Submission No. 1(Australian Embassy Thailand)AQDate: 15/09/2011



CONSTRUCTION OF A NEW AUSTRALIAN EMBASSY COMPLEX INCLUDING CHANCERY AND HEAD OF MISSION RESIDENCE

BANGKOK, THAILAND

STATEMENT OF EVIDENCE FOR PRESENTATION TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

SUBMISSION 1



Australian Government

Department of Foreign Affairs and Trade Overseas Property Office

Date of Submission: September 2011

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1 IDENTIFICATION OF THE NEED

1.1 Project objectives

- 1.1.1 The Department of Foreign Affairs and Trade (DFAT) seeks approval from the Parliamentary Standing Committee on Public Works (PWC) to proceed with a purpose built new Australian Embassy Complex, including a chancery and head of mission (HOM) official residence, in the Pathum Wan district of Bangkok, close to Wireless Road and Lumpini Park, on a site leased from Thailand's Crown Property Bureau. This facility will be developed and owned by the Overseas Property Office (OPO) within DFAT. Following the 9 September 2004 bombing of Australia's Embassy in Jakarta, the National Security Committee (NSC) of Cabinet approved the relocation of the Bangkok Embassy on security grounds.
- 1.1.2 Under the Administrative Order Arrangements of 26 November 2001, DFAT is responsible for "overseas property management, including, acquisition, ownership, and disposal of real property". This activity is to be undertaken by OPO, which manages the overseas estate, and will fund and construct the new works.
- 1.1.3 The new chancery building and HOM residence will serve as Australia's ongoing permanent mission to Thailand. The chancery will be tenanted by DFAT; Department of Immigration and Citizenship (DIAC); Australian Federal Police (AFP), Australian Trade Commission (Austrade); Australian Agency for International Development (AusAID); Australian Customs Service (Customs); Department of Agriculture, Fisheries and Forestry (DAFF); Department of Education, Employment and Workplace Relations (DEEWR); Department of Infrastructure and Transport (DOI) and the Department of Defence (Defence).

1.2 Historical background

- 1.2.1 The present chancery and HOM residence complex is located at 37 South Sathorn Road, in the heart of Bangkok's central business district, on a site of approximately 12,700 square metres (sqm). The complex was designed by the Australian architectural firm Ancher, Mortlock and Woolley and has been occupied since 1979. The current embassy includes a six level chancery building (including a basement) and in a separate building to the rear of the site the HOM residence. The gross floor area of the chancery is approximately 10,400 square metres (sqm), which is designed in a square around a central open courtyard. It faces Sathorn Road, while the HOM residence is positioned with the entrance on the axis of the chancery driveway. The two buildings were positioned to preserve major trees on site.
- 1.2.2 Approval was given in the May 2009 Budget to fund a new development, based on physical security requirements, for the construction of a new complex on a larger site to provide appropriate perimeter security and setbacks to buildings and to accommodate all agencies and the HOM residence. The option of leasing office premises for a new chancery was ruled out following an assessment of the local property market which revealed that no suitable commercial leasehold property was available that could provide the physical security required. Construction of a new chancery on the existing chancery site was also rejected as the current DFAT physical security requirements could not be met. The present embassy land will be sold and the funds returned to the Commonwealth. The 2011valuation of the present embassy land is estimated at \$46.40 million.
- 1.2.3 The Commonwealth has leased a new site in Pathum Wan district of Bangkok, adjacent to the Embassy of Japan, of approximately 16,100 sqm (nominally 140m x 116m) from The Crown

Property Bureau of Thailand under an initial 30 year long term lease with an option to extend for a further 30 years.

1.3 Need

- 1.3.1 Following the terrorist bomb attack at the Australian Embassy in Jakarta on 9 September 2004, and a global review of physical security at Australia's overseas missions, the National Security Committee of Cabinet approved the relocation of the Bangkok embassy complex on security grounds. The new site will enable appropriate setbacks to the chancery and HOM Residence buildings for blast mitigation while the buildings themselves will be designed to mitigate blast.
- 1.3.2 The Australian Government constructed the existing buildings in 1979 for use as a chancery and HOM residence. While the new development proposal is driven by the imperative to provide more secure accommodation, it should be also noted that the existing chancery premises have not, for some time, provided appropriate office accommodation for tenant agencies. While over time various retrofits and modifications have been made, aspects such as security setbacks, compound access, building engineering services, office layouts, staff facilities and office space availability have all become deficient.
- 1.3.3 Many of the office layouts are dysfunctional and fail to meet basic requirements. Incremental alterations over the life of the facility have meant that operational functions have been accommodated on an ad hoc basis. The resultant floor layouts do not allow for efficient operations within the chancery. A new secure purpose-designed chancery will provide an efficient and effective modern office environment.
- 1.3.4 The current chancery also has significant compliance deficiencies with regard to the Building Code of Australia (BCA) and occupational health and safety (OH&S) regulations. The new chancery will be designed to meet the requirements of the BCA and the Disability Discrimination Act (DDA), and will meet the appropriate OH&S standards.
- 1.3.5 As well as meeting the Department of Foreign Affairs and Trade's physical security requirements for the protection of staff and visitors, the new chancery will be planned to meet current and future tenancy operational and technological requirements. The proposed building configuration will facilitate provision of future expansion space if required. As owner, the Australian Government will have management control of the chancery complex and will be able to provide reliable and self-sufficient services not available in leased office accommodation.
- 1.3.6 As a major overseas mission the Bangkok embassy is significant in representational terms as well as acting as a hub for other Australian missions in the region. It is expected that Australia's relationship with Thailand will continue to develop, placing ongoing and additional demands on the embassy.

1.4 Description of proposal

1.4.1 The proposal includes the design and construction of a new embassy complex on leased land adjacent to the Embassy of Japan in the Pathum Wan district of Bangkok that will provide appropriate physical security provisions to meet the risk classification. The site is in the same general district as the current embassy. As well as providing the appropriate physical security, the project will deliver an efficient, modern, functional chancery building to accommodate DFAT; DIAC; AFP; Austrade; AusAID; Customs; DAFF; DEEWR; DOI and Defence as well as provision of a new official residence for the Ambassador, family members and high level visitors.

