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The Trans of a Landscape



Traveling along a Seaton road.
Illustrations courtesy Peter Bosselmann.



This article is about a landscape in the southern portion of Ontario, in Canada. Since the late eighteenth century, when European settlers started farming here, the land has been transformed. Over time settlers laid a regular grid of fields on a rolling terrain that was once covered by dense forests.

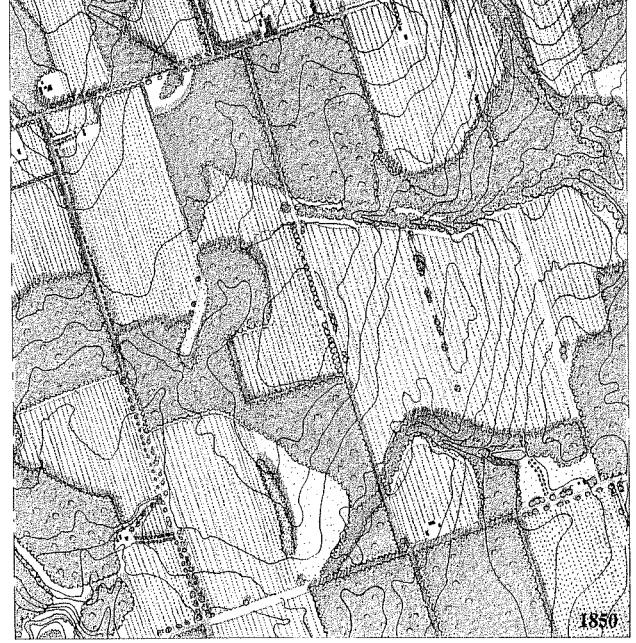
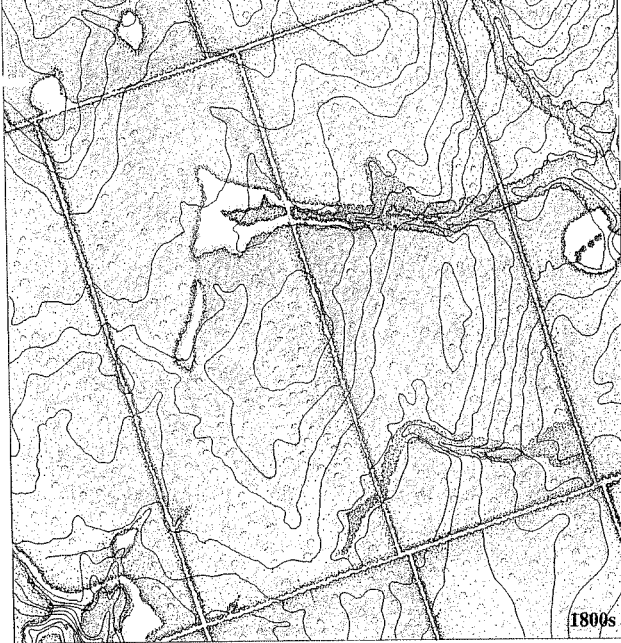
The horizons are open, and a traveler driving on straight roads sees the view open up when reaching a rise and watches vistas close when traveling through a swale. Hedgerows framing the fields rise and fall with the land. A person can look at the landscape and understand how

formation

its form evolved as a part of nature and part of the cultural history of the province.

In the township of Pickering, northeast of Toronto, the forests have started to grow back. The landscape has begun to work against the regularities of roads and fields. Unused road allowances have reverted back to strips of dense bush and many fields, no longer cultivated, show patches of young trees.

Twenty-five years ago farmers were forced to sell this land. The government distinguished this township for urban development and prepared plans for a second Toronto airport. Facing strong opposition, plans for the airport and a town of 225,000 people were dropped in the mid 1970s. In the late 1990s, after a quarter century of little or no farming, enough time has passed for this landscape to show signs of a transformation back to an earlier condition. Also, within society, enough time has passed to consider new solutions in this long-lasting controversy between local groups and government.



