CAPITA | AECOM

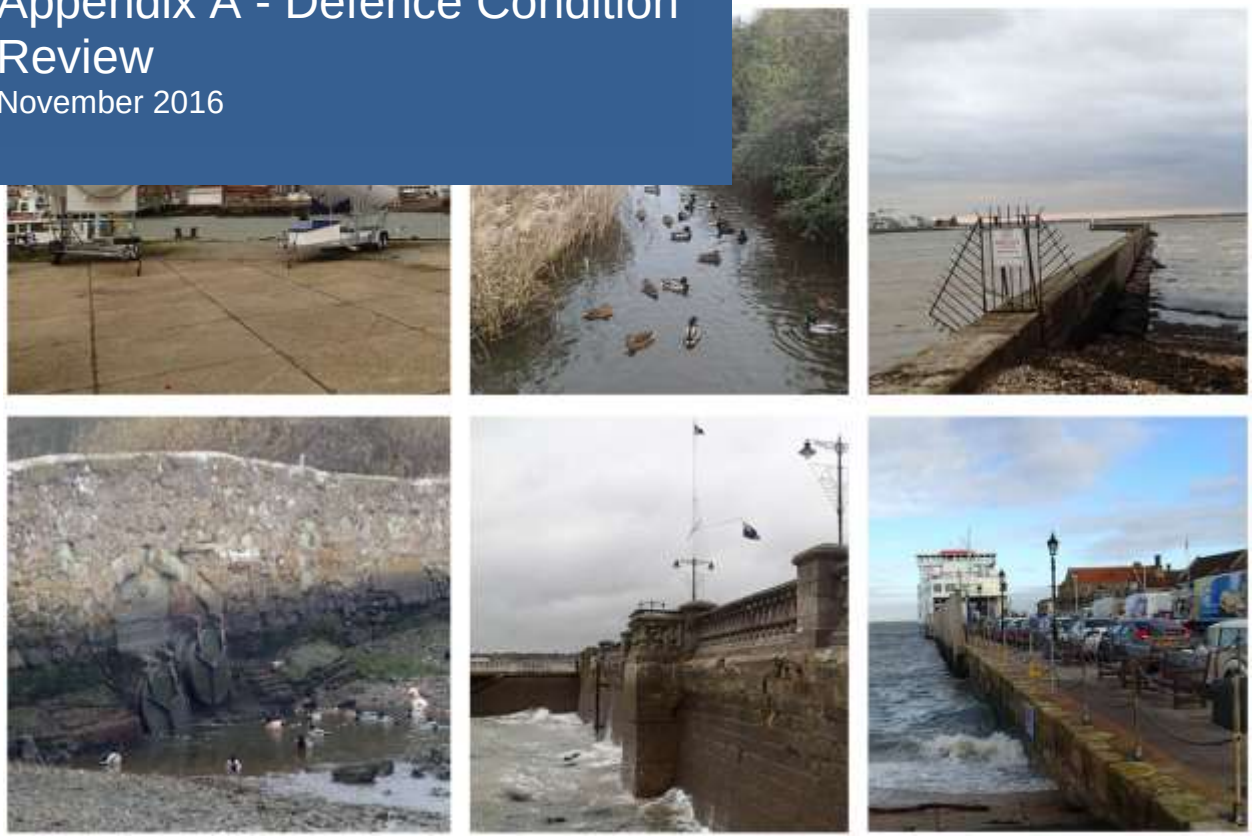
Water and Environment Management Framework
Lot 3 – Engineering and Related Services

West Wight Coastal Flood and Erosion Risk Management Strategy

Appendix A - Defence Condition Review

November 2016

ISLE of WIGHT COUNCIL



Document overview

Capita | AECOM was commissioned by the Isle of Wight Council in October 2014 to undertake a Coastal Flood and Erosion Risk Management Strategy. As part of this commission, a defence condition assessment was undertaken.

Document history

Version	Status	Issue date	Prepared by	Reviewed by	Approved by
1	Draft for comment	11/12/14	George Batt – Graduate Coastal Engineer	Jason Drummond – Principal Flood and Coastal Specialist	Tara-Leigh McVey – Associate
2	Revision after client comments	17/02/15	George Batt – Graduate Coastal Engineer	Jason Drummond – Principal Flood and Coastal Specialist	Tara-Leigh McVey – Associate
3	Revision after client comments	18/12/15	Ben Taylor – Graduate Coastal Engineer	Jason Drummond – Principal Flood and Coastal Specialist	Tara-Leigh McVey - Associate
4	Final	29/11/16	Ben Taylor – Assistant Consultant	Jason Drummond – Principal Flood and Coastal Specialist	Jonathan Short – Principal Consultant

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The methodology adopted and the sources of information used by AECOM / Capita in providing its services are outlined in this Report. The work described in this Report was undertaken in December 2014 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

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1. Introduction

1.1 Project Background

Capita/AECOM has been appointed by the Isle of Wight Council to develop a coastal flood and erosion risk management strategy for the western coastline of the Isle of Wight ("West Wight"). The strategy will evaluate options for managing coastal flooding and erosion, including potential maintenance and capital works required. The strategy assessments will be based on technical issues, economics, stakeholder interests, and environmental impacts. Following a thorough evaluation of these different aspects, the strategy will facilitate the development of sustainable and adaptable coastal defence options with preferred implementation plans put forward. These options will reference the preferred policies outlined in the Isle of Wight Shoreline Management Plan (SMP) published in 2010.

1.2 Purpose of the Document

This document details the findings of the defence condition review undertaken by AECOM for the West Wight strategy frontage. This visual defence condition assessment has been carried out for the purpose of:

- Recording the condition of the defences through visual inspection;
- Reviewing the performance of the defences through estimating the residual life;
- Cross-referencing the Council's defence appraisal undertaken in 2014;
- Developing the "Do Nothing" and "Do Something" scenarios for the Option Appraisal and;
- Communicating the state of defence assets at consultation exhibitions.

No intrusive surveys or material testing has been carried out as part of the assessment. The interpretation of information within this report is intended to inform strategic defence options for different frontages. It should not be used to make an assessment of specific defence sections without further observation and investigation of potential material, structural, and geotechnical defects which may be present.

2. Defence Condition Methodology

2.1 Isle of Wight Council Defence Appraisal

The Isle of Wight Council revised the original SMP2 defence appraisal (2010) in 2014 for the sections covered by the West Wight Strategy, including provision of additional details and new asset information i.e. previously undescribed elements of structures.

As well as a comprehensive photographic record of all assets with accompanying descriptions, assets were graded using the EA Condition Assessment Manual (2006). Based on the condition grade estimation of residual life has been made using SMP guidance derived from previous NADNAC (National Appraisal of Defence Needs and Costs) deterioration profiles (Table 2-1).

Table 2-1: Estimation of Residual Life (from SMP guidance)

Defence description	Estimation of Residual Life (years)				
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Seawall (concrete/masonry)	25 to 35	15 to 25	10 to 15	5 to 7	0
Revetment (concrete/rock)	25 to 35	15 to 25	10 to 15	5 to 7	0
Timber groynes/ timber structures	15 to 25	10 to 20	8 to 20	2 to 7	0
Gabion	10 to 25	6 to 10	4 to 7	1 to 3	0

Note that in this study, identification of assets by location is based on previous shoreline management units (“IW” units) from SMP1, rather than the SMP2 policy units.

Due to the extensive defence data provided by Isle of Wight Council in the 2014 appraisal, and to avoid repetition, Capita/AECOM has not undertaken a visual inspection of all the assets along the strategy frontage, but has assessed a selection of key assets in areas of interest i.e. prone to flooding and erosion. This information has been compared to the Isle of Wight Council’s Defence Appraisal, to validate and supplement the data. The findings will be utilised in the option appraisal phase of the project, to underpin the assessment of options, and the basis of damages under the “Do Nothing” scenario.

2.2 Walk-over surveys

An on-foot visual inspection of defences along the strategy frontage was carried out in order to determine their condition, current effectiveness and estimated residual life. The surveys were undertaken by AECOM Coastal Engineers between the 2nd and 3rd December 2014. The areas visited were:

- Cowes and East Cowes;
- Newport;
- Yarmouth including Thorley Brook;
- Freshwater Causeway and;
- the Totland landslide.

The weather was overcast with sunny intervals with good visibility and a moderately northerly wind. Inspections were timed to coincide with low tide in order to maximise available viewing time.

The tidal conditions on the dates of inspection were midway between neap and spring (peak spring tide of the 6-7th December). Table 2-2 summarises the tidal elevation on the dates of inspection at Yarmouth.

Table 2-2: Tidal Conditions

Tide Level	2nd December 2014		3rd December 2014	
	Time	Height (mCD)	Time	Height (mCD)
High Water	07:23	2.9	08:09	2.9
Low Water	12:38	1.3	13:32	1.2
High Water	19:37	2.8	20:21	2.9

Note: Time in GMT

2.3 Condition Assessment

The condition of the defences was assessed in line with the Environment Agency Condition Assessment Manual (2006). The manual provides a condition grading scheme and description to aid a robust and consistent approach to evaluating the condition and residual life of coastal defences. The defensive structures along the Strategy frontage have been categorised into a condition grade (1-5) based on criteria set out in this manual (Table 2-3). This is the same manual as used by the Isle of Wight Council in their defence appraisal.

Table 2-3: Extracts from EA (2006) Condition Assessment Manual

Grade	Description of grade	Extent of defects
1	Very good	Cosmetic defects that will have no effect on performance
2	Good	Minor defects that will not reduce overall performance of asset
3	Fair	Defects that could reduce performance of asset
4	Poor	Defects that would significantly reduce performance of asset
5	Very poor	Severe defects resulting in complete performance failure

Estimation of residual life for the each asset has been determined using the latest Environment Agency guidance (2013). This guidance is more recent than the SMP guidance for residual life estimations as used in the Isle of Wight Council Defence Appraisal. This method uses probabilistic deterioration curves based on factors which influence the asset life and the predicted maintenance regime. The aforementioned condition grade for each asset is used to determine the location of that asset on the grading curve and subsequently used to determine the residual life of the structure. For the purposes of this study, the maintenance regime selected for all assets is Maintenance Regime 1: Low/basic-do minimum. A medium deterioration scenario has been selected as the most likely deterioration curve. The residual life

is said to be the time taken for the asset to go from its current condition to condition grade 5, where the asset has essentially failed.

