

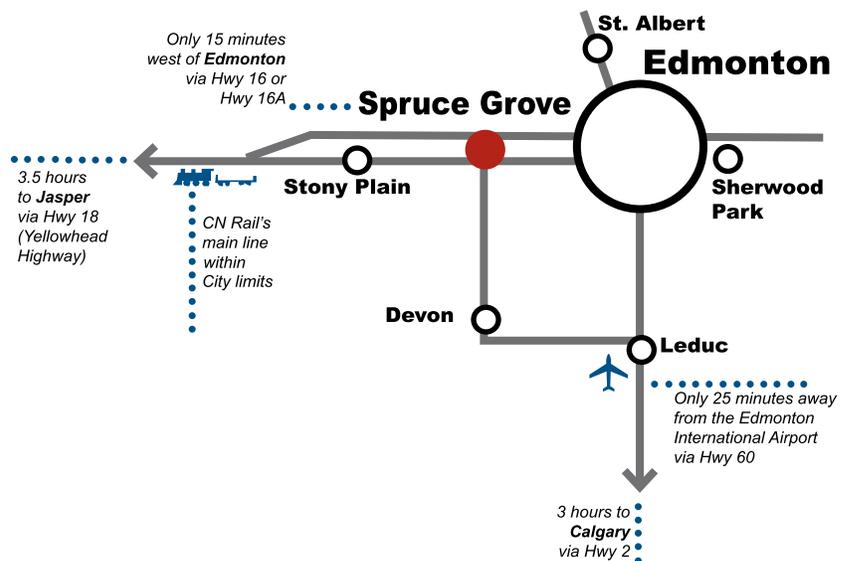
3. TOWNSCAPE ANALYSIS

Townscape Analysis provides a methodology for understanding, in detail, Spruce Grove, its evolution and its qualities, and it provides some of the basis for the development of an open space concept. It consists of the following:

- regional context
- environmental analysis
- historical evolution analysis
- inventory of cultural landscapes and landmarks
- inventory of existing open space
- demographic overview
- review of plans and documents

3.1 Regional Context

The City of Spruce Grove is located at the geographic centre of Alberta, Canada, approximately 11 km west of Edmonton. It is situated between provincial highways 16 and 16A and its urban form has over the last several years, expanded south of Highway 16A. Located within Parkland County, the city is nearly bounded to the west by the Town of Stony Plain which too is growing and expanding to the south and east towards Spruce Grove.



3.2 Environmental Context and Character

This section outlines the Environmental context for the City of Spruce Grove, and relates to the environmental inventory shown in **Figure 2**.

The City of Spruce Grove owes much of its topographical relief to the glacial forces which carved out the North Saskatchewan River valley. The glacial movement scoured the land and left a landscape that is relatively flat with gently rolling hills and several “prairie potholes” which has left many areas low lying and potted with sloughs. The city occurs entirely within the Parkland Natural Region and the Central Parkland Natural Subregion. This subregion is transitional between the boreal forests to the north and the grasslands to the south. Climate data for this area indicates the Stony Plain area has a greater climatic affinity to the Central Parkland subregion than to the Boreal Dry Mixedwood subregion. Vujnovic 1998 (in Vujnovic et al. 2000) indicates that the Stony Plain- Spruce Grove area falls within the wettest part of the Central Parkland subregion, a trend that is supported by the comparative average annual precipitation.

Soils in the Spruce Grove area vary moving north from the North Saskatchewan River (NSR). Like many historic fluvial landscapes, this region contains many highly fertile soil types and subsoil deposits (sands and gravel) characteristic of glacial movements. Much of the land is underlain with gravel deposits which transition to sand deposits underneath hilly terrain adjacent to the NSR. Two to three kilometres south of Highway 16A the soils are sandy to sandy-loam whereas north of 16A, they consist of alluvial loam and are very fertile. North of Highway 16, soils transition into grey to dark grey loam where much of the area used to be forested.