- 1.4.2 The facilities will be capable of catering for the large range of representational functions that will be undertaken at the complex. Through the use of public spaces, conference rooms and outdoor areas, as well as the official representational areas of the HOM residence, the buildings will accommodate events such as official receptions, exhibitions and trade displays, meetings, lectures and business missions.
- 1.4.3 The project will also include all necessary engineering services infrastructure to provide full support facilities such as emergency power, sewerage treatment, potable and fire fighting water storage, potable water treatment along with official and Australian-based officer car parking situated in landscaped surrounds within a secure compound.

1.5 Options considered

- 1.5.1 Following the decision on security grounds to proceed with the planning for a new complex which was included in the 2009 Budget, a number of development options were reviewed. These were:
 - (a) demolish the existing buildings and redevelop on the existing site;
 - (b) refurbish and redevelop the existing buildings;
 - (c) lease alternative accommodation on the open market; or
 - (d) construct a new purpose designed chancery and HOM residence on the vacant site.
- 1.5.2 Investigations, including preliminary design work and preparation of feasibility estimates, were undertaken by DFAT in 2008. These studies, which are still valid, considered the current mandatory building security setback requirements in order to mitigate blast damage, the ongoing operational requirements of the mission, the availability of temporary staging space, divestment opportunities for the surplus property and the relative costs.

1.6 Reasons for adopting proposed course of action

- 1.6.1 The construction of a new chancery on a 'brownfield' site (as the site has been cleared of previous buildings) will offer the following advantages:
 - (a) provision of appropriate physical security arrangements;
 - (b) provision of a purpose-designed building with appropriate spatial, functional and efficient office space, and information, communication and technology (ICT) infrastructure for the occupying agencies;
 - (c) provision of a building which complies with BCA, DDA and OH & S requirements and standards;
 - (d) minimal disruption to the operation of the embassy, as the existing facility can continue to operate until the new facility is ready for occupation; and
 - (e) future sale and return of funds from the present embassy property.

- 1.6.2 Construction of a new chancery and HOM residence on the site of the present complex was rejected as the DFAT physical security requirements could not be met.
- 1.6.3 The option of leasing commercial office premises for a new chancery was ruled out following an assessment of the local property market which revealed that no suitable leasehold property was available that could provide the physical security requirements.

1.7 Environmental impact assessments

- 1.7.1 There is no known requirement for this proposal to undergo an environmental impact assessment. However any redevelopment undertaken by the landowners of the immediate precinct may require an assessment to be undertaken.
- 1.7.2 The site will be cleared of all existing vegetation and in-ground services. The lease states that the lessor will clear the site of any existing structures, vegetation and decommission any inground services within the site. The lease also states that if there is any contamination remaining after the site is cleared it will be removed by the lessor before handover to the lessee.
- 1.7.3 Consultation with local engineers indicates that the underlying geology should not present any difficulty to the proposed structural design of a building on the site. A comprehensive geotechnical investigation will be commissioned upon possession of site.
- 1.7.4 Site earthworks will be required to raise the chancery ground floor in order to enhance the arrival presentation of the building and avoid any possibility of localised flooding.
- 1.7.5 The site is in a built-up area in close proximity to the Japanese Embassy and other buildings. Implementation of and adherence to suitable noise and dust mitigation measures, including a traffic management plan and suitable restrictions on noisy working hours during the construction period, may therefore be necessary.

1.8 Heritage considerations

- 1.8.1 The existing buildings on the site have been removed by the lessor and the site will be provided clear and vacant. The new complex will be designed in sympathy with the surrounding environment through the use of local materials where appropriate.
- 1.8.2 There are no known heritage considerations associated with the construction on the site of the new complex.

1.9 Details of organisations consulted

- 1.9.1 Consultations have been held with DFAT security division as well as with Commonwealth departments and agencies represented in Bangkok. Subsequent to the consultations held in Canberra and Bangkok, the agency space and functional requirements were confirmed by the relevant agencies, which comprise DFAT; DIAC; AFP; Austrade; AusAID; Customs; DAFF; DEEWR; DOI; and Defence.
- 1.9.2 Key information sought from agencies during briefings was as follows:
 - a) functional requirements at the new location, in terms of types of spaces required (expressed in functional terms, eg, "meeting room"), of what size and what quantity;

- b) spatial relationships internally within each agency, and to other agencies and/or shared use facilities, eg, "should be adjacent to large conference room";
- c) key issues in relation to building services and maintenance, both in terms of "lessons learned" from the existing and similar facilities and important considerations for the new facility. Other spatial implications in respect of building services, including plant room sizes, car parking and storage requirements were also sought;
- d) feedback on improvements to the nature and configuration of existing facilities;
- e) extent and nature of interaction between agencies, the public, businesses and other parties both currently and in the future; and
- f) the role of Bangkok as a regional "hub" and its interaction with other Australian missions in South East Asia, in terms of individual agencies and the overall role of the Embassy.
- 1.9.3 Following consultations a detailed Functional Design Brief (FDB) was formulated. The proposed design for the complex (appended at page 23) has been developed in response to the FDB to meet each agency's individual functional, spatial and inter-agency relationship requirements.
- 1.9.4 Consultation was also undertaken with members of the Government Energy Efficiency Team which expressed broad support for the scheme and the Environmentally Sustainable Design (ESD) detailed initiatives proposed.

1.10 Amount of revenue derived from the project

- 1.10.1 Occupying agencies will be charged market based rent as determined by independent valuers prior to occupation, according to the "Rent Setting Policy for the Commonwealth Overseas Owned Estate, July 2011".
- 1.10.2 The independent valuers assessment will reflect the quality and standard of the property (excluding tenant funded items) in the local market and the local market rent the valuers feels is applicable, without a requirement to necessarily achieve a fixed commercial rate of return.
- 1.10.3 This approach is as agreed by Ministers following the Joint Review of OPO and is consistent with the "Governance Framework for the Commonwealth Overseas Owned Estate, July 2011" and the "Commonwealth Property Management Framework" where applicable.

2 TECHNICAL INFORMATION

2.1 Location and climate

2.1.1 Bangkok is 13°44' north of the equator and 100°30' east longitude. The climate is hot and tropical. The hottest months are from February through to May with temperatures averaging 34C with humidity levels of around 75%. The cooler months are from September to December when temperatures may drop to 18C. The wet season is from May to October averaging 15 days of rain per month. Rainfall is lowest from November to April with as few as three wet days a month. The months of October through to June have the highest number of sunshine hours per day ranging between 6 and 9 hours.

