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INTRODUCTION

The redevelopment of the Western Reclamation, also known as The Tank Farm or Wynyard Quarter, in Auckland is envisioned to be New Zealand’s leading example of sustainable development. Design and development will incorporate world-class and best-practice sustainability strategies and design components. The Sustainable Development Framework sets out the vision and targets for the environmental, social, cultural and economic outcomes. Progressive measuring/monitoring, feedback, and reporting mechanisms will be implemented to track the area’s sustainability achievements.
Purpose

A key objective for Sea+City is that its portion of the Wynyard Quarter be redeveloped in a manner that will ensure the area’s long-term environmental, economic, social and cultural success – the quadruple bottom line. The area’s success is to be measured against local, regional, national, and international best practice projects through a series of indicators. This objective and process is in full alignment with NZ legislation and policy at the central Government, Auckland Regional and Auckland City Council levels.

The Sea+City Sustainable Development Framework (SDF) and accompanying documents will serve as the ‘blueprint’ for the sustainable design, development, and operation of the cluster of Sea+City precincts which form part of the Wynyard Quarter. The SDF establishes visions and indicators against which to measure the area’s achievement of sustainability objectives. It is anticipated that this SDF document will serve as a basis for discussion, research, and verification of a more complete set of tools, such as Environmentally Sustainable Design Guidelines (ESD Guidelines). These indicators will help to guide the Sea+City project in the first instance, but the SDF document could equally be applied to the larger Wynyard Quarter and the entire waterfront.

Background

The Wynyard Quarter is one of the last and largest areas of Auckland’s waterfront to be redeveloped. The area will be transformed over the next seventeen years into a vibrant urban village in line with the Auckland Waterfront Vision 2040: “Auckland’s best example of high quality, mixed use development [which incorporates] …leading edge environmental technologies and sustainable [development practices].”

At the heart of the Wynyard Quarter is the Sea+City project, a 27 hectare site north of Pakenham Street which includes Wynyard Point. Public open spaces will occupy 37% of the site, including the proposed 4.25 hectare ‘Point Park’ projecting into the Waitemata Harbour.

The scale, complexity and prominent location within the region requires a well-designed and operated precinct that will benefit the region as a whole well into the future. Development must be demonstrably more sustainable in a broad context, than is currently typical. Thus, it is essential that it is designed, developed, and operated as a highly sustainable community in order to ensure the health, safety, and quality of life for future generations.

Context

The SDF is accompanied by the related Urban Design Background Information (UDBI) report (developed from the Urban Design Framework) plus Design and ESD Guideline documents. This set of aspirational documents informs a set of more detailed location-specific and technical documents. These documents are intended to be used together. The SDF identifies key topics to be addressed during the design, development, construction, and operation. The Sea+City Design Guide will provide a further level of detail with specific guidance in the ESD guidelines on methods to achieve the sustainability targets.

The periodic review and update of these documents will ensure that they remain highly relevant and current for the duration of the development.
INTRODUCTION

Approach to Sustainability and Overview of the Framework

Sustainability is typically defined in terms of the four components of the quadruple bottom line: environmental, economic, social, and cultural. Sustainability in this project has been redefined within the context of six topical areas deemed to be the most important in achieving the overall sustainability for urban development:

- Environment & resources
- Connectedness
- Sense of place
- Community
- Urban environment
- Economic vitality

For each topic, an overarching vision has a set of indicators to be monitored and project-specific targets to aim for. A short list of actions is provided to assist with the interpretation of the vision and targets into achievement ‘on the ground’. The Vision articulates the future sustainable state of the Sea+City portion of the waterfront. The Indicators provide measurable achievement areas that will be periodically assessed and/or monitored to evaluate the project’s performance in terms of achieving sustainability targets. Brief monitoring statements accompany the indicators and actions, outlining fundamental monitoring requirements that will be fully developed in subsequent management plans and monitoring programmes. Actions are noted in each section to provide guidance to SDF users to help achieve the sustainability targets and the vision.
Regional and Local Context

This SDF responds directly to existing visions for the Auckland region and the wider waterfront area. Significant documentation, which involved extensive public consultation, already exists at both a regional and city level, describing aspirations for the re-development. In particular, the Regional Growth Forum’s Auckland Sustainability Framework, Auckland Waterfront Vision 2040, the Wynyard Quarter Urban Design Framework, and Connecting People to the Sea and City provide valuable context for the development of this SDF.

The Auckland Sustainability Framework (Regional Growth Forum, September 2007), sets the following primary goals for the long-term sustainable future of the region:

- A fair and connected society
- Pride in who we are
- A unique outstanding environment
- Prosperity through innovation
- Te Puawaitanga o Te Tangata (self sustaining Maori communities)
- A quality compact settlement pattern
- Resilient infrastructure
- Effective, collaborative leadership

The Auckland Waterfront Vision 2040 (December 2005), outlines the vision for Auckland’s waterfront as “a world class destination that excites the senses and celebrates our sea loving Pacific culture and maritime history. It supports commercially successful and innovative businesses and is a place for all people, an area rich in character and activities that link people to the city and sea.”
Summary of SDF Content

The document is divided into four primary sections:

**Implementation, Monitoring, Reporting and Review**
- Discusses the overall implementation strategy necessary to successfully implement the SDF
- Provides a list of key implementation steps by development stage
- Comments on monitoring and reporting requirements to measure and communicate progress
- Documents the SDF revision process

**Roles and Responsibilities**
- Provides an overview of the organizations responsible for delivering on the SDF

**Background to Indicators, Benchmarks & Targets**
- Provides an overview of the methodology behind the identification of indicators and benchmarks and choice of targets.
- Explains how the indicator barometers are used to illustrate benchmarks and targets
**Topics, Vision, Indicators and Actions**

Under each topic is a vision, key indicators, targets, and a list of minimum actions to achieve the vision and targets:

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>KEY INDICATORS</th>
</tr>
</thead>
</table>
| Environment & Resources | • Stormwater Treatment  
                         | • Building Energy Efficiency  
                         | • Public Space Energy Efficiency  
                         | • Renewable Energy  
                         | • Waste to Landfill |
| Connectedness          | • Transportation                                                               |
| Sense of Place         | • Visitor Numbers  
                         | • References to Culture and Heritage  
                         | • Sense of Place |
| Community              | • Community  
                         | • Job / Residents Balance                                                      |
| Urban Environment      | • High Performance Buildings  
                         | • Open Space                                                                   |
| Economic Vitality      | • Diversity  
                         | • Business and Employment Growth  
                         | • Median Wage  
                         | • Vacancy Rate                                                              |
The SDF is a ‘living document’ which will evolve over time to be responsive to the development and operational phases of the site and to emerging knowledge and understanding about sustainability practice.

During the redevelopment, a Sea+City-appointed Sustainability Coordinator will oversee the implementation of the SDF and related documents. However, many other parties, including appointed topical coordinators, Sea+City, ARH, and ACC representatives, a community body representing residents, businesses and others will be involved in the implementation and monitoring of the SDF and its targets. Upon completion of the staged development, the administrative body that is created to oversee the long-term management of the Quarter will take over the administration of the SDF and related documents/mechanisms.

Implementation Programme

This SDF is intended to provide long-term guidance for the sustainability of Sea+City portion of the Wynyard Quarter. A preliminary implementation programme outlines the key steps required for each stage of the project’s development timeframe. Upon completion of the final phase of development, this document should be utilised to create a Long-Term Management and Operations Sustainable Development Framework to ensure the continuing sustainability of the Quarter well into the future.