Photos of the defence asset being assessed were also taken using a digital camera. The images provide a record of the current defence condition and will allow the rate of deterioration of the defence condition to be appraised more accurately in subsequent studies.

2.4 Shoreline Management Plan

The SMP2 used policy units to identify locations of assets. The policy units covered in the site visit are shown in Table 2-4 along with the preferred policy plan at these locations.

Table 2-4: Preferred Option for Policy Units

Policy Unit		Policy Plan		
		to 2025	to 2055	to 2105
PU1A.3	Gurnard to Cowes Parade	HTL	HTL	HTL
PU1A.4	Cowes	HTL	HTL	HTL
PU1A.5	East Cowes	HTL	HTL	HTL
PU1A.6	East Cowes Outer Esplanade	HTL	NAI	NAI
PU1B.4	Newport Harbour	HTL	HTL	HTL
PU6B.1	Totland and Colwell	HTL	HTL	HTL
PU6C.1	Norton Spit	HTL	HTL	HTL
PU6C.3	The Causeway	HTL	HTL	HTL
PU6C.4	Western Yar Estuary – eastern shore	NAI	NAI	NAI
PU6C.5	Thorley Brook and Barnfields Stream	HTL	MR	NAI
PU6C.6	Yarmouth to Port la Salle	HTL	HTL	HTL

Key: HTL – hold the line, NAI – no active intervention, MR – managed realignment

3. Findings from Site Visit

Table 3-1 shows a selection of defences that have been assessed by Capita/AECOM. For each defence item, the Capita/AECOM and Isle of Wight observations on condition grades and residual lives are presented. Length and crest height have been taken from Isle of Wight council GIS defence data (*Defence Type_2014*).

Table 3-1: Results of Site Visit

Defence Description	IW Unit	Policy Unit	Length (m)/ Crest Height (mODN)	Photo from AECOM Site Visit	Assessed by	Condition Grade	Residual Life (years)
Concrete block masonry wall	56/010	PU1A.3	211/ unknown		Capita / AECOM	Grade 3	15
					IWC	Grade 3	10 to 15
Rock groynes	56/011	PU1A.3	n/a		Capita / AECOM	Grade 3/4	15
					IWC	Grade 3	10 to 15
Concrete block masonry wall	56/015	PU1A.3	140/ 2.4		Capita / AECOM	Grade 3	15
					IWC	Grade 3	10 to 15

Masonry block wall	57/001	PU1A.3	236/ 2.5		Capita / AECOM	Grade 2	30
					IWC	Grade 2	15 to 25
Stone masonry wall	59/002	PU1A.5	32/ unknown		Capita / AECOM	Grade 2	30
					IWC	Grade 2	15 to 25
Concrete groyne	59/012	PU1A.5	n/a		Capita / AECOM	Grade 2/3	20
					IWC	Grade 2	15 to 25
Concrete breakwater	59/013	PU1A.5	639/ 3.1		Capita / AECOM	Grade 2	30
					IWC	Grade 2	15 to 25

Concrete wall	58/048	PU1B.4	129/ unknown		Capita / AECOM	Grade 3	15
					IWC	Grade 3	10 to 15
Steel sheet piled toe with stepped concrete apron and concrete wall	45/005	PU6B.1	509/ 3.0		Capita / AECOM	Grade 5	0
					IWC	Grade 5	0
Timber boarded breastwork breakwater	50/004	PU6C.1	395/ 2.2		Capita / AECOM	Grade 3	5
					IWC	Grade 2	10 to 20
Stone masonry wall	50/036	PU6C.6	83/ 1.7		Capita / AECOM	Grade 2	30
					IWC	Grade 2	15 to 25

4. Summary

The asset condition grades assessed by the Isle of Wight Council and Capita/AECOM condition assessments largely agree thus adding confidence in the estimates. Where there are differences in residual life these are not significant (5 years or less) and some differences in residual life were expected due to the use of two different residual life assessment manuals. Out of the 11 defence assets compared, only one had a different grading (IW 50/004), which is the Yarmouth breakwater.

Yarmouth Harbour announced recently (November 2014; http://www.yarmouth-harbour.co.uk) that the existing breakwater that protects the harbour requires replacement, since it is approaching the end of its useful life. In that sense, the Capita/AECOM observations are probably more appropriate in this location and the "Do Nothing" erosion lines should be updated to reflect the shorter predicted residual life.

It should be remembered that residual life estimates are just that, and have been assigned purely on a visual inspections. The level of agreement has confirmed that the data included within the Isle of Wight Council Defence Appraisal is suitably up to date and can be used at a strategic level to inform the development of options.

5. References

Environment Agency (2006) Managing Flood Risk, Condition Assessment Manual – Doc Ref 166_03_SD01. Published by Environment Agency, Rio House, Waterside Drive, Bristol BS32 4UD

Halcrow (2013) Practical guidance on determining asset deterioration and the use of condition grade deterioration curves: Revision 1 Report – SC060078/R1 Published by: Environment Agency, Horizon House, Deanery Road, Bristol, BS1 5AH

Isle of Wight Council (2014) West Wight Strategy Study 2014 – Defence Appraisal

6. Appendix A

Defence Appraisal (IWC, 2014)

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 40 SOUTH-WEST COAST	**IW 40 / 008**	**IW 40 / 008** Freshwater chalk cliffs. Sandy coastal slope.	Chalk cliffs. Sandy coastal slope.
WWSS - Unit IW 41 FRESHWATER BAY OS Grid Reference: **SZ34766, 85709 SZ34518, 85638** Length: **309m**	**IW 41 / 001** Seawall constructed 1960. Groynes constructed 1976. New Lifeboat ramp constructed 1991.	**IW 41 / 001** Timber access steps. Ramped end of revetment. Coastal structure comprising of steel sheet piled toe with reinforced concrete bull nosed wall of crest level +3.4m Ordnance Datum Newlyn (ODN). Macadam surfaced concrete promenade with concrete splash wall at rear. Concrete step block. Timber groyne. Freshwater life boat slipway comprising of steel sheet piled sides in filled with concrete overlaid with Plaswood planking. Timber boat park slipway with Plaswood planking to the lower section. Timber groyne. Concrete step block. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Groynes) - Very Poor (Grade 5) Residual Life - 0 years Condition (Piled Slipway) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Timber Slipway) - Good (Grade 2) Residual Life - 10 to 20 years	Residual stacks – Mermaid Rock / Arched Rock and Stag Rock. Upper chalk and coombe rock cliffs, with a capping of sand / earth. Shingle foreshore.
	IW 41 / 002 Seawall constructed 1955. Toe piling constructed 1976.	**IW 41 / 002** Steel sheet piled toe, with stepped concrete apron and wall with wave return of crest level +3.8m Ordnance Datum Newlyn (ODN). Concrete step block.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall) - Fair (Grade 3) Residual Life -10 to 15 years	
	IW 41 / 003 Seawall constructed 1955. Toe piling constructed 1976. Concrete encasement constructed 1989 to protect toe of existing structure.	**IW 41 / 003** Steel sheet piled toe, with stepped concrete apron, concrete encasement and wall with bull nosed wave return of crest level +3.8m Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life -15 to 25 years	
	IW 41 / 004 Seawall constructed 1978. Concrete encasement constructed 1989 to protect toe of existing structure.	**IW 41 / 004** Steel sheet piled toe with concrete apron, concrete wall with wave return of crest level +3.8m Ordnance Datum Newlyn (ODN). Concrete step block. Condition (Wall) - Good (Grade 2) Residual Life -15 to 25 years	
	IW 41 / 005 Seawall constructed 1978.	**IW 41 / 005** Steel sheet piled toe with concrete apron, concrete wall with wave return of crest level +3.8m Ordnance Datum Newlyn (ODN). Low stone parapet wall. Condition (Wall) - Good (Grade 2) Residual Life -15 to 25 years	
	IW 41 / 006 Unknown	**IW 41 / 006** Concrete step block. Stone masonry wall. Condition (Wall) - Fair (Grade 3) Residual Life -10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 42 TENNYSON DOWN & THE NEDDLES OS Grid Reference: **SZ34518, 85638 SZ30538, 85202** Length: **7271m**	**IW 42 / 001** Undefended **IW 42 / 002** Unknown **IW 42 / 003** Unknown **IW 42 / 004** Unknown **IW 42 / 005** Unknown **IW 42 / 006** Lighthouse structure constructed 1876.	**IW 42 / 001** Natural undefended cliff. Needles light house structure. **IW 42 / 002** Remains of concrete steel sheet piled / stone masonry groyne. Condition (Groyne) - Poor (Grade 4) Residual Life - 5 to 7 years **IW 42 / 003** Steel reinforced concrete cylinder structures. Condition - Poor (Grade 4) Residual Life - 5 to 7 years **IW 42 / 004** Steel access steps with concrete encased foundation. Condition - Poor (Grade 4) Residual Life - 5 to 7 years **IW 42 / 005** Remains of concrete / steel structure. Condition - Poor (Grade 4) Residual Life - 5 to 7 years **IW 42 / 006** Needles Light House Structure. Condition (Wall) - Good (Grade 2) Residual Life -15 to 25	Upper chalk cliffs to Alum Bay. Goose rock is the outermost chalk stack of the Needles.