2.2 Scope of work

- 2.2.1 The proposal is to construct a new 9,000 sqm net lettable area (NLA) chancery, an official HOM residence and associated services and support buildings in accordance with DFAT and individual agency spatial and DFAT security requirements. The chancery will be designed to meet the specific space and functional requirements of the agencies and will also provide for some future expansion within the chancery footprint. All proposed provisions for expansion will remain within the required building setbacks.
- 2.2.2 Two pedestrian and vehicular access points will be provided from the access road along the southern boundary. The main guard station will provide pedestrian and vehicle screening and a garbage collection lay-by. The rear service road and underground parking areas will be connected to the main site entrances and chancery porte cochere via an internal roadway with an automatic gate in order to prevent unauthorized access to the rear of the site. A dedicated smaller guard station with pedestrian and vehicle screening will be provided for the HOM residence.
- 2.2.3 The main ground floor level entry area to the chancery will provide controlled pedestrian access for staff, visitors and consular clients, while DIAC will have a separate entry and waiting area adjacent to a vehicle porte cochere. A separate staff entry for Australian-based officers will be incorporated on the ground floor with direct access from the basement carpark.
- 2.2.4 An engineering and maintenance services building will be located along the front perimeter wall of the site to allow local authority and service provider's direct access for maintenance and inspection without having to enter the compound itself. The location of the services building will also enhance acoustic separation from the road to the chancery and HOM residence. A perimeter security wall, complete with CCTV and appropriate lighting, will be provided around the entire site designed to prevent unauthorized vehicle and pedestrian entry.
- 2.2.5 Project specific engineering services will include a stand-by generator and fuel storage for emergency power, Bangkok city mains electricity delivered through an on-site transformer, underground storage tanks for fire sprinkler and potable water, mains water supply treatment up to World Health Organisation (WHO) potable standards, storm water drainage and harvesting, sewerage treatment system, and comprehensive ICT facilities.

- 2.2.6 An integrated office fit-out will be included in response to tenant requirements. Items in the fitout scope will include all DFAT and tenancy related security measures such as forced entry and ballistic partitions, doors and glazing, security counters, security air locks and doors and specialized door hardware.
- 2.2.7 Fixed work-stations, workstation partitions, built-in joinery, compactus storage units, window treatments and floor coverings will be included in the fitout scope. Loose furniture for the chancery such as tables, chairs, desks, shelving and filing cabinets and residential and representational furniture for the HOM residence will also be included. General office machines including photocopiers, computers, printers and whitegoods are not included in the scope of the construction or fitout works. Such items will be supplied by the individual tenant agencies.

2.3 Site selection and site description

- 2.3.1 The lease describes the site as Land Plot Nos. 1 & 2 of the Land Title Deed Nos. 2699 & 2700 respectively, located at Lumpini Sub-district, Pathum Wah District, Bangkok. The relatively flat rectangular site has an approximate area of 10 rai (equal to approximately 16,100 sqm). The Japanese Embassy is located on the west side, while the site to the east is nominated for a future Embassy, the country of which is unknown at this time.
- 2.3.2 It is anticipated that an alternative emergency staff and visitor egress route through the northern (rear) boundary wall of the compound into the adjacent Polo Club site can be negotiated with the Club during the design development phase.
- 2.3.3 There are a variety of building uses within the Pathum Wah District consisting mainly of office and commercial complexes along the main Thanon Rama IV and Wireless Road thoroughfares. This district has established electrical power, mains water, sewerage and fire hydrant services infrastructure, although no natural gas services are present. Rain water is collected along the streets in the traditional open 'klongs' (drains) which generally are large enough to cope with the tropical downpour conditions found in Bangkok.
- 2.3.4 Access to the site will be along the southern boundary of the site only. The access road will primarily serve the three embassy blocks. It runs eastwards from Wireless Road and has been constructed approximately twelve metres wide plus a two metre wide footpath immediately adjoining the site.

2.4 Zoning and approvals

- 2.4.1 In accordance with the Bangkok Metropolitan Administration (BMA) town plan, the site is zoned for the construction of Embassy buildings. The Japanese Embassy is located adjacent, and the Embassy proposal is consistent with the land use requirements allowed by the local authorities.
- 2.4.2 The Commonwealth, as lessee, has complete authority to undertake developments on the site in accordance with local authority requirements.
- 2.4.3 Planning approval to construct new buildings on the site will be required by the BMA.
- 2.4.4 A Building Application containing the completed construction documentation and specifications must be submitted and approved by the BMA prior to the commencement of construction.

2.5 Land acquisition

2.5.1 The site has been procured on a long term lease agreement between the Commonwealth and The Crown Property Bureau of Thailand. Based on this arrangement, a building life of 60 years is required to be incorporated in the design of the new complex.

2.6 Codes and standards

2.6.1 The project will be designed in accordance with the BCA, the DDA and relevant Australian Standards, or international standards where they are judged to be of a higher or more relevant standard.

2.7 Architecture

- 2.7.1 The new Bangkok chancery will be an important regional diplomatic facility and needs to articulate Australian values and aspirations in its architectural expression. The key architectural issue to be explored surrounds how to translate a distinct national image into 'bricks and mortar'. In some circumstances a building may derive its expression from its internal functions, however here, this opportunity is precluded due to the physical security requirements and as such the metaphor becomes the prime means by which to give the architecture meaning and connection.
- 2.7.2 The two major buildings of embassy complex will be the chancery building and HOM residence. These two buildings are designed to complement each other in architectural form and expression. The buildings are sited to allow either discrete or shared use of each depending on the representational circumstances.
- 2.7.3 The new chancery will present a modern, secure, efficient, pleasant and safe work environment for the Embassy staff. The new facility will assist staff in their work responsibilities and aid the specific corporate objectives of DFAT; AFP Austrade; AusAID; Customs; DAFF; DEEWR; DOI; and Defence in furthering Australia's interests both locally and internationally. The facility will be designed and planned in accordance with the staffing estimates of the tenant agencies. The design will also allow for expansion areas to be fitted out in the future should the need arise.
- 2.7.4 The general design philosophy for the proposed chancery building is to:
 - (a) allow for the current DFAT physical security measures within the building design and site. This will be achieved by clearly separating the public and visitors from the office areas to prevent unauthorised entry into the building and between respective internal areas, as well as providing appropriate secure guard stations and a perimeter wall around the site;
 - (b) represent Australia to the host nation by using, where appropriate, a range of Australian materials and finishes in the public and representational areas;
 - (c) provide a setting to enable effective functioning of the chancery. Attention will be given to ensure the building, both in general form and detail, provides a pleasant work environment;