Due to the diverse and complex nature of the project, the components most important for the area’s overall sustainability will vary by stage. Thus, the priority topics are listed in the table below to provide guidance in identifying the sustainability targets on which to place primary emphasis during each stage.
### IMPLEMENTATION STEPS & PRIORITIES

<table>
<thead>
<tr>
<th>ESTABLISHMENT</th>
<th>STAGED DEVELOPMENT</th>
<th>FUTURE 2025+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMPLEMENTATION STEPS</strong></td>
<td><strong>STAGED DEVELOPMENT</strong></td>
<td><strong>FUTURE 2025+</strong></td>
</tr>
<tr>
<td>Masterplanning Phase and Detailed Design and Development Phase</td>
<td>Detailed Design and Development Phase and Operational Phase</td>
<td>Operational Phase</td>
</tr>
<tr>
<td>- Appoint a sustainability coordinator for the SDF</td>
<td>- Sustainability coordinator review Sustainability Achievement Reports and identify areas for change or improvement.</td>
<td>- Create a “Post-Development Sustainability Achievement Report”</td>
</tr>
<tr>
<td>- Undertake peer review during the design process to ensure design-related targets and actions are being achieved</td>
<td>- Review and update indicators and targets as required.</td>
<td>- Develop a “Long-Term Management and Operations SDF” and related documents</td>
</tr>
<tr>
<td>- Appoint key topic-based coordinators</td>
<td>- Update SDF and related documents as required.</td>
<td>- Periodically (5-10 years) review and refine “Long-Term Management and Operations SDF” and related documents</td>
</tr>
<tr>
<td>- Develop and implement key strategies/plans/programmes</td>
<td>- Refine monitoring strategies as required.</td>
<td>- Periodically (5-10 years) assess and refine as appropriate strategies/plans/programmes to achieve “Long-Term Management &amp; Operation SDF” targets</td>
</tr>
<tr>
<td>- Identify and conduct necessary baseline studies</td>
<td>- Produce annual Sustainability Achievement Reports.</td>
<td>- Refine and continue periodic monitoring of key long-term indicators</td>
</tr>
<tr>
<td>- Develop and implement an SDF monitoring programme.</td>
<td>- Review roles and responsibilities as redevelopment areas become operational.</td>
<td>- Periodically (5-10 years) assess the project’s overall achievement of SDF targets and create a periodic “Sustainability Achievement Reports”</td>
</tr>
<tr>
<td>- Produce annual “Sustainability Achievement Reports”.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PRIORITIES</strong></td>
<td><strong>PRIORITIES</strong></td>
<td><strong>PRIORITIES</strong></td>
</tr>
<tr>
<td>- Contamination management</td>
<td>- National/Regional focal point</td>
<td>- Economic vitality</td>
</tr>
<tr>
<td>- Transportation</td>
<td>- Transportation</td>
<td>- Community</td>
</tr>
<tr>
<td>- Highly sustainable built form (demonstration projects)</td>
<td>- Public buildings and community facilities ‘community’</td>
<td>- Highly sustainable built form (ESD, energy/water/ resource efficiency, demonstration projects)</td>
</tr>
<tr>
<td>- Infrastructure (stormwater, communications, energy, wastewater etc)</td>
<td>- Sense of Place</td>
<td>- Integration with region and CBD</td>
</tr>
<tr>
<td>- Rugby World Cup 2011</td>
<td></td>
<td></td>
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<tr>
<td>- Sense of Place</td>
<td></td>
<td></td>
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<tr>
<td>- Place Management/Events</td>
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</tbody>
</table>
FRAMEWORK IMPLEMENTATION, MONITORING, REPORTING & REVIEW

Monitoring and reporting

Monitoring of the implementation of the SDF, and the success against the targets, will be done on an annual basis in accordance with a monitoring programme, which is to be developed.

An annual report will be produced which will include as a minimum:

- significant redevelopment phases and activities,
- significant issues and activities in the Sea+City precincts regarding the sustainability topics and indicators,
- the monitoring methods and results,
- analysis of the results, and
- discussions relating to any changes to the SDF or other documentation.

The report will be publicly available.

Review

A review of the indicators and targets will be undertaken the annual monitoring and reporting cycle. A formal review of the entire document will be undertaken at 5 year intervals.

Reviews are required to remain current, and ensure that the SDF reflects lessons learned through the design and development processes.

Version control

Each new version of the document will be dated, and numbered. This version is number 1, April 2009.

The previous version was a set of two documents titled ‘Initial Sustainable Development Framework February 2008’, and ‘Initial Barometers and Sustainability Targets February 2008’. These two documents include much of the discussion about the relevant indicators, and targets, and background to the benchmarks chosen for the project.
ROLES AND RESPONSIBILITIES

SUSTAINABLE DEVELOPMENT FRAMEWORK

Development, monitoring progress and outputs, reviewing content and updating the framework, overseeing the indicator monitoring and regularly reporting on results. Sea+City

Management Plans and Strategies:
Development, monitoring progress and outputs, reviewing and updating content
Sea+City

Implementation of Actions:
Sea+City, Auckland Regional Council, Auckland City Council, Auckland Regional Holdings, Developers, Designers, Contractors

Monitoring Programme:
Sea+City

Monitoring the Indicators:

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>INDICATOR</th>
<th>MONITORING RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENVIRONMENT &amp; RESOURCES</strong></td>
<td>Stormwater Treatment</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Building Energy Efficiency</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Public Space Energy Efficiency</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Renewable Energy</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Waste to Landfill</td>
<td>Sea+City</td>
</tr>
<tr>
<td><strong>CONNECTEDNESS</strong></td>
<td>Transportation</td>
<td>Auckland City Council, Auckland Regional Council, Auckland Regional Transport Authority</td>
</tr>
<tr>
<td><strong>SENSE OF PLACE</strong></td>
<td>Visitor Numbers</td>
<td>Auckland City Council</td>
</tr>
<tr>
<td></td>
<td>References to Culture and Heritage</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
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<td><strong>COMMUNITY</strong></td>
<td>Community</td>
<td>Auckland City Council</td>
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<tr>
<td></td>
<td>Job / Residents Balance</td>
<td>Auckland City Council</td>
</tr>
<tr>
<td><strong>URBAN ENVIRONMENT</strong></td>
<td>High Performance Buildings</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Open Space</td>
<td>Sea+City</td>
</tr>
<tr>
<td><strong>ECONOMIC VITALITY</strong></td>
<td>Diversity</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Business and Employment Growth</td>
<td>Sea+City</td>
</tr>
<tr>
<td></td>
<td>Median Wage</td>
<td>Auckland City Council</td>
</tr>
<tr>
<td></td>
<td>Vacancy Rate</td>
<td>Sea+City / Auckland City Council</td>
</tr>
</tbody>
</table>
Sustainability initiatives are underway in many cities locally and internationally and efforts are being made to assimilate baseline data, targets, and achievements in the key sustainability performance areas. There are an emerging number of core sustainability indicator measures that have been documented by cities. Some relevant examples include:

- Malmo, Sweden
- Melbourne Docklands, Australia
- Dockside Green, Canada
- Leith Docks, Scotland
- Toronto, Canada
- Hamburg, Germany
- East False Creek, Canada

The Sea+City SDF indicators, benchmarks and targets are the result of reviewing the cases above, and NZ and international literature, with assistance from the Hobsonville Land Company, Beacon Pathway Ltd, Landcare Research and Flow Transportation. Each indicator and target has been reviewed by the Sea+City advisory committee and key team members.

The indicators have been selected for their practicality, measurability, representativeness and fitness-for-purpose. The benchmarks give a sense of scale and achievement of other developments or urban settings that provide a comparison for this project. There is a deliberate mix of international waterfront and sustainable developments and local and regional benchmarks. Some of the benchmarks included reflect achievements while others are targets, especially for indicators for which few measurements of achievements currently exist.

The Sea+City SDF targets have been set to represent the optimum performance levels that the project will strive to achieve, i.e. they are aspirational. In some cases targets have been phased, to represent the changing nature of the development and land use over time.

**Example barometer**

The indicators, benchmarks and Sea+City targets have been illustrated as ‘barometers’. The High Performance Buildings Barometer is provided below as an example. The barometer provides graduations along a scale, relevant to the indicator. In this case, the indicator is the level of New Zealand Green Building Council Green Star rating (or equivalent) for sustainable buildings. The barometer indicates a scale, from low sustainability (1 star) to high sustainability (6 stars).

Benchmarks are provided along the scale. In this example, the New Zealand government has set Green Star targets for all new buildings and refurbishments. Sea+City targets are shown below the barometer to provide an instant understanding of the aspirations of the development compared to the benchmarks.
Benchmarks

NZ Government (for all new Grade B offices/ refurbs 2007 - 2012 target)
NZGBC “Best Practice”

SEA+CITY TARGET AT LEAST 40% OF BUILDINGS 5 STARS

SEA+CITY TARGET AT LEAST 5% OF BUILDINGS 6 STARS

NZGBC Star Rating (or equivalent) for design of new buildings and conforming retrofits

Benchmarks

NZ Government (for all new Grade A offices/ refurbs 2007 - 2012 target)
NZGBC “New Zealand Excellence”

SEA+CITY TARGET AT LEAST 5% OF BUILDINGS 6 STARS

NZGBC “World Leadership”

SEA+CITY MINIMUM STANDARD 4 STARS

Targets

SEA+CITY TARGET AT LEAST 40% OF BUILDINGS 5 STARS

Indicator

Barometer

1 Star low

2 Stars

3 Stars moderate

4 Stars

5 Stars

6 Stars high

SEA + CITY Sustainable Development Framework Version 1
ENVIRONMENT AND RESOURCES

Vision

Showcase:
The Sea+City precincts within the Wynyard Quarter are New Zealand’s premier example of environmentally responsible development and showcase world-class strategic and design responses to local and global environmental issues in a local context.

Environmental quality:
The remediation of industrial land and incorporation of a comprehensive water management system designed to support a re-created coastal ecosystem and marine environment will provide residents, workers, and visitors with a healthy and attractive environment.