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 43 ALUM BAY OS Grid Reference: **SZ30538, 85202** **SZ30500, 85726** Length: **559m**	**IW 43 / 001** Undefended **IW 43 / 002** Unknown **IW 43 / 003** Unknown	**IW 43 / 001** Natural undefended cliff to a level of +50.0m above Ordnance Datum Newlyn (ODN). Steel piled and timber landing stage. Steel. Condition (Landing stage) - Good (Grade 2) Residual Life -15 to 25 years **IW 43 / 002** Sheet piled and concrete chair lift structure Condition - Good (Grade 2) Residual Life -15 to 25 years **IW 43 / 003** Timber access steps with rock armour at base. Condition (Rock) - Fair (Grade 3) Residual Life -10 to 15 years	The west facing side of Alum Bay has cliffs formed of clays, and distinctively coloured Alum Bay Sands. The cliffs are generally steep and erode by rock falls and slides and are fronted by a steep shingle beach.
WWSS – Unit IW 44 HEADON WARREN OS Grid Reference: **SZ30500, 85726** **SZ31951, 86547** Length: **1954m**	**IW 44 / 001** Undefended	**IW 44 / 001** Natural undefended cliff.	Slumping clay and lobes of truncated Bracklesham beds to Hatherwood Point. Plateau Gravel capping over Osborne Marls. Horizontal Limestone cliffs separated by clay or marl. Sections or narrow sand and gravel beach. Strewn Boulders of pale

Location	Defence History	Present and Residual Life	Natural Features
			sandstone and limestone.
WWSS - Unit IW 45 TOTLAND & COLWELL OS Grid Reference: **SZ31951, 86547 SZ32896, 88068** Length: **1973m**	**IW 45 / 001** Seawall constructed 1960. Groynes constructed 1993.	**IW 45 / 001** Coastal Structure comprising of steel sheet piled toe with stepped concrete apron and concrete wall with wave return of crest level +2.7m Ordnance Datum Newlyn (ODN). Four concrete step blocks. Five timber groynes. Various outfalls. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life -15 to 25 years Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	Low cliff of stratified clayey sands protected from coastal erosion by coastal defence. Shingle beaches and sandy foreshore.
	IW 45 / 002 Seawall constructed 1960. Groynes refurbished 1993.	**IW 45 / 002** Concrete step block. Concrete wall with wave return section of crest level +2.8m Ordnance Datum Newlyn (ODN). Four timber groynes. Two double step blocks. Timber catch fencing. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 7 years Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 45 / 003 Totland Bay Groynes and Seawall completed 1993. Totland Pier constructed 1880.	**IW 45 / 003** Steel sheet piled toe with stepped concrete apron and concrete wall with wave return of crest level +3.5m Ordnance Datum Newlyn (ODN). Four timber groynes. Three concrete step blocks. Remains of timber structures exposed when sediment levels are low. Timber slipway. Totland Pier. Highway outfall structure.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 45 / 004 Seawall constructed 1960. Rock groynes. completed 1993, as part of the Totland Bay Groynes and Seawall Works.	**IW 45 / 004** Rock Groyne incorporating navigation aid. Steel sheet piled toe with stepped concrete apron and concrete wall with overhung coping of crest level +2.7m Ordnance Datum Newlyn (ODN). Concrete step block. Rock Groyne incorporating navigation aid. Concrete step block. Concrete splash wall to the rear. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Rock Groynes) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 45 / 005 Seawall constructed 1960. Rock protection. completed 1993, as part of the Totland Bay Groynes and Seawall Works.	**IW 45 / 005** Steel sheet piled toe with stepped concrete apron and concrete wall with overhung coping of crest level +3.0m Ordnance Datum Newlyn (ODN). Rock armouring to part of wall frontage. Rock Groyne. Two steel access ladders. Various outfalls. Concrete splash wall to the rear. Concrete step block. Timber groyne with outfall pipe fixed on near side of groyne. Condition (Wall) - Very Poor (Grade 5) Residual Life - 0 years Condition (Rock Groynes) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Good (Grade 2) Residual Life - 10 to 20	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 45 / 006 Seawall constructed 1960. Groynes constructed 1976.	**IW 45 / 006** Stone set wall, stone coping flush with promenade decking constructed to a level of +2.9m above Ordnance Datum Newlyn (ODN). Stepped concrete apron / toe. Concrete step block. Timber groyne with outfall pipe fixed on near side of groyne. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12 years	
	IW 45 / 007 Seawall constructed 1976. Groynes constructed 1976.	**IW 45 / 007** Concrete wall with vertical plain face above concrete stepped apron. Splash wall to the rear. Concrete step block. Timber groyne with outfall pipe fixed on near side of groyne. Navigation aid. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 45 / 008 Seawall constructed 1982. Groynes constructed 1976.	**IW 45 / 008** Concrete stepped apron and concrete wall with wave return of crest level +2.5m Ordnance Datum Newlyn (ODN). Splash wall to the rear. Various outfalls. Two concrete step blocks. Two timber groynes with outfall pipe fixed on near side of groyne. Navigation aids. Remains of concrete structure on shore. Two concrete slipways. Condition (Wall) - Good (Grade 2) Residual Life - 5 to 7 years	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 45 / 009 Seawall constructed 1982. Groynes constructed 1976.	**IW 45 / 009** Concrete stepped apron and concrete wall with wave return of crest level +2.5m Ordnance Datum Newlyn (ODN). Splash wall to the rear. Various outfalls. Two concrete step blocks. Two timber groynes. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 45 / 010 Timber breast work constructed 1977. Groynes constructed 1960.	**IW 45 / 010** Timber boarded revetment constructed to a level of +2.5m above Ordnance Datum Newlyn (ODN). Horizontal boarding, on bullhead rail piles, with single rail bracing, backed filled with rock. Remains of timber structures exposed when sediment levels are low. Two sets of timber steps. Timber groyne. Condition (Wall) - Poor (Grade 4) Residual Life - 2 to 7 years Condition (Groynes) - Fair (Grade 3) Residual Life - 8 to 12 years	
WWSS - Unit IW 46 CENTRAL COLWELL BAY OS Grid Reference: **SZ32896, 88068**	**IW 46 / 001** Groyne constructed 1960. Undefended	**IW 46 / 001** Undefended cliff. Timber groyne with timber access steps. Condition (Groyne) - Good (Grade 2) Residual Life - 10 to 20 years	Low cliff of stratified clayey sands protected from coastal erosion by coastal defence. Limestone running out across the foreshore.

Location	Defence History	Present and Residual Life	Natural Features
SZ33021, 88745 Length: **757m**	**IW 46 / 002** Rock armour installed 1992 during Fort Albert works. **IW 46 / 003** Brambles Chine groyne works and beach nourishment completed 1993. Undefended **IW 46 / 004** Fort Albert Coast Protection Works completed 1993. Rock armour installed 1992 during Fort Albert works. **IW 46 / 005** Undefended	**IW 46 / 002** Steel sheet piling extending into coastal slope. Rock armour. Condition (Piling) - Fair (Grade 3) Residual Life - 18 to 26 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years **IW 46 / 003** Undefended cliff to a level of +15.0m above Ordnance Datum Newlyn (ODN). Two timber groynes detached from cliff toe. Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12 years **IW 46 / 004** Concrete slipway. Rock / concrete armour. Condition (Slipway) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years **IW 46 / 005** Concrete access steps. Undefended cliff. Three timber groynes detached from cliff toe. Old sewer outfall. Rock filled gabions. Condition (Gabions) - Good (Grade 3) Residual Life - 6 to 10 years Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12 years	Cliff steepens in to the Colwell Bay beds, grey marls overlain by light brown and yellow beds that dip northward, passing across Brambles Chine. Sandy foreshore with sections of shingle beach.

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 47 FORT ALBERT OS Grid Reference: **SZ33021, 88745 SZ33185, 89265** Length: **809m**	**IW 47 / 001** Steel sheet piling installed 1950. **IW 47 / 002** Unknown **IW 47 / 003** Sea wall and rock armour constructed 1993. **IW 47 / 004** Sea wall constructed 1993. **IW 47 / 005** Fort Albert former coastal battery of 1888 on an artificial island. Originating a coastal battery structure of 1854.	**IW 47 / 001** Sheet piled and concrete remains of former sea wall of crest level +1.8m Ordnance Datum Newlyn (ODN), and military installations. Condition (Piling) - Poor (Grade 4) Residual Life - 5 to 10 years **IW 47 / 002** Remains of concrete wall. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 7 years **IW 47 / 003** Rock armour revetment of crest level +3.5m Ordnance Datum Newlyn (ODN). Concrete wall adjacent to slipway. Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25 years **IW 47 / 004** Concrete sea wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years **IW 47 / 005** Steel sheet piled and concrete slipway. Sheet piled and concrete coping wall to Fort Albert of crest level +2.7m Ordnance Datum Newlyn (ODN). Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25	Sloping cliffs in Osbourne Marls are protected by rock revetment to Fort Albert.

Location	Defence History	Present and Residual Life	Natural Features
	IW 47 / 006 Seawall constructed 1930. Toe piling 1950.	years **IW 47 / 006** Concrete sea wall, with battered face and cope section above sheet piled toe constructed to a level of +2.2m above Ordnance Datum Newlyn (ODN). Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
WWSS - Unit IW 48 **FORT VICTORIA COUNRY PARK** OS Grid Reference: **SZ33185, 89265** **SZ33730, 89718** Length: **742m**	**IW 48 / 001** Undefended	**IW 48 / 001** Undefended cliff.	Limestone has accumulated on the shore near Round Tower Point. Sandy foreshore with locations of exposed clay.

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 49 FORT VICORIA & NORTON OS Grid Reference: **SZ33730, 89718 SZ34695, 89721** Length: **1088m**	**IW 49 / 001** Unknown	**IW 49 / 001** Remains of concrete war structure. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 7 years	Narrow sandy / shingle foreshore exposed during MLW in front of coastal defences. Shingle beach extents towards Norton.
	IW 49 / 002 Constructed 1980, and refurbished in 2009.	**IW 49 / 002** Low timber breastwork consisting of timber poled driven into beach, with timber waling of crest level +1.5m Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 49 / 003 Seawall constructed pre 1900. Groynes constructed 1960.	**IW 49 / 003** Concrete sea wall with concrete toe section of crest level +1.7m Ordnance Datum Newlyn (ODN). Two steel sheet piled groynes with navigation aids. Four timber groynes. Concrete rendered masonry block wall. Concrete slipway. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 7 years Condition (Steel Groynes) - Poor (Grade 4) Residual Life - 5 to 10 years Condition (Timber Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 49 / 004 Unknown	**IW 49 / 004** Concrete rendered masonry block wall. Remains of Fort Victoria Pier. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 49 / 005 Undefended	**IW 49 / 005** Low concrete decking fronting Old boat house, café and residential buildings. Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 49 / 006 Groynes constructed 1990. Undefended	**IW 49 / 006** Undefended frontage protected by shingle ridge. Three timber groynes. Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 49 / 007 Groynes and gabions constructed 1990.	**IW 49 / 007** Rock filled gabions of crest level +3.1m Ordnance Datum Newlyn (ODN). Timber groyne. Condition (Gabions) - Good (Grade 2) Residual Life - 6 to 10 years Condition (Groyne) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 49 / 008 Groynes and gabions constructed 1990.	**IW 49 / 008** Rock filled gabions. Short section of concrete wall. Old concrete abutment and wall, with remains of steel piles protruding. Condition (Gabions) - Good (Grade 2) Residual Life - 6 to 10 years Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Concrete Structure) - Good (Grade 2) Residual Life - 15 to 25	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 49 / 009 Gabions constructed 1982.	**IW 49 / 009** Rock filled gabions to toe and sloping apron covered with asphalt constructed to a level of +2.7m above Ordnance Datum Newlyn (ODN). Condition (Gabions) - Poor (Grade 4) Residual Life - 1 to 3 years	
	IW 49 / 010 Norton, Freshwater Coast protection Scheme completed 1983.	**IW 49 / 010** Steel sheet piled toe concrete apron. Concrete wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 49 / 011 Norton, Freshwater Coast protection Scheme completed 1983.	**IW 49 / 011** Steel sheet piled toe stepped concrete apron. Concrete wall with wave return of crest level +2.0m Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 49 / 012 IW 49 / 013 Seawall extended 1907. Rebuilt between 1907 – 1939. Norton, Freshwater Coast protection Scheme completed 1983.	**IW 49 / 012** Steel sheet piled toe with wall consisting of full height stepped apron of crest level +2.3m Ordnance Datum Newlyn (ODN). Concrete splash wall to the rear. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 49 / 013 Seawall in existence prior 1896. Rebuilt between 1907 – 1939.	**IW 49 / 013** Steel sheet piled toe with concrete wall of crest level +1.4m Ordnance Datum Newlyn (ODN). Opening in wall forms small boat dock. Stone masonry / concrete filled sandbag wall to eastern side.	

