

SUSTAINABILITY REPORT 2016



Scope of the Report

Gammon Construction Limited is a private company jointly owned by Jardine Matheson, an Asia-based conglomerate, and Balfour Beatty, a leading global publicly listed infrastructure business. The principle activities of Gammon are civil engineering, foundation works, building and facade construction, electrical and mechanical installation, manufacturing and supply of fabricated steel, manufacturing and selling concrete, and rental of plant and machinery. This report covers the operations of the company and its subsidiaries in Hong Kong and Macau, Mainland China, and Singapore for the 2016 calendar year.

G4-3, 4, 6-8, 28-30

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Appendix (online version only)

Our Brands



Civil, foundations, building, E&M and construction services covering plant and equipment, concrete technology and steel fabrication





Public-Private

Partnership business

External facades and general contractor

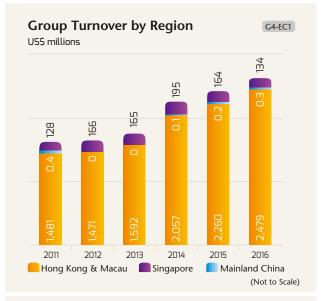
Gammon

Front Cover

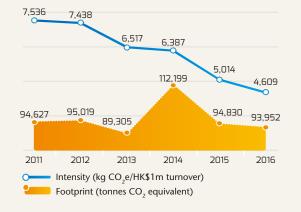
West Kowloon Terminus of the MTR Express Rail Link (background) and ZeroG mechanical arm (forearound). Construction of complex structures, such as the roof of the station entrance, rely heavily on BIM. In future, we will see greater integration of exoskeletons, virtual and augmented reality, and other automation technologies in construction.

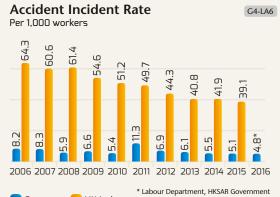
Our full annual Sustainability Report is available on our website where you will find an Appendix of previous years' data for our Key Performance Indicators, and an index aligning our report and required disclosures (G4-XX) with the Global Reporting initiative (GRI) G4 sustainability reporting guidelines. The report has been verified by an independent third party and details are also provided in the Appendix.

For more information and detailed performance data. please visit www.gammonconstruction.com



Carbon Footprint and Intensity G4-EN15, 16, 18, 19





Gammon 🦰 HK Industry Industry figure for 2016 not available



2012 2013 2014 2015 2016



Collaborating with our many partners is paving the way for transformation in Gammon and the industry for greater productivity and sustainability.

The construction industry is often considered as very traditional and, in Hong Kong, in particular, it has seen slowing productivity and increasing costs in recent years. As was highlighted in the World Economic Forum's report, 'Shaping the Future of Construction: A Breakthrough in Mindset and Technology', a step change is needed for transformative improvement in sustainability and productivity and we have chosen the theme of 'Collaborating for Transformation' this year to highlight, not only the progress we are making in transforming our work practices but also the essential role collaboration plays in achieving this end.

We have been working together with our supply chain, clients, research establishments, business groups and the wider construction industry and are starting to see progress, albeit slowly in some areas. As a large company, cross-disciplinary collaboration is sometimes challenging, but initiatives such as our team of Innovation Scouts as well as the development of mobile device applications and integration of Building Information Modelling (BIM) have been successfully breaking down barriers and enabling cross-fertilisation of ideas. Our focus in 2016 has largely been on technology, materials and tools with our pioneering adoption of mobile device applications, advanced modularisation, robotics and personnel automation equipment. I hope you enjoy some of these case studies included in this year's report.

Whilst there were a lot of positives from the year, including a marked improvement in our Group's Accident Incident Rate (4.8, ahead of our target of 5.3), sadly we had two fatal accidents on projects in Hong Kong and Singapore. This has given us cause for deep reflection on how we managed safety on these sites and has led to the development of our simple '4 Golden Rules' introduced in our second company-wide Stand Down of 2016. The focus for our employees this year has been on health and happiness. Many of our community based activities and our Gammon Family Fun Day had a health related theme and we had a major change in our staff engagement survey, the Happiness Index. We are making good progress on carbon intensity reduction and innovations driven on site through our Green and Caring Site Commitment Scheme are showing positive results for the environment as well as the welfare of our workers.

We also had some notable recognition this year - winning a Grand Award at the Hong Kong Awards for Industry, another Gold Award at the Hong Kong Awards for Environmental Excellence and one of only six BSI Kitemark's globally for BIM. These and many other awards make me proud to be at the helm of Gammon and strengthen my resolve to make even greater efforts in 2017.

G4-1



Engaging with our stakeholders

We engage with our stakeholders throughout the year but we also had a formal online sustainability survey and a Non-Governmental Organisation (NGO) and Institutional stakeholder workshop. A threshold for materiality was determined and 10 material issues were identified as detailed below.

Zero Harm

- 1. Safety management
- 2. Working environment

🔅 Prosperous Markets

- 3. Compliance/ Quality of products and services
- 4. Customer health and safety
- 5. Improving client satisfaction
- 6. Innovation

Strong Relationships

- 7. Anti-corruption
- 8. Staff retention, turnover and development of our people

Environmental Stewardship

9. Construction materials
 10. Waste

Details of the engagement process and results from the analysis are provided in the Appendix.

G4-18-27

Performance at a Glance G4-CRE1, 8 G4-EN18

ZERO HARM



Group accident incident rate*



people

Falsework training



2016 Safety Conference of attendees were our suppliers and subcontractors

STRONG RELATIONSHIPS



HK\$1.9m



Total number of training hours over 65,000



Number of health checks in Hong Kong

over **13,600**

PROSPEROUS MARKETS



Value of green building project works

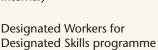
compared with 2015





Innovation competition entries (external and internal)







senior worker registrations

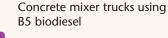
ENVIRONMENTAL STEWARDSHIP



Carbon intensity reduction[®] (2005 baseline)



Water Intensity reduction[#] (baseline 2010)



Note * Accident incident rate is calculated according to the below formula (Total number of reportable accidents / average workforce) * 1000 [®] Carbon intensity is based kg CO₂e/ HK\$1 million turnover [#] Water intensity is based on m³ municipal water use / HK\$1 million turnover

Progress on Sustainability Roadmap



Nigel White Safe and responsible procurement

We are still working closely with our supply chain to deliver products and services that are designed to use resources wisely and minimise negative social and ecological impacts. To recognise our supplier efforts in sustainability, we presented 5 Supply Chain Awards in our 2nd Sustainability Conference 2016. We continue to achieve 100% B5 biodiesel use in our plant and equipment on our non-joint venture projects as well as B5 biodiesel use in 17% of our concrete mixer trucks in 2016. We have engaged with the Hong Kong Green Building Council on their Hong Kong Green Product Accreditation and Standards (HK G-PASS) and have promoted to our suppliers with an in-house workshop.

Gilbert Tsang

Use wisely, waste less, emit less

Last year we did a comprehensive review of our sites' recycling practices to identify opportunities to improve recycling rates. We discussed with several local recyclers to better understand their collection service and facilities in the hope of maximising recycling and reducing costs, particularly in the light of increasing construction waste disposal charges in April 2017. We have continued efforts in energy efficiency including smart meter installation, generator sizing and alternative methods. All of these resulted in the reduction on our carbon intensity from 5,014 kg/HK\$1m turnover to 4,609 kg/HK\$1m turnover. In 2016, we achieved our water intensity reduction target of 59m3/HK\$1m turnover (34% reduction compared to our 2010 baseline), but we still need to make further efforts in reuse of water for dust suppression and data collection for water reuse in 2017. We believe with our continued efforts and commitment, we can further minimise resource use during construction.



Gar

Yu Sai Yen Reducing energy, offering alternatives

Modularisation of E&M components is not commonly adopted in our industry, unlike modular construction in building & civil projects, but in 2016, Gammon developed the 'Build-to-Order Full Modular MEP Plant Construction'. We will continue to focus on the use of standardisation, modularisation and prefabrication including self-climbing screens, and standardised container offices to more efficiently use resources. Different robotic devices have been rolled out in Gammon sites including the ZeroG Arm and exoskeletons. These technologies reduce workers' stress and enable them to perform their jobs more safely and productively. We believe the integration of robotics, virtual reality, the Internet of Things and other automated technologies is clearly the future in construction.



Edmond Lai Caring and energetic workforce

We firmly believe that developing a continual supply of skilled construction workers can boost manpower productivity and enhance standards of quality and safety. Last year we joined hands with the Construction Industry Council to promote the 'Designated Workers for Designated Skills' programme and attained 2,350 senior worker registrations for our direct labour and subcontractors' employees. On the caring front, we continued our mentoring journey and issued a 'Mentorship Made Simple' booklet to guide managers and supervisors to be effective mentors and embed a culture of 'High Performance Caring'. We also started to track % of employees living within the districts of our projects through the Sustainability Dashboard. Through the tracking of this data, we encourage new employment locally and allocate staff to projects based on their location as far as practicable. When people spend less time commuting, their work life balance will improve!

Awards Highlights G4.15

2016香港工商業獎頒獎典禮暨晚宴 g Awards For Industries um-Gala Dinner 2016 Hong Kong Awards for HKGC Industries - Innovation and

Creativity Grand Award

Our 'Build-to-Order Full Modular Mechanical, Electrical and Plumbing (MEP) Plant Construction' won a grand award at these prestigious annual awards championed by the Government. The approach involves off-site fabrication of MEP modules directly from the design in the Building Information Model (BIM) and results in savings of 20% on installation time, reduces 90% of welding works and 70% of working at height, significantly improving safety. The HKGCC judging panel commented the 'corporate emphasis towards innovation is proven by its continual efforts in raising the bar of excellence, in terms of efficiency and safety standards'.

Hong Kong Awards for **Environmental Excellence – Construction Sector Gold Award**

The Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section won the top award from the Environmental Campaign Committee and the Environmental Protection Department for the team's efforts to minimise the environmental impacts of the project. Examples included the use of: modular reusable steel working platforms, precast pile cap shells, acoustic monitoring for dolphins and an on-site tree nursery. These approaches reduced materials, waste, and environmental impacts on sensitive habitats.



I was honoured to be part of the winning team for the Grand Award. With a lot of effort and great team work, what started as a dream became a reality! I am proud to be a part of Gammon and relish the culture of innovation for excellence.

Victor Tse, Deputy Project Manager (far right)

2016 RICS Hong Kong Awards -Sustainability Achievement of the Year & Hong Kong Green Building Award 2016 -**New Buildings Category Grand Award**

Gammon jointly won the Sustainability Achievement of the Year Award at the Royal Institute of Chartered Surveyors annual awards for the Midfield Concourse at the Hong Kong International Airport. We were recognised for our use of BIM, mechanised construction, on site rock crushing and concrete batching plant. Gammon also supported the Hong Kong Airport Authority in winning the Hong Kong Green Building Council's Green Building Grand Award for 'Completed Projects - Institutional Building'.





Safety performance

2016 saw a marked improvement in the Group's Accident Incident Rate – 4.8, ahead of our target of 5.3. This progress, however, was marred by the tragic loss of three lives – a fall from height into water in Hong Kong and a traffic accident in Singapore resulting in two fatalities. These incidents made us reflect and challenge normal operating and trade practices and consider how these risks can be eliminated.

Leadership and collaboration

Our Chief Executive, Thomas Ho, again held two CEO Round Table Safety Forums with Government departments, clients, consultants, suppliers, workers unions, institutions and academics. Topics discussed included: learning from repeated incidents (particularly highways worker safety), behaviour based safety, crane lorry safety, designing for safety, and supporting older workers as well as safety improvements in the areas of renovation, maintenance, alterations and additions. Engaging at a senior level with multi-disciplinary stakeholders enhances the opportunities to collaborate, facilitate the sharing of international best practice, and make step-change improvements in safety management across the industry. Our Annual Safety Conference is another example of this engagement with 2016's conference on 'Radical Ideas, Fresh Thinking' attracting a record breaking attendance of around 1,000 participants, including our clients, business partners, colleagues and other stakeholders.

New Gammon Golden Rules

At the second Safety Stand Down held in 2016, we introduced our new 4 Golden Rules. The previous 12 task-specific rules have been simplified so that they are applicable to all workers in every situation.

Main picture: Screenshot from the Temporary Works VR Training and (right) one of our partners tests the training at our BIM conference

The Golden Rules are:



ole orary nference The rules were introduced to our workers and subcontractors through the use of 4 videos prepared by project teams, using language familiar with the frontline and this method of communication proved to be popular.

Virtual reality training for temporary works

Based on an article in October 2016¹ Gammon was one of only a handful of contractors globally who has embraced virtual reality (VR) as an important part of their safety training methods portfolio. In last year's report, we mentioned the immersive safety training developed with the University of Hong Kong and University of New South Wales. This collaboration has been extended to a new game-based temporary works training module. What is particularly interesting is the potential for undertaking trend analysis for the physical behaviour used for falsework inspections and the recognition of defects. This analysis will allow more effective inspection procedures to be developed. The importance of this



training cannot be underestimated as was demonstrated by the major scaffold collapse tragedy involving a Mainland China contractor at the Fengcheng Power Station, Jiangxi province in November.

Improving temporary electricity management

Last year we also made a substantial improvement to our temporary electricity management procedure. The upgrade covered the design and planning of the temporary power distribution, limiting the use of 220V equipment and targeting 100% use of cordless power tools. The new procedure also increased safety standards of electrical equipment and testing practice far exceeding Hong Kong legal requirements and put us in a leadership position in this area. The roll out of the new procedure was undertaken in parallel with comprehensive training for more than 350 key staff followed by a peer review of implementation at all projects.









- 1. Gammon won the 'Best Safety Performance' award from the West Kowloon Cultural District Authority for the Lyric Theatre Foundation Works contract for two consecutive 6 month periods in 2016
- Chief Executive, Thomas Ho was awarded the respected 'Golden Helmet Award' by construction charity, the Lighthouse Club, with members of Gammon management team
- Safety Stand Down at Lee Garden Three site with special guest, Mr. Chan Kam Hong, Chief Executive, Association for the Rights of Industrial Accident Victims

Embracing the benefits of mobile applications

Our Information Management Services team has been very busy over the last year developing an increasing number of Gammon in-house mobile device applications (apps) which are available on our Gammon App Store. The safe management of high risk activities in Gammon is controlled through a permit to work system but the completion of the applications takes time and normally requires desk work and a paper copy. With the development of the apps, such as the Dynamic Risk Assessment app and the Permit to Excavate, an increasing number of tasks and approvals can be done easily 'on the go' on a smart phone and can contribute to a more paperless and efficient way of operating. This in turn frees up our engineers and supervisors for closer management of the safety of the works.

¹Chartered Institute of Building, Global Construction Review

http://www.globalconstructionreview.com/innovation/german-vr-safety-system-le7ts-wor7kers-ha7ve/

Robotics and Automation

Uniting man and machine

Following on from the use of the façade installation robot in 2015, we have purchased and trialled two types of automated personnel assistance equipment. We have also investigated a more complex exoskeleton from another US supplier.

Zero Gravity Arm

To reduce stress and improve the productivity of our workers during prolonged drilling and fixing works, especially at height, we bought two sets of an innovative mechanical device known as a Zero Gravity (ZeroG) Arm from the United States. This ZeroG Arm, the first of its kind in Hong Kong, operates purely based on mechanical principles without the need for electric power. When clamped onto the handrails of a mobile platform, the ZeroG Arm enables our workers to manoeuvre tools and equipment as if they were weightless and with an unparalleled freedom of motion. In addition to reducing fatigue, the ZeroG Arm improves accuracy and allows tedious and repetitive tasks to be performed in a fraction of the time normally required. These revolutionary products arrived in Hong Kong Gammon sites in September 2016, after which they were tested and trialled in different sites for various kinds of operations,

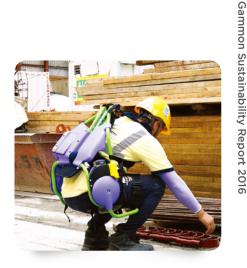


including drilling, grinding, chiselling and concrete breaking. Not only has this proven versatility with different tools, we have also gathered positive feedback from our frontline workers on how this ZeroG arm has helped their gruelling daily tasks. Besides Hong Kong sites, trials have also been extended to our Singapore projects and such extended application has driven group-wide benefits.