- (d) maximise the site potential by providing a 'Master Plan' that anticipates future open space uses and ties these uses into a cohesive built form and landscaped element structure whilst maintaining appropriate security segregation of the zones;
- (e) respect the local culture by being sympathetic to the surrounding environment both in the built form and in scale and the selection of materials and;
- (f) respond to local climatic conditions by providing shading to windows, high efficiency glazing and covered outdoors areas for use as breakout and recreation spaces.
- 2.7.5 The HOM residence offers an opportunity to express the clarity and uniqueness of contemporary Australian architecture, using natural materials and forms.
- 2.7.6 The general design philosophy for the proposed HOM residence is to provide:
 - (a) a setting to enable the effective and efficient representational activities to be conducted. Attention will be given to ensure the building, both in general form and detail, provides a pleasant environment in which to live, represent and conduct business;
 - (b) two distinct functional zones the representational areas including formal and informal meeting spaces suitable for a variety of functions, and the private living quarters for the HOM, family and a separate suite for high level visitors;
 - (c) a pavilion plan with a discrete covered porte cochere entry linking directly into a reception hall with clear glazed views into a lush rainforest garden beyond. The major representational spaces will be located in the south wing associated with a commercial kitchen and service facilities, while the private living quarters will be located in the northern wing over two floors;
 - (d) a private recreational space and pool located to avoid any overlooking from the chancery; and
 - (e) internal spaces which express a strong sense of contemporary Australia potentially through the use of timber floors, screens, louvres and walls together with seamless views into the surrounding landscaped gardens and outdoors areas. Emblematic double height spaces will convey a sense of dignity and occasion for the representational areas which will be used by the HOM to host a large variety of functions.

2.8 Master planning and site planning

- 2.8.1 The buildings will be located on the site to best present the built form consistent with the functional planning and operational requirements of the mission within the constraints of the mandatory security setbacks from the site boundaries. The locations will also take into consideration environmental factors, the functional activities of the individual agencies, access for the public and visitors together with the servicing requirements for the complex. Careful consideration will also be given to provide for the private and representational activities of the HOM residence.
- 2.8.2 The chancery design will allow for the future fitout of additional office space, should such expansion be required, within the chancery footprint.
- 2.8.3 The design solution for the embassy complex provides four distinct zones; the main entry boundary wall and services zone; the chancery zone; the HOM residence zone; and the landscaping. The key relationships between these components are exhibited in the site master plan which will be achieved through:
 - (a) street access available to one edge of the site only;
 - (b) a building footprint zone described by a 30 metre mandatory setback from all boundaries and from vehicle entry points;
 - (c) requirement for discrete access to engineering and other services along the main entry boundary;
 - (d) separate addresses and identities for the chancery and HOM residence;
 - (e) controlled vehicular and pedestrian movement around the site;
 - (f) discrete entrances to the separate functions of the chancery; and
 - (g) an alternative pedestrian escape path through the adjacent Polo Club.
- 2.8.4 Chancery entrances will fulfill the following general criteria:
 - (a) Pedestrian access to the chancery arrival area will be provided at three points: firstly to the multi-function room; secondly to consular and passport services; and thirdly for DIAC clients. These three entrances will be accessible undercover directly from the chancery forecourt.
 - (b) Direct access to the DEEWR and Austrade 'front-of-house' functions will also be available from the front entry lobby. A dedicated stair and lift will be located in the lobby to enable entry by visitors and clients to the public accessible areas on other levels without the requirement to enter or pass through the controlled access areas of the chancery.
 - (c) Escorted visitor entry to the controlled and/or restricted areas of the chancery will be via a secure airlock located at the north edge of the ground floor main front entrance lobby.

- (d) Australia-based officers will able to gain access to the office areas via a controlled lift directly from the basement car park, whilst locally engaged staff (LES) will gain access to the offices after passing through the main perimeter guard station and the front entry lobby secure airlock.
- 2.8.5 Vehicular access to the complex will be structured in accordance with the following arrangements.
 - (a) The chancery and HOM residence will be provided with separate vehicle inspection points located at two separate guard stations located at the perimeter of the site. The 'sally-porte' (vehicle inspection bay) will be sized to accommodate a mid sized bus or two cars end to end.
 - (b) Buses will be provided with adequate space for parking and will be able to perform a three point turn adjacent the chancery. Buses entering the HOM residence zone will utilise the connecting road to exit the site.
 - (c) A small number of on-grade parking spaces will be located adjacent to both the chancery and HOM residence for official high level visitors.
 - (d) Australian based officer vehicles entering the chancery will queue on the inner lane of the street adjacent to the Japanese Embassy, move through vehicle inspection and proceed to dedicated basement parking. Sufficient numbers of parking spaces will be provided along with spaces for the official vehicle fleet.
 - (e) After security inspection, authorised service and delivery vehicles may enter the chancery grounds and proceed directly to a dedicated services yard at the rear of chancery where a loading dock is provided. Service vehicles to the HOM residence will proceed to a separate dedicated services courtyard in the HOM residence zone.
 - (f) Parking for the HOM official and private vehicles will be provided in a locked garage with secure covered access to the residence.
- 2.8.6 Pedestrian access to the chancery will be by covered walkway to the forecourt with direct access to various agencies and main reception. Pedestrian access to the HOM residence will be possible from the second guard station, while any pedestrian access required around the grounds and between the chancery and HOM residence will be controlled by internal security fencing and swipe card activated gates.

2.9 Materials and finishes

2.9.1 Materials will be selected to present high quality buildings that are durable and require minimum maintenance. Many of the construction materials may need to be imported into Thailand where there is no local supply or where locally supplied materials may not be of acceptable quality. Such materials might include glazing components, steel window sections, mechanical plant and equipment, electrical and hydraulic fixtures and fittings, joinery, high strength cement, granite, marble, and structural steelwork.

