres in length and up to 5.0 metres draft on the highest spring tides.

C.1.84 Pilotage is compulsory for all vessels in excess of 30 metres. Teignmouth also has a modern tug, which is able to assist vessels with limited manoeuvrability. The tug also provides assistance to vessels in nearby ports from time to time.

C.1.85 The entrance to Teignmouth is regularly monitored and dredged to maintain a working channel at all times.

C.1.86 There are 115 deep water moorings plus 600 drying moorings managed by the Harbour Commissioners.

Padstow Harbour, Cornwall 19

C.1.87 Padstow, on the North Cornish Coast, currently handles 60,000 tonnes of general bulk cargo including sand dredging, which takes place within the Estuary and is processed ashore for agricultural/industrial use.

C.1.88 The harbour is capable of handling vessels up to 2,000 gross tons. The port only handles cargo in bulk i.e. sand, roadstone etc. Padstow has a thriving fleet of inshore fishing vessel fishing mainly for lobsters and crabs. The fishing vessels and leisure craft are now the main users of the harbour. The inner harbour is serviced by a tidal gate, which is open approximately, two hours either side of high water. A minimum of three metres is maintained at all times.

C.1.89 There are also fish landings, local ferry services to Rock and approximately 200 small craft moorings located within the Port. In 1996 there were 4000 yacht nights in the newly built inner harbour.

Newlyn

C.1.90 Newlyn is home to the principal fishing port in Cornwall and lands the highest value of seafood of any fishing port in England and Wales. Newlyn plans to improve its harbour and enhance tourism, leisure, the arts and creative industries, and needs new facilities to support a thriving and sustainable fishing industry.

C.1.91 The draft RSS identifies the need for port facilities for the commercial fishing fleet to be “protected and enhanced where possible to meet modern standards”. Although not primarily associated with freight movement, the strategic significance of Newlyn should be identified, protected and enhanced through the Local Development Framework process.

19 http://www.padstow-harbour.co.uk/
Appendix D - Policy Context
Introduction

D.1.1 This appendix provides an overview of existing and emerging policies and strategies which impact on the activities and potential development of Plymouth’s ports. Consideration is given to the following key policy areas:

- Ports and freight transport;
- Economic development and planning;
- Coastal environment.

Ports & Freight Transport

D.1.2 The policy context for ports and freight transport is set by a group of planning and policy documents that range in scope from national, regional, county and city. The key documents include:

- EU Transport Policy
- National Ports Policy
- South West Regional Spatial Strategy
- DaSTS (Developing a Sustainable Transport System) on a national and regional basis
- Devon Structure Plan and Local Development Framework (LDF)
- Plymouth’s LDF, including Core Strategies and Area Action Plans
- Plymouth Local Transport Plan

EU Transport Policy

D.1.3 EU transport policy strongly supports the development of more sustainable transport modes, in particular rail and short sea shipping, particularly where these encourage cross-border movements. A number of EU-funded studies have considered the potential development of short sea shipping, with a number of demonstration projects being funded (e.g. Highways of the Sea).

D.1.4 However, the EU will not generally subsidise any services; commercial viability is still the objective, with the Commission seeing its role as encouraging innovation in service provision. 20

D.1.5 Similarly, the EU will not generally provide funding for port developments.

National Ports Policy

D.1.6 As part of a programme to speed up development planning for major port projects, the Government has created the Infrastructure Planning Commission (IPC) and published consultation drafts of National Policy Statements (NPS) – which will eventually guide the decisions of the IPC.

D.1.7 The Ports NPS sets out the Government’s policy towards the ports sector, underlining in particular that:

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20 For example, the InterReg project CAMIS looked at short-sea shipping in Plymouth, Poole – a ferry link with Cherbourg was suggested.
• The IPC will only deal with major port projects; other projects will continue to be dealt with by the existing planning process.
• The role of the private sector in providing port capacity and services is underlined, which the government sees as guaranteeing competitiveness and effective investment.
• Consequently, port project must be brought forward primarily by the private sector; public sector funding will only be available for supporting transport infrastructure, and only in very specific situations.
• Port projects will be generally assumed to provide economic benefits, and any negative environmental benefits should be mitigated.
• Port development is not seen as an effective tool for dealing with regional economic imbalances; indeed, the regional impacts of port developments are not likely to be considered during scheme assessment.

D.1.8 The Ports NPS therefore significant curtails the arguments that local authorities may apply to object to major port projects. It also implies that local authorities will continue to have little scope to provide financial support to port projects.

**DaSTS**

D.1.9 Delivering a Sustainable Transport Strategy (DaSTS) is the Government’s new approach to long term transport planning and will be used by DfT in determining spending decisions for the period 2014-2019. These will be identified in a White Paper to be published in 2012.

D.1.10 Its focus is on evidence-based decisions on priorities and investment. DfT has set out the five broad goals of transport and generic challenges in relation to each of those goals. The goals are:

• To reduce transport’s emissions of carbon dioxide and other greenhouse gases, with the desired outcome of **tackling climate change**;
• To **support** national economic competitiveness and **growth**, by delivering reliable and efficient transport networks;
• To **contribute to better safety security and health** and longer life expectancy by reducing the risk of death, injury or illness arising from transport, and by promoting travel modes that are beneficial to health;
• To promote greater **equality of opportunity** for all citizens, with the desired outcome of achieving a fairer society, and;
• To **improve quality of life** for transport users and non-transport users and to promote a **healthy natural environment**.

D.1.11 The DaSTS approach draws a distinction between different types of network. DfT is responsible for identifying the key challenges on the national network, which is defined in the DaSTS consultation document. In the South West the national corridors include:

• the M4 and M5 road routes
• the Great Western Main Line (London to South Wales via Bristol) and
• Cross Country rail route (Exeter to Birmingham via Bristol).

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D.1.12 As far as the cities and regional network is concerned, the aim of DaSTS is to develop the evidence base to support the key principles identified in the RFA2 programme. The key output required from this work is a proposed study programme for the next two years to address the most urgent challenges. DfT has made money available (up to £2 million per region) to support an agreed work programme and take forward options for 2014-2019 and beyond.

D.1.13 There is a four stage programme which can be summarised as follows:

- Stage 1: Agreeing strategic priorities and work programme (by June 2009 with DfT decision on further funding support by end July 2009).
- Stage 2: Generating Options (by December 2010 with progress report mid 2010).
- Stage 3: Sifting and packaging options (by December 2011 with studies finished by March 2011).
- Stage 4: Deciding on overall programme (mid 2012).

D.1.14 There were nine main growth points identified and agreed by the region through the RFA process. These relate to the nine SSCT’s which will be required to deliver the largest quantum of sustainable growth (84% of growth in dwellings and 86% of the growth in employment) as identified in the RSS and the nine areas identified as priorities for delivering sustainable economic growth in the RES.

D.1.15 The nine main growth areas are: Bournemouth and Poole (South East Dorset), West of England (Bristol, Bath, Weston-super-Mare), Cheltenham and Gloucester, Swindon, Plymouth, Exeter, Taunton, Torbay and the Key Cornish Towns.

D.1.16 The South West’s challenges are summarised in the table overleaf. They have been drawn from current evidence base which includes:

- Regional Economic Strategy (RES) 2006-2015 and associated documents, including the RES Spatial Implications - Place Matters.
- The draft revised Regional Spatial Strategy (RSS) for the South West, incorporating the Secretary of State’s proposed changes.
- The region’s RFA2 advice to Government in February 2009.
- The South West Climate Change Action Plan 2008-2010, including technical appendices.
### Table D.1 - DaSTS Challenges for the South West

<table>
<thead>
<tr>
<th>DaSTS Goal</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| Tackle Climate Change                   | To respond to the Climate Change Act targets and carbon budgets for transport, consider the implications for the region and priority places identified in the RFA submission, and reconciling the apparent differences between the national and regional evidence base.  
To examine transport measures which will address the need to reduce transport sector carbon/ GHG emissions in line with targets.  
To improve the resilience and reliability of existing infrastructure (as measured by frequency of closure or obstruction due to severe weather events and length of time to recover from incidents), focussing on the corridors of national and regional importance, to cope with changes in climate and in the light of future demand. |
| Support economic growth                 | Resolving issues of access, capacity and movement in the region’s main growth areas to improve the performance of the transport network and support economic growth and regeneration as identified in regional strategies.  
To improve connectivity between the main growth areas within the region as well as between those places and major markets outside of the South West region, as measured by journey time reliability, capacity and resilience on the main national and regional corridors. |
| Promote equality of opportunity         | Address the gap in the economic performance across the region by improving access to jobs and markets in the south western peninsula (by improving connectivity to the main growth areas and to major markets outside the region). This will be measured by journey time reliability, capacity and resilience on the corridors from Exeter to Torbay, Plymouth and Cornwall.  
To enhance connectivity providing access to markets and tackling peripherality and deprivation, specifically in areas of multiple deprivation identified in the region. |
| Contribute to better safety, security and health | Improve access to and manage congestion in the region to:  
- Encourage modes that are inherently safer.  
- Reduce the social and economic costs of transport including air quality impacts.  
- Enable more physically active travel. |
| Improve quality of life                 | Improve access to a range of goods, services, people and places within the region.  
Improve the journey experience of transport users of urban, regional and local networks |

**D.1.17** The overarching objective of the RFA2 advice was ‘to support sustainable prosperity and improved quality of life in the South West’. To achieve this, investment is to focus on three high level outcomes:

- productivity led economic growth;
- a low carbon and resource efficient region, and;
- successful places and sustainable communities.

**D.1.18** The RFA2 advice explains the importance of resilience in regional infrastructure in the overall approach to managing the recession and planning for recovery. The region must improve accessibility within key urban centres and major markets nationally and internationally.

**D.1.19** The RFA2 advice identified nine places as priorities in terms of delivering sustainable economic growth: Bournemouth and Poole (labelled South East Dorset in this report), the West of England
(Bristol, Weston-super-Mare, Bath), Exeter, Gloucester and Cheltenham, Plymouth, Swindon, Taunton, Torbay and the Key Cornish towns.

D.1.20 The DfT’s DaSTS City and Regional Networks Data Book refers to sources of information which indicate levels of congestion across the transport networks. The maps in Annex 14 of the Data Book\(^{22}\) show forecast average delay on motorways and A roads in 2025. This illustrates particular hotspots within the region around Plymouth.

D.1.21 The South West Regional Rail Prospectus\(^{23}\) notes that rail has a key role to play in facilitating longer distance movements connecting the South West to London/the South East and Birmingham/West Midlands as well as supporting tourism and providing access to ports and airports.

D.1.22 The South West Regional Planning Assessment for the Railway (DfT, 2007)\(^{24}\) considered the impacts of future levels of growth across the rail network and the capacity issues that emerge from this over the short, medium and long term period (medium to long term being 2014-2026). Challenges for Plymouth are identified as:

- Improving connectivity to national and regional networks to support growth and address issues of low productivity and deprivation (NB strategic national corridors merge into regional corridors at Exeter).
- Within Plymouth, progress to address these challenges is being made through schemes to support the eastern development corridor in the first part of the RFA programme to 2014.

D.1.23 There are important implications for freight movements, given challenges around CO\(_2\) emissions from the freight sector and need to support economic growth through sustainable and efficient distribution networks. In the South West the emphasis will be on directing freight to use appropriate strategic corridors (as far as it is possible to do).

**DaSTS Study: Exeter and Far South West Gateway**

D.1.24 As part of the DaSTS programme, an on-going study is examining Exeter’s role as a Gateway to the ‘Far South West’. It is reported that the study will be complete by the end of September 2011.

D.1.25 This study will examine the impact of the level of growth planned in the Regional Spatial Strategy on the reliability and resilience of the corridors that connect strategically significant cities and towns (SSCTs) in the peninsula with Exeter, and beyond to wider markets. It will develop proposals to manage increased travel demand in a sustainable way, including the potential for modal shift of freight from road, and determine value-for-money solutions to maintain connectivity between the main growth areas.\(^{25}\)

D.1.26 The Strategic National Corridors (SNC) extend as far west as Exeter, where they meet important regional corridors extending to Torbay, Plymouth and Cornwall. Thus, Exeter forms a gateway to the national network and wider markets for the SSCTs and Growth Points to the west of Exeter.


\(^{23}\) This technical document sets out regional rail priorities for the South West region. The document aims to respond to the South West Regional Planning Assessment (RPA) and Network Rail Business Plan by identifying the priority outcomes for the region which should be taken forward to deliver the RSS and RES, in the context of current problems and opportunities facing rail in the region. [http://www.southwest-ra.gov.uk/media/SWRA/Regional%20Transport%20Board/29th%20November%202007/Final_Rail_Prospectus_Document_for_Website_-_30_Nov_2007.pdf](http://www.southwest-ra.gov.uk/media/SWRA/Regional%20Transport%20Board/29th%20November%202007/Final_Rail_Prospectus_Document_for_Website_-_30_Nov_2007.pdf)


D.1.27 The main issue is the level of growth expected at key towns and cities in Devon and Cornwall and the cumulative impact this will have on the regional corridors and Exeter Gateway. There is a need to ensure that connectivity to the South West Peninsula is maintained and improved.

D.1.28 The nature of a peninsula such as the South West is that communications tend to be concentrated along a small number of routes and are therefore more susceptible to disruption and a potential lack of resilience. There is a strategic question over whether the whole of the far south west should be connected to the national network solely by the M5 or whether the A303 route should be acknowledged as being of national significance.

D.1.29 There is a need to embrace the DaSTS goals and derive a low carbon transport strategy and interventions to deliver the RSS developments allocations. A gap which emerges from the evidence base in the context of DaSTS is how the accessibility of priority places to the national network may be further improved in a sustainable way to minimise carbon emissions and economic growth.

D.1.30 The South West Peninsula is sufficiently far from the national distribution centres to suggest there are possibilities for encouraging freight to transfer to more sustainable modes, such as rail and coastal shipping. However, this hypothesis is yet to be tested, and the volume of traffic that could transfer to rail is currently conjecture. Consequently, there is no real evidence on where the best location might be for infrastructure (such as a road/rail interchange) to act as a catalyst for this transfer. Thus, the following questions remain:

- Whether opportunities for the transfer of freight from lorries to more sustainable modes for the South West Peninsula,
- where this transfer node might be located,
- the measures which would prompt this change and
- the effect on carbon emissions in the sub-region.

The South West Regional Spatial Strategy

D.1.31 The Regional Spatial Strategy (RSS) for the South West sets the policy context for planning and development in the South West to 2026. The RSS provides a spatial context for Local Development Frameworks, providing guidance on the scale and location of future development. The RSS also guides investment in transport and provides a framework for the preparation of Local Transport Plans. As part of its regional approach to transport, the RSS sets out the regional approach to freight transport. The RSS also sets out the regional approach to ports (and airports).

D.1.32 Significant levels of housing and jobs growth are expected in the RSS. Future strategic planning for road and rail is important to deal with the implications of this. An example to understand the scale would be Exeter, for which the RSS is projecting an increase of 57% in the number of homes by 2026.

Devon Structure Plan26

D.1.33 The Devon Structure Plan (adopted October 2004) identifies the Devon Strategic Road Network (SRN) as having a primary role in accommodating road based freight movements (including port and airport access). In performing this role, the identification of the SRN helps to reduce the overall impact of freight movement by concentrating such traffic onto those parts of the network most able to accommodate it.

D.1.34 The Structure Plan also seeks to:

• Reduce the impact of large vehicles on their environment through traffic management measures and Freight Quality Partnerships whilst maintaining access for the delivery of goods.

• To maintain and develop port facilities and their associated infrastructure at Teignmouth as a commercial port, Bideford as a commercial port

D.1.35 There are a range of relevant policy considerations in the Structure Plan.