"As the first company to introduce exoskeletons to Hong Kong's construction market, Gammon is committed to being at the forefront as this technology and its benefits continue to develop. The technology has the potential to enhance worker strength and endurance and reduce the likelihood of injuries, helping to address the challenges of an ageing workforce whilst redefining the limits of worker capability."

> David Pratt Assistant Project Manager





Exoskeleton suit

We have recently procured from Japan two exoskeletons for helping the workers lift heavy loads and carry out general construction work comfortably over long periods of time. Powered by a battery, the device weighs only about 6kg. When a worker is about to pick up a heavy object, the exoskeleton suit senses their movements and goes into operation to provide back support. Strain is reduced by as much as 15kg which can reduce the risk of short or long-term back injuries common among construction workers. Similar to the ZeroG arm, we have gone through extensive trials across different sites, from which we identified some more effective uses of the suit, such as construction material handling by general workers. After these trials, the exoskeleton suits are now based at two of our building sites to improve productivity and reduce stress on our workers.

Benefits of application

As with any change in working method or style, a period of trial and adaptation must be expected but we hope, over time, these types of equipment will become more commonplace and can help to reduce stress and the risk of injury, improve the perception of the industry, and enhance productivity.

Above: ActiveLink Power Assist Suit on site Top Left: Testing an alternative exoskeleton in the US





Our 'Strong Relationships' theme covers both our staff and our stakeholders, particularly our engagement and supply chain. Some examples of our corporate social initiatives are also shown over the next page.

Staff engagement

We have been engaging with staff in many ways over the past year. There was a major overhaul for our staff survey and we had our first Group-wide 'Happiness Index' survey which was well received. Work-life balance and communication appeared to be the main concerns for staff and emphasis has been placed on the follow-up of over 160 actions to improve these areas. Examples included improving and simplifying communication and more face-to-face engagement with senior staff (for example, in relaxed settings such as boat trips). Members of the human resources and healthcare teams in Hong Kong had 17 'caring visits' with over 450

staff enjoying lunchbox discussions. Over 100 issues were raised, tracked and actioned. In addition to the release of a 'Mentorship Made Simple' guideline, several mini-mentoring modules were held by our training department on selected building project sites.

Promoting good health

A strong 'health' message permeated through our corporate social and recreational activities this year with healthy lifestyles featuring strongly in many of the charity events. For example, our annual Gammon Family Fun Day for our workers and their families was themed 'Health Above All' and our over 680 health talks with 13,200 participants on site targeted both physical health, for example, smoking cessation and high cholesterol avoidance, as well as mental health, such as stress management and the importance of sleep.



Embedding sustainability

An important part of our journey towards sustainability is to make sure employees understand the concept of sustainability and how they can contribute. For the first time last year, there was a detailed briefing and exercise on sustainability as part of the orientation programme for the fresh graduates that joined us in Hong Kong. The sustainability team also "Caring is an essential part of workplace health promotion in Gammon so we provide a supporting environment to help staff and workers exercise more control over their health and wellbeing"

Jo Ling *Healthcare Leader*

1. Jo Ling giving a 'Heatstroke Prevention' talk to members of our Plant maintenance team **2.** 'Sustainability Roadshow' at the Express Rail Link 810A West Kowloon Terminus project





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presented a lunchbox 'Sustainability Roadshow' to over 650 participants at all major project sites to keep employees aware of some of the initiatives going on across the business and to encourage further action.

Collaboration with the supply chain

Reusable stillages

Safe transport, lifting and storage of materials often creates challenges on site and we have therefore been investigating reusable stillages for different products. The materials are transported, lifted and stored in these containers, avoiding the need for double handling, improving safety and reducing the risk of damage and waste. Having started with curtain wall panels, this year we have developed scaffolding solutions and continue to look for other opportunities.

Green products

We are encouraging our material suppliers to apply to the Hong Kong Green Building Council's (HKGBC) Green Product Accreditation and Standards (HK G-PASS), to ensure that we are confident of the environmental and health implications of products both for workers on site as well as the end users. This year we targeted our paint suppliers and arranged a workshop for them with HKGBC. We have also given advice to HKGBC on the development of their standards to ensure they are relevant for Hong Kong.

We have also supported a Government consultancy looking at the impact on business from the proposed mandatory use of products registered under the Water Efficiency Labelling Scheme (WELS) and another study on changes to the Waterworks Ordinance regarding the requirement for suitably qualified personnel to carry out plumbing works.

We have been working with several small and start-up businesses from the Hong Kong Science and Technology Park that are developing cutting edge new products. We have trialled several of these products including indoor air quality monitors, solar pavers and smart thermostats in both our head office and on sites.

Promoting skills in the industry

In addition to the CEO forums on safety, the directors held a number of partnering lunches with various clients, Government, institutional and supply chain stakeholders. A key theme this year has been the emphasis on practical and relevant vocational training opportunities which are more focussed on skills pathways and formal apprenticeships and, in turn, help to raise the profile of a career as a skilled construction worker. In addition, recommendations have been made on the integration of transformative innovation and the latest technology into the training including '3D' scanning and printing, automation, robotics and the Internet of Things.

Contributing **Social Value**



Gammon employees volunteered over 2,400 hours and participated in over 115 community-related events in 2016. We provided donations and sponsorships of around HK\$1.9 million in the areas of education, physical and mental health, environmental protection, safety related charities and the broader community. Here are a few examples:



Gammon Walkathon to Guangzhou in aid of the Hong Chi Association for people with intellectual disabilities



of Trade Unions Occupational Safety and Health Association fundraising walk



Members of our Young Professional Group taking part in the Central Rat Race in aid of mental health charity, Mindset





Green and Caring Site Commitment

In 2016, over 92% of our projects achieved a 'Silver' or 'Green Flag' level under our Green and Caring Site Commitment Scheme (G&CSCS) programme in both Hong Kong and Singapore. The Green Flag projects have achieved a higher standard beyond that which our client or the Government requires and represent a model site. All of the Green Flag projects demonstrate a strong team spirit, visible safety leadership, innovation, attention to welfare, community engagement, and improved environmental performance.

The G&CSCS is a long term commitment to continual improvement and raising standards on our sites. This year, we saw many different initiatives on our project sites including: automatic warning alarms on entrance gates, regular review of generator use efficiency, shutting down generators during lunchtime, insulated roofs and shaded walkways for worker village areas, skylights with automatic light sensors in container office walkways, motion sensor solar powered lighting for site office access, creative leisure and relaxation areas and activities for staff, insulated meeting rooms and double roofs, improved access walkways, better quality containers toilets, worker locker rooms and laundry facilities, and engaging with local communities.

Heatstroke prevention talk for site staff and workers by our Healthcare Leader



Green walls and planters are provided across sites to create a pleasant work environment

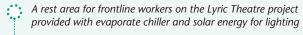


An executive director, a director or senior safety manager, and the group sustainability manager are always present during the final 'Green Flag' assessment indicating the importance placed on exemplary site performance under the G&CSCS



An automatic warning alarm was set up for the entrance gate of a residential project in Tseung Kwan O. This innovative traffic gate can block the pedestrian walkway to enhance public safety as well as protect our traffic controllers at the same time







A Tseung Kwan O project team participated in local community events to build team spirit and improve relations with the nearby community





Performance and market outlook

The group's turnover has remained quite stable, this has largely been due to the strength of the buildings sector in Hong Kong (HK) and the settling of final accounts from previous projects. The outlook for public infrastructure projects in HK, however, continues to be negatively affected by the slowed rate of funding approval at the Legislative Council. The private residential and commercial buildings markets remain robust and the Government's plans for public housing development continue. In Singapore, the pipeline for infrastructure work, particularly in rail transport, remains strong in the short and medium term.

Our E&M division has been guite stable with demand for building services picking up as major

infrastructure projects near completion but there has been a hiatus of projects in Macau, which is largely connected to license renewal periods and investment cycles. Our foundations division remains strong, even in the face of tough competition due to the slowing of civil project opportunities. Our steel fabrication factory in Dongguan, Pristine has intensified its output with prestigious projects such as the structural steel for the new M+ Museum, and developing their electrical and mechanical (E&M) modularisation capability with enhanced quality assurance provided in association with our Shenzhen office. Concrete production has been in line with our projects' demands and has expanded to a new plant in Tuen Mun. Our façade business, Entasis, has also shown steady performance with plenty of opportunities on the horizon.

In the medium term in HK, in addition to the expansion of the HK International Airport, the North Lantau Corridor planned developments, and MTR rail extensions will provide future opportunities for Gammon. The 'Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030' (Hong Kong 2030+) strategic planning study Conceptual Spatial Framework has identified future development proposals for both economic and housing land, redevelopment and revitalisation imperatives, as well as provision of connecting infrastructure. Whilst these plans are still at the public consultation stage and subject to detailed technical assessment, Gammon is already well-positioned to take advantage of these opportunities in the future when today's graduate engineers are the stewards of the business.

Ensuring a skilled workforce

With the new requirement under the Construction Workers Registration Ordinance in Hong Kong, we have been supporting our workers and subcontractor workers to apply as Skilled or Semi-skilled Registered Workers or register under the Senior Workers Registration Arrangement so that we can ensure workers have the right skills needed for their tasks and there is a recognised career route for workers.

Multi-skilling our workforce continues to be a goal for our direct labour and progress has been seen particularly in E&M where we are now able to use our own labour to do advance works for specialist sub-contractors.

Project controls improvements

Several new enhancements have been rolled out this year to improve monitoring of materials, cost and productivity. These are linked with some of our existing systems with enhanced automation and tracking. Successes have been seen in reducing concrete and reinforcement bar wastage, monitoring of the hand-key system and a new inventory system for tools and consumables.

Robotics for enhanced productivity

In addition to the examples shown in pages 8 and 9, we have also started collaborating on a tiling robot in Singapore. The tiling robot prototype was also trialled successfully and further work will be done in partnership with the developers in coming months. The key will be to link the robot to the BIM model and to enable autonomous positioning.

Collaboration across the supply chain

Improvements in efficiency and modernising the construction sector cannot be achieved without the support and efforts of our supply chain. Off-site fabrication, such as pre-cast concrete, modularisation, and cut and bend reinforcement bars can bring significant benefits in safety, energy use, resource efficiency and programme. Whilst common in other developed countries, off-site fabrication has had a slow start in Hong Kong but is growing in momentum. There are now 4 major off-site facilities with cut and bend reinforcement services and we are pleased to have been able to work with most of them this year and look forward to further collaboration in the future.

"We welcome the new facilities being opened to service the off-site cut and bend demand in Hong Kong and look forward to realising benefits in efficiency as well as the reduced heat stress on bar bending workers."

> Patricia Or Executive Director



- 1. Upskilling our workforce through the Construction Industry Council's 'Advanced Construction Manpower Training Scheme'
- **2.** The prototype tiling robot in action in Singapore

Gammon Sustainability Report 2016

Collaboration Success

With any large, multi-disciplinary business, there is always the danger that different departments tend to work in silos with little crossdepartment collaboration. In order to transform our industry, however, we believe it is essential that these barriers are broken down and there is cross-fertilisation of ideas to enable the development of 'joined up' and innovative solutions. Here we present some examples where we have been successfully collaborating in the business.

'S-Dash' Sustainability Dashboard

Gammon collects significant amounts of data each month but unfortunately this is not easily disseminated to site level - where projects can respond and have the biggest impact. We therefore set up a team of HR, environmental, corporate communications, safety and IT colleagues to develop a sustainability dashboard (S-Dash) with the support of finance and procurement departments. The dashboard automatically takes data from other systems and combines it into an easy to understand single summary that is circulated to project leaders and environmental team members on site every month. Directors and other key staff are able to interrogate the data and compare project and divisional performance as well as view 'league tables' of the best performing projects to encourage improvement. The S-Dash is the first step along our journey of data capture, dissemination and analysis. Ideally some of this data will be made available real time and be integrated with environmental quality monitoring such as indoor air quality, water discharges, dust and noise in the future.



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Pride in Performance Awards

In April, Gammon won the Jardine Matheson Group's Technology Transformation category and Grand Prize in the 'Pride in Performance' Awards. The entry was on 'Digitalising the Construction Industry' including Building Information Modelling (BIM), 3D printing, drones and photogrammetry with cloud computing, 3D laser scanning, and interactive virtual reality. This multi-disciplinary team from all over the business demonstrated the benefits of adoption of these technologies in terms of productivity improvements, material efficiencies, cost and time savings.



Gammon Way Awards - i720 Defect Rectification

In 2016 we held the inaugural 'Gammon Way Awards' to promote and reward the Gammon 'Can Do' spirit and our core values of Safety, Integrity and Excellence. Both individuals and teams entered the award and one example of a winning team demonstrated collaboration between the Buildings Division with Information Management Services department on i720 for defect rectification. This tablet based BIM visualisation tool was integrated with a defect rectification system to very quickly locate, track and manage defects.

GINCE Intelligent Traffic Control App

Every day in Hong Kong, very constrained sites present problems for construction logistics vehicles arriving at site with no spare space for offloading, and leaving them no choice but to queue up on public streets or postpone delivery wasting time, fuel and administrative hours as well as presenting a safety risk to the public. Faced with this challenge, two young engineers from the Murray Building Hotel Redevelopment Project developed an app, known as **G**ammon **IN**telligen**CE** traffic control system (GINCE). The app harnesses technology to help schedule delivery vehicle arrivals,

transforming the old practice of markers and white-board into a mobile app with artificial intelligence. Similar to the variety of goods that the logistics vehicles carry, the two innovators of this app came from different disciplines in our business, E&M and Construction Services Division (CSD), but because they shared the same dilemma on the project, they worked together, with the support of the Building Division management, to produce the app in collaboration with our Information Management Services department, as well as various sub-contractors who will also be the potential users of the app. This app will continue to be embedded in all relevant projects in the years ahead.

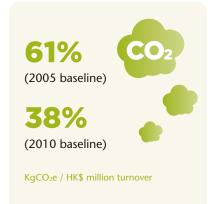




Reducing our carbon footprint

Improving energy efficiency and reducing our carbon intensity is a key goal for us and one where we are having some modest success. To put in context, the HKSAR Government's target carbon intensity reduction (with a 2005 baseline) was 50-60% by 2020 based on carbon emissions per dollar of GDP. The Hong Kong Construction Association also set a target of 25% carbon intensity reduction by 2020 based on a 2010 baseline.

By the end of 2016 the Gammon Group had achieved the following carbon intensity reductions.



This indicates that our carbon intensity reduction is in line with (or ahead of) Government's ambitions and we are on track to meet the new target under 'Hong Kong's Climate Action Plan 2030+' of 65-70% carbon intensity reduction by 2030. We also received our first Level 2 CarbonCare® Label in 2016.

Saying this, however, we appreciate that our carbon intensity is based on our carbon emissions per dollar value of turnover and whilst it is a good indicator of our improving carbon efficiency, we should also strive to reduce our absolute carbon footprint. This becomes more of a challenge, however, as the quantities typically vary due to the type and volume of work that we do. In order to better understand our carbon footprint through the different stages of construction, therefore, we have been looking in detail at the carbon emission profile of several projects with a group of students from the Hong Kong University of Science and Technology as part of their final year 'Capstone Project'. The results will help inform us of where we should focus improvement priorities in the future.