Location	Defence History	Present and Residual Life	Natural Features
	Norton, Freshwater Coast protection Scheme completed 1983. **IW 49 / 014** Unknown	Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years **IW 49 / 014** Two timber groynes. Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 50 YARMOUTH ESTUARY OS Grid Reference: **SZ34695, 89721** **SZ35374, 89774** Length: **9107m**	**IW 50 / 001** Timber breast work and groynes constructed 1975.	**IW 50 / 001** Timber piled toe with timber boarded breastwork on steel piles, of crest level +1.6m Ordnance Datum Newlyn (ODN). Two timber groynes incorporating navigation aids. Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Groynes) - Good (Grade 2) Residual Life - 15 to 25 years	Estuary bordered by tidal mudflats and salt marshes.
	IW 50 / 002 Timber breast work and groynes constructed 1975.	**IW 50 / 002** Timber boarded breastwork on timber piles of crest level +1.7m Ordnance Datum Newlyn (ODN). Two timber groynes incorporating navigation aids. Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Groynes) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 003 Timber breast work and groynes constructed 1975.	**IW 50 / 003** Short section of timber boarded breastwork on sheet piles. Rock armour to frontage. Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 50 / 004 Timber breastwork breakwater	**IW 50 / 004** Timber boarded breastwork breakwater on steel piles of crest level +2.2m Ordnance Datum Newlyn (ODN). Rock armouring to frontage.	

Location	Defence History	Present and Residual Life	Natural Features
	constructed 1960. Rock armour constructed 1972.	Condition (Wall) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 50 / 005 Undefended	**IW 50 / 005** Natural salt marsh. Timber Landing stage. NFCCD Condition - Good (Grade 2) - SMP2 (2009)	
	IW 50 / 006 Unknown	**IW 50 / 006** Stone masonry / concrete wall. Landing stages. Condition (Wall) - Good (Grade 2) Residual Life - 10 to 15 years	
	IW 50 / 007 Unknown	**IW 50 / 007** Rock revetment. Concrete wall. Outfall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 008 The New Yar Bridge completed 1987.	**IW 50 / 008** Rock revetment. Concrete wall. Block revetment. The River Yar Bridge structure. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 50 / 009 Unknown	**IW 50 / 009** Earth embankment. Condition (Embankment) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 010 Undefended	**IW 50 / 010** Natural salt marsh. Remains of brick masonry structure. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 50 / 011 Unknown	**IW 50 / 011** Earth revetment fronting industrial buildings. Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 012 Installed post SMP2 - 2009	**IW 50 / 012** Steel sheet piling Condition (Wall) - Very Good (Grade 1) Residual Life - 30 to 70 years	
	IW 50 / 013 Installed post SMP2 - 2009	**IW 50 / 013** Steel sheet piling.Concrete slipway. Landing stages. Condition (Wall) - Very Good (Grade 1) Residual Life - 30 to 70 years	
	IW 50 / 014 Installed post SMP2 - 2009	**IW 50 / 014** Steel sheet piling Condition (Wall) - Very Good (Grade 1) Residual Life - 30 to 70	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 50 / 015 Undefended	**IW 50 / 015** Natural salt marsh. Short section of timber breast work. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 50 / 016 Unknown	**IW 50 / 016** Remains of timber piles and landing stages. Concrete encasements supporting access bridge. Pontoons. Condition (Piles) - Poor (Grade 4) Residual Life - 2 to 7 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 017 Undefended	**IW 50 / 017** Natural salt marsh. Steel piled pipe structure. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 50 / 018 Unknown	**IW 50 / 018** Concrete encasement at landward side of landing stage. Pontoon. Stone masonry wall fronting Kings Manor Farm. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 019 Undefended	**IW 50 / 019** Natural salt marsh. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 50 / 020 Unknown	**IW 50 / 020** Concrete pill box. Low stone masonry wall Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 02 Unknown	**IW 50 / 021** Stone masonry bridge. Two flap valves. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 50 / 022 Unknown	**IW 50 / 022** Concrete wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 023 Undefended	**IW 50 / 023** Natural salt marsh. Old boat house concrete foundation. Remains of timber landing stage. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 50 / 024 Undefended	**IW 50 / 024** Concrete access bridge structure. Condition (Bridge) – Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 025 Undefended	**IW 50 / 025** Natural salt marsh. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 50 / 026 Unknown	**IW 50 / 026** Rock revetment. Remains of timber posts. Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 027 Revetment constructed 1950.	**IW 50 / 027** Slopping concrete revetment of crest level +1.8m Ordnance Datum Newlyn (ODN). Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 028 Seawall constructed 1920.	**IW 50 / 028** Stone / brick masonry wall with concrete toe. Concrete weir to Thorley Brook. Two flap valves. Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 029 Gabions constructed 1989.	**IW 50 / 029** Stone filled gabion mattress revetment of crest level +1.6m Ordnance Datum Newlyn (ODN). Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 030 Unknown	**IW 50 / 030** Timber landing stage. Concrete revetment. Concrete / timber slipway. Sloping revetment consisting of profiled sections over chalk fill of crest level +1.8m Ordnance Datum Newlyn (ODN). Various outfalls. Timber slipway. Timber piles. Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 50 / 031 The New Yar Bridge completed 1987.	**IW 50 / 031** Rock revetment. Concrete wall. Block revetment. The River Yar Bridge structure. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 032 Constructed 2011	**IW 50 / 032** Steel sheet piling with concrete capping beam. Access ramps. Pontoons. Condition (Wall) – Very Good (Grade 5) Residual Life - 30 to 70 years	
	IW 50 / 033 Unknown	**IW 50 / 033** Steel sheet piling with concrete capping beam. Timber landing stage. Steel sheet piling / timber breast work with concrete capping beam. Access ladders. Access ramp. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 50 / 034 Unknown	**IW 50 / 034** Steel piles. Timber piled wall reinforced with steel beams. Steel sheet piling / timber breast work with concrete capping beam. Access ladders. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 50 / 035 Unknown	**IW 50 / 035** Steel sheet piled / concrete slipway.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Slipway) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 50 / 036 Unknown	**IW 50 / 036** Stone masonry wall of crest level +1.7m Ordnance Datum Newlyn (ODN). Timber piles. Access ladders. Concrete step block. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 50 / 037 Unknown	**IW 50 / 037** Steel sheet piling with concrete capping beam. Timber breast work. Wightlink access ramp. Steel piled landing stage. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 50 / 038 Unknown	**IW 50 / 038** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 51 YARMOUTH TOWN & BOULDNOR OS Grid Reference: **SZ35374, 89774 SZ37139, 90057** Length: **1946m**	**IW 51 / 001** Unknown	**IW 51 / 001** Stone masonry wall. Short section of steel sheet piling to minimise erosion from the 'Wight Link' ferry. Stone masonry buttress. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	Minor shingle beaches exposed during MLW. Sandy foreshore.
	IW 51 / 002 Unknown	**IW 51 / 002** Stone masonry wall. Access steps. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 003 Unknown	**IW 51 / 003** Timber groyne. Concrete columns support concrete pad foundation. Yarmouth Pier. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12 years	
	IW 51 / 004 Seawall constructed 1920.	**IW 51 / 004** Timber groyne. Stone masonry wall of crest level +2.2m Ordnance Datum Newlyn (ODN). Timber slipway. Timber landing stage. Access steps. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Groyne) - Fair (Grade 3) Residual Life - 8 to 12	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 51 / 005 Seawall constructed 1920.	**IW 51 / 005** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 006 Seawall constructed 1920.	**IW 51 / 006** Steel piled timber landing stage with a number of steel piles encased with concrete. Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 007 Seawall constructed 1920.	**IW 51 / 007** Timber slipway. Timber breast work. Rock armour. Stone masonry wall. Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 008 Unknown	**IW 51 / 008** Concrete wall. Stone masonry wall. Timber landing stage. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 009 Seawall constructed	**IW 51 / 009** Timber landing stage. Stone masonry wall.	

