



## **By-law No. 178 / 2014**

### **A By-law of the Town of Bentley, in the Province of Alberta, to rescind the North East Area Structure Plan By-law No. 528/93 and adopt the Summersault Area Structure Plan**

**WHEREAS**, the Council of the Town of Bentley has recognized the need to prepare a new Area Structure Plan to establish the framework and guide the future development for the land legally described as S.W. 26-40-1-W5M, consisting of approximately 17.81 hectares (44 acres), as attached hereto as Schedule A and forming part of this By-law;

**AND WHEREAS**, Section 633 of the Municipal Government Act, Chapter M-26 of the Revised Statutes of Alberta, provides for the development and adoption of an Area Structure Plan;

**AND WHEREAS**, notice was given of Council's intention to pass this By-law in the August 5<sup>th</sup>, 2014 and August 12<sup>th</sup>, 2014 issue of the Rimbey Review;

**AND WHEREAS**, a Public Hearing was held on August 19<sup>th</sup>, 2014 to allow the general public to comment on the proposed Summersault Area Structure Plan;

**NOW THEREFORE**, the Council of the Town of Bentley, duly assembled, rescinds the North East Area Structure Plan By-law No. 528/93 and adopts the Summersault Area Structure Plan, being land legally described as the S.W. 26-40-1-W5M, as described in Schedule A, attached hereto and forming part of this By-law.

By-law No. 178 / 2014 read a first time this 29<sup>th</sup> day of July, 2014.

By-law No. 178 / 2014 read a second time this 19<sup>th</sup> day of August, 2014.

  
Initial

**Amendment:** Moved by Deputy Mayor Butch Howard that By-law No. 178/2014 be amended as follows:

That maps Schedule A – Land Use Plan and Schedule B – Landscaping Plan be amended to show that the row of future housing running east to west, abutting the currently developed 55<sup>th</sup> Avenue, will be designated Low Density Residential District (R-1) to provide for single family detached dwellings as set out in Clause 5.1 (1) b) and Figure 6: Area to be developed only for detached single family homes (shown in yellow).

By-law No. 178 / 2014 read a third time, *as amended*, and finally passed this 19<sup>th</sup> day of August, 2014.

  
\_\_\_\_\_  
Mayor

  
\_\_\_\_\_  
Chief Administrative Officer



# Summersault Area Structure Plan

*Summersault Developments*

SW 26-40-1-5

Bentley, Alberta

September 15, 2014



141-16071-00

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## **SCHEDULES**

**SCHEDULE A - Land Use Plan**

**SCHEDULE B - Landscaping Plan**

**SCHEDULE C - Road Plan**

**SCHEDULE D - Water Distribution System**

**SCHEDULE E - Sanitary Sewer System**

**SCHEDULE F - Stormwater System**



# 1. INTRODUCTION

## 1.1 Purpose

The purpose of the Summersault Residential Area Structure Plan is to establish the framework for the future subdivision and development of the subject site legally described as SW 26-40-1-W5M. The Area Structure Plan provides detailed information on future land uses, densities, the location of parks and open spaces, vehicle circulation and municipal infrastructure. The Area Structure Plan has been prepared in consultation with Town Staff and is subject to the review and approval of Council.

## 1.2 Site Location, Context and History

The subject site is located in the north eastern portion of the Town of Bentley, north of 55<sup>th</sup> Avenue and east of 49<sup>th</sup> Street. The site is approximately 17.81 ha (44.0 acres) in size and located within the Urban Reserve (UR) District. As outlined in the Land Use Bylaw, the purpose of this district is to “*reserve land for future subdivision and Development until an overall plan is prepared for and approved by Council*”.

The lands surrounding the site to the north, east and west are primarily undeveloped farmland. Lands immediately south consist of predominantly detached single-family homes within either the R1 (Low Density Residential) District or R2 (General Residential) District.

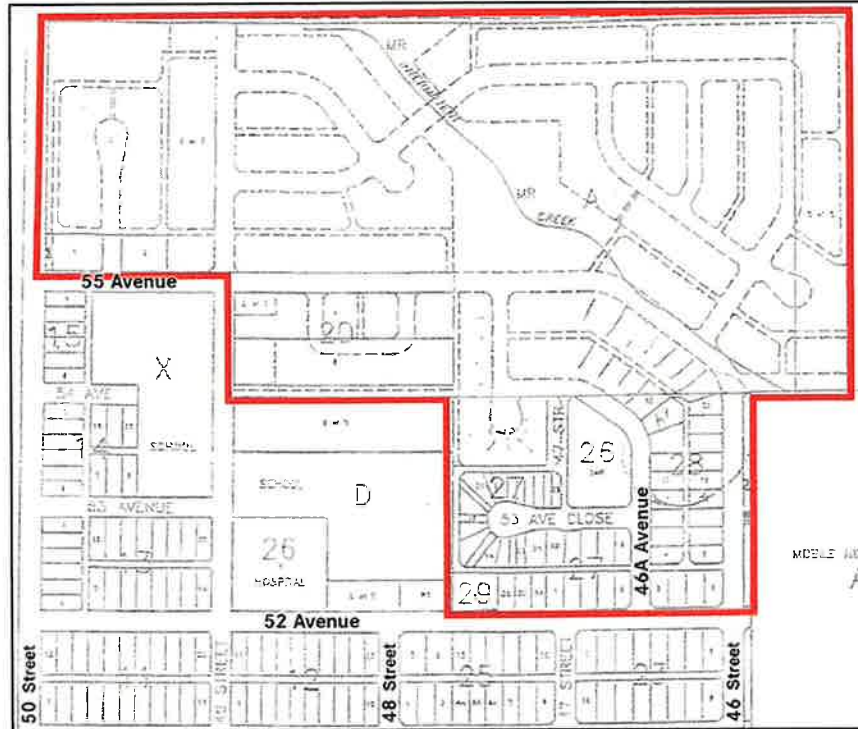
**Figure 1:** Site Location (shown in red)



The subject site is located within the former North East Area Structure Plan (Figure 2). This plan was adopted in 1993 and envisioned as a primarily low density residential development. While it appears some development occurred as a result of the ASP, the majority of the land remained undeveloped. In 2005 and 2006 the site was revisited with a number of environmental and engineering studies undertaken to assess the development potential of the property. This development concept (Figure 3)

also envisioned a neighborhood featuring detached single-family homes; however, it did not lead to the development of the subject property.

**Figure 2:** Northeast Area Structure Plan Concept (1993)



**Figure 3:** 2005 Development Concept



## 2. DEVELOPMENT CONCEPT

The proposed Land Use Plan is provided in Schedule A. The goal of the development is to provide numerous housing alternatives and styles not presently found in Bentley. While the exact breakdown and of the residential land uses is currently unknown, it is the developer's intent to provide a mixture of single-family, duplex, townhouse, manufactured dwellings and small apartment buildings. The limited housing alternatives are evidenced by the 2011 Census which indicates 86% of private dwelling units are detached single-family dwellings.

Roads and lots were designed around the natural drainage channel that runs northwest across the property to a proposed stormwater detention pond. While not a regulated water feature, the drainage channel provides a natural open space for the development. In addition to helping to manage stormwater, the drainage channel and stormwater pond are intended to be designed as public amenities and recreational space.

### 2.1 Land Use

The focus of the Land Use Plan (Schedule A) is to provide a variety of residential housing alternatives integrated with a high quality open space and trail network. Table 1 provides a breakdown of the land use statistics associated with the proposed development with the various land uses being described in more detail below.

<i>Developable Area</i>	<i>Area (acres)</i>	<i>%</i>
<b>Plan Area (total)</b>	<b>43.98</b>	<b>100%</b>
Environmental Reserve (Drainage Channel)	0.99	2.3%
Developable Area	42.99	97.7%
<i>Land Use</i>	<i>Acres</i>	<i>% of Developable Area</i>
R1 (Low Density Residential) District	3.46	8.0%
R2 (General Residential) District	14.33	33.3%
R3 (Manufactured Home) District	12.11	28.2%
Circulation - Roads and Lanes	7.17	16.7%
Municipal Reserve (MR)	2.72	6.3%
Public Utility Lot (PUL)	3.21	7.5%

#### 2.1.1 Residential

The land use plan integrates within the existing land use pattern immediately south by proposing detached single-family homes along 55 Avenue across from existing development. The remaining portions of the property is intended to feature a mixture of detached single-family dwellings, duplexes,



row houses, multi-unit housing developments (consistent with the R1 and R2 Districts) and a manufactured home park (consistent with the R3 District). The variety of housing types provides new alternatives for existing and future residents of varying family composition and income levels. While the location of some land uses is provided in Schedule A, it is important to note that the exact disbursement and location of various land uses could change based on market demand. Development in smaller communities requires flexibility in terms of housing types as the market is often somewhat unknown and subject to dramatic shifts.

The Municipal Development Plan (MDP) stipulates a maximum density of 30 units per hectare for new developments. Based on 12.17 hectares of net developable land (Table 1), the site could accommodate 365 dwelling units under the MDP. It is estimated that the development (based on the current land use plan) could have between 240 and 275 residential units. While the exact density is not known at this time, at no point should the number of residential units exceed the 365 units permitted.

The residential streets will consist of a mix of lane and laneless dwellings. Detached single-family homes will be located along 55 Avenue immediately across from existing single-family homes. This is intended to provide a transition between the existing development and the proposed, higher density development on the subject site.

Manufactured homes continue to be a desirable homeownership option for young families, first time home buyers and lower income individuals. In understanding this, a manufactured home park has been proposed at the eastern portion of the subject site. The park will provide options for both single and double-wide manufactured homes with or without garages.

