Ivy Green

Ivy Green – at the corner of Ryan Street and Cedar Hill Road

Road and Ryan Street in the community of Oaklands, Victoria. The area of the green space is just over 1,100 square metres but, without the areas dedicated to road utility allowances, the park space is 780 square metres. With the exception of a few small openings, totalling less than 50 square metres, the canopy is entirely closed by 17 Garry oaks dominated by a single large specimen 79cm in diameter but including others ranging from 50 to 15cm diameters. All are in a healthy state.

The utility of attempting restoration of a tiny, apparently healthy, patch of land may be may seem questionable but it is significant in a number of ways.

The fragments of the endangered Garry oak ecosystems within the City of Victoria parks system are, with the exceptions of those within Beacon Hill Park and Summit Park, very small. Most are less than .5 hectares. They are widely spaced and often in a degraded state, often as with this small patch, with only the Garry oak trees and none of the other elements remaining. Few other areas of public land in the city are maintained in a natural state (One notable exception is the southern section of the grounds of Government House) and those in private hands are always threatened by development. In other words, in the City of Victoria habitat patches for native species are small and connectivity is poor.

The Garry Oak Meadow Preservation Society, founded in Victoria 20 years ago, began the task of informing the public about the threatened status of the Garry Oak Ecosystem. They commissioned a number of studies, published a newsletter, and held meetings. At one of the meetings of GOMPS a number of local environmental scientists came together to form the Garry Oak Ecosystems Recovery Team whose purpose was to affect the recovery of the Garry Oak and associated ecosystems as a whole, rather than to attempt the recovery of individual species. While one occasionally hears that the English brought the oaks with them, most people are aware of the scarcity of intact Garry oak ecosystems and that there are a large number of rare and endangered species that depend on them.

Awareness has not automatically brought behaviour change. Many trees are still destroyed by development, despite bylaws intended to curb their loss. Outside of parks habitat for native shrubs, herbs, birds, animals, and insects are rarely afforded any form of protection. Where laws exist to protect streams, migratory and nesting birds, enforcement is limited. Park spaces in the city are limited and competition for the use of space in them is fierce. Many people continue to see natural spaces as undeveloped, under-used land. Demands for the use of these spaces range from conversion (In Beacon Hill Park alone councils have considered everything from placing the BC Provincial Museum on the hill to the more recent suggestion that the woods at the southeast corner of the park, one of the few Douglas fir/Grand fir stands left in the city and the only Cottonwood wetland, be cleared for placement of a new fire station.), to simple misuse: the dumping of garden and household refuse, to massive overuse: dog exercise areas ground to mire and transient and homeless campers setting up residence.
Ivy Green sits at the south end of a community driven project that has sought to address many of these issues.

In 2004 the City sought to sell a lot at 1436 Ryan Street for development. The lot is a 660 square metre space on the north side of Ryan Street, on the steepest section of the hill, between Asquith and Avery Streets. It was withheld from development in the creation of the original subdivision, largely because, in its 17 metre width it drops almost 10 metres from west to east and there is a similar drop from south to north, rendering it extremely difficult for building and access. The Oaklands neighbourhood objected strongly, and public meetings were organized through the Oaklands Community Association, in November of 2004, in protest. They asked council to set the lot aside as a park or as an ecological reserve. Council voted in 2005 to set the land aside to preserve the Garry oak ecosystem. As there was no ecological reserve system in place in the City land structure and neither the City nor the residents wanted the land developed as a park, its status remained undefined. As part of an RNS program course I undertook to do a site assessment on the lot. I found the lot covered to 2 metres or more in Himalayan blackberry vines, Poison hemlock, Laburnum, and Ivy and, with the assistance of other City staff, cleared it down to ground level, leaving the Nootka rose and Snowberry that had survived.

OAKLANDS COMMUNITY ASSOCIATION
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TEL: 370-9101 FAX: 370-9102 WWW.OAKLANDSCOMMUNITYCENTRE.COM

Ryan Hill in Jeopardy??

The city-owned lot at 1436 Ryan Street is being surveyed for possible sale and development. This could have a significant impact on Ryan Hill.

You are invited to a meeting to hear what the city managers are planning and to give an opportunity for the neighbourhood to ask questions and give suggestions.

- Victoria Greenways
- Garry Oaks
- Sidewalk, stairs
- Road Allowance
- Blasting
- Safety
- Traffic

for more info:
www.blockcommunities.com

Neighbourhood Meeting

Tuesday, Nov 30 5-6:30pm
St Alban's Church
1468 Ryan St.

Everyone Welcome

Fired by their success, some of the community set out upon related projects.

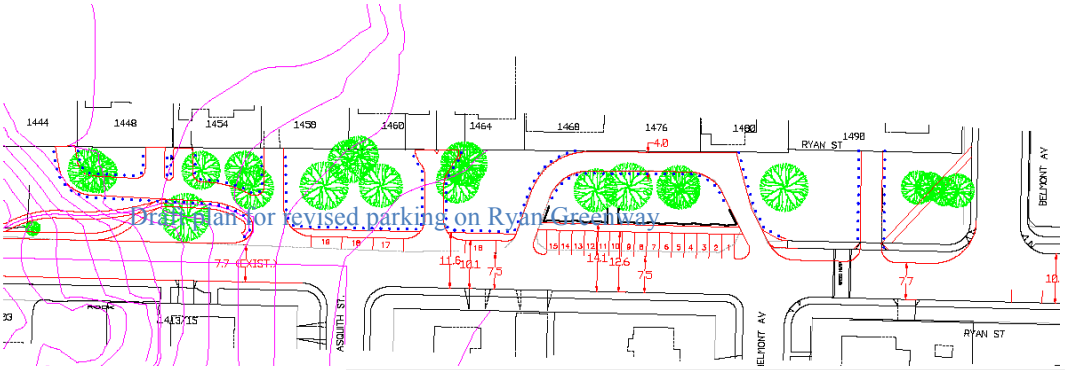
In 2005, one group, lead by Patricia Johnston, a local native plant gardening advocate, set out to create a native garden and refuge space on Holly Green, a small triangle of land bounded by Belmont Avenue, Holly Street, and Hamilton Road, across Belmont Avenue from Oaklands Elementary School and the offices of the Oaklands Community Association. The area, a lawn with a few large, exotic trees, including a London plane, a Deodar, and a Pissard plum, was quickly transformed with native shrubs and herbs inside split rail fences. Chip paths were added for access and the section along Belmont Avenue was planted with Camas salvaged from other sites. The green was renamed Oaklands Green and a notice board and entry structures defined the purpose of the space.

Oaklands Green – bounded by Belmont Avenue, Holly Street and Hamilton Road

Another group, lead by Ludo Bertsch, applied for and received the City's first Greenway Grant in 2006 to create Ryan Street Greenway – a stretch of wide boulevard and road right-of-way on the north side of Ryan Street – from Belmont Avenue to Cedar Hill Road. The long, narrow triangle of right-of-way is an artifact of the original layout of the City which, in this area, was done by magnetic north. The triangle is the result of correction to true north. For many years it was used as parking for Saint Aiden's Church and by the residents of the 1400 block of Ryan Street. Much of the adjacent 7 metre wide boulevard saw similar use between the very large Garry oak trees. The road right-of-way was covered with a mixture of blasted rock and road-base gravel which had been heavily compacted by vehicle traffic over several decades.

Ryan Street boulevard/road allowance – 2006

The proposed greenway project differed from standard greenways in that, while pedestrian and human-powered traffic – the usual focus of greenways – were to be facilitated, natural values were considered paramount. Through 2007 plans were created and refined to limit the width of parking areas to a more usual size, add pedestrian paths, and to re-naturalize the remaining areas.



Draft plan for revised parking on Ryan Greenway

All of the projects were to be maintained by the community volunteers with minimal support from City Parks.

In November of 2007 work began on the Greenway. Using City equipment the compacted road-right of way was excavated to a depth of .33 metres and refilled with soil from an excavation site with characteristics similar to that found in a Garry oak meadow. Paths were laid out and filled with wood chips. Plants were obtained through the City and planting began that winter, carrying on through the spring of 2008. The work involved students from two local, independent schools and a number of community members.