The transformation of the Seaton landscape from 1800 (left) to 1850 (center) to 1900 (right). Side roads evolve as tree-lined alleés, hedgerows subdivide the concession lots and the imprint of the ravines remains.

In early 1994, Ontario's provincial government announced a design competition to explore the future of the Seaton lands. Neither the federal nor the provincial government was considering plans for a new airport any longer, but an alliance of local community and environmental groups had convinced the Ontario Ministry of Housing to re-examine the potential of a new town on a portion of the site. The alliance re-emerged with most members recalling their more than twenty-year history of opposition to provincial and federal government authority over their land. The momentum that brought this alliance together again was triggered partly by the success of its previous opposition, partly by the perceived threat to a large land holding still designated for urban development, but without a detailed plan.

The expropriation had forced local farmers to give up 38,000 acres. About 18,000 acres had been set aside for the airport and continues to be held by Canada's federal government. The other 20,000 acres are controlled by the province.

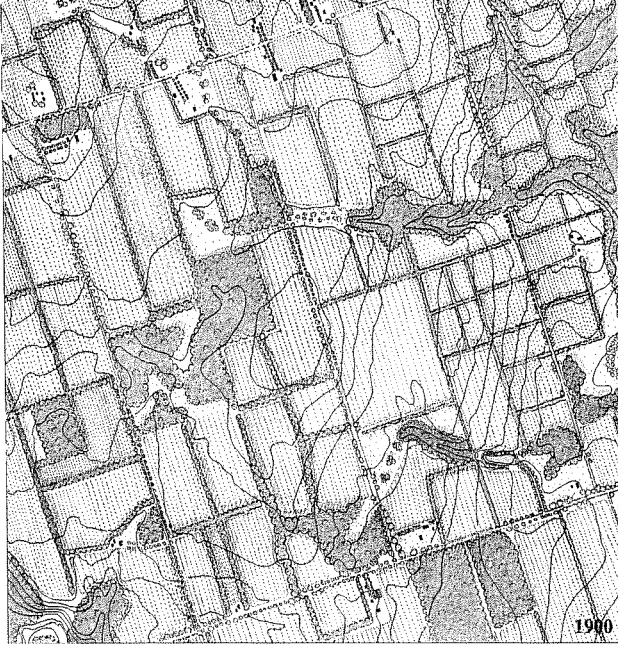
After the abolition of the airport plans, part of the province's land was placed into an agricultural preserve and land was given back to farmers, not as property, but on a long-term lease. The province designated 7,000 acres for urban use and renamed it Seaton. The long list of smaller leaseholders includes a quarry, a refrigerator dump operator, a concrete recycling plant and a mushroom factory. The province also approved a new three-mile long arterial road reaching from the eastern to the

western border of its land, but not connecting to places beyond; thus traffic is usually very light.

The greatest threat to the land and the final motivation for local interest groups to convince the Ministry of Housing to clarify the future of the Seaton lands came from a proposal to expand a regional waste disposal facility that would serve roughly one third of the Toronto metropolitan area. Last summer, Ontario's provincial government announced that it was cancelling the project.

The town described in this article is one of three proposals for the site invited by the province. Like earlier town schemes, it might never become reality. But if it were built, it could have been designed with an understanding of the existing landscape and its transformations.

In announcing the competition, the minister of housing adopted three guiding principles advocated by thirty-five representatives of the local and environmental groups. First, all activities on the provincially held lands were to be guided by a principle of ongoing stewardship: "protecting, restoring and enhancing for future generations the agricultural, natural and cultural assets." Second, the housing minister agreed with the alliance that the development of a compact urban community of up to 90,000 people on 3,500 acres of the land would be consistent with the overall vision of stewardship. Third, the residents of the new city were to depend not on commuting to Toronto for work, but on workplaces (a total of 45,000) within the new city.



The brief also explained that competition would not commit the province to implement any of the winning schemes. Rather, it described the competition as a planning exercise to create a new town model applicable for Seaton and elsewhere in Ontario.