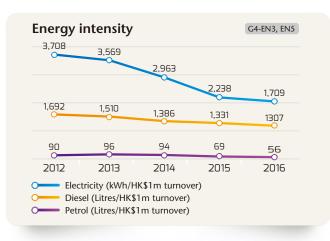


Waste management

Waste still remains one of the greatest environmental challenges in the Hong Kong construction sector. Our first priority is always to avoid generation such as through the use of metal system formwork instead of timber for reinforced concrete construction and the use of a closed loop approach for our HDPE safety barriers. We need to more directly influence residual waste streams and therefore we participated in a Construction Industry Council (CIC) waste study to understand the non-recyclable wastes destined for landfill. We also participated in a CIC, **Civil Engineering and Development** Department and Environmental Protection Department trial together with our subcontractors for the GPS tracking of dump trucks as a fly-tipping preventative measure.

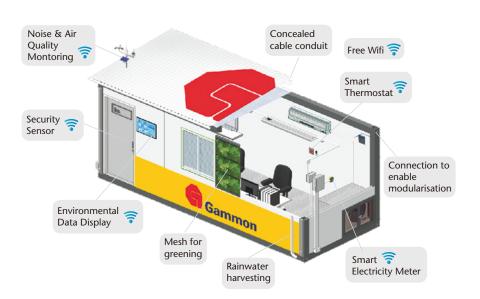
ISO14001:2015 Update to Environmental Management System

In 2016, we completed the transition and certification of our existing Environmental Management System (EMS) in accordance with the new version of ISO14001:2015, which is 2 years earlier than the transition period required by the International Standard Organisation (ISO). The scope of certification covers all of the Hong Kong operations including design and construction of building, civil, electrical & mechanical and foundation works, structural steel work, façade systems, concrete supply services, plant and equipment maintenance, project and design management. Through early adoption of ISO14001:2015, we aim to have a greater understanding of the important issues that can affect, positively or negatively the way we manage our environmental responsibilities with due consideration of interested parties needs and expectations. We also hope to improve operational planning, risk management and control in procurement, design, and communication of environmental requirements consistent with 'life cycle thinking'.



Sustainability Conference

We held our second biennial sustainability conference in June and were delighted to have 250 colleagues, clients, partners and friends join us at the Hong Kong Convention and Exhibition Centre. The theme of the conference was 'Building Partnerships for a Lower Carbon Future' and a mixture of internal and external speakers highlighted the importance of working together with clients and partners in order to realise greater sustainability outcomes, a lower carbon footprint and reduce the risks of climate change. Topics included the use of big data, alternative design and green building innovation, sustainable materials, revaluing concrete, the Three Runway System and creating shared value. We also recognised the collaboration we have had with our supply chain with awards made from upcycled timber from the Central Police Station project!



Recognising our most responsible supply chain partners at the Sustainability Conference with awards upcycled from waste timber



Underscoring Gammon's commitment to sustainability, the Conference, itself, was largely paperless and was a 'zero carbon' event, with the carbon footprint from energy consumption, refreshments and transport assessed and 4 tonnes of carbon offset purchased accordingly.

New container offices

We have been developing prototypes for our new container offices. The design features a double layer roof with rainwater harvesting, relocated lifting points to avoid work at height, insulated walls and door, LED lighting, built-in split type air conditioner, vertical greening enabled, multiple electricity and USB sockets (to avoid power strips and overloading) and a single mains power switch. The design intends to be significantly more energy efficient, user-friendly, and with reduced fire risk a 'green and caring' solution. At the same time, we have been trialling several 'smart' approaches and energy efficient products (see page 21) which will then be added to the new containers once proof of concept has been confirmed.

Gammon Sustainability Report 2016

Construction Innovation

Below are a small selection of the many innovations in project management systems, design and construction methods from across the Group in 2016.

Sleeper Replacement Project completed ahead of schedule

At the end of December, Gammon's Rail Team completed the final replacement of old timber sleepers with more durable concrete sleepers on the MRT East West Line in Singapore. To enhance productivity, two gantry cranes were designed and

constructed to span the operating railway and hoist the Road Rail Vehicle (RRV), sleepers and trailers to the track, which was the first of its kind in Singapore. Over 90,000 sleepers were replaced during three-hour periods overnight when trains were not operating.



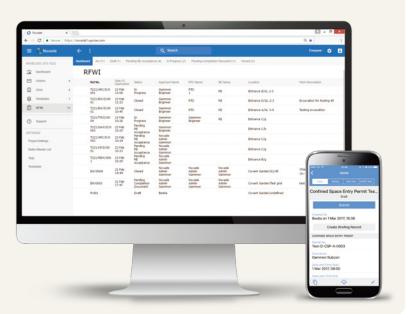
Clutched pipe piles at the Lyric Theatre Foundations Project



An innovative piling design was developed by the Foundations team at the Lyric Theatre site in the West Kowloon Cultural District. A double wall of piles along the sea wall was replaced with an alternative 'clutched pipe pile' arrangement which achieved both the stability needed and the water 'cut-off' required. In addition to being faster to install, the design of these piles reduced the energy needed during installation, the materials required and the overall carbon footprint for the piling works.

Digital automation of permit to work and inspections

Also in Singapore, the teams at our two station projects, Havelock and Mayflower, replaced their 'Permit to work' and 'Request for Works Inspection' (RFWI) application and approvals systems with a paperless web and app based digital system. The system is flexible and allows for permit application and approval from any device connected to the internet. The signatures are authenticated digitally and the signed/approved permits are stored online and can be printed out for display. Significant productivity improvements have been achieved, with the 'digital system' taking less than half the time compared to the previous paper-based system in some cases.



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The Start of Smart

In the spirit of 'Industry 4.0' and the Internet of Things (IoT), we have been adopting and piloting a number of 'smart' solutions across our business. We believe that embracing this latest IoT technology will help transform the performance of our sites.

GPS tracking of our concrete mixer trucks

Our Concrete Technology Services team has installed GPS trackers for all our concrete mixer trucks to enable better management of deliveries. The tracking helps our operations team ensure 'just in time' delivery as well as avoid queueing and engine idling on roads by our sites.



Smart indoor air quality monitors

We trialled smart indoor air quality monitors in several locations in our head office to test the feasibility of wider adoption across our project sites. Through a smart phone app, these monitors measure and track real time parameters of particular interest for building construction, E&M and fit out works including: temperature, humidity, carbon dioxide, volatile organic compounds, and very fine dust (PM2.5) amongst others. An alert can be set up to help prevent heatstroke, ensure sufficient ventilation and protect the health of our workers.

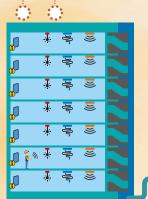
Smart lighting

At our Global Switch project site office, the team designed the site office with a lower overall lux (brightness) level to reduce base lighting load energy consumption. They then installed smart individual task lighting so that each person can control both the brightness and timing of the lights with a smart phone app for better comfort and efficiency.



5 3







Smart electricity meters

At the Gammon Technology Park in Tseung Kwan O, we have installed 14 smart electricity meters which, linked to a bespoke data and control system, will enable better understanding of our energy usage and opportunities to reduce energy consumption.

Smart thermostat and air conditioning control

On one residential project site we are trialling some smart thermostats in the site offices for air conditioning control. Whilst the trial only started in the cooler months at the end of 2016, we have already seen savings of about 15% in use and hope these energy reductions will continue to improve in the warmer months of 2017.

Real time water quality monitoring

On our sites in Singapore our water discharges are monitored for suspended solids (silty particles) with real time data logging, and video logging with CCTV. These are linked to a smart phone app and computer based system which can send alerts if the discharge quality indicates a failure in the waste water treatment facilities.

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Appendix

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1. Organisation, Report Coverage and Materiality

Organisation and Report Coverage

Organisational Profile

The principle activities of Gammon are civil engineering, foundation works, building and façade construction, electrical and mechanical installation, manufacturing and supply of fabricated steel, manufacturing and selling concrete, and rental of plant and machinery.

Our clients include the following:

- Government Works departments and other Government Authorities
- Transport and utilities providers
- Commercial, residential and industrial property developers
- Property and other built asset owners
- Other contractors G4-8

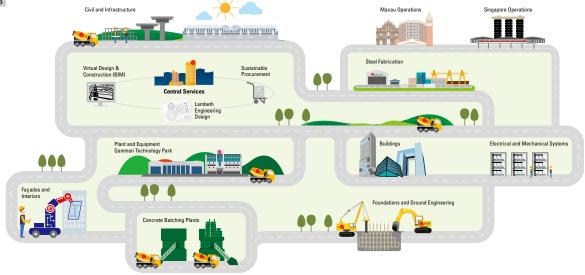
Report Content Coverage

All entities within Gammon Construction Limited (Gammon Group) have been included in the coverage of this report. They include the following subsidiaries:

- Gammon Building Construction Limited (GBCL)
- Gammon Engineering & Construction Company Limited (GECCL)
- Gammon E&M Limited (GEM)
- Gammon Construction Limited Singapore Branch (GCL Singapore)
- Gammon Pte. Limited (GPL)
- Dongguan Pristine Metal Works Ltd. (Pristine)
- Entasis Limited (Entasis)
- Lambeth Associates Limited (Lambeth)
- Gammon Plant Limited (Gammon Plant)

Gammon also has a 25% investment in a leading Vietnamese construction company, COFICO (Construction Joint Stock Company No.1), but since the company is not under the direct control of Gammon, it is not included in the scope of the report. G4-17

There have been no significant changes during the reporting period regarding the Gammon's size, structure or supply chain. G4-13



Materiality Assessment

This section outlines how we engage with stakeholders, and the process undertaken by which we identified issues considered to be 'material' by both internal and external stakeholders.

Stakeholder Engagement

Engagement methods and frequency by stakeholder group G4-19, G4-24 to G4-26

We maintain ongoing engagement with key stakeholders through a variety of channels, such as our satisfaction surveys for customers, employees, suppliers and subcontractors.

Stakeholder group	Engagement frequency	Engagement method(s)
Academic institutions	Annual	Survey, workshops
Clients	Annual	Annual survey, review reports (e.g. Contractor Performance Rating (CPR))
Employees	Annual	Annual survey, Director's workshops
Industry associations	Annual	Survey, workshops
NGOs and community	Annual	Survey, workshops
Service providers	Annual	Survey, workshops
Shareholders	Every 2-3 months	Review meetings
Suppliers and subcontractors	More than annual	Survey, workshops

In 2016, we conducted one external stakeholder workshop with key stakeholders from the NGO and institutional community in order to inform the preparation of our sustainability report. This is described in detail below.

Identifying Material Aspects

Process for defining the report content and the aspect boundaries G4-18

In 2016 we built upon the materiality assessment undertaken with an external consultant in 2015. The following steps were taken to determine our material issues for 2016:

- A. Identify relevant topics
- B. Stakeholder workshop
- C. Online surveys

A. Identify relevant topics

The relevant topics were developed from the list of issues created in 2015 that were relevant to Gammon, its locations of operation, and the construction sector by considering various sources, including:

- Material issues listed in Gammon's Sustainability Report 2015
- GRI G4 indicators and the G4 Construction and Real Estate Sector Supplement
- Media reports and press releases about Gammon
- Risks identified in Balfour Beatty's Annual Report
- The Sustainable Development Goals
- Gammon's internal opinion surveys for employees, customers and suppliers and subcontractors
- Comments on Sustainability Report 2015 from Gammon's internal specific task-group Next Generation Sustainability Panel

As some of the issues identified from 2015 were outside of Gammon's control and/ or were not associated with a GRI G4 indicator, some of the issues were combined together with other issues, were modified or were removed from the long list as follows:

- 'Creating shared value' and 'Poverty alleviation' were included in 'Corporate social investment' as our intent is to create shared value through our corporate social investment (CSI) initiatives and poverty alleviation can be considered a subset of CSI or decent employment and employee development
- 'Quality performance' was combined with 'Compliance of products and services' as there is no direct GRI disclosure for 'quality' as it is covered indirectly in other areas
- 'Limited land supply' was removed as Gammon has no control over availability of land or development intensity
- 'Leading / nurturing the industry' was changed to 'Influencing the industry' but there is no corresponding GRI disclosure for this aspect

B. Stakeholder workshop

We conducted a Non-Government Organisation (NGO) stakeholder engagement workshop in December 2016 that engaged 16 of Gammon's key external stakeholders. Stakeholders came from NGOs, academia and industry bodies and were selected based on their understanding of the construction sector in Hong Kong, knowledge of sustainability issues, relationship to Gammon, willingness to participate and the extent to which their views could influence senior management decisions.

Prior to the workshop, participants were sent a briefing note explaining the objectives of the exercise, Gammon's four pillars of sustainability (Zero Harm, Prosperous Markets, Environmental Stewardship, and Strong Relationships) and a list containing 26 sustainability issues and their definitions.

There were 2 parts to the workshop and participants were divided into three groups to discuss the issues under the four areas of our Sustainability Framework, (1) Zero Harm and Prosperous Markets, (2) Strong Relationships, or (3) Environmental Stewardship. In the first part, the participants discussed the 26 issues and decided a ranking of importance based on the 2 dimensions of materiality, i.e. significance of Gammon's economic, environmental and social impacts and substantive influence on their assessments and decision related to Gammon. In the second part, participants discussed what changes Gammon could make to improve sustainability performance and these will be taken into consideration in future action plans where feasible and appropriate. Post workshop we provided some summary responses to participants as shown in Annex 1.

C. Online surveys

To collect quantitative feedback from stakeholders to prepare a materiality matrix, internal and external stakeholders were invited to rate the importance of a list of 26 sustainability issues. Two online surveys were prepared: one to assess the importance of each issue to stakeholders (the 'importance to stakeholders' survey), and the other to assess the importance of each issue from the perspective of Gammon's business (the 'importance to business' survey).

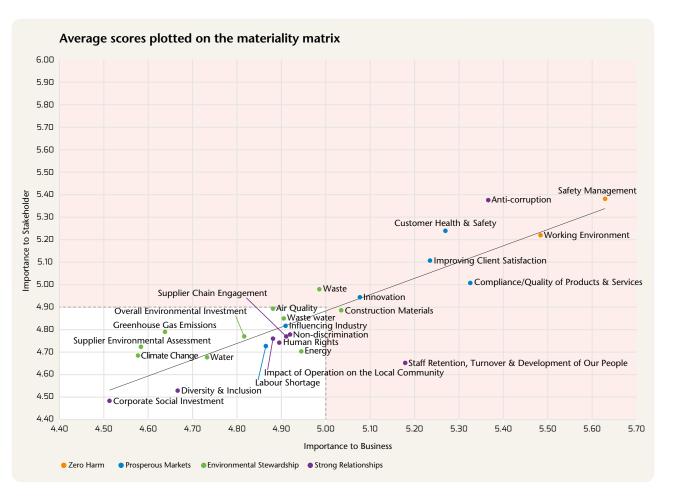
Over 370 stakeholders rated the 26 sustainability issues on a scale of 1 to 6, where 1 was 'Not at all important'; 2 was 'Low importance'; 3 was 'Somewhat important'; 4 was 'Important'; 5 was 'Very important' and 6 was 'Extremely important'. It was explained in the survey that an issue is important if it '(1) Affects your assessments of Gammon, (2) Affects your decisions with regard to Gammon and (3) Is something you want to see disclosed in detail in Gammon's sustainability report'.

Selected internal and external stakeholders rated each issue for its importance to their assessments and decisions about the company, whilst directors and selected managerial staff rated each issue for its importance to Gammon's business. The average scores for each issue were used to plot them onto a materiality matrix. The threshold for materiality and the final list of 10 material issues were validated.

Determining the Material Issues G4-19, 21

Materiality matrix

The overall average of the scores from the results of each survey – the importance to stakeholders survey (4.9) and the importance to business survey (5.0) – were taken as the threshold for materiality – adopting the same, agreed, approach as last year. All issues that scored above average for either importance to stakeholders or importance to business are considered material, and are discussed in detail in the Report and/ or Appendix. The material area is represented by the shaded area of the matrix below.