Location	Defence History	Present and Residual Life	Natural Features
	1920.	Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 010 Seawall constructed 1920.	**IW 51 / 010** Stone masonry wall with concrete revetment. Access steps. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 011 Unknown	**IW 51 / 011** Steel sheet piling. Concrete slipway. Stone brick masonry wall. Steel piled timber landing stage. Concrete slipway. Timber landing stage with a number of timber piles encased with concrete. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 51 / 012 Unknown	**IW 51 / 012** Steel sheet piling. Concrete revetment. Stone / brick masonry wall. Steel piled timber landing stage. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 51 / 013 Unknown	**IW 51 / 013** Concrete wall. Stone brick masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 51 / 014 Unknown	**IW 51 / 014** Concrete wall. Concrete revetment. Concrete rendered stone / brick wall. Timber landing stage. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 015 Seawall constructed 1930. Encasement and filling of voids to the stepped apron 1987.	**IW 51 / 015** Steel sheet piled toe, stepped concrete apron, concrete wall with wave return of crest level +2.55m Ordnance Datum Newlyn (ODN). Nine concrete groynes. Four concrete step blocks. Remains of timber landing stage. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 10 years Condition (Groynes) - Fair (Grade 2) Residual Life - 10 to 15 years	
	IW 51 / 016 Unknown	**IW 51 / 016** Steel sheet piled toe. Concrete slopping apron. Vertical concrete wall. Concrete encased outfalls. Concrete step block. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 017 Unknown	**IW 51 / 017** Steel access ladder. Timber landing stage. Concrete wall toe with slight batter, concrete wall. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 51 / 018 Reconstruction of Seawall. Underpinning and part encasement of the Seawall fronting Bouldnor Coastal Slope. Installation of a limited number of cliff drains 1987.	**IW 51 / 018** Concrete access steps. Timber landing stage. Steel access ladder. Concrete wall, with plain face to batter, with overhung cope section of crest level +2.55m Ordnance Datum Newlyn (ODN). Remains of timber piles. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 51 / 019 Unknown	**IW 51 / 019** Concrete encasement. Brick masonry wall. Steel sheet piled groyne, with timber waling on top. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 020 Unknown	**IW 51 / 020** Steel sheet piled toe with concrete capping beam. Concrete block masonry wall. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 10 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 021 Unknown	**IW 51 / 021** Steel sheet piled toe back filled with concrete, concrete wall with concrete capping beam constructed to a level of +1.8m above Ordnance Datum Newlyn (ODN). Concrete block masonry wall. Three short timber groynes.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 022 Unknown	**IW 51 / 022** Steel sheet piled toe with concrete capping beam. Concrete block masonry wall. Short timber groyne. Timber pile. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 023 Unknown	**IW 51 / 023** Steel sheet piled groyne, with timber waling on top. Concrete slipway. Steel sheet piled toe back filled with concrete, concrete wall with concrete capping beam. Concrete block masonry wall. Steel piled timber groyne. Landing stage. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 024 Unknown	**IW 51 / 024** Sheet piled wall with concrete capping beam. Rock armour to section. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 51 / 025 Unknown	**IW 51 / 025** Rock revetment. Timber breastwork. Condition (Rock) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 51 / 026 Unknown	**IW 51 / 026** Concrete wall. Sheet piled groyne, with timber waling to top. Sheet piled concrete slipway. Timber pile. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groyne) - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 51 / 027 Unknown	**IW 51 / 027** Concrete encased steel sheet piling. Five timber groynes. Steel / timber piles. Outfalls. Steel sheet piled concrete slipway. Timber / steel piles. Timber landing stage. Rock Revetment. Access ramp. Pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 51 / 028 Unknown	**IW 51 / 028** Concrete steps. Concrete wall. Timber decking. Rock filled gabions of crest level +1.4m Ordnance Datum Newlyn (ODN).	

Location	Defence History	Present and Residual Life	Natural Features
		(Recently extended seaward). Slipway. Rock filled gabions of crest level +1.4m Ordnance Datum Newlyn (ODN). Timber landing stage (Recently extended). Condition (Wall) – Very Good (Grade 1) Residual Life - 25 to 35 years Condition (Gabions) – Very Good (Grade 1) Residual Life - 10 to 25 years Condition (Gabions) - Good (Grade 2) Residual Life - 6 to 10 years	
WWSS - Unit IW 52 BOULDNOR COPSE & HAMSTEAD OS Grid Reference: **SZ37139, 90057 SZ40661, 92064** Length: **4249m**	**IW 52 / 001** Undefended **IW 52 / 002** Unknown **IW 52 / 003** Undefended	**IW 52 / 001** Natural undefended cliff. Remains of structures. Condition (Structure) - Failed (Grade 5) Residual Life - 0 years **IW 52 / 002** Concrete slipway revetment. Condition (Revetment) - Fair (Grade 3) Residual Life - 10 to 15 years **IW 52 / 003** Natural shingle ridge.	Low receding cliffs in grey clay above a narrow gravel beach. Shingle ridge extends from Hamstead Ledge continues to a split that curves back into Newtown Estuary.

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 53 NEWTOWN ESTUARY OS Grid Reference: **SZ40661, 92064 SZ42508, 92274** Length: **28263m**	**IW 53 / 001** Undefended	**IW 53 / 001** Natural shingle ridge. Various timber boardwalks. Natural estuary salt marsh and bank. Timber landing stage. Timber piled posts. Remains of timber landing stage. Timber landing stage with rock underneath. Timber piled posts. Timber landing stage. Stone masonry bridge. Timber board walk. Remains of timber posts. NFCDD Condition (Shingle ridge) - Good (Grade 2) - SMP2 (2009) NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	Estuary bordered by tidal mudflats and salt marshes.
	IW 53 / 002 Unknown	**IW 53 / 002** Stone masonry wall, with concrete coping repaired in placed with rock filled gabions. Stone masonry wall. Condition (Gabions) - Fair (Grade 3) Residual Life - 4 to 7 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 53 / 003 Unknown	**IW 53 / 003** Timber piled wall. Concrete slipway. Condition (Wall) - Fair (Grade 3) Residual Life - 8 to 12 years	
	IW 53 / 004 Unknown	**IW 53 / 004** Stone masonry wall, with timber breast work. Concrete slipway. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 53 / 005 Unknown	**IW 53 / 005** Stone masonry wall. Timber access ramp. Steel piles. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 53 / 006 Unknown	**IW 53 / 006** Rock wall. Timber breast work. Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 53 / 007 Unknown	**IW 53 / 007** Remains of stone masonry wall. Earth rock / revetment. Condition (Revetment) - Poor (Grade 4) Residual Life - 5 to 7 years	
	IW 53 / 008 Unknown	**IW 53 / 008** Concrete filled sand bag wall. Timber posts. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 53 / 009 Unknown	**IW 53 / 009** Concrete rubble filled gabions. Remains of timber landing stage. Condition (Gabions) - Fair (Grade 3) Residual Life - 4 to 7 years	
	IW 53 / 010 Undefended	**IW 53 / 010** Natural estuary bank. Remains of timber posts. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 53 / 011 Unknown	**IW 53 / 011** Stone masonry wall. Timber breast work. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 53 / 012 Unknown	**IW 53 / 012** Timber bridge. Timber breast work. Timber / metal bridge. Corf Camp timber landing stage. Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 53 / 013 Unknown	**IW 53 / 013** Undefended frontage. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 53 / 014 Defended	**IW 53 / 014** Stone masonry wall with timber breast work to section. Stone masonry bridge. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 53 / 015 Unknown	**IW 53 / 015** NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 53 / 016 Unknown	**IW 53 / 016** Timber piled wall.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 53 / 017 Unknown	**IW 53 / 017** Stone / concrete masonry wall. Timber access ladders. Timber breast work. Weir. Timber board walk. Remains of brick masonry structure. Remains of timber posts. Timber slipway. Rock revetment. Timber board walk. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years Condition (Revetment) - Poor (Grade 4) Residual Life - 5 to 7 years NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
	IW 53 / 018 Undefended	**IW 53 / 018** Remains of timber post structure (in channel). Condition (Breast work) - Very Poor (Grade 5) Residual Life - 0 years NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009) Natural estuary salt marsh and bank. NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009) Embankment. Gabions. Timber bird hide. Condition (Embankment) - Poor (Grade 4) Residual Life - 5 to 7 years	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Gabions) - Fair (Grade 3) Residual Life - 4 to 7 years NFCDD Condition (Marsh) - Good (Grade 2) - SMP2 (2009)	
WWSS - Unit IW 54 THORNESS BAY OS Grid Reference: **SZ42808, 92274 SZ47077, 95372** Length: **6215m**	**IW 54 / 001** Undefended **IW 54 / 002** Unknown **IW 54 / 003** Undefended **IW 54 / 004** Unknown **IW 54 / 005** Undefended	**IW 54 / 001** Natural undefended cliff. Remains of timber posts. Outfall. Concrete bridge. Remains of metal posts. Remains of timber structure. Steel sheet piling. Outfall. Natural undefended cliff. Remains of concrete block structure on shore. Timber piled posts. Condition (Piling) - Good (Grade 2) Residual Life - 15 to 25 years **IW 54 / 002** Rock filled gabions. Condition (Rock Gabions) - Good (Grade 2) Residual Life - 6 to 10 years **IW 54 / 003** Undefended frontage. Remains of concrete on the shore. **IW 54 / 004** Rubble filled gabions. Condition (Rubble Gabions) - Poor (Grade 4) Residual Life - 1 to 3 years **IW 54 / 005** Remains of brick / concrete structure on shore.	Bembridge marl, overlying bembridge limestone and Osborne Marl cliffs. Limestone outcrops on shore. Wide muddy foreshore backed by sandy beach. Stream. Bembridge Limestone forms Gurnard Ledge.

