

Sustainability Report 2015

INTO A NEW GREEN HORIZON



ArchSD Sustainability Report 2015 - Table of Contents

Message from the Director		1
About This Report		3
About Us		5
-	Role and Organization Structure	5
-	Funding and Mode of Operation	6
-	Departmental Expenditure	6
-	Key Facts	8
Recognition and Awards		9
Mar	nagement Approach	20
-	Strategy and Management	20
-	Departmental Annual Plan	25
-	Knowledge Management	26
-	BIM Adoption Roadmap	29
-	Main Focus Areas	31
-	Engagement Approach	33
Resources Utilization and Conservation		40
-	Sustainable Building Design	40
-	Greening and Landscaping	56
-	In-house Green Management	62
Clients and Business Partners		72
-	Project Quality Management	72
-	Social Participation and Engagement	83
-	Community Support	88
Human Resources		91
-	Staff Development	91
-	Staff Engagement	92
Obj	ectives and Targets	108
Data Summary		113
-	Environmental Performance	113
-	Social Performance	116
Report Verification		119
GRI Content Index		121
Glossary		128
Feedback		132





Dear Stakeholders,

Welcome to the Architectural Services Department Sustainability Report 2015 - "Into a New Green Horizon". Last year has marked a new venture for our Department in terms of sustainable development. We have put together many of our green ideas and initiatives into practice through completion of a demonstration project for environmental design - Trade and Industrial Tower in Kai Tak. Besides, we have also developed and built the first prototype green site office in Kai Tak. With very encouraging responses from our stakeholders, both projects have been proved of great value for our future development.

Our recent achievement in sustainability development is partly the result of our knowledge management strategy. To capture, share and re-apply practical know-hows of our experienced colleagues, we have created various knowledge management platforms like ArchSD Academy, Knowledge Management Portal among others. To make knowledge sharing a habit, we have recently employed user-friendly tools such as mobile communication applications and blogs to harvest knowledge. Inspired by the spirit of 建、學、研 (Build, Learn, Study), we further launched various knowledge management initiatives in

2014, including the formulation of KM Focus Group, launch of the first Communities of Practice on Healthcare Projects Community, and publication of the first concise design guide for columbaria design. All these efforts contribute to instilling a knowledge driven culture among our staff and ArchSD has been awarded one of the Top Winners of the "Hong Kong's Most Admired Knowledge Enterprise Award 2015" ("Hong Kong MAKE Award 2015"). On the other hand, we are actively participating in the development of Building Information Modelling standards by the construction industry. When such standards are fully adopted in future projects, it not only yields synchronised design information, but also promotes a closer collaboration among co-workers in different disciplines. It would be a powerful tool for upholding quality services in our public works projects.

ArchSD Sustainability Report 2015 - Message from the Director

I would like to express my heartfelt thanks to all colleague for their support, hard work and dedication to the accomplishment of our goals. We are committed to collaborating with our industry partners, user departments and the general public to build and maintain in a sustainable manner. Please share with us your comments, views and suggestions by filling out the <u>feedback form</u> at the end of this report.

LEUNG Koon-kee, JP,

Director of Architectural Services Department

ArchSD Sustainability Report 2015 - About This Report



Architectural Services Department (ArchSD) of the Government of the Hong Kong Special Administrative Region has produced 17 annual environmental and sustainability reports in total. The Sustainability Report 2015, Into a New Green Horizon, is our 12 annual sustainability report, which presents our initiatives and performance on economic, environmental and social aspects in 2014.

This report provides an opportunity not only to demonstrate our achievement last year, but also to ensure you of our commitment to serving better in the future with continuous efforts and improvement in sustainability.

Reporting Scope

The Sustainability Report 2015 ("the Report") highlights ArchSD's key sustainability initiatives and achievement from 1 January 2014 to 31 December 2014. The Report covers the sustainability performance and initiatives of our six functional branches and two Central Management Divisions. Data in the Report are presented as absolute figures as of 31 December 2014 (unless otherwise stated) to the best of our knowledge. Financial data are reported for the financial year ended 31 March 2015. All monetary values are in Hong Kong Dollars.

Reporting Principles

[G4-18]

The Report has been prepared in accordance with the Core option of <u>the Sustainability Reporting Guidelines</u> <u>G4</u>, published by the Global Reporting Initiative (GRI), as well as the Environmental Protection Department's <u>A Guide to Environmental Reporting for Controlling Officers</u>.

The GRI Content Index correlates GRI indicators with associated sections in the Report. An independent third-party assurance was conducted to verify the materiality, credibility and reliability of the Report and ensure its attainments to the Core option of GRI G4 Sustainability Reporting Guidelines. We also went through the GRI G4 "Materiality Disclosures Service" to ensure General Standard Disclosures G4-17 to G4-27 are reported and can be easily found by readers.

Note to Reader

The Report is published online in web-based interactive html version, PDF version and text-only version. The Report is available in English, Traditional Chinese and Simplified Chinese. The interface has been prepared in accordance with the Level AA of the <u>W3C Web Content Accessibility Guidelines 2.0</u>. In addition, the Report can also be viewed by tablet computers. Key features of the Report are highlighted as follows:

AAA On-screen font size setting provides more comfortable reading options for various users;





Text-only version allows readers using assistive tools for web browsing;

- Search function facilitates readers to locate any specific interested sections or information efficiently;
- "My Report" function enables readers to temporarily store any selected section(s) for consolidation and printing;
- "Data Summary" section furnishes readers with a quick review of our performance on various key indicators; and
- 🧊 "Glossary" section provides definitions of the technical terms using in or relevant to the Report.

ArchSD Sustainability Report 2015 - About Us



Architectural Services Department (ArchSD) performs three core functions in relation to Government-owned and Government-funded facilities in the following programme areas:

- Monitoring and advisory services to provide effective professional and technical advice to the Government and quasi-government organisations and to oversee subvented, joint-venture and entrusted projects;
- Facilities upkeep to provide efficient and cost-effective professional and project management services for the maintenance and refurbishment of buildings and facilities; and
- Facilities development to provide efficient, cost-effective and timely architectural and associated professional and project management services for the design and construction of buildings and related facilities.

ArchSD Role in the Government of HKSAR



Organisational Structure



Funding and Mode of Operation

Our Departmental operation is funded by the Capital Works Reserve Fund which is approved, monitored and reviewed by the <u>Legislative Council (LegCo)</u>.

During 2014, we have created a total of 4,617 jobs by awarding works contracts and consultancies in relation to both new capital and minor works projects. We commenced 2 new capital works projects and a substantial amount of minor works projects during the year.

Departmental Expenditure

In the financial year 2014-15, we recorded an overall increase of around 4.0% [1] in departmental expenditure as comparing with the previous financial year in 2013-14. Expenditure breakdown of our department and by different programme areas [2] for the financial year 2014-15 are provided below. Details of our financial information and key performance can be found in the ArchSD Controlling Officer's Report of the 2015-16 Estimates of the Government of the HKSAR, which is available online at <u>www.budget.gov.hk</u>.

[1] The Departmental Expenditure 2014-15 is HK\$1,831.6 million, there was around 4.0% increase as comparing with the Departmental Expenditure 2013-14 of HK\$1,760.5 million.

[2] There are three programme areas of ArchSD's services: Monitoring and advisory services, Facilities upkeep and Facilities development.





Departmental Expenditure Breakdown by Programmes



Key Facts

Founded on: 11 April 1986

Staff Establishment: 1,810

Headquarters: Queensway Government Offices, 66 Queensway, Hong Kong

Other Offices:

- APB Centre, Hunghom, Kowloon
- Murray Road Multi-Storey Carpark Building, 2 Murray Road, Central, Hong Kong

Total Office Area: 25,324.8 m²

Scale of Services:

- Number of Subvented / Entrusted Projects Reviewed: 801
- Number of Facilities Development Projects Completed: 36
- Building Floor Area of Properties Maintained: 31,257,113 m²
- Expenditure on Building Projects: HK\$7,276 million
- Value of Projects under Design and Construction: HK\$107 billion

[G4-17]



In 2014, we were delighted to receive a number of recognition and awards that honour our efforts to promote sustainable development. Through participating in external events and different award schemes, we benchmark ArchSD's sustainability performance against industry best practices and standards. It allows us to gain insights on the latest trend and best practices, and to identify room for improvement.

Hong Kong Institute of Architects (HKIA) Annual Awards

Celebrating its 50th anniversary in 2014, the HKIA Annual Awards recognise outstanding architectures designed by local architects. During the year, our projects received a number of honours from the HKIA Annual Awards, which were as follows.

- "Transformation of Former Police Married Quarters into Creative Industries Landmark "PMQ"" Special Architectural Award – Heritage and Adaptive Reuse
- "Sha Tin Community Green Station" President's Prize
- "Tamar Development Project" Merit Award of Hong Kong – Community Building
- "Ko Shan Theatre New Wing" Jury's Special Mention – Merit Award of Hong Kong – Community Building



Sha Tin Community Green Station



Ko Shan Theatre New Wing

Green Building Award 2014

Green Building Award 2014 was jointly organised by the Hong Kong Green Building Council and the Professional Green Building Council. The Award aims to provide recognition to building-related projects with outstanding performance and contribution to sustainability and the built environment. Our achievements for this year were as follows.

New Buildings Category (Buildings under Construction)

- "Trade and Industry Tower in Kai Tak Development Area" Grand Award
- "District Open Space, Sports Centre and Library in Area 74, Tseung Kwan O" Finalist



Overall view of Trade and Industry Tower from Concorde Road

New Buildings Category (Completed Buildings)

- "Energizing Kowloon East Office" Merit Award
- "Redevelopment of Victoria Park Swimming Pool" Merit Award
- "Columbarium & Garden of Remembrance at Kiu Tau Road, Wo Hop Shek" Finalist
- "Design and Construction of Cruise Terminal Building and Ancillary Facilities for the Kai Tak Cruise Terminal Development" Finalist

New Buildings Category (Building Projects under Design)

"Community Green Station (Eastern)" Merit Award



Community Green Station (Eastern)

The Hong Kong Institute of Landscape Architects (HKILA) Design Awards 2014

The awards are held bi-annually with an aim to promote excellence in landscape planning, design, and research; to recognise outstanding achievements; and to bring the work of landscape architects and students to the public's attention.

In HKILA Design Awards 2014, we were honoured to have "Jordan Valley Park" bestowed the *Silver Award* and the following 5 projects granted the *Merit Award*:

- "North Lantau Hospital Phase I"
- "Design and Construction of Cruise Terminal Building and Ancillary Facilities for the Kai Tak Cruise"
- "Kowloon City Government Offices (Bailey Street)"
- "Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark"
- "Wo Hop Shek Crematorium"



Jordan Valley Park



North Lantau Hospital Phase I

Structural Excellence Award

The Structural Excellence Award is organised by the Hong Kong Institution of Engineers (Joint Structural Division). It aims to promote excellence in structural engineering demonstrated through the design and construction of buildings and structures.

In 2014, we were honoured to receive two awards for our projects as follows.

- "Cruise Terminal Building for the Kai Tak Cruise Terminal Development" Grand Award - Non-residential
- "Conversion of the Former Royal Hong Kong Yacht Club Premises to a Community and Public Art Centre"

Finalist - Heritage



The Former Royal Hong Kong Yacht Club Premises now becomes a Community and Public Art Centre

The International Architecture Awards

Organised by the Chicago Museum of Architecture and Design, the International Architecture Awards bring important commercial, corporate, institutional, and residential work to the attention of the global community. This year's awards honored built and unbuilt projects created in 2011-2015. We were honoured to receive the *International Architecture Awards 2014* for the following projects:

- "Stanley Waterfront Improvement Works and Stanley Municipal Services Building"
- "Ping Shan Tin Shui Wai Leisure and Cultural Building"
- "Aldrich Bay Park"





Stanley Waterfront

Stanley Municipal Services Building

Urban Land Institute (ULI) Global Awards for Excellence 2014

ULI began the awards programme in 1979 with an objective of recognising not only excellence in a project's architecture and design, but also factors that go beyond good design, including leadership, contribution to the community, innovations, public/private partnership, environmental protection and enhancement etc. Our achievements for this year were as follows.

- "Tamar Development Project" Global Award for Excellence
- "Columbarium and Garden of Remembrance at Kiu Tau Road, Wo Hop Shek" Finalist



Tamar Development Project

World Architecture Festival (WAF) Awards 2014

WAF Awards is the world's largest awards programme for the global architecture community to learn and share experience. It is also a showcase of innovative design solutions with awards presented by distinguished judges. Our achievements for this year were as follows.

- "Hong Kong Velodrome" Shortlisted – Sports Category
- "Tiu Keng Leng Sports Centre, Tiu Keng Leng Public Library" Shortlisted – Leisure Led Development



Hong Kong Velodrome



Tiu Keng Leng Sports Centre, Tiu Keng Leng Public Library (Photo source : Project Architect Ronald Lu & Partners)

Good Design Award 2014

The Good Design Award has been organised for 59 years. It is hosted by the Japan Institute for Design Promotion, a public interest incorporated foundation. It recognises good designs which bring advancements to society. We received the following accolades this year.

- "Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark"
 - Good Design Award
- "Wo Hop Shek Columbarium and Crematorium" Good Design (Best 100)



Transformation of the Former Police Married Quarters Site on Hollywood Road into a Creative Industries Landmark

Design for Asia Awards 2014

Since its launch in 2003, Design for Asia Awards has been the flagship programme of Hong Kong Design Centre to celebrate design excellence and acknowledge outstanding designs with Asian perspectives. We are honoured to receive a number of recognition for the following architectural projects.