Devon Structure Plan / Local Development Framework (LDF)

D.1.36 Devon Structure Plan policies on Freight may be summarised as (TR13 and 15):

• Reduce the impact of large vehicles on the environment through traffic management measure and Freight Quality Partnerships while maintaining adequate access for delivery of goods

• Port facilities at Plymouth developed as a commercial and fishing port linked to the European Transport Network.

• Developing comprehensive freight management strategies within the Principal Urban Areas

D.1.37 In the context of the Devon LDF a Briefing Paper has been published on Freight.27

Vision / Strategy for the future

D.1.38 The general transport vision set out in the Devon Structure Plan is to:

‘Develop and integrated and sustainable transport system, in conjunction with a land use strategy, able to meet the environmental, economic and social needs of Devon whilst reducing the need to travel.’

D.1.39 This general vision needs to be developed through the identification of key freight transport aims that need to be addressed over the next 20 to 30 years to improve the efficiency of freight sector, whilst improving journey times and reducing emissions and removing the impact that freight has on congestion and the environment.

D.1.40 The current arrangement are to work partnership with local authorities, the freight industry, environmental groups, local businesses, the police and other interested bodies to understand freight distribution issues and to promote constructive solutions for access for goods and services and environmental and social concerns. Such an initiatives need to be advised thought the introduction of a range of principles to encourage and develop opportunities for an integrated and sustainable freight solutions

Issues to be addressed

D.1.41 Integrated and sustainable development in conjunction with a land use strategy, able to meet the environmental, economic and social needs of Devon whilst reducing the need to travel.

D.1.42 The predominance of road based freight over other, more sustainable, modes of freight movement also raises issues about pollution, the use of resources, and other environmental impacts. These impacts can, however, be mitigated by

• Increasing the role of rail and water based freight haulage

• Managing existing road based freight movement more effectively

• Targeting infrastructure improvements such as rest area, bottlenecks, capacity and congestion issues and address the needs of a second strategic route into Devon

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- Addressing the environmental issues
- Minimising the effects on climate change
- Addressing freight needs and concerns in both rural and urban areas

D.1.43 In addition care is being taken in the design of the new communities at Cranbrook, and Sherford to ensure that the impact of service and freight vehicles is minimised.

D.1.44 The environmental effects of freight vehicles should be minimised and this may in urban areas be achieved by restricting the hours that retail premises are serviced.

D.1.45 The rail network is an under-utilised resource for freight movement, and there is scope for the expansion of long distance rail freight services. The current Regional Transport Strategy identifies the need to upgrade the gauge on the Great Western main line via Bristol for freight movement. The draft RSS also proposes additional passing loops between Salisbury and Exeter and appropriate engineering measures to secure the long term future of the Great Western route through Dawlish. The Trans European Rail Freight Network (TERFN) now includes the main Penzance to Bristol line and all rail lines should be fully integrated with the rest of the operational network by March 2008.

D.1.46 Sea transport is very efficient in the use of energy and, while the opportunities to expand the role of water based freight haulage are limited, the increased use of coastal and European shipping and ferry links for both freight and passenger traffic will be promoted and encouraged. The Devon Structure Plan includes proposals to maintain and develop port facilities and their associated infrastructure at Teignmouth as a commercial port, Bideford as a commercial port.

D.1.47 Multi-modal freight terminals can play an important role in encouraging the use of rail rather than road based freight networks. It is considered that the strategic priorities for such terminals in Devon, in terms of their importance to the local economy and their ability to influence modal choice, are at Exeter and Plymouth.

D.1.48 Elsewhere there is considerable scope for local freight handling and transfer facilities which can help to reduce reliance on road based freight and the impact of goods vehicles - especially in urban areas and the Area Centres. Proposals for major freight generators should be located where they are well related to the rail network and existing ports.

**Plymouth Local Development Framework**

D.1.49 The City’s emerging Local Development Framework also identifies the potential for growth at Plymouth’s Port facilities and safeguards land for a road / rail freight interchange.

D.1.50 Plymouth’s LDF Core Strategy has (under Policy CS27 ‘Supporting Strategic Infrastructure Proposals’, item 3): “the further development of facilities to support Plymouth port, including improved rail freight infrastructure and a rail freight interchange at Tavistock Junction”. 28

**Plymouth City Council Transport Policy**

D.1.51 Both the current and previous LTPs considered the issues of Ports and Freight Transport. The first LTP dealt in more detail with the issues and the policies and strategies have not changed significantly in the second, provisional LTP.

**LTP 2001-06** 29

D.1.52 Relevant elements of the first LTP policy included:

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29 [http://www.plymouth.gov.uk/ltplocaltopicbasedobjectives](http://www.plymouth.gov.uk/ltplocaltopicbasedobjectives)
Rail

D.1.53 The objectives for the development of rail freight were:

- Continuing to lobby for Trans-European Networks (both High Speed Passenger Rail and Combine Transport) to be extended to Plymouth at full international loading gauge
- Maximising potential for transferring road freight to rail
- Ensuring good rail links at international loading gauge to established Channel Tunnel rail freight terminals
- Maximising the cost effectiveness and environmental benefits of moving freight by rail

Port and Shipping

D.1.54 Objectives for the Port and Shipping operations were:

- To continue to lobby central government over improvements to road links to Plymouth to assist access to port facilities for both freight and continental ferry passengers
- To continue to support developments through the part funding of the Interreg II (c) project looking at short sea routes and landward connections
- To continue to work in partnership with Railtrack and EWS towards the improvement of rail infrastructure to full international loading gauge through to Cattedown and Victoria Wharves (Note: this policy has now been overtaken by events, with the effective closure of the line)
- To support the provision of additional local water transport services by the private sector
- To improve the approaches to Millbay Docks, including continued support for commercial and environmental improvements and redevelopment in the Union St. and Millbay Road areas
- To seek to provide new or improve facilities for road / sea / rail interchange
- To support the work of the Port Development Group in developing promotional initiatives to raise awareness of port facilities available in Plymouth
- Through the Port Development Group, and individual port interests, identify opportunities to encourage the growth and development of marine and maritime-related businesses; including numbers of visiting cruise ships
- To continue to respond to EU policy and legislation related to infrastructure proposals

Freight Transport

D.1.55 Objectives relating to freight transport are:

- Establish close working relationships with freight haulage operators and customers
- Work with the Chamber of Commerce to develop a Freight Quality Partnership
- Fully review the issues associated with Freight Transport in the City to establish areas of concern and potential action areas
- Seek road/rail interchange at Marsh Mills
Intermodal Options

D.1.56 In the LTP1, there was considered to be potential to develop an Intermodal freight facility at Tavistock Junction to serve the Plymouth and South East Cornwall area. This was seen as encouraging freight to move from road to rail, with benefits for the strategic network; impacts on the local road network were seen as being addressed through traffic management and restrictions.

Sustainable Distribution Plan, Provisional Local Transport Plan 2006-2011

D.1.57 As part of the Provisional LTP2, Plymouth CC produced a Sustainable Distribution Plan.

D.1.58 It was noted that facilitating access for freight to and from the port facilities will continue to be a priority and is essential if the port operators are looking to expand beyond their current operations. It is stated that the potential to further encourage the movement of freight by rail would be investigated, although this will only be appropriate for the Cattedown wharves due to the prohibitive cost of rejoining Millbay with the rail network.

D.1.59 The plan also notes that there is potential to develop an intermodal freight facility at Tavistock Junction to serve the Plymouth and South East Cornwall area. This could move freight from road to rail and have benefits for the strategic network, although there may be impacts on the local road network that could be addressed through traffic management and restrictions.
Economic Development & Planning

D.1.60 In terms of economic development and planning, the key national, regional and local policies of particular relevance to Plymouth Ports include:

- Port Master plan Guidance
- Devon Structure Plan
- Regional Spatial Strategy
- Regional Economic Strategy
- LDF Core Strategy (and Area Visions / AAPs)
- Plymouth Marine Sector Development Strategy
- Plymouth Sustainable Growth Study
- Plymouth Sustainable Community Strategy
- Plymouth Employment Land Review
- Plymouth City Council Urban Capacity Study

D.1.61 Other key policy documents and strategies include:

- A Charter for the Countryside and Seas around Plymouth
- A Vision for Plymouth
- Plymouth Marine Sector Development Strategy

National and Regional Policy

Planning Policy Statements

D.1.62 Planning Policy Statements (PPSs) explain statutory provisions and provide guidance to local authorities and others on planning policy and the operation of the planning system. Two key PPS documents are most relevant to this study:

PPS 3: Housing

D.1.63 This PPS reflects the Government's commitment to improving the affordability and supply of housing in all communities. It is noted that new housing should allow for good access to jobs, key services and infrastructure. In identifying sites for housing the effectiveness of land use should be considered with a concentrating on brown-field land and utilising the potential for mixed-use development.

PPS 4: Planning for Sustainable Economic Growth

D.1.64 For the purposes of the policies in this PPS, economic development includes development within the B Use Classess, public and community uses and main town centre uses, or projects which provide employment opportunities, generate wealth or produce economic output.

D.1.65 Policy EC2: Planning for Sustainable Economic provides some of the most relevant guidance for this study. It includes guidance that recommends that plans for economic development should:

Support existing business sectors, identifies and plans for new or emerging sectors;

- Positively plans for the location, promotion and expansion of clusters
- Seek to make the most efficient and effective use of land reflecting the different location requirements of businesses. Where necessary to land should be safeguarded from other uses, providing there is reasonable prospect of its take up
- Use mixed use development where appropriate to encourage a broad range of economic development
- encourages new uses for vacant or derelict buildings, including historic buildings

**Regional Economic Strategy**

D.1.66 The Regional Economy Strategy (RES) for the South West sets out the vision that “South West England will have an economy where the aspiration and skills of our people combine with the quality of our physical and cultural environment to provide a high quality of life and sustainable prosperity for everyone”.

D.1.67 Ensuring businesses are provided by the support they require to prosper, such as the development of transport infrastructure is seen as central to the achievement of the vision. It is noted that rapid and reliable connections to national and international markets are key concerns for businesses.

D.1.68 The RDA has identified eight priority sectors for specific intervention, those of particular relevance to this study are:

- Advanced engineering; especially aerospace and defence-related. The sector is highlighted as being of strategic importance to areas including Plymouth. Assistance should aim at maintaining competitive advantages through application of new technologies and highly advanced engineering through the supply chain.
- Marine; Plymouth, along with Poole and Falmouth are cited as the most important centres. The sector is considered to be of strategic importance and focussed towards leisure, marine and defence related activities.
- Tourism; it is considered that there is a pressing need to improve the quality of the offer and to make the industry more productive and more sustainable.
- Environmental technologies; especially renewable energy and waste are considered to offer significant future growth opportunities for domestic and export markets, building on the existing base of research organisation and companies.

D.1.69 The role of Plymouth is to be consolidated as the RES seeks to ‘promote the renaissance of the regions largest cities’.

**Draft Regional Spatial Strategy**

D.1.70 The Draft RSS was submitted to Government in April 2006 and following a formal Examination in Public a series of changes have been proposed. The revised South West RSS was due to be published in summer 2009 but its publication has been delayed. We therefore consider the Draft RSS and the proposed changes in this review.
D.1.71 The Draft RSS notes that technical projections suggest that a high rate of population growth will continue, and the economic prospects for most of the region are good if supported by positive planning, particularly for the growth and development of the strategically significant cities and towns (SSCTs), of which Plymouth is one. Indeed, one of the key elements of the strategy is that ‘Plymouth continues its renaissance and becomes the economic hub of the far South West’

D.1.72 Proposals for delivery new homes, required as a result of economic and population growth, is a key element of the RSS.

D.1.73 Sustainability is embedded within the RSS and key aspects of relevance include aiming for sustainable production and consumption, combating climate change, protecting and enhancing natural resources and the environment and creating sustainable communities. An example of this is the aim to make sustainable construction principles are embedded in all developments.

D.1.74 The Draft RSS provides more detailed guidance for the development of sub areas across the region and Plymouth lies within the Plymouth, South East Cornwall and South Devon sub area. The definition of the sub-area reflects the outputs of functional analysis and consultation, but it is stressed that the boundaries between the sub areas should be considered ‘fuzzy’, recognising interdependencies and relationships.

D.1.75 At a higher level Plymouth is considered part of the Western Peninsula. It continued development and transformation as a major centre is expected to have a beneficial effect on the Western Peninsula, but it is noted that its relative distance from national markets and London places the city at a disadvantage. If it is to achieve the higher end growth forecasts envisaged for it, the city will have to be successful in overcoming this disadvantage and pulling in significant inward investment.

D.1.76 A target of 1225 dwellings per annum is set in the Draft RSS for the Plymouth Urban Area.

D.1.77 Key infrastructure identified in the Draft RSS as necessary to achieve the city’s potential are listed. Those of most relevance to this study are:

- Provision of a road/rail freight interchange at Tavistock junction
- Creation of sea freight/cruise liner facilities and rationalisation of land uses
- Creation of regionally significant recreational facilities, linked with leisure and commercial facilities in the City Centre
- Replacement of conference facilities to create a new arena and facilities
- Improvements to the cultural provision

D.1.78 Specifically in relation to the region’s ports the Draft RSS states in Policy TR7:

“Proposals at all of the region’s ports which facilitate the development of markets for freight and passenger services are supported, particularly where they include measures, such as improved rail access, in order to reduce the use of road based haulage. LDDs should facilitate the growth of ports to provide (where appropriate):

- Improved passenger facilities
- New recreational passenger services
- Facilities to support the fishing industry
- Land for port growth, marine sectors and related uses
- Rail connections
- Container and other freight facilities”

D.1.79 Some other relevant policies include:
• Policy RE10, which states that Mineral Planning Authorities should seek to make provision for the supply of aggregates and other minerals to meet the South West’s contribution to national requirements.
• Policy E2, which states that LDDs will provide sufficient sites to accommodate the numbers of jobs identified for each SSCT.
• Policy E5, which states that within coastal towns and the developed coast, waterside sites must be safeguarded for social and economic uses which require such a location, giving priority to maritime industries.
• Policy TO1, which states that Realising the potential of the region’s environmental, cultural and heritage assets as a basis for the development of sustainable tourism, where consistent with their conservation.

South West Tourism Strategy

1.3 Towards 2015: Shaping Tomorrows Tourism is the strategy for developing the south west’s tourism sector. The Vision is:

“By 2015, the South West of England will be internationally recognised as a model tourism destination. This will be achieved by creating a unique balance between its environment, communities, industry and visitor satisfaction, while earning long-term economic, environmental and social benefit for the whole region.”

D.1.80 One of the key themes of the strategy is to focus on not only providing a destination, but providing an experience, through the development of brand clusters. The deliver of these clusters is to be managed by Delivery Management Organisations (DMOs), including VisitDevon and VisitPlymouth.

Devon Structure Plan

D.1.81 Devon to 2016, adopted in 2004, is the current Structure Plan for the whole of Devon, including Plymouth, Torbay and Dartmoor National Park, but excluding Exmoor National Park. It sets out strategic planning policies for development and other land uses in respect of: housing; employment; conservation; minerals; waste; transportation; shopping; tourism; leisure; and recreation, over a 15 year period. It provides a framework for detailed decisions by local authorities, other organisations and individuals in the preparation of their forward Plans.

D.1.82 The plan highlights the role of the county’s ports in reducing the peripherality of the area. It is noted that Plymouth is one of the key ports serving the south west, and that access between the port and the strategic road/rail networks needs to be maintained and improved if it is to fulfil its strategic role.

D.1.83 Policy TR13: Ports; states that “Port facilities and their associated infrastructure should be maintained and developed in order to ensure that the following ports fulfil their strategic function:

• Plymouth as a commercial and fishing port linked to the European Transport Network;
• Teignmouth as a commercial port;
• Bideford as a commercial port; and
• Brixham as a fishing port.”