Beginning of construction on Ryan Greenway – removing compacted soil and rock – November 2007

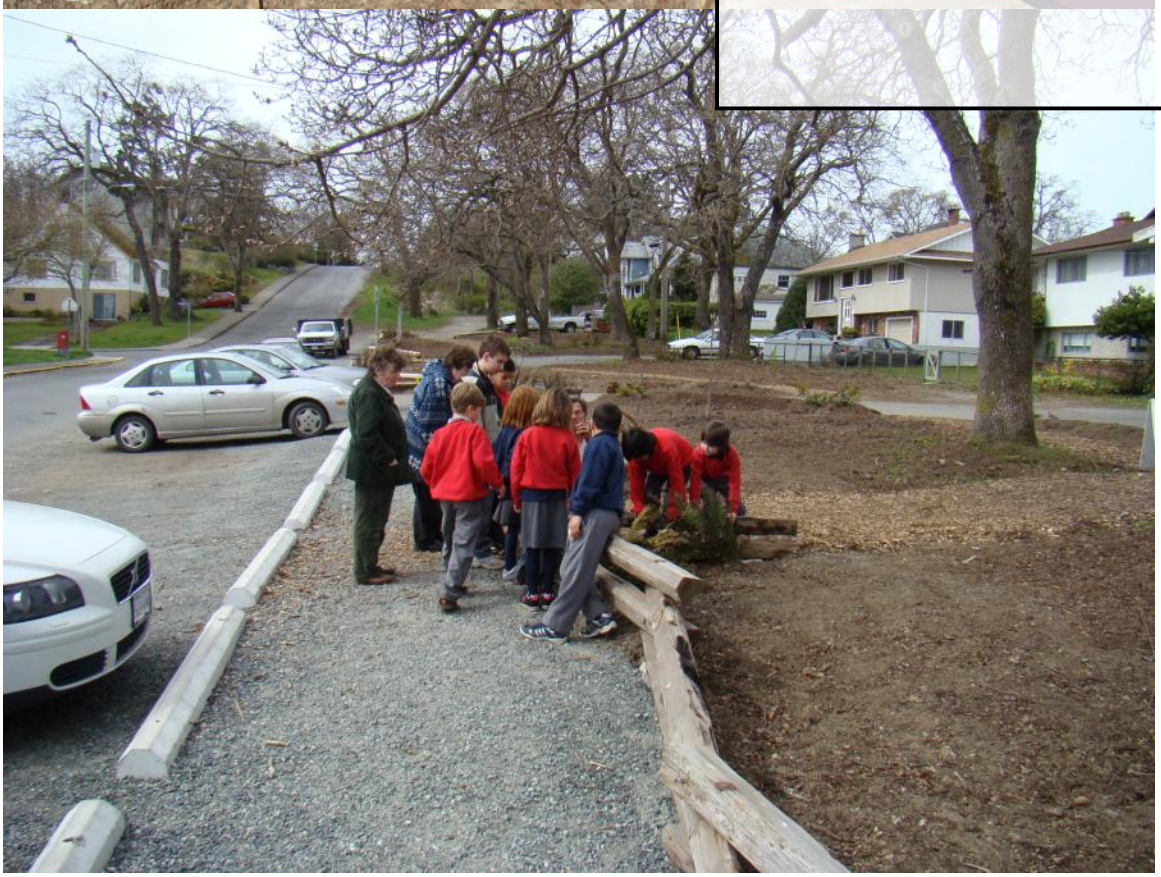
Construction on Ryan Greenway –
on-site soil mixing – November 2007

Construction on Ryan Greenway –
completed looking east – December 2007

Construction on Ryan Greenway – completed parking – December 2007

Construction on Ryan Greenway – completed looking west – December 2007

Planting the Ryan Greenway with the help of local elementary school students – March 2008



Gravel parking

Rebecca Aldous
News staff

Dunc Malcolm/News staff

Ludo Bertsch stands by as a City of Victoria Parks crew dumps bark mulch on the Ryan street boulevard.

After four years of planning, it came together in three days.

With rake in hand, Oaklands neighbourhood resident Ludo Bertsch watches a truck unload mulch onto the last remaining spot of gravel. This is his victory trophy, a jumble of leaves and dirt that he now has to spread across a nearly three-block long strip of land alongside Ryan street that was previously a drab, lifeless gravel lot used for parking.

"We took out seven loads of garbage and replaced it with nine loads of mulch," Bertsch said of cleaning up the refuse-littered space.

In 2003 he decided to look into how to beautify the non-curbed section of land just west of Oaklands elementary school.

A $20,000 grant from the Victoria city greenway campaign and a lot co-ordination between city staff and the surrounding neighbourhood has helped Bertsch's vision become a reality and protected 14 Garry oak trees standing on the land. A wooden snake fence is up and soil has covered the tire tracks from vehicles that used to park beneath the trees' boughs.

"The big challenge was dealing with the traffic," Bertsch said.

Lansdowne pre-school lost some of its parking space in front of their building. Kim Atkinson, the pre-schools early childhood educator, said parents had concerns about the space cut. Parents are now having to park further down the street, but Atkinson said the green space will be more sightly than the mud pit it was before.

"I am glad it is being beautified. It's the trade off," Atkinson said.

Alana Stewart, Oaklands Community Centre's community development co-ordinator, said the space, which is around the corner from the centre, will provide many opportunities for programming.

Oaklands park across Ryan from the community centre is generally used but it floods in the winter time, she said. The greenway will be another option.

"For so long this has been a gravel pit," Stewart said.

lot transformed

"Now it is beautiful."

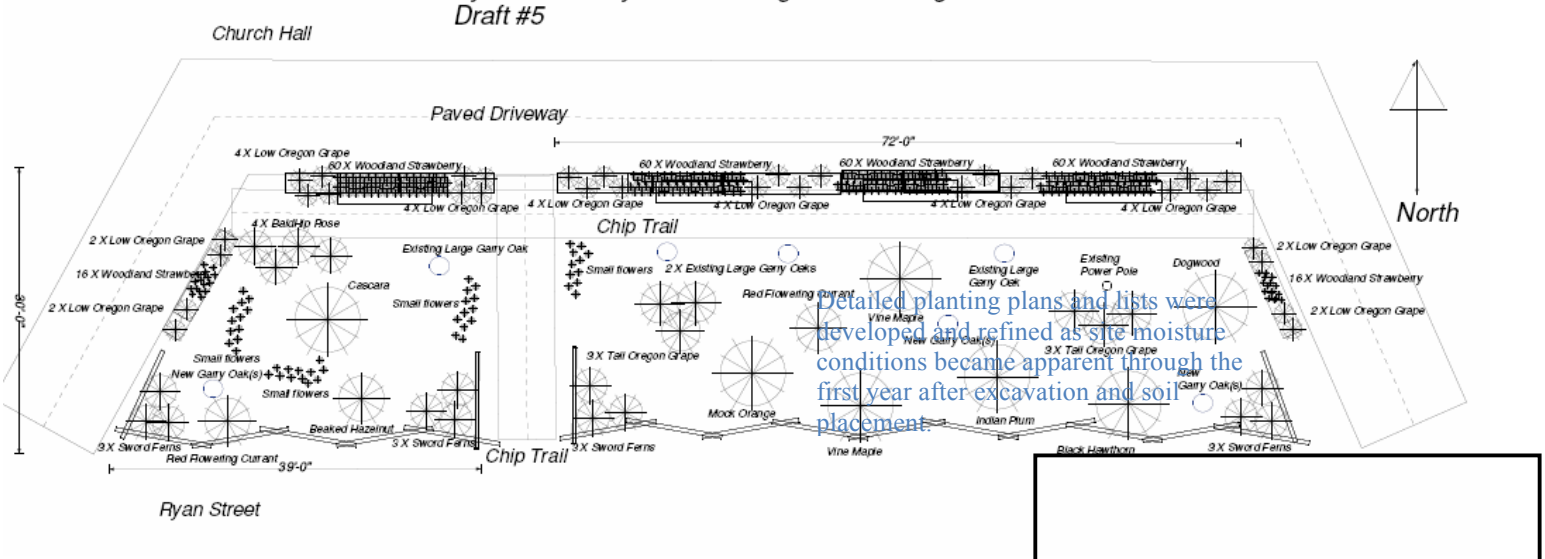
The Ryan Street greenway is a perfect example of the city working co-operatively with a neighbourhood, said Gary Darrah, Victoria's manager of park development.

He added that a growing number of community groups are approaching the city with project ideas. Among them, Rockland/Gonzales residents are working on a neighbourhood trail.