- "Columbarium and Garden of Remembrance at Kiu Tau Road, Wo Hop Shek" Silver Award
- "Kwun Tong Swimming Pool Complex" Merit Recognition
- "Ping Shan Tin Shui Wai Leisure and Cultural Building" Merit Recognition



Ping Shan Tin Shui Wai Leisure and Cultural Building



Kwun Tong Swimming Pool Complex

Quality Building Award (QBA) 2014

QBA is a biennial award giving public recognition to buildings of outstanding quality that have demonstrated excellent teamwork. The Award was jointly organised by nine local professional organisations in Hong Kong. Its mission is to promote a collective commitment by the building industry to maintain the highest standards of professionalism and competiveness. Our project **"Victoria Park Swimming Pool Complex"** was granted the *Merit Award – Hong Kong Non-Residential (New Building)* in QBA 2014.



Victoria Park Swimming Pool Complex

Hong Kong Institute of Urban Design (HKIUD) Urban Design Awards

The HKIUD Urban Design Awards 2014 aims at recognising urban design related projects with outstanding performance and contribution to promoting excellence in Urban Design. The awards have divided into Built Project and Plan / Concept categories. During the year, our **"Sai Kung Waterfront Park" and "Stanley Waterfront"** were granted the *Merit Award (Built project Category)*.

Design for Well-being Award (DWA)

Jointly organised by the Alliance for Healthy Cities (China Hong Kong Chapter) and Jockey Club Design Institute for Social Innovation, DWA aims to acknowledge, celebrate, promote and inspire creative solutions that improve well-being and healthy living in contemporary cities. During the year, our **"Additional Columbarium at Diamond Hill"** received the recognition of *Space Design Merit*.

Hong Kong BIM Awards 2014

Hong Kong BIM Awards 2014 recognise outstanding project teams which deployed Building Information Modelling (BIM) in building projects. Our use of BIM in the preparation of record drawings for the **"Lady Ho Tung Welfare Centre"** and **"Old Dairy Farm Senior Staff Quarters"** received *Honourable Mention by the Jury*.

Hong Kong Flower Show 2014

The Hong Kong Flower Show is organised by the Leisure and Cultural Services Department annually. In 2014, the theme flower was "Kalanchoe" and the theme was "Blossoms of Joy". Our flower display was awarded the *Grand Award for Design Excellence (Landscape Display)*.





ArchSD received the Grand Award for Design Excellence (Landscape Display) for its flower display

Our flower display

K-Design Award 2015

K-Design Award 2015 is an international contest with adjudication panel memebers from Korea, USA, Europe, etc. The Award aims to recognise products and outstanding ideas with great design. Our Sustainability Report 2014 "Our Green Map" won the K-Design Award 2015 in the *communication category*.





K-Design Award Certificate

ArchSD Sustainability Report 2014 "Our Green Map"

ArchSD Sustainability Report 2015 - Management Approach - Strategy and Management



Strategy and Management

ArchSD performs three core functions in relation to Government-owned and Government-funded facilities in the following programme areas:



Our Vision, Mission and Values



Quality, Environmental, Health and Safety Policy

To steer a sustainable culture in our operations, we have developed a Quality, Environmental, Health and Safety Policy. When offering our clients a comprehensive range of multi-disciplinary services for public buildings and facilities, we are committed to:

- Fulfilling the agreed requirements of our clients to the highest professional standards;
- Delivering our services in an environmentally responsible manner by implementing conservation of energy, preventing pollution and reducing the consumption of natural resources;
- Managing our health and safety risks to ensure a safe and healthy environment for our staff, our contractors and other people who may be affected by our work;
- Complying with all relevant legislations and other requirements, and wherever practicable, to achieve standards beyond those that are legally required;
- Providing adequate resources and training for all staff and provide appropriate training for persons working for or on behalf of ArchSD, for continually improving our quality, environmental, health and safety performance and effectiveness; and
- Promoting ArchSD's principles of quality, environmental sustainability, health and safety to our partners in work, the construction industry and the general public.

Governance

As a department under the Hong Kong SAR Government, we adhere to the policies stipulated by the Civil Service Bureau as part of our internal governance measure.

Over the years, we have followed international standards and industry best practices where applicable to strengthen our governance approach and operations. We have established and implemented an Integrated Management System (IMS) in accordance with international standards including ISO 9001 on service quality management, ISO 14001 on environmental management and OHSAS 18001 on occupational, health and safety management. In 2014, we have further expanded our IMS to cover ISO 50001 Energy Management System for APB Centre. The IMS enables us to continually improve operational performance, while achieving service excellence which is in line with our Vision, Mission and Values, as well as Quality, Environmental, Health and Safety Policy.

Apart from the IMS, we follow the safety-associated guidelines developed by the Development Bureau (DEVB) to ensure our safety-associated provisions such as site safety training, pay for safety, and safety model workers award scheme, are properly addressed in our works contracts. With regard to labour issue, we strictly adhere to the Employment Ordinance which protects the right and benefits of the employees. For large-scaled construction projects, a Labour Relations Officer would be appointed to help solve the disputes between contractors and workers at early stage.

Our Senior Staff Forum, led by the Director, is responsible for overseeing the management and operation strategies of ArchSD. The Forum is entrusted with the development of our sustainability strategies, policies and goals as well as reviewing our sustainability performance as part of our IMS at least once a year.



Members of the Senior Staff Forum, from left to right: Mrs. Alice YU, PD/3; Mrs. Sylvia LAM, PD/2; Mr. Frank WONG, PD/1; Ms. Sheron LI, JP, AD(QS); Mr. Stephen TANG, JP, DDArchS; Mr. K.K. LEUNG, JP, DArchS; Mr. K.T. LEUNG, JP, AD(SE); Mr. S.K. HO, JP, AD(BS); Miss Deborah AU, DS; Mr. Benny CHAN, AD(A); Mr. C.K. HUI, AD(PS)

In addition, we have established a number of steering committees to ensure the Department's governance.

Governmance Structure



Risk Management

We carefully assess risks associated with our operations. We conduct risk assessments at both the Department and project sites and take necessary actions to prevent or mitigate risks as far as practicable.

At the Departmental level, we identify and manage potential risks through the implementation of a "Plan-Do-Check-Act" mechanism under our IMS on quality, environment, health and safety in relation to our services and operations.

Regarding individual projects, we follow guidelines issued by the DEVB Technical Circular (Works) No. 22/1993 on "Estimating Using Risk Analysis" and No. 6/2005 on "Implementation of Systematic Risk Management in Public Works Projects". We manage potential risks throughout the project lifecycle starting from the inception of a project to the completion of its construction. In addition, project teams conduct integrated management workshops with various stakeholders during the course of project delivery to assist us in analysing risk and formulating effective controls.

We require all staff to uphold a high level of ethical standards and professional integrity by strictly following the principles stated in the Prevention of Bribery Ordinance. Potential bribery or corruption cases shall be reported to the Senior Staff Forum and the Independent Commission Against Corruption for further investigation. During the reporting period, there was no such case reported.

Involvement in External Associations and Committees

In terms of community involvement, some of our senior management members participate in a number of professional bodies and committees to provide statutory, professional and technical advice to support local initiatives such as developing public policies on building design and architectural issues, and serve the industry and the community at large. For instance, our senior staff members are involved in:

- Council of the Lord Wilson Heritage Trust to administer the operation of the Trust;
- Committee on Planning & Land Development to consider and review policies on planning and land development issues;
- Property Strategy Group to consider and decide all matters related to the optimisation of site utilisation;
- Minor Building Works Committee to examine and approve minor building works applications;
- Steering Committee on Greening, Landscape and Tree Management to set strategic direction on greening, landscape and tree management policies and oversee the implementation of the policies; and
- Green Labelling Committee, the Industry Standards Committee and the Policy and Research Committee under the Hong Kong Green Building Council Limited to drive green building development.

ArchSD Sustainability Report 2015 - Management Approach - Departmental Annual Plan



The five-year Departmental Business Plan (DBP) (2010/11 to 2014/15) was created by the Business Plan Core Group in 2009 to lay out a mid to long-term business roadmap for the Department. The DBP stipulates prioritised areas for improvement to support the sustainable development of ArchSD.

The year 2014/15 is both the closing year for the current DBP and the planning year for the future DBP of the next five years. To assist ArchSD in planning and monitoring annual progress of DBP, we have developed the Department Annual Plan (DAP) for 2014/15, which incorporates the following prioritised improvement areas and respective progress related to our business operation.



ArchSD Sustainability Report 2015 - Management Approach - Knowledge Management



As a knowledge-learning organisation, ArchSD relies on staff's professional knowledge to perform high quality architectural service. We regard knowledge building and sharing as a top priority for sustainable development. Over the past decade, we have dedicated ourselves to promoting a culture among staff to appreciate professional knowledge and industrial experience, and committed ourselves to the development of Knowledge Management (KM) in the DBP 2010/11-2014/15. In addition to strong support from top management, we have applied the KM Governance in four levels to ensure sound practice in knowledge development throughout ArchSD.



ArchSD Knowledge Management Governance

*DISMC: Departmental Information System Management Commitee **People : People are project officers who have hands-on experience and stand ready to offer advice on a particular building type or subject.

They can be located in various Communities of Practice (CoPs).

ArchSD Sustainability Report 2015 - Management Approach - Knowledge Management

Our KM development was started off from the establishment of various management systems in accordance with international standards. Our systematic approach for KM has led to the introduction of the KM Policy, KM Portal, ArchSD Academy, and other collaborative initiatives. In order to enhance our daily operation, project delivery, and staff development, we continued to drive a number of knowledge-related initiatives in recent years, including setting up focus groups on KM, creating a wiki library, and developing building design guides in 2014/15.

The Development of Knowledge Management at ArchSD



ArchSD Strives to become a continuous learning organization.....

Offering convenient and friendly interface for staff to enhance knowledge exchange, ArchSD's KM Portal consists of three levels, namely

- Knowledge Bank represents the highest level of corporate knowledge/best practices captured for department-wide sharing and aiming for sharing with external stakeholders. Its content reflects the core competencies of the department.
- Knowledge Hubs functions specifically for branches/divisions to capture, share and leverage their good practices and tips as well as for departmental-wide sharing. It serves as a platform to gather knowledge harvested from projects, task groups or knowledge communities; and
- Communities of Practice facilitates the generation of knowledge amongst knowledge workers. Through collaboration, team discussion, sharing of reference documents, and feedback on specific tasks, projects, activities, etc., to generate lessons learnt, tips and tools and useful experience during and after completion of works.

Supplementary to the online KM Portal, we also conduct regular face to face sharing sessions in ArchSD Academy and series of site visits, as well as training courses to staff and stakeholders.

Three-tier Structure of ArchSD KM Portal



As of April 2015, to retain knowledge and experience demonstrated through individual projects and employees, a total of nine Knowledge Hubs and 34 Communities of Practices at wide range of technical topics have been established. A glance of facts of our knowledge management is shown in the following chart.

ArchSD Knowledge Management (as of April 2015)



ArchSD Sustainability Report 2015 - Management Approach - BIM Adoption Roadmap



In view of potential benefits that Building Information Modeling (BIM) technology may bring to our building project management and following the guidance from the DEVB, ArchSD has generated its BIM Adoption Roadmap to cover a 5-year period from 2014/15 to 2018/19.

BIM Adoption Objectives



A Departmental BIM Task Force was established in 2012 to explore the impacts associated with the implementation of BIM in project management. Equipped with BIM hardware and software, we have set up a dedicated staff training facility to deliver BIM training ranging from introductory to advanced level.



BIM training room

ArchSD adopts an incremental approach to gradually introduce BIM in public works projects and continue the trial projects of different nature, scale or complexity. As of May 2014, we have identified five BIM pilot projects in different work stages for the trial run. The findings on using BIM will be evaluated in detail for formulating the way forward. In July 2014, we were grateful to receive an Autodesk BIM Award (Honourable Mention) for the use of BIM in recording of historic buildings. With the accumulation of BIM-related technical competence, we expect that the scope and extent of BIM trial projects would be increased.



BIM has been applied in project of Ecological Park at Tso Kun Tam Valley for study and printed as model



Representatives of Commissioner of Heritage's Office & ArchSD received the Award

ArchSD Sustainability Report 2015 - Management Approach - Main Focus Areas



It is crucial to providing sustainability information for our stakeholders that they concern. To this end, we have identified a number of stakeholder groups that would have direct and/or indirect implication on ArchSD's operation and development. Our major stakeholders include our staff, clients, contractors/consultants, facility users, professional bodies and general public.

In addition to our existing stakeholder engagement channels such as Client Satisfaction Survey, we continue to undertake an independent stakeholder engagement exercise as part of the process for defining the content and boundaries of this Report. Representatives from selected stakeholder groups, including professional and technical staff, contractor, client, facility user and professional body, were interviewed to share with us their particular interests and concerns on our sustainability initiatives and performance.

With due consideration of the stakeholders' views as well as ArchSD's major activities and impacts, the following areas were identified as the material Aspects to form the main focus of the Report.

[G4-18]

[G4-24]

[G4-25]



ArchSD Sustainability Report 2015 - Management Approach - Engagement Approach



We value the importance of engaging stakeholders to hear their views and comments to strengthen our approach and initiatives for continuous improvement. We acknowledge their contribution and engagement through many different means, including surveys, face-to-face meetings, events, electronic platforms etc. Our key stakeholder groups and their respective engagement approaches are summarised below.



Stakeholder Interview

We conducted six independent interviews with individuals representing the five major stakeholder groups of staff, contractor, client, user and professional body in order to understand their concerns and obtain feedback.

[G4-27]



Ms Joanna Wai Project Manager of ArchSD

Comment from Staff

ArchSD is committed to taking a leading role to incorporate sustainable features in different projects. To better equip us with the latest green knowledge, we are encouraged to participate in relevant environmental training including BEAM Pro Training so as to deliver our services in an environmentally responsible manner. As the project manager responsible for the design and management of building the Trade and Industry Tower in Kai Tak, I worked with my team members to engage our users from the design stage until the post-occupancy stage. This allows us to incorporate viable and practical green features in the building, while fulfilling the users' requirements and maximising the long-term benefits of the building operation such as reducing the operating cost through the adoption of an array of energy-saving initiatives.

