



Conceptual Scheme



**ROCKY VIEW COUNTY  
BYLAW C-6798-2009**

A Bylaw of the Rocky View County to adopt a Conceptual Scheme known as the “Watermark at Bearspaw Conceptual Scheme”.

**WHEREAS** the *Municipal Government Act*, 2000, c. M-26 as amended, allows the County to adopt plans relating to the future subdivision and development of lands within the County; and

**WHEREAS** the Council of Rocky View County has received an application to adopt a Conceptual Scheme to facilitate the future redesignation and subdivision of the subject lands for a residential community within S 1/2 18-25-2-W5M consisting of an area approximately  $\pm$  316 acres ( $\pm$  127 hectares), as shown on Schedule 'A', attached to and forming part of this Bylaw; and

**WHEREAS** a notice was published on Tuesday, June 09, 2009 and Tuesday, June 16, 2009 in the Rocky View Weekly, a newspaper circulating in Rocky View County, advising of the Public Hearing for Tuesday, July 14, 2009; and

**WHEREAS** Council held a Public Hearing and have given consideration to the representations made to it in accordance with Section 230 of the *Municipal Government Act*, being Chapter M-26 of the Revised Statutes of Alberta, 2000, and all amendments thereto.

**NOW THEREFORE** Council for Rocky View County, duly assembled, enacts as follows:

1. The “Watermark at Bearspaw Conceptual Scheme”, attached hereto as Schedule “A”, shall be adopted to facilitate the redesignation and subdivision of the subject lands for a residential community located on lands in Rocky View County at S 1/2 18-25-2-W5M and consisting of an area approximately  $\pm$  316 acres ( $\pm$  127 hectares).
2. The Bylaw comes into effect upon the date of its third reading.

**Division: 8  
File:05618003/004-2008-RV-107**

First reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, June 02, 2009, on a motion by Councillor McLean.

Second reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, July 14, 2009, on a motion by Councillor Boehlke.

Third reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, July 14, 2009, on a motion by Councillor Solberg.

---

REEVE OR DEPUTY REEVE

---

MUNICIPAL SECRETARY

**SCHEDULE 'A'**  
**FORMING PART OF BYLAW C-6798-2009**

A Conceptual Scheme affecting the area within S 1/2 18-25-2-W5M consisting of approximately  
± 316 acres (± 127 hectares), herein referred to as the “Watermark at Bearspaw Conceptual Scheme” area.

**ROCKY VIEW COUNTY  
BYLAW C-6855-2009**

A Bylaw of Rocky View County to amend Section 10.0 of Bylaw C-4129-93 (the Bearspaw Area Structure Plan) by inserting the Watermark at Bearspaw Conceptual Scheme (Bylaw C-6798-2009) as adopted on July 14, 2009.

- WHEREAS** the Council deems it desirable to amend the Bearspaw Area Structure Plan; (Bylaw C-4129-93), and
- WHEREAS** the Council of Rocky View County has adopted a Conceptual Scheme to provide a comprehensive policy framework to guide and evaluate redesignation, subdivision and development proposals within all of the S 1/2 18-25-2-W5M, as shown on the attached Schedule 'A'; and
- WHEREAS** the Bearspaw Area Structure Plan (Bylaw C-4129-93) gives direction to insert Conceptual Schemes into section 10 of the Bearspaw Area Structure Plan (Bylaw C-4129-93); and
- WHEREAS** a notice was published on Tuesday, January 12, 2010 and Tuesday, January 19, 2010 in the Rocky View Weekly, a newspaper circulating in Rocky View County, advising of the Public Hearing for Tuesday, February 9, 2010; and
- WHEREAS** Council held a Public Hearing and have given consideration to the representations made to it in accordance with Section 692 of the Municipal Government Act, being Chapter 24 of the Revised Statutes of Alberta, 2000, and all amendments thereto.

**NOW THEREFORE** Council for Rocky View County, duly assembled, enacts as follows:

1. That Section 10.0 of Bylaw C-4129-93 (the Bearspaw Area Structure Plan) be amended by inserting the Watermark at Bearspaw Conceptual Scheme (Bylaw C-6798-2009) as adopted on July 14, 2009.
2. The Bylaw comes into effect upon the date of its third reading.

**File: 05618003/004 – 2008-RV-107**

First reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, December 15, 2009, on a motion by Councillor Rheubottom.

Second reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, February 9, 2010, on a motion by Councillor Yurchak.

Third reading passed in open Council, assembled in the City of Calgary, in the Province of Alberta, on Tuesday, February 9, 2010, on a motion by Councillor Rheubottom.

---

REEVE OR DEPUTY REEVE

---

MUNICIPAL SECRETARY

SCHEDULE 'A'  
**FORMING PART OF BYLAW C-6855-2009**

A Conceptual Scheme affecting the area within all of the S 1/2 18-25-2-W5M consisting of approximately  $\pm 128.3$  hectares ( $\pm 316$  acres), herein referred to as the "Watermark at Bearspaw Conceptual Scheme" area.



# Conceptual Scheme

**Prepared for:**

Municipal District of Rocky View No. 44  
Planning & Community Services  
911 - 32 Avenue NE  
Calgary, AB T2E 6X6

**Prepared by:**

Brown & Associates Planning Group  
Suite 600, 222 - 58 Avenue SW  
Calgary, AB T2H 2S3

**On Behalf of:**

Macdonald Bearspaw Properties Ltd.  
Suite 104, 122 - 17 Avenue SE  
Calgary, AB T2G 1H2

**In Association with:**

Westhoff Engineering Resources Inc.  
Progressive Engineering Ltd.  
WorleyParsons Komex  
Bunt & Associates

## Table Of Contents

**WATERMARK AT BEARSPAW CONCEPTUAL SCHEME**  
**Macdonald Bearspaw Properties Ltd.**  
**May 21, 2009**

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>4</b>
<b>2.0</b>	<b>CONCEPTUAL SCHEME OBJECTIVES.....</b>	<b>4</b>
<b>3.0</b>	<b>VISION AND DEVELOPMENT PRINCIPLES .....</b>	<b>5</b>
3.1	Vision .....	5
3.2	Development Principles .....	5
<b>4.0</b>	<b>CONCEPTUAL SCHEME CONTEXT .....</b>	<b>6</b>
4.1	Site History .....	6
4.2	Location, Boundaries and Ownership.....	7
4.3	Local, Intermunicipal and Regional Context .....	7
4.4	Current Land Use Districts .....	9
<b>5.0</b>	<b>SITE ASSESSMENT.....</b>	<b>9</b>
5.1	Topography and Drainage .....	9
5.2	Biophysical Assessment .....	10
5.3	Environmental Assessment.....	11
5.4	Archaeological and Historical Assessments .....	11
5.5	Geotechnical Investigation .....	11



<b>6.0</b>	<b>LAND USE POLICIES AND GUIDELINES.....</b>	<b>12</b>
6.1	Interfaces with Adjacent Development .....	12
6.2	Residential Development Concept.....	16
6.3	Development/Architectural Guidelines.....	22
6.4	Municipal Reserve/Local Open Space System .....	26
6.5	Educational Facilities/School Sites.....	28
6.6	Regional Open Space and Pathway System.....	28
6.7	Damkar Parcel .....	30
<b>7.0</b>	<b>TRANSPORTATION .....</b>	<b>32</b>
7.1	Transportation Network and Improvements.....	32
7.2	Effect of Possible Implementation of Long Term Transportation Plan.....	34
7.3	Internal Roadway System.....	34
7.4	Road Standards .....	39
<b>8.0</b>	<b>UTILITY SERVICING .....</b>	<b>39</b>
8.1	Wastewater Servicing .....	39
8.2	Potable Water Servicing .....	43
8.3	Stormwater Management .....	47
8.4	Shallow Utilities .....	48
8.5	Solid Waste Management .....	48
<b>9.0</b>	<b>COMMUNITY, PROTECTIVE and EMERGENCY SERVICES .....</b>	<b>48</b>
<b>10.0</b>	<b>APPROVAL/IMPLEMENTATION OF CONCEPTUAL SCHEME.....</b>	<b>49</b>

## List Of Figures

<b>FIGURE 1</b> <b>Aerial View.....</b>	<b>8</b>	<b>FIGURES 12A, 12B, 12C, 12D</b> <b>Road Standards .....</b>	<b>35-38</b>
<b>FIGURE 2</b> <b>Existing Land Use</b> <b>Districts .....</b>	<b>9</b>	<b>FIGURE 13</b> <b>Wastewater</b> <b>Treatment System .....</b>	<b>40</b>
<b>FIGURE 3</b> <b>Topography .....</b>	<b>9</b>	<b>FIGURE 14</b> <b>Infiltration</b> <b>Bed Shadow Plan .....</b>	<b>42</b>
<b>FIGURE 4</b> <b>Interface Areas .....</b>	<b>13</b>	<b>FIGURE 15</b> <b>Potable Water System .....</b>	<b>44</b>
<b>FIGURE 5</b> <b>Generalized Concept Plan .....</b>	<b>15</b>	<b>FIGURE 16</b> <b>Stormwater</b> <b>Management System .....</b>	<b>46</b>
<b>FIGURE 6</b> <b>Detailed Concept Plan .....</b>	<b>19</b>		
<b>FIGURE 7</b> <b>Phasing Plan .....</b>	<b>21</b>		
<b>FIGURES 8A, 8B, 8C, 8D</b> <b>Architectural Details .....</b>	<b>23-25</b>		
<b>FIGURE 9</b> <b>Open Space Plan .....</b>	<b>27</b>		
<b>FIGURE 10</b> <b>Regional Trail System Map .....</b>	<b>29</b>		
<b>FIGURE 11</b> <b>Local Road System Map .....</b>	<b>31</b>		

## List Of Tables

<b>TABLE 1</b> <b>Residential Sub Area Statistics .....</b>	<b>18</b>
<b>TABLE 2</b> <b>Open Space Statistics .....</b>	<b>26</b>

## Appendices

<b>APPENDIX 1</b> <b>M.D. of Rocky View Council</b> <b>Authorization .....</b>	<b>51</b>
<b>APPENDIX 2</b> <b>Statutory Plan Compliance .....</b>	<b>53</b>
<b>APPENDIX 3</b> <b>Summary of Public Consultation .....</b>	<b>55</b>
<b>APPENDIX 4</b> <b>Voluntary Off-Site Improvements .....</b>	<b>56</b>
<b>APPENDIX 5</b> <b>Interface Area Illustrations .....</b>	<b>58</b>
<b>APPENDIX 6</b> <b>Best Management Practices .....</b>	<b>64</b>
<b>APPENDIX 7</b> <b>Artist Renderings of</b> <b>Open Space Features .....</b>	<b>69</b>

## 1.0 Introduction

The Watermark at Bearspaw Conceptual Scheme has been prepared to provide a land use planning framework for the subject lands. Preparation of the Conceptual Scheme has been based on direction received from the M.D. of Rocky View Council. The Conceptual Scheme is consistent in content and approach with other Conceptual Schemes recently prepared and creates a framework within which to evaluate subsequent development related applications. An extensive public consultation program, designed to understand and address concerns of adjacent Bearspaw area residents, and to meet the general public consultation requirements of the M.D. of Rocky View, was undertaken as part of the Conceptual Scheme preparation.

## 2.0 Conceptual Scheme Objectives

- (1) To address the requirements outlined in the M.D. of Rocky View Council Motion authorizing the preparation of the Conceptual Scheme.
- (2) To prepare a Conceptual Scheme to guide the resolution of planning and development issues during the subsequent land use redesignation, subdivision and development processes at the M.D. of Rocky View.
- (3) To balance private developer interests with local resident issues and interests identified during the public consultation program and to summarize input received as part of the required public consultation program.
- (4) To demonstrate how the Conceptual Scheme addresses the requirements of the Bearspaw Area Structure Plan, the City of Calgary/M.D. of Rocky View Intermunicipal Development Plan and the M.D. of Rocky View Municipal Development Plan.
- (5) To identify potential areas of environmental significance within the site and to demonstrate how such areas will be preserved and integrated into the development concept.
- (6) To provide a policy framework to guide utility servicing and to identify the optimal storm, sanitary sewer and potable water servicing solutions.
- (7) To identify an optimal internal transportation system as well as improvements required to the local transportation network to accommodate full development of the site.
- (8) To create a more pedestrian friendly residential community through the design of the local road system and greenways containing multi-use regional trails.
- (9) To create a unique and prestigious residential development that respects adjacent country residential development, takes advantage of the proximity to the Bow River and views of the Rocky Mountains, provides an appropriate transition from high density urban development within the City of Calgary, and generally enhances the unique site opportunities.

## 3.0 Vision And Development Principles

### 3.1 A Vision Of Watermark At Bearspaw

Watermark at Bearspaw is a unique, fully serviced, high quality residential community. The community design will carefully integrate the natural environment, views of the Rocky Mountains and proximity to the Bow River Valley and the City of Calgary, while incorporating innovative development standards, thereby visually enhancing the broader Bearspaw community.

### 3.2 Development Principles

The following principles have been established to guide planning and development of the Watermark at Bearspaw residential community.

#### 3.2.1 Uncompromising Development Standards

Watermark at Bearspaw will be designed as a unique and elegant community through the use of uncompromising standards and will be sensitive to the natural environment and adjacent development.

#### 3.2.2 Provision of Generous Community Amenities

Watermark at Bearspaw will create a significant open space amenity for the benefit of future Watermark residents as well as adjacent residential neighbourhoods. The open space network will be coordinated with existing networks in the area and will provide key connections to the significant regional open space system being planned along the Bow River.



### 3.2.3 Meticulous Planning of the Development Layout

Watermark at Bearspaw will be the result of a meticulous planning process which emphasizes the site opportunities while respecting potential impacts on adjacent development. Appropriate transitions will be provided between the Watermark site and existing Bearspaw communities. Careful consideration will be given to each future homesite to take full advantage of the best qualities of its surroundings.

### 3.2.4 Architectural and Landscaping Controls

Watermark at Bearspaw will implement stringent architectural and landscape controls to ensure that every home and yard is individually and attractively designed. Creativity and diversity within an acceptable range of architectural styles will be encouraged.

### 3.2.5 Incorporation of Innovative Standards

Watermark at Bearspaw will incorporate a range of current best management practices and innovative development standards to create a progressive community that promotes water conservation and energy efficiency.

## 4.0

## Conceptual Scheme Context

### 4.1

#### Site History

The site was part of the Damkar Family Dairy Farm which ceased active operation in 1999 as a dairy operation after a long dairy farming history. Since that time, the subject parcel has been used for pasture and hay production. The Damkar family has retained a 29 acre (12 hectare) parcel in the extreme northeast corner of the site for future development, which will not be part of the Watermark at Bearspaw project but has to be considered in the Conceptual Scheme (referred to as the Damkar Parcel).



The surrounding residential subdivisions in Bearspaw – Blueridge Mountain Estates, Bearspaw Meadows, Blazer Estates, and Bearspaw Village – have developed over the past 30 plus years since 1974 and have all contributed to the changing nature of the area from agriculture to country residential development. The surrounding properties are generally designated either R1 (Residential District 1)



allowing minimum 2 acre parcel size or R2 (Residential District 2) allowing minimum 4 acre parcel size under the M.D. of Rocky View's Land Use Bylaw. A number of larger parcels with development potential exist within Blazer Estates to the south of the Watermark site.

Immediately to the east within the City of Calgary is the Tuscany Community which is being developed to urban density standards. Details for the planning of the Tuscany Community are outlined in the Revised West Scenic Acres Area Structure Plan. The Tuscany Community is not fully developed at this time with full development expected within three to five years.

The Lynx Ridge and Lynx Meadows residential subdivisions were approved by the former Alberta Planning Board under the jurisdiction of the M.D. of Rocky View. The two subdivisions and golf course were annexed to the City of Calgary as of January 01, 2005. The lots within Lynx Ridge and Lynx Meadows are approximately one-half acre in size.

#### **4.2 Location, Boundaries And Ownership**

The Watermark at Bearspaw project occupies a prominent location within the broader Bearspaw community, south of Highway 1A/Crowchild Trail N.W. Neighbouring subdivisions include Blueridge Mountain Estates, Bearspaw Village, Blazer Estates, Bearspaw Meadows and Lynx Ridge/Lynx Meadows. The site is directly adjacent to the current City of Calgary municipal limits on 12 Mile Coulee Road and to the Tuscany Community within Calgary.

The site includes approximately 316 acres (128 hectares) within Section 18, Township 25, Range 2, and West of the 5th Meridian. The site is bounded on the west by Bearspaw Village

Road, on the south by Township Road 252/80th Avenue, on the east by 12 Mile Coulee Road and on the north by Blueridge Mountain Estates.

