



Bioregional
Championing a
better way to live

Zibi One Planet Action Plan
Progress Review

May 2018

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Zibi's One Planet Action Plan

The Zibi development project

Zibi – meaning 'river' in the Algonquin language – is a unique redevelopment project by Windmill Development Group and Dream Unlimited Corp; it is located on parts of islands on the Ottawa River, at the crossroads between the cities of Gatineau and Ottawa, Canada.

The first residential building (block 13 – 70 condos) is being completed and the first residents are due to move in October/November 2018. Construction of the next building is planned for Summer 2018 (blocks 2-3) and will include retail and office space.

One Planet Living

Bioregional's One Planet Living® Framework is a practical, intuitive and globally recognised framework, which makes it easy and attractive for everyone to lead happy and healthy lives within the environmental limits of our planet.

It is made up of 10 Principles (see Table 1), which grew out of Bioregional's experience of developing the pioneering BedZED ecovillage in south London. These Principles allow a holistic and interconnected view which addresses social, economic and environmental aspects of sustainability.

									
Health and happiness	Encouraging active, social, meaningful lives to promote good health and wellbeing								
Equity and local economy	Creating safe, equitable places to live and work which support local prosperity and international fair trade								
Culture and community	Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living								
Land and nature	Protecting and restoring land for the benefit of people and wildlife								
Sustainable water	Using water efficiently, protecting local water resources and reducing flooding and drought								
Local and sustainable food	Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein								
Travel and transport	Reducing the need to travel, encouraging walking, cycling and low carbon transport								
Materials and products	Using materials from sustainable sources and promoting products which help people reduce consumption.								
Zero waste	Reducing consumption, re-using and recycling to achieve zero waste and zero pollution								
Zero carbon energy	Making buildings and manufacturing energy efficient and supplying all energy with renewables								

Table 1. One Planet Living Principles

One Planet Action Plan

The Zibi One Planet Action Plan was developed in April 2015. The One Planet Principles have now been embedded into the by-laws of the project, in both the Gatineau and the Ottawa municipalities.

The One Planet Action Plan was updated in December 2017, following changes in the development site. This Annual Review document looks at these changes and reviews the progress made since 2015 and Zibi's 2017 data.

Comment by Zibi

Zibi's vision is to create one of the world's most sustainable and environmentally conscious communities on the planet. To accomplish this, Zibi follows an ambitious One Planet Action Plan through all phases of the project as the Plan is embedded in design, construction and operations.

Highlighted in this report are changes that were made to Zibi's One Planet Action Plan in 2017 as a result of adjustments to the development plan, outcomes from the entitlements process, and further understanding from the Indigenous stakeholders. A fuller report on Zibi's 2017 progress on the One Planet Action Plan is anticipated in summer 2018, as systems become embedded.

In 2018, Zibi will continue to implement the principles of the Plan into design, construction and operations of the project. We intend to address outcomes where we are behind schedule, specifically in the principle of Health and Happiness. Also, we anticipate having our first residents on site by the end of 2018 and look forward to progressing initiatives within the Plan that are relevant to this stage of the project.

Comment by Bioregional

The original One Planet Action Plan for Zibi was both ambitious and detailed. As the project moved from plan to implementation, the project team evolved, but the commitment to sustainability remains. Bioregional are pleased to see the changes to the One Planet Action Plan in this review. While there has been a reduction in the water target which is in line with the local context, in general the changes are about putting more detail and information on the desired outcomes – demonstrating the seriousness with which the project team is taking their commitment to One Planet Living.

At a site-wide level, the project remains broadly on track to achieve its targets and outcomes, although at this stage there is less clarity over the specifics of individual plots. This is a reflection of the areas where the project team retain direct control and where requirements are out-sourced to contractors. While at this early stage nothing has been missed, it will be important to retain oversight of the sustainability performance of the contractors, especially as the project momentum builds. A Sustainability Project Manager will join the team in early 2018 – this is an important development, and a key first task will be to engage with the developers of the first phase to understand what they have achieved and learn from their experience.

Zibi is a hugely ambitious project and Bioregional is excited about tracking its performance in the coming years. While this first review focuses on the updates to the One Planet Action Plan and takes an overview of the progress, it is hoped that subsequent reviews will be able to provide additional detail on both the construction site performance and the operational performance itself.