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 55 GURNARD LUCK OS Grid Reference: **SZ47077, 95372 SZ47425, 95552** Length: **574m**	**IW 55 / 001** Seawall and rock armour constructed 1970.	**IW 55 / 001** Timber groyne. Rock armouring fronting masonry wall with cement rendering to part and stone block parapet of crest level +3.5m Ordnance Datum Newlyn (ODN). Remains of timber breast work. Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	Sand / shingle foreshore. Outcrops of Bembridge limestone on the shore.
	IW 55 / 002 Unknown	**IW 55 / 002** Concrete block masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 55 / 003 Unknown	**IW 55 / 003** Rubble revetment. Timber breast work. Timber piled posts. Condition (Revetment) - Poor (Grade 4) Residual Life - 5 to 7 years Condition (Breast work) - Fair (Grade 3) Residual Life - 8 to 12 years	
	IW 55 / 004 Concrete encasement states ‘Cheek Bros 1984’	**IW 55 / 004** Stone masonry bridge incorporating four flap valves. Timber breast work. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Breast work) - Fair (Grade 3) Residual Life - 8 to 12 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 55 / 005 Undefended	**IW 55 / 005** Natural earth bank containing traces of concrete rubble. Timber breast work. Concrete slipway. Condition (Breast work) - Very Good (Grade 1) Residual Life - 15 to 25 years	
	IW 55 / 006 Seawall constructed 1993.	**IW 55 / 006** Concrete access steps. Concrete block wall supporting capping beam and slab. Apron slab foundation acts as foundation for concrete block upper wall. Concrete parapet to upper wall of crest level +2.3m Ordnance Datum Newlyn (ODN). Concrete groyne. Concrete slipway. Concrete groyne. Remains of disused concrete slipway. Rock groyne. Timber groyne. Condition (Wall*) – Good (Grade 2) Residual Life 15 to 20 years *Defence Appraisal updated in 2016 for this structure Condition (Concrete Groynes) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock Groynes) - Fair (Grade 3) Residual Life - 5 to 7 years Condition (Timber Groynes) - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 55 / 007 Seawall constructed 1981.	**IW 55 / 007** Concrete wall with concrete slab forming walkway and masonry block wall to the rear constructed to a level of +2.2m above Ordnance Datum Newlyn (ODN). Remains of two timber groynes exposed when sediment levels are low. Concrete slipway. Rock / concrete groyne. Rock groyne. Concrete slipway. Two rock groynes. Outfall pipe. Concrete steps.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall*) – Good (Grade 2) Residual Life 15 to 20 years *Defence Appraisal updated in 2016 for this structure Condition (Timber Groynes) - Poor (Grade 4) Residual Life - 15 to 25 years Condition (Rock Groynes) - Fair (Grade 3) Residual Life - 5 to 7 years	
	IW 55 / 008 Unknown	**IW 55 / 008** Steel sheet piled wall with concrete slab. Rock groyne. Mains electricity cable structure. Condition (Wall) - Fair (Grade 3) Residual Life - 18 to 26 years Condition (Rock Groyne) - Fair (Grade 3) Residual Life - 5 to 7 years	
	IW 55 / 009 Unknown	**IW 55 / 009** Concrete wall with slight wave return to nosing. Concrete retaining wall to top. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 55 / 010 Unknown	**IW 55 / 010** Concrete toe with apron. Stone and concrete block masonry wall constructed to a level of +2.5m above Ordnance Datum Newlyn (ODN). Concrete steps. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 55 / 011 Unknown	**IW 55 / 011** Concrete toe. Timber breast work. Series of short timber post groynes. Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 56 **COWES ESPLANADE** OS Grid Reference: **SZ47425, 95552** **SZ49420, 96543** Length: **2768m**	**IW 56 / 001** Timber breast work Installed 2014. **IW 56 / 002** Unknown **IW 56 / 003** Timber breast work Installed 2014. **IW 56 / 004** Timber breast work Installed 2014. **IW 56 / 005** Undefended **IW 56 / 006** Unknown	**IW 56 / 001** Rock strewn foreshore. Remains of concrete structure. Remains of timber structures on foreshore. **IW 56 / 002** Piled timber structure supported by steel walings. Remains of concrete structure. Timber breastwork. Timber steps. Condition (Breast work) – Very Good (Grade 1) Residual Life - 15 to 25 years Condition (Breast work) - Good (Grade 2) Residual Life - 10 to 20 years **IW 56 / 003** Rock groyne. Rock strewn foreshore. Remains of concrete structure faced with Timber breast work. Bedrock structure. Condition (Rock Groyne) - Poor (Grade 4) Residual Life - 5 to 7 years Condition (Breast work) - Very Good (Grade 1) Residual Life - 15 to 25 years **IW 56 / 004** Remains of concrete structure. Remains of concrete slipway. Rock strewn foreshore. Remains of timber landing stage. **IW 56 / 005** Rock strewn foreshore. **IW 56 / 006** Timber piled structure. Timber slipway.	Sand / shingle foreshore. Outcrops of Bembridge limestone on the shore.

Location	Defence History	Present and Residual Life	Natural Features
		Condition - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 56 / 007 Seawall constructed 1960.	**IW 56 / 007** Rock groyne. Timber pile. Concrete / rock wall of crest level +2.2m Ordnance Datum Newlyn (ODN). Concrete decking slab, with rock masonry wall to the rear. Timber slipway. Remains of short timber groyne with rock groyne to seaward end. Rock groyne. Concrete slipway access buttress to timber slipway. Concrete steps onto concrete revetment. Condition (Rock Groyne) - Fair (Grade 3) Residual Life - 5 to 7 years Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 56 / 008 Seawall constructed 1997.	**IW 56 / 008** Gurnard Sailing Club - Concrete slipway. Concrete wall with wave return, apron and steel sheet piled toe. Concrete slipway with timber fendering. Concrete blocks with pre-cast coping section. Concrete block masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 56 / 009 Seawall constructed 1980. Rock groynes constructed 1970.	**IW 56 / 009** Concrete slipway. Outfall. Concrete wall. Outfall pipe. Timber plank structure fronting car park. Concrete masonry block wall with pre-cast coping section. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 56 / 010 Seawall constructed 1980. Rock groynes constructed 1970.	**IW 56 / 010** Concrete block masonry wall with pre-cast coping sections of crest level +2.5m Ordnance Datum Newlyn (ODN). Double concrete step block. Rock groyne. Concrete step block. Rock groyne. Concrete stub groyne extending to rock groyne. Rock groyne. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Rock Groynes) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 56 / 011 Gurnard to Egypt Point Coast Protection Scheme Reconstruction of Sea Wall completed 1995.	**IW 56 / 011** Concrete step block. Steel sheet piled toe and concrete apron. Concrete wall with wave return of crest level +2.7m Ordnance Datum Newlyn (ODN). Concrete / rock groyne with pipe exposed at low sediment levels. Concrete step block. Four rock groynes. Concrete step block. Rock groyne. Concrete step block. Rock groyne. Four concrete step blocks. Outfalls various locations. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock Groynes) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 56 / 012 Seawall constructed 1970.	**IW 56 / 012** Concrete slipway. Concrete wall with toe and apron of crest level +2.4m Ordnance Datum Newlyn (ODN). Concrete outfall structure. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 56 / 013 Seawall constructed	**IW 56 / 013** Concrete wall buried into high natural shingle ridge of crest level +2.2m	

Location	Defence History	Present and Residual Life	Natural Features
	1940.	Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 56 / 014 Seawall constructed 1992.	**IW 56 / 014** Masonry concrete block wall with concrete coping section of crest level +2.1m Ordnance Datum Newlyn (ODN). Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 56 / 015 Seawall constructed 1950.	**IW 56 / 015** Concrete block masonry wall with concrete sections forming coping to part of wall. Dwarf parapet wall of crest level +2.4m Ordnance Datum Newlyn (ODN). Various outfalls. Concrete groyne. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Groyne) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Good (Grade 2) Residual Life - 10 to 15 years	
	IW 56 / 016 Unknown	**IW 56 / 016** Rock armour. Sloping pitched stone apron. Concrete block masonry wall with concrete sections forming coping to part of wall. Dwarf parapet wall of crest level +2.4m Ordnance Datum Newlyn (ODN). Dwarf stone parapet wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 56 / 017 The Royal Yacht Squadron Jubilee Haven completed 2006.	**IW 56 / 017** Rock armour breakwater arm fronting pre cast concrete sections. Stone masonry wall with wave return coping. Access ramp. Pitched stone revetment to flagstone promenade. Brick / stone masonry wall to the rear. Condition (Wall) - Very Good (Grade 2) Residual Life - 15 to 25 years Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Rock) - Very Good (Grade 3) Residual Life - 10 to 15 years	
	IW 56 / 018 Unknown	**IW 56 / 018** Concrete landing stage. Pipe exposed when sediment levels are low. Stone block masonry wall with concrete coping. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Revetment) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Landing Stage) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 56 / 019 Unknown	**IW 56 / 019** Stone masonry wall with concrete coping. Stepped landing stage.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Landing Stage) - Good (Grade 2) Residual Life - 15 to 25 years	
WWSS - Unit IW 57 COWES PARADE & HARBOUR OS Grid Reference: **SZ49420, 96543 SZ45000, 95616** Length: **2278m**	**IW 57 / 001** Victoria Parade completed 1897. Shingle break water constructed 2014. **IW 57 / 002** Unknown	**IW 57 / 001** Stone block masonry landing stage. Masonry block wall with slight batter and curve at top. Decorative moulded balustrade with large moulded top rail of crest level +2.5m Ordnance Datum Newlyn (ODN). Stone block masonry landing stage. Steel sheet landing stage leading onto pontoon access ramp. Steel access ladder. Remains of old stone slipway. Steel sheet piled landing stage. Shingle breakwater. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Landing Stage) - Fair (Grade 2) Residual Life - 10 to 15 years Royal London Condition (Landing Stage) - Good (Grade 2) Residual Life - 15 to 25 years Trinity House Condition (Breakwater) - Very Good (Grade 1) Residual Life - 15 to 25 years **IW 57 / 002** Steel sheet piled concrete decked slipway. Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60	Sand / shingle foreshore. Outcrops of Bembridge limestone on the shore.

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 57 / 003 Unknown	**IW 57 / 003** Concrete wall with steel sheet piling to section of crest level +2.2m Ordnance Datum Newlyn (ODN). Steel RNLI slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 004 Unknown	**IW 57 / 004** Concrete slipway. Concrete wall. Concrete pad foundation supported on concrete columns. Concrete slipway. Remains of old slipway underneath structure. Access ramp to pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 005 Unknown	**IW 57 / 005** Concrete slipway. Stone masonry / concrete wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 006 Unknown	**IW 57 / 006** Stone masonry wall. Timber slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 007 Unknown	**IW 57 / 007** Landing stage, with concrete encased timber piles. Stone masonry wall to section. Steel sheet piling. Concrete rendered wall. Stone masonry wall to	

Location	Defence History	Present and Residual Life	Natural Features
		section. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 008 Unknown	**IW 57 / 008** Stone masonry wall. Concrete pad foundation supported by steel / timber piles. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 009 Unknown	**IW 57 / 009** Steel sheet piling with concrete coping. Brick masonry wall. Concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 010 Unknown	**IW 57 / 010** Stone masonry wall to section. Concrete encased wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 011 Unknown	**IW 57 / 011** Concrete foundation supported by columns. Slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 012	**IW 57 / 012**	