The City of Spruce Grove region used to be a wide-spread forest of spruce, birch and poplar trees. Patches of willow were also interspersed throughout the area, mostly around the edges of the numerous sloughs and other wetlands. Today, only patches of the once thickly forested region remain, due in large part to clearing and cultivating of land by early settlers.

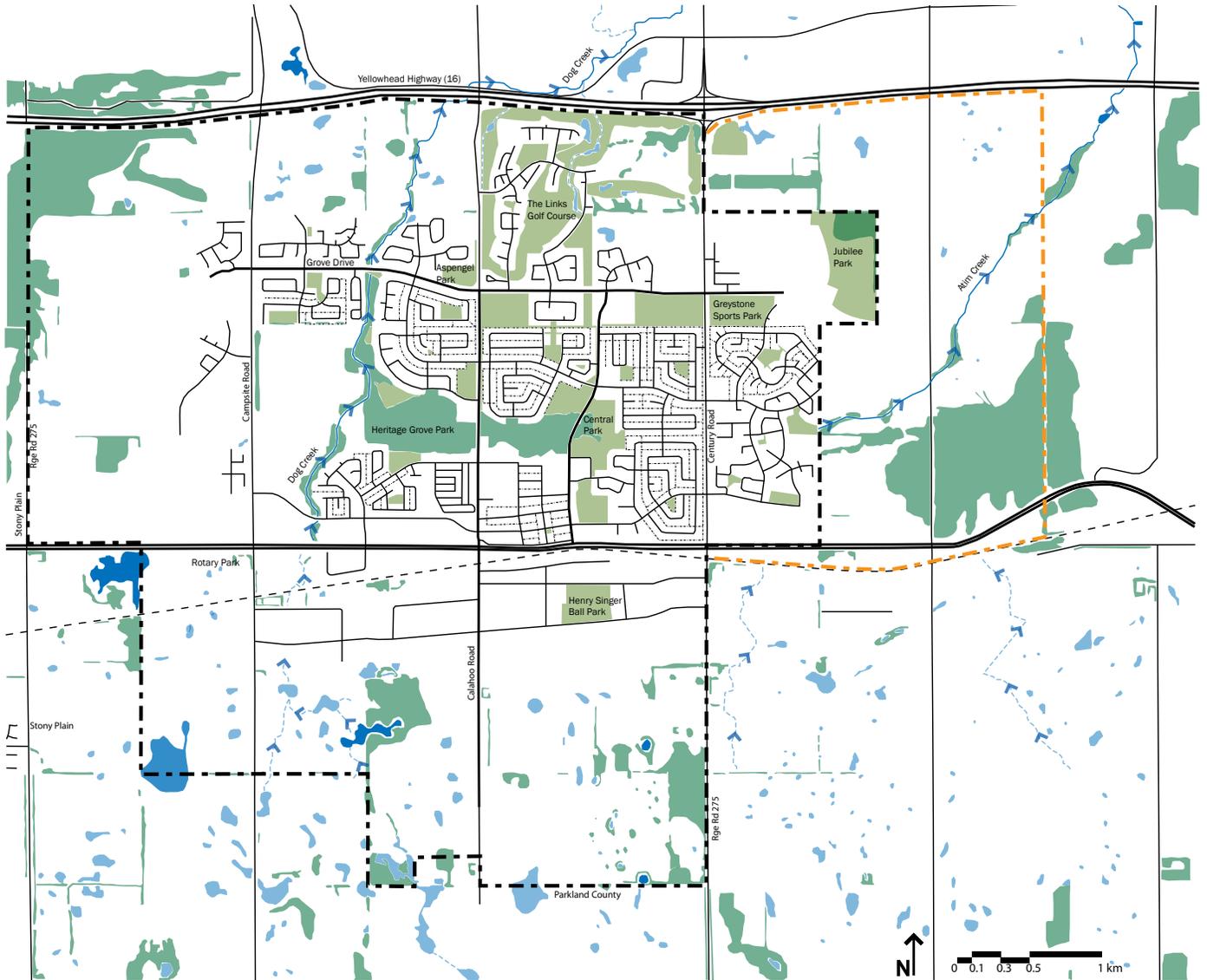
Heritage Grove and Atim Creek forests account for about 90 percent of the total forested area and 85 percent of the total standing volume of trees. The average estimated volume per hectare is an indication of relative productivity, assuming a more or less equal age distribution and stand density. By this criterion, Jubilee Park currently appears to be the most productive and Atim Creek forest the least productive.