### ***2.1.2 Open Space and Stormwater Detention Pond***

The northwest corner of the site is designated for a stormwater detention pond. This is consistent with previous development concepts, engineering assessments and is based upon the natural topography and seasonal drainage channel found on the site. The seasonal drainage channel is not a regulated watercourse however it has been designated as Environmental Reserve. In addition to its benefits from a stormwater management perspective, the seasonal drainage channel and stormwater pond present the opportunity for an open space/park corridor extending from the southeast corner of the site to the northwest corner.

A trail network will be incorporated along the open space and provide a natural amenity feature and improved pedestrian connectivity within the development. The stormwater detention pond is intended to be a landscaped dry pond, designed to serve as an amenity and recreation feature for residents in addition to its stormwater management functions. Details surrounding the proposed open space and landscaping are outlined in Schedule B. The trail network and landscaping will be the responsibility of the developer with specifics surrounding the design being finalized at the detailed design stage of future phases.



## **2.2 Road Network**

Three accesses to the subject site from 55 Avenue have been proposed. The Developer will be responsible for constructing the remaining portion of 55 Avenue between 49 Street and 47A Street. Road reserves are provided to the lands immediately north and east. Sidewalks have proposed along one side of the street and connect with the proposed trail network. The width and design of roadways in the development are based on consultation with Town Staff who are utilizing the standards currently in place for the City of Red Deer. Details surrounding the proposed roadway design are outlined in Schedule C.

## **2.3 Site Servicing**

WSP Group prepared a Preliminary Servicing Study for the proposed development to determine the serviceability of the proposed development relative to Town's existing infrastructure. The following subsections outline the findings of this study.

### ***2.3.1 Existing Conditions***

The site is primarily rolling agricultural land. A seasonal watercourse meanders west from the southeast corner to the northwest corner of the site. Sanitary and water mains currently exist along 55 Ave.

### ***2.3.2 Water Distribution System***

The proposed water distribution system involves three connections to the existing water main in 55 Avenue and will include two stubs to allow for the future servicing of properties to the north and east. The watermain sizes will be 200mm, other than fire hydrant leads and dead end lines. There is a 250mm line provided to the north as identified in the North Bentley Development Study prepared by GM Will Consulting Limited. Modelling of the system will be completed as part of an Area Structure Plan to confirm sizing provided. Further details surrounding the proposed water distribution system can be found in Schedule D.

### ***2.3.3 Sanitary Sewer System***

The proposed sanitary sewer system is outlined in Schedule E. To achieve proper cover on the pipe the existing sanitary main in 55 Avenue will be reconstructed to the west as shown. This new 250mm main will service the entire development with a stub to the north and east for future servicing, as per the North Bentley Development Study prepared by GM Will Consulting Limited. Some fill will be required in a couple of the cul-de-sacs to achieve the minimum cover. These lots will most likely become walk out lots.

### ***2.3.4 Site Grading and Major (Overland) Drainage***

Road grades and surface drainage are designed to follow the natural land topography where practical. The general overland water flow is from the southeast to the northwest. Section 2.3.5 of this document provides greater detail on the overall stormwater concept.

### ***2.3.5 Stormwater System***

The stormwater drainage system is based upon the Dual Drainage Concept with minor and major

systems. The overall stormwater concept is provided in Schedule F.

A previously prepared stormwater report by Stantec in April, 2006 is still relevant today. The major changes are that predevelopment rates have gone down over the years and the predevelopment rate Stantec used of 13.6 litres per second per hectare (l/s/ha) is on the high side. Current rates are around 4 to 6 l/s/ha in this area. Based on a rate of 5 l/s/ha, the pond size would change requiring approximately 8,700 m<sup>3</sup> in area versus the 5,500 m<sup>3</sup> that Stantec had indicated. We have reviewed the pond area provided in the previously approved Outline Plan and determined it will be adequate for the increased storage volume. Modelling of the system will be completed as part of the Area Structure Plan to confirm the pond size.

The stormwater management facility will be dry pond designed as a landscaped feature. All inlets to the facilities will have sedimentation forebays designed to Alberta Environment Guidelines to remove suspended sediment.

### ***2.3.6 Erosion and Sediment Control***

During construction, silt fencing will be installed around the site, where feasible, to mitigate off-site flow of soil. All stockpiled material will have silt fence installed at the toe of the pile.

The storm ponds will have North American Green 'SedimentStop' or equivalent filtration system installed around the perimeters until the landscaped vegetation inside the ponds has matured enough to effectively reduce sediment pollution.

### 3. DOCUMENT REVIEW

In order to properly evaluate the proposed development, it is important to understand governing documents and existing land use policies. Furthermore, a review of past technical documents allows for the assessment of the feasibility of the development and any issues that may need to be addressed through design. The following section highlights relevant findings from existing policy documents and past studies.

#### 3.1 Planning Documents

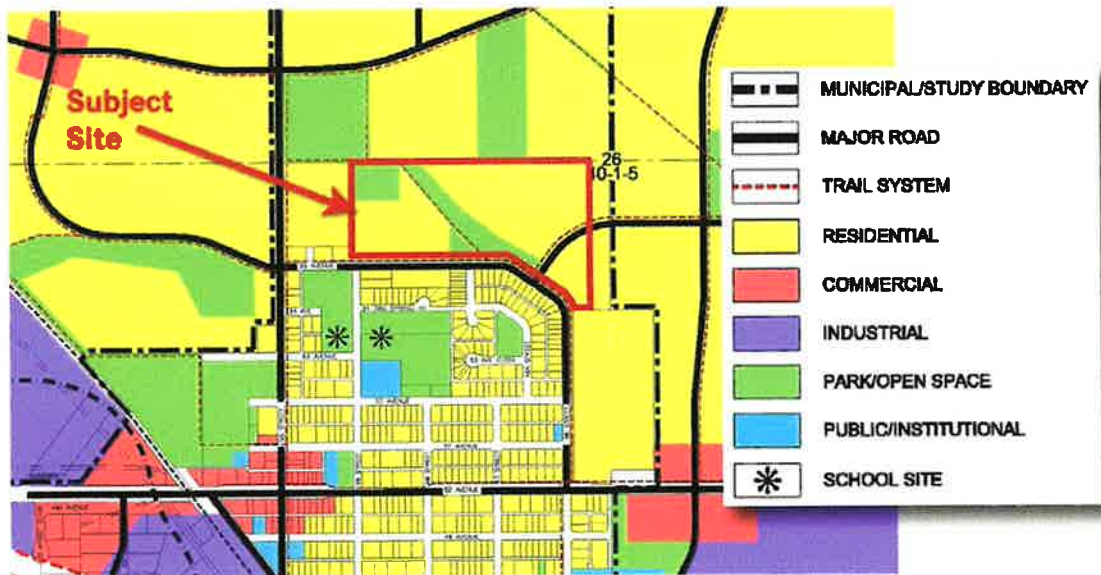
##### 3.1.1 Town of Bentley: Municipal Development Plan (2007)

A Municipal Development Plan (MDP) establishes policies to manage growth across an entire municipality, while identifying the location of residential, commercial and industrial areas, environmentally sensitive areas, parks and major utility expansions.

The Town of Bentley MDP addresses a variety of municipal planning issues and objectives, particularly as they relate to future land uses and residential growth areas. To this point, a primary residential objective is to “ensure a variety of housing types to meet the community lifestyles and market requirements”, which is consistent with the Land Use Plan.

The subject site is located within an area identified for ‘Residential’ development. Additionally, ‘Park/Open Space’ has been identified in the areas as generally depicted on the Land Use Plan (Schedule A). The MDP also indicates a road from 55 Avenue is planned to provide connectivity to the eastern portion of the town. This has also been accounted for in the Land Use Plan. Figure 4 highlights the subject site relative to the MDP.

Figure 4: Town of Bentley MDP Land Use Concept



The following table outlines MDP policies that apply to the proposed development along with comment as to how it has been addressed:

Table 2: Municipal Development Plan Policy Matrix	
Policy and Comment	Text
<b>Policy 4.3.4</b>	<i>The overall density of the Town should not exceed 15 dwellings units per gross developable hectare (6 dwellings units per gross developable acre).</i>
<b>Comment</b>	Based on the 2011 Census, the Town has 469 private dwelling units and land area of 230 hectares (ha). This provides a density of 2.04 units per gross hectare. At the maximum permitted density the proposed development would have 365 units which would bring the Town's overall density to 3.63 units per gross hectare. While these densities are not based on developable hectares, unless over 2/3 of the Town is undevelopable, the proposed development would be in conformance with this policy.
<b>Policy 4.3.5</b>	<i>The Town encourages the provision of a variety of housing forms...single family detached dwelling units should be a minimum of 70 percent of total potential dwelling units. Duplexes may contribute up to 10 percent...row house (townhouse), apartment developments should not exceed 20 percent...</i>
<b>Comment</b>	The Town's planning consultant has clarified that this policy is intended to apply to the entire town. The proposed development seeks to provide a mixture of housing types. While the exact ratio of each housing type is unknown, the first phase will feature detached single-family and townhouse units.
<b>Policy 4.3.7</b>	<p><i>Factors to be considered in the potential approval of any site for multiple family housing are:</i></p> <ul style="list-style-type: none"> <li>a) <i>Direction provided in an approved Area Structure Plan;</i></li> <li>b) <i>Direct access to a collector or arterial road;</i></li> <li>c) <i>Convenient access to institutional, recreation and community facilities and open space;</i></li> <li>d) <i>Existing housing area suitable for increased residential density;</i></li> <li>e) <i>Compatibility (e.g. height, volume, appearance) with existing housing;</i></li> <li>f) <i>Proximity to commercial services and facilities;</i></li> <li>g) <i>Potential impact of additional traffic on adjacent development;</i></li> <li>h) <i>Availability of space on site to meet parking requirements;</i></li> <li>i) <i>The development does not isolate an individual lot that it could not be subsequently redeveloped; and</i></li> <li>j) <i>The presence of other medium and high-density buildings on the block face.</i></li> </ul>