"(The neighbourhood initiatives) help us to start in-filling some of the little smaller-scale greenways which might not otherwise be developed for quite some time, while the city staff are focusing on the key (greenway projects)," Darrah said.

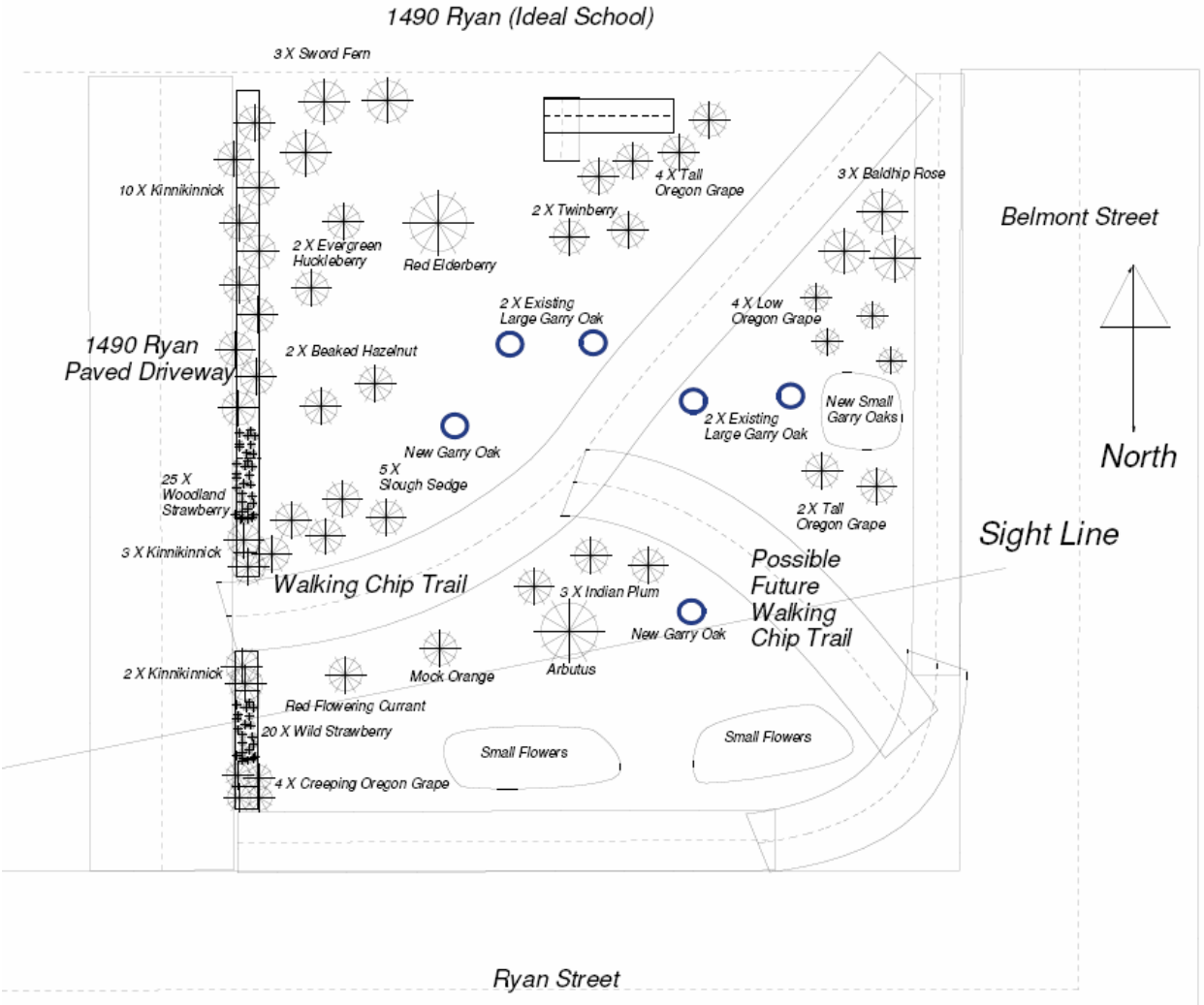
raldous@vicnews.com

Ryan Greenway - Church Segment Planting Plan
Draft #5



Detailed planting plans and lists were developed and refined as site moisture conditions became apparent through the first year after excavation and soil placement.

Ryan Street Greenway - Far East of Church Hall Segment Planting Plan
Draft #3

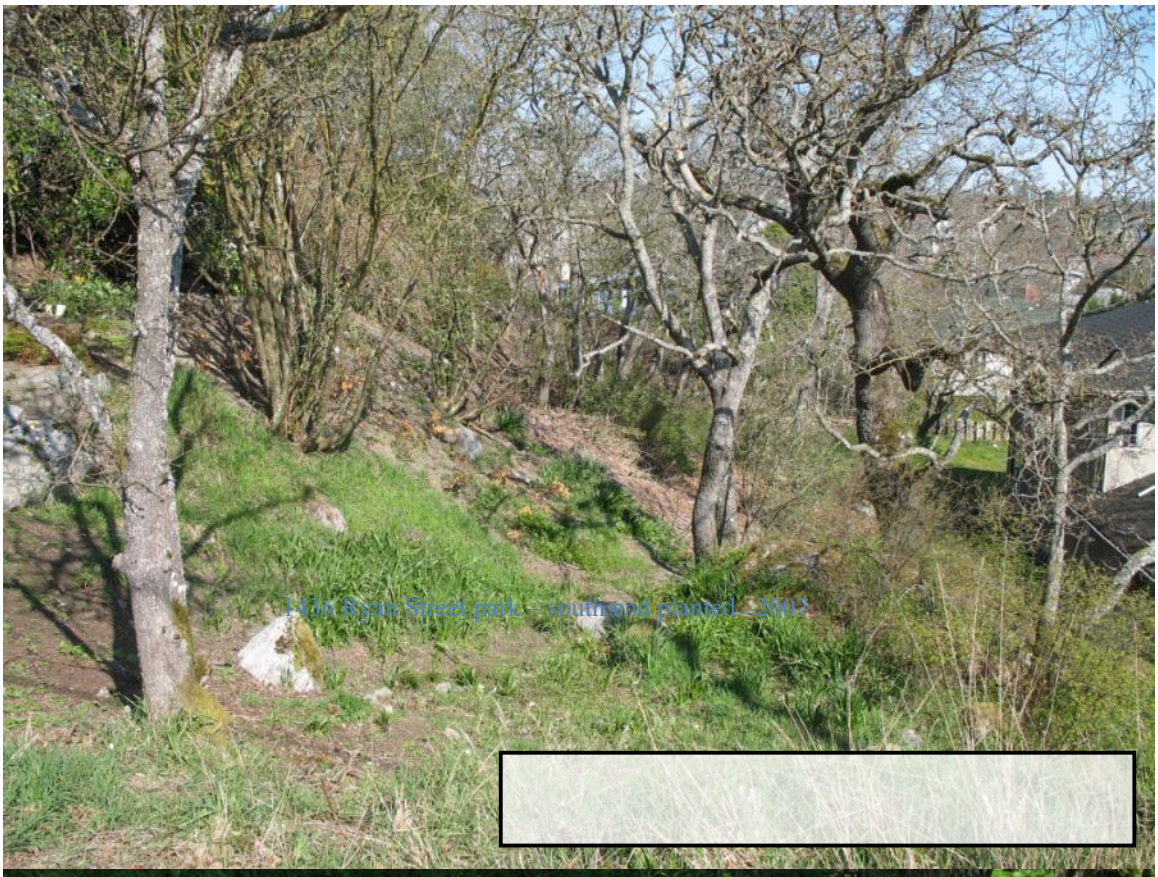


Ludo Bertsch and a small group of local residents also decided to work on 1436 Ryan, the property that had sparked the greenway movement. By the spring of 2006 it was, once again, covered with tall invasive species and the group cleared it to the ground. They also removed several truck loads of trash – construction waste, tires, bedframes, scrap lumber, toys. Once the ground was exposed it was obvious that during the construction of the house to the west, the uphill side of the property, soil and rubble were pushed over onto 1436. The very steep slope immediately below the house and across the width of the lot near the front was heavy, blue Tolmie clay with large chunks of concrete embedded in it. The group of four individuals, lead by Ludo, created a plan to make the front of the lot, south of the clay bank, accessible, while the remainder, about two thirds of the area, was to be restored but left as a sanctuary for wildlife – maintained but without public access. They cleared and planted the front section with attractive native shrubs and forbs and considered installing a viewing bench.