Understanding the Seaton Landscape

The visual landscape is public property, but it is a property undergoing constant change. Over the course of two hundred years, the Seaton landscape has been transformed incrementally. What we see today was formed by eighteenth-century land divisions into road allowances and 200-acre farmlots. The subsequent clearing of forests and further subdividing of the farmlots established a visual structure delineated by hedgerows, fence lines and tree-lined alleés. Orchards and gardens visible from the road give the landscape a domesticated appearance. This manmade structure was laid on a topography shaped by glacial forces — a rolling terrain traversed by occasional streams and rivers. The woodlots, though second growth, and

the forested riverbeds are remnants of these natural conditions.

Twenty years of public ownership have continued to transform the landscape. The hedgerows have grown wild, orchards planted by farmers remain unchecked, formal alleés and farm roads are overgrown, and in remote places wild lilies cover the floors of the ravines. New geometries have been introduced, such as the curving alignment of Taunton Road, an arterial with two large, curving concrete bridges, and the manmade contours of large landfill and quarry operations.

The transformations of the last twenty years contrast with the form of the landscape. Stewardship of the land, as defined in the competition brief, implies a transformation of the land that respects and restores the elements of the landscape. When approached with care, these elements can help structure the form of a new city. Thus an image of a city can emerge that can be seen and understood as part of the ongoing transformation of the landscape.

The Elements of the Seaton Landscape

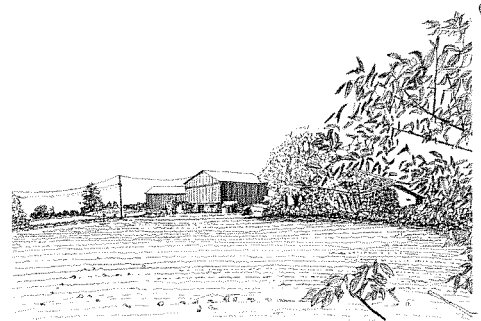
The Horizon. The local horizon has important meaning in a landscape without well defined boundaries. The horizon should be preserved in order to maintain the proportions of the landscape. In the new city, building heights should stay below the tops of trees. Only occasionally and deliberately should buildings silhouette above the form of the land.

The Hills. Hills in the Seaton landscape are subtle rises. The early settlers frequently selected raised locations to build farmhouses and barns. The buildings of the city should follow the hill contours, thus the elevated places

the horizon



the hills





in Seaton will continue to hold the eye as important visual destinations.

In Seaton, one particular chain of hills forms an edge that can be traced along the 145-meter contour line. This edge, in places an escarpment, was formed during the last ice age by the shoreline of prehistoric Lake Iroquois. The edges of these hills rise abruptly; wherever they are found within the new city, land below them and along them should be kept open. This will make the natural landform visible to people moving alongside the hills or looking out over the terrain below and toward Lake Ontario.

Ravines. Springs, brooks, creeks and rivers flow through Seaton in a network of ravines, each with its individual shape. Places with running water are full of attraction and sometimes mystery. Running water is important to the landscape because of its movement, light quality and constant seasonal change. Animal life is drawn to ravines. The ravines of Seaton should be preserved. Together, they can structure the new city. They can mark its natural boundaries and define its major districts.

The Tree-Lined Alleés. The regular pattern of land divisions laid a large-scale grid over the landscape. Regardless of topography and riverbeds, every 1,320 feet a north-south road allowance crosses an east-west concession road. Most road allowances in Seaton were never established as side roads; some existed only as paths leading to

farms. Many are overgrown. But the double rows of mature trees that line these allowances form strong visual axes in the landscape. The design of the new city should maintain and keep the alleés as boundaries of urban quarters, and as major visual corridors connecting the city to the farm land.