Material issues

Gammon's 10 material issues identified are listed under the four areas of our Sustainability Framework below:

Zero Harm

- 1. Safety management
- 2. Working environment

Prosperous Markets

- 3. Compliance / quality of products and services
- 4. Customer health and safety
- 5. Improving client satisfaction
- 6. Innovation

Strong Relationships

- 7. Anti-corruption
- 8. Staff retention, turnover and development of our people

Environmental Stewardship

- 9. Construction materials
- 10. Waste

These issues were very similar to the material issues determined last year. It was interesting to see, however that 'Influencing the industry', 'Labour shortage' and 'Energy' did not rate as highly by stakeholders. As energy consumption is a key indicator of efficiency and efforts to reduce impacts on global warming, we will continue to report on this metric.

Material Issue Boundaries and Stakeholder Relevance G4-20, G4-21, G4-27

Materials issue boundaries

The GRI G4 framework requires that reporting organisations identify where the impacts of each material issue occur within and outside of the organisation. The table below maps the boundary for each material issue. All issues are material within and outside of the organisation. G4-20, G4-21

Material issue	Within Gammon	Outside of Gammon
1. Safety management	Group	All subcontractors and service providers operating on site
2. Working environment	Group	All subcontractors and service providers operating on site
3. Compliance / quality of products and services	Group	Clients, end users, service providers, subcontractors, suppliers
4. Customer health and safety	Group	Clients, end users
5. Improving client satisfaction	Group	Clients
6. Innovation	Group	Clients, service providers, subcontractors
7. Construction materials	Group	Suppliers
8. Waste	Group	Government, service providers, subcontractors
9. Anti-corruption	Group	Clients, service providers, subcontractors, suppliers
10. Staff retention, turnover and development of our people	Group	Clients, end users, service providers, subcontractors, suppliers

Material issues for each stakeholder group

The table below shows which group of stakeholders scored each of the 10 issues as material and where disclosures on those issues can be found in the report. G4.27

Material issue	Scored material by					al by			Where the issue is addressed	
	Employees	Clients	Suppliers	Subcontractors	Service providers	NGOS	Industry associations	Government		
Safety management	Х	Х	Х	Х	Х	Х	Х	х	 Zero Harm (p.6-7) Robotics and Automation (p.8-9) GRI Content Index Aspect: Occupational Health and Safety 	
Working environment	Х	Х	Х	Х	Х	Х	Х	Х	 Zero Harm (p.6-7) Green and Caring Site Commitment (p.13) Collaboration Success (p.16-17) The Start of 'Smart' (p.21) GRI Content Index Aspect: Occupational Health and Safety 	
Compliance / quality of products and services	Х	Х	Х	Х	Х	Х	Х	Х	 Prosperous Markets (p.14-15) GRI Content Index Aspect: Product Responsibilities: Compliance Key Performance Indicator Table 	
Customer health and safety	Х	Х	Х	Х	Х	Х	Х	Х	 Collaboration Success (p.16-17) GRI Content Index Aspect: Customer health and safety 	
Improving client satisfaction	Х	Х	Х	Х	Х	Х	Х	Х	 Throughout the report GRI Content Index Aspect: Product and Services Labelling 	
Innovation	Х	Х	Х	Х	Х	Х	Х	Х	Throughout the reportKey Performance Indicator Table	
Construction materials	Х	Х	Х	Х	Х	Х	Х	Х	 Strong Relationships (p.10-11) Environmental Stewardship (p.18-19) GRI Content Index Aspect: Material Key Performance Indicator 	
Waste	Х	Х	Х	Х	Х	Х	Х	х	 Collaboration Success (p.16-17) Environmental Stewardship (p.18-19) GRI Content Index Aspect: Effluent and Waste Key Performance Indicator Table 	
Anti-corruption	Х	Х	Х	Х	Х	Х	Х	Х	- GRI Content Index Aspect: Anti-corruption	
Staff retention, turnover and development of our people	Х	Х	Х	Х	Х	Х	Х	х	 Strong Relationship (p.10-11) Prosperous Markets (p.14-15) GRI Content Index Aspect: Training & Education Key Performance Indicator Table 	

2. GRI Content Index

This report has been prepared in accordance with the Core requirements of the Global Reporting Initiative (GRI) G4 Guidelines. The General Standard Disclosures and Specific Standard Disclosures are presented below with reference to the location in the report, the Appendix (App) or Key Performance Indicators (KPI) summary or a direct answer.

General Standard Disclosures	Description	Page	Content Reference
Strategy and analysis			
G4-1	Statement from the most senior decision-maker of the organisation.	р. 1 р. 4	Chief Executive's Statement Progress on Sustainability Roadmap
Organisation profile			
G4-3	Name of the organisation.	Inside cover	Scope of the Report
G4-4	Primary brands, products and / or services.	Inside cover p. 2	Scope of the Report Our Business and Stakeholders
G4-5	Location of organisation's headquarters.	Back cover	Headquartered in Hong Kong
G4-6	Number of countries where the organisation operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	Inside cover p. 14 App p. 23	Scope of the Report Performance and market outlook Organisation Profile
G4-7	Nature of ownership and legal form.	Inside cover Back cover	Scope of the Report Jointly owned by Jardines and Balfour Beatty
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers/ beneficiaries).	Inside cover p. 2 p. 14 App p. 23	Scope of the Report Our Business and Stakeholders Performance and market outlook Organisation Profile
G4-9	Scale of the reporting organisation.	Inside Cover App p. 42 App p. 46-48	Group Turnover by Region chart Business Performance Key Performance Indicators
G4-10	Total workforce by employment type, employment contract, and region, broken down by gender.	Арр р. 46-48	Key Performance Indicators
G4-11	Percentage of employees covered by collective bargaining agreements.	Арр р. 38	Employee rights – collective bargaining
G4-12	Describe the organisation's supply chain.	p. 10-11 App p. 38 App p. 46-48	Strong Relationships Our Supply Chain Key Performance Indicators
G4-13	Significant changes during the reporting period regarding size, structure, or ownership.	Арр р. 23	Organisation Profile
G4-14	Report whether and how the precautionary approach or principle is addressed by the organisation.	Арр р. 42	Managing Risk
G4-15	Adoption of external charters, principles or initiatives	Арр р. 41 Арр р. 49-51	External engagement Other Initiatives - Awards
G4-16	Memberships of associations and	Арр р. 41	External engagement Membership of Associations and Industry Bodie

General Standard Disclosures	Description	Page	Content Reference
	spects and boundaries		
G4-17	Entities included in consolidated financial statements and not covered by this report	Арр р. 23	Organisation Profile
G4-18	Process for defining the report content and the aspect boundaries	р. 2 Арр р. 24-25	Our Business and Stakeholders Process for defining the report content and the aspect boundaries
G4-19	Material Aspects identified in the process for defining report content.	р. 2 Арр р. 26-27	Our Business and Stakeholders Determining the Material Issues
G4-20	Aspect boundary within the organisation for each material aspect	p. 2 App p. 27	Our Business and Stakeholders Material Issue Boundaries and Stakeholder Relevance
G4-21	Aspect boundary outside the organisation for each material aspect	p. 2 App p. 26-27 App p. 27	Our Business and Stakeholders Determining the material issues Material Issue Boundaries and Stakeholder Relevance
G4-22	Restatement of information	Арр р. 48	Key Performance Indicators "Notes"
G4-23	Significant changes from previous reporting periods in the scope and aspect boundary	-	No significant changes in the scope and boundary
Stakeholder engagen	nent		
G4-24	Stakeholder groups engaged	р. 2 Арр р. 24	Our Business and Stakeholders Engagement methods and frequency by stakeholder group
G4-25	Identification and selection of stakeholders	p. 2 App p. 24	Our Business and Stakeholders Engagement methods and frequency by stakeholder group
G4-26	Stakeholder engagement approach	р. 2 Арр р. 24	Our Business and Stakeholders Engagement methods and frequency by stakeholder group
G4-27	Key topics and concerns raised by stakeholders and the organisation's response	p. 2 App p. 28 App Annex 1	Our Business and Stakeholders Material issues for each stakeholder group Response to Stakeholders from the Workshop
Report profile			
G4-28	Reporting Period	Inside cover	Scope of the Report
G4-29	Date of most recent previous report	-	The 'Sustainability Report 2015 - Innovation for Excellence' was our most recent report
G4-30	Reporting cycle	Inside cover	Scope of the Report
G4-31	Contact point for questions regarding the report or its contents.	Back cover	The contact email is provided on the back cove

regarding the report or its contents. G4-32 **GRI** Content Index This report has been prepared in accordance with 'Core'. This table is the GRI Content Index G4-33 Policy and current practice with The independent external verification statement App p. 56-59 regard to seeking external assurance from British Standards Institution is provided. for the report. Governance G4-34 Governance structure Арр р. 40-41 Governance, Organisation Chart **Ethics and integrity** G4-56 Organisation's values, principles, See our Code of Conduct website: http://www. standards and norms of behavior gammonconstruction.com/en/upload/doc/ sustainability/Code_of_Conduct.pdf

pecific Standard	Description	Page	Content Reference
Disclosures	Description	ruge	
G4-DMA	Disclosures on management approach	Арр р. 35-45	Supplementary Information
Economic			
Aspect: Economic Per	formance		
G4-DMA	Disclosures on management approach	p. 4 p. 8-9 p. 14-15 p. 16-17 p. 20 p. 21	Progress on Sustainability Roadmap Robotics and Automation Prosperous Market Collaboration Success Construction Innovation The Start of Smart
G4-EC1	Direct economic value generated and distributed	Inside cover App p. 46-48	Group Turnover by Region chart Key Performance Indicators
Environmental			
Aspect: Materials			
G4-DMA	Disclosures on management approach	p. 4 p. 16-17 App p. 44	Progress on Sustainability Roadmap Collaboration Success Materials
G4-EN1	Materials used by weight or volume	Арр р. 46-48	Key Performance Indicators
G4-EN2	Percentage of materials used that are recycled input materials	Арр р. 46-48	Key Performance Indicators
Aspect: Energy			
G4-DMA	Disclosures on management approach	р. 4 р. 16-17 р. 18-19 р. 20	Progress on Sustainability Roadmap Collaboration Success Environmental Stewardship Construction Innovation
G4-EN3	Energy consumption within the organisation	р. 19 Арр р. 46-48	Energy intensity chart Key Performance Indicators
G4-EN5	Energy intensity	р. 18-19 Арр р. 46-48	Environmental Stewardship Key Performance Indicators
G4-CRE1	Building energy intensity	p. 3 p. 18-19 App p. 46-48	Performance at a Glance Environmental Stewardship Key Performance Indicators
Aspect: Water			
G4-DMA	Disclosures on management approach	р. 4 Арр р. 44-45	Progress on Sustainability Roadmap Effluent and Waste
G4-EN8	Total water withdrawal by source	Арр р. 46-48	Key Performance Indicators
G4-EN10	Percentage and total volume of water recycled and reused	р. 4 Арр р. 46-48	Progress on Sustainability Roadmap Key Performance Indicators
G4-CRE2	Building water intensity	p. 3 p. 4 App p. 46-48	Performance at a Glance Progress on Sustainability Roadmap Key Performance Indicators
Aspect: Emission			
G4-DMA	Disclosures on management approach	p. 4 p. 16-17 p. 18-19 p. 20 p. 21	Progress on Sustainability Roadmap Collaboration Success Environmental Stewardship Construction Innovation The Start of Smart
G4-EN15	Direct greenhouse gas emissions (Scope 1)	Inside cover p. 18-19 App p. 46-48	Carbon Footprint and Intensity chart Environmental Stewardship Key Performance Indicators

Specific Standard Disclosures continued Specific Standard Description Page Control

Specific Standard Disclosures	Description	Page	Content Reference
Environmental contin	nued		
Aspect: Emission continued			
G4-EN16	Energy indirect GHG emissions (Scope 2)	Inside cover p. 18-19 App p. 46-48	Carbon Footprint and Intensity chart Environmental Stewardship Key Performance Indicators
G4-EN17	Other indirect GHG emissions (Scope 3)	Арр р. 46-48	Key Performance Indicators
G4-EN18	GHG emissions intensity	Inside cover p. 3 p. 18-19 App p. 46-48	Carbon Footprint and Intensity chart Performance at a Glance Environmental Stewardship Key Performance Indicators
G4-EN19	Reduction of greenhouse emissions	Inside cover p. 18-19 App p. 46-48	Carbon Footprint and Intensity chart Environmental Stewardship Key Performance Indicators
G4-CRE3	Green gas emissions intensity from buildings	Арр р. 46-48	Key Performance Indicators
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G4-EN23	Total weight of waste by type and disposal method	Арр р. 46-48	Key Performance Indicators
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G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Арр р. 46-48	Key Performance Indicators
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Specific Standard Disclosures	Description	Page	Content Reference
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G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	Inside cover App p. 46-48	Accident Incident Rate chart Key Performance Indicators
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G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	App p. 46-48	Key Performance Indicators
Social: Society			
Aspect: Anti-corrupti	ion		
G4-DMA	Disclosures on management approach	App p.43 -	Training See our Code of Conduct website: http://www. gammonconstruction.com/en/upload/doc/ sustainability/Code_of_Conduct.pdf
G4-SO4	Communication and training on anti-corruption policies and procedures	-	100% of governance body members, employee and business partners that the organisation's anti-corruption policies and procedures have been communicated.
Social: Product R	esponsibility		
Aspect: Customer He	alth and Safety		
G4-DMA	Disclosures on management approach	p. 4 p. 8-9 p. 10-11 p. 21 App p. 36	Progress on Sustainability Roadmap Robotics and Automation Strong Relationships The Start of Smart Customer Health and Safety and Compliance of Products and Services

Specific Stand	ard Disclosures continued		
Specific Standard Disclosures	Description	Page	Content Reference
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G4-PR9	Significant fines for non-compliance with laws and regulations concerning the provision and use of product and services	Арр р. 46-48	Key Performance Indicators

3. Supplementary Information

The following sections provide supplementary disclosures on the identified material issues under the 4 pillars of Gammon's Sustainability Framework:

- A. Zero Harm (health and safety)
- B. Strong Relationships (social dimension)
- C. Prosperous Markets (economic dimension)
- D. Environmental Stewardship

A. Zero Harm

Health and Safety

As stated in our Code of Conduct, 'our vision is to have a workplace without injury or accident' and our business adopts a 'Zero Harm' approach in terms of planning and implementation of all projects and operations, supported by senior management's 'Bold Commitments'. Every employee understands that they have a clear duty to themselves, their fellow workers and, in many cases, the public to take every reasonable precaution to set up and maintain a safe and secure working environment free from hazards. The Company has set up management systems and resources to plan, implement, control and continually improve performance in these areas. Strict wearing of personal protective equipment (PPE) when on site and adherence to the policies, manuals, procedures and safe working rules are expected of all employees. The Company does not tolerate any unsafe work practices or serious infringements or the consumption of alcohol or taking of drugs during working hours.

Gammon is committed to provide as safe a working environment as possible for its staff, and will ensure that safety is always a priority over all else. As a minimum, we will comply with all applicable regulations, codes of practice and other guidelines issued by the government authorities in the locations where we work. In addition, we have in-house rules, standards and guidelines which often exceed the mandated requirements.

Planning for safety usually starts during the tendering stage and potential occupational health and safety issues are controlled by procedures for all major activities on site during operation. We use the 'swiss cheese model' of safety management to provide 4 layers of protection covering: design and engineering; materials, plant and equipment; process; and people.