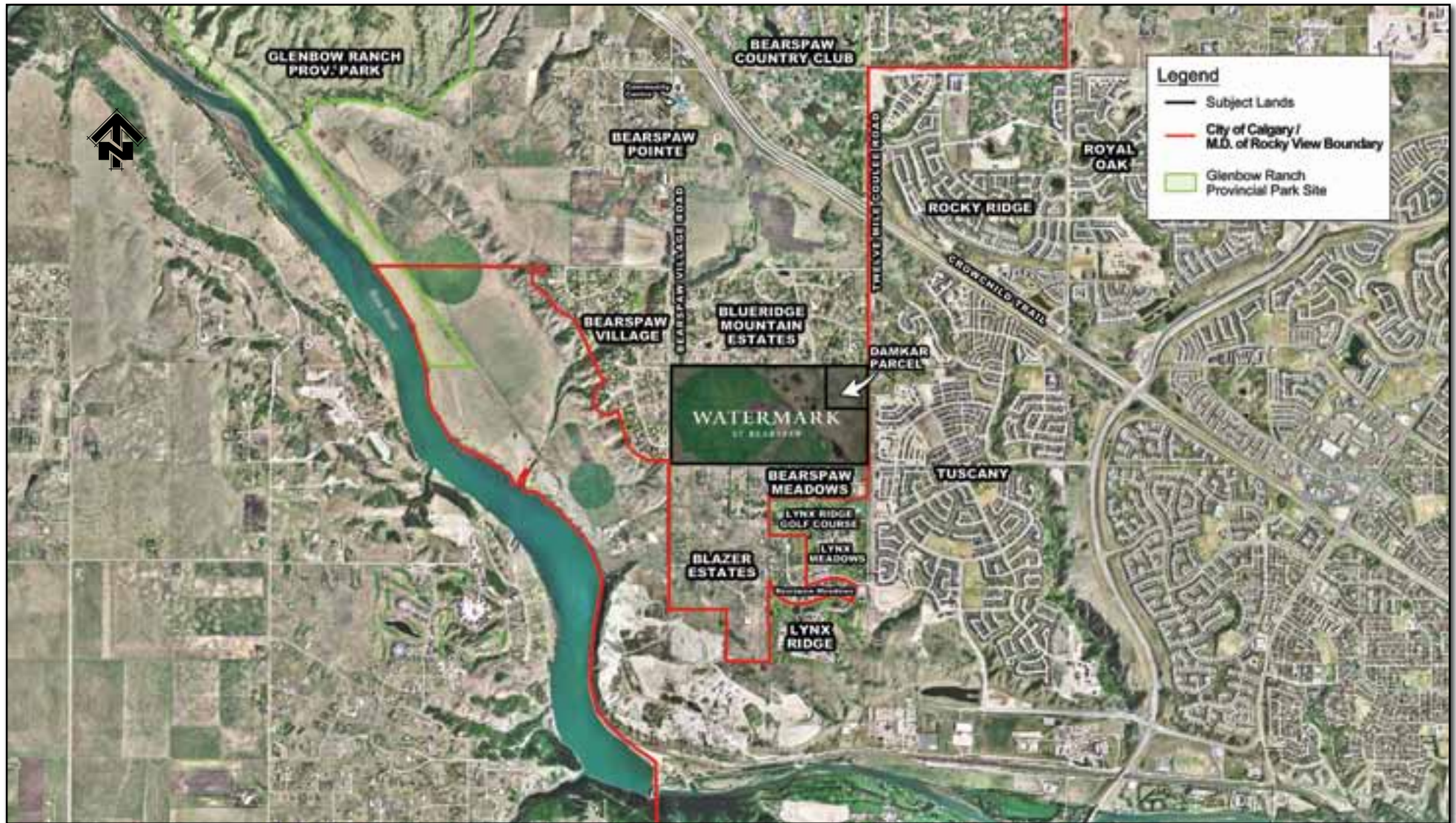
Legal titles to the site are held by Macdonald Bearspaw Properties Ltd. in trust for the beneficial owner, Bearspaw Development Limited Partnership (which is in turn operated and controlled by Macdonald Development Corporation), and by the Damkar Family.

#### **4.3 Local, Intermunicipal And Regional Context**

Within the local Bearspaw community context, the Watermark at Bearspaw site provides an opportunity for comprehensively designed residential development to complement and enhance the existing residential neighbourhoods. The site has a long history of being used for agricultural purposes. Sensitivity will be required to manage the transition from agriculture to residential development.

From an intermunicipal perspective, the site is uniquely situated with the current City of Calgary limits on the eastern boundary as well as to its immediate southwest. This relationship creates both a challenge and an opportunity for transition between higher density urban development within the Tuscany Community in the City of Calgary and country residential development within Bearspaw.

Within the Calgary Region, Bearspaw is a well known name and is well regarded as a significant residential community within the M.D. of Rocky View, between the City of Calgary and the Town of Cochrane. The Watermark at Bearspaw site will share that regional recognition. The site is well located in close proximity to the Bow River and to the City of Calgary. There is a significant regional open space system being developed



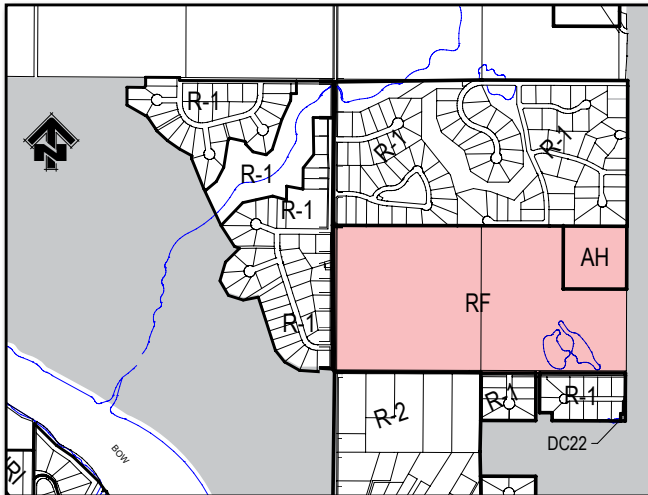


as part of the Legacy Park initiative by the City of Calgary and the Glenbow Ranch Provincial Park initiative by the Province of Alberta.

#### 4.4 Current Land Use Districts

The current land use designation for the Watermark site is RF (Ranch and Farm District) reflecting the historic use of the site as part of a farming operation. The RF District provides for minimal development potential.

EXISTING LAND USE DISTRICTS FIGURE 2



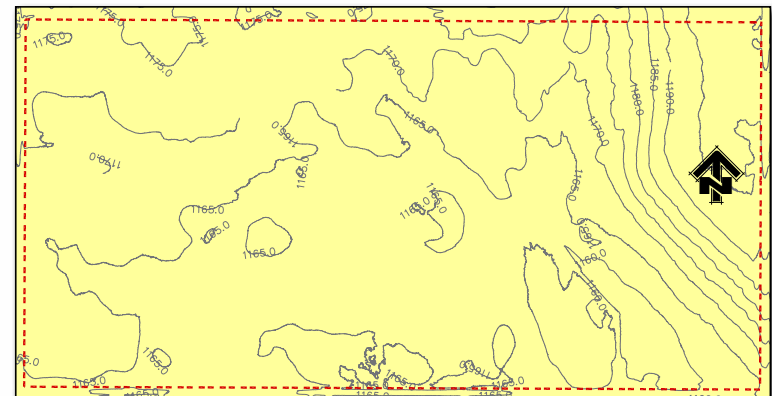
According to Rocky View's Land Use Bylaw "The purpose and intent of this District is to provide for agricultural activities as the primary land use on a quarter section of land or on large balance lands from previous subdivision." The current land use designation of the Damkar Parcel is AH (Agriculture Holding District). According to Rocky View's Land Use Bylaw "The purpose and intent of this District is to provide for a range of parcel sizes for agricultural uses."

## 5.0 Site Assessment

### 5.1 Topography and Drainage

Within the eastern portion of the SE ¼ of Section 18, Twp25, Range 2, W5M, an escarpment runs in a north/southeast alignment with an elevation difference of approximately 30 metres (1190 metres/1160 metres). The remainder of the subject property (SE ¼ and SW ¼ of Section 18, Twp 25, Range 2, W5M) is a relatively flat and rolling landscape (1175/1160 metres) and drains from the west and northwest to the southeast through a naturally occurring drainage system. Within the drainage system is an artificial dugout, created by a small earthen dam. Water from across the site and from a major catchment area lying to the north of the Watermark site eventually drains to a wetland pond which is located within the southeast portion of the site.

FIGURE 3





## 5.2 Biophysical Assessment

A biophysical assessment was undertaken by Sweetgrass Consultants Ltd. The property lies within the northeast portion of the Foothills Parkland Natural Sub-Region of Alberta, a zone represented by a narrow band along the eastern edge of the foothills.



### 5.2.1 Vegetation

The majority of the original native habitat has been converted to non-native vegetation, most of which has been irrigated and used for farm crop production. Native grassland, including low shrubbery (shrubby cinquefoil and buck brush), occurs on gently sloping to rolling upland in the eastern part of the site. The grassland has been grazed but appears to be in generally good condition and encompasses some fescue grassland with localized areas, including the area around the dugout, having been more heavily

grazed. There are scattered tall willow shrubs within the existing drainage courses.

A few isolated groves of trees of insignificant value are scattered in the north-easterly portion of the site, with two larger groves identified.

Within the native grassland, an area of small springs is located in a grove of trees at the head of a shallow temporary drainage, near the north boundary of the property. The drainage leads southward to an artificial dugout, created by a small earthen dam.

South of the dugout, the drainage continues to the southeast into a large pond. This Class III wetland is largely open water with some areas of cattail marsh and is ranked as moderate-high for environmental significance.

### 5.2.2 Wildlife

Within that portion of the site which has been used for agriculture, few species and low populations of wildlife are to be expected.

Within the grassland, there will be a relatively low wildlife diversity which may include deer, Richardson's ground squirrel, Northern Pocket Gopher, White-tailed Jack Rabbit, Coyote, American Badger and several grassland bird species. The small size of woodland groves will lead to a low diversity of birds. The woodland groves will be used by deer for food and shelter.

The existing wetland has the potential for a low to moderate diversity of waterfowl and other aquatic species.

Habitat connections (wildlife corridors) have less potential because of adjacent housing development and roads. The general area does contain important foraging habitat for Mule Deer. It has been noted that deer move across the north boundary fence into the adjacent residential development.

The majority of the property is ranked as having low environmental significance because of disturbance and conversion of native habitats.

### 5.3 Environmental Assessment

A Phase I Environmental Site Assessment was carried out by Almor Engineering Associates Ltd. in May of 2006. The report states "based on the preliminary results of the historical records review, a site reconnaissance and information available to the author at the time of preparing this report, it is our opinion that no significant environmental impairment exists on the subject site. Further environmental investigation is not required at this time."

### 5.4 Archaeological and Historical Assessments

A Historical Resources Impact Assessment (HRIA) was conducted for the Watermark at Bearspaw site (S1/2 18-25-2-W5M) by Altamira Consulting Ltd. in August of 2007.

#### The report abstract states:

"Results of the survey of the project area indicate that there are no Historical Resources sites in the area. No archaeological artifacts, features or remains were found, no historic structures or remains were found and no palaeontological material was



noted during the survey."

"This report concludes that further Historical Resources concern for the proposed Watermark residential property in the S1/2 18-25-2-W5M is not warranted. This report recommends that the project proceed without further concern for historical resources."

### 5.5 Geotechnical Investigation

A review of the soil conditions of the site was undertaken by WorleyParsons Komex as part of the investigation of wastewater treatment options using data provided by Almor Engineering Associates Ltd. in 2005 and information from the Alberta Soil Information Centre. A site-specific soil survey was conducted in July of 2007. The following information was extracted from those reports.

"In Western Alberta, soil variability is typically due to changes in parent material and vegetation. The parent material in the area is of lacustrine origin, and was deposited by a large glacial lake. The Alberta Soil Information System was used to inventory the soils in the vicinity of the development area. Four soil series (Spy Hill, Dunvargan, Maycroft and Fish Creek) were identified on the property. In general, these soils are fine textured and well structured with moderate permeability and variable drainage characteristics that formed through the lacustrine processes.

A typical soil profile for this site is characterized by at least 5 metres of well structured clayey silt to silty loam underlying 10 to 50 centimetres thick topsoil. The topsoil is characterized by dark brown silt. In a few cases, an approximately 1 to 2m thick sandy gravel layer was found between the topsoil and the till, whereas in a couple of instances a 1 to 4m thick silty clay layer was found in that position."

For further details on the soil conditions and possible impacts on the recommended sewage treatment option, reference should be made to the WorleyParsons Komex and the Almor Engineering reports.

With the exception of a limited area of the northeast corner of the site (with a maximum slope of fifteen percent), the remainder of the site is relatively flat and drains to the southeast corner. No issues with slope stability are anticipated.

## 6.0 Land Use Policies and Guidelines

### 6.1 Interfaces with Existing Adjacent Development

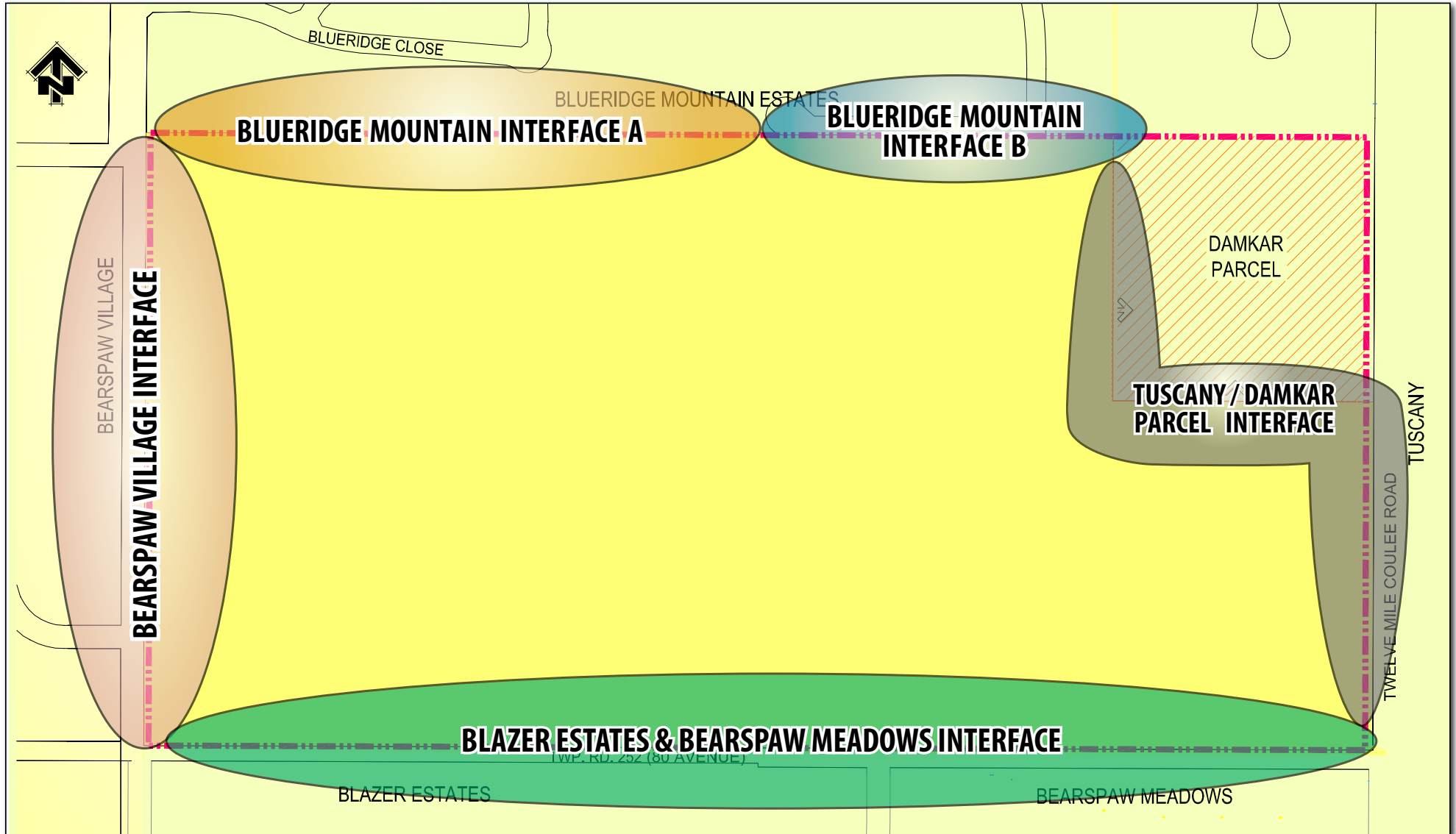
An extensive public consultation process was undertaken, in conjunction with a detailed analysis of the adjacent Bearspaw communities, to identify potential issues with respect to development of the Watermark site. Depending on the interface, the issues varied. As a result, five different interfaces were identified for the Watermark site to help focus the issues and customize land use solutions. The five interfaces are identified on Figure 4.

#### **Blueridge Mountain Estates Interface A:**

Interface A addresses existing two acre parcels, which range in lot width from approximately 175 feet to 275 feet located within Blueridge Mountain Estates, and which directly abut the north side of the Watermark site (no intervening road allowance). This is where westerly and south-westerly views of the Rocky Mountains from a maximum of 8 existing residences will be most affected by future development. Compatibility (respecting the existing larger country residential parcels) between existing and future development is an issue.

#### **Blueridge Mountain Estates Interface B:**

Interface B represents existing two acre parcels and the occasional four acre parcel, located within Blueridge Mountain Estates. These existing parcels are adjacent to the northeast section of the Watermark site but separated by the Blueridge View street. With the benefit of elevation



differences, views to the west and southwest of the Rocky Mountains are not likely to be affected. However, a major concern is the potential for additional traffic through Blueridge Mountain Estates from the Watermark site. Compatibility of existing and future development is an issue.

**Bearspaw Village Interface:**

This interface is between Bearspaw Village and the west side of the Watermark site. Compatibility of existing and future development is an issue as well as the potential for increased traffic on Bearspaw Village Road. View protection is generally not an issue.

**Blazer Estates and Bearspaw Meadows Interface:**

The south interface is between the Watermark site and Blazer Estates and Bearspaw Meadows. Township Road 252/80 Avenue N.W. acts as a major interface between existing and future development and will likely be upgraded in the future. The existing parcels in Blazer Estates that face the Watermark site are much larger and hold potential for future redevelopment. Due to existing lot sizes (with likely future redevelopment) and separation distances, existing residences in Blazer Estates will be less affected by development.