Our Department also spares no effort to nurture a knowledge sharing culture. We were invited to share our experience on how to incorporate varied green elements in a joint-user building in the ArchSD Academy. We are also consolidating some useful documents to be uploaded to the departmental KM portal for knowledge harvesting and retaining. As a learning organisation requiring high level of professional knowledge, I believe this culture is essential to ensure the sustainable development of the Department.

🕤 Our Response

Building up a professional team with practical know-how is always one of our priorities to maintain our services quality and efficiency. We strive to develop a knowledge sharing culture among our staff to retain valuable experience. We will continue to support staff development and look into every opportunity to leverage the collective wisdoms of our staff to contribute to the society at large.


Mr Ng Wai Kuen Chief Clerk of Works

Comment from Staff

As a site supervisory staff, I am responsible for planning and carrying out inspections of building works and monitoring site progress to ensure that all works conform to our specifications and contractual requirements. When discharging my duty, I can see there are plenty of elements which render our operations more sustainable. For example, the "Pay for Safety Scheme" and "Pay for Safety and Environment Scheme" provide financial incentives for contractors to adopt good safety and environmental practices. In 2015, I am excited to see the commissioning of the Trade and Industry Tower in Kai Tak which has put a lot of green features such as solar hot water system and daylight suntubes into practice. It is always our priority to adopt green building design in our projects not only to

improve our sustainability performance through enhancing building energy efficiency and environmental quality, but also to lead the industry by demonstrating the benefits of green building to the society at large.

Due to the difference in number of works project conducted each year, our workload would be varied accordingly. It would be beneficial if the Department would review the manpower resources from time to time to even out the distribution of work.



We are delighted to know that our effort to promote sustainability is highly recognised by our staff. We are thankful for the relentless support of our staff to make our sustainability policies and internal measures effective. We will keep ourselves open to opinion from our staff and continue to review internal resources regularly to address staff concerns.



Mr Ian Ku Deputy Project Manager (Design & Construction of Yau Ma Tei Police Station) of Hip Hing Construction Co Ltd

Comment from Contractor

ArchSD has provided us with detailed and clear work-related environmental and safety requirements prior to the project commencement. Apart from following the project specifications, we maintained a close communication with ArchSD to incorporate sustainability features in our project where appropriate. As our project site is adjacent to a number of residential buildings, we face great challenge to minimise and mitigate our impacts to the neighbourhood. With our concerted efforts and the professional advice provided by ArchSD, we maintained a harmonious relationship with our have neighbours. Our green accomplishment has received various recognition, including the Green Contractor Award and the Hong Kong Awards for Environmental Excellence. This motivate us to strive for better performance. Other than on-going incentive schemes such as "Pay for Safety and Environment Scheme", ArchSD has also supported the Environmental Model Worker Award launched by us to instil a

green culture among the project team. ArchSD always plays an active role to drive the construction industry to go green.

🕤 Our Response

Contractor is one of our important business partners to achieve sustainability. We will provide necessary support and work closely with our contractors to pursue sustainability excellence. We will continue to work with our contractors to adopt innovative design and initiatives to further enhance site performance.



Ms. Yvonne Chau Venue Manager of Ko Shan Theatre

Comment from User

ArchSD introduced a number of environmental and energy efficient features when constructing the New Wing of Ko Shan Theatre. The theatre features "A Theatre in a Park, a Park in a Theatre" (園中有院 院中有園) design that ArchSD had incorporated a lot of landscaping into the building design and fully utilised solar energy by taking advantage of the geographical location of the site. Apart from green roofs, greenery areas were maximised in the new wing of the theatre to create a pleasant and relaxing environment for the public. Photovoltaic panels and bollard lights were installed for energy saving, while rainwater recycling system for landscape irritation and bleeding-off water of cooling tower system for toilet flushing were set up to conserve water.

ArchSD had maintained close communication with us throughout the project to understand our needs and concerns so as to tailor the building design that can maximise our operational efficiency and environmental performance. ArchSD should continue to introduce different green features in future projects to enhance environmental performance of government buildings and public facilities.

🕥 Our Response

It is our mission to develop buildings and facilities that best suit the needs of our clients and users. We will continue to involve venue users in different stages of the projects to understand and cater for their needs and encourage the use of environmental design as far as practicable.



Mr. Vincent Ng, JP President of the Hong Kong Institute of Architects

Comment from Association

ArchSD is committed to optimising and enhancing the design of public facilities such as parks, promenades, libraries and cemeteries for the enjoyment of the community. ArchSD has incorporated various sustainability elements into the design, building and operation of these facilities as far as possible such as adoption of green building materials, maximisation of greening area and use of natural ventilation. ArchSD has already made great effort to help cut down waste generation, improve air quality and reduce heat island effect through its projects.

ArchSD has actively promoted knowledge exchange among industry peers, business partners and clients. Through organising forums, sharing sessions and site visits, ArchSD helps disseminate best practices and share experience among

industry practitioners, fostering continuous improvement in green building design and environmental performance of the industry.

Apart from educating the industry, it is important to enhance public awareness and knowledge of various green building features. We therefore encourage ArchSD to continue providing information on sustainable design for the public so that they can learn the associated benefits while they are using the facilities.

🕥 Our Response

We strive to incorporate sustainability elements into our projects where applicable for the benefit of the community. We will continue to offer assistance to enhance the industry performance and promote sustainability to the public at large.



Ms. CHEUNG Man Wai, Halina Manager (Kowloon Tsai Park & Sports Ground) Leisure and Cultural Services Department

Comment from Client

The artificial turf football pitch at Kowloon Tsai Park has been opened for public since 2003. Situated in the low-lying ground of the Park, the football pitch has high risk of flooding especially during heavy rainfall. The football pitch was renovated in 2014. With the professional advice provided by ArchSD, the underground rainwater drainage system of the pitch was upgraded to enhance the overall drainage ability, and thus reduce service disruption.

Throughout the renovation process, we highly appreciate the professional advice and technical information given by ArchSD. The project team worked with us proactively to identify the best solutions for the renovation works. They also provided full support and timely response to cater for our specific needs and expectation. I believe ArchSD would continue to offer quality services to its clients and build a sustainable living environment in Hong Kong.

🕤 Our Response

It is our core value to provide services that suit our clients' needs. We always look for the best solutions to cater for the unique situations and requirements of different projects. We will continue to offer our clients professional advice and technical expertise to contribute to the sustainable development in Hong Kong. ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Sustainable Building Design



Buildings in Hong Kong account for over 90% of electricity consumption and 60% of total carbon emissions of the city. Over the years, we spare no effort to promote sustainable building design and adopt various state-of-the-art technologies to enhance energy efficiency and resource conservation in our development projects.

In 2014, we published the Sustainable Building Design Considerations Guidelines to provide a comprehensive guide for our designers to practise green and sustainable building design to improve our built environment. The Guidelines outline most of the important design considerations of the passive design in architecture and active design and provide useful references on sustainable construction materials and methods. We also developed a standard Particular Specification (PS) for the design of ArchSD temporary site office to further promote the use of green materials.

Features of Sustainable Building Design

Passive Design in Architecture

Passive design in architecture is an approach to building design that uses the building architecture to minimise energy consumption and improve thermal comfort. We adopt suitable measures in the planning, disposition, orientation, building form and material selection to optimise interaction with the local microclimate. Our passive design in architecture strategies include:

- Mitigating heat island effect or elevated temperature
- Air ventilation around buildings
- Daylighting
- Natural ventilation
- Passive cooling
- Reducing heat gain through building envelope

Active Design

Active design is an approach using the electrical and mechanical systems, such as heating, ventilation and air conditioning (HVAC) systems and lighting systems, to create comfortable conditions. These installations have significant influence over the energy use, greenhouse gases emissions, water use, thermal comfort and other sustainability outcomes of buildings. We have incorporated active design to improve the following aspects in buildings:

- Energy efficiency
- Energy conservation
- Water conservation
- Indoor environmental quality

Construction and Materials

Apart from passive design in architecture and active design, adopting sustainable construction methods and materials also forms an important part in sustainable buildings. Common sustainable construction methods include prefabrication, pollution control during construction and the adoption of 3R principles (i.e. Reduce, Reuse and Recycle). In addition, we use sustainable materials such as recycled materials and timber from well-managed sources.

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Sustainable Building Design

Case Study

The Trade and Industry Tower in Kai Tak

The Trade and Industry Tower (TI Tower) in Kai Tak is a prominent green building project that consists of a government offices building and a community hall. With a total net operational floor area of around 33,000 square the 22-storey office metres, accommodates 9 tower bureaux government and departments.



Overall view of TI Tower from Concorde Road



View of roof garden



View of photovoltaic panel on upper roof



Greening on the roof of the community hall

The building integrates a number of passive design in architecture and active design features which puts strong emphasis on energy conservation and greening. Lush landscaping was planted on the ground floor, elevated walkway and the roof. The office tower has a special vertical green belt on the building façades, a "green ribbon", which comprised a series of vertical terraces climbing up the office tower to the roof garden. To maximise energy efficiency, the building is connected to the District Cooling System for air-conditioning. This feature also allows us to make use of more space on roof level for greening and photovoltaic panels.



Vertical greening on building façades

The building achieves high thermal performance of building envelope by using double glazing as well as both vertical and horizontal sunshades. With this high performance façade system, the energy efficiency of air conditioning can be optimised.



Close up of the vertical sunshades (left) and application of sunshades in different areas of the façade (right) to reduce heat gain and glare.

In addition, the building equips with various renewable energy devices, including:

- Building integrated photovoltaic panels (BIPV);
- Solar hot water systems;
- Solar chimney;
- Solar tracking optic fiber light pipe;
- Anidolic light pipes; and
- Daylight sun-tubes





Outlet of the solar chimney in the community hall roof



Solar chimney in the basement carpark



Solar chimney in the community hall foyer

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Sustainable Building Design



Diagrame showing the mechanism of solar chimney (left). It utilise solar heat to warm up the air at the top of an open shaft, thereby producing natural ventilation of occupied space under the shaft. Computational fluid dynamics diagram showing the induced air flow in the carpark (right)



Solar Tracking Optic Fibre Light Pipes maximise sunlight collection by use of automatic solar tracking devices



Photo showing the anidolic light pipes in the façade for Building Management Office (left). Diagram showing the anidolic light pipes (right), configured to transmit sunlight horizontally.



Anidolic light pipe in the Building Management Office providing similar luminosity to traditional lighting



Sun pipes transmit sunlight from the roof of the community hall (left) through high reflective internal surfaces to the multi-purpose hall (right)

Apart from the above design features, the building also adopted free cooling to office spaces, heat recovery wheel, brushless DC motors for fan coil units, heat recovery from condensate and lift regenerating power to reduce energy consumption and maximise energy efficiency.

Other environmental features adopted in the project include automatic refuse collection system, rainwater collecting and storage system, use of recycled materials, adaptive and modular design for office area, life cycle assessment on structural elements, dripping irrigation system and water saving sanitary fittings.





Refuse disposal inlets for paper and general waste are installed in each floor and inlet for general waste on Ground Floor (top) and a central refuse collection station (bottom) is set at the basement Schematic diagram showing the automatic refuse collection system (ARCS) in TI Tower. The system achieves clean and hygienic environment; saves manpower; reduces nuisance work; facilitates recycling of waste paper; and reduces lift traffic loads The building also features an education path to enable the public to understand and appreciate various sustainable features. Interactive display and signage totem have been established as part of the education path.



Interactive display panels in 1/F lobby to enable the public to learn various sustainable features adopted in TI Tower



Environmental features map in the interactive display showing green features adopted and the benefits of the green features.

With all the above remarkable green building features, the building was awarded Grand Award for Buildings Under Construction in New Buildings Category in 2014 Green Building Award arranged by HKGBC. Also, the building has achieved Platinum rating in the Provisional Assessment Stage of the Building Environmental Assessment Method (BEAM Plus), and will be assessed under the Leadership in Energy and Environmental Design (LEED) certification programme.

Case Study

Construction Site Office for Schools at Site 1A-3 and Site 1A-4 of Kai Tak Development

In addition to adopting sustainable features in buildings, we also explore every opportunity to incorporate green elements during the construction stages. We applied various green features to build the construction site office for two schools located at Site 1A-3 and Site 1A-4 of Kai Tak Development. For example, recycled construction and demolition (C&D) materials such as broken concrete, concrete blocks and fill material were used to form site access and the footing of the site office. We also utilised various reused materials including structural steel, timber panels, bamboo, grille, concrete blocks, aluminium panels, tempered glass, etc. to build the site office to further reduce the use of virgin materials.

To create a pleasant working environment for the site officers, we transplanted an existing tree into the courtyard of the site office, and put a lot of potted plants in the office as well as established a green roof. Furthermore, the use of skylight and ribbon window allowed natural lighting entering into the office. A small fish pool was also set up as an amenity and to harvest rainwater for watering the plants. As one of our sustainable measures, we retained and reused about 50% of the materials or components of this construction site office in a special school project to conserve resources.



Overview of the Kai Ching Estate's schools construction site office

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Sustainable Building Design



Concrete blocks to form the footing of site office



Reused structural steels to erect the framing of site office



A comfortable working environment was built by using various recycled and reused materials

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Sustainable Building Design



Innovative use of old plastic bottles for planting



Reused bamboo posts were planted with creeping plants to serve as a partition



Rainwater harvesting fish pond

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Greening and Landscaping



As an on-going initiative, ArchSD strives to enhance greening and landscaping through maximisation of greenery coverage, including roof greening and vertical greening. Responsible for the development and upkeep of government facilities, we make every effort to promote best practices of roof greening and vertical greening to various government departments and quasi-government organisations on subvented projects.