Training and continual process improvement is an intergrade part of Gammon's approach. Prevention and risk control measures are promoted, including, amongst others:

- training and awareness raising on how to reduce injury, prevent disease and avoid heatstroke
- providing safe plant, equipment and tools for worker use
- changing engineering design, programme and methods to reduce or eliminate risk during construction

We operate a comprehensive business management system which incorporates the requirements of an Occupational Health and Safety System that is certified under OHSAS 18001. G4-DMA Occupational Health and Safety

Workforce Represented in Formal Joint Management – Worker Health and Safety Committees

To improve the standards of safety at work, full cooperation and commitment of the workers and foremen are absolutely essential. Hence, these employees must be able to participate in the making and monitoring of arrangements for safety at their place of work. The establishment of Site Safety Committees (SSC) in which these employees and the management of the contractor and sub-contractors are represented can increase the involvement and commitment of these employees and ensure the practicability of any new measures proposed. Gammon therefore sets up a SSC in each project and hold

meetings at least once a month to drive improvement of occupational health and safety in the workplace. We ensure all the subcontractors' representatives attend the monthly SSC meeting in our projects. G4-LAS

Customer Health and Safety and Compliance of Products and Services

The two areas of 'compliance of our products and services' and 'customer health and safety' are covered by our Code of Conduct. One of our core business principles is to abide by the legal and regulatory requirements in the countries where we operate. We have established policies and procedures to guide the proper management of operational compliance issues as well as systems dealing with financial, taxation and human resources management which enable employees to learn how to comply with all accountability standards, laws, rules and regulations. We maintain and continually improve these systems of management and ensure that all employees have the information available or are given instruction on the standards, laws and regulations applicable to them.



As also state in our Code of Conduct, we treat compliance with health, safety and environmental protection regulatory requirements applicable to our business as a minimum standard expected to be adhered to by all employees. Management system processes ensure that all applicable legal requirements are identified and actions put in place to ensure compliance. Our staff are required to obey the law and follow all applicable regulations.

Our business management system includes all applicable regulations, guidance and codes of practice in relation to our products and services for the locations where we operate. Construction products and projects often have very stringent general and particular specifications in terms of design, material selection and quality so it is essential that we comply with our customers' specifications as a minimum. In order to ensure that we deliver what is required and that we operate in compliance with all laws and regulations, our business management system includes production controls for all work including rigorous checking, inspection and testing. These controls extend to subcontractors and materials.

Procurement is a key area where we must be meticulous in ensuring the health and safety of the materials and products we use. Our Sustainable Procurement Policy (established in 2011 and updated in 2015) extends the Zero Harm approach and avoiding products with harmful substances to product and service sourcing to ensure the safety of our customers and the wider public.

We are constantly looking for improvement in the products and projects we deliver across many areas, including worker safety, productivity, product



quality & durability, cost, resource use, waste generation, carbon footprint, programme, etc. Customer health and safety is also one aspect we strive to improve, but this must be within the constraints of the customers' contract specifications. We will always propose alternative designs and materials where we believe customer health and safety can be improved. These opportunities for improvement are often identified through our risk and opportunity management process and we raise these with our clients as and when they are recognised. G4-DMA Customer Health and Safety / G4-DMA Compliance of Products and Services

B. Strong Relationships

Our People

Employment

We offer employment conditions that meet the minimum legislative requirements and accepted conventions and do not use involuntary labour or restrict free movement of our employees. We do not allow discrimination or harassment and provide equal opportunities, with recruitment and career progression being based on objective criteria, individual performance and merit. We observe the rights of employees and subcontractors to a safe and healthy work place.

In order to attract, motivate and retain employees, we will ensure our remuneration packages, pay levels and fringe benefits match with or even exceed our principal competitors for talented employees.

For new employees, competitive packages are offered which recognise their individual academic and professional qualifications, relevant years of experience, job scope and responsibilities; and the appropriate grades for which they are appointed.

Depending on the specific employment terms and conditions, we offer different benefits including, statutory holidays, alternative Saturdays off, annual leave, sick leave, maternity leave, paternity leave, jury service leave, study leave, marriage leave, compassionate leave, medical benefits, optional dental scheme, group life insurance, accident insurance, retirement scheme, reimbursement of professional bodies membership fee, club membership and long service awards. G4-DMA Employment

Training and Education

Gammon believes investing in training is an important factor in retaining and developing high quality human capital. Therefore, since 2003, the Gammon Academy has provided a diverse range of training programmes to develop our employees and assist them along their career path. Our training roadmap strategically divides staff into four groups: new recruits (including graduate engineers), administrative staff, middle managers, and senior management and above.

Each year, we run an average of over 150 sessions in our training programmes. Subjects include health, safety and environmental management, quality management, engineering capabilities development, commercial awareness, contract management, strategy for tendering, project planning and controlling, procurement and legal requirements, and managerial skills development. In addition to classroom training, we offer seminars, sharing sessions and site visits. Our comprehensive training programme have been identified as one of the key reasons why new graduates select Gammon and construction as a career.

In addition, we also developed the technician/craft apprentices programme which provides comprehensive training in various disciplines including Civil, Building, Building Services, Electrical and Mechanical and Quantity Surveying. We provide on-the-job training, skills-based training, mentorship and sponsorship for frontline staff.



Gammon has adopted a three-pronged approach to meet labour shortage challenges: self-performing, upskilling, multiskilling and new blood training. Having a permanent workforce ensures that we have the necessary skilled manpower to take on new projects. Also through multiskilling, we have a more productive and flexible workforce suited to the mix of works being performed. It reduces the risk of labour shortage in key skills, while empowering workers with a broader set of skills that can be used throughout their careers. G4-DMA Training and Education

Employee rights – collective bargaining

The majority of Gammon's employees are based in Hong Kong, Macau, Mainland China and Singapore. There is no statutory recognition of collective bargaining agreements in Hong Kong or Macau. In respect of Mainland China and Singapore there is statutory recognition of collective bargaining agreements and if applicable to the construction industry any collective bargaining agreements would be complied with. To the best of our knowledge there are no Gammon employees covered by collective bargaining agreements in Mainland China and Singapore.

Our Code of Conduct details our commitments to ensure the rights of our employees and provide an avenue to raise grievances. Our Code of Conduct is publicly available and can be viewed on our website (http://www.gammonconstruction.com/en/upload/doc/sustainability/Code_of_Conduct.pdf). Employees are allowed the freedom to join any union of their choice and the Company will not interfere in this regard. Due to reasons of privacy, we do not take records of who in our company are members of unions. C4-11

Our Supply Chain

Gammon's supply chain is predominantly made up of material suppliers, material manufacturers, subcontractors and service providers. The total number of suppliers, their region of origin and types of suppliers are provided in the KPI table. Below we describe the management of our supply chain and the procurement process.

Gammon has a structured process and database for managing its Supply Chain. Gammon's Supply Chain Management System includes approvals of subcontractors and suppliers onto our Approved Subcontractors and Suppliers List, conducting performance appraisal half yearly for active subcontractors and suppliers, monitoring trade performance Key Performance Indicators with access for our subcontractors and suppliers on the Gammon supply chain extranet, and selection and evaluation of preferred/strategic subcontractors and suppliers.

Our procurement process is guided by our Sustainability Procurement Policy (see next page). It is our policy to act fairly and equally in business dealings with vendors and at the same time to purchase responsibly and obtain the best possible value for money in procuring materials, services, plant and equipment.

The following steps summarise our procurement procedures:

Step One – Customer Requirements

The project and procurement teams will work with the Client to understand and capture the requirements of each material category in terms of customer requirements. This will ensure the configuration of the procurement strategy and the key suppliers selection criteria will have the correct characteristics that meet the requirement of the Client.

Step Two – Validation of Suppliers

A sourcing plan will be determined that will translate the key supplier selection criteria into a procurement strategy that will be utilised to optimise the procurement solution. The project and procurement teams will challenge and question potential suppliers to uncover any financial, technical, safety, environmental and Corporate Social Responsibility issues that might compromise their ability to supply and deliver reliably in the construction stage. Supplier visits are crucial to validate the supplier's capabilities and previous experience.

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Sustainable Procurement Policy

Objectives and Aims

Sustainable procurement means appreciating and managing the social, ethical, safety, environmental and economic value associated with our supply chain and materials selection. We recognise our overall approach and decisions in procurement of products, works and services have major implications on socio-economic conditions and the environment. Improving our procurement performance is an ongoing process and our suppliers, both large and small, are important partners in our journey to become more sustainable.

Our objective is to embed sustainability in our supply chain and procurement processes. We will apply high standards and best practices incorporating the principles of sustainable procurement in the selection of materials, suppliers and subcontractors, taking account of their economic, social, ethical, safety and environmental performance. We aim to reduce and minimise our impacts on the environment and communities through better selection and improved usage of products, works and services. We engage, support and develop our supply chain so it is safer, more socially responsible and has less environmental impact.

The Policy Statement

Managing and improving socio-economic and environmental conditions in our supply chain is a challenging process requiring the efforts of our employees, our suppliers and subcontractors, and other stakeholders. We will work collaboratively with key suppliers and subcontractors to change practices and strive for sustainability improvements through the supply chain in the following three key areas:

Customers & Markets

- Assisting and working with our customers and supply chain partners in delivering sustainability through partnering to achieve our common goals and continually improve performance over time.
- Delivering sustainable solutions and working practices with our supply chain to achieve efficiencies and better value.
- Complying with all environmental legislative and regulatory requirements in the procurement of products, works and services.

Responsible Sourcing

- Ensuring our suppliers and subcontractors conduct their business with us adhering to the Gammon Code of Conduct.
- Ensuring sustainability credentials are considered as part of our selection and approval of suppliers and subcontractors.
- Striving to procure products which are ethically and, if practical and possible, locally and regionally produced.
- Ensuring that all relevant employees are aware of the Sustainable Procurement Policy.
- Expecting suppliers and subcontractors to communicate the requirements of this policy to all their employees, suppliers, subcontractors and other stakeholders engaged in their supply chain.

Zero Harm & Environmental Stewardship

- Sourcing products and services that improve the safety for our people, contractors, customers and that of the wider public.
 Integrating environmental factors into procurement decisions where external authorities have not established criteria,
- Integrating environmental factors into producement decisions where external autonities have not established criteria, particularly for plant with significant energy use, such as: replacing disposables with reusable or recyclable materials; supporting eco-labeling practices by buying products bearing such labels in preference to others, buying products with higher energy efficiency, where they are available and provide value for money.
- Avoiding products with harmful substances.
- Evaluating and encouraging the use of products and services based on embodied carbon and transport as well as energy use.

This policy will be made available to all stakeholders. This policy shall be reviewed periodically as we gain knowledge, capabilities and experience.

Thomas Ho Chief Executive Gammon Construction Ltd.

October 2015

Step Three – Request For Quotation Process

The procurement team will coordinate all the communication, guidance and support to ensure the suppliers understand and can meet the demands of the procurement process. We will prepare and issue tender documentation to ensure an efficient and competitive response from the suppliers. Following receipt of tender responses we will assess compliance; evaluate pricing proposals; understand order fulfilment in terms of delivery timings as well as logistics; conduct risk assessment; carry out factory visits, as needed, by Quality Engineers to audit the suppliers manufacturing quality systems and control, capacity and capability; safety, environment and social aspects; and develop recommendation in related to the construction programme and supplier risk management.

Step Four - Negotiation

The procurement team will initiate and lead the supplier negotiation of contract terms in complying with the requirements of the Client. We will collaborate with the Client to develop appropriate negotiation strategies and plans, offer tactical alternatives for effective negotiation, and recommendation.

Step Five – Product Mock Up and Supplier Approval

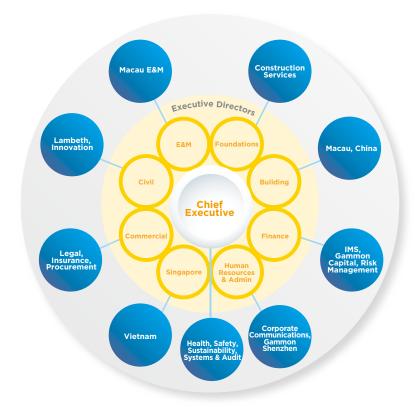
Following validation of the potential supplier's ability to supply and deliver the products, we will arrange sample delivery and/or mock up in the manufacturing facilities of the suppliers or the site to review the design, application and quality. The suppliers and products will be reviewed for acceptance and approval and recommended for translation to specification in the contract document for execution at the construction stage. **G4-12**

C. Prosperous Markets

Governance

Governance structure

The overall management of the Company's business is vested in the Board of Executive Directors (also referred to as the Executive Committee or ExCo), which is chaired by the Chief Executive. All Executive Directors are full time employees of Gammon, and have specific defined responsibilities and authority within the Company's operations. The organisation chart showing these responsibilities is shown below. The ExCo is responsible for the strategy, policies, risk management and financial performance of the business, and are directly accountable to our shareholders Balfour Beatty and Jardine Matheson.



The ExCo is responsible for decision-making on sustainability issues. Guided by our sustainability vision, 'By 2020 Gammon will be the industry leader and an agent of sustainable construction', our Sustainability Roadmap 2020, and our six strategic themes, a Sustainability Action Plan (SAP) has been developed for which the ExCo has overall responsibility.



Sustainability-related issues are addressed weekly by ExCo at the Safety, Environment & Assurance Committee meeting which is led by the Director for Health & Safety, Sustainability, Systems & Audit. At the operations level, actions are mainly driven and supported by the Group Sustainability and CSR Manager, the Environment & Sustainability Team, the Project & Operations Working Group and the CSR Committee.

The ExCo is responsible for setting targets, metrics and reviewing the implementation of the SAP every half year. Day to day operational activities aimed at achieving the actions in the SAP occur across the business units, supported by the Environment and Sustainability Team, as required. Our shareholder Balfour Beatty reviews our progress and data using both self-assessment and a third party assessment. Through forums and active roles in industry associations and societies, we have taken a leadership role not just for the promotion of Gammon's interests but for the betterment of the industry as a whole (see External engagement below). The context of our Sustainability Roadmap 2020 and progress of SAP are presented in our previous Sustainability Reports since 2012, the information can be found on our website (http://www.gammonconstruction.com/en/html/press/publications.html). G4:34

External engagement

In order to support the industry, advocate for change, and to drive improvement Gammon's staff have memberships of various external organisations and Government bodies and support these organisations in governance, advisory or participation in committees or initiatives etc. The list of external organisation memberships are shown in Annex 2. G4-16

Gammon has subscribed to and endorsed a range of externally developed economic, environmental and social charters, principles, and other initiatives. These are all voluntary initiatives, applied in Hong Kong and are listed below. G4-15

G4-15 External Principles and Charters

Date	Principles/ Chartered	Organisation	
2000	Active Living Charter	Department of Health	http://www.lcsd.gov.hk/en/healthy/index/ active2.html#5
2003	Workplace Hygiene Charter	Occupational Safety and Health Council; Labour Department; Environment, Transport and Works Bureau; Hong Kong Housing Authority; Food and Environmental Hygiene Department; RTHK Radio 1	http://www.oshc.org.hk/eng/company/ health_contract.asp#
2005	Clean Air Charter	Business Coalition on the Environment (BCE)	http://www.cleanair.hk/eng/business_clean_ air.htm
2007	Occupational Safety Charter	Occupational Safety and Health Council	http://www.oshc.org.hk/eng/company/ safety_contract.asp#
2007	Clean Air Charter	Hong Kong Construction Association	
2008	Carbon Reduction Charter	Environmental Protection Department (EPD)	http://www.epd.gov.hk/epd/tc_chi/climate_ change/ca_partners.html#G
2009	Charter of Construct Our Future, Pledge and Prosper Campaign	Hong Kong Construction Association	
2012	WBCSD Manifesto for Energy Efficiency in Building	Business Environment Council	http://www.wbcsd.org/work-program/sector- projects/buildings/eeb-manifesto.aspx
2014	Hong Kong Green Purchasing Charter	Hong Kong Green Council	http://www.greencouncil.org/eng/hkgpc/ member.asp
2016	No Car Day 2016	Friends of the Earth (HK)	http://www.foe.org.hk/e/content/cont_page. asp?content_id=1724#.WN4MWmfr3DD
2016	Biz Green Dress Day 2016	Hong Kong Green Building Council & Construction Industrial Council	

Business Performance

Quantifying our products or services is highly complicated due to the varied and integrated nature of our business. We have therefore provided information on our turnover and number of active projects during 2016 in our KPI table. Our current project listing can be found in our magazine, 'The Record' which is published twice a year and can be found on our website at: http://www.gammonconstruction.com/en/html/press/publications.html. We are not able to disclose details of our capitalisation as this information is commercially sensitive. [449]

Managing Risk

Our risk management approach covers all elements of our operations including tenders, projects, functions, and corporate level operations. The process forms an integral part of our business management and is formalised and documented in our Risk and Opportunity Management procedure.