<b>Comment</b>	<p>There is one site within the plan area that is identified for multiples family housing. It is planned for between two or three individual multi-unit buildings with approximately 8-12 units. Depending on market demand this could shift to two 18 unit buildings or one 36 unit building on each site.</p> <p>The site is located on the east side of the plan area south of the manufactured home park. This site is also adjacent to the natural drainage channel and open space. This multi-family site is located on a local road, however based on the MDP Land Use Map, it appears this will eventually be a collector or arterial road.</p> <p>Compatibility and adequate parking space provisions will be determined during the development permit stage. Neither of these sites isolate individual parcels nor restrict redevelopment.</p>
<b>Policy 4.3.12</b>	<i>Adequate parks and open space shall be provided...</i>
<b>Comment</b>	As per the Land Use Plan, a park and open space corridor has been integrated throughout the entire development. This corridor also functions as a stormwater drainage channel, culminating with a dry landscaped stormwater detention pond in the northwest corner of the proposed development.
<b>Policy 7.3.5</b>	<i>The Town requires that the type and alignment for major roads be established in area structure plans.</i>
<b>Comment</b>	Roads will be designed based on the City of Red Deer standards. This standard dictates a 15 m right of way for local roads with a 10 m wide paved surface. Collector roads and roads connecting to existing 20 m right of way will be developed as a 20 m right of way.
<b>Policy 9.3.1 &amp; Policy 9.3.4</b>	<i>Upon subdivision, the subdivision authority shall require the provision of up to 10 percent of the land as municipal reserve...</i> - & - <i>The Town may...dedicate public utility lots towards overall reserve dedications...</i>
<b>Comment</b>	The proposed development dedicates approximately 1.1 ha (6.3%) of land as municipal reserve (MR). These lands create a linear park system linking the entire development. In addition, the public utility lot (PUL), is intended for a dry landscaped stormwater detention pond, contributes an additional 1.3 ha (7.5%) of reserve land which could be designed as a dual stormwater management pond and park/open space. Depending on the determination of Council, any outstanding MR dedication would be paid cash-in-lieu.

In summary, the proposed Land Use Plan is in conformance with the policies and mapping established in the MDP. The proposed development represents a logical extension of residential land uses and municipal services, and, most notably, the proposed development satisfies the Town’s residential growth objectives.

**3.1.2 Town of Bentley / Lacombe County Intermunicipal Development Plan (2009)**

The Town of Bentley and Lacombe County established an Intermunicipal Development Plan (IMDP) to provide direction related to land use in areas that reflect both the mutual and independent interests of both municipalities. As it relates to the Summersault Area Structure Plan, the IMDP provides broad

policy direction addressing growth management, environmental management and residential development. The following outlines relevant policies from the IMDP:

Table 3: Intermunicipal Development Plan Policy Matrix	
Policy and Comment	Text
<b>Policy 2.3</b>	<i>Both municipalities shall provide a variety of development opportunities within their jurisdiction maintaining the character of their respective communities.</i>
<b>Comment</b>	The proposed development is intended to provide new housing alternatives currently not available within Bentley which is in accordance this policy.
<b>Policy 3.3</b>	<i>Subdivision applicants shall be required to dedicate all lands that qualify as environmental reserve in accordance with the provisions of the Municipal Government Act.</i>
<b>Comment</b>	The drainage channel located on the property could be considered environmental reserve at the discretion of the Town. Given the seasonal nature of the channel it could also be developed or integrated into the subdivision, through approval by the Provincial Department of Environment and Sustainable Resource Development (ESRD). Neither the MGA nor IMDP provide clear direction as it relates to setbacks from drainage channels though ESRD does recommend a 6 metres buffer. Through consultation with Town Staff, this setback was deemed appropriate and applied to the development concept.
<b>Policy 4.3.7</b>	<i>A regional trail network shall be encouraged connecting points of interest within the Town and County to residential developments, natural features and other locations of cultural or recreational value.</i>
<b>Comment</b>	A trail network has been proposed along the drainage channel within the subdivision. This is in accordance with the Town's MDP and the above noted policy.

### **3.1.3 Village of Bentley: North East Area Structure Plan (1993)**

An Area Structure Plan (ASP) provides specific direction on how a specific area within a municipality is to develop, identifying the specific mix and density of land uses as well as layout of streets and blocks. The subject site is located within the former North East Area Structure Plan (NEASP). The NEASP was prepared in order to establish a development concept, planning policies and implementation strategy for the subject site and immediate surrounding area. The intent of the Plan was to provide guidance on the following development considerations:

- **Transportation:** the main objective of the NEASP was to extend 46<sup>th</sup> Street and 55<sup>th</sup> Avenue into the subject site. A series of local roads, including laneways designed for residential purposes, would

service the remaining lands.

- **Service and Utilities.** Prior studies indicated that the NEASP could accommodate 580 persons. A lift station would likely be required to service sewage disposal, and a storm water retention pond was proposed to service stormwater by gravity flow.
- **Future Land Uses.** The NEASP identified this area for major future residential growth consisting of a variety of housing types and densities. The envisioned plan was to foster the logical extension of existing residential areas into the NEASP. Specifically, it was projected that the subject site currently under consideration could accommodate 170 lots (500 persons).

The current Land Use Plan generally conforms to the 1993 NEASP, representing a logical residential expansion of the existing residential development south of 55 Avenue; an extension of major corridor roads and an internal local street network, inclusive of laneways, for individual units; and, services that include drainage channels and a storm water management pond (reference to the “Technical Documents” section below provides additional information regarding site servicing).

While the proposed development generally conforms to the above noted items, the development of alternative housing forms at a greater density on the site does not conform to the NEASP but do conform to the policies contained within the more recently adopted Municipal Development Plan. We understand it is the intent of the Town to repeal the NEASP as part of the approvals process for this proposed development.

### **3.1.4 Town of Bentley: Parks and Open Space Plan (2008)**

According to the *Parks and Open Space Plan*, the most significant open space land base encompasses the northern sections of the Town. These lands are currently designated ‘Urban Reserve’ in the Land Use Bylaw and intended for future development. How these lands develop with respect to parks and open space should be considered in the development of this Area Structure Plan.

The proposed development’s open space (as per MDP Policy 9.3.4 above and Objective 1.3 below) will contribute to the Town’s ‘Neighbourhood Park’ and ‘Open Space Areas’ system. These are defined as “open areas designed primarily for passive and active, non-organized recreational activities”. The proposed park and open areas are intended to serve residents of the immediate neighbourhood, while simultaneously linking the development to adjacent lands.

The following *Parks and Open Space Plan* goals and objectives highlight select considerations as they apply to the proposed development’s ‘Neighbourhood Parks’ and ‘Open Space Areas’:

#### **NEIGHBOURHOOD PARKS**

##### ***Objective 1.2: Park Service Areas***

*“Residential neighbourhoods should be served by a developed park located within approximately 400-metres.”*

- The proposed park corridor spans the entire length of the proposed development and is located well within the 400 metre radius. This corridor will provide for active linkages and leisure

opportunities for area residents.

**Objective 1.3: Land Dedications**

*“Developers of residential neighbourhoods shall be required to contribute to park sites...”*

- As outlined in Table 2 (Policy 9.3.4), the proposed development dedicates approximately 1.42 ha (8.0%) of land as municipal reserve (MR). These lands create a linear park system linking the entire development. In addition, the public utility lot (PUL), is intended for a dry landscaped stormwater detention pond, contributes an additional 1.20 ha (6.7%) of reserve land which could be designed as a dual stormwater management pond and park/open space. Depending on the determination of Council, any outstanding MR dedication would be paid cash-in-lieu.

**Objective 3.1: Co-Location Opportunities**

*“Explore the feasibility to locate parks within storm water detention facilities provided sufficient park space can be provided.”*

- The proposed park corridor functions as a stormwater management and drainage system, culminating with a dry landscaped storm water detention pond in the northwest corner of the proposed development.

**OPEN SPACE AREAS**

**Objective 1.1: Network Concept**

*“Combine natural areas into a connected system that preserves environmentally sensitive lands, provides wildlife habitat, and creates a sense of openness throughout the community.”*

- The proposed park corridor spans the entire length of the proposed development and will be fully landscaped with both natural and planned vegetation.

**Objective 1.3: Recreation Opportunities**

*“Explore opportunities to incorporate compatible recreation and trail uses within open space areas.”*

- Given the dual function as a drainage channel, as well as size and configuration limitations, the proposed open areas do not provide sufficient space for supervised parks such as soccer fields or baseball diamonds. However, passive and active recreation activities are being proposed such a trail system, and open areas suitable for leisure outdoor activities.

A primary intention of this Area Structure Plan is to continue providing high-quality residential neighbourhoods in the Town of Bentley. Providing parks and open spaces is, therefore, an essential component of this development proposal and important to the overall marketability of the development. It is understood that upon submission of detailed plans for subdivision, a parks and open space plan will be provided respective of the objectives and guidelines established in the *Parks and Open Space Plan*.

**3.1.5 Town of Bentley Land Use Bylaw No. 153 (2011)**

A Land Use Bylaw splits the municipality up into various districts which outline specific regulations regarding what uses are permitted on a site and guides where and how development will occur on individual parcels. The proposed land use districts for the development are outlined in Section 5.3.



## 3.2 Technical Studies

### 3.2.1 Town of Bentley: Investment Attraction Profile (2012)

According to this document, the Town of Bentley has experienced population growth over the past decade. This trend is expected to continue as primary sector employment opportunities are also anticipated to grow. In order to accommodate anticipated growth, additional residential neighbourhoods are required.