The “mean annual volume increment estimate” provides an idea of the amount of wood added due to annual tree growth; it is calculated by taking the total estimated standing volume for each map unit, dividing by the age of the forest in that map unit, and summing the resultant mean annual increment value for each map unit across the entire forest (The City of Spruce Grove, Urban Forest Management Plan, 2004).

Much of the native vegetation has been removed by cultivation; several hundred thousand hectares around Edmonton was already cleared by the 1920s (Bowser et al, 1962). White spruce stands occur in moister



figure 2
Environmental Inventory



- Legend**
- Tree cover
 - Major green space
 - Permanent waterbody
 - Ephemeral waterbody
 - Permanent watercourse
 - Ephemeral watercourse
 - Direction of flow
 - Road
 - Highway
 - Railroad
 - 2006 City boundary
 - Proposed annexation

locations where intense fires are less likely to occur. Wetlands are typically cattail, sedge or bulrush marshes and the conifer dominated wetlands that occur in Wagner Natural Area, Heritage Grove, and Atim Creek forest are uncommon in the Central Parkland subregion (The City of Spruce Grove, Urban Forest Management Plan, 2004).

Two previous vegetation studies provide more detailed information on understory vegetation composition than is provided in the City's Urban Forest Management Plan. Williams (Williams/Ecomark, in Durrance and Associates 2003) summarizes understory and overstory plants encountered during a one-day survey of Atim Creek forest and indicates potential rare and uncommon plant species that may be found in the general area.

Cosco (1990) provides a detailed landscape unit map of Heritage Grove with map units very similar to those provided in this forest management plan and associated detailed vegetation descriptions and photographs (The City of Spruce Grove, Urban Forest Management Plan, 2004).

The land within the boundary of Spruce Grove and adjacent quarters drains to the north / northeast. Further south of Highway 16A, the drainage line breaks and overland flow is south towards the North Saskatchewan River. Dog Creek primarily drains the city's overland flow with minor tributaries contributing to the Creek.

Drainage of Dog Creek runs from southwest of Highway 16A, north to Heritage Grove Park where it travels east and then again to the northeast out of the city, towards Big Lake. An additional creek within the proposed annexation area also drains from the southwest to the northeast making its way to Big Lake. Surface water (both permanent and ephemeral) are illustrated in most figures of this Plan.

Groundwater flow patterns have had a pronounced effect on the development and history of the Heritage Grove and Atim Creek forests. The Atim Creek study (Alberta Environment Planning Division 1978, plate 8) indicates that the Wagner and Heritage Grove areas are in a groundwater discharge zone; the recharge area is to the south and west of Stony Plain (The City of Spruce Grove, Urban Forest Management Plan, 2004).

The land in the now Industrial area of Spruce Grove south of Highway 16A (then known as the Golden Spike area) used to be very flat and include a number of sloughs and muskeg. In the 1920s, a land reclamation project called the Golden Spike Drainage Ditch was developed to open up land for cultivation and road allowances.

This land, of course, now accommodates the majority of the city's industrial and heavy commercial land uses. South of the developed industrial area however, much of the same flat and wet land occurs. This is valuable wetland habitat and drainage control, and should be carefully planned with green infrastructure integrated into future land use and development.



3.3 Historic Evolution

This section describes some of the major changes in Spruce Grove's urban form and lists the open spaces developed during each era, which are shown in Figures 3 through 6.

