1.0 Background to this Heritage Impact Assessment

At the 37th session of the World Heritage Committee the issue of the Galle Port Development Project planned to take place near to the World Heritage property of the Old Town of Galle and its Fortifications was raised. The Sri Lankan State Party was requested to provide: “detailed plans for the revised port project and to conduct a comprehensive Heritage Impact Assessment study, in conformity with the ICOMOS Guidance for World Heritage cultural properties, to assess the impacts on Outstanding Universal Value of the property, including a technical study to ascertain potential impacts on the underwater archaeology.”

Heritage specialist Jane Thompson was invited to submit a proposal for the Heritage Impact Assessment (hereafter ‘HIA’) to the Ministry of National Heritage. This proposal, dated 21 October 2014, offered the services of an interdisciplinary team led by Jane Thompson with Nuwan Abeywardana and Sarah Court, with additional support from Ascanio D’Andrea and Federico Iacomelli, which would draw up the HIA in consultation with multiple stakeholders. This interdisciplinary team brings together expertise in World Heritage and heritage management in general, specific experience of HIAs but also archaeology, urbanism, law, economics, public consultation and information management.

The HIA proposal was approved by Dr Nanda Wickramasinghe, Secretary of the Ministry of National Heritage with letter NH/04/02/04/07 of 4 December 2014, with implementation to be taken forward directly by the Sri Lanka Ports Authority. An independent consultancy services agreement for a ‘Heritage Impact Assessment (HIA) of the Galle Port Development Project at the World Heritage property of “Old Town of Galle and its Fortifications”, Sri Lanka’ was thus signed by the Sri Lanka Ports Authority and Sarah Court, on behalf of Jane Thompson, on 29 December 2014. Engineer Nishantha Wimal Weerasinghe from the Planning and Development Division of the Sri Lanka Ports Authority was identified as the lead client representative. This contract foresees the delivery of the final HIA on or before 30 April 2015.
2.0 Progress made to date

The methodology of this HIA is largely based on ICOMOS’s 2011 Guidance on Heritage Impact Assessments for Cultural World Heritage Properties in conjunction with the UNESCO World Heritage Operational Guidelines and, when appropriate, draws from other best practice for impact assessments.

In this context, the following activities have taken place between December 2014 and January 2015:
- Definition of the brief for the HIA with the heritage authority (in the absence of a formal scoping document) and preliminary examination of the documentation available pending the activation of the appointment in December 2014;
- Information gathering from multiple sources and desk-based assessment of publications, unpublished reports, archaeological surveys, historic maps, archive and aerial photos, conservation reports, etc.;
- A first mission to Galle (see Appendix I) included:
  o Site visits to the World Heritage property of the Old Town of Galle and its Fortifications and its buffer zone;
  o Consultation with staff of the local heritage and other authorities, and heritage specialists in Galle (see Appendix II);
  o Meetings with the Sri Lanka Ports Authority with regard to the proposed development project;
  o Site visit to the proposed area for development at Galle Port, including an excursion to view the development area and the World Heritage property from the sea;
  o Meeting at the Ministry of National Heritage in Colombo;
- Development and implementation of a suitable impact assessment methodology.

3.0 Data sources

The primary sources of information on the Old Town of Galle and its Fortifications as a World Heritage property to date have been the Advisory Body evaluation in advance of inscription and periodic reporting, the draft management plan and the draft retrospective Statement of Outstanding Universal Value (SOUV) that awaits approval. Some additional unpublished material was provided by the Ministry of National Heritage. Specific publications on Galle were also consulted with regard to the old town, its fortifications and setting, and their values.

The Sri Lanka Ports Authority made information related to the Galle Port Development Project available, including various reports, impact assessments and technical drawings, along with data relating to the more ambitious Master Plan for the port. Additional technical reports were provided by the Ministry of National Heritage. It should be noted that some reports and assessments related to a previous version of the development project, not the project proposals under consideration today.

HIAs are a relatively new tool and mark the recent shift to assessing changes within or near heritage places in terms of impacts on cultural values, not just on the physical expression of the cultural heritage. As a new tool, HIA approaches are still evolving and the authors have been careful to reference a range of research papers and capacity building initiatives related to impact assessments, values and setting to inform the Galle HIA. Relevant issues addressed in other recommendations and guidelines or in previous HIAs are
being incorporated, including consultation approaches congruous with recent heritage charters. Sources included:

- Material from the dedicated courses on Heritage Impact Assessments organized by ICCROM and World Heritage Institute of Training and Research - Asia and Pacific, thanks to ICCROM course organizer, Dr Gamini Wijesuriya;
- Various World Heritage Papers (e.g. 25: World Heritage and Buffer Zones) and Manuals;
- Broader bibliographic references;
- Conversations and exchange with other heritage specialists involved in delivering or teaching approaches to HIAs;

Work on the Galle HIA is also drawing on ongoing policy work to mainstream sustainable development into World Heritage processes to which Jane Thompson is contributing, along with broader capacity building for the heritage sector to manage change in and around cultural properties more effectively and ensure all values are considered, not just cultural values.

### 4.0 Outstanding steps

The following actions are some of the key steps that will characterize the next phase of work as the HIA team proceeds with the evaluation process over the next two months:

- Final information gathering, as data is identified during the process of consultation and analysis;
- Public consultation with local residents and other stakeholders;
- Analysis of data gathered on Outstanding Universal Value (OUV) and other values and potential impacts as perceived by stakeholders, together with local needs assessment;
- Technical assessment of the revised port development project and the proposed mitigation measures;
- Further research into the legal and planning framework, particularly with regard to secondary impacts caused by tourism development;
- Delivery of the draft HIA to the State Party with a consultation phase with the relevant heritage authorities providing opportunities for comment and appropriate revisions, in accordance with ICOMOS guidelines.

### 5.0 Preliminary results of the evaluation process of the Galle Port Development Project’s impact on OUV

The most salient aspect emerging in analysing this case to date is the substantial progress the State Party has already made, in conjunction with its partners, to revisit previous design proposals to take on board the implications of managing World Heritage. Indeed, the Galle Port Development Project under consideration is a revised and more modest version of the original proposal for Galle Port. Information collected to date highlights the following features:

- It is dramatically different to earlier plans to develop a commercial port at Galle and focuses on the development of a tourist port.
- New infrastructure will be created in terms of the construction of an entry channel and a large ship turning-circle, breakwaters and upgrading the existing wharfs.
- No new buildings will be constructed at this time and existing structures will be used.
The new version of the development plan seems to take into consideration all the requested mitigation actions that were put forward in response to the original port plan and related impact assessments; technical checks of the new plans are verifying this.

The principal potential negative impacts on OUV that have been identified so far include:
- Blasting will be used for the construction of the entry channel and large ship turning circle involves blasting, the vibrations of which might affect the fortifications and underwater heritage though monitoring is foreseen to control the process and exclude any damage;
- Visual impact: Galle’s nomination as World Heritage placed much importance on its status as a trading hub over several centuries, making the relationship of the fortified town to the seascape of fundamental significance. Views outwards from Galle Fort are mentioned in early drafts of the retrospective SOUV (yet to be approved), so this issue needs to be assessed as new structures such as the breakwaters and wharfs, although all at sea level, will be visible;
- Risk to underwater heritage as tidal movements, currents and marine erosion are affected by the breakwaters. Limited tidal difference (around 600mm in Sri Lanka) together with the provision of three wide openings in the new breakwaters suggest, however, that damage due to tidal currents should be minor.

Potential negative direct and indirect impacts on cultural and other values, also outside of the property area, are emerging. The following are examples, which could eventually have repercussions on OUV:
- Changes in the way Galle bay is used by local fisherman, in particular those engaged in seine fishing;
- Environmental impacts from changed tidal movements and currents, potentially increased shipping and new sources of pollution;
- An excessive emphasis on tourism reducing diversification in the local economy and the negative repercussions this can bring (increased socio-economic vulnerability, the erosion of cultural values and social cohesion, also through the displacement of lower-income communities).

Potential positive impacts on OUV from the port development are also emerging and so far they fall into three areas:
- The continuity and potential enhancement of port activities, which was the core business of Galle Fort and the reason for its existence;
- Multiple environmental benefits linked to the breakwater calming waters within the harbour and leading to:
  o reduced marine erosion of the fortifications,
  o increased protection against another tsunami,
  o reduced tidal movements around wreck sites,
- Increased tourism capacity thanks to the port and related income generation for the World Heritage property and its conservation.

Potential positive impacts on the local community from the port development include:
- Potential for socio-economic development through well-managed increased tourism (with Galle as hub for distributing tourists throughout the southern region) and trade opportunities which could also enhance cultural values;
- The breakwaters will serve as increased protection against any future tsunami.
It should be noted that all of these impacts – negative and positive – are still being assessed as part of the HIA process. The Sri Lanka Ports Authority has already taken multiple negative impacts into consideration, altering the development project and/or providing information on mitigation actions.

Alongside considerations related to the Galle Port Development Project, there are additional related issues that the HIA team are examining:
- Galle Port has a broader master plan for upgrading the existing port infrastructure, which goes beyond the development project;
- Concern was expressed by a number of stakeholders that, while the port project in itself in their view poses no negative impact, secondary development around it might do so if unmanaged. They have requested that this issue is addressed in the HIA recommendations so that future tourism and other forms of development are planned well;
- The current and future capacity of the management system to achieve an integrated management approach since, as a historic urban centre, this World Heritage property inevitably has to bring together multiple players and balance cultural values with socio-economic and environmental values effectively.

This brief preliminary report relays ‘work in progress’. The HIA team’s thinking may change as the consultation processes are advanced and all information is evaluated in a sufficiently interdisciplinary way, including key documentation only recently acquired. However, at this stage in the HIA evaluation process the HIA team see the conditions necessary to be confident that the implementation of the Galle Port Development Project can be successful if:
- some specific design considerations are taken on board, and
- located in a broader coordinated planning process and an inclusive management framework which offer certain guarantees.

Indeed, the development could prove to be a key step in ensuring the World Heritage property a positive role in sustainable development of the Galle area and the southern region, and in a way that can also potentially secure benefits, not negative impacts, for the property’s OUV. Galle could become a significant case study for the role of cultural heritage in sustainable development and the benefits this brings for heritage management of cultural properties that host communities and maintain something of their original purpose.
Appendix I: Mission programme

Final programme: 8 December 2014

The HIA team for the mission will be made up of international specialist, Sarah Court, and national specialist, Nuwan Abeywardana.

WEDNESDAY 17 DECEMBER 2014 - GALLE
- Pre-meeting for HIA team coordination
- Meeting of the HIA team with:
  o representatives of the Galle Heritage Foundation,
  o public officials involved in management of the World Heritage property, be they from regional offices of the Ministry of National Heritage and/or the City Council.
- Site visit to the World Heritage property of Old Town of Galle and its Fortifications and the surrounding area

THURSDAY 18 DECEMBER 2014 - GALLE
- Meeting of the HIA team with the Ports Authority and examination of the Galle Port Development Project
- Site visit to the Galle Port Development Project area

FRIDAY 19 DECEMBER 2014 - GALLE
- Meeting of the HIA team with the Maritime Archaeology Unit to discuss issues related to underwater heritage
- Additional meetings with other stakeholders (to be confirmed)

SATURDAY 20 DECEMBER 2014 - GALLE
- Additional site visits and analysis by HIA team in the Galle area, if necessary (to be confirmed)

MONDAY 29 DECEMBER 2014 - COLOMBO
- Meeting(s) between the HIA team with representatives of the Ministry of National Heritage, other institutional representatives and stakeholders.
Appendix II: Individuals involved in the consultation process to date

- Mr. W.M. Chandraratne, Officer in Charge, Maritime Archaeology Unit - CCF
- Mr. Parakrama Dahanayake, Chairman, Galle Heritage Foundation
- Mr. A.M.A. Dayananda, Research Officer (Maritime Archaeology), Maritime Archaeology Unit - CCF
- Mr. Dilum Dayarathna, Assistant Secretary (Development), Ministry of National Heritage
- Mr. Kamal De Zoysa, Artefact Conservator, Maritime Archaeology Unit - CCF
- Mr. Herman Dharmaratne, Tourism Promotion Officer, Ruhunu Tourist Bureau
- Ms. Mallika J. Gamage, Cultural Officer, Divisional Secretariat
- Ms. Lanka Geeganage, Development Assistant, Ministry of National Heritage
- Mr. W.A.D.S. Gunasinghe, Additional Secretary, Ministry of National Heritage
- Mr. L.H. Gunawardane, Director, Galle Heritage Foundation
- Mr. Lasantha Kalansooriya, Grama Niladhari – Magalla, Divisional Secretariat
- Mr. Lalith Kannangara, Consultant to the Minister, Ministry of National Heritage
- Mr. G. Vijitha Nanda Kumar, Senior Assistant Secretary, Ministry of National Heritage
- Mr. Tharanga Liyanarachchi, Project Planning Officer, Galle Heritage Foundation
- Ms. K.B.D.K Priyadharshani, Exploration Officer, Department of Archaeology - Galle
- Mr. A. Samarasinghe, Chairman, Ruhunu Tourist Bureau
- Mr. M.K.M. Sampath, Grama Niladhari - 96/G China Garden, Divisional Secretariat
- Mr. Barnad Wasantham, Additional Secretary, Ministry of National Heritage
- Mr. K.A.K.N.W. Weerasinghe, Engineer Planning, Sri Lanka Ports Authority
- Mr. Palitha Weerasinghe, Assistant Director – Museum / OIC Maritime Archaeology, Department of Archaeology
- Mr. M.H. Wijesinha, Technical Officer, Galle Municipal Council
- Capt. Sajeewa C. Wimalasiri, Deputy Harbour Master/ Actg. Resident Manager, Sri Lanka Ports Authority
WORLD HERITAGE PROPERTY OF
OLD TOWN OF GALLE AND ITS FORTIFICATIONS

INTEGRATED MANAGEMENT SYSTEM

15 January 2015

Prepared By
Government of Socialist Republic of Sri Lanka
Ministry of Culture
Department of Archaeology
Galle Heritage Foundation

In collaboration with
Prof. Prashantha B. Mandawala
Head, Department of Archaeology
University of Sri Jayewardenepura
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1. IDENTIFICATION and OBJECTIVES

1.1 INTRODUCTION

The Integrated Management System for the World Heritage Site of Old Town of Galle and its Fortifications is a document adopted by the state party that defines the process of implementing the integrated management plan.

1.1.1 Background

A UNESCO World Heritage Site (WHP) is a place which is a forest, mountain, lake, island, desert, monument, building, complex, or city, with an Outstanding Universal Value that is listed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as of special cultural or physical significance. The list which comprises WHP is maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee, composed of 21 UNESCO member states which are elected by the General Assembly. The programme includes names, and conserves sites of outstanding cultural or natural importance to the common heritage of humanity, founded with the Convention Concerning the Protection of the World Cultural and Natural Heritage, which was adopted by the General Conference of UNESCO on 16 November 1972. Since then, 191 states parties have ratified the Convention, making it one of the most adhered to international instruments. As of 2014, 1007 sites are listed: 779 cultural, 197 natural, and 31 mixed properties, in 161 states parties. UNESCO has identified the recognition and management of WHP is a key means of conserving the World’s cultural and natural heritage for present and future generations.

Democratic Socialist Republic of Sri Lanka ratifies the World Heritage Convention in 1986 and since then, Six (6) Cultural and Two (2) Natural site have been designated up to now. The WHP of Old Town of Galle and its Fortifications inscribed onto the World Heritage List in 1988 as the 451st site as a place founded in the 16th century by the Portuguese, Galle reached the height of its development in the 18th century, before the arrival of the British, and as the best example of a fortified city built by Europeans in South and South-East Asia, showing the interaction between European architectural styles and South Asian traditions.
The Operational Guidelines (OG) for the Implementation of the World Heritage Convention has been prepared by the World Heritage Committee with the aim of facilitating the implementation of the Convention concerning the Protection of the World Cultural and Natural Heritage by setting forth the procedure for the inscription of properties on the World Heritage List and the List of World Heritage in Danger, the protection and conservation of World Heritage properties, the granting of International Assistance under the World Heritage Fund and the mobilization of national and international support in favor of the Convention. According to the section 108 of the OG-2013 “Each nominated property should have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.” It further states that “the purpose of a management system is to ensure the effective protection of the nominated property for present and future generations.”

1.1.2 Need for the Integrated Management Plan

World Heritage Site of Old Town of Galle and its Fortifications is probably one of the most complex world heritage Sites in the world, comprised a living city together with Fortifications of archeological importance with different management requirements. During its inscription as a WHC in 1988 submission of a management plan was not required hence no management plan was in place. The living city together with its Street grid, streetscape, street houses, grand public and administrative buildings and the monumental ramparts and bastions contribute to the outstanding universal value of the World Heritage property. However, the threat to each attribute is different in form and degree.

Ever since its inscription on the World Heritage List in 1988 there had been several controversial issues with regard to the development activities within the site and the buffer zone of which the authenticity and integrity was in danger. In lieu of these effects a reactive monitoring mission was sent to the site and the examination was carried out from 27 April to 7 May 2008 with regard to the development of the Galle Cricket Stadium and the Galle Harbor. Since a Management Plan is a basic requirement for all World Heritage properties as per the Operational Guidelines, a draft management plan have been submitted to the reactive monitoring mission was carried out from 4
to 20 February 2010. The WHC in its decisions has noted the submission of the Galle Management Plan (2010) by the State Party, and urges the State Party to continue his efforts and develop more detailed Conservation Plans as the submitted Management plan is very general. In keeping with these decisions of the WHC, then Ministry of National Heritage together with the Department of Archaeology and the Galle Heritage Foundation has taken steps to prepare a Management Plan with the aim of developing a framework for the integration of each attribute of the site within a single management system, while taking into account each of their specific management requirements.

1.1.3 Status of the Integrated Management Plan
The Integrated Management Plan will be considered as a path way towards achieving the goal of conserving the outstanding universal value of World Heritage Site of Old Town of Galle and its Fortifications. The Integrated Management Plan will define a process which had been developed through consensus of the concerned authorities and stakeholders.

Integrated Management Plan will be completed through the implementation of the actions formulated; as such this document should not be seen as an end in itself. It is clearly understood that the establishment of the management structures, both at the integrated level as well as at the site level, will take time for its implementation.

1.1.4 The Integrated Management Framework
This document adopted by the State Party defines the process of implementing the Integrated Management System. The document is comprised of three parts:

Streetscape

Part 1: Identification and Objectives
This section defines the World Heritage Site of Old Town of Galle and its Fortifications. The objectives of the Integrated Management Plan are formulated in respect to the World Heritage Site.
Part 2: Integrated Management Framework
This section gives the overall strategies and defines in detail the Institutional, Legal and Economic Frameworks.

Part 3: Implementation
This section gives the outline on the long term process of implementing the Integrated Management Plan in respect to institutional, legal and economic frameworks, the coordination and the Monitoring Framework.

1.2 DEFINING THE PROPERTY

Name of the property: World Heritage Site of Old Town of Galle and its Fortifications

Date of Inscription
1988

Location
World Heritage Site of Old Town of Galle and its Fortifications is situated in Galle City which is the capital city of Southern Province, situated on the southwestern tip of Sri Lanka, 119 km from Colombo, Sri Lanka. The GPS Centre point is at the Light House 6. 02450 N and 80. 21950 E, North-west corner at the Star Bastion 6. 02981 N, 80. 21378 N and South-east corner at the Black Fort 6. 02878 N, 80.22014 E.

Description of the Site
Galle provides an outstanding example of an urban ensemble which illustrates the interaction of European architecture and South Asian traditions from the 16th to the 19th centuries. The most salient feature is the use of European models adapted by local manpower to the geological, climatic, historical, and cultural conditions of Sri Lanka. In the structure of the ramparts, coral is frequently used along with granite. In the ground layout all the measures of length, width and height conform with the regional metrology. The wide streets, planted with
grass and shaded by suriyas, are lined with houses, each with its own garden and an open veranda supported by columns, another sign of the acculturation of an architecture which is European only in its basic design.

The bay of Galle lies off the south-west coast of Sri Lanka, sheltered by a rocky peninsula. Mentioned as early as 545 in the cosmography of Cosmas Indicopleustes, it is one of the most ancient 'ports of call of the Levant'. When Ibn Batuta landed there in 1344, it was the principal port of Ceylon. Portuguese navigators settled there in 1505, two years before settling in Colombo. It seems that they preferred Colombo at first. In 1588, they decided to withdraw to Galle and they hastily constructed a rampart and three bastions to defend the peninsula on the northern landside. The seaward side was considered invulnerable and was not fortified.

Few vestiges subsist from a Franciscan chapel that was built in 1543. When the fortified town fell into the hands of the Dutch in 1640, they decided to replace the precarious Portuguese defences constituted partially of palisades and earth banks. They encircled the whole of the peninsula with a bastioned stone wall so as to render it impregnable against the English, French, Danish, Spanish and Portuguese fleets vying with Holland for the supremacy of the sea.

This fortified city, built by the Dutch, exists still, but with few changes. It has an area of 52 ha inside the walls defended by 14 bastions. The majority of the curtain walls were built in 1663. The northern fortified gate, protected by a drawbridge and a ditch, bears the date 1669. Much of the city, laid out on a regular grid pattern adapted to the configuration of the terrain (north-south peripheral streets are parallel to the ramparts and not to the central traffic axes), dates from this period.

During the 18th century, protected by a sea wall finished in 1729, the city reached full development. It housed 500 families, and a large number of public administrations, trade establishments and warehouses were located there. A Protestant, Baroque-style church, the oldest in Sri Lanka, was constructed in 1775 for the European colonists and a few Christian converts from plans drawn up by Abraham Anthonisz. However, Galle remained essentially a stronghold. In the layout of the city the Commandant's residence, the arsenal and the powder house were prominent features. The forge, carpentry and rope-making workshops, the naval guardhouse, and
barracks rounded out a system that closely linked prosperous trade to military security.

The fort of Galle was handed over to the English only on 23 February 1796, one week after the surrender of Colombo. As a British protectorate, Galle remained the administrative centre of the south of Ceylon. A number of unfortunate modifications were then made: ditches filled in, new blockhouses added, a gate put in between the Moon bastion and the Sun bastion, a lighthouse installed on the Utrecht bastion, and a tower erected for the jubilee of Queen Victoria in 1883. Other work was undertaken during the Second World War in order to restore the defensive function of the fortifications.

Taken together these alterations, few in number, as can be seen from the above, have not seriously modified the original city plan.

Galle remains the best example of a fortified city built by Europeans in South and South-East Asia.

Authorities Responsible for the Site
The State Party is represented by the Department of Archaeology as provided by the Antiquities Ordinance of 1940 and its subsequent amendments which operates under the Ministry of Culture and Arts.

The Management of the site is vested on the Galle Heritage Foundation as provided by the Galle Heritage Foundation Act of 1994.

The Development Activities of the site is controlled by the Urban Development Authority as provided by the Urban Development Authority Act of 1978 implemented through the Galle Municipal Council.

Streetscape
1.2.1 CRITERIA FOR INSCRIPTION

The World Heritage Property of Old Town of Galle and its Fortifications was inscribed on the World Heritage List under criteria iv. Consideration has however been given to the fact that the criteria, as formulated in 1979, have evolved as a basis for giving more attention to “fortifications and living place” in management of the present day World Heritage Property.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, an nominated property needs to have outstanding universal value which is verified by assessing whether the property meets one or more of the ten listed criteria. (Operational Guidelines 2013 Para 77)

Criterion (iv)

OG-2013: be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

OG-1979: be among the most characteristic examples of a type of structure, the type representing an important cultural, social, artistic, scientific, technological or industrial development
During evaluation of the site by the advisory body of UNESCO the following quotation has been made with regard to the criteria iv.

“The World Heritage Site of Old Town of Galle and its Fortifications provides an outstanding example of an urban ensemble, which illustrates the interaction of European architecture and South Asian traditions from the 16th to the 19th centuries. Among the characteristics, which make this, an urban group of exceptional value is the original sewer system from the 17th century, flushed with seawater controlled by a pumping station formerly activated by a windmill on the Triton bastion. However, the most salient fact is the use of European models adapted by local manpower to the geological, climatic, historic and cultural conditions of Sri Lanka. In the structure of the ramparts, coral is frequently used along with granite. In the ground layout all the measures of length, width and height conform to the regional metrology. The wide streets, planted with grass and shaded by suriyas, are lined with houses, each with its own garden and an open veranda supported by columns – another sign of the acculturation of an architecture which is European only in its basic design.”

1.2.2 STATEMENT OF OUTSTANDING UNIVERSAL VALUE

The World Heritage Site of Old Town of Galle and its Fortifications was inscribed on the List of World Heritage based on the “Outstanding Universal Value” under criteria iv.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, outstanding universal value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. (Operational Guidelines 2013 Para 49)

VALUES

The Historical Value of the World Heritage Property of Old Town of Galle and its Fortifications lie in the establishment of the site in the 16th century by the Portuguese as a fortified city during the period of European expansion in Asia and reaching the height of its development in the 18th century under the Dutch colonial rule in Sri Lanka’s Maritime Provinces. It is the best representation of a fortified city built by the Europeans in South Asia, showing the interaction between European planning principles and South Asian architectural traditions.
The **Architectural Values** of the World Heritage Property of Old Town of Galle and its Fortifications lie in the exceptional outstanding example of an urban ensemble in South Asia during the period of European expansion, which illustrates the fusion of Dutch fortification engineering, town planning and architectural principles and of South Asian architecture at its best, as reflected by the street grid, streetscape, the narrow street-houses with frontal verandahs and internal courtyards, grand public and administrative buildings (such as the Dutch Reformed Church, warehouse), monumental ramparts which follow the geomorphology of the site with bastions located at strategic points in both sea and land fronts.

The **Social Values** of the World Heritage Property of Old Town of Galle and its Fortifications lie in the representation as a unique product, which result from historic cross-fertilization between the Dutch and the Sri Lankans and the prevalent physical and social environment of its built location in Galle.

The **Scientific Values** of the World Heritage Property of Old Town of Galle and its Fortifications lie in the remarkable original underground sewer system from the 17th century is flushed by tidal sea water.

The **User Values** of the World Heritage Property of Old Town of Galle and its Fortifications lie in the city continues to be a living place throughout the history.

**ATTRIBUTES**

The values of the World Heritage Property of Old Town of Galle and its Fortifications are supported and expressed by the attributes that have been defined below:

- Unique Dutch fortification engineering, town planning and architectural principles and of South Asian architecture reflected by the street grid, streetscape, the narrow street-houses with frontal verandahs and internal courtyards, grand public and administrative buildings (such as the Dutch Reformed Church, warehouse), monumental ramparts which follow the geomorphology of the site with bastions located at strategic points in both sea and land fronts.
- Remarkable original underground sewer system from the 17th century is flushed by tidal sea water.
- City continues to be a human settlement throughout the history.
• Representation as a unique product, which result from historic cross-fertilization between the Dutch and the Sri Lankans and the prevalent physical and social environment of its built location in Galle.

These attributes need to be conserved and protected.

1.2.3 STATEMENT OF AUTHENTICITY

Statement of Authenticity (How attributes convey their significance)

The authenticity of the World Heritage Property of Old Town of Galle and its Fortifications is retained through the form and design of the original town plan, with its street grid, facades, and the scales of the streetscapes, truly reflect the value of the city. The architectural form and design as well as the construction materials and techniques of the public and administrative buildings are well conserved. The military design and the construction technique and materials of the ramparts and bastions are also well conserved. The location and setting of the town and its fortifications in relation to its seascape and landscape are also well conserved. Although the original military function has ceased at present, the property still retains its original residential and administrative uses.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, properties nominated under criteria (i) to (vi) must meet the conditions of authenticity. Authenticity means the ability to understand the value attributed to the heritage depends on the degree to which information sources about this value may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning, are the requisite bases for assessing all aspects of authenticity. (Operational Guidelines 2013 Para 80)

Description of Integrity

Every component - the monuments or the surrounding context - of the World Heritage Property has inherent values that encompass a specific meaning of authenticity within itself. Certain principles must be formulated to establish a basis for the preservation of the value of the property in order to maintain the Authenticity of the WHP.

The conservation of a heritage property must fulfill the tasks of being a testimony to the achievements of the past which necessitates the preservation of specific tangible elements in its original state; and the continuation of a living cultural heritage which must be based on the appreciation of the past by appreciating the change into account.