Review of changes to the 2015 One Planet Action Plan

Only significant changes are taken into account. Changes in wording, where meaning or objective remains the same have not been included.

Original OPAP	Change	Comment
Health and happiness		
N/A	Added: HH5 Support better health outcomes for construction workers	It is important to focus on construction as one distinctive phase of the project and to therefore include construction employees. The target includes indicators around health satisfaction and happiness at work.
Equity and local economy		
ELE2 20% of residents are able to spend part of their time working from home or in a local disability friendly office sharing facilities in the community	Deleted	Flexible working is now well integrated in many workplaces, therefore the deletion of outcome ELE2 does not seem to weaken the overall Principle.
ELE7 Create economic opportunities for First Nations & youth	ELE6 (ELE7 update) Develop Zibi beneficially with and for the Algonquin Anishinabe Nation and people	Zibi has redeveloped its outcomes and targets regarding the Algonquin Anishinabe Nation, to take into account views and wishes from the communities they work with. Incorporating them makes this Action Plan more responsive and stronger.
Culture and community		
N/A	Added: CC6 Create a sense of belonging within Zibi CC7 Create a culture of sustainability throughout Zibi, from design to operations	These new outcomes reinforce Zibi's unique nature and the sense of belonging that will hopefully develop amongst its residents, but also during the design and construction phases. The target indicators include measures of people's awareness of sustainability issues as they work and/or live on the site.
Land and nature		
No changes from original One Planet Action Plan		
Sustainable water		
SW1 Cut residential potable water use to 50L/person/ day through 2020, and 125L/person/day thereafter	SW1 Reduce residential potable water use to 138 litres per person, per day	The original proposal relied on grey water recycling to achieve this target. This proposal has since been removed, but water efficient appliances will be retained throughout. While water conservation is always of

Original OPAP	Change	Comment
		benefit, the target remains ambitious in the context of a relatively water-rich region.
Local and sustainable food		
LSF1 Provide every household with access to a dedicated garden space. Demonstrate participation in on-site food production, gardening, and farm partnerships	LSF1 Provide access to modest garden spaces for 90% of households that want it	The focus of outcome LSF3 is now on education of residents, which will be crucial to achieve long-term results and shifts in behaviour. Food is a key component of an individual's Ecological Footprint, therefore it is important that it is addressed. However, it is understood that the developer cannot 'deliver' lower impact diets.
LSF3 Decrease overall vehicle miles travelled and carbon impact of food consumed by residents by 50%	Deleted	
LSF5 Reduce food waste		
LSF4 Reduction in intake of high-carbon foods (e.g. cheese, red meat, and butter) to 1/3 of Canadian Average	LSF3 (LSF4 update) Engage residents in education program to encourage a reduction in consumption of high-carbon foods	
Travel and transport		
ST2 The proportion of household expenses for transportation will be reduced	Deleted	As this is linked to reducing car use and ownership it is in effect a repetition.
Materials and products		
SM2 Target 90% diversion rate from landfill for construction waste	Outcome now part of Zero Waste	The wood outcome SM4 is now more ambitious, with 80% of wood to come from sustainable sources. Zibi has also enabled itself to include re-claimed and recycled wood, which is better than obtaining newly-grown certified wood. SM6 is now also more ambitious; encouraging consumers to reduce and reuse goes beyond optimising the lifespan of goods and is in line with circular economy principles.
SM4 Use a minimum of 50% FSC wood products by volume in all buildings, with an emphasis on local supply chain	PM4 Reduce reliance on unsustainable wood sources. Instead, use wood products with a minimum of 80% FSC certified content, and/or are re-claimed, recycled or from locally managed supply chains	
SM6 Optimize the use and lifespan of consumer goods in the community	PM6 Embed a culture of reducing and reusing within the development by providing opportunities to share resources	