Townscape Analysis – Timeline			
1950	1967	1980	2006

- although the first settlers arrived in the area as early as 1879, the town developed slowly
- the townsite was originally established in 1891 at the intersection of what are now Highway 16A and Century Road, but was relocated to its present location in the early part of the 20th Century
- grain elevators were located south of the railway accessed from Railway Avenue
- the downtown commercial district and residential development occurred to the north of Highway 16A in a grid pattern aligned parallel and perpendicular to the railway
- as the town grew north, the streets were aligned with the grid roads
- the railway roughly paralleled the highway, creating a transportation corridor between the two sections of the town
- the railway station was located on axis with Main Street
- a broad band of woodland bordered the town to the north

Open Spaces Developed during this Period:

- school fields

Townscape Analysis – Timeline			
1950	1967	1980	2006

- modest expansion to the residential areas occurred to the east and west, with block form including the beginnings of crescents and cul de sacs
- school constructed on Queen Street
- residential development to the north interfaces with woodlands

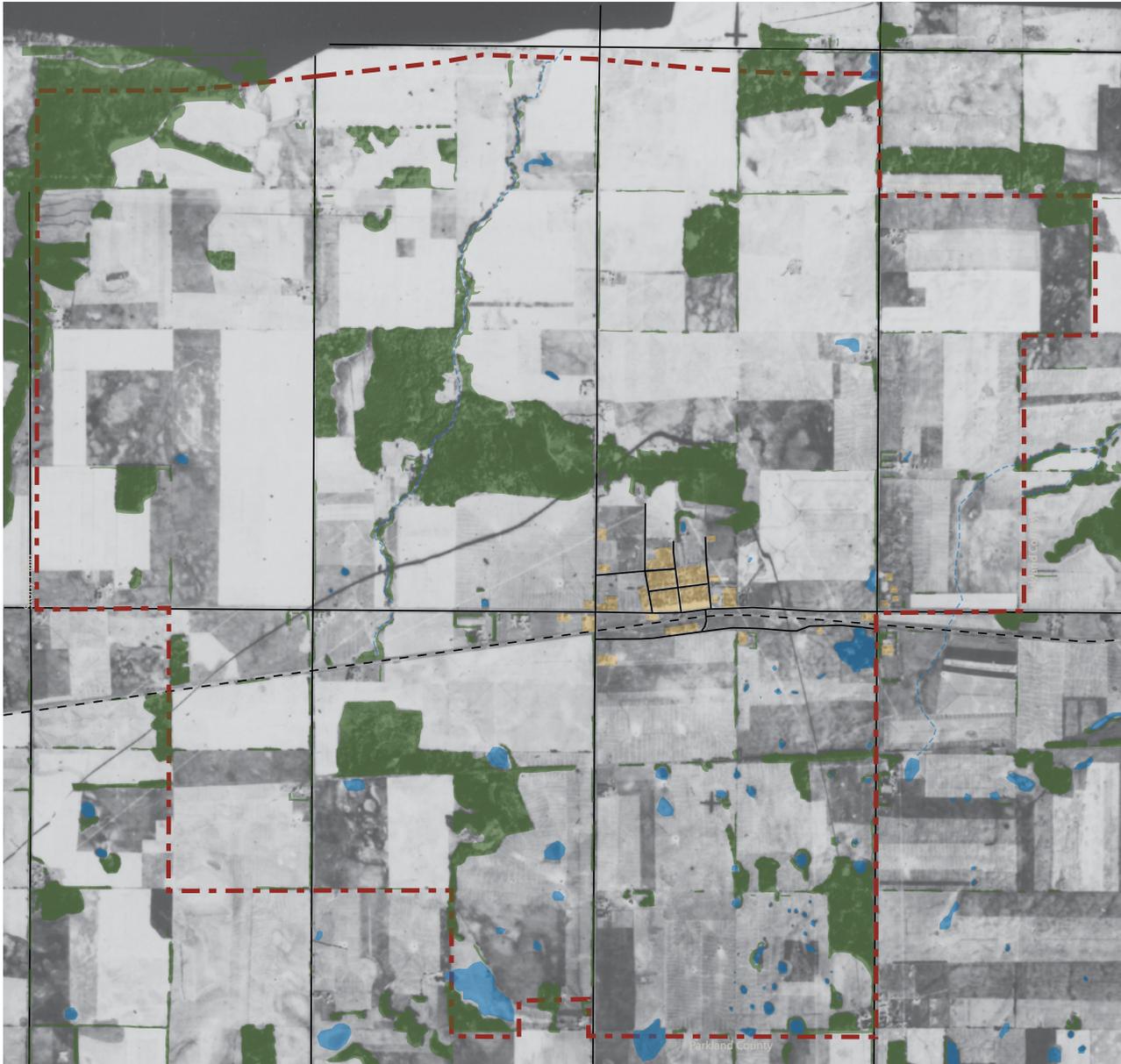
Open Spaces Developed during this Period:

- school fields

Townscape Analysis – Timeline			
1950	1967	1980	2006

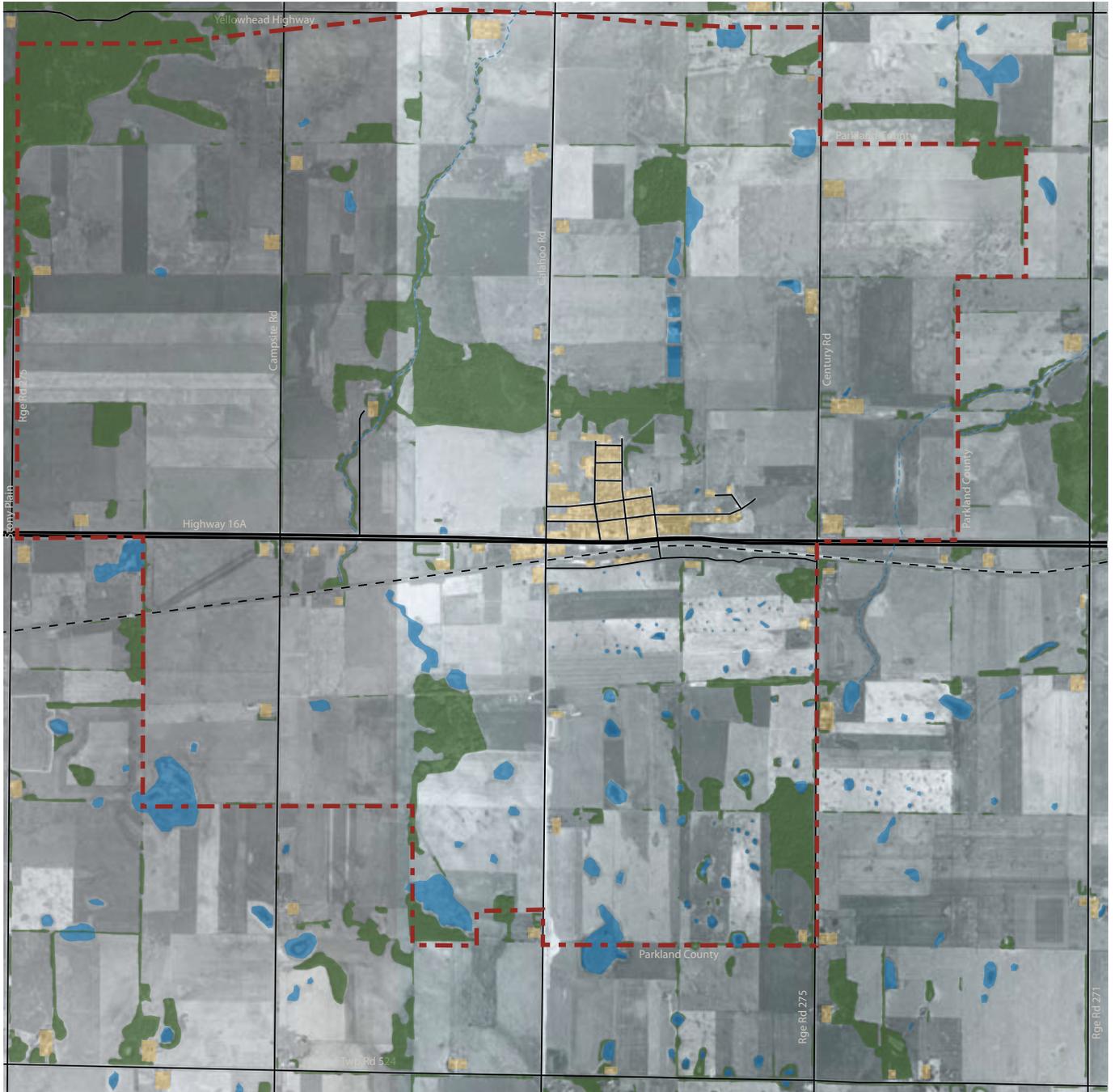
- significant development has occurred north and south of Highway 16A reflecting general economic prosperity and growth in Alberta
- residential development is in the form of curvilinear street patterns, rather than a grid