36 Devon County Council (2005). Devon to 2016. Devon County Council
Local Planning and Economic Development Policy

Plymouth Core Strategy

D.1.84 The Core Strategy was adopted in April 2007 and sets the agenda for the city’s Local Development Framework. It is focused on “delivering true urban renaissance which respects Plymouth’s unique natural setting and history” and sets out a “spatial planning framework for the long term development of the city”.

D.1.85 At its heart is to promote sustainable forms of development using the demand for new homes, jobs and services in a way that acts as a positive catalyst for change. The focus of growth and change is to be principally, although not exclusively, on the city centre and waterfront regeneration areas.

D.1.86 The Core Vision is to be: “One of Europe’s finest, most vibrant waterfront cities, where an outstanding quality of life is enjoyed by everyone”. This includes becoming the economic hub of the far south west by 2021, aspiring to reach a population of over 300,000.

D.1.87 The City's links to the Plymouth Sound and estuaries are considered ones of its strongest assets, and it is the waterfront areas which are to provide the focus for regeneration activities. The waterfront areas also provide one of the City’s competitive advantages and the marine sector is identified as one of six key sectors to drive economic growth. To aid this it is stated that sites for uses with specific requirements, such as marine activities, should be safeguarded.

D.1.88 Ten priority areas have been identified in the Core Strategy because of their opportunities for change, city wide importance, or urgent need for regeneration. These are split into three groups, two of which are directly relevant for this study:

- The waterfront regeneration areas of Devonport, Millbay & Stonehouse, the City Centre, the Hoe, Sutton Harbour, East End, and Central Park.
- Plymouth Sound and Estuaries, where there is a need to develop a marine spatial planning approach, with the surrounding authorities, to manage its future use.

D.1.89 Figure D1 shows the location of the priority areas.
Devonport Area Vision and Strategy

D.1.90 The Vision for Devonport is “The re-creation of Devonport as a distinct place in modern Plymouth, a vibrant self sustaining community; a place of real quality, variety and interest, the pride of residents, attractive to visitors and a model of 21st century living working and Playing”. Key issues identified in the Plan to be addressed are:

- To develop a new centre for Devonport, based on Chapel Street and supported by the redevelopment of the surrounding areas.
- To improve the range, quality, and choice of housing.
- To provide local employment opportunities (on released MOD sites and Chapel Street)
- To provide for a better range of local services and facilities.
- To improve connectivity throughout the community with pedestrian routes, cycle ways, and high quality public transport.
- To protect natural and historic assets.

Millbay and Stonehouse Area Vision and Strategy

D.1.91 The Vision for Devonport is “To develop Millbay and Stonehouse as an attractive mixed use neighbourhood that maximises its rich heritage, using the redevelopment sites around the water as a catalyst to further regeneration throughout the area”.

Source: Core Strategy
D.1.92 Millbay is identified in the Vision for Plymouth as ‘one of the greatest opportunities for transformation, and thus a key contributor to the future success of Plymouth’. Its waterfront location, proximity to the City Centre, status as the ‘gateway’ to and from Europe, and the fact that there is a large amount of land in public ownership provide tremendous potential for regeneration. It is noted however that certain areas of Millbay and Stonehouse are vulnerable to long term tidal flooding, and that growth should be delivered in a way that avoids adverse impacts on the integrity of the Natura 2000 sites, in particular the impact of recreational activity on the European Marine site.

D.1.93 The objectives set out for the area are:

- To create a network of clearly identifiable, vibrant, well connected neighbourhoods each with their own unique character and identity, which fosters local pride.
- To promote positive mixed use regeneration of disused and other under-used sites, including, where appropriate, tall buildings.
- To create a quality Union Street with a range of uses that support the surrounding communities and helps to link together Millbay and Stonehouse.
- To develop a stunning and high quality waterfront, where the public can enjoy the water and facilities located along the waters edge.
- To create an attractive, vibrant and convenient link between Millbay and the City Centre.
- To provide positive connections throughout the area and to neighbouring areas that are safe and convenient for pedestrians and cyclists and served by high quality public transport services.
- To capitalise on the historic assets of the area such as the historic townscape and important historic buildings.
- To provide a mix of uses in the area, with employment opportunities and business opportunities, local services, quality private and affordable housing and attractive places to socialise.
- To provide a new office quarter for the city located in the area from Derry’s Cross to Millbay waterfront.
- To encourage new marine based employment that will capitalise on the unique location and sustain and reinforce a long established tradition of water related jobs.

The City Centre and University Area Vision and Strategy

D.1.94 The council aims to reinforce the area as a regional shopping, employment and cultural centre. The objectives for the area are:

- To diversify the current functions of the City Centre to give it more life outside shopping hours, including intensification of residential, office, and cultural uses, including, where appropriate, the introduction of tall buildings.
- To significantly intensify the central area to include taller buildings at key locations, and offer visitors and residents a 24-hour life.
- To identify a central office core within the City Centre in conjunction with the redevelopment of Millbay.
- To provide some quieter areas with enough activity at all times to make it feel safe.
- To attract specialised shops, pubs, entertainment and culture.
- To ensure connections with adjacent areas are strong, direct and meaningful.
• To positively integrate and reinforce the role of the University and the Cultural Quarter as vibrant and strong parts of the City Centre.

• To create a more urban environment in the University area through developments which give a better sense of enclosure to the streets.

• To enrich the quality of the environment in the City Centre, so that the public areas are clean, safe, accessible and attractive.

• To seek opportunities to create better pedestrian permeability north south through the City Centre blocks and ensure that new developments seek to improve the legibility of the City Centre so that everyone can easily find their way around.

• To consider the heritage value of the City Centre and University areas as part of its regeneration.

• To selectively introduce traffic back into parts of the City Centre.

**The Hoe Area Vision and Strategy**

D.1.95 The main vision for the area is “To enhance the civic quality and focus of The Hoe, including its foreshore and related spaces, promoting in particular its tourism, leisure and residential functions”

D.1.96 The main opportunities for change include:

• Providing mixed use development opportunities to the north of Hoe Park, encouraging landowners to provide mixed use developments that complement the public spaces

• Developing vacant and underused land in West Hoe to strengthen the existing community, improving the diversity of housing, range of community facilities and new opportunities for employment

• Enhancement of the connecting corridor between Hoe Park and the City Centre via Armada Way so that it encourages people to visit and enjoy the Hoe

• Improving the public’s enjoyment and use of Hoe Park through imaginative design, interpretation of its past and making best use of its foreshore routes and historic structures

• Making the best use of existing facilities and providing new ones where appropriate to support the Hoe as a leisure and tourist destination. This includes options for re-developing the Dome and providing a new cultural focus for the waterfront

• Providing well-resourced high quality regular public transport links and facilities related closely with opportunities to improve interrelated water transport along the foreshore.

**Sutton Harbour Area Vision and Strategy**

D.1.97 The vision for the area is “to consolidate and develop the Sutton Harbour area as an attractive and sustainable mixed-use city quarter creating a unique, high quality environment that will attract investment and new residents. The Council’s objectives to deliver this vision are:

• To promote the positive mixed-use regeneration of disused or under-used land and buildings, including where appropriate, tall buildings.

• To conserve and enhance the special historic character of the Barbican, Bretonside and Coxside for future generations - capitalising on historic assets while respecting the character of existing communities, uses, buildings and structures that make the area distinctive.

• To create a safe, high-quality environment that capitalises on the waterfront setting. This should include a linked network of attractive public spaces including a vibrant, publicly and visually accessible waterfront – enlivened with entertainment, leisure and cultural uses.
• To provide enhanced local centres for the Barbican, Bretonside and Coxsie with services, activities and amenities that meet the needs of local people, employees, businesses, visitors and the wider community.

• To create high-quality integrated mixed-use development to the east and west of Sutton Road, Coxsie – including a balanced mixture of housing types and tenures, and opportunities to live, work, shop and socialise locally.

• To ensure the area is easy to walk and cycle to and through - connecting effectively to surrounding neighbourhoods and the city centre, with excellent access to public transport (including the proposed eastern corridor High Quality Public Transport link).

**East End Area Vision and Strategy**

D.1.98 The East End was declared a Renewal Area (May 2000) which has helped deliver regeneration in the area, and provided funding for the Stirling Prize shortlisted Theatre Royal workshop building, “TR2”, which it is hoped will act as a catalyst for further regeneration in the area. The vision for the area is “To create a sustainable mixed-use urban district in Plymouth’s East End that respects its heritage and is well connected to the waterfront, providing a high quality Eastern Gateway to the city and maintaining a thriving commercial port”. The objectives for the area are:

• To deliver strategic transport solutions for the Eastern Corridor, ensuring that local priorities for transport and infrastructure improvements are also addressed as part of any scheme.

• To promote comprehensive high-quality mixed-use sustainable regeneration including:
  - waterfront regeneration sites between Laira Bridge and Embankment Road.
  - sites in the vicinity of Faraday Mill Business Park.
  - key sites in East Coxsie.
  - key sites relating to the East End Community Village.

• To improve the quality and viability of residential environments (currently severed by major transport routes).

• To promote public access to and enjoyment of the waterfront.

• To maintain and enhance the commercial port of Cattedown and marine related employment.

• To improve the quality of the existing housing stock to address issues of affordability as well as providing new affordable housing in the area.

• To conserve and enhance the area’s natural and built historic environment assets.

**Plymouth Sound and Estuaries Area Vision and Strategy**

D.1.99 The vision for the area is “To conserve and enhance Plymouth’s unique coastal and waterfront setting, promoting an integrated management approach to its sustainable development, which:

• Protects the value and integrity of the Port of Plymouth, recognising its position as a unique asset to the area.

• Delivers the conservation objectives for the Plymouth Sound and Estuaries European Marine Site.

• Delivers opportunities for improved water transport linkages along the waterfront.

• Acknowledges the port’s fundamental importance to the economy of the area, and the need to accommodate a wide range of uses /activities, including its role as a primary naval port and dockyard, its use by commercial shipping, commercial fishing, tourism, recreation and leisure.”
Economic Strategy

D.1.100 Plymouth CCs aim is to become the “economic hub of the far south west”, a sentiment echoed in the RSS. Policy SR35 sets out the aspiration for the Plymouth TTWA to make provision for a job growth of 42,000 jobs over the period 2006-26, to be delivered through an employment land provision of 150 hectares. Key issues for future employment provision are:

- Plymouth’s former dependence on defence and manufacturing has left a number of legacies. In rationalising current land holdings, it will be important to take account of wider issues and potential benefits for the city as a whole.
- Much of Plymouth’s manufacturing sector is located on post-war industrial estates, some of which provide suitable locations. However, many companies, particularly those in knowledge-based industries, no longer want to be on industrial estates.
- It is generally recognised that Plymouth’s retail offer falls below the standard necessary in a large city moving into a service culture mode of development. While developments are underway, there will be a need for redevelopment of parts of the central area to introduce other uses.
- The importance of safeguarding and enhancing Plymouth’s tourism offer – in particular as a destination for day visits, short stays (e.g. city breaks), and as the gateway to Cornwall. There is a specific need to address quality and presentation issues around Plymouth’s hotel and accommodation stock. Re-investment is needed, particularly in hotels with good leisure and conference facilities. Additionally, Plymouth provides a major opportunity to deliver high quality tourist and visitor services and facilities for the sub-region.

D.1.101 The economic strategy identifies six priority sectors:

a) Business Services
b) Creative Industries
c) Tourism & Leisure
d) Medical & Healthcare
e) Marine Industries
f) Advanced Engineering.

D.1.102 For marine industries, the strategy identifies a target of approximately 520 new jobs for the period up to 2026 with an additional land requirement of 0.6ha.

D.1.103 The city centre, with a particular focus on Derry’s Cross / Millbay, will act as a core location for new office development. Creative industries, tourism and leisure, marine employment and urban regeneration-led initiatives will be focussed on the City Centre and Waterfront Regeneration Areas.

D.1.104 Two key aspects of Policy CS05 (Development of Existing Sites) state:

- Development of sites with existing employment uses for alternative purposes will be permitted where there are clear environmental, regeneration and sustainable community benefits from the proposal.
- In relation to marine employment sites, that priority will be given to safeguarding the site for marine industrial uses that genuinely require a waterfront location.

Minerals

D.1.105 A band of Middle Devonian Limestone forming a long exposure up to a kilometre wide runs across the southern side of the city from The Hoe, through Cattedown to Sherford. The rocks are well-
bedded medium to pale grey limestone – reserves of which have been proved to a considerable depth. Additional limestone reserves have been proven to the east and north of Hazeldene. There are no other known mineral deposits within Plymouth for which it is necessary to provide a minerals planning framework. The aim is “to deliver an appropriate balance between the need to safeguard the long term supply of minerals and deliver of strategically important development”.

Housing

D.1.106 Policy SR35 goes on to identify a housing requirement, for the period 2006-26, for the wider Plymouth urban area of 31,500 dwellings (1,575 per annum), of which 24,500 (1,225 per annum) need to be provided within the city. Approximately 44% is set to be delivered in the city centre and waterfront regeneration areas.

Plymouth Employment Land Review

D.1.107 The Employment Land Review (ELR) provides a key input to the Core Strategy, particularly relating to employment growth, associated land requirements and site.

D.1.108 Commentary on the key sectors of the economic strategy is provided. With regards the Plymouth Ports Evidence Base study it is useful to note:

- Advanced engineering: will have to work hard to maintain this sector but representatives indicate there are reasonable prospects for an increased output based on higher productivity with little net new job creation in the future.

- Marine industries: it is noted that performance has been strong, dominated by Devonport Management and Princess Yachts Future opportunities in renewable energy, environmental goods and services, coastal defence, communications and IT, aquaculture, marine leisure and marine science are good.

- Tourism: Plymouth is well placed to capitalise on key growth areas of the tourism sector.

D.1.109 The study concludes that there is a lack of employment land provision in the city centre and waterfront locations that are vital to attract growth in the key sectors. It is noted that the desirability of waterfront locations generates a mismatch in the high value of land and the low value development value of employment uses. Key uses are from the marine industries and tourism sector.

D.1.110 Waterfront sites are in high demand and need to be provided for marine industries and tourist and cultural attractions. Millbay represents the best prospect for waterfront uses; however Cattedown, Mount Wise and Sutton harbour also offer scope to accommodate waterfront employment. Waterfront sites owned by the MOD might offer long term future possibilities. In total demand for waterfront sites is expected to equal 12,000 sqm or 2.8 hectares of land over the twenty years to 2026.

Sustainable Growth Distribution Study

D.1.111 The purpose of the document was to inform the submission(s) of PCC and its project partners to the South West Regional Assembly (SWRA) on what the RSS should say about the future of the sub area and its parts. The report examines different spatial distributions and different levels of development across the sub area.

D.1.112 The study highlights the vital role of Plymouth as the primary settlement, and where an increase in jobs and in facilities and services will provide increased opportunities to those in other

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settlements. However it makes little direct reference to the port and waterside facilities, beyond acknowledging the marine industries, along with advanced engineering and tourism which overlap marine industries, as three of the key sectors being targeted for growth.

D.1.113 The scenarios and forecasts considered in the study have not been overtaken by more recently published figures in the Core Strategy.