1436 Ryan Street park – looking north – 2006

1436 Ryan Street park – trash piles – 2006

1436 Ryan Street park – south end looking north – 2006



1436 Ryan Street park – south end planted - 2007

1436 Ryan Street park – Camas in the south end – 2007

By late 2008 all parts of the project were filling in as the plants established. The media found the story and articles appeared in newspapers, on television, and the local MLA mentioned it in the legislature. Through the next year there were some losses through summer drought but maintenance was good through 2009.

Ryan Greenway growing in – looking east – February 2010

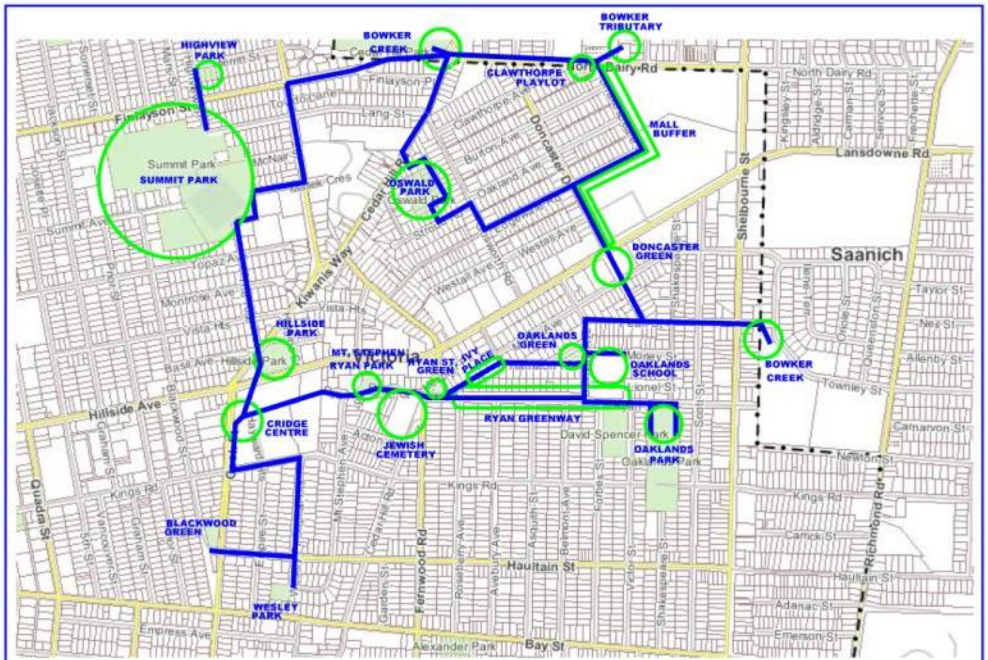
Oaklands Green mature growth – February 2010

The leaders of the group conceived of widening the project to make a walk around the neighbourhood. An almost equally wide boulevard runs along the north side of the east/west leg of Hamilton Road where it runs parallel to Ryan Street one block

north. Ivy Place comes off the bend where Hamilton turns north and runs diagonally southwest until it intersects Ryan near the corner of Cedar Hill. The Hamilton end of Ivy place, while dedicated as a road allowance, is in a largely natural state. It has several species of native plants and has outcrops of glacially scoured rocks that climb up to the height of the top of Ryan hill. While it has suffered the fate of many such areas and has been used as a compost and rubbish depository, it retains many attractive features and a loop walk exploring natural features, including Ryan, Belmont, Hamilton, and Ivy, seemed a useful addition to the neighbourhood. Ludo Bertsch drafted plans for the extended greenway.

Oaklands proposed walking route

In preparation for a presentation of the Ryan Greenway project to the City of Victoria Urban Forest Plan committee, Ludo became aware of how his greenway could act, in some degree, as a set of stepping stones between areas of Garry oak ecosystem in that part of the city. The greenway, by way of the wide Ryan boulevard, is in the centre of a number of small patches including Oaklands Park to the east and Mount Stephen Park north on Ryan, and others, not City managed, including the lands around the Cridge Centre for the Family, the Emanu-el Jewish Cemetery, and Oaklands School. It was also noted that there were other parks and pieces of City land that could extend the system of connections. For instance, Hillside Park, just north of the Cridge lands, had mature oaks but no other native plants and, going north of it to Summit Park, The Rise also has unusually wide boulevards with some oaks. Ludo prepared a sketch called the Oaklands Native Ecosystem Inventory and Corridor Plan that outlined a system of connections along boulevards and public spaces to connect all of the small parks and greens in the northeast section of the city and beyond to similar areas in Saanich.



SKETCH 1 - OAKLANDS NATIVE ECOSYSTEM INVENTORY AND CORRIDOR PLAN

Ironically, in 2007, while the Oaklands/Ryan projects were gathering momentum, the father of a rental tenant in the 1300 block of Ryan, north of Cedar Hill, as a gift to his impending grandchild, destroyed a section of City owned boulevard with a natural rocky outcrop with a Garry oak tree and a small Camas meadow in order to build a tiny playground. There is a junior playground at Mount Stephen Park a few yards away.