figure 3
Spruce Grove 1950



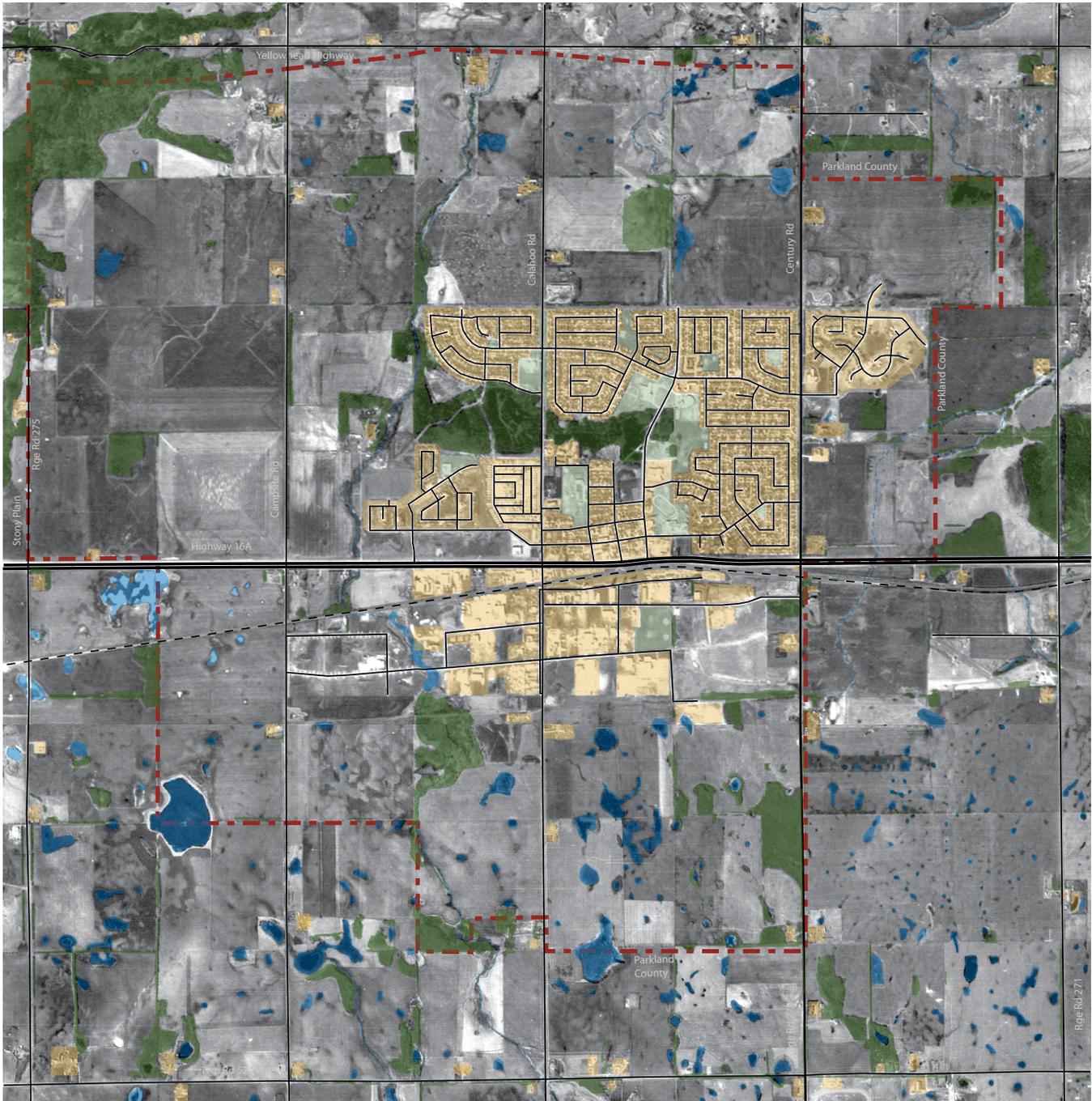
- | | | |
|---------------|---|---|
| Legend |  Developed land |  Permanent watercourse |
| |  Tree cover |  Ephemeral watercourse |
| |  Major green space |  Road |
| |  Permanent waterbody |  Highway |
| | |  Railroad |
| | |  2006 City boundary |
| | | |