A Charter for the Countryside and Seas around Plymouth

D.1.114 A Vision for the countryside and seas that surround Plymouth was produced by a group of organisations, led by the Tamar Valley AONB Service. The Vision comprises the following key objectives / aims:

- “We need to ensure that the countryside and seas in and around Plymouth continue to play a key role in the regeneration and long-term success of the city and the fulfilment of all its people.
- We need to recognise that the countryside and seas in and around Plymouth are home to a number of communities whose vitality, viability and distinctiveness needs to be supported.
- We need to make sure that the countryside and seas in and around Plymouth become places where the many demands placed upon it complement each other and are effectively planned and managed, whilst respecting the principles of sustainable development.
- We need to explore new and more effective ways of managing our greenspace, creating new links between town, country and sea.
- Finally, we need to ensure the protection and enhancement of the landscape, riverscape, seascape, culture, heritage, settlements and biodiversity so that the unique character of the countryside within Plymouth’s urban fringe and centre can continue to be enjoyed by generations to come.”

A Vision for Plymouth

D.1.115 This is a visioning document commissioned by a group of local businesses. It provides a strong focus on Plymouth’s waterfront area as a key part of generating the city. Central themes are specified as:

- Movement: enhanced port infrastructure, particularly at Millbay for cruise liners; local water transport; connectivity of the waterfront areas;
- Attraction: regeneration of Millbay and improvements to the Hoe foreshore;
- Relationship: ensure the form and uses of the waterfront are designed such as to feed back into the city

Plymouth Marine Sector Development Strategy

D.1.116 This report sets out a strategy for the long-term development of the Plymouth marine sector, encompassing the whole range of marine related business and activities in the City. The strategy was devised in order to address the following issues:

- Pressures on waterside land

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40 Tamar Valley AONB Service (xxxx). *A Charter for the Countryside and Seas Around Plymouth.*
Port facilities are part of Plymouth’s USP

Regeneration plans, notably around Cattedown and Millbay

The aims of the Regional Economic Strategy

D.1.117 The development of the strategy included undertaking an economic impact assessment of the marine sector in Plymouth, a SWOT analysis of the sector and a review of relevant policy. Based on this, it is concluded that the marine technologies, tourism & marine science are the most important sectors and as such the strategy adopts the following core objectives:

- Retaining and building on the existing strengths in marine technologies, tourism and marine science.
- Supporting fishing and commercial port operations in order to ensure that these continue to compete effectively.

D.1.118 The fundamental aim of the strategy is “To secure the greatest economic benefit for the City of Plymouth from its established strengths in port and marine activities and make best use of the unique natural resource represented by the waters of the Tamar and associated land based activities”.

D.1.119 Five strategic objectives underpin this aim:

- **Strategic Objective 1** To maintain and build upon the City’s established strengths in marine engineering and boat building
- **Strategic Objective 2** To promote the use of the Waters of Tamar and waterfront for marine tourism activities
- **Strategic Objective 3** Working with existing port operators and others to ensure that the Port can compete effectively with other ports
- **Strategic Objective 4** To support the retention of the established fishing fleet at Plymouth and to assist with the diversification of activity
- **Strategic Objective 5** To develop new economic activities by building on the strengths of Plymouth marine sciences and R&D

D.1.120 A series of policies are set out with related indicative actions to be taken forward. These are set out under the key headings as related to the two core objectives identified above.

**Marine Technologies**

D.1.121 **SO1** - To maintain and build upon the City’s established strengths in marine engineering and boat building.

- Action MT1 Collaborative working with major employers to assist expansion and diversification.
- Action MT2 Action to enhance the competitiveness of the supply chain to DML and Marine Projects and encourage growth and diversification of SMEs supplying these two major companies
- Action MT3 Action to foster the growth and increased competitiveness of SMEs in the marine technologies sector, including the creation of a Skills Task Force in conjunction with Marine South West.
- Action MT4 Strengthening the voice of marine businesses in Plymouth

**Marine tourism**

D.1.122 **SO2** - To promote the use of the waters of the Tamar for marine tourism activities
- Action TO1: Enhanced Marketing of Plymouth as a Cruise Port
- Action TO2 Marketing of Plymouth as a Venue for Watersports Events
- Action TO3 Promoting the Development of Watersports Tourism
- Action TO4 Enhancing the Tourism Offer of the Waterfront

**Fishing**

D.1.123 SO4 - To support the retention of the established fishing fleet at Plymouth and to assist with the diversification of activity
- Action F1 Establish the feasibility of establishing a new Inland Fish Auction and Processing Plant.

**Marine Science, Research and Development**

D.1.124 SO5 - To develop new economic activities by building on the strengths of Plymouth marine sciences and research
- Action MS1 Liaison with the Plymouth Centres of Excellence
- Action MS2 Establishment of a Marine Science Park/Incubator Facilities
- Action MS3 Marketing Plymouth as a Location of Marine Engineering and Sciences

**Commercial port activities**

D.1.125 SO3 Working with existing port operators and others to ensure that the Port can compete effectively with other ports
- Action PO1: Improve cooperation and coordination between port operating companies and planning authorities
- Action PO2 Development of an MoD(N)/SWRDA/Plymouth City Council/Marine Sector Liaison Group
- Action PO3 To undertake a survey of opportunities for land reclamation for commercial port/marine sector use.

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The following is set out as the rationale for intervention in the ports sectors:

Total employment directly associated with commercial port operations is estimated to amount to approximately 700 jobs. Jobs directly associated with cargo handling (including passenger traffic) in the port amount to less than 80 jobs. Linkages between the port cargo handling operations and the local economy are fairly weak as few businesses make direct use of the local port facilities and shipping services.

The port provides a greater asset in terms of the wider regional economy, serving regional as well as longer term national transport needs given the emphasis being placed on sustainable transport policies and the development of coastal and short sea shipping. The strategic role of Plymouth as a regional hub for short sea shipping is also identified within SWRDA’s Regional Gateways Study. However, whereas the port operating companies are able to meet existing demand with the existing infrastructure, the further development of cargo handling operations at the port is seriously constrained by the lack of available land for the development of port working sites and premises.

In this type of environment, where space is a constraint, there is a case to be made for greater cooperation between the port operating companies and the local and regional planning authorities, so as to ensure that the port operators have adequate support when responding to emerging or apparent opportunities. The device that is recommended is a port operators’ group as a subset of Maritime Plymouth that facilitates the coordination with SWRDA and the City Council and other relevant local and regional business forums.

Particular action is required by Plymouth City Council as Local Planning Authority to ensure that any waterfront sites are not released for alternative use or development without due regard to the need for commercial port and other marine sector activities; such planning policies to be incorporated in the current Local Plan Review Process.

There is also a need to improve liaison and cooperation between MOD(N), SWRDA, Plymouth City Council in order to ensure that potential opportunities/requirements presented by the MOD(N) on port usage and spatial and R&D opportunities are identified at an early stage.
Coastal & Marine Environment

D.1.126 The coastal and marine environment is recognised as one of Plymouth’s greatest natural assets. It is essential both to livelihoods in the region and is an important factor in shaping the market environment for attracting visitors and businesses alike. The outstanding coastal features and their supporting wildlife make the area great place to live and work. The Ports of Plymouth reside within this landscape and they represent important features that encompass both Plymouth Sound, extending up the rivers of the Tamar, Tavy, Lynher and Plym.

D.1.127 Much of the area is designated as a European Marine Site (Special Area of Conservation and Special Protection Area) and as such, no development is permitted which would have a detrimental impact on the protected area. European environmental policies shall therefore contribute towards providing a very strong protection to sites of European environmental significance and this will therefore have a major influence over the development of Plymouth Ports in the future.

D.1.128 There have been a number of coastal and marine environmental planning studies carried out for ports in general as well as the Plymouth Ports specifically. These have been collected and the salient points summarised in the following sections. This is not, however, a definitive assessment of the coastal and marine planning policy structure for the Plymouth area, but instead is a summary of key reports of relevance to help support the Evidence Base for this project. It is advised that the source documentation, presented in the references section, should be consulted for specific policy details.

Relevant Reports and Studies

D.1.129 Table D.2 below outlines those reports gathered as part of the data collection phase, a brief description of the purpose of each report follows.

<table>
<thead>
<tr>
<th>Report</th>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>Shoreline Management Plan Review (SMP2) Durlston Head to Rame Head</td>
<td>Apr 2009</td>
<td>Investigation into future coastline management, considering environmental, physical and economic factors.</td>
</tr>
<tr>
<td>Plymouth Sound and Estuaries Coastal Planning Study (Haskoning)</td>
<td>Sep 2006</td>
<td>Guidance document that; details nature conservation issues, recommends parties for consultation, identifies required consents, and helps to identify cumulative effects.</td>
</tr>
<tr>
<td>Plymouth City Council - Strategic Flood Risk Assessment</td>
<td>Jul 2006</td>
<td>Assessment of causes of flooding and areas at risk, especially focussed in areas of planned development.</td>
</tr>
</tbody>
</table>
D.1.130 **Ports: National Policy Statement for England and Wales – Appraisal of Sustainability.** The Appraisal of Sustainability (AoS) document carries out a review of plans policies and programmes (PPP) that were relevant to environmental sustainability in ports.

D.1.131 The environmental PPPs outline objectives, shared priorities and future actions. These aim to achieve environmental protection, recommend measures to tackle potential issues and explain the effectiveness of measures currently being implemented. The main objectives of the PPPs are as follows:

- To protect and preserve the environment for today and the future;
- To protect the environment as a whole and human health by setting objectives and emission reduction targets for the main air quality pollutant;
- To reduce greenhouse gas emissions and stabilising climate change (mitigation) and take into account the unavoidable consequences (adaptation);
- To protect and enhance biodiversity in the terrestrial and marine environments;
- To work towards sustainable waste management;
- To promote the use of renewable energy (including bio-fuels);
- To promote landscape protection, sustainable management and planning, ensure access to the countryside and protect soil, including the identification and remediation of contaminated land;
- To avoid, prevent or reduce the harmful effects including annoyance due to exposure to noise;
- To protect water quality and allocated water resources efficiently;
- To reduce and manage the risks that floods pose; and
- To preserve and promote heritage for people to enjoy now and in the future.

D.1.132 Ports specific PPPs have a range of objectives and targets, all of which will be relevant to the Ports NPS. Objectives identified are concerned with:

- Achievement of good environmental status of seas;
- Prevention of pollution from ships;
- Safety;
- Protection of the coast and marine conservation;
- Protect and preserve the marine environment from all sources of pollution (including waste and dredging activities);
- Movement of freight;
- Port health; and
- Navigation.

D.1.133 Plans for port development should respect the sustainability of the marine environment and should show net benefits, which override any environmental disadvantages. They should also show that there is no other, better option, and that all reasonable steps to mitigate any negative impacts have been taken.

D.1.134 **The Review of the Shoreline Management Plan (SMP2) for Durlston Head to Rame Head** (Halcrow, April 2009) is the main source of coastal defence, costal process and coastal...
environmental information. The original SMP (produced by Posford Duvivier) was created in 1998 and is currently under its first review, carried out on behalf of the South Devon and Dorset Coastal Advisory Group (SDADCAG). The report is currently in its public consultation stage and so the report is yet to be adopted, however it is assumed that the factual data will remain accurate. The data reference in this study should be checked with the final SMP2 report should it be used further.

D.1.135 The Tamar Estuaries Management Plan 2006-2012 has been developed by the Tamar Estuaries Consultative Forum (TECF) with advice from the Port of Plymouth Marine Liaison Committee (PPMLC) and the Wembury Advisory Group (WAG). The Tamar Estuaries Management Plan has been written to provide guidance for the work of the Tamar Estuaries Consultative Forum and its partners in delivering statutory compliance and best practice in the management of the Tamar Estuaries. To this end it identifies problems and challenges in the estuaries area as well as recommending actions to overcome them. The recommended actions are also allocated to regulatory bodies that are best placed to carry them out.

D.1.136 The Plymouth Sound and Estuaries Coastal Planning Study (Royal Haskoning, Sep 2006), carried out on behalf of the TECF, aims to reduce the impact of development on the surrounding nature conservation efforts. The study has considered the direct, indirect and cumulative effects of development within the shoreside, intertidal and subtidal zones. The outputs of this study are intended for use by local authorities to guide the creation of development plans. This document gives some specific issues with common development activity and recommends solutions. It is unusual because it considers the cumulative effects of a number of developments, as well as each individually. It also tries to pull together lists of contacts that should be consulted and consents that should be gained before development goes ahead.

D.1.137 The Strategic Flood Risk Assessment (Pell Frischmann, July 2006), carried out on behalf of Plymouth City Council, provides a high-level assessment, and data set on flood risk in Plymouth. This assessment and data set were intended to be used to view the implications of land use planning and change within the catchment areas of Plymouth. Its primary output is a series of maps showing the flood risk areas in Plymouth. There are also focussed assessments for the areas of intended development within Plymouth.

D.1.138 The Strategy Study (MDS Transmodal and DTZ Pieda Consulting, Feb 2002) carried out for the South West Regional Development Agency (SWRDA), Plymouth City Council and Maritime Plymouth is a long term development strategy. The objectives of the strategy were:

- To develop a strategy for the long term development of the Port of Plymouth, encompassing the whole of the marine sector in the city; and
- To identify the land, buildings, infrastructure and other facilities which are need for the future development of the Port of Plymouth in order to safeguard and improve its competitiveness.

D.1.139 In preparing the strategy, the report carries out an economic assessment of the marine related activities, a SWOT (Strength Weakness Opportunity Threat) analysis for the sector and a review of relevant local, regional and national policy and planning frameworks. The report does not deal with environmental issues, but it shows the pressures on development and the likely areas of growth.

South West Regional Spatial Strategy (RSS)

D.1.140 The only national policy covered is the “Planning Policy Statement 9 (PPS 9): biological and geological conservation” which is included in the AoS described above. The regional and local policies are described in the following sections.
Regional Policy

D.1.141 The policy review for the Plymouth Sound and Estuaries Coastal Planning Study focussed on the Regional Spatial Strategy (RSS) because it summarises the existing policy of the Regional Planning Guidance for the south west (RPG 10). It also offers a policy suite designed to be applicable to 2016.

D.1.142 The RSS provides the regional focus for policy provision, and encompasses within this a spatial strategy for the region. The version of this document used by the Coastal Planning Study was RSS 4.1. It covers all aspects of development including a nature conservation policy and a coastal policy.

Nature Conservation Policy

D.1.143 The nature conservation policy within the RSS is provided in Section 7 – Enhancing Distinctive Environments and Cultural Life.

D.1.144 Policy ENV1 provides direction on identifying the character and distinctiveness of the natural and built environment. The policy advocates positive management of such resources and the need to ensure that all options are considered before advocating policy which would have an adverse impact on such values. Additionally, the value of international and European sites is identified in conservation initiatives.

D.1.145 Policy ENV4 relates specifically to nature conservation and offers a focus for the protection of distinctive habitats and species. Figure 7.3 of the RSS which accompanies this policy, also provides a regional representation of typical habitat distribution across the region (specified as Strategic Nature Areas – SNA’s). Policies and proposals which support the management of these areas are encouraged under this policy.

Coastal Policy

D.1.146 Section 7.2.15 of the RSS provides coastal specific policy. Two policies are provided with an explicit coastal focus CO1 and CO2.

D.1.147 Policy CO1 Defining the Coastal Zone. This policy advocates the definition of the coastal zone by local authorities as being ‘developed’ and ‘undeveloped’ coast. Within the undeveloped coast a presumption against development is specified unless fulfils one of five suggested criteria. The specified relate to:

- Does not detract from the unspoilt character and appearance of the coast; and
- Is essential for the benefit of the wider community; or
- Is required to improve public access for informal recreation; or
- Is required to support the sustainable management of fisheries; and
- Cannot be accommodated reasonably outside the undeveloped coast zone.

D.1.148 Policy CO2 Coastal Planning. This policy advocates the principle of cross border planning to protect resources in the coastal strip, which is intended to secure sustainable management of the coastal zone.