1300 Block Ryan prior to unauthorized work

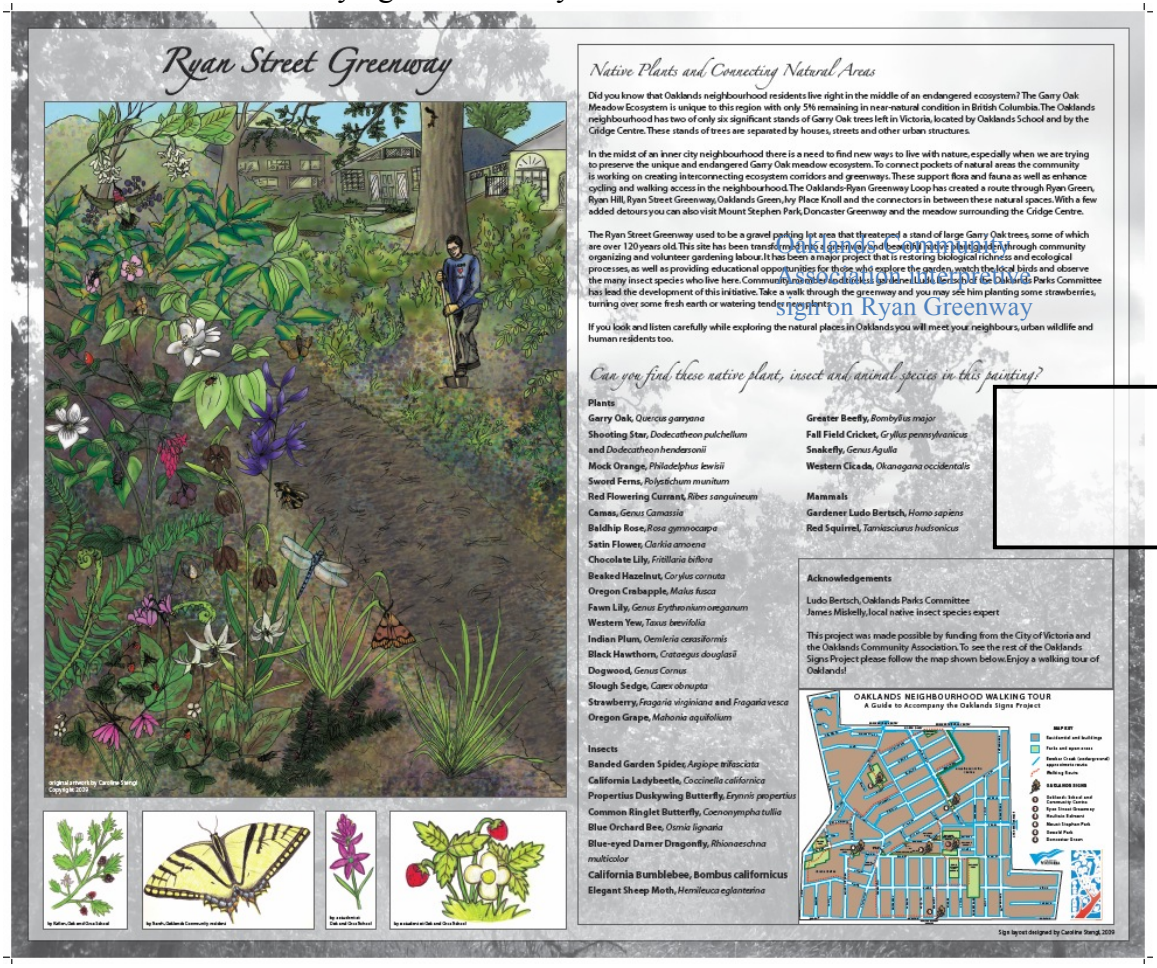
1300 Block Ryan after unauthorized work

1300 Block Ryan after unauthorized work

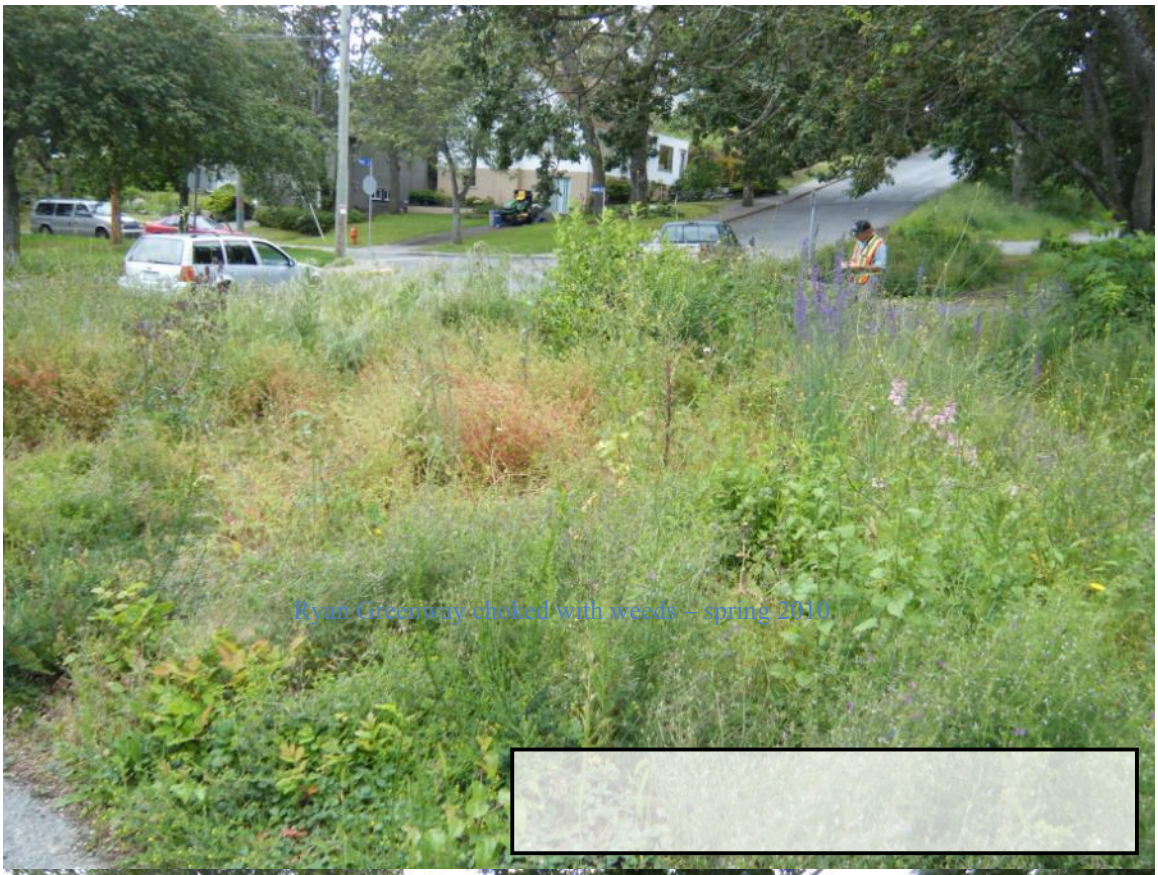
When the replacement cycle for play equipment brought the renovation of Hillside Park to the surface, public meetings were held to determine the best use of the space. The western end of the park has two very large Garry oak trees and the adjacent property, an appartment building, had replaced its landscaping with native material several years before. A proposal was put forth by Ludo Bertsch to naturalize that area, to make the next set of ecosystem corridor connections. The plan was supported by the neighbourhood and approved by the city and, in late 2008 the area was planted with native shrubs. The next potential connection to the north would be through the wide boulevards on The Rise, the street visible in the centre of the photograph behind the hedge. The top of The Rise connects with the top of Summit Hill, shared by City of Victoria's Summit Park and the Capital Regional District's Smith's Hill Reservoir. Negotiations are presently underway between the City and the CRD to decomission the reservoir and transfer control of the land to the City, either by lease or purchase. A group of students from the University of Victoria department of environmental studies have produced a report studying potential planting plans for The Rise to complete the connection between Ryan Street Greenway, Mount Stephen Park, Hillside Park, and the large Garry oak ecosystem fragment at Summit Park.

Hillside Park native plantings

The Oaklands Community Association, in cooperation with the Habitat Acquisition Trust, commissioned a set of six interpretive signs celebrating the values of the neighbourhood, placing one on the Ryan Greenway near Saint Alban's Church and one on Oaklands Green identifying natural ecosystem values.



By 2010 most of the main players from the community had dropped out. Some had left the neighbourhood, others found other pressing concerns kept them from spending the time they wished on the greenway. By mid-summer the main area of the greenway was knee high in weeds and most of the shrubs and many of the herbs had died from lack of water. Oaklands Green, which had been designed for very low maintenance, was in better shape but Canada thistle and other perennial weeds were establishing. The blackberries were once again taking over the lot at 1436. Turnover in the Community Association staff and in the general community had left the project an orphan. By 2011 complaints began to mount and some homeowners on the 1400 block, tired of the rampant weed growth, had begun to mow the boulevard plantings. Oaklands Green had grown unchecked and Nootka rose and other native shrubs had formed a dense thicket more than 2 metres in height. Local school children created a hollow in the centre where they went to eat, drink, and smoke, creating a security issue in the minds of nearby residents.



Ryan Greenway choked with weeds – spring 2010

Ryan Greenway choked with weeds – spring 2010

Oaklands Green – overgrown sightlines – 2010

Oaklands Green – bandit path into the thicket – 2010

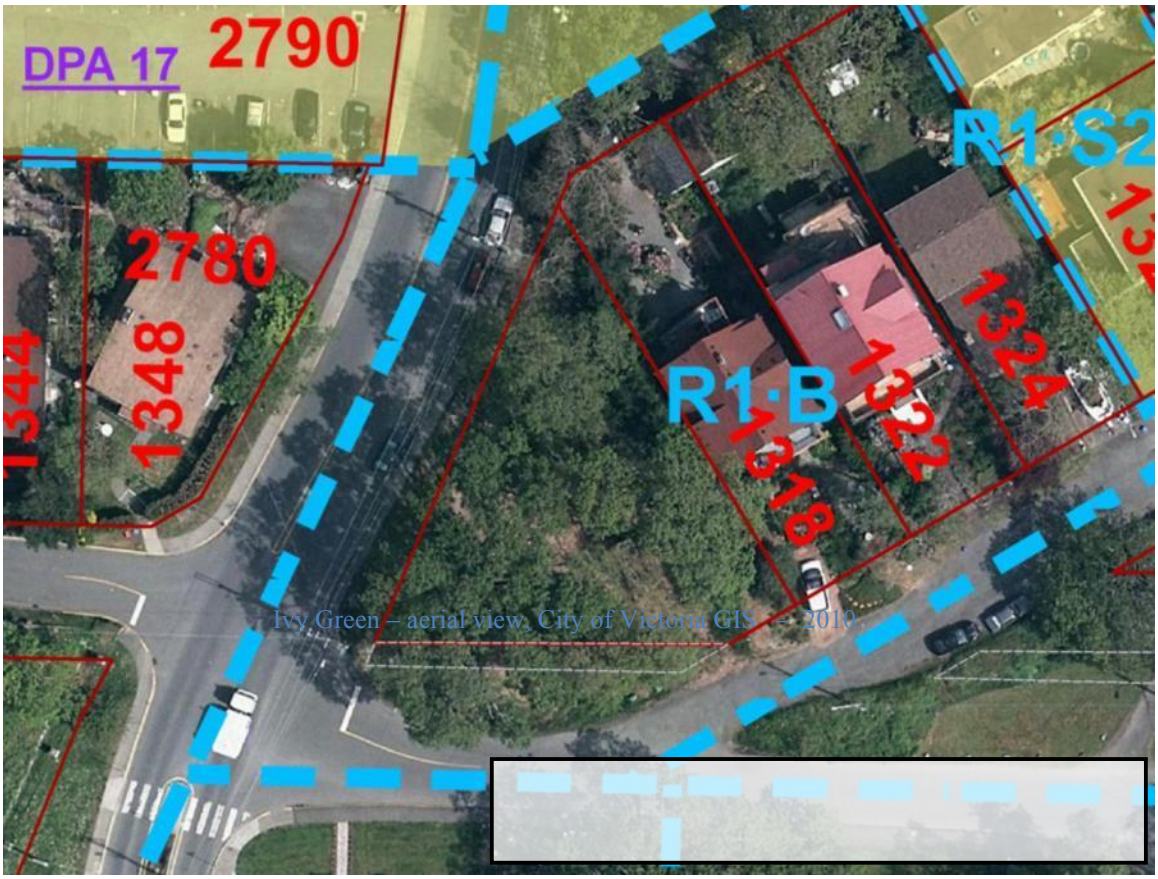
Oaklands Green – teenager's hideout – 2010