The subject property is specifically identified in this document as an “Excellent Opportunity for Land Development”. Adjacent to existing residential neighbourhoods, access to municipal services, and its general proximity to Town amenities, the subject site is identified as ideal for residential development investment.

### 3.2.2 Town of Bentley: Land Supply and Future Growth Potential (2013)

This document forecasts Bentley’s future residential growth opportunities over the next 30 years, and correlates anticipated growth to municipal land supply. According to this document, an annual growth rate of 1.32 % is anticipated. At this rate, the following growth scenario is anticipated:

Year	Total Population	Number of Persons Increase	Assumed Average Household Size	Number of Dwellings Increase
2012	1,147	15	2.4	6
2017	1,225	93	2.4	39
2022	1,308	176	2.35	75
2027	1,396	264	2.35	112
2032	1,491	359	2.35	153
2037	1,592	460	2.35	196
2042	1,700	568	2.35	242

Single detached and semi-detached dwellings are likely to satisfy residential development needs (100%) of new housing unit construction between 2006 and 2011. Residential land supply will, therefore, need to respond to anticipated population growth and demand for housing. Based on the Land Supply and Future Growth Study’s findings, there is adequate residential land supply to accommodate development up to and well beyond 2042. The table below highlights these findings:

Year	Total Population	Projected Demand (ha)	Overall Supply (ha)
2042	1,700	19.7	51.0

In relation to the document’s findings, the proposed development should satisfy anticipated growth potential and trends for the next 30 years.

### ***3.2.3 Geotechnical Investigation: Proposed Bentley Residential Subdivision (2005)***

This report was conducted to determine the nature and engineering properties of the site soils with regards to grading, the design of underground services, building foundations, and roadway subgrades. The investigation involved drilling eight 8 boreholes, each 6.7 metres deep, to examine soil profiles. The following soil types, in descending order, were identified:

- topsoil;
- lacustrine soils;
- till (0.3 to 1 metre below grade);
- weathered bedrock (1.8 to 4.8 metres below grade); and
- layers (approximately 1 metre thick) of dense coal were also identified in three of the eight boreholes.

According to the 2005 investigation, subsurface conditions are considered to be suitable for residential development. The most significant geotechnical issue is expected to be the presence of shallow bedrock which may impact underground service trench excavation. It is expected that buried services will be installed to depths of approximately 4 metres.

Notwithstanding this potential impact, site grading, building foundations and roadway design should follow generally accepted fill, soil and foundation engineering practices. In order to achieve the required grading on-site an approved fill, such as low to medium plastic clay, may be used. If coarse gravel is proposed, a maximum aggregate size of 100mm is recommended. Soil samples also determined that water soluble sulphates pose negligible threats to buried concrete and subgrade infrastructures.

The subject site has not been disturbed, outside of its ongoing agricultural use, since the time of this study so it is anticipated that the findings of this Geotechnical Investigation are still valid and applicable to the property.

### ***3.2.4 Bentley North Subdivision: Phase 1 Environmental Site Assessment (2006)***

A Phase 1 Environmental Site Assessment (ESA) was commissioned to identify potential environmental items that may require further site investigation or other action. The 2006 ESA concluded that the level of environmental risk associated with the subject site was low. Based on available information at the time, additional site investigation was not recommended. A secondary search of the Abacus Datagraphics (AbaData) online database on June 10, 2014 did not reveal the presence of any spills or oil and gas facilities on the subject property.

### ***3.2.5 Traffic Impact Assessment (2014)***

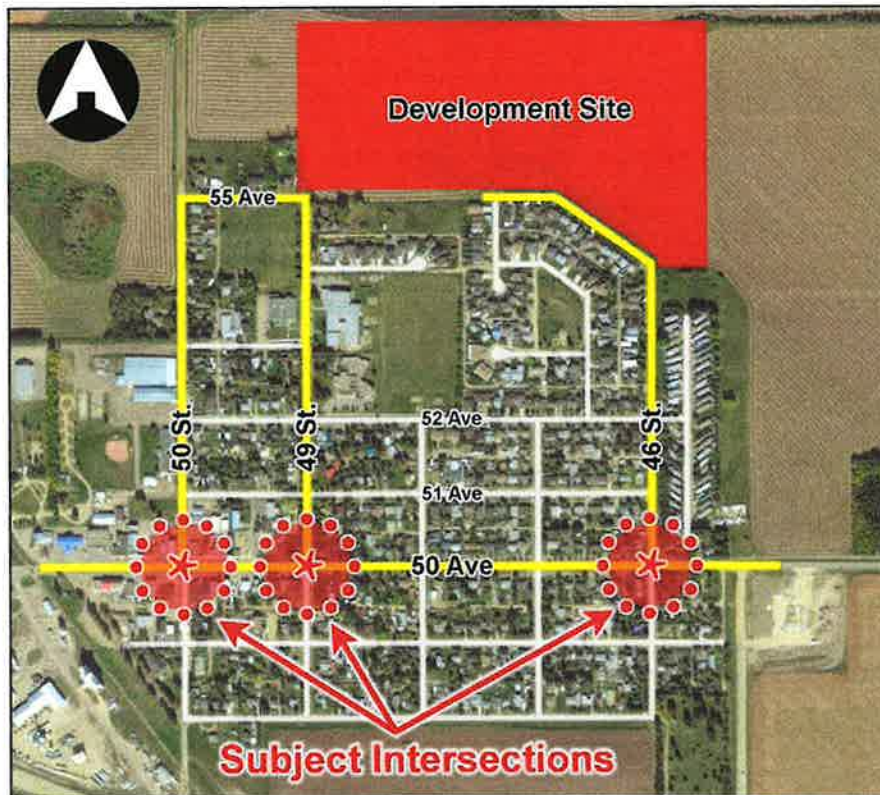
WSP Canada Inc. prepared a Traffic Impact Assessment (TIA) for the proposed development which has also been provided to the Town. A TIA is an unbiased assessment, prepared by a professional Engineer, that evaluates existing traffic conditions and infrastructure against the impact of a newly proposed development. Existing traffic conditions are determined through assessing existing traffic turning movements (obtained from Alberta Transportation or manual counts) and the geometric standards of existing transportation infrastructure and intersections. This determines the existing network's

functionality or level of service.

The existing level of service is then compared against the anticipated level of service once a proposed development is fully built-out and is based on anticipated future traffic growth and vehicle trips generated by a development during peak periods. This includes forecasting traffic volumes into the 20 year horizon. Depending on the outcomes of the modelling and assessment, upgrades to existing infrastructure and/or intersections can be required in order to maintain an acceptable level of service throughout the traffic network.

For the purposes of the proposed development, the TIA included assessments of three intersections: 50<sup>th</sup> Avenue / 50<sup>th</sup> Street, 50<sup>th</sup> Avenue / 49<sup>th</sup> Street and 50<sup>th</sup> Avenue / 46<sup>th</sup> Street 9 as shown in Figure 5.

**Figure 5:** Intersections Assessed in TIA



The following provides a summary of the findings from the TIA:

***50<sup>th</sup> Avenue / 50<sup>th</sup> Street Intersection***

- All traffic movements during AM and PM peak periods at this intersection will operate at an acceptable level of service at the development's full build-out and will be capable of accommodating the forecasted traffic up to the 20 year horizon.

- While not required as part of Phase 1, an exclusive eastbound left turn lane for vehicles turning left (north) from 50<sup>th</sup> Avenue onto 50<sup>th</sup> Street will be necessary at full build out of the development.
- Though not necessary based on current projections, best practices indicate the Town consider the addition of an exclusive westbound left turn lane for vehicles turning left (south) from 50<sup>th</sup> Avenue onto 50<sup>th</sup> Street.
- Traffic signals are not necessary at the intersection.
- It is recommended that the Town install and/or maintain appropriate pedestrian crosswalk pavement markings and signage at this location.
- The existing geometry of the intersection should allow for all of the above-noted changes and should be incorporated into the Town's streetscape improvement program.

#### ***50<sup>th</sup> Avenue / 49<sup>th</sup> Street Intersection***

- All traffic movements during AM and PM peak periods at this intersection will operate at an acceptable level of service at the development's full build-out and will be capable of accommodating the forecasted traffic up to the 20 year horizon.
- While not required as part of Phase 1, an exclusive eastbound left turn lane for vehicles turning left (north) from 50<sup>th</sup> Avenue onto 49<sup>th</sup> Street will be necessary at full build out of the development. However, given the width of the existing eastbound lane at this intersection, adequate maneuvering space is available for vehicles to travel around vehicles waiting to make this left turn. Based on this, no geometric improvements to the intersection are required as a result of the proposed development, though the Town may consider adding lane markings for clarity.
- On-street parking in the vicinity of the 50<sup>th</sup> Avenue / 49<sup>th</sup> Street intersection is recommended to be limited during AM and PM peaks.
- Traffic signals are not necessary at the intersection.
- It is recommended that the Town install and/or maintain appropriate pedestrian crosswalk pavement markings and signage at this location.

#### ***50<sup>th</sup> Avenue / 46<sup>th</sup> Street Intersection***

- All traffic movements during AM and PM peak periods at this intersection will operate at an acceptable level of service at the development's full build-out and will be capable of accommodating the forecasted traffic up to the 20 year horizon.
- A westbound right turn lane for vehicles turning right (north) from 50<sup>th</sup> Avenue onto 46<sup>th</sup> Street, though technically warranted, is not recommended. This is due to the low posted speed limit (50 km/h) and road right-of-way constraints.
- Traffic signals are not necessary at the intersection.



- It is recommended that the Town install and/or maintain appropriate pedestrian crosswalk pavement markings and signage at this location.