In 2014, we completed 4 projects with green roofs on new buildings and 7 projects with retrofitted green roofs on existing buildings as well as 5 projects with vertical greening on new buildings for different government bureaux/departments and related organisations, including Education Bureau, Correctional Services Department, Leisure and Cultural Services Department, and Marine Department, etc. The types of buildings/facilities cover cultural complex, park, library, school, sports centre, swimming pool complex, dockyard and prison.



Extensive lawn is a pleasant environment for the enjoyment of Victoria Harbour

Kwun Tong Promenade Stage 2

Located under the Kwun Tong By-pass, Kwun Tong Promenade Stage 2 is a sequel to the Stage 1 project. The design of the Promenade is to create a pleasant environment to facilitate people to enjoy the beautiful view of Victoria Harbour and the Hong Kong Island cityscape beyond, featuring with a 750-metre waterfront boardwalk. The promenade spans over 34,000 square metres, which is nearly five times of the area of Stage 1.

With a design theme "to bring Nature into our City", over 40% of the Promenade areas are covered by green elements, including trees, shrubs, and lawns. Kerbless and extensive lawn allows the visitors to freely walk on and enjoy the beauty of "nature" in urban area. Lots of creepers have been planted along the wire mesh at the shelter structures. This will not only enhance the shading effect of the shelter, but also provide a greening effect vertically.



Over 40% of the Promenade areas covered with different green elements



Different green features such as creepers on wire mesh enhance the design theme 'to bring Nature into our City'

Case Study

Tiu Keng Leng Sports Centre, Tiu Keng Leng Public Library

Tseung Kwan O is a densely-populated and fast-developing new town. The population is expected to increase to 430,100 by 2019. This project was designed to meet the pressing need for public leisure and cultural facilities of residents in the southern part of Tseung Kwan O. The project consists of an open space, a district library and a sports centre. The project was completed in 2014 and commissioned since March 2015.

The district open space provides the public with landscaped sitting-out areas, fitness corners, a children's play area, and ancillary facilities. It features a large green area of about 3,680 square metres as a multi-layered "green carpet" which covers the entire project area across different levels and embraces the two distinct building masses of the sports centre and library.

Apart from large greening landscaping areas, other green features include passive solar design for the building design, recycled rain water irrigation system, water cooled chiller for air-conditioning of the venues, solar hot water systems for water supply in changing rooms and building-integrated photovoltaic panels. Our concerted efforts were recognised by achieving BEAM Platinum rating, attaining to be a finalist for Green Building Award 2014 (New Building Category), shortlisted for World Architecture Festival (WAF) Awards 2014.

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Greening and Landscaping



The district open space embraces the two distinct building masses of the sports centre and library



The vertical green feature wall embellishes the District Open Space

Case Study

Open Space in Area 117, Tin Shui Wai

The Government is committed to promoting the development of sport by providing a wide range of sport facilities for the community. New sports facilities in Tin Shui Wai were therefore built to cater for the needs. The project involved the construction of an artificial turf 11-a-side soccer-cum-rugby pitch and a jogging trail.



A jogging trail in the open space in Tin Shui Wai

To further enhance environmental and amenity benefits for the community, we incorporated additional planting proposals into the project, which included planting of about 90 trees, 14,200 shrubs, 68,700 ground covers, 250 climbers and 3,900 square metres of grassed area. We further made use of the open space to organise a community planting activity under the "Be Our Greening Partner" government campaign in the fourth quarter of 2014. District councillors, community leaders, football association representatives, school representatives and students were invited to green the open space.

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - Greening and Landscaping



A community planting activity was held in November 2014 to green the open space



The open space provides the community with extensive greening areas

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - In-house Green Management



It is our goal to lead the industry by example through integrating green features into government buildings and facilities and adopting green practices where applicable. In addition to striving for excellence in building design, we have implemented a number of green initiatives to improve environmental performance in our workplace.

Energy Efficiency

ArchSD has certified to ISO 14001 Environmental Management System, ISO 9001 Quality Management System and OHSAS 18001 Occupational, Health and Safety Management System. In 2014, we have made a further step to enhance our energy performance through implementing an ISO 50001 certified Energy Management System (EnMS) for our APB Centre. By establishing the EnMS, we are able to improve our energy performance sustainably in a more systematic approach. In view of the benefit of implementing EnMS, we are currently studying the feasibility of adopting ISO 50001 for the whole department.



Presentation of ISO 50001 EnMS Certificate for APB Centre

In 2014, we completed a number of initiatives focusing on energy conservation and operations improvement. For instance, we have re-arranged lighting by zoning that reduced using 200 lamps for 7 hours per working day, and dimmed 600 lamps resulting in a saving of 18,928 kWh per annum. We were granted "Class of Excellence" Energywise Label from Hong Kong Awards for Environmental Excellence (HKAEE) to recognise our energy saving achievement.



Presentation of Energywi\$e of Label HKAEE



Certificate of "Class of Excellence" Energywi\$e Label

Green Housekeeping

Various green housekeeping initiatives were implemented in ArchSD's offices, such as closely monitoring on our computers' switching on/off status, adopting LED task light to offset the lighting tubes, conducting de-lamping exercises and encouraging staff to turn off office lighting during lunch time or when unoccupied. We have implemented the rewiring works for re-arranging the lighting zone at 31/F and will implement on six other office floors in QGO and will also install LED light tube during the ceiling replacement works at 33/F. All above initiatives can reduce the electricity consumption during our daily office operation.

Carbon Footprint Management

As part of the government's initiatives to promote Green Government Building, existing government buildings with construction floor area of more than 10,000 m² were encouraged to conduct carbon audit to track their carbon emissions. We fully support the government's call and therefore have engaged a third party to carry out carbon audit to gauge our carbon footprint and identify room for continuous improvement annually.

The carbon footprints of Queensway Government Office (QGO) and APB Centre over the past three years are as follows.

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - In-house Green Management

Carbon Emissions in the Queensway Government Office



	FY2011-12	FY2012-13	FY2013-14
Direct Emissions (Tonnes of CO_2 -e)	28.66	24.05	14.90
Energy Indirect Emissions (Tonnes of CO_2 -e) ^[1]	2,372.86	2,385.64	2,277.59
Other Indirect Emissions (Tonnes of CO_2 -e) ^[2]	142.94	119.25	39.02
Total (Tonnes of CO ₂ -e) ^[2]	2,544.46	2,528.94	2,331.51

[1] Territory-wide default emission factor was used for the calculation of emissions.

[2] The figures in FY 2011-12, FY 2012-13 & FY 2013-14 are calculated by using the actual paper consumption (A4&A3) and waste paper collected for recycling.

We recorded a decreasing trend in carbon emissions for three consecutive years in QGO. Compared to the carbon auditing result for FY 2011-12 and FY2012-13, we successfully achieved 8.4% and 7.8% reduction in QGO respectively in FY 2013-14. The reduction in carbon emissions was mainly due to the decrease in electricity consumption and increase in waste paper recycling.

Carbon Emissions in APB Centre



	2012	2013	2014
Direct Emissions (Tonnes of CO ₂ -e)	325.14	732.33	886.29
Energy Indirect Emissions (Tonnes of CO_2 -e) ^[3]	1,833.11	1,785.41	1,756.58
Other Indirect Emissions (Tonnes of CO ₂ -e)	13.93	42.04	8.68
Total (Tonnes of CO ₂ -e)	2,172.17	2,559.77	2,651.55

[3] Territory-wide default emission factor was used for the calculation of emissions.

In 2014, the overall carbon emissions of APB Centre increased by 3.6% as compared with the emissions in 2013. It was mainly due to refrigerant leakage under direct emissions. We will step up our monitoring and explore other possible measures to prevent leakage of refrigerant. Nevertheless, a significant decrease of 79% in other indirect emissions was recorded due to staff contribution to paper reduction and waste paper recycling in 2014.

Indoor Air Quality Management and Emissions Control

It is important to provide good indoor air quality (IAQ) in workplace to protect the health of our staff. We therefore follow the guidelines published by Environmental Protection Department to maintain our IAQ. To benchmark our IAQ level, we have participated in the IAQ Certification Scheme and achieved the "Good Class" IAQ Objective.

Apart from IAQ, we have taken measures to mitigate air pollution. For instance, we have introduced electric vehicles since early 2013 to encourage commute with low road-side emissions. In addition, ozone depleting substances are completely prohibited in the air-conditioning and fire-fighting systems in our office.



Presentation of IAQ Certificate

Water Management

We continue to monitor fresh water and flushing water consumption at APB Centre and QGO. We have also installed water saving devices including sensor taps, dual flush cisterns and devices with water efficiency labels under Water Efficiency Labelling Scheme in APB Centre. To make water conservation becoming a general staff practice, we have incorporated water saving guidelines into the Department's General Circular "Measures of Green Housekeeping".

Materials and Waste Reduction

In line with government's initiatives in waste reduction, we have placed collection facilities for a wide range of recyclables including waste paper, aluminium cans, plastic bottles, used CDs and DVDs, used rechargeable cells, and used printer toner cartridges in our office. In 2014, we successfully reduced A3 paper consumption by over 16% and received the "Class of Excellence" Wastewi\$e Label of HKAEE to recognise our waste reduction effort. In addition, we have worked proactively with our IT equipment suppliers to reuse and recycle computers in our office.



Presentation of Wastewi\$e Label of HKAEE



Certificate of "Class of Excellence" Wastewi\$e Label

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - In-house Green Management

Nurturing Green Culture

With full support from top management, we have established a team of Green Wardens (previously known as energy warden) with representatives from each division or section since 2006. Currently, we have 75 Green Wardens helping increase staff awareness of green office practices and identify opportunities for continual improvement. To thank for their dedication and effort, an appreciation letter would be presented to Green Wardens with outstanding performance every year to recognise their contribution.



Green Wardens Meeting

To equip our staff with necessary environmental knowledge, we encourage staff members at different levels to participate in appropriate training courses and obtain professional qualification. As at July 2014, 222 staff members of ArchSD have attained the BEAM Pro qualification.

Case Study

Renovation Works of 1/F Main Block, APB Centre

The new ArchSD office is located at 1/F of Main Block, APB Centre, Hung Hom. It is the first government office in Hong Kong achieved Platinum Rating under BEAM Plus Interiors Accreditation. The office has been transformed into a green workplace, to demonstrate the best practice in achieving low carbon, healthy and modern indoor environment.

Sustainable and sensible solutions incorporating the leading practices and latest trend of technology were implemented in this project. Sustainable design was envisioned through an innovative radiant cooling system, energy efficient lighting design, sustainable materials selection, excellent indoor environmental quality, etc.

The project has successfully demonstrated the best practice of a sustainable office renovation through a holistic approach on sustainable design, green construction, environmentally friendly operation and maintenance.



cooling panels

Dimmable indirect LED lighting to save energy

ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - In-house Green Management



Raised floor with recycled content



Sustainable materials such as bamboo used as wall covering



Green wall along main corridor to enhance indoor environmental quality



Green roof to reduce heat gain



Real time monitoring panel to display the energy consumption
ArchSD Sustainability Report 2015 - Resources Utilisation and Conservation - In-house Green Management



APB Centre is the first government office in Hong Kong achieved Platinum Rating under BEAM Plus Interiors Accreditation ArchSD Sustainability Report 2015 - Clients and Business Partners - Project Quality Management



Over the years, ArchSD offers an extensive range of multi-disciplinary professional and technical services for public buildings and facilities. In collaboration with our industry partners, user departments and the general public, we are committed to building and maintaining a quality living environment for the local community.

Adhering to a high level of service quality and professionalism has always been the main focus of our operations and project management. In addition to fulfilling the expected requirements of our clients, we endeavour to apply and promote best practices among the building industry.

Satisfaction of Clients

To invite feedback on our service from clients, ArchSD conducts the annual Client Satisfaction Survey in a systematic manner. A total of 21 surveys were completed with regard to new projects during the reporting year. Through the survey, we gauge our performance against two main quality targets, namely Satisfied Level on Overall Performance and Enhancement on the Communication with Clients.

Satisfied Level on Overall Performance

Survey Results in 2014

100% of the completed projects achieved Satisfied Level or above on overall performance

Over **80%** of the completed projects achieved Total Satisfied Level or Very Satisfied on overall performance Same as 2013

17% compared to 2013

ArchSD Sustainability Report 2015 - Clients and Business Partners - Project Quality Management

Enhancement on the Communication with Clients



Building Environmental Performance

To support the Government's energy saving policies, and enhance building energy efficiency as part of clients' expectation, ArchSD has continued to be the pioneer in implementing the Hong Kong Building Environmental Assessment Method (also known as the BEAM) since 1996. By the end of 2014, we had successfully obtained the BEAM and BEAM Plus certifications for 39 buildings.

Certified Buildings under the BEAM by the End of 2014

Rating	BEAM Certification* (Version 1/96R, 2/96 & 2/96R)	BEAM Certification* (Version 4/03 & 4/04)	BEAM Plus Certification	
Excellent	11	-	-	
Very Good	2	-	-	
Platinum	-	16	1	
Gold	-	8	1	
Total	13	24	2	

* Reference to specific versions of the BEAM scheme:

- Version 1/96R An Environmental Assessment Method for New Air-conditioned Office Premises. 1999;
- Version 2/96 An Environmental Assessment Method for Existing Air-conditioned Office Premises. 1996;
- Version 2/96R An Environmental Assessment Method for Existing Air-conditioned Office Premises. 1999:
- Version 4/03 Pilot Versions for New Buildings; and
- Version 4/04 Building Environmental Assessment Method for New Buildings. 2004.

Promoting Site Sustainability

We join hands with contractors to continuously improve our project performance with regard to environmental and social aspects, and encourage the adoption of industrial best practices. A number of guidance notes, lessons learnt, briefing notes, safety audit reports and other relevant documents have been developed on certain key topics in this regard.

