

# Water Management

**FY19**

## Why this is important to Stockland

Water is essential for environmental and social health. It also enables us to develop and manage our assets and plays an important role in making our communities and assets attractive, healthy and efficient places in which our customers want to live and work.

Australia's climate is characterised by variability, featuring long-term drought, water scarcity (often resulting in water restrictions) and severe flooding. As a responsible property developer, we constantly consider where water is sourced, how efficiently it is used and how quantity and quality is managed. We maintain a strong focus on water management and quality in the development and operation of our assets, including improving the quality of rainwater runoff leaving our project sites, access to alternate water infrastructure and practical innovation to support more efficient water use.

Maintaining effective water management systems to minimise consumption and manage water quality is a key priority. Effective systems deliver significant benefits to the environment and promote performance and cost efficiencies across our projects and operations.

This Deep Dive document is a component of our FY19 sustainability reporting suite, which is publicly available on our [website](#). Our sustainability reporting is third-party assured and drafted in accordance with the GRI Standards.<sup>1</sup> The material in this Deep Dive is supported by a wider collection of performance metrics contained in our [Environmental Data Pack](#).

This Deep Dive is to be read in conjunction with our published approach to water management, available as part of our sustainability reporting suite at [Our Management Approach to Water Efficiency and Quality](#).



## Our key achievements

- NABERS Water ratings undertaken on our Retail Town Centre portfolio, the area weighted portfolio average has improved at 3.5 stars (3.18 stars in FY18).
- Reduced water intensity of our Retail Town Centre portfolio by 4 per cent compared to our FY17 benchmark.
- Installed 17 water sub-meters across 11 logistics assets.
- 15 of our sales offices and other facilities are now connected to either rainwater or centralised recycled water supply.
- Achieved an 8 per cent improvement over local compliance requirements exceeding our Residential Built Form water consumption target by 3 per cent.

<sup>1</sup> The GRI Standards are global standards for sustainability reporting published by the Global Reporting Initiative (<https://www.globalreporting.org/standards/>).

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## FY19 priorities and progress

### Commercial Property

FY19 PRIORITIES	STATUS	FY19 PROGRESS
Reduce water consumption by five per cent by FY20 in our Retail Town Centre portfolio (against FY17 benchmark).	In progress	We achieved a water intensity reduction of 4 per cent against FY17 for our Retail Town Centre portfolio
Reduce water consumption by five per cent by FY20 in our Workplaces portfolio (against FY17 benchmark).	In progress	We achieved a water intensity reduction of 3 per cent against FY17 for our Workplaces portfolio
Achieve a NABERS Water portfolio average of 3.5 stars for our Retail Town Centre portfolio by FY20.	Achieved	Our NABERS Water average for our Retail Town Centre portfolio is 3.5 stars (up from 3.18 stars at end of FY18).
Achieve a NABERS Water portfolio average of 4 stars for our Workplaces portfolio by FY20.	In progress	Our NABERS Water average for our Workplaces portfolio is 3.44 stars (down from 3.57 stars at end of FY18). The decline is attributable to increased vacancy in the portfolio and the exclusion of the Optus Campus (Sydney) from the average whilst we reconcile data from metering systems.

### Communities

#### Residential

FY19 PRIORITIES	STATUS	FY19 PROGRESS
Exceed relevant minimum water consumption compliance standards by five per cent by FY20 in our residential communities.	In progress	We achieved an 8 per cent improvement on water consumption compliance exceeding our residential built form target by 3 per cent.
All new residential master planned communities and built form projects over 500 dwellings to deliver the following modelled water quality targets when discharging water from our site into natural water systems: <ul style="list-style-type: none"> <li>• 45 per cent reduction in nitrogen</li> <li>• 65 per cent reduction in phosphorus</li> <li>• 85 per cent reduction in suspended solids</li> </ul>	Not achieved	We modelled the water quality performance of our Minta project (Vic). Overall the treatment system at Minta is designed to achieve nitrogen reduction of 46.3 per cent, phosphorous reduction of 70.1 per cent and suspended solids reduction of 83.1 per cent.
Continue to progress the feasibility study for Sienna Wood (WA) recycled water project.	Achieved	The Feasibility Study for Sienna Wood (WA) is complete and concluded the delivery of recycled water to Sienna Wood is not feasible due to existing cost effective availability of water supply.

#### Retirement Living

FY19 PRIORITIES	STATUS	FY19 PROGRESS
Establish a water efficiency program that embeds the recommendations derived from the sub-metering and monitoring pilot and seeks to achieve a five per cent water efficiency target for villages with sub-metering by FY20.	In progress	We have identified water efficiency opportunities resulting from the sub-metering and monitoring program currently underway. Our pilot sub-metering and monitoring program has led to a 13.7 per cent increase in water consumption at Tarneit Skies (Vic) and 36 per cent decrease in water consumption at The Willows (NSW).



Complete an operational efficiency review of our three most water intensive retirement living communities. In progress

Monitoring is currently ongoing at Tarnait Skies and The Willows retirement villages to improve data for the establishment of benchmarks. Alternative monitoring solutions are being reviewed.