Periodic Renewal

The principles that have governed the preservation of a historic character of the town are the qualities that express the character including all those material and spiritual elements. These will be expressed
as urban patterns as defined by lots and streets; relationships between buildings and green and open spaces; the formal appearance, interior and exterior, of buildings as defined by scale, size, style, construction, materials, colour and decoration; the relationship between the town and its surrounding setting, both natural and man-made; and the various functions that the town has acquired over time.

World Heritage Property of Old Town of Galle and its Fortifications were constructed as a military town with administrative, commercial and residential functions. Although the military functions were ceased the administrative, commercial and residential functions were continued. During past years the use of the buildings within the town has been changed. At present the use of the buildings within the town could be categorised as 248 residential buildings, 18 administrative buildings, 03 banks, 03 museums, 02 schools, 03 primary schools, 01 Sunday school, 05 hotels, 87 restaurants, 06 shops, 45 jewelry shops and 22 ornamental shops. Apart from that the populations in the town could be categorised as 722 Buddhists, 22 Hindus, 47 Christians and 914 Muslims. In response to the effects of change of the town to multicultural and multi commercial town the buildings within the town also had undergone periodic Renewal. As such most predominant problem facing the urban fabric is the pressure due to the developments activated as a result of the change of use of the buildings to accommodate the rapid development in the tourism sector coupled with social uplift.

The Attributes
The process of cyclical renewal should however follow strict guidelines. The cultural value need to be truthfully and credibly expressed through a variety of attributes (Operational Guidelines para 82).

Form and Design:
Changes of the townscape due to the change of use should be carried out by preserving the historic character of the town. This would mean that form and design of the original town plan must not change.

According to the nomination document and justification for nomination by the advisory body it is mentioned that the form and design lied with the original town plan of the Galle Fort, with its street grid, facades, and the scales of the streetscapes within the fortified city built by the Dutch which has an area of 52 hectares inside the walls defended by 14 bastions. As such during when
Changes are being made due to the change of use and function of the buildings within the town should not alter the fortifications, street grid, facades, and the scales and architectural form of the streetscapes.

Materials and Substance:
The use of construction materials is very closely linked to geological, climatic, historic and cultural conditions of Sri Lanka. In the structure of the ramparts, coral is frequently used along with granite. The materials used for the construction of buildings within the fort are rubble for foundation, lime stones for walls, lime mortar, dressed coral stone for columns, granite and clay tiles for paving, timber for verandah columns, roof structure, Doors and Windows, Glass and Iron for windows and doors and tiles for roof. The materials used must be verified for their appropriateness in respect to authenticity.

The traditional workmanship entailed in the production of the materials or construction elements are an important aspect in retaining authenticity. A high degree of ornamentation was achieved especially the case with intricate carving of wooden elements, stucco ornamentation of the arches, bases and capitals of columns and metal works. The correct interpretation and employment of these elements is an important aspect in respect to authenticity.

Use and Function:
The traditional use and function of the town should normally be retained. However, the use and function of town for the military purpose had been ceased at the time of inscription. The generally accepted practice of “adaptive re-use” should be utilised. However, the degree to which the buildings are altered to cater to a new function must be minimised and should ideally be reversible, to allow for a clear differentiation between old and new.

The adaptive re-use of the administrative buildings has already been implemented by using them as museums and other tourism related purposes.

The use and function of public spaces and urban fabric will change based on the continuation of a living heritage. The change should, however, be based on the understanding and appreciation of the heritage values of the site. The scale of the streets and squares were originally created for pedestrian use, but has changed overtime.

The private buildings were originally created to be used as dwellings and for commercial purposes. The function of these
buildings should be regulated to allow for traditional and compatible activities. Individual historic buildings might be conserved through “adaptive re-use”. This is especially the case with buildings that are functionally obsolete due to the change of the town to multicultural and multiethnic city. It cannot be expected that historic buildings which are obsolete due to their design should be continue be used for the same purpose it was created.

**Traditions, Techniques and Management Systems:**

Traditions: refer to “Language and other forms of Intangible Heritage”;
Techniques: refer to “Materials and Substance”;
The traditional management system of the town was military based. Since independence the management system has been changed to a democratic oriented management system.

The fortifications and some of the public buildings are under the legal ownership of the Department of Archaeology of the Government of Sri Lanka, which administers the Antiquities Ordinance of 1948 (rev. 1988) at the national level. Some selected houses and other buildings are declared as protected monuments under the provision of the Antiquities Ordinance, while most houses remain as private properties. As per the Antiquities Ordinance, no interventions are allowed within 400 yards of an ancient or protected monument without the approval of the Director General of Archaeology, and the whole extent of the fort is covered by this regulation. The Department of Archaeology therefore has control over the whole property. In addition, provisions of the Urban Development Authority Law are being applied for better control of the property. The Galle Heritage Foundation was created in 1994 under an Act of Parliament with a view to bring all the stakeholders and partners under one umbrella for effective conservation and management of the property.

But over the years it is felt that the concept of community based preservation of the historic character of the town should be seen as an authentic management system.

**Location and Setting:**

Most often location and setting is an integral part of a heritage property.

The “Authenticity of Location” would mean that all integral parts of the town should not be moved to a new location.

In order to address the issue of “Authenticity of Setting” in a practical manner, certain spatial demarcation is required. The setting
would generally refer to the context within which the heritage property is situated and the area in which impact it has. This spatial area surrounding the heritage property has been demarcated as a buffer zone in accordance with the Antiquities ordinance.

The character of the setting must not change, however the “Authenticity of Setting” restricts itself to ensuring the protection of the values of the heritage property itself.

**Language and other forms of Intangible Heritage:**

The predominant aspects of southern culture need to be preserved, which would mean their language, customs and festivals.

*This is especially so for such unique customs and festivals as those linked to the Galle Area.*

**Spirit and Feeling:**

Authenticity in respect to spirit and feelings would refer to *sensual* impact of the heritage property, which is closely linked to its identity. The visual environment, linked to sound and smells reflects the sentiment of a place. It is clearly not acceptable to preserve the authentic spirit and feeling of a polluted, unhygienic environment of historic cities. This means controlling pollution – air, water, noise – and the change of the visual environment.
1.2.4 STATEMENT OF INTEGRITY

Statement of Integrity *(How the attributes sustain their significance)*

The integrity of the World Heritage Property of Old Town of Galle and its Fortifications is retained by means of the clearly defined boundaries encompassing the elements that contribute to the outstanding universal value, which are guaranteed maintenance and protected by means of the Integrated Management Plan.

*As per the Operational Guidelines for the Implementation of the World Heritage Convention, all properties nominated for inscription on the World Heritage List must satisfy the conditions of integrity. Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. (Operational Guidelines 2013 Para 87/88)*

**Discussion on Integrity**

Integrity refers to the wholeness and intactness of the World Heritage Property and its attributes. The quantitative aspect of integrity takes into account whether the boundaries encompass the attributes and linkages that give it its outstanding universal value. The qualitative aspect of integrity takes into account the intactness of each component of the property.

**The extent to which the property includes all elements necessary to express its outstanding universal value:**

The outstanding universal value of the World Heritage Site of Old Town of Galle and its Fortifications is expressed through the elements and components related to town planning, fortification engineering, and architecture that are necessary to express the Outstanding Universal Value of the property. The physical fabric of these elements is in good condition and has been preserved to express the value.

**The extent to which the property is of adequate size to ensure the complete representation of the features and processes which convey the property’s significance:**

The fortifications on all sides, which define the property, ensure the complete representation of all features and convey the totality of the Outstanding Universal Value. As per the Antiquities Ordinance, no interventions are allowed within 400 yards of an ancient or protected monument without the approval of the Director General of Archaeology, and the whole extent of the fort as well as the buffer Zone of 400 yards from the fortifications is covered by this regulation in order to further safeguard its Outstanding Universal Value.
The extent to which the property suffers from adverse effects of development and/or neglect:

A critical challenge is the desire of present residents to modify the interiors of the residential buildings to suit 21st-century living; this is being handled carefully by a planning committee comprised of the relevant planning authorities. There is also a heavy demand for the historic houses within the fort and tremendous pressure to convert the residences in to tourist guest houses which will affect the authenticity in use and function as well as in interior form and design. A discussion has been effected in extending the World Heritage property boundary to include the maritime archaeology of the bay, and reviewing the buffer zone surrounding the Old Town of Galle, its fortifications, and maritime archaeology in the context of protecting its setting from the potential adverse effects of future development in order to sustain the Outstanding Universal Value.

1787 Galle Fort Plan
1.2.5 SUSTAINABLE DEVELOPMENT

Sustainable Development must be pursued within the World Heritage Site of Old Town of Galle and its Fortifications. This means that conservation of cultural heritage must go hand-in-hand with social and economic development, taking into account the needs of future generations.

Discussions on Sustainable Development

The definition of Sustainable Development could be identified as, “development that meets the needs of the present without compromising the ability of future generations to meet their own need”. Sustainable Development is considered to be based on the following three policy areas; economic development, social development and environmental protection. There have however been further elaborations done to this definition, namely in respect to the inclusion of culture (or cultural diversity) as an integral part of our environment of Sustainable Development. By inclusion of culture – especially in respect to heritage conservation – the definition of Sustainable Development embraces a whole new dimension; that of our past.

The conservation of “heritage” reflects the key principle of Sustainable Development; it is the conservation of that which inherits from the past, which is of value and is worth preserving for future generations. “Value” as utilised here, is the qualitative aspect of “need”, the term referred to in defining Sustainable Development.

The four components of Sustainable Development are interdependent and must therefore be understood within their integral framework.

Economic Sustainability

Economic Sustainability is achieved when all people have access to an improved standard of living without impairing future economic development.

Social Sustainability

Social Sustainability is achieved when transformations of social structures improve capacity of societies to achieve their aspirations while retaining their positive features.

Environmental Sustainability

Environmental Sustainability is achieved when the consumption of nature’s resources does not exceed their replenishment.
Cultural Sustainability
Cultural Sustainability is achieved when heritage (as defined in the second paragraph) is conserved without inhibiting the achievement of society’s basic needs.

Relevance to the World Heritage Site of Old Town of Galle and its Fortifications
The World Heritage Property of Old Town of Galle and its Fortifications encompasses a town that is under great pressure to “change”. This change needs to be directed along the principles of Sustainable Development. This means that conservation of cultural heritage must go hand-in-hand with social and economic development, taking into account the needs of future generations.

Street House
Dutch Hospital
Administrative Building
1.2.6 BOUNDARY and BUFFER ZONES

The boundaries and buffer zones of the World Heritage Property of Old Town of Galle and its Fortifications were approved by the World Heritage Committee during their 13th session in December, 1989.

As per the Operational Guidelines for the Implementation of the World Heritage Convention, the delineation of boundaries is an essential requirement in the establishment of effective protection of nominated properties and should be drawn to ensure the full expression of the outstanding universal value and the integrity and/or authenticity of the property. Wherever necessary for the proper conservation of the property, an adequate buffer zone surrounding the nominated property should be provided for, which has complementary legal and/or customary restrictions placed on its use and development. (Operational Guidelines 2013 Para 99/103/104)

Boundaries

The fortifications of the Galle Historic Town has become an ancient monument under the Antiquities Ordinance of 1940 as the fortifications were build prior to the 2\textsuperscript{nd} March of 1815. Several buildings situated within the Fort also have been declared as Ancient Monuments under the Antiquities Ordinance of 1940 and its subsequent amendments. Some selected houses and other buildings are declared as protected monuments under the provision of the Antiquities Ordinance, while most houses remain as private properties. Since the Department of Archaeology applied 400 yards development control Zone under the Antiquities Ordinance the entire town with in the fortifications comes under the control of the Department of Archaeology. Since the inscription of the World Heritage Property by UNESCO in 09\textsuperscript{th} December 1988 states as “Old Town of Galle and its Fortifications” it is clear that the boundary of the property is the Historic Town within the fortifications and the fortifications as well. Since then there had been not attempt made to revise the

Site Plan Submitted During Nomination

boundary of the World Heritage Site despite
the requests made by the World Heritage Committee in their decisions of 34COM7B.72 in 2010, 35COM7B.78 in 2011, 36COM7B.68 in 2012, 37COM7B.67 in 2013 and 38COM7B.21 in 2014, to consider an extension of the World Heritage property boundary to include the maritime archaeology of the bay, and if agreeable to prepare a minor modification request to that effect. At this moment state party is of the opinion that the boundary of the WHP at the time of declaration should not be modified to include the maritime archaeology remains in the bay as they are already been protected under the Antiquities Ordinance as a separate entity.

**Buffer Zones**

According to the section 24 of Antiquities Ordinance “Regulations may be made prohibiting, or restricting subject to the prescribed conditions, the erection of buildings or the carrying on of mining, quarrying, or blasting operations on any land within the prescribed distance of any ancient monument situated on State land or any protected monument.” In keeping with the above provisions Department of Archaeology in its Gazette notification has applied the 400 yards (365.76 m) from the fortifications of Galle Fort as a control zone of activities stipulated in the above section of the Antiquities Ordinance. As such this zone now falls within the preview of the Director General of Archaeology and acts as the Buffer Zone of the WHP. There had been a proposal to extent the buffer zone to cover the maritime archaeology of the bay but no action was taken to include them in the Buffer Zone of the WHP as they have already being protected under the Antiquities Ordinance as a separate entity.

![Existing Buffer Zone and Proposed Buffer Zone at the time of Periodic Reporting](image-url)
1.3 OBJECTIVES OF THE INTEGRATED MANAGEMENT PLAN

1.3.1 OBJECTIVE STATEMENT

The primary objective of the Integrated Management of the World Heritage Property of Old Town of Galle and its Fortifications is to protect the Outstanding Universal Value of the World Heritage property as well as the locally recognised heritage values, while taking into account the standard of living, safety and economic viability of the community living within the World Heritage property.

A Management plan can be understood as an operational instrument to utilise available resources to protect defined OUV, while responding to circumstances in the given context.

Identification of Key Issues:

During the preparation of the Management Plan all the Stakeholders related to the WHP was consulted. There were six workshops held with the participation of the following stakeholders.

a) Local Residents of the WHP
b) Small Business Community and the Association of Three-wheeler Drivers
c) Local Business Community
d) Foreign Residents and Business Community
e) Middle Level Government Officers related to the Administration of the WHP
f) Policy makers and high level government officers responsible for the Management of the WHP

During these workshops following key issues were identified.

1. has the values and attributes of the WHP are clearly identified and defined
2. has all historical monuments within the WHP and the buffer zone are properly identified and inventorised and if so weather the documents are available to the general public for inspection
3. weather the existing legislations and regulations applicable to the property are in conjunction with the legislations and regulations laid down by the authorities responsible for the management of the WHP
4. weather the Department of Archaeology is empowered to prevent the unauthorized/ illegal developments within the WHP and do the Department has powers to
rectify or demolish such interventions

5. weather the Galle Heritage Foundation (GHF) has been vested with adequate powers for the Management of the WHP

6. weather the existing building guidelines are adequate to carryout conservation, repair, maintenance, additions, alterations, new constructions, etc. at the WHP

7. is it necessary to have a Master Plan prepared for the site with a vision of integrating development vs conservation and protection of the Values of the property

8. is there are adequate staff to monitor the development activities, social welfare, visitor requirements, hygienic conditions, protection of the environment, traffic management, change of use, visitor facilities, etc. of the WHP

9. is there a mechanism in place to harness the community participation in managing the property

10. is there mechanism to create public awareness of the site to preserve the Authenticity and integrity of the site

11. is there a plan to provide enhanced visitor facilities to the local and foreign visitors to the property

12. is there a plan to harness the economic return for the visitors to use profitably to the development of the local community

13. is there a mechanism to carryout further research of the site to enhance its values

The principles that are to be observed in achieving the management goals are:

**Enhancing the Significance:**
Conservation of the significance of the site should be the Core of decision-making with the balance against the interests of other sectors.

**Integrated approach:**
The integrated management will follow a systemic and holistic approach to protection, taking into account the significance of the site, the cultural context within which they are found and the living heritage that lends them their local value.

**Process oriented**
The integrated management will focus on the processes and linkages between the components of the site and the various actors to allow realistic long-term implementation.
Upward approach
The integrated management will take the realities at the site level into account when developing protection strategies. This is particularly so in respect to the living cultural heritage of the Town.

Promote local authorization
Empowering the Galle Heritage Foundation must be accomplished to whatever degree possible, while not losing the integration and coordination between the components of the overall World Heritage property.

Socially and economically sustainable
The integrated management will be prepared on an understanding of sustainability, both in respect to social as well as economic operations of the site.

1.3 .2 KEY OBJECTIVES

A. Identification of WHP and its values

A1: Clearly define the WHP in respect to criteria for inscription, outstanding universal value, authenticity, integrity, boundaries and buffer zones and their respective implications on the conservation and management of the WHP.

A2: To have inventories of classified monuments for the WHP and buffer zones and utilize the inventories as a planning tool in conjunction to the regulations.

B. Legislation

B1: To amend related Acts and Regulations which are necessary to ascertain that there are consensus among the authorities with regard to protection and development of the town.

B2: To have amendment to the Antiquities Ordinance to incorporate special regulations on the preservation and protection of World Heritage Cultural Sites of Sri Lanka to provide for the devolution of responsibilities to the local government and allow for expropriation of historic buildings that are at risk of being demolished, to rectify the unauthorized changes and constructions effected in the sites, to demolition of unauthorized constructions apart from the authority to stop inappropriate and/or illegal building activities and to rectification of inappropriate changes made to the historic buildings.

B3: To have amendment to the Galle Heritage Foundation Act to provide full responsibility on the Management of
the World Heritage Site and also to provide Human and Financial Resources necessary to fulfill its management obligations in managing the site to safeguard the OUV, Authenticity and Integrity.

B4: To prepare and implement site specific Guiding Conservation Principles and regulations, taking into account the provisions for the WHP as well as the buffer zones.

B5: To establish specific procedures, norms and guidelines for evaluating the stability of ancient and historic properties.

C. Planning and Policy

C1: To have a Master Plan which are coordinated with overall municipal and urban development planning and provide linkages to the involvement of affiliated government authorities and other institutions to carry out such plans.

C2: To develop a clear strategy for the conservation of privately owned ancient monuments. This would include clearly defined controls and incentives.

C3: To prepare conservation plans for privately owned ancient monuments and rectification plans for inappropriate buildings within the WHP.

C4: To prepare development guidelines in keeping with the community requirements to create a more sustainable development within the WHP with regard to the adaptive re-use of the non protected buildings, dilapidated buildings and unused building plots.

D. Operational Task Management

D1: To identify and establish Task Managers specific to each Activity under the Galle Heritage Foundation. The Task Managers will be the most local level appropriate for the task.

D2: To train and build capacity of the Task Managers for them to be in a position to fulfill their tasks.

D3: To give the Task Managers the lead role in managing the WHP in close collaboration with the site officers of the Department of Archaeology, Urban Development Authority and the Galle Municipal Council. The task managers will coordinate with all relevant “actors” within the WHP.

D4: To simplify official procedures and processes and make them more effective in respect to heritage protection.

D5: To carry out weekly monitoring of each activity and set up a regular reporting
system involving all relevant authorities. Regular review meetings are to be held.

**D6**: To establish an emergency reporting system and an authority to deal with crisis situations.

**E. Community and Awareness**

**E1**: To establish *Community Groups* within WHP to participate as stakeholders in managing the site who will serve in the middle level management committee members in the Galle Heritage Foundation

**E2**: To create awareness amongst the community, the general public and students on the value of the World Heritage property.

**E3**: To develop strategies for the sustainable economy of the community within the WHP without impacting heritage values.

**E4**: To distribute restoration and maintenance manuals to owners of Ancient Monuments.

**E5**: To distribute development guidelines to owners of other buildings with regard to potential developments.

**F. Visitors**

**F1**: To develop a sustainable strategy for marketing the WHP for visitors and provide them with quality facilities, and site interpretations.

**F2**: To develop strategies to maximize the profitability for the local community.

**F3**: To develop strategies to maximize the usage of buildings within the site for commercial activities in a sustainable manner.

**G. Information and Research**

**G1**: To establish a documentation centre where information on the WH property and related topics are collected and stored in an easily accessible format.

**G2**: To coordinate research on the WH property and related topics in close collaboration with national and international educational institutions.

**H. Sustainability of Management**

**H1**: To develop sustainable funding mechanisms for the Galle Heritage Foundation.

**H2**: To ensure the implementation and regular review of the integrated management plan.
2. INTEGRATED MANAGEMENT FRAMEWORK

2.1 OVERARCHING STRATEGIES

The overarching strategies required for achieving the management objectives must lay down the parameters for carrying out the specific actions detailed in the Plan of Action. The strategies would need to address the institutional, legislative and economic frameworks.

Institutional Framework

The Department of Archaeology is to remain the principle authority for the coordination of conservation and protection activities of the World Heritage Site supported by the Urban Development Authority and the Galle Municipal Council. However, powers in respect to enforcing Regulations and monitoring are to be handed down to the Galle Heritage Foundation, and clearly defined Task Managers for each of the tasks. The tasks of the Task Managers should be monitored by the Coordinative Working Committee with the membership of professionals related to the tasks appointed by the Galle Heritage Foundation.
Identification and improvement of processes and linkages within the management structure are to be carried out to have a clear communication system for flow of information and decisions and separation of reporting and decision making processes for regular cases and irregular and emergency cases.

For the conservation of declared monuments and new developments community involvement and participation is to be encouraged, incorporating risk management.

Capacity building is to be considered critical for the successful implementation of the Management Plan.

**Legislative Framework**

Clarifications are to be sought for overall legislation dealing directly or indirectly with heritage conservation and development planning to reduce duplication, contradictions and to ascertain consensus among the authorities with regard to protection and development of the town.

The town will have clear sets of conservation and development regulations to guide the conservation and development principles with the aim of preserving the OUV, authenticity and integrity of the WHP. Each set of regulations will be accompanied by detailed implementation processes.

Awareness raising mainly to the residents and the developers is to be done on heritage values and the objectives of the guiding conservation and development Principles and Regulations for practical implementation.

**Economic Framework**

Overall coordinated financial plan is to be prepared to strengthen resources and support for the implementation of the Management plan especially to the Galle Heritage Foundation. Local and International Contributions are to be integrated within the overall implementation strategy.

*Galle Fort Hotel*
2.2 INSTITUTIONAL FRAMEWORK

2.2.1 THE AUTHORITIES

The “State Party” is represented by the Department of Archaeology, under the Ministry of Culture. Management, however, needs to be carried out by the Galle Heritage Foundation through Heritage Managers specific to each of the task, leaving the Department of Archaeology with the task of coordination and monitoring and retaining responsibility for the site.

Central Government
The authority within the central government that is responsible for heritage conservation (and the World Heritage Site) is the Department of Archaeology (DoA), under the Ministry of Culture and Arts. The DoA also has a provincial office at Galle Fort, which is responsible for restoration and conservation works and the implementation of the regulations imposed through the Antiquities Ordinance.

The authority within the central government that is responsible to bring all the stakeholders and partners under one umbrella for effective conservation and management of the property is the Galle Heritage Foundation, which was created in 1994 under an Act of Parliament.

The preparation and implementations of the planning and policy guidelines at the central government level is vested with the Urban Development Authority (UDA). The development guidelines of the Galle World Heritage Site have been prepared by the UDA which are being implemented through a special planning committee established for Galle Fort. It is therefore necessary to coordinate the development regulations through the Galle Heritage Foundation.

Local Government
The Galle Municipal Council established under the Municipal Councils Ordinance No. 17 of 1865, with the objective of providing better developed roads, health facilities and public utility services to the public to preserve environmental values and historically proud heritage. The development regulations imposed by the Urban Development Authority is implemented through the Galle Municipal Council. It is therefore necessary to coordinate the development regulations through the Galle Heritage Foundation.

“Task Managers”
With amendments to the Galle Heritage Foundation Act, it is expected to hand over the full responsibility of the Management of the site to the Galle Heritage Foundation.
(GHF). Within the proposed new institutional framework of the GHF, it is proposed to appoint Task Managers, specific to each task under the Galle Heritage Foundation.

2.2.2 THE TASK MANAGERS

The Task Managers will be at local level the most appropriate officers for the task, to be handling a specific division or subject.

The Task Managers for the tasks would be:

- Management of Ancient and Protected Monuments and rectifying inappropriate constructions.
- Management of New Development and reuse of buildings
- Management of Tourism Development including the provision of tourism related services
- Management of the common amenities including environmental protection.
- Management of the use of public spaces including traffic
- Management of social welfare with public participation and public awareness

Responsibilities of the Task Manager:

- to coordinate the implementation of the applicable legislation;
- to coordinate with all relevant “actors” within the WHP;
- to carry out weekly monitoring and prepare weekly monitoring reports;
- to send a representative to participate in the monthly Coordinative Working Committee meetings and report on the state of each activity;
- to review and revise the Plan of Action and prepare Annual Action Plans;
- to participate in awareness raising on protection of heritage values;
- to carry out risk management and emergency response to disasters
2.2.3 COORDINATIVE WORKING COMMITTEE

The integrated management of the site will be carried out by the Coordinative Working Committee (CWC), which is chaired by the Department of Archaeology and comprised of all task managers and members from each institution responsible for the site together with professionals of respective activities and representatives of the community living within the WHP. The Coordinative Working Committee will have its secretariat located within the office of the Galle Heritage Foundation.

Coordinative Working Committee (CWC):
The Coordinative Working Committee (CWC) is the key institution for the integrated management of the World Heritage Property of Old Town of Galle and its Fortifications. The CWC is chaired by the Head of the World Heritage Section of the Department of Archaeology with all task managers and members representing each of the institution responsible for the site, appointed professionals related to each of the activities and representatives of the community living within the WHP.

The CWC shall meet at regular intervals not exceeding two months and may call upon emergency meetings when necessary. When found necessary, the CWC may invite representatives from related government authorities, line agencies and experts to their regular or emergency meetings.

Responsibilities of the Coordinative Working Committee:
- to hold meetings at regular intervals not exceeding two months,
- to coordinate and monitor the progress of implementing IMP;
- to coordinate the implementation of the applicable legislation;
- to coordinate the activities of the Heritage Managers and the other responsible institutions;
- to coordinate with related government authorities, line agencies and experts;
- to supervise site monitoring, receive reports from the Site Managers and give necessary instructions for site implementation;
- to coordinate response to emergency situations after disasters;
CWC Secretariat:

The Coordinative Working Committee Secretariat will be the focal point for the integrated management of the World Heritage Site of Old Town of Galle and its Fortifications. The CWC Secretariat will look after the administration of the CWC and call regular and emergency meetings.

The Galle Heritage Foundation is responsible for running the CWC Secretariat within their premises. The CWC Secretariat will have a designated office, which will also serve as a documentation and information centre for the World Heritage Site of Old Town of Galle and its Fortifications.

Responsibilities of the CWC Secretariat:

- to work as a focal point for all aspects of integrated management of the WHP;
- to coordinate and implement all administrative activities of the CWC;
- to call regular and emergency CWC meetings;
- to prepare and distribute minutes of all CWC meetings;
- to record and document the progress of implementing the IMP;
- to run a documentation centre and information centre for the World Heritage Site of Old Town of Galle and its Fortifications.
2.2.4 ASSOCIATED AUTHORITIES

There are government authorities from other sectors that carry out work within the site. Through the adoption of the Integrated Management Framework by the State Party at cabinet level, associated authorities (ministries, departments and line agencies) are made party to the implementation of the Integrated Management Plan. The State Party will notify all associated authorities, simultaneously establishing a consultation and conflict resolution process.

The *Galle Heritage Foundation* is the key institution in managing the WHP which comes under the *Ministry of Culture*. The *Department of Archaeology* which functions under the *Ministry of Culture* is responsible for the conservation and protection of Ancient and protected monuments and the control of the development activities within the fort and in the buffer zone.

The *Urban Development Authority* of the *Ministry of Urban Development* is responsible for the physical planning, infrastructure development and land use as well as the enforcement of laws pertaining to building regulations within the WHP. UDA has prepared the building Regulations for the development works within the WHP.

The *Galle Municipal Council* which comes under the *Ministry of Local Government* is responsible for the development of roads, provision of health facilities and public utility services and for the provision of public prosperity and welfare and preserve the environment and the historically proud heritage of the WHP. The development regulations imposed by the Urban
Development Authority is implemented through the Galle Municipal Council.

The Deputy Inspector General of Police, who come under the Ministry of Home Affairs, is responsible for the local Police force and is involved in the enforcement of the building regulations and dealing with other legal issues.