### ***3.2.6 Preliminary Servicing Study (2014)***

WSP Group was retained to prepare a Watermain Analysis and Stormwater Management Plan to confirm the serviceability of the existing development relative to the Town's existing infrastructure. Findings related to this analysis were previously outlined in Section 2.4 with the complete reports being provided to the Town.

## **4. RECOMMENDED POLICY CHANGES**

### **4.1 Municipal Development Plan**

The proposed development conforms with the Policies of the Town's Municipal Development Plan and no amendments are required to the Municipal Development Plan to permit the proposed development.

### **4.2 Northeast Area Structure Plan**

With the approval of this Area Structure Plan the Town will repeal the Northeast Area Structure Plan.

### **4.3 Land Use Bylaw**

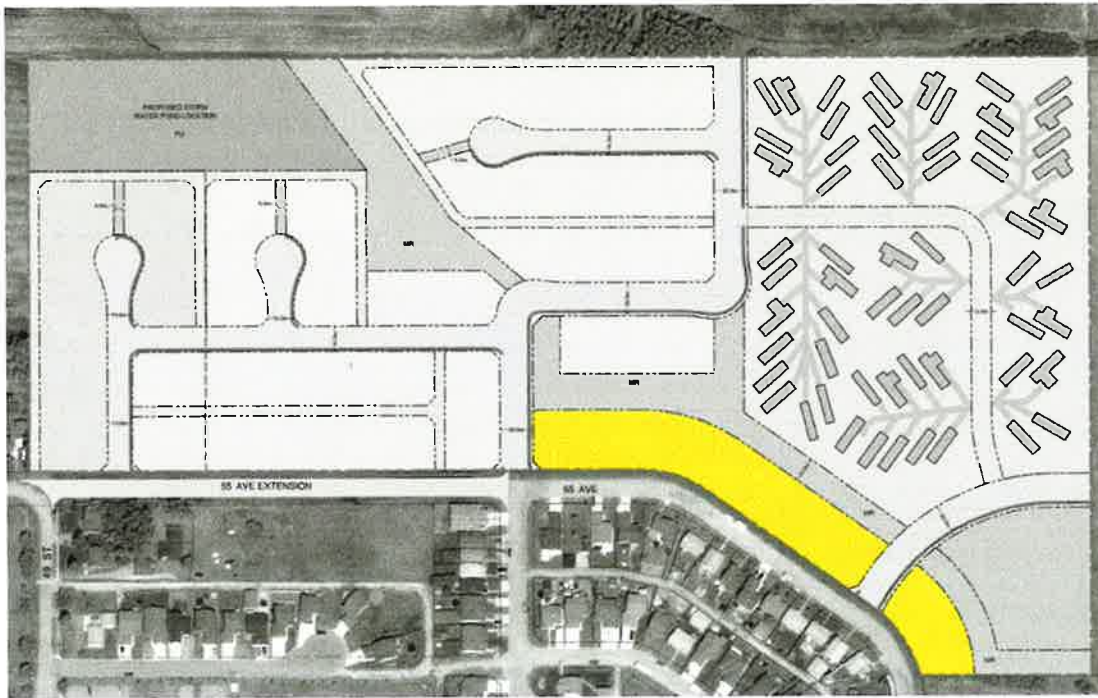
The property is currently zoned Urban Reserve and will require a rezoning which is outlined further in Section 5.3. As part of future phases of the development, the Town and Developer may explore the creation a new district aimed at allowing narrower lots.

## 5. IMPLEMENTATION

### 5.1 Development Policies

- (1) Development across the majority of the subject property will be based on market demand and allow for a variety of low and medium density residential uses consistent with the R1, R2 and R3 Districts under the Town's Land Use Bylaw. The only exceptions are as follows:
  - a) Manufactured homes shall only be located in the area zoned and designated for a manufactured home park; and
  - b) Lots directly across from existing detached single-family homes on 55 Avenue as shown in Figure 6 shall only be used for detached single-family homes.

**Figure 6:** Area to be Developed with Only for Detached Single-Family Homes (Shown in Yellow)



- (2) The developer and Town should work together in the final design of the proposed trail network and dry stormwater pond intended to serve as recreational and amenity features.
- (3) The manufactured home park should be screened from adjacent land uses, properties and public roads through the use screening in the form of deciduous and coniferous trees along the entire length of the property's boundaries.
- (4) Multi-unit dwellings and their associated parking shall be screened from adjacent land uses through a combination of deciduous and coniferous trees, an opaque wooden fence or some combination thereof to the satisfaction of the Development Authority.

- (5) Notwithstanding sight triangle requirements, deciduous trees shall be planted along all public street frontages at the following rates:
- a) 1 tree per detached single family dwelling and duplex lot;
  - b) 1 tree per every two lots planned for townhouse dwellings; and
  - c) 1 tree per 15 linear metres for multi-unit sites or the side yard of a corner lot that faces a street.
- (6) Trees required under (5) shall be high leafing deciduous trees when planted within the Municipal right-of-way.

## 5.2 Development Staging

As indicated on the Land Use Concept, the development is anticipated to begin in the west, at the intersection of 49<sup>th</sup> Street and 55<sup>th</sup> Avenue in the area identified as Phase I. Development will progress in an easterly direction based on market demand and includes further extension of services and roadways. Approximate lot dimensions have been provided, though these could be subject to minor changes as building designs and footprints are finalized.

## 5.3 Redistricting and Subdivision

All of the land within plan area is currently districted as (UR) Urban Reserve District. Redistricting and subdivision of the land is intended to conform to the following:

- **R1 (Low Density Residential) District:** lands immediately northeast of 55 Avenue (across from existing detached single-family homes) and some lots associated with Phase 1 of the development.
- **R2 (General Residential) District:** any lands not indicated as manufactured homes, municipal reserve or public utility lots on the Land Use Plan (Schedule A).
- **R3 (Manufactured Home) District:** manufactured home park including both single-wide and double-wide lots.
- **P (Public Use) District:** stormwater detention pond, trail and open space.

While the R2 (General Residential) District has been applied to the majority of lots, the developer and municipality may explore a new district for future phases as part of an amendment to the Land Use Bylaw.

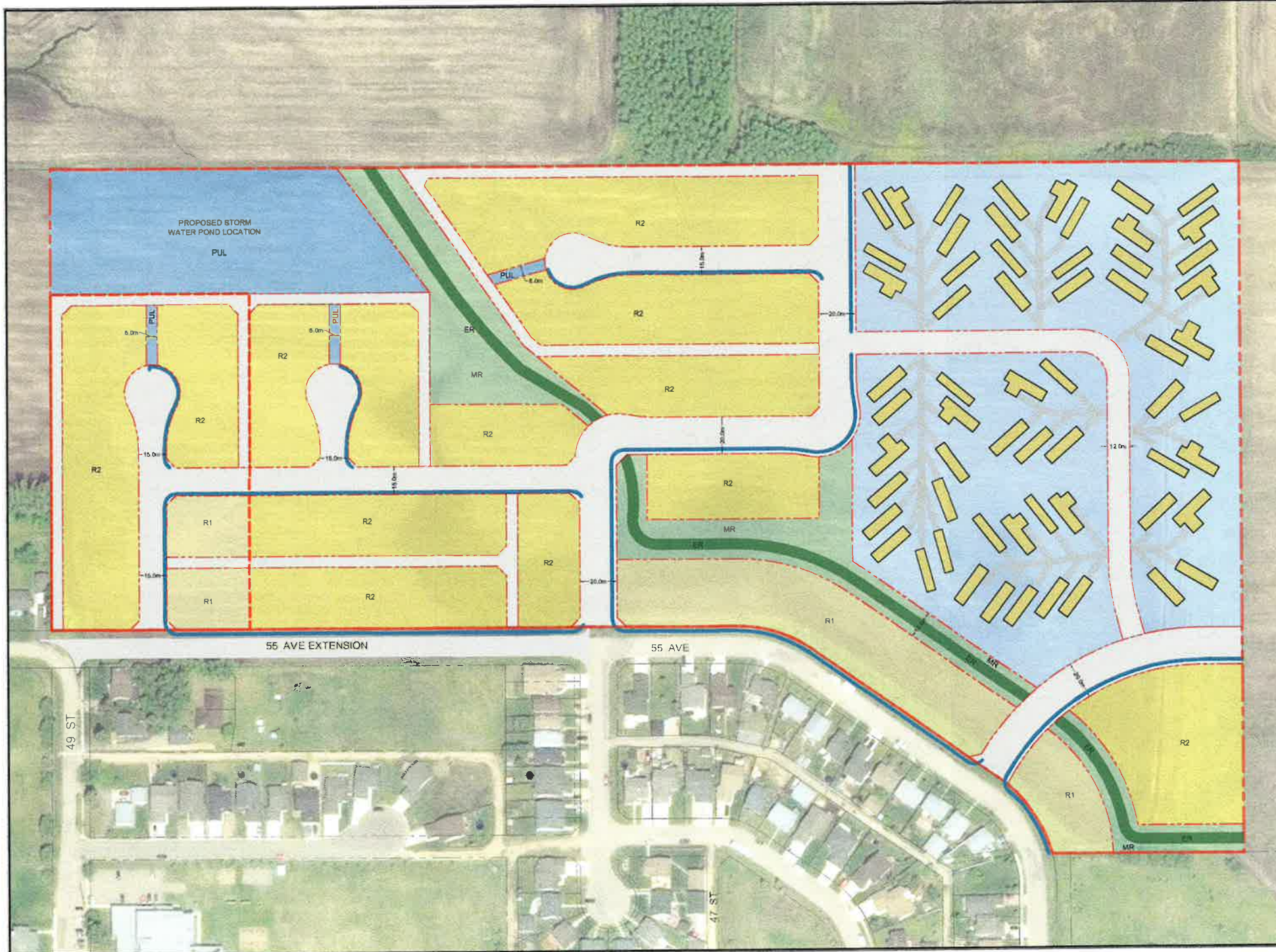
## 5.4 Adopting and Amending the Area Structure Plan

Adoption and any amendment of this Area Structure Plan would be the responsibility of Council. The Summersault Residential Area Structure Plan provides a conceptual development framework for the subject site.