Original OPAP	Change	Comment
Zero waste		
ZW1 Minimize waste generation so that only 2% of waste can end up in a landfill	ZW1 Divert 70% of total annual residential and commercial waste from landfill	ZW1 now focuses more specifically on recycling, rather than offsite treatment like waste to energy, which is outside the developer's control.
ZW2 Divert organic and recyclable waste	ZW2 Reduce residential waste	The original ZW2 and ZW3 were pulled into one outcome – ZW2, which remains ambitious.
ZW3 Pursue local and regional by-product synergy opportunities. Emphasize a waste-to-product philosophy		A specific outcome on construction waste was added (ZW3). One Planet Living considers all aspects of a construction project, from design, all the way to operations, therefore is it positive that Zibi is focusing on one of the most waste intensive phases of the project.
N/A	ZW3 Reuse concrete demolition waste	
N/A	Outcome added from Materials and Products: ZW4 Target 90% diversion rate from landfill for construction waste	
Zero carbon energy		
ZC1 Meet 100% of building energy needs with renewable power generation by 2020	ZC1 Ensure 100% of Zibi energy needs, including peak energy, are satisfied on a net zero carbon basis	Zibi has made this Principle more robust by including an outcome which specifically deals with some of the emissions associated with construction.
N/A	Outcome added: ZC3 Decrease construction emissions by processing excavated rock on site into aggregates for use in the development	The focus of the outcome ZC1 has shifted from renewable energy to having a development that is net zero carbon. This provides Zibi with increased flexibility to achieve zero carbon energy, which remains the ultimate objective of the Principle.

Summary of progress

	Not able to assess progress at this stage
	Substantially or entirely completed, or a high degree of certainty over deliverability
	On track for a long term target
	Substantially incomplete, behind schedule or doubt over delivery

Construction is underway and the majority of the targets and strategies are on track, with none of them expected to be delivered at this stage. However, there is a lack of data management at this stage, which is hampering the opportunity to demonstrate what has been achieved and accurately track progress. This is highlighted in the actions that have been marked as red.

One Planet Principle	One Planet Goal	Progress
Health and happiness	The creation of community green spaces and play areas will provide ample infrastructure for everyone to lead active lifestyles within the community. Coordinated community gatherings and initiatives will give residents the opportunity to be active in shaping and participating in their community	
Equity and local economy	A community for all, Zibi will incorporate a range of housing opportunities to ensure a diverse mix of owners and renters. The development includes commercial and retail spaces that are preferentially allocated to local and socially responsible business, creating jobs and giving opportunity to small, ethically run enterprises	
Culture and community	The redevelopment of the area will give citizens the opportunity to access a site of great cultural relevance. The redevelopment, through signage, architecture, and art will educate the public on the rich history of the site. Designing visual and physical connectivity to neighbouring attractions and landmarks will integrate the site into the existing destination networks	
Land and nature	Starting with the remediation of this former industrial site, Zibi will restore the area as a biologically diverse ecosystem. Carefully designed landscapes and greenspaces will provide micro-habitats for indigenous species, thereby increasing biodiversity on the site	

Sustainable water	As a whole, the development will reduce potable water consumption by 15% compared to the regional average of 163L of water per person per day. This is to be achieved through the use of super efficient appliances and employ non-potable water for sewage conveyance and landscaping, where feasible. Zibi's landscaping will provide storm water remediation to prevent run-off pollution	
Local and sustainable food	Zibi will serve as a model for integrating agriculture into the urban landscape. Easy access to seasonal, local, and sustainably produced food will help residents enjoy healthier, fresher diets and support local farms and vendors, while reducing the carbon footprint of their diets by 60% as compared to a conventional one	
Travel and transport	Sustainable transport is based on both reducing the need for energy reliant transportation by giving priority to bikes and pedestrians and, when energy reliant transport is needed, provide infrastructure for efficient and low-impact alternatives such as ride-share and electric cars	
Materials and products	When considering the materials comprising the development, a life-cycle analysis approach will be implemented. This approach takes into consideration the environmental impacts of all materials over their respective lifetimes. New technologies and innovative construction solutions will minimize the environmental impact of assembly	
Zero waste	Offer waste alternatives to increase waste diversion rates, including recycling and compost programs, to more than 70%. Establish a sharing culture by encouraging residents to share resources	
Zero carbon energy	Zibi's objective is to create a zero carbon community during operations. In addition to sustainable materials and sustainable transport, this will be achieved by creating a district energy system whose aim is to eliminate 100% of the community's reliance for building operations on GHG emitting energy sources by 2025	

Review of progress against Zibi's One Planet Action Plan

This section reviews the progress against the targets set out in Zibi's One Planet Action Plan; it takes into account the latest changes made to the Action Plan in 2017.