Tourism is one of the main sources of income for the WHP and tourism is dealt by the Sri Lanka Tourism Development Authority under the Ministry of Tourism and the Southern Tourism Bureau which comes under the provincial council.

Various development and infrastructure projects are carried out within the WHP by the Galle Municipal Council, Water Supply and Drainage Board, the Lanka Electricity Company, the Road Development Authority, Sri Lanka Telecom, the Urban Development Authority and other state authorities.

![View from the Clock Tower](image1)

![Dutch Reform Church](image2)

![Administrative Buildings](image3)

![Street House](image4)
2.3 LEGAL FRAMEWORK

2.3.1 LEGISLATION and LEGAL PROVISIONS

The principle Act relevant to the conservation of heritage is the Antiquities Ordinance of 1940 and its subsequent amendments. There are various other Acts that directly or indirectly address heritage conservation issues, which should augment - however often contradict - the principle Act.

**Antiquities Ordinance No. 9 of 1940 and Antiquities Amendment Acts of No. 2 and 22 of 1955 and No. 24 of 1998**

The legislation for the conservation, protection and management of cultural property is based on the Antiquities Ordinance No. 9 of 1998 and its subsequent amendments in 1955 and 1998. The Antiquities ordinance gives the **Department of Archaeology** the legal provisions to declare a monument as an ancient monument and any ancient monument in the private ownership in danger of destruction or removal, or damage from neglect or injudicious treatment as a protected monument. According to the Antiquities Ordinance any monument which dates or may reasonably be believed to date from a period prior to the 2nd day of March, 1815, and also any other monument which has existed or is believed to have existed for a period of not less than hundred years, which has been declared to be an ancient monument by an Order published in the Gazette could be identified as an ancient monument. Department of Archaeology also has control over the immediate vicinity of an Ancient or Protected monument as the Department has powers to make regulations for prohibiting or restricting, subject to the prescribed conditions, the erection of buildings or the carrying on of mining, quarrying, or blasting operations on any land within a prescribed distance of any ancient monument situated on Crown land or any protected monument in accordance with the Antiquities ordinance. In keeping with these provisions, the Department of Archaeology is consequently responsible for the protection of ancient and protected monuments, including the prescription of building Regulations, approving requests for building permits and for any other construction activities within the protected zone which now stands as 400 yards. The Department of Archaeology is given the authority to stop inappropriate and/or illegal building activities.
The World Heritage Site of the Old Town of Galle and its Fortifications have been included as an ancient monument since the fortifications have been built prior to the 2nd March 1815 and the 400 yard protection zone has been gazetted under the provisions of the Antiquities Ordinance. Although few houses which have been built before 02nd March 1815 could be categorized as Ancient monuments none of the houses has been declared as protected monuments. The Department of Archaeology is therefore responsible for the preservation of the area comprising the property inscribed on the World Heritage List together with houses which remain as private properties.

In respect to the protection of the World Heritage Property, further amendment to the antiquities Ordinance has been found necessary. This is particularly so in respect obtaining a consensus among the authorities with regard to protection and development of the WHP. Since there are six cultural world heritage property in Sri Lanka Antiquities Ordinance will be amended to incorporate special regulations on the preservation and protection of World Heritage Cultural Sites, to provide for the delegation of responsibilities to the local government and allow for expropriation of historic buildings that are at risk of being demolished and to rectify the unauthorized changes and constructions effected in the sites. Apart from these amendments it is also felt that apart from the authority to stop inappropriate and/or illegal building activities, the Department of Archaeology will be given the authority for the demolition of unauthorized constructions and rectification of unauthorized changes made to the historic buildings.

**Galle Heritage Foundation Act No. 7 of 1994**

Galle Heritage Foundation has been already established with the aim of managing the World Heritage Site of Old Town of Galle and its Fortifications. Galle Heritage Foundation Act of 1994 will be amended to provide it with full responsibility on the Management of the World Heritage Site and also to provide Human and Financial Resources necessary to fulfill its management obligations in managing the site, to safeguard the OUV, Authenticity and Integrity. The Galle Heritage Foundation to strengthen it legally to:

- prevent uncontrolled development of the heritage area and unsuitable commercial exploitation of the area;
- implement the actions which are contemplated in the management and development plans;
- co-ordinate the activities of the Department of Archaeology, Urban Development Authority, Galle Municipal Council and such other bodies as are connected with activities pertaining to development, control and provision of services in the Heritage area;
- take appropriate action to protect the public property within the heritage area;
- promote understanding of and to encourage proper research into the Archeological, historical and environmental values of the World Heritage Site of Old Town of Galle and its Fortifications
- Manage and regulate the funds of the authority and formaters incidental thereto.

Urban Development Authority Act No. 41 of 1978

Urban Development Authority Act has made provision to promote integrated planning and implement steps to affect economic, social and physical development such controls which are necessary in regard to such area.

The UDA by gazette notification has declared the World Heritage Galle Fort as special area special and established a planning committee to scrutinize the development plans of the WHP. A special set of regulations have been prepared for the area which is being implemented through the special planning committee. After several years of the implementation of these regulations, it is proposed to revisit these regulations in order to make them simpler, applicable and the process more user friendly.

Municipal Councils Ordinance No. 17 of 1865

The Galle Municipal Council established under the Municipal Councils Ordinance is responsible for the maintenance of roads, provision of facilities and public utility services and to provide public prosperity and welfare together with the preservation of environmental values and historically proud heritage within the WHP. The development regulations imposed by the Urban Development Authority is implemented through the Galle Municipal Council. Therefore, a separate World Heritage Coordination section will be established within the Municipality to pay more attention to the needs of the heritage property.
Building Regulations
There are legal provisions for the preparation of Building Regulation by the Department of Archaeology (DoA), by the Urban Development Authority (UDA) and by the Galle Municipal Council (GMC). Since the Department of Archaeology has not prepared Building Regulations specially for WHP, the Building Regulations prepared by the UDA implemented through the GMC often contradict with the expectations of the Department of Archaeology. As such it has been felt that it is necessary to prepare and implement site specific Conservation Principles and Regulations, taking into account the provisions for the WHP as well as the buffer zones. The Department of Archaeology also has to establish specific procedures, norms and guidelines for evaluating the stability of ancient and historic properties as well.

Other Legal Issues
One of the main difficulties faced in trying to preserve privately owned historic buildings has been the practice of hereditary division of property. The historic buildings are divided up horizontally and vertically to allow all parties to share the building. There are no legal provisions to stop hereditary division of historic buildings. Legal provision for the division of buildings horizontally and vertically has to be formulated.

Dutch Commanders Residence – Current Post Office Building
2.3.2 CONSERVATION PRINCIPLES

Legal framework for the conservation and maintenance of listed monuments will be dealt in this section. Listed Monuments are all buildings and structures that have been listed and categorized in the most recent inventories prepared by the Department of Archaeology. The Guiding Conservation Principles are to be enforced for all listed monuments.

The Conservation Principles are:

• to preserve and maintain all those elements and attributes that contribute to the value of the historic building / structure for which the monument has been listed and classified in the inventory and

• to ascertain that all other elements and attributes are compatible and appropriate to the building / structure and its context

Since the conservation of listed monuments must be carried out as per the value, condition and character of the specific monument, it is not possible to formulate Regulations for conservation of historic buildings. Conservation must be carried out based on the classified inventory that defines each monument individually.

The classified inventory must contain specific information on the monuments, to allow it to be used as the basis for conservation. This means that the “elements and attributes that contribute to the value of the historic building or structure for which the monument has been listed and classified in the inventory” must be clearly stated.

This principle must be applied to all categories of listed monuments based on the irrespective criteria for classification.

The “elements and attributes that contribute to the value of the historic building / structure for which the monument has been listed and classified in the inventory” may include the overall structure, various individual elements or a specific attribute which bears witness to an important historic event or process. These elements and attributes must be conserved as strictly as possible. “All other elements and attributes” must be “compatible and appropriate to the building / structure and its context”. Once the primary elements and attributes have been preserved, the remaining elements and attributes can only be modified if these are compatible and appropriate in respect to mass (height, coverage and form) and exterior (material, colour, texture, order, scale and proportions) to the overall
monument and surrounding historic buildings.

Implementation Process
The Guiding Conservation Principles will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

Legal Provisions for Listing of Monuments:
As per the Antiquities Ordinance of 1940 with amendments, Article 16 sub-article (i) states that “The Minister may by Order in writing declare that any specified monument which has existed or is believed to have existed for a period of not less than hundred years, shall, notwithstanding that such monument does not or is not believed to date to a period prior to the 2nd day of March, 1815, be deemed to be an ancient monument for the purposes of this Ordinance”. Article 18 states “Where it appears to the Minister that any ancient monument situated on any land other than State land is in danger of destruction or removal, or damage from neglect or injudicious treatment, and that it is in the public interest that such monument should be protected, he may, subject to the provisions of section 19, by Order published in the Gazette, declare such monument to be a protected monument; and from the date of the publication of such Order, the monument to which the Order relates shall be a protected monument for the purposes of this Ordinance”.

Criteria for Classification of Monuments:
According to the Antiquities Ordinance - "monument" means any building, or other structure or erection, or any tomb, tumulus or other place of interment, or any other immovable property of a like nature or any part or remains of the same or any other site where the material remains of historic or prehistoric human settlement or activity may be found; and includes the site of any monument and such portion of land adjoining such site as may be required for fencing or covering in or otherwise preserving any monument. It further states that - "ancient monument" means any monument lying or being found in Sri Lanka which dates or may reasonably be believed to date from a period prior to the 2nd day of March, 1815, and includes any other monument which has been declared to be an ancient monument by an Order published in the Gazette under section 16”

The Department of Archaeology have adopted a policy in identifying monuments it have to be classified by collecting, recording
and registering their complete historical records and information available as far as possible. In doing so, the aspects of antiquity, art, rarity, historicity, cultural and religious importance etc. of those monuments have to be considered. This identification has been carried out by conducting a Sites and Monument Record (SMR).

According to the present classification of ancient monuments there are four distinctive classifications under the ownership. They are:

a) Ancient monuments that are under the ownership of the Department of Archaeology

b) Ancient monuments that are under the ownership of other Government Institutions

c) Ancient Monuments which are under the private ownerships which have been declared as Protected Monuments

d) Ancient Monuments which are under the private ownerships which are not declared as Protected Monument

**Format for Recording Monuments:**

For the purpose of classifying ancient monuments in the WHP on the basis of importance and ownership, in order to provide conservation principles, the following format for preparing the description and records of monuments is proposed:

1. Address, cadastral no. and on-map location of the monument site;

2. Monument’s Ownership: if public – under what agency / body, if private – name of landlord / owner, if monument – the current use / function;

3. Monument’s photograph;

4. Name of the person who constructed and established the monument, the date of establishment and historical description; whether the renovation has been done or not, the description of renovation if any, associated system and management;

5. The significance of monument and its important elements: **elements and attributes that contribute to the value of the historic building / structure for which the monument has been listed**;

6. Building materials and current physical condition of monument

This record should be carried out by the Galle Heritage Foundation on the supervision and advice of the Department of Archaeology.
2.3.3 BUILDING REGULATIONS

This section deals with the legal framework for non-historic buildings and the construction of appropriate buildings on empty plots. Priority will be given to the conservation of buildings that have been inventorised, but not classified. Two distinct sets of regulations are provided, differentiating between the area within the Site and the buffer zone. The legal provisions for the buffer zones have to be synchronized with existing municipal zoning regulations, wherever possible.

**Within World Heritage Site boundaries**

These Building Regulations have been specifically prepared for the World Heritage Site and are an integral part of the Urban Development Authority regulations. The responsibility for the enforcement of these regulations lies with the respective Task Managers of the Galle Heritage Foundation supported by the Department of Archaeology, Urban Development Authority and the Galle Municipal Council.

**Within the Buffer Zones**

The buffer zone has similar regulations, however focusing more on the impact these buildings would have, rather than the value of the buildings themselves.

However, it is of paramount importance to keep in mind that no activities should be allowed within the buffer zone that might negatively impact the outstanding universal value of the WHP. These might be activities or construction that affects the elements and attributes of the WHP; visually, by means of pollutants, noise or smell, or changes the traditional character of the place.

**Implementation Process**

The Building Regulations will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

**Content of Building Regulations:**

The Building Regulations will address the following issues:

- the positioning of the building on the plot;
- the response to neighboring buildings and public spaces;
- the volume and size of the building;
- the overall building form including projections and roof;
- the scale of the building and the floors,
- including cornices;
• the materials;
• the colour and texture;
• the essential construction details;
• the openings;
• the plinth;
• the services, including water, sewage, waste, electricity, telecommunication, drainage, their connections and visual impact;
• the usage and functions;
• building styles if relevant;

The Building Regulations will also address the following circumstances:
• demolition of existing buildings;
• division of existing buildings;
• reconstruction and the reuse of materials;
• extensions, both vertical and horizontal;

However the existing regulations (Annex 1) have to be revisited.

2.3.4 RECTIFICATION GUIDELINES

The “Guidelines for Rectification of Inappropriate Buildings” provide the legal framework for rectifying existing buildings specially unauthorized and buildings that have a negative impact on the elements and attributes that contribute to the Outstanding Universal Value of the World Heritage Property.

The basic principle of the rectification guidelines is:

• to remedy those elements and attributes of inappropriate buildings that contribute negative impact on the value of the surrounding historic context;
• specifically focusing on compatibility of mass (height, coverage and form) and exterior (material, colour, texture, order, scale and proportions)

Inappropriate buildings must be rectified to fulfill the following conditions, however keeping in mind the basic principles mentioned above:

Mass
• Must not be higher than the neighboring historic buildings or must comply with the relevant article in the Building Regulations;
• Must not cover areas that are not within the plot, with the possible exception of sloping(non cement concrete) roof projections;
• The overall form of the building must be compatible to neighboring
historic buildings or must comply with the relevant article in the Building Regulations for roof, balconies, projections, etc.

**Exterior**

- The materials, colour and texture of all elements of exposed facades or facades that could be exposed in the future must be compatible to neighboring historic buildings or must comply with the relevant article in the Building Regulations;
- The order of elements of the main facades and of the elements themselves must comply to traditional rules;
- The scale and proportions of the main facades must be rectified to whatever degree possible to reduce their negative impact on any adjacent historic buildings

**Implementation Process**

The Rectification Guidelines will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

**Inappropriate Buildings:**

Inappropriate Buildings can generally be understood as those buildings that do not correspond to any of the traditional styles of architecture normally understood to be found within the World Heritage Site of Old Town of Galle and its Fortifications and do not correspond in scale, height, façade (material, colour, texture) with the surrounding historic buildings.

**Application:**

The conservation of historic buildings will be given priority before the rectification of inappropriate buildings. The implementation of the Guidelines for the Rectification of Inappropriate Buildings will only be valid for buildings and structures built before the date in which this management plan comes into effect, and should not be used to legitimize illegal construction in the future. The implementation process will take into account the legal status of the inappropriate building. The guidelines are to be implemented with authorization of the Department of Archaeology. Financial subsidies should be provided for the rectification of inappropriate buildings.
2.3.5 DEVELOPMENT GUIDELINES

The “Development Guidelines” address the need for an appropriate approach to conserve the identity of the public and semi-public field within the Site. The public and semi-public field encompasses the physical spaces, (urban spaces such as squares, roads, streets, courtyards and natural environment, etc.), the intangible heritage linked to these physical spaces and the public services and infrastructure that support the WHP. These guidelines are to be read in conjunction with the “Guiding Conservation Principles for Listed Monuments” and the “Building Regulations”

A close cooperation of authorities responsible for the WHP is needed for the implementation of the Development Guidelines. Often these authorities are not concerned with the conservation of the historic context of the WHP. The Task Managers will take the lead role to coordinate such activities. The involvement of the Coordinative Working Committee is essential in ascertaining the awareness and compliance of related government authorities, line agencies, private parties and residents. The coordination and cooperation between the various officers of the municipality must also be guaranteed.

**Content of Development Guidelines**

The Development Guidelines will address the following issues:

**GENERAL**
1. Identity
2. Encroachment
3. Empty Plots
4. Temporary Structures
5. Construction Sites
6. Risk Management

**INFRASTRUCTURE / SERVICES**
7. Traffic Planning
8. Paving
9. Surface Rain Water Drains
10. Sewer Pipes
11. Water Supply
12. Electrical Supply
13. Street Lighting
14. Telecommunication and TV
15. Mechanical Installations
16. Solid Waste Management

**FUNCTION**
17. Traditional Use
18. Commercial Use
19. Commercial Signage
ENVIROMENT and GREENS
21. Ramparts and Bastions
22. Urban Greens
23. Natural Environment

Implementation Process

The Development Guidelines will be accompanied by a detailed implementation process clearly defining the authorities, the flow of information and the decision making and monitoring provisions.

New Constructions

Unsuitable Alterations

2.4 ECONOMIC FRAMEWORK

The economic framework needs to be organized and coordinated together with the inclusion of potential partners. The conventional income sources and funding mechanisms need to be institutionalized (entry fees for tourists, taxation and funding from the government as well as international partners). New funding sources need to be investigated together with potential partners who have a stake in heritage conservation (from the tourism and industry sectors). The financial involvement of the community is essential for the sustainability of conservation projects. However, this should be closely linked to incentives provided and facilitated by the government (tax reductions, grants and soft loans). An important component to provide incentives would be free technical assistance and restoration experts.

Galle Fort
2.4.1 FUNDS FOR SITE MANAGEMENT

The implementation of the Integrated Management Plan is dependent on the functioning of the Task Managers and the Coordinative Working Committee. It is therefore critical that funds are allotted annually for the administrative costs by the respective Task Managers and the Galle Heritage Foundation.

The administrative costs of managing the World Heritage Property must be borne by the Galle Heritage Foundation as a large part of the tasks determined for site management of the WHP are to be implemented by the Central Government. The funding for running the Coordinative Working Committee Secretariat will be borne by the Galle Heritage Foundation. The CWC meetings would generally be carried out at the office of the Galle Heritage Foundation. The necessary funds would be made available by the Government in the annual budget of the Foundation. Income by way of sufficient visitor fees and heritage tax would be appropriate to cover their administrative costs.

The proposed World Heritage Section of the Department of Archaeology once the Antiquities Ordinance is amended, will have an annual budget that allows them to carry out their tasks of coordinating, implementing and monitoring the activities laid down in the Integrated Management Plan.

2.4.2 FUNDING

Most conservation efforts are being funded through conventional channels till today; either directly by the government or by international “donors”. A large segment of potential partners has not been drawn on.

**Central Government**

The budget allocated by the central government directly to the Galle Heritage Foundation is Rs. 16 million for the fiscal year 2015. Since this covers mainly the administrative costs of the Foundation, increased allocations should be provided to cover the costs that are to be born for the implementation of the management Plan.

**Conservation Assistance Fund**

Since there will be numbers of conservation and rectification programmes to be implemented for the better preservation of
the WHP, a **Conservation Assistance Fund** under the Galle Heritage Foundation is proposed to be established. This Fund is to be established to provide partial funding for the restoration of private historic buildings and to provide financial assistance for the rectification of buildings where appropriate. Provisions have also been made to allow for the funds to be utilized for the expropriation of historic buildings that are in threat of being destroyed. This is usually when owners are not willing to implement restoration even after being provided financial assistance.

**International Partners**

International partners have been involved in the restoration of numerous monuments and documentation of buildings. The funding through International Partners will remain essential, even when local funding mechanisms have been established.

**Local Institutions and NGOs**

There are several local institutions and NGOs involved with heritage conservation. However, the full potential of these organisations have not been tapped yet. It is proposed that the Galle Heritage Foundation should have a programme of obtaining assistance from the Local Institutions and NGOs for the conservation and management of the WHP.

**Community and Philanthropists**

The involvement of the community in conservation has been considered essential, especially in respect to religious and private buildings. The sense of ownership must be cultivated to allow for long term sustenance of the World Heritage areas. Traditionally, the communities have participated in conservation by contributing labour. However, collection of funds from the community has also been a traditional practice, especially the monetary contribution of individual philanthropists. This practice may need to be considered for the conservation of non-listed monuments.

**Financial Institutions**

Local banks and finance companies would have an important role to play in supporting the local economy within the WHP and providing appropriate loans for private restoration projects. This resource has not been utilized to a great degree due to the fact that financial institutions have not given any priority to this sector and have not been given incentives for funding heritage conservation projects.
2.4.3 INCOME
Most conservation efforts are being funded through conventional channels till today; either
directly by the government or by international “donors”. A large segment of potential partners
has not been drawn on.

Tourism
Tourism is the most obvious source of income for any heritage site. In the case of Galle Fort, tourism has been the driving force behind heritage conservation, often dictating the local economy. Up to now this source of income has not been utilized for heritage conservation within the WHP of Galle. As such it is proposed to harness this income source by way of either imposing an entrance fee or by levying a Heritage tax for the services rendered for the tourists within the WHP.

Local Economy
The local economy within the WHP is geared towards Tourism. But it is questionable most of the income for the foreign visitors specially the full or half board services are directly derived through the international market hence the return to the local economy has been limited. As such it is felt a mechanism has to be established to obtain such income for the benefit of the local economy as the success of conserving historic buildings will depend on a flourishing local Economy.

Taxation
Taxation within the WHP must be seen as potential tools for providing incentives to owners to conserve historic buildings.

The various forms of taxation are as follows: The central government taxation is based on direct and indirect taxation. Direct taxation would mean personal taxes and company or corporate taxes. Indirect taxation is based on VAT. In addition to these, there are various service charges and fees. Relevant is, for example, the fees pertaining to the purchase and sale of property.

Municipal taxation consists of house and land tax or integrated property tax, vehicle entrance tax, rent tax, business tax, entertainment tax, advertisement tax, etc. In addition to these taxes, there are service charges and fees. Especially relevant are the building permission fees.
3. IMPLEMENTATION

3.1 INSTITUTIONALISATION

The implementation of the Integrated Management Plan is an ongoing process that requires regular review, amendment and detailing of action plans. It is therefore necessary to institutionalise this process and guarantee its continuation. This requires the State Party to establish the necessary institutional, legal and economic framework for the implementation of the Integrated Management Plan.

3.1.1 ESTABLISHMENT OF FRAMEWORKS

INSTITUTIONAL FRAMEWORK

Task Managers

To identify and establish Task Managers specific to each Task -

The Task Managers will be the local level authority appropriate for the task which is specified. The Task Managers need to be given adequate capacity building and training to be in a position to fulfill their tasks. The Task Managers will take on the lead role of managing the WH areas in close collaboration with the Galle Heritage Foundation. The Task Managers will coordinate with all relevant “actors” within the WHP and carry out weekly monitoring and reporting. Regular review meetings are to be held. In case of any crisis situation, the Task Managers will report directly to the Coordinative Working Committee Secretariat.

Coordinative Working Committee

To establish a Coordinative Working Committee for the implementation of the Integrated Management Plan -

The Coordinative Working Committee, which is to be chaired by the Department of Archaeology, shall comprise of all task managers and members representing each of the institutions responsible for the site, appointed professionals related to each of the activities and representatives of the community living within the WHP. The Galle Heritage Foundation is responsible for running the Coordinative Working Committee Secretariat. Meetings will be held at regular intervals not exceeding two months. The Coordinative Working Committee will be responsible for monitoring the progress of implementing the Integrated Management Plan. The Coordinative Working Committee will also
take on the role of being the authority to deal with crisis situations.

Cooperation among Authorities Responsible for the WHP

*The State Party shall coordinate work between the various authorities involved in protection, conservation and development works within the WHP* -

This is especially so in respect to the following authorities: Department of Archaeology (as principle institution) / Galle Heritage Foundation - (as implementing Authority of the Management Plan) / Central Cultural Fund (as service providing institution for conservation activities and maritime archeology), Urban Development Authority (as the planning authority), Water Supply and Drainage Board, Galle Municipal Council (as executive authorities), Sri Lanka Ports Authority / Coast Conservation Department (as the authorities’ responsible for the Development of Galle Port and Conservation of Coast around the Dutch Fort), Sri Lanka Tourism Development Authority.

**LEGAL FRAMEWORK**

**Amendment of Acts and Regulations**

*To amend related contradictory Acts and ascertain that there are no overlapping authorities -*

- To amend related Acts and ascertain that there are consensus among the authorities with regard to protection and development of the site if the acts are found contradictory.
  
  ➢ *This would provide the Galle Municipal Council to take full responsibility with regard to protection and development of the site*

- To have amendment to the Antiquities Ordinance to incorporate special regulations on the preservation and protection of World Heritage Cultural Sites of Sri Lanka
  
  ➢ *This would provide consensus among the authorities with regard to protection and development of the WHP, will incorporate special regulations on the preservation and protection of World Heritage Cultural Sites to provide for the devolution of responsibilities to the local government and allow for expropriation of historic buildings that are at risk of being demolished, will provide powers to rectify the unauthorized changes and constructions effected in the sites, and will provide the authority for the demolition of unauthorized*
constructions apart from the authority to stop inappropriate and/or illegal building activities and will provide authority for the rectification of inappropriate changes made to the historic buildings.

- To provide for the amendment of the Galle Heritage Foundation Act
  - This will provide full responsibility to the Foundation on the Management of the World Heritage Site and will also provide Human and Financial Resource necessary to fulfill its management obligations in managing the site to safeguard the OUV, Authenticity and Integrity. It is advisable in order to provide full responsibility on the Management of the World Heritage Site that the Galle Heritage to be provided with more powers to prevent uncontrolled development of the heritage area and unsuitable commercial exploitation of the area; cause carrying out of the works as are contemplated in the management and development plans; co-ordinate the activities of the Department of Archaeology, Urban Development Authority, Galle Municipal Council and such other bodies as are connected with activities in regard to development, control and provision of services in the Heritage area; take appropriate action to protect the public property within the heritage area; promote understanding of and to encourage proper research into the Archeological, historical and environmental values of the World Heritage Site of Old Town of Galle and its Fortifications; and for the management and control of the Authority Fund, and for matters incidental thereto.

Regulations and Guidelines

To prepare and enforce Regulations and guidelines specific to each WHP and respective buffer zone -

The Regulations and guidelines will address the necessity for conservation and controlled development of all components of the WHP. As such it is necessary to prepare and implement site specific Conservation Principles and Regulations, taking into account the provisions for the WHP as well as the buffer zones and also to establish specific procedures, norms and guidelines for evaluating the stability of ancient and historic properties as well.
ECONOMIC FRAMEWORK

Administrative Expenses

*To ascertain the funds required to cover administrative costs for the implementation of the Integrated Management Plan.*

The Galle Heritage Foundation is responsible for management of the WHP. As such it is responsible for meeting entire administrative expenses required for the management of the Site as well as the expenses of the Coordinative Working Committee Secretariat and for the functioning of the Task Managers to monitor and report on the tasks to the Coordinative Working Committee.

Economic Incentives

*To develop a clear strategy for using economic incentives in the form of subsidies, grants and soft loans for the conservation of privately owned historic buildings.*

The financial involvement of the community is essential for the sustainability of conservation projects. However this should be closely linked to incentives provided and facilitated by the government through a Conservation Assistance Fund established under the Galle Heritage Foundation for partial funding for the restoration of private historic buildings and to provide financial assistance for the rectification of buildings where appropriate. Provisions have also to be made to allow for the funds to be utilized for the expropriation of historic buildings that are in threat of being destroyed. This is usually when owners are not willing to implement restoration even after being provided financial assistance. An important component to provide incentives would be free advice for the preparation of development plan, technical assistance and restoration experts during the conservation programme of the ancient and protected monuments.

Provisions need to be made for funding agencies to become involved in the restoration of private buildings. Provisions should also be made for banks and finance companies to offer loans for restoration projects.

Funding Sources

*To develop sustainable funding mechanisms*

The economic framework needs to be organized and coordinated together with the inclusion of potential partners. The conventional income sources and funding mechanisms need to be institutionalized. (Entrance fee or by levying a Heritage tax for the services rendered for the tourists within the WHP, taxation and funding from the government as well as international
partners). New funding sources need to be investigated together with potential partners who have a stake in heritage conservation (from the tourism and industry sectors).

Public Private Partnership

To develop sustainable Public Private partnership mechanisms

PPP refers to arrangements, typically medium to long term, between the public and private sectors whereby some of the services that fall under the responsibilities of the public sector are provided by the private sector, with clear agreement on shared objectives for delivery of public infrastructure and/or public services. As such a mechanism will be formulated to obtain private partnership for the provision of services within the fort with the collaboration of the private sector organizations specially the hotels and the foreign residents of the fort.