- 2.9.2 External finishes to the buildings will be concrete, masonry and other suitable materials designed to mitigate blast with long wearing coatings as commonly used in Thailand. Local or imported hardwearing materials will be utilised for floors in the public foyers, entrances and other heavy use areas.
- 2.9.3 Non-load bearing internal walls for office fit-out will be lightweight steel stud framed partitions and painted plasterboard, or where required constructed of rendered and painted masonry construction. Internal partitions with a security requirement will be constructed in accordance with DFAT standards.
- 2.9.4 Wet areas will be finished with ceramic tiles to walls and slip resistant vitrified tiles to floors.
- 2.9.5 Ceiling finishes will include suspended acoustic ceiling tiles, painted plasterboard and other suitable materials.
- 2.9.6 General floor finishes will be a mixture of granite, carpet, vinyl, concrete, vitrified tiles, treated cement screed or other materials as appropriate for the areas.

2.10 Structure

- 2.10.1 Reinforced concrete will be used as the primary structural form for floors, columns, beams and load bearing walls in keeping with local building practice. Façade walls will also be reinforced concrete to provide blast mitigation in accordance with the DFAT physical security requirements. As part of the blast mitigation requirement a concrete slab will provided at roof level, below a pitched metal deck roof supported by structural steel framing. The construction methodology will provide value for money and include long life and low maintenance qualities.
- 2.10.2 Live load design will be in accordance with Australian structural loading codes and tenant specific requirements. Consideration has been taken of local site conditions including wind, heavy rainfall and seismic forces appropriate to the location and the geotechnical ground conditions.
- 2.10.3 The foundations will be deep bored piles under columns and load bearing walls as is usual for the these types of structures in Bangkok. Similarly the guard stations and perimeter walls will also be supported by shorter bored or driven piles. Ground conditions found in Bangkok are generally consistent and a geotechnical report that has been obtained for the adjacent site suggests conditions to be weak sands and clays at shallower depths overlaying more dense materials at 25 metres and 40 metres below the surface. A comprehensive geotechnical survey will be undertaken to confirm subsoil conditions once the Commonwealth takes possession of the site.

2.11 Mechanical services

- 2.11.1 A central air conditioning system supplying a zoned mechanical services backbone to each floor consisting of pipework infrastructure and outdoor air will be provided to the chancery, while the HOM residence will be supplied with pipework infrastructure to support airconditioning fan coil units serving individual spaces.
- 2.11.2 All offices, meeting rooms and common spaces in the chancery will be mechanically airconditioned. Separate zoned systems will serve each tenancy to allow for independent use of the tenancy areas if out of hours use is required without having to run the entire building plant

and equipment. This design approach also considers some specialized areas that will require 24 hour/seven days per week operation.

- 2.11.3 Equipment and materials for all mechanical services will be selected for long life, maximum efficiency and low maintenance with ability to provide routine maintenance and supply of replacement parts from the local marketplace.
- 2.11.4 Mechanical exhaust systems ducted directly to the outside of the buildings will be provided to toilets, staff facilities and kitchen exhaust hoods.
- 2.11.5 Spill air from each floor of the chancery will flow into the central covered atrium where the air will be exhausted through the roof.

2.12 Hydraulic services

- 2.12.1 The site will be provided with a water storage system comprising a below ground tank, fed from the city water mains and sized for seven days of normal water use in an emergency.
- 2.12.2 All incoming city water will be treated to ensure potable water quality equal to or better than WHO Standards before reticulation throughout the buildings.
- 2.12.3 Hot water will be provided to showers, basins and kitchens using a solar heating and storage system with electric backup heating elements. Small electric instantaneous boiling water units will be provided in chancery tearooms.
- 2.12.4 A storm water system comprising roof gutters, down pipes and underground drains shall be provided for the chancery and HOM residence with connection to a water harvesting and re-use system. The uses will be developed during the detailed design of the project with opportunities to provide mechanical services, fire services and swimming pool make-up water as well as for landscape irrigation.
- 2.12.5 A sewerage treatment plant appropriately sized for all black water discharge from the complex will be provided to meet local authority standards with effluent treated to WHO Standards before discharge to the city sewer. The possible uses of treated and stored black water will be developed during the detailed design of the project and will include opportunities for toilet and urinal flushing and mechanical and fire services make-up water.
- 2.12.6 A trade waste system will be provided specifically to collect the waste water from the chancery and HOM residence commercial kitchen facilities. The grease arrestor will be located in the services facilities on the site boundary allowing external removal of the solid waste from the site.
- 2.12.7 There is no gas infrastructure available to the site, although the potential to use gas for commercial cooking and/or domestic hot water heating will be investigated during the design. Gas tanks, if used, will be stored outside in the services facilities zone for easy replacement or re-filling with underground reticulation to the Chancery and HOM residence kitchens as required.
- 2.12.8 Swimming pool water treatment and filtration plant will be provided. The filtration method and chlorination type will be developed in the detailed design phase in consultation with the local pool industry to determine the most appropriate systems, however it is envisaged that a salt water chlorination system will be used in conjunction with sand filtration.

2.13 Electrical services

- 2.13.1 A new electrical power infrastructure service connected from the existing 24kV high voltage district supply located adjacent the site shall be provided via a new substation mounted in the services zone at the front of the site. Metering and servicing facilities will be provided at this location positioned so that the local authority can access the substation without entering the embassy compound. Separate metering will be provided for central engineering services as well as for individual tenant agencies to record electrical consumption.
- 2.13.2 The main electrical switchboard complete with surge protection will also be located in the services zone at the front of the site. An acoustically attenuated self-contained stand-by generator complete will be provided for emergency use complete with an underground storage tank with sufficient fuel to provide 100% of the power requirements for the complex for seven days. The emergency power supply will be connected to the main electrical switchboard. An externally accessible lockable fuel refilling point will be provided in the perimeter wall of the site.
- 2.13.3 Emergency power from the stand-by generator will be provided to all essential building service systems such as airconditioning, lighting, lifts, fire hydrant hose reel and fire sprinkler pumps.

2.14 Light systems

- 2.14.1 Luminaires and lighting layout will be selected to suit the uses of the various spaces. Generally luminaires in the chancery offices will be high efficiency fluorescent T5 type with low brightness or metal halide to suit the application. Luminaires in the HOM residence are to be compact fluorescent, LED and or metal halide as appropriate for each space.
- 2.14.2 Emergency lighting will be independent of the general lighting fixtures and shall incorporate integral battery and charger. All emergency Exit lighting shall be provided with an independent battery back-up type in additional to mains power.
- 2.14.3 External lighting around the complex will be provided for security and access purposes.