	Not able to assess progress at this stage
	Substantially or entirely completed, or a high degree of certainty over deliverability
	On track for a long term target
	Substantially incomplete, behind schedule or doubt over delivery

Health and Happiness

Progress

	Outcomes	Targets	Indicators	Progress
HH1	Increase happiness for Zibi residents	>75%	Percentage of residents that say they're 'happy' with their lives	No residents have moved in yet
HH2	Create opportunities for community involvement	>70%	Percentage of residents that feel actively involved in their community	No residents have moved in yet
HH3	Facilitate learning and creative expression opportunities for residents	12	Number of events and/or classes held per year within community spaces	No residents have moved in yet
HH4	Support better health outcomes for residents	>85%	Percentage of residents that indicate an overall satisfaction with their health	No residents have moved in yet
HH5	Support better health outcomes for construction workers	>85%	Percentage of workers that indicate an overall satisfaction with their health	No monitoring undertaken
		>85%	Percentage of workers that indicate increased satisfaction working at Zibi as compared to other sites	No monitoring undertaken

Key achievements and challenges

A lot of the activities planned for this Principle will occur during the operational phase of the project. The targets aimed at residents of the site will be assessed after the first residents have moved in, in Autumn 2018. The role of the eco-concierge when they start in late 2018 (see Culture and Community Principle) will be to monitor and assess targets HH1-HH4.

The project is behind in fulfilling its Health and Happiness construction targets. This is something that will need to improve in 2018, as the next phase of construction begins. Although contractors are aware of the targets for training and satisfaction levels, no activities or trainings have taken place. One Planet Living as well as health and safety trainings are scheduled for new employees. The project also plans to provide guidance on healthy eating to construction workers.

Equity and Local Economy

Progress

	Outcomes	Targets	Indicators	Progress
ELE1	Plan for 7% affordable housing	7%	Percentage of affordable housing, measured by number of affordable units compared to the total number of units	No affordable housing in the completed residential building (block 13), but the target for 7% across the project remains
ELE2	Promote and give precedence to smaller, local and/or ethically run enterprises	50%	Percentage of retail space storefronts that contain small, local, and / or ethical businesses, compared to the total number of storefronts at Zibi	No leases signed yet; training with leasing representatives done
ELE3	Engage Zibi residents in Fair Trade programs and products	One fair-trade business in place by the time 50% of retail storefronts are occupied	Deploy Fair Trade guidelines in retail strategy	No leases signed yet; training with leasing representatives done
ELE4	Provide opportunities for all community members to democratically participate in governing and managing Zibi	Set up association within 1 year of first occupancy	Create a community wide Residents' Association with documented democratic governance procedures	No residents have moved in yet
ELE5	Create a socially responsible tourist destination	By year 5, have 1000 tourists per year visit Zibi	Number of tourists per year	Not applicable yet
ELE6	Develop Zibi beneficially with and for the Algonquin Anishinabe Nation and people	At least 20 individuals are bridged from on-reserve work to off-reserve work experience, throughout the project life cycle	Zibi will prioritize qualified Algonquin Anishinabe and Indigenous peoples for employment opportunities at the project. Indigenous workers are employed continuously throughout the construction phase, and/or as other service-providers to the project	14 Algonquin workers employed for the remediation work (phase 1); of these 4 workers retained for further work with contractors

		At least 2 opportunities for long-term investment throughout project lifecycle	Invite First Nations as preferential partners for long-term investment opportunities. Provide detailed information for these opportunities as soon as they are available and provide support as needed to ensure First Nations partners understand the opportunity and how it works	Placeholder for 10% ownership by Algonquin of the District Utility company.
		Preferential pricing program details to be in place prior to launch of first residential project. Details of Indigenous inclusion to be included in formal affordable housing strategy	Offer a preferential residential pricing program for Indigenous purchasers, and include Indigenous members as part of affordable housing strategy, to ensure that Indigenous culture is not only present at Zibi, but that Indigenous people truly live, work and play at Zibi	Pricing programme in place; target completed