Buildings and Infrastructure:
Environmentally responsible building materials, alternative transportation options, and best-practice industrial processes facilitate community health and safety by minimising potential hazards and contaminants in the area.

Resource use:
The extensive implementation of resource-efficient designs/activities and sustainable technologies minimises the area’s use of natural resources. The utilisation of local products and materials further minimises environmental impact while strengthening both the local and New Zealand economies. Waste is recycled and reused to limit the environmental effects of disposal.

Greenhouse gases and climate change:
Design and operation takes into account potential effects from climate change (i.e. extreme weather events). Sea+City’s infrastructure, high percentage of non-vehicular movements, and high degree of resource efficiency minimises the area’s emission of greenhouse gases.

Key indicators:
- Stormwater Treatment
- Building Energy Efficiency
- Public Space Energy Efficiency
- Renewable Energy
- Waste to Landfill
Auckland waterfront 2040 principle

The waterfront is a clean and healthy place which includes the principle of incorporating leading edge technologies and sustainable design.
Stormwater treatment

Untreated stormwater run-off from urban catchments contains contaminants which can affect the quality of downstream water bodies and habitats. At the Wynyard Quarter there are various stormwater catchments that discharge into Waitemata Harbour, including the large St. Marys Bay sewer / stormwater system. Inner harbour sediments and water quality are adversely affected as a result. The Sea+City precincts will have a separate stormwater collection, treatment and disposal system from the surrounding areas, which will be upgraded as part of the development. The Sea+City upgrades will not improve the St. Marys Bay outfall impacts, which will continue to have the largest influence on the marine environment.

The indicator is the design specification for stormwater treatment devices in Auckland, as prescribed in the Auckland Regional Council’s Technical Publication 10 Design Guideline Manual for Stormwater Treatment Devices. It represents the difference in water quality (concentration of total suspended sediment) as measured upstream and downstream of the treatment devices, in order to measure the effectiveness of the devices. The indicator allows for that difference (or percentage of removal) to vary over time, and the target is compared against an average result over months or years. Using total suspended sediment is an ideal indicator contaminant because removing suspended sediment will also remove many other contaminants of concern, including pathogenic bacteria, trace metals, oil and grease.

The target is aspirational, and well above the minimum design specification of Technical Publication 10 of 75%.

Monitoring

A stormwater monitoring programme is required. Stormwater should be sampled prior to, and immediately following, stormwater devices at strategic locations within the catchment (to be determined), and analysed for total suspended solids. This monitoring can be undertaken downstream of a series of treatment devices. Monitoring should begin once the upgrade of the stormwater infrastructure has begun.
Albany Lakes Project, Albany: design targeted 75% removal of total suspended sediment

Sylvia Park, Mt. Wellington: design estimated 91% removal of total suspended sediment

SEA+CITY TARGET 95% FOR ALL STORMWATER TREATED FROM THE PROJECT AREA
Building energy efficiency

A high level of energy efficiency through building design and demand management, has the potential to significantly reduce energy related costs and minimise energy related environmental impacts of the project area.

Energy efficiency reduces the need to build more power stations and reduces the demand for non-renewable resources. While renewable energy sources such as hydro and wind power generate the majority of electricity in New Zealand, the supply is not always reliable. The infrastructure can also affect landscapes, ecosystems and livelihoods, and new generation projects are often difficult to consent.

Alternative non-renewable sources of energy, such as oil, natural gas, and coal, are more reliable currently, but are finite. These sources of energy have significant environmental and social impacts, including air pollution and greenhouse gas emissions, as well as modifications to landscapes and ecosystems as a result of their extraction.

The building energy efficiency indicator is a measure of the consumption all energy in a year (including electricity and natural gas), on a gross floor area basis. Sea+City achievements may differ to overseas benchmarks due to differences in climate, standards of living, cultural norms about energy use, availability of energy types (gas, electricity, oil, solar), building design and housing types and requirements.

The building energy efficiency target is aspirational, and achievement will be heavily influenced by the design of new buildings and the retrofit of existing buildings.

Monitoring

Electricity use, gas use, and gross floor area should be monitored and measured at the building scale.
southeast False Creek, Vancouver 219 kWh/m²/yr commercial and institutional (target)

EECA’s NZ National Energy Efficiency and Conservation Strategy (2001) existing commercial buildings 150 kWh/m²/yr (voluntary target)

Southeast False Creek, Vancouver 86 kWh/m²/yr multi-unit residential buildings (target)
Bo01, Malmo some homes achieving 87 kWh/m²/yr

EECA’s NZ National Energy Efficiency and Conservation Strategy (2001) new commercial buildings 100 kWh/m²/yr (voluntary target)

Southeast False Creek, Vancouver 122 kWh/m²/yr townhomes (target)

Bo01, Malmo 105 kWh/m²/yr for all buildings (target)

NZGBC office rating system 120 kWh/m²/yr or less (conditional requirement)

Vauban, Germany 65 kWh/m²/yr (code)

Beacon Pathway: 4 person, 3 bedroom detached house 31 kWh/m²/yr (calculated on 160m² floor area)

Low efficiency

high efficiency

moderate efficiency

>300

275

250

225

200

175

150

125

100

75

50

25

Energy consumed (kWh/m²/yr)

SEA+CITY TARGET 80 kWh/m²/yr (OFFICE/COMMERCIAL)

SEA+CITY TARGET 50 kWh/m²/yr (MULTI-UNIT RESIDENTIAL)
Public space energy efficiency

A high level of energy efficiency can be gained through design and demand management of lighting, pumps, sound, security systems and other public space infrastructure.

Data on public space energy use and efficiency per square metre is more difficult to benchmark than building energy use, due to the vast differences in energy demands and the type of public space design and use. The indicator for public space is therefore based on comparison of actual energy use compared to a baseline. The baseline is an equivalent energy use based on conventional design.

The target is based on calculations by Ecubed designers. The percentage is the difference between conventional design and calculation of advanced energy efficient design.

Monitoring

The energy use of installed equipment should be monitored and compared to a baseline calculation of energy demands from conventional equipment.
Coffs harbour, Australia, street lighting project: 35% reduction in electricity use.

Christchurch City Council: traffic light replacement project: 50% reduction in electricity use.

SEA+CITY TARGET: 40% REDUCTION IN ENERGY USE

Percentage reduction of public space energy use compared to baseline.
Renewable energy

Generating energy on site from renewable sources is a further measure to reduce the impact from energy use in the Sea+City precincts (along with energy efficiency). It also reduces transmission losses and the dependency on other communities for energy generation.

The indicator is the percentage of energy consumed in buildings and public spaces in the Sea+City precincts that has been generated by renewable sources within the immediate area. Potential renewable energy sources include solar (hot water heating and solar panels) and tidal energy. Wind has been ruled out based on the low energy potential for the location.

The indicator does not take into account transportation energy. The targets are aspirational, and will rely heavily on leading edge technologies. The ESD will provide the technical specifications for achieving the target.

Monitoring

Energy generation should be measured and monitored at the point of generation, and compared to the total energy use of precinct to provide a percentage of total energy consumed. Assumptions may be required to measure the contribution of solar water heating.
East False Creek, Vancouver on site sources 5%

Toronto on site target 20% (2010)
UK national target 20% (2020)

New Zealand national electricity generation 63% renewable (2007)

Malmo, Sweden target 100% from on and off site sources (2030) (target)

SEA+CITY 10 YEAR TARGET FOR ON SITE SOURCES 10%
SEA+CITY 30 YEAR TARGET FOR ON SITE SOURCES 30%
SEA+CITY INITIAL TARGET FOR ON SITE SOURCES 5%

Percentage of total energy consumed in buildings and public spaces from renewable sources

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
low moderate high
ENvironMent & resourcEs

Waste to landfill

Over 3 million tonnes of waste is disposed to New Zealand landfills annually*, which represents an enormous waste of resources. A significant proportion of this waste could be easily reused, recycled or composted. Landfills are expensive to consent and operate, and pose risks to the environment and host communities. Management of landfills continue well beyond the life of the facility, to monitor and manage discharges of gas and leachate.

The waste indicator monitors the volume of waste produced by the occupants of the Sea+City Precincts, and excludes construction and demolition waste during development.

There are two targets. The “total waste target” includes all commercial, office and residential waste, and is measured per resident, per year. This measure is used throughout New Zealand to compare the rates of waste disposal by communities. The “residential” target measures domestic waste management, and can be measured through the kerbside collection system.

The targets are considered achievable, but Sea+City results will be affected by the availability of recycling services and markets for materials.

Construction and demolition waste reduction, while not a measured target, can be implemented through design, contract specifications, and construction practices. A 75% reduction in construction waste sent to landfill compared to normal practice is feasible in Auckland.