2.15 Lightning protection system

2.15.1 Lightning protection will be provided to all the buildings on the compound.

2.16 Smoke detection system

2.16.1 A Smoke Detection System covering all building shall be provided. The Fire Indicator Panel will be located in the main foyer of the chancery with a mimic repeater panel in the main guard station. The HOM residence systems will be connected to the Fire Indicator Panel in the chancery.

2.17 EWIS/Public address system

2.17.1 A combined Emergency Warning and Intercommunication System (EWIS) public address system will be provided to allow all areas and zones of the chancery buildings to be reached via an audio system.

2.18 Security

- 2.18.1 The complex will require the following security elements to be included:
 - a) access control to all nominated internal and external chancery doors; and
 - b) closed circuit television (CCTV) cameras to cover all portions of the embassy grounds, perimeter walls, the guard stations and selected internal areas of the buildings.
- 2.18.2 Additional physical security features required by DFAT are provided in other sections of this Evidence.

2.19 Communications

- 2.19.1 Incoming ICT cabling will be run to the main communications room in the chancery for reticulation throughout the chancery and other buildings on the compound.
- 2.19.2 An integrated telephone and ICT backbone, riser and horizontal cabling system will be provided throughout the chancery.
- 2.19.3 A separate Master Antenna Television (MATV) system will be provided in the chancery and in the HOM residence. The system will have specific additional services as required by each agency in the chancery and domestic services in the HOM residence
- 2.19.4 Satellite dishes for communications will be provided in the grounds of the complex as directed by DFAT.

2.20 Lift services

2.19.1 A group of passenger lifts will be provided for the chancery building with one nominated as a dual goods and passenger lift. All passenger lifts will cater for disabled persons and will have stretcher capacity to meet Australian Standards.

2.21 Civil works

- 2.21.1 The rectangular site is essentially flat. The main vehicle site access from the road on the south is also relatively flat and will require no substantial civil engineering modifications to existing ground levels or street verges.
- 2.21.2 Bangkok is subject to periodic local flooding after heavy rain. The site levels and storm water management strategy will be designed to minimize reliance and impact on the local storm water infrastructure and to mitigate the impact of locally flooded roads. This will be achieved by raising the site grade levels and by retaining and delaying storm water discharge from the site via ponds and swales in the landscaping.

2.22 Landscape design

- 2.22.1 The development of the landscape design within the site and the associated immediate streetscape will create a setting for the new buildings as part of an overall Master Plan which will complement the built forms and maximise the functional and visual benefits of the site.
- 2.22.2 A series of public and private spaces will provide visual interest through the use of lush tropical vegetation and water, and sculptural forms throughout the compound.
- 2.22.3 The general design philosophy for the proposal is as follows.
 - a) The landscape will provide a setting for the buildings and will satisfy the related functions, circulation, security and aesthetic requirements. This will allow the development of a distinct hierarchy of zones including main entrance from the street, public areas, car parking and courtyards, building entrances and foyers to internal spaces.
 - b) The hard and soft landscape materials will respond to local conditions and climatic influences.
 - c) The landscape will be contemporary and reflect the intricacy of the local building craft as well as referencing and embracing the fusion of Australian and local landscape characters through careful selection and use of forms, materials and planting.
 - d) Staff use zones both within and adjacent to the chancery building will be discrete from the public and semi-public zones, while separate spaces in the HOM residence and associated areas will be designed to satisfy requirements for both private and representational uses.
 - e) Lines of sight and clearances for security purposes will be provided as required, particularly along the perimeter walls through careful positioning and selection of plant species.
- 2.22.4 Maintenance of external areas will be considered in layout design, the selection of materials and detailing in order to reduce maintenance requirements and ensure functionality of different use areas. The hardscape materials will be sourced from local suppliers where possible. Local hard wearing granite paving is proposed in high use and in high visibility public zones and the main staff areas. Materials will combine to create a built landscape that responds to the forms, different zones and functional requirements of the buildings and site.
- 2.22.5 Minor walls within the landscape will be concrete with rendered surfaces or stone-clad finish while retaining walls will be designed to be sympathetic and relate to the adjacent building finishes and landscape theme.
- 2.22.6 Plant species will be selected from available stock within the region to achieve design requirements through established suitability and known local performance.
- 2.22.7 Vehicle circulation roadways will be constructed of reinforced concrete over compacted crushed rock in accordance with civil engineering design. Limited stone paving is proposed to provide more interest and a higher quality finish to public and visitor entrance areas. Concrete or cement screed finishes such as exposed aggregate or broom finish are proposed for service

work areas and back-of-house circulation and access areas. Limited parking for short-term use will utilise reinforced grass to vehicle bays to alleviate the extent of hard pavements in these areas and provide infiltration of storm water into the ground.

- 2.22.8 Subsidiary structures within the site will be designed to complement the main buildings, including guard stations, pavilion, covered ways, covered car parking and the facilities management and maintenance buildings. Incorporation of shading devices, pergolas or arbours will be considered as part of site landscape design.
- 2.22.9 A swimming pool will be included in the private living quarters of the HOM residence. The pool will have safety fencing and gates designed to meet Australian Standards.
- 2.22.10 External lighting to buildings and significant landscape features will provide accents, assist security and provide identification of the site.
- 2.22.11 Water features including reflecting ponds and active water jets and falls will provide 'white' noise and visual interest. Water quality will be monitored and controlled to prevent algal growth and mosquito larvae. Methods will include movement of water through re-circulating pumps and inclusion of fish and water treatment as required.

2.23 Operation, maintenance and warranties

- 2.23.1 Operation and maintenance manuals will be provided by the Head Works Contractor (HWC). The manuals will contain equipment data, supplier identification, specifications, recommended operation and maintenance procedures, spare parts and manufacturers' manuals. As-built engineering services and architectural drawings will be incorporated into the Final Construction Completion Report.
- 2.23.2 Warranties and guarantees as required by the construction contract for materials, plant and equipment will be provided in the name of the Commonwealth of Australia.