Key achievements and challenges

Multiple stakeholder workshops were held in 2017 looking at how to approach affordable housing in the development. The work culminated in 2 detailed reports for implementation (one for each municipality) issued in early 2018. These reports provide details on Zibi's affordable housing strategy. The plan is that Zibi will meet the ELE1 target overall, although it is unlikely that any affordable housing will be built in the first 5 years. The target of 7% is a net improvement compared to the national industry business-as-usual; with no policies encouraging companies to build new affordable housing, most developers build none. The 7% target also refers to housing for those without the means to buy a house, i.e. social housing, rather than subsidised housing for key workers.

Leasing representatives have received training on sustainability and One Planet Living; they are aware of the ELE2 and ELE3 targets. For ELE3, they are targeting a Fair Trade coffee shop for phase 1.

The work done with the Algonquin communities on employment (ELE6) is promising, and some of the workers have already found work off reserve, either with contractors working on Zibi or with contractors on other developments.

In the formation of the District Utility Company, a 10% placeholder for Algonquin share ownership is earmarked; they are expecting to make a formal proposal in 2018. This will be one of the investment opportunities offered in ELE6. There are also discussions with Algonquin communities to invest in a building on-site.

Culture and Community

Progress

	Outcomes	Targets	Indicators	Progress
CC1	Create a cultural identity that reflects the history of the locale throughout the development	Implement the municipally-endorsed Heritage Plan	A Heritage Plan, endorsed by Municipal Heritage Planners and regional Algonquin communities developed and implemented at Zibi	Heritage Interpretive Plan in place since March 2017
CC2	Adapt and re-use at least four existing historic industrial buildings	4 Buildings	Number of heritage buildings preserved	Plans to preserve and repurpose 2 facades and 2 full buildings in phase 1
CC3	Promote local art and support the local arts community	50%	Percentage of art installations on site that are created by local artists	Tender planned for 2018
CC4	Create connectivity with the surrounding communities of the National Capital Region	All network connections completed before 40% of the building area is complete	A developed network of connected pedestrian and cycling pathways to and from adjacent communities	Planned
CC5	Engage with Algonquins to ensure First Nations history, presence and culture are reflected throughout the development	Mention traditional Algonquin territory in 100% of public speaking engagements, media events and published reports; 15% of place names will be in Algonquin. Visitors to Zibi know that Zibi is the Algonquin word for River, and Ottawa-Gatineau is within Traditional Algonquin Territory	Raise public awareness that project lands are within unceded traditional Algonquin territory through public statements and acknowledgements, signage, wayfinding and place names	2-3 public speaking engagements per month on average
		Minimum of 2 Advisory Council Meetings per year	Establish a standing advisory council of Algonquin Anishinabe to continuously guide on project matters related to First Nations culture, history and language	Council established: 6 meetings held in 2017; 8-10 in 2016

		Minimum of 2 youth engagements per year	Indigenous youth engagement through internship opportunities, site tours, Zibi staff presentation, or other educational programming	Outreach related to employment complete to Mohawk community in Montreal, but programme not yet set up
CC6	Create a sense of belonging within Zibi	>70%	Percentage of residents that 'know their neighbour	No residents have moved in yet
CC7	Create a culture of sustainability throughout Zibi, from design to operations	80% of all residents and workers will indicate that their awareness of sustainability issues and solutions has increased year-over-year	A measurable difference in environmental and sustainability awareness among contractors, tenants and residents	No activities implemented or planned for construction workers
		80% of all residents and workers will indicate that their awareness of sustainability issues and solutions has increased year-over-year	Implement a full time Eco-Concierge to develop programs and implement cultural norms around sustainability until the development reaches 30,000 sq.m of buildings, and then transfer the leadership over to the community association/BIA	Recruitment planned for 2018

Key achievements and challenges

The development of the Heritage Interpretive Plan (CC1) is a great success; it is a reference document for the interpretation of heritage within Zibi's public and open spaces, including all parks, plazas, pedestrian alleys, pathways, and streetscapes. Its implementation will continue throughout the project.