Monitoring

Waste audits will be required on a regular basis to calculate the total weight of waste collected for disposal in the Sea+City precincts, and the total weight of waste collected from residents at the kerbside. The methodology will depend on the waste contractors servicing the precincts.

Christchurch total waste target: 320 kg/person/year (2020)

Hobsonville 200 kg/person/year
South East False Creek, Vancouver target 200 kg/person/year

Toronto target: 0 kg/person/year (2010)
Waitakere City Council target: 0 kg/person/year (2020)
“Zero Waste” target 0 kg/person/year

NZ residential waste: 400 kg/person/year
Beleville, Ontario: 380 kg/person/year
Canada total waste (2004): 421 kg/person/year

NZ total waste (2006): 893 kg/person/year

SEA+CITY RESIDENTIAL TARGET: 50 KG/PERSON/YEAR
SEA+CITY TOTAL WASTE TARGET: 200 KG/PERSON/YEAR

low waste reduction
moderate waste reduction
high waste reduction
Solid waste to landfill, per person, per year

900 kg 800 kg 700 kg 600 kg 500 kg 400 kg 300 kg 200 kg 100 kg 0 kg
<table>
<thead>
<tr>
<th>Environment and resources action plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MASTER PLANNING</strong></td>
</tr>
<tr>
<td>• Avoid contamination of water bodies and public exposure from contaminated soils</td>
</tr>
<tr>
<td>• Develop a contamination and remediation strategy</td>
</tr>
<tr>
<td><strong>DETAILLED DESIGN &amp; DEVELOPMENT</strong></td>
</tr>
<tr>
<td>• Implement the contamination and remediation strategy</td>
</tr>
<tr>
<td>• Require the implementation of best-practice industrial processes and discourage the use of potentially harmful/polluting chemicals</td>
</tr>
<tr>
<td>• Develop a Waste Minimisation Plan.</td>
</tr>
<tr>
<td>• All parties to implement the Waste Minimisation Plan.</td>
</tr>
<tr>
<td>• Sea+City to monitor and enforce the Waste Minimisation Plan.</td>
</tr>
<tr>
<td><strong>OPERATIONS</strong></td>
</tr>
<tr>
<td>• Create native plantings and habitat areas for birds and coastal marine animals where appropriate.</td>
</tr>
<tr>
<td>• Maintain plantings and habitats.</td>
</tr>
<tr>
<td>• Develop public/private partnerships to enhance and rehabilitate the coastal marine environment.</td>
</tr>
<tr>
<td>• Minimise disturbances to the seabed.</td>
</tr>
<tr>
<td>• Monitor coastal marine diversity, abundance, and contaminants.</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL QUALITY</strong></td>
</tr>
<tr>
<td>• Utilise ‘best practise’ energy efficiency design practices, technologies, and materials.</td>
</tr>
<tr>
<td>• Utilise ‘best practice’ water reduction technologies, systems, and practices.</td>
</tr>
<tr>
<td>• Maximise the use of locally sourced and environmentally responsible materials.</td>
</tr>
<tr>
<td><strong>RESOURCE USE</strong></td>
</tr>
<tr>
<td>• Incorporate ‘best practise’ stormwater management and treatment systems and devices into design that reduce suspended sediment and encourage reduction and reuse.</td>
</tr>
<tr>
<td>• Provide demonstration projects and educational opportunities highlighting the area’s sustainable design elements.</td>
</tr>
<tr>
<td><strong>BUILDINGS &amp; INFRASTRUCTURE</strong></td>
</tr>
<tr>
<td>• Utilise ESD principles and sustainable technologies/practices to reduce the carbon footprint of buildings and infrastructure.</td>
</tr>
<tr>
<td><strong>GREEN HOUSE GASSES &amp; CLIMATE CHANGE</strong></td>
</tr>
<tr>
<td>• Develop a Climate Change/Extreme Events Mitigation and Response Strategy.</td>
</tr>
<tr>
<td>• All parties to implement the Climate Change Strategy.</td>
</tr>
<tr>
<td>• Sea+City to monitor and enforce the Climate Change Strategy.</td>
</tr>
</tbody>
</table>
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In revisions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

Environmental quality
- Industry discharges to air (quantity and quality)
- Industry discharges to trade waste / sewer (quantity and quality)
- Quality of biodiversity

Resource use
- Water use

Buildings and infrastructure
- Level of resident/visitor awareness of area’s sustainability practices and sustainable design elements

Greenhouse gases and climate change
- Carbon emissions and storage
CONNECTEDNESS

Vision

Land and Sea:

Sea+City precincts are a unique section of the Auckland waterfront where people feel strongly connected to both the land and the sea. An esplanade along the waterfront and opportunities to access the water create strong physical, visual, and emotional connections to the water.

The revitalisation of marine and fishing precincts create visual amenity and interactivity coupled with the retention of key character buildings/structures. The integration of the working waterfront with the rest of the waterfront connects residents, workers, and visitors with the area’s coastal foreshore and maritime history.

The protection of view corridors and provision of strong visual orientation and permeability through design enhances legibility within the area.

Transportation:

Strong internal connectivity within the Sea+City precincts with a focus on pedestrian priority provides people with the freedom to safely and conveniently explore the area. Ample moorings, temporary tie-ups, and water taxi services encourage people to arrive by sea.

A convenient and reliable public transport system and key vehicular linkages provides strong connectivity with the wider Auckland waterfront, CBD, and other nearby areas. A network of safe and attractive pedestrian/cycle paths connects people within the Sea+City precincts with the wider Auckland waterfront and CBD.

Communications:

Provision of future-proofed, world-class communications infrastructure ensures access to regional and global communities and fosters e-commerce and virtual trade.

Key indicator:

- Transportation
A key principle is ‘It is easy and safe to get to the waterfront and I can choose how I get there’…….which includes the principle of ‘……ensuring future development is within the capacity of the existing road network’.
CONNECTIONEDNESS

Transportation

A high level of use of private vehicles for peak hour commuting can result in a number of negative impacts, including:

- Increased air pollution;
- High levels of greenhouse gas emissions;
- High economic costs;
- Increased congestion and commuting times;
- High infrastructure requirements and costs (car parks, wider roads, intersection improvements etc); and
- Reduced physical activity and general levels of health.

The intention is to reduce the desirability of car travel and increase the desirability of walking and other alternatives, through urban design and the provision of public transport. Design responses include reducing road widths, reducing on-road car parking, creating pedestrian and cycle-friendly routes, and providing public transport nodes that connect with the wider city.

The indicator is a measure of the amount of car and non-car trips during peak hour, which provides an indication of the ability for people to choose alternative transport during the busiest time of day. The target was determined during the Plan Change process, and is considered achievable once many of the design features are in place and public transport is integrated into the area.

Monitoring

Regular vehicle, cycle and pedestrian counts will be required during the two peak travel times of day. A detailed monitoring programme shall be developed.
Trips to and from the area by walking, cycling and passenger transport as a percentage of total peak hour trips.

- **Newmarket, 2006**: 24%
- **ARC Regional Target for 2016**: 27%
- **Auckland CBD 2006**: 42%
- **London 2003**: 57%
- **Carlton Breweries, Sydney Target**: 81%
- **Manhattan, New York, 2001**: 81%
- **Canary Wharf, London (UK), 2006**: 90%
- **Canary Wharf, London (UK), 2006**: 90%

**SEA+CITY TARGET 70%**
**Connectedness action plan**

<table>
<thead>
<tr>
<th>MASTER PLANNING</th>
<th>DETAILED DESIGN &amp; DEVELOPMENT</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAND &amp; SEA</strong></td>
<td>• Maximise visual connectivity and orientation through design.</td>
<td></td>
</tr>
</tbody>
</table>
| **TRANSPORTATION** | • Sea+City to develop a Travel Management Plan for the entire Wynyard Quarter which must include implementation steps to achieve the Transport Target. | • All parties to comply with the Travel Management Plan.  
• Sea+City to maintain and enforce the Travel Management Plan. |
|                  | • Design Daldy Street to accommodate a priority link for passenger transport.  
• Integrate all modes of transport into and within the Wynyard Quarter, including ferries and wharves, passenger transport, cycling and walking routes.  
• Design and construct a continuous and convenient cycle and pedestrian network, including any associated facilities to encourage these modes (secure bike stands, signage, lockers etc).  
• Car parking standards for Wynyard Quarter to be provided as maximum numbers per site or GFA, to reduce the creation of car parks on individual sites. |  |
| **COMMUNICATIONS** | • Sea+City to work with the Auckland Regional Transport Authority to provide accessible, affordable, reliable and safe public transport. |  |
|                  | • Sea+City to prepare a Communications Infrastructure Strategy. | • All parties to comply with the Communications Infrastructure Strategy.  
• Sea+City to maintain and enforce the Communications Infrastructure Strategy. |
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In future versions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

Land and sea:
- Perception of visual connectivity and orientation by resident or visitor.
- Number of view shafts of key focal points within region retained or enhanced.