Other than routine site safety inspections, our Departmental Safety & Environmental Advisory Unit also conducted site audit inspections on selected site safety topics or issues. During 2014, a total of 185 site audit inspections were carried out on the following selected site safety topics/issues:

- i. Site cleanliness and mosquito control (53 nos. of site audit inspection);
- ii. Working at height (27 nos. of site audit inspection);
- iii. Electrical safety (57 nos. of site audit inspection);
- iv. Safe lifting (24 nos. of site audit inspection); and
- v. Fire safety (24 nos. of site audit inspection).

In order to recognise and promote best practices during project implementation, ArchSD encourages contractors, subcontractors and site personnel to participate in a few annual award schemes, for example, the Considerate Contractors Site Award and the Green Contractor Award.

Considerate Contractors Site Award

Organised by the Development Bureau (DEVB) (since 1995) and co-organised by DEVB and the Construction Industry Council (since 2011), the Considerate Contractors Site Award scheme provides honours for contractors with good site safety and environmental performance and considerate attitude. The scheme includes different categories of awards such as the Considerate Contractors Site Award, and the Outstanding Environmental Management and Performance Awards. Participant contracts can be generally divided into two types: New Works Contracts and Repair Maintenance, Alternation and Addition (RMAA) Works Contracts.



Representatives of the Winning ArchSD Contracts receiving the award at the Considerate Contractors Site Award Presentation Ceremony

The 21st Considerate Contractors Site Award Scheme – Considerate Contractors Site Award 2014 winning contracts under ArchSD's supervision include:

Achievement	Winning Site	Contractor	
Silver Award (RMAA Category)	Term Contract for Ground Investigation and Laboratory Testing for which ArchSD is responsible in Hong Kong, Kowloon, New Territories and Outlying Islands (2013 -2015)	Vibro (H.K.) Limited	
Bronze Award (RMAA Works Category)	Term Contract for the Alteration, Additions, Maintenance and Repair of Buildings and Lands and Other Properties for which ArchSD (PSB) is Responsible (Designated Contract Area - Kwun Tong, Yaumatei, Tsim Sha Tsui and Mong Kok)	Wan Chung Construction Co., Ltd	
Bronze Award (New Works Category)	Construction of Sports Centre in Area 4, Tsing Yi	Chevalier (Construction) Co., Ltd.	
Merit Award (New Works Category)	Design and Construction of Tin Shui Wai Hospital	Leighton - Able Joint Venture	
Merit Award (New Works Category)	Design and Construction of Fire Services Training School cum Driving Training School at Pak Shing Kok, Area 78, Tseung Kwan O	China State Construction Engineering (Hong Kong) Ltd.	

The 21st Considerate Contractors Site Award Scheme – Outstanding Environmental Management and Performance Awards 2014 winning contracts under ArchSD's supervision include:

Achievement	Winning Site	Contractor	
Merit Award	Construction of Sports Centre in Area 4, Tsing Yi	Chevalier (Construction) Co., Ltd.	
Merit Award	Design and Construction of Fire Services Training School cum Driving Training School at Pak Shing Kok, Area 78, Tseung Kwan O	China State Construction Engineering (Hong Kong) Ltd.	
Merit Award	Term Contract for the Alteration, Additions, Maintenance and Repair of Buildings and Lands and Other Properties for which ArchSD (PSB) is Responsible (Designated Contract Area - Kwun Tong, Yaumatei, Tsim Sha Tsui and Mong Kok)	Wan Chung Construction Co., Ltd	

Green Contractor Award

The Green Contractor Award is organised by ArchSD on an annual basis, with the focus on contractors' performance on environmental aspects, ranging from energy saving, water conservation, waste reduction, emissions mitigation, to environmental management. The winning contractors of the ArchSD's Green Contractor Award 2014 are:

Gold Award			
Hip Hing Engineering Company Limited			
Design and Construction of Yau Ma Tei Police Station			
Silver Award			
Leighton - Able Joint Venture			
Design and Construction of Tin Shui Wai Hospital			
Bronze Award			
Gammon Construction Limited			
 Redevelopment of Victoria Park Swimming Pool Complex Redevelopment of Kwun Tong Swimming Pool Complex and Kwun Tong Recreation Ground 			
Term Contract Award			
Wan Chung Construction Company Limited			
 Term Contract for the Alterations, Additions, Maintenance and Repair of Buildings and Lands and Properties for which Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area : Hong Kong Island Eastern and Outlying Islands (South)] Term Contract for the Maintenance of Slopes for which the Architectural Services Department (Property Services Branch) is Responsible for the Hong Kong Special Administrative Region [Designated Contract Area: Kowloon and Lantau Island] Term Contract for the Alterations, Additions, Maintenance and Repair of Buildings and Lands and Properties for which Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area: Kowloon and Lantau Island] Term Contract for the Alterations, Additions, Maintenance and Repair of Buildings and Lands and Properties for which Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area : Kwun Tong, Yau Ma Tei, Tsim Sha Tsui and Mong Kok] 			

Implementing Green Measures

Contractors have implemented a variety of practices on ArchSD's construction/maintenance sites addressing various environmental concerns arising from daily construction processes and facilitating communication with neighbouring community. The following measures represent some highlights from the award-winning contractors during the reporting period.



Energy Saving



Rechargeable LED lights¹



Solar multi-purposes lamps¹





Solar panel²

Utilisation of wind power²





Rainwater recycle system¹



Reuse of groundwater from dewatering well for tree drenching²

Waste Reduction



Metal formwork to replace traditional timber formworks¹



Adoption of pre-cast parts¹



Use of excavated materials from site for backfilling²



*Materials after demolition works were used for workers' resting area*³



Food waste decomposer²



Donation of used equipment⁴



Supervising construction and demolition materials handling process⁴



Recycling station on site⁴





Dust suppression (Wheel Wash)¹



Dust monitoring in neighbourhood³



Noise muffler¹



Noise barrier near passageway²





Environmental Management



Use of ultra-low sulphur diesel³



Innovative green office1



Tree protection zone within site boundary²



Paperless site inspection with mobile device³



Monthly environmental star awards¹



Site beautification with promotion materials for publics and workers³



Booth games to promote environmental messages to community⁴

Source:

- 1. Green Contractor Award 2014 Design and Construction of Yau Ma Tei Police Station, Hip Hing Engineering Company Ltd.
- 2. Green Contractor Award 2014 Design & Construction of Tin Shui Wai Hospital, Leighton Able Joint Venture
- 3. Green Contractor Award 2014 The Main Contract Works for Redevelopment of Victoria Park Swimming Pool Complex at Causeway Bay, Gammon Construction Limited
- 4. Green Contractor Award 2014 Wan Chung Construction Company Limited

ArchSD Sustainability Report 2015 - Clients and Business Partners - Social Participation and Engagement



Dedicated to serving our community, ArchSD has been actively participating in public activities and events to share our experience in sustainable building design and environmental-conscious practices.

Participating in Publicity Events

Besides holding symposia on building design, we were invited to take part in nearly 100 publicity activities initiated by other governmental departments, educational institutes, trade associations, professional organisations, media, and industry partners in 2014.

Through providing talks, offering site tours, joining interviews, meeting with interested parties, and showing ceremonial support, ArchSD's representatives have demonstrated a strong commitment to social engagement.



Sharing at Sustainability Engineer Specialist Group Launching Ceremony cum Seminar by Hong Kong Institution of Engineers



Participation in Hong Kong Jockey Club Charities Retreat 2015



Participation in the Eco Expo Asia 2014 to display our green building design and environmental achievement to both the trade and the general public



ArchSD exhibition panels displayed in the InnoCarnival 2014 organised by the Innovation and Technology Commission to share our experiences in green building design with the general public and the industries

Seasonal Celebration with Community

ArchSD has been one of the exhibitors at the annual Hong Kong Flower Show held during the spring time in Victoria Park by the Leisure and Culture Services Department since 1990s. Our display in 2014 was inspired by the unique image of the city - dynamic, vibrant, and full of energy. Taking the opportunity to arouse the general public's appreciation and protection of the environment, we used the demolition materials from the old Victoria Park Swimming Pool to form some bold and interesting shapes as the basic framework and vertical elements for the landscape and floral display. The display won the Gold Award for Design Excellence.



Garden Design for Hong Kong Flower Show 2014

Servicing the Community

We encourage staff's participation in volunteer services for the community through different activities. Our Volunteer Service Team has served 1,284 hours supporting 28 events in 2014.

	2014	2013	2012	2011	2010	2009
Total number of hours of staff volunteer service	1,284	1,574	1,927	1,666	1,557	2,065
Number of active Volunteer Service Team members Note 1	19	23	27	24	21	25
Number of staff received Commendation for voluntary service Note 2	12	18	19	18	18	21
Number of Volunteers	39	47	54	53	48	71
Number of Voluntary Projects Completed	28	45	47	52	67	44

Summary of Staff Volunteer Services

Note 1 - Active Volunteer Service Team member is defined as team member contributes more than 20 hours on volunteer service.

Note 2 - Staff who receives commendation for volunteer service is defined as team member contributes more than 30 hours on volunteer service.

Highlights of Voluntary Events in 2014



Play Day for Disabled



Painting Program for the Elderly



Gifts for the Elderly



Decoration of Sheltered Workshop

ArchSD Sustainability Report 2015 - Clients and Business Partners - Community Support



As a way to care for the community, we strive to incorporate suitable features to support special needs of the community when designing buildings and facilities.

Developing Barrier Free Environment

In line with the Government's policy on creating a barrier-free access physical environment for persons with disabilities (PwD), we are in the process of developing new accessible facilities and upgrading existing facilities with barrier-free features as far as practical.



Completed barrier free access upgrading works

ArchSD Sustainability Report 2015 - Clients and Business Partners - Community Support

To better address technical challenges of integrating accessible facilities into existing facilities, ArchSD has liaised with the Hong Kong Council of Social Services (HKCSS) to seek target users' feedback on facilities with special site constraints. A number of sharing sessions, workshops, discussion forums, and joint site inspections were held together with HKCSS and various PwD groups for this purpose. Post-improvement site inspections with PwD groups were also arranged to review the performance of completed facilities. Suggestions collected through these communication channels serve as a valuable source of reference when carrying out future projects.



Consultation meeting with The Hong Kong Council of Social Service and other organizations of the Persons with Disabilities before commencement of works



Joint site visit to venue with upgrading works completed

Runway Park at Kai Tak for Public Enjoyment

The Runway Park (Phase 1) situates at the tip of the former Kai Tai Runway. Offering a world-class panoramic Victoria Harbour view, the park celebrates the aviation history of Hong Kong, as a part of the original Kai Tak Runway was retained and integrated into its planning.

Visitors could walk straight from the Cruise Terminal to arrive at the park for a relaxing stroll along the waterfront promenade or repose in the grand lawn embraced with a secondary walking trail. When viewed from behind of the arbors place in the lawn, one can only see vegetation against the water or sky. A feature group along the waterfront promenade is introduced to seal off the existing weather station visually, and a covered court provides shading suitable for group activities.

The public lavatory ancillary block is made mainly from container units, featuring vertical and horizontal screens fully grown with climbing vines and shrubbery. Recycled glass content is used as one of predominating materials for paving. Soft landscape elements are selected to meet wind tolerance, seasonal interest, non-toxic and ecological criteria. More park features will also be introduced in the later phase to offer another multi-functional and dynamic recreational attraction for visitors in Kowloon.





Impressive Images of Runway Park at Kai Tak





Staff Development

ArchSD believes building a versatile and professional workforce contributes to achieving strategic and operating objectives of the department. Staff development, therefore, is always one of our top priorities. We offer a comprehensive range of training programmes covering topics related to Leadership & Management Skills, Professional & Vocational Training and Career Development. During the year, we organized 287 training courses which account for a total of 34,178 training hours, i.e. an average of 19 training hours per staff member.

Training Type	No. of Trainees	No. of Training Hours
Leadership & Management Skills	34	1,862
Professional & Vocational Training	6,077	26,245
Career Development	508	6,071
Total	6,619	34,178

Staff Training Hours





0 0

Staff Recreational Activities

To nurture a harmonious working culture, we always encourage our staff to participate in various recreational activities to build team spirit and boost staff morale. Eight of our staff joined the Ngong Ping Charity Walk this year to raise funds for Hong Kong Youth Hostels Association. In addition, we participated in the Hong Kong Streetathon organised by RunOurCity, The Hong Kong Institute of Architects (HKIA) Sports and Family Day 2014 and RSCP Table Tennis Tournament 2014 organised by Recreation and Sports Club for Hong Kong Professional Bodies and Inter-departmental Invitational Table Tennis Tournament 2014 organized by Buildings Department a table tennis tournament to share the fun and excitement of exercises with colleagues.



ArchSD teams at the Ngong Ping Chartiy Walk 2014



1st Ngong Ping Cable Car Tower Bypass



1st Runner-up of the Corporate Category in both 'Elite 23km' and 'Challenge 17km' routes



We joined the Hong Kong Streetathon to show our support to promote healthy running

ArchSD team participated in HKIA Sports and Family Day 2014 with various architectural practices, government departments and professional institutes.









Participants shared the joyful moment

ArchSD Table Tennis Team participated in Inter-departmental Invitational Table Tennis Tournament 2014 with Buildings Department, Civil Engineering and Development Department, Drainage Services Department, Electrical & Mechanical Services Department and Highways Department.





ArchSD obtained the 2nd runner-up from the exciting tournament

3 nos. of ArchSD staff as members of HKIA table tennis team participated in RSCP Table Tennis Tournament 2014 with the other 6 teams from Hong Kong Institute of Certified Public Accountants, Hong Kong Bar Association, Hong Kong Dental Association, The Law Society of Hong Kong, The Hong Kong Medical Association and The Hong Kong Institute of Surveyors.





The HKIA Table Tennis Team 2014

During the year, ArchSD Dragon Boat Racing Team has actively participated in various competitions. Every practice and competition provides us with excellent opportunities to build up and demonstrate our team spirit.