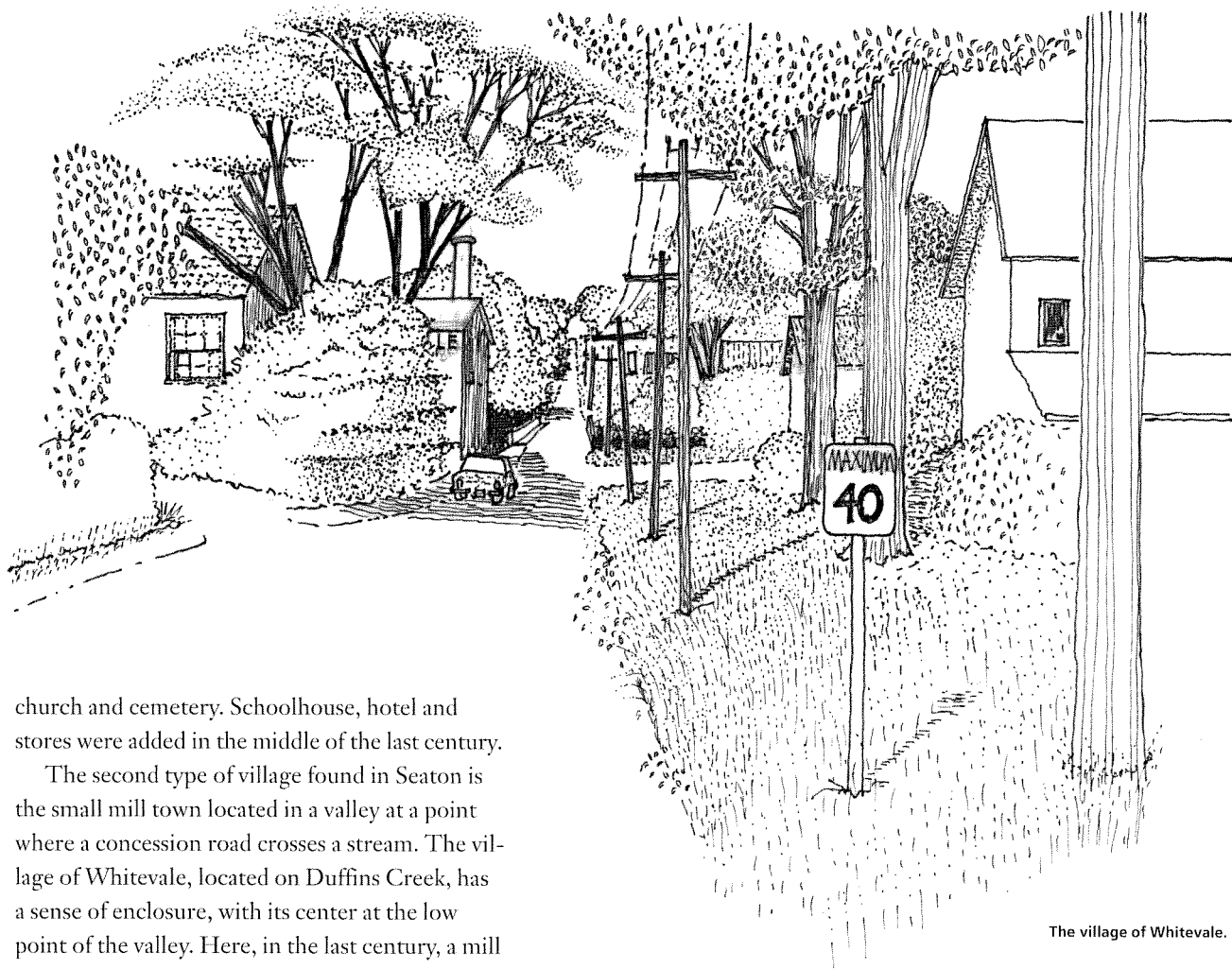
Hedgerows. Seaton's hedgerows are single lines of trees or dense rows of shrubs. They form a linear geometric grid, frequently in areas where crop rotation was practiced and where new crops needed protection from constant northwest winds. After spring plowing when field stones surfaced, the farmers gathered the stones and carried them to the edge of their fields. Over time, shrubs and trees grew into dense green lines above these stone walls.