Targets CC2, CC3 and CC4 have all been planned and accepted into the City entitlements on the land; as the project progresses, these targets will be implemented. Specifically on the network of connected pedestrian and cycling pathways: there are many off-site considerations with the wider municipalities that are beyond Zibi's control.

Through this Principle, Zibi is working with all the Algonquin communities that express interest. Letters of intent have been signed with 4 communities (1 of which represents 10 communities) and they are now working on agreeing Collaborative Benefit Agreements (CBAs). These CBAs will establish what these communities want to get out of the project and what the project can offer. The CBAs should be signed by summer 2018 and will provide a framework for the relationships between Zibi

and Algonquin communities. A great achievement of Zibi is to have worked successfully with the Advisory Council since 2014, which advises on Algonquin protocols and culture.

An 'eco-concierge' will be hired in August/September 2018; the person's role will be to manage the community programme and to measure community-derived data. The role will span several Principles, including the Health and Happiness Principle; the person will be in charge of programming of public spaces, tenant training (e.g. how to recycle), user training (e.g. how to get to the bus stop), as well as farm to table programmes. At the moment, this position will be fully funded for 5 years, it is hoped that a new revenue stream will be identified to allow the position to continue after this period.

Land and Nature

Progress

	Outcomes	Targets	Indicators	Progress
LN1	Remediate contaminated land and revitalize the area to maximize the benefit to natural ecosystems within the development	100%	Percentage of the site area that meets provincial regulations after remediation	Target on-track – 25% of land remediated site wide (35% in Gatineau; 0% in Ontario)
LN2	Reintroduce native vegetation and increase biodiversity of plants and animals	14%	Percentage of site area dedicated to park space	Phase 1 will exceed the 14% target by early 2019
		400%	Increase biodiversity of plants and animals by 400%	Planned, but not yet executed
		All parks will contain at least 1 plant of significance to First Nations people	Reintroduce Indigenous plants of historic or cultural significance to First Nations people	Planned, but not yet executed
LN3	Design lighting strategies to minimize the effects of light pollution	Meet LEED requirements	Meet Uplight and Light Trespass Specifications for Exterior areas per the LEED v4 Rating Systems	Planned, but not yet executed
LN4	Foster a love for nature through education and by increasing opportunities to interact with the natural world	50% of all residents will increase their time "in nature" comparing their personal baseline prior to Zibi to one year after living at Zibi	Participation in nature programs	No residents have moved in yet

Key achievements and challenges

Land remediation (LN1) on the side is on-track, with 51,460.57 million tonnes of remediated soils completed at the end of 2017 and a further 47,578 million tonnes in process on site (removed from the bedrock, and being processed and sorted before leaving the site). By the end of 2018, 50% of the land on the Gatineau side, and 20% on the Ottawa side will have been remediated.

Sustainable Water

Progress

	Outcomes	Targets	Indicators	Progress
SW1	Reduce residential potable water use to 138 litres per person, per day	138L	Potable water consumed per resident, per day (L)	No data available yet
SW2	Reduce potable water use in landscaping by way of planning drought tolerant species and using nonpotable means if permanent irrigation is required	0%	Percentage of potable water used for permanent irrigation systems	Planned, but not yet executed
SW3	Utilize non-potable water for sewage conveyance in buildings where feasible in order to meet water consumption targets	10%	Percentage of non-potable water used for sewage conveyance	The first residential building is targeting 20%
SW4	Achieve near-zero export of pollutants via stormwater outflow	Total Suspended Solids will be reduced by 80% prior to discharge	Pollutant levels in stormwater outflow	Infrastructure planned, but not yet complete

Key achievements and challenges

The first building of the project is almost complete and residents should be moving in by the end of 2018; the 138L target (SW1) was specified in the building targets. Data will be available once the first residents have moved in.

Although the first residential building does not meet the 10% target of non-potable water used for sewage conveyance (SW3); however, this target should be met when averaging water consumption levels throughout the site.