The Dragon Boat Racing Team got ready for the race



The Dragon Boat Racing Team reached the finish line with joy and excitement

Staff Motivation Scheme

Since 1993, the Staff Motivation Scheme has been conducted with an aim to achieve productivity gain and improve performance and service quality of our staff. The Scheme also helps build a sense of belonging among our staff members.

During the year, we organised the following activities under the Staff Motivation Scheme:

Launch of KM Quiz "Are you a smart KM user?"

Three rounds of online quizzes were launched to foster a collective learning culture and boost staff awareness of KM and ArchSD Academy among staff.

Establishing a Building Maintenance Tips Community

The Building Maintenance Tips Community was established with two objectives. The main objective is to collect building maintenance tips and recommendations yielded from maintenance experience gained from our projects and building works in order to avoid building defects, or to prevent future maintenance problems by better planning, design and construction details. These valuable building maintenance tips would also help speed up repair works, or would minimise impacts resulted from defects related incidents. Another objective is to arouse the awareness of colleagues on the consideration of future maintenance at various building stages to minimise possible problems in future maintenance by appropriate design and material selections; provision of adequate maintenance access to various building elements and hidden facilities; proper layouts design for plumbing and drainage pipeworks; as well as the importance of good workmanship and construction sequence, etc. in our projects and construction works.



Building Maintenance Tips Community

Design Competition on ArchSD Bookmarks

To foster a sense of belonging among our staff members, we launched a competition to encourage staff to design interesting bookmarks which could help propagate the knowledge harvesting and sharing culture in ArchSD. By highlighting the buildings and features designed by ArchSD, the selected bookmarks may be adopted for future use.



Winning Design - Bookmarks cum Paper Rulers

Conceptual Design Competition for Community Green Stations

A competition was held to invite designs for Community Green Stations from architect grade professionals. The objective of the competition is to stimulate and collect innovative ideas for promoting design excellence with emphasis on architectural innovation, buildability and environmental consideration. Staff members were invited to utilise their expertise to develop a modular building system with adaptability to suit different site of varied parameters. The submission should implement the 3S concepts on productivity enhancement to help alleviate the problem of labour shortage in the construction industry and adopt sustainable building design approach with due consideration of the prevailing green initiatives.



Winning Design – The Symbiotic Box

ArchSD Sustainability Report 2015 - Human Resources - Staff Engagement

Design Competition on "Clause Illustration of General Specification for Building"

A competition related to the clause illustration to General Specification was launched to promote staff awareness of site activities and to enhance staff dedication to site work. All site staff were divided into nine groups to compete for the group winners. A champion will be selected from the nine group winners. The group competition approach helps foster team spirit among in-house site supervisory staff. Moreover, after editing, the designs were posted into Knowledge Management hub for knowledge sharing.

Sprayed Concrete – Fixing Reinforcemente

Clause 26.16 Fix securely fabric reinforcement for sprayed concrete to the slope by steel nails or anchor bolts and lay it without sharp bends or creases. Place the fabric reinforcement centrally in the sprayed concrete and support it clear of the ground and away from all surface irregularities with adequate number of cover blocks in accordance with the specified concrete cover. Fix cover blocks on top of the fabric reinforcement during spraying. The minimum cover shall be 30mm. Laps between adjacent sheets of fabric reinforcement shall be at least 150mm or 40 times the diameter of the lapping wires whichever is greater.⁴⁷



Champion - Clause Illustration of General Specification for Building on 'Sprayed Concrete and Fixing Reinforcement'

ArchSD Sustainability Report 2015 - Human Resources - Staff Engagement

Wallpaper Design Competition "Professionalism in the Building Industry"

Our Building Services Branch ran a wallpaper design competition to promote inter team spirits of the branch. The team composed of representative from professional, technical and site supervisory grades. The competition demonstrates good team work within the branch.



Webpage of the Wallpaper Design Competition

Poster Design Competition ArchSD Healthy Body Stretching Exercise at Work Place

We understand the importance of maintaining a healthy lifestyle and therefore initiated a poster competition to encourage staff to do regular body stretching at workplace. With easy and clear illustrations of the stretching exercises, the poster provides excellence guidelines for staff to take simple exercises while they are working in the office.



First Prize - Stretch More, Stress Less



Design Competition for QSB Intranet Homepage

To engage staff in improving the layout and presentation of the intranet homepage of Quantity Surveying Branch, a competition was organised to invite fresh and modern ideas from staff. While maintaining the professional image of the current homepage, the new design was intended to enhance the user-friendliness and to enrich users' browsing experience.



Dual Champion

Design Competition on Promotional Materials for ArchSD

To raise public awareness and appreciation of communal facilities built by ArchSD, staff members were invited to produce different creative promotional materials including flyer, leaflet and pamphlet. Equipped with photos, drawings, diagrams and concise notes, the materials would be used to arouse public attention on ArchSD's efforts.





Different Creative Designs

Innovative and Smart Precast Construction Design and Detail Competition

A competition was held to promote innovative and smart construction methods. Staff members were invited to explore efficient design for different precast concrete elements which can be used in future projects. The competition encourages improvement in performance and service quality, as well as achieving efficiency and productivity gain.

Design Idea Generation for Signature Project Scheme - Eastern District Cultural Square

A competition was held to invite the innovative design ideas from those professionals of ArchSD to facilitate the development of final design by the project team for the new Eastern District Cultural Square. The competition encourages our staff to generate project ideas that fulfil the following aims:

- Enhance the permeability and connectivity of the area with the Aldrich Bay Promenade, Tam Kung Temple and the Waterfront;
- Provide a good outdoor cultural venue that can serve as a local focal point for various festive events and functions; and
- Develop a district square that reflect the local identity and characteristics, as well as the cultural and historic backgrounds of the places in the vicinity.



Selected submissions of the design idea competition for Eastern District Cultural Square
Design Competition for ArchSD's Departmental Display in Flower Show 2015

A competition was held to encourage our staff to propose basic design framework for the Departmental Display in Flower Show 2015. The winning entry was further developed for implementation. Participation in the Flower Show also provides good opportunities for our young landscape architects to sharpen their skills and talents in design and procurement of landscape and floral display.



Winner of the Design Competition for ArchSD's Departmental Display in Flower Show 2015 received a trophy from our top management



Design concept of the winning entry



ArchSD Display in Flower Show 2015



We are committed to continually improving our sustainability performance. To this end, we have set a number of annual sustainability objectives and targets to gauge our performance. In 2014, we achieved most of our targets regarding environmental, social and project quality issues. Details of our achievements during the year and the targets for 2015 are tabulated below.

On Environmental issues

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
Reduce water consumption	All water taps in new projects shall be Grade 2 or above under the Voluntary Water Efficiency Labelling Scheme (WELS) of Water Supplies Department (WSD) unless there are genuine operational or technical needs for not doing so (such as water taps for cleansing, clinical and laboratory use)	All water taps in the 13 new projects are Grade 2 or above under WELS of WSD except due to genuine operational or technical needs	Complied	2014 targets to be maintained in 2015
	In not less than 80% of new projects, either rainwater/ grey water recycling system should be installed.	94% (16 out of 17) of projects installed rainwater/ grey water recycling system	Complied	2014 targets to be maintained in 2015
Reduce energy consumption	To achieve OTTV standard of not more than 23 W/m ² for 100% of all new projects with air conditioning installations, and 70% of these projects to achieve an even lower	100% (11 out of 11) projects with OTTV less than 23 W/m ² , and 82% (9 out of 11) projects with OTTV less	Complied	2014 targets to be maintained in 2015

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
	OTTV of not more than 18 W/m ²	than 18 W/m ²	-	
Promote a healthy and sustainable development	70% of the new in-house and outsourced projects with Capital Project Estimate (CPE) / Approved Project Estimate (APE) greater than \$30 millions shall use pulverised-fly ash (PFA) concrete	100% (3 out of 3) of the new projects have used PFA concrete	Complied	80% of the new in-house and outsourced projects with CPE/APE greater than \$30M shall use PFA concrete
Improve green housekeeping management	To reduce A4 paper consumption by 7.5% as compared with the base year 2005	Actual consumption of A4 paper in 2014 was 18,485 reams. With data normalised, there were 39.8% and 0.9% saving when compared with 2005 and 2013 respectively	Complied	2014 targets to be maintained in 2015
	To reduce electricity consumption (exclude A/C system) by 6% at QGO as compared with the base year 2007	Actual consumption up to Q4 of 2014 was 1,046,901 kWh. With data normalised [1], the consumption was 987,687 kWh. There was 21.3% saving when compared with 2007 while 1.4% increase when compared with 2013	Complied	To reduce electricity consumption (exclude A/C system) by 6% at QGO as compared with the base year 2012
	To reduce electricity consumption by 6% at APB as compared with the base year 2007	Actual consumption up to Q4 of 2014 was 2,509,399 kWh. With data normalised [1], the consumption was 1,653,007 kWh. There was 27.2% and 9.5% saving	Complied	To reduce electricity consumption by 6% at APB as compared with the base year 2012

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
		when compared with 2007 and 2013 respectively		

[1] The electricity consumption was normalised with the consideration of number of server rooms and number of staff.

On Project Quality issues

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
Improve the quality of our services and project delivery	To monitor the expenditure on Capital Works Programme (CWP) projects within ArchSD's purview against the original estimates, ensuring that the under-spending does not exceed 5% of the corresponding provisions in the Printed Estimates	Original Estimate was \$9,774.3 millions. As at 31/12/2014, the outturn forecast is \$9,964.2 millions, which represents an over-spending of \$189.9 millions (1.9%) when compared to the Original Estimate	Complied	2014 targets to be maintained in 2015
	100% of the completed projects to achieve Satisfied Level or above on the overall performance in Client Satisfaction Survey	100% (21 out of 21 projects) of the projects have achieved Satisfied Level or above on the overall performance	Complied	2014 targets to be maintained in 2015
	To update, review and issue corrigendum for BS General Specifications (2012 Edition)	The review and issue of corrigendum for BS General Specifications (2012 Edition) was completed	Complied	To update and review not less than 2 nos. of Equipment Schedule/ Proforma Specification for building service installations
	To commence not less than 90% of new Public Works Programme (PWP) projects scheduled in 2014 in accordance with the commencement dates committed in the 2013 Resource Allocation Exercise (RAE)	100% (2 out of 2) of new projects (excluding B- projects and purchase items and those which are delayed due to 110	Complied	To commence not less than 90% of new PWP projects scheduled in 2015 in accordance with the commencement dates committed in the 2014 RAE

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
		external factors beyond ArchSD's Control) commenced works in 2014		

On Social issues

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
Minimising accident rate for ArchSD staff	Accident rate for ArchSD staff should be not more than 2 occupational injuries per 1,000 staff per year	There were 5 reportable accidents of ArchSD staff in 2014, equivalent to an accident rate of 2.78 reportable accidents per 1,000 staff The office occupational health & safety (OHS) environment is considered satisfactory after review. We have taken preventive measures to enhance staff's safety awareness, including: displaying OHS posters at prominent locations in our office premises; and conducting an in-house talk on Occupational Health for office workers.	Not complied	2014 targets to be maintained in 2015

Long Term Objectives	Targets for 2014	Achievements	Target Compliances	Targets for 2015
Minimising the accident rate in ArchSD contracts	Accident rate in ArchSD contracts should be less than 0.6 reportable accident per 100,000 man-hours worked	0.30 reportable accidents per 100,000 man-hours worked	Complied	2014 targets to be maintained in 2015
Maintaining safety and health awareness of professional, technical and site supervisory staff, consultants and contractors with in-house briefing	At least 4 in-house workshops on safety and health should be organised	4 in-house workshops / seminars were conducted	Complied	2014 targets to be maintained in 2015
Promoting the awareness on safety and health amongst construction workers	At least 40% of ArchSD contracts would participate in the ArchSD Site Safety Model Worker Award Scheme	Up to 30/11/2014, 81% of ArchSD contracts participated in Safety Model Worker Award Scheme	Complied	2014 targets to be maintained in 2015
Promoting the awareness on safety and health amongst contractors	At least 50% of ArchSD eligible new works contracts and 35% of eligible maintenance term contracts would participate in Development Bureau Considerate Contractors Site Award Scheme (CCSAS)	100% (20 out of 20) of eligible ArchSD new works contracts and 68% (17 out of 25) of eligible maintenance term contracts participated in CCSAS 2014	Complied	2014 targets to be maintained in 2015
Strengthening health and safety knowledge for project staff with external training	At least 12 external safety training courses on latest safety technology, current safety legislation, accident investigation, etc. should be arranged for project and office staff per year	20 external training courses were conducted with 317 professionals, technical staff and site staff attended	Complied	2014 targets to be maintained in 2015

ArchSD Sustainability Report 2015 - Data Summary



Resources Usage - Energy

	Units	2014	2013	2012	2011	2010
Electricity consumed (QGO and APB Centre) [1]	kWh/m ²	219	218	234	234	236
CO ₂ emission equivalent to electricity consumption (QGO and APB Centre) [2]	Tonnes CO ₂ -e	3,817	3,808	3,967	3,967	4,001
Energy saved due to energy efficient installations [3]	GWh	0.79	6.90	9.58 [4]	17.26 [4]	16.66 [4]
Equivalent monetary savings	HK\$ million	0.95 [5]	6.90	9.58	17.26	16.66
Avoided CO ₂ emissions [3]	in ,000 Tonnes CO ₂ -e	0.55	4.83	6.71	12.08	11.66

- [1] Offices in QGO and APB Centre represent a majority of total ArchSD office space. Total ArchSD office area is assumed to be 24,955.2 m² (10,844.4 m² for APB and 14,110.8 m² for QGO 31/F& 33/F-41/F). The percentage of electricity consumption of the whole premises for ArchSD office at APB & QGO is assumed to be 100% and 20% respectively.
- [2] Territory wide default GHG emission factors (0.7) were used based on the <u>Guidelines to Account for and Report on</u> <u>Greenhouse Gas Emissions and Removals for buildings (Commercial, Residential or Institutional Purpose) in Hong Kong</u> issued by the Environmental Protection Department, HKSAR in February 2010.
- [3] The data obtained from 2007 onwards take Building Energy Code (BEC) 2007 as the baseline. Energy efficient features refer to air-conditioning installations, lighting installations, hot water installations, lift & escalator installations, building energy management system and renewable energy technologies. ArchSD staff advises which project will be completed for the concerned year and then the energy template to be completed by the corresponding project officer. Total energy saved due to energy efficient installations can be summed up.
- [4] In 2010, 2 large-scale completed projects including a Government Departmental Headquarters and a Hospital Extension Block contributed to the major increase. In 2011, the Tamer Development Project was completed and contributed to most of the energy saving. In 2012, the New CAD Headquarters and North Lantau Hospital Phase 1 contributed to most of the energy saving.
- [5] From 2014, the electricity tariff is assumed to be HK\$1.2 per kWh whereas it was assumed to be HK\$1.0 per kWh on or before 2013.