## Future priorities

### Group

- Develop our next phase of long term water targets (FY21-23).

### Commercial Property

- Reduce water intensity by five per cent by FY20 in our Retail Town Centre portfolio, and in our Workplace and Business Parks portfolio (compared to FY17 baseline).
- Achieve an average NABERS Water rating of 3.5 stars for our Retail Town Centre portfolio, and 4 stars for our Workplace and Business Parks portfolio by FY20.

### Communities

#### Residential

- Exceed relevant minimum water consumption compliance standards by five per cent by FY20 in our residential communities.
- All new residential master planned communities and built form projects over 500 dwellings to deliver the following modelled water quality targets when discharging water from our site into natural water systems:
  - 45 per cent reduction in nitrogen;
  - 65 per cent reduction in phosphorus; and
  - 85 per cent reduction in suspended solids.
- Develop new water quality targets for FY21 and beyond.

#### Retirement Living

- Exceed relevant minimum water related compliance standards by 5 per cent for all new developments commencing within FY18-20.
- Portfolio wide water monitoring options for common areas are continuing to be reviewed.

## FY19 performance and case studies

### Commercial Property

#### NABERS Water Ratings

Following the NABERS Water ratings undertaken in FY19 on our Retail Town Centre portfolio, the area weighted portfolio average has improved at 3.5 stars (3.18 stars in FY18). Seven assets out of 23 received an improved rating while five assets received a lower rating.

Following the NABERS Water ratings undertaken in FY19 on our Workplace and Business Parks portfolio, our combined portfolio average is 3.47 stars. This is a reduction on FY18 (2.57 stars), as a result of decreased average in our Business Parks portfolio due to the exclusion of the Optus Campus from certification.

More information on our NABERS ratings is provided in our [Asset Rating and Certification Deep Dive](#).

#### Initiatives and performance metrics

In FY19 we continued to see the benefits of our comprehensive sub-metering network across our commercial property assets, noting that it resulted in a savings of 83,000kL (in prevented leaks) over the course of the year. Further we installed additional water sub-meters across 11 logistics assets with a total of 17 meters to assist with water management.

We track our water consumption on a per square metre intensity basis as a means of taking divestments and investments into account when considering our water consumption. The table below outlines our year-on-year water intensity in commercial property over the last five years.

#### COMMERCIAL PROPERTY WATER CONSUMPTION INTENSITY (kL/m<sup>2</sup>)

	FY19	FY18	FY17	FY16	FY15
Workplaces <sup>2</sup>	0.62	0.67 <sup>5</sup>	0.64	0.65 <sup>3</sup>	0.58
Retail Town Centres	1.05	1.04	1.09	1.11	1.1
<b>Commercial Property<sup>4</sup></b>	<b>0.96</b>	<b>0.96</b>	<b>0.95</b>	<b>1.00</b>	<b>0.96</b>

#### COMMERCIAL PROPERTY ANNUAL WATER INTENSITY CHANGE FROM PRIOR YEAR

	ANNUAL INTENSITY CHANGE (%)				
	FY19	FY18	FY17	FY16	FY15
Workplaces	-7%	5%	-5%	12%	-8%
Retail Town Centres	1%	-5%	-2%	0%	0%
<b>Total Commercial Property<sup>5</sup></b>	<b>0%</b>	<b>1%</b>	<b>-5%</b>	<b>4%</b>	<b>-2%</b>

## Communities

### Residential

Residential contractor water data varies from year to year due to activities such as filling lakes in large developments and location-specific variables such as natural rainfall, project life cycles, market conditions, site management techniques and local landscaping requirements set by councils. Further, contractors self-report water data and we do not review each contractor's data collection processes. From FY16, we upgraded our contractor templates to enhance reporting processes and to notify contractors if water usage falls outside an expected range.

#### *Water efficiency*

Our current Residential water targets (set in FY17) focus on the performance of built form product which is under our control. These targets aim for a five per cent improvement in the performance of built form product, by FY20, compared with existing water reduction compliance benchmarks established by regulation within the states where we operate. We model and analyse the performance of our built form product in our residential communities to understand water-related initiatives that we could include in our designs, to exceed compliance requirements by five per cent or more. We investigated initiatives including use of recycled water, inclusion of water tanks, and water efficient appliances (such as showerheads, taps, and toilets). As an example, we modelled and analysed the performance of 318 homes constructed during FY19. This year we achieved 8 per cent improvement against water benchmarks. The result is largely attributable to the installation of water efficient fixtures, installation of rainwater tanks and efficient landscaping.

Other water efficiency initiatives delivered in FY19 include:

- The collection of rainwater runoff in basins for reuse for purposes of dust suppression at our South East Queensland projects including Newport, Vale, Pallara, Augustine Heights, Highland Reserve, Pallara and Foreshore.
- Connection of 15 of our sales offices and other facilities to either rainwater or centralised recycled water supply.