Transportation:
- Pedestrian/cyclist safety (number of accidents/incidents).
- Use of moorings and services by boats/ships.

Communications:
- Resident and business access to latest communications technologies and networks.
SENSE OF PLACE

Vision

Waterfront culture and heritage:

The area’s distinct sense of place flows from the artful integration of the working waterfront, character buildings/structures, and the diverse mix of uses and range of living accommodations.

The Quarter’s extensive waterfront edge serves as Auckland’s premier aquatic playground. A continuous waterfront esplanade, public recreation facilities, and ample opportunities to access the water create an unparalleled waterfront experience. Many visitors arrive by watercraft, taking advantage of the moorings and temporary tie-ups/storage areas along the esplanade.

Visitors:

An iconic destination serves as a regional and/or national focal point, attracting visitors from near and far. Strong place management and activity programming creates a bustling waterfront community with destination-type events that attract people of all life styles and ages.

Creativity:

A variety of well-kept public spaces feature creative arts, local cultural activities, and interpretation opportunities and provide residents, workers, and visitors with areas to relax and interact. Cafes, artist stalls, and street vendors add to the vitality and general hum of this waterfront area.

Key indicators:

- Visitor numbers
- References to culture and heritage
- Perception of sense of place by residents
Local Heritage and character is respected and celebrated, achieved by creating a distinctive maritime “sense of place” through design that celebrates and strengthens local Auckland and Pacific character and heritage, protecting Maori heritage and values and ensuring design includes outcomes relevant to Tamaki Makaurau – Tamaki herenga waka.

There is a mix of things to do at the waterfront, making it a great place to live, work and play.... including .... Encouraging ‘people places’ including public attractions, entertainment and leisure activities that promote the waterfront area as a destination for Aucklanders, visitors and tourists ....... as well as ‘...encouraging events and waterbased activities that attract people to the waterfront’.
SENSE OF PLACE

Visitor numbers

The Wynyard Quarter is envisaged as one of New Zealand’s premier tourist destinations. International, domestic, and local tourists should all be attracted to the Quarter through the provision of an active, attractive, and unique public realm hosting a significant number of events and activities, and a regional/national focal point. Within the Quarter, a number of destinations should provide opportunities for a wide range of lifestyles and life stages to maximise the number of visitors to the area.

The indicator is the number of visitors estimated over a year, based on a series of counts throughout the year.

It is difficult to find directly comparable benchmarks due to the difference in scale, character, land use mix and location, for overseas waterfront locations. A number of those identified are within large metropolitan areas that attract a significantly higher number of visitors than the Auckland region, and so they are not directly comparable to what can be achieved at the Wynyard Quarter.

The targets have been phased to reflect the timeframe of the redevelopment, and the achievements of the targets will depend on the development of appropriate facilities of events.

Monitoring facilities and events

Surveys of visitor numbers to be carried out regularly and during events. A monitoring programme shall be produced as part of the Place Management / Events Strategy.
low

SEA + CITY 5 YEAR TARGET 600,000
SEA + CITY 15 YEAR TARGET 1.2 MILLION
SEA + CITY 25 YEAR TARGET 4 MILLION

moderate

Darling Harbour, Sydney 13 million (2002)
Fisherman’s Wharf, San Francisco 13 million
Granville Island, Vancouver 12 million
Harbourfront Centre, Toronto 12 million
Southbank, Brisbane 11 million

Darling Harbour, Sydney 16 million (2000)

Auckland Regional domestic visitors 9.3 million (2007)

Auckland Regional international visits 2.43 million (2007)

Melbourne Docklands, Melbourne 3 million (current)

number of annual visitors (million)

high
SENSE OF PLACE

References to culture and heritage

The site has a rich history as a working waterfront, providing a strong ‘sense of place’, along with the uniqueness of the location on the edge of the Waitemata Harbour. Reflecting the wider cultural context of the Maori and Pacific Island character of Auckland, and the perception of the waterfront city being ‘the gateway to the Pacific’ provides integrity to promoting the waterfront as a unique, world class destination.

The indicator is based on visual or activity-based cultural and heritage references. An initial architectural survey has identified the wharf structures, cement silo, wharf shed and other elements that could be retained as links to the commercial / maritime history. Very few cities or urban redevelopment projects measure their sense of place in terms of the cultural and heritage references, however many instead monitor listed heritage sites and buildings, or attendance at iconic events. Wellington City has recognised the importance of such visual indicators to provide a sense of place, but has not published an inventory of references. Lewisham Borough Council, London, and Toronto, Canada have created inventories of cultural references and facilities, but neither have an indicator or target to measure change.

References include:
- Iconic gateways, ceremonial spaces, historic buildings, historical markers, use of historic/traditional names, views to significant landmarks, events reflecting the waterfront identity, and artwork reflecting natural phenomenon (i.e. wind, water).

The target recognises that during redevelopment there should be an increase in references, however in the long term there may be more of an emphasis on maintaining references and the target should be updated in the future to reflect this.

The target is considered achievable, and the detail of ‘what is a reference’ shall be included in the Visual Identity Programme.

Monitoring

A baseline survey is to be undertaken to record the existing buildings, view shafts and other elements that contribute to the sense of place. A monitoring programme shall be developed within the Visual Identity Programme.
SEA + CITY Sustainable Development Framework Version 1

### Percentage change in cultural and heritage references

- **SEA+CITY TARGET:** 5% Annual Increase in Cultural and Heritage References

- **Lanesborough, Ireland:** 4%/yr increase in catalogued heritage features

- **Hamilton City:** 2% reduction in listed heritage buildings 1999 - 2001

- **Landcom, New South Wales target:** preservation of heritage and cultural features

- **Christchurch City:** 4% reduction in listed heritage and cultural features 1995 - 2007

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- **Christchurch City:** 4% reduction in listed heritage and cultural features 1995 - 2007

- **Landcom, New South Wales target:** preservation of heritage and cultural features
Residents perception of a sense of place

While iconic sculptures, historic buildings, and place-based events may contribute to a sense of place, it is important that the messages are understood and embraced by the residents and visitors. The indicator uses surveying methodology to measure the residents’ perceptions of the sense of place. No directly comparable survey questions or perceptions have been identified as benchmarks, however the indicator concept is similar to the ‘sense of pride with how town looks and feels’ question that is asked in Quality of Life Project surveys regularly undertaken in many New Zealand cities and districts. While not directly comparable, the benchmarks provide the best example of an indication of the awareness of the visual references in urban environments.

The target is aspirational, however it should be relevant from early in the project because of the uniqueness of the location and the number of existing visual references to the waterfront and industrial heritage.

**Monitoring:**

A survey should be undertaken on a regular basis, as part of a monitoring programme to be developed.
Percentage of residents agree strongly or agree to a sense of place in the local neighbourhood.

- **Manukau (2006) 'look and feel of the city': 39%**
- **Blenheim (2005) 'look and feel of the town': 70%**
- **Total New Zealand (2006) 'look and feel of the town/city': 61%**
- **North Shore (2006) 'look and feel of the city': 60%**
- **Wellington (2006) 'look and feel of the city': 82%**
- **SEA+CITY TARGET 'SENSE OF PLACE': 90%**
### Sense of place action plan

<table>
<thead>
<tr>
<th>WATERFRONT CULTURE &amp; HERITAGE</th>
<th>DETAILLED DESIGN &amp; DEVELOPMENT</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain and enhance the legibility of land and water interfaces.</td>
<td>Implement the Visual Identify Programme.</td>
<td>• Encourage and facilitate marine-based sports and play through events management and facility maintenance.</td>
</tr>
<tr>
<td>Retain and integrate the working waterfront character into the development.</td>
<td>Maintain the Inventory.</td>
<td>• Implement the induction programme.</td>
</tr>
<tr>
<td>Create a Visual Identity Programme, which includes interpretation opportunities, public art and heritage preservation.</td>
<td>• Undertake a baseline inventory of visual, structural and activity-based cultural and historical references.</td>
<td></td>
</tr>
<tr>
<td>Undertake a baseline inventory of visual, structural and activity-based cultural and historical references.</td>
<td>• Implement the Place Management/Events/Tourism Strategy.</td>
<td>• Develop Place Management/Events/Tourism Strategy that reflects and responds to the special place of the waterfront in Auckland, New Zealand and the Pacific.</td>
</tr>
<tr>
<td>Encourage and facilitate marine-based sports and play by providing public facilities and spaces.</td>
<td>• Develop an induction programmes for new residents to learn about the history of the Quarter.</td>
<td>• Implement the Place Management/Events/Tourism Strategy.</td>
</tr>
<tr>
<td>• Create outstanding focal points, such as an iconic national/regional facility e.g. museum, gallery.</td>
<td>• Showcase creative arts in conjunction with the ACC Blueprint.</td>
<td></td>
</tr>
</tbody>
</table>

April 2009
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In future versions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

**Waterfront culture and heritage**
- Quantity and quality of public art
- % retention of working waterfront compared to baseline
- Number of marine based activities / facilities / events
- Number of participants in marine based activities / events

**Visitors:**
- Number of destination-type events and attendance numbers
- Number of visitors at specific focal points
- Visitor perception of ‘sense of place’

**Creativity**
- Number of new creative arts jobs
- Number of local art exhibitions or creative events
COMMUNITY

Vision

Engagement and belonging:
The Sea+City precincts maintain a strong, diverse, and harmonious community. Residents, workers, and visitors feel welcomed and have a strong sense of belonging. Residents are well informed of, and actively involved in community clubs, activities, and events, creating a strong sense of inclusiveness, and ownership within the community. Numerous community groups and volunteer organisations foster high levels of community interaction and leadership. Residents and businesses are extremely active in local, city, and regional affairs.