2.24 Acoustics

- 2.24.1 Particular consideration will be been given to the acoustics requirements and in the selection of materials and finishes to control noise transmission within the buildings.
- 2.24.2 Reduction in sound transmission of external noise generated by a large city will be achieved by the use of blast resistant external concrete walls complete with blast resistant laminated glazing with close attention given to sealing all construction gaps.
- 2.24.3 Internal ceilings, partitions and doors will be detailed to achieve sound attenuation levels in office spaces as required by Australian Standards, DFAT security requirements and the engineering reticulation services will be designed to minimise noise transmission to the working environment.
- 2.24.4 Acoustic treatment will be provided to all mechanical, water, fire and sewerage treatment plant and equipment rooms including the stand-by diesel generator in compliance with Australian Standards.

2.25 Water and energy conservation measures and targets

- 2.25.1 Environmentally sustainable design (ESD) approach
 - a) The hot tropical conditions of Bangkok, where day time temperatures reach into the mid-30'sC throughout the year, necessitate a tempered refuge with a high standard of thermal comfort, fresh air and indoor environment quality. The environmental design will maintain and provide its occupants with a feeling of connectivity with the external environment whilst being sensitive to the high level of security that is required.
- 2.25.2 Passive design
 - a) Glazing: Owing to the security requirements for the embassy complex approximately 30% only of the external façades can be glazed, with the remaining 70% required to be blast resistant reinforced concrete walls. The use of high performance glass (with its reduced thermal conductivity) in conjunction with blastresistant polycarbonate or equivalent material for external glazing will considerably reduce the external heat load thereby improving the thermal performance of the buildings.
 - b) Shading: Despite the absence of large glazed façade areas the requirement for shading is still an important thermal consideration. The provision of louvered screens to the façades of the buildings will aid in diffusing and deflecting of any potential solar heat gain. In addition the external shading to the façade will enhance and promote the effect of natural cooling to the facades.
 - c) Natural ventilation: The central atrium in the chancery will be designed to enable air from the occupied office zones to spill into the atrium which will be naturally vented through the roof due to the effects of passive buoyancy and rising stack effect.

The following key design features for the chancery will deliver a sense of connectivity with the external environment for the occupants:

- a) A central atrium through the provision of direct and diffused natural light that will create a space with the 'feel' of the outdoors;
- b) the air conditioning and ventilation system will use chilled beam technology with 100 % outside air;
- c) internal 'green walls' will be planted where appropriate; and
- d) break-out work spaces will link into the central atrium.
- 2.25.3 The naturally vented central atrium will not only aid in air-change effectiveness, but in addition will contribute towards a reduction in the energy consumption of the building.

The provision of an air conditioning and ventilation system that will provide staff with improved indoor environment quality and air quality is essential to ensure that productivity levels are able to be maintained and that any chance of 'sick building syndrome' are negated. In order to meet this requirement the building will use a passive chilled beam single pass air

system. The chilled beam system will be supplied with 100% outside air with no recirculation component, thus not only improving the indoor environment quality but doing so in an energy efficient manner.

- 2.25.4 Chilled water and ducting for outside air will be reticulated to the occupied zones via a services network that will circulate around the perimeter of the floor plate. The perimeter ring services provision will allow for greater flexibility in the layout of the floor plates.
- 2.25.5 A chilled beam system will have a convective and radiant cooling component. Approximately 46% of the perceived comfort of humans is via radiant cooling or heating. Chilled beams, by providing a component of radiant cooling, are able to more effectively influence this perceived comfort. Radiant cooling is also effective in the cooling of areas that have a high radiant heat load such as perimeter zones.
- 2.25.6 Chilled beams have lower energy cost compared with typical air conditioning systems due to the use of water as the primary medium for removing heat rather than air. In addition chilled beam systems typically have reduced fan energy thereby resulting in greater energy efficiencies.
- 2.25.7 The provision of a highly flexible mixed mode ventilation system for the HOM residence which includes ceiling fans will create an excellent indoor environmental quality through high air change rates and air quality, and will provide the large numbers of guests attending representational functions with maximum comfort.

The inclusion of high level glazing to the main function spaces of the HOM residence ensures that occupants will be provided with natural light. The availability of natural light creates a pleasant environment that contributes to a connectedness with the external environment.

Mains water supply can be augmented or substituted through the inclusion of a storm water harvesting, and treatment re-use plant and by black water treatment to meet some of the non-potable water demands and contribute to the reduction in mains water consumption. The recycled water could be used for:

- a) toilet and urinal flushing;
- b) wash-down areas;
- c) landscape irrigation;
- d) mechanical services make-up water;
- e) fire services make-up water;
- f) pool make-up water;
- 2.25.8 Plant, equipment and materials will be selected with a view to ensuring their environmental sustainability with careful consideration of their manufacture, use and disposal. It is proposed that:
 - a) all building mechanical plant refrigerants will have an Ozone Depleting Potential of zero;

- b) all insulation used in building fabric and services will have an Ozone Depleting Potential of zero;
- c) all internal paints and adhesives will have a low Volatile Organic Compound (VOC) content. Health effects associated with exposure to VOCs can include eye, nose and skin irritation, headaches and lethargy; and
- d) sustainable materials will be used such as:
 - All timber products will be sourced from post-consumer recycled timber or Forest Stewardship Council (FSC) certified timber. Rare or endangered timber will not be used. Timbers should be sourced from Australia in the first instance, or where not available, from certified overseas suppliers.
 - Alternative timber flooring products will be considered where appropriate. These may include third party organically assessed flooring materials such as post-consumer cork tiles and modular carpets.
 - Where locally produced sustainable materials are available they should be used in preference to those produced overseas, excepting where Australian materials are deemed necessary or desirable.

2.26 Provisions for people with disabilities

2.26.1 The new embassy complex design will comply with the BCA, DDA and relevant Australian OH & S codes and standards in relation to disability access.

2.27 Heritage issues

2.27.1 See 1.8

2.28 Child care provisions

2.28.1 It is not DFAT policy to provide child care facilities at its overseas missions.

2.29 Fire protection

- 2.29.1 The fire system design will fully integrate the requirements of the BCA with the specialist requirements for a chancery building and HOM residence. The fire safety system adopted for the chancery will incorporate fire detection and alarm systems, fire sprinkler protection, hydrants and hose reels, smoke exhaust systems and illumination of building egress via exit and emergency lighting and signage.
- 2.29.2 Fire detection in the chancery and HOM residence will be achieved by the installation of smoke alarms and heat detectors connected to a main fire indicator panel, with battery back-up, and a mimic repeater panel within the main guard station, with an automatic dial-up to the Embassy Duty Officer.
- 2.29.3 An audible local fire alarm system to alert occupants will be installed throughout the chancery.