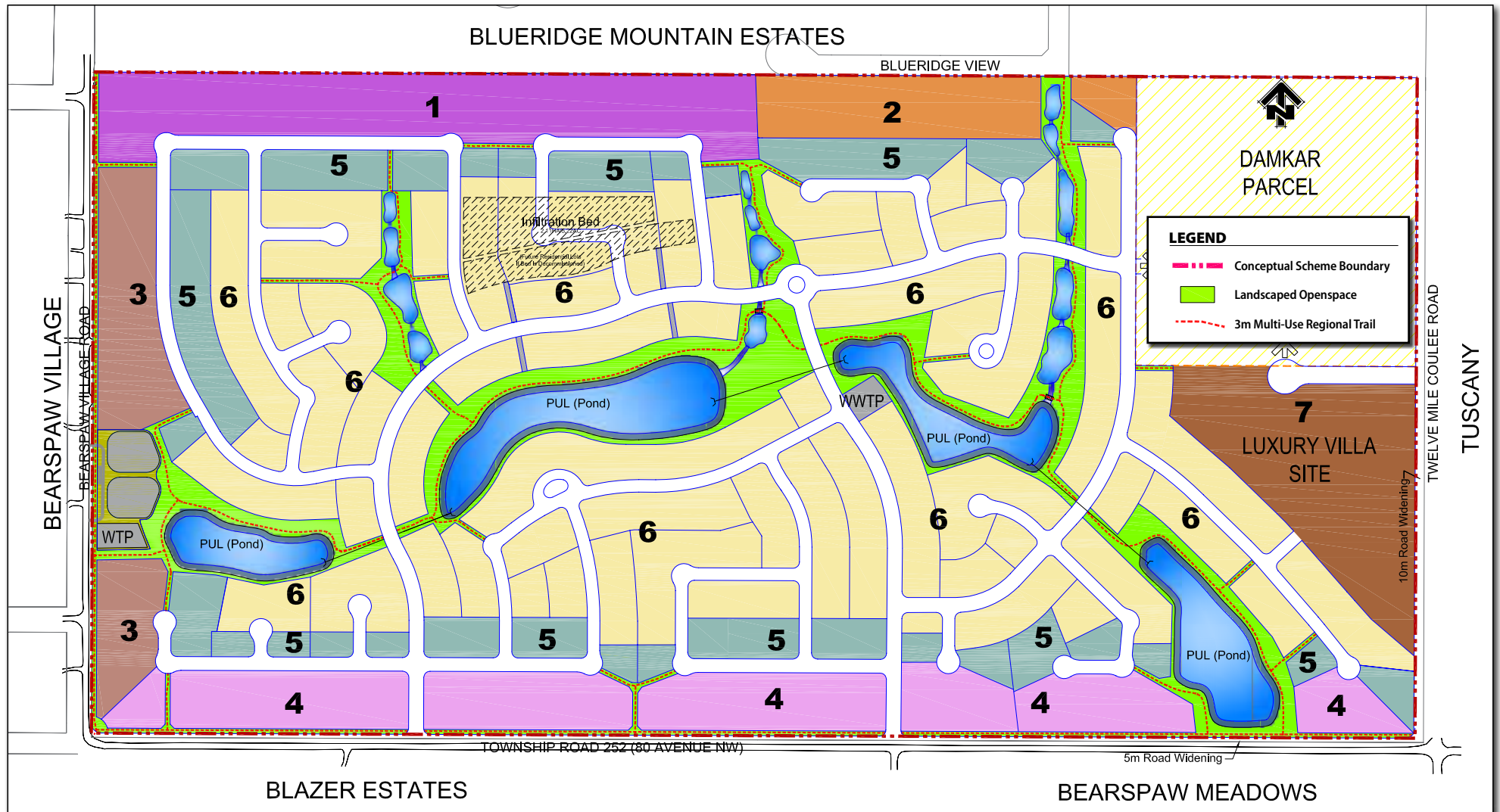
**Tuscany/Damkar Parcel Interface:**

The east interface of the Watermark site includes 12 Mile Coulee Road and the Tuscany Community, both of which are within the City of Calgary. Included within this interface is the Damkar Parcel which is within the Conceptual Scheme boundary but not part of the Watermark at Bearspaw residential development proposal.

The existing Tuscany Community has created a very abrupt transition from high density urban development to future development within the M.D. of Rocky View. The future land uses on the Damkar parcel will likely be approved subsequent to approval of the Watermark project and are difficult to accurately anticipate.

Issues include obtaining adequate access to 12 Mile Coulee Road which will be upgraded under the City's jurisdiction, accommodating flexibility with respect to potential future uses on the Damkar parcel, and providing an appropriate transition from higher density urban development within the City of Calgary to lower density residential development on the Watermark site.





## 6.2 Residential Development Concept

The Watermark Site has been divided into seven sub-areas to address the lot layout issues identified through the interface analysis, to generate a comprehensive residential development concept and to facilitate phasing of the development. These sub-areas are depicted in Figure 5.

The overall development concept has been significantly influenced by the relationship to existing communities, input received through an extensive public consultation program and the need to include appropriate transitions with existing country residential development located on three sides of the Watermark site. The transition will be achieved by locating larger lots on the perimeter of the site with smaller, but still generously sized lots located more to the interior. Higher density residential development will be limited to the east portion of the site to provide a more appropriate transition with the Tuscany Community. No commercial development is being considered due to the limited market area and the limited drive-by traffic needed to support local commercial, and the general lack of support for commercial development from surrounding residents. No school sites are required and an internal greenway open space system is proposed to connect a system of water based features and to provide for access to surrounding communities and regional open space amenities. Appendix 5 contains illustrations of how the interface areas are treated within each proposed residential sub-area.

### Sub-Area One Detail:

Sub-Area One contains an area of large lots directly adjacent to Blueridge Mountain Estates.

- Lot sizes will be 200 feet wide by 250 feet deep.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.

- There will be a minimum house separation of 100 feet, with houses setback at least 120 feet from the north property line which abuts existing homes in Blueridge Mountain Estates, thereby providing a generous, private, landscaped buffer with these existing houses.
- New houses will be sited on each lot to minimize the impact of views on existing residences.
- Access to the lots will be from the south through the Watermark site.

### Sub-Area Two Detail:

Sub-Area Two contains a limited number of lots with direct access for each lot to Blueridge View. The design of Sub-Area Two will eliminate the possibility of any through traffic from the remainder of the Watermark site through the existing Blueridge Mountain Estates community, a very important concession to the local residents.

- Lot sizes will be 160 feet wide by 250 feet deep.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.
- There will be a minimum house separation of 70 feet with a minimum 70 foot setback from the Blueridge View road.
- Only 7 new houses will directly access Blueridge View.

### Sub-Area Three Detail:

Sub-Area Three addresses the interface along Bearspaw Village Road between the Watermark site and the Bearspaw Village community. The design of Sub-Area Three eliminates the possibility of any additional traffic on Bearspaw Village Road from the Watermark site.

- Lot sizes will be 140 feet wide by 230 feet deep.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.

- There will be a minimum house separation of 50 feet with houses setback at least 80 feet from the west property line.
- There will be no direct access from any lot to Bearspaw Village Road.

**Sub-Area Four Detail:**

Sub-Area Four addresses the interface along Township Road 252 (80 Avenue) between the Watermark site and Blazer Estates and Bearspaw Meadows.

- Lot sizes will be 130 feet wide by 230 feet deep.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.
- There will be a minimum house separation of 50 feet and a setback from the south property line of at least 80 feet.
- There will be no direct access from any lot to Township Road 252.

**Sub-Area Five Detail:**

Sub-Area Five provides additional transition from all of the larger, wider lots located around the north, west and south perimeters of the Watermark community to the interior portion of the Watermark site.

- Lots sizes will be a minimum of 100 feet wide by 160 feet deep with a minimum house separation of 30 feet.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.

**Sub-Area Six Detail:**

Sub-Area Six represents the interior portion of the Watermark site. These design parameters are intended to help create an estate home feel to all of Sub-Area Six.

- Lot sizes will be 82 feet wide by either 140 feet deep (if backing on municipal reserve) or 150 feet deep, with a minimum house separation of 25 feet.
- Irregularly-shaped lots will have an area equal to or greater than these standard rectangular lots.
- As a comparison, all lots will be wider (by about 10 percent) than most of the existing one-half acre parcels in Lynx Ridge, with a mandated minimum house separation distance at least double the separation of many Lynx Ridge homes.
- Sub-Area Six provides a site for the infiltration bed, designed as a component of the wastewater treatment system. Unless and until the wastewater treatment for the Watermark community is hooked up to a community or City of Calgary system which disposes of the effluent off site, or unless Alberta Environment determines that the infiltration bed is unnecessary, the infiltration bed will remain in operation. It is anticipated that the area of the infiltration bed will be approximately 1.5 to 2.5 ha (3.71 to 6.18 acres). While in operation, the area will be used as a sports field. Usage of the site for this purpose will have no impact on the effectiveness of its functions.
- If the infiltration bed is not constructed or if it is partially or fully decommissioned in the future, the infiltration bed site will be developed for residential lots based on the shadow plan shown in Figure 14. Lot sizes will be consistent with the above guidelines for Sub-Area Six.

**Sub-Area Seven Detail:**

Sub-Area Seven provides for luxury villa development which will provide a logical transition from the existing higher density development in the Tuscany Community on the east side of 12 Mile Coulee Road. The luxury villa concept provides for the maximum number of units having the benefit of the views to the west. The concept of including luxury villas within the



# Conceptual Scheme

Watermark project was initially suggested and then strongly supported by virtually all participants at the neighbourhood visioning workshop.

- All units will be designed to look like large single family homes, and no individual building will contain more than two grade entry units.
- Sub-Area Seven will have a maximum density of 7 units per gross acre.

## Density

The maximum density for the entire conceptual plan area has been assumed to be 1.95 units per gross acre over a total land area of 316 acres for a total of 617 residential units (including the Damkar Parcel). Of the 617 residential units, approximately 57 units have been allocated to the Damkar Parcel, with the Watermark site having a total maximum density of 560 residential units.

Table 1 summarizes the land use components of the Watermark site.

**TABLE 1**

**Residential Sub-Area Statistics**

Sub Area	Total Area		No. Units	Density (upa)
	Hectares	Acres		
1	7.21	17.81	13	0.73
2	3.22	7.96	8	1.01
3	5.35	13.23	10	0.76
4	11.87	29.34	30	1.02
5	15.82	39.10	68	1.74
6	66.55	164.78	330	2.00
7	5.98	14.78	101	6.83
Total/Avg.	116	287	560	1.95

**Lot Dimensions and Minimum Sizes**

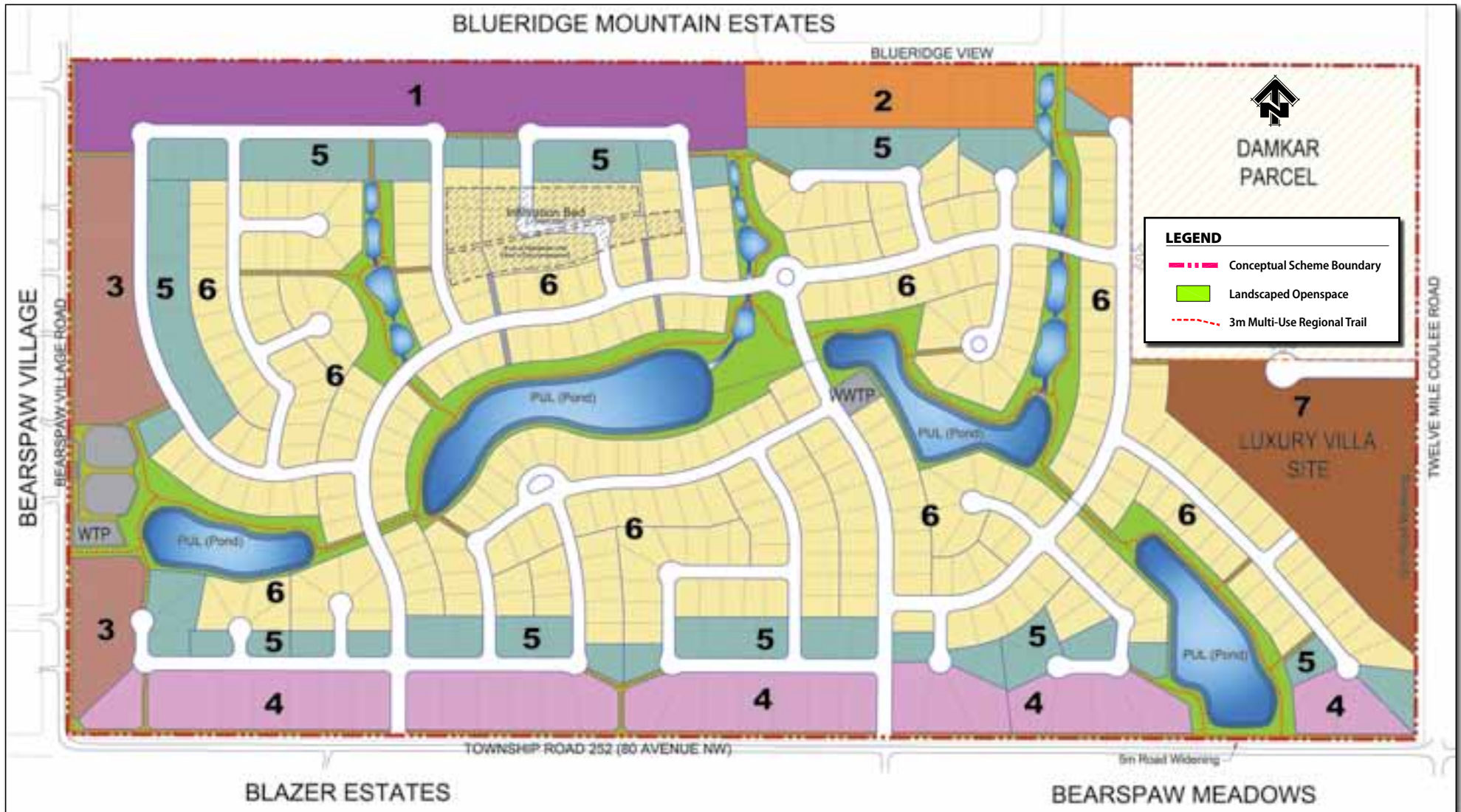
Standard, Rectangular Lot Dimensions			Lot Sizes	
Sub Area	Feet	Metres	Acres	Hectares
1	200 X 250	61 X 76	1.15	.46
2	160 X 250	49 X 76	.92	.37
3	140 X 230	42.5 X 70	.74	.30
4	130 X 230	39.5 X 70	.69	.28
5	100 X 160	30.5 X 49	.37	.15
6	82 X 150 82 X 140 (backing on parkland)	25 X 45.5 25 X 42.5	.28 .26	.11 .11
7	n/a		n/a	

**Building Envelope Setback Distances**

Sub Area	Minimum Front Yard Setback		Minimum Rear Yard Setback		Minimum Side Yard Setback		Minimum Distance Between Houses	
	Ft	M	Ft	M	Ft	M	Ft	M
1	36.1	11.0	119.7	36.5	26.2	8.0	100.0	30.5
2	70.5	21.5	82.0	25.0	19.7	6.0	70.5	21.5
3	36.1	11.0	80.0*	24.5*	14.8	4.5	50.8	15.5
4	36.1	11.0	80.0*	24.5*	14.8	4.5	50.8	15.5
5	32.8	10.0	36.1	11.0	9.8	3.0	31.2	9.5
6	29.5	9.0	29.5	9.0*	8.2	2.5	25.3	7.7
7	n/a		n/a		n/a		n/a	

\* With a 6 metre MR pathway along the western boundary of Sub-Area Three and the southern boundary of Sub-Area Four, the houses will be set back a minimum of 30.5 metres (100 feet) from Watermark's existing western and southern property boundary.