The design of the new city should maintain and keep the hedgerows as part of its visual structure. Taller than two-story residential structures, the hedgerows form edges defining the smaller neighborhoods as part of the larger urban quarters.

Milltowns, Hamlets and Villages. In Seaton, like elsewhere in Ontario, small rural settlements often originated at the intersections of road allowances. The village of Brougham, for example, is located at the intersection of a concession road (one that later became the King's Highway) and a north-south side road (one that connects to the main highway along the lakeshore). Located on a rise of land, Brougham started around a

tree-lined alleés





The village of Whitevale.

church and cemetery. Schoolhouse, hotel and stores were added in the middle of the last century.

The second type of village found in Seaton is the small mill town located in a valley at a point where a concession road crosses a stream. The village of Whitevale, located on Duffins Creek, has a sense of enclosure, with its center at the low point of the valley. Here, in the last century, a mill pond and race were constructed. Whitevale grew in a linear fashion along the concession road between two offset intersections with side roads (the original survey failed to establish perfect correspondence between the farmlots on opposite sides of the concession road). These offset intersections contribute to the enclosure of the village in that they define its edges.

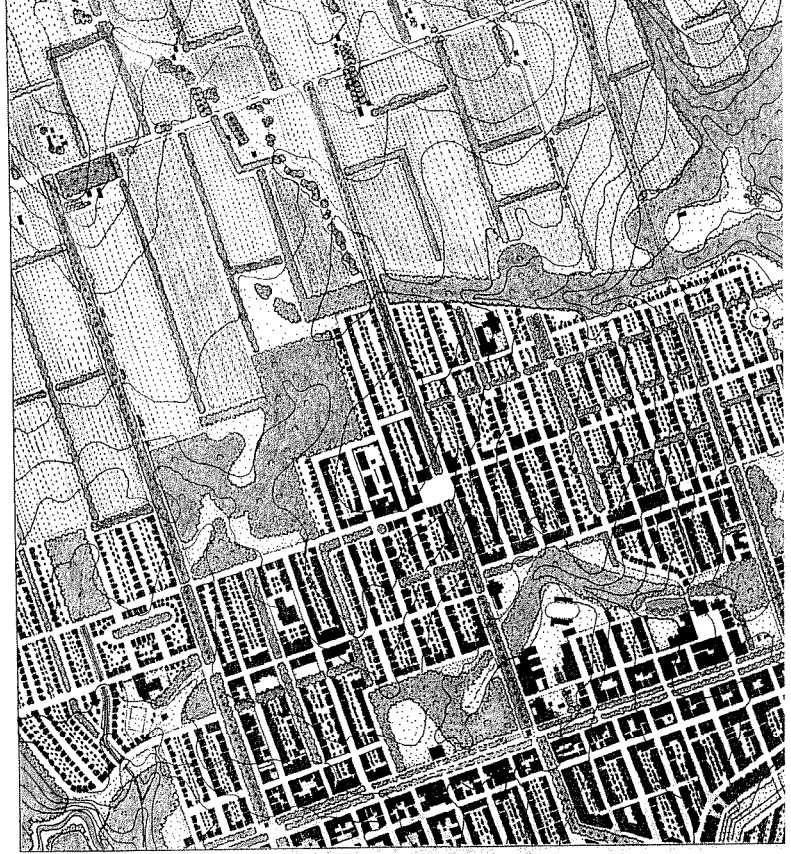
Never connected to a major highway, nor to the railroad that came to Pickering township at the end of the last century, the village has largely kept its nineteenth century scale. Whitevale Road, which connects the milltown to the land-

scape, has remained within its original right of way. The road follows the topography, dipping down to cross creeks and rising up to places where farm houses are located. Dense vegetation near creeks and large trees near farms make clear the rise and fall of the road.