Devon Structure Plan

D.1.149 The Devon Structure Plan 2001 to 2016 (Adopted 2004) relates to the local government areas of Plymouth, West Devon and South Hams. The Devon Structure Plan therefore covers the entirety of the eastern side of the study area.
Nature Conservation Policy

D.1.150 The Conservation and Enhancement of the Devon Environment strategic aim is identified in the Structure Plan and covers all aspects of conservation of Devon's environment including the countryside, coasts, buildings and historic heritage.

D.1.151 Policy C7 provides protection for the Coastal Preservation Area by limiting development (other than of a minor nature) unless it is for the community at large and cannot be accommodated outside of the preservation area. It will only be permitted if it does not detract from the character of the coast.

D.1.152 Policy C13 promotes the sustainability of the biodiversity and earth science resource of Devon's natural environment. Policy C14 states that all statutory designated sites will be protected from development that will conflict with their conservation interests. Policy C15/16 relates to Local Plans defining sites of nature conservation importance. Policy C17 states that any development likely to have an adverse effect on a specially protected species should only be permitted where appropriate measures are taken to secure its protection.

Coastal Policy

D.1.153 Devon County Council’s Maritime Role and Action Programme sets out the policy for planning and management of the coast at a Devon wide level and is structured around five-year priorities for action.

D.1.154 Maritime Policies 1 and 2 provide support for developments dependent on a coastal location, and regeneration of coastal towns, as long as they are environmentally sustainable. These policies aim to realise a prosperous and competitive coastal economy for all.

D.1.155 Maritime Policy 3 supports proposals that strengthen and resource the County Council’s strategic role in oil spill contingency planning and its ability to respond in an emergency. Maritime Policies 4 and 5 relate to transportation in terms of seasonal congestion and provision of alternative forms of transport in order to maintain an efficient integrated transport system that meets the needs of Devon, its coastal communities and visitors.

D.1.156 Maritime Policies 6-15 relate to protecting and sustaining Devon’s environment, culture and heritage. These policies advocate spatial planning for sustainable development of the coast and marine resources, and support management partnerships that help to achieve these goals. Policies 9-12 promote the protection of Devon’s biodiversity, earth heritage and archaeology, and particularly state that coastal processes should not be interfered with unless environmental damage can be mitigated against.

Plymouth City Council LDF

D.1.157 Plymouth City Council have produced their Core Strategy Preferred Options as part of the second stage of preparing Plymouth’s LDF. It built on the earlier issues and options consultation stage (Spring 2005). The preferred options report sets out for consultation the City Council's proposed policy directions, and highlights alternatives where appropriate. The LDF does not yet contain specific policies for nature conservation and the coasts and therefore the Local Plan First Deposit (1995-2011) has been used as the source for these.

Nature Conservation Policy

D.1.158 Policy 70 of the Local Plan restricts development within SPAs, SACs and SSSIs. Development is not permitted within these sites if it would harm the value and reason for the designation, unless (a) there is no reasonable alternative solution and the development is necessary for overriding public interest or, (b) conditions can be used to prevent damaging impacts. Policy 71 protects habitats and species which are worthy of retention.
Coastal Policy

D.1.159 Policy 90 is the only coastal policy in the Local Plan and states that development resulting in the loss of inter or sub tidal land will not normally be permitted. The only exceptions will be where there is no unacceptable impact on the marine/coastal environment, if the development requires a coastal location or if it is demonstrably in the greater public interest. There is no defined coastal zone within the plan.

Areas of Development

D.1.160 Plymouth City Council encompasses the majority of the urban areas around the Sound and estuaries and some of the most heavily modified foreshore areas. Development in the city is therefore likely to focus on the re-use of existing land, due to the relative lack of undeveloped areas.

Cornwall Structure Plan

D.1.161 The Cornwall Structure Plan 2004, provides the strategic policy base for the county to 2016. The plan applies to much of the western side of the estuary which covers Caradon District Council. It covers all aspects of development, but this section focuses on the environmental aspects only.

Nature Conservation and Maritime Resources Policy

D.1.162 The Cornwall Structure Plan provides policies for all aspects of the environment under the heading of ‘Conservation Assets’ including nature conservation and coastal policy. Policy ENV1 provides advice on maintaining the landscape character of the coast and countryside, and natural beauty of the undeveloped coast, through preventing significant adverse effects from development.

D.1.163 Policies ENV4 and ENV5 relate to statutory designations, both in terms of earth science value and biodiversity value. Designated sites and areas should not be damaged to a significant degree by development, and priority should be given to those sites with European designation. Development having either direct or indirect effects on these sites will be unacceptable unless there is an overriding public need. Where the site concerned hosts a priority natural habitat or species, development will not be permitted, unless it is necessary for reasons of public health/safety or for beneficial consequences of primary importance for nature conservation.

D.1.164 In addition, the Structure Plan includes policies which make reference to the maritime environment and the need to designate coastal zone in local development plans. Policy 4, Maritime Resources states:

- An integrated and co-ordinated approach to the coast will be taken to support the economic importance and conservation value of the maritime environment.
- Development relating to the coast, estuaries and maritime environment should be considered against the need to ensure the conservation of the environment for its own sake and for the economic importance of fishing and the other activities it supports. Development should avoid pollution of coastal or marine waters and minimise any harmful effects on coastal processes.
- Development should be within or well integrated with the existing developed coast and help enhance the quality of the environment and economic regeneration of the coastal towns. Waterside sites within the developed coast should be safeguarded for uses needing such locations giving priority to maritime industries.

River Basin Management Plan & Policy

D.1.165 River Basin Management Plans (RBMPs) were initiated from The Water Framework Directive (England and Wales) Regulations 2003, simply known as the Water Framework Directive (WFD). It is designed to improve and integrate the way water is managed throughout Europe by looking at the ecology, chemistry and physical condition of every watercourse. The main aim is to develop integrated catchment and coastal management systems and the fluvial...
element has been separated into river basin districts. The requirement has been set for all surface and ground water to achieve a “Good Status” by 2015 or 2027 at the latest. The WFD water quality assessments are tougher than the former classification system in an attempt to build on the 20 years of improvements in water quality that have already been achieved.

D.1.166 For surface water bodies, good status is achieved by being in good chemical and good ecological status. If either fails to achieve good status the waterbody cannot be in good status.

- Ecological status has five classes: high, good, moderate, poor and bad. It is made up of three components: biological, general conditions and specific polluting substances.
- Chemical status has two classes: good and failing to achieve good.
- The lowest of the three ecological components determines the overall ecological status.

D.1.167 For groundwater, the aim is to achieve good chemical status and reverse negative trends in these waters. There is also a need to ensure there is enough groundwater by ensuring good quantitative status. There must be measures in place to protect the quantity as well as the quality of groundwater.

D.1.168 In the South West of England, 27% of waters currently meet the “Good Status”, so much work remains. The main reasons for failure in South West are due to levels of phosphate and the state of fish populations. The draft River Basin Management Plan was created by the Environment Agency in December 2008 and was finalised in December 2009.

D.1.169 The RBMP of direct relevance to Plymouth is the South West River Basin Area (see following sub-section).

Application of the WFD

The WDF offers protection to the following designated areas:

- Drinking Water Protected Areas;
- Freshwater Fish & Shellfish Waters;
- Bathing Waters;;;
- Nitrate Vulnerable Zones;
- Urban Wastewater Treatment Directive Sensitive Areas;
- Water dependent Natura 2000 sites (Special areas of Conservation and Special Protection Areas).

D.1.170 If there is conflict with existing legislation, then the most stringent applies.

D.1.171 The WDF makes allowances in the assessment process for watercourses have been altered from their natural state. This must be an intentional change for a valid use, such as protecting people and property from flooding. In these cases water bodies can be designated as ‘artificial’ or ‘heavily modified’ and should then meet the environmental objective of ‘good ecological potential’. This will require actions to mitigate the impacts of the use. Any mitigation measures must not be disproportionately costly and should not interfere with the primary purpose for which these water bodies are classified as artificial or heavily modified. The chemical standards required of these reaches remains the same as for natural reaches.

D.1.172 There are several water bodies classified as heavily modified in the Tamar Estuaries geographical area. This will lead to a requirement, especially for docks and harbours, to make sure that mitigation measures are in place to allow the water body to achieve good ecological potential.

The South West Basin Area and Plymouth

D.1.173 The Environment Agency (EA) has set targets for the South West River Basin District to control the progression towards achieving “Good Status” in all waters. An example of the possible...
progression can be seen in the graph below (Figure D.2), although it is hoped that faster progress is achievable.

**Figure D.2 - EA prospective water quality improvement strategy over time.**

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**D.1.174** Currently 801km of water body in the South West has been classified and of this 176km are at “Good Ecological Status”. There is only a further 83km awaiting assessment. The three main failing elements in the South West are phosphate levels, the state of the diatom and fish populations. However, the majority of water bodies are failing in only one of the measurement criteria, so it may be possible to achieve some easy wins. It is hoped that by 2015 at least 217km of water body will be at “Good Ecological Status”.

**D.1.175** Figure D.3 shows the ecological classification around Plymouth. The un-shaded areas are yet to be assessed, but no other water body in this section is below “Moderate Ecological Status”. This is only half of the story and the chemical status must also be considered. This is demonstrated by Plymouth Sound, which has a “Good Ecological Status” but only a “Moderate Status” overall due to the low chemical quality of the water.
D.1.176 Overall the water bodies in the South West generally support a good ecology, however the chemical content remains outside of the desired targets. Most water bodies have only one failing criteria and therefore there is a high potential for improvement.

D.1.177 Heavily modified water bodies (HMWB) such as Plymouth Sound, with its ports and associated harbour structures, may struggle to meet the WFD criteria, however, as altered water bodies the assessment process changes. If mitigating measures can be carried out to minimise the effects of the port activity, this may still be deemed acceptable.

D.1.178 As a consequence, the issue of achieving good ecological status within Plymouth is certainly possible to be sustained over the coming years. This therefore represents a manageable constraint to port expansion and development.
Shoreline Management Planning Policy

SMP2 Recommended Policies

D.1.179 The outcome of a Second Generational Shoreline Management Plan (SMP2) is to recommend policy for various "Policy Units" along the coast. The following tables are taken from the current Draft Second Generation Shoreline Management Plan (2009) showing the preferred policies for three time periods. It should be noted that these policies are NOT as yet accepted and endorsed by the Project Steering Group for the SMP2. This is likely to be accepted as a final non statutory document by the summer of 2010.

D.1.180 It is clear that around the built areas of the Plymouth waterfront, the SMP2 recommended policies are to maintain defences where they currently exist (i.e. hold the line). The only exception to this is within the upper reaches of the Tamar Estuary, where the recommendation is to investigate a managed realignment policy in the longer term. Where no human or natural assets/features are deemed at risk from future coastal erosion or flooding, then a “no active intervention” policy is proposed. This appears to be the preferred policy option for areas inland to the ports.

Table D.3 - Proposed SMP2 policies over the short (0-20yrs), medium (20-50 yrs) and long terms (50-100yrs)

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### Implications of SMP2 Policies for the Port of Plymouth

**D.1.181** The recommended SMP2 policies being proposed suggest that there would be only minor natural shoreline evolutionary change in the Plymouth area over the next 100 years should the recommended policies be adhered to. This is reflected in the understanding on the natural evolutionary trends, coastal erosion and coastal flood risk likely to be experienced in the port areas.

**D.1.182** There is, however, a significant risk to the reduction in some intertidal habitats within the Tamar due to coastal squeeze. This is likely to occur where rising sea levels abut against hard rock cliffs (shingle habitat) or against existing/proposed hard engineered structures. Some listed buildings may also be at risk, though these are not situated in large numbers close to the existing port areas. Listed buildings are located throughout the city, especially at Sutton Harbour and Millbay Dock and any impact on these will need to be assessed.

**D.1.183** Port expansion in the future is therefore unlikely to influence shoreline management policies in the future, except for where redevelopment is proposed within the constraints of upper estuary or should significant offshore development be proposed. Any future development will have to be sympathetic to the air and water quality targets of the EU Water Framework Directive, but there should be few other detrimental environmental impacts.

#### Key Environmental Designations Influencing Future Port Expansion

**D.1.184** It is important to clarify the key coastal environmental designations in the study area that may influence Plymouth Sound and its associated tributaries comprise a complex suite of marine inlets. The ria systems entering Plymouth Sound (St John’s Lake and parts of the Tavy, Tamar and Lynher), the large bay of the Sound itself, Wembury Bay, and the ria of the River Yealm are of international marine conservation importance because of their wide variety of salinity conditions and sedimentary and reef habitats. The high diversity of habitats and conditions gives rise to communities both representative of ria systems and some very unusual features, including abundant southern Mediterranean-Atlantic species rarely found in Britain. The estuary contains a series of nature conservation designations which are summarised below.

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<table>
<thead>
<tr>
<th>Policy Unit</th>
<th>Preferred Policies</th>
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<td>Short-term</td>
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<tr>
<td><strong>6c41</strong> Mount Edgcumbe to Picklecombe Point</td>
<td>Allow natural coastal evolution to continue through no active intervention.</td>
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<td>Allow natural coastal evolution to continue through no active intervention.</td>
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<tr>
<td><strong>6c42</strong> Fort Picklecombe</td>
<td>Continue to maintain the existing defences under a hold the line policy (assuming funds are available).</td>
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<td>Continue to maintain the existing defences under a hold the line policy (assuming funds are available).</td>
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<tr>
<td><strong>6c43</strong> Picklecombe Point to Kingsand</td>
<td>Allow natural coastal evolution to continue through no active intervention.</td>
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<td>Allow natural coastal evolution to continue through no active intervention.</td>
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<tr>
<td><strong>6c44</strong> Kingsand/Cawsand</td>
<td>Continue to maintain the existing defences under a hold the line policy.</td>
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<td>Continue to maintain the existing defences under a hold the line policy.</td>
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<tr>
<td><strong>6c45</strong> Cawsand to Rame Head</td>
<td>Allow natural coastal evolution to continue through no active intervention.</td>
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<td>Allow natural coastal evolution to continue through no active intervention.</td>
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</tbody>
</table>
D.1.185 Nature conservation areas can be designated at a variety of levels. European designations such as SPAs and SACs are implemented in the UK by the Conservation (Natural Habitats &c) Regulations 1994 which transpose the EC Directives 79/409 and 92/43/EEC. Sites of Special Scientific Interest (SSSI) are national-level designations notified under the Wildlife and Countryside Act 1981. Whilst all areas are designated for important ecological features, it should be noted that planning policies for internationally designated areas (i.e. SACs, SPAs) are more stringent than for nationally important areas (i.e. SSSIs).

D.1.186 Local Nature Reserves (LNRs) also exist which are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949. They are places with wildlife or geological features that are of special interest locally. County Wildlife Sites are also non-statutory designations for sites of county significance for wildlife or geology and are designated by local authorities.

D.1.187 It should be noted that the Plymouth Sound and estuaries has been very well studied over the last 100 years and a raft of publications exist on the ecology of the area. The aim of this section is to provide a high-level summary of the features of the estuary. Key information has been taken from two sources for this section:

- SMP2 for South Devon (Haskoning 2009);
- Plymouth Sound and Estuaries Coastal Planning Study (Haskoning 2006).

D.1.188 Plymouth Sound & Estuaries SAC – Covering 6402.3 hectares, Plymouth Sound and its associated tributaries constitute one of the finest extensive ria systems in Britain. They have been designated as a SAC under the EU Habitats Directive. The area is particularly significant in terms of marine wildlife and is of international marine conservation importance because of the wide variety of salinity conditions, sedimentary and reef habitats. The high diversity of habitats with an extremely rich flora and fauna have been recorded with a number of plant and animal species being notable for their rarity or as examples of natural marine communities. The primary reasons for the selection of this site as a European Marine Site are related to the following Annex I Habitats and Annex II species which are present:

- Sandbanks which are slightly covered by seawater all the time;
- Estuaries;
- Large shallow inlets and bays;
- Reefs and Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*);
- Shore dock (*Rumex rupestris*);

D.1.189 Mudflats and sandflats not covered by seawater at low tide’ are also present although this habitat is not a primary reason for selection of this site. The Allis shad (*Alosa alosa*) is also present as a qualifying feature.