\*\* With the exception of Lot 30, Block 1, Plan 1210765, refer to DC-141 Section 2.4.3



## Phasing

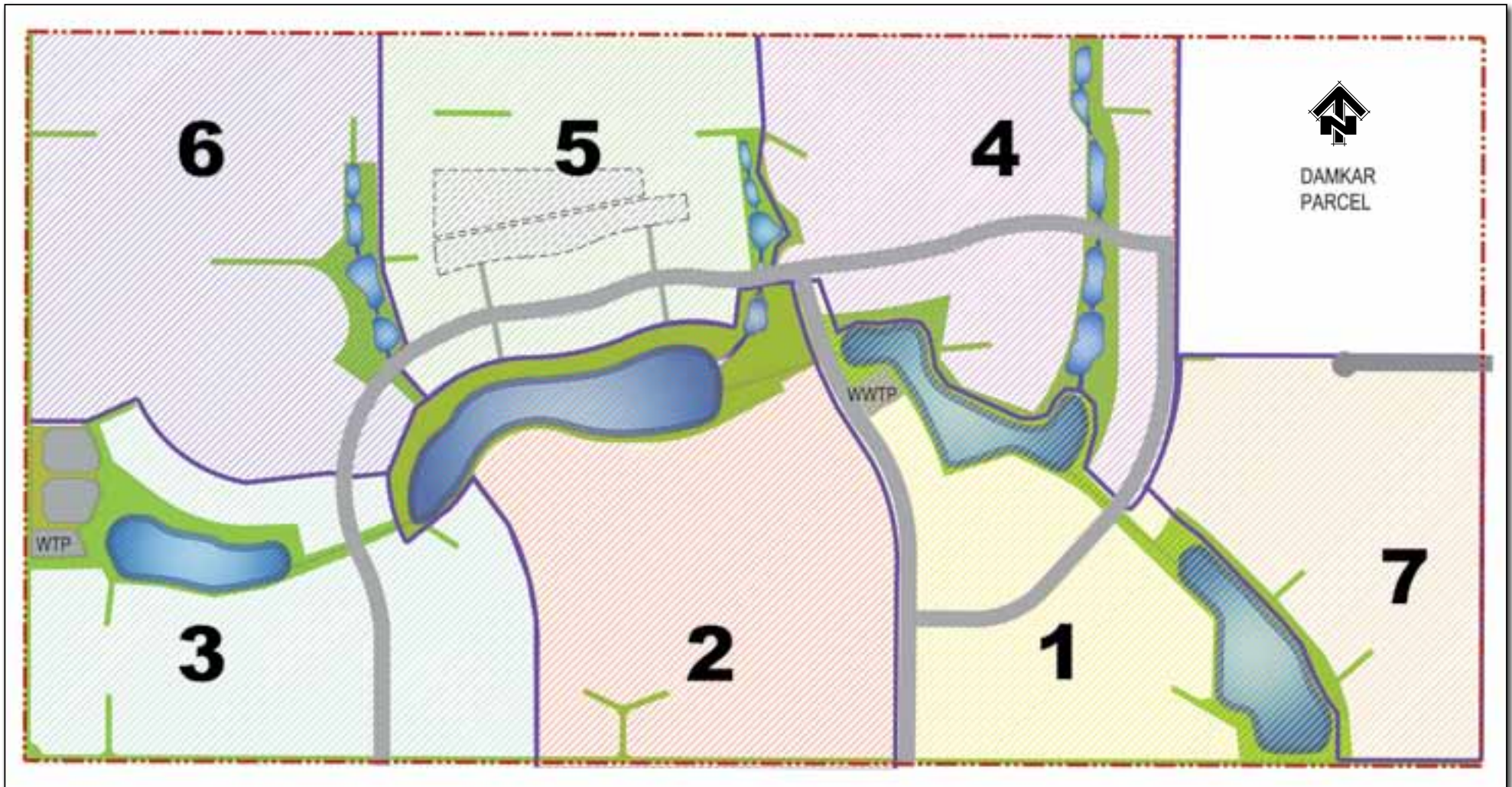
The phasing plan (Figure 7) demonstrates how the total development of the Watermark site could be phased. More than one phase may proceed at the same time and the order and size of the individual phases may change without needing an amendment to the Conceptual Scheme.

- Policy 6.2.1** Overall density of residential development within the Conceptual Scheme area shall not exceed 1.95 units per gross acre.
- Policy 6.2.2** Specific lot sizes and lot dimensions will be based on the details provided in Table 1 for Sub-Areas One to Six.
- Policy 6.2.3** Specific building envelope setback distances will be consistent with the details provided in Table 1 for Sub-Areas One to Six.
- Policy 6.2.4** Details regarding internal road systems, specific lot sizes and distribution of lots shall be finalized at the subdivision stage. As long as the overall intent of the residential concept and lot size specifications as set out in Section 6.2 are respected, final subdivision design details may vary from those depicted in Figure 6 above without requiring an amendment to the Conceptual Scheme.

## Policy 6.2.5

**To accommodate market conditions, the order of actual development may vary from the proposed phasing plan without requiring an amendment to the Conceptual Scheme.**





## 6.3 Development/Architectural Guidelines

Specific architectural and landscape design details will be set out in a restrictive covenant registered against title to every lot within Watermark. The general principles are described below.

### Site Positioning and Built Form

Every lot within Watermark at Bearspaw will have its own particular characteristics with regards to site position and elevations, orientation to sun and seasonal winds, and location within the overall development. Particular emphasis will be placed on site positioning for lots on the periphery of the development to respect existing development in the four adjacent Bearspaw communities.

Building forms on each lot will take into consideration the effect of the proposed development on adjacent lots and the impact on privacy and views. All buildings will be required to be positioned within a customized building envelope for each lot. A minimum size for each home in Watermark at Bearspaw will be required to maintain quality, value and consistency throughout the development.

### Community Character and Architectural Guidelines

Watermark at Bearspaw enjoys a unique semi-rural setting. This location, in conjunction with the unique water features and open space system to be created as part of the development, will assist in defining the Watermark community within the Calgary Region. Architectural themes will be created to reflect the “Watermark” trademark. Strict architectural controls will be mandated for every house to be built.

### Lighting

Input from adjacent residents identified concerns regarding the impact of lighting on adjacent properties and the desire to maintain a more subdued night time environment. Only low level, ground oriented light standards will be permitted throughout the site in order to minimize the impact of lighting on adjacent country residential properties.

### Landscaping and Water Conservation

Specific landscaping details will be required for each residential lot in order to provide for consistent, high quality landscaping standards throughout the development and to minimize the use of water for landscaping purposes. More drought resistant plants will be encouraged as well as the use of rain barrels and cisterns to minimize potable water use for irrigation purposes. Best management practices shall be integrated into the residential development and common areas to minimize water consumption (See Appendix 6 – Best Management Practices).

### Homeowners Association

A Homeowners Association will be established to administer aspects of the design guidelines restrictive covenant registered against title of each lot within the Watermark site, and to manage all communal aspects of the Watermark community which are not otherwise managed by the M.D. of Rocky View.

**Policy 6.3.1 Development standards and architectural guidelines shall be registered against the title of all properties and administered by the developer and/or a Homeowners Association.**



# Conceptual Scheme

**Policy 6.3.2** The Watermark at Bearspaw residential community shall be developed according to a low-light policy (dark skies principles). Associated lighting shall be designed in a manner sensitive to a rural setting, all of which will be ground oriented and offer reduced levels of lighting within the community.

**Policy 6.3.3** Detailed landscaping and water conservation guidelines shall be registered against the title of all properties and administered by the developer and/or a Homeowners Association.



FIGURE 8B



The developer's residential community development projects always utilize stringent architectural and site design controls in order to create a very high quality and coordinated streetscape appearance. Housing style, quality, size, lot positioning, landscape treatments and numerous other parameters affecting the look of the streetscape are governed by strict design controls, which are enforced by having them registered on title to each lot, backed up by a sizable performance bond.

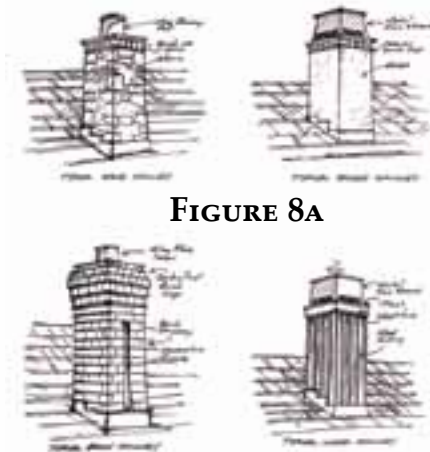
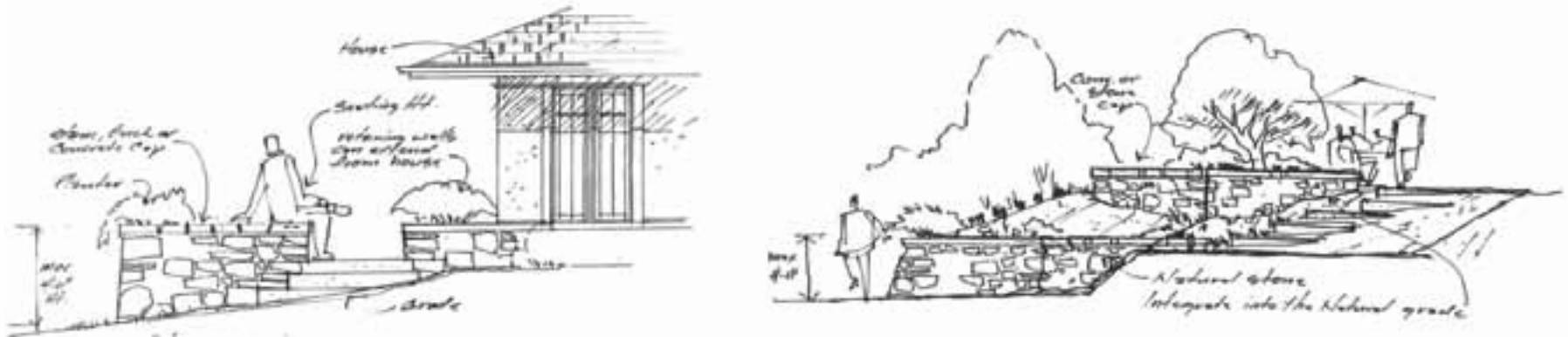


FIGURE 8A

# Architectural Controls



**FIGURE 8C**

*Architectural style is addressed by giving designers, builders and homeowners firm direction as to building siting, built form, character and diversity within the context of mandated architectural themes.*

## Architectural Controls



FIGURE 8D

*Watermark at Bearspaw will be designed to be an elegant and distinctive estate home community. The architectural and landscape controls will result in a streetscape consisting of generously sized, high quality homes with ample spacing between each building site. Additionally, extensive mandated landscaping will also be required for every home. These design controls will demand the highest quality from Watermark's home builders, ensuring that each residence will make a positive contribution to a cohesive, stately streetscape.*



## 6.4 Municipal Reserve/Local Open Space System

The proposed open space system will comprise an interconnected system of multi-use regional trails and greenways designed to compliment the innovative stormwater management system (See Figure 9) and to reflect the M.D. of Rocky View's Open Space and Trails Classification System. As part of the stormwater system, there will be an extensive system of cascading ponds surrounded by natural grasslands, shrubs and trees which take advantage of the existing natural drainage system. Some of the ponds will act as retention ponds in the stormwater system which will provide for re-circulation of stormwater on a continuing basis. The cascading pond system and multi-use regional trails will provide a significant aesthetic benefit as well as both active and passive recreational opportunities for the residents of Watermark and the surrounding communities. The continuity of the greenway system throughout the entire site will also facilitate ongoing wildlife movement through the site. Appendix 7 contains illustrations of possible greenway features.

Large central open space feature (playing fields) will be provided in close proximity to Watermark within Bearspaw Village Park, which is located on the northwest corner of Bearspaw Village Road and Bearspaw Village Crescent. Bearspaw Village Park provides adequate large open space facilities and playing fields to serve all of the local Bearspaw communities. Subject to M.D. of Rocky View approval, this Community Park will be extensively upgraded as part of the voluntary off-site improvements being proposed as part of the Watermark project.

The greenway system will be partly created from the required municipal reserve dedication (MR) and partly from public utility lots (PUL) required for the retention feature of the stormwater system. Based on the existing site conditions and the accepted criteria for assessing the potential for environmental reserve, no

environmental reserve has been identified within the conceptual scheme boundaries.

**TABLE 2**

**Open Space Statistics**

Watermark Site Sub areas 1 – 7		Municipal Reserve (MR) 10%		Public Utility Lots (PUL)		Total Open Space (MR + PUL)	
Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares
287.00	116.00	29.00	11.70	17.36	7.03	46.36	18.73

- Policy 6.4.1** **Municipal Reserve lands and improvements, and all facilities located in the Bearspaw Village Park will be maintained by the M.D. of Rocky View, by the Homeowners Association under a lease agreement with the M.D., or by the Bearspaw Glendale Community Association.**
- Policy 6.4.2** **A detailed plan for the greenways and cascading pond system will be prepared and approved by the M.D. of Rocky View prior to any site development.**
- Policy 6.4.3** **Construction of the cascading pond system will be the responsibility of the developer. Maintenance of the operating components of the cascading pond system (pumps and water circulation system) will be the responsibility of the developer and/or the Homeowners Association.**
- Policy 6.4.4** **The site of the proposed infiltration bed which may be required as part of the**



**wastewater servicing system will not be part of the Municipal Reserve dedication.**

**Policy 6.4.5** A bond, or letter of credit, satisfactory to the M.D. of Rocky View, will be issued as a condition of subdivision or development approval. This will insure the rectification of any faults or failures with the circulation or pond systems associated with the Municipal Reserve, should these facilities require rectification. The conditions and term of the bond, or letter of credit, shall be to the satisfaction of both the developer and the M.D. of Rocky View.

## **6.5 Educational Facilities/School Sites**

The Watermark at Bearspaw site falls within the jurisdiction of the Rocky View School Division No. 41 and the Calgary Roman Catholic School District No. 1. At the time of conceptual scheme adoption, it was determined that no additional schools were needed to accommodate the expected development population.

Students attending schools within the Rocky View School Division will attend the local Bearspaw School (K-8) and Cochrane High School (9-12) or Bow Valley High School in Cochrane as an alternative high school.

Students attending schools within the Calgary Catholic School District will attend St. Basil (K-8) in Tuscany (or other designated schools in northwest Calgary) and St. Francis High School (9-12) located on Northmount Drive N.W. in Charleswood.

**Policy 6.5.1** No school sites will be required by either the Rocky View School Division or the Calgary Roman Catholic School District within the Watermark residential community.

## **6.6 Regional Open Space and Pathway Connections**

Important regional pathway connections are planned to the Bluebridge Mountain Estates community to the north of Watermark, to the Tuscany Community within the City of Calgary and to the future regional open space and pathway systems along the Bow River. The Watermark at Bearspaw location offers a unique opportunity for future residents to have pathway access to a significant regional open space amenity which includes the City's Legacy Park initiative and the Province of Alberta's Glenbow Ranch Provincial Park.

**During the public consultation process, the following important connections were confirmed:**

- A separated bicycle/pedestrian multi-use regional pathway running east/west along Township Road 252 (80 Avenue) to connect Tuscany, Watermark and existing Bearspaw communities (south of Township Road 252) to future regional open space and pathway systems planned along the Bow River.
- A separated bicycle/pedestrian multi-use regional pathway running north/south along the east side of Bearspaw Village Road to connect Bearspaw Village, Bluebridge Mountain Estates and Watermark to the east/west system.
- A connection through the Watermark site, using the development's local bicycle/pedestrian multi-use regional trail system, to provide for regional connections to the existing regional pathway system located in Bluebridge Mountain Estates.





- A connection from the Watermark site to the existing Bearspaw Village Park located at the northwest corner of Bearspaw Village Road and Bearspaw Village Crescent.

On site multi-use regional trail systems will be 3 metres in width; constructed using low maintenance materials such as asphalt; designed to facilitate multi-use (cycling, walking, etc.); and provide for key connections to existing and future pathway systems in the local area.

**Policy 6.6.1**      **On site multi-use regional trails will be 3 metres in width, constructed of low maintenance material (paved), provide for multi-use opportunities and facilitate key local connections.**

**Policy 6.6.2**      **A combined bicycle/pedestrian multi-use regional pathway will be created along the north side of Township Road 252/80 Avenue and along the east side of Bearspaw Village Road. The pathway will be constructed by the developer and maintained by the M.D. of Rocky View, by a Homeowners Association under a lease agreement with the M.D., or by the Bearspaw Glendale Community Association.**

**Policy 6.6.3**      **The internal bicycle/pedestrian multi-use regional trail system within the Watermark site will be designed in such a manner as to provide strategic connections to existing pathway systems within adjacent Bearspaw subdivisions and the Tuscany Community. The internal multi-use regional trail system will be constructed by the**

**developer and maintained by the M.D. of Rocky View, by a Homeowners Association under a lease agreement with the M.D. or by the Bearspaw Glendale Community Association.**

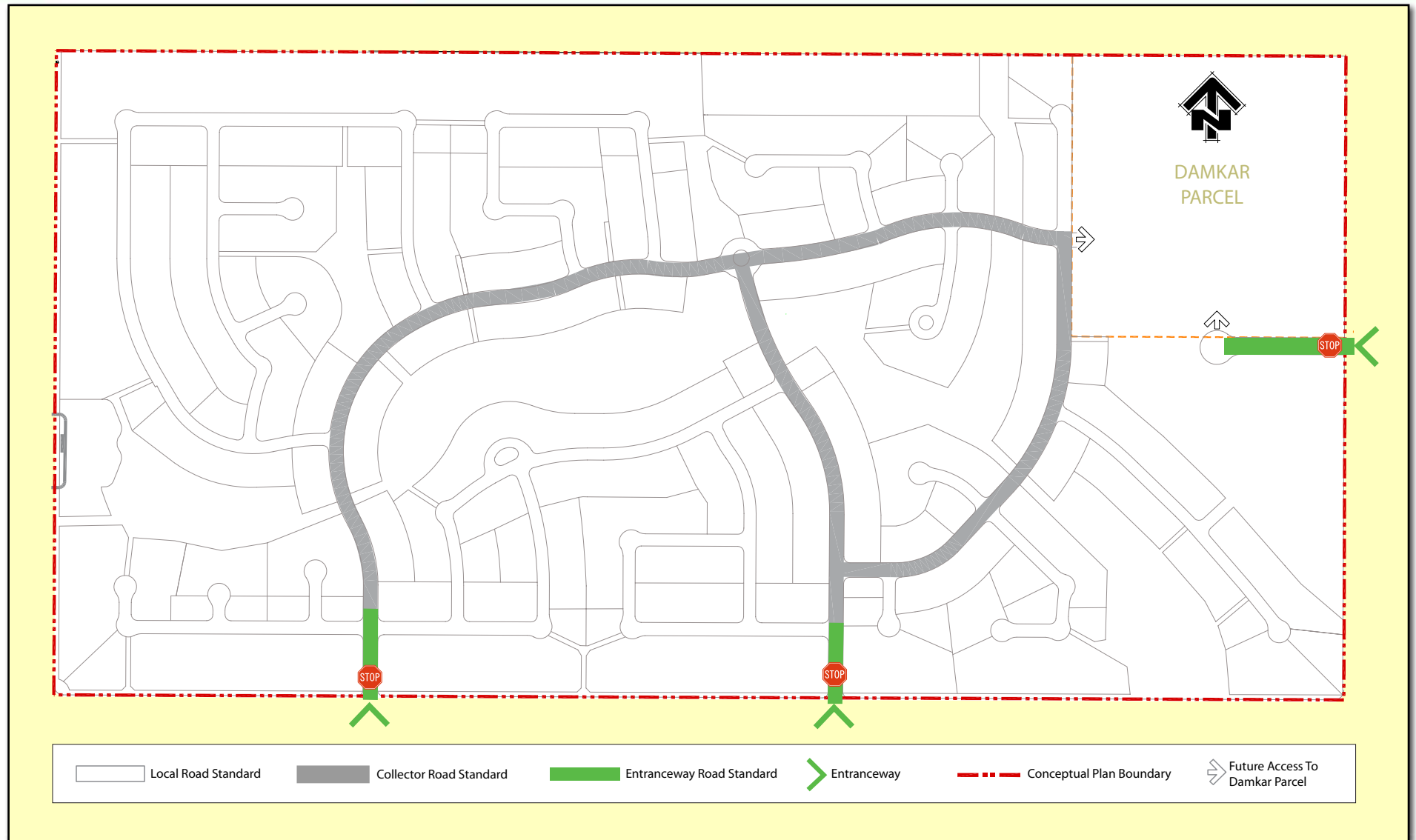
## 6.7 Damkar Parcel

An approximate 29 acre/12 hectare site located within the extreme northeast portion of the conceptual scheme boundary has been retained by the Damkar Family (See Figure 6). An agreement exists to provide, under certain conditions, wastewater and water service from the Watermark systems to the Damkar Parcel. Proposed future land uses for this site may require an amendment to the Conceptual Scheme should such uses and densities not be in conformity with this Conceptual Scheme. Any future land uses should be compatible with the adjacent Watermark development to the west and south, higher density urban development within the Tuscany Community located within the City of Calgary to the east and with adjacent Bearspaw country residential development to the north.