Location	Defence History	Present and Residual Life	Natural Features
	Unknown	Steel sheet piling. Red funnel landing stage. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 013 Unknown.	**IW 57 / 013** Stone / brick masonry wall of crest level +2.6m Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 014 Unknown	**IW 57 / 014** Concrete pad foundation supported by steel piled columns. Access ramp to pontoons. Concrete wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 015 Unknown	**IW 57 / 015** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 016 Unknown	**IW 57 / 016** Steel sheet piled wall with concrete capping beam. Vertical timber fendering. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 017 Unknown	**IW 57 / 017** Steel sheet piling with concrete capping beam, of crest level +2.3m Ordnance Datum Newlyn (ODN). Concrete beam structure protecting	

Location	Defence History	Present and Residual Life	Natural Features
		marina. Pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 018 Unknown	**IW 57 / 018** Concrete slipway. Steel sheet piling with concrete capping beam. Landing stage and access ramp to pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 019 Unknown	**IW 57 / 019** Concrete / stone masonry wall. Landing stage to pontoon. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 020 Unknown	**IW 57 / 020** Stone masonry wall. Timber access ramp. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 021 Unknown	**IW 57 / 021** Stone masonry wall? Landing stage. Boat yard / landing stage to access ramp and pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 022 Unknown	**IW 57 / 022** Concrete slipway.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 023 Unknown	**IW 57 / 023** Concrete slipways, fronting properties. Landing stage. Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 024 Unknown	**IW 57 / 024** Concrete wall. Landing stage to fuel berth. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 025 Unknown	**IW 57 / 025** Concrete slipways fronting boat yards constructed to a level of +2.3m above Ordnance Datum Newlyn (ODN).. Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 026 Unknown	**IW 57 / 026** Concrete slipway. Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 027 Unknown	**IW 57 / 027** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 57 / 028 Unknown	**IW 57 / 028** Steel sheet piling with concrete capping beam. Pontoons. Condition (Wall) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 57 / 029 Unknown	**IW 57 / 029** Steel sheet piling with concrete capping beam. Pontoons. Concrete wall. Concrete slipway. Condition (Wall) - Very Good (Grade 1) Residual Life - 30 to 70 years Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 030 Unknown	**IW 57 / 030** Concrete pad foundation supported by concrete columns. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 57 / 031 Unknown	**IW 57 / 031** Concrete slipway. Chain ferry infrastructure. Condition (Slipway) - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 58 MEDINA ESTUARY OS Grid Reference: **SZ45000, 95616 SZ50162, 95528** Length: **18331m**	**IW 58 / 001** Unknown **IW 58 / 002** Unknown **IW 58 / 003** Unknown **IW 58 / 004** Unknown **IW 58 / 005** Unknown	**IW 58 / 001** Stone masonry wall which forms foundation to property. Condition - Good (Grade 2) Residual Life - 15 to 25 years **IW 58 / 002** Concrete wall. Condition - Good (Grade 2) Residual Life - 15 to 25 years **IW 58 / 003** Steel sheet piling and timber fenders. Condition - Fair (Grade 3) Residual Life - 18 to 26 years **IW 58 / 004** Steel landing stage and piles. Concrete wall. Condition - Fair (Grade 3) Residual Life - 10 to 15 years **IW 58 / 005** Steel sheet piling with concrete coping constructed to a level of +2.6m above Ordnance Datum Newlyn (ODN). Fuel Jetty. Condition - Fair (Grade 3) Residual Life - 18 to 26 years	Wide shallow valley with a gentle incline on either side and the build up of sediment has formed characteristic mudflats and salt marshes.

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 006 Unknown	**IW 58 / 006** Timber / steel piled landing stages. Concrete slipways. Condition (Landing stages) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 007 Unknown	**IW 58 / 007** GBR boat yard. Concrete wall. Concrete slipway. Condition (Wall) - Poor (Grade 4) Residual Life - 5 to 7 years Condition (Piling) – Poor (Grade 4) Residual Life – 5 to 10 years	
	IW 58 / 008 Unknown	**IW 58 / 008** GBR boatshed. Concrete wall. Concrete slipway. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 009 Unknown	**IW 58 / 009** Concrete wall / Rubble revetment. Landing stage. Condition - Very Poor (Grade 5) Residual Life - 0 years	
	IW 58 / 010 Unknown	**IW 58 / 010** IYWAC. Concrete wall and concrete slipway. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 011 Unknown	**IW 58 / 011** Steel sheet piling with concrete coping at the Cowes UK Sailing Academy (UKSA).	

Location	Defence History	Present and Residual Life	Natural Features
		Timber landing stage. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 012 Unknown	**IW 58 / 012** UK Sailing Academy (UKSA) property. Concrete slipway. Timber landing stage. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 013 Unknown	**IW 58 / 013** Steel sheet piling with concrete capping. Timber access steps from timber landing stage to concrete deck at UKSA. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 014 Unknown	**IW 58 / 014** Concrete wall Condition - Poor (Grade 4) Residual Life - 5 to 7 years	
	IW 58 / 015 Undefended	**IW 58 / 015** Undefended frontage with rubble revetment. NFCDD Condition - Poor (Grade 4)	
	IW 58 / 016 Unknown	**IW 58 / 016** Disused dry docks at Cowes. Timber landing stage. Stone masonry wall. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 017 Unknown	**IW 58 / 017** Concrete wall and steel frame slipway. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 018 Unknown	**IW 58 / 018** Concrete slipway. Concrete wall with steel frame extension, Concrete deck. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 019 Undefended	**IW 58 / 019** Timber groyne and rubble revetment constructed to a level of +2.6m above Ordnance Datum Newlyn (ODN). Undefended frontage. NFCDD Condition - Good (Grade 2)	
	IW 58 / 020 Unknown	**IW 58 / 020** Aggregate store. Steel sheet piling with concrete coping constructed to a level of +2.8m above Ordnance Datum Newlyn (ODN).. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 021 Undefended	**IW 58 / 021** Undefended frontage. Rubble revetment. NFCCD Condition - Good (Grade 2)	
	IW 58 / 022 Unknown	**IW 58 / 022** Steel sheet piling. Rubble revetment. Undefended frontage. Concrete groyne. Concrete revetment. Timber breastwork.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Piling) - Fair (Grade 3) Residual Life - 18 to 26 years Condition (Groyne) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Breastwork) – Good (Grade 2) Residual Life - 10 to 20 years	
	IW 58 / 023 Undefended	**IW 58 / 023** Remains of timber posts. Undefended frontage. Short concrete revetment protecting cable crossing. NFCDD Condition (Marsh) - Good (Grade 2) Condition (Structure) - Failed (Grade 6) Residual Life - 0 years	
	IW 58 / 024 Undefended	**IW 58 / 024** Undefended frontage. Rubble revetment. Slipway. Concrete wall. Landing stage. Condition (Wall) – Good (Grade 2) Residual Life - 15 to 25 years NFCCD Condition - Good (Grade 2)	
	IW 58 / 05 Unknown	**IW 58 / 025** Various sections of steel sheet piling with concrete capping. Condition - V. Good (Grade 1) Residual Life - 30 to 70 years	

Location	Defence History	Present and Residual Life	Natural Features
		Condition - Good (Grade 2) Residual Life – 26 to 60 years	
	IW 58 / 026 Unknown	**IW 58 / 026** Steel sheet piling with concrete capping.	
		Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 027 Unknown	**IW 58 / 027** Steel sheet piling with concrete capping.	
		Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 028 Unknown	**IW 58 / 028** Steel sheet piling with concrete capping.	
		Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 029 Unknown	**IW 58 / 029** Concrete wall with culverts.	
		Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 030 Unknown	**IW 58 / 030** Concrete wall.	
		Condition - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 031 Unknown	**IW 58 / 031** Concrete wall. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 032 Unknown	**IW 58 / 032** Concrete wall. Condition - Fair (Grade 3) Residual Life - 10 to 15 year	
	IW 58 / 033 Unknown	**IW 58 / 033** Medina View. Concrete wall. Timber pontoons. Condition – V. Poor (Grade 5) Residual Life - 0 years	
	IW 58 / 034 Undefended	**IW 58 / 034** Undefended frontage. Rubble revetment. NFCCD Condition - Good (Grade 2)	
	IW 58 / 035 Unknown	**IW 58 / 035** Timber breast work. Concrete slipway. Concrete block masonry wall. Timber landing stage and pontoon. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Breastwork) – Fair (Grade 3) Residual Life – 8 to 12 years	
	IW 58 / 036 Undefended	**IW 58 / 036** Undefended frontage. Remains of timber posts. Brick masonry drain structure. Landing stage with steel piles.	

Location	Defence History	Present and Residual Life	Natural Features
		NFCCD Condition - Good (Grade 2)	
	IW 58 / 037 Unknown	**IW 58 / 037** Downstream of Newport Rowing Club. Concrete wall. Timber landing stage. Steel sheet piling. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Piling) – Good (Grade 2) Residual Life – 26 to 60 years	
	IW 58 / 038 Undefended	**IW 58 / 038** Upstream of Newport Rowing club. Undefended frontage. Medina Riverside Park. NFCDD Condition - Good (Grade 2)	
	IW 58 / 039 Unknown	**IW 58 / 039** Medina Riverside Park. Timber piles and timber breastwork. Condition - Good (Grade 2) Residual Life - 10 to 20 years	
	IW 58 / 040 Unknown	**IW 58 / 040** Timber bridge. Concrete wall. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 041 Undefended	**IW 58 / 041** Undefended frontage. NFCDD Condition - Fair (Grade 3)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 042 Unknown	**IW 58 / 042** Concrete wall. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 043 Unknown	**IW 58 / 043** Steel sheet piling with concrete capping. Condition - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 58 / 044 Unknown	**IW 58 / 044** Concrete slipway. Timber breastwork. Concrete wall. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Breastwork) – Good (Grade 2) Residual Life - 10 to 20 years	
	IW 58 / 045 Unknown	**IW 58 / 045** Stone masonry wall at seaward end of private garden. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 046 Unknown	**IW 58 / 046** Concrete wall. Timber breastwork. Concrete wall. Condition (Wall) - Very Good (Grade 1) Residual Life - 25 to 35 years Condition (Breastwork) - Good (Grade 2) Residual Life - 10 to 20	

Location	Defence History	Present and Residual Life	Natural Features
		years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 047 Unknown	**IW 58 / 047** Stone masonry wall / concrete block wall with timber fender boards. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 048 Unknown	**IW 58 / 048** Concrete wall. Masonry wall. Timber fender boards. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 049 Unknown	**IW 58 / 049** Steel sheet piles with concrete capping. Road bridge base showing steel corrosion. Condition – Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 050 Unknown	**IW 58 / 050** Stone and brick wall below Quay Arts Centre, with concrete wall below exhibition rooms. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 051 Unknown	**IW 58 / 051** Stone pitching slipway and stone masonry wall. Condition - Fair (Grade 3) Residual Life - 10 to 15	