D.1.190 **Tamar Estuaries Complex SPA** - Classified in 1997, the Tamar Estuary system is a large marine inlet comprising the estuaries of the rivers Tamar, Lynher and Tavy which collectively drain an extensive part of Devon and Cornwall. The Tamar river and its tributaries provide the main input of freshwater into the estuary complex, and form a ria with Plymouth lying on the eastern shore. The broader lower reaches of the rivers form extensive tidal mudflats bordered by saltmarsh communities. The mudflats support a varied infaunal community rich in bivalves and other invertebrates, and feeding grounds for waterbirds in numbers of European importance. The areas of saltmarsh are also important roosting areas for large numbers of wintering and passage birds. The site qualifies as an SPA by supporting populations of European importance of the following Annex I species from the Directive (79/409/EEC):
- little egret *Egretta garzetta* - ~9% passage population in the UK & 8.4%
- wintering population; and
- avocet *Recurvirostra avosetta* - ~15.8% of the wintering population in the UK.

D.1.191 The SAC and SPA are collectively known as the European Marine Site. A scheme of management exists for the European Marine Site as well as a Regulation 33 document which provide guidance on which type of activities are likely to damage the site.

D.1.192 **Tamar-Tavy Estuary SSSI** – this site includes the previously notified Warleigh Point SSSI. The Tamar-Tavy Estuary SSSI comprises the upper reaches of the Tamar Estuary system, from the Tamar Bridge upstream to the limits of the tidal influence in both rivers and the Kingsmill and Tamerton Lakes. The site supports a nationally important population of avocet and encompasses a section of the Tamar that is considered to be of national importance for its marine biological interest. The site includes estuarine habitats, with uncommon species, that are notable in their extent and also supports the only British population of the triangular club-rush. Several areas of semi-natural woodland of ancient character are included in the site. Warleigh Point is a typical western oak wood and is one of the best examples in Devon of such woodland in a coastal location. Sessile oak (*Quercus petraea*) dominates the canopy and occasionally there are examples of wild service tree (*Sorbus torminalis*), which is very local in its distribution in Devon.

D.1.193 **Plymouth Sound Shore & Cliffs SSSI** – Plymouth Sound is an open bay into which run several estuaries forming a complex ria system. The coastline of the Sound is steeply sloping and rocky, especially to either side of the mouth. Several major ecological zones have been identified for the Sound and its tributaries. This SSSI encompasses examples from the open coast and sheltered bay parts of the system, and includes shore communities with a south western influence.

D.1.194 **Western King SSSI** – this SSSI is designated for earth heritage interests. The section of cliff exposes a series of Devonian limestones, of late Frasian to early Fammenian age, which comprise the youngest limestone of the Plymouth Limestone Group. They contain an important fauna of microfossils, known as conodonts, which are used to subdivide the rock sequence and relate it to comparable sequences elsewhere. Western King is also of considerable historical interest since some of the earliest studies on

D.1.195 British fossil corals of Devonian age were carried out here. This site also includes an area of amenity grassland that supports colonies of the nationally rare field eryngo *Eryngium campestre*.

D.1.196 **St John’s Lake SSSI** – this site lies directly south of Torpoint and forms part of the Tamar-Lynher estuarine system. At low tide, extensive mudflats are exposed providing important feeding grounds for large populations of wintering wildfowl and waders. The lake has interesting areas of species-rich saltmarsh, and the underlying Devonian slates form fringing shingle beaches and shallow rock cliffs supporting stunted trees and scrub. Although much of the site is bare mud, there are considerable areas covered with the green alga *Enteromorpha* and beds of the rare narrow leaved eel grass *Zostera angustifolia* and the eelgrass *Zostera noltii*.

D.1.197 **Rame Head & Whitsand Bay SSSI** – this site extends for approximately 8 km along the south Cornwall coast from the east side of Rame Head to Oldhouse Cove, near Portwrinkle in the west. The coastal cliff habitats are of particular importance for the occurrence of the largest colony of the rare shore dock *Rumex rupestris* in mainland Britain. In addition, the site also supports significant populations of other rare plant species including the nationally rare slender bird’s-foot-trefoil *Lotus angustissimus* and early meadow grass *Poa infirma*.

D.1.198 **Kingsand to Sandway Point SSSI** – the rock platform along the Kingsand beach section is the only exposure in the south west England of an extrusive rhyolite flow or Permian age. Its significance lies in the strong possibility that it is representative of suprabatholithic volcanic activity after the emplacement of the Cornubian granites. This is the only *in situ* example of extensively
early Permian volcanicity that is now largely seen as pebbles in the New Red Sandstone denudation products.

D.1.199 **Wembury Point SSSI** – this site falls within the South Devon AONB. It comprises extensive reefs of interest for their intertidal plant and animal communities together with coastal sand, shingle and steep slopes of sea-cliff grassland and mixed scrub. It is also of interest for the diversity of passage and wintering birds it supports and for nesting species associated with the scrub; at least one nationally rare species of bird breeds on the site. The landform itself is also of interest, displaying a wave-cut platform, head terrace and degraded fossil cliffline.

D.1.200 **Yealm Estuary SSSI** – the Yealm estuary enters the sea at Wembury Bay. It is an example of a ria which shows a transition to estuarine conditions to upper reaches. A sand bar at the entrance provides some shelter from the prevailing south westerly winds and there is a diverse range of biological communities, reflecting the influence of marine conditions far up the inlet.

D.1.201 **Wembury Voluntary Marine Conservation Area (VMCA)** – This area was established in 1981 by Devon Wildlife Trust in recognition of the important marine communities supported, and the need to safeguard these communities from recreational and commercial activities. The VMCA is a non-statutory designation made over areas of significant marine wildlife value in consultation with interested parties. The Wembury VMCA extends along the coast from the mouth of the Yealm to Plymouth Sound and includes the cliffs and shore to approximately the 10m depth contour. The Wembury VMCA is managed by the Devon Wildlife Trust and a warden presence is maintained from April to September at the Wembury Marine Centre.

D.1.202 **Local Nature Reserves.** Although there are several Local Nature Reserves within the Plymouth area, none of them cover the intertidal or subtidal areas of the study site. There are a range of County Wildlife Sites (CWS) within the boundaries of Plymouth Sound & Estuaries SAC, covering approximately 767 hectares. However, only the Warren at Noss Mayo, the Yealm Estuary, Jennycliff, Bovisand and the Plym Estuary (proposed CWS) are directly connected to the coastal environment. Most of the CWSs cover areas of ancient semi-natural woodland, and unimproved and semi-improved grassland.

D.1.203 There are also a number of Local Wildlife Sites within the study area; these are of significant wildlife interest within a local context that do not reach the criteria for County Wildlife Sites. These are not covered by PPS9 although they can be included in Local Plans. There are 11 in total within the boundaries of Plymouth Sound and estuaries SAC covering approximately 60 hectares. None of these Local Wildlife Sites contain coastal or marine interests.

D.1.204 **Warleigh Point Devon Wildlife Trust Reserve** covers 34ha within the study area, and is one of the finest examples of coastal oak woods in Devon. It is sited on the banks of the Tamar-Tavy estuary and is managed for wildlife by the Devon Wildlife Trust. Cornwall Wildlife Trust manage Churchtown Farm Community Nature Reserve near Saltash. This site contains mudflats and covers 61 ha. The Trust have also designated the Tamar Estuary as a Nature Reserve.
Appendix E – Coastal Environment
Introduction

E.1.1 This appendix sets out the key elements of the coastal environment in Plymouth. It should be read in conjunction with the coastal environment policy review provided in Appendix D.

Coastal Habitats and Environmental Features of Importance

E.1.2 In addition to the designated features of the estuary mentioned earlier in Appendix D, a series of important habitats and species are present within the study area, which are not necessarily included within the above designations.

E.1.3 The estuaries contain a range of rare and unusual species. Many of these are BAP species or habitats. The UK BAP was set up in response to the Convention on Biological Diversity at the 1992 ‘Earth Summit’. One of the key requirements of this was for governments to ‘develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity’. In 1994, the Government published ‘Biodiversity: the UK Action Plan’ which detailed the habitats and species targeted for protection and some of these are found within the Plymouth Sound and estuaries. Both Cornwall and Devon County Councils have Local Area Biodiversity Action Plans in place, identifying priority habitats and protected species. The priority habitats identified within the study area are:

- Maritime cliff and slope;
- Mudflats;
- Coastal & floodplain grazing marsh;
- Saline lagoon;
- Lowland beech and yew woodland;
- Lowland mixed deciduous woodland;
- Lowland meadows;
- Lowland heathland.

E.1.4 There are a number of species that are not necessarily designated but are important to Plymouth Sound and the Estuaries, some examples (along with a description of any designations) are given below. It should be noted that in addition to these species, the estuaries also support a wide range of common place wildlife of local interest which help maintain a healthy ecosystem and contribute to the overall diversity of the site:

- Eel grass, Zostera marina – Listed on Appendix 1 of the Bern Convention and on the IUCN Red list of globally threatened species
- Fan mussel Atrina fragilis - Listed on Schedule 5 of the Wildlife and Countryside Act and a BAP priority species.
- Native oyster Ostrea edulis - a BAP priority species


- Carpet coral, *Hoplangia durotrix* – a nationally rare marine species

- Sea slug, *Okenia elegans*– Nationally rare marine species

- Trumpet anemone, *Aiptasia mutabilis* – a nationally scarce marine species


**Shoreline Evolution and Coastal Erosion Risks**

**E.1.6** The SMP2 Draft Plan (2009), as stated in Appendix D, clearly states that the geology around Plymouth is particularly resistant to erosion from the sea. This has lead to a highly indented shoreline with many small bays, some of which contain pocket beaches. The surrounding cliffs slowly (less than 0.5m/year) and this shall be largely due to undercutting and collapse. As a consequence of this, there is little net sediment input into the wider coastal system. This is because sediment is either transported offshore or held within pocket beaches and remains trapped. Little erosive wave energy enters The Sound and the area is not large enough to develop significant wind driven waves.

**E.1.7** FutureCoast (Halcrow, 2002) declares that there is negligible evolutionary change in the coastline within this area over the last century. It also suggests that an ‘unconstrained’ scenario (no defences or human intervention) would see a degree of erosion re-activated within The Sound, but this would be at a slow rate.

**Coastal Flooding**

**E.1.8** It is generally accepted that climate change is causing sea levels to rise and this will have an effect on tidal flooding. Areas of Plymouth, especially around the ports, are susceptible to tidal flooding and this is shown by the Environment Agency’s Flood Zone maps. The areas at risk appear in the Zone 3 outline which suggests they are at risk from a 0.5% Annual Exceedance Probability (AEP) event. The area at risk will increase over time, but the surrounding high land will keep this increase relatively small.

**E.1.9** There are two main causes of flooding in the city. These are as follows;

- Direct flooding caused by the impact of the tide/waves;
- Indirect flooding caused by the tide submerging drainage outlets impeding the flow of surface water drainage systems causing flooding at their inlets

**E.1.10** The first can be solved using a quite simplistic approach; either critical development should be moved away from the risk or the development should be protected using flood defences. The simplistic approach does not necessarily imply an easy solution. A large proportion of the potential development area of East End Waterfront is relatively low lying and is likely to be subject to
regular inundation by tidal floodwater in the future. Extensive land raising on a relatively large scale is recommended should the necessity arise to develop this area.

E.1.11 The second type of flooding can be more complicated to mitigate and can often involve upgrades to the drainage system. This type of flood risk can be observed in the Union Street area of the city. Much of this area is below the predicted 1 in 1 year tidal still water level for 2006. Measures to reduce the risk to existing and proposed development within this area include raising floor levels so vulnerable infrastructure is taken out of reach of predicted flood levels, maintenance and possible improvements to ensure efficiency of the drainage system as well as measures to store runoff so it can be discharged at low tide or used for other purposes.

E.1.12 The Strategic Flood Risk Assessment (SFRA) undertaken from Plymouth City Council by Pell Frischmann (2006) discusses in detail various Areas of Plymouth and their potential flood risk. Of key relevance to this study, Area 14 (Sutton Harbour) is discussed in detail.

E.1.13 It states that Sutton harbour is at risk from tidal flooding along the shoreline on the west side of the development area. However, there have also been reported incidents of flooding attributed to insufficient sewer capacity. The area is protected from direct tidal flooding by tidal gates that keep water levels in the harbour at a safe level during extreme high tides. However the Environment Agency have stated that the existing tidal gate style defences are likely to require upgrading due to their poor condition and increasingly inadequate defence level due to climate change.

E.1.14 The area is not subject to wave action as it is enclosed within the harbour area. There is no significant flow associated with the flood risk as the area is enclosed within the harbour area. The area is low lying and would be expected to flood relatively frequently if it were not for the flood defences and it is possible that the depth of flooding could cause significant damage should the defences fail. The Environment Agency have stated that the existing tidal gate style defences are likely to require upgrading due to their poor condition and increasingly inadequate defence level due to climate change.

E.1.15 Of relevance to understanding the constraints to port expansion in the area, one needs to understand that this area is low lying in nature which implies that surface water drainage becomes difficult during times of high tide levels. Drainage from any new development will need to be carefully considered to be able to cope with the future demands.

E.1.16 Figure E.1 demonstrates the flood risk potential at Sutton Harbour.
Surface Water Drainage

E.1.17 A significant amount of flooding in Plymouth is caused by ineffective drainage and insufficient sewer capacity. This has in some cases been caused by inappropriate development that has taken place without sufficient consideration of the design capacity of receiving sewers.

E.1.18 The Environment Agency has identified a number of ‘Critical Drainage Catchments’ where the drainage system is known to be close to or over its acceptable limit. Continued development and creation of impermeable surfaces in these areas causing an increase in runoff to overloaded drainage paths should be avoided in these areas. Critical Drainage Areas have been designated colours to represent the order of severity of the problem in specific catchments. The Environment Agency have defined general drainage guidelines for new development in each colour zone in order to promote sustainability and to mitigate flood risk.

Water

E.1.19 Water quality is generally classified as good, with only the area east of Plymouth Hoe being rated as poor. Water quality is closely monitored by the Environment Agency due to the prevalence of swimming and water sports throughout the study area. The coastline dominates the recreation in the area, providing a valued resource for water and land based recreation. For this reason there are bathing beaches recommended by the Marine Conservation Society. Water quality in these areas is monitored closely although the information was not presented in the SMP2 report.

E.1.20 Details on the findings of the River Basin Management Plan are presented in Appendix D.

Landscape and Visual Amenity

E.1.21 The coast in this area is considered to be of high value due to its visual amenity and has attracted the following national designations:

- The cliffs to the east and west of The Sound are marked as an Area of Outstanding Natural Beauty (AONB), as is much of the Tamar estuary.
- The coast outside of The Sound is additionally designated as Heritage Coast.
Historic Environment

E.1.22 There are many listed buildings throughout Plymouth, especially around Sutton Harbour and Millbay Dock. There are also a number of areas with scheduled monuments, but only one is located at a dock. These have not been dealt with individually in the SMP2 report because they are considered to have a local rather than strategic importance.

E.1.23 Devonport dockyard contains a significant number of listed buildings and scheduled ancient monuments. Appendix F provides details of these for South Yard.

E.1.24 There is a high potential for archaeological artefacts to be buried throughout Plymouth and its surrounding area. This could potentially have a significant impact on any construction work carried out as part of port developments. Archaeological discoveries are unlikely to prevent development, but they may cause long delays and add cost to any projects. This should be a consideration when planning development work.