**Policy 6.7.1**      **Future land uses may include residential and/or institutional uses. Densities beyond the equivalent of 1.95 residential units per gross acre may require an amendment to the Conceptual Scheme.**

**Policy 6.7.2**      **Transportation access will be from 12 Mile Coulee Road and will be shared with Sub Area 7 of the Watermark project.**

**Policy 6.7.3**      **Communal wastewater treatment and water services will be provided to the Damkar Parcel under certain conditions, by the Watermark project.**



**Policy 6.7.4** **Municipal Reserve dedication and details of the open space system, including connections to the Watermark open space/pathway system, are to be determined as part of a detailed future development proposal.**

family units and at a future horizon (2020) with full build-out of the entire site.

Overall access will be provided via 12 Mile Coulee Road to Highway 1A (Crowchild Trail) within the study horizon of 2020. 12 Mile Coulee Road is within the jurisdiction of the City of Calgary with remaining roads being under the jurisdiction of the M.D. of Rocky View.

## 7.0 Transportation

A Transportation Impact Assessment (TIA) was prepared by Bunt & Associates Engineering (Alberta) Ltd (dated February 2008). The TIA evaluated the impact on the transportation network of development of all of the South ½ of Section 18-25-2-5 located within the M.D. of Rocky View (290 acres owned by Macdonald Bearspaw Properties Ltd. plus 30 acres retained by the Damkar Family). The following information has been extracted from that report.

### 7.1 Transportation Network and Improvements

The transportation analysis assumed residential development of the entire 320 acres using a development density of 2 units per gross acre (a total of 640 residential units). Full build-out of the site was projected to occur within 7 to 10 years. At full build-out, the development is expected to generate approximately 480 vehicle trips during the AM peak hour, approximately 647 vehicle trips during the PM peak hour, and 6,125 vehicle trips on a daily basis.

The TIA investigated the impact of the proposed residential development on the adjacent transportation network at the Opening Day (2010) with a build-out of 100 single

### 2010 (Opening Day) Horizon Identified Road Improvements

#### 2010 Background Traffic Conditions

The analysis confirmed that the study area intersections can be expected to be operating within acceptable capacity parameters applying existing lane configurations and intersection controls.

#### 2010 Post-Development Traffic Conditions

The analysis confirmed that the study area intersections can be expected to continue to operate within acceptable capacity parameters with the addition of the site-generated traffic with optimized signal timing at the 12 Mile Coulee Road/ Highway 1A intersection during the PM peak hour.

### 2020 Horizon Identified Road Improvements

#### 2020 Background Traffic Conditions

The analysis confirmed that the majority of the intersections can be expected to operate within acceptable capacity parameters applying the base lane configurations and intersection controls with the exception of Highway



1A/ 12 Mile Coulee Road and Tusslewood Drive/ 12 Mile Coulee Road.

### **Highway 1A/ 12 Mile Coulee Road**

The analysis indicated that even with possible improvements including six lanes on Highway 1A and dual left turn lanes in the southbound and westbound directions, applying the 2020 background traffic volumes, several movements would still not operate within acceptable capacity parameters. No further improvements can be made at this location at-grade. A grade separated interchange would improve the operation of this intersection, therefore it is recommended that the City of Calgary monitor this intersection and plan for and construct improvements by the 2020 horizon.

### **Tusslewood Drive/ 12 Mile Coulee Road**

During the PM peak hour, the westbound left turn movement has a Level of Service F. Although signals are not required, the warrant points are close to 100, therefore the intersection should be yearly monitored and signals installed when warranted.

### **2020 Post-Development Traffic Conditions**

Applying post development traffic conditions, the following improvements would be required to accommodate the site-generated traffic:

Tusslewood Drive/ 12 Mile Coulee Road - Signalize intersection.

Tuscany Way/ 12 Mile Coulee Road - Signalize intersection.

### **Daily Link Analysis**

Daily traffic was estimated on the study area roadways. While 12 Mile Coulee Road is a City of Calgary road, Township Road 252 and Bearspaw Village Road are within M.D. of Rocky View jurisdiction.

12 Mile Coulee Road is designated as a Major street pursuant to the City of Calgary roadway designation by-law. However, at the 2020 horizon based on the post-development daily traffic estimates, 12 Mile Coulee Road does not need to be upgraded to its ultimate designation south of Tuscany Way. The section of 12 Mile Coulee Road between Twp Rd. 252 and Tuscany way should be upgraded to a Primary Collector standard. On the section of 12 Mile Coulee Road south of Twp Rd. 252 no traffic growth is expected, therefore no improvements are necessary until future developments access 12 Mile Coulee Rd. south of Twp Rd. 252.

Township Road 252 should be upgraded to RAU 100, and Bearspaw Village Road should be upgraded to RCU 90 south of Twp Rd. 252 to accommodate 2020 horizon traffic volumes.

Although at the 2020 horizon, the proposed classifications are adequate to accommodate expected traffic volumes, it is understood that Nose Hill Drive is planned to be extended to Bearspaw Village Road. With the Nose Hill Drive connection, the connecting roadways including 12 Mile Coulee Road, Twp Rd. 252, and Bearspaw Village Road south of Twp Rd. 252 will function as Major streets. Bearspaw Village Road south of Twp Rd. 252 and 12 Mile Coulee Road north of Twp Rd. 252 should have a 36 metre right-of-way protected for this eventuality. However, based on expected



traffic volumes Twp Rd. 252 would only need to be a local major with a 27 metre right-of way as per City of Calgary Major Street standard.

## Summary

In summary, the proposed Watermark at Bearspaw development can be accommodated at the 2010 horizon year with minor signal timing improvements.

By the 2020 horizon, traffic generated by lands to the north and west of the study area will fill up the Highway 1A intersection to capacity at 12 Mile Coulee Road. At this horizon a grade separated interchange will be required to accommodate all expected traffic, with or without consideration of site generated traffic.

Therefore, the proposed Watermark at Bearspaw development can commence without any major improvement requirements. The Highway 1A/ 12 Mile Coulee Road intersection should be monitored by the City of Calgary and improvements constructed when required.

**Policy 7.1.1 Any required upgrading and/or widening of Twp Road 252 as a result of the proposed development shall be to the satisfaction of the M.D. of Rocky View.**

**Policy 7.1.2 Any required upgrading and/or widening of 12 Mile Coulee Road as a result of the proposed development shall be to City of Calgary standards.**

## 7.2 Effect of Possible Implementation of Long Term Transportation Plan

The M.D. of Rocky View and the City of Calgary have agreed in

principle to a long term transportation plan for the southeast Bearspaw area which, if implemented, would require a significant portion of Watermark's southeasternmost lands to be made available for the construction of a "flyby" roadway alignment, for through traffic, linking Township Road 252 to 12 Mile Coulee Road. Should this alignment be ultimately approved by the M.D. of Rocky View and endorsed by the City of Calgary, the required land will be dedicated to the M.D. of Rocky View and the City of Calgary, as the case may be, to fully accommodate the approved road design.

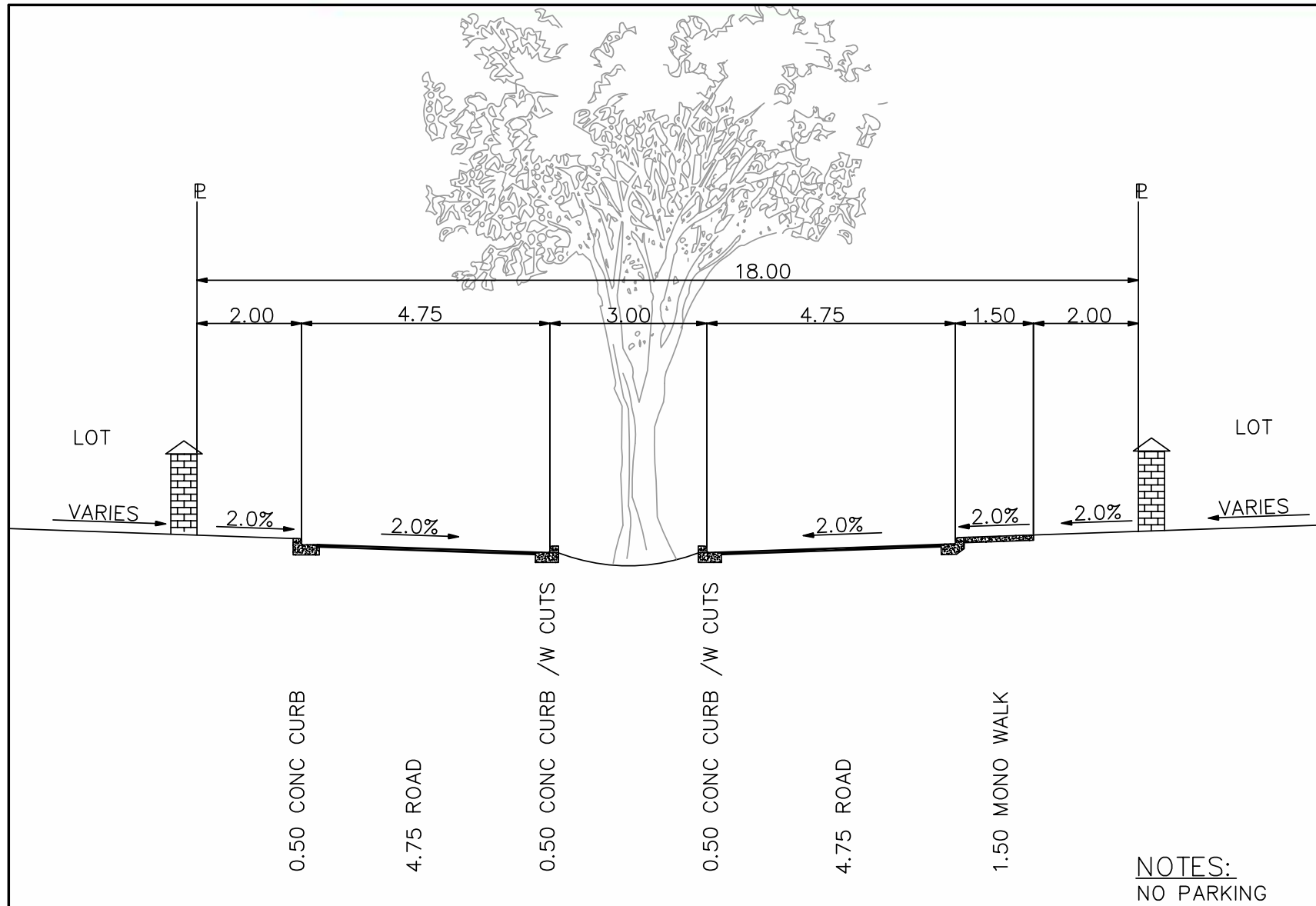
## 7.3 Internal Roadway System

The site is bounded by 12 Mile Coulee Road (east), Twp Rd 252 (south), Bearspaw Village Road (west) and the Blueridge Mountain Estates subdivision (north).

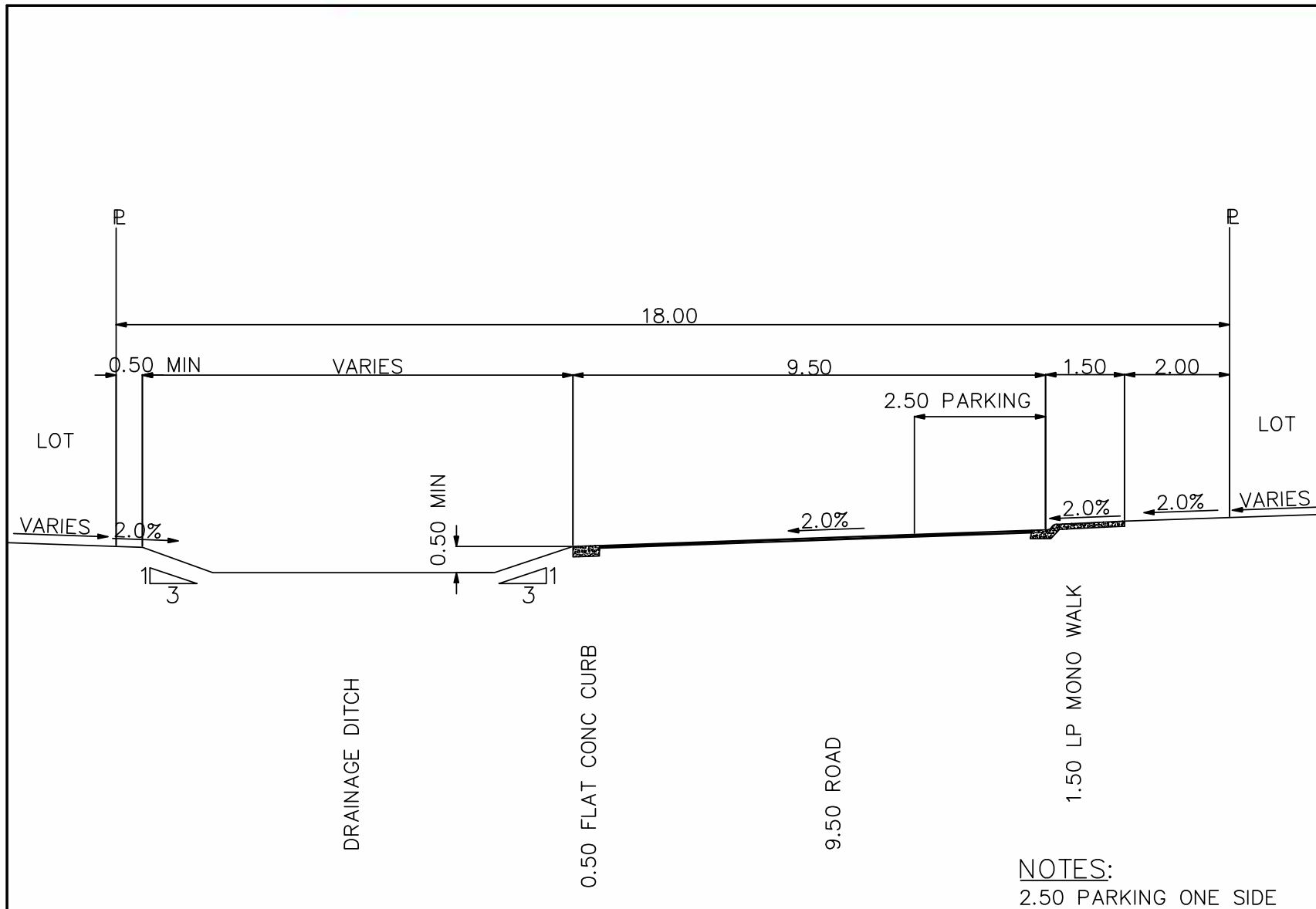
Principal access to the Watermark site will be provided at two locations on Twp Rd 252. Limited access to portions of the site will be provided from 12 Mile Coulee Road, and through Blueridge View for those individual lots that front directly on this existing road on the north side of the site (through Blueridge Mountain Estates).

A review of the proposed internal roadway system was undertaken by Bunt and Associates. The results of the review have indicated that the proposed development density (assumed for purposes of the report only to be 640 residential units total for the Watermark site and Damkar Parcel taken together) can be safely and adequately accommodated by the proposed hierarchy of roads. The only traffic control system required will be three stop signs at each of the access points to the Watermark community – two stop signs within the community as it interfaces with Twp Road 252 and one stop sign at the 12 Mile Coulee Road interface.