**SCHEDULE A:**  
*Land Use Plan*



- LEGEND**
- Phase 1 Boundary
  - Proposed Lots
  - Proposed Sidewalk
  - R1 (Low Density Residential) District
  - R2 (General Residential) District
  - R3 (Manufactured Home) District
  - Municipal Reserve (MR)
  - Drainage Channel
  - Environmental Reserve (ER)
  - Public Utility (PU) Lot
  - Municipal Reserve (MR)

**LAND USE SUMMARY:**  
 R1 AREA: 1.4 hectares  
 R2 AREA: 5.8 hectares  
 R3 AREA: 4.9 hectares  
 PUL AREA: 1.3 hectares  
 MR AREA: 1.1 hectares  
 ER AREA: 0.4 hectare  
 ROAD AREA: 2.9 hectares  
**TOTAL AREA: 17.8 hectares**

- NOTES:**
- Property lines approximate only. Site subject to survey
  - Lot dimensions based on new district proposed in Outline Plan

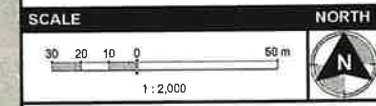
**SOURCES:**  
 • Property lines from AllGIS

Designer: J. GRANT/WANG  
 Planner: S.FASH

VERSION  
**101**

**LAND USE PLAN**  
 BENTLEY, ALBERTA

SW26 40-1-W5M  
 September 8, 2014 141-16071-101



132 - 2693 BRIDLEMOOR BOULEVARD,  
 SHERWOOD PARK, ALBERTA CANADA, T8H 0G1  
 PHONE: 780 410-6740 - FAX: 780 449-1050 - WWW.WSPGROUP.COM

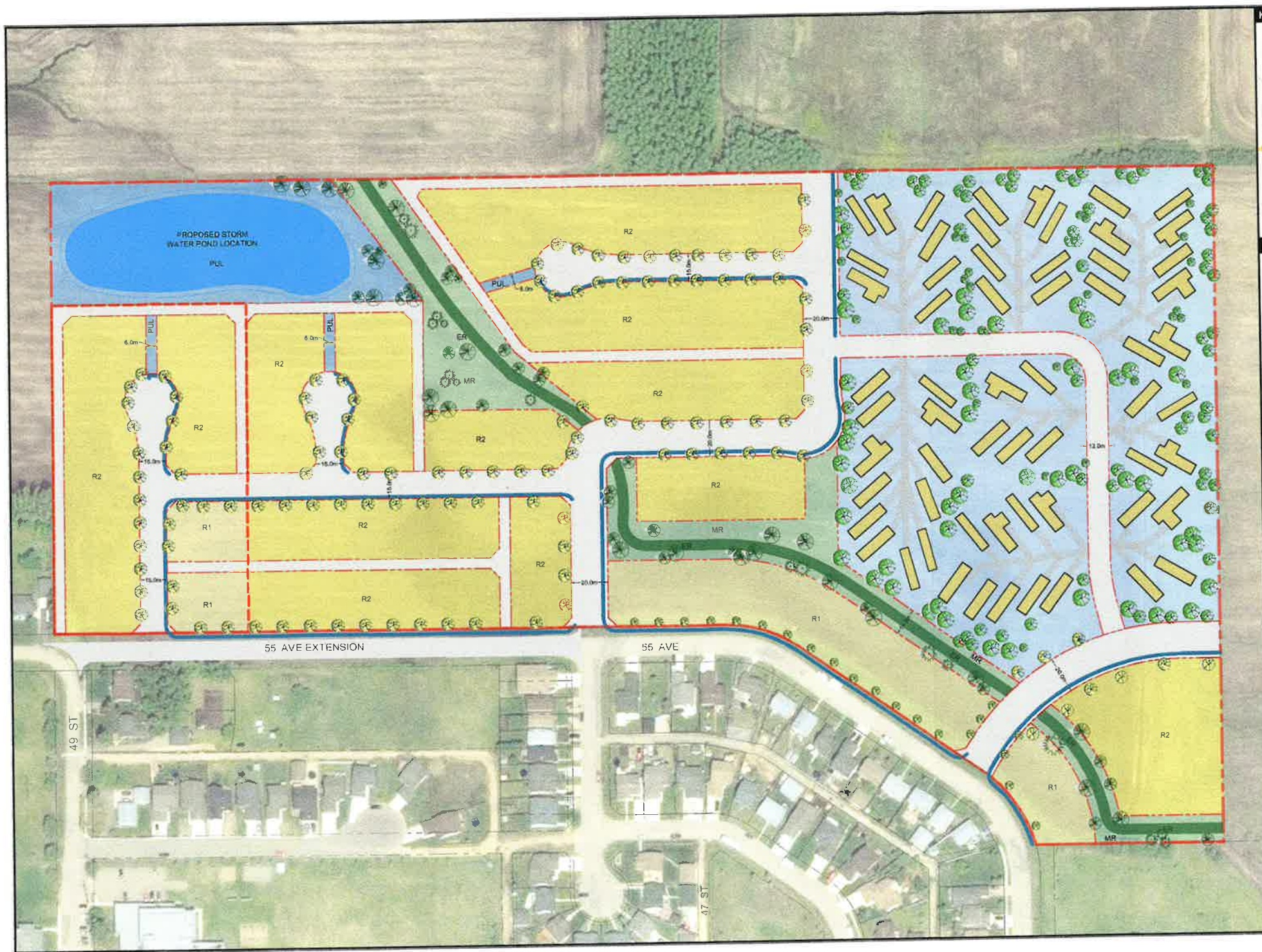
Sheet Number  
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**SCHEDULE B:**  
*Landscaping Plan*





**KEY PLAN**

**TOWN OF BENTLEY**

**LEGEND**

- Phase 1 Boundary
- Proposed Sidewalk
- R1 (Low Density Residential) District
- R2 (General Residential) District
- R3 (Manufactured Home) District
- Municipal Reserve (MR)
- Drainage Channel- Environmental Reserve (ER)
- Public Utility (PU) Lot
- Municipal Reserve (MR)
- Deciduous Trees
- Coniferous Trees

Note - Selected trees shall be of a species capable of health growth in this region of Alberta

**SITE SUMMARY:**

- Land Area - 17.83 hectares
- Municipal Reserve - 1.1 ha (6.0%)
- Environmental Reserve - 0.4 ha (2%)
- Public Utility - 1.3 ha (7.3%)
- Public Roads & Lanes - 3.17 ha (16.3%)

**NOTES:**

- Property lines approximate only. Site subject to survey
- Lot dimensions based on new district proposed in Outline Plan

**SOURCES:**

- Property lines from AltaLIS

Designer: L. GRANT / A. WANG

Planner: S. FASH

**VERSION**  
**101**

**LANDSCAPE PLAN**  
BENTLEY, ALBERTA

SW26 40-1-W5M

SEPTEMBER 8, 2014      141-18071-101

**SCALE**      **NORTH**

1 : 2,000

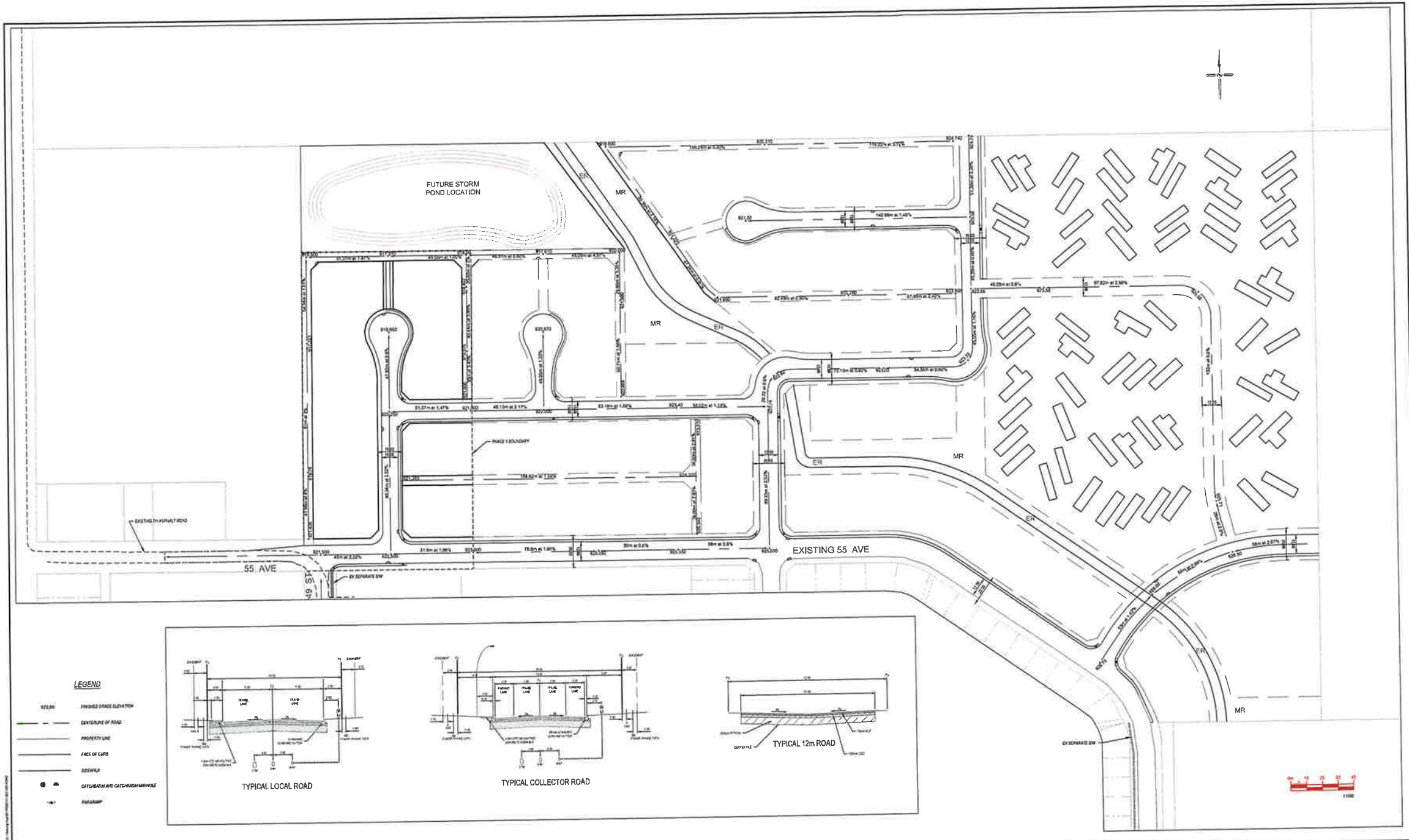
132 - 2993 BROOKWOOD BOULEVARD  
HERWOODS PARK, ALBERTA CANADA, T8H 0G1  
PHONE: 780 410-6740 - FAX: 780 448-4050 - WWW.WSPGROUP.COM