Location	Defence History	Present and Residual Life	Natural Features
		years	
	IW 58 / 052 Unknown	**IW 58 / 052** Stone masonry and brick wall. Access ladder. Bridge. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 053 Unknown	**IW 58 / 053** Steel sheet piling with concrete coping. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 054 Unknown	**IW 58 / 054** Concrete wall with access ladder and timber fender boards. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 055 Unknown	**IW 58 / 055** Concrete wall. Timber fender posts. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 056 Unknown	**IW 58 / 056** Steel sheet piling with concrete capping. Condition - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 58 / 057 Unknown	**IW 58 / 057** Concrete wall. Concrete slipway.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 58 / 058 Unknown	**IW 58 / 058** Steel sheet piles with concrete capping. Condition - Fair (Grade 3) Residual Life - 18 to 26 years	
	IW 58 / 059 Undefended	**IW 58 / 059** Undefended frontage. NFCDD Condition - Fair (Grade 3)	
	IW 58 / 060 Unknown	**IW 58 / 060** Short length of rock-filled gabions. Condition - Fair (Grade 3) Residual Life - 4 to 7 years	
	IW 58 / 061 Undefended	**IW 58 / 061** Undefended frontage. NFCDD Condition - Good (Grade 2)	
	IW 58 / 062 Unknown	**IW 58 / 062** Steel sheet piling. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 063 Undefended	**IW 58 / 063** Undefended frontage. NFCDD Condition - Good (Grade 2)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 064 Unknown	**IW 58 / 064** Stone masonry structure. Rubble revetment. Condition - Poor (Grade 4) Residual Life - 5 to 7 years	
	IW 58 / 065 Unknown	**IW 58 / 065** Landing stage. Steel sheet piling. Entrance to Island Harbour. Lock structure. Stone masonry wall. Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years Condition (Lock) - Very Good (Grade 1) Residual Life - 25 to 35 years Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 066 Unknown	**IW 58 / 066** Island Harbour. Earth embankment. Access ramps to pontoons. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 067 Unknown	**IW 58 / 067** Island Harbour. Steel sheet piling. Accommodation sits on steel piles and buoyancy tanks. Condition - Very Good (Grade 1) Residual Life - 30 to 70 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 068 Undefended	**IW 58 / 068** Undefended frontage. NFCDD Condition - Unknown	
	IW 58 / 069 Unknown	**IW 58 / 069** Stone masonry wall. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 070 Unknown	**IW 58 / 070** Side wall of lock chamber. Steel sheet piling with concrete coping. Condition – Very Good (Grade 1) Residual Life - 25 to 35 years	
	IW 58 / 071 Unknown	**IW 58 / 071** Rubble revetment. Condition - Poor (Grade 4) Residual Life - 5 to 7 years	
	IW 58 / 072 Undefended	**IW 58 / 072** Undefended frontage around upstream of the Folly Inn. Timber bridges. Short section of timber piles. Concrete slipways. Rubble filled gabions. Condition (Gabions) – Good (Grade 2) Residual Life – 6 to 10 years NFCDD Condition - Good (Grade 2)	
	IW 58 / 073 Unknown	**IW 58 / 073** Concrete slipway. Concrete wall fronting folly Inn Public House. Landing stage. Access ramp. Pontoons. Concrete slipway.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 074 Undefended	**IW 58 / 074** Undefended frontage. Remains of concrete structures. Rubble revetment. NFCDD Condition - Good (Grade 2)	
	IW 58 / 075 Unknown	**IW 58 / 075** Damaged concrete wall. Ad-hoc rubble defence along coastal fringe. Concrete wall / slipway. Condition - Very Poor (Grade 1) Residual Life - 0 years	
	IW 58 / 076 Undefended	**IW 58 / 076** Undefended frontage. Grounds work for marine park. NFCDD Condition - Good (Grade 2)	
	IW 58 / 077 Unknown	**IW 58 / 077** Stone masonry wall. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 078 Unknown	**IW 58 / 078** Steel sheet piling landing stage. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 079 Undefended	**IW 58 / 079** Undefended frontage. Earth embankment leading to Cowes power station. NFCDD Condition - Fair (Grade 3)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 080 Unknown	**IW 58 / 080** Steel sheet piling with concrete capping. Timber fendering. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 081 Unknown	**IW 58 / 081** Steel sheet piling with concrete capping. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 082 Unknown	**IW 58 / 082** Steel / concrete piles with concrete foundation. Steel sheet piling with concrete capping. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 083 Undefended	**IW 58 / 083** Undefended frontage. NFCDD Condition - Fair (Grade 3)	
	IW 58 / 084 Unknown	**IW 58 / 084** Steel sheet piling with concrete capping. Condition - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 58 / 085 Undefended	**IW 58 / 085** Undefended frontage. NFCDD Condition - Fair (Grade 3)	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 086 Unknown	**IW 58 / 086** Rock revetment. Steel sheet piling with concrete coping constructed to a level of +2.6m above Ordnance Datum Newlyn (ODN).. Timber pontoons and steel piles. Condition (Revetment) - Fair (Grade 3) Residual Life – 10 to 15 years Condition (Piling) - Very Good (Grade 1) Residual Life - 30 to 70 years	
	IW 58 / 087 Unknown	**IW 58 / 087** Concrete revetment. Concrete block work masonry wall with concrete coping constructed to a level of +2.6m above Ordnance Datum Newlyn (ODN). Timber pontoons. Condition - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 58 / 088 Unknown	**IW 58 / 088** Concrete slipways. Steel sheet piling with concrete capping. Concrete wall constructed to a level of +2.6m above Ordnance Datum Newlyn (ODN). Rubble revetment. Condition (Wall) - Fair (Grade 3) Residual Life - 15 to 25 years Condition (Piling) - Good (Grade 2) Residual Life - 26 to 60 years	

Location	Defence History	Present and Residual Life	Natural Features
	IW 58 / 089 Unknown **IW 58 / 090** Unknown	**IW 58 / 089** Steel sheet piling with concrete capping. Timber pontoon. Steel piles. Condition - Good (Grade 2) Residual Life - 26 to 60 years **IW 58 / 090** Stone / concrete block work masonry wall. Concrete slipway for Floating Bridge which connects Cowes with East Cowes. Condition - Fair (Grade 3) Residual Life - 10 to 15 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 59 EAST COWES OUTER HARBOUR OS Grid Reference: **SZ50162, 95528 SZ50261, 96172** Length: **917m**	**IW 59 / 001** Unknown	**IW 59 / 001** Concrete slipway. Chain ferry infrastructure. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	Wide muddy foreshore backed by sandy beach with sections of shingle.
	IW 59 / 002 Unknown	**IW 59 / 002** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 003 Unknown	**IW 59 / 003** Stone masonry / concrete wall. Navigation aids. Access steps. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 004 Unknown	**IW 59 / 004** Brick masonry wall fronting boat yard. Steel rail runners for boat launching cradle. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years	
	IW 59 / 005 Unknown	**IW 59 / 005** Concrete block work masonry wall. Timber / concrete landing stage. Access ramp to steel pontoon. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 006 Unknown	**IW 59 / 006** Concrete pad foundation supported on concrete columns. Concrete	

Location	Defence History	Present and Residual Life	Natural Features
		access steps. Pontoons. Concrete wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 007 Unknown	**IW 59 / 007** Stone masonry wall. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 008 Unknown	**IW 59 / 008** Concrete slipway. Red funnel terminal infrastructure. Condition (Slipway) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 009 Unknown	**IW 59 / 009** Red funnel terminal infrastructure. Concrete docking stations supported on piles. Concrete / concrete block work masonry wall. Vehicle access ramp above disused concrete slipway. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 010 Unknown	**IW 59 / 010** Stone / brick masonry wall with concrete copping of crest level +3.0m Ordnance Datum Newlyn (ODN).. Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	
	IW 59 / 011 Unknown	**IW 59 / 011** Rock revetment. Steel sheet piling with concrete capping beam. Landing stage. Access ramp to pontoons. Outfall.	

Location	Defence History	Present and Residual Life	Natural Features
		Condition (Revetment) - Very Good (Grade 1) Residual Life - 25 to 35 years Condition (Wall) - Very Good (Grade 1) Residual Life - 30 to 70 years	
	IW 59 / 012 The Shedden Esplanade built by Direct Labour as a Scheme for the Relief of unemployment completed 1924.	**IW 59 / 012** Stone / brick masonry wall with stone / concrete round coping of crest level +3.3m Ordnance Datum Newlyn (ODN).. Steel sheet piled / concrete stepped landing stage. Stone set slipway. Seven concrete groynes. Remains of old concrete apron / slipway. Outfall. Condition (Wall) - Fair (Grade 3) Residual Life - 10 to 15 years Condition (Groynes) - Good (Grade 2) Residual Life - 15 to 25 years Condition (Landing Stage) - Good (Grade 2) Residual Life - 26 to 60 years	
	IW 59 / 013 Breakwater constructed 1930.	**IW 59 / 013** Breakwater consisting of concrete wall, concrete braces on southern side at intervals along its length of crest level +3.1m Ordnance Datum Newlyn (ODN). Condition (Wall) - Good (Grade 2) Residual Life - 15 to 25 years	

Location	Defence History	Present and Residual Life	Natural Features
WWSS - Unit IW 1 **EAST COWES ESPLANADE** OS Grid Reference: **SZ50291, 96172** **SZ51060, 96549** Length: **890m**	**IW 1 / 001** Seawall, apron, toe piling and groynes constructed 1963. Frontage recharged with shingle in 1992.	**IW 1 / 001** Concrete toe piled seawall with a slight batter, wave curve formed round nosing. Concrete up stand above forms parapet wall to footway at the rear, exists from the Shrape Breakwater to Old Castle Point with a crest level of some +3.35m above Ordnance Datum Newlyn (ODN). Fourteen concrete groynes are located along this frontage. Condition (Wall) - Good (Grade 2) Residual Life -15 to 25 years Condition (Groynes) - Fair (Grade 3) Residual Life - 10 to 15 years	Narrow beach, widening towards breakwater, backed by steep but presently stable coastal slope.