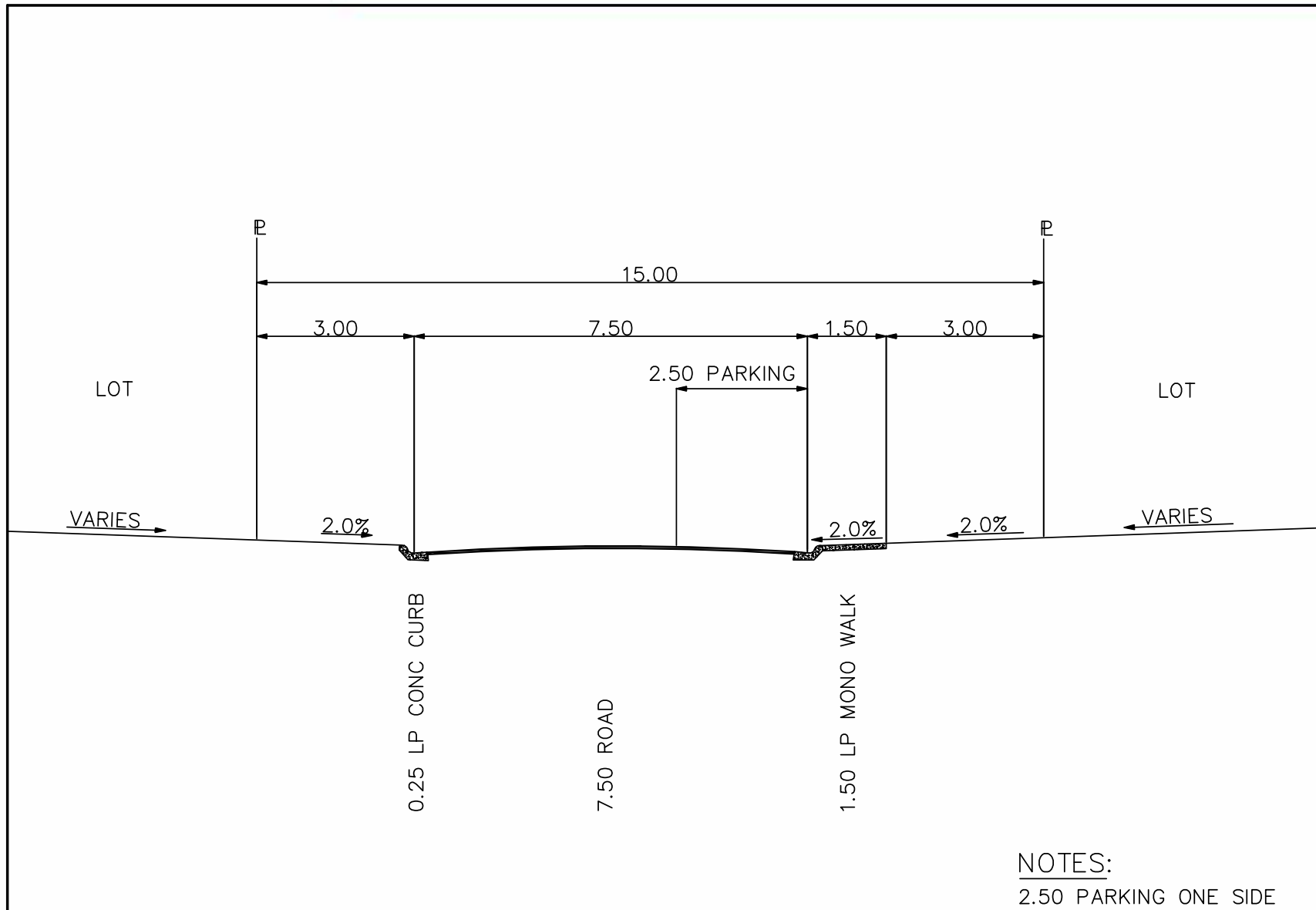
## Entranceway Road Standard



## Collector Road Standard

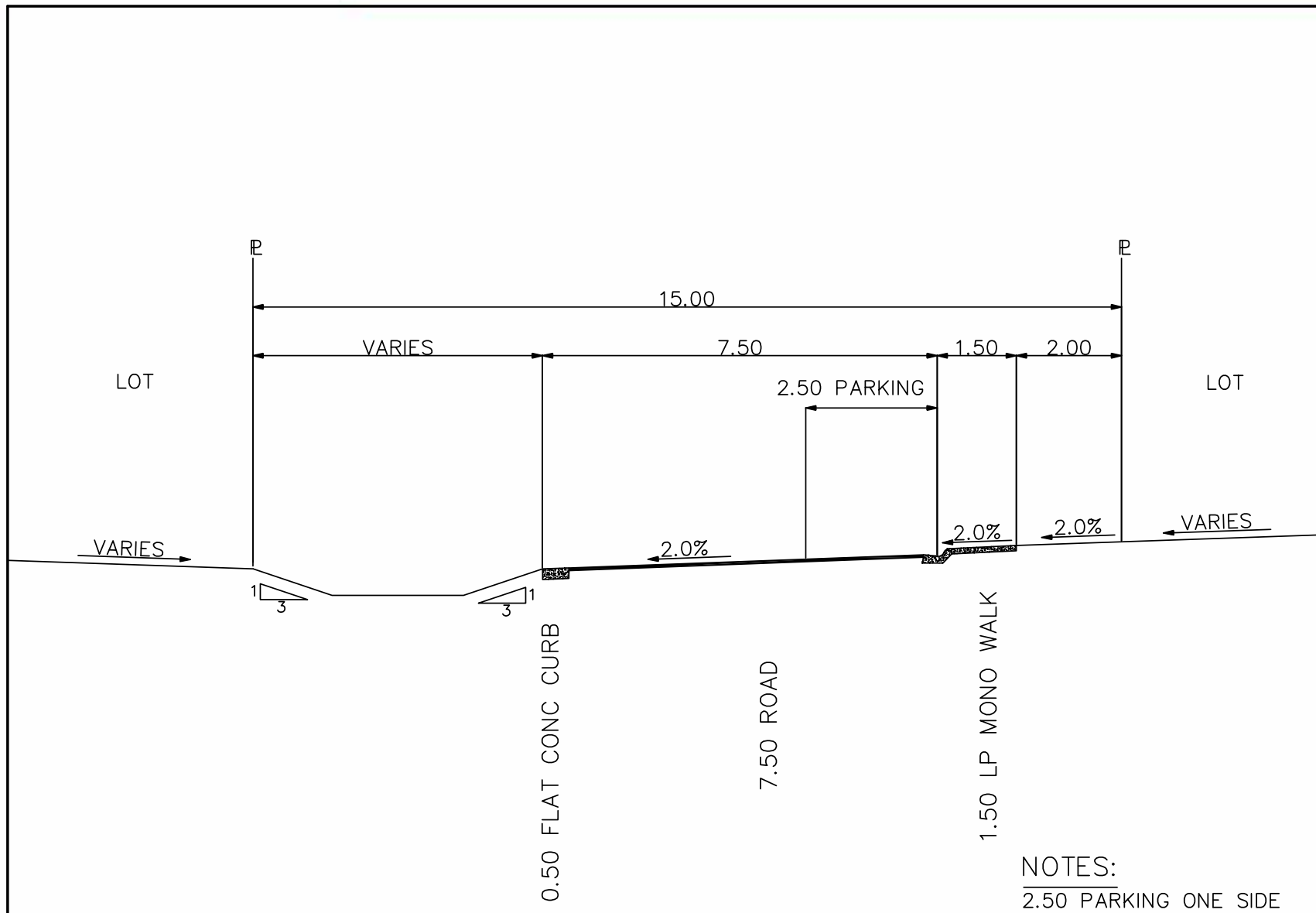


## Local Road Standard with Curb





## Local Road Standard with Ditch



- Policy 7.3.1** Internal roads shall be constructed by the developer to the standards and satisfaction of the M.D. of Rocky View and will be based on the specific right-of-way widths as set out in the Conceptual Scheme, with design elements as approved by the M.D. of Rocky View, generally in conformity with Figures 12A, B, C and D herein.
- Policy 7.3.2** Emergency vehicle access to the entire Watermark at Bearspaw development shall be provided and maintained to the satisfaction of the M.D. of Rocky View.
- Policy 7.3.3** Access through Blueridge Mountain Estates will be limited to those properties that have direct frontage on Blueridge View. No direct road connection will be provided from the remainder of the Watermark site to the Blueridge View roadway.
- Policy 7.3.4** Principal access to the Watermark site will be from two major entrances on Twp Road 252 and one access from 12 Mile Coulee Road. This latter entrance will provide access to the Damkar Parcel.
- Policy 7.3.5** Best Management Practices for roadways as described in Appendix 6 shall be integrated into the construction of all roadways within the Watermark project.

## 7.4 Road Standards

The following road rights-of-way widths shall be used for roadways within the Watermark Conceptual Scheme boundaries:

- Entranceway Road Standard – 18 metre right-of-way
- Collector Road Standard – 18 metre right-of-way
- Local Road Standard – 15 metre right-of-way

- Policy 7.4.1** The internal roadway system within the boundaries of the Watermark Conceptual Scheme will have the following road right-of-way widths:  
Local roads: 15 metres, collector roads: 18 metres and entranceway roads: 18 metres.

## 8.0 Utility Servicing

### 8.1 Wastewater Servicing

A comprehensive review of wastewater treatment options was undertaken by WorleyParsons Komex as part of the background work undertaken for the Watermark development. They have designed the following system as the optimal approach for dealing with the Watermark community's wastewater.

Sanitary sewage will be collected and conveyed in a conventional manner to a wastewater treatment plant, designed to look like a conventional residential building, located in the central portion of the Watermark site.

Sanitary sewage will be treated to a very high, tertiary "plus" level of effluent quality by a state of the art, odourless, treatment plant (effluent quality standard would be superior to the relevant standards of the "Surface Water Quality Guidelines for Use in Alberta").



The treated “river water quality” effluent is intended to be discharged from the plant into an infiltration bed, also located in the central portion of the site and then collected in subsurface granular flow channels that would carry the resultant groundwater away from the infiltration bed for eventual discharge into the bottom of Watermark’s stormwater pond system. The infiltration bed system would be designed to achieve a minimum “time of travel” of approximately seven days through the bed to the points of discharge. The infiltration bed will be approximately 1.5 – 2.5 hectares in size and will not be considered to be either a Public Utility Lot or a Municipal Reserve site.

This infiltration bed will provide significant additional, redundant treatment of the effluent, such that upon exiting the infiltration bed system and entering the stormwater pond, the resultant groundwater will generally contain fewer impurities than the raw stormwater entering the pond system from the rest of the site.

Stormwater from the Watermark site is expected to exit at the southern end of the large south-eastern pond into a stormwater pipe constructed along Twp. Road 252 (80 Avenue N.W.) and eventually into the Bow River.

Because the effluent, then resultant groundwater will be of such high water quality, there will be no impact on the quality of groundwater for surrounding residents who depend on wells for drinking water, or impact on the Bearspaw Reservoir.

The treatment plant will be designed to integrate into the development, to enclose all activity from view and will look like a standard residential home. Operation of the wastewater treatment system will require sludge to be trucked off site to a treatment facility on a weekly basis. All activity related to sludge disposal will be within the wastewater treatment facility building with no visual and odour impact on adjacent residential properties.

An experienced operations firm will be contracted to run and monitor the treatment system in compliance with Alberta Environment’s guidelines.

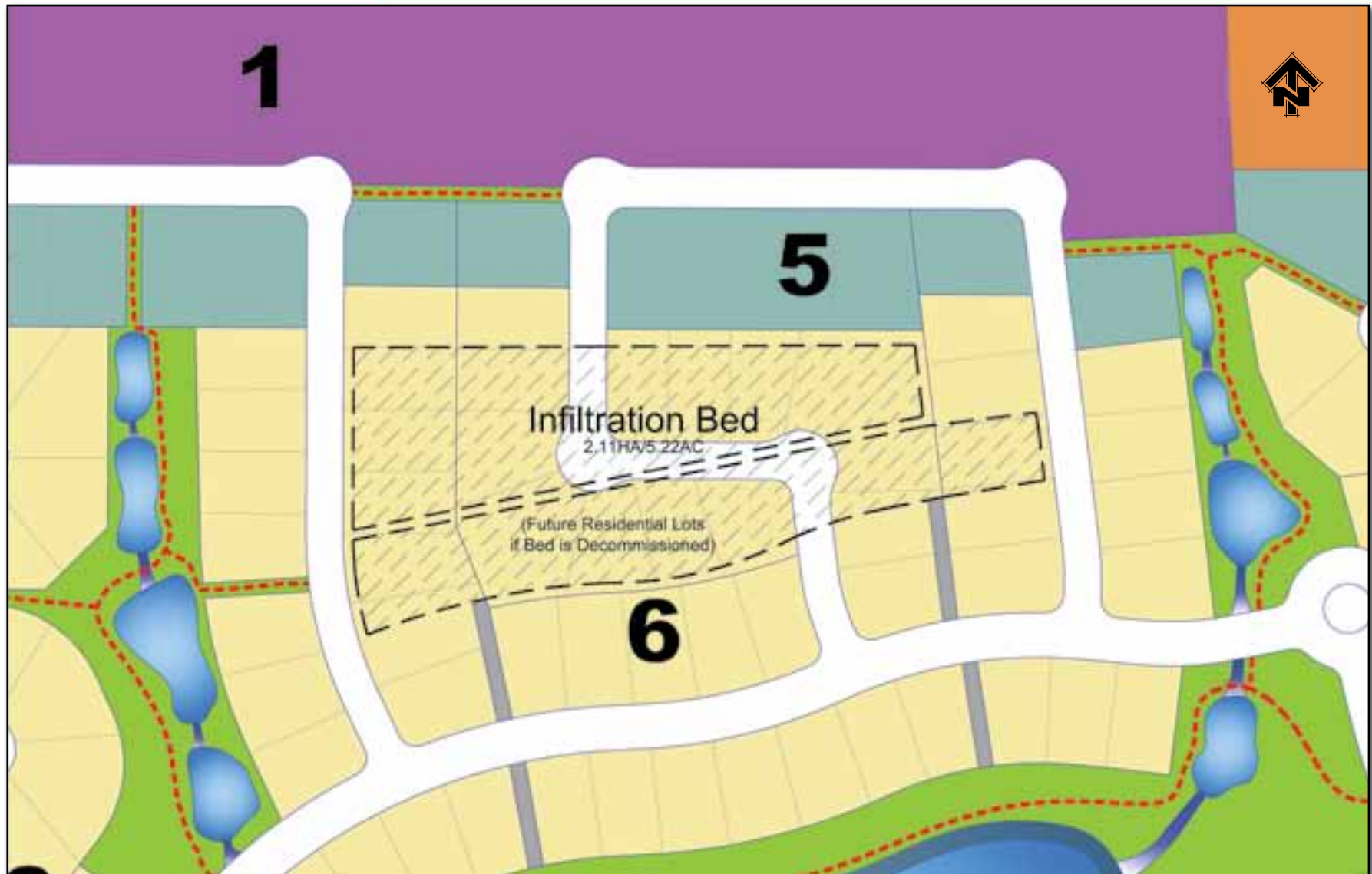
An alternative discharge location for the highly treated wastewater effluent is under consideration, that being directly into the Bow River, downstream of the City of Calgary’s Bearspaw Water Treatment Plant’s most easterly (furthest downstream) raw water intake. Under this alternative scenario, and given the highly treated nature of the effluent, the infiltration bed component of the wastewater treatment system would be unnecessarily redundant and would be eliminated from the wastewater treatment system.

There is a third wastewater treatment scenario under joint consideration by the M.D. of Rocky View and the City of Calgary. This conventional scenario would involve the complete elimination of Watermark’s wastewater treatment system, and the piping of Watermark’s untreated sanitary effluent into the City of Calgary’s existing regional wastewater treatment system.

Should a direct connection to a regional sanitary servicing system become available in the future, or should Alberta Environment determine that the infiltration bed is an unnecessary component of the wastewater discharge system, the infiltration bed will be or will become no longer required. The shadow plan (See Figure 14) demonstrates how the site planned for the infiltration bed would otherwise be developed for residential uses.

**Policy 8.1.1     Any proposed wastewater treatment system shall be designed and constructed in accordance with applicable municipal, provincial and federal standards to the satisfaction of the M.D. of Rocky View.**





**Policy 8.1.2** Maintenance and operation arrangements for the wastewater treatment facility shall be to the satisfaction of Alberta Environment and the M.D. of Rocky View.

**Policy 8.1.3** Ownership of the wastewater treatment system will remain with the developer.

**Policy 8.1.4** Once the Watermark development is substantially built out, the developer will offer the M.D. of Rocky View the option to purchase the wastewater treatment plant, water treatment plant and the infiltration bed based on terms and conditions set out in the Development Agreement. If the M.D. of Rocky View chooses not to exercise this purchase option, the developer will be free to sell the three facilities to a utility owner/operator.

**Policy 8.1.5** The wastewater distribution system will be designed in such a way as to facilitate a possible future connection to a regional servicing system.

**Policy 8.1.6** If a connection to a regional wastewater system becomes available in the future, or if Alberta Environment determines that the infiltration bed is unnecessary for wastewater discharge, the infiltration bed site will be developed for residential purposes as shown in Figure 14.

**Policy 8.1.7** A sludge disposal plan will be prepared to the satisfaction of the M.D. of Rocky View prior to the approval of the construction of the wastewater treatment system.

## 8.2 Potable Water Servicing

The developer controls two water licenses to obtain water from the Bow River with sufficient capacity to service the Watermark development. Alberta Environment's approval of the transfer of the two water licenses for residential purposes will be in place prior to commencement of construction of the water treatment plant.

A water pumping station will be built adjacent to the Bow River and a watermain will be built through an adjacent property (as depicted in Figure 15) to a proposed water treatment plant located in the south-western portion of the Watermark development site. The water treatment plant will be designed to integrate into the development and will look like a standard residential home including a non visible subsurface water reservoir. An experienced operator will be contracted to operate and maintain the water treatment system.

Best management practices will be incorporated into the residential development to minimize water consumption. Because the water supply is coming directly from the Bow River, there will be no impact on groundwater levels or on existing wells in adjacent rural residential subdivisions.