<sup>2</sup> Water consumption (and the associated intensity and annual intensity change) has been amended for the Business Parks portfolio for FY17 and FY18. Inconsistencies with the water meter were identified and as a result, sub-metering data has been used to provide a more accurate reflection of actual consumption. Annual movements relate to water leaks identified.

<sup>3</sup> Water usage increase in FY16 was due to various water leaks and an increase in irrigation due to new landscapes.

<sup>4</sup> Consumption intensity data calculated based on Workplace and Business Parks, and Retail Town Centre consumption figures only. Does not include Logistics.

<sup>5</sup> Consumption Intensity data calculated based on Workplace and Business Parks, and Retail Town Centre consumption figures only. Does not include Logistics.

<sup>5</sup> Increase due to water leak at Optus Campus



- Use of low water tolerant species such as Australian native plants in our landscaping, public open space and verges at Willowdale (NSW), Whiteman Edge (WA), Sienna Wood (WA), and Sovereign Pocket (Qld). Parks in Western Australia, such as Sienna Woods, were also delivered during Winter to improve water saving and survival rates of landscaping.
- In-ground rainwater tanks were installed on all our Medium Density Homes at our Altrove project in north west Sydney.
- At Calleya in Western Australia, we require all front landscaping to be designed in accordance with WA Water Corporations Water Wise Garden standards.
- At Aura on the Sunshine Coast, we provide education opportunities for new residents via access to information about water efficiency at display villages and as part of our new resident welcome packs.
- We include non-potable water irrigation options in our developments. As an example, the irrigation of open space at Cloverton in Victoria is serviced by recycled water.
- We have installed recycled water piping to future proof the project at Grandview in Victoria.

### *Water quality*

We use water sensitive urban design (WSUD) strategies at our residential developments to minimise the impact these developments have on water quality. In FY19, one project, Minta (Vic), moved into the development stage where we mandate the development WSUD strategy. The project is split into two catchment areas, of which one of the catchments falls within a larger catchment strategy prepared by Melbourne Water, and does not require delivery of stormwater management assets within our project site. Stormwater treatment is achieved via wetlands downstream of the project site, which is funded via an area contribution scheme aimed to achieve best practice stormwater management targets for the region. The results of stormwater design for the portion of the site, or the catchment that falls within our control is shown in the table below. Minta will achieve 46.3 per cent (target 45 per cent) nitrogen reduction, 70.1 per cent Phosphorus removal (target 65 per cent) however slightly less than the Suspended Solids target with 83.1 per cent (target 85 per cent).

We also minimise pollution during construction through delivery of sediment and erosion control plans. Water runoff is captured in basins and treated with flocculants to allow suspended solids and pollutants to settle out of the water column.

### **Retirement Living**

Our water sub-metering and monitoring pilot at Tarneit Skies (Vic) and The Willows (NSW) has continued in FY19. The pilot allows closer interrogation of water usage at the village level, helping to identify any abnormal changes in water consumption and trends for usage during the day. We continue to target a five per cent water efficiency improvement for the FY18 to FY20 target period for those villages included in the sub-metering pilot and seek efficiency opportunities that can then be scaled across our operational retirement village portfolio.



CASE STUDY

**Using technology to save both water and costs**

Australia's changing climate is placing increased pressure on companies and communities alike, with issues of water inequity, quality and drought negatively impacting large areas across the country. As a developer, owner and operator of assets, the efficient consumption and management of water resources is an important issue for Stockland, our communities, and our customers.

We utilise third party technologies and processes to real-time monitor our water consumption, allowing issues such as leaks and other faults to be identified, escalated and resolved in the most effective way possible. This also allows us to assess if our building management systems are running in the most efficient conditions, providing opportunity to optimise them throughout the year. These monitoring systems have saved us \$357,000 dollars throughout FY19. Some key examples of where issues were detected and resolved at three of our Retail Town Centre's include:

**1. Optimisation of hot water use**

At Stockland Harrisdale (WA) system algorithms noticed constant running water from the main water meter. It was identified that there was a similar use of electricity in the hot water heaters, pointing to a potential correlation of resource consumption. Further investigations revealed that the hot water was being use for frequent grease flushing, which was then able to be limited to flushing after business hours only. It was recommended to limit the operation to four hours, with timers in place to ensure this was followed.

**2. Leaks in irrigation**

At Stockland Shellharbour (NSW), system algorithms detected unusual water use activity, consisting of constant running water from one of the water meters to external taps. After notifying the site team, an investigation determined that there were irrigation leaks in the garden, which was able to be rectified by the gardeners. From notification to resolution, the issue was closed out in less than two days.

**3. Cooling tower fault detection**

At Stockland Rockhampton (Qld), system algorithms detected constant running water from one of the cooling towers, which are used primarily for cooling and ventilation of the centre. A contractor was able to investigate on site and determined that a faulty sump pump was dumping water from one of the cooling towers, causing water to be constantly filling up the tower.

Maintaining effective water management systems to minimise consumption and ensure high water quality standards are crucial to driving cost efficiencies, improving operational performance and minimising the environmental footprint of our assets, from development through to operation.



To access the complete list of documents in Stockland's Sustainability Deep Dive Series, [click here](#).