FILE: S:\MUNICIPAL\3131-2010R-00 - BENTLEY TMAP\CONCEPT\141-18071-101-DWG

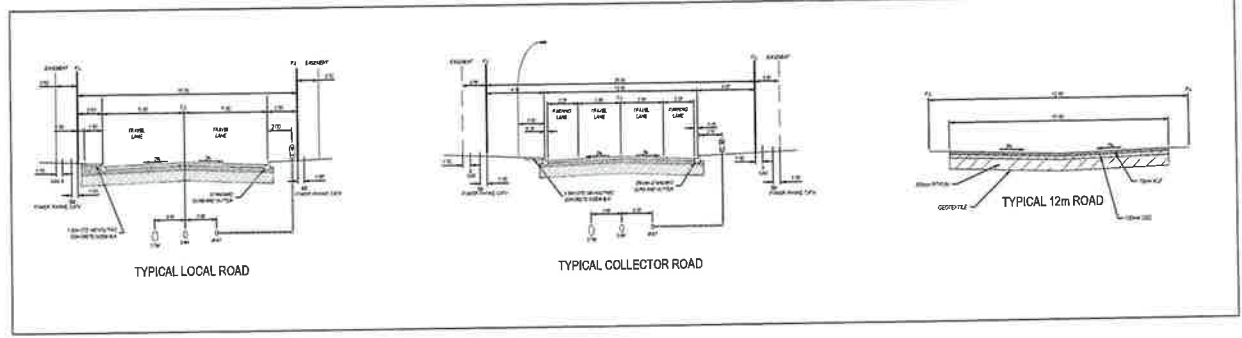




**SCHEDULE C:**  
*Road Plan*



- LEGEND**
- FINISHED GRADE ELEVATION
  - CENTERLINE OF ROAD
  - PROPERTY LINE
  - FACE OF CURB
  - SIDEWALK
  - ● GUTTER AND GUTTERWAY MARKING
  - FURROW



NOTES:  
 1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
 2. ALL DIMENSIONS ARE IN METERS.  
 3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
 4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
 5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

NO.	DATE	DESCRIPTION	BY	CHK	APP
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2	20140515	ISSUE FOR REVIEW	AM	CS	ES
3	20140515	ISSUE FOR REVIEW	AM	CS	ES

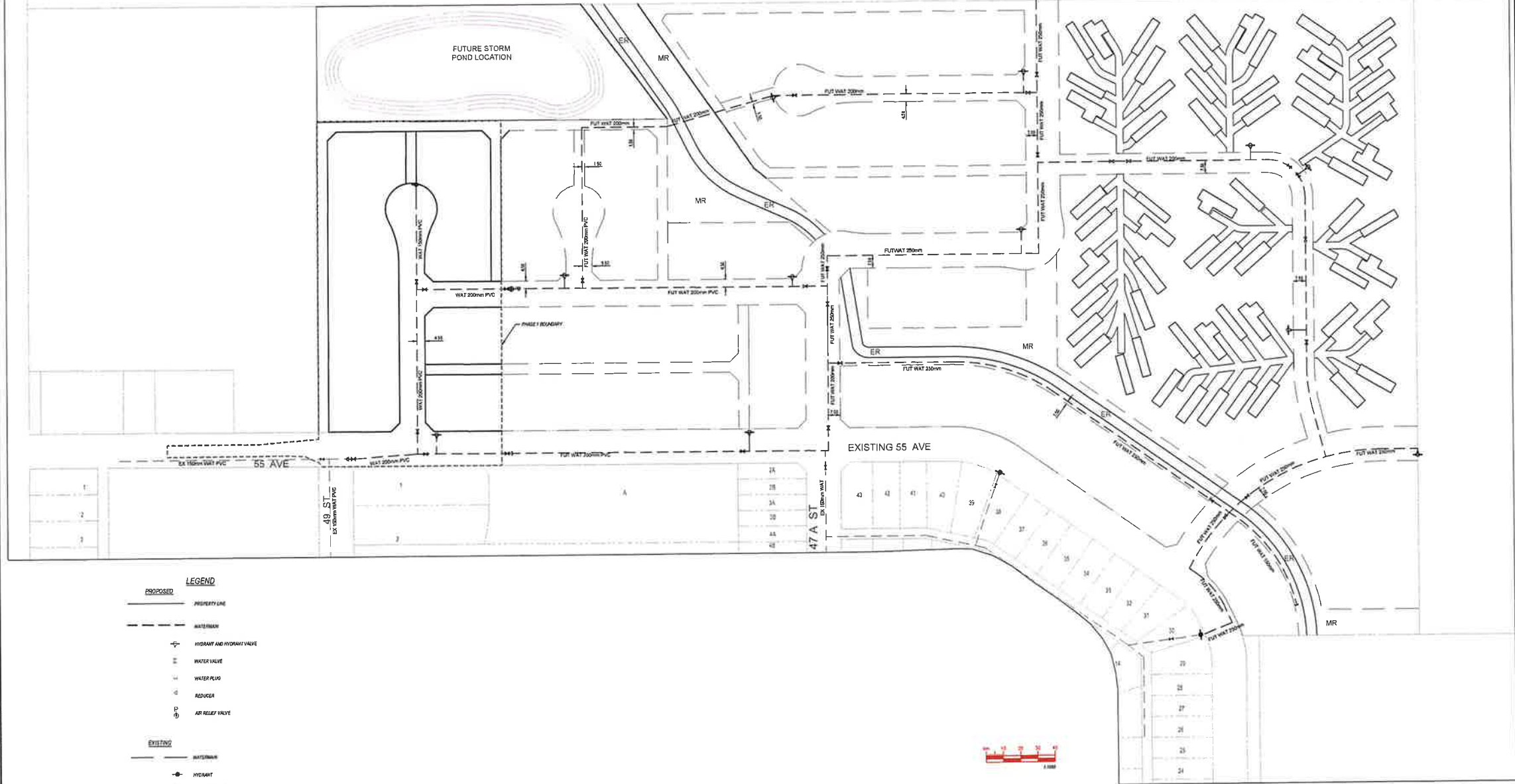
174 0247 ALBERTA LTD.



PROJECT: SUMMERSAULT SERVICING STUDY	TITLE: ROAD PLAN
PROJECT NO: 141-16071	DRAWING NO: 141-16071-00-C001
ORIGINAL SCALE: 1:500	SHEET NO: 1 OF 1
DATE: MAY 2014	FOR ASP
DRAWN BY: A. MCNEIL	20140515
CHECKED BY: C. SUDHY	
DRAWING TITLE: MUNICIPAL INFRASTRUCTURE	



**SCHEDULE D:**  
*Water Distribution System*



**LEGEND**

**PROPOSED**

- PROPERTY LINE
- - - WATER MAIN
- ⊕ HYDRANT AND HYDRANT VALVE
- ⊞ WATER VALVE
- ⊞ WATER PLUG
- ⊞ REDUCER
- ⊞ AIR RELIEF VALVE