3.1.2 PLAN OF ACTION

The Plan of Action is a formulation of specific tasks that need to be accomplished to achieve the Key Objectives of the Integrated Management Plan. These tasks or actions are planned taking into account the implementing authority, the time scale and funding sources.

Plan of Action

A “Plan of Action for Integrated Management” is to be developed and annually updated based on the Integrated Management objectives identified in Part 1.3. For each action, the lead agency, timescale and funding source need to be indicated. Furthermore, indications need to be made for those actions that require interim measures.

Preparation and updating of the Plan of Action is to be carried out by the Coordinative Working Committee, comprising the Department of Archaeology, and the Task Managers.

Annual Action Plan

Based on the overall Plan of Action, detailed Annual Action Plans will be prepared to implement tasks within the framework of this integrated management plan, both at integrated level as well as at Task Management level and hold annual review meetings to check progress. These Annual Action Plans will coincide with the official fiscal year starting at the beginning of January each year. The period till end December, 2015 will be considered the Interim Period.
The first Annual Action Plan will be prepared by the Coordinative Working Committee for the fiscal year 2016.

**Actions**
The Actions are to be formulated based on the management objectives. The Actions need to be specific and realistic with a clear understanding of how they will be implemented.
The Actions will be categorized under the headings used for the formulation of the objectives:
A. Identification of WHP and its values
B. Legislation
C. Planning and Policy
D. Operationalising Site Management
E. Community and Awareness
F. Visitors
G. Information and Research
H. Sustainability of Management

**Lead Agency**
For each Action a Lead Agency under the coordination of the Galle Heritage Foundation needs to be determined that will be responsible for implementation. The indicated Lead Agency must be involved in the formulation of the action to allow it to take on full responsibility for carrying out the action.

**Time Scale**
For each Action, a time scale needs to be indicated. The Time Scale needs to indicate approximately when the Action needs to start and when it needs to end (with respective indicators). Certain Actions may be part of a continuous process and need to be indicated as such.

It is important that the Plan of Action does not only concentrate on immediate actions, but it should also be used as a tool for medium and long term planning. Each action needs to be identified in respect to the Time Scale

**Funding**
For each Action, a source of funding needs to be indicated. For actions requiring international funding, sources that are to be approached are to be indicated.

### 3.1.3 INTERIM MEASURES
The interim measures are tasks and actions that need to be carried out immediately to halt any further degradation of the state of conservation during the period of establishing the integrated management structure and processes.

**ISSUE A. Identification**
The definition in respect to the relevant criteria for inscription, outstanding universal value, authenticity, integrity, boundaries and buffer zones of the World Heritage Site of Old Town of Galle and its Fortifications approved by the World Heritage Committee at its 13th Session in 1989 must be legally established.

**ISSUE B. Legislation**
Until amendments to the relevant acts are approved, the cooperation between the Department of Archaeology, Galle Heritage Foundation, Urban Development Authority, Galle Municipal Council and other relevant Authorities should be cultivated. A special committee should be appointed by the Urban Development Authority to exercise the fusions of the Coordinative Working Committee (CWC) stipulated in this plan until such time the Galle Heritage Foundation act is amended and the Coordinative Working Committee established.

Until the preparation of the site specific guiding conservation principles and Regulations for the World Heritage Site as well as the buffer zones, the Regulations prepared by the Department of Archaeology and the Urban Development Authority must remain applicable and been forced.

**ISSUE C. Planning and Policy**
During the interim period, efforts will be made to conserve privately owned historic buildings, giving the understanding that the provisions for incentives in the future would be beneficial for them.

During the interim period, until the preparation of development guidelines in keeping with the community requirements to create a more sustainable development within the WHP with regard to the adaptive re-use of the non protected buildings, dilapidated buildings and unused building plots, current planning guidelines will be re-visited and adhered.
ISSUE D. Operationalising Task Management
The identification and establishment of Site Managers specific to each Task should be considered one of the first priorities. Galle Heritage Foundation will be provided with additional staff immediately to be appointed as Task Managers by the Ministry of Culture. However, until then; the Department of Archaeology will remain fully involved in managing the area. This would continue until the Task Managers are trained and have sufficient capacity to carry out their duties.

The weekly monitoring for each task should commence even before the regular reporting system has been set up. Reporting should be done to the special committee appointed by the Urban Development Authority.

ISSUE E. Community and Awareness
Community involvement and awareness programmes are important components of the process of establishing the Integrated Management structure. Such activities should be programmed into the interim period.

ISSUE F. Visitors
To ensure that no unnecessary waste of resources and possible negative impact on the World Heritage area is incurred, focus will be given on developing a sustainable strategy for marketing the WHP for visitors and providing them with quality facilities and site interpretations before any major actions are undertaken in this respect. A code of ethics will be formulated and enforced with regard to the behavior of service providers and visitors.

ISSUE G. Information and Research
The collection and storing of all information on the WH property and related issues should be an ongoing process, even if the digitizing and formatting only takes place once the Documentation Centre is established. This will be closely linked to the recording of all research work that is ongoing within the WHP.

ISSUE H. Sustainability
The strategy for funding the implementation and consolidation of the Management Plan would be vital for establishing the Management Plan. A medium term implementation schedule with regular reviews will be finalized immediately.
3.2 SECTOR-WISE COORDINATION

The Sector-wise Coordination is an integral part of the Integrated Management. Strategies need to be developed to function as a cross-cutting feature of all activities carried out within the World Heritage Site.

The two major sectors are; Tourism and Local Development. However in implementing the Integrated Management, further sectors might need to be focused on in detail. These might include such Sectors as: Education, Health, Agriculture, Environment and Housing. The various components addressed under Local Development might need to be considered as separate sectors, such as Roads, Services, Risk and Disaster management, and Security

3.2.1 TOURISM SECTOR

The Tourism sector plays a major role in heritage conservation, both as a source of income as well as to gain acknowledgement for the heritage. However, without appropriate management of Tourism, it can have a negative impact on the property.

The Tourism Master Plan must address the issues of heritage conservation. In respect to the actions that might impact the outstanding universal value of the World Heritage Property of Old Town of Galle and its Fortifications, the Integrated Management Plan will be given priority over other plans and programmes. Regular interaction must be established between the authorities implementing the Tourism Master Plan and those responsible for the Integrated Management Plan.

Major Actors

The major actor in the Tourism sector is the Sri Lanka Tourism Development Authority that represents both the government and the private sector entrepreneurs associations. The Tourism sector is dealt with by the Ministry of Tourism. The national level tourism organisations and associations are; The Hotels Association of Sri Lanka, The Sri Lanka Tourist Hotel Association, The Travel Agents Association of Sri Lanka, The Sri Lanka Tourist Driver Association, The Chauffeur Tourist Guide Lecturers Association of Sri Lanka
The national and international airlines are represented by the Sri Lanka association of airline representatives and IATA Agents Association of Sri Lanka.

**Key Issues**
The key issues of the Tourism sector that are related to heritage conservation are:

- the marketing of the World Heritage Site of Old Town of Galle and its Fortifications for tourists is based on its unique cultural heritage. However the tourism sector has not sufficiently contributed to its protection and conservation;
- the income generated through tourism is not at all reinvested into conservation,
- tourist facilities such as toilets and information centres are not adequate.
- tourist guides are not sufficiently trained and there is no control of accuracy of information conveyed to tourists;
- the negative impact of tourism such as the changing local economy and inappropriate behavior around heritage sites is neither recorded nor responded to.

**Sub-objectives**
Based on the key issues determined above, the sub-objectives for the Tourism sector are:

- to ascertain the involvement of the Tourism sector in the conservation of the cultural heritage, in respect to financing, marketing and improving tourist facilities;
- to develop standards for tourist facilities which takes into account the preservation of the value of the heritage site;
- to monitor the negative impact of tourism in the heritage areas and develop measures
- to keep it within acceptable limits specially the social effects specially of their behavior

**Strategies and Actions:**
The Tourism sector should become a key partner in the conservation of the heritage sites. This will allow a close synergy to develop between the two sectors. The Sri Lanka Tourism Development Authority should take the lead role to represent the Tourism sector.

- Include a representative of the Sri Lanka Tourism Development Authority in the Monitoring Committee;
- Develop strategies for the Tourism sector to become partners in the conservation efforts, which would include the marketing of the sites,
awareness building, co-funding of restoration, etc.;

- Develop standards for tourism facilities and detailed plans for the WHP, taking into account the preservation of their heritage value;

- Training of tourist guides and monitoring their performance to guarantee accuracy of information conveyed to the visitors;

- Include impact of tourism as an issue within the monitoring framework of the WHP.

**General development guidelines:**

Tourism development shall assist in preserving the outstanding universal value of the World Heritage Site.

The activities carried out by the Tourism sector will respect the authenticity and integrity of the WHP.

All activities carried out by the tourism sector will take into account Authenticity of Form and Design; Authenticity of Materials and Substance; Authenticity of Use and Function; Authenticity of Traditions and Techniques; Authenticity of Setting and Authenticity of Spirit and Feeling, as formulated in the Statement of Authenticity.

The tourism sector will ensure that their activities do not contribute to development that has an adverse affect on the heritage property;

The tourism sector will participate in the sustainable human development within the heritage area.

**Resource implications:**

The tourism sector is one of the main income sources of the country. Cultural heritage is one of the main attractions being marketed by the Tourism sector. Reinvestment by the Tourism sector to conserve the heritage resource should clearly become a priority.

A clear strategy should be developed to utilize the available resources from the Tourism sector to:

- ensure that the sector does not take part in any activities that would have an adverse affect on the heritage property,

- play an active part in the conservation, maintenance and improvement of the heritage properties

**Priorities for action:**

Priority should be given to the establishment of a close working relationship with the Sri
Lanka Tourism Development Authority, who should represent the Tourism sector.

- A Strategic Plan for the involvement of the Tourism sector in heritage conservation, with focus on the World Heritage property needs to be developed.

- A prioritized and detailed five year Action Plan needs to be developed in close collaboration with the Sri Lanka Tourism Development Authority.

**Monitoring indicators and targets:**
The implementation of the detailed five-year Action Plan should be closely monitored to ensure that targets are met. Clear indicators for each activity should be formulated to allow for evaluation of progress. The Action Plan for the Tourism sector should be integrated into the overall Action Plan and the monitoring should be done by the Monitoring Committee established for the implementation of the Integrated Management.
3.2.2 LOCAL DEVELOPMENT SECTOR

The Local Development sector generally encompasses infrastructure and services such as: Roads and Traffic, Water Supply, Solid Waste Management, Sewage Management, Electricity Supply and Telecommunications. However this sector would also encompass the cross-cutting issues of Environment Management, Risk Management and Security. Local Development, if not controlled, may have a major negative impact on the heritage property.

**Major Actors**

The major actors in the Local Development sector are the Department of Archaeology, Galle Heritage Foundation and the Central Cultural Fund under Ministry of Culture, Galle Municipal Council under the Ministry of Local Development, Urban Development Authority and Water Supply and Drainage Board under the Ministry of Urban Development, the Road Development Authority, the Ports Authority and Coast Conservation Department under the Ministry of Ports and Shipping, the Ministry of Tourism / Sri Lanka Tourism Development Authority and Ceylon Electricity Board under the Ministry of Power and Energy, Department of Police under the Ministry of Defense and Sri Lanka Telecom.

**Key Issues**

The key issues of the Local Development sector that are related to heritage conservation are:

- lack of coordinating body for development work being carried out within the World Heritage Property, even though the Local Development is managed by the Galle Municipal Council.
- lack of coordination and communication between the various government ministries and departments in respect to work being carried out within the World Heritage Site;
- the negative impact of Local Development around heritage sites is not being monitored and controlled.

**Sub-objectives**

Based on the key issues determined above, the sub-objectives for the Local Development sector are:

- to establish the Galle Heritage Foundation as the coordinator for all development work within the World Heritage Site, supervising Task Managers;
- to ensure the involvement of the Local Development sector in the conservation of the cultural heritage;
• to develop standards for all development works which take into account the preservation of the value of the heritage site;
• to monitor the negative impact of Local Development in the heritage areas and develop measures to keep it within acceptable limits

Operational Approach:

Strategies and Actions:
The Local Development Sector should take the lead role to coordinate works carried out by the major actors involved in the sector. They will work in close coordination with the Task Managers responsible for the protection and conservation of the WHP.

• Include a representative of the Galle Municipal Council in the Monitoring Committee;
• Develop strategies for the Local Development sector to become partners in the conservation efforts.
• Develop standards for the Local Development sector and detailed plans for HS, taking into account the preservation of their heritage value
• Include impact of Local Development as an issue within the monitoring framework of the WHP.

General development guidelines:
Local Development sector shall assist in preserving the outstanding universal value of the World Heritage areas.

The activities carried out by the Local Development sector will respect the authenticity and integrity of the WHP.

All activities carried out by the Local Development sector will take into account the followings.

Authenticity of Form and Design; Authenticity of Materials and Substance; Authenticity of Use and Function; Authenticity of Traditions and Techniques; Authenticity of Setting and Authenticity of Spirit and Feeling, as articulated in the Statement of Authenticity.

The Local Development sector will ensure that their activities do not contribute to development that has an adverse affect on the heritage property;

The Local Development sector will participate in sustainable human development within the heritage area.
Resource implications:
The government priorities of development and major resources are invested and concentrated in the Local Development sector. Close collaboration with the actors within the Local Development sector will allow for additional resources to carry out work within the heritage areas. However, these actions need to be closely monitored by the Task Managers to ascertain that they do not have a negative impact on the heritage value of the property.

A clear strategy should be developed to utilize the available resources from the Local Development sector to:
- Ensure that the sector does not take part in any activities that would have an adverse effect on the heritage property,
- Participate actively in the conservation, maintenance and improvement of the heritage properties

Priorities for action:
Priority will be given to the establishment of a close working relationship with the Galle Heritage Foundation and the Galle Municipal Council, who should represent the Local Development sector.

A Strategy Plan for the involvement of the Local Development sector in heritage conservation, with focus on the World Heritage property needs to be developed.

A prioritized detailed Action Plan needs to be developed in close collaboration with the Galle Heritage Foundation and the Galle Municipal Council initially for two years and thereafter for five years.

Monitoring indicators and targets:
The implementation of the detailed Action Plan should be closely monitored to ensure that targets are met. Clear indicators for each activity should be formulated to allow for evaluation of progress. The Action Plan for the Local Development sector should be integrated into the overall Action Plan and the monitoring will be done by the Monitoring Committee established for the implementation of the Integrated Management.
3.3 MONITORING FRAMEWORK

3.3.1 ASSESSMENT, MONITORING AND REPORTING

The periodic assessment of management efforts needs to be carried out based on a monitoring framework with clear indicators and targets.

**Periodic Assessment**

The **Coordinative Working Committee** will coordinate activities related to the establishment of the Integrated Management Plan. The committee should be chaired by the Department of Archaeology and be comprised of representatives of the local government with technical support from individual experts. The **Coordinative Working Committee Secretariat** shall be established at the Galle Heritage Foundation.

Periodic Assessment shall be carried out by the Coordinative Working Committee on the progress of implementing the Integrated Management Plan and the state of conservation of the WHP.

The Coordinative Working Committee will have a regular meeting schedule; at least once every two months. The committee would need to ensure that the activities are being carried out as per the Plan of Action, based on the detailed Annual Action Plan. The committee would also need to develop strategies for obtaining necessary funds for implementing the Action Plan.

**Task Monitoring and Reporting**

The **Task Managers** shall be responsible for the weekly monitoring of activities in the WHP and Buffer Zone. A detailed **monitoring format** shall be developed to allow for effective collection of information.

A regular **reporting schedule** shall be prepared based on the Coordinative Working Committee meetings. The information from the weekly monitoring carried out by the respective Task Managers shall be presented to the Coordinative Working Committee as notification or for necessary decisions.

For emergency cases, provisions shall be made for **emergency reporting** to the Coordinative Working Committee Secretariat.

**Annual Progress Reports** shall be prepared in conjunction with the implementation of the Annual Action Plans.
**Targets and Indicators**

An overall schedule needs to be prepared for the implementation of all the activities outlined in section 2.2.2. This would need to be formulated initially for a three year period and thereafter for five year period. The linkages and chronological order of the activities need to be closely studied. An overall review of the issues and strategies should take place initially after a three year period and thereafter a five year period.

Considering the overall schedule of activities, the targets and indicators for each task would be defined in detail. The indicators in most cases would be a document or legislation that has been acknowledged or passed by the concerned authorities, implementation of certain provisions, completion of certain specific actions or establishment of an institution, body or programme.

**REPORTING PROCESS:**

**REPORTS:**

- **ANNUAL PROGRESS REPORT**
  Based on Annual Action Plan

- **COMMITTEE REPORTS**
  Monthly / Bi-Monthly based on Weekly Monitoring Reports from individual Tasks

- **COMMITTEE REPORTS**
  Monthly / Bi-Monthly based on Weekly Monitoring Reports from individual Tasks

- **WEEKLY MONITORING REPORT**
  Carried out by the Task Managers for their respective Task as per a monitoring format

- **EMERGENCY REPORT**
  In the case of an emergency the Task Managers reports directly to the CWC Secretariat
3.3.2 MONITORING AND REPORTING SCHEDULE

The implementation of the Integrated Management Plan is to be considered in five year cycles. But since it is felt that the effects of the Integrated Management Plan has to be critically reviewed within two years, the first review is to be done in two years, commencing on 31st June 2015 and ending on 31st December 2017 were the period till end of December, 2015 shall be considered the Interim Period. Thereafter, every five years, a thorough review of the Integrated Management Plan is to be undertaken, allowing necessary amendments to be made.

On a yearly basis, work will be implemented as per the Annual Action Plan. The year is based on the Sri Lankan Fiscal Year, which begins in January. During the last three months of each fiscal year, the Plan of Action is to be reviewed and the next Annual Action Plan prepared.

The Coordinative Working Committee is to meet on a monthly basis to monitor the implementation of the Annual Action Plan and the weekly site monitoring reports of the Site Managers.

**Site Monitoring and Reporting**

**Weekly Site Monitoring** will be carried out by the Task Managers by filling out a monitoring form. This form must be filled out regularly, stating whether activities have taken place or not, whereby a detailed history of the site is documented.

**Monthly reporting** will be done to the Coordinative Working Committee. Information will be presented as notification or for necessary decisions.

**Emergency reporting** will be done directly to the Coordinative Working Committee Secretariat at the Galle Heritage Foundation.

**Annual Progress Reports** shall be prepared in conjunction with the implementation of the Annual Action Plans. The progress report will explain whether targets have been achieved based on the predetermined indicators. The indicators in most cases would be a document or legislation that has been acknowledged or passed by the concerned authorities, implementation of certain provisions, completion of certain specific actions or establishment of an institution, body or programme.
### a) Interim Period

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### b) Initial Period

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The Integrated Management Plan shall be critically reviewed and amended by 2018. The Integrated Management Plan will need to incorporate the achievements and experiences of the previous two and half years and address the issues that are predominant in that given time.

### c) Five Year Period

**2018 January – 2019 December**

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The entire Integrated Management Plan shall be reviewed and amended by 2023. The Integrated Management Plan will incorporate the achievements and experiences of the previous five years and address the issues that are predominant in that given time. The Integrated Management Plan must remain flexible and adapt itself to realize the long-term objective of protecting the outstanding universal value of the World Heritage Site of Old Town of Galle and its Fortifications.
Monumental ramparts which follow the geomorphology of the site with bastions located at strategic points in both sea and land fronts
URBAN DEVELOPMENT AUTHORITY REGULATION APPLICABLE FOR THE WORLD HERITAGE SITE OF OLD TOWN OF GALLE AND ITS FORTIFICATIONS.
APPROVAL OF THE DEVELOPMENT PLAN FOR THE MUNICIPAL COUNCIL AREA OF GALLE

PUBLIC are hereby notified that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Municipal Council area of Galle, has been approved on 24th February, 2009, by Hon. Dinesh Chandra Rupasinghe Gunawardene, Minister of Urban Development and Sacred Area Development by virtue of powers vested on him under Section 8 “F” of the said Amendment Act and it will be effective from the date of this Gazette Notification.

SANATH WEERAKOON,
Chairman,
Urban Development Authority.

“Sethsiripaya”,
Battaramulla,
04th June, 2009.
06-425/1

APPROVAL OF THE DEVELOPMENT PLAN FOR THE URBAN DEVELOPMENT AREA OF GALLE CONSTITUTED BY THE GALLE MUNICIPAL COUNCIL AREA

I, Dinesh Chandra Rupasinghe Gunawardene, Minister of Urban Development and Sacred Area Development do hereby approve the Development Plan for the Urban Development Area of Galle Municipal Council having considered the recommendation made by the Board of Management of the Urban Development Authority on 13th November, 2008 by virtue of the powers vested in me under Section 8 F of the Urban Development Authority (Amendment) Act, No. 4 of 1982.

DINESH CHANDRA RUPASINGHE GUNAWARDENE,
Minister of Urban Development and Sacred Area Development.

“Sethsiripaya”,
Battaramulla,
06-425/2
PART IV

70. Special Regulations for World Heritage City of Galle Fort
70.1
(a) These Regulations may be cited as the Special Regulations (Planning & Building) of “Galle Fort” World Heritage City - 2009.

(b) The provisions of these Regulations shall be applicable to the “Galle Special Regulatory Area” declared under Gazette Extraordinary No. 987/12 of 7th August, 1997.

70.2 The Planning and Building Regulations prepared for Galle Municipal Council Area under Section 8J of the Urban Development Authority Act. No. 4 of 1982 shall be applicable in addition to the said special regulations within Galle Special regulatory area.

70.3 Conservation Zone
In this zone shall –
(a) Maintain and conserve the architecture of the buildings and the monuments and ensure that such properties be used economically feasible; effective and in an efficient manner.

(b) Any new constructions, improvements or renovation work of buildings that changes the internal or external appearance of a building, be in harmony with the Conservation Development Plan.

(c) Regulation of any un-authorized constructions and/or any un-authorized change of use be in harmony with the provisions made in the Conservation Development Plan.

(d) The parking of vehicles be in conformity with the Traffic Management Plan prepared by the Galle Heritage Planning Committee.

70.4 Preliminary Planning Clearance
Every development activity within Galle Special Regulatory Area shall be carried out in conformity with the following:

1. Planning clearance for all development activity shall be obtained from “Galle Heritage Planning Sub - Committee” appointed by the Urban Development Authority herein after referred as the Sub - Committee”.

2. Every developer shall submit duly completed applications with the building plan to the UDA along with the processing fees.

3. All Building Plan shall be prepared and signed by a Registered Architect of the Sri Lanka Institute of Architects.

4. The developer shall also furnish the following documents:

(a) A photograph of the frontage of the existing buildings together with the buildings on either sides of the existing building.
(b) If the site is vacant, a photograph showing the frontage of the site together with the abutting sites or buildings.

(c) A copy of the Survey Plan of the specific site.

70.5 The preliminary planning clearance shall be issued within one month from the date of receiving the application. Provided, all the requirements are fulfilled, based on the recommendations of the sub-committee.

70.6 The preliminary planning clearance will not constitute a permit and shall not entitle the applicant/owner or any person authorized by the owner to commence or carry out any development activity what so ever.

70.7 Development Permit
(a) Building application shall be submitted by the applicant/owner to the Engineering Section of the Galle Municipal Council for development permit, with 05 copies of building plans together with the preliminary planning clearance for approval. Planning Committee of the Galle Municipal Council shall approve the development plan and issue a development permit to the owner/applicant to carry out the development if the plans are in conformity with the regulations.

(b) A copy of the preliminary planning clearance approval and a copy of the development permit issued by the Galle Municipal Council shall be displayed at a prominent place in the proposed site. This development permit shall be displayed and protected throughout the entire period of construction. The original of the development permit shall be made available in any time for inspection. The Galle Municipal Council may, on application and payment of prescribed fees extend the validity of the permit for a further period of not exceeding two years, if it is satisfied that the development activity referred to in the permit has been commenced but not been completed due to unforeseen circumstances.

70.8 Conservation of places of historical value
(a) No excavation within this site be carried out without a clearance from the Archeological Department.

(b) Under Section 6 of the Antiquities Ordinance (Chapter 188), the developer shall inform his intension on site preparation for development to the Archeological Office at Galle. All excavation shall be carried out under the supervision of Archeological Department and be completed within 30 days of granting the approval. If not, sub-committee may extend the validity of the permit considering the appeal for further period of not exceeding 14 days. Thereafter, Department of Archeology should complete the supervision and submit a report to the Sub Committee.

(c) Developer/owner shall pay the supervision charges to the Department of Archeology.

(d) Approval shall not be granted to demolish any buildings which have archeological value.
70.9 Change of Use

(a) All land owners of the Galle Fort Special Regulatory Area shall develop their lands as per the zoning plan of Galle Municipal Council area.

(b) No activities that are considered not compatible to the Zone such as; Government Institutions, production Industries, Stores, Offices shall be allowed within the Galle Fort area.

(c) Buildings shall be demolished, only on the recommendations of the Authorized Officers.

70.10 Permitted uses within the Galle Fort Special Regulatory Area shall be;

i) Tourism industry related handicrafts show rooms,
ii) Museums,
iii) Small Scale Hotels without swimming pool or pond
iv) Tourist gift centers,
v) Ticket issuing centers,
vi) Guest houses
vii) Small scale restaurants,
viii) Appropriate recreational activities,
ix) Bookshops,
x) Small professional offices,
xi) Art galleries,
xx) Small shops,
xiii) Gems & jewellery shops, and related cottage industry

Change of use of residential buildings for the above purposes shall maintain 35% of the building areas for residential purposes.

70.11 Following activities shall not be permitted within the “Galle Special Regulatory Area”

i. Garage Buildings (for parking)
ii. Motor Vehicle Repairing Garages
iii. Motor/Auto Service Stations
iv. Fuel Filling Stations
v. Stores not exceeding 200.0 sq.m.
vi. Industrial Buildings & Industries

viii. Quarters for a high security persons
ix. Hotels exceeding 20 rooms
x. New schools or extensions to the existing buildings
xi. Super Markets
xii. Warehouses or other similar buildings
70.12 Development of Existing buildings
Archeological and architectural interest features of the colonial period buildings within the Fort Area shall be conserved and maintained. All changes that are made without approval to the existing buildings which affects the archeological and former architectural features of the buildings shall be restored to the original design within one year from the date of direction of the UDA.

70.13 Any garage, parking or similar use for vehicle, shall not be conducted in front of the building mentioned in the above Section 70.12.

70.14 (a) No existing front verandahs of the buildings be covered or changed, to effect its appearance. Any streets with specific features given for the front of the building as verandahs or row of columns shall be maintained and continued accordingly.

(b) Any new accessories fixed instead of old handrails, carved wooden columns, doors, windows, windows slats, fan lights, or any other special features, such features shall be in conformity with the original plan and it shall be carried out subject to the UDA approval.

70.15 Any renovation to an existing building shall be carried out in conformity with the archeological or architectural features of that particular building.

70.16 All lands located within Galle Special Regulatory Area shall be used in an appropriate manner to protect all historical structural features of the area.

70.17 Roof scapes and building height
(a) Height of any building within Galle Special Regulatory Area shall not exceed ten meters and only two floors are allowed with only Calicut tiles, half round tiles or clay tiles for roofs, and roof gardens shall be allowed.

(b) Physical changes to any building shall not be carried out without a clearance from the Planning Sub Committee.

(c) No radio television antennas and water tanks shall mar the characters of the roof of the buildings.

70.18 Building Colours
All colour schemes of the buildings shall be in accordance with the stipulated colours for the Galle Special Regulatory Area.

(a) Accepted colours are white, grey and yellow and no any other colours are allowed.

(b) Two storeyed building shall be painted with a single colour. Light tonal differences are permitted.

(c) Facades of the building shall be painted with a single colour.
(d) Colour of the two visible streets facades of a building shall be in harmony with each other.

70.19 Finishes of the Building

All internal and external appearance of the buildings shall be in harmony with the existing historical building within the Galle Fort area.

(a) No reflecting or mirrored glass shall be used in the front elevation of the buildings.

(b) No approval is granted to cover the front arcade with ceramic tiles, mosaic tiles, and any tiles with colour patches or tiles of any type and inappropriate plaster textures.

(c) Facade finishes of the buildings shall be compatible with the environmental characteristics.

(d) The facades and the roof materials of the buildings of any street shall be in uniformity with other buildings.