Health and wellbeing:
Residents enjoy a high quality of life as well as high levels of health, wellness, and general well-being. A wide range of educational opportunities fosters lifelong learning for all residents, workers, and visitors.

Diversity:
A diverse population is facilitated through the provision of a wide range of choice in accommodation, employment and services.

Key indicator:
- Perception of sense of community
Households are diverse across cultures, ages, demographics, incomes, employment skill sets and lifestyles.
There is a mix of things to do at the waterfront, making it a great place to live, work and play... which includes the principle of “...Achieving a rich mix of activity and vitality by providing living, work and entertainment opportunities”.

Auckland waterfront 2040 principle
Perception of sense of community

For the Sea+City precincts to have a sustainable community, there needs to be a sense of belonging and engagement, which is heavily influenced by the housing type, job opportunities, services, open space and other amenities, and the opportunities to engage with neighbours.

The indicator is a key question in the Quality of Life surveys (www.bigcities.govt.nz) that are regularly undertaken in many New Zealand cities and districts. A survey is the best way to measure the perceptions of people.

It is common to assume that a sense of community is greater in small towns and rural areas of New Zealand, rather than high density city centres. That is due to a number of factors, including the transient nature of people attracted to inner city living, the higher cultural diversity, higher proportion of rental properties, and reduced opportunity for engagement with neighbours. The benchmarks show that, Marlburians have a higher sense of community than Aucklanders in North Shore and Waitakere cities.

The targets for Sea+City are phased, to take into account that it may take some time for a sense of community to establish amongst residents. The long term target is aspirational, given the discussion above regarding the lower sense of community typically perceived in cities.

Monitoring:

A survey should be undertaken on a regular basis, as part of a monitoring programme to be developed. The Quality of Life survey may be used if the data can be isolated at the Sea+City precinct scale.
Percentage of residents agree strongly or agree to a sense of community in local neighbourhood.

- **Waitakere 2006**: 50%
- **North Shore (2006)**: 53%
- **Marlborough 2006**: 69%
- **NZ total 2006**: 59%
- **North Shore 2006**: 59%

**SEA+CITY TARGET:** 25 YEAR 70%

**SEA+CITY TARGET:** INITIAL 55%
COMMUNITY

Jobs / residents balance

The current proposal is for the Wynyard Quarter development to support 8000 jobs and 7000 residents. Having a balance of working and living opportunities in the Quarter is important in terms of a sense of community, services for residents, reducing commuter traffic, and providing ‘life’ in the precincts throughout the day/week.

The indicator is the ratio of residents to jobs with the target ration of 1:1.2 (7000 residents: 8000 jobs). Low ratios indicate residential neighbourhoods with few jobs, whereas high ratios indicate a high number of workplaces with few residents.

Measuring the ratio over time will also show how balanced the residential and commercial developments are during the project.

Monitoring:

A survey of resident population and employment opportunities should be undertaken on an annual basis, as part of a monitoring programme to be developed. Reporting should include discussion on the causes and effects of the change in the total number of employment opportunities and resident population.
<table>
<thead>
<tr>
<th>Location</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland City</td>
<td>1:1.8</td>
</tr>
<tr>
<td>Average ARC Suburban Area</td>
<td>1:0.2</td>
</tr>
<tr>
<td>Franklin District</td>
<td>1:0.8</td>
</tr>
<tr>
<td>Hobsonville</td>
<td>1:0.4 (target)</td>
</tr>
<tr>
<td>Rodney District</td>
<td>1:0.6</td>
</tr>
<tr>
<td>Waitakere City</td>
<td>1:0.6</td>
</tr>
<tr>
<td>North Shore City</td>
<td>1:1.0</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>1:0.9 (target)</td>
</tr>
<tr>
<td>Rodney District</td>
<td>1:0.6</td>
</tr>
<tr>
<td>Waitakere City</td>
<td>1:0.6</td>
</tr>
<tr>
<td>North Shore City</td>
<td>1:1.0</td>
</tr>
<tr>
<td>Auckland City</td>
<td>1:1.8</td>
</tr>
<tr>
<td>Manukau City</td>
<td>1:1.1</td>
</tr>
</tbody>
</table>

Ratio of resident population to jobs available:

- Low: 0 - 0.3
- Moderate: 0.3 - 0.6
- Ideal: 0.6 - 0.8
- High: 0.8 - 3.0

SEA+CITY TARGET: 1:1.2
# Community action plan

<table>
<thead>
<tr>
<th>MASTER PLANNING</th>
<th>DETAILED DESIGN &amp; DEVELOPMENT</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGAGEMENT &amp; BELONGING</td>
<td>• Establish and maintain a demonstration community garden.</td>
<td>• Provide information regarding clubs, recreation and other forms of community engagement.</td>
</tr>
<tr>
<td>HEALTH &amp; WELLBEING</td>
<td>• Provide space for clubs, recreation, libraries, community centres, childcare and other forms of community service and engagement.</td>
<td>• Promote and encourage community participation, representation, and leadership in the city and wider region.</td>
</tr>
<tr>
<td></td>
<td>• Encourage active life styles through the provision of a range of indoor and outdoor recreation/leisure activities and facilities.</td>
<td>• Encourage a dedicated person/group to co-ordinate community relations and information services.</td>
</tr>
<tr>
<td>DIVERSITY</td>
<td>• Develop a Community Wellbeing Programme addressing health care, recreation/leisure activities, community activities/events, and local educational opportunities for all ages and needs.</td>
<td>• Promote active lifestyles.</td>
</tr>
<tr>
<td></td>
<td>• Develop an affordable housing policy or strategy.</td>
<td>• Implement the Community Wellbeing Programme.</td>
</tr>
<tr>
<td></td>
<td>• Support diversity through a range of choices in accommodation.</td>
<td>• Implement the affordable housing strategy.</td>
</tr>
</tbody>
</table>
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In future versions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

**Engagement and belonging**

- Number of clubs, activities, and events per 1000 residents
- Participation rates in community clubs, events, and community/volunteer activities
- Number of people in community leadership positions per 1000 residents
- Level of resident participation in local elections

**Health and wellbeing**

- Percent of people participating in educational opportunities
- Access to health care services
- Perceived level of wellbeing
- Levels of physical activity

**Diversity of housing choice**

- Housing affordability
- Percentage of people owning their own home
- Diversity of households (numbers, demographics)
URBAN ENVIRONMENT

Vision

Buildings and infrastructure:
The Sea+City precincts are a unique mix of integrated character buildings/structures and high-quality contemporary built forms. Quality materials and flexible designs create a sense of permanence while allowing for changes in uses and operational needs over time.

World-class infrastructure, designed to accommodate current as well as future needs, minimises disruption and facilitates the functional operation of the community. Visible sustainable design techniques and technologies showcase the area’s high level of environmental responsibility.

Diversity and connectivity:
The efficient use of land and a high-quality, compact built form creates an effective, distinctive, and attractive urban environment. A diverse mix of land uses and safe, convenient, and attractive public spaces and streets create a sense of vitality and vibrancy well into the night and on weekends.

Choices in accommodation and services make the area accessible and affordable to all. The sensitive placement of potentially incompatible land uses minimises potential safety issues and conflict of uses. Building design, street layout, and public realm elements create a sense of openness and connectivity with the water, surrounding areas, and the CBD.

Recreation and open space:
Ample and varied recreational opportunities and open spaces accommodate a wide range of recreational and leisure activities. People feel safe in public areas.

Key indicators:

- High performance buildings
- Open space
Auckland waterfront 2040 principle

It is easy to get to open space on the water’s edge’ including... ‘creating a range of open spaces that provide a variety of experiences’
High performance buildings

High performance buildings have a number of positive benefits. They typically:

- Significantly reduce energy and water consumption;
- Encourage resource efficiency;
- Minimise heating/cooling and electricity expenditures;
- Provide healthier and more enjoyable working and living environments; and
- Result in reduced off-site infrastructure needs.