1425 Ryan Park – weeds in the planted area – 2010

Calls came from all side for action. The City did not have the resources to maintain new inventory of complex plantings, some on difficult terrain and so sought re-engagement by the Oaklands Community Association and that process continues.

Volunteers are once again looking after Oakland Green. A number of students from environmental studies programs from local colleges and universities have carried out projects in the area. For example, in 2011 a University of Victoria Restoration of Natural Systems student did his final project work in 1436 Ryan, once again clearing the major invasive species from the site, including much of the Himalayan Blackberry roots, developing and implementing a restoration plan to stabilize slopes and restore the entire park. He planted it with carefully selected native material and City Parks staff have done minimum maintenance to control blackberries and Poison hemlock.

Ivy Green



Ivy Green – aerial view, City of Victoria GIS – 2010

Ivy Green – prior to summer mowing – 2006

The small triangle of land at the corner of Ryan Street and Cedar Hill Road has always been treated as rough ground by the City of Victoria. Maintenance has been limited to flailing down the long grass once each summer.

The main community use of the space was limited to a diagonal path through it – a shortcut for those coming and going between Ryan Street and the shopping areas on Hillside Avenue. A secondary, less benign, use was to dump garden waste and other refuse on the site. City crews were called on to respond to complaints about piles ranging from weeds to discarded furniture. Rocks placed around the perimeter did little to slow the dumping.

Ivy Green – desire line path from Ryan Street to Cedar Hill Road near Hillside Avenue – 2006

Ivy Green – residential garden waste dumping – 2006

A persistent stand of Poison hemlock between the desire-line pathway and the hedge separating the area from the neighbouring property also required considerable staff time every year. Its proximity to the path and to a yard with children make it a priority for removal. A number of treatments, including cutting, digging, spraying, and burning, made little impact on the stand.

Ivy Green – persistent stand of Poison Hemlock, *Conium maculatum* – 2006

An analysis of the site found the soil to be a mixture of sand and silt containing a large proportion of broken clasts and rounded stones, typical of that found on the western side of glaciated rock formations in the Victoria area. In this case the deposit is shallow, less than one metre deep. The site is almost level with a slight slope to the northwest. As it sits in a broad swale between the crests of Mount Stephen to the west and Ryan Hill to the east the exposure is open but limited. Soil moisture regime is difficult to determine due to the density of the clasts in the mix and the shallow depth to bedrock but the apparent good health of the Garry oak trees and the presence of the Poison hemlock indicate that sufficient moisture is available year round to support the trees and vernal moisture is present to encourage the growth of the tap rooted perennial weeds.

Ivy Green soil – sand, silt, broken and rounded stones

Ivy Green soil – sand, silt, broken and rounded stones

A plant cover analysis showed a near 100% cover of non-native grasses including Early hairgrass, *Aira praecox*, Creeping bentgrass, *Agrostis stolonifera*, Orchard Grass, *Dactylis glomerata*, and Foxtail barley, *Hordeum jubatum*, with a substantial presence of Dandelions, *Taraxacum officinale*. The only native species present in the understory were seedling Garry oaks, *Quercus garryana*, which occurred in relatively large numbers below the few gaps in the canopy, and patches of Miner's lettuce, *Claytonia perfoliata*, in the shade of the hedge with the Poison hemlock, *Conium maculatum*.

Ivy Green groundcover random 1m square samples – Non-native grasses and Dandelions

Ivy Green groundcover random 1m square samples – Non-native grasses and Dandelions

Ivy Green – Garry oak with cavity

Ivy Green – Foxtail barley – Non native grass – harmful to dogs and cats

Ivy Green – Gairy oak seedlings

Ivy Green – Perfolate Miners' lettuce

Control of weedy species on the site is problematic despite the lack of native shrubs and herbs and the need to protect the health of the healthy population of Garry oaks. The City's Pesticide Reduction Use Bylaw limits the use of herbicides and they could not be used to do a broad-range kill on the site. The dense presence of clasts and stones in the soil limited the possibility of tillage which might also be limited by the presence of Garry oak roots in the shallow soil. Sheet mulching in various forms has proven ineffective on other sites in the general area, both because many perennials force their way through and because many weed seeds are present, both in the mulch and from nearby untended sites. The Hillside Park naturalized site, for instance, suffers from a persistent infestation of Field bindweed, *Convulvulus arvensis*, seeding in from the boulevard, which has penetrated several attempts to control it with cardboard mulch.

Hillside Park – Field bindweed persisting through sheet mulch

In the summer of 2010 a large volume of wood chips needed to be removed from the City Park's soil preparation area. I decided to try applying a deep layer of it to Ivy Green in the hopes that it would be sufficient to suppress the weedy species but would be airy enough to not prevent air from reaching the oak roots. Changes in pH and nitrogen balance were also of concern and we determined to be prepared to remove the mulch if the oaks appeared suffer because of it. A 30cm deep layer was applied, taking care to avoid areas where tree seedlings were present. The walking path was also preserved and formalized with a different textured and coloured chip mix.

Ivy Green – applying 30cm layer of woodchip mulch

Ivy Green – Garry oak seedlings protected by cones and tree pots

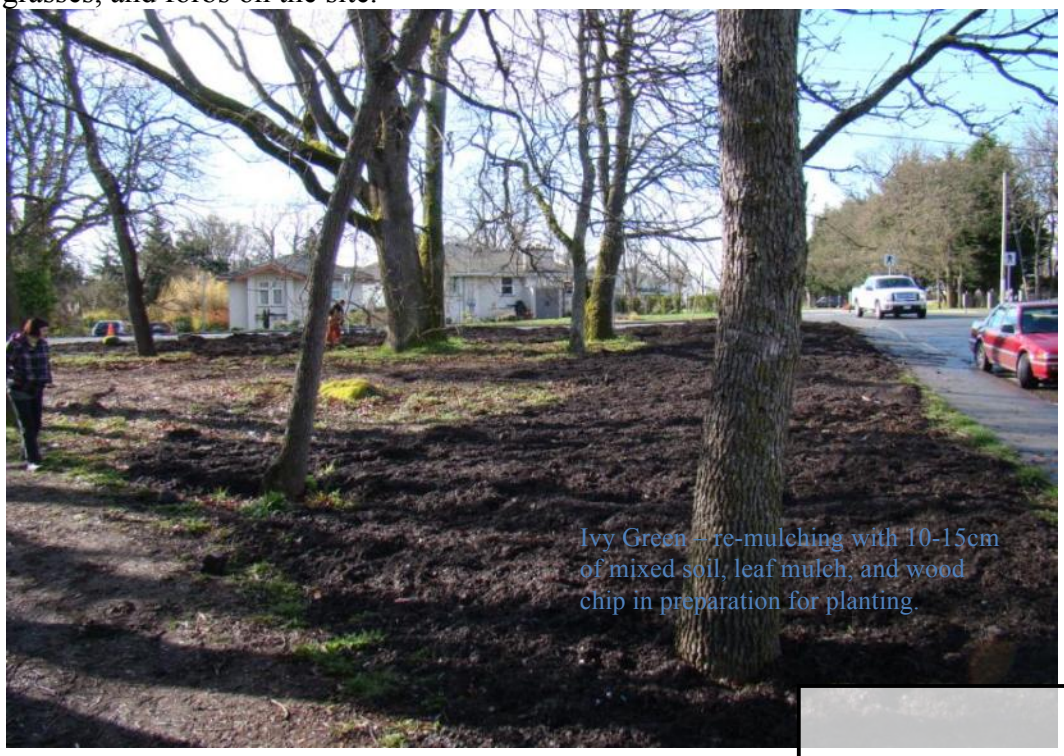
In observing the site through 2011 no ill effects on the oaks were observed. All of the grasses in mulched areas were suppressed and the Poison hemlock did not emerge.