**Policy 8.2.1** Water shall be supplied by a communal piped distribution system built to the satisfaction of the M.D. of Rocky View and in accordance with the Alberta Water Act and any other Provincial requirements.

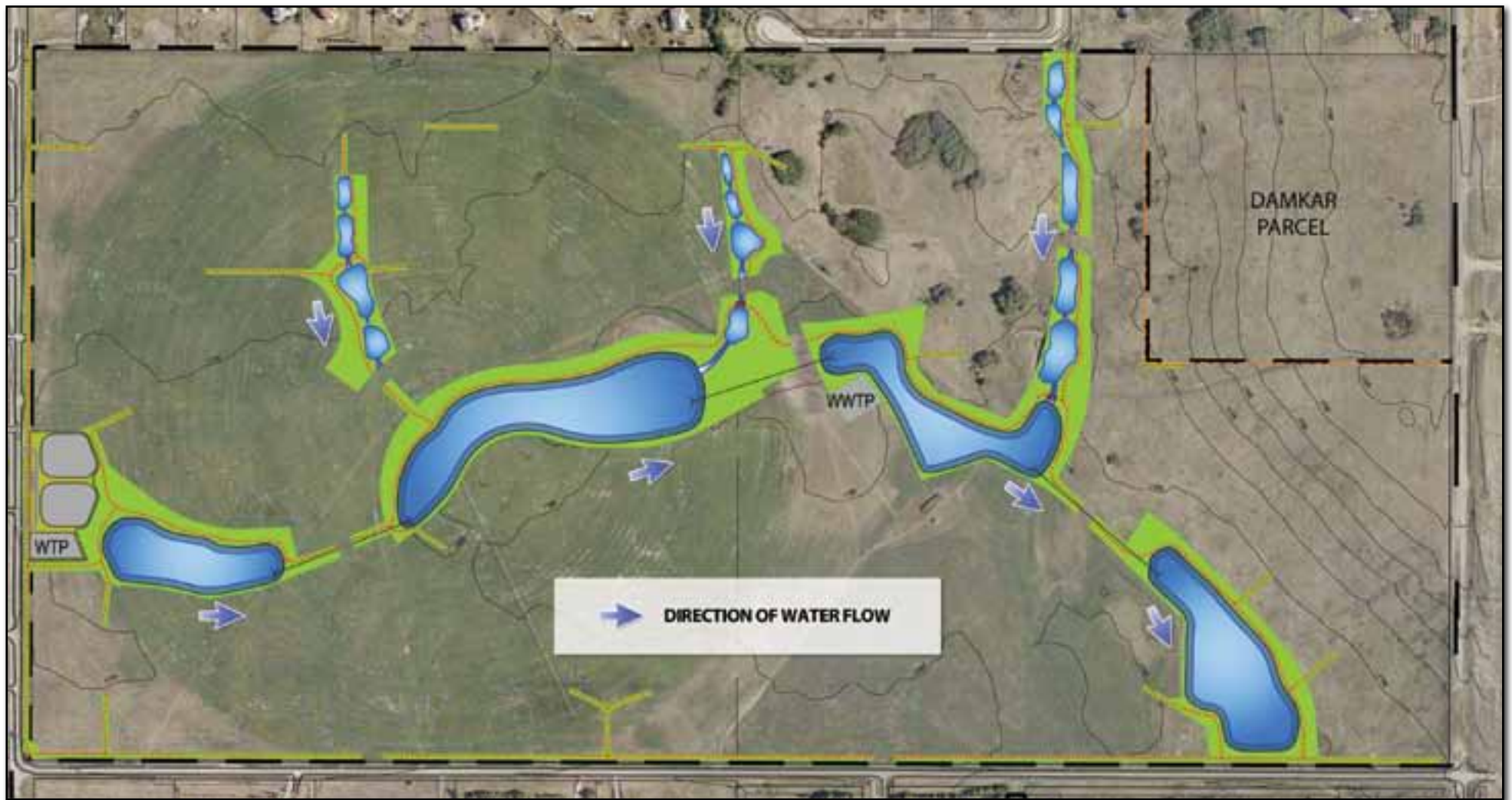




- Policy 8.2.2** Ongoing maintenance and operation arrangements for the water treatment facility and distribution system shall be undertaken by an experienced utility operator and shall be to the satisfaction of the M.D. of Rocky View and/or Alberta Environment.
- Policy 8.2.3** The proposed development shall provide a water distribution system sufficient to meet fire flow requirements to the satisfaction of the M.D. of Rocky View.
- Policy 8.2.4** Best management practices as illustrated in Appendix 6 shall be integrated into the residential development to minimize water consumption.
- Policy 8.2.5** Ownership of the water treatment facility will remain with the developer at least until the M.D. of Rocky View decides whether or not it will exercise its option to purchase the facility as set out in Policy 8.1.4 above.
- Policy 8.2.6** The water distribution system will be designed in such a way as to facilitate a possible future connection to a regional servicing system.







## 8.3 Stormwater Management

The proposed stormwater management concept for the Watermark subdivision is presented in Figure 16. The Master Drainage Plan (MDP) prepared by Westhoff Engineering Resources Inc. describes an integrated and holistic approach to managing runoff from the catchment area that includes the Watermark development and a major catchment area lying to the north of the Watermark site. Best Management Practices (BMPs) and Low Impact Development (LID) strategies are embraced to showcase good watershed management by incorporating wetlands, rain harvesting and re-use, and to enhance the aesthetics of the development.

The drainage strategy for the Watermark subdivision includes the following elements:

- Incorporate and enhance existing wetlands into the stormwater management system as conveyance, retention and treatment systems;
- Provide a continuous link for runoff from large upstream external areas to reach the Bow River;
- Design of cascading linear system for conveyance, including a re-circulation system to address water quality and enhance the aesthetics of the stormwater storage facilities so that they become amenities for the community;
- Significant attenuation of pre-development stormwater flows from the Watermark site in the event of a major storm event;
- Best Management Practices including:
  - capture and re-use of runoff for irrigation of green spaces;
  - routing drainage to landscaped areas to nourish vegetation and water quality improvements through filtration prior to discharge in the stormwater storage facilities;

- drainage by overland drainage systems including roadside ditches along roads without curbs, gutter flow at roads with curb and gutter incorporating curb cuts for diversion into swales between lots and/or along pathways;

- Low Impact Development strategies including:
  - encouraging the placement of absorbent landscaping with generous loam thickness in landscaped areas;
  - encouraging the placement of pervious pavements and pervious hard landscaping;
  - xeriscape vegetative buffers;
- All ponds combined to be handling the runoff resulting from a 1:100 year storm event as determined by continuous simulation, and to meet current target for Total Suspended Solids (TSS) removal and loadings to receiving waters, i.e. the Bow River at the Bearspaw Reservoir; and
- Implementation of an Erosion and Sediment Control (ESC) plan and program and an Environmental Construction and Operation (ECO) plan to safeguard the drainage infrastructure and the environment.

**Policy 8.3.1 All stormwater management shall be in accordance with Alberta Environment's guidelines, including Best Management Practices (See Appendix 6). Attempts will be made to incorporate Low Impact Development strategies, where economically feasible.**

**Policy 8.3.2 A Site Implementation Plan (SIP) will be required in support of each phase of subdivision to the satisfaction of the M.D. of Rocky View.**

**Policy 8.3.3** Stormwater storage facilities and appurtenant structures shall be located on a Public Utility Lot, maintained and operated by the M. D. of Rocky View. However, the stormwater system's water re-circulating pumping system will be maintained by the developer and/or a Homeowners Association.

**Policy 8.3.4** The Public Utility Lot (PUL) shall be the area corresponding to the computed 1:100 year depth in the stormwater storage facilities (High Water Level – HWL).

**Policy 8.3.5** Stormwater Management for the Watermark Conceptual Scheme area shall be based on a limited release concept; that is, release rates are similar to the Rocky Ridge and Tuscany areas and limited to 2.6 L/S/ha. In addition, the on-site stormwater management system components will provide for conveyance of runoff from external areas upstream, as outlined in the Master Drainage Plan prepared by Westhoff Engineering Resources, Inc.

## 8.4 Shallow Utilities

Shallow Utilities will include electricity, natural gas, telephone and cable for television and internet access. These services will be extended into the development on a phased basis at the time of development of each phase. Shallow utilities will be installed along road rights-of-way subject to approval of the M.D. of Rocky View.

**Policy 8.4.1** Shallow utilities will be underground and shall be provided within the conceptual plan area at no expense to the M.D. of Rocky View. Appropriate rights-of-way will be provided at the subdivision stage as required by the utility companies.

## 8.5 Solid Waste Management

Solid waste management will be the responsibility of the property owners through the Homeowners Association and will normally be provided through a contract with a solid waste disposal service company.

**Policy 8.5.1** Solid waste management services will be the responsibility of individual property owners or collectively through the Homeowners Association and must be in conformity with the M.D. of Rocky View's Solid Waste Master Plan.

## 9.0 Community, Protective and Emergency Services

The M.D. of Rocky View currently provides community and social services through the Family and Community Support Services program. Family and Community Support Services is a partnership between the Province of Alberta and the M.D. of Rocky View that develops, coordinates, and provides Rocky View citizens with a variety of preventative social programs.

Recreational services are provided through a system of local recreation districts. The Watermark at Bearspaw conceptual plan area is located within the Bearspaw Glendale Recreation District. The Bearspaw Glendale Lifestyle Centre provides a variety of recreational, social and educational programs for local residents. The Bearspaw Glendale Lifestyle Centre is currently operating at capacity and has just completed a community needs assessment which recommends that the facility be expanded. The Voluntary Recreation Contribution is one means of funding improvements to existing recreation facilities that will serve the broader Bearspaw Community and the residents of the Watermark project. Increasing demands will be placed on the Bearspaw Glendale Lifestyle Centre by the additional population generated by Watermark. Appendix 4 details possible voluntary off-site improvements which could be funded by the Watermark project.

Police service will be provided by the Royal Canadian Mounted Police and the M.D. of Rocky View Special Constables.

Fire protection is currently provided by the City of Calgary Fire Department under an intermunicipal fire service agreement between the City and the M.D. of Rocky View. Emergency Services are also provided through an agreement with the City of Calgary.

**Policy 9.1**      **Watermark at Bearspaw shall meet the criteria and requirements for on-site fire fighting measures, including the provision of sufficient fire hydrants, as determined by the M.D. of Rocky View and in conformity with the Alberta Building Code and other applicable standards.**

**Policy 9.2**      **To facilitate identification of property locations in times of emergency, community and street names shall comply with M.D. of Rocky View street naming and addressing policies.**

**Policy 9.3**      **Alternative funding methods, such as the M.D.'s Voluntary Recreation Contribution, shall be supported and encouraged. Should alternative funds be voluntarily provided by the developer, these funds shall be allocated to upgrades to the Bearspaw Glendale Lifestyle Centre. Potential upgrades, identified through public consultation, are described in Appendix 4.**

## 10.0 Approval/Implementation of Conceptual Scheme

Implementation of the Conceptual Scheme will occur through the land use redesignation, subdivision and development approval processes which have been established by the M.D. of Rocky View. This Conceptual Scheme provides a detailed framework for development of the Watermark site within the umbrella of broader M.D. of Rocky View policies and standards. The Conceptual Scheme will be adopted as an amendment to the Bearspaw Area Structure Plan.

The Conceptual Scheme area occupies a strategic location adjacent to the City of Calgary and is within the boundaries of the Intermunicipal Development Plan.





# Conceptual Scheme

One or more Direct Control District Bylaws will be required to coordinate development related requirements and the obligations of a Homeowners Association.

The potential impact of the construction process and site development on the adjacent residential communities should be addressed as part of the implementation process.

**Policy 10.1**      **The Watermark at Bearspaw Conceptual Scheme will be adopted as an amendment to the Bearspaw Area Structure Plan.**

**Policy 10.2**      **The requirements of the M.D. of Rocky View/City of Calgary Intermunicipal Development Plan and reasonable interests of both municipalities shall be considered in the approval and implementation of the Watermark at Bearspaw Conceptual Scheme.**

**Policy 10.3**      **The M.D. of Rocky View shall implement this Conceptual Scheme through the standard land use redesignation, subdivision and development approval processes.**

**Policy 10.4**      **As part of the implementation process, a Direct Control District will be required to reflect the details of the residential development concept. The specific details to be reflected are outlined in Section 6.2, Table 1.**

**Policy 10.5**      **A Homeowners Association shall be established to assume responsibility for portions of the servicing infrastructure, provision of solid waste management services,**

**administration of design guidelines and provision of other local services as may be determined by the developer and the M.D. of Rocky View.**

**Policy 10.6**      **A Construction Management Plan shall be prepared to the satisfaction of the M.D. of Rocky View to address dust control, noise, truck routes and access to the site. The potential interference between development activity on the site and daily activities of nearby residents shall be addressed.**

**Policy 10.7**      **A Weed Management Plan shall be prepared to the satisfaction of the M.D. of Rocky View to implement controls to impede and remove weed growth during the pre-build, build and post-build stages of development.**

**Policy 10.8**      **A Landscaping and Lighting Plan shall be prepared to the satisfaction of the M.D. of Rocky View to provide appropriate landscaping and lighting details. The Plan shall be prepared and approved by the M.D. of Rocky View as a condition of subdivision approval.**

**Policy 10.9**      **A future amendment to the Conceptual Scheme may be required to accommodate development of the Damkar Parcel should its future proposed land uses and densities differ materially from those identified in this Conceptual Scheme.**

## Appendices

### Appendix 1 M.D. of Rocky View Council Authorization

On February 05, 2008, the M.D. of Rocky View Council directed “the applicant to prepare a Conceptual Scheme for the lands identified in the Conceptual Scheme Boundary in support of the redesignation application received by Staff”

The specific details are as follows:

#### “A)

That Council request the owner pay the fee prescribed in the Master Rates Bylaw and prepare a Conceptual Scheme for the Lands identified in the Conceptual Scheme Boundary Map, to be adopted by Bylaw, as a prerequisite to Council considering further Redesignation and subdivision applications within the subject lands.

As part of the Conceptual Scheme, the Applicant shall conduct at least two Open Houses prior to first reading of the adopting Bylaw. The plan should be prepared in a format satisfactory to the Municipality. In accordance with Section 8.1.14 and 8.1.15 of the BASP, the Conceptual Scheme shall include the following items:

**1. Existing Situation** – A baseline description and evaluation of the impacts of development of the following matters within the Conceptual Scheme area:

- a) existing land use, ownership and development;
- b) topography, soil, vegetation and geotechnical conditions;

- c) existing utilities and transportation routes;
- d) archaeological and historical consideration;
- e) adjacent land uses;
- f) identification of all petroleum related facilities and necessary setbacks within and adjacent to the development area;
- g) biophysical and ecological assessments;
- h) environmental sensitivity and significance;
- i) Phase 1 environmental assessment and implementation of any recommendations from that report; and
- j) any other matters the Municipality requires to be investigated.

#### **2. Regional Matters**

- a) an analysis of the regional transportation network, as part of the assessment, consideration should be given to methods of financing any required interchange upgrades at Highway 1A and 12 Mile Coulee Road;
- b) regional servicing considerations;
- c) integration of the local stormwater management plan with regional stormwater movement, in accordance with the provisions of the Bears paw Master Drainage Plan;
- d) an assessment of the appropriate community service levels including, but not limited to, policing, fire protection and ambulance and the cumulative impact of such development on the existing Municipal capabilities;
- e) the impacts of development on the City of Calgary;
- f) the impacts of development on the Glenbow Ranch Provincial Park;
- g) Integration and connection of open space networks and recreational amenities with the existing development within this area of the Municipality and the City of Calgary; and
- h) any other matters the Municipality requires to be investigated.

**3. Local Development Matters** – A description and evaluation of the following matters describing development within the Conceptual Scheme area:

- a) a future land use scenario that results in an innovative development and an efficient use of the land base and will detail lot design and configuration, parcel size and population density at phased and full build out. The study should provide a rationale for the type of proposed use and timing within the context of existing, approved and proposed development in the area;
- b) a description of the development concept that includes discussion on landscaping and architecture;
- c) proposed open space (including active and passive open areas, natural areas and pedestrian linkages to other existing or potential developments);
- d) a Recreational Plan that may or may not include a Voluntary Community Recreation Contribution;
- e) dedicated lands including, but not limited to, conservation easements, public utility lots, Municipal/school reserves; and if necessary, environmental reserves;
- f) measures to ensure the integration of the proposed development with existing and adjacent development in a manner that ensures compatibility with adjacent land use, as part of this work, consideration should be given to buffering existing residential development from proposed development;
- g) a Storm Water Management Plan that implements low impact development and best Management Practices in conjunction with the provisions of the Bearspaw Master Drainage Plan;
- h) a Utility Servicing Strategy that provides for a piped water supply, sewage disposal system and solid waste system necessary to support the range of uses and densities within the Conceptual Scheme area;
- i) innovative measures to provide for water conservation, water recycling & reuse;
- j) a Traffic Impact Assessment that addresses the location of existing and future transportation networks detailing traffic generation and its cumulative impacts on the road network, including necessary improvements.
- k) an Implementation Plan that addresses phasing and provides for a Construction Management Plan and a Weed Management Plan that implements controls to impede and remove weed growth control during the pre-build, build and post-build stages of development; thereby, maintaining a clean and orderly area for the duration of development;
- l) input from all directly and indirectly affected landowners within and adjacent to the Conceptual Scheme area throughout the preparation of the Conceptual Scheme, including a minimum of two (2) open houses to gain feedback on the proposal; and
- m) any other matter the Municipality deems necessary.

**B)**

If the Conceptual Scheme is successfully adopted, then the Municipality shall enter into a Cost Recovery Agreement for Conceptual Scheme Preparation with the Owner.”