High performance buildings are quickly becoming the new standard. In order to ensure that the Sea+City precincts are leaders in sustainability, it will be essential that all new buildings and retrofits are designed to achieve high levels of performance.

The indicator measures the level of certification for sustainable building design (NZGBC Green Star). The level of certification relates to design rather than the ‘as-built’ is due to the limited control Sea+City Projects Limited will have over the construction, commissioning, and fit-out of many of the buildings within the project area. All parties (developers, contractors, tenants, etc.) should be encouraged to achieve an ‘as-built’ rating equivalent to the ‘designed to’ rating.

There are 38 developable sites. This means at least 4 new buildings/retrofits should obtain 6 stars, and at least 15 should obtain 5 stars.

The targets are set to provide a minimum standard for all designed building upgrades, while providing an aspirational target for landmark or strategic sites.

Monitoring

Records are to be kept regarding the number of new buildings and building retrofits and the relevant NZGBC rating or equivalent. Retrofits will need to conform to criteria (to be developed) in order to be considered in the data, i.e. over a certain percentage of gross floor area.
1 Star 2 Stars 3 Stars 4 Stars 5 Stars 6 Stars

nZgBC star rating (or equivalent) for design of new buildings and conforming retrofits

NZ Government (for all new Grade A offices/refurbishments 2007 - 2012 target)
NZ Government (for all new buildings 2012+ target)
NZGBC “New Zealand Excellence”

nZgBC “Best Practice”

SEA+CITY TARGET AT LEAST 40% OF BUILDINGS 5 STARS

SEA+CITY TARGET AT LEAST 10% OF BUILDINGS 6 STARS

NZGBC “World Leadership”

NZGBC Star Rating (or equivalent) for design of new buildings and conforming retrofits

SEA+CITY MINIMUM STANDARD 4 STARS

1 Star low

2 Stars

3 Stars moderate

4 Stars

5 Stars

6 Stars high
URBAN ENVIRONMENT

Open space

Open space is an essential part of any urban area and has a significant impact on human physical and mental well-being. The quantity, quality, and type of open space provided are all important factors in the positive benefits received from open space.

The amount of open space provided per 1000 residents is a straightforward indicator as measure of the quality of the urban environment for residents.

Examples include:
- New York City 1.3 ha/1000 pop;
- Auckland Isthmus 3.1 ha/1000 pop
- Sydney 4.25 ha/1000 pop
- Tauranga 11.55 ha/1000 pop
- Wellington 17.3 ha/1000 pop

While generally more open space is considered advantageous, in urban areas large amounts of open space are not always desirable where they affect connectivity or access. Furthermore, geography influences the area of open space (i.e. Wellington’s hills). Only relevant urban renewal projects are shown as benchmarks on the barometer.

The target is based on a balance between open space and connectivity. It is expected that the target will be part of the design brief, and will be measured during the redevelopment. The ratio will initially be high, but reduce over time, as more residents populate the precincts.

Monitoring

The ratio shall be measured at least once during final design, and then at regular intervals during redevelopment. A calculation of open space to resident population will be made. A monitoring programme is to be developed.
Hectares of open space/1000 residents

- Auckland CBD 1.6
- Melbourne Docklands, Melbourne 1.87
  Ultimo & Pyrmont, Sydney 1.98
- London Docklands, London 1.4
- Southeast False Creek, Vancouver 2.75
- SEA+CITY TARGET 1.4
## Urban environment action plan

<table>
<thead>
<tr>
<th>MASTER PLANNING</th>
<th>DETAILED DESIGN &amp; DEVELOPMENT</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUILDINGS &amp; INFRASTRUCTURE</strong></td>
<td>- Prepare the Environmentally Sustainable Design (ESD) Guide.</td>
<td>- All parties to implement the ESD Guide.</td>
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<td></td>
<td>- Incorporate sustainable technologies and processes in the built form and public realm</td>
<td>- Sea+City to monitor and enforce the ESD Guide, including undertaking ESD reviews.</td>
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<tr>
<td></td>
<td>- Incorporate sustainable designs and technologies in the area’s infrastructure</td>
<td>- Showcase sustainable technologies and processes</td>
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<tr>
<td><strong>DIVERSITY &amp; CONNECTIVITY</strong></td>
<td>- Maximise the quality of the built form through the use of environmentally sustainable (recycled, reused, carbon neutral), local, low maintenance, and durable materials.</td>
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<td>- Design the built form to maximise potential adaptability and flexibility of uses and spaces over time.</td>
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<td>- Develop a mechanism/body to oversee the construction process to ensure that projects are built to the design specifications and operational performance standards.</td>
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<tr>
<td><strong>RECREATION &amp; OPEN SPACE</strong></td>
<td>- Reflect waterfront and heritage values in the built form through the preservation of character buildings and structures.</td>
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<td>- Minimise potential conflicts between diverse activities and uses through design.</td>
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<td>- Design open space and water edges for a variety of passive and active recreation.</td>
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<td></td>
<td>- Design open space to facilitate infrastructure, non-vehicular travel, planting and installations that contribute to a sense of place.</td>
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</table>
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In future versions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

**Buildings and infrastructure**

- Level of awareness of ESD components implemented into building and infrastructure design
- Benchmark building and infrastructure operation against conventional design

**Diversity and connectivity**

- Number of nuisance/land use incompatibility-related complaints

**Recreation and open space**

- Open space usage
- Crime rate
- Safety of residents, employees, and visitors
- Perception of safety
- User satisfaction – overall satisfaction, convenience, look and feel, amenity, aesthetic
ECONOMIC VITALITY

Vision

Success, contribution and diversity:

The Sea+City precincts have a strong, distinct, and diverse employment base that adds to the city's and region's economic vitality. The marine and fishing industries are an essential component of the area's economic success. A diverse collection of water recreation and associated speciality businesses establishes the area as a key 'water-based' business/industry focal point within the region. A creative/innovative industries hub is located within the Quarter, adding to the vitality of the region without directly competing with jobs located in the CBD.

Tourist-oriented uses and street vendors, kiosks, and temporary and short-term lease facilities add to the area's robust economic base while significantly increasing the level of tourist/visitor activity by creating a more vibrant public realm and facilitating events and seasonal activities. Public/private partnerships and cross-sector business integration create opportunities for synergies not otherwise possible.

A high level of investment in the area and the provision of essential services and high quality infrastructure ensures that the needs of residents, workers, businesses/industries, and visitors are met. The Quarter's diverse mix of retail opportunities/services and wide range of choices in accommodation make the area accessible to all. A high percentage of locally owned businesses results in a strong sense of community and encourages business participation in local affairs. The area's high level of maintenance and security creates a safe and attractive living and work environment and encourages visitors to stay for extensive periods of time and to return often.

Flexibility within the built form ensures that the Quarter's buildings can be easily adapted to meet the needs of changing demographics and employment sectors.

24/7 Activity:

The high proportion of residents that also work and play within the Quarter encourages local spending, alternative forms of transportation, and strong community identity.

Visitors:

The area's high level of maintenance and security creates a safe and attractive living and work environment and encourages visitors to stay for extensive periods of time and to return often.

Key indicators:

- Business diversity
- Business and Employment Growth
- Median Wage
- Vacancy Rate
'Auckland’s working waterfront plays a key economic role......' which includes the principle of ‘......enhancing the unique synergy and character of an active, working waterfront...’ and ‘There is a mix of things to do at the waterfront, making it a great place to live, work and play....’ including ‘Cater for business activities and opportunities that support Auckland’s long term economic development.’ and ‘The port is a vital economic driver for the region’
ECONOMIC VITALITY

Business diversity

Diversity of industry types and diversity in the number and size of businesses is a desirable attribute of a sustainable economy, to reduce the risk of boom and bust cycles. Diversity provides a variety of job types and skill sets, attracting a wide range of workers. It also reduces the reliance on a limited range of resources or economic conditions, increasing the resilience of the economy.

The Sea+City strategy is to promote a vibrant exciting mixed use development and to accommodate a variety of business types and sizes through the variety of buildings, and floor plans and the leasing of public space (including the water’s edge). The Sea+City strategy is also to maintain the marine and fishing industries and develop at least three other key business sectors; retail and entertainment (restaurants, cafés, theatres etc), commercial and services (including ICT), and tourism (including cultural / recreational and accommodation opportunities). This specialisation creates a ‘sense of place’ and capitalises on the harbour edge location and the close proximity of the Auckland CBD.

The indicator for Sea+City is the number of enterprises and employment opportunities per industry, as a percentage of the total number of enterprises and employment opportunities. The benchmarks show the largest industry for each of the benchmark cities or district, either for the total number of business enterprises, or the total number of employment opportunities. The data is measured by Statistics NZ, and is straightforward to access on a neighbourhood scale. Using this dataset allows for comparison with national data.