Resource Usage - Fuel

	Units	2014	2013	2012	2011	2010
Fuel consumption by ArchSD's pool cars	Litre	12,800	13,142	13,998	13,263	17,723
GHG emission equivalent to fuel consumption by ArchSD pool cars [6]	Tonnes CO ₂ -e	34.7	35.6	37.9	35.9	48.0

[6] GHG emission factors for mobile combustion are based on the <u>Guidelines to Account for and Report on Greenhouse Gas</u> <u>Emissions and Removals for buildings (Commercial, Residential or Institutional Purpose) in Hong Kong</u> issued by the Environmental Protection Department, HKSAR in February 2010.

Resource Usage - Office Materials

	Units	2014	2013	2012	2011	2010
A4 paper consumption	Reams	18,485	18,346	18,330	19,240	20,021
A3 paper consumption	Reams	1,118	1,053	934	953	1,068
Envelop consumption	Reams	44,084	43,294	53,818	54,541	58,470

Waste Management

	Units	2014	2013	2012	2011	2010		
Construction & demolition materials								
C&D waste disposed of to landfills	Tonnes	37,593	24,125	46,261	66,541	69,716		
C&D materials disposed of to public fill areas	Tonnes	604,238	644,728	556,560	681,987	894,710		
Recyclable waste collecte	d at APB Cei	ntre						
Waste paper	kg	19,522	19,335	19,375	23,450	26,630		
Aluminium	No.	4,918	5,900	8,407	11,000	13,440		
Plastic bottles	No.	2,975	3,385	3,690	4,748	6,805		

Environmental Convictions of Contractors

	Units	2014	2013	2012	2011	2010
Convictions per 100,000 man-hours	ArchSD sites (HK sites)	0.35 (0.275)	0.15 (0.618)	0.336 (0.606)	0.159 (0.499)	0.164 (0.437)
Monetary value of significant fines	HK\$	227,000	18,500	61,000	51,000	39,000

ArchSD Sustainability Report 2015 - Data Summary

Environmental Expenditure

	Units	2014	2013	2012	2011	2010
Resources devoted to environmental works	HK\$ million	761.6	892.16	1,101.09	1,117.78	951.76
Percentage of annual expenditure	%	10.9%	12.12	11.7%	9.1%	7.9%

Social Performance

Staff

	Units	2014	2013	2012	2011	2010
Staff establishment (As at fiscal year-end)	No.	1,810	1,795	1,792	1,781	1,780

Staff Establishment Breakdown

By Post		
Directorate	%	2
Professional	%	24
General Staff	%	21
Site Staff	%	31
Technical	%	22
By Employment Type	<u>.</u>	
Full-time	%	100
By Employment Contract		
Permanent (male)	%	66
Permanent (female)	%	28
Contract (male)	%	3
Contract (female)	%	3
By Age (31.3.2015)		
Age under 30	%	5.2
Age 30-49	%	46.8
Age 50 or above	%	48.0
By Ethnicity		
Local	%	100
Non-local	%	0
By Gender		
Male	%	70
Female	%	30

ArchSD Sustainability Report 2015 - Data Summary

Staff Training

	Units	2014	2013	2012	2011	2010
No. of training courses (including internal and external seminars/ workshops/ training courses/ visits)	No.	287	270	240	205	160
Numbers of trainees	No.	6,619	6,674	4,902	4,784	3,836

Training Hours Breakdown [7]

Type of Staff	Total Training Hours Received (hours)	Training Hours Per Staff (hours)
Directorate Staff	1,430	40
Professional Grade Staff	17,064	39
Technical, Site Supervisory and General Grade Staff	15,684	12

[7] As there is no distinct requirement regarding receiving training in terms of gender, we do not report the data broken down by gender.

Anti-corruption Training

Type of Staff	Number of Staff Participated Anti-corruption Training	Percentage of Staff Participated Anti-corruption Training	
Directorate Staff	0	0%	
Professional Grade Staff	41	9%	
Technical, Site Supervisory and General Grade Staff	106	8%	

Staff Turnover

	Male	Female
Age under 30	0.3%(5)	0.2%(3)
Age 30-50	2.0%(36)	0.1%(1)
Age 51-55	0.4%(7)	0.2%(4)
Age 56-60	2.3%(40)	0.6%(10)

New Employee Hires

	Male	Female
Age under 30	1.0%(17)	0.4%(7)
Age 30-50	2.4%(42)	1.3%(22)
Age 51-55	0.1%(2)	0%(0)
Age 56-60	0%(0)	0%(0)

Staff Injury

	Units	2014	2013	2012	2011	2010
Staff injury cases [8]	No.	4	1	4	7	4
Staff sick leave granted for staff injury cases	Days	174 [9]	7	119.5	109	78

[8] The definition of staff injury cases is the reported cases of occupational injuries, under Employee's Compensation Ordinance, resulting in death or incapacity for work over 3 days.

[9] Sick leave was granted to an officer from 14.11.2014 pm to 23.4.2015 pm

Contractor's Accident Rate

	Units	2014	2013	2012	2011	2010
No. of fatalities [10] (ArchSD)	No.	1 (Male:1, Female:0)	0	4 (Male:4, Female:0)	2 (Male:2, Female:0)	0
Fatal accident rate [10] (ArchSD)	per 100,000 man-hours	0.004	0	0.013	0.005	0
Fatal accident rate [11] (HK Construction Industry)	per 100,000 man-hours	0.007	0.008	0.009	0.010	0.005
No. of non-fatal accidents [10] (ArchSD)	No.	80	68	130	195	122
Non-fatal accident rate [10] (ArchSD)	per 100,000 man-hours	0.31	0.27	0.43	0.51	0.35
Non-fatal accident rate [11] (HK Construction Industry)	per 100,000 man-hours	1.17	1.14	1.23	1.38	1.45

[10] Data of this year and the previous years were extracted from PWP Construction Accident Statistics System of DEVB as at 5 August 2015. Therefore, the figures of the previous years have been updated to the latest figures.

[11] The accident rate of the HK Construction Industry is based on the published statistics of the Labour Department and using a conversion of 1.67 accidents per 100,000 man-hours equivalent to 60 accidents per 1,000 workers per year.

[G4-22]

ArchSD Sustainability Report 2015 - Report Verification



Hong Kong Quality Assurance Agency ('HKQAA') was commissioned by the Architectural Services Department (hereinafter referred to as "ArchSD") of the Government of the Hong Kong Special Administrative Region to provide independent assurance of the ArchSD Sustainability Report 2015 ('the Report') which was prepared in accordance with the Core option of the G4 Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI). The Report states ArchSD's major activities and achievements on sustainable development from 1st January 2014 to 31st December 2014. Besides, the financial data are reported for the financial year ended 31 March 2015.

Assurance Methodology

The assurance process was undertaken with reference to the International Standard on Assurance Engagement 3000 ('ISAE 3000') – "Assurance Engagement Other Than Audits or Reviews of Historical Financial Information". In addition, reliability of the selected sustainability information and data were verified following the process consisted of:

- Identification and classification of statements, figures, charts and data sets to be verified
- Verification of selected representative samples of data and information consolidated in the Report, reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the Report
- Cross-checking the raw data and evidence of the selected samples that support the reporting content in order to reduce the risk of error or omission to an acceptably low level

Independence

HKQAA was not involved in collecting and calculating the reporting data, or in the development of the Report. HKQAA's activities are independent from ArchSD.

Conclusion

Base on the outcome of the verification process, HKQAA confirmed that the report was prepared based on the Core options of the GRI's G4 Sustainability Reporting Guidelines. The information presented in the Report provided a material and complete representation of the performance of ArchSD in the context of sustainable development. The verification team confirmed that the Report was prepared based on factual statements and that the data contained within the Report are accurate. It is a fair and honest representation of initiatives, targets, progress and performance on ArchSD's sustainable development achievements.

Signed on behalf of HKQAA

June

Jorine Tam Assistant Director, Strategic Business September 2015





The report is 'In Accordance' with the GRI G4 Guidelines – Core option. The General Standard Disclosures and material Specific Standard Disclosures are presented below with either linkage to the reported section(s) or direct answer.

	General Standard Disclosures	
General Standard Disclosures	Cross-reference/Comments	External Assurance
Strategy and Analysis		
G4-1 Statement from the most senior decision-maker of the organisation	Message from the Director	
Organisational Profile		
G4-3 Name of the organisation	About Us	✓
G4-4 Primary brands, products and services	About Us	1
G4-5 Location of organisation's headquarters	About Us	1
G4-6 Number of countries where the organisation operates	Hong Kong only	1
G4-7 Nature of ownership and legal form	Part of the Hong Kong SAR Government	1
G4-8 Markets served	Strategy and Management	1
G4-9 Scale of the organisation	<u>About Us</u> Data Summary	1
G4-10 Number of Employees	Data Summary	✓

	General Standard Disclosures	
General Standard Disclosures	Cross-reference/Comments	External Assurance
G4-11 Percentage of employees covered by collective bargaining agreements	None. There is no collective bargaining legislation exists in Hong Kong but we have maintained various staff engagement channels such as the Departmental Consultative Committee, Joint Staff Consultation Group, Staff Motivation Scheme, Web Forum, Staff Relation Units and other staff associations.	✓
G4-12 Organisation's supply chain	Project Quality Management	✓
G4-13 Significant changes during the reporting period regarding size, structure, ownership or organisation's supply chain	No significant change	~
G4-14 Explanation of whether and how the precautionary approach or principle is addressed by the organisation	Strategy and Management	✓
G4-15 Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organisation subscribes or endorses	About This Report Strategy and Management	✓
G4-16 Memberships in associations and/or national/international advocacy organisations	Strategy and Management	✓
Identified Material Aspects and Bo	bundary	
G4-17 Entities included in the organisation's consolidated financial statements or equivalent documents	<u>About Us</u>	✓ <u>Report Verification</u>
G4-18 Process for defining report content and the aspect boundaries	About This Report Main Focus Areas	✓ <u>Report Verification</u>
G4-19 Material aspects identified in the process for defining report content	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>
G4-20 Aspect boundary within the organisation for each material aspect	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>
G4-21 Aspect boundary outside the organisation for each material aspect	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>
G4-22 Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement	<u>Data Summary</u>	✓ <u>Report Verification</u>

General Standard Disclosures					
General Standard Disclosures	Cross-reference/Comments	External Assurance			
G4-23 Significant changes from previous reporting periods in the scope and boundary	No significant change	✓ <u>Report Verification</u>			
Stakeholder Engagement					
G4-24 List of stakeholder groups engaged by the organisation	Main Focus Areas Engagement Approach	✓ <u>Report Verification</u>			
G4-25 Basis for identification and selection of stakeholders with whom to engage	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>			
G4-26 Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	Engagement Approach We have regular engagement with members of each group: (i) annual appraisals for staff; (ii) quarterly performance reports for consultants and contractors; and (iii) Client Satisfaction Survey for clients.	✓ <u>Report Verification</u>			
G4-27 Key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting	Engagement Approach	✓ <u>Report Verification</u>			
Report Profile					
G4-28 Reporting period	About This Report	✓			
G4-29 Date of most recent previous report	ArchSD Sustainability Report 2014 was published in September 2014.	\checkmark			
G4-30 Reporting cycle	About This Report	✓			
G4-31 Contact point for questions regarding the report or its contents	<u>Feedback</u>	✓			
G4-32 GRI Content Index, the 'in accordance' option the organisation has chosen and the reference to the External Assurance Report if any	<u>GRI Content Index</u>	✓			
G4-33 Policy and current practice with regard to seeking external assurance for the report	About This Report Report Verification	✓			
Governance					
G4-34 Governance structure of the organisation	About Us Strategy and Management	✓			
Ethics and Integrity	·				
G4-56 Organisation's values, principles, standards and norms of behaviour	Strategy and Management	\checkmark			

Specific Standard Disclosures					
Material Aspects	DMA and Indicators	Cross- reference/Comments	External Assurance		
ProcurementDMAProject QualityPracticesManagement		Project Quality Management	✓		
Procurement Practices	G4 EC9 Proportion of spending on local suppliers at significant locations of operation	In 2014, all our purchases were from local suppliers (defined as companies registered in Hong Kong).	✓		
Design In-house Green Management		In-house Green	✓		
Energy	G4-EN3 Energy consumption within the organisation	Data Summary	✓		
Energy G4-EN6 Reduction of <u>Data Summ</u> energy consumption		Data Summary	1		
Emissions DMA		In-house Green Management Objectives and Targets	✓		
Emissions G4-EN15 Direct greenhouse gas (GHG) emission (Scope 1)		In-house Green Management	✓		
Emissions	G4-EN16 Energy indirect GHG emissions (Scope 2)	In-house Green Management	✓		
Emissions G4-EN17 Other indirect GHG emissions (Scop		In-house Green Management	\checkmark		
Emissions	G4-EN19 Reduction of GHG emissions	In-house Green Management Data Summary	✓		
Effluents and Waste	DMA	In-house Green Management Objectives and Targets	✓		
Effluents andG4-EN23 Total weightDaWasteof waste by type anddisposal method		Data Summary	✓		
Compliance	DMA	Strategy and Management	✓		