- 2.29.4 Fire suppression in the chancery is to be achieved by an automatic sprinkler system and by the careful selection of retardant materials and strategic location of extinguishers, hydrants and hose reels.
- 2.29.5 Safe egress from the chancery will be ensured by compliance with the BCA.

2.30 Security

- 2.30.1 The security measures for the chancery project will follow the principles of "defence in depth" which utilize layers of passive and active security measures to protect the more secure areas within the chancery. In summary these security measures include the following.
 - a) Embassy grounds will be secured by CCTV monitored perimeter walls and grounds with controlled guarded access points from the street frontage. Landscaping treatment along perimeter walls will be restricted to allow clear lines of sight.
 - b) Public and official access to the chancery will be segregated.
 - c) Perimeter lighting will be placed for best effect and to complement the CCTV coverage.
 - d) Appropriate materials, fixtures, hardware and fittings will be used for the building shells.
 - e) Restricted and monitored building entrances will include approved keying and card access control systems.
 - f) Intruder and duress alarms, and CCTV cameras will be installed externally and internally where directed by DFAT security requirements
 - g) Containment measures including forced entry and ballistic resistant walls, doors, counters and airlocks in specified locations will be installed.
 - h) DFAT blast mitigation standards will be incorporated in respect of set-backs from boundaries and the design of the building structures including the roofs, the external facades and the building entries.
- 2.30.2 Multiple levels of external and internal ICT will be provided. Included in the design will be fixed landlines, satellite and limited radio and television services. The chancery communications are closely linked to security requirements at all levels of information and voice processing.

2.31 Occupational health and safety

- 2.31.1 Compliance with OH & S standards are of high importance to DFAT as building owner. In accordance with the Occupational Health and Safety Act (Commonwealth Employment) 1991, considerable attention will be given to complying with the Act during the detailed planning and design process.
- 2.31.2 O H & S and rehabilitation practices will be implemented and enforced during the construction works at the site. These practices will be guided by relevant Commonwealth requirements.

2.32 Authorities and local industry consultation

- 2.32.1 The Bangkok Metropolitan Administration (BMA) is the controlling authority for approval of planning and building works and will be further consulted during the design development phase to ensure compliance with local authority requirements.
- 2.32.2 Preliminary discussions have been held with local supply authorities to determine capacity and location of adjacent infrastructure which include; Metropolitan Electricity Authority (MEA), Metropolitan Water Authority (MWA), Telephone Organisation of Thailand (TOT) and the Communications Authority of Thailand (CAT).
- 2.32.3 The local construction industry in Thailand has the capacity to undertake a project of this complexity although a high degree of supervision will be required by the Australian based design consultant team along with the project manager and client representatives.
- 2.32.4 Initial contact has also been made with the Embassy of Japan on the adjacent site alerting them to the proposed program and contact will be maintained throughout construction.

2.33 Local impact

- 2.33.1 The local community impact of this project is expected to be low as it is in keeping with the local zoning and development requirements.
- 2.33.2 The streetscape aesthetics will be improved by the construction of a modern building.

2.34 Project cost estimates

- 2.34.1 The out-turn cost estimate of the proposed works is AUD 193.40 million, based on 2009 prices. The out-turn cost estimate includes construction, integrated fitout, construction contingency, furniture and other related elements such as consultants' design fees, project management, site supervision, site office expenses, connections fees for public utilities, building and other permits, legals and other miscellaneous costs and charges, .
- 2.34.2 The estimate does not include office and business machines, computers, artworks, white goods or interest charges.
- 2.34.3 The estimate does not include Thai Government Import Duty as goods specifically imported for the Embassy project should be rated at 0% duty. However, Thai Government VAT (currently 7%) has been included, although every endeavour will be made to recover any VAT that may be payable using government to government reciprocal arrangements.

2.35 Project delivery system

- 2.35.1 Following a detailed analysis a traditional delivery method of design, full construction documentation, tendering and contracting to a Head Works Contractor (HWC) has been selected as appropriate for this project. This represents the best value for money for the Commonwealth and allows DFAT, as the building owner and manager, to retain control of all the project delivery stages.
- 2.35.2 Australian design consultants will prepare the contract documentation with input from local collaborating organisations for such aspects as translations of technical information onto

drawings, along with assistance with obtaining the planning and building permits from the local authorities. Associations with local design consultants will also provide important construction industry input and guidance during the design and construction phases.

- 2.35.3 A single lump sum contract will be awarded to HWC for the construction and integrated fit-out of the works. Tenders will be called from a selected list of well qualified general contractors that will be short-listed on the basis of a rigorous pre-qualification process. The pre-qualification invitation process will be advertised in Australia and Thailand.
- 2.35.4 A separate tender process will be called for supply of the loose furniture. Installation of this furniture will be coordinated by the on-site Project Manager following practical completion of the construction works.
- 2.35.5 A Project Management organisation with international experience will administer the traditional lump sum construction contract that will be awarded to the successful HWC.

2.36 Construction program

2.36.1 Following the PWC hearing and subject to Parliamentary approval, the project program allows for the major HWC construction documentation package to be completed by the end of May 2013 which would be followed by a tender period from June to September 2013. Construction of the major works package could commence in October 2013 with Practical Completion of the construction works estimated in late March 2016 followed by security and furniture fitout with occupation of the complex scheduled around end June 2016. This would be followed by a 12 months construction Defects Liability Period.

2.37 Associated sketch design drawings

- 2.37.1 The following drawings have been prepared to illustrate and define the proposal:
 - a) Aerial View of Site Site Context
 - b) Site and Landscape Plan
 - c) Ground Floor Plan
 - d) Level 1 Floor Plan
 - e) Level 2 Floor Plan
 - f) Level 3 Floor Plan
 - g) Basement and Roof Plan
 - h) North and South Elevations
 - i) East and West Elevations
 - j) Section
 - k) Main Entry Perspective

- 1) North East Perspective
- m) South East Perspective
- n) South West Perspective





PROJECT

GRAPHIC SCALE

Γ

scale NTS DRAWING

SITE CONTEXT



1:1000 at A4

10.0M

25.0M

0

DRAWING SITE & LANDSCAPE PLAN

































AUSTRALIAN EMBASSY BANGKOK



PROJECT

AUSTRALIAN EMBASSY BANGKOK

DRAWING

SOUTH-WEST PERSPECTIVE