70.20 The floor finishes shall be in harmony with the archeological features of the existing buildings. Permission may be granted for rendering of cement, terra cotta tiles, rough and polished granite and pressed cement tiles for floors. Painting of the floors are not permitted.

Floor Area Ratio

Gross floor area of all floors of the building
Site Extent
(Percentage of coverage should not exceed 1:1.5)

Plot coverage

Floor area at ground level X 100
Site Extent
(Should not exceed 75%)

70.21 Boundary walls

(a) No boundary walls are permitted in front of the buildings facing the roads; only boundary walls, fence or live fence are permitted (on either sides of the buildings) not exceeding one meter in height.

(b) Boundary walls which are allowed shall be plastered and painted using approved colour scheme (White, Ash, Grey). No mosaic tiles, ceramic tiles and coloured bricks are allowed.

70.22 Swimming pools and ponds

No swimming pools or ponds shall be permitted within the special zone.
70.23 Hoarding structures and Advertisements

(a) All types of advertisements with dynamic and continuously changeable devisers, using neon lights or more dominantly and contrasting characters are prohibited.

(b) Each building is permitted to install one name board. Horizontal name boards shall be installed at the space available between the top edge of the ground floor windows and the first floor level or the upper floor window sill level. Advertisements shall not be permitted to install at the railings of the building of the upper floor. Vertical name boards may be installed at the front side within the permitted height and the space given by the Planning Sub Committee.

(c) The total area covered with advertisement should not exceed 1/3 of the allowed facades area of the building. Preliminary approval shall be obtained from the Galle Municipal Council prior to the installation of any hoarding.

(d) Galle Municipal Council shall provide appropriate places to install hoarding structures within Galle Special Regulatory Area.

(e) Any, hoarding structure/name board/notice shall not be installed / stucked on to the electricity posts, telecom posts, fortress, boundary walls, open areas, on trees, roads or on roofs and cover any historical monument or any carvings of such monuments. Size and type of the letters of the name boards and other hoardings shall be determined by the Galle Heritage Planning Sub-Committee.

(f) All Installation of hoarding structures/notice boards within any private or public property are prohibited other than the area marked by the Galle Municipal Council.

(g) Notice boards shall not be kept covering windows and doors.

70.24 Landscaping

Landscape plan shall be provided by the Urban Development Authority for the identified special locations within the Galle Special Regulatory area.

(a) All internal surface drains shall be covered with concrete slabs and fed into the main drainage maintained by the Galle Municipal Council.

(b) Erection, re-erection or renovation of boundary walls which are not facing a road/roads should be constructed with round shape stones.

(c) The existing sewer system built during the Dutch period should be repaired and the underground sewer lines should be cleaned and maintained by the Galle Municipal Council.
(d) Urban Development Authority shall provide detail plans for parking areas, public open areas, restaurants, toilet facilities and for any other public uses.

70.25 Streetscape

A street lighting system should be approved by the Galle Heritage Planning Sub Committee. The design of the lamp posts should be in accordance with the approval granted by the Galle Heritage Planning Sub Committee. The main roads side of the Rampart facing Galle City to be illuminated at night.

70.26 A common design shall be introduced by the sub-committee for street name boards and name boards for the Galle Special Regulatory Area.

70.27 Existing building line shall be maintained as it is in the Galle Special Regulatory Area.

70.28 Traffic Planning and Parking

No heavy vehicles and other vehicles including buses which are more than five tones in weight shall enter into the Galle Special Regulatory Area.

70.29 All delivery vehicles enter or exist Galle Special Regulatory Area shall be limited from 9.00 a.m. to 11.00 a.m. and 5.00 p.m. to 7.00 p.m only.

70.30 Appropriate measures to the taken strategies could be used on streets to prevent vehicles entering the Galle fort area.

70.31

(a) Speed of all vehicles in the Galle Special Regulatory Area shall not exceed 25 Km. per hour.

(b) All vehicles shall be parked only in the areas allocated for vehicle parking during specified period of time.

70.32 Infrastructure facilities

All existing and proposed buildings, electricity, antennas, telecom, water, drainage systems that can be covered within service facilities shall be in consistence with the development within the Fort area.

70.33 All service lines, systems should be laid underground in order to conserve and maintain world heritage character of the Galle Special Regulatory area.
DEVELOPMENT ACTIVITIES IN ZONE II

70.34 No construction work, minor alteration to existing buildings, excavation, construction of semi permanent or temporary buildings shall be permitted within Galle Special Regulatory Area.

70.35 No archeological features that exist in the old harbour area shall be removed, while using the area for activities that are specially approved by the Galle Municipal Council.

70.36 The physical features of the building in the International Cricket Complex should be maintained in conformity with the environmental features and the appearance of the Fort area.

70.37 All buildings which are not compatible with the characters of the Galle Special Regulatory Area shall be either removed or relocated in an appropriate manner.
Galle Harbour Maritime Archaeological Impact Assessment
Report for Sri Lankan Department of Archaeology

Ross Anderson, Jeremy Green and Corioli Souter

Western Australian Museum, Department of Maritime Archaeology
Background
Following discussions between the Sri Lankan Department of Archaeology (SLDA) and Department of Maritime Archaeology, Western Australian Museum (WAM), WAM was engaged as a consultant to undertake a maritime archaeological survey of Galle Harbour as part of an Archaeological Impact Assessment (AIA) process. The scope of the consultancy was to carry out a maritime archaeological survey, and provide a report to the SLDA outlining the impact of the proposed Galle port development on the underwater cultural heritage of Galle Harbour. The survey took place between 14 November and 2 December 2007.

WAM has been involved in maritime archaeological investigations in Galle Harbour since 1992. Previous work includes: remote sensing surveys, site inspections and excavation of shipwrecks. Remote sensing and diving search projects undertaken in 1992, 1993 and 1996 resulted in the location of a range of significant maritime heritage sites in the harbour including Arab-Indian stone anchors, the VOC wrecks of the *Avondster* (1659) and *Hercules* (1661) and 19th century iron steamship wrecks.

Due to advances since 1997 in position-fixing and remote sensing techniques, it was necessary to resurvey the proposed port development area to accurately position and identify possible sites to be impacted by the development. Existing GPS positions were only accurate to 200 m as a result of GPS Selective Availability (decommissioned in 2000).

As part of the contractual agreement between WAM and the Sri Lankan Department of Archaeology, this report is to be submitted to the Sri Lankan Department of Archaeology by 17 December 2007.

Staff
Three members of the Department of Maritime Archaeology, WAM travelled to Sri Lanka to carry out the survey: Jeremy Green; Corioli Souter; and Ross Anderson.

WAM staff were supported in Sri Lanka by the Department of Archaeology who provided logistical assistance, accommodation, food and transport. The Sri Lankan Maritime Archaeological Unit (MAU), Central Cultural Fund provided workshop and office facilities; diving support for wreck inspections and survey of the *Hercules* site.

Equipment Overview
Equipment used for the remote sensing and position fixing components of the survey were:

a) Marine Sonics side scan sonar and PC processing software
The Marine Sonics side scan sonar uses a dual frequency tow fish (60/160
KHertz) and the software, Sea Scan PC, uses an Intel-based computer with the Windows operating system for data display and system control. The Sea Scan PC program allows the operator to control the sonar data collection process, view, analyze and save the sonar image with the related navigational information. The program also features a sophisticated integrated plotter to plot location and estimated swath coverage. The Sea Scan PC enables the operator to view wide tracts of the seafloor by insonifying along the swath width and recording the strength of the echoes from the sea bottom. The towfish is towed just above the bottom of the seafloor. The towfish continuously emits narrowly focused beams of sound perpendicular to the path of motion. The sound pulses pass through the water but are reflected from the seafloor and objects, such as wreck sites, on the seafloor. The control computer records the echo signal strengths as they return and then draws the entire sonar record line on the screen. An image of the seafloor is built, line by line, as the sonar record line from each pulse of the sonar is returned and drawn on the screen. (Marine Sonics, 2006: 7).

b) Elsec Type 7706 magnetometer
This magnetometer has a field strength range of 20,000–90,000 nT in 24 switched ranges. The data is also shown in real time with along with the side scan trace and navigational information using the Sea Scan PC.
software. This enables the operator to analyse and correlate magnetic anomalies with sonar imagery of the seabed. The magnetometer operates using proton precession and measures magnetic field intensity variations caused by ferrous deposits.

c) Garmin GPS and Fugro Omnistar Differential GPS 8400
The handheld Garmin GPS has a position accuracy of within 5m while the Fugro DGPS has an accuracy of within 20cm. The Garmin GPS was used to plot and record tracks of the survey vessel and position-fix targets. The DGPS was used to record land-based survey control points in order to geo-reference sites onto maps and charts.
Survey aims

The survey aims of WAM were to:

• Survey Galle Harbour using remote sensing to locate maritime archaeological sites that may be affected by the port development. The MAU were then responsible for inspecting the targets both during and following the remote sensing survey.

• Position-fix all targets and identify sites of significance. The sites located during the 2007 survey would then be compared with the earlier surveys of 1992, 1993 and 1997.

• Carry out a detailed survey of the VOC ship *Hercules* (1661) site (already known to be within the development area) in conjunction with MAU.

Staff met in Colombo on 13 November 2007 with the Sri Lankan Port Authority, Sri Lankan Navy, Japanese Port Development Consultants and UNESCO representatives to discuss the scope of the survey and work to be undertaken. All diving work in Galle Harbour requires the permission of the Sri Lankan Navy and an observer from the Sri Lankan Navy Clearance Diving Team based at Dakshina Naval Base, Sri Lankan Navy Southern Command was present on the survey vessel and during diving work at all times.

Remote Sensing Survey methodology

The methodology was to cover the entire development footprint using magnetometer and side scan sonar operating on the low frequency for maximum range.

From the above survey, having identified targets of interest, conduct north-south and east-west runs to accurately position-fix targets using magnetometer and side scan sonar operating on high frequency to give maximum resolution.

Then to use the side scan sonar on high frequency setting to provide high quality imagery of identified targets and register new targets on a shipwrecks database.

MAU to dive and record targets with measurements, photography and videography.

Given the potential positional error and to avoid confusion with previous surveys, all targets recorded during the 2007 survey were given new field names using the format: 07-Day-MST File No.-Target number-Side-scan/ Magnetometer run file number e.g. 07-24-01-M04 indicating the data was collected on 24 November, it was recorded on MST File number 01 and it was magnetic target number 4. Once the sites had been identified, they were then give a site number 07-XX. At this point it was possible to compare the sites with sites recorded in the 1990s with the
Figure 3. Plan of Galle harbour showing the extent of the side scan sonar coverage and 2007 targets.

Figure 4. Plan of Galle harbour showing the side scan sonar tracks.
Figure 5. Plan showing harbour depth contours and 2007 targets.

Figure 6. Plan showing development proposal (general, blue is dredged, purple is land fill) and 2007 targets.
alphabetical codes Site A–Site Y.

The survey equipment was set up aboard the survey vessel. The vessel maintained a constant speed of approximately 3.5 knots to enable quality low-frequency side scan sonar imagery of the seabed and magnetometer recording. The Seascan GPS plotting software was used to run parallel lanes approximately 50 metres apart giving adequate overlap and coverage of the investigation area. Coverage confidence of the survey area was 100%.

Limitations of survey
The remote-sensing survey is limited by the capabilities of equipment. For the magnetometer, the limitation is the background noise that can mask a magnetic anomaly in the earth's magnetic field intensity. Noise can be caused by a variety of sources including geomagnetic anomalies, cable microphony and electromagnetic radiation (sun-spot activity, lightning, and electrical noise from generators and engines). The limitation of side scan sonar is that target must protrude from the sea-bed, the sea-bed needs to be uniform (rocky areas make it difficult to resolve sites), calm surface conditions (surface wave cause interference with sonar return) and sea conditions need to be calm to avoid pitching of the tow-fish.

During the survey period, conditions were ideal with low sunspot activity and calm seas. However, much of Galle Harbour seabed consists of rock outcrops with some sand and mud areas. No large sites were found with the side scan sonar on sand areas except for Site A and the Avondster site, both known from the 1990s surveys. In the rocky areas the magnetometer indicated a number of large magnetic targets that were subsequently identified with high resolution side scan sonar. It is possible that buried wooden sailing vessels (wrecks without enough iron to provide a magnetic signature and too low a profile to provide a side scan sonar target image), or non-ferrous targets such as stone anchors, might not be identified via remote-sensing methods. It is recommended that the remote sensing survey is followed up by a visual diving survey to sample transects in the development area in order to identify other possible archaeological or cultural remains (see recommendations section in this report).

Results

Preliminary Correlation with 1992 and 1996 surveys
At the end of the survey a total of 17 sites were located, some were obviously sites recorded in the 1990s, although now with greater precision. However, a number of the sites were new or could not easily be correlated with the sites found in the 1990s, therefore it was decided to completely
renumber the sites to avoid confusion. All sites were given prefix 07 and a running number or where appropriate a name. The following is the log of sites.

Table 1. Coordinates of sites located in 2007 survey (Decimal degrees, WGS84 datum)

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Site inventory

Site 07_01
Site 07_01 was an unusual sonar and magnetometer target slightly to the east of Site 07_13 Avondster but further to the west than the site 07_18 known as Site E in the 1990s survey. It is possible that this is debris from the tsunami and warrants further investigation.

Site 07_02

Figure 7. Side scan sonar image and magnetometer contour plot of Site 07_02. A small magnetic target with no obvious sonar record. This is possibly a mooring anchor or tsunami debris.

Site 07_03

Figure 8. Magnetometer contour plot of Site 07_03 on nautical chart.
Small magnetic target near Secundra Rock, likely to be mooring anchor for the navigation buoy.

Site 07_04

![Side scan sonar image of Site 07_04. Site 07_04 was a sonar and magnetic target of a large iron wreck on Inner Kadda Rock.]

Site 07_05

![Side scan sonar image and magnetometer contour plot of Site 07_05. One can see in this side scan Image above, the outline of the site with propeller aperture visible.]
Figure 11. Site inspection of Site 07_05 (Original Video: MAU, Video Mosaic: P. Baker, WAM)

Site 07_06

Figure 12. Side scan sonar image and magnetometer contour plot of Site 07_06.
Large iron wreck near Matte Madda.

Site 07_07

Figure 13. Side scan sonar image and magnetometer contour plot of Site 07_07.
Large iron wreck on port side of channel into Galle Harbour to the east of the lighthouse on Utrecht Bastion.
Figure 14. Magnetometer contour plot of Site 07_08 on nautical chart.

Large magnetic target to the east of the Black Fort with no obvious sonar target.

Site 07_09

Figure 15. Side scan sonar image of Site 07_09.

Large iron shipwreck 1.6 km to the south-west of Galle lighthouse, thought possibly to be the RMS *Rangoon*. 
Site 07_10
Small magnetic target 1 km south-west of Galle lighthouse

Site 07_11
Small magnetic target 350 m east of Sailors Bastion.

Site 07_12
Iron wreck at Watering point.
Site 07_13 Avondster

Figure 18. Side scan sonar image of Site 07_13 Avondster.

See Parthesius, 2007. Note the sonar target 07_01.

Site 07_14 Hercules

Figure 19. Inshore Hercules site transit image.
Figure 20. Wide angle *Hercules* site transit image.
See site description below.

**Site 07_15 Scorpio dredger**

Figure 21. Scorpio dredger wreck site as of November 2007.
Iron dredger wrecked August 2007, now in three parts.
Site 07_16 Site A

Figure 22. Side scan sonar image of Site 07_16. Large iron wreck previously described in Green *et al.* 1998

Site 07_17 *Azarakhshito* Barge

Figure 23. The *Azarakhshito* barge as of November 2007. The *Azarakhshito*, a large barge owned by Iranian interests lies on the shallow reef between Neptune and Clippenburg Bastions. The Galle Deputy Harbourmaster ordered the barge ballasted with seawater to stop it banging into the fort walls (G. Sirimanna, pers. comm. 29 November 2007). Local court proceedings are underway in the case of both wrecks to order the owners to remove them; however this is likely to take some time.
The Hercules site

Site description
The following is the 1992 description of the Hercules site:
This site consists of about 20 large iron cannon, located between Gibbet and Closenburg Islands. The site extends from close to the shore in a roughly southerly direction down to a depth of about 8 m. Some of the cannon on the shoreward part of the site were badly eroded by sand abrasion and, in some cases, the bore of the gun was exposed. The position of the site is interesting; it lies on what was Gibbet Island, to the west of the entrance (now filled in) to what was once a small bay between Gibbet and Closenburg Islands. This area has been filled in during the development of the harbour. It was thought, at first, that the site was either a shipwreck or a place where cannon had been abandoned, possibly from a battery on Gibbet Island. On the 15 March a large bronze bell was recovered from the site, suggesting that the site is a shipwreck. The bell was heavily encrusted with marine growth, but close examination indicated that it was well preserved, although the suspension point in the top of the bell was damaged. Around the upper part of the bell an inscription was noted under the marine growth. Following initial deconcretion the inscription “AMOR VINCIT OMNIA ANNO 1625” was revealed. This, together with a Dutch Overijsselsteen and a Southeast Asian jar fragment (not inconsistent with the provenance of the other material), suggests that this is a wreck of a VOC (Dutch East India Company) vessel of the first half of the 17th century. If this is a VOC shipwreck, it will be important to carry out further work in the future, as it is anticipated that there may well be structure and material in the sand at the bottom end of the site.
A number of VOC vessels are known to have been wrecked in or around Galle. Preliminary examination of the outward and homeward voyages (Bruijn et al, 1979) indicates that two vessels were lost at Galle: the Barbestien (1735) and Geinwens (1776). However, recent archival research in the Algemeen Rijksarchief in the Hague, by Robert Parthesius has almost certainly determined the name of the vessel as the Hercules. This vessel was wrecked on 21 May 1661 and is one of four vessels lost near Galle in the 1660s. Its identification was confirmed by a map that was based on another map dated around 1658. The Hercules was recorded as being a jacht of 540 tons. It is also quite clear from the position of the site that it must have been quite visible to the inhabitants of Galle, as such
Figure 24. An undated 17th century map of Galle showing the Hercules wreck (National Archives, the Hague, VEL 1056)

Figure 25. Admiralty chart of Galle Harbour dating from 1950s showing Gibbet Island and Closenberg before the Fisheries Harbour development.
Figure 26. The 1950s chart (white) overlaying the modern chart.

Figure 27. An undated 17th century map of Galle showing the Hercules wreck (National Archives, the Hague, VEL 1056) with current port facilities.
Figure 28. GPS positions of buoyed cannon groups on Hercules site.

Figure 29. Diver and insitu cannon, Hercules site.
Figure 30. High resolution side scan sonar image, GPS position of buoyed cannons and photo mosaic of rock sea wall, *Hercules* site.

Figure 31. High resolution side scan sonar image and position of cannon (Site Recorder) on *Hercules* site.
we can therefore expect that the vessel would have been heavily salvaged at the time of the loss. It is surprising that the guns were still in situ on the site and, in view of the fact that the site was well known to local divers it is quite surprising that the bell survived (Green & Devendra, 1992: 23–5).

Hercules site survey methodology

In conjunction with the MAU, WAM staff undertook a manual survey of the Hercules to better define the site post the 1993 preliminary survey. The methods to record the site included:

- Accurately fix position and ascertain total extent of area of the site using GPS to mark cannon locations.
- Use Differential GPS (DGPS) land-based control points for georeferencing the site in relation to the port development.
- Locate, buoy and tag all cannon, and survey cannon and artefacts using tape-trilateration and 3H Site Recorder program (Fig. 32).
- Record the length and orientation of the cannon.
- Photographic in situ recording of cannon

Following the above survey a test excavation using a water dredge was carried out by the MAU that sounded 0.5m down to bedrock in the sandy seabed south of cannon ‘1’ (Buoy ‘C’). Concreted and eroded remains of what is possibly a small iron swivel gun or bar-shot, cannonballs, coal and iron concretions and iron-staining on rocks indicate
a cultural deposit. The presence of oyster shells on rocks and a plastic bag at the base layer show that the site is periodically exposed with sand cover removed from this area.

**Hercules site environment**

As previously described the major remaining features of the *Hercules* site are the 36 cannon scattered down the boulder slope between 1.5 and 7.8m, covering an area approximately 50 x 50 m² (refer Figure 31). All cannon located were tagged with consecutive numbers. Sand is trapped between some of the boulders and the boulders give way to sand to the west and east of the site, as well as seaward of the boulder reef where it meets the seabed. Therefore potential exists for artefacts to be trapped in sand crevices or buried in the sandy seabed in these areas. It is also possible that parts of the wreck were washed into the sandy bay that existed between Gibbet and Closenburg Islands at the time of the wrecking and may be presently buried under the modern harbour. Tag 21 identifies an iron concretion, possibly related to a rigging or armament function.

The significance of the *Hercules* site also lies in its relationship to the two, still currently visible remnant landforms of Gibbet and Closenburg Islands, which were connected by a man-made rock wall sometime during the 1950s to enclose the marina and naval base (Jayatilake in Green & Devendra, 1993: 13-4). The proposed port development as currently planned will directly and irrevocably impact the *Hercules* site as it will be buried under 3–11m of rock and earth infill to provide reclaimed land for the port road access. The original heights and forms of Closenburg and Gibbet Islands are not presently being considered for blasting or modification for roads and infrastructure (AQADGPD, 2007), though this will have to be checked in light of alternative plans. At time of writing, the Sri Lankan Ports Authority provided two alternative modified plans for the port development that propose avoiding direct impact to the *Hercules* site by diverting the access road. These are considered below.

**Maritime landscape of Galle Harbour**

Galle Harbour is recognized at the highest world heritage level as the location of the UNESCO listed ancient Portuguese and Dutch fort, later taken over by the British. The massive ramparts, bastions, buildings, lighthouse, clock tower and magazine are the most visible features of Galle Harbour’s maritime landscape, that also includes underwater maritime archaeological sites and Sinhalese and Buddhist sites of significance.

In terms of maritime archaeological sites the Dutch East India Company (VOC) shipwrecks in the vicinity of Galle Harbour that relate to the Dutch colonial period are: *Avondster* (1659); *Hercules* (1661);
Dolfijn (1663); Barbestien (1735); Geinwens (1776) (the last three sites have yet to be located). These sites are an integral part of the values for which Galle Harbour is perceived as significant i.e. as physical and archaeological evidence of Dutch colonial activity, port development and maritime trade in Galle, Sri Lanka and Southeast Asia generally.

The European colonial fort and port infrastructure on the western shore is in juxtaposition to the virtually untouched eastern shore, with the Buddhist architecture of the Peace Dagoba and other Buddhist sites of significance, Jungle Beach and Watering Point. Other evidence of Galle Fort's operations and construction is present in the quarries and likely archaeological remains of Dutch infrastructure at Watering Point.

The original rocky landforms of Gibbet and Closenburg Islands are still visible, though now connected by a man-made rock wall. Gibbet Island is likely to have human remains and possibly graves relating to executions and burials carried out during the Dutch occupation period. The name given to Gibbet Island in early Dutch records is 'Hercules Kirkhof (trans graveyard)' (Jayatilake in Green & Devendra (eds), 1993:13–14).

Overall, the setting of Galle Harbour is one of cultural continuity in that it has the same natural form and has operated in the same capacity for centuries, from Indian-Arab trading times to the present day.

Moorings and anchorages

Late 19th and 20th century infrastructure, including port moorings, are recorded at the Inner Katta, Katta North, Katta South, New Katta, Capera Berth, and Watering Point anchorages. Copies of transit bearings for checking the location of mooring and channel buoys, dating between 1920–1970s, were provided to Darshani Samathanalika by the previous Galle Harbour Master (D. Samalanthika, pers. comm. 29 November 2007). A visit was made to Galle's Deputy Harbour Master Capt. Gadjiba Sirimanna to attempt to locate archival records for shipwrecks, salvage, and maritime infrastructure in Galle Harbour. This visit resulted in information that the historic Harbour Master's log, old charts, photographs and artefacts were lost in the 26 December 2004 tsunami, that completely destroyed the Deputy Harbour Master’s office on Customs Road, Galle Fort (G. Sirimanna, pers. comm. 28 November 2007). The possibility that archival copies of Harbour Masters' records exist in Colombo is being followed up.

At least one heavy single arm mooring anchor and three mushroom anchors (used for mud and sand bottoms) are on display in the Customs Road maritime precinct at Galle Fort. It is likely that these at one time related to the Galle anchorage moorings. As the moorings were made redundant following construction of the inner harbour it would have
been simple for them to have been recovered and re-used, or in the case of the afore-mentioned anchors put on display. However the possibility exists that anchors, chain or other artefacts that relate to the moorings are still in situ. Archaeological deposits such as rubbish, bottles, ballast, boiler furnace slag and broken crockery thrown overboard vessels are also likely to exist in these areas.

Results

Eleven iron steamship wrecks have been located (excluding the two modern wrecks). The following wrecks are known to be wrecked in the vicinity of Galle Harbour: SS Phatti Allum; SS Rangoon (south-west of Galle Harbour). The two recent wrecks demonstrate possible impacts to the Galle ancient fort and maritime archaeological sites. The modern wreck of a Singapore-owned dredger Scorpio lies in three parts. The main hull and machinery of the dredger lies on the western end of the Gibbet Island breakwater where it was carried by currents after running aground near the Hercules site in June 2007. Part of the dredger’s pontoon hull subsequently broke away and was carried by currents to a position just outside of the naval base entrance (this wreckage appears to lie directly on top of a wreck marked on Admiralty charts) while a third broken part of the pontoon lies on the fishers’ beach next to the Naval Base. The Scorpio was under tow by two tugs when it entered Galle Harbour without charts or a pilot. When the Scorpio first ran aground and was damaged the tug master attempted to tow it into the harbour, however the Harbour Master refused permission for it to enter the harbour in damaged condition in case it sank and blocked the channel. While being towed out to the anchorage the tow broke and the Scorpio ran ashore on Gibbet Island. Both tugs were impounded by the Harbour Master pending court action.

While it is fortunate that neither of these wrecks have directly impacted the highly significant VOC Hercules or Avondster sites, or damaged the fort walls, they do demonstrate the natural dangers of Galle Harbour, the potential for large modern wrecks to end up in the same places as historic shipwrecks, and the real potential for modern shipping accidents in Galle Harbour even with its current status as a minor port. If the port is expanded to take larger ships and increased shipping traffic, then the impact to the heritage landscape values and amenity of Galle Fort UNESCO heritage site caused by major port infrastructure, increased shipping movements and attendant increased risk of shipping related incidents such as wrecks, marine oil spills, and dust and pollution from heavy road traffic must be taken into consideration.
Recommendations

General

In view of the proposed world heritage listing of Galle Harbour itself, the Department of Archaeology should consider the impact to the heritage landscape values (including both tangible and intangible cultural heritage values) and amenity of Galle Fort UNESCO world heritage site caused by major port infrastructure.

Tangible cultural heritage consists of physical archaeological remains both on the land and underwater. Intangible cultural heritage is defined by UNESCO as forms of popular and traditional cultural expressions and cultural spaces. This heritage is made up of many and varied complex forms of living manifestations in constant evolution including oral traditions, performing arts, music, festive events, rituals, social practices and knowledge and practices concerning nature (UNESCO, 2007).

Galle Harbour should be viewed as a maritime cultural landscape which includes, tangible and intangible cultural heritage values. In its current form, Galle harbour may be described as an entrepôt, demonstrating the continuity of trade and maritime cultural activity both as a centre and transit point. Maritime cultural landscapes, as defined by
Westerdahl (1992), incorporate centres of maritime culture, sea routes, shipwrecks, port remains and monuments, natural topography and havens, place names, inland sites and living traditions.

The effect of the port development would be to effectively split the natural haven of Galle Harbour in two. The western and northern shores exhibit the main focus of ancient and modern maritime activity while the eastern shore remains relatively unspoiled in its natural state with Jungle Beach and coral gardens at Watering Point. The Peace Dagoba at Rumassala also incorporates aesthetic and spiritual values of the eastern shore.

To preserve the heritage values of the harbour, as described above, our recommendation is to relocate shipping facilities to a less culturally sensitive region. The establishment of a port in Galle will have implications for the harbour's proposed listing as a world heritage site. If Galle harbour is selected for redevelopment, all attempts should be made to minimise the impact of any built structure on the cultural and natural aesthetics of the harbour.