figure 4
Spruce Grove 1967



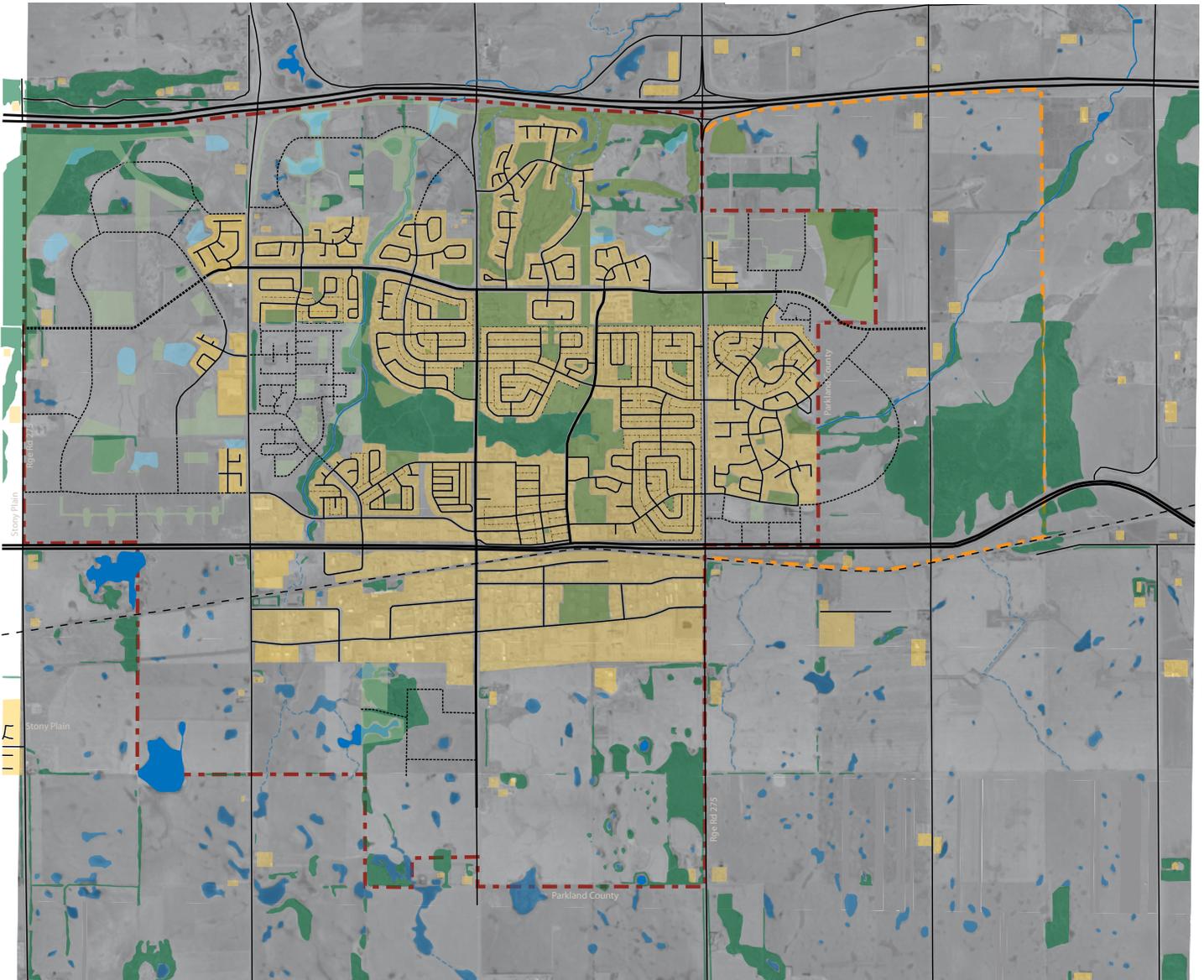
- Legend**
- Developed land
 - Tree cover
 - Major green space
 - Permanent waterbody
 - Permanent watercourse
 - Ephemeral watercourse
 - Road
 - Highway
 - Railroad
 - 2006 City boundary