Whitevale Road and the village should be preserved. Traffic generated by the new city of Seaton should be directed away from Whitevale Road. The village should not be incorporated into the new town; Whitevale should continue to exist in its own landscape setting.

hedgerows





The continued transformation of the landscape. Above: two stages in the development of the town of Seaton. Below: the evolution of the Seaton's first center.

The Quarry and the Landfill. The quarry has a distinctive form, a sloping plane cut into the land by large earthmoving equipment. This large quarry provided the nearby garbage disposal site with the necessary material to cover layer upon layer of refuse. Thus, over time, next to the quarry a manmade hill has emerged.

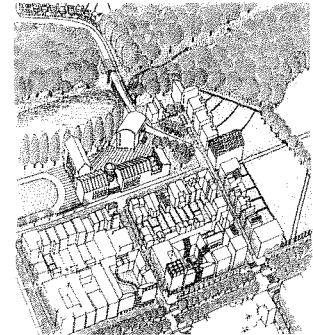
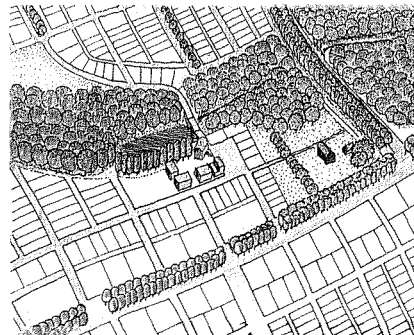
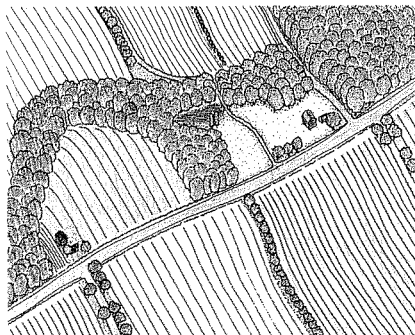
The quarry site cannot be restored. It cuts 15 to 25 meters deep into the sloping landscape. This manmade edge, located exactly on the pre-historic shoreline of Lake Iroquois, provides a continuation of the escarpment.

Here, near the most damaged part of the Seaton landscape, an existing railroad traverses the site. A new station should be located here, and this is where the new town should have its

beginning. The new hill cannot be used as a building site for the foreseeable future, but will become a major park for the town of Seaton with places for summer and winter sports activities.

The Elements of the Town

No manmade element has dominated the visual landscape of Seaton as strongly as the eighteenth-century survey grid, which delineates roads and farmlots. All original measurements were made using iron chains measuring 66 feet long, the width, for example, of all road allowances. Regardless of topography, men with chains and an axeman moved in straight lines up and down the land, through ravines and thick forests. Along the lines they laid upon the land, the



axeman periodically marked a significant member of a tree, deforming the tree's natural growth and making the lines visible until roads could be cleared.

The frequent lack of correspondence between the alignments of side roads is an advantage in the layout of streets in the new towns. The grid's irregularities are obvious along Taunton Road: they create closure at the end of some streets, limiting vistas, thereby shortening perspectives. Over time, buildings located at offset intersections will become memorable due to their prominent locations.

The elements of the town should make reference to the original grid, taking advantage of its regularity and irregularities. Wherever ravines, alleés and hedgerows intersect, the town grid should yield to the landscape elements. The many interferences, both natural and manmade, will create relief in the form of the city and will help structure the city into identifiable districts, quarters and neighborhoods.

The Streets and Blocks. North-south streets should be more frequent than east-west streets. Most houses will be oriented along north-south streets, giving both street-facing and rear yard-facing facades nearly equal amounts of sunlight.

To encourage walking, the distance between north-south streets should not exceed 300 feet. The distance between east-west streets should vary, generally exceeding 300 feet but never exceeding 500 feet. Streets should be as narrow as possible to encourage slow driving speed, in order to balance the movement of cars, pedestrians and bicyclists.

A number of streets should take on special roles in the make-up of the town. Some follow hedgerows; some are designed as alleés following the former farmroads or sideroads.