The Sea+City target is that no single industry is greater than 25% (by number of business enterprises or employees), in an attempt to maintain local economic resilience and diversity.

A complimentary target is:

“that the combined total of the five key industries proposed for the redevelopment are equal to or greater than 75% of the total number of business enterprises and employment opportunities.”

This target will monitor the achievement of the development strategy of specialisation and ‘sense of place’, while allowing for other industries to develop organically to a lesser extent.

Monitoring

Monitoring is to occur on an annual basis, using Statistics New Zealand data at a meshblock level. Both the primary and the complimentary targets are to be assessed.
South Taranaki 2008: Manufacturing 36% of employment
Santa Monica City (US) Target: Top three sectors less than 50% of economic activity/output
South Taranaki 2008: Agriculture, forestry and fishing, 51% of enterprises
Santa Monica City (US) Target: Maximum for a single industry (by economic activity/output), 25%
Wellington City 2008. Professional, technical and scientific, 23% of enterprises
Auckland City 2008. Rental, hiring and real estate services, 21% of enterprises
Waitakere City 2008. Manufacturing, 18% of employment

South Taranaki 2008:
Agriculture, forestry and fishing, 51% of enterprises

SEA+CITY TARGET: MAXIMUM FOR A SINGLE INDUSTRY (BY ENTERPRISE OR EMPLOYEES) 25%
**ECONOMIC VITALITY**

**Median wage**

Wages are a proxy measure for economic and social contribution of the redevelopment. Sea+City are planning for a diverse community and diverse economy, with opportunities for a wide range of workers and skill sets. Higher wages can indicate more successful business, more highly valued employees, and higher skill sets requirements. Comparing industry sectors in the Sea+City precincts against national industry sectors provides an indication of how employees are valued and the successfulness of businesses in the sector.

The indicator of medium weekly income can be easily compared to national data collected by Statistics New Zealand.

The target is that within the Sea+City precincts the median weekly income per industry is equal to or greater than the national median. The target is aspirational, to support the vision that Sea+City has a strong economic base that adds to the region’s economic vitality.

**Monitoring:**

A survey of wages and salaries will be carried out annually or biannually, and compared to national data from Statistics New Zealand. A monitoring programme is to be developed.

The report should analyse and discuss the data and how it is interpreted to indicate economic vitality.
SEA + CITY Sustainable Development Framework Version 1

SEA+CITY TARGET: AT LEAST EQUAL TO THE NATIONAL MEDIAN, PER INDUSTRY

- Business and financial services (2007) $825
- Manufacturing (2007) $776
- Other services (2007) $767
- Wholesale and retail trade (2007) $515
- Agriculture, forestry and fishing (2007) $633
- Total industry (2007) $700
- Wholesale and retail trade (2007) $515

Low: $0 - $100
Moderate: $100 - $500
High: $500 - $1000

Median weekly income ($)
Business and employment growth

The Wynyard Quarter is anticipated to be a major contributor to the city, region, and nation’s economic success in the future. Sea+City have a goal of 8000 jobs to be developed, and a total of 2000 enterprises (at an average of 5 jobs per enterprise) based on NZ average of jobs to enterprises.

To ensure that the opportunities provided through the variety of floor plans, building types and open space areas translate into successful businesses and jobs, the number of business enterprises and employment opportunities should be monitored. The targets are phased in line with the redevelopment programme, and assume that most businesses will be resident within 20 years. The targets are considered achievable, and may be amended during the programme depending on the progress with the redevelopment.

Monitoring

Monitoring is to occur on an annual basis, using Statistics New Zealand data at a meshblock level. Baseline data on the existing business and employment opportunities is required for all existing industries, but in particular the marine and fishing industries.

Reporting is to include discussion regarding the relevance of the targets, based on the progress of redevelopment. Further discussion and analysis may include the nature of the employment opportunities (skill levels, churn, training opportunities etc) and business types (locally owned, owner-operator etc).

Industry definitions are to be in accordance with Australia New Zealand Standard Industrial Classification (ANZSIC) 2006, with any modifications clearly documented.
Sea+City Target: At least maintain the marine and fishing employment opportunities (est. 200, 2008)

- Sea+City Target: 10-year 3000 employment opportunities
- Sea+City Target: 20-year 7000 employment opportunities
- Sea+City Target: 25-year 8000 employment opportunities

Sea+City Target: At least maintain the marine and fishing business enterprises (est. 70, 2008)

- Sea+City Target: 10-year 3000 business enterprises
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- Sea+City Target: 25-year 8000 business enterprises

Sea+City Target: 10-year 3000 employment opportunities
Sea+City Target: 20-year 7000 employment opportunities
Sea+City Target: 25-year 8000 employment opportunities

Number of business enterprises and employment opportunities

- Low
- Moderate
- High

0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

SEA+CITY TARGET: AT LEAST MAINTAIN THE MARINE AND FISHING BUSINESS ENTERPRISES (EST. 70, 2008)
SEA+CITY TARGET: 10-YEAR 800 BUSINESS ENTERPRISES
SEA+CITY TARGET: 20-YEAR 1750 BUSINESS ENTERPRISES
SEA+CITY TARGET: 25-YEAR 2000 BUSINESS ENTERPRISES
Vacancy rate

Demand for office, retail and industrial space is an indicator of the affordability and desirability of the Sea+City precinct as a location to undertake business, and is a measure of the economic success of the area. High occupancy (low vacancy) reflects a successful place to conduct business, and brings foot traffic (employees and visitors) into the public spaces and creates vitality.

The indicator is the percentage of total floor space which is vacant in the Sea+City Precinct. The benchmarks are all low, as they have been measured during periods of high economic activity. The target is aspirational, and relates to all retail, commercial, industrial, entertainment, public space and waterfront / marine space available for lease.

Monitoring

A survey shall be undertaken of floor area and occupancy for all retail, commercial, industrial, entertainment, public space and waterfront / marine space available for lease. This shall be undertaken at least annually, or annualised from regular surveys.
**SEA + CITY Sustainable Development Framework Version 1**

**Moderate Percentage of Vacant Floor Space**

**SEA+CITY TARGET RETAIL:** 1% Annual Average

**SEA+CITY TARGET COMMERCIAL:** 5% Annual Average

- Auckland CBD Commercial June 2008, 9.6%
- Auckland City Fringe Commercial June 2008, 8%
- Wellington CBD Commercial June 2007, 7.07%
- North Shore Retail March 2008, 3.1%
- Auckland Lower Queen Street Retail March 2008, 0.75%
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### Economic vitality action plan

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<td>• Develop an Economic Development Strategy for each of the five key sectors: marine, fishing, retail, commercial, tourism.</td>
<td>• Implement the Economic Development Strategy for each sector.</td>
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</tr>
<tr>
<td>• Develop a Creative Industry Strategy to establish, attract, and support a creative/innovative industry hub.</td>
<td>• Implement the Creative Industry Strategy</td>
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<tr>
<td>• Design for a range of temporary, permanent, and fixed business activities, and for the various requirements of the five key sectors.</td>
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#### SUCCESS, CONTRIBUTION & DIVERSITY

- Promote or encourage businesses that support local employment, and promote or encourage diverse and distinct businesses, using the tenant selection process.
- Encourage the clustering of retail uses through the tenant selection process.
- Seek and support locally-owned businesses through the tenant selection process.
- Actively seek and promote both public/private and cross-sector business partnerships.

#### 24/7 ACTIVITY

- Encourage a high level of 24/7 activity through the provision of a variety of spaces and facilities, and by clustering of businesses.
- Create and implement a Marketing Strategy to market the Wynyard Quarter as a great place to live, work, and visit.
- Implement the Marketing Strategy
- Develop public/private partnerships to ensure the maintenance and security of the area.

#### VISITORS

- Provide high quality and varied event and destination spaces.
- Provide high quality and varied events, services, attractions, and amenities.
- Actively seek and support large-scale/high-revenue events.
Secondary indicators

As development continues, further indicators may be used to measure the performance towards the vision. In future versions of the SDF, these indicators may be further developed with benchmarks, targets, and specific actions and included in the monitoring programme.

**Success, contribution and diversity**
- Percent return on investment (ROI) for key stakeholders
- Percent ROI reinvested into the Wynyard Quarter
- Percentage of businesses with an Environmental Management System or accreditation
- Value added contribution from business
- Business confidence survey
- % of locally-owned businesses

**24/7 activity**
- Total annual event revenue
- User satisfaction – look and feel, safety, care
- Percentage of residents using local businesses/stores
- Store opening hours (average/range)
- Pedestrian and traffic counts

**Visitors**
- Total or average spend of visitors