Consideration of SLPA Hercules site avoidance options presented in Sri Lanka December 2007

At the close of the survey, the team were presented with two proposed modifications to the development specifically designed to avoid the Hercules site:

- Option 1 Figure 34: A realignment of the road and sea wall that would leave the Hercules site outside the development zone.
- Option 2 Figure 35: Incorporation of the Hercules site within the development. In this option the Hercules site would be preserved by enclosure with an interior sea wall.

While both of these options are supported given that they ostensibly preserve the Hercules site, there are a number of issues that need to be considered. Firstly, both of these options require a buffer zone around the site. For Option 1, a 50m buffer zone seaward of the 8m contour is recommended (as shown in Figure 36) given the likelihood of further archaeological material to be buried in the sand in this region. Enclosing the site as per Option 2, will change the immediate site environment and therefore has implications for the long term conservation of the site and artefacts. This will require further survey and site definition. In particular, a full pre-disturbance survey is required to obtain baseline data of artefacts prior to changes in environmental conditions. In addition, conservation advice on relative merits of in-filling site with sterile soil or maintaining a saltwater environment will be required.
Figure 34. Option 1 showing road bypassing site to west leaving site in its natural environment.

Figure 35. Option 2 showing road enclosing *Hercules* site.
Figure 36. Recommended buffer zone around *Hercules* site.
Specific recommendations

1) That the Hercules site is left untouched by port development and an appropriate buffer zone is established around the site (as per Option 1).

2) That the original landforms of Gibbet and Closenburg Islands, including gravesites on Gibbet Island, are left untouched by the development.

3) That consideration for the heritage values of Galle UNESCO site are extended to the wider maritime landscape of Galle Harbour, that under current plans will be significantly impacted by placing major modern port infrastructure between the ancient fort and eastern bay area, along with attendant risks from increased shipping movements.

4) Following 3) that the Sri Lankan Ports Authority focus on Hambantota and Colombo as the sites for major port and infrastructure developments, and limit development in Galle to upgrading and improving existing facilities in accordance with its current status as a minor port.

5) Confirm with the Sri Lankan Ports Authority that alternative plans for the port development to avoid impacting the Hercules site will not impact Gibbet or Closenburg Islands’ original form, or anticipated grave sites.

6) It is recommended that the 2007 remote sensing survey is followed up by a diving survey along transects, to sample the seabed in the development area to identify other possible archaeological/cultural remains.

7) That historic research is carried out into the 19th and 20th century iron and steam shipwrecks in Sri Lankan newspapers and archives to attempt to determine the identities and historic background to these wrecks and enable an informed assessment of their significance.

8) Research in British institutions particularly Guildhall Library London should be conducted with searches made of the following archives: Lloyd’s List 1740-1990; Board of Trade Casualty Returns 1850-1918; Board of Trade Inquiries 1850 to 1965; Lloyd’s Missing Vessel Books 1873-1954; refer to Guide to the Lloyd’s Marine Collection, by Declan Barriskill (London: Guildhall Library, 2nd edition 1994) for further details of the Lloyds collection.
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Department of Archaeology:
Dr Senerath Dissanayaka, Director General
Rohan Perera, Deputy Director
G.A. Darshani Samanthilaka, 2007 Survey Project Coordinator
W.K. Sanath
R.A. Jayantha Kumara, Driver
Ajith Senavirathna, Driver
Central Cultural Fund, Maritime Archaeology Unit:
S.M. Nandadasa, Officer in Charge
Rasika Muthucumararana,
A.M.A Dayananda
W. Chandraratne
K.D. Palitha Weerasinghe
Central Cultural Fund
Dr Mohan Abeyratne
Sri Lankan Navy, Southern Command:
Captain Kurukulasuriya
Sri Lankan Ports Authority:
Capt. Gadjiya Sirimanna, Port of Galle Deputy Harbour Master
Submarine Dive School, Unawatuna:
Shirley Koralage
Wishni Niranjana Koralage
Asanka Liyanage
Maritime Seamen Training Institute:
Chamika Ruwan Aviyadasa

References

Foreword

In November 2007 UNESCO, upon request of the Sri Lankan authorities, notably the Archaeology Department, has appointed the writer Prof. Leopoldo Franco (professor of Coastal and Port Engineering at the University of Rome 3, Italy) for a consultancy expertise related to the Galle Port development project in Sri Lanka and its potential negative impacts on the ramparts of the neighbouring Old Town of Galle and its Fortifications (World Heritage site).

In particular the consultant is requested to give technical advice and guidance concerning this project to the UNESCO World Heritage Centre and assess how the construction of the port could affect the World Heritage site, with specific reference to the expected modifications of the wave pattern induced by the new works and to the potential risks of blasting for dredging the submarine rocky seabed.

For this purpose the consultant has carried out a mission to Galle (24-27 November 2007), where he met various people (see list in appendix 1), collected and examined many technical documents which were kindly delivered to him (see reference list in appendix 2), and has then written the present report which provides a general evaluation of the Port Development project and recommendations for future actions. Project schemes and views are attached in appendix 3, while few elected photos taken by the author are given in appendix 4.
Project evaluation

The development of Galle Port as a multipurpose port for regional needs is an important 150 million US$ project being financed as a loan with Japanese funds and jointly proposed since 1991 by the Sri Lanka Port Authority (SPLA) and Japan International Corporation Agency (JICA). The feasibility study and Environmental Impact Assessment (EIA) were completed in November 2000 by SPLA with Japanese consultants and Sri Lankan Engineering Consultants Limited respectively (refs.1-2). Then a preliminary design has been developed by Pacific Consultants International, as described in the comprehensive large report (Aug. 2007) and related specific studies (refs.3-4). The project development policy is supported by a general Port Sector Master Plan (ADB 2004-ref.5).

The development briefly consists in (see details and plans in appendix 3):
- a new artificial waterfront bordering a rectangular reclamation fill 320 x 750 m (app. tot. area 27 Ha) with 1150 m rubble mound breakwaters in depths of 10 to 14 m, 2370 m revetments, 480 m quaywalls in 14 m depth, seabed dredging over 1 Mm3 (soft material) with 37000 m3 (rock).

In fact it is rather unusual that such a long extension of breakwaters and revetments (5 km) is only meant to protect just two berths for 180 m long ships of 30000 DWT.

The preliminary design only considered 4 basic alternative layouts which were compared with regards to either hydraulic, navigational and environmental issues such as coastal morphology, wave climate, water and sediment quality, noise levels, air quality, maritime archaeology and historical sites, ecology, fishing, etc. The EIA has been rather comprehensive and had positive conclusions; it also provides (table 4.4.1 in ref. 1) an interesting rating list of some 25 historical sites (mostly underwater ship wrecks) found within the bay and potentially affected by the new development. An archaeological team from Western Australia directed by prof. J. Green is now updating the underwater survey of such sites. The EIA concludes with a number of recommendations of mitigation measures and monitoring plans.

Both the hydraulic and structural designs, as well as the related studies and EIA appear to be complete and correct, according to international standards and advanced modelling techniques. Even tsunami modeling has been satisfactorily accomplished.

In particular the issue of potentially dangerous changes of local wave/currents along the fort ramparts toe seems not to be critical after the reliable wave penetration modelling simulations, which show a nearly S-N direction of propagation due to refraction (fig.1). Reflections of prevailing SW waves from the new revetments against the fort ramparts on the opposite side appear to have a marginal influence on the wave agitation and related induced currents near the fort (see ref.4). Indeed the new works may even offer some protection from the SSE waves which frequently occur in January-February.

However, present wave and current action on the eastern fort ramparts appear to have detrimental effects on the wall stability even without any port development (see photo of toe damage at Sailors Bastion in appendix 4).

As far as blasting is concerned, detailed geotechnical investigation concludes that hard rock exists within parts of Galle Port and therefore pre-treatment by drilling and blasting will be required to enable excavation by dredgers. Every drilling & blasting project is different and there is therefore a wide range of site specific factors that must be considered when designing a blast. Geology, rock
layer thickness, the presence of nearby structures and subsequent vibration limits attached to those structures affect the quantity of explosives used. However the excavation area is quite far (1200 m) away from the fort and micro-delayed explosions can minimize their effects. Ground vibrations can be predicted by using the following empirical formula:

\[ PPV = a \left( \frac{D}{W} \right)^{-b} \]

where

- \(PPV\) = Peak Particle Velocity (mm/s)
- \(a\) = site constant (Typically between 450 and 600)
- \(b\) = site constant (Typically 1.6)
- \(D\) = Distance to the blast (m)
- \(W\) = Maximum Instantaneous Charge (kg)

According to vibration measurements and standards in Sri Lanka, for type 4 structures (declared as archeologically preserved structures by the Department of Archaeology) the vibration in Peak Particle Velocity PPV is 0.75 mm/s.

Based calculations (from SPLA):

140 kg of explosives could be blasted per delay without exceeding the vibration limit of 0.75 mm/s for Galle Fort. Blasting would commence using 50% or less of this value to ensure limits are not exceeded. This estimate will be continually revised, during the execution of the works using the vibration results obtained throughout the blasting operations.

According to SPLA terms of reference (October 2007) the blasts will be monitored using two permanently recording seismographs placed at the sensitive building locations (Schwartz Bastion and Point de Galle). Vibration levels will be kept within internationally recognised limits.

In conclusion the large distance of the blasting area and the recommended operational and monitoring techniques should ensure enough safety for the Galle Fort.

As far as the interference with the historical shipwrecks is concerned, the main site to be endangered is site F (see fig. 2), but it could be preserved without great difficulties. Even the various environmental impacts of the new works (during and after construction) seem to be well studied and handled with proper monitoring programs and mitigation measures.

However it is the writer's opinion that one important issue has been neglected: the strong visual impact of the new development on the existing landscape, which still has a quite natural appearance and a great significance, due to the unique morphology of the bay and to the presence of the old fort on its western rocky cape, which is an important tourist attraction. Even the present small port is relatively well hidden by the natural vegetated aspect of the high Gibbet ex-island. The beautiful views from the fort ramparts and from the Rumassala hill on the opposite side will be strongly affected by the new artificial infrastructure which is jutting out in the middle of the bay with its sharp intrusive shape and its modern industrial appearance (see appendix 3-4).

Indeed the EIA report (2000) issued a number of measures to be taken for a harmonious integration of the new port with the existing landscape, which are mentioned in ch.6.2.13, in particular: “the profile of the port should merge with the natural flowing forms...; the size of individual elements in the design, the siting, the height, compaction and dispersion should not lead to the feeling of “congestion”...; the sharpness of edges as perceived against the background should not be rough.”

It seems to me that the proposed design has not accomplished the above recommendations.

The rectangular reclamation which extends for more than 700 m offshore of Gibbet island and the breakwaters further offshore have a very sharp shape (obviously dictated by modern port functional
Fig. 1: Distribution of Wave Height for Swell Wave Condition $H_0 = 3.0 \text{ m}$, $T = 10.9 \text{ s}$, Wave Dir = SSW in Deepwater (from ref. 4)
Recommendations for future actions

First of all it is recommended to follow carefully the EIA recommendations with special reference to the monitoring of vibrations induced by trial blasting.

It is also recommended to provide for a toe protection against wave action of the damaged eastern ramparts by means of permanent rock breakwaters, possibly submerged or slightly emerged above sea level. This structure is needed even if no port development will ever take place.

It is also suggested to remove as soon as possible the grounded barge from the south edge of Galle Fort ramparts (see photo in appendix 4).

After the above project evaluation the following future alternative actions are recommended in priority order.

1) Reconsider the feasibility of the whole project,
keeping in mind that many years have passed after the original feasibility and masterplan study with related economic analysis: new scenarios are now on stage and new larger industrial-commercial developments are being envisaged in the port of Ambalantota, just about 150 km to the east, which could concentrate most of the regional traffic.
A reduced investment could be addressed to the rehabilitation and modernization of the existing port of Galle, which would be mainly destined to cruise and tourist boat traffic. The Closenburg pier could be enlarged, extended (some 200 m westward up to the access channel) and deepened to allow for larger vessels, as well as the existing access channel and port entrance. Modern port equipment could be installed on the enlarged pier. These upgrading works however would not allow for a major increase of traffic in Galle.
In this way the overall appearance and beauty of Galle Bay will not change and its character as a major historical (port) and tourist attraction will remain untouched and may be even enhanced.

However if this recommended solution is not feasible due to the general national/regional economic interest and development plans, then the following action ought to be considered.

2) Modify the port layout and introduce some design changes to reduce negative impacts,
First of all it is suggested to modify the layout of the port development in order to better comply to the general morphological aspect of the bay (and possibly reduce the investment costs).
With reference to the alternative layouts considered in the feasibility study, it is recommended to seek for an optimized port planshape by combining layouts 1 and 3. It is infact preferable to develop the existing pier with a parallel offshore expansion: the new quay should have a similar alignment to the Closenburg pier, possibly avoiding the burial of the historical site F (Hercules shipwreck).
The location of the offshore detached breakwater could be slightly shifted shoreward (reducing impacts on coastal hydromorphodynamics and costs).
Sharp corners should be avoided and curvilinear streamlining forms should be preferred.
Further improvements of the visual appearance of the new design could include:
- lowering the crest elevation of breakwaters and revetments (as compatible with wave transmission);
- using local rock as crest armour above water whenever possible or concrete blocks of natural appearance such as ECOPODE on top of the concrete ACCROPODE blocks (not visible underwater);
- introduce submerged pipes or openings through the breakwaters in order to enhance the water circulation within the bay;
- avoid the construction of tall buildings (eg. vertical silos) and installation of high cranes;
- introduce vegetation screens to hide the port terminal, even “transferring” the vegetated Gibbet island to the western tip of the pier;
- locate construction areas away from sensitive areas and historical sites (taking into account the exact position of the shipwrecks, as derived from the new survey –nov 2007- of the Australian team).

Based on this new survey an updated plan of the proposed port works should be provided with a clear indication of: isobaths within the whole bay (at 1 m intervals); rock formations to be blasted; position of the shipwrecks and any other sensitive area.

In any case computer colour “rendering” of the future asset of the bay with the project should be provided by the designers, with views form various angles of perception (eg. from the fort, Rumassala hill, the town, marine drive, the dome towers, Closenburg hotel etc.).

A report on the navigability risk assessment should also be provided and suitable aids for a safe ship approach near the new structures at sea should be considered.

Prof.ing. Leopoldo Franco
Appendix 1
List of participants to meetings in Sri Lanka (apologies for missing difficult names without cards)

Central Cultural Fund:
Dr M. Abeyratne,

Department of Archaeology:
S. Devendra,
G. A. Darshani Samanthilaka,

Sri Lanka Ports Authority:
K. A. Ansar (chief engineer);
M. S. S. Devapriya;
L. R. Sepala;

Pacific Consultants International:
N. Ide

Western Australian Museum:
Prof. J. Green (and assistants C. Sauter and R. Anderson)

University of Moratuwa
Prof. S. S. L. Hettiarachchi
Dr S. Samaravichrame
Appendix 3: Shortdescription and graphical schemes of the port development project

GALLE PORT DEVELOPMENT
PROJECT PROPOSAL

Project Site: See GENERAL LAYOUT attached.

Marine Works
Dredging: Dredging will be made for Approach Channel and Turning Basin where the design water depth is 11 m as shown on PORT LAYOUT attached. The dredging volume is about 1,230,000 m³ of which about 37,000 m³ is rock.
Reclamation: Reclaimed land is about 37 ha preceding Multi-purpose Terminal and Bulk Storage Areas as shown on PORT LAYOUT attached. Reclamation volume is about 2,500,000 m³. Retention is provided for protection of the reclaimed area from the waves.
Breakwaters: “Outer Breakwater” is 750 m long and made of rock and concrete armour units. “Inner Breakwater” is 550 m long and made of rock, concrete armour units and concrete seawall. Their locations are shown on PORT LAYOUT attached.
Wharf: The Multi-purpose Terminal will have a wharf 14 m deep and 180 m long. The location is shown on PORT LAYOUT attached.

Onland Works
Roads and Yards: Access Road extends from Galle/Matale Road to the reclaimed land, where a road network is provided. The yard of Multi-purpose Terminal and the roads are paved with asphalt concrete. See the attached general plan of road. See ROADS AND BUILDINGS attached.
Buildings: The locations of each building are shown on ROADS AND BUILDINGS attached.
- Administration Building for administration, management and the users
- Tonnage Shed for storage of break-bulk and de-containized cargos
- Port Gate to control entrance and exit of vehicles and pedestrians
- Terminal Gate to control entrance and exit of vehicles and pedestrians at Multi-purpose Terminal
- Maintenance Shop for maintenance and repair of cargo handling equipment
- Port House for port employees’ amenity
- Other buildings are Sub-stations, Guard Box, and Terminal Bells

Others: Electrical Power Supply, Water Supply, Sewerage, Fire Fighting
Today's aerial view of Galle Bay (above) and artist impression of the future development (below)
Appendix 4: Selected photos during the mission in Galle

Sea erosion of Sailors Bastion at eastern rampart of Galle fort (photo by L. Franco, nov 2007)

The author and his local hosts at Triton Bastion (see grounded barge on background) nov 2007
View of Galle bay and port (right) from Harbour Inn (Rumassala Hill) (photo by L.Franco, nov 2007)

Tsunami damaged quay inside Galle port (photo by L.Franco, nov 2007)
Findings and Recommendations made by Western Australian Museum

1. Surveys
At Hercules site, Western Australian Museum conducted the surveys as follows:

- Accurately fix position and ascertain total extent of area of the site using GPS to mark cannon locations.
- Use Differential GPS (DGPS) land-based control points for geo-referencing the site in relation to the port development.
- Locate, buoy and tag all cannon, and survey cannon and artifacts using tape-trilateration and 3H Site Recorder program
- Record the length and orientation of the cannon.
- Photographic in-situ recording of cannon

A test excavation using a water dredge was carried out by the Sri Lankan Maritime Archaeological Unit that sounded 0.5m down to bedrock in the sandy seabed south of cannon ‘1’ and found the following:

- Concreted and eroded remains of what is possibly a small iron swivel gun or bar-shot
- Cannonballs
- Coal and iron concretions
- Iron-staining on rocks

2. Findings
1) The major remaining features of the Hercules site are the 36 cannon scattered down the boulder slope between 1.5 and 7.8m, covering an area approximately 50 x 50 m². All cannon located were tagged with consecutive numbers.
2) Sand is trapped between some of the boulders and the boulders give way to sand to the west and east of the site, as well as seaward of the boulder reef where it meets the seabed. Therefore potential exists for artefacts to be trapped in sand crevices or buried in the sandy seabed in these areas. It is also possible that parts of the wreck were washed into the sandy bay that existed between Gibbet and Closenburg Islands at the time of the wrecking and may be presently buried under the modern harbour.
3) The proposed port development as currently planned will directly and
irrevocably impact the Hercules site as it will be buried under 3-11m of rock and earth infill to provide reclaimed land for the port road access.

4) Two proposed modifications to the development specifically designed to avoid the Hercules site:
   - Option 1: A realignment of the road and sea wall that would leave the Hercules site outside the development zone.
   - Option 2: Incorporation of the Hercules site within the development. In this option the Hercules site would be preserved by enclosure with an interior sea wall.

3. Recommendations

3.1 General Recommendations
1) The Department of Archaeology should consider the impact to the heritage landscape values (including both tangible and intangible cultural heritage values) and amenity of Galle Fort UNESCO world heritage site caused by major port infrastructure.
2) Galle Harbour should be viewed as a maritime cultural landscape which includes, tangible and intangible cultural heritage values.
3) To preserve the heritage values of the harbour, the recommendation is to relocate shipping facilities to a less culturally sensitive region.
4) If Galle harbour is selected for redevelopment, all attempts should be made to minimise the impact of any built structure on the cultural and natural aesthetics of the harbour.

3.2 Specific Recommendations
1) That the Hercules site is left untouched by port development and an appropriate buffer zone is established around the site (as per Option 1).

   The road and sea wall can be realigned to accept the recommendation.

2) That the original landforms of Gibbet and Closenburg Islands, including gravesites on Gibbet Island, are left untouched by the development.

   As originally intended in the design, the recommendation is accepted.

3) That consideration for the heritage values of Galle UNESCO site are extended to
the wider maritime landscape of Galle Harbour, that under current plans will be significantly impacted by placing major modern port infrastructure between the ancient fort and eastern bay area, along with attendant risks from increased shipping movements.

It is requested that the recommendation be excluded from Archeological Department Report.

4) Following 3) that the Sri Lankan Ports Authority focus on Hambantota and Colombo as the sites for major port and infrastructure developments, and limit development in Galle to upgrading and improving existing facilities in accordance with its current status as a minor port.

It is requested that the recommendation be excluded from Archeological Department Report.

5) Confirm with the Sri Lankan Ports Authority that alternative plans for the port development to avoid impacting the Hercules site will not impact Gibbet or Closenburg Islands’ original form, or anticipated grave sites.

The realignment of the road and sea wall will not further impact Gibbet or Closenburg Islands’ original form, which has already been affected by the existing port. The gravesites will be reserved as recommended.

6) It is recommended that the 2007 remote sensing survey is followed up by a diving survey along transects, to sample the seabed in the development area to identify other possible archaeological/ cultural remains.

It is requested that the recommendation be excluded from Archeological Department Report.

7) That historic research is carried out into the 19th and 20th century iron and steam shipwrecks in Sri Lankan newspapers and archives to attempt to determine the identities and historic background to these wrecks and enable an informed assessment of their significance.
It is requested that the recommendation be excluded from Archeological Department Report.

8) Research in British institutions particularly Guildhall Library London should be conducted with searches made of the following archives: Lloyd's List 1740-1990; Board of Trade Casualty Returns 1850-1918; Board of Trade Inquiries 1850 to 1965; Lloyd's Missing Vessel Books 1873-1954; refer to Guide to the Lloyd’s Marine Collection, by Declan Barriskill (London: Guildhall Library, 2nd edition 1994) for further details of the Lloyds collection.

It is requested that the recommendation be excluded from Archeological Department Report.

End
Dear Madam, Sir,

Please find attached the letter of the Director of the World Heritage Centre addressed to the Permanent Delegation, transmitting the report on the mission to Galle undertaken by an expert on port development projects and underwater currents.

I would be most grateful if you could transmit this report and its recommendations to the relevant authorities.

I thank you for your kind attention.

Yours sincerely,

Alexandra Sayn-Wittgenstein
Alexandra zu Sayn-Wittgenstein

Asia and Pacific Unit (Central and South Asia)

World Heritage Centre

UNESCO

7, Place de Fontenoy

F - 75352 Paris 07 SP

Tel: +33.1.45.68.18.63

Fax: +33.1.45.68.56.61
Dear Ambassador,

In response letters sent by the Department of Archaeology of Sri Lanka and the National Commission for UNESCO, as well as discussions held in UNESCO during the General Conference in which our attention was called to the possible negative impact of the Galle port development project on the Old Town of Galle and its Fortifications, the World Heritage Centre organized an expert mission to Galle from 24 to 27 November 2007. The mission was undertaken by an expert in port development projects and under water currents.

At the time the main concerns regarding this project were the possible changes of the underwater currents which could have an adverse effect on the stability of the Galle fort ramparts. Furthermore, by letter dated 24 April 2007, I called attention to the recommendations made by the World Heritage Committee who encouraged your authorities to review the boundaries of the World Heritage site and to extend the core and buffer zones to include the historic harbour area in which there are more than 20 important shipwrecks from the Arab, Portuguese, Dutch and British periods of occupation of Galle.

The report prepared by the UNESCO expert following his mission in November, highlights the general negative impact of the port construction on the setting of the World Heritage property of Galle compromising its character as a historic site and tourist destination.

Please find enclosed herewith the report on the expert mission which includes a number of recommendations concerning the port development project. I would be most grateful if you could ensure that this report is transmitted to the relevant authorities. I also take this opportunity to propose that the authorities carefully consider the recommendation made concerning the visual impact of the port construction as well as the alternative solutions suggested in the report.

In addition, I encourage your authorities to submit a revised boundary and buffer zone for the site (possibly through a re-nomination) to include the ancient port and the area presently threatened by the Cricket Stadium project, as suggested by the World Heritage Committee.

Ref. : WHC/74/405.1.5.2.2

14 December 2007

Subject: Old Town of Galle and its Fortifications (Sri Lanka)
I hereby thank you for your continued cooperation and interest in the conservation of the heritage of humankind in Sri Lanka.

Please accept, dear Ambassador, the assurance of my highest consideration.

Francesco Bandarin  
Director  
World Heritage Centre

cc: National Commission of Sri Lanka to UNESCO  
UNESCO Delhi Office  
UNESCO Bangkok Office  
ICOMOS
GALLE HARBOUR DEVELOPMENT PROJECT

ARCHAEOLOGICAL IMPACT ASSESSMENT
THE SURVEY REPORT

Client
Department of Archaeology

Contract ref. number
1/10/AIA/SP/2007

Dr. Raj Somadeva
Consultant Field Archaeologist
Bureau of Earth Reconnaissance (Pvt) Ltd

2007
Management Summary

This report presents the details pertaining to the archaeological impact assessment survey conducted at the location that is to be the subject of the proposed Galle Harbor development project. The survey was carried out within a terrestrial area of 28 hectares of the land which is to be affected by the construction and expansion of the harbor.

The survey has consisted four steps i.e. (a) Literature survey; (b) Fieldwork and (c) Data analysis. The concluding assessment of the archaeological potential of the area was made on the basis of the information gathered in the present survey.

The fieldwalk for the purpose of surveying the surface covered the entire area of 28 hectares. 40 locations were observed in this survey and out of them 6 locations were selected for digging shovel pits. The observations of the 40 locations suggest that there is no indicator that shows the existence of any cultural material of any archaeological importance on the surface. A single shovel pit excavated in the area further landwards has yielded a collection of ancient potsherds. The surface of the surrounding area shows a sparse scattering of ceramic sherds of some archaeological significance that could be ascribed to the period of early modern history. This evidence suggests that the northwestern corner of the area called the Gibbert Island is an archaeologically sensitive zone. This is out of the area that is severely affected by the building and the road constructions allied to harbor development activities.

In the aforesaid locations, there are no other places which contain above-ground monuments or cultural deposit in the sub-surface that have an archaeological importance to assessed under the provisions made by the Antiquities Ordinance of 1998 (as amended) of the Socialist Democratic Republic of Sri Lanka. The following recommendations are proposed herein based on the AIA survey conducted at the site.

(a). The location is identified as an ancient settlement site and a 10 meter wide area around it should be clearly demarcated physically.
(b). Any landscape modification activity therein should be prevented.

(c). Waste material of any kind (organic or inorganic) derived from the direct construction activities or any other related activity, should not be dumped in the aforesaid area.

(b). Deep digging of, or any kind of earth removing from that land should be prevented.

Dr. Raj Somadeva MPhil, PhD (Sweden)
MWAC, FSLCA, FIA (London)
Consultant Field Archaeologist
Senior Lecturer
Postgraduate Institute of Archaeology
University of Kelaniya
GALLE HARBOUR DEVELOPMENT PROJECT
ARCHAEOLOGICAL IMPACT ASSESSMENT

THE SURVEY REPORT

Dr. Raj Somadeva
Consultant Field Archaeologist
Bureau of Earth Reconnaisance (Pvt) Ltd

2007
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Fig 13. The ancient potsherds sampled from pit number 5.

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Graph 1. The chronological continuity shown by the potsherds sampled from pit number 5.
1.1 Purpose

A land 28 hectares in extent in the terrestrial area called the Gibbert Island in the Magalla GS division of the Galle District in the Southern province is to be developed by the Sri Lanka Ports Authority as an extension of the Galle Harbour. According to the provisions in Act number 1152/14 under Sections 43(a) and 47 of the Antiquities Ordinance of Sri Lanka, 1998 as (amended), such a development project should be subjected to an Archaeological Impact Assessment (AIA) prior to the initiation of the proposed development activities. The present AIA survey was conducted by the Bureau of Earth Reconnaissance (ERB) (Pvt) Ltd on behalf of the Director General of Archaeology of the Democratic Socialist Republic of Sri Lanka.

1.2 Project Summary

As indicated in the layout plan of the proposed harbor expansion, a considerably vast area of the sea-floor up to a depth contour of 20 meters and a terrestrial tract up to about 0.50 km to 1km from the seashore are to be covered and affected by the construction and its related activities. There are two breakwaters to be built (the outer breakwater = 800m long & the inner breakwater = 350m long) in the seaward area. A new pier is to be constructed, projecting it northwards, as an extension to the inner breakwater. The total length and width of this pier would be 850 x 350 meters. The approach channel is designed to begin at a location situated between the outer breakwater and the Rumassala hillock. The total volume of solids (soft materials and rock debris) to be dredged from the channel excavation is 3 45 000 m³. The total depth that is to be excavated in that area varies from 14 meters to 16 meters at different points.