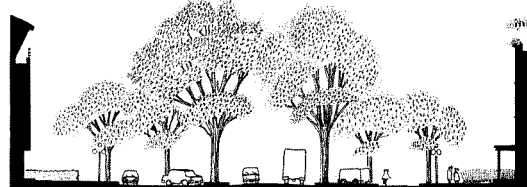
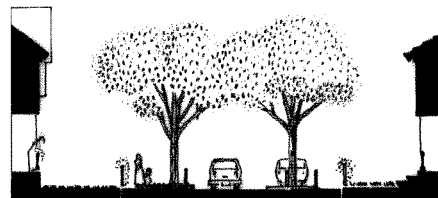
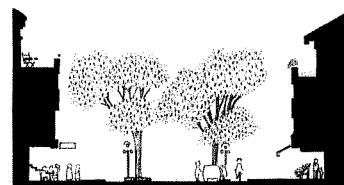
One road, however, should be different from all others: the rebuilt Taunton Road. Currently it is designed for high-speed through traffic, but in the new town it should be tamed. It should be designed as an urban boulevard, lined with commercial and residential buildings. It should have a tree-lined right of way for public transit and intersections approximately every 300 feet to slow traffic. Intersections every 1,320 feet, at the bound-

aries of the old farm lots, will stand out in the design of Taunton Road. They will be the major crossroads of Seaton. The intersecting alleés, lined with double rows of maple trees, should structure the town into quarters and connect the town with the rural landscape to the north.

The Center of Seaton. When Seaton reaches its ultimate population of 90,000, it will have a commercial center, but such a center would not function well while the town is at an early stage. At the beginning, Seaton should have a center that is intimate in scale and connected to the landscape.

The south fork of the Ganatsekiagon Creek, which runs a short distance parallel to Taunton Road, forms a small lake near the crossing of an old farm road. The lake, lined with tall trees, and the existing hedgerows following the farm road give this place a strong identity. Seaton's first center should be located here.

The center should consist of a small square that faces a row of stores and a school with an



Sections of some of the types of streets that would be built at Seaton.

auditorium, which should be Seaton's political and cultural gathering place until the new town reaches a population of 30,000 to 50,000. At that point, a larger center with space for commercial, cultural and political activities should be established between Taunton Road and the railroad station. But the former center should live on in its more intimate scale.

Thus the town will grow from three nodes: the initial center, the station along the existing railroad near the former quarry, and a major north-south crossroad at a high point on Taunton Road. Early in the existence of the town public transit will connect the three points of this triangle. This initial loop, ideally a streetcar line, will be expanded and connected to a larger system of streetcars and buses.

What it Would be Like to Live in Seaton

Living in Seaton would be unlike living in any recently built community and more like living in a neighborhood of Toronto, a city that has maintained a compact urban form and whose residents have continuously opted for higher transit use and lower car use.¹

The first generation of Seatonites would be choosing a place where they could expect to live and work, where the convenient layout might allow them to walk to school, work and stores, use public transportation for longer trips and give up most of their automobiles (with the possible exception of one per family). Residents would be selecting a place where the past is incorporated, where people can sense and experience the proximity of nature, the ravines, escarpments, forests and fields, and where people can, if they wish, have food grown nearby.

In Canada, like in many other societies, an increasing number of people are living away from traditional places of employment, such as central business districts and large industries. Many workplaces have moved to smaller communities at the edge of metropolitan areas. Seaton would be such a place. But unlike other suburban communities, Seaton would combine workplaces with housing, and due to its greater concentration, Seaton would provide services that only traditional cities can provide.

What it Would Take to Build Seaton

Large urban infill projects have been built in a number of Canadian cities at densities comparable to or higher than those proposed for Seaton (ranging from a minimum of 12 units per acre, rarely exceeding 60 units per acre, and averaging 24 per acre) But an entire new town has not been built at these densities in a similar location for many decades.