E.1.25 There are a number of known wreck sites in The Sound and its surrounding area; however development works are unlikely to affect these. The sites should be considered in the planning stage of any development to ensure they are not disturbed.

Key Environmental Constraints to Port Expansion

E.1.26 The DfT Appraisal of Sustainability (AoS) sets out the key issues to be considered when assessing potential port development. The following table has been taken directly from the DfT report (http://www.dft.gov.uk/consultations/open/portsnps/). As is stated at the head of the table, these should not be taken as policy objectives and there may be conflicts between issue areas. These conflicts will need to be resolved on an individual basis, with the accompanying justification.

E.1.27 The table is used to demonstrate the following:

- AoS Key Heading;
- AoS Aspirational Objectives and Sub-objectives for delivery;
- Existing or emerging constraint to port expansion;

E.1.28 It may be concluded that there are NO major environmental constraints to port expansion except for the main compliance to existing European environmental legislation. This is confirmed based on work undertaken by English Nature who have assessed the condition of the SSSIs at regular intervals. In 2005, only five of the SSSIs within the study area had units that were considered to be in unfavourable condition. Of these, none of the units which were in unfavourable condition contained marine habitats.

E.1.29 Many of the issues raised in the following table are seen as management constraints and thus deemed as not a major constraint to port expansion.
### AoS Key Issue Areas

<table>
<thead>
<tr>
<th>AoS Key Issue Areas</th>
<th>Aspirational AoS Objectives / Sub-Objectives</th>
<th>Existing or emerging constraint to port expansion</th>
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</table>
| 1. Air Quality      | **AoS1: To ensure air quality limit values are not exceeded by port development**  
                     To minimise emissions of air pollutants arising from port-related development and infrastructure.  
                     To contribute towards efforts to meet air quality limit values in areas of exceedence. | Cement block production by the MoD on the port side causing dust and pollution as the blocks are made for the Plymouth breakwater |
|                     | **AoS2: To minimise emissions of greenhouse gases arising from port-related development and infrastructure**  
                     To encourage measures aimed at reducing GHG emissions from ships and land transport (including encouraging mode shift if and where appropriate).  
                     To encourage the use of renewable energy. | Nuclear decommissioning at Devonport and environmental implications of this does require to be carefully considered in partnership with the EAs PIR team (nuclear regulation team). |
| 2. Greenhouse Gas Emissions | **AoS3: To mitigate and adapt to climate change**  
                     To reduce the vulnerability of ports-related infrastructure to the impacts of climate change. | None identified at this time |
| 3. Climatic Factors and Adaptation | **AoS4a: To increase resilience of ports infrastructure against the risk of flooding**  
                     **AoS4b: To reduce the risk of flooding in the hinterland**  
                     To consider the impacts of port-related infrastructure in terms of risk of flooding in the hinterland.  
                     To reduce the impacts on coastal erosion. | None identified at this time |
<table>
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<tr>
<th>AoS Key Issue Areas</th>
<th>Aspirational AoS Objectives / Sub-Objectives</th>
<th>Existing or emerging constraint to port expansion</th>
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<tr>
<td>5. Contamination of Water Quality</td>
<td>AoS5: To avoid adverse effects on water quality for all water bodies, including inland, coastal and groundwater</td>
<td>Land contamination is a key issue around the ports (esp Conoco Wharf area) associated with fuel tank spillage. Need to check oil storage regulations which are not in place around Plymouth. Cattedown tanks are a key risk site for contaminating surrounding land. Any expansion needs to be considered in partnership with the Cattedown Emergency Planning Forum. Fuel storage at all harbours and ports is a problem and getting worse. Issue needs addressing for marinas managers and distributors. Contaminated land and pressure to develop residential property on contaminated land. Boat fly tipping and Harbour Masters needing to have the power to removed old unused boats in the harbours. Boat cleaning and scraping of paints into water bodies is an issue. Need to relate to the River Basin Management Plan recommendations and policies to achieve Good Ecological Potential. Toxic Contamination - organotins (e.g. TBT), metals (especially As, Cu, XCd, Hg, Zn) and resuspension of contaminated sediments (Langston et al, 2003). Non-Toxic Contamination - increased nutrient levels as a result of diffuse sources e.g. agricultural runoff and radionucleides from the dockyard (Langston et al, 2003). Low dissolved oxygen - recorded in the upper Tamar and resulted in fish kills. This has been related to natural low flows at particular times of year. Biological disturbance – A range of biological disturbance issues currently exist within the study site through bait collection, species extraction (peeler crab) and the introduction of non-native species (Japanese knotweed Sargassum muticum) (English Nature, 1999).</td>
</tr>
<tr>
<td>AoS Key Issue Areas</td>
<td>Aspirational AoS Objectives / Sub-Objectives</td>
<td>Existing or emerging constraint to port expansion</td>
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<td><strong>6. Water Resources</strong></td>
<td>AoS6: To protect water resources To avoid adverse effects on water resources by port-related development.</td>
<td>EA have completed successfully their “Operation Spillex” exercise for the Tamar. This programme needs to be an integral part of any pollution mitigation programme for the area. Sewage disposal from 3 current sewage works – main functioning problem at the Plympton WWTW estuary site. Sewage issue is linked to increased road run off and increased urbanisation – the need for a clear SUDS approach is needed now.</td>
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<tr>
<td><strong>7. Marine Environment</strong></td>
<td>AoS7a: To preserve and protect the marine environment from the risk of runoffs, spills and leakages of cargoes. To enhance the marine environment within port proposals where possible. To preserve and protect the marine environment from the inappropriate discharge of ballast water and the risk of damaging marine species introductions. AoS7b: To minimise damage to the marine environment as a result of dredging activities.</td>
<td>Dredging – Rame Head Dredge Disposal Site may not receive its license in another 10 years, where may dredge spoil then get disposed of?</td>
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<tr>
<td>AoS Key Issue Areas</td>
<td>Aspirational AoS Objectives / Sub-Objectives</td>
<td>Existing or emerging constraint to port expansion</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
</tbody>
</table>
| **8. Biodiversity** | AoS8: To preserve, protect and improve biodiversity  
To preserve, protect and improve biodiversity as per the Habitats Directive (SACs and SPAs).  
To preserve, protect and improve other internationally, nationally and locally designated biodiversity sites, including Ramsar sites, NNRs, SSSIs, MNRs, LNRs, Local wildlife and geological sites, Ancient woodland sites and Biosphere reserves.  
To preserve and protect species and habitats of principal importance for biodiversity conservation in England and Wales.  
To avoid adverse impacts on non-designated biodiversity sites.  
To enhance the biodiversity environment within port proposals where possible. | Compliance to European environmental legislation and the mitigation measures for replacement habitat.  
**Physical loss** – physical loss of estuary habitat has occurred from intertidal land claim. A study carried out in 1999 assessed the extent of land claim since 1750 (TECF, 1999). This study found that around 650 ha of land has been lost since 1750, with the vast majority lost between 1750 and 1850. Land claim remains a threat, particularly from the potential cumulative effects of many small scale developments e.g. jetties, boatyards, single dwellings etc.  
**Physical damage** – physical damage to eelgrass occurs from anchoring within the eelgrass beds at the mouth of the Yealm. The eelgrasses are a feature of the SSSI in that area and their continued damage is a problem. Physical damage to seabed habitats within the study area can also occur from bottom trawling and also from maintenance and capital dredging. A desk study on dredging within the estuary was carried out by Plymouth Marine Applications in 2004. |
| **9. Soil and Land Resources** | AoS9a: To protect soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes  
AoS9b: To minimise the use of previously undeveloped land for which there are competing uses. | All marine incidents recorded in the Plymouth area have been requested form the EA. The Lessons Learnt report of all incidents recorded of marine pollution for all the ports (incl run off from anti-fouling paints) needs to be reflected into day to day practice to ensure management practices are incorporated into future port expansion programmes. |
<table>
<thead>
<tr>
<th>AoS Key Issue Areas</th>
<th>Aspirational AoS Objectives / Sub-Objectives</th>
<th>Existing or emerging constraint to port expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10. Waste Generation and Resource Use</strong></td>
<td>AoS10a: To encourage the increased use of recycled materials in the construction of infrastructure</td>
<td>A main issue is the inappropriate development around the historic port sites and the location of fuel depots (possible Buncefield situation arising)</td>
</tr>
<tr>
<td></td>
<td>AoS10b: To reduce, re-use or recycle the waste generated by port infrastructure, including from construction</td>
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<tr>
<td></td>
<td>AoS10c: To consider the design of infrastructure such that the potential for waste products draining to water and soil resources is reduced, and potentially hazardous waste managed.</td>
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</tr>
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<td></td>
<td>AoS10d: To minimise the adverse impacts of dredging.</td>
<td></td>
</tr>
<tr>
<td><strong>11. Landscape and Seascape</strong></td>
<td>AoS11: To preserve, protect and, where possible, improve landscape and seascape, whilst making it more accessible</td>
<td>None identified at this time</td>
</tr>
<tr>
<td></td>
<td>To preserve, protect and, where possible, improve areas nationally and locally designated landscape, including AONBs, NPs, CPs, and Heritage Coasts.</td>
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</tr>
<tr>
<td></td>
<td>To avoid adverse impacts on areas of non-designated landscape and seascape.</td>
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<tr>
<td></td>
<td>To increase access to the natural environment (landscape and towncape) where appropriate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To preserve the character of the landscape and seascape.</td>
<td></td>
</tr>
<tr>
<td><strong>12. Light</strong></td>
<td>AoS12: To minimise light pollution arising from ports development</td>
<td>None identified at this time</td>
</tr>
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<td></td>
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</tr>
</tbody>
</table>

**Please note:** The AoS objectives should not be interpreted as being policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies.
### Aspirational AoS Objectives / Sub-Objectives

**Please note:** The AoS objectives should not be interpreted as being policy objectives. There will inevitably need to be trade-offs between the AoS objectives set out here. They cannot all be achieved simultaneously. Therefore these AoS objectives set a framework for assessing the sustainability of NPS policies.

### Existing or emerging constraint to port expansion

<table>
<thead>
<tr>
<th>AoS Key Issue Areas</th>
<th>Aspirational AoS Objectives / Sub-Objectives</th>
<th>Existing or emerging constraint to port expansion</th>
</tr>
</thead>
</table>
| 13. Noise           | AoS13: To reduce industrial and traffic noise related to ports  
To encourage the prevention of noise generation at source.  
To minimise exposure of people to noise.  
To minimise exposure of wildlife to noise.  
To minimise underwater noise from port-related activities. | None identified at this time |
| 14. Historic Environment | AoS14: To protect and enhance sites, features and areas of historical and cultural value  
To protect internationally or nationally significant heritage assets and their settings, whether designated or not (e.g. World Heritage Sites, Scheduled Ancient Monuments, nationally important, but non-designated archaeological sites, Listed Buildings, Protected Wreck Sites, Registered Parks & Gardens, Registered Historic Landscapes, Registered Battlefields, Military Remains).  
To protect locally significant heritage assets and their settings (including Conservation Areas and locally listed buildings).  
To protect archaeological remains.  
To avoid adverse impacts on non-designated historic environment assets/areas.  
To enhance the significance of heritage assets and their settings (where appropriate). | None identified at this time |
Coastal Environmental Implications of Future Activities at the Ports

E.1.30 Prior to the completion of this section, a series of gaps in knowledge are flagged up. These are categorised using the same AoS headings as set out in Section 5.2 to help determine what information is now needed to help determine the likely implications of future port activities on the surrounding coastal and marine environment.

Gap Analysis

E.1.31 Table E.1 shows the environmental requirements of the AoS, supplemented with the requirements of a PMP, with the location of the available information to satisfy these requirements. Where there is no information available, this has been stated. In the column titled ‘further detail’ -