In addition to business, health, and safety related risks, we pay particular attention to environmental risks and this is addressed in our Code of Conduct as follows: 'We shall adopt a precautionary approach in our operations and conduct an environmental review for every new undertaking to identify the significance of impacts associated with the activities under our control. A risk management process will also be applied whereby actions will be taken to identify those potential threats of serious or irreversible environmental damage and to deal with them using best available technology taking into account what is technically feasible and economically viable within our influence and customer requirements.' ^{C4-14}

Anti-Corruption

'Integrity' is one of Gammon's 3 core values and anti-corruption is taken very seriously by the business and is a fundamental part of our Code of Conduct, to which all employees must subscribe.

Corruption risk assessment

Our business risk management programme covers corruption risk with a separate corruption risk assessment covering aspects such as bribery, fraud, fair competition, gifts, and conflicts of interests. The assessment is based on various activities undertaken during the course of our business (e.g. bidding for work, selecting subcontractors and suppliers, seeking payment or approvals etc.) and includes potential variation of risks outside Hong Kong. It is also a requirement of our shareholder, Balfour Beatty, that we follow their Ethics and Compliance Programme which includes corruption risk.

Conflict of interest

Conflicts of interest are to be declared and form part of our Code of Conduct and are an identified risk in the corruption risk assessment for review and management.

Charitable donations and sponsorships

Our Code of Conduct describes how we ensure that charitable donations and sponsorships are not used as a disguise for bribery, as follows: 'The Company ensures that charitable contributions and sponsorships are not used as a subterfuge for bribery. All charitable contributions and sponsorships shall be subject to Chief Executive approval (or in accordance with the Group Delegation and Limits of Authority) with clear expressions of intent, shall be transparent to interested parties including all employees, shall be fully accounted for and made in accordance with applicable law.

The Company, its employees or intermediaries shall not make direct or indirect contributions to political parties, party officials, candidates or organisations or individuals engaged in politics, as a subterfuge for bribery.' Further guidance on charitable donations and sponsorships is provided in our Corporate Communications procedures within the business management system. Guidance is provided on the focus areas that Gammon wishes to support, the funding criteria, organisations which Gammon will not support, submissions of proposals for funding, and the assessment and approval process. The issue of gifts and hospitality is also included in our corruption risk assessment.

Training

As stated in our Code of Conduct (the Code), 'Employees shall receive specific training on the Code tailored to relevant needs and circumstances. Where appropriate, subcontractors and suppliers shall also receive instruction or briefings on the Code. Training activities shall be assessed periodically for effectiveness.' Integrity (including anti-corruption) and our Code of Conduct are included in induction training for new staff members. We also have additional briefings with key staff associated with approvals, commercial aspects, procurement and estimating. We have Code of Conduct requirements for subcontractors and suppliers, and provide specific briefings as necessary. For example, in 2016, we provided 4 workshops on Safety on delivery and unloading – Crane Lorry, Supply chain Code of Conduct and Antibribribery and HKGBC Green Product Accreditation and Standards (HK G-PASS). G4-DMA Anti-Corruption

D. Environmental Stewardship

Materials

Our sustainability vision is to be a sustainability leader and contractor of choice for clients delivering world class projects in Hong Kong, China and Southeast Asia. We, therefore, try to deliver products and services that are designed to use resources wisely and minimise negative social and ecological impacts. We are committed to the efficient use of resources and minimising the impacts on the environments affected by our operations.

As concrete and steel are the two most widely used materials in construction, one of our main priorities is to optimise designs and construction methods for leaner construction, less material use, and increased re-use (for example in edge protection and temporary works needed for the construction process). This makes good business sense as well as minimises natural resources and energy use.

Through different initiatives, we have encouraged alternative designs using mechanisation, modularisation, automation and offsite prefabrication solutions (e.g. E&M modularisation) which result in more efficient use of resources. We also look for opportunities to reduce waste to public fill with a focus on minimising earth works and finding a direct beneficial use of excavated material.

In addition, we try to reduce material impacts through the procurement of more sustainable materials, for example, with higher recycled content, lower embodied carbon (e.g. use of pulverised fuel ash (PFA) as a cement replacement in concrete), sustainable sources, and the use of design alternatives to reduce material quantities. One example is our use of certified sustainable timbers (FSC, PEFC, CSA, SFI or MYCC/ MTCS) under our Sustainable Timber Procurement Policy and Implementation Guideline (please see data in our KPIs in part 4 of this Appendix). In addition, to precast concrete, we continue to investigate other alternatives for more sustainable concrete mixes.

We conduct regular sustainable procurement workshops with suppliers and subcontractors in Hong Kong and Shenzhen to increase their capability on green procurement. In 2016, we worked closely with our suppliers on HKGBC Green Product Accreditation and Standards (HK G-PASS). G4-DMA Materials

Effluent and Waste

Gammon has developed a set of production procedures including water pollution control and waste management to guide our teams on managing these aspects. It is the responsibility of the project site environmental representative, site depot or workshop manager or environmental officer to ensure that these procedures are implemented. The project team must ensure that water pollution and waste management risks are identified and assessed and appropriate mitigation measures implemented and maintained to achieve compliance with the law, contract, Health Safety and Environmental Policy commitments, objectives and targets.

We have also developed a Waste Management Handbook which aims to provide each project team with practical and achievable guidelines for achieving the waste reduction target of our Sustainability Roadmap and SAP. The Handbook includes:

 Project organisation structure setting out the roles and responsibilities of the respective project team member responsible for waste management and appropriate mitigation measures



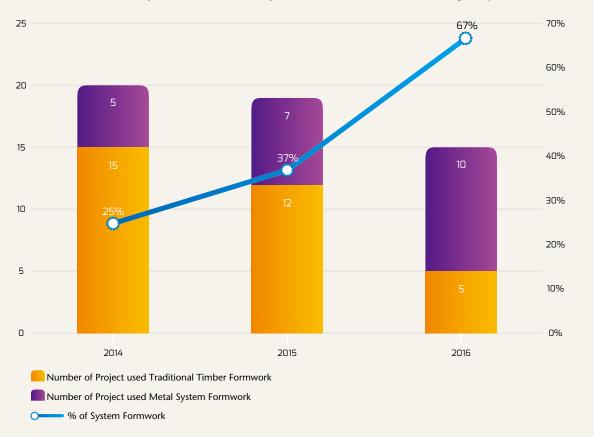


- An analysis of timing and types of construction & demolition materials to be generated in the course of the execution of the works
- The steps required to implement a site waste management plan
- Suggestion of waste reduction measures
- A monitoring and reviewing proposal to ensure that the requirements of the site waste management plan are properly implemented
- Contact details for waste recyclers in Hong Kong

In Hong Kong we continue to be challenged by waste reduction, as does the rest of the construction industry, with limited opportunities and high costs for recycling and heavily constrained sites, making waste separation difficult. We continue to look for cost-efficient recycling opportunities, but more importantly, waste avoidance. Examples include re-usable packaging methods and packaging 'takeback' by suppliers, or by redesign, material substitution and supplier engagement for easier recycling (e.g. closing the loop on our HDPE safety barriers). Currently the only widely recycled materials on sites in Hong Kong are waste metals, and this is largely due to the still strong market for scrap metal.



In Singapore, more of our wastes are recycled due to the improved availability of sorting / recycling sites, and mandatory requirements for construction waste separation, recycling and disposal (e.g. waste to energy incineration). G4-DMA Effluent and Waste



Waste Avoidance by Increased Use in System Formwork % on Building Projects

4. Key Performance Indicators

GRI	Performance Indicators	Units	2012	2013	2014	2015	2016
Reference Safety							
	Opposite the superstinution in constitued	0/	100	100	100	100	100
G4-CRE6, G4-PR1	Organisation operating in verified compliance with OHSAS 18001 ¹	%	100	100	100	100	100
G4-LA7	Fatalities	number	0	1	1 (HK) [†]	1 (HK) [†]	1 (HK) [†] , 2(SGP) [†]
G4-LA7	Accident/incident rate ²	per 1,000 workers	6.9	6	5.5	5.1	4.8
Econor	nic						
G4-9	Active project site	number	100	117	109	116	129
G4-12	Active subcontractors and suppliers	number	-	-	-	1813	1708
G4-12	Supply chain category						
	Subcontractors	number	-	-	-	967	905
	Distributors/traders/stocklists	number	-	-	-	674	645
	Manufacturers	number	-	-	-	106	101
	Licensees	number	-	-	-	31	28
	Professional	number	-	-	-	34	13
	Contractors	number	-	-	-	1	2
	Service companies	number	-	-	-	-	12
	NGO/Charitable organisations	number	-	-	-	-	2
G4-12	Location of suppliers by country or region						
	Hong Kong & Mainland China	%	-	-	-	96	96.7
	Overseas	%	-	-	-	4	3.3
G4-EC1	Group turnover (by region)	US \$millions	1,638	1,757	2,252	2,425	2,613
	Rest of Asia - Mainland China	US \$millions	0	0	0.1	0.2	0.3
	Singapore	US \$millions	166	165	195	164	134
	Hong Kong & Macau	US \$millions	1,471	1,592	2,057	2,260	2,479
G4-PR9	Product and services convictions ^{3, 16}	number	-	-	-	2	0
	Innovation entry ⁴ Entry for in-house "Innovation of the month"	number	-	-	-	181	158
	Entry for in-house "Innovation competition"	number	-	-	-	102	106
	Entry for external competition	number	-	-	-	1	2
Social							
G4-9,	Total monthly-paid staff (by location)	number	4,643	5,069	5,397	4,912	4,576
G4-10	Mainland China	number	423	507	517	530	522
	Singapore	number	448	502	494	424	369
	Hong Kong & Macau	number	3,772	4,060	4,386	3,958	3,685
	Gender, monthly-paid staff ³	% male	85	83	84	85	85
		% female	15	17	16	15	15
G4-9, G4-10	Total daily-paid workers (all locations)	number	2,440	3,091	3,665	3,419	3,257
G4-9,	Total subcontractor workers (all locations)	number	10,493	7,528	10,536	12,881	10,690
G4-10	Hong Kong	number	9,493	7,015	9,711	12,331	10,198
-	Singapore	number	1,000	513	825	550	492
C 4 10							
G4-10	Employee by contract type ⁴	% permanent	77.3	74.8	73.4	87 12	82
G4-CRE8	Sustainability certification, rating and	% contract number of project	22.7 32	25.2 53	26.6 52	13 61	18 88
-	labeling schemes for new construction	, ·)···	-		-	-	

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GRI Reference	Performance Indicators	Units	2012	2013	2014	2015	2016
	continued						
G4-LA1	New employee hires						
	By age group Under 30 years old 30-50 years old	number number	-	-	-	-	338 248
	Over 50 years old By gender	number	-	-	-	-	65
	Male Female By region	% %	-	-	-	-	80 20
	Rest of Asia - Mainland China Singapore	% %	-	-	-	-	19 7
	Hong Kong & Macau	%	-	-	-	-	74
G4-LA1	Staff turnover By age group Under 30 years old	number					290
	30-50 years old	number	-	-	-	-	318
	Over 50 years old By gender	number	-	-	-	-	55
	Male	%	-	-	-	-	79
	Female By region	%	-	-	-	-	21
	Rest of Asia - Mainland China	%	-	-	-	-	19 14
	Singapore Hong Kong & Macau	% %	-	-	-	-	14
G4-LA9	Training hours per employee ^{4,5}	hrs/employee	22.8	22.3	21.2	19.7	16.2
G4-LA9	Training by gender ^{4,5}						
	Male	%	88.2	85.8	85.7	82.1	84.9
	Female	%	11.8	14.2	14.3	19.9	15.1
	Male Female	hours hours	-	-	-	-	17.2 11.3
G4-LA9	Training by management class ^{4,5}	nours		-	-	-	11.5
	Director	%	0.4	0.7	0.6	0.5	1.1
	Managerial	%	14.7	16.6	13.6	14.6	15.1
	Professional Supervisory	% %	27.8 22.0	26.0 17.7	27.3 16.7	28.0 13.9	32.3 14.8
	Technical	% %	30.4	33.7	36.3	36.6	32.4
	Others	%	4.7	5.4	5.5	6.5	4.3
	Training hours by management class ^{4,5} Director	hours	- -	-	-	-	37.6
	Managerial	hours	-	-	-	-	16.1
	Professional	hours	-	-	-	-	15.8
	Supervisory	hours	-	-	-	-	9.6
	Technical	hours	-	-	-	-	11.5
C41412	Others	hours	-	-	-	-	4.5
G4-LA12	Employee by management class ⁴ Director	%	0.3	0.3	0.2	0.2	0.2
	Managerial	%	6.3	5.8	5.7	6.2	6.5
	Professional	%	14.9	13.8	13.2	13.9	13.7
	Supervisory	%	13.3	10.9	10.6	10.7	11.1
	Technical	%	54.8	58.8	61.3	60.2	60.6
	Others	%	10.5	10.4	9.1	8.8	7.9
	Graduate recruitment ^{3,4} Technician apprentice recruitment ^{3,4}	number number	135 73	117 65	116 58	83 34	65 55
G4-PR5	Yearly customer satisfaction						
	Very satisfied	%	17	17	14	13	To be
	Satisfied	%	70	63	77		updated in
	Neutral Dissatisfied	% %	10	16 4	8	5 4	Aug-2017
	Dissatisfied Very dissatisfied	%	3 0	4 0	2 0	4 1	
	Volunteer hours	hours	5,225	4,974	3,658	1,649	2,487
	Number of community event	number	109	126	106	72	102
	-						