Photo 1. Zibi is committed to achieving near-zero export of pollutants via stormwater outflow. Photo credit: Paul Harrison

Local and Sustainable Food

Progress

	Outcomes	Targets	Indicators	Progress
LSF1	Provide access to modest garden spaces for 90% of households that want it	1.4 m2	Area of food-growing garden spaces onsite per household (m2)	None in first residential block, but the 1.4m2 target across the project remains
		1:10	Ratio of food-growing garden spaces to households	None in first residential block, but the 1:10 target across the project remains
LSF2	Create a community scale food distribution network to improve connections between food and farmers and increase access to local, fairly traded, and organic food	>70%	Percentage of Zibi residential tenants that purchase at least 25% of their food (by value) that is organic, or local, or Fair Trade	No residents have moved in yet
		5% in year 1, growing to 25% by year 5	Percentage of Zibi residential tenants that participate in Zibi's various farm-to-table programs	No residents have moved in yet
LSF3	Engage residents in education program to encourage a reduction in consumption of high-carbon foods	50% of all residents will report a decrease in high-carbon food consumption year over year	Percent reduction in the consumption of high-carbon foods	No residents have moved in yet

Key achievements and challenges

The LSF1 target will be addressed in further phases of the project; however, in the interim, the new Sustainability project manager will be looking at temporary solutions for growing food. The other targets (LSF2 and LSF3) will be organised by the eco-concierge once the first residents have moved in.

Travel and Transport

Progress

	Outcomes	Targets	Indicators	Progress
TT1	Reduce carbon dioxide (CO ₂) emissions associated with local transportation of residents	20%	Percentage of parking spaces with electric car charging stations	First building designed with 10%
		0.7	Ratio of car parking spaces per household	First building designed with 1:1 ratio
		Modify roadway to reduce car lanes from 4 to 2, implement new bus shelters and transit schedule improvements, sidewalks and bike-way in both directions	Modify the Eddy-Booth corridor to prioritize active methods of transportation and transit over personal automobile	Planned, but not yet executed
		Auto Driver: 25%, Auto Passenger: 10%, Transit: 45%, Non-motorized: 20%	Achieve modal split targets to decrease personal vehicle trips	Planned, but not yet executed
TT2	Reduce the travel distance for basic goods and services to within walking distance	>90 at 50% build-out	Community Walkscore	No data available yet

Key achievements and challenges

The first building is below the target (TT1) for percentage of parking spaces with electric car charging stations and ratio of car parking spaces per household; however, it is expected that the first residents will be more car dependent. All buildings in phase 1 will have a 1:1 ratio of car parking spaces per household, but this will decrease to 0.5 ratio in subsequent phases. Percentage of parking spaces with electric car charging stations will be 20% for all other residential buildings.

The modification of the Eddy-Booth corridor (TT1) is planned to start in 2019/2020. This is a great achievement for Zibi and the National Capital Region, as it is the first time that the two cities have cooperatively worked together on an inter-provincial crossing to achieve goals for pedestrians, cyclists, and transit in lieu of the automobile.

A series of Transportation Demand Management strategies to achieve the modal split targets (TT1) are planned but not yet implemented. The first residents will be provided with free transit passes to discourage car use.



Photo 2. Zibi is committed to reducing carbon dioxide emissions associated with local transportation of residents

Materials and Products

Progress

	Outcomes	Targets	Indicators	Progress
PM1	Retain and repurpose 50% of the existing buildings on-site (excluding the primary mill buildings)	50%	Percentage of existing building area retained and repurposed (excluding primary mill buildings)	Target exceeded in phase 1
PM2	Repurpose or recycle 90% of all demolition materials (excluding hazardous materials), of which a minimum of 5% by volume should be reused	90%	Percentage of demolition materials that are recycled or repurposed (by weight)	Full data not yet available; specified in contracts
		5%	Percentage of demolition materials that are reused on site (by weight)	Full data not yet available; specified in contracts
PM3	Reduce the embodied carbon of buildings	20%	Percentage of materials that contain recycled content	Full data not yet available; specified in contracts
		20%	Percentage of materials that are locally sourced or manufactured	Full data not yet available; specified in contracts
PM4	Reduce reliance on unsustainable wood sources. Instead, use wood products with a minimum of 80% FSC certified content, and/or are re-claimed, recycled or from locally managed supply chains	80%	Proportion of timber or wood products reclaimed, reused or certified by FSC (by value)	Full data not yet available; specified in contracts
PM5	Meet or exceed established best practice standards for indoor air quality	Achieve LEED IEQ V4 Indoor Environmental Quality: Prerequisites 1 and 2, plus credit IEQc3, plus a minimum of 3 points from IEQc1 and/or IEQc3	LEED v4 IEQ standards	Data not yet available; specified in contracts
PM6	Embed a culture of reducing and reusing within the development by providing opportunities to share resources	1	Number of sharing centres and/or related web-based sites established at Zibi	Not yet applicable