- the black writing shows the requirements of the AoS;
- the purple writing shows the requirements of the PMP; and
- the blue writing shows the requirements of the Tamar Estuaries Management Plan.
<table>
<thead>
<tr>
<th>Key Issue Areas</th>
<th>Further Detail</th>
<th>Location of relevant data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Air Quality</td>
<td>To ensure air quality limit values are not exceeded by port development. Reduce emissions hazardous to human and other forms of life (SOX, NOX, CO, CH4, etc). Air Quality Management Areas (AQMA) and locations of poor quality. Possibility for shoreside electricity to replace ship’s generators.</td>
<td>No information available on air quality (current assessments, limits, or local plans)</td>
</tr>
<tr>
<td>2. Greenhouse Gas Emissions</td>
<td>To minimise emissions of greenhouse gases arising from port-related development and infrastructure. Support the aim to reduce ‘global’ emissions.</td>
<td>No information available on greenhouse gas emissions (current assessments, limits, or local plans)</td>
</tr>
<tr>
<td>3. Climatic Factors and Adaptation</td>
<td>To mitigate and adapt to climate change</td>
<td>SMP2 Appendix C – Assessment of likely result of climate change and assessment of defences.</td>
</tr>
<tr>
<td>4. Flood Risk and Coastal Erosion</td>
<td>To increase resilience of ports infrastructure against the risk of flooding. To reduce the risk of flooding in the hinterland</td>
<td>SMP2 Appendix C – EA flood zones and assessment of future coastal erosion. Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies.</td>
</tr>
<tr>
<td>5. Contamination of Water Quality</td>
<td>To avoid adverse effects on water quality for all water bodies, including inland, coastal and groundwater. To satisfy the requirements of the Water Framework Directive (WFD). To achieve a water quality that is compatible with the estuaries’ nature conservation interest and commercial &amp; recreational usage. To raise awareness and understanding of the water quality issues relevant to the Tamar Estuaries.</td>
<td>Limited information available on water quality. SMP2 Appendix D – Water quality is mentioned in relation to the WFD, but no figures are supplied. Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies.</td>
</tr>
<tr>
<td>6. Water Resources</td>
<td>To protect water resources. To ensure that the estuaries remain, as far as practicable, free from marine litter. To achieve the sustainable management of the Tamar Estuaries fishing resource.</td>
<td>No information available on water resources (where resources are collected from, what used for, etc) Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies.</td>
</tr>
<tr>
<td>Key Issue Areas</td>
<td>Further Detail</td>
<td>Location of relevant data</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **7. Marine Environment**       | To preserve and protect the marine environment from the risk of runoffs, spills and leakages of cargoes  
To minimise damage to the marine environment as a result of dredging activities  
Satisfy the requirements of the Habitats Directive. [Some guidance in DfT’s Project Appraisal Framework for Ports, Annex B]  
To maintain the Plymouth Sound & Estuaries European Marine Site in favourable status | Limited information available on the marine environment (past spills, biggest polluters, waste systems, rules and enforcement, etc)  
Tamar Estuaries Management Plan – Contains a list of damaging marine activities, mitigating measures and responsible authorities. |
| **8. Biodiversity**             | To preserve, protect and improve biodiversity  
To raise awareness and understanding of the landscape & biodiversity of the Tamar Estuaries  
To further the conservation, enhancement & restoration of biodiversity within the Tamar Estuaries | SMP2 Appendix D – Notes international and national designations. Generally found at the intertidal areas and around the Tamar estuary.  
Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies.  
Plymouth Sound and Estuaries Coastal Planning Study suggests problems with various development activities and ways to overcome them. |
| **9. Soil and Land Resources**  | To protect soil and land resources from the risk of contamination due to runoffs, spills and leakages of cargoes  
To minimise the use of previously undeveloped land for which there are competing uses  
Take account of safeguarding to avoid the limitation of future growth  
Plan responsibly to avoid blight in the surrounding areas | No information found, but similar to Key Issue 7 – Marine Environment. Also requires information on the process of acquiring land for development and safeguarding policies. |
| **10. Waste Generation and Resource Use** | To encourage the increased use of recycled materials in the construction of infrastructure  
To reduce, re-use or recycle the waste generated by port infrastructure, including from construction  
To consider the design of infrastructure such that the potential for waste products draining to water and soil resources is reduced, and potentially hazardous waste managed  
To minimise the adverse impacts of dredging | No information available on the waste processes employed at the port (waste production type/volume, waste policies, recycling systems, waste storage and removal, etc) |
<table>
<thead>
<tr>
<th>Key Issue Areas</th>
<th>Further Detail</th>
<th>Location of relevant data</th>
</tr>
</thead>
</table>
| **11. Landscape and Seascape** | To preserve, protect and, where possible, improve landscape and seascape, whilst making it more accessible  
To conserve, enhance and restore the distinctive character and beauty of the Tamar Estuaries  
To achieve ‘joined up’ management of the neighbouring protected landscapes  
To raise awareness and understanding of the landscape & biodiversity of the Tamar Estuaries  
To ensure that existing public access to the estuaries and coast is maintained and publicised  
To seek opportunities for improving the quality of public access opportunities | SMP2 Appendix D – Notes international and national designations.  
Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies. |
| **12. Light**               | To minimise light pollution arising from ports development                                                                                                                                                  | No information available on light pollution in the port area (light levels, maximums, locations, etc)                                                                                                                        |
| **13. Noise**               | To reduce industrial and traffic noise related to ports                                                                                                                                                     | No information available on noise pollution in the port area (noise levels, maximums, locations, etc)                                                                                                                     |
| **14. Historic Environment** | To protect and enhance sites, features and areas of historical and cultural value  
To improve the conservation and management of the maritime historic environment  
To promote awareness and understanding of the character and extent of the maritime historic environment                                                                                     | SMP2 Appendix D – Locates listed buildings, monuments, wrecks. Identifies areas with international and national designations.  
Tamar Estuaries Management Plan – Contains a list of current challenges with actions to complete and involved organisations. May lead to relevant studies. |
Appendix F – Listed Buildings and Scheduled Ancient Monuments, Devonport South Yard
SOUTH YARD LISTED BUILDINGS AND SCHEDULED ANCIENT MONUMENTS
<table>
<thead>
<tr>
<th>No.</th>
<th>Ref.</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>740-1/96/886</td>
<td>PERIMETER WALL ENCLOSING NORTH CORNER OF THE SOUTH YARD</td>
<td>Perimeter wall. Late C18. Limestone rubble. Tall wall with interval buttress pilasters extends approx. 200m NE from the entrance to Morice Yard, returning for approx. 110m to the SE and broken by the former entrance to the yard which has wickets in ashlar sections with arched heads.</td>
</tr>
<tr>
<td>2</td>
<td>740-1/95/203</td>
<td>NORTH SMITHERY (SO23)</td>
<td>Smithery, disused. Designed 1808 by Sir Samuel Bentham, Inspector General, extended 1847, cut by railway 1879, extension demolished mid C20. Roughly coursed Dunstone rubble with limestone ashlar dressings; truncated brick chimney to SE corner and corrugated sheet hipped valley roof; internal cast-iron columns. Rectangular plan with central line of columns to valley, and spaces to W and E for forges.</td>
</tr>
<tr>
<td>3</td>
<td>740-1/95/205</td>
<td>HEAVY LIFTING STORE (SO33)</td>
<td>Workshop, now store. C1840. Coursed Dunstone rubble with ground-floor granite and first-floor granite and limestone dressings; gabled corrugated iron roof. Rectangular plan.</td>
</tr>
<tr>
<td>4</td>
<td>740-1/95/231</td>
<td>TERRACE WALLS AND ASSOCIATED STEPS AND RAILINGS</td>
<td>Terrace retaining walls, and associated railings and steps. 1760's, N section cut back and rebuilt mid C19. Roughly coursed local limestone with granite ashlar coping. Retaining walls to W side of ramp leading up to Officers' Terrace (qv). Wall extends approx. 180m, and has a central flight of steps in 3 sections and another at the N end; returns to the E then extends 120m to N; C18 section has iron railings with column newels and semi-circular arched arcading.</td>
</tr>
<tr>
<td>5</td>
<td>740-1/95/204</td>
<td>FORMER FIRE STATION (SO32)</td>
<td>Fire station, now canteen and offices. 1851. Squared limestone rubble with granite plinth and sills, limestone dressings, ridge stacks and slate roof. 3 parallel rectangular blocks, the outer ones set forward.</td>
</tr>
<tr>
<td>6</td>
<td>740-1/95/208</td>
<td>DOCKYARD MUSEUM, FORMER PAY OFFICE (SO32)</td>
<td>Pay office and guard house, now museum. C1780. Roughly coursed limestone rubble with tooled ashlar dressings, a different limestone for the top floor, and hipped Welsh slate roof; truncated stacks. T-plan with central rear wing.</td>
</tr>
<tr>
<td>7</td>
<td>740-1/96/216</td>
<td>WALLS AND RAILINGS AROUND</td>
<td>Walls and railings surrounding</td>
</tr>
<tr>
<td>Site Number</td>
<td>Description</td>
<td>Details</td>
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</tr>
<tr>
<td>8</td>
<td>RESERVOIR</td>
<td>Reservoir. Dated 1843. Granite ashlar and cast-iron. Triangular reservoir lined with granite and railings with urn finials.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>OFFICER'S TERRACE (SO59) AND ATTACHED BASEMENT AREA RAILINGS (ALSO CALLED BONAVENTURE HOUSE)</td>
<td>Alternatively known as: Bonaventure House, SOUTH YARD, Devonport Dockyard. Officers' terrace of 12 houses and offices, now offices. 1692-1696, by Edmund Drummer, Surveyor to the Navy Board, altered early C19, partly destroyed c1942. Rendered brick with stone dressings, lateral and party wall stacks and hipped slate roof. Double-depth plan.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>FORMER GARDEN WALL, PIERS AND STEPS TO OFFICER'S TERRACE</td>
<td>Garden wall, piers and steps. 1690's. Brick wall with ashlar dressings. Wall extends approx. 90m; rusticated ashlar piers mark the centre of the former terrace and the position of the Commissioner's House (demolished), and a double flight of steps at the SE end marks the end of the terrace.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>RETAINING WALL TO E SIDE OF RAMP LEADING TO OFFICER'S TERRACE</td>
<td>Retaining wall with steps and railings. Late C18-early C19. Limestone rubble retaining wall with granite steps and coping. Raking retaining wall extends approx. 120m from W of the Officers' Terrace (qv) to the bottom of the ramp, with a double flight of steps with iron railings and urn finials, formerly aligned with the Commissioner's House (demolished), and a single flight marking the lower end of the former Terrace, and returning to the NE for approx. 100m.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>MASTER ROPEMAKER'S OFFICE (S97 AND 98)</td>
<td>Master Ropemaker's Office; later engine house, school, now disused. C1816, extended c1888. Plymouth limestone, 1816 building is of rubble, 1868 is of squared and coursed stone, with ashlar dressings, cast-iron columns and slate roof. Single-depth plan.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>SECTION OF FORMER PERIMETER WALL TO E OF MASTER ROPEMAKER'S OFFICE</td>
<td>Perimeter wall. Late C18. Limestone rubble. Tall coped wall with interval buttress pilasters extends approx. 60m NNW-SSE to the E of the Master Ropemaker's Office (qv).</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>JOINER'S SHOP (SO95)</td>
<td>Alternatively known as: Upholstery Shop, South Yard, Devonport Dockyard. Hemp house, with mould loft, latterly joiner's shop. 1766-73, roof damaged c1941. Limestone rubble and dressings</td>
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<tr>
<td>No.</td>
<td>Ref</td>
<td>Description</td>
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</tr>
<tr>
<td>14</td>
<td>740-1/98/209 II</td>
<td>DOCKYARD WALL EXTENDING FROM EAST OF ROPERY COMPLEX TO EAST OF NO 1 SLIP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dockyard wall. 1763-71. Limestone rubble. Tall wall with moulded coping extends approx. 500m from E of the entrance to the No. 1 Covered Slip to N of the Master Ropemaker's House (qv).</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>740-1/98/223 II</td>
<td>MASTER ROPEMAKER'S HOUSE (S103) AND ATTACHED RAILINGS AND GARDEN WALL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes: Turncock's House, No. 2 EAST AVENUE, Devonport Dockyard. House; later school, now office. 1772-3. Coursed limestone rubble with limestone dressings, lateral stacks to E and S, and hipped slate roof. PLAN: single-depth N office, with double-depth rooms to S, and S attached service wing.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>740-1/98/233 II</td>
<td>WALLS, PIERS AND STEPS EXTENDING APPROX 140M ON E SIDE OF TARRING HOUSE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wall and steps. 1763-71. Limestone rubble and ashlar. Low capped wall has round, capped end piers and central flight of steps down to the Tarring and Wheel House (qv).</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>740-1/98/224 II*</td>
<td>WHITE YARN HOUSE (S135)</td>
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<tr>
<td></td>
<td></td>
<td>White Yarn house. 1763. Limestone rubble and dressings with slate roof. Rectangular open plan.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>740-1/98/230 II*</td>
<td>TARRING AND WHEEL HOUSE (S136) AND TARRED YARN HOUSE (S137)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tarring and wheel house and tarred yarn house. 1763. Limestone rubble and dressings with a slate roof. Rectangular open plan.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>740-1/98/229 II*</td>
<td>TARRED YARN STORE (S138)</td>
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<tr>
<td></td>
<td></td>
<td>Tarred yarn store. Dated 1769 on hoppers. Limestone rubble and dressings with slate roof. Rectangular open plan.</td>
<td></td>
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<tr>
<td>20</td>
<td>740-1/98/227 I</td>
<td>SPINNING HOUSE (S132) AND ATTACHED RETAINING WALLS</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Spinning house in ropery; now store. 1763-71; rebuilt after fire 1812-17 by Edward Holl, architect to the Navy Board; partly destroyed 1941. Limestone rubble and dressings, rendered ends, and slate roof, with a fireproof internal iron frame. Rectangular open plan.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>740-1/98/212 II*</td>
<td>RAILINGS, PIERS AND GATEWAY TO KINGS HILL GAZEBO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Railings, piers and gateway. 1822. Cast and wrought iron. A pair of inverted muzzle-loading cannon inscribed GR form gate piers, linked by an overthrow with a gilded finial, decorative gate with curved sides and central oval, and with wrought-iron railings each side, which extend approx 10m up the path to the Gazebo (qv), and surrounding a central fountain on top.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>740-1/98/215 II*</td>
<td>NO 1 COVERED SLIP (S180)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slip and slip cover. 1770s slip, cover 1814 designed by Sir Robert Seppings. Timber frame with metal sheet mansard roof, and limestone and granite slip. Apsidal aisled plan. Open E gable</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Ref</td>
<td>Description</td>
<td>Details</td>
</tr>
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</tr>
<tr>
<td>23</td>
<td>740-1/97/201</td>
<td>ROSE COTTAGE (S155)</td>
<td>Overseers’ office. 1850-60. Snecked limestone ashlar; hipped slate roof with ashlar ridge stack. 2-room plan, each with separate entry.</td>
</tr>
<tr>
<td>24</td>
<td>740-1/97/225</td>
<td>SOUTH SAW MILLS (S128, 148, 149, 150)</td>
<td>Saw mills, disused. C1856-59, probably designed by Col G T Greene, RE, Director of the Admiralty Works Department; sawing machinery by James Horn, steam engine by Easton and Amos. Limestone ashlar with corrugated sheet roof, fireproof iron internal frame.</td>
</tr>
<tr>
<td>26</td>
<td>740-1/97/232</td>
<td>THE SCRIEVE BOARD (S122)</td>
<td>Covered slip, mould loft, now pattern shop. 1814-1821, by Sir Robert Seppings, RN. Timber frame with corrugated iron sides and metal sheet hipped roof. Apsidal plan. Gabled end faces the river, the sides clad with corrugated sheet overhung by the roof, and backing against the Composite shipbuilding shed (qv).</td>
</tr>
<tr>
<td>27</td>
<td>740-1/97/228</td>
<td>SWING BRIDGE</td>
<td>Swing bridge. Dated 1838. Cast-iron and granite. Two equal halves of 4 cross-braced ribs spanned by a timber walkway forming a segmental arch; the outer ribs have a dated key, with ‘HORSLEY IRONWORKS / NEAR BIRMINGHAM’ cast on the sides. Abutments projecting each side with banded rustication support each bridge on bearing, with a cogged wheel, manually turned by handles.</td>
</tr>
<tr>
<td>28</td>
<td>740-1/95/217</td>
<td>NO 1 DOCK AND BASIN AND NO'S 2, 3 AND 4 DOCKS AND ASSOCIATED BOLLARDS</td>
<td>Dry docks and basin. C18 and C19, with origins in 1690's. Granite and limestone ashlar. Planned facing west towards Hamoaze, with No. 4 dock to north and No. 1 dock and basin to south. All docks of conventional form with altars stepped towards centre and slides for materials; basin walls bounded into pier heads at entrance and have steps for pedestrian traffic.</td>
</tr>
<tr>
<td>29</td>
<td>740-1/97/214</td>
<td>MAIN DOCK PUMPHOUSE (S87)</td>
<td>Hydraulic pumping station. Dated 1851,</td>
</tr>
<tr>
<td>II</td>
<td>AND 89)</td>
<td>possibly by William Scamp, R. E. Limestone ashlar in alternate thick and thin courses with granite dressings and leaded roof. Engine house with square accumulator tower at S end.</td>
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<td>30</td>
<td>740-1/98/234 II</td>
<td>Wall and end piers. 1763-1771. Rubble with ashlar piers. Capped retaining wall to cobbled roadway is ramped up to N square pier, with an archway underneath, and a central path through from the archway in the Tarring and Wheel House (qv).</td>
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<tr>
<td>31</td>
<td>504173 II*</td>
<td>Smithery, disused. Built 1771, modified throughout C19th and reconstructed c1890. Further alterations in the 1850's when the New Smithery was erected. Additional alterations in C20th.</td>
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**SCHEDULED ANCIENT MONUMENTS – SOUTH YARD**

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<tr>
<td>A</td>
<td>SAM 654</td>
<td>The West Ropery (site of) Built circa 1743 as the Laying House. 360m long. Bombed in the war so that only foundations and cellars remain. Cellars are brick vaulted and stone faced and were used for tar storage in connection with the Ropery. Some 44 cellars remain intact, access being from a lower road on the W side of the building.</td>
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<td>B</td>
<td>SAM 660</td>
<td>Slip No 1 (The Covered Slip) The oldest covered building slip in any Royal Dockyard, dating from c.1814. Has been very little altered, though the slipway was relaid in 1941. The roof is supported on a double line of 23 trussed wooden pillars. The total length is 52.2m. At the N end the roof is apsidal to accommodate bowsprits. Lead covering to roof has been recently renewed. Still in use for its original purpose. (Report is from 16/06/1989)</td>
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<td>C</td>
<td>SAM 664</td>
<td>The Scrieve Board A large covered slip, probably dating from the 1830s. Overall length, 87m, width 31m. Built entirely of wood but with later corrugated cladding on the outside. The slip is now floored over. Condition good. (Report made 16/06/1989)</td>
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<td>D</td>
<td>SAM 945</td>
<td>No 1 Basin and No 1 Dock No. 1 Dock on site of 1690 dry dock; although of 19th Century date, it retains the 1690 form. Steppes, stone dock with metal gates. No. 1 Basin on site of 1690 wet dock. Rebuilt in 19th century. Both are good small examples of their type. Condition: good (Report made on 17/11/1989)</td>
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</tbody>
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