	Specific Standard Disclosures					
Material Aspects	DMA and Indicators	Cross- reference/Comments	External Assurance			
Compliance	G4-EN29 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	<u>Data Summary</u>				
Supplier Environmental Assessment	DMA	Project Quality Management	✓			
Supplier Environmental Assessment	G4-EN32 Percentage of new suppliers that were screened using environmental criteria	ArchSD only appoints contractors and suppliers from lists of relevant categories, which are maintained by the Government of HKSAR. The listed contractors and suppliers have to fulfill certain requirements, which are mainly related to the establishment of their companies, set out by the administrators of these lists. Contractors and suppliers are also required to achieve ISO 9001:2008, ISO 14001:2007 certifications in order to be included in these lists.				
Employment	DMA	Staff Development Staff Engagement	\checkmark			
Employment	G4-LA1 Total number and rates of new employee hires and employee turnover by age group, gender and region	Data Summary	✓			
Occupational Health and Safety	DMA	<u>Project Quality</u> <u>Management</u> <u>Objectives and Targets</u>	✓			

Specific Standard Disclosures						
Material Aspects	DMA and Indicators	Cross- reference/Comments	External Assurance			
Occupational Health and Safety	G4-LA6 Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	<u>Data Summary</u>				
Training and Education	DMA	Staff Development	\checkmark			
Training and Education	G4-LA9 Average hours of training per year per employee by gender, and by employee category	Data Summary	✓			
Training and Education	G4-LA11 Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	All staff receive regular performance appraisal.				
Non-discrimination	DMA	Strategy and Management	\checkmark			
Non-discrimination	G4-HR3 Total number of incidents of discrimination and corrective actions taken	No incident of discrimination was reported in 2014.	✓			
Anti-corruption	DMA	<u>Strategy and</u> <u>Management</u>	\checkmark			
Anti-corruption	G4-SO4 Communication and training on anti-corruption policies and procedures	<u>Data Summary</u>	✓			

	Specific Standard Disclosures					
Material Aspects	Material Aspects DMA and Indicators		External Assurance			
Anti-corruption	G4-SO5 Confirmed incidents of corruption and actions taken	<u>Strategy and</u> <u>Management</u>	✓			
Grievance Mechanisms of Impacts on Society	DMA	<u>Project Quality</u> <u>Management</u>	✓			
Grievance Mechanisms of Impacts on Society	G4-SO11 Number of grievance about impacts on society filed, addressed, and resolved through formal grievance mechanisms	The number of public and media complaints filed, addressed, and resolved in 2014 was 320.				
Product and Service Labelling	DMA	Project Quality Management	✓			
Product and Service Labelling	G4-PR5 Results of surveys measuring customer satisfaction	Project Quality <u>Management</u> <u>Objectives and Targets</u>	✓			



Building Energy Codes (BEC)	Building Energy Codes is a suite of guidance that covers five aspects of installation practices, including lighting, air conditioning, electrical and lift & escalator installations. It stipulates the minimum energy performance standards (MEPS) of these installations practices.				
Building Environmental Assessment Method (BEAM)	Quote from BEAM Society, "A means by which to benchmark and improve performance in the planning, design, construction, commissioning, operation and management of buildings." BEAM Plus is a comprehensive environmental assessment scheme recognised by the Hong Kong Green Building Council (HKGBC). Issued in 2012, BEAM Plus Version 1.2 for New Buildings and Existing Buildings is an enhanced from the earlier version in providing Passive Design as an alternative method for assessment."				
Carbon Audit	A systematic and scientific approach to account for the greenhouse gas emissions arising from the operations of the buildings.				
Carbon Footprint	The carbon footprint is the measurement of all greenhouse gases an individual produces in daily lives through burning fossil fuels for electricity, heating, transportation, etc, usually in the unit of tonnes (or kg) of carbon dioxide equivalent. It is an award to promote a considerate attitude and good site safety, health and environmental practices for both Public Works and non-Public Works sites.				
Considerate Contractors Site Award					
Designated Projects	Designated projects are projects or proposals that may have an adverse impact on the environment. They are covered by the Environmental Impact Assessment Ordinance in which they are categorised into two schedules: Schedule 2 and 3. (Details please refer to <u>A Guide to the Environmental Impact Assessment Ordinance</u> .)				
Energy Audit	An Energy Audit is an examination of an energy consuming equipment/system to ensure that energy is being used efficiently. It is an effective energy management tool. By identifying and implementing the means to achieve energy efficiency and conservation, not only can energy savings be achieved, but also equipment/system services life can be extended. All these mean savings in money.				
Environmental Impact Assessment (EIA)	A process to assess the potential environmental impacts and environmental benefits (in quantitative and qualitative terms) of a project in the early planning stages as well as identify any alternatives or mitigation measures.				

ArchSD Sustainability Report 2015 - Glossary

Environmental Impact Assessment Ordinance (EIAO)	An Ordinance to assess the impact on the environment of certain projects and proposals, for protecting the environment and for incidental matters through the application of the EIA process and the environmental permit system.			
Extranet	The ArchSD Extranet is a private secured web portal with restricted access to enhance communication and information exchange with external users such as consultants and contractors, and to streamline contract management of works projects undertaken by the Department.			
Global Reporting Initiative (GRI)	A multi-stakeholder-governed institution which provides a framework for sustainability reporting, which is commonly used all over the world. This framework sets out the principles and indicators that entities can use to measure and report their economic, social and environmental performance. GRI launched its fourth generation of Sustainability Reporting Guidelines (G4) in May 2013. G4 emphasises on report materiality that encourages reporting organisations to provide only information that is critical to their business and stakeholders.			
Green Building Awards (GBA)	Jointly organised by the Hong Kong Green Building Council and the Professional Green Building Council, GBA is a biennial industry award which aims to provide recognition to building-related projects with excellent performance and contributions in sustainability and the built environment. It also encourages the industry to transform the mainstream market towards wider adoption of sustainable planning, design, construction, management, operation, maintenance, renovation and decommissioning of buildings.			
Green Contractor Award	Green Contractor Award is organised by ArchSD every year to appraise contractors that have excellent performance in construction sites through demonstrating their environmental and social conscious commitments with the implementation of effective green measures.			
Greenhouse Gases	Greenhouse gases refer to those which are able to absorb and hold heat in the atmosphere, either occurring naturally (e.g. carbon dioxide, methane, ozone and water vapour) or exclusively resulting from human activities (e.g. hydroflurocarbons).			
Grey Water	Grey water is the wastewater generated from domestic activities such as hand washing and cloth laundering. It is suitable for reuse as landscape irrigation or even toilet flushing.			
Hong Kong Energy Efficiency Registration Scheme for Buildings	This scheme was launched by the Electrical & Mechanical Services Department for promoting the application of Building Energy Codes since October 1998. It provides an official platform for interested parties to register their buildings which comply with BECs.			
Important Tree	Important Trees are trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria: trees of 100 years old or above; trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event; trees of precious or rare species; trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.			
ISO 50001 Energy Management System	ISO 50001 is an international standard first published by International Organization for Standardization (ISO) on 15 June 2011, which specifies requirements for the establishment of an energy management system. Adopting ISO 50001 Energy Management System enables organisations to improve their energy performance, which generally includes energy use, energy efficiency and energy consumption, in a systematic approach. Similar to other well-known ISO standards such as ISO 9001 and ISO			
129				

ArchSD Sustainability Report 2015 - Glossary

	14001, ISO 50001 is also based on the PLAN-DO-CHECK-ACT approach to assist organisations in achieving continual improvement.		
Knowledge Management (KM) Portal	KM portal is to manage the knowledge life cycle from generation, harvesting, formation of practice wisdom and sharing to publishing, monitoring and renewal. The whole process is manifested in the operational regime under a 3-tier system, i.e. the ArchSD Knowledge Bank (K-Bank), branches/divisions KM hubs and knowledge community workspace.		
Leadership in Energy and Environmental Design (LEED)	The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for environmentally sustainable construction.		
Microclimate Study	Microclimate study acts as an environmental performance factor of the site providing environmental characteristic of the site for the purpose of creating a sustainable environment which provides the greater comfort for the development.		
Overall Thermal Transfer Value (OTTV)	A measure of the energy transferred through the envelope of a building and has a direct correlation with energy consumption.		
Preliminary Environmental Review (PER)	It is a study that determines the current environmental conditions of the project site through inspecting the potential environmental impacts associated with the project and recommending corresponding mitigation measures.		
	All Government Projects are required to carry out PER at the early stage of the projects (Feasibility Study Stage).		
Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP)	It was formerly known as <u>Practice Note for Authorized Persons and</u> <u>Registered Structural Engineers (PNAP)</u> . Since 1974, the Building Authority has issued practice notes to authorised persons, registered structural engineers and registered geotechnical engineers from time to time to promulgate how the Authority applies and enforces the provisions of the Buildings Ordinance (BO) and its subsidiary regulations as well as other administrative and advisory matters in the administration of the BO.		
Program on Source Separation of Commercial and Industrial Waste	It has been launched by EPD since 2007. It aims to encourage the property management sector to undertake initiative to set up and implement suitable mechanism to separate and recover waste within commercial & industrial (C&I) premises. This will facilitate the tenants / occupants to practice waste separation and recycling in workplace with ease.		
Post Occupancy Evaluation (POE)	Post Occupancy Evaluation is a management tool tailor-made to evaluate the performance, assess the effectiveness of sophisticated building services systems after client occupancy, and to address clients' concerns on the functional requirements and energy consumption of their recently completed building projects.		
Quality Building Awards (QBA)	QBA is jointly launched by nine professional organisations in Hong Kong at biennial intervals to present public recognition to buildings of outstanding quality that have demonstrated excellent teamwork. The Award aims to promote a collective commitment by the building industry to maintain the highest standards of professionalism and competitiveness.		
Register of Old and Valuable Trees	The Leisure and Cultural Services Department, Agriculture, Fisheries and Conservation Department and Housing Department have identified some 500 Old and Valuable Trees on unleased Government land within built-up areas or tourist attractive spots in village areas to provide priority protection.		
Stakeholder	It refers to individuals, groups or organisations which experience directly or indirectly the actions and policies implemented by an organisation.		
Sustainable Development	Sustainable development is the development approach which meets the desires of the present and preserves the environment and natural resource		
U Construction of the second se	130		

ArchSD Sustainability Report 2015 - Glossary

	for the future generations.				
Testing and Commissioning (T&C)	Testing and Commissioning (T&C) is generally regarded as testing of equipment and systems separately, in order to ensure that they are safe and meet the design requirements.				
Resource Allocation Exercise (RAE)	It is a practice to schedule activities and assign available resources in an economic way, so that predetermined constraints of resource availability and/or project time are not exceeded. Each HKSAR Government Department has to earmark an amount of Recurrent/Capital spending in October that to be included in the budget of the following year.				
Universal Accessibility	The concept of Universal Design forms the backbone of Universal Accessibility. It is a design approach to a universally accessible standard in which all products, environments and communications will allow for the widest spectrum of our community regardless of diversity, age and ability.				
U-value	The rate of heat flow through a material. It is measured as the amount of heat flow through $1m^2$ of the material for every degree difference in temperature each second.				
Valuable Tree	Refers to the "valuable trees" in the Register of Old and Valuable Trees which are distinguished in the following categories: Trees of large size; Trees of precious or rare species; Trees of particularly old age (e.g. aged 100 or above); Trees of cultural, historical or memorable significance; and Trees of outstanding form.				
Vertical Greening	Vertical greening is the application of a vegetative cover to a wall/vertical structure. It serves as the thermal insulation to building to moderate temperature and relative humidity to the site. It also helps in filtrating dust pollution, reducing noise pollution and enhancing the biological diversity of the building and its surroundings.				

ArchSD Sustainability Report 2015 - Feedback



Thank you for reading our report. Your comments and suggestions for our continuous improvement are invaluable. Please take a few minutes to complete this form and send it back to us.

1. How strongly do you agree with the following statements about the report?

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Additional comments
Most relevant issues are covered.	0	0	0	0	0	Enter comments
Content is balanced and reliable.	0	0	0	0	0	Enter comments
Content is clear and easy to understand.	\circ	0	\bigcirc	\bigcirc	\circ	Enter comments
Structure and layout are rational and easy to use.	\bigcirc	0	0	\circ	0	Enter comments

2. How would you rate the overall report?

_	Excellent	Good	Adequate	Marginal	Poor	Additional comments
	0	0	0	0	0	Enter comments

3. In accordance with the report, how would you rate our sustainability performance?

Excellent	Good	Adequate	Marginal	Poor	Additional comments
0	0	0	0	0	Enter comments

ArchSD Sustainability Report 2015 - Feedback

4. What information would you like to see in future reports?

Enter comments

5. Other comments:

Enter comments

6. Which of the following best describes you?

- □ Client of ArchSD
- Government Department
- □ Consultant / Contractor / Supplier / Construction Industry
- □ Architect / Engineer / Landscape Architect / Surveyor
- □ Non-governmental Organisation
- □ Academic / Education Sector
- Staff of ArchSD
- □ General Public
- □ Other Enter comments

If you would like to receive future reports / information from us, please provide your contacts:

Your Name:	
Your Organisation:	
Your Telephone:	e.g. 2596 0361
Your Email address:	e.g. imu@archsd.gov.hk

Submit

Reset

Thank you and we appreciate your feedback.

You may also print this page and fax to: +852 2596 0361 or contact our Integrated Management Unit by email to <u>imu@archsd.gov.hk</u>.

The information will be used in strictly confidential and for communication and statistical purpose only. All personal data are handled in accordance with the provision of the Personal Data (Privacy) Ordinance and our <u>Privacy Policy Statement</u>.