Key achievements and challenges

The targets for this Principle have been included in the specifications of all construction documents and contracts. Although there is limited data available at this stage, they are confident that the targets will be achieved over the course of the project.

The performance of Phase 1 will provide valuable insight into the challenges and opportunities of achieving these targets and so assessment of this performance should be made a priority. Furthermore it will be important to work with the contractors to ensure that they remain engaged with their supply chain.



Photo 3. Zibi is repurposing demolition materials in unique ways throughout the community. Photo credit: Barry Parkinson

Zero Waste

Progress

	Outcomes	Targets	Indicators	Progress
ZW1	Divert 70% of total annual residential and commercial waste from landfill	>70%	Percentage of residential and commercial waste diverted from landfill	No residents have moved in yet
ZW2	Reduce residential waste	291 kg/person/year, a 20% reduction compared to municipal average	Weight of residential waste produced per person, per year	No residents have moved in yet
ZW3	Reuse concrete demolition waste	75% re-use on site, 20% re-use off-site, 5% clean fill	Percent of concrete demolition waste that is crushed and re-used as aggregate on site	Crushed concrete Gatineau: 33% reused on-site, 1% landfilled due to oil contamination, 66% taken off site for reuse on other projects; crushed concrete Ottawa: 5% landfilled due to oil contamination, 95% still onsite for potential reuse on site as needed
ZW4	Divert 90% of construction waste from landfill	90%	Percentage construction waste diverted from landfill (by weight)	No final data available, but trend is around 85%

Key achievements and challenges

The targets regarding residential and commercial waste (ZW1 and ZW2) will be managed by the property management team and the eco-concierge; this will be applicable once the first residents move in.

The construction waste targets (ZW3 and ZW4) have not been met, although a lot of effort is being made to reuse demolished concrete onsite. Over the next phase of construction, this will have to be urgently addressed and assessment of this performance should be made a priority.

Zero Carbon Energy

Progress

	Outcomes	Targets	Indicators	Progress
ZC1	Ensure 100% of Zibi energy needs, including peak energy, are satisfied on a net zero carbon basis	100%	Percentage of total building energy demand met through zero carbon sources	Planned, but not yet executed
ZC2	Decrease building energy demand by 30%	30%	Percent reduction in building energy demand during operations, compared with a code-compliant baseline building	Planned, but not yet executed
ZC3	Decrease construction emissions by processing excavated rock on site into aggregates for use in the development	60% on site, 40% off site	Volume of excavated rock processed on site for re-use as aggregate on site, off site in the city's core	Gatineau: 22% of blast rock reused on-site and 78% hauled off-site for use in other projects

Key achievements and challenges

At the moment, Zibi has a complete design that will achieve the zero carbon target, although the final energy model is not yet available (ZC1 and ZC2). There has been good progress made on the development of the district heating network, with the formation of the Zibi Community Utility company, in partnership with Hydro Ottawa Holding Inc.: they are in the final stages of negotiating the contract to take the post-industrial waste heat from the neighbouring paper mill; and the installation and construction of the district energy pipe network is starting in March 2018. During this first phase, Can\$4 million will be invested in the construction of the plant and for laying pipes. In the interim, the first building will function on a temporary gas-fired plant.

They have not met their target on reducing emissions from excavated rock (ZC3). As construction continues, this will need to be addressed, though this is a very specific commitment by the project demonstrating the attention to detail in its One Planet Action Plan.



Photo 4. Zibi's energy demand will be met through zero carbon sources. Photo credit: Paul Harrison