Among the constructions proposed in the terrestrial terrain are the main access path to the newly constructed pier which is going to be laid out parallel to the existing shore line of the Gibbert Island. This path has been designed to project in the seaward direction from a
point on the Galle-Matara highway and it has been designed to run parallel to the eastern boundary of the Gibbert Island, to turn westward at a point in the offshore. To lay out this main access path, the existing seaward limit of the Gibbert Island is proposed to be expanded. Total area involved in these activities is 28 hectares.

Map 1.1 The map showing the area of proposed development in the Galle Harbour

1.3 AIA profile

The Archaeological Impact Assessment of the area in question was conducted by a team of archaeologists under the supervision and the guidance of the Consultant Archaeologist of the Bureau of Earth Reconnaissance (Pvt) Ltd. No. 139/22D, Nagahawatta Road, Maharagama. The fieldwork was carried out for two days, 8th and 9th of November 2007. A profile of the team is given in appendix II.

1.4 Constraints

The proposed area of the survey is situated within a high security zone and therefore to a certain extent free access is not available to some places for the purpose of ground observations. The ongoing activities of the existing pier of the Galle harbor in the western sector of the survey area have also adversely affected the ground surface of the location. The biggest destruction and the continuously occurring hazard was the deformation of the earth surface resulting from
the movement of heavy vehicles that transport clinker for cement production. A thick layer of mixed substances dominated by clinker and rock debris has been deposited on a major portion of the land in that part of the area.

1.5 Acknowledgement

The Consultant in charge and the team of archaeologists who participated in the fieldwork of this AIA survey are greatly indebted to Mr. Saman Devapriya, Deputy Chief Engineer of the Sri Lanka Ports Authority for his cordial assistance so readily extended to facilitate the fieldwork. We are also thankful to the Resident Chief Security Officer in the Galle Harbor for the kindness extended to us in carrying out our survey in the security area of the Galle Harbor. We should also express our thanks to Mrs. Rulani Wickramasinghe of Magalla for her genuine hospitality.

Part II
General Description

2.1 Physiography

The present area falls in the southern coastal fringe of Sri Lanka. The mean sea level of the terrain observed is in a range between 1 and 2 meters. The area affected by the construction of the pier of the harbor has an elevation up to 2.22 meters above sea level. The present seaward sector of the Gibbert Island is a filled terrain formed during the previous expansion of the harbor. As a result, that area is covered by allochthonous deposits comprises of fragments of stones, beach sand and soil derived from those materials. The Galle harbor has been subjected to several improvements.
after it was acquired by the Dutch hegemony of Galle in 1796. First such improvement was proposed by the British in 1868 (Paranavitana 2005).

The Physiography of the area is presented below under several topics selected on the basis of their relevance to the existence of human settlements.

Geology- The most prominent rock type in the area is Chanockite (hypersthen, diopside gneiss). A random occurrence of Calc-granulite or gneiss is also available. (Fernando 1998).

Soil- The dominant soil type is the Red Yellow Podsolic soil with soft or hard Laterite in rolling and undulating terrain.

Rainfall- The area experiences a moist climatic condition throughout most part of the year. The mean annual rainfall varies between 2500 and 3000 millimeters.

Groundwater- The quality of the ground water is a determinant factor of human settlement especially in areas in coastal fringe. This area consists of local or discontinuous moderate to low acquifer in fractured rock. Existence of lagoons or lakes with saline or brackish water is an infrequent occurrence in the areas adjacent to the shore line (Wijesekara 1988).

2.2 Land use

Most of the lands situated around the Galle harbor are utilized for a variety of purposes. Several residential buildings and private gardens are scattered in the frontier area of the harbor. This clear delineation of the periphery is invariably the result of two factors i.e. (1). the harbor expansion and (2). the recently emerged requirement of strengthening the security measures in and around the harbor. The rest of the area has been encroached by industrial establishments or constructions that are related to them. It can be assumed that the landscape modification of the Gibbert Island, which is the central location of this survey, would have been initiated in the period that the Dutch had constructed a fortalice in the vicinity of the Gibbert Island.
2.3 Current situation

It appears that the entire landscape of the harbor and its surrounding area are being continuously modified and therefore subjected to a high rate of landscape change. The most recent of such activities is the construction of a concrete wall as a boundary wall by the developers. It has caused a considerable damage to the surface and the sub-surface. It has resulted in a displacement of internal soil layers (this fact is discussed below in section xxxxx) at the same time exposing and de-contextualizing the artifacts. The western sector of the harbor has been filled up to a depth of 2 meters, to build the pier and its terrace. There are two architectural edifices situated within the area that would go back beyond the 20th century. A single location that produces artifacts has been identified. The archaeology of the area will be presented in section 4.2 as well.
THE area around Galle is significant for late history. Evidence pertaining to the historical existence prior to that period, such as Pre, proto and early history in regard to the area, both literary and archaeologically, is meager.

**3.1 Medieval and late history**

*Culavamsa* has made mention of the area around Galle after the 12th century. Two rivers namely *Gimhatittha (Gin ganga)* and *Galha ganga* (which is still unidentified) have been referred by the author (Cv 48: 132). The Arab traveller, Ibn Batuta had arrived at Galle in 1344 CE and has left a brief account about the settlement of Galle that prevailed at that time (Gibb 1993). The arrival of a Chinese Admiral Chen-ho (1411 CE) in Galle is exemplified by the Trilingual Slab Inscription discovered at a place on Cripps road in the year 1911 CE. This inscription describes the offerings he made to ‘a Buddhist Temple in the mountain of Ceylon’ on behalf of his master, the Emperor Ming. During the 14th and 15th centuries, the City of Galle and its harbor became well known as a mercantile centre among the traders who navigated the Indian Ocean.

The historicity of Galle reached its zenith after the arrival of the Portuguese in 1505. The Portuguese Captain Don Lorenzo de Almeida accidentally landed at Point de Galle on 15 November 1505 CE. After that Galle came to be known among travellers of the Indian Ocean.
by different names such as *Puncto Galle*, *Punct de Galle*, *Pinto Gale* and *Portugal*. The Dutch conquered the Portuguese fort in Galle on 13 March 1640 CE (Silva & xxx). British rule in Galle started after their acquisition of the Dutch fort in 1796 CE.

During the periods that both the Portuguese and the Dutch held sway in Galle, it was essential for them to maintain relations with the local inhabitants of the surrounding villages in order to upkeep the sustenance of the lives in the Fort. For example, when the Portuguese started to build the fort, they obtained the service of the local gentleman named *Don Fernando Samarkoon* who then resided in Galle (Paranavitana 2005). Perhaps, such interaction had stimulated the expansion of the villages which were further away from the fort and the harbor.

**Part IV**

**Survey design**

The survey was conducted adopting the field-walk method. The total area observed was divided into sub-squares of 50x50 meters. This grid formed 1118 individual sub-squares (see map 4.1). The terrestrial area was covered by 300 sub-squares and some of them were not taken in to account for the observation due to the difficulties posed against accessing them. 32 sub-squares were sampled. This is 10.6% of the total population of the sub-squares. This was due to the high security precautions taken. The stratified random strategy was followed during the field sampling.
4.1 Surface

The surface of the surveyed area is highly diverse in its physical appearance. But a general comment can be made. I am inclining to present it under three separate categories i.e. (i). Completely modified or artificially formed surface (category 'a'); (ii). The surface that has been partly modified but remained intact for a considerably long period (category 'b'); and (iii). The surface that is undergoing modifications continuously (category 'c').

*Fig 4. Inspection of the internal stratigraphy of the terrestrial area in the Galle Harbour is in progress*

*Fig 5. General appearance of the surface in the Harbour area*

*Fig 6. A photograph showing the extended terrace of the Harbour*

**Surface category 'a'** - This type of earth surface is observable in the western sector of the survey area. Most of the buildings and other structures that are associated with the Galle harbor and the Sri Lanka Navy brigade are situated in this sector of land.
Surface category 'b'. This is the earth surface in the southeastern sector of the area which is associated with the Closenberg hillock. The original construction there was a foralacre built by the Dutch which had been abandoned in 1790 CE. The presently existing building on the top of the hillock was founded in 1860 CE. After that, the earth surface of the area adjacent to the Closenberg hillock seems to have remained unscathed.

Surface category 'c'. This is a type of earth surface that is in most of the lands which domestic houses and home-gardens are scattered. The main agents of the surface modification in these lands are the dumping garbage and earth removals activities for various reasons.

Details of the observations are included in appendix 4.1 below. No single artifact has been reported from the surface of the observed area except two sub-squares (S32/E21 & S32/E22).

4.1.1 Above-ground structures

Other than the building where now stands the Closenberg hotel, a single construction that has any historic value was identified. It is a private residence of Mr. L. A. Pemananda of 8/10, Gibbet lane. Three architectural components of this building have been taken into consideration to determine its antiquity i.e. (1). A wooden flight of steps leading to the upper storey; (2). The
style and ornaments of the door and windows; and the (3). 18th and 19th centuries form of the wooden floor of the upper storey.

A comparative study suggests that those architectural elements exemplify the British Victorian style (for comparison, vide; Calloway 1996) which could have influenced the late 19th century and the early 20th century architecture of the upper middle class of the maritime littoral areas in Sri Lanka. This identification does not propose any precise date for that house but it shows the continuity of the socio-culturally dominant architecture of the day.

Another four individual houses situated along Gibbert lane consist of some mid 20th century architectural elements reflected in particular from their roofs and the height of the walls.

But all of them have been subjected to considerable alteration during the last half century and seem to be of no use in assessing them within a historical scope. Another similar example could be cited here. There is a building by the side of the road leading to the Closenberg hotel which bears an inscription on the surface of one of its walls which reads as follows;
This phrase suggests that the Galle Club was formed in the year 1862. But it does not say that it was housed at the same location where the present building stands. The salient factor derived from the aforesaid inscription is that some of the buildings were constructed in the late 19th century in the area and its surroundings where the present harbor is situated.

4.2. Sub-surface

A site-representative sample of sub-squares was subjected to the sub-surface inspection. This was conducted through the shovel pitting technique. Five shovel pits (0.50x0.50m) were excavated in the locations depicted in the map xxxx. The total depth of the excavation is 0.50 meters. Other than pit number 5, no other pits have produced any evidence to judge the existence of a cultural deposit in the sub-surface.
4.2.1 Pit number 5

A location (N 06 02 01 & E 80 14 01) identified at a place about 12 meters west of Mr. Premananda's house was excavated down to a depth of half a meter. Within that depth there were two soil layers. Layer 2 has yielded a considerable amount of ancient potsherds (see illustrations below). In the surrounding area of the pit, several heaps of soil could be observed. They had accumulated as a result of the diggings of shallow trenches that had been excavated to lay the foundation of the concrete wall as a permanent barrier at the time when the present survey was being conducted. This is part of the constructions of the harbor development project.

Mixed soils from those heaps of soil were carefully observed and it has yielded several pieces of ceramic ware including a few fragments of Porcelain that has some antiquity.

The discovery of the internal cultural deposit at the aforesaid location is a worthwhile discovery for two reasons. On the one hand this is the first time that any terrestrial cultural deposit of such an antiquity going back to 7th to 14th centuries CE has been reported from Galle, and it provides firm evidence of the spatial distribution of the human settlements in the suburbs of the city during that period. On the other hand the ancient potsherds unearthed reflect the continuity of the preceding tradition of material culture.

4.3 Buffer zone

An area covering a 1.5 kilometer radius from the harbor was demarcated as a buffer. Other than the Dutch fort, there are 2 other ancient monastery building complexes situated within this area namely (1). Sri Sudharmaramaya of Magalla (Archaeological Department Registration no. SP-032/GR-001) and (2). Paramananda Deepaduttaramaya alias Kachchuwatta temple. Both these monasteries have several building structures and painted walls that could be tentatively dated back to the late 19th century or the early 20th century.

The effect of the noise propagation and the blast overpressure generated by the heavy machineries and rock blasting on the aforesaid buildings could be inferred from because of the close proximity between the harbor and the aforesaid monasteries. Under the general atmospheric condition of the approximate wind speed of 4-5m/s, noise waves of 30 Hz propagate up to a maximum distance of 1.4km (Albert & Hole 2001). The maximum wind
speed fluctuations of the year, around Galle, further suggests the probability of its effect on the above buildings. The expected effect would be the damage to the existing walls and the painted surface of the interior.

Blast overpressure generated by the underwater rock removal activities could also be expected along the bedrock and it would be an agent affecting the rampart walls of the south western sector of the Fort. But it is no factor to be taken into account as it could be destructive owing to the distance between the harbor and the rampart. It is accepted that the propagation of vibration and noise underwater is dependent on the volume of water to be surpassed by the wave. A weak vibration or zero vibration could be expected when it reaches the vicinity of the rampart.
Part V
Field results

5.1 Stratigraphy

The shovel pits excavated did not show a clear stratigraphy in the sub-surface in the observed area. Perhaps this was due to the infiltration of organic particles into a shallow depth of the sub-surface. I infer that this process has happened for a considerably long period and has been subsequently accelerated by the encroachment of masses of water into the land by the Tsunami. A considerably thick (about 40 cm) surface layer consists of a high organic content. Pit number 5 has yielded a rich collection of ancient potsherds from this layer. It has a fine-grained, soft compaction. Its composition is medium sand (0.06mm-0.20mm) (Color 10R 2/2 (Dark reddish brown).

5.2 Chronology

The chronology proposed in this section is based on the comparative analysis of the earthenware sherds recovered from pit number 5. The graph presented below depicts the conjectured time-frame as reflected by the sherd analysis. It is unusual to have a sherd in our present collection that could be stylistically compared with that found from Akurugoda in Tissamaharama which has been radiometrically dated as 100 BCE. This is the first time that such an artifact which could be ascribed to the first millennium BCE has been recorded from Galle. It is not intended here to push back the history of the Galle area to such a distant past using this inadequate sample.
Fig 12. The ancient potsherds sampled from pit number 5.

But this find provides an important clue to initiate a further research to survey the historicity and the cultural continuity in the area through an archaeological perspective.
Earthenware
Asia

Black Ware

(1)

Red Ware

(1)

Keolin Ware

(1)

Red Painted on Keolin Ware

(3)

Keolin Ware

(5)

(2)

Fig 13. The ancient potsherds sampled from pit number 5.
6.3 Chinese ceramics

1. Chinese earthenware
   Fabric 1A: Coarse Ware

2. Chinese Porcelain
   Fabric 2A: Coarse Porcelain (Swatow Ware)
   Fabric 2B: Blue and White Porcelain
   Fabric 2C: Green Glazed Porcelain
   Fabric 2D: White Porcelain

6.4 European ceramics

1. English Porcelain
   Fabric 1A: Black Glazed Porcelain

6.5 Sri Lankan Earthenware

Red Ware
Fabric 1A is Coarse Red Ware or Plain Red Ware, coarse pieces of quartz particles and shell or husk particles in fracture. Coarse particles are uncovered. The surface color is dull reddish (Munsell 2.5 YR 5/3 dull reddish brown or 5 YR 5/4).

6.5.1 catalogue

1. GH/AIA/2007/1, diameter 34.3cm, estimated vessel equivalent (EVE) 5%, coarse fabric, everted triangular shaped rim, wheel-thrown, Munsell 2.5 YR 5/3 dull reddish brown.
2. GH/AIA/2007/2, diameter 34.5cm, estimated vessel equivalent 5%, coarse fabric, paddle impressed on the exterior, inverted thickened rim, wheel-thrown, Munsell 2.5 YR 5/4.
3. GH/AIA/2007/3, diameter 27cm, estimated vessel equivalent 6%, coarse fabric, paddle impressed on the exterior due to paddle and anvil forming the vessel body, triangular thickened inverted rim, wheel-thrown, Munsell 2.5 YR 4/6 reddish brown.
5. GH/AIA/2007/5, diameter 19.5cm, estimated vessel equivalent 5%, medium fabric,
thickened lip with everted body, unrestricted, wheel-thrown, Munsell 2.5 YR 5/6 bright reddish brown.


7. GH/AIA/2007/7, diameter 30.1cm, estimated vessel equivalent 5%, coarse fabric, paddle impressed on the exterior, triangular thickened inverted rim, restricted, wheel-thrown, Munsell 2.5 YR 4/8 reddish brown.


Fig 14. Three ancient potsherds probably imported from South-east Asia.
9. GI/VAIA/2007/9, diameter 41.2cm, estimated vessel equivalent 5%, coarse fabric, triangular thickened straight rim, wheel-thrown, Munsell 2.5 YR 5/3.


6.6 Earthenware that has an Asian origin

Black Ware
The two variants exist. Fabric 1B is hard fired coarse black slip. Fabric 1B is chocolate colored blackish ware. Actual origin is unidentified but this probably from East Asia. Similar sherds of this found from Dutch fort in Katuvana, Matara District and Dutch fort in Galle (Ranjith et al 2001:37, Bonke et al 2007:28). Probably this ware was circulated in late 16th and early 17th century in Sri Lanka.

1. GI/VAIA/2007/11, diameter 24cm, estimated vessel equivalent 5%, medium fabric, inverted thickened rim, hard fired, wheel-thrown, Munsell 7.5 YR 2/1 black.

2. GI/VAIA/2007/12, diameter 25cm, estimated vessel equivalent 5%, medium fabric, flared rim, sign of fire blackening exterior, wheel-thrown, Munsell 7.5 R 3/2 dark reddish brown.


Red Ware
This type of ware is a common indicator of the material culture of the colonial period of the island (ibid). Two variants exist. unidentified origin.

1. GI/VAIA/2007/13, diameter 25cm, estimated vessel equivalent 15%, medium fabric, flared rim, grooved lines around the lip, hard fired, wheel-thrown, Munsell 2.5 YR 5/6 bright reddish brown.

2. GI/VAIA/2007/14, diameter 30cm, estimated vessel equivalent 10%, medium fabric, flared ribbed rim, grooved line around the inside of the rim, wheel-thrown, Munsell 10 R 5/8 red.

Kaolin Ware
The surface has a buff or cream-colored slip, while the body is pinkish. The clay contains a 20
more percent of Kaolin. The fracture shows coarse particles. There are four variants. Origin
is unidentified. As sherds as these found from Kottapattanam site in Nallur District, Anda
Pradesh in India. This site is located eastern coast (Sasaki 2005:18).

1. GH/AIA/2007/15, diameter 30cm, estimated vessel equivalent 6%, medium fabric,
thickened flared rim, sign of fire blackening on the exterior, wheel-thrown.
2. GH/AIA/2007/16, diameter 36cm, estimated vessel equivalent 5%, medium fabric,
protruding lip with thickened rim, wheel-thrown, sign of fire blackening on the
exterior.
3. GH/AIA/2007/17, diameter 14cm, estimated vessel equivalent 5%, fine fabric, red
slipped on buff colored body, slightly everted thickened rim, wheel-thrown, Munsell
10 R 6/6 reddish orange.
4. GH/AIA/2007/18, diameter 14cm, estimated vessel equivalent 5%, medium fabric,
everted simple rim, wheel-thrown, Munsell 7.5 YR 8/2.
5. GH/AIA/2007/19, diameter 28cm, estimated vessel equivalent 5%, medium fabric,
incised on the interior, simple rim, wheel-thrown, Munsell 7.5 YR 8/2 light gray.
6. GH/AIA/2007/20, diameter 26cm, estimated vessel equivalent 5%, medium fabric,
everted thickened rim, incised on the interior, wheel-thrown, Munsell 7.5 YR 8/2.

Bodysherds
1. GH/AIA/2007/1, probably shoulder sherd, incised decoration on the neck, red slipped
on the buff colored body.
2. GH/AIA/2007/2, bodysherd, red slipped on the pinkish body.
3. GH/AIA/2007/3, a bodysherd, red slipped on pinkish body.
4. GH/AIA/2007/4, a bodysherd, black on whitish body, cracked interior.

6.7 Chinese ceramics

Chinese earthenware
1. GH/AIA/2007/1, a base or rim sherd, very coarse porcelain, crackled surfaces, the thick
glaze layer is shineless.

Coarse Porcelain
Few sherds of this found from the harbor. This porcelain was made in Southeast China during
the 17th and 18th century (Ranjith et al 2000:42).
Fig 15. Several Chinese porcelain fragments collected from the area around pit number 5.
1. GH/AIA/2007/1, a base sherd, crackled white glazed on yellowish body, thickened body.
2. GH/AIA/2007/2, a base sherd, rounded base, bluish crackled glazed on white body, green under glazed decoration on the exterior.
3. GH/AIA/2007/3, a base sherd, white glazed on yellowish body, crackled glaze.

Blue and White Porcelain
Some of the sherds collected from the harbor represent coarse Blue and White porcelain. This porcelain called as coarse export ware or Swatow ware (Ketel1982:195). During the 14th and the beginning of the 17th century, much of this coarse ware was exported along the Southeast Asian trade routes (Carswell 1985:20).

1. GH/AIA/2007/1, a rim sherd, diameter..., probably a deep bowl, white glazed, blue floral design on both sides, underglazed.
2. GH/AIA/2007/2, a base sherd, floral design on the interior, underglazed, slightly pronounced base.
4. GH/AIA/2007/4, a rimsherd, plate with flattern rim, xterior..., blue concentric line band on interior.
5. GH/AIA/2007/5, a rimsherd, interior blue underglazed design, crackled white glaze, zig-zag band around the lip, floral design.
6. GH/AIA/2007/6, a rimsherd, zig-zag and floral design.
7. GH/AIA/2007/7, a rimsherd, lattice decoration.
10. GH/AIA/2007/10, a rimsherd, floral design on both sides.
12. GH/AIA/2007/12, a sherd, bluish glaze body, unidentified decoration on xterior.

Green Glazed Ware
1. GH/AIA/2007/1, a rimsherd, white glazed body, greenish color floral design with beaded band on the interior.
2. GH/AIA/2007/2, a rimsherd, beaded band with floral design.
White Porcelain

1. GH/AIA/2007/1, a rim sherd, pure white milky glazed, undecorated, plain.
2. GH/AIA/2007/2, a base sherd.

6.8 European Cereamics

Black Glazed Ware

1. GH/AIA/2007/1, a base sherd, slightly pronounced base, center of exterior of the base printed as 'DARLEY & BUTLER LONDON E.C.', flowers with stems on interior.

Form Comparison for chronology

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<tr>
<th>Sherd No.</th>
<th>Comparison Type</th>
<th>Date</th>
<th>Comparison Type</th>
<th>Date</th>
<th>Probable time-period</th>
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<td>8A3(p5/3) LKB</td>
<td>350-950 CE</td>
<td>100-950 CE</td>
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<td>700-8000 CE</td>
<td>11H3(p5) LKB</td>
<td>350-600 CE</td>
<td>350-800 CE</td>
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<tr>
<td>GH/AIA/2007/3</td>
<td>C3a(g) AK</td>
<td>450-7000 CE</td>
<td>11D3(p5/6) LKB</td>
<td>350-950 CE</td>
<td>350-950 CE</td>
</tr>
<tr>
<td>GH/AIA/2007/4</td>
<td>C4a(g) AK</td>
<td>450-7000 CE</td>
<td>11D4(p5/6) LKB</td>
<td>350-950 CE</td>
<td>350-950 CE</td>
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<tr>
<td>GH/AIA/2007/6</td>
<td>H19b(h) AK</td>
<td>700-8000 CE</td>
<td>16B4 (p5/6) LKB</td>
<td>350-950 CE</td>
<td>350-950 CE</td>
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<tr>
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<td>11D4(p5/6) LKB</td>
<td>350-950 CE</td>
<td>350-950 CE</td>
</tr>
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<td>600-1400 CE</td>
<td>100 BCE - 1400 CE</td>
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<td>350-600 CE</td>
<td>350-600 CE</td>
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</table>

Abbreviations
AK=Akurugoda, LKB=Lower Kirindi oya Basin

Table 1. A table showing the results of the comparison between potsherds collected from the terrestrial area of the Galle Harbour and the similar types found elsewhere in Sri Lanka.

7. Impact mitigation alternatives

This section intends to propose mitigation alternatives in order to minimize the affects that could be expected from the construction activities of the harbor.

7.1 Pit number 5

Even though the sub-surface of the location and its surrounding area of pit number 5 enriched
with a cultural deposit that could be ascribed to the early second millennium CE, no above-ground monument situated within the area covered by that deposit. It is clear that the harbour developers incline to expand the related activities of the new development up to the area that covers the location of pit number 5. In order to mitigate the destruction that could be expected from the construction and earth moving, it is highly recommended to launch a limited excavation to document the internal stratigraphy and the content of material culture. It should be a stratified excavation that covers at least an area of 3m x 3m in extent. The geo-reference of the location of pit number 5 is N 6 02 02 & E 80 13 59.

7.2 Old building

As I mentioned earlier, there is a private house (Mr. S.L. Pemananda, 8/10, Gibbert lane) situate in Gibbert lane that was identified as a construction of the late 19th century or the early 20th century. What is unusual in this building, in comparison with the other old buildings in the region, this was constructed using stone masonry. This is the only architectural feature in the Gibbert Island that was least affected and modified. It is worthwhile to preserve this building as the living monument that reflects the British interactions with the local traditions in the early 20th century in the area vicinity to the Galle City.

As a mitigation alternative proposed against the predicted affects caused by the noise and vibration construction and the moving of heavy vehicles in the surrounding area, two suggestions could be made.

1. Build up a sound barrier covering the southern, southeastern and southwestern sides of the building. Foundation of this sound barrier should be laid on the bedrock. The height should be at least 4 meters.

2. An extent covered by 30 meters radius area from the center of the building should be clearly demarcated and declared as a buffer zone.

Further to the aforesaid measures it is highly recommended to conduct a complete documentation of the building. As an extension of the documentation, it is proposed to dig several test pits around the house to examine the cultural continuity of the feature reflected by the internal stratigraphy.
8. Recommendations

It repeats here what has been described in section 7 above and highlights the key suggestions as the recommendations.

1. The areas and the above-ground structures mentioned in this report as the features that are archaeologically sensitive, should be protected, documented and prevented from any activities related to the new harbour development project.

2. The buffer zones suggested by this report should not be encroached by any activity of the project.

3. The developers should extend their cooperation to the archaeological authorities to carryout excavations within the area identified in and around the location indicated as N 6 02 02 & E 80 13 59 in sub-section section 7.1.

References


sherds In South India and Sri Lanka., N. Karashima (eds.). Taisho University Press, Japan.


Boundary & Buffer Zone of World Heritage Property

Old Town of Galle and its Fortifications

Ministry of Culture
Department of Archaeology
Protection of Underwater Archaeological sites with Galle Port Development Project

Galle Port Development project is planned with minimizing directly and irrevocably impact to archaeological value of the underwater archaeological sites. Sri Lanka Ports Authority has conducted Maritime Archaeological Impact Assessment for Galle Port Development Project by Department of Maritime Archaeology of Western Australian Museum in 2007.

According to the assessment done it has identified 25 sites and location map is as below.

As per the revised RSOUV for the Old town of Galle and Its fortifications, the buffer zone will be limited to the already declared 400 yards area from the ramparts. Therefore the proposed area for the development of the harbor does not fall within the buffer zone.
The Old town of Galle and its fortifications, is a world Heritage Property which is nominated as per the criterion iv, of the nomination guidelines, which focuses only on the Architectural and town planning aspects of the property.

Therefore the Underwater archaeological remains do not contribute to the values identified in the Statement of Outstanding Universal Value. The Buffer Zone declared under the Antiquities ordinance and the two special Zones declared under the Urban Development Authority protect the attributes identified in the SOUV.

In addition to that, protection of the underwater archaeological remains is ensured by the provisions in the Antiquities ordinance and therefore there is no need of protecting them through the world Heritage property.

Detailed summary of Identified Important Archeological sites describing in Maritime Archeological Impact Assessment for Galle Port as below

**Site A**

**Large Iron Wreck** Situated closed to the existing channel to the port (Harbour mouth). After completing proposed outer breakwater, this iron wreck will protect from waves and other effects due to sea conditions.
Site B
Iron Wreck situated in very near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the site B.

Site C
Iron Wreck situated in very near to Existing Channel to the port (Harbour mouth). After completing the proposed outer breakwater, this iron wreck will protect from waves and other effects due to sea conditions.

Site D
Iron Wreck situated in very near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the site B.

Site E
Wooden Wreck situated in very near to the land.