**EXISTING**

- - - WATER MAIN
- ⊕ HYDRANT
- ⊞ WATER VALVE

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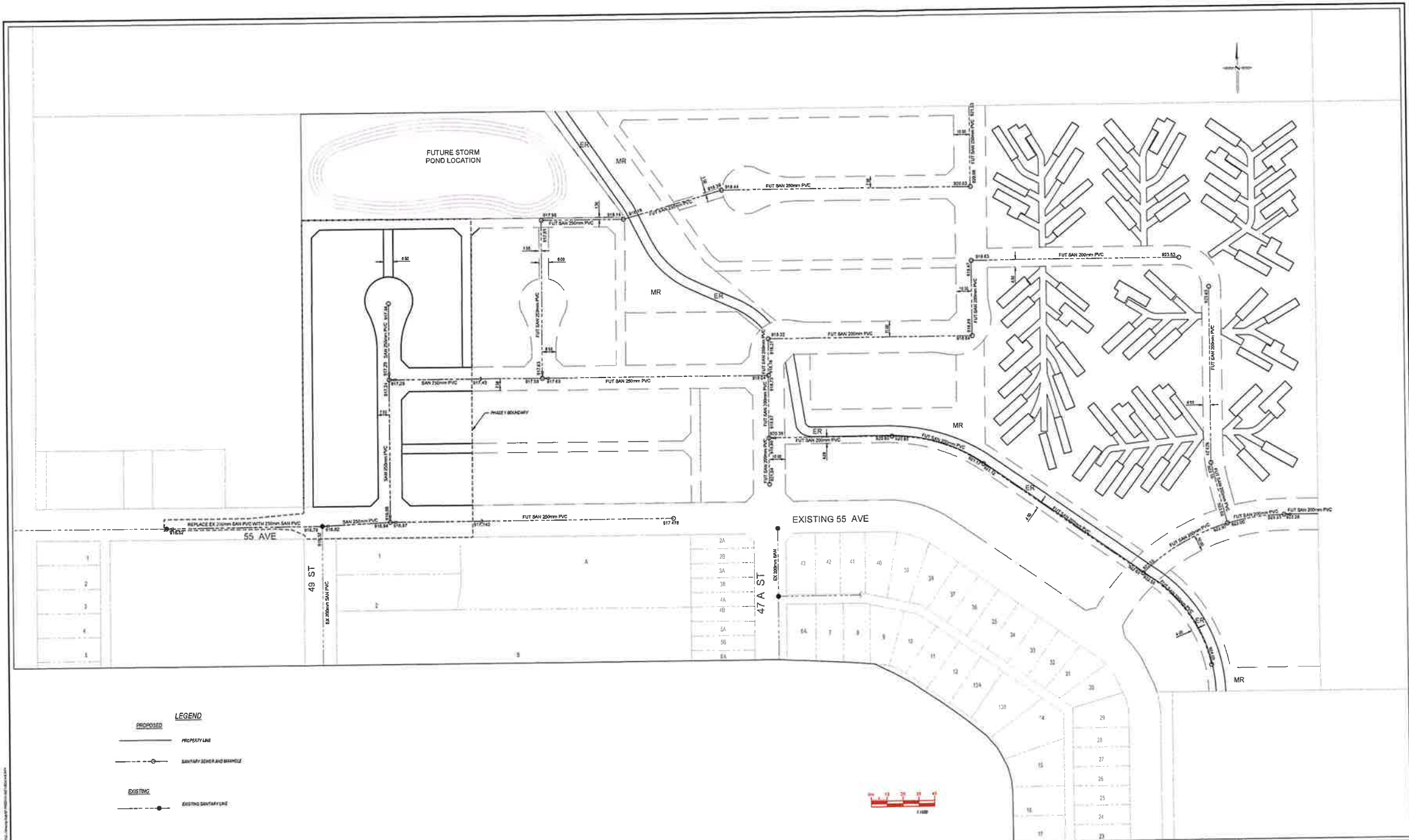


SUMMERSAULT SERVICING STUDY		WATER DISTRIBUTION PLAN	
PROJECT NO:	141-16071	DRAWING NO:	141-16071-00-C002
PROJECT DATE:	MAY 2014	DRAWING DATE:	05/14
DESIGNED BY:	C. BUCKY	DRAWN BY:	A. MCMURTRIE
CHECKED BY:		DATE:	20140515
MUNICIPAL INFRASTRUCTURE		FOR ASP	
		1	





**SCHEDULE E:**  
*Sanitary Sewer System*



**LEGEND**

	PROPOSED	PROPERTY LINE
	PROPOSED	SANITARY SEWER AND MANHOLE
	EXISTING	EXISTING SANITARY LINE



**NOTES**

1. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE SITE AND HAS FOUND NO OBVIOUS OBSTRUCTIONS TO THE PROPOSED WORK.
2. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING SANITARY SEWER SYSTEM AND HAS FOUND NO OBVIOUS OBSTRUCTIONS TO THE PROPOSED WORK.
3. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING SANITARY SEWER SYSTEM AND HAS FOUND NO OBVIOUS OBSTRUCTIONS TO THE PROPOSED WORK.
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10. THE DESIGNER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING SANITARY SEWER SYSTEM AND HAS FOUND NO OBVIOUS OBSTRUCTIONS TO THE PROPOSED WORK.

NO.	DATE	DESCRIPTION	BY	CHKD
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3	2014/05/12	REVISION	AS	CS
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8	2014/05/17	REVISION	AS	CS
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**SUMMERSAULT SERVICING STUDY**

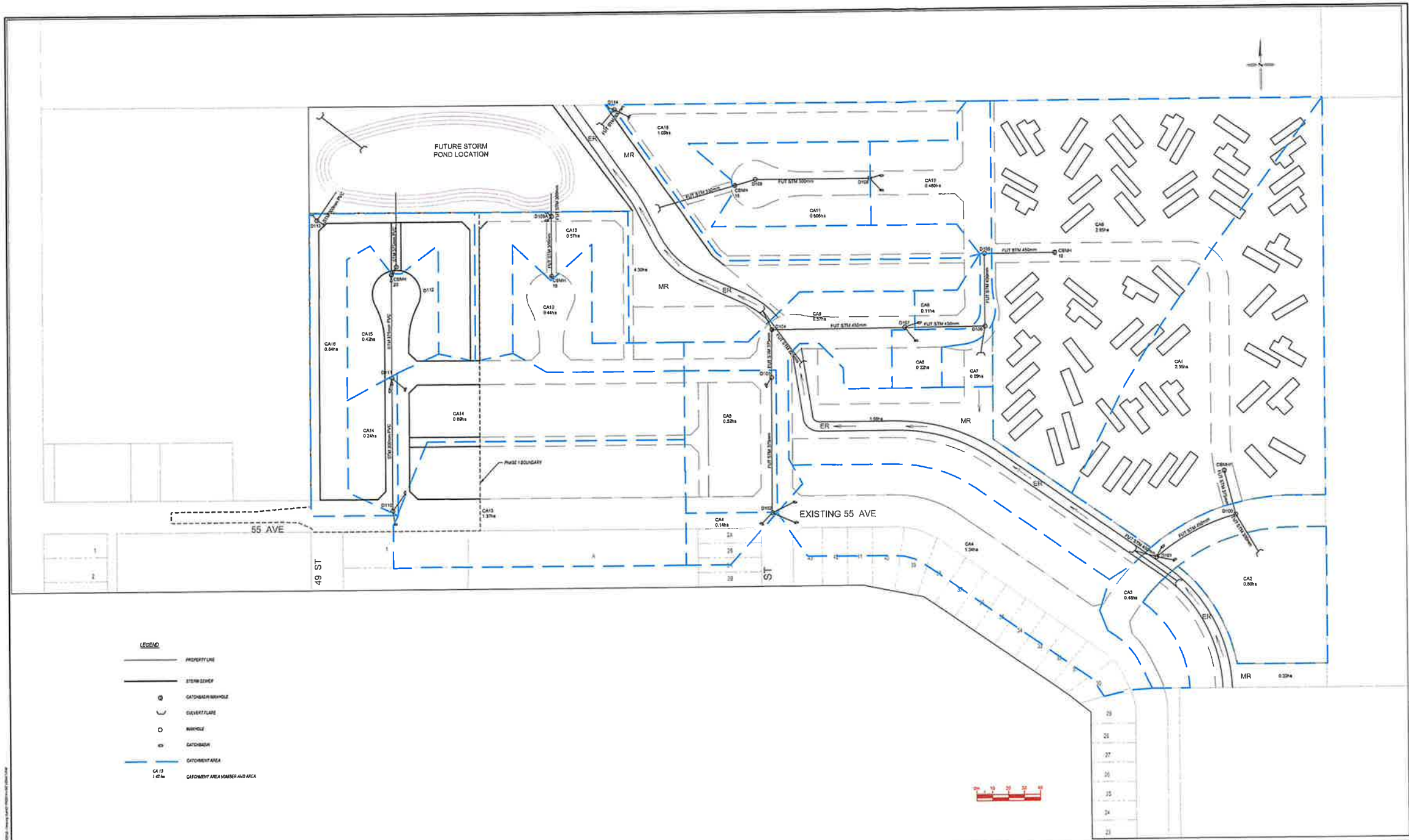
PROJECT: SUMMERSAULT SERVICING STUDY  
 SHEET NO: 141-16071-00-C003  
 DATE: MAY 2014  
 SCALE: 1:1000  
 DESIGNER: C. SUDHY  
 CHECKER: A. MCMURTRY  
 DRAWN BY: MUNICIPAL INFRASTRUCTURE  
 DATE: 2014/05/19

**SANITARY SEWER PLAN**

PROJECT: SUMMERSAULT SERVICING STUDY  
 SHEET NO: 141-16071-00-C003  
 DATE: MAY 2014  
 SCALE: 1:1000  
 DESIGNER: C. SUDHY  
 CHECKER: A. MCMURTRY  
 DRAWN BY: MUNICIPAL INFRASTRUCTURE  
 DATE: 2014/05/19



**SCHEDULE F:**  
*Stormwater System*



**LEGEND**

	PROPERTY LINE
	STORM SEWER
	CATCHBASIN/WHOLE
	DEWATER LAPE
	MANHOLE
	CATCHBASIN
	CATCHMENT AREA
	CA 12 1.0ha CATCHMENT AREA NUMBER AND AREA



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20140511	SUBMIT FOR REVIEW	AM	DM	ES	
20140511	SUBMIT FOR REVIEW	AM	DM	ES	

174 0247 ALBERTA LTD.



PROJECT: SUMMERSAULT SERVICING STUDY		TITLE: STORM MINOR PLAN	
PROJECT NO: 141-16071	DATE: MAY 2014	DRAWING NO: 141-16071-00-C004	SHEET NO: 8 of 8
DESIGNER: C. SLUCHY	DRAWN: A. MCWURTRE	FOR ASP	1
MUNICIPAL INFRASTRUCTURE		2014/05/15	