The Garry oak seedlings, seen in relatively large numbers prior to work on the site and preserved from mulching did not leaf out in 2011. Their absence may be due to natural attrition or predation. Mule deer are re-inhabiting the area. Measures, such as caging and spraying with repellants, will be applied to any new seedlings that emerge but, as the density of oaks on the green is already high and the apparent age range is broad, oaks will not be planted.

The dandelions, however, appeared to be encouraged by the mulch. They grew in much greater density and with greater vigour than had been seen prior to the chip mulch application. Several person-days of hand-digging proved futile as the heavy presence of rocks in the soil meant removing entire root structures was seldom possible and every segment of root left behind produced a new dandelion plant. By mid-summer it became necessary to use string trimmers to cut the plants to ground level. No solution to this problem has yet been found.

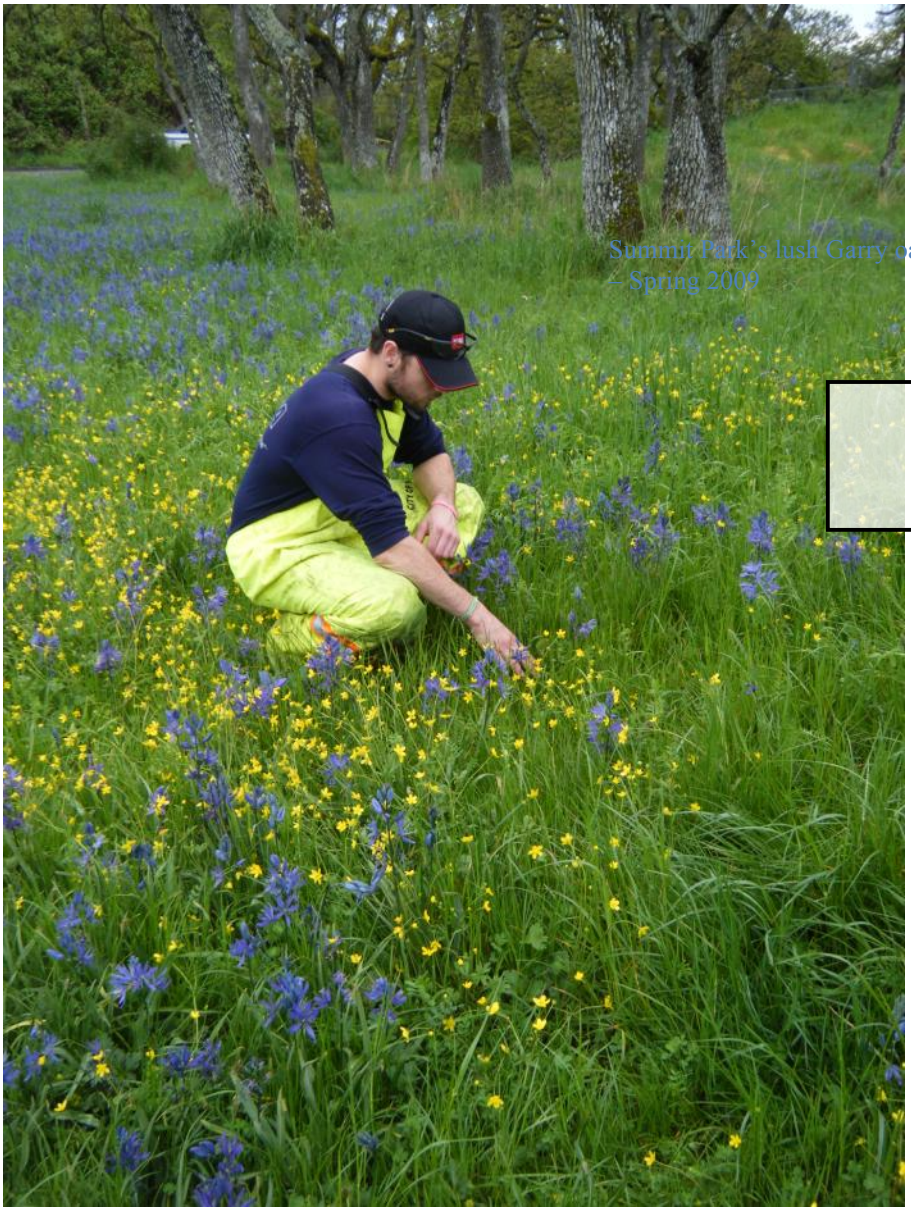
Ivy Green – Dandelions thriving in the woodchip mulch

In March of 2012 the site was re-mulched, this time with a mixture of equal parts of rotted wood chips, rotted leaf mulch, and mineral soil, to a depth of 10 to 15cm. This mulch is intended to hasten the breakdown of the previous wood chip mulch, restore the nutrient balance, and to provide a planting medium for the installation of native shrubs, grasses, and forbs on the site.



Ivy Green – re-mulching with 10-15cm of mixed soil, leaf mulch, and wood chip in preparation for planting.

A water service is to be installed on Ivy Green in the spring of 2012 and, once it is in place the green will be sown with native grass seed – Idaho fescue and California oat grass, the 'Garry oak uplands mix' which is one of the few available commercially. Islands of charismatic flowering shrubs and wildflowers will be spotted in such a fashion as to not create dense thickets as occurred on Oaklands Green. Continued suppression of Dandelions will be necessary. The 'reference' site for Ivy Green is the area northeast of the peak of Summit Hill, which shares its soil, exposure, and tree cover conditions. Those meadows, under the small oaks, are filled with a wide range of Garry oak meadow plants: Camas, *Camassia quamash*, Nodding and Hooker's onions, *Allium cernuum* and *A. accuminatum*, Spring gold, *Lomatium utriculatum*, Shooting star, *Dodecatheon hendersonii*, Western buttercup, *Ranunculus occidentalis*, Yellow rattle, *Rhinanthus minor*, Harvest brodiaea, *Brodiaea coronaria*, Fools onion, *Triteleia hyacinthina*, Fawn lily, *Erythronium oreganum*, and many others.



Summit Park's lush Garry oak meadow – Spring 2009

If plantings are successful the site will form another attractive node, similar to Oaklands Green, at the western end of the Ryan Street Greenway. The green should act as an invitation to walk the greenway loop and observe the natural elements along it. An interpretive sign and map may be developed for placement on the green, mapping the route and indicating points of particular interest. A brochure, to complement the Oaklands Community Association walking tour map signs, could be created detailing the features of the walk and inviting participation in the restoration and maintenance activities of the community association.

Want to Know More?

Would you like to know more about the Ryan Greenway project? You can find information on-line under current projects:

www.oaklandscommunitycentre.com

www.blockcommunities.com

Proposed information sign for the greenway

For information about the Garry Oak Ecosystem, Garry Oak Gardening and other projects: www.goert.ca/

Ryan Greenway

Reconnecting Nature and Neighbourhood

Almost a decade ago, a group of dedicated neighbours came to the rescue of city owned lands in Oaklands. An undeveloped road allowance became the foundation for the Ryan Greenway and for a restored native Garry Oak ecosystem corridor.

Proposed information sign for the greenway

Oaklands and Garry Oaks

The Garry Oak trees which give Oaklands Neighbourhood its name are a keystone species in one of the most endangered ecosystems in Canada. They are a remnant of an earlier age in which the climate was much warmer and drier and they range from northern California to central Vancouver Island, mostly in coastal lowlands.

Europeans, unaware that native people maintained the landscape for food harvest, stopped the use of fire, the main tool of native "gardeners". Naturalist Berthold Seemann, in 1846, said that Fort Victoria was "a natural park...One could hardly believe that this was not the work of art."

