

SE 26) and the quarter section to the west (the NW 24) of the NE 23. Furthermore, the Town and County's land use planning documents identify the lands on the SE 26 as future residential development. The 7.5 metre wide MR parcels will provide an additional physical and visual buffer to positively enhance the appearance of the industrial area that will be located near future and existing residential uses of the SE 26 and the NW 24.

The remaining PUL parcels demonstrated on *Map 4: Future Land Use Concept* allow for the location of a future water reservoir and the accommodation of storm water management ponds. All parcels will be municipally owned and maintained. The water reservoir will be located on a 0.44 ha parcel on the NE 23's northeastern corner, which constitutes the Plan Area's highest elevation. The stormwater management ponds are located throughout the Plan Area, with the pond located on the NE 23 also providing a walking trail.

8.6 TRANSPORTATION NETWORK

Map 4: Future Land Use Concept shows land uses in relation to future and existing roads and trail routes. All proposed municipal roads within the Plan Area provide a 30 metre road right-of-way. This standard was taken from the "Industrial Collector Roadway" design guideline drawings from the City of Red Deer. The 30 metre right-of-way can accommodate both rural and urban cross sections.

The main access to the Plan Area is provided through the Highway 12 and Range Road 1-1.5 / 44th Street intersection. The concept includes an expansion of the existing three-legged intersection to create a four-legged intersection to connect the Plan Area south of Highway 12 to the highway and to create a connection from the northern Plan Area to the southern.

The railway within the SW 23 creates a physical barrier within the Plan Area. The concept incorporates a controlled railway crossing along the SW 23's centre portion to ensure full connectivity between all quadrants of the Plan Area. The inclusion of a railway crossing establishes a full loop system to connect the entire Plan Area with the Town's core. The railway crossing will enhance emergency responses by allowing through traffic to enter the Plan Area's southeastern industrial area, as well as providing additional connections to the existing industrial areas within the Town's southwest area.

Alberta Transportation has indicated that the stretch of Highway 12 located within the Plan Area has not been identified for upgrading in the near future. Despite no imminent or future plans for highway widening, the land use concept incorporates 10 metres for highway widening via right-of-way along the north and south side of the existing Highway 12 right-of-way to create an 80 metre wide future highway right-of-way. In discussions with Alberta Transportation, a 10 metre preferred development setback from the highway was also incorporated into the concept – as seen in *Map 4: Future Land Use Concept* – which would restrict development in close proximity to the highway right-of-way.

The highway connections within the concept also provide 30 metre by 30 metre corner cuts that will be able to accommodate round about construction, if deemed necessary by Alberta Transportation in the future. These highway expansion considerations provide certainty to developers when proposing development. It mitigates potential future conflicts that can occur when faced with highway expansion matters.

During the construction of Highway 12, the southwest corner of the NE 23 was acquired by the Province as part of the Highway 12 right-of-way. *Map 4: Future Land Use Concept* provides an illustration of this area after the proposed 10 metre highway widening is taken. The remaining area is measured at 1.14 ha. It is recommended that this area be considered for sale by Alberta Transportation to the abutting landowner and utilized for industrial purposes within the Plan Area.

The land use concept incorporates the extension of Railway Avenue throughout the NW 23 to service Town residents and visitors as they enter or exit the commercial area. This extension is intended to draw shoppers to the downtown commercial area through the ease of access from the commercial portion of the Plan Area. A grid of industrial and commercial collector roads links the sections of the Plan Area.

The land use concept contains two “Possible Road Connection” segments within the Plan Area. The first in the NE 23 allows direct access from the NE 23 to Highway 12A. The second segment is located within the internal road network of the SE 23. These two possible segments can accommodate additional traffic flow and provide for additional parcel configurations.

8.7 LOCAL ROAD WIDENING

The land use concept accommodates a road widening of approximately 5 metres along the entire length of the SE 23’s eastern boundary, excepting thereout the existing farmstead removal parcel that already provided the road widening. This accommodates expansion of Range Road 1-1 to work towards a future 30 metre road right-of-way.

Similarly, road widening along the western Plan Area boundary is incorporated within the land use concept. Road widening along the majority of the portion of Range Road 1-2 was already taken along the road’s eastern boundary. However, an approximately 60 metre strip of road right-of-way will need to be dedicated along the SW 23’s southwest corner to establish a consistent road right-of-way width along the SW 23’s western boundary.

8.8 NATURAL FEATURES

The Plan Area contains several wetlands south of Highway 12. In an effort to maintain wetlands within the Plan Area, parcel configuration and road placements were created to enable preservation of wetlands if desired.