GRI Reference	Performance Indicators	Units	2012	2013	2014	2015	2016
Enviro	nment						
G4-EN1	Major materials used (rebar/steel) Major materials used (concrete)	tonnes m ³	82,890 -	68,803 -	86,841 -	99,700 1,031,177	151,230 1,224,776
G4-EN1, G4-EN26	Sustainable sourced timber, all sources	% value	99	97	99	98	98
G4-EN2, G4-EN23	Direct inert material reused Total quantity Hong Kong Singapore	% tonnes tonnes tonnes	47 1,350,304 1,331,386 18,918	52 1,048,959 1,031,646 17,314	42 790,636 722,192 68,444	30 730,029 702,774 27,255	9 148,125 112,542 35,583
G4-EN3, G4-EN5	Electricity intensity*	kWh/HK\$1m turnover	3,708	3,569	2,963	2,238	1,709
G4-EN3, G4-EN5	Total diesel intensity* B5 intensity	litre/HK\$1m turnover litre/HK\$1m turnover	1,692 -	1,386 350	1,510 939	1,331 1,068	1,307 1,051
G4-EN3, G4-EN5	Petroleum intensity*	litre/HK\$1m turnover	105.2	96.2	93.6	69.1	56.2
G4-EN3, G4-EN27	Renewable electricity generated ¹²	kWh	7,992	8,873	4,549	5,487	5,833
G4-EN5, G4-CRE1	Energy electricity for office ¹⁰	kWh/m²/month	15.3	15.4	15.5	14.7	12.7
G4-EN8, G4-CRE2	Municipal water intensity *	m ³ /HK\$1m turnover	97.9	90.6	87.7	72.1	58.4
G4-EN10	Recycled Water	m ³ % of recycle	2,019,264 62	2,129,860 63	1,338,533 46	436,636 24	5,523,201 82
G4-EN15, G4-EN18, G4-CRE3, G4-CRE4	Carbon dioxide equivalent (CO ₂ e) emissions (Scope 1 & Scope 2)* ^{6.7,9}	kg/HK\$1m turnover	7,438	6,517	6,387	5,014	4,609
G4-EN17	Carbon dioxide equivalent (CO ₂ e) emissions (Scope 3) ^{7,14} CO ₂ e from air travel ⁸	tonnes	254	289	245	212	297
	Landfill disposal ^{3,14} Singapore incineration ¹⁵	tonnes tonnes	-	-	-	66,377 -	75,777 1
G4-EN23	Total waste landfilled ^{11,13} Hong Kong	tonnes	37,147	32,283	37,790	44,261	50,526
G4-EN23	Total waste incinerated ¹³ Singapore	tonnes	286	531	2,026	3,424	194
G4-EN23	Total inert material to public fill ¹³	tonnes	1,507,732	961,153 [@]	1,078,445	1,709,245	1,150,241
G4-EN23	Total waste recycled excluding rebar/ steel (divert from landfill)	tonnes %	2,759 7	2,160 6	3,880 9	1,819 4	3,372
G4-EN23	Total waste recycled including rebar/ steel (divert from landfill)	tonnes %	22,160 36	9,985 23 [@]	22,932 38	16,429 27	39,886 44
G4-EN23	Rebar/steel recycled	kg/HK\$1m Turnover tonnes	1,519 19,401	571 7,825	1,085 19,052	773 14,610	1,778 36,249
G4-EN26	Use of Forest Stewardship Council (FSC) timer certified	% value	100	100	100	100	100

- Excluded first aid case. Hong Kong Group only. Excluded subcontractor number. 4.
- The training record is for Hong Kong & Macau and excluded the daily-paid 5. worker.
- 6.
- 7.
- worker. Updated vehicle fuel emission factors based on WBCSD Green House Gas Protocol Mobile Combustion GHG Emissions Calculation Tool Version 2.6 Calculation methodology follow ISO 14064 standard and IPCC AR5 report for GWP, Include Greenhouse gas type (CO₂, CH₄, N₂O, HFCS) Only business air travel was counted, emission factor from WBCSD Greenhouse gas protocol Mobile Combustion GHG Emission Calculation Tool version 2.6 Emission factors from CLP and HKE sustainability report 8.
- Emission factors from CLP and HKE sustainability report. 9.

11. Non-hazard waste.

Renewable energy include solar power and wind power.
 Disposal method determined based on government legal compliance.
 Emission factor from Carbon Audit Toolkit for Small and Medium Enterprises in

Hong Kong published in February 2010 by The University of Hong Kong 15. Emission factor from Singapore Incineration second-biennial-update-report -2016

- 16. No significant fine over \$100K. * Additional data collected, principally due to year-end account reconciliation.
- Gender: male t @ data correction

Conversion fuel to energy unit: Diesel oil 1 litre = 38.29 megajoules, Petrol 1 litre = 33.58 megajoules. Source from U.S. Energy Information Administration 2014

5. Other Inititatives – Awards GAIS

Date	Name of Award	Issued by	Name of Project / Division
			Name of Project / Division
09-Jan-16	Carbon Labelling Scheme Carbon Label	Construction Industry Council (CIC)	Concrete Technology Department
06-Mar-16	Construction Industry Safety Award Scheme 2015/2016 Repair, Maintenance, Alteration and Addition (RMAA) Works - Gold Prize	Labour Department	Murray Building Hotel Development
06-Mar-16	Construction Industry Safety Award Scheme 2015/2016 Repair, Maintenance, Alteration and Addition (RMAA) Works - Silver Award	Labour Department	Contract No DC/2015/01 Relocation of Sha Tin Sewage Treatment Works to Caverns – Ground Investigation
11-Mar-16	2016 Pride in Performance Awards Category winner - Technology Transformation Category	Jardine Matheson Limited	Gammon Construction Ltd
11-Mar-16	RICS Hong Kong Awards 2015 Sustainability Achievement of the Year - Winner	Royal Institution of Chartered Surveyors	Gammon Construction Ltd
18-Mar-16	Safety Leadership Awards 2016 Golden Helmet Award	Lighthouse Club	CEO - Mr. Thomas Ho
19-Apr-16	Hong Kong Awards for Environmental Excellence: Construction Industry - Gold Award	Environmental Campaign Committee	Contract No HY/2012/07, Tuen Mun - Chek Lap Kok Link, Southern Connection Viaduct Section
	Construction Industry - Certificate of Merit		Central Police Station Conservation and Revitalization Project
	Construction Industry - Certificate of Merit		XRL Contract 810A West Kowloon Terminus Station North
	Construction Industry - Certificate of Merit		Express Rail Link Contract 811b - West Kowloon Terminus Approach Tunnel (South)
	BIM Awards 2016 Organisation Category - Gold Award	Building and Construction Authority	Gammon Pte Ltd
21-Apr-16	2016 Pride in Performance Awards Grand Prize Winner	Jardine Matheson Limited	Gammon Construction Ltd
25-May-16	Innovative Safety Initiatives Award: Health and Welfare - Silver Award	DEVB, CIC, HKCA	Fresh Thinking on Safety Innovation
	Operational Device - Silver Award		Innovative Modified Casings Extractor
	Safety Management System, Training and Promotion - Gold Award		Intelligent System for Training, Assurance, Management & Promotion (iSTAMP)
27-May-16	Considerate Contractors Site Award Scheme: CCSA - Gold	Development Bureau; Construction Industry Council	Term Contract for Ground Investigation and Laboratory Testing for which the Architectural Services Department is Responsible in Hong Kong, Kowloon, New Territories and the Outlying Islands
	CCSA - Silver		Marine Ground Investigation and Geophysical Surveys (Term Contract)

Date	Name of Award	Issued by	Name of Project / Division
27-May-16	Considerate Contractors Site Award Scheme: CCSA - Bronze	Development Bureau; Construction Industry Council	Express Rail Link 811B - West Kowloon Terminus Approach Tunnel (South)
	CCSA - Bronze		Construction of Public Rental Housing Development at Tuen Mun Area 54, Site 2 Phases 1 & 2
	CCSA - Merit		Development of Hong Kong Science Park Phase 3C
	CCSA - Merit		Proposed Residential and Commercial Development at 18 Tong Chun Street, Tseung Kwan O, New Territories
	CCSA - Merit		Piling, Foundation and ELS Works for Property Development at Tseung Kwan O Town Lot No. 93, H.K.
	OEMPA - Merit		Piling, Foundation and ELS Works for Property Development at Tseung Kwan O Town Lot No. 93, H.K.
	OEMPA - Merit		Express Rail Link 811B - West Kowloon Terminus Approach Tunnel (South)
	OEMPA - Merit		Construction of Public Rental Housing Development at Tuen Mun Area 54, Site 2, Phases 1 & 2
27-May-16	Contractor Cooperative Training Scheme Most Supportive Contractor	CIC	Gammon Construction Ltd
03-Jun-16	Safety Award Ceremony: Best Contractor Award - Silver	MTRC	South Island Line (East) Contract 953, Trackside Auxiliaries and Environmental Control System
	Lowest Reportable Accident Frequency Rate Award		South Island Line (East) Contract 953, Trackside Auxiliaries and Environmental Control System
	Project Division Safety week 2016 - Best Contractor		South Island Line (East) Contract 953, Trackside Auxiliaries and Environmental Control System
03-Jun-16	MTR Projects Quality, Safety, Environmental and Stakeholder Engagement Awards Presentation Ceremony:	MTRC	
	Silver Safety Award		Express Rail Link 811B - West Kowloon Terminus Approach Tunnel (South)
	Best Site Condition Award		Express Rail Link 811B - West Kowloon Terminus Approach Tunnel (South)
27-Jun-16	Quality Building Award 2016 Hong Kong Non-Residential (New Building) Category:	HKCA, HKICM, HKIA, HKIE, HKIH, HKIS, HKQAA, IFMA, REDA	
	Grand Award Winner		Development of Hong Kong Science Park Phase 3a & 3b
	Merit Winner		Ko Shan Theatre

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Date	Name of Award	Issued by	Name of Project / Division
05-Jul-16	Construction Safety Forum and Award Presentation: Best Method Statement - Silver Award	OSHC	Construction of Piling Works for Earth Retaining Structures and Foundation for Proposed Residential Development at Site N of TKOTL 70RP, LOHAS Park Package 6
	Best Safety Enhancement Program for Working at Height - Silver Award		West Rail Tsuen Wan West Station TW5 Cityside Property Development
	Outstanding Metal Scaffolder in Occupational Safety and Health - Bronze Award		Mr. Rai Jit Karma
22-Nov-16	Green Building Award 2016 NEW BUILDINGS CATEGORY:	HKGBC & PGBC	
	Completed Projects - Institutional Building		Ko Shan Theatre
	Grand Award		Contract P533 Midfield Concourse Works
Nov-16	Wastewi\$e Certificate - Excellence Level	Environmental Campaign Committee	Express Rail Link Contract 811b - West Kowloon Terminus Approach Tunnel (South)
01-Dec-16	DHL/SCMP Hong Kong Business Awards Executive Award	The Lighthouse Club	Gammon E&M Limited
01-Dec-16	Lighthouse Club HK Safety Awards Safe Subcontractor - Gold Award	The Lighthouse Club	Gammon E&M Limited
01-Dec-16	Lighthouse Club HK Safety Awards Safe Project Team - Silver Award	The Lighthouse Club	13609 - Foundation Works for Lyric Theatre Complex and Extended Basemer in Zone B, West Kowloon Cultural Distric
09-Dec-16	Good Housekeeping 2016-2017 Meritorious Award	OSHC	Proposed Residential Development at Tuen Mun Town Lot No 515
			Tseung Kwan O Town Lot 93
13-Dec-16	Hong Kong Awards for Industries Innovation and Creativity - Grand Award	Federation of Hong Kong Industries; The Chinese Manufacturers' Association of Hong Kong; Hong Kong Retail Management Association; Hong Kong General Chamber of Commerce; Hong Kong Productivity Council; Hong Kong Science and Technology Parks Corporation; Hong Kong Young Industrialists Council	
14-Dec-16	2016 CarbonCare® Label Award Level 2 CarbonCare® Label	CarbonCare Inno Lab	Gammon Construction Ltd
30-Dec-16	10 Years Plus Caring Company Logo	The Hong Kong Council of Social Service	Gammon Construction Ltd

6. Green Building Projects Undertaken by Gammon Garcos

Gammon has completed many certified green building projects under HK-BEAM and LEED in Hong Kong and Green Mark in Singapore. The table below provides a partial listing of the projects we have been involved with:

Project	Rating	Client
	Rating	
HK-BEAM – Hong Kong Demolition and Associated A&A Works for Taikoo Place 2B Development	BEAM Plus NB V1.2 On-going	Swire Properties Limited
Property Development at Tseung Kwan O Town Lot No. 93, Hong Kong	BEAM Plus NB V1.2 Provisional Bronze	Chinachem Group
Proposed Commercial Development at NKIL No. 6512 Kwun Tong	BEAM Plus NB V1.2 On-going	Link & Nan Fung Group
Harmony Redevelopment at Hysan Avenue, Hoi Ping Road and Sunning Road, Causeway Bay, Hong Kong	BEAM Plus NB V1.2 On-going	Hysan Development Co Ltd.
Redevelopment of Somerset House in Taikoo Place	BEAM Plus NB V1.2 On-going	Taikoo Place Holding Ltd.
Proposed Residential Development at No.1-3 South Lane and No.34 Hill Road, Hong Kong	BEAM Plus NB V1.1 On-going	Both Talent Ltd.
Foundation, ELS and Piled Caps Works for the Proposed Residential Development at Lohas Park Package 9, Town Lot No. 70 RP (Site J)Park 9	BEAM Plus NB V1.2 On-going	Wheelock Properties Limited
Construction of Pile Cap for Proposed Residential Development at Site N of TKO TL 80RP, Lohas Park Package 6	BEAM Plus NB V1.2 On-going	Nan Fung Group
Foundation and Earth Retaining Structure Works for Proposed Hotel Development at TCTL 38, Tung Chung, Lantau Island	BEAM Plus NB V1.2 On-going	Shimao Property Holdings Limited
Foundation works for Lyric Theatre Complex	BEAM Plus NB V1.2 On-going	West Kowloon Cultural District Authority
Global Switch Data Center	BEAM Plus NB V1.2 On-going	Global Switch Hong Kong Limited
Proposed Residential and Commercial Development at TKOTL No.126, Area 69B2 Tseung Kwun O, New Territories	BEAM Plus NB V1.2 On-going	Wheelock Properties Ltd
Murray Building Hotel Development	BEAM Plus NB V1.2 On-going	Smart Event Investments Limited
Proposed Residential and Commercial Development at 33 Tong Yin Street, TKO TL 125, Area 68A1, Tseung Kwan O, N.T.	BEAM Plus NB V1.1 Provisional Gold	Amblegreen Company Limited (Subsidiary of Wheelock Properties)
Proposed Residential Development at STTL 565, Area 56A, Kau To Sha Tin, N.T.	BEAM Plus NB V1.2 Silver	Bravo Partner Limited
Foundation for Public Housing Development at North West Kowloon Reclamation Site 6 Phases 1, 2 and 3 and Fat Tseung Street, West, Contract No 20140553	BEAM Plus NB V1.2 On-going	Hong Kong Housing Authority
West Rail Tsuen Wan West Station TW5 Cityside Property Development	BEAM Plus NB V1.1 Provisional Gold	Denny Investment Limited (Chinachem Group)
Proposed Residential Development at Area 54, Siu Hong, Tuen Mun, NT	BEAM Plus NB V1.2 On-going	Pacific Good Investment Limited

Project	Rating	Client
HK-BEAM – Hong Kong continued		
Main Contract for Proposed Commercial and Residential Development at No. 1 Castle Road and No. 2 Castle Lane, Mid-level, Hong Kong	BEAM Plus NB V1.1 Provisional Silver	Best-Rights Company Limited
Maxim's HQ, No. 17 Cheung Shun Street	BEAM Plus NB V1.1 Provisional Platinum	Luk Yeung Restaurant Limited
Tsing Yi IVE	BEAM Plus NB V1.1 Provisional Silver	Vocational Training Council
Science Park Phase 3c building 20E and 22E	BEAM Plus NB V1.1 Provisional Platinum	Hong Kong Science & Technology Parks Corporation
TKO Area 66A	BEAM Plus NB V1.1 Provisional Silver	Crown World Investment Limited (Sun Hung Kai Properties Group)
Nam Cheong Station – Package B, NKIL 6333	BEAM Plus NB V1.1 Provisional Gold	Joinyield Limited (Sun Hung Kai Properties Group)
Nam Cheong Station – Package A, NKIL 6333	BEAM Plus NB V1.1 Provisional Gold	Joinyield Limited (Sun Hung Kai Properties Group)
No 24 Po Shan Road	BEAM Plus NB V1.1 Provisional Gold	Majestic Elite Property Development Ltd.
18 Tong Chun Street Development	BEAM Plus NB V1.1 Provisional Gold	Fortune Precision Limited (Wheelock)
No 1-3 South Lane	BEAM Plus NB V1.1 Provisional Bronze	Both Talent Limited
No 8 Mount Nicholson Road	BEAM Plus NB V1.1 Provisional Gold	Market Prospect Limited
Midfield Concourse Works	BEAM Plus NB V1.1 Provisional Gold	Airport Authority Hong Kong
Shanghai Commercial Bank	BEAM Plus NB V1.1 On-going	Shanghai Commercial Bank
House Development at Lot No. 724, Cheung Sha, Lantau	BEAM Plus NB V1.1 Platinum	Bao Wei Enterprise Ltd (Subsidiary of Swire)
TKO Area 66C1	BEAM Plus NB V1.1 Provisional Silver	Winbox Investment Ltd. (Sun Hung Kai Properties Group)
Foundation Works for Shatin Communication and Technology Centre (SCTC)	BEAM Plus NB V1.1 Gold	The Hong Kong Jockey Club
Residential Development at 33 Seymour Road (Arezzo)	BEAM Plus NB V1.1 Platinum	Excel Free Limited (Swire Properties Limited