figure 5
Spruce Grove 1980



- Legend**
- Developed land
 - Tree cover
 - Major green space
 - Permanent waterbody
 - Permanent watercourse
 - Ephemeral watercourse
 - Road
 - Highway
 - Railroad
 - 2006 City boundary

figure 6
Spruce Grove 2006



Legend

- | | | | |
|---|-----------------------------|---|-----------------------|
|  | Developed land |  | Permanent watercourse |
|  | Tree cover |  | Ephemeral watercourse |
|  | Major green space |  | Road |
|  | Proposed Major green space* |  | Proposed Road |
|  | Permanent waterbody |  | Highway |
|  | Ephemeral waterbody |  | Railroad |
|  | Proposed waterbody* |  | 2006 City boundary |
| | |  | Proposed annexation |

* Proposed in an approved ASP

- Mobile City Estates (mobile home park) has developed west of Calahoo Road
- industrial development has extended south of the railway tracks in a grid block pattern
- new schools have been constructed in several locations
- the woodlands have now been enveloped by the city form
- highway commercial development has grown on both side of Highway 16A

Open Spaces Developed during this Period:

- school fields
- Henry Singer Ball Park
- recreation fields
- natural environment reserve
- trails
- neighborhood parks

Townscape Analysis – Timeline			
1950	1967	1980	2006

- much new residential development is taking place especially to the north and east, where neighbourhoods are being constructed with a curvilinear block pattern, discontinuous with the existing city street pattern
- major roads subdivide the city, providing easy vehicle access but creating barriers for pedestrians
- Heritage Grove Park, Greystone Sports Park, Central Park, the school fields and Fairway Park form major open spaces
- additional industrial development has been added south of Highway 16A, and Dog Creek has been channelised
- additional highway commercial development is found on north and south sides of Highway 16A

Open Spaces Developed during this Period:

- skateboard park
- additional school fields and recreation fields
- Tri-Leisure Centre
- off-leash park
- golf course
- trail system and paths
- Columbus Park (downtown park)
- additional neighbourhood parks and totlots



3.4 Cultural Landscapes and Special Places

The following elements of Spruce Grove and region are important in contributing to the cultural and visual identity, and should be enhanced through linkages with path systems, and emphasized through inclusion in open space site planning.

Grid survey system of land subdivision and roads

- the grid pattern is characteristic of the agricultural prairie provinces, and provides a frame for city development
- the early downtown grid was aligned with the railway, and shifted to align with the survey grid as the city developed to the north – this is distinctive, and the intersection of the two patterns could provide opportunity for interpretation

Important views to the regional landscape

- streets and trails can enhance good views, and buildings and landscape can be used to frame important views

Railway, railway lands, location of former railway station and grain elevators

- Spruce Grove was established on the rail line, and the railway lands are located in a prominent location, and with potential for eventual redevelopment to active functional use and/or inclusion in a historical interpretation program
- the station was located on axis to Main Street, and is in a centrally located site

Main Street historic district

- Spruce Grove's original downtown comprises the historic heart of town, with a different commercial form and urban quality than the highway commercial area

Churches, schools and cemetery

- these are important social anchors and should be integrated where possible into the open space system