Wetland loss is incurred through the expansion of the three-legged intersection at Highway 12 and Range Road 1-1.5 / 44th Street south. In order to provide access off the highway to the southern portion of the Plan Area, the expansion to a four-legged intersection is the only reasonable option for additional direct highway access. This results in the expansion of Range Road 1-1.5 / 44th Street south across an existing wetland that is classified as a possible Class II wetland (graminoid marsh) and has an approximate size of 0.16 ha.

To create a minimum 100 metre straight stretch of road at a 90-degree angle to the highway, the road expansion cannot reasonably avoid the wetland. As such, the wetland needs to be compensated for and filled in to allow for the construction of a safe intersection.

Four additional smaller wetlands were identified within the SE 23's northwest corner, three of which were encompassed within three industrial parcel boundaries. The parcel configuration and placement of these wetlands within the parcels allows for viable use of the parcels despite the loss of developable area to the wetlands if the wetlands are retained. The fourth wetland falls within the proposed local road network. The loss of this estimated Class II wetland will be approximately 0.07 ha.

Three additional wetland segments will be lost through road construction within the Plan Area. Two segments are lost through the internal road network – a 0.04 ha segment and a 0.07 ha segment. A third wetland segment will be lost through the construction of the possible north-south road connection. All three wetland segments are estimated Class II wetlands.

There is a significant wetland complex that stretches diagonally from the northeast corner to the southwest corner of the SE 23. In an effort to maintain the existing wetlands, one of the larger parcel configurations and parcel boundaries reflects a 5 metre buffer from the wetland to the parcel boundaries. This allows a large portion of the wetland complex to be mostly contained within the same parcel boundaries in an effort to distribute the wetland complex within fewer parcels to allow more consistent stewardship of the land.

To create a viable stormwater management pond within the SE 23's lowest and flattest portion, the wetland within its southeastern portion will be disturbed to accommodate a stormwater pond. This will require the compensation for another Class II wetland (graminoid marsh) at a size of approximately 0.66 ha.

8.9 STORM DRAINAGE

The gently sloped topography of the Plan Area directs storm drainage from the northeast corner of the Plan Area to its southwest corner. In order to accommodate the run-off from development within the Plan Area, four additional storm water management ponds are proposed within the concept. The location and configurations of the ponds are illustrated on *Map 4: Future Land Use Concept*. To reduce construction costs and create viable storm water

management ponds, the concept sought out the lowest elevation above sea level and the overall flattest areas within each quarter section to accommodate the ponds.

Based on the stormwater servicing study, a pre-development release rate of 3.0 L/s/ha was proposed for the future stormwater ponds within the Plan Area. The existing stormwater management pond within the NW 23 was approved in 2010 at a pre-development release rate of 4.0 L/s/ha. This pond was configured to accommodate its expansion within the current parcel size.

For commercial and industrial uses that typically occupy larger sized parcels, the study recommends onsite short duration storage of stormwater. The storage is to meet a maximum discharge rate of approximately 100 L/s/ha.

The public utility lot on the NW 23 that contains the existing storm water management pond is located within the quarter section's southwest corner. The pond accommodates drainage from the entire quarter section and directs run-off through the culvert underneath the railway and further to the west. A 15 metre drainage easement is recommended for the parcel immediately southwest of the pond. This pond was constructed in 2010 and has expansion capacity within its parcel boundaries.

A PUL for the pond on the NE 23 was also located at the quarter section's southwest corner. The parcel size is larger than the parcel footprint recommended by the storm water drainage assessment. This allows for the accommodation of a walking trail and contributes to the overall trail network within the Town and surrounding area.

The SE 23's pond is also located within its southeastern corner of the quarter section. The construction of this pond will result in the disturbance of a wetland complex. The wetland complex disturbed by the PUL has an estimated size of 0.66 ha and is classified as a Class II wetland. Compensation will need to be provided for the loss of wetland incurred through the development of the Plan Area.

Since drainage on the SW 23 is physically restricted by the railway, two ponds are proposed to be located on the quarter section. One of the ponds is to be located to the east of the railway to capture drainage within the northeastern portion of the SW 23 and the other is to be located to the west of the railway to capture run-off within the southwestern portion of the SW 23. The western pond is the smallest pond within the Plan Area as it serves the smallest catchment area. A PUL directing runoff from the catchment area south into the pond was also incorporated within the concept. This will allow a drainage corridor that is not part of the surrounding industrial parcels.

All three ponds within the Plan Area's southern portion can be accessed via drainage easement proposed along the southern boundary of the Plan Area. These drainage easements are necessary to ensure run-off can access the existing culverts. Two drainage easements are proposed within the Plan Area. One 15 metre wide easement is proposed to be located

immediately southwest of the existing pond, and the second easement with a width of 10 metres is to be located along the entire southern boundary of the Plan Area. These two drainage easements are to direct water from the Plan Area and its proposed ponds to the existing culverts under Range Road 12. The drainage easement would need to be registered on all industrial parcels that abut the southern Plan Area boundary.

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