## Appendix 2 Statutory Plan Compliance

### **Bearspaw Area Structure Plan**

The Bearspaw Area Structure Plan, approved by the M.D. of Rocky View Council in 1994, provides land use policy direction to guide development within its boundaries.

Figure 7 of the ASP, Future Land Use Scenario, indicates that the Watermark site is within the general category of lands suitable for future country residential development. Figure 3, Concept Plans, indicates that the Watermark site is within the general area shown as "Lands within Development Priority Areas 2 & 3 Requiring Concept Plans." Consequently, a Conceptual Scheme (concept plan) has been prepared as a prerequisite to the approval of residential development.

The Area Structure Plan in Section 8.1.21 states "Notwithstanding Policy 8.1.20 and Figure 3, the Municipality may consider redesignation proposals and/or application contemplating parcel sizes of less than four (4) acres in size, provided these proposals are supported by a Concept Plan that is prepared and adopted pursuant to the provisions of this Plan."

The ASP provides detailed policies and direction with respect to country residential development, the preparation of concept plans, the environment and transportation as well as specific direction for other subject areas normally addressed in the preparation of a Conceptual Scheme.

The Conceptual Scheme for the Watermark at Bearspaw project will ultimately be approved by the M.D. of Rocky View Council as an amendment to the Bearspaw Area Structure Plan.

### **M.D. of Rocky View/City of Calgary Intermunicipal Development Plan**

The M.D. of Rocky View/City of Calgary Intermunicipal Development Plan (IDP) was approved by the two respective Municipal Councils in 1998. The IDP states "The fundamental purpose of the M.D. of Rocky View/City of Calgary Intermunicipal Development Plan is to identify an area of mutual intermunicipal interest and to establish policy direction and processes to address intermunicipal issues that may arise within that area."

The IDP has defined boundaries (both Policy Areas and Notification Zones), contains a range of land use policies and has identified implementation processes. The policies contained in approved local plans (area structure plans, concept plans, etc.) prevail over the policies of the IDP. Where no local plans have been approved, the policies of the IDP prevail. Although the IDP originally had a five year time horizon, the IDP has not been repealed and continues to provide policy direction for both municipalities.

The Watermark at Bearspaw Conceptual Scheme site is within the boundaries of the current IDP and within "Area A – Existing Area Structure Plans and Concept Plans within the M.D." The IDP recognizes the policies of the Bearspaw Area Structure Plan.

The IDP does provide for intermunicipal referrals in Section 3.1.2 including conceptual plans. As such, the Watermark at Bearspaw Conceptual Scheme has been circulated to the City of Calgary for comments and for possible referral to the M.D. of Rocky View/City of Calgary Intermunicipal Committee.

As part of the recent Intermunicipal Agreement on Annexation (approved by both Municipal Councils in 2006) direction has been given to undertake a time sensitive review of the Intermunicipal Plan. Approval of a new Intermunicipal Development Plan is expected by in late 2009 and is therefore expected to be subsequent to the approval of this Conceptual Scheme.

## **M.D. of Rocky View Municipal Development Plan (MDP)**

The M.D. of Rocky View Municipal Development Plan contains strategic policies guiding future land use and development activity within the municipality. The MDP provides direction to assist in the preparation of local plans, including Conceptual Schemes, as well as direction in the preparation of development related applications.

Key policies of the MDP have been carefully considered in the preparation of the Watermark at Bearspaw Conceptual Scheme to ensure that the Conceptual Scheme conforms to all of the requirements of the MDP.

Section 1.8 of the MDP identifies the main goals for the M.D. of Rocky View including the following goals which are relevant for the Watermark at Bearspaw Project.

- To accommodate growth and change in the Municipality in accordance with sound land use planning;
- To facilitate residential developments which create safe and liveable environments;
- To encourage and facilitate the development, maintenance and expansion of a sound and economical transportation and utility infrastructure;
- To facilitate the preservation and/or conservation of significant and/or sensitive natural environments; and
- To facilitate communication and cooperation between the Municipality and neighbouring municipalities (i.e., the City of Calgary).

Residential development policies are contained in Section 5.0 of the MDP which states "All applications for country residential development shall be evaluated in accordance with the following criteria:

- the consistency of the proposed residential development with any area structure plan or Conceptual Scheme that has been adopted;

- the capability of the land to support the proposed residential development including the identification and evaluation of on-site hazards, geotechnical, archaeological and/or cultural features;
- the impact the proposed residential development will have on adjacent lands, the natural environment, the local road system and its compatibility with the surrounding area and the rural character of the Municipality;
- the availability and adequacy of potable water supply and sewage disposal systems necessary to support the proposed residential development and the management of stormwater; and
- comprehensive subdivision design principles that result in innovative communities, efficient use of the land base, municipal infrastructure, public and private utility systems and on-site development opportunities..."

Policies contained in other sections of the MDP (Natural Environment, Infrastructure, etc.) have also been considered in the preparation of this Conceptual Scheme.

## **M.D. of Rocky View Rocky View Growth Management Strategy (GMS)**

The M.D. of Rocky View Rocky View Growth Management Strategy which is currently in draft form, supports the principle of infilling and intensification of existing lower density residential areas. This Watermark at Bearspaw Conceptual Scheme is aligned with these development principles.



## Appendix 3 Summary of Public Consultation

An extensive public consultation program has been undertaken to provide critical input to the development of the Conceptual Scheme. In conjunction with standard requirements established by the M.D. of Rocky View, the program included the following:

### 1. **Introductory Open Houses November 2007 and January 2008**

Four introductory Open Houses were held on November 27, 28 and 29, 2007 and on January 30, 2008.

An invitation was hand delivered to approximately 1200 surrounding households for the November, 2007 Open Houses (both in Bearspaw and within Tuscany). The January, 2008 Open House was intended for the broader Bearspaw Community and other interest groups and was advertised in the local Rocky View paper.

The purpose of the Open Houses was to introduce the developer, the team of consultants involved and preliminary information regarding potential development of the Watermark site.

Interested neighbours and other stakeholders had the opportunity to ask questions and provide ideas and input with regard to all aspects of the proposed development, in a relaxed atmosphere. The development team all gained very useful input from a broad cross-section of individuals with varied tastes and a wide range of issues.

A takeaway brochure was provided to individuals who attended the Open Houses. The brochure summarized

the Open House display material and provided contact information for follow-up.

Approximately 280 people attended the four Open Houses.

### 2. **Co-Design Workshop February 2 and 3, 2008**

A seven hour, Neighbourhood Visioning Workshop was held on Saturday, February 2, with an Open House on Sunday, February 3.

The workshop was conducted by the Co-Design Group, an extremely experienced team of specialists in this type of visioning process, having conducted almost 400 workshops together over 30 years.

The neighbourhood participants were granted free reign to brainstorm and deal with concepts and issues which were important to them.

At the Sunday Open House, all of the participants' ideas and Watermark design features which were important to them, as sketched by the Co-Design Group architects/artists, were presented to the community attendees for information and feedback.

### 3. **Preliminary Draft Plan Presentation - June 26, 2008**

An Open House and public presentations were held on June 26, 2008 at the Bearspaw Lifestyle Centre. The event was advertised in three separate publications of the local newspapers, invitations were hand delivered to all surrounding M.D. of Rocky View households and

individuals were notified by email. Detailed presentations of the preliminary residential concept (with a particular focus on the five transition zones and seven sub-areas) were made at 5:00 PM and 7:30 PM. A question and answer period followed each presentation.

Approximately 100 local residents and landowners attended.

#### 4. **Presentation Neighbourhood Distribution – September, 2008**

In September 2008, the developer distributed to all the approximately 300 homes in the immediately surrounding communities of Blueridge Mountain Estates, Bearspaw Village, Blazer Estates, Bearspaw Meadows and the Lynx Ridge community, a detailed, full colour, 70 plus page summary of its June 26, 2008 presentation. This was intended to provide all of Watermark's immediate neighbours a user-friendly, detailed summary of all of the attributes and issues surrounding the proposed Watermark development. The PowerPoint presentation was also posted on Watermark's website, making it accessible to any member of the public.

#### 5. **Conceptual Plan Presentation – May 20, 2009**

An Open House and public presentation was held for all Bearspaw and other interested residents at the Lynx Ridge Golf Course Clubhouse. The event was advertised in several Rocky View Weekly editions, and invitations were also broadly distributed by mail. The main topics of the presentation dealt with the current provincial and municipal directions concerning residential densities in infill areas such as southeast Bearspaw and the changes made to the Watermark plan since the previous formal presentation.

#### 6. **Watermark at Bearspaw website**

The website was launched on January 24, 2008 and is being maintained throughout the approval and implementation processes for Watermark at Bearspaw. The website provides easy access to important information and upcoming events for the general public.

#### 7. **One on one discussions and communications with Property Owners**

A number of individual meetings have been held throughout the planning process with the affected property owners located within adjacent Bearspaw communities to address their concerns. In addition, significant email and telephone communications have also been used to deal with additional questions and issues raised by various neighbours.

## Appendix 4 Voluntary Off-Site Improvements

The developer's commitment to undertake items 1,2,3,4(3<sup>rd</sup> point) and 6 in this Appendix 4 will be reevaluated by the developer and the M.D. of Rocky View if the M.D. of Rocky View requires a major land dedication from the developer for the "flyby" roadway alignment as described in Section 7.2 herein.

#### 1. **Community Park at Northwest Corner of Bearspaw Village Road and Bearspaw Village Crescent**

Total rehabilitation, namely:

- Tennis Court – New, regulation size with fencing
- Baseball Field – Rehabilitate existing field, bases, backstop, benches, bleachers
- Soccer Field – Rehabilitate existing field, goals, bleachers, benches
- New Playground Equipment
- New picnic tables (4) and one large, commercial grade barbeque
- New, treated wood gazebo containing two of the four picnic tables for shelter from the elements
- New Asphalt Parking Area
- Bike Racks
- Signage
- Park Maintenance Equipment

All work will be subject to the approval of the M.D. of Rocky View.

## 2. Bearspaw Glendale Lifestyle Centre

In locations in the neighbourhood of the Lifestyle Centre, as specifically chosen by the M.D. of Rocky View, the following facilities:

- Hockey Rink – New, regulation size with boards, serving as Basketball/Sports Court in non-winter months
- Hockey Rink Maintenance Equipment
- Field house of 1,200 square feet in floor area, housing change rooms, washrooms and, if needed, an equipment storage room.

All work will be subject to the approval of the M.D. of Rocky View.

## 3. Water System Upgrades

- Connect Bearspaw Village Water Co-op (88 homes) and Blueridge Water Co-op (18 homes) to Watermark at Bearspaw Water System.
- Increase water treatment and reservoir capacity of Watermark System to allow treated water to be provided to above two systems, allowing their treatment and reservoir systems to be de-commissioned, and allowing the existing residents to avoid approximately \$1.5 million of Alberta Environment -mandated treatment plant upgrades.

## 4. Fire Protection

- Rocky View Emergency Services Department to assist in servicing the Bearspaw area.

- Easy access will be provided to the Fire Department to Watermark's large raw water reservoir pond to provide improved fire services to the immediate neighbourhood.
- Donation of a new "mini-pumper" truck to the M.D. of Rocky View Emergency Services Department.

## 5. Voluntary Recreation Contribution

- The developer is in full support of this program and will be paying to the M.D. of Rocky View at the time of subdivision, the full allocation of Watermark's voluntary recreation contribution.

## 6. A one time contribution by the developer to support a portion of the maintenance costs of these voluntary off-site improvements will be established.

## Appendix 5 - Interface Areas

### Blueridge Mountain Interface A



Typical Watermark Homes Viewed from Blueridge Close



Existing M.D. of Rocky View Homes on Two Acre Lots



## Blueridge Mountain Interface B



Typical Watermark Homes Viewed from Blueridge View



Existing M.D. of Rocky View Homes on Two Acre Lots



## Bearspaw Village Interface



Typical Watermark Homes Viewed from Internal Watermark Access Road



Existing M.D. of Rocky View Homes on Two Acre Lots

## Blazer Estates & Bearspaw Meadows Interface



Typical Watermark Homes Viewed from Blazer Estates / Bearspaw Meadows along 80<sup>th</sup> Avenue



Existing M.D. of Rocky View Homes on Two Acre Lots

## Typical Streetscape - Watermark Internal Area 5



Typical Streetscape – Watermark Internal Area 5



Existing Lynx Ridge Homes on One-Half Acre Lots



## Typical Streetscape - Watermark Internal Area 6



Typical Streetscape – Watermark Internal Area 6



Existing Lynx Ridge Homes on one-half acre Lots



## Appendix 6 – Best Management Practices

### Best Management Practices for Roadways



- Roadway and parking lanes constructed of asphalt
- Pathways constructed of concrete
- Open space consists of a vegetated bioswale for drainage.



- Stormwater conveyance:
  - Designed for safe conveyance of the 1:100 year storm event
  - Controls volume by absorption
- Stormwater treatment:
  - Capture of sediment
  - Reduction in organic nutrients
  - Water uptake by vegetation



## Best Management Practices for Residential Lots - Water Barrels & Cisterns



In view of the climate change realities of our region, the Bow River Basin is expected to remain or become even more susceptible to prolonged drought conditions, resulting in a future with reduced availability of water.

Traditionally, stormwater has been considered a nuisance. However, over the last few decades, there has been a growing concern that this approach ultimately results in a significant degradation of water resources.

Our plan would reflect the view that rain water can, and should be, conserved and used as a resource. One way to accomplish this could involve the use of rain barrels and cisterns to collect rain water on-site.

The benefits of stormwater re-use include:

- Water conservation through the use of an alternative water supply for irrigation, laundry, and toilets
- Reduced use of potable, treated water
- Lower infrastructure costs



## Best Management Practices for Residential Lots - Landscaping



rain garden



rain garden



rain garden



xeriscaping



1. Crown Interception
2. Throughfall and Stemflow
3. Evapotranspiration
4. Soil Water Storage
5. Soil Infiltration
6. Surface Vegetation
7. Organics and Compost
8. Soil Life
9. Interflow
10. Deep Groundwater
11. Water Quality Improvement
12. Impervious Surfaces and Surface Runoff

SOURCE: BWS-BOOK

When natural areas are developed, they often lose native soils and vegetation that act like a sponge, soaking up and storing water. Our residential lots are expected to be designed to conserve and effectively use rainwater by incorporating absorbent landscaping practices.

Environmental benefits and advantages of absorbent landscaping include:

- Improvement in water-retaining and infiltration capacity of the soil
- Reduction in the volume of stormwater runoff through infiltration and evapotranspiration
- Provision of shade and protection from wind
- Nesting and feeding habitat for birds and animals
- Pollutant absorption and biofiltration
- Reduction of air pollution
- Reduction of urban heat island effect
- Improvement of aesthetic and environmental values by providing a more natural cover to the soil, and at less expense than most structural methods.
- Reduction in (or elimination of) pesticide and fertilizer use for plant maintenance
- Enhanced character and diversity of the landscape, with plants adding form, texture, harmony, colour and contrast

## Best Management Practices for Residential Lots & Roadways - Bioswales

### Residential Lots



bioswale - lot runoff post establishment



bioswale - lot runoff

Bioswales are designed as part of a conveyance system and have relatively gentle side slopes and limited flow depths. The surface component of a bioswale is a shallow vegetated channel, which accepts flows from small areas of adjacent paved surfaces, such as driveways, roads, and parking. The bioswale is designed to hold runoff volume, and then slowly infiltrate into the underlying fine media layer. Culverts are typically provided for roadway and driveway crossings as part of a functional right of way for the movement of vehicles, stormwater, and pedestrians.

Bioswales provide:

- Treatment of stormwater through:
  - Settling
  - Fine filtration
  - Extended detention
  - Biological uptake
  - Storage of rainwater
  - Dissipation of flow energy and volume reduction
  - Removal of nitrogen
- Aesthetically pleasing features through the planting of native, low-maintenance plant species

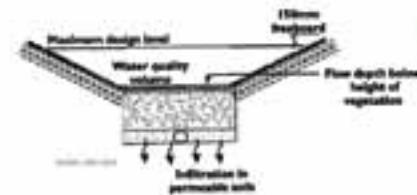
### Roadways



bioswale - road runoff



bioswale - road runoff





## Best Management Practices for Roadways - Bioretention Areas



bioretention area - road runoff



bioretention area - road runoff



bioretention area - road runoff



bioretention area - road runoff



bioretention area - road runoff



bioretention area - road runoff

### Bioretention Areas

Bioretention areas consist of depressed, landscaped areas underlain by a fine media layer, and - depending on the permeability of the subsoils - a granular sub-base with a sub-drain pipe.

Bioretention areas provide:

- Stormwater treatment through:
  - Settling
  - Fine filtration
  - Extended detention
  - Biological uptake
  - Dissipation of flow energy
  - Removal of nitrogen
  - Aesthetically pleasing features through the planting of native, low-maintenance plant species

A bioretention area can be located in just about any open space. It is ideally suited for small installations such as:

- Street medians
- Traffic circles
- Cui-de-sacs
- Roadside swale features
- Shared facilities located in common areas for individual lots
- Site entrance or buffer features

## Appendix 7 - Artist Renderings of Open Space Features













## Conceptual Scheme

**MACDONALD BEARSPAW PROPERTIES LTD.**  
SUITE 104, 122 - 17 AVENUE SE, CALGARY, AB T2G 1H2  
T- 403.269.9444 F- 403.269.9109  
E- [INFO@WATERMARKATBEARSPAW.COM](mailto:INFO@WATERMARKATBEARSPAW.COM)  
[WWW.WATERMARKATBEARSPAW.COM](http://WWW.WATERMARKATBEARSPAW.COM)