House Development at Lot No. 724, Cheung Sha, Lantau



Residential Development at 33 Seymour Road (Arezzo)

Project	Rating	Client
HK-BEAM – Hong Kong continued		
Foundation Works for 18-22 Castle Road and 92-102 Caine Road	BEAM Plus NB V1.1 Provisional Gold	Wonder Cruise Group Limited (Swire Properties Limited)
Proposed Residential Development at Austin Station Site D at K.I.L. No. 11129	BEAM Plus NB V1.1 Gold	Fast New Ltd. (New World Development Co., Ltd.) / Wheelock Properties Ltd.)
Science Park Phase 3 a&b Building 12W	BEAM Plus NB V1.1 Platinum	Hong Kong Science and Technology Parks Corporation
Science Park Phase 3 a&b Building 15W	BEAM Plus NB V1.1 Platinum	Hong Kong Science and Technology Parks Corporation
Science Park Phase 3 a&b Building 16W	BEAM Plus NB V1.1 Platinum	Hong Kong Science and Technology Parks Corporation
Pak Shek Kok, Tai Po, TPTL200	BEAM Plus NB V1.1 On-going	Top Gallant Limited (Sino Group)
Central Police Station Conservation and Revitalisation Project	BEAM Plus NB V1.1 Provisional Bronze	Hong Kong Jockey Club
CIC Zero Carbon Building	BEAM Plus NB V1.1 Platinum	Construction Industry Council
500 Hennessy Road Redevelopment Causeway Bay (Hysan Place)	BEAM Plus NB v1.1 Platinum	Hysan Development Co Ltd
LEED Project – Hong Kong		
Main Contract Works for Redevelopment of Somerset House in Taikoo Place	LEED CS v2009 On-going	Taikoo Place Holding Ltd.
Main Contract Works for Harmony Redevelopment at Hysan Avenue, Hoi Ping Road and Sunning Road, Causeway Bay, Hong Kong	LEED CS v2009 On-going	Hysan Development Co Ltd.
Main Contract for Proposed Commercial Development at NKIL No. 6512 Kwun Tong	LEED CS v2009 On-going	Link & Nan Fung Group
Science Park Phase Phase 3 a&b, Building 12W	LEED CS v2009 Platinum	Hong Kong Science and Technology Parks
Centennial Campus of The University of Hong Kong	LEED NB v2009 – Platinum 2013	The University of Hong Kong



Science Park Phase 3 a&b Building 16W



CIC Zero Carbon Building



Science Park Phase 3 a&b Building 12W

Project	Rating	Client
LEED Project – Hong Kong continued		
500 Hennessy Road Redevelopment Causeway Bay (Hysan Place)	LEED BD+C: Core and Shell (v2.0) Platinum 2012	Hysan Development Co Ltd
Proposed Residential Development at 38-44 Caine Road, Central	LEED BD+C: New Construction (v2.2) Certified 2013	Fine Mean Limited
Foundation Works for Project Symmetry at Sha Tin Shek Mun STTL 433, New Territories	LEED ID+C: Commercial Interiors v3 - LEED 2009 - On-going	The Hong Kong and Shanghai Banking Corporation Ltd.
Foundation Works for Shatin Communication and Technology Centre (SCTC)	LEED NB v2009 - On-going	The Hong Kong Jockey Club
HSBC Project Symmetry BS Works	LEED ID+C: v3 – LEED 2009 – Certified	The Hong Kong and Shanghai Banking Corporation Ltd.
HSBC Project Bridge	LEED CI v2.0 Gold	The Hong Kong and Shanghai Banking Corporation Ltd.
China Mobile Data Cente, MEP1	LEED BD+C:Core and Shell v3 – LEED 2009 – Gold	China Mobile International Limited
Proposed Redevelopment - The Forum, Exchange Square - Demolition Contract & Superstructure Contract	LEED NC v2009 - Platinum	Hong Kong Land Limited
LEED Project – Singapore		
P&G Singapore Innovation Centre SgIC Project, Singapore	LEED CI v2.0 - Gold 2009	P&G
Diaphragm wall and Piling works to Singapore Innovation Centre (SgIC)	LEED NC 2009 - Gold	CH2M Hill Singapore Pte Ltd
Green Mark – Singapore		
Proposed Erection of New ITE College West PPP Project	GreenMark – Platinum	Gammon Capital (West) Private Limited
Nanyang Polytechnic Extension	GreenMark – Platinum	Nanyang Polytechnic
Design and Construction of Mayflower Station	GreenMark – Gold	Land Transport Authority (LTA)
LTA Contract T221 - Construction of Havelock Station for Thomson Line	GreenMark – Gold	Land Transport Authority
Construction of 3 Intra-Island Cableway Stations, 8 Cableway Tower Foundations and a Fort Siloso Pedestrian Bridge with Lift Tower at Sentosa	GreenMark – Certified	Sentosa Development Corporation
Grace Assembly of God Church	GreenMark – Certified	Grace Assembly of God Church

7. Verification Statement



INDEPENDENT ASSURANCE OPINION STATEMENT



Statement No.: SRA-HK-669938

Gammon Construction Limited Sustainability Report 2016

The British Standards Institution is independent to Gammon Construction Limited (hereafter referred to as "Gammon" in this statement) and has no financial interest in the operation of Gammon other than for the assessment and assurance of this report.

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Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to Gammon only.

Scope

The scope of engagement agreed upon with Gammon includes the following:

- The assurance covers the whole Sustainability Report 2016 of Gammon prepared "In accordance" with GRI G4 Guidelines – Core option, and focuses on systems and activities of Gammon and its subsidiaries in Hong Kong, Macau, Mainland China, and Singapore during the period from 1st January 2016 to 31st December 2016.
- The AA1000 Assurance Standard, AA1000AS (2008) Type 1 engagement evaluates the nature and extent of Gammon's adherence to all three AA1000 AccountAbility Principles: Inclusivity, Materiality and Responsiveness. The specified sustainability performance information/data disclosed in the report has been evaluated.

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Opinion Statement

Our work was carried out by a team of sustainability report assurors in accordance with the AA1000 Assurance standard, AA1000AS (2008) and GRI G4 Guidelines. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that Gammon's description of their self-declaration of compliance with the GRI guidelines were fairly stated.

We conclude that the Gammon Sustainability Report 2016 Review provides a fair view of the Gammon CSR programmes and performances during 2016. We believe that the 2016 economic, social and environment performance indicators are fairly represented. The sustainability performance indicators disclosed in the report demonstrate Gammon's efforts recognized by its stakeholders.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to Gammon's policies to provide a check on the appropriateness of statements made in the report
- Discussion with senior executives on Gammon's approach to stakeholder engagement. We had no direct contact with external stakeholders
- Interview with staff involved in sustainability management, report preparation and provision of report information were carried out
- Review of key organizational developments
- Review of supporting evidence for claims made in the reports
- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality and Responsiveness as described in the AA1000 AccountAbility Principles Standard (2008)

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness and the GRI G4 guidelines is set out below:

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Inclusivity



By Royal Charter

This report has reflected the fact that Gammon is seeking the engagement of its stakeholders through numerous channels such as online sustainability survey, Non-Governmental Organisation (NGO) and Institutional stakeholder workshop, staff survey, group-wide 'Happiness Index' survey, face-to-face engagement with senior staff, 'caring visits', lunchbox discussions, annual Gammon Family Fun Day, orientation programme for the fresh graduates, CEO forums, partnering lunches, sustainability conference.

Being a construction company, the principle activities of Gammon are civil engineering, foundation works, building and façade construction, electrical and mechanical installation, manufacturing and supply of fabricated steel, manufacturing and selling concrete, rental of plant and machinery. This report covers the stakeholder issue together with fair reporting and disclosures for economic, social (including safety) and environmental information. In our professional opinion, the report covers the Gammon inclusivity issues. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

Materiality

Gammon publishes sustainability information that enables its stakeholders to make informed judgments about the company's management and performance. In our professional opinion the report covers Gammon's material issues by using Gammon's materiality matrix and boundary mapping. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

Responsiveness

Gammon has implemented the practice to respond to the expectations and perceptions of its stakeholders. It includes client survey and different feedback mechanisms to external stakeholders and internal stakeholders. In our professional opinion the report covers Gammon's responsiveness issues. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

GRI-reporting

Gammon provided us with their self-declaration of compliance GRI G4 Guidelines and the classification to align with "In accordance" - Core.

Based on our verification review, we are able to confirm that social responsibility and sustainable development indicators in all 3 categories (Environmental, Social and Economic) are reported with reference to "In accordance" with the GRI G4 Guidelines – Core option.

In our professional opinion the self-declaration covers Gammon's social responsibility and sustainability issues, however, the future report will be improved by the following areas:

• Improve the way to present information in G4-EC1, G4-LA12

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Competency and Independence

The assurance team was composed of Lead auditors experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEX ESG Guide, UNGC's Ten Principles, ISO20121, ISO10002, ISO 14001, OHSAS 18001, and ISO 9001, etc. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

Assurance Level

The moderate level of assurance provided is in accordance with AA1000 Assurance standard, AA1000AS (2008) in our review as defined by the scope and methodology described in this statement.

Responsibility

It is the responsibility of Gammon's senior management to ensure the information presented in the Sustainability Report is accurate. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

For and on behalf of BSI:



Dr. Yi-Min Gao Vice-President, Sustainability, BSI Asia Pacific



Mr. Wilfred Chan Sustainability Portfolio Manager, BSI Asia Pacific Operations Director, BSI Hong Kong



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Hong Kong 16 May 2017

Annex 1: Response to Stakeholders from the Workshop

Response to the Workshop Stakeholders

After the NGO stakeholder engagement workshop, we sent a letter of appreciation to all stakeholders who participated. This included a written response to some of the common themes and issues raised during the workshop. The response is provided in the table below. G4-27

Issues raised	Our response
Reduce greenhouse gas emission	Reducing carbon emissions in construction is our ambition for all projects. In the last two years we have been focusing on increasing efficiency and resource use through standardisation, modularisation and off-site fabrication for both our temporary and permanent works. These allow us to reduce the carbon footprint of our projects as well as reduce waste. Our construction plant now only uses B5 biodiesel and we are hoping to expand to our road fleet. We have also been implementing energy efficient measures across our temporary and permanent offices.
	This year we plan to review a number of different reduction and targeting approaches including internal carbon pricing, project based internal emissions intensity targets, and the international Science Based Targets programme.
Improve employee wellbeing including staff, direct labour and subcontractors	Our site welfare facilities have been gradually improving over time with some sites offering laundry service, air-conditioned rest areas, ice machines and heat stroke prevention measures. We are currently trialling some indoor air quality monitors for use in building projects and are also looking at personal / portable heat stress monitors.
	We continue to promote more off-site work fabrication to reduce risks and environmental exposure to the workers and will further develop the application of robotic technologies to reduce worker stress and risk of injury.
Support the local communities/ society with our construction technique or skills	In 2016, staff members took part in a total of 98 community activities across the business, including painting services for Hong Chi Hostel, annual vehicle examination for rehabilitation bus, visits to the elderly, various sponsored sports events, and donations. In 2017, we will be having a strategic review of our corporate social initiatives to ensure we are directing most of our effort in ways that create shared value i.e. leveraging our expertise and assests to address social needs.
	One suggestion from the workshop was to look at opportunities for the recycling waste or materials for the benefit of NGOs and this is one area we will consider.
Use cleaner fuel in plant to replace diesel	Since the workshop we have requested our Plant Department to discuss with our key plant suppliers to see the availability and suitability of LPG (and natural gas) powered plant. Replacing diesel plant with electric plant is challenging based on the power output required.
Other comments	We will review other suggestions in the coming months and integrate into our Sustainability Action Plan where appropriate and feasible.

Annex 2: Membership of Associations and Industry Bodies 🚥

Association/ Body	Group/ Committee	Appointment
A. Statutory Bodies		
Construction Industry Council	Committee on Construction Safety Committee on Environment, Innovation and Technology	Member Member
	Task Force on NEC3 Collaborative Contracts Subcontractor Registration Scheme Task Force on Selection of Contractors - Phase 1 Construction Industry Training Board Task Force on Collaborative Scheme in 2016 - Construction Industry Training Board	Member Committee Member Working Group Member Member Member
	Task Force on Training - Construction Industry Training Board	Chairman
Development Bureau	Panel of Enquiry-Site Safety	Member
Hong Kong Council for Accreditation of Academic & Vocational Qualifications	-	Subject Specialists (Construction and Building Service)
Metro Planning Committee of the Board	-	Member
The Hong Kong Construction Association, Limited (HKCA)	-	Representative
HKCA Piling Contractors Committee	Piling Contractors Committee	Vice Chairman
Town Planning Board	-	Member
B. Permanent Non Statutory Bodies		
Environmental Campaign Committee (ECC)	-	Chairman
ECC on Hong Kong Awards for Environmental Excellence (HKAEE)	Awards Committee	Member
Labour Department Labour Advisory Board	Committee on Occupational Safety and Health	Member
C. Tertiary Institution		
The University of Hong Kong	Advisory Committee of the Department of Civil Engineering	Member
	Advisory Council for Department of Civil Engineering	Member
	MSc Integrated Project Delivery The Careers Advisory Board	External Examiner Member
THEi	Faculty Advisory Committee of the Faculty of Science and Technology	Member
Vocational Training Council	Higher Education Advisory Committee (HEAC) Building and Civil Engineering Training Board Electrical and Mechanical Services Training Board	Member Member Member

Gammon Sustainability Report 2016

Association/ Body	Group/ Committee	Appointment
British Chamber of Commerce	Construction, Innovation and Healthcare Working Groups	Member
	Construction Industry Group	Chairman
British Chamber of Commerce in Hong Kong	-	Member
Business Environment Council	-	Director
Canadian Society for Civil Engineering Hong Kong Branch	-	Executive Committee Member
Chartered Institute of Arbitrators	-	Fellow
Hong Kong E&M Contractors' Association	-	Honorary Secretary
Hong Kong Institute of Human Resource	Work Experience Recognition Sub-committee	Co-chairperson
Management	Membership Evaluation Committee	Member
	Professional Standards Committee	Member
Hong Kong Institute of Surveyors	-	QS APC - Assessor
Hong Kong Institution of Engineers	Civil Discipline Advisory Panel	Chairman
	Geotechnical Division	Committee Member
	Qualification and Membership Board	Member
	Registration Committee	Member
	Joint Structural Division	Committee Member
Lighthouse Club	-	Member
New Life Psychiatric Rehabilitation Association	Human Resources Task Group 2014 / 2015 for New Life Psychiatric Rehabilitation Association	Member
Pneumoconiosis Mutual Aid Association	-	Honorary Consultant
Royal Institution of Chartered Surveyors	Asia QS & Construction Professional Group	Board Member
		QS APC - Assessor
Society of Construction Law, Hong Kong	-	Member
Temporary Works Forum	-	Member
The Chartered Institution of Highways and Transportation, Hong Kong Branch	-	Committee Member Committee
The HKMA Operations Management Committee	-	Member
The Hong Kong Federation of Electrical and Mechanical Contractors Limited	-	Council Member
The Hong Kong General Chamber of Commerce	Manpower Committee	Member



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We value and encourage dialogue on our reporting mechanism. Feedback provides insight that helps us to better communicate what is important and of interest to our stakeholders. We encourage questions or comments by contacting environment@qammonconstruction.com G4-31

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