More than 95% of the Garry Oak woodland that dominated southern Vancouver Island when Europeans arrived has been lost to development. Most remaining patches are small and isolated making it hard for wildlife to move between them.

Oaklands has many large Garry Oak trees but few of the other components that make up a functional Garry Oak Ecosystem. The addition of the missing elements will help the **Ryan Greenway** act as a corridor between other, larger fragments of Garry Oak woodlands nearby.

Ancient History

At the top of **Mount Stephen** at the western end of Ryan Greenway, look for evidence of the ancient geological processes that formed this area. Look down at the rock under your feet. Now look out to the northwest. What could have formed the lines of rounded stone domes that make the lines of hills?

Imagine tear-drop shaped bubbles of molten rock seeping up through cracks between moving continental plates. Vancouver Island continues to ride northward along the edge of the North American plate. What have you read that tells where it may have broken off the main plate?

More exposed rock down the trail through **Ivy Place** shows evidence of the other major force that shaped this land. What could have left these deep grooves, like claw marks in the hard stone?

The Fraser glaciations, about 15,000 years ago, covered the land with ice more than 1,500 metres deep, scouring away the soft, crustal rock and scoring the harder, Wark gneiss of the hills. When they melted away they left the coarse, mineral soils that fill the areas between.

Aboriginal Gardeners

As climate changed, cooler, moister conditions favoured the dense, coniferous forests that cover most of the coastal Pacific Northwest. Southern Vancouver Island remained drier. (Can you tell why? Look south and west across the Georgia Strait where the winds that bring our weather originate.) But conifers would have dominated the landscape if the local people had not maintained the grasslands for the food they dug from the earth and the animals that grazed there.

During their annual camas harvest, native people weeded out toxic plants and weeds, collected others as foods and medicines, and returned seeds and small bulbs back to the soil. Even in winter the candelabra-like empty seed capsules of **Great camas** stand above the grasses below **Mount Stephen** and at the bottom of **Ivy Place**.

Fires, set by natives, ran through the dry autumn grass, sweeping away young conifers and encroaching brush. Ash from the fires added nutrients to the soil, fertilizing the bulbs and roots below.

Can you see what protected the great oaks from damage by the fires? Look at the thick, ridged bark of the ancient trees at **Ryan Ivy Green** and on the lower Greenway. What can you learn from the different textures around the base of the trees?

Community Stewardship

In 2000 a group of people from the neighbourhood created a Native Plant Garden in **Oaklands Green** to educate the community about the values of using native plants; conserving water, attracting wildlife and helping the recovery of Garry oak ecosystems.

Many native plants were used. Can you see Red Osier dogwood, Snowberry, Red flowering currant, Oceanspray, Indian plum, tall Oregon grape and Sword ferns?

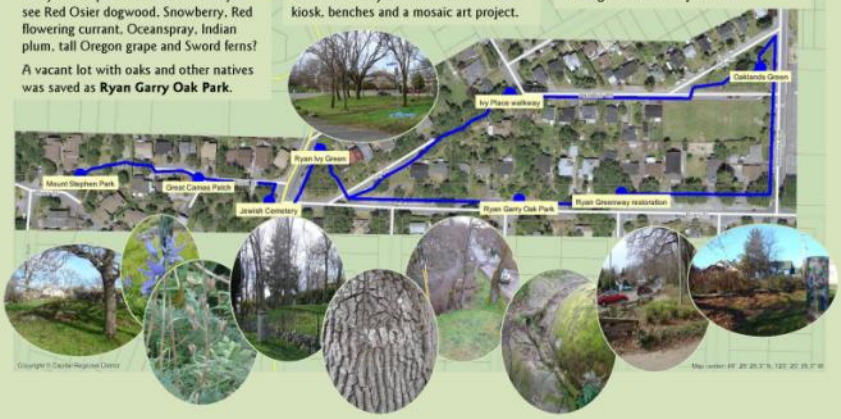
A vacant lot with oaks and other natives was saved as **Ryan Garry Oak Park**.

The parking lot at the **Ryan Greenway restoration** was broken up, planted with native material and mulched to suppress weeds. Pathways were created. The new Garry oak meadows were planted; Camas, Fawn lilies, Chocolate lilies, Shooting stars and Western buttercup.

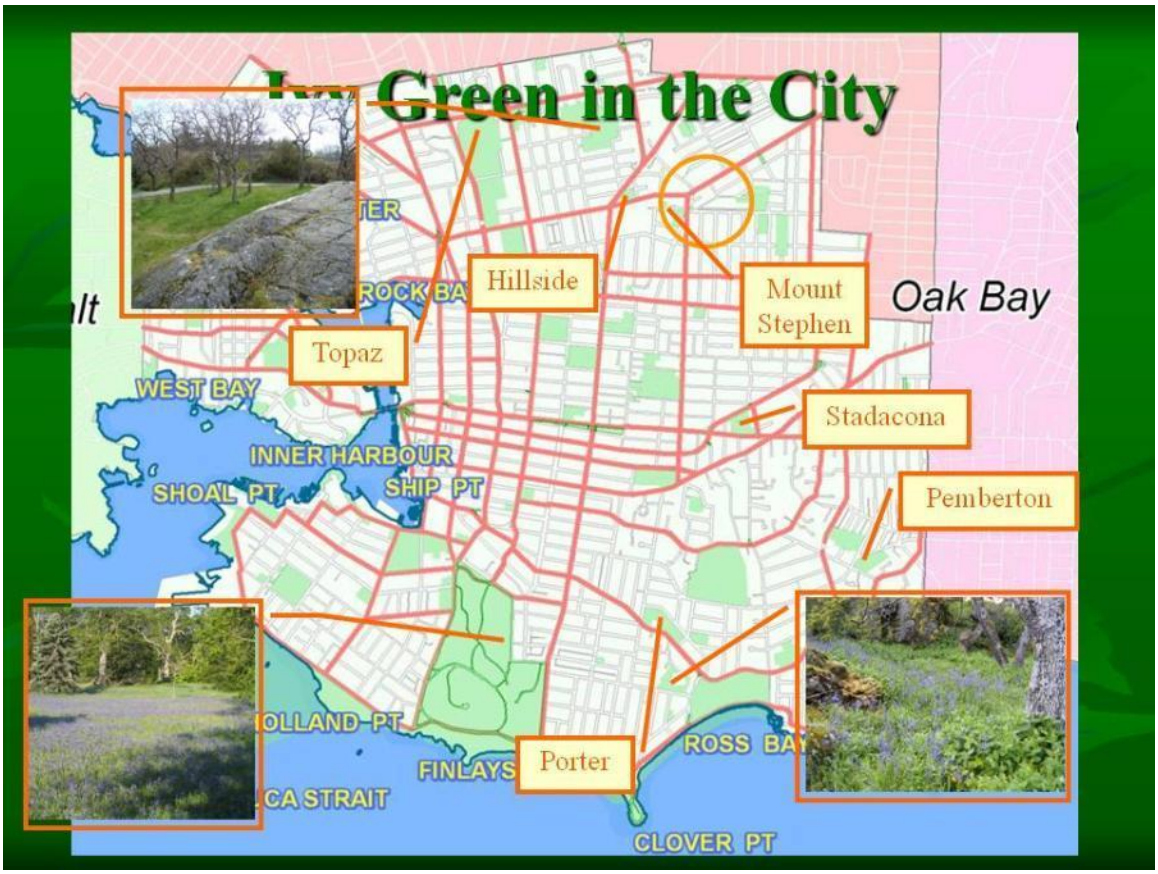
The Community erected an information kiosk, benches and a mosaic art project.

Look for signs that the ecosystem is beginning to function. The shrubs are blending into thickets used by native birds for food and shelter. Remnant native plants are beginning to move in. Recovery has begun.

Walk the neighbourhood to see where home gardeners have joined in.



If future greenway projects continue the process begun on Ryan Street Greenway, of combining pedestrian values with natural ones, creating corridors for people and for wildlife, Ivy Green can function both as the keystone to greenways in the Oaklands and Quadra Hillside neighbourhoods of Victoria, and also as a template for similar work in other parts of the city, helping to connect fragments of Garry oak ecosystems throughout the City and the region.


Green in the City
Hillside
Mount Stephen
Oak Bay
Topaz
WEST BAY
Stadacona
INNER HARBOUR
SHOAL PT
SHIP PT
Pemberton
OLLAND PT
FINLAYS
Porter
ROSS BA
CA STRAIT
CLOVER PT