Site F (Hercules Site)
This site consists of 20 large iron cannon, located between Gibbon and Closenburg Islands. Research in the Algemeen Rijksarchief chief in the Hague, by Robert Parthesius has almost certainly determined the name of the vessel as the Hercules. This vessel was wrecked on 21 May 1661 and is one of four vessels lost near Galle in the 1660s. It was confirmed by a map that was based on another map dated around 1658.

The significance of the Hercules site also lies in its relationship to the two, still currently visible remnant landforms of Gibbet and Closenburg Islands, which were connected by man-made rock wall sometime during the 1950s to enclose the marina and naval base. The proposed port development as currently planned has two options to avoid directly and irrevocably impact the Hercules site. Both of these two options required at least 50m buffer zone around the Hercules site.

Option 01
A realignment of the road and sea wall would leave the Hercules site outside the development Zone. For this required 50m buffer zone seaward of the 8m contour is recommended given in the likelihood of further archeological material to be buried in the sand in this region.

Option 02
Incorporation of the Hercules site within the development
In this option the Hercules site would be preserved by enclosure with an interior sea wall. This will change the immediate site environment and therefore has implications for the long term conservation of the site and artifacts.
Considering long term and short term conservation it is decided to select the option 01 to be implemented.

Site G
Wooden Wreck with Ballast Mound situated in near to the land in proposed harbour area. After completing proposed outer breakwater this iron wreck will be protect from waves and other effects due to sea conditions.

Site H
Two iron cannon situated in very near to the land and proposed outer breakwater. It is enough space for construct breakwater without disturbing the site B.

Site I
Iron Wreck situated in near to land in proposed harbour area. After completing proposed outer breakwater, this iron wreck will protect from waves and other effects due to sea conditions.

Site J
Ceramic Shards situated in near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the site B.

Site K
Large Iron Wreck situated in proposed harbour area. After completing proposed outer breakwater, this iron wreck will protect from waves and other effects due to sea conditions.

Site L (Avondster Site)
This vessel was wrecked on 1659 in Dutch colonial period. This site is an integral part of the values for which Galle harbour is perceived as significant as physical and archeological evidence of Dutch colonial activity port development and maritime trade in Galle, Sri Lanka and Southeast Asia generally.

Site was situated in existing harbour area and new development will not impact to the Avondster site. After completing breakwater this, s iron wreck will protect waves and other effects from normal sea conditions.

Site M
Iron Anchor situated in proposed harbour area.

Site N
Iron Anchor situated in near to existing channel. No dredging is planned for the existing channel. Therefore it is no defective impact for the Site N.

Site O
Iron Wreck situated in very near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the iron wreck.

Site P
Stone Anchor situated in proposed harbour area.

Site Q
Wreckage situated in near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the wreckage.

Site R
Iron Anchor situated in near existing channel. No dredging is planned for the existing channel. Therefore it is no defective impact for this iron anchor.

Site S
Wreckage situated in near to proposed outer breakwater. It is enough space for construct breakwater without disturbing the wreckage.
Site T
Iron Anchor situated in proposed harbour area.

Site U
Iron Anchor and Wreckage situated in near existing channel. No dredging is planned for the existing channel. Therefore it is no defective impact for the wreckage.

Site V
Wreckage situated in near existing channel. No dredging is planned for the existing channel. Therefore it is no defective impact for this iron wreckage.

Site W
Iron Wreck situated in near to land in proposed harbour area.

Site X
Iron Wreck situated in near to land in proposed harbour area.

Site Y
Iron Wreck situated in near to land in proposed harbor area. After completing proposed outer breakwater, this iron wreck will protect from waves and other effects due to sea conditions.

Effective conservative Impacts to Archeological Sites Due to Galle Port Development Project

1. Wave Height and time will be significantly reduced and claim water body would exist after completing the Outer Breakwater in the Bay of Galle, according to the Design Wave Simulation Report of Galle Port Development Project. Hence Archaeological wrecks Rampart wall and other items situated in harbour area subjected to low strength waves.

Figure 4.1: Wave Parameters Extracted Points
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Above details were taken by Mathematical Modeling for Revised layout of Galle Port Development Project. It is showing reduction of significant wave height and mean wave period after completion of Galle Port Development Project. Due to that archaeological sites were conservation than they existed.

2. Illegal diving efforts in underwater heritage area and thievery archaeological properties and monuments can be prevented with proposed port development due to territory is monitoring 24 hours over the year.

3. The Rampart wall foundation would be protected from high waves. The repairs to Rampart wall are already included in the project.

### CONCLUSION

Galle Port Development Project will effect reasonable protection to the underwater heritage sites in Galle bay. Further there are no any defective impacts or threat on marine archaeological property on sea bed within the port limits. Hence it can conclude as there is no any necessity to declare the underwater heritage sites as world heritage sites or extend the buffer zone to the existing world Heritage site Old Town of Galle & its Fortifications.
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   2.1 Importance of the Change of Scope  
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4. **CONCLUSION**

5. **REFERENCES**

6. **ANNEXURES**
1. INTRODUCTION

1.1 Location and the Objective

The Galle Port is located about 120km south of Colombo on the southwest coast of Sri Lanka and it is one of the few ports that strategically located on the world shipping route from Europe to South East Asia (Figure 1.1).

The Government of Sri Lanka has decided to develop the Port of Galle as a tourist destination and upgrade the port facilities with Multipurpose Berth in phase with the Port Policy document and MahindaChintanaldiridakma to provide optimum transportation in southern area and protecting entire bay for the leisure activities not only opening wider avenue for the economic development of the region but also reducing impact on the Galle city in an event of possible future tsunami.
1.2 Details of Existing Harbour

The Existing Galle Port is well confined within the central part of the Galle Bay by two rubble mound breakwaters of 250m and 225m and covers a water area of 20ha. The bay extends about 2.5km east-west and 1.5km north-south with varying depth of 5m to 11m, and from 12m to 15m at the bay mouth. The harbour basin is about 300m long, 200m wide, 9m deep and has a main quay of 300m long, which can provide two alongside berths. The navigation channel is 130m to 160m in width at the harbour entrance and a water depth of 9m to 10m. The additional quay of 165m long and 9m in design depth has been built at the northern end of the port near the fishery harbour. The existing port imposes restrictions on incoming ships, Passenger Cruise with maximum length of 130m and draught of 7.3m, due to navigational facilities, berths, equipment, etc.

1.3 Galle Port Development Project- History

Since 1990 several investigations have been carried out relating to the existing Galle Port. Japan International Cooperation Agency (JICA) carried out the study “Urgent Development of Galle Port as a Regional Port” in 2000 whilst Asian Development Bank (ADB) sponsored the study of “Sri Lanka Port Sector Master Plan” in 2004. Based on the decisions on these studies, Sri Lanka Ports Authority (SLPA) has planned to develop the existing Galle Port as a regional port built with the assistance of Japan Bank for International Cooperation (JBIC). The objective of this project is to accommodate the increasing demand for freight handling for Sri Lanka as well as regional destinations via the construction of a deep multipurpose terminal and breakwaters, dredging of entrance channel and basin, and other facilities at the Galle Port, and thereby contributing to economic development in the region. According to that a detailed design study was carried out and a comprehensive layout was produced in 2007. See the Annexure 1.

However, this initial plan has been changed as in the Annexure 2 to satisfy the conditional approval given by the Archaeological Department. The conditional approval issued by the Archaeological Department is in the Annexure 5. Finally The Coastal Conservation Department approval was taken for the revised layout addressing the concerns of the Archaeological
Department by avoiding the road and the key wall located in the Closenburg and Gibbet Islands. **Annexure 2** gives the modified layout with road realigned to the existing land with no obstacles to the said islands and Hercules Site while **Annexure 3** shows the comparison of proposed road arrangement in the initial plan and modified road arrangement in the revised plan enabling to have better idea comparatively. Accordingly, the approval from Coastal Conservation Department was obtained in 2009 and extension up to July 2013 was obtained for the Galle Development Project. The approval given by CCD is in the **Annexure 4** and the conditional approval given by the Archaeological Department is in the **Annexure 5**.

2. REVISED GALLE PORT DEVELOPMENT PROJECT AS A LEISURE PORT

2.1 Importance of the Change of Scope

In fact the Galle Port is more historically important with its marine Archaeological artifacts and its fortifications. Therefore, SLPA has planned all the development activities in giving more attention to secure the beauty and marine life of the bay, preserving marine artifacts and Heritage values of the old Galle city while attracting more tourists providing necessary infrastructure facilities.

Consequently, all the concerns raised by the Archaeological Department, Ministry of National Heritage were addressed properly by the new change of scope of the project to proceed with the development of Galle Port as a tourist Port while preserving its historical values.

In addition to that, Cruise industry in the Port of Galle will flourish as the Galle is linked by means of express way network with main cities of the country. Currently the part of the southern express way is completed and train service is upgraded enhancing the travelling facility for tourists. The Galle is located a few nautical miles away from the international shipping route and many ships could be attracted to the port of Galle. At present offshore boat service is successfully operated from the Port of Galle in changing the crew of the ships passing the Galle even with the limited facilities available at the Port of Galle.
At present tourism plays a major role in Sri Lanka’s economy and the maximum efforts are being taken by the government to promote tourism. It is evident that a major drawback in the tourism sector is lack of infrastructure facilities in sea ports to cater to passenger ships. The new development of the Galle Port in Sri Lanka will open a new avenue for the tourism industry which has been neglected for a long period of time due to the war in the country.

2.2 Design Details

According to the new scope of the Galle Port Development Project, the design of the layout was done and mathematical modeling and simulation carried out with following objectives.

- Performing initial engineering study to demarcate and characterize approach channel and turning basing with required dimensions according to the international standard
- Optimization of breakwaters for acceptable harbour calmness
- Optimization of breakwaters for allowing water circulation within the bay
- Performing assessment of environmental issues

Accordingly, four alternatives were proposed and finally agreed upon layout is in the Annexure 6. This layout was selected as the optimized layout with reduced calmness even in the time of monsoon with its beneficial environment to the cruise ships and yachts. The main concern of the SLPA is to keep the entire bay as a calm water body enhancing its marine archeological activities and protect the foundation of old rampart wall which is in dilapidated condition at present from aggressive high waves. This optimized layout was developed with all the Archeological sites untouched and leaving 50m buffer zone for the Hercules Site as shown in the Annexure 10.

The four alternatives considered so far to finalize the optimized layout are in the Annexures 6, 7, 8 and 9. The fine adjustment of the alternatives will be considered in the detailed design considering easy entering of ships to the port under all weather conditions by the Oriental Consultant Company as the Japanese consultant incorporated with SLPA.
The existing warehouses will be converted as a passenger terminal and ancillary building. Part of the existing breakwater will be removed and yacht marine and supporting services will be established in the existing harbour. More attention is given to enhance tourist industry in the Galle making avenues to expand economic benefit to the Galle District. SLPA has already prepared a master plan for the existing harbor, and more scattered buildings will be established at one location leaving more space for tourism promotion. Master plan is in the Annexure 11.

Comprehensive archeological impact assessment has been done for the entire bay of Galle and recommendation and guild line have already been given for the port development works, and SLPA has strictly adhered to the conditions stipulated for the previous layout by the Department of Archeology. Therefore, new proposal is within the recommended frame work by the Department of Archeology.

All necessary data needed to liaise with UNESCO on the new development proposal of the Port of Galle such as copies of the Environmental Impact Assessment, Maritime Archeological Impact Assessment and Environmental Management Plan were submitted to the relevant authorities at the time of obtaining the approvals.

3. CONCERNS RAISED BY ARCHAEOLOGICAL DEPARTMENT IN ITS CONDITIONAL APPROVAL GIVEN ON LETTER NO. 1/10/1041 DATED 09/09/2008

According to the provisions in Act Number 1152/14 under Sections 43(a) and 47 of the Antiquities Ordinance of Sri Lanka., 1998 as (amended), such a development project should be subjected to an Archeological Impact Assessment (AIA) prior to the initiation of the proposed development activities.

Priority will be given to the protection and conservation of the archeological artifacts during the construction and operation phases and in addition to that, the following important scenarios have been concerned in this report which had been addressed in the conditional approval given by the Archeological Department in the Annexure 5.
1. At the close of the survey, the team were presented with two proposed modifications to the development specially design to avoid Hercules site in their report of Maritime Archaeological Impact Assessment, (Page No. 28-30) shown in the Annexure 12. As per the recommendation made by the Archeology Department a realignment of the road and sea wall that would leave the Hercules site outside the development zone (i.e. option 1) has been selected as possiblealternative and it would left Hercules site untouched by the port development anda 50 m buffer zone is established around the site as in the Annexure 10.

2. The original land forms of Gibbet and Closenburg Islands including grave sites on Gibbet Island will be left untouched by the proposed development project.

3. The SLPA will develop the Galle port as a tourist destination port to promote the tourism industry in Sri Lanka and would not be considered as industrial port such as Ports of Hambantota and Colombo. Therefore basic infrastructure facilities will be developed to cater to passengercruise and yachts and thereforevalue of archeological sites/monuments will be more attractive for the tourism industry.

4. The Galle Harbour Maritime Archeological Impact Assessment has been forwarded to the Archeological Department of Sri Lanka. The report includes the following four reports.
   i. The Maritime Archeological Impact Assessment has been conducted by the Department of Maritime Archeology, Western Australian Museum (WAM) together with the Sri Lankan Department of Archeology (SLDA).
   ii. Evaluation report on the Galle Port development project by Prof. ing. Leopoldo Franco- University of Rome 3 – MODIMAR (UNESCO Contract No. 4500042925- Id.n.411178.
   iii. The survey report conducted for the Galle Harbour Development Project by Western Australian Museum.
   iv. The survey report conducted for the Galle Harbour Development Project by Dr Raj Somadeva, Consultant Field Archeologist, Bureau of Earth Reconnaissance (Pvt.) Ltd.
In addition to that the detailed diving survey will be carried out during the construction phase and any findings of existing / remaining artifacts will be informed immediately to the Archaeological Department.

5. The proposed development activities will not make any impacts on the 19th and 20th century iron and steam shipwrecks identified in the sites. If unidentified archaeological artifacts are found during construction immediately will be informed to the Archaeological Department.

6. Since the proposed project activities will not make any impact on the present archeological site it would not be affected to the identified archaeological site.

7. The control blasting will be conducted under the guidance of the Geological Survey and Mines Bureau (GSMB). Prior to commence any blasting, the Method of Statement on Control Blasting with full details and report on Test Blasting which will be conducted by the GSMB have to be submitted to the Sri Lanka Ports Authority by the contractor. The SLPA will closely monitor and adhere to the blasting methodologies in accordance with the guidelines given by the Archaeological Department with emphasis on conserving the archeological monuments as well as marine fauna and flora in the proposed development site.

8. According to the design it will maximize the circulation and compatibility of the wave transmission. The construction of proposed development plan will not make any visual pollution to the surrounding environment and all man-made structures will be coloured with the existing environment. For the outer break water ACCROPOD is selected to get the natural appearance. The mathematical model to enhance the water circulation has been proposed for the new development. Construction of tall buildings or high cranes will not be included to the proposed development plan. Green harbour concepts will be applied for the New Galle port Development Project.
9. According to the EIA it’s a mandatory to establish the Environmental Monitoring Committee (EMC) and it will include with experts of the relevant government bodies for the project and CCD will take the leadership/chairmanship of the committee. The EMC meeting will consider all the environmental, sociological and archeological issues and cost related to the recommended tests or further surveys will be borne by the developer or contractor and such report should be submitted to the EMC for review and further reference.

4. CONCLUSION

In brief, there is no enhancement in the scope of current development project which is in fact reduced in scope compared to the planned development module in 2007 which has been approved by relevant Government Authorities for all the concerned areas.

The large yard and lengthy quay wall have been reduced to a passenger terminal and all Archeological artifacts are completely untouched including the Hercules Site with a 50m buffer zone.

The main concern of the SLPA is to keep the entire bay as a calm water body enhancing its marine archeological activities and protect the foundation of old rampart wall which in dilapidated condition at present from aggressive high waves.

Accordingly, SLPA has planned all the development activities in giving more attention to secure the beauty and marine life of the bay, preserving marine artifacts and Heritage and providing Space for Marine Archeological Centre with emphasis to display its archeological values of the old Galle city as a world Heritage Site attracting more tourists.

Galle Port development plan will protect entire bay for the leisure activities, opening wider avenue to the economic development of the region, while constructively contributing in reducing impact on the Galle city in an event of possible future tsunami.
5. REFERENCES


Galle Port Development Project 2012, Mathematical Modelling for Revised Layout, Lanka Hydraulic Institute Ltd.


10. LIST OF ANNEXURES

Annexure 1  Proposed Layout Initially in 2007
Annexure 2  Modified layout in satisfying the conditions stipulated by the Archaeological Department.
Annexure 3  Comparison of proposed road arrangement in the initial plan and modified road arrangement in the revised plan
Annexure 4  CCD approval extension up to July 2013 for the Galle development Project.
Annexure 5  Conditional approval given by the Archaeological Department
Annexure 6  Finally agreed upon optimized layout Plan – Alternative 4
Annexure 7  Layout Plan alternative 1
Annexure 8  Layout Plan alternative 2
Annexure 9  Layout Plan alternative 3
Annexure 10 Final Layout Plan with all the Archeological Sites are untouched and with 50m buffer zone to Hercules sites
Annexure 11 Master plan with more space for tourism promotion
Annexure 12 Extract from Maritime Archaeological Impact Assessment Page 28-30
Annexure 1:
Proposed Layout Initially in 2007
Annexure 2:
Modified layout in satisfying the conditions stipulated by the Archaeological Department
Annexure 3:
Comparison of proposed road arrangement in the initial plan and modified road arrangement in the revised plan
Annexure 4:

CCD approval extension up to July 2013 for the Galle Port Development Project.
PERMIT FOR A DEVELOPMENT ACTIVITY ISSUED
UNDER PART III - SECTION 14 OF THE
COAST CONSERVATION ACT No. 57 OF 1981

Name of Permit Holder: Sri Lanka Ports Authority
(Surname) (Other Names)

Postal Address: No. 19, Church Street, Colombo 01.

Nature of Development Activity: Renewal of the permits No. P/09/144
for Development of Galle Harbour.

Location of Development Activity: Galle Harbour

Province: Southern
District: Galle
Local Authority: Galle

Particulars of Survey Plan submitted by Applicant:


Conditions Attached:
1. All constructions should be confined to the Survey Plan indicated in the Environmental Impact Assessment (EIA) report submitted to the Coast Conservation & Coastal Resource Management Department.

Signature & Designation of Authorized Officer
(Issued for and on behalf of the Director / Coast Conservation)

Date: 28/6/2012
2. Detailed Architectural drawings of all constructions should be submitted to the Coast Conservation & Coastal Resource Management Department prior to commencement of the constructions.

3. All construction should be carried out in accordance with the approved drawings and recommendations of the mathematical model studies submitted to the Coast Conservation & Coastal Resource Management Department.

4. The Developer should adhere to the conditions laid down by the clearance of Archeological Department according to the Archeological Impact Assessment.

5. Resettlement and compensation plans for the affected facilities should be implemented as instructions given by Coast Conservation & Coastal Resource Management Department prior to commencement of the project.

6. Oil spill combat mechanism and oil spill contingency plan should be submitted for operational phase as per MEPA guidelines and sufficient amount of oil combat equipments should be made available in sites.

7. The developer should keep records of salinity, conductivity and sediment transportation in order to detect possible impacts on aquatic flora and fauna and quarterly reports should be submitted to the CC & CRMD.

8. The Environmental Management Plan including monitoring plan which has been submitted to the CCD should be implemented to mitigate the possible environment impacts.

9. Adequate amount of funds should be allocated to implement the monitoring plan and competent recognized institution should implement the monitoring plan.

10. Existing water ways connected to project area in the vicinity should be maintained and monitored.

11. The developer should be liable to pay potential damages to the existing roads due to transportation of materials during the construction phase.

12. The developer should coordinate with the local authorities and relevant government agencies for the maintenance and repair of the existing roads.

13. Necessary clearance from the Ministry of Defence & Urban Development, Urban Development Authority, Geological Survey and Mines Bureau and other relevant government agencies should be obtained prior to commencement of constructions.
14. This permit will be invalid if violation of any of the above conditions. In such a case this Department will consider relevant structures as unauthorized and will take legal action according to the Coast Conservation & Coastal Resource Management Act No. 57 of 1981.

A.H.Gamini Hewage  
Deputy Director (Planning)  
For Director General / Coast Conservation & Coastal Resource Management.

Copies to:

1. Mayor  
   - Municipal Council, Galle
2. Director General  
   - National Aquatic Resources Research & Development Agency
3. Director General  
   - Urban Development Authority
4. Director General  
   - Department of Fisheries & Aquatic Resources
5. Director General  
   - Department of Wildlife Conservation
6. Area Commander (Southern)-Sri Lanka NAVY
7. Director (EIA)  
   - Central Environmental Authority
8. Divisional Secretary  
   - Galle (Four Gravets)
9. Area Engineer  
   - Coast Conservation & Coastal Resource Management Dept. Galle
Annexure 5:

Conditional approval given by the Archaeological Department
Galle Port Development Project - Archaeological Impact Assessment

This is reference to the letter from the Ministry of National Heritage No.NH/1/7/2/7/17 and dated 15.05.2008 with a copy to you and your letter No.PRD/PP/06/P/81(EIA) received on 13th of August 2008.

The conditional approval is granted hereby for the proposed Galle Port Development Project subject to the recommendations set out below:

1. A realignment of the road and sea wall that would leave the Hercules site outside the development zone (Galle Harbour Maritime Archaeological Impact Assessment Report for Sri Lankan Department of Archaeology- GHMAIAR- 28-30pages) That the Hercules site is left untouched by port development and a 50m buffer zone is established around the site (as per Option 1).

2. That the original landforms of Gibbet and Closenburg Islands, including gravesites on Gibbet Island, are left untouched by the development.

3. That consideration for the heritage values of Galle UNESCO site is extended to the wider maritime landscape of Galle Harbour, that under current plans will be significantly impacted by placing major modern port infrastructure between the ancient fort and eastern bay area, along with attendant risks from increased shipping movements. Hence, the Sri Lankan Ports Authority should focus on Hambantota and Colombo as the sites for major port and infrastructure developments, and limit development in Galle to upgrading and improving existing facilities in accordance with its current status as a minor port.

4. It is recommended that the 2007 remote sensing survey is followed up by a diving survey along transects, to sample the seabed in the development area to identify other...
possible archaeological/cultural remains and to carry out a detailed survey of sites recorded in 2007 survey.

5. That historic research is carried out into the 19th and 20th century iron and steam shipwrecks in Sri Lankan newspapers and archives to attempt to determine the identities and historic background to these wrecks and enable an informed assessment of their significance.

6. Research in British institutions particularly Guildhall Library London should be conducted with searches made of the following archives: Lloyd's List 1740-1990; Board of Trade Casualty Returns 1850-1918; Board of Trade Inquiries 1850 to 1965; Lloyd's Missing Vessel Books 1873-1954; refer to Guide to the Lloyd's Marine Collection, by Declan Barriskill (London: Guildhall Library, 2nd edition 1994) for further details of the Lloyds collection.

7. As far as blasting is concerned, detailed geotechnical investigation concludes that hard rock exists within parts of Galle Port and therefore pre-treatment by drilling and blasting will be required to enable excavation by dredgers. Every drilling and blasting project is different and there is therefore a wide range of site-specific factors that must be considered when designing a blast. Micro-delayed explosions can minimize their effects on the rampart.

8. Modify the port layout and introduce some design changes to reduce negative impacts.

Further improvements of the visual appearance of the new design could include:

- lowering the crest elevation of breakwaters and revetments (as compatible with wave transmission);

- using local rock as crest armour above water whenever possible or concrete blocks of natural appearance such as ECOPODE on top of the concrete ACCROPODE blocks (not visible underwater);

- introduce submerged pipes or openings through the breakwaters in order to enhance the water circulation within the bay;

- avoid the construction of tall buildings (eg. vertical silos) and installation of high cranes;

- introduce vegetation screens to hide the port terminal
- locate construction areas away from sensitive areas and historical sites (taking into account the exact position of the shipwrecks, as derived from the new survey –Nov 2007- GHMAIAR).

Based on this new survey an updated plan of the proposed port works should be provided with a clear indication of: isobaths within the whole bay (at 1 m intervals); rock formations to be blasted; position of the shipwrecks and any other sensitive areas.

In any case computer colour rendering of the future assets of the bay with the project should be provided by the designers, with views from various angles of perception (eg, from the fort, Rumassela hill, the town, marine drive, the dome towers, Closenburg hotel etc.).

9. The establishment of a committee including experts in Archaeology, Maritime Archaeology, Geology, Architectural Conservation, Structural Engineering, Underwater Artefact Conservation and representatives of the Department of Archaeology, Central Cultural Fund, ICOMOS Sri Lanka, Galle Heritage Foundation. Sri Lanka National Commission for UNESCO is needed to monitor the impact on the maritime archaeological sites and Galle Fort and its fortification continuously before, during and after the constructions.

The expenditure for the recommended further surveys both underwater and archival mentioned above and for the establishment of the committee and the payments for their services should be born by the Sri Lanka Ports Authority and such fund should be deposited with Director-General of Archaeology.

The estimate for the above mentioned process of further survey, maintenance and monitoring of the archaeological sites will be sent to you as soon as possible after the stake holder meeting.

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Dr. Senerath Dissanayake
Archaeological Director-General

Copy - 1. Secretary
Ministry of Cultural Affairs
and National Heritage

2. Director
Coast Conservation Department
Annexure 6:
Finally agreed upon optimized layout Plan – Alternative 4
Annexure 7:
Layout Plan alternative 1
Annexure 8:
Layout Plan alternative 2
Annexure 9:
Layout Plan alternative 3
Annexure 10:

Final Layout Plan with all the Archeological Sites are untouched and with 50m buffer zone to Hercules sites
Annexure 11:
Master plan with more space for tourism promotion
Annexure 12:
Extract from Maritime Archaeological Impact Assessment Page 28-30
Westerdahl (1992), incorporate centres of maritime culture, sea routes, shipwrecks, port remains and monuments, natural topography and havens, place names, inland sites and living traditions.

The effect of the port development would be to effectively split the natural haven of Galle Harbour in two. The western and northern shores exhibit the main focus of ancient and modern maritime activity while the eastern shore remains relatively unspoiled in its natural state with Jungle Beach and coral gardens at Watering Point. The Peace Dagoba at Rumassala also incorporates aesthetic and spiritual values of the eastern shore.

To preserve the heritage values of the harbour, as described above, our recommendation is to relocate shipping facilities to a less culturally sensitive region. The establishment of a port in Galle will have implications for the harbour's proposed listing as a world heritage site. If Galle harbour is selected for redevelopment, all attempts should be made to minimise the impact of any built structure on the cultural and natural aesthetics of the harbour.

Consideration of SLPA Hercules site avoidance options presented in Sri Lanka December 2007

At the close of the survey, the team were presented with two proposed modifications to the development specifically designed to avoid the Hercules site:

- Option 1 Figure 34: A realignment of the road and sea wall that would leave the Hercules site outside the development zone.
- Option 2 Figure 35: Incorporation of the Hercules site within the development. In this option the Hercules site would be preserved by enclosure with an interior sea wall.

While both of these options are supported given that they ostensibly preserve the Hercules site, there are a number of issues that need to be considered. Firstly, both of these options require a buffer zone around the site. For Option 1, a 50m buffer zone seaward of the 8m contour is recommended (as shown in Figure 36) given the likelihood of further archaeological material to be buried in the sand in this region. Enclosing the site as per Option 2, will change the immediate site environment and therefore has implications for the long term conservation of the site and artefacts. This will require further survey and site definition. In particular, a full pre-disturbance survey is required to obtain baseline data of artefacts prior to changes in environmental conditions. In addition, conservation advice on relative merits of in-filling site with sterile soil or maintaining a saltwater environment will be required.
Figure 34. Option 1 showing road bypassing site to west leaving site in its natural environment.

Figure 35. Option 2 showing road enclosing Hercules site.
Figure 36. Recommended buffer zone around Hercules site.
BUFFER ZONES, OLD TOWN OF GALLE AND ITS FORTIFICATIONS

Legend
- Martime Site
- UDA Zone
- 400 Yard Buffer

UDA Zone 02
UDA Zone 01
Galle Fort
Galle Harbour

DEPARTMENT OF ARCHAEOLOGY