Such a compact town surrounded by agriculture or forests had been the model for Seaton proposed by the ministers' steering committee. But this goal is at odds with conventional land economics. Preservation of good agricultural land is an important public goal in a region with a relatively short growing season. But land can only be farmed with good prospects if the expectation exists that good agricultural land will indeed be protected by permanent farmland preservation. Also, forestry and alternative agricultural products would have to be considered that compete better with crops produced by Canada's southern neighbors recently united in a free trade agreement.

In fact, a compact community like the one illustrated here is perceived by developers as not feasible under current market conditions. Restricting development into a compact form with clearly defined boundaries is at odds with a society that has traditionally enjoyed an abundance of space.

Providing a local employment base for future Seaton residents is another difficult goal. Neither the Canadian government nor the province can be expected to start a new university or to decentralize one of its programs or ministries and move it to a new location like Seaton. Nor is a large corporate employer expected to make such a move. Seaton will have to compete with other municipalities for small- and medium-size employers.

Clearly the Ministers' Steering Committee was aware of these issues, but for the committee Seaton was a special case. Government had taken control of the land by eminent domain and had not returned the land to former owners when it abandoned its plans for the airport and the associated urban development. The committee felt the government was still under the obligation to use the land for a public purpose. A compact new

town would fulfill such a purpose because it would preserve farm land or forests, provide savings in infrastructure cost, reduce dependency on fuels, reduce daily commute times, provide cleaner air and make children and elderly people less dependent on others for transportation to educational, health and recreational services. In short, the steering committee believed that political leaders in the government should define the rules of the market for a variety of social, economic and environmental reasons. Then Seaton as illustrated here could become a reality.

The key to controlling Seaton's compactness will be limiting the amount of land to be developed and monitoring the pace at which land is absorbed for growth. Only the Ontario government, as the owner of the land can exercise such a long-term commitment.

The second most important implementation strategy will be the design of the street layout because more than any other element of a town, the road grid defines the size of developable parcels. Distances between roads also define the pattern of circulation, including convenient walking distances.

The third strategy will be to set a range of allowable residential settings, including detached single-family houses, attached houses and walk-up apartments mixed with stores, services and employment areas.

The commitment toward building Seaton extends beyond the government; future political leaders of Seaton would have to make difficult choices in keeping the town compact. Currently, suburban employment centers accommodate fifteen workers on one acre of land.² At Seaton, that ratio means 3,000 of the city's 3,500 acres would be needed to accommodate 45,000 jobs. Also, Seaton could not afford to build its 30-plus schools on five-acre sites, the size expected by school boards; classrooms would have to fit on three-acre blocks. Large-scale retailers would have to build stores facing streets with little parking in the rear of stores.

Turning down building applications that would be approved "as of right" in neighboring communities will require a political will and commitment of all residents. Establishing among the future residents a commitment to the landscape

has been the most important consideration in the design of Seaton. Future residents will be the guardians of a town design that is structured by landscape elements. People will understand the value of the tree-lined alleés connecting the town with the landscape. They will understand the history of hedgerows and the importance of their continued maintenance. They will understand the ravines as clear and definite boundaries of the town. These elements provide an understandable concept of the town's structure. They can be experienced by everyone.

This article has tried to answer the question of what it would take to design a city that lives within the landscape. The question of what it would take to build such a city would be faced again and again by the Ontario government. It would have to demonstrate a long-term commitment to planning development and controlling the town's growth through the incremental re-privatization of the land. And the question of what it would take to maintain such a city would be faced again and again by its future residents and their representatives. An understanding of the ongoing transformation of the landscape should help answer this question.

Notes

1. Jeff Kenworthy and Peter Newman, "Toronto — Paradigm Regained," *Australian Planner* 11:1 (1994): 137-147.
2. Kevin Lynch and Gary Hack, *Site Planning* (Cambridge, Mass.: MIT Press, 1984), 468.

Historical references were drawn from John van Nstrand, *Seaton, the Form of its History, A Socio-Economic History of the Seaton Lands within the North Pickering Planning Area* (Toronto: Province of Ontario, Ministry of Housing, 1992)

Acknowledgements

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